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 **AIGNEP**

[www.aignep.com](http://www.aignep.com)

[www.aignepusa.com](http://www.aignepusa.com)



# Aignep SPA

## EXCELLENT SOLUTIONS IN FLUIDTECHNOLOGY

For over 40 years, Aignep is leading manufacturer of compressed air and industrial fluid fittings. Our company is driven by a constantly innovative spirit which has brought us to great results in various sectors of industrial automation. Our products are widely known for their high quality and Italian design: pneumatic cylinders and solenoid valves, fluid process control valves "FLUIDITY", compressed air pipeline "INFINITY", fittings and quick couplings for every fluid media. All the products are engineered by a dedicated professional team and manufactured in Italy in the production site of Bione, 22.000 m<sup>2</sup>.

More than 13.000 standard items in the catalogue and numerous special versions on demand. Every year Aignep invests in automation, innovation and services to satisfy the requests of a worldwide customer base. Precisely to be closer to our customers our company has 5 regional branches: USA, Spain, France, Switzerland and Brasil, becoming a multinational Group.

### **"Move the Fluid Power!"**

*"Listening to our customers, understanding their needs is the power that drives us to develop everyday new solutions for fluid and compressed air".*





# Aignep USA



In the mid-1990's, Aignep partnered with Alpha Technologies to expand into North America. The North American headquarters relocated in 2015 to a new, state-of-the-art facility in Fairview, TN, which also serves as a cylinder production site.

Over the past 20 years both Aignep and Alpha Technologies have experienced extensive growth and has resulted in the establishment of 7 locations throughout the world.

As Aignep's global footprint continues to expand it was strategically important to change the name from Alpha Technologies to Aignep USA.

GRAZIANO BUGATTI



# **AIGNEP** *around the world*



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# Infinity Series

Distribution system for compressed air, inert gases and vacuum



[Request Catalogue](#)





# Fluidity Series

Fluid Solenoid valves



**Request Catalogue**



# Certifications



**ICIM**

ICISQ is a member of



**IQNet**

CERTIFICATO n. 0055/8  
 CERTIFICATE No.

SI CERTIFICA CHE IL SISTEMA DI GESTIONE PER LA QUALITÀ DI UN'AZIENDA CONFERMA CHE THE QUALITY MANAGEMENT SYSTEM OPERATES AS:

**AIGNEP S.P.A.**  
 Sede e Unità Operativa  
 Via Don Bazzoli, 34 - 25070 Bione (BS) - Italia  
 Direzione e ufficio amministrativo, progettazione, produzione e montaggio, magazzino.  
 Unità Operativa  
 Via Industriale, 1 - 25070 Bione (BS) - Italia  
 Montaggio e magazzino.

È CONFORME ALL'AZIENDA / IS IN COMPLIANCE WITH THE STANDARD

**UNI EN ISO 9001:2015**  
 Sistema di Gestione per la Qualità / Quality Management System  
 PER LE SEGUENTI ATTIVITÀ / FOR THE FOLLOWING ACTIVITIES

**EA: 17**

Progettazione e fabbricazione di: raccordi; valvole a sfera per l'impiantistica pneumatica, idrodinamica ed idraulica; componenti per il trattamento dell'aria compressa (FRL); cilindri pneumatici; elettrovalvole pneumatiche e per fluidi, sistemi di distribuzione dell'aria compressa.  
 Design and production of: fittings; ball valves for pneumatic, hydraulic and plumbing applications; components for compressed-air treatment (FRL); pneumatic cylinders; pneumatic and fluid electromagnetic valves; distribution systems for compressed-air.

Questo certificato è valido solo se l'azienda aderisce alle disposizioni del regolamento di cui costituisce parte integrante. Il presente regolamento è disponibile sul sito internet dell'azienda certificata. Per informazioni rivolgersi al numero verde 800 20 20 20 o al numero verde 800 20 20 20. Per il presente regolamento visitate il sito internet dell'azienda certificata.

Data emissione / First issue 11/12/1992	Emisione corrente / Current issue 11/09/2018	Data di scadenza / Expiry date 17/09/2020
--	---	--






THE INTERNATIONAL CERTIFICATION NETWORK

## CERTIFICATE

CISQ/ICIM SPA has issued an IQNet recognized certificate that the organization:

**AIGNEP S.P.A.**  
 Head Office and Operative Unit  
 Via Don Bazzoli, 34 - I-25070 Bione (BS)  
 Operative Unit  
 Via Industriale, 1 - I-25070 Bione (BS)

has implemented and maintains a  
**Quality Management System**  
 for the following scope:

**Design and production of: fittings; ball valves for pneumatic, hydraulic and plumbing applications; components for compressed-air treatment (FRL); pneumatic cylinders; pneumatic and fluid electromagnetic valves; distribution systems for compressed-air.**  
 which fulfils the requirements of the following standard:

**ISO 9001:2015**

Issued on: 2018-09-11  
 First issued on: 1992-12-11  
 Expires on: 2020-09-17

This attestation is directly linked to the IQNet Platform's original certificate and shall not be used as a stand-alone document.

Registration Number: IT-3755



Alex Stochino  
President of IQNET



Ing. Claudio Proietti  
President of CISQ

\* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com



**ICIM**

### Certificazione di Prodotto Product Certification

Certificato N. ICIM-MOC-009637-00  
 Certificate No.

ALLAZIENDA / TO THE FIRM

**AIGNEP S.P.A.**  
 Via Don Bazzoli, 34 - 25070 Bione (BS)  
 Italia

UNITÀ OPERATIVA / OPERATIVE UNIT

Via Don Bazzoli, 34 - 25070 Bione (BS)  
 Italia

PER I SEGUENTI PRODOTTI / FOR THE FOLLOWING PRODUCTS

Raccordi in ottone CW 510L. Raccordi in acciaio inox AISI 316L.  
 Adattatori in ottone CW 510L. Adattatori in acciaio inox AISI 316L.  
 Brass CW 510L fittings. Stainless steel AISI 316L fittings.  
 Brass CW 510L adapters. Stainless steel AISI 316L adapters.

CON DENOMINAZIONE COMMERCIALE / WITH TRADE NAME'S

Serie 59000  
 Serie 60000  
 Serie 1000CW  
 Serie 51000  
 Serie 13000CW  
 Serie 69000  
 Serie Accessori CW  
 Serie 62000

CONFORME AL DOCUMENTO NORMATIVO ICIM / IN COMPLIANCE WITH CONFORMATIVE DOCUMENT

**D445CS**

PRODOTTI E COMPONENTI A CONTATTO CON ALIMENTI SECONDO DISPOSIZIONI MOCA

Questo Certificato è in vigore solo se accompagnato dal relativo Regolamento. This Certificate is valid only with the relative Rules.



**ICIM S.p.A.**

PRIMA EMISSIONE / FIRST ISSUE 12/09/2019	EMISIONE CORRENTE / CURRENT ISSUE 12/09/2019	DATA DI SCADENZA / EXPIRING DATE 11/09/2024
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ICIM S.p.A. - Piazza Don Bazzoli, 34 - 25070 Bione (BS) - Italia

## NSF International

789 N. Dixboro Road, Ann Arbor, MI 48106 USA

RECOGNIZES


**Aignep S.P.A.**  
 Facility: Bione (BS), Italy

AS COMPLYING WITH NSF/ANSI 69 AND ALL APPLICABLE REQUIREMENTS.  
 PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE  
 AUTHORIZED TO BEAR THE NSF MARK.




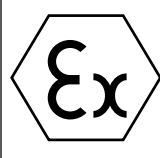



This attestation is valid only if accompanied by the original certificate. The certificate number is visible on the NSF website.  
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 May 20, 2017  
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# PED









DM174 / 2004

# Services



## MY AIGNEP

Your documents online



## AIGNEP SCAN

Your orders in one click



# Catalogues

Our catalogues at your disposal



## 89 Series

 <b>89000</b> Pg. 1.5	 <b>89000</b> Pg. 1.5	 <b>89010</b> Pg. 1.5	 <b>89110</b> Pg. 1.5	 <b>89110</b> Pg. 1.5	 <b>89210</b> Pg. 1.6	 <b>89210</b> Pg. 1.6	 <b>89222</b> Pg. 1.6	 <b>89222</b> Pg. 1.6
 <b>89030</b> Pg. 1.7	 <b>89055</b> Pg. 1.7	 <b>89105</b> Pg. 1.7	 <b>89040</b> Pg. 1.7	 <b>89050</b> Pg. 1.7	 <b>89130</b> Pg. 1.8	 <b>89230</b> Pg. 1.8	 <b>89310</b> Pg. 1.8	 <b>89500</b> Pg. 1.8
 <b>88610B</b> Pg. 1.9	 <b>89700</b> Pg. 1.9	 <b>50980</b> Pg. 1.9	 <b>50991</b> Pg. 1.9	 <b>50006</b> Pg. 1.9				

# METALLIC PUSH-TO-CONNECT FITTINGS FOR INCH TUBE

**89 Series**



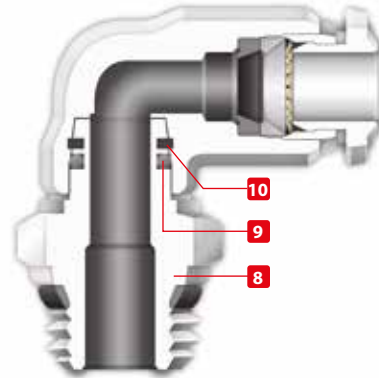
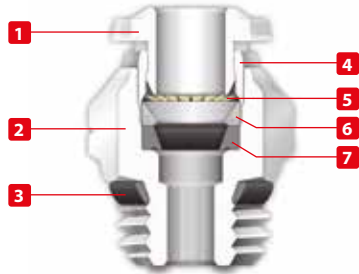


**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- ISO  
14743:2004
- SILICON  
FREE



**Pressure Rating**

Vacuum ~ 290 PSI  
-0.99 bar ~ 20 bar  
-0.099 MPa ~ 2.0 MPa



**Temperatures Rating**

<b>NBR</b>	<b>EPDM on request</b>	<b>FKM on request</b>
-4° F ~ 176° F	-40° F ~ 266° F	5° F ~ 266° F
-20° C ~ 80° C	-40° C ~ 130° C	-15° C ~ 130° C



**Component Parts and Materials**

- 1 Metallic Release Collet
- 2 Nickel Plated Brass Body
- 3 NBR Thread Seal
- 4 Nickel Plated Brass Sleeve
- 5 303 Stainless Steel Gripper
- 6 Technopolymer Safety Ring
- 7 NBR Molded Seal
- 8 Nickel Plated Thread Brass Body
- 9 NBR Seal
- 10 Safety Ring



**Media**

- Compressed Air
- Vacuum
- Water
- Steam (FKM required)



**Tubing Compatibility**

- Nylon 6 - 11 -12  
Polyethylene  
Polyurethane ("98 Shore A for best result)  
PTFE  
FEP



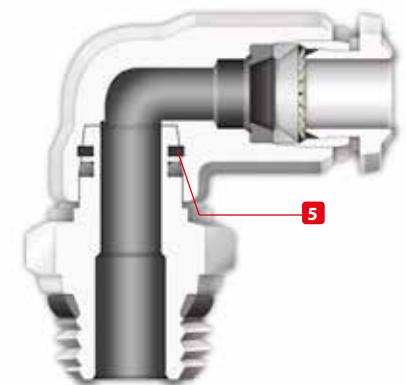
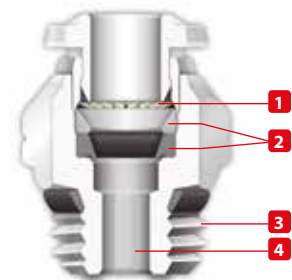
**Applications**

- Pneumatic Automation
- Automotive
- Textile, Packaging
- Compressed Air Circuit
- Vacuum



**Advantages:**

- 1 The 303 Stainless Steel gripper ensures a tight clamp for tubes of any material without damaging the tube's surface. The secure connection between the tube and the fitting will hold up to severe conditions such as impact and vibrations.
- 2 The shape of the safety ring and the molded seal perfectly seal off the tube, creating a vacuum.
- 3 Series with several types of threads:  
**SWIFTFIT**  
**NPTF**  
**UNF**
- 4 All straight fittings can be tightened with an Allen wrench because of our internal hex design. This enables the end user to tighten the fitting in spaces too small for an openend wrench.
- 5 Our rotating Swivel Elbow fittings are equipped with a safety ring that enables the fitting to rotate without losing a tight seal.



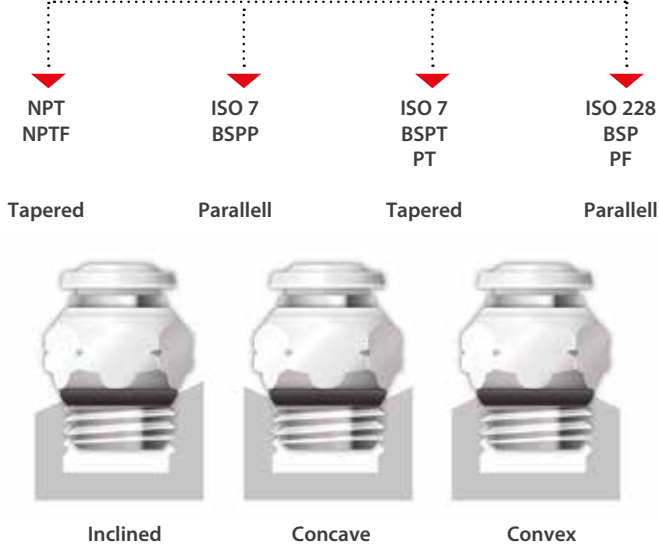


**THREADS & ADVANTAGES**



**SWIFFFIT**  
Universal thread

*One fitting... Endless possibilities*



Our **SWIFFFIT** universal fittings also work on non-flat surfaces without compromising an air-tight seal.

The **SWIFFFIT** Universal Thread has been designed to offer the following advantages to the end users:

- Reduced overall length
- Smaller hex dimensions compared to parallel threads
- Fits with various parallel and tapered threads
- All **SWIFFFIT** fittings have been equipped with threads and an NBR thread seal that will universally connect to all thread types.

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm



**UNF Threads**



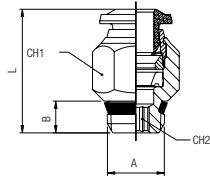
The **UNF** Thread has been designed to offer the following advantages to the end users:

- Standard USA design
- Designed for use in UNF connections with an integrated NBR o-ring that provides a perfect seal
- Completely reusable

**Torque Specifications**

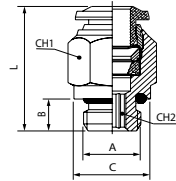
Recommended Torque		
Thread Size	Min.	Breaking torque
10/32	0.8 Nm	3.2 Nm

**89000**  
STRAIGHT MALE



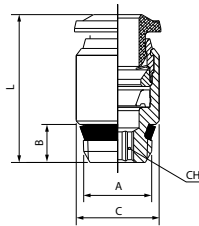
\* For part numbers with 10-32 threads

**UNF**



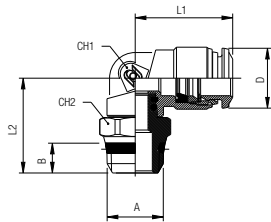
Part No.	Tube	A	B	C	L	CH1	CH2
*89000-02-32	1/8	10/32	.197 (5)	.310 (8)	.748 (19)	.315 (8)	.079 (2)
89000-02-02	1/8	1/8	.217 (5,5)	-	.650 (16,5)	.433 (11)	.079 (2)
89000-02-04	1/8	1/4	.276 (7)	-	.728 (18,5)	.551 (14)	.079 (2)
*89000-53-32	5/32 (4)	10/32	.197 (5)	.310 (8)	.827 (21)	.394 (10)	.079 (2)
89000-53-02	5/32 (4)	1/8	.217 (5,5)	-	.709 (18)	.433 (11)	.118 (3)
89000-53-04	5/32 (4)	1/4	.276 (7)	-	.748 (19)	.551 (14)	.118 (3)
*89000-04-32	1/4	10/32	.197 (5)	.390 (10)	.966 (24,5)	.512 (13)	.079 (2)
89000-04-02	1/4	1/8	.217 (5,5)	-	.846 (21,5)	.512 (13)	.157 (4)
89000-04-04	1/4	1/4	.276 (7)	-	.807 (20,5)	.551 (14)	.157 (4)
89000-04-06	1/4	3/8	.295 (7,5)	-	.905 (23)	.669 (17)	.157 (4)
89000-05-02	5/16 (8)	1/8	.217 (5,5)	-	.965 (24,5)	.551 (14)	.197 (5)
89000-05-04	5/16 (8)	1/4	.276 (7)	-	.866 (22)	.551 (14)	.236 (6)
89000-05-06	5/16 (8)	3/8	.295 (7,5)	-	.906 (23)	.669 (17)	.236 (6)
89000-05-08	5/16 (8)	1/2	.354 (9)	-	.925 (23,5)	.827 (21)	.236 (6)
89000-06-02	3/8	1/8	.217 (5,5)	-	1.082 (27,5)	.669 (17)	.197 (5)
89000-06-04	3/8	1/4	.276 (7)	-	1.082 (27,5)	.669 (17)	.276 (7)
89000-06-06	3/8	3/8	.295 (7,5)	-	1.023 (25,5)	.669 (17)	.276 (7)
89000-06-08	3/8	1/2	.354 (9)	-	1.023 (25,5)	.827 (21)	.276 (7)
89000-08-02	1/2	1/8	.217 (5,5)	-	1.260 (32)	.787 (20)	.197 (5)
89000-08-04	1/2	1/4	.276 (7)	-	1.222 (31)	.787 (20)	.276 (7)
89000-08-06	1/2	3/8	.295 (7,5)	-	1.222 (31)	.787 (20)	.354 (9)
89000-08-08	1/2	1/2	.354 (9)	-	1.222 (31)	.827 (21)	.394 (10)

**89010**  
STRAIGHT MALE WITH INTERNAL HEX



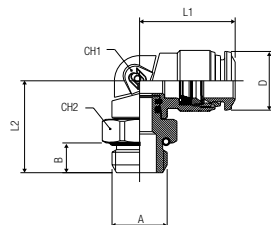
Part No.	Tube	A	B	C	L	CH
89010-53-02	5/32 (4)	1/8	.295 (7,5)	.394 (10)	.748 (19)	.118 (3)
89010-05-02	5/16 (8)	1/8	.295 (7,5)	.551 (14)	1.004 (25,5)	.197 (5)
89010-05-04	5/16 (8)	1/4	.433 (11)	.551 (14)	.984 (25)	.236 (6)

**89110**  
SWIVEL ELBOW



\* For part numbers with 10-32 threads

**UNF**

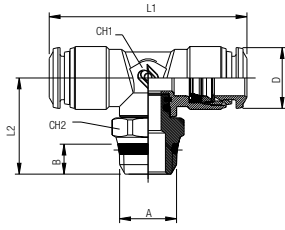


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
*89110-02-32	1/8	10/32	.177 (4,5)	.630 (16)	.689 (17,5)	.354 (9)	.315 (8)	.394 (10)
89110-02-02	1/8	1/8	.217 (5,5)	.650 (16,5)	.768 (19,5)	.354 (9)	.511 (13)	.394 (10)
89110-02-04	1/8	1/4	.276 (7)	.650 (16,5)	.827 (21)	.354 (9)	.591 (15)	.394 (10)
*89110-53-32	5/32 (4)	10/32	.177 (4,5)	.689 (17,5)	.689 (17,5)	.354 (9)	.315 (8)	.394 (10)
89110-53-02	5/32 (4)	1/8	.217 (5,5)	.708 (18)	.768 (19,5)	.354 (9)	.511 (13)	.394 (10)
89110-53-04	5/32 (4)	1/4	.276 (7)	.708 (18)	.827 (21)	.354 (9)	.591 (15)	.394 (10)
*89110-04-32	1/4	10/32	.177 (4,5)	.827 (21)	.768 (19,5)	.433 (11)	.433 (11)	.492 (12,5)
89110-04-02	1/4	1/8	.217 (5,5)	.827 (21)	.846 (21,5)	.433 (11)	.511 (13)	.493 (12,5)
89110-04-04	1/4	1/4	.276 (7)	.827 (21)	.906 (23)	.433 (11)	.591 (15)	.493 (12,5)
89110-04-06	1/4	3/8	.295 (7,5)	.827 (21)	.926 (23,5)	.433 (11)	.669 (17)	.493 (12,5)
89110-05-02	5/16 (8)	1/8	.217 (5,5)	.886 (22,5)	.886 (22,5)	.472 (12)	.511 (13)	.571 (14,5)
89110-05-04	5/16 (8)	1/4	.276 (7)	.886 (22,5)	.886 (22,5)	.472 (12)	.591 (15)	.571 (14,5)
89110-05-06	5/16 (8)	3/8	.295 (7,5)	.886 (22,5)	.906 (23)	.472 (12)	.669 (17)	.571 (14,5)
89100-05-08	5/16 (8)	1/2	.354 (9)	.886 (22,5)	1.004 (25,5)	.472 (12)	.511 (13)	.571 (14,5)
89110-06-02	3/8	1/8	.217 (5,5)	1.043 (26,5)	.945 (24)	.551 (14)	.551 (14)	.669 (17,5)
89110-06-04	3/8	1/4	.276 (7)	1.043 (26,5)	1.043 (26,5)	.551 (14)	.630 (16)	.669 (17,5)
89110-06-06	3/8	3/8	.295 (7,5)	1.043 (26,5)	.965 (24,5)	.551 (14)	.669 (17)	.669 (17,5)
89110-06-08	3/8	1/2	.354 (9)	1.043 (26,5)	1.063 (27)	.551 (14)	.827 (21)	.669 (17,5)
89110-08-04	1/2	1/4	.276 (7)	1.240 (31,5)	1.130 (28,7)	.630 (16)	.630 (16)	.846 (21,5)
89110-08-06	1/2	3/8	.295 (7,5)	1.240 (31,5)	1.043 (26,5)	.630 (16)	.669 (17)	.846 (21,5)
89110-08-08	1/2	1/2	.354 (9)	1.240 (31,5)	1.142 (29)	.630 (16)	.827 (21)	.846 (21,5)



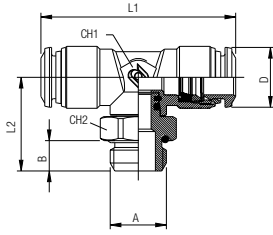
**89210**

SWIVEL BRANCH TEE



\* For part numbers with 10-32 threads

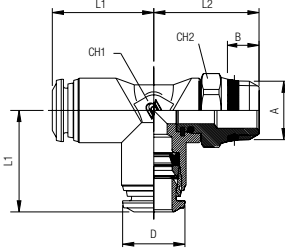
**UNF**



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
*89210-02-32	1/8	10/32	.177 (4,5)	1.300 (33)	.670 (17)	.354 (9)	.315 (8)	.394 (10)
89210-02-02	1/8	1/8	.216 (5,5)	1.338 (34)	.669 (17)	.354 (9)	.511 (13)	.394 (10)
89210-02-04	1/8	1/4	.275 (7)	1.338 (34)	.787 (20)	.354 (9)	.591 (15)	.394 (10)
*89210-02-32	1/8	10/32	.177 (4,5)	1.300 (33)	.670 (17)	.354 (9)	.315 (8)	.394 (10)
89210-53-02	5/32 (4)	1/8	.216 (5,5)	1.338 (34)	.787 (20)	.354 (9)	.511 (13)	.394 (10)
89210-53-04	5/32 (4)	1/4	.275 (7)	1.338 (34)	.846 (21,5)	.354 (9)	.591 (15)	.394 (10)
*89210-04-32	1/4	10/32	.177 (4,5)	1.654 (42)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
89210-04-02	1/4	1/8	.216 (5,5)	1.574 (40)	.787 (20)	.433 (11)	.511 (13)	.493 (12,5)
89210-04-04	1/4	1/4	.275 (7)	1.574 (40)	.846 (21,5)	.433 (11)	.629 (16)	.493 (12,5)
89210-04-06	1/4	3/8	.295 (7,5)	1.574 (40)	.866 (22)	.433 (11)	.669 (17)	.493 (12,5)
89210-05-02	5/16 (8)	1/8	.216 (5,5)	1.772 (45)	1.004 (25,5)	.512 (13)	.511 (13)	.571 (14,5)
89210-05-04	5/16 (8)	1/4	.275 (7)	1.772 (45)	1.004 (25,5)	.512 (13)	.591 (15)	.571 (14,5)
89210-05-06	5/16 (8)	3/8	.295 (7,5)	1.772 (45)	1.024 (26)	.512 (13)	.669 (17)	.571 (14,5)
89210-06-02	3/8	1/8	.216 (5,5)	2.047 (52)	1.043 (26,5)	.551 (14)	.551 (14)	.669 (17,5)
89210-06-04	3/8	1/4	.275 (7)	2.047 (52)	1.141 (29)	.551 (14)	.630 (16)	.669 (17,5)
89210-06-06	3/8	3/8	.295 (7,5)	2.047 (52)	1.062 (27)	.551 (14)	.669 (17)	.669 (17,5)
89210-06-08	3/8	1/2	.354 (9)	2.047 (52)	1.220 (31)	.551 (14)	.827 (21)	.669 (17,5)
89210-08-04	1/2	1/4	.275 (7)	2.402 (61)	1.240 (31,5)	.630 (16)	.630 (16)	.846 (21,5)
89210-08-06	1/2	3/8	.295 (7,5)	2.402 (61)	1.161 (29,5)	.630 (16)	.669 (17)	.846 (21,5)
89210-08-08	1/2	1/2	.354 (9)	2.402 (61)	1.259 (32)	.630 (16)	.827 (21)	.846 (21,5)

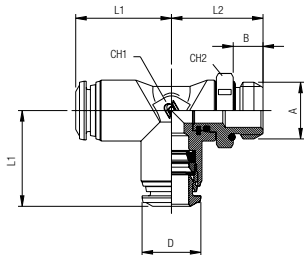
**89222**

SWIVEL RUN TEE



\* For part numbers with 10-32 threads

**UNF**

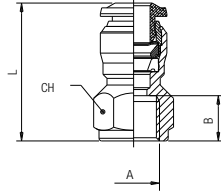


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
*89222-02-32	1/8	10/32	.177 (4,5)	.650 (16,5)	.670 (17)	.354 (9)	.315 (8)	.394 (10)
89222-02-02	1/8	1/8	.216 (5,5)	.650 (16,5)	.728 (18,5)	.354 (9)	.511 (13)	.394 (10)
89222-02-04	1/8	1/4	.334 (7)	.650 (16,5)	.807 (20,5)	.354 (9)	.591 (15)	.394 (10)
*89222-53-32	5/32 (4)	10/32	.177 (4,5)	.670 (17)	.709 (18)	.354 (9)	.315 (8)	.394 (10)
89222-53-02	5/32 (4)	1/8	.216 (5,5)	.649 (17)	.787 (20)	.354 (9)	.511 (13)	.394 (10)
89222-53-04	5/32 (4)	1/4	.275 (7)	.649 (17)	.846 (21,5)	.354 (9)	.591 (15)	.394 (10)
*89222-04-32	1/4	10/32	.177 (4,5)	.827 (21)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
89222-04-02	1/4	1/8	.216 (5,5)	.846 (21,5)	.787 (20)	.433 (11)	.511 (13)	.493 (12,5)
89222-04-04	1/4	1/4	.275 (7)	.846 (21,5)	.846 (21,5)	.433 (11)	.591 (15)	.493 (12,5)
89222-04-06	1/4	3/8	.295 (7,5)	.846 (21,5)	.866 (22)	.433 (11)	.669 (17)	.493 (12,5)
89222-05-02	5/16 (8)	1/8	.216 (5,5)	.886 (22,5)	.945 (24)	.512 (13)	.511 (13)	.571 (14,5)
89222-05-04	5/16 (8)	1/4	.275 (7)	.886 (22,5)	.945 (24)	.512 (13)	.591 (15)	.571 (14,5)
89222-05-06	5/16 (8)	3/8	.295 (7,5)	.886 (22,5)	1.062 (27)	.512 (13)	.669 (17)	.571 (14,5)
89222-06-02	3/8	1/8	.216 (5,5)	1.062 (27)	1.023 (26)	.551 (14)	.551 (14)	.669 (17,5)
89222-06-04	3/8	1/4	.275 (7)	1.062 (27)	1.043 (26,5)	.551 (14)	.630 (16)	.669 (17,5)
89222-06-06	3/8	3/8	.295 (7,5)	1.062 (27)	1.062 (27)	.551 (14)	.669 (17)	.669 (17,5)
89222-06-08	3/8	1/2	.354 (9)	1.062 (27)	1.141 (29)	.551 (14)	.827 (21)	.669 (17,5)
89222-08-04	1/2	1/4	.275 (7)	1.240 (31,5)	1.240 (31,5)	.630 (16)	.630 (16)	.846 (21,5)
89222-08-06	1/2	3/8	.295 (7,5)	1.240 (31,5)	1.240 (31,5)	.630 (16)	.787 (20)	.846 (21,5)
89222-08-08	1/2	1/2	.354 (9)	1.240 (31,5)	1.279 (32,5)	.630 (16)	.827 (21)	.846 (21,5)

**89030**

STRAIGHT FEMALE

**NPTF**

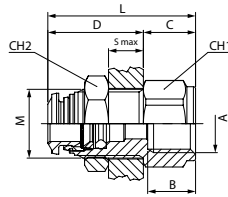


Part No.	Tube	A	B	L	CH
89030-02-02	1/8	1/8	.374 (9,5)	.945 (24)	.512 (13)
89030-02-04	1/8	1/4	.531 (13,5)	1.142 (29)	.630 (16)
89030-53-02	5/32 (4)	1/8	.374 (9,5)	.965 (24,5)	.512 (13)
89030-53-04	5/32 (4)	1/4	.531 (13,5)	1.161 (29,5)	.630 (16)
89030-04-02	1/4	1/8	.374 (9,5)	1.024 (26)	.512 (13)
89030-04-04	1/4	1/4	.531 (13,5)	1.220 (31)	.630 (16)
89030-06-04	3/8	1/4	.531 (13,5)	1.358 (34,5)	.709 (18)
89030-06-06	3/8	3/8	.531 (13,5)	1.358 (34,5)	.787 (20)

**89055**

FEMALE BULKHEAD CONNECTOR

**NPTF**

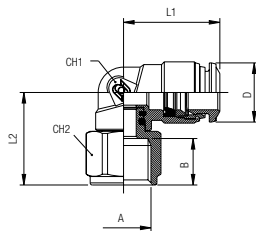


Part No.	Tube	A	B	M	S max	CH1	CH2	C	D	L
89055-53-02	5/32 (4)	1/8	.374 (9,5)	M12X1	.275 (7)	.591 (15)	.669 (17)	.394 (10)	.748 (19)	1.141 (29)
89055-53-04	5/32 (4)	1/4	.531 (13,5)	M12X1	.275 (7)	.630 (16)	.669 (17)	.591 (15)	.748 (19)	1.339 (34)
89055-04-02	1/4	1/8	.374 (9,5)	M14X1	.315 (8)	.630 (16)	.669 (17)	.394 (10)	.826 (21)	1.221 (31)
89055-04-04	1/4	1/4	.531 (13,5)	M14X1	.315 (8)	.630 (16)	.669 (17)	.591 (15)	.826 (21)	1.417 (36)
89055-04-06	1/4	3/8	.531 (13,5)	M14X1	.315 (8)	.787 (20)	.669 (17)	.591 (15)	.826 (21)	1.417 (36)
89055-05-02	5/16 (8)	1/8	.374 (9,5)	M16X1	.315 (8)	.709 (18)	.748 (19)	.394 (10)	.866 (22)	1.260 (32)
89055-05-04	5/16 (8)	1/4	.531 (13,5)	M16X1	.315 (8)	.709 (18)	.748 (19)	.472 (12)	.866 (22)	1.339 (34)
89055-05-06	5/16 (8)	3/8	.531 (13,5)	M16X1	.315 (8)	.787 (20)	.748 (19)	.591 (15)	.866 (22)	1.457 (37)
89055-06-06	3/8	3/8	.531 (13,5)	M20X1	.374 (9,5)	.945 (24)	.945 (24)	.551 (14)	1.003 (25,5)	1.557 (39,5)
89055-08-06	1/2	3/8	.531 (13,5)	M22X1	.413 (10,5)	.945 (24)	1.024 (26)	.591 (15)	1.083 (27,5)	1.673 (42,5)
89055-08-08	1/2	1/2	.690 (17,5)	M22X1	.413 (10,5)	.945 (24)	1.024 (26)	.787 (20)	1.083 (27,5)	1.870 (47,5)

**89105**

FEMALE ELBOW

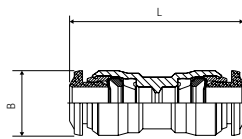
**NPTF**



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
89105-53-02	5/32 (4)	1/8	.374 (9,5)	.688 (17,5)	.688 (17,5)	.354 (9)	.511 (13)	.394 (10)
89105-53-04	5/32 (4)	1/4	.531 (13,5)	.688 (17,5)	.787 (20)	.354 (9)	.629 (16)	.394 (10)
89105-04-02	1/4	1/8	.374 (9,5)	.846 (21,5)	.748 (19)	.433 (11)	.511 (13)	.492 (12,5)
89105-04-04	1/4	1/4	.531 (13,5)	.846 (21,5)	.846 (21,5)	.433 (11)	.629 (16)	.492 (12,5)
89105-06-02	3/8	1/8	.374 (9,5)	1.062 (27)	.905 (23)	.511 (13)	.511 (13)	.689 (17,5)
89105-06-04	3/8	1/4	.531 (13,5)	1.062 (27)	.944 (24)	.629 (16)	.629 (16)	.689 (17,5)

**89040**

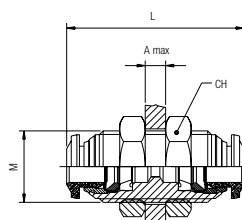
UNION



Part No.	Tube	Tube	L	B
89040-02	1/8		.334 (8,5)	1.023 (26)
89040-53	5/32 (4)		.413 (10,5)	1.200 (30,5)
89040-04-53	1/4	5/32 (4)	.492 (12,5)	1.299 (33)
89040-04	1/4		.492 (12,5)	1.339 (34)
89040-05	5/16 (8)		.571 (14,5)	1.417 (36)
89040-04-06	3/8	1/4	.688 (17,5)	1.614 (41)
89040-06-08	3/8	1/2	.807 (20,5)	1.850 (47)
89040-06	3/8		.688 (17,5)	1.614 (41)
89040-08	1/2		.807 (20,5)	1.850 (47)

**89050**

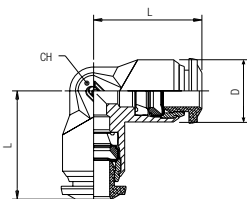
BULKHEAD UNION



Part No.	Tube	M	L	CH	A max
89050-02	1/8	M10x1	1.023 (26)	.551 (14)	.197 (5)
89050-53	5/32 (4)	M12x1	1.240 (31,5)	.669 (17)	.276 (7)
89050-04	1/4	M14x1	1.378 (35)	.669 (17)	.374 (9,5)
89050-05	5/16 (8)	M16x1	1.457 (37)	.748 (19)	.413 (10,5)
89050-06	3/8	M20x1	1.693 (42)	.945 (24)	.492 (12,5)
89050-08	1/2	M22x1	1.890 (48)	1.024 (26)	.650 (16,5)

**89130**

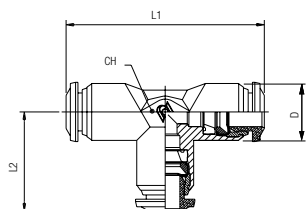
ELBOW UNION



Part No.	Tube	L	CH	D
89130-02	1/8	.649 (16,5)	.354 (9)	.394 (10)
89130-53	5/32 (4)	.669 (17)	.354 (9)	.394 (10)
89130-04	1/4	.826 (21)	.433 (11)	.492 (12,5)
89130-05	5/16 (8)	.886 (22,5)	.512 (13)	.551 (14)
89130-06	3/8	1.024 (26)	.630 (16)	.689 (17,5)
89130-08	1/2	1.200 (30,5)	.748 (19)	.846 (21,5)

**89230**

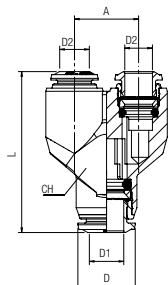
UNION TEE



Part No.	Tube	L1	L2	CH	D
89230-02	1/8	1.229 (33)	.669 (17)	.354 (9)	.394 (10)
89230-53	5/32 (4)	1.339 (34)	.669 (17)	.354 (9)	.394 (10)
89230-04	1/4	1.654 (42)	.827 (21)	.433 (11)	.492 (12,5)
89230-05	5/16 (8)	1.772 (45)	.866 (22,5)	.512 (13)	.551 (14)
89230-06	3/8	2.087 (53)	1.043 (26,5)	.630 (16)	.689 (17,5)
89230-08	1/2	2.402 (61)	1.201 (30,5)	.748 (19)	.846 (21,5)

**89310**

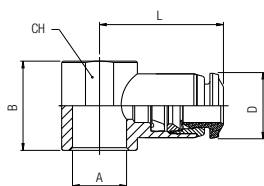
UNION Y



Part No.	Tube	A	L	CH	D
89310-02	1/8	.394 (10)	1.142 (29)	.433 (11)	.394 (10)
89310-53	5/32 (4)	.433 (11)	1.260 (32)	.433 (11)	.394 (10)
89310-04	1/4	.531 (13,5)	1.437 (36,5)	.511 (13)	.492 (12,5)
89310-05	5/16 (8)	.610 (15,5)	1.514 (41)	.511 (13)	.551 (14)
89310-06	3/8	.728 (18,5)	1.890 (48)	.708 (18)	.689 (17,5)

**89500**

SINGLE BANJO BODY

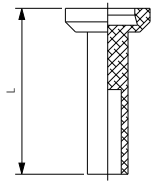


Part No.	Tube	A	B	L	CH	D
89500-02-02	1/8	1/8	.591 (15)	.748 (19)	.551 (14)	.394 (10)
89500-53-32	5/32 (4)	10/32	.492 (12,5)	.748 (19)	-	.394 (10)
89500-53-02	5/32 (4)	1/8	.591 (15)	.827 (21)	.551 (14)	.394 (10)
89500-04-02	1/4	1/8	.591 (15)	.886 (22,5)	.551 (14)	.492 (12,5)
89500-04-04	1/4	1/4	.669 (17)	.984 (25)	.709 (18)	.492 (12,5)
89500-05-02	5/16 (8)	1/8	.591 (15)	.945 (24)	.551 (14)	.551 (14)
89500-05-04	5/16 (8)	1/4	.669 (17)	1.024 (26)	.709 (18)	.551 (14)
89500-05-06	5/16 (8)	3/8	.787 (20)	1.102 (28)	.827 (21)	.551 (14)
89500-06-04	3/8	1/4	.669 (17)	1.142 (29)	.709 (18)	.689 (17,5)
89500-06-06	3/8	3/8	.787 (20)	1.201 (30,5)	.827 (21)	.689 (17,5)
89500-08-06	1/2	3/8	.787 (20)	1.260 (32)	.827 (21)	.846 (21,5)
89500-08-08	1/2	1/2	.945 (24)	1.378 (35)	.984 (25)	.846 (21,5)

For BANJO STEM assemblies see 10.7/10.8/10.9

**88610B**

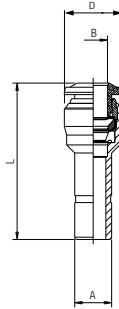
NYLON PLUG



Part No.	Tube	L
88610B-02	1/8	.708 (18)
88610B-53	5/32 (4)	.925 (23,5)
88610B-04	1/4	.964 (24,5)
88610B-05	5/16 (8)	1.023 (26)
88610B-06	3/8	1.122 (28,5)
88610B-08	1/2	1.122 (28,5)

**89700**

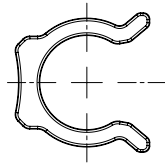
TUBE REDUCER



Part No.	A	B	L	D
89700-04-02	1/4	1/8	1.181 (30)	.394 (10)
89700-04-53	1/4	5/32 (4)	1.181 (30)	.394 (10)
89700-05-53	5/16 (8)	5/32 (4)	1.299 (33)	.394 (10)
89700-06-04	3/8	1/4	1.397 (35,5)	.492 (12,5)
89700-06-05	3/8	5/16 (8)	1.397 (35,5)	.551 (14)
89700-08-04	1/2	1/4	1.693 (43)	.492 (12,5)
89700-08-06	1/2	3/8	1.693 (43)	.689 (17,5)

**50980**

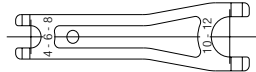
SECURITY CLIP



Part No.	Tube
50980-53	5/32 (4)
50980-04	1/4 (6)
50980-05	5/16 (8)
50980-06	3/8 (10)
50980-08	1/2 (12)

**50991**

TOOL FOR DISASSEMBLING



Part No.
50991

**50006**


































THREAD PACKING FOR SWIFTFIT TAPER THREADS



Part No.	Thread
50006-02	1/8
50006-04	1/4
50006-06	3/8
50006-08	1/2



## 57 Series

 <b>57000</b> Pg. 2.5	 <b>57010</b> Pg. 2.5	 <b>57110</b> Pg. 2.5	 <b>57210</b> Pg. 2.5	 <b>57222</b> Pg. 2.6	 <b>57020</b> Pg. 2.6	 <b>57010</b> Pg. 2.6	 <b>57030</b> Pg. 2.6	 <b>57055</b> Pg. 2.7
 <b>57105</b> Pg. 2.7	 <b>57115</b> Pg. 2.7	 <b>57125</b> Pg. 2.7	 <b>57215</b> Pg. 2.8	 <b>57225</b> Pg. 2.8	 <b>57326</b> Pg. 2.8	 <b>57100</b> Pg. 2.9	 <b>57200</b> Pg. 2.9	 <b>57040</b> Pg. 2.9
 <b>57050</b> Pg. 2.9	 <b>57465</b> Pg. 2.9	 <b>57060</b> Pg. 2.10	 <b>57130</b> Pg. 2.10	 <b>57230</b> Pg. 2.10	 <b>57310</b> Pg. 2.10	 <b>57500</b> Pg. 2.10	 <b>57510</b> Pg. 2.11	 <b>50600</b> Pg. 2.11
 <b>57610</b> Pg. 2.11	 <b>50625</b> Pg. 2.11	 <b>57700</b> Pg. 2.11	 <b>50980</b> Pg. 2.12	 <b>50991</b> Pg. 2.12	 <b>50006</b> Pg. 2.12			

METALLIC PUSH-TO-CONNECT FITTINGS  
FOR METRIC TUBE

**57 Series**



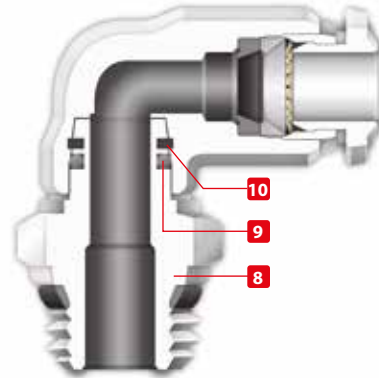
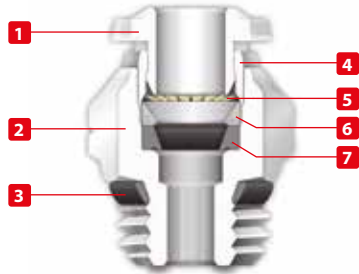


**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- ISO  
14743:2004
- SILICON  
FREE



**Pressure Rating**

**Vacuum ~ 290 PSI**  
**-0.99 bar ~ 20 bar**  
**-0.099 MPa ~ 2.0 MPa**



**Temperatures Rating**

**NBR**  
**-4° F ~ 176° F**  
**-20° C ~ 80° C**



**Media**

- Pneumatic Automation
- Automotive
- Textile, Packaging
- Compressed Air Circuit
- Vacuum



**Applications**

- Pneumatic Automation
- Automotive
- Textile, Packaging
- Compressed Air Circuit
- Vacuum



**Advantages**

- 1 The 303 Stainless Steel gripper ensures a tight clamp for tubes of any material without damaging the tube's surface. The secure connection between the tube and the fitting will hold up to severe conditions such as impact and vibrations.
- 2 The shape of the safety ring and the molded seal perfectly seal off the tube, creating a vacuum.
- 3 Series with several types of threads:  
**SWIFFFIT**  
**BSPP**  
**BSPT**
- 4 All straight fittings can be tightened with an Allen wrench because of our internal hex design. This enables the end user to tighten the fitting in spaces too small for an openend wrench.
- 5 Our rotating Swivel Elbow fittings are equipped with a safety ring that enables the fitting to rotate without losing a tight seal.



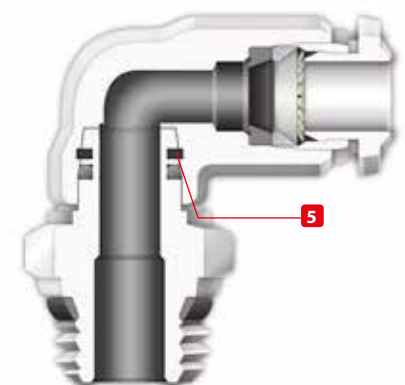
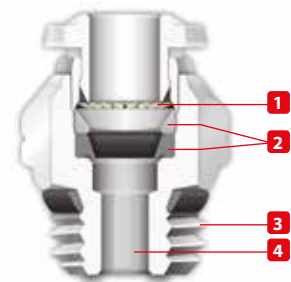
**Component Parts and Materials**

- 1 Metallic Release Collet
- 2 Nickel Plated Brass Body
- 3 NBR Thread Seal
- 4 Nickel Plated Brass Sleeve
- 5 303 Stainless Steel Gripper
- 6 Technopolymer Safety Ring
- 7 NBR Molded Seal
- 8 Nickel Plated Thread Brass Body
- 9 NBR Seal
- 10 Safety Ring



**Tubing Compatibility**

- Nylon 6 - 11 -12  
 Polyethylene  
 Polyurethane ("98 Shore A for best result)  
 PTFE  
 FEP





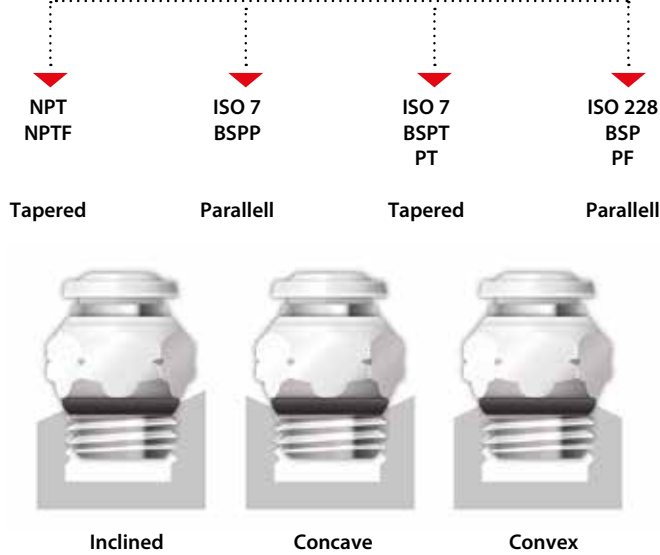


**THREADS & ADVANTAGES**



**SWIFFIT**  
Universal thread

*One fitting... Endless possibilities*



Our **SWIFFIT** universal fittings also work on non-flat surfaces without compromising an air-tight seal.

The **SWIFFIT** Universal Thread has been designed to offer the following advantages to the end users:

- Reduced overall length
- Smaller hex dimensions compared to parallel threads
- Fits with various parallel and tapered threads
- All **SWIFFIT** fittings have been equipped with threads and an NBR thread seal that will universally connect to all thread types.

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm



**BSPP Threads**



The **BSPP** Thread has been designed to offer the following advantages to the end users:

- Standard ISO 228 and ISO R/262
- Designed for use in BSPP connections with an integrated NBR o-ring that provides a perfect seal
- Completely reusable

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Breaking torque
M5	0.8 Nm	0.3 Nm
M8	3 Nm	8 Nm
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm



**BSPT Thread with seal**



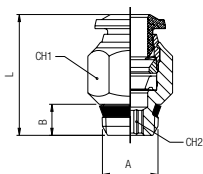
The **BSPT** Thread has been designed to offer the following advantages to the end users:

- Standard ISO 7.1, BS 21, DN 2999
- Designed for use in BSPT and BSPP connections with an integrated NBR thread seal that provides an additional seal

**Torque Specifications**

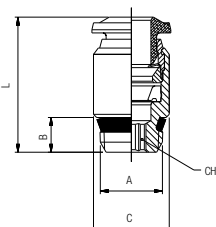
Recommended Torque		
Thread Size	Min.	Breaking torque
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm

**57000**  
STRAIGHT MALE



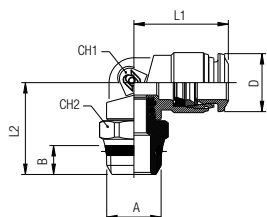
Part No.	Tube	A	B	L	CH1	CH2
89000-53-02	4 (5/32)	1/8	.216 (5,5)	.708 (18)	.433 (11)	.118 (3)
89000-53-04	4 (5/32)	1/4	.275 (7)	.748 (19)	.551 (14)	.118 (3)
57000-6-1/8	6	1/8	.216 (5,5)	.846 (21,5)	.511 (13)	.157 (4)
57000-6-1/4	6	1/4	.275 (7)	.826 (21)	.551 (14)	.157 (4)
57000-6-3/8	6	3/8	.295 (7,5)	.905 (23)	.669 (17)	.157 (4)
57000-6-1/2	6	1/2	.354 (9)	.925 (23,5)	.826 (21)	.157 (4)
89000-05-02	8 (5/16)	1/8	.216 (5,5)	.964 (24,5)	.551 (14)	.197 (5)
89000-05-04	8 (5/16)	1/4	.275 (7)	.866 (22)	.551 (14)	.236 (6)
89000-05-06	8 (5/16)	3/8	.295 (7,5)	.905 (23)	.669 (17)	.236 (6)
89000-05-08	8 (5/16)	1/2	.354 (9)	.925 (23,5)	.826 (21)	.236 (6)
57000-10-1/4	10	1/4	.275 (7)	1.102 (28)	.669 (17)	.275 (7)
57000-10-3/8	10	3/8	.295 (7,5)	1.003 (25,5)	.669 (17)	.314 (8)
57000-10-1/2	10	1/2	.354 (9)	1.023 (25,5)	.826 (21)	.314 (8)
57000-12-1/4	12	1/4	.275 (7)	1.240 (31,5)	.787 (20)	.275 (7)
57000-12-3/8	12	3/8	.295 (7,5)	1.161 (29,5)	.787 (20)	.354 (9)
57000-12-1/2	12	1/2	.354 (9)	1.240 (31,5)	.826 (21)	.393 (10)
57000-14-3/8	14	3/8	.295 (7,5)	1.279 (32,5)	.826 (21)	.354 (9)
57000-14-1/2	14	1/2	.354 (9)	1.240 (31,5)	.826 (21)	.393 (10)

**57010**  
STRAIGHT MALE WITH INTERNAL HEX



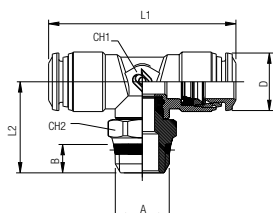
Part No.	Tube	A	B	C	L	CH
89010-53-02	5/32 (4)	1/8	.217 (5,5)	.433 (11)	.709 (18)	.118 (3)
57010-6-1/8	6	1/8	.217 (5,5)	.472 (12)	.867 (21,5)	.157 (4)
57010-6-1/4	6	1/4	.276 (7)	.551 (14)	.827 (21)	.157 (4)
89010-05-02	5/16 (8)	1/8	.217 (5,5)	.551 (14)	.984 (25)	.196 (5)
89010-05-04	5/16 (8)	1/4	.276 (7)	.551 (14)	.886 (22,5)	.236 (6)

**57110**  
SWIVEL ELBOW



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
89110-53-02	5/32 (4)	1/8	.216 (5,5)	.708 (18)	.767 (19,5)	.354 (9)	.512 (13)	.394 (10)
89110-53-04	5/32 (4)	1/4	.275 (7)	.748 (19)	.826 (21)	.354 (9)	.590 (15)	.394 (10)
57110-6-1/8	6	1/8	.216 (5,5)	.826 (21)	.846 (21,5)	.433 (11)	.512 (13)	.492 (12,5)
57110-6-1/4	6	1/4	.275 (7)	.826 (21)	.905 (23)	.433 (11)	.590 (15)	.492 (12,5)
89110-05-02	5/16 (8)	1/8	.216 (5,5)	.885 (22,5)	.885 (22,5)	.472 (12)	.512 (13)	.571 (14,5)
89110-05-04	5/16 (8)	1/4	.275 (7)	.885 (22,5)	.885 (22,5)	.472 (12)	.590 (15)	.571 (14,5)
89110-05-06	5/16 (8)	3/8	.295 (7,5)	.885 (22,5)	.905 (23)	.472 (12)	.669 (17)	.571 (14,5)
89110-05-08	5/16 (8)	1/2	.354 (9)	.885 (22,5)	1.003 (25,5)	.472 (12)	.826 (21)	.571 (14,5)
57110-10-1/4	10	1/4	.275 (7)	1.043 (26,5)	1.043 (26,5)	.551 (14)	.629 (16)	.689 (17,5)
57110-10-3/8	10	3/8	.295 (7,5)	1.043 (26,5)	.946 (24,5)	.551 (14)	.669 (17)	.689 (17,5)
57110-10-1/2	10	1/2	.354 (9)	1.043 (26,5)	1.062 (27)	.551 (14)	.826 (21)	.689 (17,5)
57110-12-3/8	12	3/8	.295 (7,5)	1.240 (31,5)	1.043 (26,5)	.629 (16)	.787 (20)	.846 (21,5)
57110-12-1/2	12	1/2	.354 (9)	1.240 (31,5)	1.141 (29)	.629 (16)	.826 (21)	.846 (21,5)
57110-14-3/8	14	3/8	.295 (7,5)	1.240 (31,5)	1.062 (27)	.629 (16)	.787 (20)	.846 (21,5)
57110-14-1/2	14	1/2	.354 (9)	1.240 (31,5)	1.161 (29,5)	.629 (16)	.826 (21)	.846 (21,5)

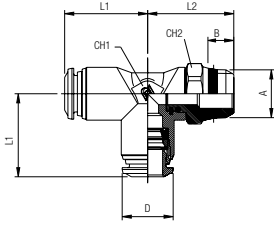
**57210**  
SWIVEL BRANCH TEE



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
89210-53-02	5/32 (4)	1/8	.216 (5,5)	1.338 (34)	.787 (20)	.354 (9)	.511 (13)	.394 (10)
89210-53-04	5/32 (4)	1/4	.275 (7)	1.338 (34)	.846 (21,5)	.354 (9)	.590 (15)	.394 (10)
57210-6-1/8	6	1/8	.216 (5,5)	1.653 (42)	.866 (22)	.433 (11)	.511 (13)	.492 (12,5)
57210-6-1/4	6	1/4	.275 (7)	1.653 (42)	.925 (23,5)	.433 (11)	.590 (15)	.492 (12,5)
89210-05-02	5/16 (8)	1/8	.216 (5,5)	1.771 (45)	1.003 (25,5)	.511 (13)	.511 (13)	.571 (14,5)
89210-05-04	5/16 (8)	1/4	.275 (7)	1.771 (45)	1.003 (25,5)	.511 (13)	.590 (15)	.571 (14,5)
89210-05-06	5/16 (8)	3/8	.295 (7,5)	1.771 (45)	1.023 (26)	.511 (13)	.669 (17)	.571 (14,5)
57210-10-1/4	10	1/4	.275 (7)	2.086 (53)	1.141 (29)	.551 (14)	.629 (16)	.689 (17,5)
57210-10-3/8	10	3/8	.295 (7,5)	2.086 (53)	1.062 (27)	.551 (14)	.669 (17)	.689 (17,5)
57210-10-1/2	10	1/2	.354 (9)	2.086 (53)	1.161 (29,5)	.551 (14)	.826 (21)	.689 (17,5)
57210-12-3/8	12	3/8	.295 (7,5)	2.460 (62,5)	1.161 (29,5)	.629 (16)	.787 (20)	.846 (21,5)
57210-12-1/2	12	1/2	.354 (9)	2.460 (62,5)	1.259 (32)	.629 (16)	.826 (21)	.846 (21,5)

**57222**

SWIVEL RUN TEE

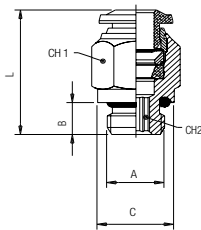


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
89222-53-02	5/32 (4)	1/8	.216 (5,5)	.669 (17)	.787 (20)	.354 (9)	.511 (13)	.394 (10)
89222-53-04	5/32 (4)	1/4	.275 (7)	.669 (17)	.846 (21,5)	.354 (9)	.590 (15)	.394 (10)
57222-6-1/8	6	1/8	.216 (5,5)	.826 (21)	.866 (22)	.433 (11)	.511 (13)	.492 (12,5)
57222-6-1/4	6	1/4	.275 (7)	.826 (21)	.925 (23,5)	.433 (11)	.590 (15)	.492 (12,5)
89222-05-02	5/16 (8)	1/8	.216 (5,5)	.885 (22,5)	.944 (24)	.511 (13)	.511 (13)	.571 (14,5)
89222-05-04	5/16 (8)	1/4	.275 (7)	.885 (22,5)	.944 (24)	.511 (13)	.590 (15)	.571 (14,5)
89222-05-06	5/16 (8)	3/8	.295 (7,5)	.885 (22,5)	1.062 (27)	.511 (13)	.669 (17)	.571 (14,5)
57222-10-1/4	10	1/4	.275 (7)	1.043 (26,5)	1.023 (26)	.551 (14)	.629 (16)	.689 (17,5)
57222-10-3/8	10	3/8	.295 (7,5)	1.043 (26,5)	1.023 (26)	.551 (14)	.669 (17)	.689 (17,5)
57222-10-1/2	10	1/2	.354 (9)	1.043 (26,5)	1.122 (28,5)	.551 (14)	.826 (21)	.689 (17,5)
57222-12-3/8	12	3/8	.295 (7,5)	1.240 (31,5)	1.161 (29,5)	.629 (16)	.787 (20)	.847 (21,5)
57222-12-1/2	12	1/2	.354 (9)	1.240 (31,5)	1.259 (32)	.629 (16)	.826 (21)	.847 (21,5)

**57020**

STRAIGHT MALE

**BSPP**

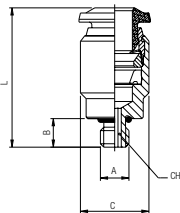


Part No.	Tube	A	B	C	L	CH1	CH2
57020-4-M5	5/32 (4)	M5	.157 (4)	.315 (8)	.827 (21)	.394 (10)	.079 (2)
57020-4-1/8	5/32 (4)	1/8	.236 (6)	.512 (13)	.787 (20)	.394 (10)	.118 (3)
57020-4-1/4	5/32 (4)	1/4	.315 (8)	.630 (16)	.768 (19,5)	.630 (16)	.118 (3)
57020-4-3/8	5/32 (4)	3/8	.315 (8)	.787 (20)	.708 (18)	.787 (20)	.118 (3)
57020-5-M5	5	M5	.157 (4)	.315 (8)	.925 (23,5)	.472 (12)	.079 (2)
57020-5-1/8	5	1/8	.236 (6)	.512 (13)	.866 (22)	.472 (12)	.157 (4)
57020-6-M5	6	M5	.157 (4)	.394 (10)	.965 (24,5)	.512 (13)	.079 (2)
57020-6-1/8	6	1/8	.236 (6)	.512 (13)	.925 (23,5)	.512 (13)	.157 (4)
57020-6-1/4	6	1/4	.315 (8)	.630 (16)	.925 (23,5)	.512 (13)	.157 (4)
57020-6-3/8	6	3/8	.354 (9)	.787 (20)	.984 (25)	.512 (13)	.157 (4)
57020-6-1/2	6	1/2	.394 (10)	.984 (25)	1.063 (27)	.512 (13)	.157 (4)
57020-8-1/8	5/16 (8)	1/8	.236 (6)	.512 (13)	.984 (25)	.551 (14)	.197 (5)
57020-8-1/4	5/16 (8)	1/4	.315 (8)	.630 (16)	.906 (23)	.551 (14)	.236 (6)
57020-8-3/8	5/16 (8)	3/8	.354 (9)	.787 (20)	.945 (24)	.551 (14)	.236 (6)
57020-8-1/2	5/16 (8)	1/2	.394 (10)	.984 (25)	1.043 (26,5)	.551 (14)	.236 (6)
57020-10-1/4	10	1/4	.315 (8)	.630 (16)	1.201 (30,5)	.669 (17)	.236 (6)
57020-10-3/8	10	3/8	.354 (9)	.787 (20)	1.083 (27,5)	.669 (17)	.315 (8)
57020-10-1/2	10	1/2	.394 (10)	.984 (25)	1.063 (27)	.669 (17)	.315 (8)
57020-12-1/4	12	1/4	.315 (8)	.630 (16)	1.358 (34,5)	.787 (20)	.236 (6)
57020-12-3/8	12	3/8	.354 (9)	.787 (20)	1.339 (34)	.787 (20)	.315 (8)
57020-12-1/2	12	1/2	.394 (10)	.984 (25)	1.220 (31)	.866 (22)	.394 (10)
57020-14-3/8	14	3/8	.354 (9)	.787 (20)	1.378 (35)	.827 (21)	.394 (10)
57020-14-1/2	14	1/2	.394 (10)	.984 (25)	1.260 (32)	.866 (22)	.394 (10)
57020-6-M8X1	6	M8X1	.216 (5,5)	.472 (12)	.965 (24,5)	.512 (13)	.118 (3)
57020-6-M10X1	6	M10X1	.216 (5,5)	.512 (13)	.905 (23)	.512 (13)	.157 (4)
57020-6-M12x1	6	M12X1	.315 (8)	.591 (15)	.925 (23,5)	.512 (13)	.157 (4)
57020-6-M12x1.25	6	M12X1,25	.315 (8)	.591 (15)	.925 (23,5)	.512 (13)	.157 (4)
57020-6-M12x1.5	6	M12X1,5	.315 (8)	.591 (15)	.925 (23,5)	.512 (13)	.157 (4)
57020-8-M8x1	8	M8X1	.216 (5,5)	.472 (12)	1.003 (25,5)	.551 (14)	.157 (4)
57020-8-M10x1	8	M10X1	.216 (5,5)	.512 (13)	1.003 (25,5)	.551 (14)	.157 (4)
57020-8-M12x1.5	8	M12X1,5	.315 (8)	.591 (15)	1.083 (27,5)	.551 (14)	.236 (6)

**57010**

STRAIGHT MALE WITH INTERNAL HEX

**BSPP**

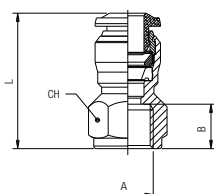


Part No.	Tube	A	B	C	L	CH
57010-4-M5	5/32 (4)	M5	.157 (4)	.394 (10)	.827 (21)	.098 (2,5)
57010-4-M7x1	5/32 (4)	M7x1	.196 (5)	.394 (10)	.826 (21)	.098 (2,5)
57010-6-M5	6	M5	.157 (4)	.472 (12)	.965 (24,5)	.098 (2,5)

**57030**

STRAIGHT FEMALE

**BSPP**

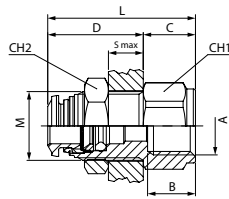


Part No.	Tube	A	B	L	CH
57030-4-M5	5/32 (4)	M5	.216 (5,5)	.826 (21)	.433 (11)
57030-4-1/8	5/32 (4)	1/8	.334 (8,5)	.944 (24)	.511 (13)
57030-4-1/4	5/32 (4)	1/4	.433 (11)	1.082 (27,5)	.629 (16)
57030-5-1/8	5	1/8	.334 (8,5)	1.043 (26,5)	.511 (13)
57030-6-1/8	6	1/8	.334 (8,5)	1.023 (26)	.511 (13)
57030-6-1/4	6	1/4	.433 (11)	1.161 (29,5)	.629 (16)
57030-8-1/8	5/16 (8)	1/8	.334 (8,5)	1.062 (27)	.590 (15)
57030-8-1/4	5/16 (8)	1/4	.433 (11)	1.161 (29,5)	.669 (17)
57030-8-3/8	5/16 (8)	3/8	.472 (12)	1.259 (32)	.748 (19)
57030-10-1/4	10	1/4	.433 (11)	1.259 (32)	.708 (18)
57030-10-3/8	10	3/8	.472 (12)	1.318 (33,5)	.748 (19)
57030-10-1/2	10	1/2	.590 (15)	1.535 (39)	.944 (24)
57030-12-3/8	12	3/8	.472 (12)	1.417 (36)	.826 (21)
57030-12-1/2	12	1/2	.590 (15)	1.614 (41)	.944 (24)

**57055**

**FEMALE BULKHEAD CONNECTOR**

**BSPP**

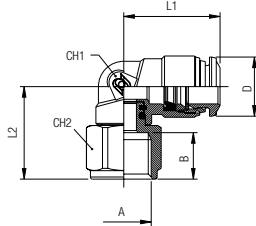


Part No.	Tube	A	B	M	S max	CH1	CH2	C	D	L
57055-4-1/8	4	1/8	.334 (8,5)	M12X1	.275 (7)	.591 (15)	.669 (17)	.394 (10)	.748 (19)	1.141 (29)
57055-6-1/8	6	1/8	.334 (8,5)	M14X1	.315 (8)	.630 (16)	.669 (17)	.394 (10)	.826 (21)	1.221 (31)
57055-6-1/4	6	1/4	.433 (11)	M14X1	.315 (8)	.630 (16)	.669 (17)	.472 (12)	.826 (21)	1.300 (33)
57055-8-1/8	8	1/8	.334 (8,5)	M16X1	.315 (8)	.709 (18)	.748 (19)	.394 (10)	.866 (22)	1.260 (32)
57055-8-1/4	8	1/4	.433 (11)	M16X1	.315 (8)	.709 (18)	.748 (19)	.472 (12)	.866 (22)	1.339 (34)
57055-10-3/8	10	3/8	.472 (12)	M20X1	.374 (9,5)	.945 (24)	.945 (24)	.551 (14)	1.003 (25,5)	1.556 (38,5)
57055-12-3/8	12	3/8	.472 (12)	M22X1	.413 (10,5)	.945 (24)	1.024 (26)	.591 (15)	1.083 (27,5)	1.673 (42,5)
57055-12-1/2	12	1/2	.591 (15)	M22X1	.413 (10,5)	.945 (24)	1.024 (26)	.669 (17)	1.083 (27,5)	1.752 (44,5)

**57105**

**FEMALE ELBOW**

**BSPP**

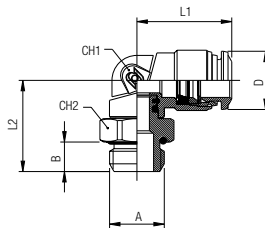


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
57105-4-1/8	5/32 (4)	1/8	.334 (8,5)	.708 (18)	.787 (20)	.354 (9)	.511 (13)	.394 (10)
57105-4-1/4	5/32 (4)	1/4	.433 (11)	.708 (18)	.846 (21,5)	.354 (9)	.629 (16)	.394 (10)
57105-6-1/8	6	1/8	.334 (8,5)	.826 (21)	.807 (20,5)	.433 (11)	.511 (13)	.492 (12,5)
57105-6-1/4	6	1/4	.433 (11)	.826 (21)	.905 (23)	.433 (11)	.629 (16)	.492 (12,5)
57105-8-1/8	5/16 (8)	1/8	.334 (8,5)	.885 (22,5)	.807 (20,5)	.472 (12)	.511 (13)	.571 (14,5)
57105-8-1/4	5/16 (8)	1/4	.433 (11)	.885 (22,5)	.905 (23)	.472 (12)	.629 (16)	.571 (14,5)
57105-10-1/4	10	1/4	.433 (11)	1.043 (26,5)	.984 (25)	.551 (14)	.748 (19)	.669 (17)
57105-10-3/8	10	3/8	.472 (12)	1.043 (26,5)	1.201 (28)	.551 (14)	.748 (19)	.669 (17)
57105-12-1/2	12	1/2	.591 (15)	1.240 (31,5)	1.358 (34)	.630 (16)	.945 (24)	.787 (20)

**57115**

**SWIVEL ELBOW**

**BSPP**

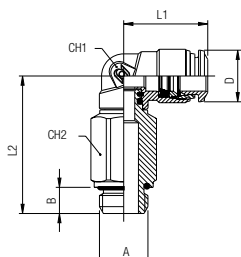


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
57115-4-M5	5/32 (4)	M5	.138 (3,5)	.709 (18)	.689 (17,5)	.354 (9)	.315 (8)	.394 (10)
57115-4-1/8	5/32 (4)	1/8	.217 (5,5)	.709 (18)	.709 (18)	.354 (9)	.512 (13)	.394 (10)
57115-4-1/4	5/32 (4)	1/4	.276 (7)	.709 (18)	.709 (18)	.354 (9)	.63 (16)	.394 (10)
57115-5-M5	5	M5	.138 (3,5)	.787 (20)	.787 (20)	.433 (11)	.433 (11)	.492 (12,5)
57115-5-1/8	5	1/8	.217 (5,5)	.787 (20)	.787 (20)	.433 (11)	.512 (13)	.492 (12,5)
57115-6-M5	6	M5	.138 (3,5)	.827 (21)	.787 (20)	.433 (11)	.433 (11)	.492 (12,5)
57115-6-1/8	6	1/8	.217 (5,5)	.827 (21)	.787 (20)	.433 (11)	.512 (13)	.492 (12,5)
57115-6-1/4	6	1/4	.276 (7)	.827 (21)	.846 (21,5)	.433 (11)	.630 (16)	.492 (12,5)
57115-6-3/8	6	3/8	.276 (7)	.827 (21)	.846 (21,5)	.433 (11)	.630 (16)	.492 (12,5)
57115-8-1/8	5/16 (8)	1/8	.217 (5,5)	.886 (22,5)	.827 (21)	.472 (12)	.512 (13)	.571 (14,5)
57115-8-1/4	5/16 (8)	1/4	.276 (7)	.886 (22,5)	.846 (21,5)	.472 (12)	.63 (16)	.571 (14,5)
57115-8-3/8	5/16 (8)	3/8	.315 (8)	.886 (22,5)	.925 (23,5)	.472 (12)	.787 (20)	.571 (14,5)
57115-8-1/2	5/16 (8)	1/2	.374 (9,5)	.886 (22,5)	.984 (25)	.472 (12)	.984 (25)	.571 (14,5)
57115-10-1/4	10	1/4	.276 (7)	1.043 (26,5)	1.004 (25,5)	.551 (14)	.630 (16)	.689 (17,5)
57115-10-3/8	10	3/8	.315 (8)	1.043 (26,5)	.984 (25)	.551 (14)	.787 (20)	.689 (17,5)
57115-10-1/2	10	1/2	.374 (9,5)	1.043 (26,5)	1.043 (26,5)	.551 (14)	.984 (25)	.689 (17,5)
57115-12-1/4	12	1/4	.315 (8)	1.240 (31,5)	1.083 (27,5)	.63 (16)	.787 (20)	.846 (21,5)
57115-12-3/8	12	3/8	.315 (8)	1.240 (31,5)	1.063 (27)	.63 (16)	.787 (20)	.846 (21,5)
57115-12-1/2	12	1/2	.374 (9,5)	1.240 (31,5)	1.122 (28,5)	.63 (16)	.984 (25)	.846 (21,5)
57115-14-3/8	14	3/8	.315 (8)	1.240 (31,5)	1.083 (27,5)	.63 (16)	.787 (20)	.846 (21,5)
57115-14-1/2	14	1/2	.374 (9,5)	1.240 (31,5)	1.142 (29)	.63 (16)	.984 (25)	.846 (21,5)
57115-6-M12x1	6	M12x1	.295 (7,5)	.787 (20)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)
57115-6-M12x1.25	6	M12x1,25	.295 (7,5)	.787 (20)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)
57115-6-M12x1.5	6	M12x1,5	.295 (7,5)	.787 (20)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)
57115-8-M12x1.5	8	M12x1,5	.295 (7,5)	.886 (22,5)	.866 (22)	.472 (12)	.630 (16)	.571 (14,5)

**57125**

**SWIVEL ELBOW**

**BSPP**

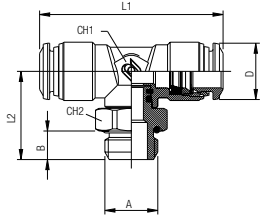


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
57125-4-1/8	5/32 (4)	1/8	.217 (5,5)	.709 (18)	1.181 (30)	.354 (9)	.472 (12)	.394 (10)
57125-4-1/4	5/32 (4)	1/4	.276 (7)	.709 (18)	1.260 (32)	.354 (9)	.591 (15)	.394 (10)
57125-5-1/8	5	1/8	.217 (5,5)	.787 (20)	1.358 (34,5)	.433 (11)	.472 (12)	.492 (12,5)
57125-6-1/8	6	1/8	.217 (5,5)	.827 (21)	1.358 (34,5)	.433 (11)	.472 (12)	.492 (12,5)
57125-6-1/4	6	1/4	.276 (7)	.827 (21)	1.417 (36)	.433 (11)	.591 (15)	.492 (12,5)
57125-8-1/8	5/16 (8)	1/8	.197 (5)	.898 (22,8)	1.476 (37,5)	.472 (12)	.472 (12)	.571 (14,5)
57125-8-1/4	5/16 (8)	1/4	.276 (7)	.886 (22,5)	1.496 (38)	.472 (12)	.591 (15)	.571 (14,5)
57125-8-3/8	5/16 (8)	3/8	.315 (8)	.886 (22,5)	1.575 (40)	.472 (12)	.709 (18)	.571 (14,5)
57125-10-1/4	10	1/4	.276 (7)	1.043 (26,5)	1.772 (45)	.551 (14)	.630 (16)	.689 (17,5)
57125-10-3/8	10	3/8	.315 (8)	1.043 (26,5)	1.752 (44,5)	.551 (14)	.709 (18)	.689 (17,5)

**57215**

SWIVEL BRANCH TEE

**BSPP**

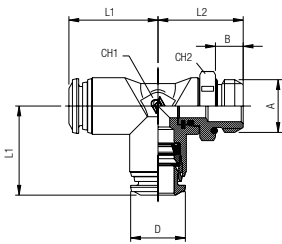


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
57215-4-M5	5/32 (4)	M5	.138 (3,5)	1.339 (34)	.709 (18)	.354 (9)	.315 (8)	.394 (10)
57215-4-1/8	5/32 (4)	1/8	.217 (5,5)	1.339 (34)	.728 (18,5)	.354 (9)	.512 (13)	.394 (10)
57215-4-1/4	5/32 (4)	1/4	.276 (7)	1.339 (34)	.787 (20)	.354 (9)	.630 (16)	.394 (10)
57215-5-M5	5	M5	.138 (3,5)	1.575 (40)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
57215-5-1/8	5	1/8	.217 (5,5)	1.575 (40)	.807 (20,5)	.433 (11)	.512 (13)	.492 (12,5)
57215-6-M5	6	M5	.138 (3,5)	1.654 (42)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
57215-6-1/8	6	1/8	.217 (5,5)	1.654 (42)	.807 (20,5)	.433 (11)	.512 (13)	.492 (12,5)
57215-6-1/4	6	1/4	.276 (7)	1.654 (42)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)
57215-8-1/8	5/16 (8)	1/8	.217 (5,5)	1.772 (45)	.925 (23,5)	.512 (13)	.512 (13)	.571 (14,5)
57215-8-1/4	5/16 (8)	1/4	.276 (7)	1.772 (45)	.945 (24)	.512 (13)	.630 (16)	.571 (14,5)
57215-8-3/8	5/16 (8)	3/8	.315 (8)	1.772 (45)	1.024 (26)	.512 (13)	.787 (20)	.571 (14,5)
57215-8-1/2	5/16 (8)	1/2	.374 (9,5)	1.772 (45)	1.083 (27,5)	.512 (13)	.984 (25)	.571 (14,5)
57215-10-1/4	10	1/4	.276 (7)	2.087 (53)	1.083 (27,5)	.551 (14)	.630 (16)	.689 (17,5)
57215-10-3/8	10	3/8	.315 (8)	2.087 (53)	1.063 (27)	.551 (14)	.787 (20)	.689 (17,5)
57215-10-1/2	10	1/2	.374 (9,5)	2.087 (53)	1.122 (28,5)	.551 (14)	.984 (25)	.689 (17,5)
57215-12-3/8	12	3/8	.315 (8)	2.461 (62,5)	1.161 (29,5)	.630 (16)	.787 (20)	.846 (21,5)
57215-12-1/2	12	1/2	.374 (9,5)	2.461 (62,5)	1.220 (31)	.630 (16)	.984 (25)	.846 (21,5)
57215-14-3/8	14	3/8	.315 (8)	2.461 (62,5)	1.161 (29,5)	.630 (16)	.787 (20)	.846 (21,5)
57215-14-1/2	14	1/2	.374 (9,5)	2.461 (62,5)	1.220 (31)	.630 (16)	.984 (25)	.846 (21,5)
57215-6-M12x1	6	M12x1	.295 (7,5)	1.654 (42)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)
57215-6-M12x1.25	6	M12x1,25	.295 (7,5)	1.654 (42)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)
57215-6-M12x1.5	6	M12x1,5	.295 (7,5)	1.654 (42)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)

**57225**

SWIVEL RUN TEE

**BSPP**

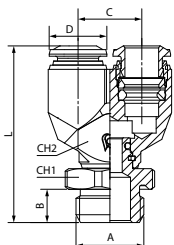


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
57225-4-M5	5/32 (4)	M5	.138 (3,5)	.669 (17)	.709 (18)	.354 (9)	.315 (8)	.394 (10)
57225-4-1/8	5/32 (4)	1/8	.217 (5,5)	.669 (17)	.728 (18,5)	.354 (9)	.512 (13)	.394 (10)
57225-4-1/4	5/32 (4)	1/4	.276 (7)	.669 (17)	.787 (20)	.354 (9)	.63 (16)	.394 (10)
57225-5-M5	5	M5	.138 (3,5)	.787 (20)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
57225-5-1/8	5	1/8	.217 (5,5)	.787 (20)	.807 (20,5)	.433 (11)	.512 (13)	.492 (12,5)
57225-6-M5	6	M5	.138 (3,5)	.827 (21)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
57225-6-1/8	6	1/8	.217 (5,5)	.827 (21)	.807 (20,5)	.433 (11)	.512 (13)	.492 (12,5)
57225-6-1/4	6	1/4	.276 (7)	.827 (21)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)
57225-8-1/8	5/16 (8)	1/8	.217 (5,5)	.886 (22,5)	.886 (22,5)	.512 (13)	.512 (13)	.571 (14,5)
57225-8-1/4	5/16 (8)	1/4	.276 (7)	.886 (22,5)	.906 (23)	.512 (13)	.63 (16)	.571 (14,5)
57225-8-3/8	5/16 (8)	3/8	.315 (8)	.886 (22,5)	.984 (25)	.512 (13)	.787 (20)	.571 (14,5)
57225-8-1/2	5/16 (8)	1/2	.374 (9,5)	.886 (22,5)	1.043 (26,5)	.512 (13)	.984 (25)	.571 (14,5)
57225-10-1/4	10	1/4	.276 (7)	1.043 (26,5)	1.063 (27)	.551 (14)	.63 (16)	.689 (17,5)
57225-10-3/8	10	3/8	.315 (8)	1.043 (26,5)	1.043 (26,5)	.551 (14)	.787 (20)	.689 (17,5)
57225-10-1/2	10	1/2	.374 (9,5)	1.043 (26,5)	1.102 (28)	.551 (14)	.984 (25)	.689 (17,5)
57225-12-3/8	12	3/8	.315 (8)	1.240 (31,5)	1.161 (29,5)	.63 (16)	.787 (20)	.846 (21,5)
57225-12-1/2	12	1/2	.374 (9,5)	1.240 (31,5)	1.220 (31)	.63 (16)	.984 (25)	.846 (21,5)
57225-6-M12x1	6	M12x1	.295 (7,5)	.827 (21)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)
57225-6-M12x1.25	6	M12x1,25	.295 (7,5)	.827 (21)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)
57225-6-M12x1.5	6	M12x1,5	.295 (7,5)	.827 (21)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)

**57326**

Y-CONNECTOR MALE ADAPTOR (PARALLEL)

**BSPP**

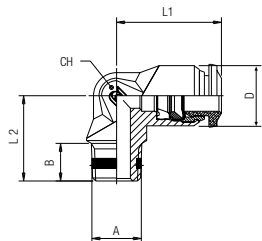


Part No.	Tube	A	B	C	CH1	CH2	D
57326-4-1/8	5/32 (4)	1/8	.217 (5,5)	1.280 (32,5)	.511 (13)	.433 (11)	.394 (10)
57326-6-1/8	6	1/8	.217 (5,5)	1.456 (37)	.511 (13)	.511 (13)	.492 (12,5)
57326-6-1/4	6	1/4	.275 (7)	1.516 (38,5)	.629 (16)	.511 (13)	.492 (12,5)
57326-8-1/8	5/16 (8)	1/8	.217 (5,5)	1.594 (40,5)	.511 (13)	.590 (15)	.551 (14)
57326-8-1/4	5/16 (8)	1/4	.275 (7)	1.614 (41)	.629 (16)	.590 (15)	.551 (14)
57326-8-3/8	5/16 (8)	3/8	.314 (8)	1.693 (43)	.787 (20)	.590 (15)	.551 (14)

**57100**

FIXED ELBOW

**BSPT**

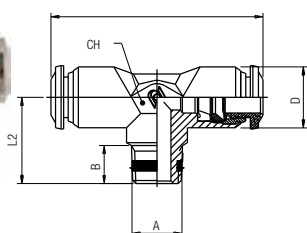


Part No.	Tube	A	B	L1	L2	CH	D
57100-4-M5	5/32 (4)	M5	.197 (5)	.669 (17)	.591 (15)	.354 (9)	.394 (10)
57100-4-1/8	5/32 (4)	1/8	.295 (7,5)	.669 (17)	.61 (15,5)	.354 (9)	.394 (10)
57100-5-M5	5	M5	.197 (5)	.787 (20)	.669 (17)	.433 (11)	.492 (12,5)
57100-5-1/8	5	1/8	.295 (7,5)	.787 (20)	.689 (17,5)	.433 (11)	.492 (12,5)
57100-6-1/8	6	1/8	.295 (7,5)	.827 (21)	.689 (17,5)	.433 (11)	.492 (12,5)
57100-6-1/4	6	1/4	.433 (11)	.827 (21)	.846 (21,5)	.433 (11)	.492 (12,5)
57100-8-1/8	5/16 (8)	1/8	.295 (7,5)	.886 (22,5)	.748 (19)	.512 (13)	.551 (14)
57100-8-1/4	5/16 (8)	1/4	.433 (11)	.886 (22,5)	.846 (21,5)	.512 (13)	.551 (14)
57100-10-1/4	10	1/4	.433 (11)	1.043 (26,5)	.965 (24,5)	.63 (16)	.669 (17)
57100-10-3/8	10	3/8	.453 (11,5)	1.043 (26,5)	.945 (24)	.63 (16)	.669 (17)
57100-12-1/4	12	1/4	.433 (11)	1.201 (30,5)	1.201 (28)	.748 (19)	.846 (21,5)
57100-12-3/8	12	3/8	.453 (11,5)	1.201 (30,5)	1.201 (28)	.748 (19)	.846 (21,5)

**57200**

FIXED BRANCH TEE

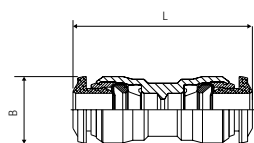
**BSPT**



Part No.	Tube	A	B	L1	L2	CH	D
57200-4-M5	5/32 (4)	M5	.197 (5)	1.339 (34)	.591 (15)	.354 (9)	.394 (10)
57200-4-1/8	5/32 (4)	1/8	.295 (7,5)	1.339 (34)	.61 (15,5)	.354 (9)	.394 (10)
57200-5-1/8	5	1/8	.295 (7,5)	1.575 (40)	.689 (17,5)	.433 (11)	.492 (12,5)
57200-6-1/8	6	1/8	.295 (7,5)	1.654 (42)	.689 (17,5)	.433 (11)	.492 (12,5)
57200-8-1/8	5/16 (8)	1/8	.295 (7,5)	1.772 (45)	.748 (19)	.512 (13)	.551 (14)
57200-8-1/4	5/16 (8)	1/4	.433 (11)	1.772 (45)	.846 (21,5)	.512 (13)	.551 (14)
57200-10-1/4	10	1/4	.433 (11)	2.087 (53)	.965 (24,5)	.63 (16)	.669 (17)
57200-10-3/8	10	3/8	.453 (11,5)	2.087 (53)	.945 (24)	.63 (16)	.669 (17)
57200-12-1/4	12	1/4	.433 (11)	2.402 (61)	1.102 (28)	.748 (19)	.846 (21,5)
57200-12-3/8	12	3/8	.453 (11,5)	2.402 (61)	1.102 (28)	.748 (19)	.846 (21,5)

**57040**

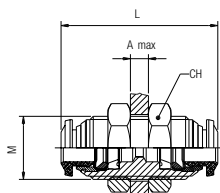
UNION



Part No.	Tube	Tube	L	B
89040-53	5/32 (4)		1.200 (30,5)	.413 (10,5)
57040-5	5		1.299 (33)	.453 (11,5)
57040-6-4	6	5/32 (4)	1.259 (32)	.492 (12,5)
57040-6	6		1.338 (34)	.492 (12,5)
57040-8-6	5/16 (8)	6	1.377 (35)	.571 (14,5)
89040-05	5/16 (8)		1.417 (36)	.571 (14,5)
57040-10-8	10	5/16 (8)	1.594 (40,5)	.689 (17,5)
57040-10	10		1.653 (42)	.689 (17,5)
57040-12-10	12	10	1.791 (45,5)	.807 (20,5)
57040-12	12		1.850 (47)	.807 (20,5)
57040-14	14		1.929 (49)	.846 (21,5)

**57050**

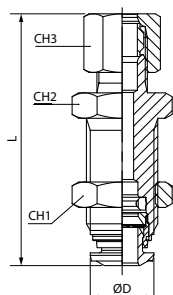
BULKHEAD UNION



Part No.	Tube	M	L	CH	A max
89050-53	5/32 (4)	M12x1	1.240 (31,5)	.669 (17)	.275 (7)
57050-5	5	M14x1	1.299 (33)	.669 (17)	.275 (7)
57050-6	6	M14x1	1.377 (35)	.669 (17)	.374 (9,5)
57050-8-6	5/16 (8)-6	M16x1	1.456 (37)	.748 (19)	.413 (10,5)
89050-05	5/16 (8)	M16x1	1.456 (37)	.748 (19)	.413 (10,5)
57050-10-6	10-6	M20x1	1.693 (43)	.945 (24)	.453 (11,5)
57050-10-8	10-5/16 (8)	M20x1	1.693 (43)	.945 (24)	.492 (12,5)
57050-10	10	M20x1	1.692 (42)	.944 (24)	.492 (12,5)
57050-12	12	M22x1	1.889 (48)	1.023 (26)	.649 (16,5)

**57465**

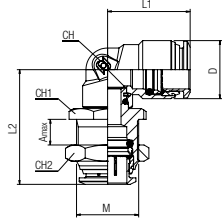
BULKHEAD CONNECTOR



Part No.	Tube	L	D	CH1	CH2	CH3
57465-6	6	1.949 (49,5)	.492 (12,5)	.511 (13)	.669 (17)	.669 (17)
57465-8	5/16 (8)	2.047 (52)	.551 (14)	.551 (14)	.748 (19)	.748 (19)
57465-10	10	2.282 (59)	.669 (17)	.748 (19)	.945 (24)	.945 (24)

**57060**

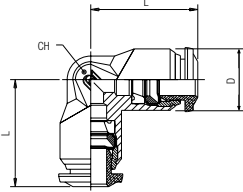
SWIVEL ELBOW BULKHEAD



Part No.	Tube	M	L1	L2	CH	CH1	CH2	A max	D
57060-4	5/32 (4)	M12x1	.689 (17,5)	1.024 (26)	.354 (9)	.551 (14)	.669 (17)	.236 (6)	.394 (10)
57060-6	6	M14x1	.846 (21,5)	1.220 (31)	.433 (11)	.669 (17)	.669 (17)	.256 (6,5)	.492 (12,5)
57060-8	5/16 (8)	M16x1	.866 (22)	1.339 (34)	.472 (12)	.709 (18)	.748 (19)	.256 (6,5)	.571 (14,5)
57060-10	10	M20x1	1.043 (26,5)	1.417 (36)	.551 (14)	.866 (22)	.945 (24)	.295 (7,5)	.689 (17,5)
57060-12	12	M22x1	1.201 (30,5)	1.693 (43)	.63 (16)	.945 (24)	1.024 (26)	.354 (9)	.846 (21,5)
57060-14	14	M23x1	1.201 (30,5)	1.693 (43)	.63 (16)	.984 (25)	1.063 (27)	.374 (9,5)	.846 (21,5)

**57130**

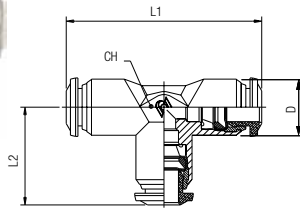
UNION ELBOW



Part No.	Tube	L	CH	D
89130-53	5/32 (4)	.669 (17)	.354 (9)	.394 (10)
57130-5	5	.787 (20)	.433 (11)	.492 (12,5)
57130-6	6	.826 (21)	.433 (11)	.492 (12,5)
89130-05	5/16 (8)	.885 (22,5)	.511 (13)	.571 (14,5)
57130-10	10	1.043 (26,5)	.629 (16)	.689 (17,5)
57130-12	12	1.200 (30,5)	.748 (19)	.846 (21,5)
57130-14	14	1.279 (32,5)	.748 (19)	.846 (21,5)

**57230**

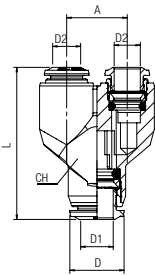
UNION TEE



Part No.	Tube	L1	L2	CH	D
89230-53	5/32 (4)	1.338 (34)	.669 (17)	.354 (9)	.394 (10)
57230-5	5	1.574 (40)	.787 (20)	.433 (11)	.492 (12,5)
57230-6	6	1.653 (42)	.826 (21)	.433 (11)	.492 (12,5)
89230-05	5/16 (8)	1.771 (45)	.885 (22,5)	.511 (13)	.551 (14)
57230-10	10	2.086 (53)	1.043 (26,5)	.629 (16)	.669 (17)
57230-12	12	2.401 (61)	1.200 (30,5)	.748 (19)	.847 (21,5)
57230-14	14	2.578 (65,5)	1.279 (32,5)	.748 (19)	.847 (21,5)

**57310**

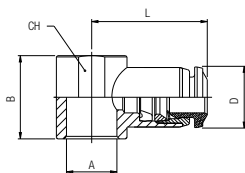
UNION Y



Part No.	Tube	A	L	CH	D
89310-53	5/32 (4)	.433 (11)	1.259 (32)	.433 (11)	.394 (10)
57310-5	5	.531 (13,5)	1.377 (35)	.511 (13)	.492 (12,5)
57310-6	6	.531 (13,5)	1.437 (36,5)	.511 (13)	.492 (12,5)
89310-05	5/16 (8)	.610 (15,5)	1.614 (41)	.590 (15)	.551 (14)
57310-10	10	.728 (18,5)	1.889 (48)	.708 (18)	.669 (17)

**57500**

SINGLE BANJO BODY

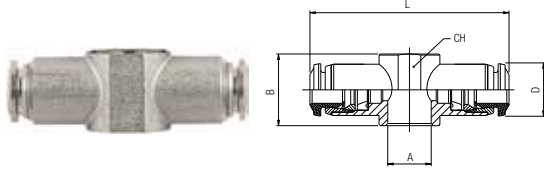


Part No.	Tube	A	B	L	CH	D
89500-53-32	5/32 (4)	M5	.492 (12,5)	.748 (19)	-	.394 (10)
57500-4-M6	5/32 (4)	M6	.492 (12,5)	.748 (19)	-	.394 (10)
89500-53-02	5/32 (4)	1/8	.591 (15)	.827 (21)	.551 (14)	.394 (10)
57500-5-M5	5	M5	.492 (12,5)	.787 (20)	-	.492 (12,5)
57500-5-M6	5	M6	.492 (12,5)	.787 (20)	-	.492 (12,5)
57500-5-1/8	5	1/8	.591 (15)	.846 (21,5)	.551 (14)	.492 (12,5)
57500-5-1/4	5	1/4	.669 (17)	.965 (24,5)	.709 (18)	.492 (12,5)
57500-6-M5	6	M5	.492 (12,5)	.807 (20,5)	-	.492 (12,5)
57500-6-M6	6	M6	.492 (12,5)	.807 (20,5)	-	.492 (12,5)
57500-6-1/8	6	1/8	.591 (15)	.866 (22)	.551 (14)	.492 (12,5)
57500-6-1/4	6	1/4	.669 (17)	.984 (25)	.709 (18)	.492 (12,5)
57500-8-1/8	5/16 (8)	1/8	.591 (15)	.945 (24)	.551 (14)	.551 (14)
57500-8-1/4	5/16 (8)	1/4	.669 (17)	1.024 (26)	.709 (18)	.551 (14)
57500-8-3/8	5/16 (8)	3/8	.787 (20)	1.102 (28)	.827 (21)	.551 (14)
57500-10-1/4	10	1/4	.669 (17)	1.142 (29)	.709 (18)	.669 (17)
57500-10-3/8	10	3/8	.787 (20)	1.201 (30,5)	.827 (21)	.669 (17)
57500-12-3/8	12	3/8	.787 (20)	1.280 (32,5)	.827 (21)	.846 (21,5)
57500-12-1/2	12	1/2	.945 (24)	1.378 (35)	.984 (25)	.846 (21,5)
57500-14-1/2	14	1/2	.945 (24)	1.398 (35,5)	.984 (25)	.846 (21,5)

For BANJO STEM assemblies see 10.7/10.8/10.9

**57510**

DOUBLE BANJO BODY



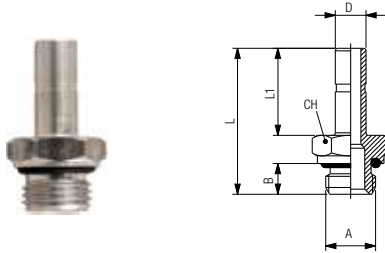
Part No.	Tube	A	B	L	CH	D
57510-4-M5	5/32 (4)	M5	.492 (12,5)	1.496 (38)	-	.394 (10)
57510-4-M6	5/32 (4)	M6	.492 (12,5)	1.496 (38)	-	.394 (10)
57510-4-1/8	5/32 (4)	1/8	.591 (15)	1.654 (42)	.551 (14)	.394 (10)
57510-5-1/8	5	1/8	.591 (15)	1.693 (43)	.551 (14)	.492 (12,5)
57510-5-1/4	5	1/4	.669 (17)	1.929 (49)	.709 (18)	.492 (12,5)
57510-6-1/8	6	1/8	.591 (15)	1.732 (44)	.551 (14)	.492 (12,5)
57510-6-1/4	6	1/4	.669 (17)	1.969 (50)	.709 (18)	.492 (12,5)
57510-8-1/8	5/16 (8)	1/8	.591 (15)	1.890 (48)	.551 (14)	.551 (14)
57510-8-1/4	5/16 (8)	1/4	.669 (17)	2.047 (52)	.709 (18)	.551 (14)

For BANJO STEM assemblies see 10.7/10.8/10.9

**50600**

STANDPIPE

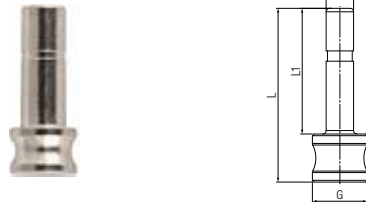
**BSPP**



Part No.	D	A	B	L	L1	CH
50600-4-M5	5/32 (4)	M5	.157 (4)	.945 (24)	.591 (15)	.315 (8)
50600-4-1/8	5/32 (4)	1/8	.236 (6)	1.043 (26,5)	.591 (15)	.512 (13)
50600-5-M5	5	M5	.157 (4)	1.024 (26)	.669 (17)	.315 (8)
50600-5-1/8	5	1/8	.236 (6)	1.122 (28,5)	.669 (17)	.512 (13)
50600-5-1/4	5	1/4	.315 (8)	1.220 (31)	.669 (17)	.630 (16)
50600-6-M5	6	M5	.157 (4)	1.024 (26)	.669 (17)	.315 (8)
50600-6-1/8	6	1/8	.236 (6)	1.122 (28,5)	.669 (17)	.512 (13)
50600-6-1/4	6	1/4	.315 (8)	1.220 (31)	.669 (17)	.630 (16)
50600-8-1/8	5/16 (8)	1/8	.236 (6)	1.161 (29,5)	.709 (18)	.512 (13)
50600-8-1/4	5/16 (8)	1/4	.315 (8)	1.260 (32)	.709 (18)	.630 (16)
50600-8-3/8	5/16 (8)	3/8	.354 (9)	1.319 (33,5)	.709 (18)	.787 (20)
50600-10-1/8	10	1/8	.236 (6)	1.319 (33,5)	.866 (22)	.512 (13)
50600-10-1/4	10	1/4	.315 (8)	1.417 (36)	.866 (22)	.630 (16)
50600-10-3/8	10	3/8	.354 (9)	1.476 (37,5)	.866 (22)	.787 (20)
50600-12-1/4	12	1/4	.315 (8)	1.516 (38,5)	.965 (24,5)	.630 (16)
50600-12-3/8	12	3/8	.354 (9)	1.575 (40)	.965 (24,5)	.787 (20)
50600-14-1/2	14	1/2	.394 (10)	1.732 (44)	1.043 (26,5)	.945 (24)

**57610**

PLUG



Part No.	D	G	L	L1
57610-4	5/32 (4)	.315 (8)	1.004 (25,5)	.728 (18,5)
57610-5	5	.315 (8)	1.063 (27)	.787 (20)
57610-6	6	.315 (8)	1.083 (27,5)	.807 (20,5)
57610-8	5/16 (8)	.472 (12)	1.161 (29,5)	.846 (21,5)
57610-10	10	.472 (12)	1.280 (32,5)	.964 (24,5)
57610-12	12	.630 (16)	1.437 (36,5)	1.083 (27,5)
57610-14	14	.630 (16)	1.437 (36,5)	1.043 (26,5)

**50625**

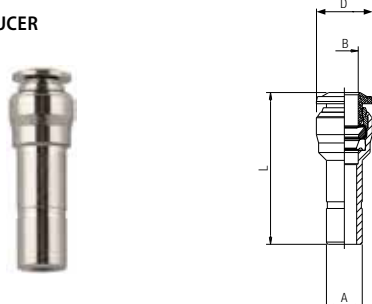
DOUBLE JOINT



Part No.	Tube	L
50625-4	5/32 (4)	1.220 (31)
50625-5	5	1.299 (33)
50625-6	6	1.339 (34)
50625-8	5/16 (8)	1.417 (36)
50625-10	10	1.772 (45)
50625-12	12	1.969 (50)

**57700**

TUBE REDUCER

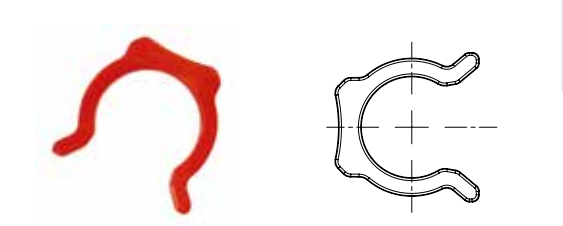


Part No.	A	B	L	D
57700-5-4	5	5/32 (4)	1.142 (29)	.413 (10,5)
57700-6-4	6	5/32 (4)	1.181 (30)	.413 (10,5)
57700-6-5	6	5	1.260 (32)	.435 (11,05)
89700-05-53	5/16 (8)	5/32 (4)	1.300 (33)	.413 (10,5)
57700-8-6	5/16 (8)	6	1.339 (34)	.551 (14)
57700-10-4	10	5/32 (4)	1.260 (32)	.394 (10)
57700-10-8	10	5/16 (8)	1.496 (38)	.571 (14,5)
57700-12-8	12	5/16 (8)	1.535 (39)	.571 (14,5)
57700-12-10	12	10	1.693 (43)	.690 (17,5)



**50980**

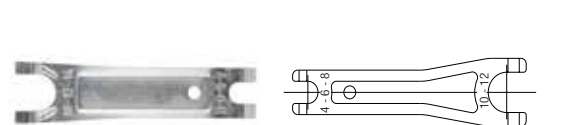
SECURITY CLIP



Part No.	Tube
50980-53	5/32 (4)
50980-04	1/4 (6)
50980-05	5/16 (8)
50980-06	3/8 (10)
50980-08	1/2 (12)

**50991**

TOOL FOR DISASSEMBLING



Part No.
50991

**50006**

THREAD PACKING FOR THE SWIFTFIT TAPER THREADS








Part No.	Thread
50006-02	1/8
50006-04	1/4
50006-06	3/8
50006-08	1/2

## 87 - 88 Series

 <b>87000</b> Pg. 3.5	 <b>87010</b> Pg. 3.5	 <b>87110</b> Pg. 3.5	 <b>87210</b> Pg. 3.6	 <b>87222</b> Pg. 3.6	 <b>88020</b> Pg. 3.6	 <b>87010</b> Pg. 3.6	 <b>88115</b> Pg. 3.7	 <b>88215</b> Pg. 3.7
 <b>88225</b> Pg. 3.7	 <b>88007</b> Pg. 3.7	 <b>88117</b> Pg. 3.7	 <b>88000</b> Pg. 3.8	 <b>88030</b> Pg. 3.8	 <b>88055</b> Pg. 3.8	 <b>88100</b> Pg. 3.8	 <b>88105</b> Pg. 3.9	 <b>88110</b> Pg. 3.9
 <b>88210</b> Pg. 3.9	 <b>88222</b> Pg. 3.9	 <b>88040</b> Pg. 3.10	 <b>88050</b> Pg. 3.10	 <b>88130</b> Pg. 3.10	 <b>88230</b> Pg. 3.10	 <b>88310</b> Pg. 3.10	 <b>88500</b> Pg. 3.11	 <b>88510</b> Pg. 3.11
 <b>88610</b> Pg. 3.11	 <b>88700</b> Pg. 3.11	 <b>50980</b> Pg. 3.11	 <b>87800</b> Pg. 3.12	 <b>55801</b> Pg. 3.12	 <b>55802</b> Pg. 3.12			

## Fitting Kits

 <b>87861-02</b> Pg. 3.13	 <b>87861-04</b> Pg. 3.13	 <b>87861-06</b> Pg. 3.13	 <b>87861-08</b> Pg. 3.14
 <b>87861-90</b> Pg. 3.14			

PUSH-TO-CONNECT FITTINGS  
FOR INCH TUBE



**87 - 88 Series**

87000  
88000



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

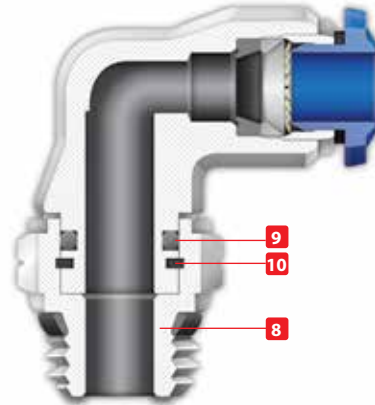
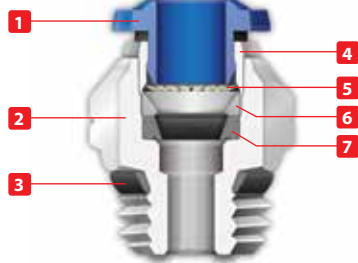
1907/2006  
REACH ✓

2011/65/CE  
RoHS ✓

PED  
2014/68/UE

ISO  
14743:2004

SILICON  
FREE



**Pressure Rating**

**Vacuum ~ 290 PSI**  
-0.99 bar ~ 20 bar  
-0.099 MPa ~ 2.0 MPa



**Temperatures Rating**

**NBR**  
-4° F ~ 176° F  
-20° C ~ 80° C



**Media**

- Compressed air
- Vacuum
- Water
- Steam (FKM required)



**Applications**

- Pneumatic Automation
- Automotive
- Textile, Packaging
- Compressed Air Circuit
- Vacuum



**Advantages**

- 1 The 303 Stainless Steel gripper ensures a tight clamp for tubes of any material without damaging the tube's surface. The secure connection between the tube and the fitting will hold up to severe conditions such as impact and vibrations.
- 2 The shape of the safety ring and the molded seal perfectly seal off the tube, creating a vacuum.
- 3 Series with several types of threads:  
**SWIFFIT**  
**UNF**  
**PTF**  
**NPTF**
- 4 All straight fittings can be tightened with an Allen wrench because of our internal hex design. This enables the end user to tighten the fitting in spaces too small for an openend wrench.
- 5 Our rotating Swivel Elbow fittings are equipped with a safety ring that enables the fitting to rotate without losing a tight seal.



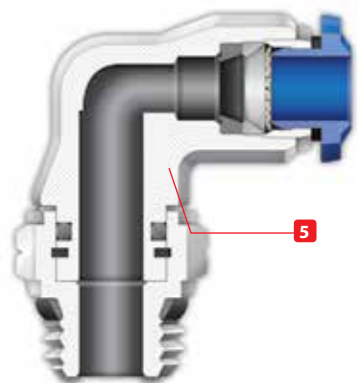
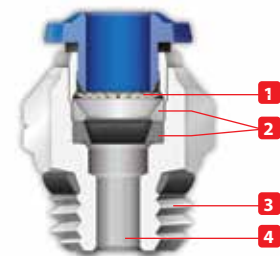
**Component Parts and Materials**

- 1 Composite Release Collet
- 2 Nickel Plated Brass Body
- 3 NBR Thread Seal
- 4 Nickel Plated Brass Sleeve
- 5 303 Stainless Steel Gripper
- 6 Technopolymer Safety Ring
- 7 NBR Molded Seal
- 8 Nickel Plated Thread Brass Body
- 9 NBR Seal
- 10 Safety Ring



**Tubing Compatibility**

- Nylon 6 - 11 - 12
- Polyethylene
- Polyurethane ("98 Shore A for best result)
- PTFE
- FEP

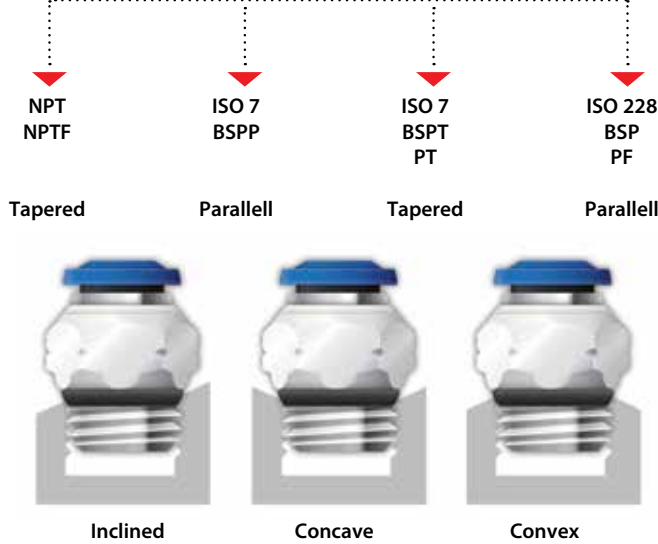




**THREADS & ADVANTAGES**



*One fitting... Endless possibilities*



Our **SWIFFFIT** universal fittings also work on non-flat surfaces without compromising an air-tight seal.

The **SWIFFFIT** Universal Thread has been designed to offer the following advantages to the end users:

- Reduced overall length
- Smaller hex dimensions compared to parallel threads
- Fits with various parallel and tapered threads
- All **SWIFFFIT** fittings have been equipped with threads and an NBR thread seal that will universally connect to all thread types.

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm



**UNF Thread**



The **UNF** Thread has been designed to offer the following advantages to the end users:

- Standard USA design
- Designed for use in UNF connections with an integrated NBR o-ring that provides a perfect seal
- Completely reusable

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Breaking torque
10/32	0.8 Nm	3.2 Nm



**PTF Thread**



The **PTF** Thread has been designed to offer the following advantages to the end users:

- Standard USA design. PTF/SAE short thread
- Designed for connections with an NPTF thread
- Dryseal pipe threads are designed for applications where clearance is not sufficient for the full thread length of NPTF threads.

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Breaking torque
1/8	5 Nm	8 Nm
1/4	9 Nm	30 Nm



**NPTF Thread with seal**



The **NPTF** Thread has been designed to offer the following advantages to the end users:

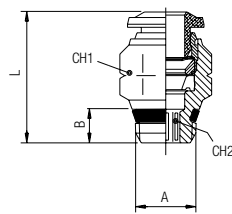
- **Standard USA design**
- **Designed for use in NPT connections with an integrated NBR thread seal that provides an additional seal**

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm

**87000**

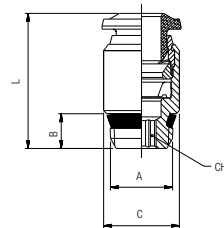
**STRAIGHT MALE**



Part No.	Tube	A	B	L	CH1	CH2
87000-02-02	1/8	1/8	.217 (5,5)	.650 (16,5)	.433 (11)	.079 (2)
87000-02-04	1/8	1/4	.276 (7)	.728 (18,5)	.551 (14)	.079 (2)
87000-53-02	5/32 (4)	1/8	.217 (5)	.708 (18)	.433 (11)	.118 (3)
87000-53-04	5/32 (4)	1/4	.276 (7)	.767 (19,5)	.551 (14)	.118 (3)
87000-04-02	1/4	1/8	.217 (5)	.866 (22)	.512 (13)	.157 (4)
87000-04-04	1/4	1/4	.276 (7)	.826 (21)	.551 (14)	.157 (4)
87000-04-06	1/4	3/8	.295 (7,5)	.826 (21)	.669 (17)	.157 (4)
87000-05-02	5/16 (8)	1/8	.217 (5)	.964 (24,5)	.551 (14)	.197 (5)
87000-05-04	5/16 (8)	1/4	.276 (7)	.866 (22)	.551 (14)	.236 (6)
87000-05-06	5/16 (8)	3/8	.295 (7,5)	.905 (23)	.669 (17)	.236 (6)
87000-06-02	3/8	1/8	.217 (5)	1.122 (28,5)	.669 (17)	.197 (5)
87000-06-04	3/8	1/4	.276 (7)	1.122 (28,5)	.669 (17)	.276 (6)
87000-06-06	3/8	3/8	.295 (7,5)	1.043 (26,5)	.669 (17)	.276 (6)
87000-06-08	3/8	1/2	.354 (9)	1.043 (26,5)	.827 (21)	.276 (6)
87000-08-02	1/2	1/8	.217 (5)	1.299 (33)	.787 (20)	.197 (5)
87000-08-04	1/2	1/4	.276 (7)	1.299 (33)	.787 (20)	.197 (5)
87000-08-06	1/2	3/8	.295 (7,5)	1.259 (32)	.787 (20)	.354 (9)
87000-08-08	1/2	1/2	.354 (9)	1.259 (32)	.827 (21)	.394 (10)

**87010**

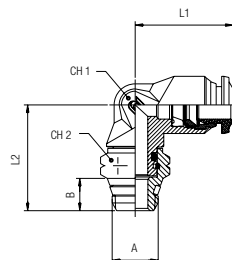
**STRAIGHT MALE WITH INTERNAL HEX**



Part Number	Tube	A	B	C	L	CH
87010-53-02	5/32 (4)	1/8	.217 (5)	.374 (9,5)	.709 (18)	.118 (3)
87010-04-02	1/4	1/8	.217 (5)	.473 (12)	.846 (21,5)	.157 (4)
87010-04-04	1/4	1/4	.2767 (7)	.551 (14)	.846 (21,5)	.157 (4)

**87110**

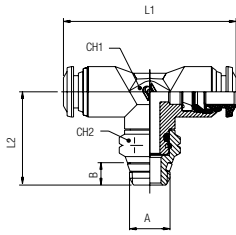
**SWIVEL ELBOW**



Part No.	Tube	A	B	L1	L2	CH1	CH2
87110-02-02	1/8	1/8	.217 (5,5)	.650 (16,5)	.846 (21,5)	.354 (9)	.512 (13)
87110-02-04	1/8	1/4	.276 (7)	.669 (17)	1.003 (25,5)	.354 (9)	.591 (15)
87110-53-02	5/32 (4)	1/8	.217 (5,5)	.709 (18)	.846 (21,5)	.354 (9)	.512 (13)
87110-53-04	5/32 (4)	1/4	.276 (7)	.709 (18)	1.003 (25,5)	.354 (9)	.591 (15)
87110-04-02	1/4	1/8	.217 (5,5)	.846 (21,5)	.925 (23,5)	.433 (11)	.512 (13)
87110-04-04	1/4	1/4	.276 (7)	.846 (21,5)	.925 (23,5)	.433 (11)	.591 (15)
87110-04-06	1/4	3/8	.295 (7,5)	.846 (21,5)	1.082 (27,5)	.433 (11)	.669 (17)
87110-05-02	5/16 (8)	1/8	.217 (5,5)	.905 (23)	.984 (25)	.512 (13)	.512 (13)
87110-05-04	5/16 (8)	1/4	.276 (7)	.905 (23)	1.082 (27,5)	.512 (13)	.591 (15)
87110-05-06	5/16 (8)	3/8	.295 (7,5)	.886 (22,5)	1.102 (28)	.512 (13)	.669 (17)
87110-06-02	3/8	1/8	.217 (5,5)	1.062 (27)	1.082 (27,5)	.630 (16)	.512 (13)
87110-06-04	3/8	1/4	.276 (7)	1.062 (27)	1.161 (29,5)	.630 (16)	.591 (15)
87110-06-06	3/8	3/8	.295 (7,5)	1.062 (27)	1.181 (30)	.630 (16)	.669 (17)
87110-06-08	3/8	1/2	.354 (9)	1.062 (27)	1.299 (33)	.630 (16)	.827 (21)
87110-08-04	1/2	1/4	.276 (7)	1.240 (31,5)	1.299 (33)	.748 (19)	.591 (15)
87110-08-06	1/2	3/8	.295 (7,5)	1.240 (31,5)	1.299 (33)	.748 (19)	.669 (17)
87110-08-08	1/2	1/2	.354 (9)	1.240 (31,5)	1.417 (36)	.748 (19)	.827 (21)

**87210**

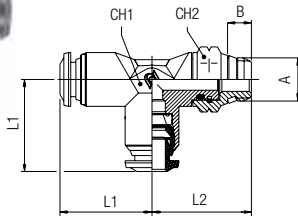
SWIVEL BRANCH TEE



Part No.	Tube	A	B	L1	L2	CH1	CH2
87210-02-02	1/8	1/8	.217 (5,5)	1.299 (33)	.787 (20)	.354 (9)	.512 (13)
87210-02-04	1/8	1/4	.276 (7)	1.299 (33)	1.003 (25,5)	.354 (9)	.591 (15)
87210-53-02	5/32 (4)	1/8	.217 (5,5)	1.339 (34)	.787 (20)	.354 (9)	.512 (13)
87210-53-04	5/32 (4)	1/4	.276 (7)	1.299 (33)	1.003 (25,5)	.354 (9)	.591 (15)
87210-04-02	1/4	1/8	.217 (5,5)	1.692 (43)	.925 (23,5)	.433 (11)	.512 (13)
87210-04-04	1/4	1/4	.276 (7)	1.692 (43)	1.062 (27)	.433 (11)	.591 (15)
87210-04-06	1/4	3/8	.295 (7,5)	2.087 (53)	1.102 (28)	.630 (16)	.669 (17)
87210-06-02	3/8	1/8	.217 (5,5)	2.047 (52)	1.082 (27,5)	.630 (16)	.590 (15)
87210-06-04	3/8	1/4	.275 (7)	2.087 (53)	1.181 (30)	.630 (16)	.511 (13)
87210-06-06	3/8	3/8	.295 (7,5)	2.087 (53)	1.181 (30)	.630 (16)	.669 (17)
87210-06-08	3/8	1/2	.354 (9)	2.087 (53)	1.299 (33)	.630 (16)	.827 (21)
87210-08-04	1/2	1/4	.276 (7)	2.402 (61)	1.240 (31,5)	.748 (19)	.591 (15)
87210-08-06	1/2	3/8	.295 (7,5)	2.402 (61)	1.299 (33)	.748 (19)	.669 (17)
87210-08-08	1/2	1/2	.354 (9)	2.402 (61)	1.417 (36)	.748 (19)	.827 (21)

**87222**

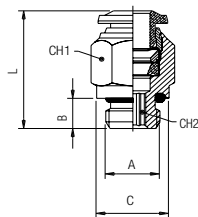
SWIVEL RUN TEE



Part No.	Tube	A	B	L1	L2	CH1	CH2
87222-02-02	1/8	1/8	.269 (6,5)	.669 (17)	.807 (20,5)	.354 (9)	.512 (13)
87222-02-04	1/8	1/4	.511 (13)	.669 (17)	.945 (24)	.354 (9)	.591 (15)
87222-53-02	5/32 (4)	1/8	.269 (6,5)	.669 (17)	.787 (20)	.354 (9)	.512 (13)
87222-53-04	5/32 (4)	1/4	.511 (13)	.669 (17)	.945 (24)	.354 (9)	.591 (15)
87222-04-02	1/4	1/8	.269 (6,5)	.827 (21)	.866 (22)	.433 (11)	.512 (13)
87222-04-04	1/4	1/4	.511 (13)	.827 (21)	.984 (25)	.433 (11)	.591 (15)
87222-04-06	1/4	3/8	.511 (13)	.827 (21)	1.102 (28)	.433 (11)	.591 (15)
87222-06-02	3/8	1/8	.269 (6,5)	1.043 (26,5)	1.102 (28)	.433 (11)	.512 (13)
87222-06-04	3/8	1/4	.511 (13)	1.043 (26,5)	1.102 (28)	.630 (16)	.591 (15)
87222-06-06	3/8	3/8	.511 (13)	1.043 (26,5)	1.181 (30)	.630 (16)	.669 (17)
87222-06-08	3/8	1/2	.669 (17)	1.043 (26,5)	1.299 (33)	.630 (16)	.827 (21)
87222-08-04	1/2	1/4	.511 (13)	1.201 (30,5)	1.240 (31,5)	.748 (19)	.591 (15)
87222-08-06	1/2	3/8	.511 (13)	1.201 (30,5)	1.299 (33)	.748 (19)	.669 (17)
87222-08-08	1/2	1/2	.669 (17)	1.201 (30,5)	1.417 (36)	.748 (19)	.827 (21)

**88020**

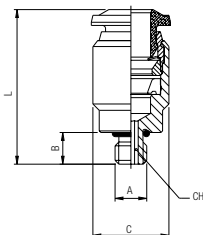
STRAIGHT MALE



Part No.	Tube	A	B	C	L	CH1	CH2
88020-02-32	1/8	10/32	.157 (4)	.310 (8)	.787 (18)	.315 (8)	.079 (2)
88020-53-32	5/32 (4)	10/32	.157 (4)	.310 (8)	.827 (21)	.394 (10)	.079 (2)
88020-04-32	1/4	10/32	.157 (4)	.390 (10)	.925 (23,5)	.512 (13)	.079 (2)

**87010**

STRAIGHT MALE WITH INTERNAL HEX

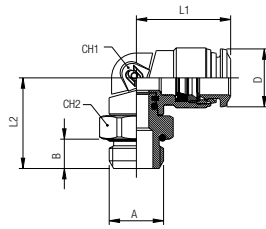


Part Number	Tube	A	B	C	L	CH
87010-02-32	1/8	10/32	.157 (4)	.315 (8)	.709 (18)	.098 (2,5)
87010-53-32	5/32 (4)	10/32	.157 (4)	.394 (10)	.787 (20)	.098 (2,5)
87010-04-32	1/4	10/32	.157 (4)	.473 (12)	.925 (23,5)	.098 (2,5)

**88115**

SWIVEL ELBOW

**UNF**

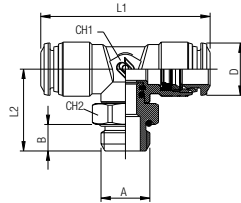


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
88115-02-32	1/8	10/32	.157 (4)	.650 (16,5)	.689 (17,5)	.354 (9)	.315 (8)	.393 (10)
88115-53-32	5/32 (4)	10/32	.157 (4)	.709 (18)	.689 (17,5)	.354 (9)	.315 (8)	.393 (10)
88115-04-32	1/4	10/32	.157 (4)	.846 (21,5)	.768 (19,5)	.433 (11)	.433 (11)	.492 (12,5)

**88215**

SWIVEL BRANCH TEE

**UNF**

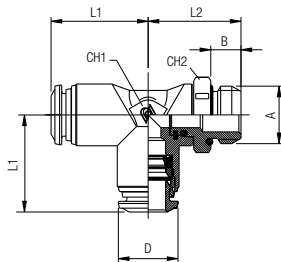


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
88215-02-32	1/8	10/32	.157 (4)	1.299 (33)	.689 (17,5)	.354 (9)	.315 (8)	.393 (10)
88215-53-32	5/32 (4)	10/32	.157 (4)	1.299 (33)	.708 (18)	.354 (9)	.315 (8)	.393 (10)
88215-04-32	1/4	10/32	.157 (4)	1.692 (43)	.768 (19,5)	.433 (11)	.433 (11)	.492 (12,5)

**88225**

SWIVEL RUN TEE

**UNF**

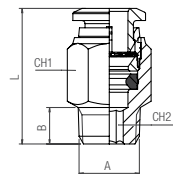


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
88225-02-32	1/8	10/32	.157 (4)	.649 (16,5)	.689 (17,5)	.354 (9)	.315 (8)	.393 (10)
88225-53-32	5/32 (4)	10/32	.157 (4)	.699 (17)	.708 (18)	.354 (9)	.315 (8)	.393 (10)
88225-04-32	1/4	10/32	.157 (4)	.827 (21)	.787 (20)	.433 (11)	.433 (11)	.492 (12,5)

**88007**

STRAIGHT MALE

**PTF**

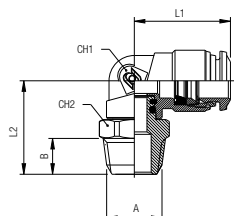


Part No.	Tube	A	B	L	CH1	CH2
88007-53-02	5/32(4)	1/8	.276(7)	.768(19,5)	.433(11)	.118(3)
88007-53-04	5/32(4)	1/4	.413(10,5)	.886(22,5)	.551(14)	.118(3)
88007-04-02	1/4	1/8	.276(7)	.886(22,5)	.512(13)	.157(4)
88007-04-04	1/4	1/4	.413(10,5)	.965(24,5)	.551(14)	.157(4)

**88117**

SWIVEL ELBOW

**PTF**

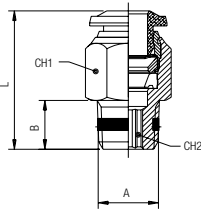


Part No.	Tube	A	B	L1	L2	CH1	CH2
88117-53-02	5/32(4)	1/8	.276(7)	.708(18)	.768(19,5)	.354(9)	.512(13)
88117-53-04	5/32(4)	1/4	.413(10,5)	.708(18)	.905(23)	.354(9)	.591(15)
88117-04-02	1/4	1/8	.276(7)	.827(21)	.846(21,5)	.433(11)	.512(13)
88117-04-04	1/4	1/4	.413(10,5)	.827(21)	.984(25)	.433(11)	.591(15)



**88000**  
STRAIGHT MALE

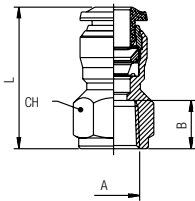
**NPTF**



Part No.	Tube	A	B	L	CH1	CH2
88000-02-02	1/8	1/8	.355 (9)	.768 (19,5)	.433 (11)	.079 (2)
88000-02-04	1/8	1/4	.512 (13)	.965 (24,5)	.551 (14)	.079 (2)
88000-53-02	5/32 (4)	1/8	.355 (9)	.826 (21)	.433 (11)	.118 (3)
88000-53-04	5/32 (4)	1/4	.512 (13)	.984 (25)	.551 (14)	.118 (3)
88000-04-02	1/4	1/8	.355 (9)	1.023 (25,5)	.512 (13)	.157 (4)
88000-04-04	1/4	1/4	.512 (13)	1.062 (27)	.551 (14)	.157 (4)
88000-04-06	1/4	3/8	.512 (13)	1.141 (29)	.709 (18)	.157 (4)
88000-05-02	5/16 (8)	1/8	.355 (9)	1.062 (27)	.551 (14)	.197 (5)
88000-05-04	5/16 (8)	1/4	.512 (13)	1.082 (27,5)	.551 (14)	.236 (6)
88000-05-06	5/16 (8)	3/8	.512 (13)	1.082 (27,5)	.709 (18)	.236 (6)
88000-06-02	3/8	1/8	.355 (9)	1.259 (32)	.669 (17)	.197 (5)
88000-06-04	3/8	1/4	.512 (13)	1.319 (33,5)	.669 (17)	.276 (7)
88000-06-06	3/8	3/8	.512 (13)	1.319 (33,5)	.709 (18)	.276 (7)
88000-06-08	3/8	1/2	.669 (17)	1.319 (33,5)	.866 (22)	.276 (7)
88000-08-04	1/2	1/4	.512 (13)	1.535 (39)	.787 (20)	.197 (5)
88000-08-06	1/2	3/8	.512 (13)	1.417 (36)	.787 (20)	.354 (9)
88000-08-08	1/2	1/2	.669 (17)	1.575 (40)	.866 (22)	.394 (10)

**88030**  
STRAIGHT FEMALE

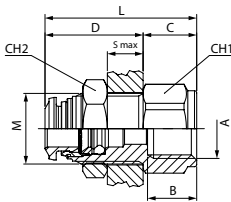
**NPTF**



Part No.	Tube	A	B	L	CH
88030-02-02	1/8	1/8	.374 (9,5)	.945 (21)	.512 (13)
88030-02-04	1/8	1/4	.531 (13,5)	1.142 (29)	.630 (16)
88030-53-02	5/32 (4)	1/8	.374 (9,5)	.984 (25)	.512 (13)
88030-53-04	5/32 (4)	1/4	.531 (13,5)	1.181 (30)	.630 (16)
88030-04-02	1/4	1/8	.374 (9,5)	1.024 (26)	.512 (13)
88030-04-04	1/4	1/4	.512 (13)	1.161 (29,5)	.630 (16)
88030-06-04	3/8	1/4	.531 (13,5)	1.279 (32,5)	.709 (18)
88030-06-06	3/8	3/8	.531 (13,5)	1.279 (32,5)	.787 (20)

**88055**  
FEMALE BULKHEAD CONNECTOR

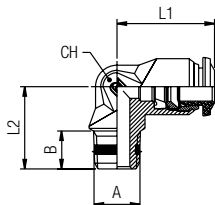
**NPTF**



Part No.	Tube	A	B	M	S max	CH1	CH2	C	D	L
88055-53-02	5/32 (4)	1/8	.374 (9,5)	M12X1	.275 (7)	.591 (15)	.669 (17)	.394 (10)	.748 (19)	1.141 (29)
88055-53-04	5/32 (4)	1/4	.531 (13,5)	M12X1	.275 (7)	.630 (16)	.669 (17)	.591 (15)	.748 (19)	1.339 (34)
88055-04-02	1/4	1/8	.374 (9,5)	M14X1	.315 (8)	.630 (16)	.669 (17)	.394 (10)	.826 (21)	1.221 (31)
88055-04-04	1/4	1/4	.531 (13,5)	M14X1	.315 (8)	.630 (16)	.669 (17)	.591 (15)	.826 (21)	1.417 (36)
88055-04-06	1/4	3/8	.531 (13,5)	M14X1	.315 (8)	.787 (20)	.669 (17)	.591 (15)	.826 (21)	1.417 (36)
88055-05-02	5/16 (8)	1/8	.374 (9,5)	M16X1	.315 (8)	.709 (18)	.748 (19)	.394 (10)	.866 (22)	1.260 (32)
88055-05-04	5/16 (8)	1/4	.531 (13,5)	M16X1	.315 (8)	.709 (18)	.748 (19)	.472 (12)	.866 (22)	1.339 (34)
88055-05-06	5/16 (8)	3/8	.531 (13,5)	M16X1	.315 (8)	.787 (20)	.748 (19)	.591 (15)	.866 (22)	1.457 (37)
88055-06-06	3/8	3/8	.531 (13,5)	M20X1	.374 (9,5)	.945 (24)	.945 (24)	.551 (14)	1.003 (25,5)	1.557 (39,5)
88055-08-06	1/2	3/8	.531 (13,5)	M22X1	.413 (10,5)	.945 (24)	1.024 (26)	.591 (15)	1.083 (27,5)	1.673 (42,5)
88055-08-08	1/2	1/2	.690 (17,5)	M22X1	.413 (10,5)	.945 (24)	1.024 (26)	.787 (20)	1.083 (27,5)	1.870 (47,5)

**88100**  
FIXED ELBOW

**NPTF**

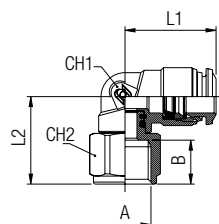


Part No.	Tube	A	B	L1	L2	CH1
88100-04-02	1/4	1/8	.335 (8,5)	.846 (21,5)	.728 (18,5)	.433 (11)
88100-04-04	1/4	1/4	.512 (13)	.846 (21,5)	.905 (23)	.433 (11)
88100-06-04	3/8	1/4	.512 (13)	1.062 (27)	1.043 (26,5)	.630 (16)
88100-06-06	3/8	3/8	.512 (13)	1.062 (27)	1.004 (25,5)	.688 (17)

**88105**

FEMALE ELBOW

**NPTF**

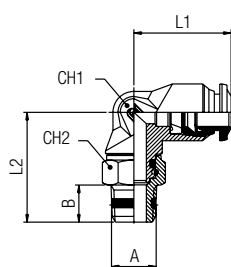


Part No.	Tube	A	B	L1	L2	CH1	CH2
88105-53-02	5/32 (4)	1/8	.374 (9,5)	.669 (17)	.984 (25)	.354 (9)	.511 (13)
88105-53-04	5/32 (4)	1/4	.531 (13,5)	.669 (17)	1.240 (31,5)	.354 (9)	.629 (16)
88105-04-02	1/4	1/8	.374 (9,5)	.846 (21,5)	1.062 (27)	.433 (11)	.511 (13)
88105-04-04	1/4	1/4	.531 (13,5)	.826 (21)	1.279 (32,5)	.433 (11)	.629 (16)
88105-06-02	3/8	1/8	.374 (9,5)	1.062 (27)	1.220 (31)	.511 (13)	.511 (13)
88105-06-02	3/8	1/4	.531 (13,5)	1.062 (27)	1.397 (35,5)	.629 (16)	.629 (16)

**88110**

SWIVEL ELBOW

**NPTF**

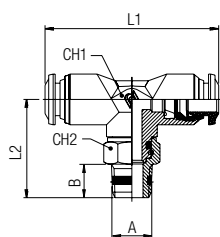


Part No.	Tube	A	B	L1	L2	CH1	CH2
88110-02-02	1/8	1/8	.335 (8,5)	.669 (17)	.906 (23)	.354 (9)	.512 (13)
88110-02-04	1/8	1/4	.512 (13)	.669 (17)	1.122 (28,5)	.354 (9)	.591 (15)
88110-53-02	5/32 (4)	1/8	.335 (8,5)	.669 (17)	.906 (23)	.354 (9)	.512 (13)
88110-53-04	5/32 (4)	1/4	.512 (13)	.669 (17)	1.181 (30)	.354 (9)	.591 (15)
88110-04-02	1/4	1/8	.335 (8,5)	.827 (21)	1.023 (26)	.433 (11)	.512 (13)
88110-04-04	1/4	1/4	.512 (13)	.827 (21)	1.220 (31)	.433 (11)	.591 (15)
88110-04-06	1/4	3/8	.512 (13)	.827 (21)	1.280 (32,5)	.433 (11)	.709 (18)
88110-05-02	5/16 (8)	1/8	.335 (8,5)	.886 (22,5)	1.043 (26,5)	.512 (13)	.512 (13)
88110-05-04	5/16 (8)	1/4	.512 (13)	.886 (22,5)	1.260 (32)	.512 (13)	.591 (15)
88110-05-06	5/16 (8)	3/8	.512 (13)	.886 (22,5)	1.280 (32,5)	.512 (13)	.709 (18)
88110-06-02	3/8	1/8	.335 (8,5)	1.043 (26,5)	1.181 (30)	.630 (16)	.512 (13)
88110-06-04	3/8	1/4	.512 (13)	1.102 (28)	1.337 (35)	.630 (16)	.591 (15)
88110-06-06	3/8	3/8	.512 (13)	1.023 (26)	1.358 (34,5)	.630 (16)	.709 (18)
88110-06-08	3/8	1/2	.669 (17)	1.043 (26,5)	1.614 (41)	.630 (16)	.866 (22)
88110-08-04	1/2	1/4	.512 (13)	1.201 (30,5)	1.555 (39,5)	.748 (19)	.591 (15)
88110-08-06	1/2	3/8	.512 (13)	1.201 (30,5)	1.476 (37,5)	.748 (19)	.709 (18)
88110-08-08	1/2	1/2	.669 (17)	1.201 (30,5)	1.732 (44)	.748 (19)	.866 (22)

**88210**

SWIVEL BRANCH TEE

**NPTF**

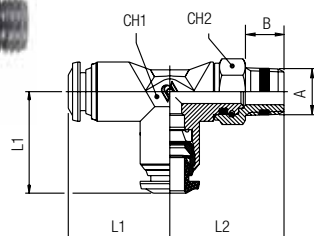


Part No.	Tube	A	B	L1	L2	CH1	CH2
88210-02-02	1/8	1/8	.295 (7,5)	1.299 (33)	.906 (23)	.354 (9)	.512 (13)
88210-02-04	1/8	1/4	.512 (13)	1.299 (33)	1.122 (27)	.354 (9)	.591 (15)
88210-53-02	5/32 (4)	1/8	.295 (7,5)	1.299 (33)	.906 (23)	.354 (9)	.512 (13)
88210-53-04	5/32 (4)	1/4	.512 (13)	1.299 (33)	1.181 (30)	.354 (9)	.591 (15)
88210-04-02	1/4	1/8	.295 (7,5)	1.654 (42)	1.023 (26)	.433 (11)	.512 (13)
88210-04-04	1/4	1/4	.512 (13)	1.654 (42)	1.220 (31)	.433 (11)	.591 (15)
88210-06-04	3/8	1/4	.512 (13)	2.087 (53)	1.337 (35)	.630 (16)	.591 (15)
88210-06-06	3/8	3/8	.512 (13)	2.087 (53)	1.358 (34,5)	.630 (16)	.709 (18)
88210-06-08	3/8	1/2	.669 (17)	2.087 (53)	1.614 (41)	.630 (16)	.866 (22)
88210-08-04	1/2	1/4	.512 (13)	2.402 (61)	1.555 (39,5)	.748 (19)	.591 (15)
88210-08-06	1/2	3/8	.512 (13)	2.402 (61)	1.476 (37,5)	.748 (19)	.709 (18)
88210-08-08	1/2	1/2	.669 (17)	2.402 (61)	1.732 (44)	.748 (19)	.866 (22)

**88222**

SWIVEL RUN TEE

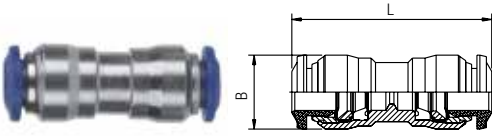
**NPTF**



Part No.	Tube	A	B	L1	L2	CH1	CH2
88222-02-02	1/8	1/8	.295 (7,5)	.669 (17)	.906 (23)	.354 (9)	.512 (13)
88222-02-04	1/8	1/4	.511 (13)	.669 (17)	1.181 (30)	.354 (9)	.591 (15)
88222-53-02	5/32 (4)	1/8	.295 (7,5)	.669 (17)	.906 (23)	.354 (9)	.512 (13)
88222-04-02	1/4	1/8	.295 (7,5)	.827 (21)	.984 (25)	.433 (11)	.512 (13)
88222-04-04	1/4	1/4	.511 (13)	.827 (21)	1.220 (31)	.433 (11)	.591 (15)
88222-06-04	3/8	1/4	.511 (13)	1.043 (26,5)	1.339 (34)	.630 (16)	.591 (15)
88222-06-06	3/8	3/8	.511 (13)	1.043 (26,5)	1.358 (34,5)	.630 (16)	.709 (18)
88222-06-08	3/8	1/2	.669 (17)	1.043 (26,5)	1.614 (41)	.630 (16)	.866 (22)
88222-08-04	1/2	1/4	.512 (13)	1.201 (30,5)	1.476 (37,5)	.748 (19)	.591 (15)
88222-08-06	1/2	3/8	.511 (13)	1.201 (30,5)	1.476 (37,5)	.748 (19)	.709 (18)
88222-08-08	1/2	1/2	.669 (17)	1.201 (30,5)	1.732 (44)	.748 (19)	.866 (22)

**88040**

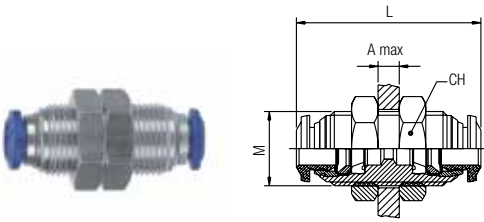
UNION



Part No.	Tube	Tube	B	L
88040-02	1/8		.335 (8,5)	1.024 (26)
88040-53	5/32 (4)		.413 (10,5)	1.181 (30)
88040-04-53	1/4	5/32 (4)	.492 (12,5)	1.279 (32,5)
88040-04	1/4		.492 (12,5)	1.378 (35)
88040-05	5/16 (8)		.571 (14,5)	1.465 (37)
88040-06-04	3/8	1/4	.688 (17,5)	1.555 (39,5)
88040-06	3/8		.688 (17,5)	1.693 (43)
88040-06-08	3/8	1/2	.807 (20,5)	1.850 (47)
88040-08	1/2		.807 (20,5)	1.909 (48,5)

**88050**

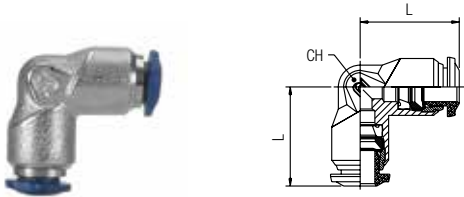
BULKHEAD UNION



Part No.	Tube	M	L	CH	A max
88050-02	1/8	M10X1	1.024 (26)	.551 (14)	.197 (5)
88050-53	5/32 (4)	M12X1	1.220 (32)	.669 (17)	.276 (7)
88050-04	1/4	M14X1	1.378 (35)	.669 (17)	.374 (9,5)
88050-05	5/16 (8)	M16X1	1.476 (37,5)	.748 (19)	.413 (10,5)
88050-06	3/8	M20X1	1.732 (44)	.945 (24)	.492 (12,5)
88050-08	1/2	M22X1	1.929 (49)	1.024 (26)	.650 (16,5)

**88130**

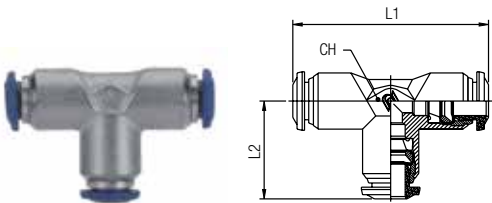
UNION ELBOW



Part No.	Tube	L	CH
88130-02	1/8	.669 (17)	.354 (9)
88130-53	5/32 (4)	.669 (17)	.354 (9)
88130-04	1/4	.827 (21)	.433 (11)
88130-05	5/16 (8)	.905 (23)	.512 (13)
88130-06	3/8	1.043 (26,5)	.630 (16)
88130-08	1/2	1.201 (30,5)	.748 (19)

**88230**

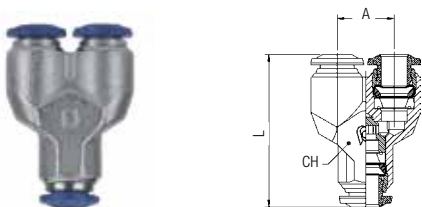
UNION TEE



Part No.	Tube	L1	L2	CH
88230-02	1/8	1.299 (33)	.669 (17)	.354 (9)
88230-53	5/32 (4)	1.339 (34)	.669 (17)	.354 (9)
88230-04	1/4	1.654 (42)	.827 (21)	.433 (11)
88230-05	5/16 (8)	1.772 (45)	.886 (22,5)	.512 (13)
88230-06	3/8	2.087 (53)	1.043 (26,5)	.630 (16)
88230-08	1/2	2.402 (61)	1.201 (30,5)	.748 (19)

**88310**

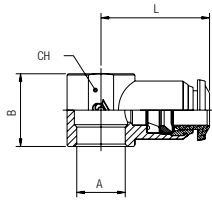
UNION Y



Part No.	Tube	A	L	CH
88310-02	1/8	.394 (10)	1.142 (29)	.433 (11)
88310-53	5/32 (4)	.433 (11)	1.260 (32)	.433 (11)
88310-04	1/4	.531 (13,5)	1.437 (36,5)	.511 (13)
88310-05	5/16 (8)	.610 (15,5)	1.514 (41)	.511 (13)
88310-06	3/8	.728 (18,5)	1.890 (48)	.708 (18)

**88500**

SINGLE BANJO BODY

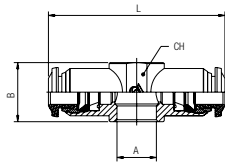


Part No.	Tube	A	B	L	CH
88500-02-02	1/8	1/8	.591 (15)	.767 (19,5)	.551 (14)
88500-53-32	5/32 (4)	10/32	.492 (12,5)	.748 (19)	-
88500-53-02	5/32 (4)	1/8	.591 (15)	.827 (21)	.551 (14)
88500-04-02	1/4	1/8	.669 (17)	.885 (22,5)	.551 (14)
88500-04-04	1/4	1/4	.669 (17)	.984 (25)	.709 (18)
88500-06-04	3/8	1/4	.787 (20)	1.142 (29)	.709 (18)
88500-06-06	3/8	3/8	.787 (20)	1.201 (30,5)	.827 (21)
88500-08-06	1/2	3/8	.787 (20)	1.259 (32)	.827 (21)
88500-08-08	1/2	1/2	.944 (24)	1.377 (35)	.984 (25)

For BANJO STEM assemblies see 10.7/10.8/10.9

**88510**

DOUBLE BANJO BODY

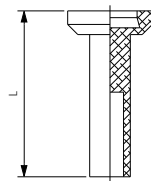


Part No.	Tube	A	B	L	CH
88510-53-32	5/32 (4)	10/32	.492 (12,5)	1.496 (38)	-
88510-04-02	1/4	1/8	.591 (15)	1.732 (44)	.551 (14)
88510-04-04	1/4	1/4	.669 (17)	1.968 (50)	.709 (18)

For BANJO STEM assemblies see 10.7/10.8/10.9

**88610B**

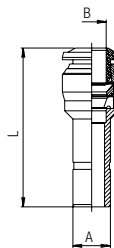
NYLON PLUG



Part No.	Tube	L
88610B-02	1/8	.708 (18)
88610B-53	5/32 (4)	.925 (23,5)
88610B-04	1/4	.964 (24,5)
88610B-05	5/16 (8)	1.023 (26)
88610B-06	3/8	1.122 (28,5)
88610B-08	1/2	1.122 (28,5)

**88700**

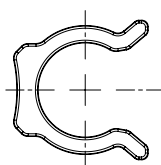
TUBE REDUCER



Part No.	A	B	L
88700-04-02	1/4	1/8	1.181 (30)
88700-04-53	1/4	5/32 (4)	1.181 (30)
88700-06-04	3/8	1/4	1.377 (35)
88700-08-04	1/2	1/4	1.693 (43)
88700-08-06	1/2	3/8	1.693 (43)

**50980**

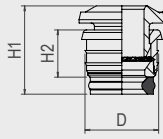
SECURITY CLIP



Part No.	Tube
50980-53	5/32 (4)
50980-04	1/4 (6)
50980-05	5/16 (8)
50980-06	3/8 (10)
50980-08	1/2 (12)

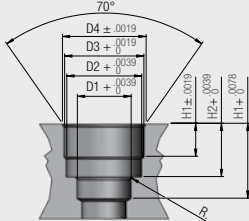
**87800**

PUSH-FIT CARTRIDGES



Part No.	Tube	H1	H2	D
87800-02	1/8	.386 (10)	.280 (7)	.280 (7)
87800-53	5/32 (4)	.445 (11.5)	.323 (8)	.338 (8.5)
87800-04	1/4	.520 (13)	.374 (9.5)	.413 (10.5)
87800-05	5/16 (8)	.508 (13)	.374 (9.5)	.492 (12.5)
87800-06	3/8	.625 (16)	.472 (12)	.642 (16)
87800-08	1/2	.713 (18)	.543 (14)	.740 (19)

**SEAT**



Seats dimensions push-fit cartridges.

Tube	D1	D2	D3	D4	H1	H2	H3	R
1/8 (3)	.134 (3,4)	.238 (6,05)	.252 (6,4)	.274 (6,95)	.146 (3,7)	.240 (6,1)	.339 (8,6)	.020 (0,5)
5/32 (4)	.165 (4,2)	.293 (7,45)	.331 (8,4)	.354 (9)	.148 (3,75)	.256 (6,5)	.374 (9,5)	.020 (0,5)
1/4 (6.6)	.259 (6,6)	.368 (9,35)	.411 (10,45)	.447 (11,35)	.197 (5)	.335 (8,5)	.453 (11,5)	.020 (0,5)
5/16 (8)	.323 (8,2)	.449 (11,4)	.488 (12,4)	.508 (12,9)	.205 (5,2)	.335 (8,5)	.492 (12,5)	.030 (0,75)
3/8 (9.7)	.381 (9,7)	.571 (14,5)	.606 (15,4)	.630 (16)	.264 (6,7)	.413 (10,5)	.591 (15)	.030 (0,75)
1/2 (13)	.511 (13)	.669 (17)	.709 (18)	.748 (19)	.295 (7,5)	.476 (12,1)	.669 (17)	.039 (1)

**55801**

TOOL FOR PUSH-FIT CARTRIDGES SEAT



Part No.	Tube	ø Body
55801-3	1/8 (3)	.394 (10)
55801-4	5/32 (4)	.394 (10)
87801-04	1/4	.472 (12)
55801-8	5/16 (8)	.472 (12)
87801-06	3/8	.630 (16)
87801-08	1/2	.630 (16)

**55802**

TOOL FOR PUSH-FIT CARTRIDGES SEAT



Part No.	Tube
55802-02	1/8
55802-4	5/32 (4)
55802-6	1/4 (6)
55802-8	5/16 (8)
55802-10	3/8 (10)
55802-12	1/2 (12)

**PUSH-FIT CARTRIDGE ASSEMBLING INSTRUCTIONS ART. 87800**

**1**

Use tool to drill into material to create the seat for the Push-Fit Cartridge.



**2**

Insert lip seal.



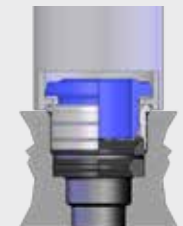
**3**

Insert cartridge into the assembling tool.



**4**

Press cartridge into the seat until it stops.



**FITTING KITS**

**87861-02**

FITTING KIT - 4MM TUBE



Part No.	Description	Qty
87000-02-02	Straight Male - 1/8 Tube x 1/8 Male	5
87000-02-04	Straight Male - 1/8 Tube x 1/4 Male	5
87000-04-02	Straight Male - 1/4 Tube x 1/8 Male	5
87110-02-02	Swivel Elbow - 1/8 Tube x 1/8 Male	5
87110-02-04	Swivel Elbow - 1/8 Tube x 1/4 Male	5
87110-04-02	Swivel Elbow - 1/4 Tube x 1/8 Male	5
87210-02-02	Swivel Branch Tee - 1/8 Tube x 1/8 Male	5
87210-02-04	Swivel Branch Tee - 1/8 Tube x 1/4 Male	5
87210-04-02	Swivel Branch Tee - 1/4 Tube x 1/8 Male	5
88040-02	Union - 1/8 Tube	5
88130-02	Union Elbow - 1/8 Tube	5
88230-02	Union Tee - 1/8 Tube	5

**87861-04**

FITTING KIT - 4MM TUBE



Part No.	Description	Qty
87000-04-02	Straight Male - 1/4 Tube x 1/8 Male	5
87000-04-04	Straight Male - 1/4 Tube x 1/4 Male	5
87000-04-06	Straight Male - 1/4 Tube x 3/8 Male	5
87110-04-02	Swivel Elbow - 1/4 Tube x 1/8 Male	5
87110-04-04	Swivel Elbow - 1/4 Tube x 1/4 Male	5
87110-04-06	Swivel Elbow - 1/4 Tube x 3/8 Male	5
87210-04-02	Swivel Branch Tee - 1/4 Tube x 1/8 Male	5
87210-04-04	Swivel Branch Tee - 1/4 Tube x 1/4 Male	5
87210-04-06	Swivel Branch Tee - 1/4 Tube x 3/8 Male	5
88040-04	Union - 1/4 Tube	5
88130-04	Union Elbow - 1/4 Tube	5
88230-04	Union Tee - 1/4 Tube	5

**87861-06**

FITTING KIT - 4MM TUBE



Part No.	Description	Qty
87000-06-04	Straight Male - 3/8 Tube x 1/4 Male	5
87000-06-06	Straight Male - 3/8 Tube x 3/8 Male	5
87000-06-08	Straight Male - 3/8 Tube x 1/2 Male	5
87110-06-04	Swivel Elbow - 3/8 Tube x 1/4 Male	5
87110-06-06	Swivel Elbow - 3/8 Tube x 3/8 Male	5
87110-06-08	Swivel Elbow - 3/8 Tube x 1/2 Male	5
87210-06-04	Swivel Branch Tee - 3/8 Tube x 1/4 Male	5
87210-06-06	Swivel Branch Tee - 3/8 Tube x 3/8 Male	5
87210-06-08	Swivel Branch Tee - 3/8 Tube x 1/2 Male	5
88040-06	Union - 3/8 Tube	5
88130-06	Union Elbow - 3/8 Tube	5
88230-06	Union Tee - 3/8 Tube	5

## 87861-08

FITTING KIT - 4MM TUBE



Part No.	Description	Qty
87000-08-04	Straight Male - 1/2 Tube x 1/4 Male	5
87000-08-06	Straight Male - 1/2 Tube x 3/8 Male	5
87000-08-08	Straight Male - 1/2 Tube x 1/2 Male	5
87110-08-04	Swivel Elbow - 1/2 Tube x 1/4 Male	5
87110-08-06	Swivel Elbow - 1/2 Tube x 3/8 Male	5
87110-08-08	Swivel Elbow - 1/2 Tube x 1/2 Male	5
87210-08-04	Swivel Branch Tee - 1/2 Tube x 1/4 Male	5
87210-08-06	Swivel Branch Tee - 1/2 Tube x 3/8 Male	5
87210-08-08	Swivel Branch Tee - 1/2 Tube x 1/2 Male	5
88040-08	Union - 1/2 Tube	5
88130-08	Union Elbow - 1/2 Tube	5
88230-08	Union Tee - 1/2 Tube	5

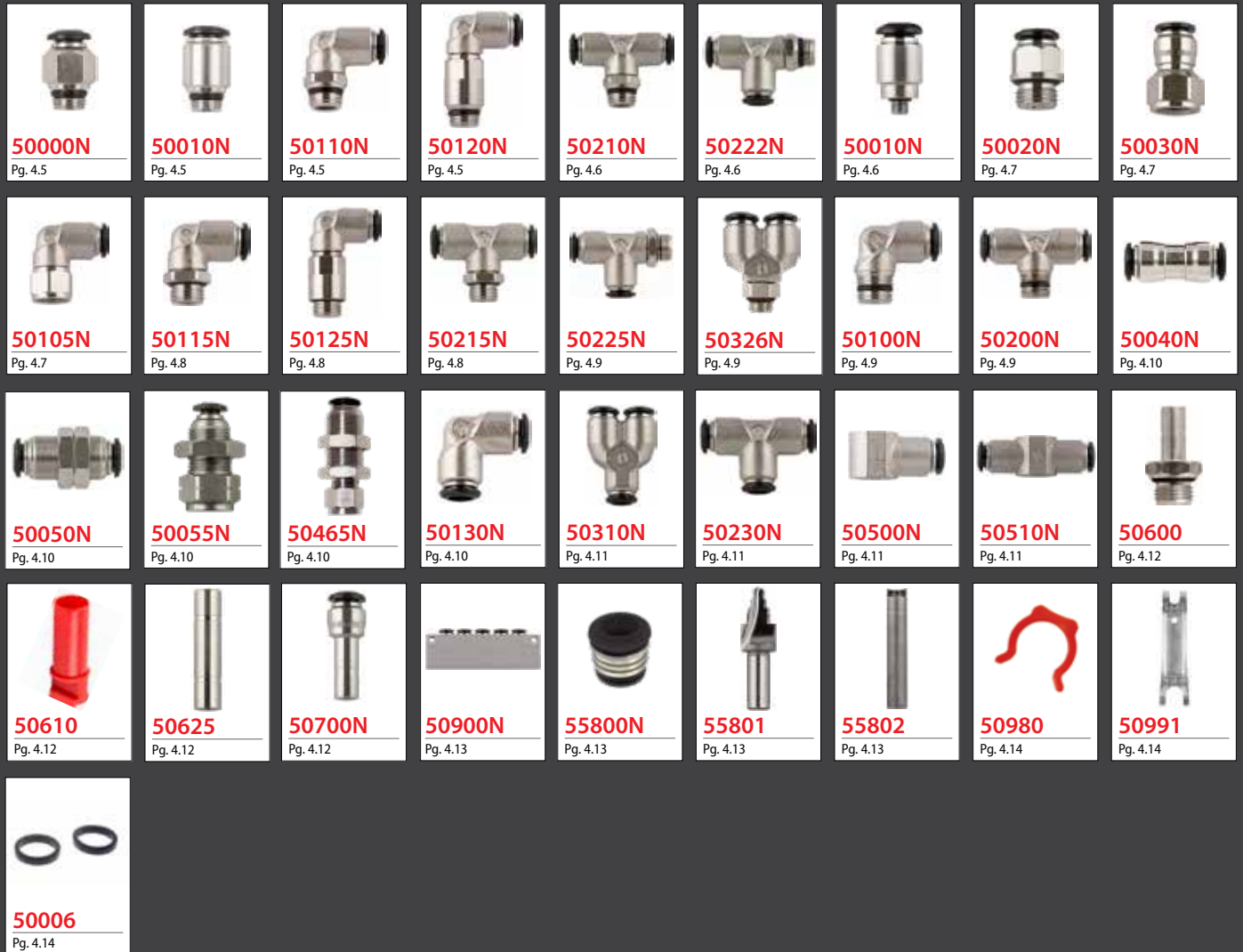
## 87861-90

FITTING KIT - 4MM TUBE

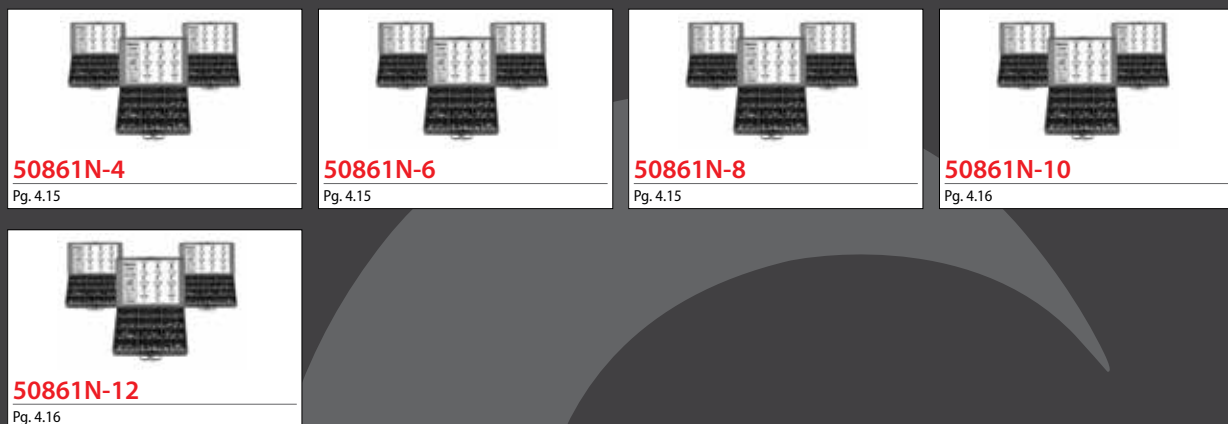


Part No.	Description	Qty
87000-04-04	Straight Male - 1/4 Tube x 1/4 Male	5
87000-06-06	Straight Male - 3/8 Tube x 3/8 Male	5
87000-08-08	Straight Male - 1/2 Tube x 1/2 Male	5
87110-04-04	Swivel Elbow - 1/4 Tube x 1/4 Male	5
87110-06-06	Swivel Elbow - 3/8 Tube x 3/8 Male	5
87110-08-08	Swivel Elbow - 1/2 Tube x 1/2 Male	5
87210-04-04	Swivel Branch Tee - 1/4 Tube x 1/4 Male	5
87210-06-06	Swivel Branch Tee - 3/8 Tube x 3/8 Male	5
87210-08-08	Swivel Branch Tee - 1/2 Tube x 1/2 Male	5
88040-04	Union - 1/4 Tube	5
88040-06	Union - 3/8 Tube	5
88040-08	Union - 1/2 Tube	5
88130-04	Union Elbow - 1/4 Tube	5
88130-06	Union Elbow - 3/8 Tube	5
88130-08	Union Elbow - 1/2 Tube	5
88230-04	Union Tee - 1/4 Tube	5
88230-06	Union Tee - 3/8 Tube	5
88230-08	Union Tee - 1/2 Tube	5

## 50N Series



## Fitting Kits





PUSH-TO-CONNECT FITTINGS  
FOR METRIC TUBE



**50N Series**

5000N



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

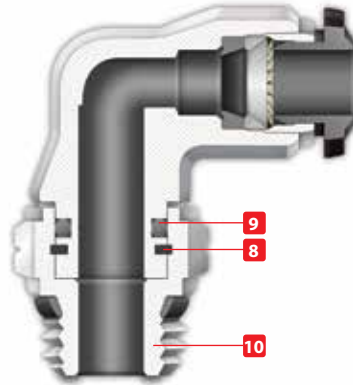
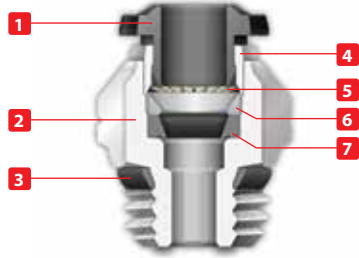
1907/2006  
REACH ✓

2011/65/CE  
RoHS ✓

PED  
2014/68/UE

ISO  
14743:2004

SILICON  
FREE



**Pressure Rating**

Vacuum ~ 290 PSI  
-0.99 bar ~ 20 bar  
-0.099 MPa ~ 2.0 MPa



**Temperatures Rating**

NBR  
-4° F ~ 176° F  
-20° C ~ 80° C



**Media**

- Compressed Air
- Vacuum
- Water
- Steam (FKM required)



**Applications**

- Pneumatic Automation
- Automotive
- Textile, Packaging
- Compressed Air Circuit
- Vacuum



**Advantages**

- 1 The 303 Stainless Steel gripper ensures a tight clamp for tubes of any material without damaging the tube's surface. The secure connection between the tube and the fitting will hold up to severe conditions such as impact and vibrations.
- 2 The shape of the safety ring and the molded seal perfectly seal off the tube, creating a vacuum.
- 3 Series with several types of threads:  
**SWIFFFIT**  
**BSPP**  
**BSPT**
- 4 All straight fittings can be tightened with an Allen wrench because of our internal hex design. This enables the end user to tighten the fitting in spaces too small for an openend wrench.
- 5 Our rotating Swivel Elbow fittings are equipped with a safety ring that enables the fitting to rotate without losing a tight seal.



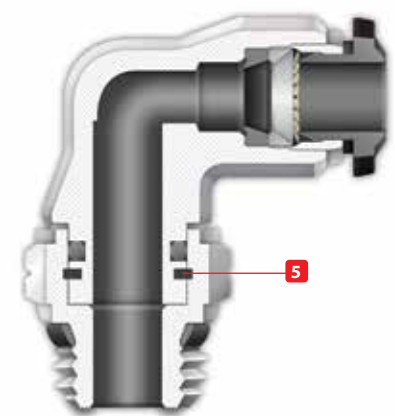
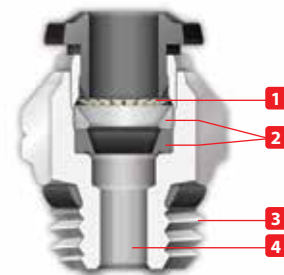
**Component Parts and Materials**

- 1 Composite Release Collet
- 2 Nickel Plated Brass Body
- 3 NBR Thread Seal
- 4 Nickel Plated Brass Sleeve
- 5 303 Stainless Steel Gripper
- 6 Technopolymer Safety Ring
- 7 NBR Molded Seal
- 8 Safety Ring
- 9 NBR Seal
- 10 Nickel Plated Thread Brass Body



**Tubing Compatibility**

Nylon 6 - 11 -12  
Polyethylene  
Polyurethane ("98 Shore A for best result)  
PTFE  
FEP



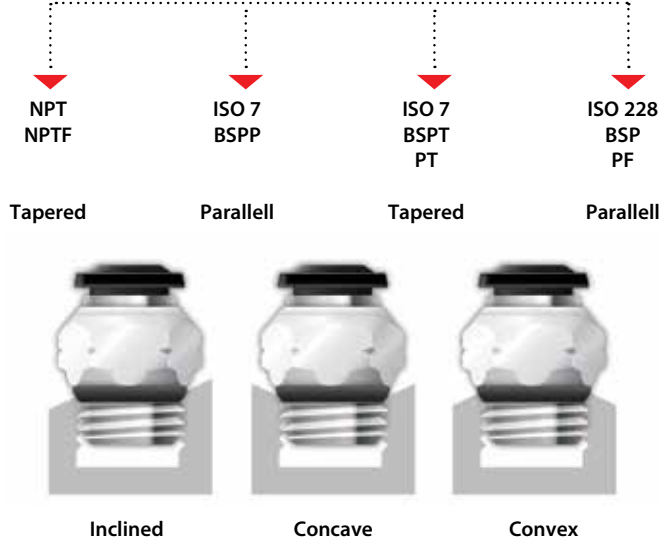


**THREADS & ADVANTAGES**



**SWIFFFIT**  
Universal thread

*One fitting... Endless possibilities*



Our **SWIFFFIT** universal fittings also work on non-flat surfaces without compromising an air-tight seal.

The **SWIFFFIT** Universal Thread has been designed to offer the following advantages to the end users:

- Reduced overall length
- Smaller hex dimensions compared to parallel threads
- Fits with various parallel and tapered threads
- All **SWIFFFIT** fittings have been equipped with threads and an NBR thread seal that will universally connect to all thread types.

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm



**BSPP Threads**



The **BSPP** Thread has been designed to offer the following advantages to the end users:

- Standard ISO 228 and ISO R/262
- Designed for use in BSPP connections with an integrated NBR o-ring that provides a perfect seal
- Completely reusable

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Breaking torque
M5	0.8 Nm	3.2 Nm
M8	3 Nm	8 Nm
1/2	3 Nm	8 Nm
1/4	9 Nm	30 Nm
3/8	10 Nm	60 Nm
1/2	12 Nm	50 Nm



**BSPT Thread with seal**



The **BSPT** Thread has been designed to offer the following advantages to the end users:

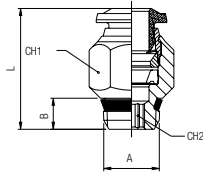
- Standard ISO 7.1, BS 21, DN 2999
- Designed for use in BSPT and BSPP connections with an integrated NBR thread seal that provides an additional seal

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm

**50000N**

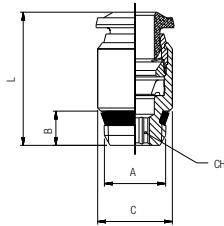
STRAIGHT MALE



Part No.	Tube	A	B	L	CH1	CH2
50000N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.709 (18)	.433 (11)	.118 (3)
50000N-4-1/4	5/32 (4)	1/4	.276 (7)	.748 (19)	.551 (14)	.118 (3)
50000N-5-1/8	5	1/8	.217 (5,5)	.787 (20)	.433 (11)	.157 (4)
50000N-5-1/4	5	1/4	.276 (7)	.787 (20)	.551 (14)	.157 (4)
50000N-6-1/8	6	1/8	.217 (5,5)	.846 (21,5)	.512 (13)	.157 (4)
50000N-6-1/4	6	1/4	.276 (7)	.827 (21)	.551 (14)	.157 (4)
50000N-6-3/8	6	3/8	.295 (7,5)	.906 (23)	.669 (17)	.157 (4)
50000N-6-1/2	6	1/2	.354 (9)	.925 (23,5)	.827 (21)	.157 (4)
50000N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.965 (24,5)	.551 (14)	.197 (5)
50000N-8-1/4	5/16 (8)	1/4	.276 (7)	.866 (22)	.551 (14)	.236 (6)
50000N-8-3/8	5/16 (8)	3/8	.295 (7,5)	.906 (23)	.669 (17)	.236 (6)
50000N-8-1/2	5/16 (8)	1/2	.354 (9)	.925 (23,5)	.827 (21)	.236 (6)
50000N-10-1/4	10	1/4	.276 (7)	1.102 (28)	.669 (17)	.276 (7)
50000N-10-3/8	10	3/8	.295 (7,5)	1.004 (25,5)	.669 (17)	.315 (8)
50000N-10-1/2	10	1/2	.354 (9)	1.024 (26)	.827 (21)	.315 (8)
50000N-12-1/4	12	1/4	.276 (7)	1.240 (31,5)	.787 (20)	.276 (7)
50000N-12-3/8	12	3/8	.295 (7,5)	1.161 (29,5)	.787 (20)	.354 (9)
50000N-12-1/2	12	1/2	.354 (9)	1.240 (31,5)	.827 (21)	.394 (10)
50000N-14-3/8	14	3/8	.295 (7,5)	1.280 (32,5)	.827 (21)	.354 (9)
50000N-14-1/2	14	1/2	.354 (9)	1.240 (31,5)	.827 (21)	.394 (10)

**50010N**

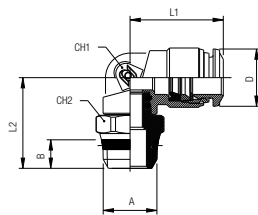
STRAIGHT MALE WITH INTERNAL HEX



Part No.	Tube	A	B	C	L	CH
50010N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.433 (11)	.709 (18)	.118 (3)
50010N-6-1/8	6	1/8	.217 (5,5)	.472 (12)	.867 (21,5)	.157 (4)
50010N-6-1/4	6	1/4	.276 (7)	.551 (14)	.827 (21)	.157 (4)
50010N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.551 (14)	.984 (25)	.196 (5)
50010N-8-1/4	5/16 (8)	1/4	.276 (7)	.551 (14)	.886 (22,5)	.236 (6)

**50110N**

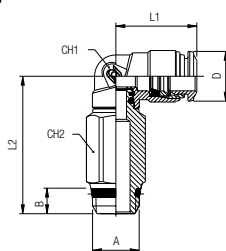
SWIVEL ELBOW



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
50110N-4-1/8	5/32 (4)	1/8	.216 (5,5)	.708 (18)	.767 (19,5)	.354 (9)	.512 (13)	.394 (10)
50110N-4-1/4	5/32 (4)	1/4	.275 (7)	.748 (19)	.826 (21)	.354 (9)	.590 (15)	.394 (10)
50110N-5-1/8	5	1/8	.216 (5,5)	.788 (20)	.846 (21,5)	.433 (11)	.512 (13)	.492 (12,5)
50110N-6-1/8	6	1/8	.216 (5,5)	.826 (21)	.846 (21,5)	.433 (11)	.512 (13)	.492 (12,5)
50110N-6-1/4	6	1/4	.275 (7)	.826 (21)	.905 (23)	.433 (11)	.590 (15)	.492 (12,5)
50110N-8-1/8	5/16 (8)	1/8	.216 (5,5)	.885 (22,5)	.885 (22,5)	.472 (12)	.512 (13)	.571 (14,5)
50110N-8-1/4	5/16 (8)	1/4	.275 (7)	.885 (22,5)	.885 (22,5)	.472 (12)	.590 (15)	.571 (14,5)
50110N-8-3/8	5/16 (8)	3/8	.295 (7,5)	.885 (22,5)	.905 (23)	.472 (12)	.669 (17)	.571 (14,5)
50110N-8-1/2	5/16 (8)	1/2	.354 (9)	.885 (22,5)	1.003 (25,5)	.472 (12)	.826 (21)	.571 (14,5)
50110N-10-1/4	10	1/4	.275 (7)	1.043 (26,5)	1.043 (26,5)	.551 (14)	.629 (16)	.689 (17,5)
50110N-10-3/8	10	3/8	.295 (7,5)	1.043 (26,5)	.946 (24,5)	.551 (14)	.669 (17)	.689 (17,5)
50110N-10-1/2	10	1/2	.354 (9)	1.043 (26,5)	1.062 (27)	.551 (14)	.826 (21)	.689 (17,5)
50110N-12-3/8	12	3/8	.295 (7,5)	1.240 (31,5)	1.043 (26,5)	.629 (16)	.787 (20)	.846 (21,5)
50110N-12-1/2	12	1/2	.354 (9)	1.240 (31,5)	1.141 (29)	.629 (16)	.826 (21)	.846 (21,5)
50110N-14-3/8	14	3/8	.295 (7,5)	1.240 (31,5)	1.062 (27)	.629 (16)	.787 (20)	.846 (21,5)
50110N-14-1/2	14	1/2	.354 (9)	1.240 (31,5)	1.161 (29,5)	.629 (16)	.826 (21)	.846 (21,5)

**50120N**

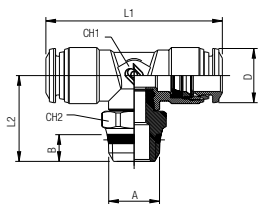
SWIVEL MALE EXTENDED ELBOW



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
50120N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.709 (18)	1.240 (31,5)	.354 (9)	.472 (12)	.394 (10)
50120N-4-1/4	5/32 (4)	1/4	.276 (7)	.709 (18)	1.299 (33)	.354 (9)	.591 (15)	.394 (10)
50120N-5-1/8	5	1/8	.217 (5,5)	.787 (20)	1.417 (36)	.433 (11)	.472 (12)	.492 (12,5)
50120N-6-1/8	6	1/8	.217 (5,5)	.827 (21)	1.417 (36)	.433 (11)	.472 (12)	.492 (12,5)
50120N-6-1/4	6	1/4	.276 (7)	.827 (21)	1.476 (37,5)	.433 (11)	.591 (15)	.492 (12,5)
50120N-8-1/8	5/16 (8)	1/8	.197 (5)	.898 (22,5)	1.595 (40,5)	.472 (12)	.472 (12)	.571 (14,5)
50120N-8-1/4	5/16 (8)	1/4	.276 (7)	.886 (22,5)	1.595 (40,5)	.472 (12)	.591 (15)	.571 (14,5)
50120N-8-3/8	5/16 (8)	3/8	.296 (7,5)	.886 (22,5)	1.614 (41)	.472 (12)	.630 (16)	.571 (14,5)
50120N-10-1/4	10	1/4	.276 (7)	1.043 (26,5)	1.811 (46)	.551 (14)	.591 (15)	.689 (17,5)
50120N-10-3/8	10	3/8	.296 (7,5)	1.043 (26,5)	1.733 (44)	.551 (14)	.670 (17)	.689 (17,5)

**50210N**

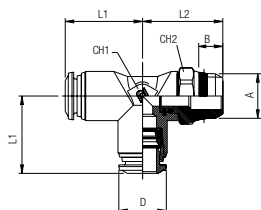
SWIVEL BRANCH TEE



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
50210N-4-1/8	5/32 (4)	1/8	.216 (5,5)	1.338 (34)	.787 (20)	.354 (9)	.511 (13)	.394 (10)
50210N-4-1/4	5/32 (4)	1/4	.275 (7)	1.338 (34)	.846 (21,5)	.354 (9)	.590 (15)	.394 (10)
50210N-5-1/8	5	1/8	.216 (5,5)	1.575 (40)	.866 (22)	.433 (11)	.511 (13)	.492 (12,5)
50210N-6-1/8	6	1/8	.216 (5,5)	1.653 (42)	.866 (22)	.433 (11)	.511 (13)	.492 (12,5)
50210N-6-1/4	6	1/4	.275 (7)	1.653 (42)	.925 (23,5)	.433 (11)	.590 (15)	.492 (12,5)
50210N-8-1/8	5/16 (8)	1/8	.216 (5,5)	1.771 (45)	1.003 (25,5)	.511 (13)	.511 (13)	.571 (14,5)
50210N-8-1/4	5/16 (8)	1/4	.275 (7)	1.771 (45)	1.003 (25,5)	.511 (13)	.590 (15)	.571 (14,5)
50210N-8-3/8	5/16 (8)	3/8	.295 (7,5)	1.771 (45)	1.023 (26)	.511 (13)	.669 (17)	.571 (14,5)
50210N-8-1/2	5/16 (8)	1/2	.354 (9)	1.771 (45)	1.122 (28,5)	.511 (13)	.826 (21)	.571 (14,5)
50210N-10-1/4	10	1/4	.275 (7)	2.086 (53)	1.141 (29)	.551 (14)	.629 (16)	.689 (17,5)
50210N-10-3/8	10	3/8	.295 (7,5)	2.086 (53)	1.062 (27)	.551 (14)	.669 (17)	.689 (17,5)
50210N-10-1/2	10	1/2	.354 (9)	2.086 (53)	1.161 (29,5)	.551 (14)	.826 (21)	.689 (17,5)
50210N-12-3/8	12	3/8	.295 (7,5)	2.460 (62,5)	1.161 (29,5)	.629 (16)	.787 (20)	.846 (21,5)
50210N-12-1/2	12	1/2	.354 (9)	2.460 (62,5)	1.259 (32)	.629 (16)	.826 (21)	.846 (21,5)
50210N-14-3/8	14	3/8	.295 (7,5)	2.460 (62,5)	1.161 (29,5)	.629 (16)	.787 (20)	.846 (21,5)
50210N-14-1/2	14	1/2	.354 (9)	2.460 (62,5)	1.259 (32)	.629 (16)	.826 (21)	.846 (21,5)

**50222N**

SWIVEL RUN TEE

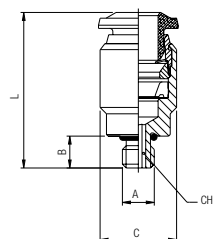


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
50222N-4-1/8	5/32 (4)	1/8	.216 (5,5)	.669 (17)	.787 (20)	.354 (9)	.511 (13)	.394 (10)
50222N-4-1/4	5/32 (4)	1/4	.275 (7)	.669 (17)	.846 (21,5)	.354 (9)	.590 (15)	.394 (10)
50222N-5-1/8	5	1/8	.216 (5,5)	.788 (20)	.866 (22)	.433 (11)	.511 (13)	.492 (12,5)
50222N-6-1/8	6	1/8	.216 (5,5)	.826 (21)	.866 (22)	.433 (11)	.511 (13)	.492 (12,5)
50222N-6-1/4	6	1/4	.275 (7)	.826 (21)	.925 (23,5)	.433 (11)	.590 (15)	.492 (12,5)
50222N-8-1/8	5/16 (8)	1/8	.216 (5,5)	.885 (22,5)	.944 (24)	.511 (13)	.511 (13)	.571 (14,5)
50222N-8-1/4	5/16 (8)	1/4	.275 (7)	.885 (22,5)	.944 (24)	.511 (13)	.590 (15)	.571 (14,5)
50222N-8-3/8	5/16 (8)	3/8	.295 (7,5)	.885 (22,5)	1.062 (27)	.511 (13)	.669 (17)	.571 (14,5)
50222N-8-1/2	5/16 (8)	1/2	.354 (9)	.885 (22,5)	1.062 (27)	.511 (13)	.826 (21)	.571 (14,5)
50222N-10-1/4	10	1/4	.275 (7)	1.043 (26,5)	1.023 (26)	.551 (14)	.629 (16)	.689 (17,5)
50222N-10-3/8	10	3/8	.295 (7,5)	1.043 (26,5)	1.023 (26)	.551 (14)	.669 (17)	.689 (17,5)
50222N-10-1/2	10	1/2	.354 (9)	1.043 (26,5)	1.122 (28,5)	.551 (14)	.826 (21)	.689 (17,5)
50222N-12-3/8	12	3/8	.295 (7,5)	1.240 (31,5)	1.161 (29,5)	.629 (16)	.787 (20)	.847 (21,5)
50222N-12-1/2	12	1/2	.354 (9)	1.240 (31,5)	1.259 (32)	.629 (16)	.826 (21)	.847 (21,5)

**50010N**

STRAIGHT MALE WITH INTERNAL HEX

**BSPP**

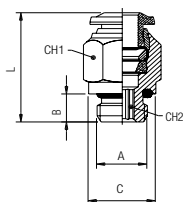


Part No.	Tube	A	B	C	L	CH
50010N-3-M5	3	M5	.157 (4)	.315 (8)	.748 (19)	.098 (2,5)
50010N-4-M5	5/32 (4)	M5	.157 (4)	.394 (10)	.768 (19,5)	.098 (2,5)
50010N-4-M7x1	5/32 (4)	M7x1	.197 (5)	.394 (10)	.827 (21)	.098 (2,5)
50010N-6-M5	6	M5	.157 (4)	.472 (12)	.965 (24,5)	.098 (2,5)
50010N-6-M6x1	6	M6x1	.197 (5)	.472 (12)	.944 (24)	.098 (2,5)

**50020N**

STRAIGHT MALE

**BSPP**

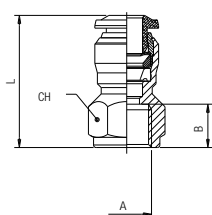


Part No.	Tube	A	B	C	L	CH1	CH2
50020N-3-M5	3	M5	.141 (3,6)	.315 (8)	.748 (19)	.315 (8)	.079 (2)
50020N-4-M3	5/32 (4)	M3	.118 (3)	.394 (10)	.827 (21)	-	.315 (8)
50020N-4-M5	5/32 (4)	M5	.141 (3,6)	.315 (8)	.827 (21)	.394 (10)	.079 (2)
50020N-4-1/8	5/32 (4)	1/8	.212 (5,4)	.512 (13)	.787 (20)	.394 (10)	.118 (3)
50020N-4-1/4	5/32 (4)	1/4	.279 (7,1)	.630 (16)	.768 (19,5)	.630 (16)	.118 (3)
50020N-4-3/8	5/32 (4)	3/8	.318 (8,1)	.787 (20)	.708 (18)	.787 (20)	.118 (3)
50020N-5-M5	5	M5	.141 (3,6)	.315 (8)	.925 (23,5)	.472 (12)	.079 (2)
50020N-5-1/8	5	1/8	.212 (5,4)	.512 (13)	.866 (22)	.472 (12)	.157 (4)
50020N-5-1/4	5	1/4	.279 (7,1)	.630 (16)	.866 (22)	.472 (12)	.157 (4)
50020N-6-M5	6	M5	.141 (3,6)	.394 (10)	.965 (24,5)	.512 (13)	.079 (2)
50020N-6-1/8	6	1/8	.212 (5,4)	.512 (13)	.925 (23,5)	.512 (13)	.157 (4)
50020N-6-1/4	6	1/4	.279 (7,1)	.630 (16)	.925 (23,5)	.512 (13)	.157 (4)
50020N-6-3/8	6	3/8	.318 (8,1)	.787 (20)	.984 (25)	.512 (13)	.157 (4)
50020N-6-1/2	6	1/2	.377 (9,6)	.984 (25)	1.063 (27)	.512 (13)	.157 (4)
50020N-8-1/8	5/16 (8)	1/8	.279 (7,1)	.512 (13)	.984 (25)	.551 (14)	.197 (5)
50020N-8-1/4	5/16 (8)	1/4	.318 (8,1)	.630 (16)	.906 (23)	.551 (14)	.236 (6)
50020N-8-3/8	5/16 (8)	3/8	.318 (8,1)	.787 (20)	.945 (24)	.551 (14)	.236 (6)
50020N-8-1/2	5/16 (8)	1/2	.377 (9,6)	.984 (25)	1.043 (26,5)	.551 (14)	.236 (6)
50020N-10-1/4	10	1/4	.279 (7,1)	.630 (16)	1.201 (30,5)	.669 (17)	.236 (6)
50020N-10-3/8	10	3/8	.318 (8,1)	.787 (20)	1.083 (27,5)	.669 (17)	.315 (8)
50020N-10-1/2	10	1/2	.377 (9,6)	.984 (25)	1.063 (27)	.669 (17)	.315 (8)
50020N-12-1/4	12	1/4	.279 (7,1)	.630 (16)	1.358 (34,5)	.787 (20)	.236 (6)
50020N-12-3/8	12	3/8	.318 (8,1)	.787 (20)	1.339 (34)	.787 (20)	.315 (8)
50020N-12-1/2	12	1/2	.377 (9,6)	.984 (25)	1.220 (31)	.866 (22)	.394 (10)
50020N-14-3/8	14	3/8	.318 (8,1)	.787 (20)	1.378 (35)	.827 (21)	.394 (10)
50020N-14-1/2	14	1/2	.377 (9,6)	.984 (25)	1.260 (32)	.866 (22)	.394 (10)
50020N-6-M8x1	6	M8x1	.212 (5,4)	.472 (12)	.965 (24,5)	.512 (13)	.118 (3)
50020N-6-M10x1	6	M10x1	.212 (5,4)	.512 (13)	.905 (23)	.512 (13)	.157 (4)
50020N-6-M12x1	6	M12x1	.287 (7,3)	.591 (15)	.925 (23,5)	.512 (13)	.157 (4)
50020N-6-M12x1,25	6	M12x1,25	.287 (7,3)	.591 (15)	.925 (23,5)	.512 (13)	.157 (4)
50020N-6-M12x1,5	6	M12x1,5	.287 (7,3)	.591 (15)	.925 (23,5)	.512 (13)	.157 (4)
50020N-8-M8x1	8	M8x1	.212 (5,4)	.472 (12)	1.004 (25,5)	.551 (14)	.157 (4)
50020N-8-M10x1	8	M10x1	.212 (5,4)	.512 (13)	1.004 (25,5)	.551 (14)	.157 (4)
50020N-8-M12x1,5	8	M12x1,5	.287 (7,3)	.591 (15)	1.083 (27,5)	.551 (14)	.236 (6)

**50030N**

STRAIGHT FEMALE

**BSPP**

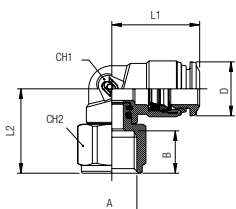


Part No.	Tube	A	B	L	CH
50030N-3-M5	3	M5	.216 (5,5)	.728 (18,5)	.355 (9)
50030N-4-M5	5/32 (4)	M5	.216 (5,5)	.826 (21)	.433 (11)
50030N-4-1/8	5/32 (4)	1/8	.334 (8,5)	.944 (24)	.511 (13)
50030N-4-1/4	5/32 (4)	1/4	.433 (11)	1.082 (27,5)	.629 (16)
50030N-5-1/8	5	1/8	.334 (8,5)	1.043 (26,5)	.511 (13)
50030N-6-1/8	6	1/8	.334 (8,5)	1.023 (26)	.511 (13)
50030N-6-1/4	6	1/4	.433 (11)	1.161 (29,5)	.629 (16)
50030N-8-1/8	5/16 (8)	1/8	.334 (8,5)	1.062 (27)	.590 (15)
50030N-8-1/4	5/16 (8)	1/4	.433 (11)	1.161 (29,5)	.669 (17)
50030N-8-3/8	5/16 (8)	3/8	.472 (12)	1.259 (32)	.748 (19)
50030N-10-1/4	10	1/4	.433 (11)	1.259 (32)	.708 (18)
50030N-10-3/8	10	3/8	.472 (12)	1.318 (33,5)	.748 (19)
50030N-10-1/2	10	1/2	.590 (15)	1.535 (39)	.944 (24)
50030N-12-3/8	12	3/8	.472 (12)	1.417 (36)	.826 (21)
50030N-12-1/2	12	1/2	.590 (15)	1.614 (41)	.944 (24)

**50105N**

FEMALE ELBOW

**BSPP**

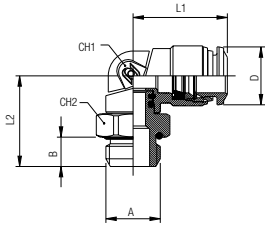


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
50105N-4-1/8	5/32 (4)	1/8	.334 (8,5)	.708 (18)	.787 (20)	.354 (9)	.511 (13)	.394 (10)
50105N-4-1/4	5/32 (4)	1/4	.433 (11)	.708 (18)	.846 (21,5)	.354 (9)	.629 (16)	.394 (10)
50105N-6-1/8	6	1/8	.334 (8,5)	.826 (21)	.807 (20,5)	.433 (11)	.511 (13)	.492 (12,5)
50105N-6-1/4	6	1/4	.433 (11)	.826 (21)	.905 (23)	.433 (11)	.629 (16)	.492 (12,5)
50105N-8-1/8	5/16 (8)	1/8	.334 (8,5)	.885 (22,5)	.807 (20,5)	.472 (12)	.511 (13)	.571 (14,5)
50105N-8-1/4	5/16 (8)	1/4	.433 (11)	.885 (22,5)	.905 (23)	.472 (12)	.629 (16)	.571 (14,5)
50105N-8-3/8	5/16 (8)	3/8	.472 (12)	.885 (22,5)	.905 (23)	.472 (12)	.512 (13)	.571 (14,5)
50105N-10-1/4	10	1/4	.433 (11)	1.043 (26,5)	.984 (25)	.551 (14)	.748 (19)	.669 (17)
50105N-10-3/8	10	3/8	.472 (12)	1.043 (26,5)	1.102 (28)	.551 (14)	.748 (19)	.669 (17)
50105N-12-1/2	12	1/2	.590 (15)	1.240 (31,5)	1.358 (34,5)	.630 (16)	.944 (24)	.787 (20)

**50115N**

SWIVEL ELBOW

**BSPP**

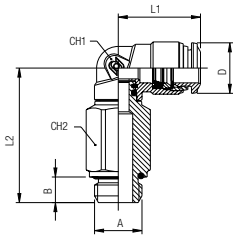


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
50115N-3-M5	3	M5	.138 (3,5)	.650 (16,5)	.689 (17,5)	.354 (9)	.315 (8)	.394 (10)
50115N-4-M5	5/32 (4)	M5	.138 (3,5)	.709 (18)	.689 (17,5)	.354 (9)	.315 (8)	.394 (10)
50115N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.709 (18)	.709 (18)	.354 (9)	.512 (13)	.394 (10)
50115N-4-1/4	5/32 (4)	1/4	.276 (7)	.709 (18)	.709 (18)	.354 (9)	.63 (16)	.394 (10)
50115N-5-M5	5	M5	.138 (3,5)	.787 (20)	.787 (20)	.433 (11)	.433 (11)	.492 (12,5)
50115N-5-1/8	5	1/8	.217 (5,5)	.787 (20)	.787 (20)	.433 (11)	.512 (13)	.492 (12,5)
50115N-6-M5	6	M5	.138 (3,5)	.827 (21)	.787 (20)	.433 (11)	.433 (11)	.492 (12,5)
50115N-6-1/8	6	1/8	.217 (5,5)	.827 (21)	.787 (20)	.433 (11)	.512 (13)	.492 (12,5)
50115N-6-1/4	6	1/4	.276 (7)	.827 (21)	.846 (21,5)	.433 (11)	.63 (16)	.492 (12,5)
50115N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.886 (22,5)	.827 (21)	.472 (12)	.512 (13)	.571 (14,5)
50115N-8-1/4	5/16 (8)	1/4	.276 (7)	.886 (22,5)	.846 (21,5)	.472 (12)	.63 (16)	.571 (14,5)
50115N-8-3/8	5/16 (8)	3/8	.315 (8)	.886 (22,5)	.925 (23,5)	.472 (12)	.787 (20)	.571 (14,5)
50115N-8-1/2	5/16 (8)	1/2	.374 (9,5)	.886 (22,5)	.984 (25)	.472 (12)	.984 (25)	.571 (14,5)
50115N-10-1/4	10	1/4	.276 (7)	1.043 (26,5)	1.004 (25,5)	.551 (14)	.63 (16)	.689 (17,5)
50115N-10-3/8	10	3/8	.315 (8)	1.043 (26,5)	.984 (25)	.551 (14)	.787 (20)	.689 (17,5)
50115N-10-1/2	10	1/2	.374 (9,5)	1.043 (26,5)	1.043 (26,5)	.551 (14)	.984 (25)	.689 (17,5)
50115N-12-1/4	12	1/4	.315 (8)	1.240 (31,5)	1.083 (27,5)	.630 (16)	.787 (20)	.846 (21,5)
50115N-12-3/8	12	3/8	.315 (8)	1.240 (31,5)	1.063 (27)	.630 (16)	.787 (20)	.846 (21,5)
50115N-12-1/2	12	1/2	.374 (9,5)	1.240 (31,5)	1.122 (28,5)	.630 (16)	.984 (25)	.846 (21,5)
50115N-14-3/8	14	3/8	.315 (8)	1.240 (31,5)	1.083 (27,5)	.630 (16)	.787 (20)	.846 (21,5)
50115N-14-1/2	14	1/2	.374 (9,5)	1.240 (31,5)	1.142 (29)	.630 (16)	.984 (25)	.846 (21,5)
50115N-6-M12x1	6	M12x1	.295 (7,5)	.787 (20)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)
50115N-6-M12x1,25	6	M12x1,25	.295 (7,5)	.787 (20)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)
50115N-6-M12x1,5	6	M12x1,5	.295 (7,5)	.787 (20)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)
50115N-8-M12x1,5	8	M12x1,5	.295 (7,5)	.886 (22,5)	.866 (22)	.472 (12)	.63 (16)	.571 (14,5)

**50125N**

SWIVEL EXTENDED ELBOW

**BSPP**

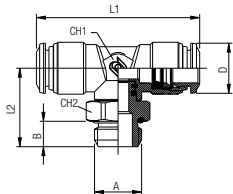


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
50125N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.709 (18)	1.181 (30)	.354 (9)	.472 (12)	.394 (10)
50125N-4-1/4	5/32 (4)	1/4	.276 (7)	.709 (18)	1.260 (32)	.354 (9)	.591 (15)	.394 (10)
50125N-5-1/8	5	1/8	.217 (5,5)	.787 (20)	1.358 (34,5)	.433 (11)	.472 (12)	.492 (12,5)
50125N-6-1/8	6	1/8	.217 (5,5)	.827 (21)	1.358 (34,5)	.433 (11)	.472 (12)	.492 (12,5)
50125N-6-1/4	6	1/4	.276 (7)	.827 (21)	1.417 (36)	.433 (11)	.591 (15)	.492 (12,5)
50125N-8-1/8	5/16 (8)	1/8	.197 (5)	.898 (22,8)	1.476 (37,5)	.472 (12)	.472 (12)	.571 (14,5)
50125N-8-1/4	5/16 (8)	1/4	.276 (7)	.886 (22,5)	1.496 (38)	.472 (12)	.591 (15)	.571 (14,5)
50125N-8-3/8	5/16 (8)	3/8	.315 (8)	.886 (22,5)	1.575 (40)	.472 (12)	.709 (18)	.571 (14,5)
50125N-10-1/4	10	1/4	.276 (7)	1.043 (26,5)	1.772 (45)	.551 (14)	.630 (16)	.689 (17,5)
50125N-10-3/8	10	3/8	.315 (8)	1.043 (26,5)	1.752 (44,5)	.551 (14)	.709 (18)	.689 (17,5)

**50215N**

SWIVEL BRANCH TEE

**BSPP**

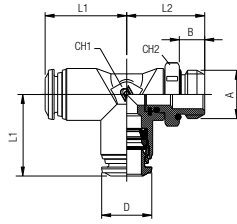


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
50215N-3-M5	3	M5	.138 (3,5)	1.299 (33)	.669 (17)	.354 (9)	.315 (8)	.394 (10)
50215N-4-M5	5/32 (4)	M5	.138 (3,5)	1.339 (34)	.709 (18)	.354 (9)	.315 (8)	.394 (10)
50215N-4-1/8	5/32 (4)	1/8	.217 (5,5)	1.339 (34)	.728 (18,5)	.354 (9)	.512 (13)	.394 (10)
50215N-4-1/4	5/32 (4)	1/4	.276 (7)	1.339 (34)	.787 (20)	.354 (9)	.630 (16)	.394 (10)
50215N-5-M5	5	M5	.138 (3,5)	1.575 (40)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
50215N-5-1/8	5	1/8	.217 (5,5)	1.575 (40)	.807 (20,5)	.433 (11)	.512 (13)	.492 (12,5)
50215N-6-M5	6	M5	.138 (3,5)	1.654 (42)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
50215N-6-1/8	6	1/8	.217 (5,5)	1.654 (42)	.807 (20,5)	.433 (11)	.512 (13)	.492 (12,5)
50215N-6-1/4	6	1/4	.276 (7)	1.654 (42)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)
50215N-8-1/8	5/16 (8)	1/8	.217 (5,5)	1.772 (45)	.925 (23,5)	.512 (13)	.512 (13)	.571 (14,5)
50215N-8-1/4	5/16 (8)	1/4	.276 (7)	1.772 (45)	.945 (24)	.512 (13)	.630 (16)	.571 (14,5)
50215N-8-3/8	5/16 (8)	3/8	.315 (8)	1.772 (45)	1.024 (26)	.512 (13)	.787 (20)	.571 (14,5)
50215N-8-1/2	5/16 (8)	1/2	.374 (9,5)	1.772 (45)	1.083 (27,5)	.512 (13)	.984 (25)	.571 (14,5)
50215N-10-1/4	10	1/4	.276 (7)	2.087 (53)	1.083 (27,5)	.551 (14)	.630 (16)	.689 (17,5)
50215N-10-3/8	10	3/8	.315 (8)	2.087 (53)	1.063 (27)	.551 (14)	.787 (20)	.689 (17,5)
50215N-10-1/2	10	1/2	.374 (9,5)	2.087 (53)	1.122 (28,5)	.551 (14)	.984 (25)	.689 (17,5)
50215N-12-3/8	12	3/8	.315 (8)	2.461 (62,5)	1.161 (29,5)	.630 (16)	.787 (20)	.846 (21,5)
50215N-12-1/2	12	1/2	.374 (9,5)	2.461 (62,5)	1.220 (31)	.630 (16)	.984 (25)	.846 (21,5)
50215N-14-3/8	14	3/8	.315 (8)	2.461 (62,5)	1.161 (29,5)	.630 (16)	.787 (20)	.846 (21,5)
50215N-14-1/2	14	1/2	.374 (9,5)	2.461 (62,5)	1.220 (31)	.630 (16)	.984 (25)	.846 (21,5)
50215N-6-M12x1	6	M12x1	.295 (7,5)	1.654 (42)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)
50215N-6-M12x1,25	6	M12x1,25	.295 (7,5)	1.654 (42)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)
50215N-6-M12x1,5	6	M12x1,5	.295 (7,5)	1.654 (42)	.866 (22)	.433 (11)	.630 (16)	.492 (12,5)

**50225N**

SWIVEL RUN TEE

**BSPP**

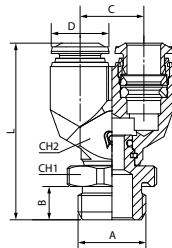


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
50225N-3-M5	3	M5	.138 (3,5)	.650 (16,5)	.669 (17)	.354 (9)	.315 (8)	.394 (10)
50225N-4-M5	5/32 (4)	M5	.138 (3,5)	.669 (17)	.709 (18)	.354 (9)	.315 (8)	.394 (10)
50225N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.669 (17)	.728 (18,5)	.354 (9)	.512 (13)	.394 (10)
50225N-4-1/4	5/32 (4)	1/4	.276 (7)	.669 (17)	.787 (20)	.354 (9)	.63 (16)	.394 (10)
50225N-5-M5	5	M5	.138 (3,5)	.787 (20)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
50225N-5-1/8	5	1/8	.217 (5,5)	.787 (20)	.807 (20,5)	.433 (11)	.512 (13)	.492 (12,5)
50225N-6-M5	6	M5	.138 (3,5)	.827 (21)	.807 (20,5)	.433 (11)	.433 (11)	.492 (12,5)
50225N-6-1/8	6	1/8	.217 (5,5)	.827 (21)	.807 (20,5)	.433 (11)	.512 (13)	.492 (12,5)
50225N-6-1/4	6	1/4	.276 (7)	.827 (21)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)
50225N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.886 (22,5)	.886 (22,5)	.512 (13)	.512 (13)	.571 (14,5)
50225N-8-1/4	5/16 (8)	1/4	.276 (7)	.886 (22,5)	.906 (23)	.512 (13)	.63 (16)	.571 (14,5)
50225N-8-3/8	5/16 (8)	3/8	.315 (8)	.886 (22,5)	.984 (25)	.512 (13)	.787 (20)	.571 (14,5)
50225N-8-1/2	5/16 (8)	1/2	.374 (9,5)	.886 (22,5)	1.043 (26,5)	.512 (13)	.984 (25)	.571 (14,5)
50225N-10-1/4	10	1/4	.276 (7)	1.043 (26,5)	1.063 (27)	.551 (14)	.63 (16)	.689 (17,5)
50225N-10-3/8	10	3/8	.315 (8)	1.043 (26,5)	1.043 (26,5)	.551 (14)	.787 (20)	.689 (17,5)
50225N-10-1/2	10	1/2	.374 (9,5)	1.043 (26,5)	1.102 (28)	.551 (14)	.984 (25)	.689 (17,5)
50225N-12-3/8	12	3/8	.315 (8)	1.240 (31,5)	1.161 (29,5)	.63 (16)	.787 (20)	.846 (21,5)
50225N-12-1/2	12	1/2	.374 (9,5)	1.240 (31,5)	1.220 (31)	.63 (16)	.984 (25)	.846 (21,5)
50225N-6-M12x1	6	M12x1	.295 (7,5)	.827 (21)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)
50225N-6-M12x1,25	6	M12x1,25	.295 (7,5)	.827 (21)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)
50225N-6-M12x1,5	6	M12x1,5	.295 (7,5)	.827 (21)	.866 (22)	.433 (11)	.63 (16)	.492 (12,5)

**50326N**

Y-CONNECTOR MALE ADAPTOR (PARALLEL)

**BSPP**

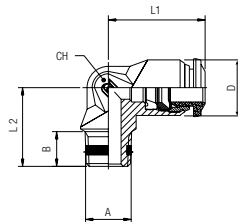


Part No.	Tube	A	B	C	CH1	CH2	D
50326N-4-1/8	5/32 (4)	1/8	.217 (5,5)	1.280 (32,5)	.511 (13)	.433 (11)	.394 (10)
50326N-6-1/8	6	1/8	.217 (5,5)	1.456 (37)	.511 (13)	.511 (13)	.492 (12,5)
50326N-6-1/4	6	1/4	.275 (7)	1.516 (38,5)	.629 (16)	.511 (13)	.492 (12,5)
50326N-8-1/8	5/16 (8)	1/8	.217 (5,5)	1.594 (40,5)	.511 (13)	.590 (15)	.551 (14)
50326N-8-1/4	5/16 (8)	1/4	.275 (7)	1.614 (41)	.629 (16)	.590 (15)	.551 (14)
50326N-8-3/8	5/16 (8)	3/8	.314 (8)	1.693 (43)	.787 (20)	.590 (15)	.551 (14)

**50100N**

FIXED ELBOW

**BSPT**

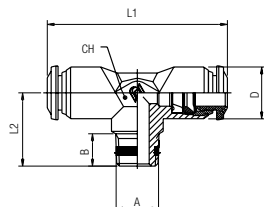


Part No.	Tube	A	B	L1	L2	CH	D
50100N-4-M5	5/32 (4)	M5	.197 (5)	.669 (17)	.591 (15)	.354 (9)	.394 (10)
50100N-4-1/8	5/32 (4)	1/8	.295 (7,5)	.669 (17)	.61 (15,5)	.354 (9)	.394 (10)
50100N-5-M5	5	M5	.197 (5)	.787 (20)	.669 (17)	.433 (11)	.492 (12,5)
50100N-5-1/8	5	1/8	.295 (7,5)	.787 (20)	.689 (17,5)	.433 (11)	.492 (12,5)
50100N-6-1/8	6	1/8	.295 (7,5)	.827 (21)	.689 (17,5)	.433 (11)	.492 (12,5)
50100N-6-1/4	6	1/4	.433 (11)	.827 (21)	.846 (21,5)	.433 (11)	.492 (12,5)
50100N-8-1/8	5/16 (8)	1/8	.295 (7,5)	.886 (22,5)	.748 (19)	.512 (13)	.551 (14)
50100N-8-1/4	5/16 (8)	1/4	.433 (11)	.886 (22,5)	.846 (21,5)	.512 (13)	.551 (14)
50100N-10-1/4	10	1/4	.433 (11)	1.043 (26,5)	.965 (24,5)	.63 (16)	.669 (17)
50100N-10-3/8	10	3/8	.453 (11,5)	1.043 (26,5)	.945 (24)	.63 (16)	.669 (17)
50100N-12-1/4	12	1/4	.433 (11)	1.201 (30,5)	1.201 (28)	.748 (19)	.846 (21,5)
50100N-12-3/8	12	3/8	.453 (11,5)	1.201 (30,5)	1.201 (28)	.748 (19)	.846 (21,5)

**50200N**

FIXED BRANCH TEE

**BSPT**

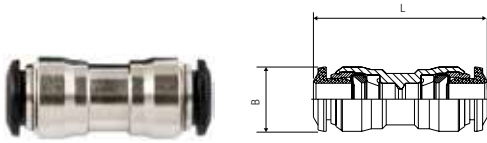


Part No.	Tube	A	B	L1	L2	CH	D
50200N-4-M5	5/32 (4)	M5	.197 (5)	1.339 (34)	.591 (15)	.354 (9)	.394 (10)
50200N-4-1/8	5/32 (4)	1/8	.295 (7,5)	1.339 (34)	.61 (15,5)	.354 (9)	.394 (10)
50200N-5-1/8	5	1/8	.295 (7,5)	1.575 (40)	.689 (17,5)	.433 (11)	.492 (12,5)
50200N-6-1/8	6	1/8	.295 (7,5)	1.654 (42)	.689 (17,5)	.433 (11)	.492 (12,5)
50200N-8-1/8	5/16 (8)	1/8	.295 (7,5)	1.772 (45)	.748 (19)	.512 (13)	.551 (14)
50200N-8-1/4	5/16 (8)	1/4	.433 (11)	1.772 (45)	.846 (21,5)	.512 (13)	.551 (14)
50200N-10-1/4	10	1/4	.433 (11)	2.087 (53)	.965 (24,5)	.630 (16)	.669 (17)
50200N-10-3/8	10	3/8	.453 (11,5)	2.087 (53)	.945 (24)	.63 (16)	.669 (17)
50200N-12-1/4	12	1/4	.433 (11)	2.402 (61)	1.102 (28)	.748 (19)	.846 (21,5)
50200N-12-3/8	12	3/8	.453 (11,5)	2.402 (61)	1.102 (28)	.748 (19)	.846 (21,5)



**50040N**

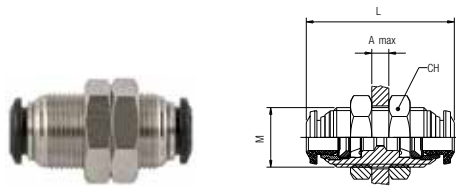
UNION



Part No.	Tube	Tube	L	B
50040N-3	3		1.024 (26)	.335 (8,5)
50040N-4	5/32 (4)		1.200 (30,5)	.413 (10,5)
50040N-5	5		1.299 (33)	.453 (11,5)
50040N-6-4	6	5/32 (4)	1.259 (32)	.492 (12,5)
50040N-6	6		1.338 (34)	.492 (12,5)
50040N-8-6	5/16 (8)	6	1.377 (35)	.571 (14,5)
50040N-8	5/16 (8)		1.417 (36)	.571 (14,5)
50040N-10-8	10	5/16 (8)	1.594 (40,5)	.689 (17,5)
50040N-10	10		1.653 (42)	.689 (17,5)
50040N-12-10	12	10	1.791 (45,5)	.807 (20,5)
50040N-12	12		1.850 (47)	.807 (20,5)
50040N-14	14		1.929 (49)	.846 (21,5)

**50050N**

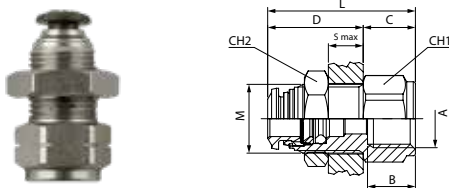
BULKHEAD UNION



Part No.	Tube	M	L	CH	A max
50050N-3	3	M10x1	1.024 (26)	.551 (14)	.197 (5)
50050N-4	5/32 (4)	M12x1	1.240 (31,5)	.669 (17)	.275 (7)
50050N-5	5	M14x1	1.299 (33)	.669 (17)	.275 (7)
50050N-6	6	M14x1	1.377 (35)	.669 (17)	.374 (9,5)
50050N-8-6	5/16 (8)-6	M16x1	1.456 (37)	.748 (19)	.413 (10,5)
50050N-8	5/16 (8)	M16x1	1.456 (37)	.748 (19)	.413 (10,5)
50050N-10-6	10-6	M20x1	1.693 (43)	.944 (24)	.453 (11,5)
50050N-10-8	10-5/16 (8)	M20x1	1.693 (43)	.944 (24)	.492 (12,5)
50050N-10	10	M20x1	1.692 (42)	.944 (24)	.492 (12,5)
50050N-12	12	M22x1	1.889 (48)	1.023 (26)	.649 (16,5)
50050N-14	14	M23x1	1.929 (49)	1.063 (26)	.649 (16,5)

**50055N**

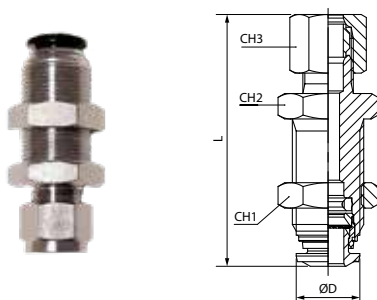
FEMALE BULKHEAD CONNECTOR



Part No.	Tube	A	B	M	S max	CH1	CH2	C	D	L
50055N-4-1/8	5/32 (4)	1/8	.334 (8,5)	M12X1	.275 (7)	.591 (15)	.669 (17)	.394 (10)	.748 (19)	1.141 (29)
50055N-6-1/8	6	1/8	.334 (8,5)	M14X1	.315 (8)	.630 (16)	.669 (17)	.394 (10)	.826 (21)	1.221 (31)
50055N-6-1/4	6	1/4	.433 (11)	M14X1	.315 (8)	.630 (16)	.669 (17)	.472 (12)	.826 (21)	1.300 (33)
50055N-8-1/8	5/16 (8)	1/8	.334 (8,5)	M16X1	.315 (8)	.709 (18)	.748 (19)	.394 (10)	.866 (22)	1.260 (32)
50055N-8-1/4	5/16 (8)	1/4	.433 (11)	M16X1	.315 (8)	.709 (18)	.748 (19)	.472 (12)	.866 (22)	1.339 (34)
50055N-10-3/8	10	3/8	.472 (12)	M20X1	.374 (9,5)	.945 (24)	.945 (24)	.551 (14)	1.003 (25,5)	1.556 (38,5)
50055N-12-3/8	12	3/8	.472 (12)	M22X1	.413 (10,5)	.945 (24)	1.024 (26)	.591 (15)	1.083 (27,5)	1.673 (42,5)
50055N-12-1/2	12	1/2	.591 (15)	M22X1	.413 (10,5)	.945 (24)	1.024 (26)	.669 (17)	1.083 (27,5)	1.752 (44,5)

**50465N**

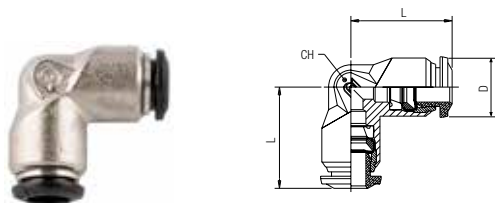
BULKHEAD CONNECTOR



Part No.	Tube	L	D	CH1	CH2	CH3
50465N-6	6	1.949 (49,5)	.492 (12,5)	.511 (13)	.669 (17)	.669 (17)
50465N-8	5/16 (8)	2.047 (52)	.551 (14)	.551 (14)	.748 (19)	.748 (19)
50465N-10	10	2.282 (59)	.669 (17)	.748 (19)	.945 (24)	.945 (24)

**50130N**

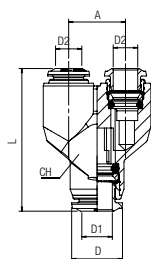
UNION ELBOW



Part No.	Tube	L	CH	D
50130N-3	3	.669 (17)	.354 (9)	.394 (10)
50130N-4	5/32 (4)	.669 (17)	.354 (9)	.394 (10)
50130N-5	5	.787 (20)	.433 (11)	.492 (12,5)
50130N-6	6	.826 (21)	.433 (11)	.492 (12,5)
50130N-8	5/16 (8)	.885 (22,5)	.511 (13)	.571 (14,5)
50130N-10	10	1.043 (26,5)	.629 (16)	.689 (17,5)
50130N-12	12	1.200 (30,5)	.748 (19)	.846 (21,5)
50130N-14	14	1.279 (32,5)	.748 (19)	.846 (21,5)

**50310N**

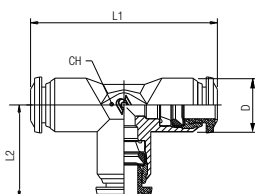
UNION Y



Part No.	Tube	A	L	CH	D
50310N-3	3	.394 (10)	1.142 (29)	.433 (11)	.394 (10)
50310N-4	5/32 (4)	.433 (11)	1.259 (32)	.433 (11)	.394 (10)
50310N-5	5	.531 (13.5)	1.377 (35)	.511 (13)	.492 (12.5)
50310N-6	6	.531 (13.5)	1.437 (36.5)	.511 (13)	.492 (12.5)
50310N-8	5/16 (8)	.610 (15.5)	1.614 (41)	.590 (15)	.551 (14)
50310N-10	10	.728 (18.5)	1.889 (48)	.708 (18)	.669 (17)

**50230N**

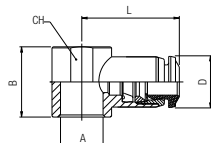
UNION TEE



Part No.	Tube	L1	L2	CH	D
50230N-3	3	1.338 (34)	.669 (17)	.354 (9)	.394 (10)
50230N-4	5/32 (4)	1.338 (34)	.669 (17)	.354 (9)	.394 (10)
50230N-5	5	1.574 (40)	.787 (20)	.433 (11)	.492 (12.5)
50230N-6	6	1.653 (42)	.826 (21)	.433 (11)	.492 (12.5)
50230N-8	5/16 (8)	1.771 (45)	.885 (22.5)	.511 (13)	.551 (14)
50230N-10	10	2.086 (53)	1.043 (26.5)	.629 (16)	.669 (17)
50230N-12	12	2.401 (61)	1.200 (30.5)	.748 (19)	.847 (21.5)
50230N-14	14	2.578 (65.5)	1.279 (32.5)	.748 (19)	.847 (21.5)

**50500N**

SINGLE BANJO BODY

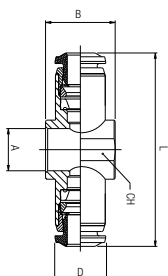


Part No.	Tube	A	B	L	CH	D
50500N-3-M5	3	M5	.492 (12.5)	.748 (19)	-	.394 (10)
50500N-3-M6	3	M6	.492 (12.5)	.748 (19)	-	.394 (10)
50500N-4-M5	5/32 (4)	M5	.492 (12.5)	.748 (19)	-	.394 (10)
50500N-4-M6	5/32 (4)	M6	.492 (12.5)	.748 (19)	-	.394 (10)
50500N-4-1/8	5/32 (4)	1/8	.591 (15)	.827 (21)	.551 (14)	.394 (10)
50500N-5-M5	5	M5	.492 (12.5)	.787 (20)	-	.492 (12.5)
50500N-5-M6	5	M6	.492 (12.5)	.787 (20)	-	.492 (12.5)
50500N-5-1/8	5	1/8	.591 (15)	.846 (21.5)	.551 (14)	.492 (12.5)
50500N-5-1/4	5	1/4	.669 (17)	.965 (24.5)	.709 (18)	.492 (12.5)
50500N-6-M5	6	M5	.492 (12.5)	.807 (20.5)	-	.492 (12.5)
50500N-6-M6	6	M6	.492 (12.5)	.807 (20.5)	-	.492 (12.5)
50500N-6-1/8	6	1/8	.591 (15)	.866 (22)	.551 (14)	.492 (12.5)
50500N-6-1/4	6	1/4	.669 (17)	.984 (25)	.709 (18)	.492 (12.5)
50500N-8-1/8	5/16 (8)	1/8	.591 (15)	.945 (24)	.551 (14)	.551 (14)
50500N-8-1/4	5/16 (8)	1/4	.669 (17)	1.024 (26)	.709 (18)	.551 (14)
50500N-8-3/8	5/16 (8)	3/8	.787 (20)	1.102 (28)	.827 (21)	.551 (14)
50500N-10-1/4	10	1/4	.669 (17)	1.142 (29)	.709 (18)	.669 (17)
50500N-10-3/8	10	3/8	.787 (20)	1.201 (30.5)	.827 (21)	.669 (17)
50500N-12-3/8	12	3/8	.787 (20)	1.280 (32.5)	.827 (21)	.846 (21.5)
50500N-12-1/2	12	1/2	.945 (24)	1.378 (35)	.984 (25)	.846 (21.5)
50500N-14-1/2	14	1/2	.945 (24)	1.398 (35.5)	.984 (25)	.846 (21.5)

For BANJO STEM assemblies see 10.7/10.8/10.9

**50510N**

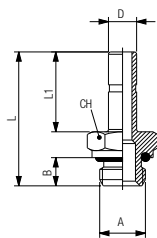
DOUBLE BANJO BODY



Part No.	Tube	A	B	L	CH	D
50510N-4-M5	5/32 (4)	M5	.492 (12.5)	1.496 (38)	-	.394 (10)
50510N-4-M6	5/32 (4)	M6	.492 (12.5)	1.496 (38)	-	.394 (10)
50510N-4-1/8	5/32 (4)	1/8	.591 (15)	1.654 (42)	.551 (14)	.394 (10)
50510N-5-1/8	5	1/8	.591 (15)	1.693 (43)	.551 (14)	.492 (12.5)
50510N-5-1/4	5	1/4	.669 (17)	1.929 (49)	.709 (18)	.492 (12.5)
50510N-6-1/8	6	1/8	.591 (15)	1.732 (44)	.551 (14)	.492 (12.5)
50510N-6-1/4	6	1/4	.669 (17)	1.969 (50)	.709 (18)	.492 (12.5)
50510N-8-1/8	5/16 (8)	1/8	.591 (15)	1.890 (48)	.551 (14)	.551 (14)
50510N-8-1/4	5/16 (8)	1/4	.669 (17)	2.047 (52)	.709 (18)	.551 (14)

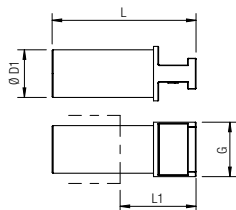
For BANJO STEM assemblies see 10.7/10.8/10.9

### 50600

**STANDPIPE**
**BSPP**


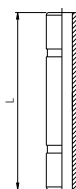
Part No.	D	A	B	L	L1	CH
50600-4-M5	5/32 (4)	M5	.157 (4)	.945 (24)	.591 (15)	.315 (8)
50600-4-1/8	5/32 (4)	1/8	.236 (6)	1.043 (26,5)	.591 (15)	.512 (13)
50600-5-M5	5	M5	.157 (4)	1.024 (26)	.669 (17)	.315 (8)
50600-5-1/8	5	1/8	.236 (6)	1.122 (28,5)	.669 (17)	.512 (13)
50600-5-1/4	5	1/4	.315 (8)	1.220 (31)	.669 (17)	.630 (16)
50600-6-M5	6	M5	.157 (4)	1.024 (26)	.669 (17)	.315 (8)
50600-6-1/8	6	1/8	.236 (6)	1.122 (28,5)	.669 (17)	.512 (13)
50600-6-1/4	6	1/4	.315 (8)	1.220 (31)	.669 (17)	.630 (16)
50600-8-1/8	5/16 (8)	1/8	.236 (6)	1.161 (29,5)	.709 (18)	.512 (13)
50600-8-1/4	5/16 (8)	1/4	.315 (8)	1.260 (32)	.709 (18)	.630 (16)
50600-8-3/8	5/16 (8)	3/8	.354 (9)	1.319 (33,5)	.709 (18)	.787 (20)
50600-10-1/8	10	1/8	.236 (6)	1.319 (33,5)	.866 (22)	.512 (13)
50600-10-1/4	10	1/4	.315 (8)	1.417 (36)	.866 (22)	.630 (16)
50600-10-3/8	10	3/8	.354 (9)	1.476 (37,5)	.866 (22)	.787 (20)
50600-12-1/4	12	1/4	.315 (8)	1.516 (38,5)	.965 (24,5)	.630 (16)
50600-12-3/8	12	3/8	.354 (9)	1.575 (40)	.965 (24,5)	.787 (20)
50600-14-1/2	14	1/2	.394 (10)	1.732 (44)	1.043 (26,5)	.945 (24)

### 50610

**POLYAMIDE PLUG**


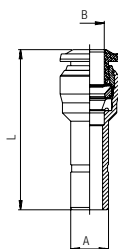
Part No.	ØD1	G	L	L1
50610-3	3	.197 (5)	1.201 (30,5)	.709 (18)
50610-4	5/32 (4)	.236 (6)	1.162 (29,5)	.611 (15,5)
50610-5	5	.276 (7)	1.319 (33,5)	.709 (18)
50610-6	6	.315 (8)	1.260 (32)	.611 (15,5)
50610-8	5/16 (8)	.394 (10)	1.398 (35,5)	.768 (19,5)
50610-10	10	.472 (12)	1.575 (40)	.768 (19,5)
50610-12	12	.551 (14)	1.634 (41,5)	.787 (20)
50610-14	14	.630 (16)	1.654 (42)	.768 (19,5)

### 50625

**DOUBLE JOINT**


Part No.	Tube	L
50625-4	5/32 (4)	1.220 (31)
50625-5	5	1.299 (33)
50625-6	6	1.339 (34)
50625-8	5/16 (8)	1.417 (36)
50625-10	10	1.772 (45)
50625-12	12	1.969 (50)

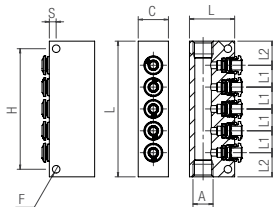
### 50700N

**TUBE REDUCER**


Part No.	A	B	L	D
50700N-4-3	5/32 (4)	3	1.181 (30)	.335 (8,5)
50700N-5-4	5	5/32 (4)	1.260 (32)	.453 (11,5)
50700N-6-4	6	5/32 (4)	1.181 (30)	.413 (10,5)
50700N-6-5	6	5	1.358 (34,5)	.453 (11,5)
50700N-8-4	5/16 (8)	5/32 (4)	1.280 (32,5)	.413 (10,5)
50700N-8-6	5/16 (8)	6	1.358 (34,5)	.492 (12,5)
50700N-10-4	10	5/32 (4)	1.240 (31,5)	.413 (10,5)
50700N-10-6	10	6	1.476 (37,5)	.492 (12,5)
50700N-10-8	10	5/16 (8)	1.516 (38,5)	.571 (14,5)
50700N-12-8	12	5/16 (8)	1.555 (39,5)	.571 (14,5)
50700N-12-10	12	10	1.693 (43)	.689 (17,5)

**50900N**

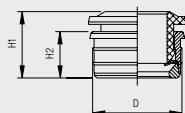
5 WAY ALUMINUM MANIFOLD



Part No.	Tube	A	H	F	S	C	D	L	L1	L2
50900N-4-1/8	5/32 (4)	1/8	2.224 (66)	.197 (5)	.177 (4,5)	.591 (15)	.984 (25)	2.953 (75)	.472 (12)	.531 (13,5)
50900N-6-1/8	6	1/8	3.150 (80)	.197 (5)	.177 (4,5)	.591 (15)	.984 (25)	3.543 (90)	.571 (14,5)	.630 (16)
50900N-6-1/4	6	1/4	3.150 (80)	.197 (5)	.177 (4,5)	.787 (20)	1.181 (30)	3.543 (90)	.571 (14,5)	.630 (16)
50900N-8-1/4	5/16 (8)	1/4	3.543 (90)	.197 (5)	.177 (4,5)	.787 (20)	1.181 (30)	3.937 (100)	.630 (16)	.709 (18)

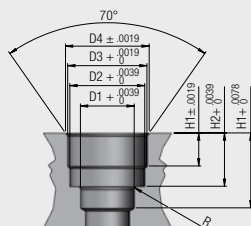
**55800N**

PUSH-FIT CARTRIDGES



Part No.	Tube	D	H1	H2
55800N-3	3	.264 (6,7)	.354 (9)	.197 (5)
55800N-4	5/32 (4)	.343 (8,7)	.410 (10,4)	.221 (5,6)
55800N-5	5	.384 (9,75)	.465 (11,8)	.248 (6,3)
55800N-6	6	.423 (10,75)	.488 (12,4)	.272 (6,9)
55800N-8	5/16 (8)	.500 (12,7)	.488 (12,4)	.272 (6,9)
55800N-10	10	.618 (15,7)	.618 (15,7)	.335 (8,5)
55800N-12	12	.721 (18,3)	.701 (17,8)	.374 (9,5)

SEAT



Seats dimensions push-fit cartridges.

Tube	D1	D2	D3	D4	H1	H2	H3	R
1/8 (3)	.134 (3,4)	.238 (6,05)	.252 (6,4)	.274 (6,96)	.146 (3,7)	.240 (6,1)	.339 (8,6)	.020 (0,5)
5/32 (4)	.165 (4,2)	.293 (7,45)	.331 (8,4)	.354 (9)	.148 (3,76)	.256 (6,5)	.374 (9,5)	.020 (0,5)
1/5 (5)	.205 (5,2)	.329 (8,36)	.370 (9,4)	.400 (10,16)	.175 (4,45)	.311 (7,9)	.413 (10,5)	.020 (0,5)
1/4 (6)	.244 (6,2)	.368 (9,35)	.411 (10,44)	.447 (11,35)	.197 (5)	.335 (8,5)	.453 (11,5)	.020 (0,5)
5/16 (8)	.323 (8,2)	.449 (11,4)	.488 (12,4)	.508 (12,9)	.205 (5,2)	.335 (8,5)	.492 (12,5)	.030 (0,76)
3/8 (10)	.402 (10,2)	.571 (14,5)	.606 (15,4)	.630 (16)	.264 (6,7)	.413 (10,5)	.591 (15)	.030 (0,76)
1/2 (12)	.480 (12,2)	.669 (17)	.709 (18)	.748 (19)	.295 (7,5)	.476 (12,1)	.669 (17)	.039 (1)

**55801**

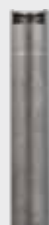
TOOL FOR PUSH-FIT CARTRIDGES SEAT



Part No.	Tube	ø Body
55801-3	3	.394 (10)
55801-4	4 (5/32)	.394 (10)
55801-6	6 (1/4)	.472 (12)
55801-8	8 (5/16)	.472 (12)
55801-10	10 (3/8)	.630 (16)
55801-12	12 (1/2)	.630 (16)

**55802**

ASSEMBLING TOOL FOR PUSH-FIT CARTRIDGES



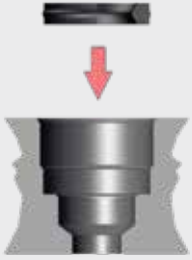
Part No.	Tube
55802-3	3
55802-4	4 (5/32)
55802-6	6 (1/4)
55802-8	8 (5/16)
55802-10	10 (3/8)
55802-12	12 (1/2)

**PUSH-FIT CARTRIDGES ASSEMBLING INSTRUCTIONS ART. 55800N**


**1** Make the seat for the cartridge utilizing the suitable tool Art. 55801.




**2** Insert the lip seal inside of the seat.



**3** Insert the cartridge into the assembling tool Art. 55802.

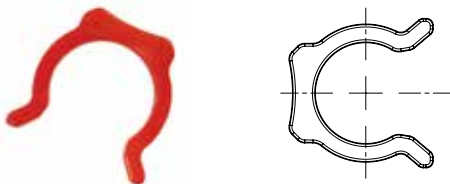


**4** Press the cartridge inside of the seat until it will be reached the abutment surface with the assembling tool.



**50980**

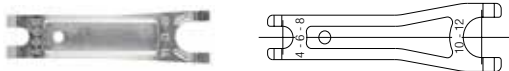
SECURITY CLIPS



Part No.	Tube
50980-53	5/32 (4)
50980-5	3/16 (5)
50980-04	1/4 (6)
50980-05	5/16 (8)
50980-06	3/8 (10)
50980-08	1/2 (12)
50980-14	(14)

**50991**

TOOL FOR DISASSEMBLING



Part No.
50991

**50006**

THREAD PACKING FOR THE SWIFFIT TAPER THREADS



Part No.	Thread
50006-02	1/8
50006-04	1/4
50006-06	3/8
50006-08	1/2

**FITTING KITS**

### 50861N-4

**FITTING KIT - 4MM TUBE**


Part No.	Description	Qty
50000N-4-1/8	Straight 4mm Tube x 1/8 Male	5
50000N-4-1/4	Straight 4mm Tube x 1/4 Male	5
50110N-4-1/8	Swivel Elbow 4mm Tube x 1/8 Male	5
50110N-4-1/4	Swivel Elbow 4mm Tube x 1/4 Male	5
50210N-4-1/8	Branch Tee 4mm Tube x 1/8 Male	5
50210N-4-1/4	Branch Tee 4mm Tube x 1/4 Male	5
50222N-4-1/8	Run Tee 4mm Tube x 1/8 Male	5
50222N-4-1/4	Run Tee 4mm Tube x 1/4 Male	5
50040N-4	Union 4mm Tube	5
50050N-4	Bulkhead Union 4mm Tube	5
50130N-4	Union Elbow 4mm Tube	5
50230N-4	Union Tee 4mm Tube	5

### 50861N-6

**FITTING KIT - 6MM TUBE**


Part No.	Description	Qty
50000N-6-1/8	Straight 6mm Tube x 1/8 Male	5
50000N-6-1/4	Straight 6mm Tube x 1/4 Male	5
50110N-6-1/8	Swivel Elbow 6mm Tube x 1/8 Male	5
50110N-6-1/4	Swivel Elbow 6mm Tube x 1/4 Male	5
50210N-6-1/8	Branch Tee 6mm Tube x 1/8 Male	5
50210N-6-1/4	Branch Tee 6mm Tube x 1/4 Male	5
50222N-6-1/8	Run Tee 6mm Tube x 1/8 Male	5
50222N-6-1/4	Run Tee 6mm Tube x 1/4 Male	5
50040N-6	Union 6mm Tube	5
50050N-6	Bulkhead Union 6mm Tube	5
50130N-6	Union Elbow 6mm Tube	5
50230N-6	Union Tee 6mm Tube	5

### 50861N-8

**FITTING KIT - 8MM TUBE**


Part No.	Description	Qty
50000N-8-1/8	Straight 8mm Tube x 1/8 Male	5
50000N-8-1/4	Straight 8mm Tube x 1/4 Male	5
50000N-8-3/8	Straight 8mm Tube x 3/8 Male	5
50110N-8-1/8	Swivel Elbow 8mm Tube x 1/8 Male	5
50110N-8-1/4	Swivel Elbow 8mm Tube x 1/4 Male	5
50110N-8-3/8	Swivel Elbow 8mm Tube x 3/8 Male	5
50210N-8-1/8	Branch Tee 8mm Tube x 1/8 Male	5
50210N-8-1/4	Branch Tee 8mm Tube x 1/4 Male	5
50040N-8	Union 8mm Tube	5
50050N-8	Bulkhead Union 8mm Tube	5
50130N-8	Union Elbow 8mm Tube	5
50230N-8	Union Tee 8mm Tube	5

## 50861N-10

FITTING KIT - 10MM TUBE



Part No.	Description	Qty
50000N-10-1/4	Straight 10mm Tube x 1/4 Male	3
50000N-10-3/8	Straight 10mm Tube x 3/8 Male	3
50110N-10-1/4	Swivel Elbow 10mm Tube x 1/4 Male	3
50110N-10-3/8	Swivel Elbow 10mm Tube x 3/8 Male	3
50210N-10-1/4	Branch Tee 10mm Tube x 1/4 Male	3
50210N-10-3/8	Branch Tee 10mm Tube x 3/8 Male	3
50222N-10-1/4	Run Tee 10mm Tube x 1/4 Male	3
50222N-10-3/8	Run Tee 10mm Tube x 3/8 Male	3
50040N-10	Union 10mm Tube	3
50050N-10	Bulkhead Union 10mm Tube	3
50130N-10	Union Elbow 10mm Tube	3
50230N-10	Union Tee 10mm Tube	3

## 50861N-12

FITTING KIT - 12MM TUBE






Part No.	Description	Qty
50000N-12-3/8	Straight 12mm Tube x 3/8 Male	3
50000N-12-1/2	Straight 12mm Tube x 1/2 Male	3
50110N-12-3/8	Swivel Elbow 12mm Tube x 3/8 Male	3
50110N-12-1/2	Swivel Elbow 12mm Tube x 1/2 Male	3
50210N-12-3/8	Branch Tee 12mm Tube x 3/8 Male	3
50210N-12-1/2	Branch Tee 12mm Tube x 1/2 Male	3
50222N-12-3/8	Run Tee 12mm Tube x 3/8 Male	3
50222N-12-1/2	Run Tee 12mm Tube x 1/2 Male	3
50040N-12	Union 12mm Tube	3
50050N-12	Bulkhead Union 12mm Tube	3
50130N-12	Union Elbow 12mm Tube	3
50230N-12	Union Tee 12mm Tube	3

## 85 Series

 <b>85110</b> Pg. 5.5	 <b>85110</b> Pg. 5.5	 <b>85170</b> Pg. 5.5	 <b>85210</b> Pg. 5.5	 <b>85210</b> Pg. 5.5	 <b>85222</b> Pg. 5.6	 <b>85222</b> Pg. 5.6	 <b>85320</b> Pg. 5.6	 <b>85320</b> Pg. 5.6
 <b>85340</b> Pg. 5.7	 <b>85360</b> Pg. 5.7	 <b>85040</b> Pg. 5.7	 <b>85130</b> Pg. 5.7	 <b>85140</b> Pg. 5.8	 <b>85150</b> Pg. 5.8	 <b>85160</b> Pg. 5.8	 <b>85180</b> Pg. 5.8	 <b>85230</b> Pg. 5.8
 <b>85240</b> Pg. 5.9	 <b>85310</b> Pg. 5.9	 <b>85330</b> Pg. 5.9	 <b>85350</b> Pg. 5.9	 <b>85500</b> Pg. 5.10	 <b>85510</b> Pg. 5.10	 <b>85520</b> Pg. 5.10	 <b>85620</b> Pg. 5.10	 <b>85700</b> Pg. 5.11
 <b>85705</b> Pg. 5.11	 <b>88610B</b> Pg. 5.11	 <b>50980</b> Pg. 5.12	 <b>55625</b> Pg. 5.12					

For STRAIGHT FITTINGS see 87-88 series

 <b>87000</b> Pg. 3.5	 <b>87010</b> Pg. 3.5	 <b>88007</b> Pg. 3.7
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# NYLON PUSH-TO-CONNECT FITTINGS FOR INCH TUBE

**85 Series**

85000





**TECHNICAL CHARACTERISTICS**



**Reference Standard**

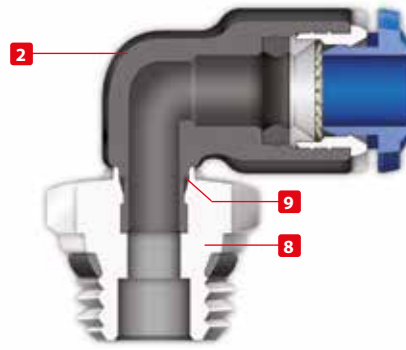
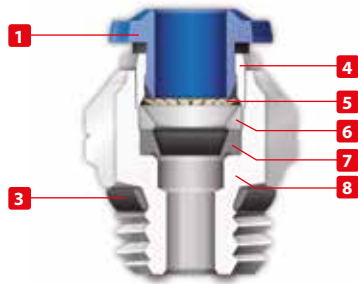
1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

ISO  
14743:2004

SILICON  
FREE



**Pressure Rating**

**Vacuum ~ 290 PSI**  
**-0.99 bar ~ 20 bar**  
**-0.099 MPa ~ 2.0 MPa**



**Temperatures Rating**

**NBR**  
**-4° F ~ 176° F**  
**-20° C ~ 80° C**



**Media**

- Compressed air
- Vacuum
- Water



**Applications**

- Pneumatic Automation
- Automotive
- Textile, Packaging
- Compressed Air Circuit
- Vacuum



**Advantages**

- 1 The 303 Stainless Steel gripper ensures a tight clamp for tubes of any material without damaging the tube's surface. The secure connection between the tube and the fitting will hold up to severe conditions such as impact and vibrations.
- 2 The shape of the safety ring and the molded seal perfectly seal off the tube, creating a vacuum.
- 3 Series with several types of threads:  
**SWIFFIT**  
**UNF**
- 4 All straight fittings can be tightened with an Allen wrench because of our internal hex design. This enables the end user to tighten the fitting in spaces too small for an openend wrench.



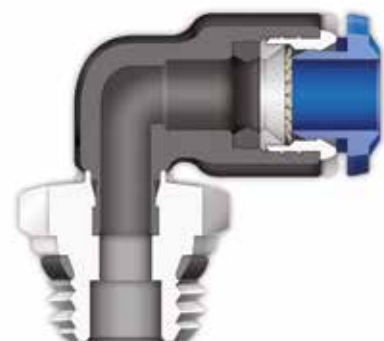
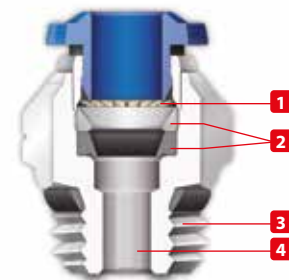
**Component Parts and Materials**

- 1 Composite Release Collet
- 2 Nylon Body
- 3 NBR Thread Seal
- 4 Nickel Plated Brass Sleeve
- 5 303 Stainless Steel Gripper
- 6 Technopolymer Safety Ring
- 7 NBR Molded Seal
- 8 Nickel Plated Thread Brass Body
- 9 NBR Seal



**Tubing Compatibility**

Nylon 6 - 11 -12  
Polyethylene  
Polyurethane ("98 Shore A for best result)  
PTFE  
FEP

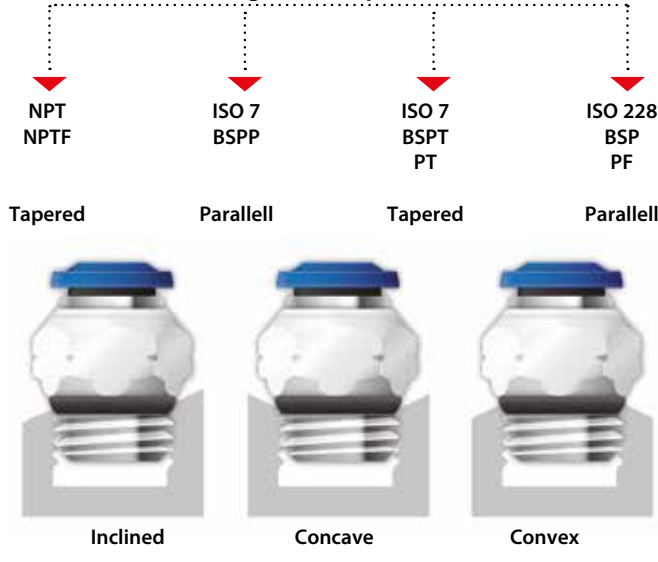




**THREADS & ADVANTAGES**



*One fitting... Endless possibilities*



Our SWIFFFIT universal fittings also work on non-flat surfaces without compromising an air-tight seal.

The SWIFFFIT Universal Thread has been designed to offer the following advantages to the end users:

- Reduced overall length
- Smaller hex dimensions compared to parallel threads
- Fits with various parallel and tapered threads
- All SWIFFFIT fittings have been equipped with threads and an NBR thread seal that will universally connect to all thread types.

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm



**UNF Threads**



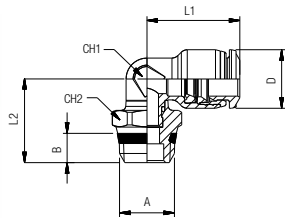
The UNF Thread has been designed to offer the following advantages to the end users:

- Standard USA design
- Designed for use in UNF connections with an integrated NBR o-ring that provides a perfect seal

**Torque Specifications**

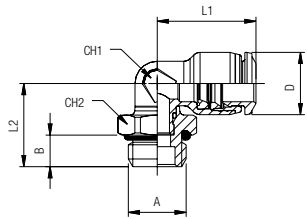
Recommended Torque		
Thread Size	Min.	Breaking Torque
10/32	0.8 Nm	3.2 Nm

**85110**  
SWIVEL ELBOW



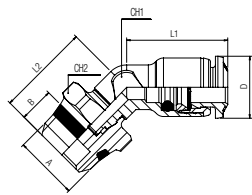
\* For part numbers with 10-32 threads

**UNF**



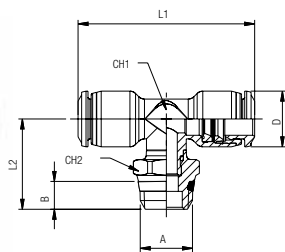
Part No.	Tube	A	B	L1	L2	CH1	CH2	D
85110-02-02	1/8	1/8	.216 (5.5)	.610 (15)	.649 (15.5)	.275 (7)	.511 (13)	.393 (10)
85110-02-04	1/8	1/4	.275 (7)	.610 (15)	.708 (18)	.275 (7)	.591 (15)	.393 (10)
*85110-53-32	5/32 (4)	10/32	.157 (4)	.649 (16.5)	.567 (14.5)	.275 (7)	.354 (9)	.393 (10)
85110-53-02	5/32 (4)	1/8	.216 (5.5)	.649 (16.5)	.649 (15.5)	.275 (7)	.511 (13)	.393 (10)
85110-53-04	5/32 (4)	1/4	.275 (7)	.649 (16.5)	.708 (18)	.275 (7)	.591 (15)	.393 (10)
*85110-04-32	1/4	10/32	.157 (4)	.807 (20.5)	.610 (15.5)	.354 (9)	.354 (9)	.492 (12.5)
85110-04-02	1/4	1/8	.216 (5.5)	.807 (20.5)	.688 (17.5)	.354 (9)	.511 (13)	.492 (12.5)
85110-04-04	1/4	1/4	.275 (7)	.807 (20.5)	.748 (19)	.354 (9)	.591 (15)	.492 (12.5)
85110-04-06	1/4	3/8	.295 (7.5)	.807 (20.5)	.787 (20)	.354 (9)	.669 (17)	.492 (12.5)
85110-04-08	1/4	1/2	.354 (9)	.807 (20.5)	.866 (22)	.354 (9)	.826 (21)	.492 (12.5)
85110-05-02	5/16 (8)	1/8	.216 (5.5)	.866 (22)	.728 (18.5)	.394 (10)	.511 (13)	.551 (14)
85110-05-04	5/16 (8)	1/4	.275 (7)	.866 (22)	.787 (20)	.394 (10)	.591 (15)	.551 (14)
85110-05-06	5/16 (8)	3/8	.295 (7.5)	.866 (22)	.807 (20.5)	.394 (10)	.669 (17)	.551 (14)
85110-05-08	5/16 (8)	1/2	.354 (9)	.866 (22)	.905 (23)	.394 (10)	.826 (21)	.551 (14)
85110-06-04	3/8	1/4	.275 (7)	1.043 (26.5)	.866 (22)	.551 (13)	.629 (16)	.669 (17)
85110-06-06	3/8	3/8	.295 (7.5)	1.043 (26.5)	.866 (22)	.551 (13)	.669 (17)	.669 (17)
85110-06-08	3/8	1/2	.354 (9)	1.043 (26.5)	.964 (24.5)	.551 (13)	.826 (21)	.669 (17)
85110-08-04	1/2	1/4	.275 (7)	1.200 (30.5)	.905 (23)	.629 (16)	.629 (16)	.787 (20)
85110-08-06	1/2	3/8	.295 (7.5)	1.200 (30.5)	.905 (23)	.629 (16)	.669 (17)	.787 (20)
85110-08-08	1/2	1/2	.354 (9)	1.200 (30.5)	1.003 (25.5)	.629 (16)	.826 (21)	.787 (20)

**85170**  
45° SWIVEL ELBOW



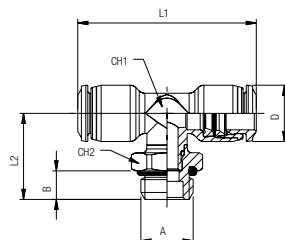
Part No.	Tube	A	B	L1	L2	CH1	CH2	D
85170-53-02	5/32 (4)	1/8	.217 (5.5)	.492 (12.5)	.650 (16.5)	.276 (7)	.512 (13)	.394 (10)
85170-04-02	1/4	1/8	.217 (5.5)	.807 (20.5)	.689 (17.5)	.354 (9)	.512 (13)	.472 (12)
85170-04-04	1/4	1/4	.276 (7)	.807 (20.5)	.744 (18.9)	.354 (9)	.591 (15)	.472 (12)
85170-05-02	5/16 (8)	1/8	.217 (5.5)	.866 (22)	.728 (18.5)	.394 (10)	.512 (13)	.551 (14)
85170-05-04	5/16 (8)	1/4	.276 (7)	.866 (22)	.787 (20)	.394 (10)	.591 (15)	.551 (14)
85170-05-06	5/16 (8)	3/8	.295 (7.5)	.866 (22)	.807 (20.5)	.394 (10)	.669 (17)	.551 (14)
85170-06-04	3/8	1/4	.276 (7)	1.043 (26.5)	.858 (21.8)	.512 (13)	.630 (16)	.669 (17)
85170-06-06	3/8	3/8	.295 (7.5)	1.043 (26.5)	.858 (21.8)	.512 (13)	.669 (17)	.669 (17)
85170-06-08	3/8	1/2	.354 (9)	1.043 (26.5)	.964 (24.5)	.512 (13)	.827 (21)	.669 (17)
85170-08-04	1/2	1/4	.276 (7)	1.181 (30)	.909 (23.1)	.630 (16)	.630 (16)	.787 (20)
85170-08-06	1/2	3/8	.295 (7.5)	1.181 (30)	.909 (23.1)	.630 (16)	.669 (17)	.787 (20)
85170-08-08	1/2	1/2	.354 (9)	1.181 (30)	1.003 (25.5)	.630 (16)	.827 (21)	.787 (20)

**85210**  
SWIVEL BRANCH TEE



\* For part numbers with 10-32 threads

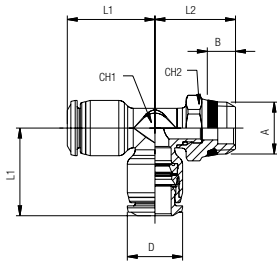
**UNF**



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
85210-02-02	1/8	1/8	.216 (5.5)	1.200 (30.5)	.728 (18.5)	.275 (7)	.511 (13)	.393 (10)
85210-02-04	1/8	1/4	.275 (7)	1.200 (30.5)	.787 (20)	.275 (7)	.590 (15)	.393 (10)
*85210-53-32	5/32 (4)	10/32	.157 (4)	1.200 (30.5)	.629 (16)	.275 (7)	.354 (9)	.393 (10)
85210-53-02	5/32 (4)	1/8	.216 (5.5)	1.299 (33)	.728 (18.5)	.275 (7)	.511 (13)	.393 (10)
85210-53-04	5/32 (4)	1/4	.275 (7)	1.299 (33)	.787 (20)	.275 (7)	.590 (15)	.393 (10)
*85210-04-32	1/4	10/32	.157 (4)	1.594 (40.5)	.610 (15.5)	.354 (9)	.354 (9)	.492 (12.5)
85210-04-02	1/4	1/8	.216 (5.5)	1.594 (40.5)	.787 (20)	.354 (9)	.511 (13)	.492 (12.5)
85210-04-04	1/4	1/4	.275 (7)	1.594 (40.5)	.846 (21.5)	.354 (9)	.590 (15)	.492 (12.5)
85210-05-02	5/16 (8)	1/8	.216 (5.5)	1.732 (44)	.826 (21)	.394 (10)	.511 (13)	.551 (14)
85210-05-04	5/16 (8)	1/4	.275 (7)	1.732 (44)	.885 (22.5)	.394 (10)	.590 (15)	.551 (14)
85210-05-06	5/16 (8)	3/8	.295 (7.5)	1.732 (44)	.905 (23)	.394 (10)	.669 (17)	.551 (14)
85210-06-04	3/8	1/4	.275 (7)	2.086 (53)	1.023 (26)	.551 (13)	.629 (16)	.669 (17)
85210-06-06	3/8	3/8	.295 (7.5)	2.086 (53)	1.023 (26)	.551 (13)	.669 (17)	.669 (17)
85210-06-08	3/8	1/2	.354 (9)	2.086 (53)	1.023 (26)	.551 (13)	.826 (21)	.669 (17)
85210-08-04	1/2	1/4	.275 (7)	2.362 (60)	1.062 (27)	.629 (16)	.629 (16)	.787 (20)
85210-08-06	1/2	3/8	.295 (7.5)	2.362 (60)	1.062 (27)	.629 (16)	.669 (17)	.787 (20)
85210-08-08	1/2	1/2	.354 (9)	2.362 (60)	1.161 (29.5)	.629 (16)	.826 (21)	.787 (20)

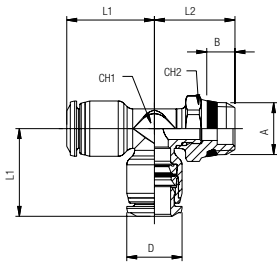
**85222**

SWIVEL RUN TEE



\* For part numbers with 10-32 threads

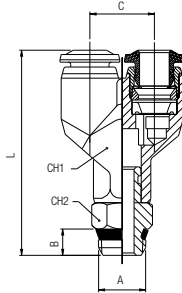
**UNF**



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
85222-02-02	1/8	1/8	.216 (5,5)	.610 (15)	.708 (18)	.275 (7)	.511 (13)	.393 (10)
85222-02-04	1/8	1/4	.275 (7)	.610 (15)	.767 (19,5)	.275 (7)	.590 (15)	.393 (10)
*85222-53-32	5/32 (4)	10/32	.157 (4)	.649 (16,5)	.629 (16)	.275 (7)	.354 (9)	.393 (10)
85222-53-02	5/32 (4)	1/8	.216 (5,5)	.649 (16,5)	.708 (18)	.275 (7)	.511 (13)	.393 (10)
85222-53-04	5/32 (4)	1/4	.275 (7)	.649 (16,5)	.767 (19,5)	.275 (7)	.590 (15)	.393 (10)
*85222-04-32	1/4	10/32	.157 (4)	.807 (20,5)	.570 (14,5)	.354 (9)	.354 (9)	.492 (12,5)
85222-04-02	1/4	1/8	.216 (5,5)	.807 (20,5)	.688 (17,5)	.354 (9)	.511 (13)	.492 (12,5)
85222-04-04	1/4	1/4	.275 (7)	.807 (20,5)	.748 (19)	.354 (9)	.590 (15)	.492 (12,5)
85222-05-02	5/16 (8)	1/8	.216 (5,5)	.866 (22)	.748 (19)	.394 (10)	.511 (13)	.551 (14)
85222-05-04	5/16 (8)	1/4	.275 (7)	.866 (22)	.807 (20,5)	.394 (10)	.590 (15)	.551 (14)
85222-05-06	5/16 (8)	3/8	.295 (7,5)	.866 (22)	.826 (21)	.394 (10)	.669 (17)	.551 (14)
85222-06-04	3/8	1/4	.275 (7)	1.043 (26,5)	.866 (22)	.551 (13)	.629 (16)	.669 (17)
85222-06-06	3/8	3/8	.295 (7,5)	1.043 (26,5)	.866 (22)	.551 (13)	.669 (17)	.669 (17)
85222-06-08	3/8	1/2	.354 (9)	1.043 (26,5)	.964 (24,5)	.551 (13)	.826 (21)	.669 (17)
85222-08-04	1/2	1/4	.275 (7)	1.200 (30,5)	.905 (23)	.629 (16)	.629 (16)	.787 (20)
85222-08-06	1/2	3/8	.295 (7,5)	1.200 (30,5)	.905 (23)	.629 (16)	.669 (17)	.787 (20)
85222-08-08	1/2	1/2	.354 (9)	1.200 (30,5)	1.003 (25,5)	.629 (16)	.826 (21)	.787 (20)

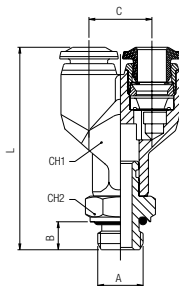
**85320**

UNION Y



\* For part numbers with 10-32 threads

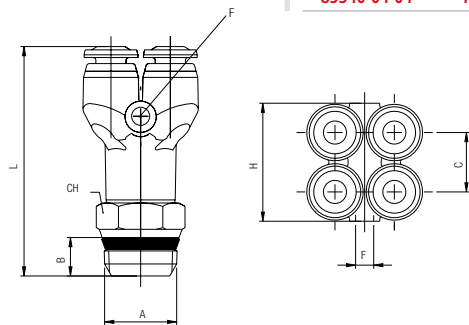
**UNF**



Part No.	Tube	A	B	C	L	CH1	CH2
*85320-53-32	5/32 (4)	10/32	.157 (4)	.433 (11)	1.437 (36,5)	.393 (10)	.393 (10)
85320-53-02	5/32 (4)	1/8	.216 (5,5)	.433 (11)	1.496 (38)	.393 (10)	.433 (11)
85320-53-04	5/32 (4)	1/4	.275 (7)	.433 (11)	1.594 (40,5)	.393 (10)	.551 (14)
*85320-04-32	1/4	10/32	.157 (4)	.531 (13,5)	1.633 (41,5)	.472 (12)	.393 (10)
85320-04-02	1/4	1/8	.216 (5,5)	.511 (13)	1.692 (43)	.472 (12)	.433 (11)
85320-04-04	1/4	1/4	.275 (7)	.531 (13,5)	1.791 (45,5)	.472 (12)	.551 (14)
85320-05-02	5/16 (8)	1/8	.216 (5,5)	.610 (15,5)	1.850 (47)	.551 (14)	.433 (11)
85320-05-04	5/16 (8)	1/4	.275 (7)	.610 (15,5)	1.929 (49)	.551 (14)	.551 (14)
85320-05-06	5/16 (8)	3/8	.295 (7,5)	.610 (15,5)	1.948 (49,5)	.551 (14)	.669 (17)
85320-06-04	3/8	1/4	.275 (7)	.748 (19)	2.224 (56,5)	.669 (17)	.551 (14)
85320-06-06	3/8	3/8	.295 (7,5)	.748 (19)	2.263 (57,5)	.669 (17)	.669 (17)
85320-06-08	3/8	1/2	.354 (9)	.748 (19)	2.362 (60)	.669 (17)	.826 (21)
85320-08-06	1/2	3/8	.295 (7,5)	.866 (22)	2.618 (66,5)	.787 (20)	.669 (17)
85320-08-08	1/2	1/2	.354 (9)	.866 (22)	2.677 (68)	.787 (20)	.826 (21)

**85340**

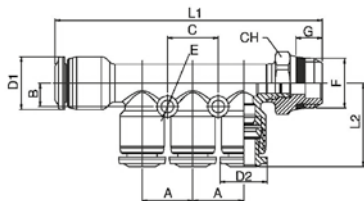
4 POSITION Y



Part No.	Tube	A	B	C	L	H	CH	F
85340-53-02	5/32 (4)	1/8	.217 (5,5)	.425 (10,8)	1.555 (39,5)	.846 (21,5)	.433 (11)	.130 (3,3)
85340-53-04	5/32 (4)	1/4	.276 (7)	.425 (10,8)	1.654 (42)	.846 (21,5)	.551 (14)	.130 (3,3)
85340-04-02	1/4	1/8	.217 (5,5)	.531 (13,5)	1.831 (46,5)	1.064 (27)	.433 (11)	.130 (3,3)
85340-04-04	1/4	1/4	.276 (7)	.531 (13,5)	1.889 (48)	1.064 (27)	.551 (14)	.130 (3,3)

**85360**

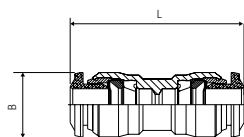
REDUCTION MANIFOLD



Part No.	Tube	F	A	B	L1	L2	C	E	G	H	D1	D2
85360-04-53	1/4-5/32	1/8	.531 (13,5)	.236 (6)	2.757 (70)	.866 (22)	.531 (13,5)	.551 (14)	.471 (12)	.130 (3,3)	.217 (5,5)	.511 (13)
85360-04-53	1/4-5/32	1/4	.531 (13,5)	.236 (6)	2.817 (71,5)	.866 (22)	.531 (13,5)	.551 (14)	.471 (12)	.130 (3,3)	.276 (7)	.591 (15)
85360-05-53	5/16-5/32	1/8	.531 (13,5)	.236 (6)	2.757 (70)	.866 (22)	.531 (13,5)	.551 (14)	.471 (12)	.130 (3,3)	.217 (5,5)	.511 (13)
85360-05-53	5/16-5/32	1/4	.531 (13,5)	.236 (6)	2.817 (71,5)	.866 (22)	.531 (13,5)	.551 (14)	.471 (12)	.130 (3,3)	.276 (7)	.591 (15)
85360-05-04	5/16-1/4	1/8	.531 (13,5)	.236 (6)	2.757 (70)	.866 (22)	.531 (13,5)	.551 (14)	.491 (12,5)	.130 (3,3)	.217 (5,5)	.511 (13)
85360-05-04	5/16-1/4	1/4	.531 (13,5)	.236 (6)	2.817 (71,5)	.866 (22)	.531 (13,5)	.551 (14)	.491 (12,5)	.130 (3,3)	.276 (7)	.591 (15)
85360-04-04	3/8-1/4	1/4	.590 (15)	.276 (7)	3.208 (81,5)	.946 (24)	.590 (15)	.669 (17)	.551 (14)	.130 (3,3)	.276 (7)	.629 (16)
85360-04-04	3/8-1/4	3/8	.590 (15)	.276 (7)	3.208 (81,5)	.946 (24)	.590 (15)	.669 (17)	.551 (14)	.130 (3,3)	.296 (7,5)	.669 (17)
85360-06-05	3/8-5/16	1/4	.590 (15)	.276 (7)	3.208 (81,5)	.906 (23)	.590 (15)	.669 (17)	.551 (14)	.130 (3,3)	.276 (7)	.629 (16)
85360-06-05	3/8-5/16	3/8	.590 (15)	.276 (7)	3.208 (81,5)	.906 (23)	.590 (15)	.669 (17)	.551 (14)	.130 (3,3)	.296 (7,5)	.669 (17)

**85040**

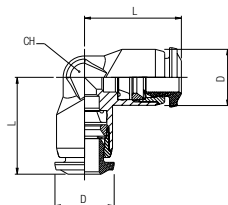
UNION



Part No.	Tube	Tube	B	L
85040-02-02	1/8	1/8	.394 (10)	1.102 (28)
85040-53-53	5/32 (4)	5/32 (4)	.394 (10)	1.220 (31)
85040-04-53	1/4	5/32 (4)	.492 (12,5)	1.358 (34,5)
85040-04-04	1/4	1/4	.492 (12,5)	1.377 (35)
85040-05-53	5/16 (8)	5/32 (4)	1.456 (37)	.551 (14)
85040-05-04	5/16 (8)	1/4	.551 (14)	1.496 (38)
85040-05-05	5/16 (8)	5/16 (8)	.551 (14)	1.456 (37)
85040-06-04	3/8	1/4	.669 (17)	1.751 (44,5)
85040-06-05	3/8	5/16 (8)	.669 (17)	1.751 (44,5)
85040-06-06	3/8	3/8	.669 (17)	1.771 (45)
85040-08-05	1/2	5/16 (8)	1.968 (50)	.787 (20)
85040-08-06	1/2	3/8	.787 (20)	1.968 (50)
85040-08-08	1/2	1/2	.787 (20)	1.929 (49)

**85130**

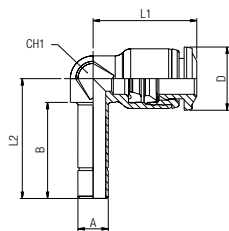
UNION ELBOW



Part No.	Tube	Tube	L	CH	D
85130-02-02	1/8	1/8	.610 (15,5)	.354 (9)	.393 (10)
85130-53-53	5/32 (4)	5/32 (4)	.649 (16,5)	.354 (9)	.393 (10)
85130-04-04	1/4	1/4	.807 (20,5)	.433 (11)	.492 (12,5)
85130-05-04	5/16 (8)	1/4	.886 (22,5)	.551 (14)	.511 (13)
85130-05-05	5/16 (8)	5/16 (8)	.866 (22)	.511 (13)	.551 (14)
85130-06-04	3/8	1/4	1.023 (26)	.669 (17)	.629 (16)
85130-04-05	3/8	5/16 (8)	1.023 (26)	.669 (17)	.629 (16)
85130-06-06	3/8	3/8	1.043 (26,5)	.629 (16)	.669 (17)
85130-04-06	1/2	3/8	1.200 (30,5)	.787 (20)	.748 (19)
85130-08-08	1/2	1/2	1.200 (30,5)	.748 (19)	.787 (20)

**85140**

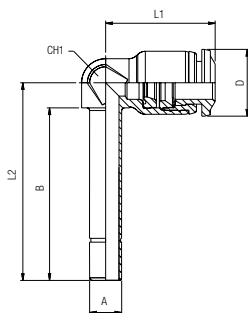
ELBOW PLUG IN



Part No.	Tube	A	B	L1	L2	CH1	D
85140-53-53	5/32 (4)	5/32 (4)	.669 (17)	.650 (16,5)	.819 (20,8)	.276 (7)	.394 (10)
85140-53-04	5/32 (4)	1/4	.748 (19)	.650 (16,5)	.913 (23)	.276 (7)	.394 (10)
85140-04-53	1/4	5/32 (4)	.669 (17)	.807 (20,5)	.846 (21,5)	.354 (9)	.492 (12,5)
85140-04-04	1/4	1/4	.748 (19)	.807 (20,5)	.933 (23,5)	.354 (9)	.492 (12,5)
85140-04-05	1/4	5/16 (8)	.787 (20)	.886 (22,5)	1.024 (26)	.394 (10)	.551 (14)
85140-05-05	5/16 (8)	5/16 (8)	.787 (20)	.866 (22)	1.024 (26)	.394 (10)	.551 (14)
85140-05-06	5/16 (8)	3/8	.866 (22)	.866 (22)	1.083 (27,5)	.394 (10)	.551 (14)
85140-06-06	3/8	3/8	.886 (22,5)	1.043 (26,5)	1.181 (30)	.512 (13)	.669 (17)
85140-06-08	3/8	1/2	.964 (24,5)	1.043 (26,5)	1.260 (32)	.512 (13)	.669 (17)
85140-08-08	1/2	1/2	1.004 (25,5)	1.181 (30)	1.319 (33,5)	.630 (16)	.787 (20)

**85150**

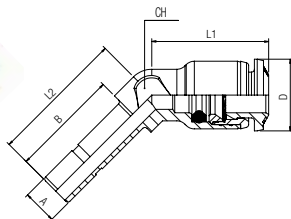
ELBOW PLUG IN



Part No.	Tube	A	B	L1	L2	CH1	D
85150-53-53	5/32 (4)	5/32 (4)	1.102 (28)	.650 (16,5)	1.252 (31,8)	.276 (7)	.394 (10)
85150-53-04	5/32 (4)	1/4	1.200 (30,5)	.650 (16,5)	1.359 (34,5)	.276 (7)	.394 (10)
85150-04-53	1/4	5/32 (4)	1.181 (30)	.807 (20,5)	1.359 (34,5)	.354 (9)	.492 (12,5)
85150-04-04	1/4	1/4	1.272 (32,3)	.807 (20,5)	1.457 (37)	.354 (9)	.492 (12,5)
85150-05-05	5/16 (8)	5/16 (8)	1.417 (36)	.866 (22)	1.654 (42)	.394 (10)	.551 (14)
85150-05-06	5/16 (8)	3/8	1.477 (37,5)	.866 (22)	1.694 (43)	.394 (10)	.551 (14)
85150-06-06	3/8	3/8	1.606 (40,8)	1.043 (26,5)	1.902 (48,3)	.512 (13)	.669 (17)
85150-06-08	3/8	1/2	1.692 (43)	1.043 (26,5)	1.988 (50,5)	.512 (13)	.669 (17)
85150-08-08	1/2	1/2	1.850 (47)	1.220 (31)	2.165 (55)	.630 (16)	.787 (20)

**85160**

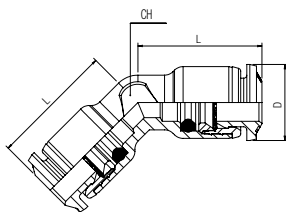
45° ELBOW PLUG IN



Part No.	Tube	A	B	L1	L2	CH	D
85160-53	5/32 (4)	5/32 (4)	.669 (17)	.492 (12,5)	.827 (21)	.276 (7)	.394 (10)
85160-04	1/4	1/4	.748 (19)	.807 (20,5)	.925 (23,5)	.354 (9)	.472 (12)
85160-05	5/16 (8)	5/16 (8)	.787 (20)	.866 (22)	.984 (25)	.394 (10)	.551 (14)
85160-06	3/8	3/8	.886 (22,5)	1.043 (26,5)	1.181 (30)	.512 (13)	.669 (17)
85160-08	1/2	1/2	1.004 (25,5)	1.181 (30)	1.319 (33,5)	.630 (16)	.787 (20)

**85180**

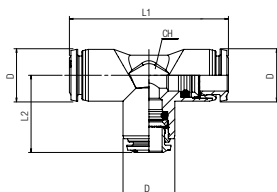
45° UNION



Part No.	Tube	L	CH	D
85180-53	5/32 (4)	.650 (16,5)	.276 (7)	.394 (10)
85180-04	1/4	.807 (20,5)	.354 (9)	.472 (12)
85180-05	5/16 (8)	.866 (22)	.394 (10)	.551 (14)
85180-06	3/8	1.043 (26,5)	.512 (13)	.669 (17)
85180-08	1/2	1.181 (30)	.630 (16)	.787 (20)

**85230**

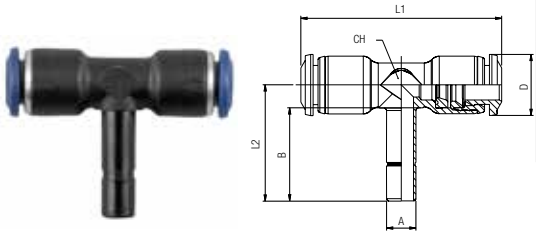
UNION TEE



Part No.	Tube	L1	L2	CH	D
85230-02	1/8	1.220 (31)	.610 (15,5)	.354 (9)	.394 (10)
85230-53	5/32 (4)	1.300 (33)	.650 (16,5)	.354 (9)	.394 (10)
85230-53-04-53	5/32 (4)-1/4-5/32 (4)	1.574 (40)	.807 (20,5)	.433 (11)	.492 (12,5)
85230-04-53-04	1/4-5/32 (4)-1/4	1.614 (41)	.787 (20)	.433 (11)	.492 (12,5)
85230-04	1/4	1.614 (41)	.807 (20,5)	.433 (11)	.492 (12,5)
85230-05-04-05	5/16 (8)-1/4-5/16 (8)	1.763 (45)	.886 (22,5)	.512 (13)	.551 (14)
85230-05	5/16 (8)	1.723 (44)	.866 (22)	.512 (13)	.551 (14)
85230-05-06-05	5/16 (8)-3/8-5/16 (8)	2.047 (52)	1.043 (26,5)	.630 (16)	.669 (17)
85230-06-05-06	3/8-5/16 (8)-3/8	2.087 (53)	1.024 (26)	.630 (16)	.669 (17)
85230-06	3/8	2.087 (53)	1.044 (26,5)	.630 (16)	.669 (17)
85230-06-08-06	3/8-1/2-3/8	2.343 (59,5)	1.200 (30,5)	.748 (19)	.787 (20)
85230-08-06-08	1/2-3/8-1/2	2.422 (61,5)	1.181 (30)	.748 (19)	.787 (20)
85230-08	1/2	2.422 (61,5)	1.181 (30)	.748 (19)	.787 (20)

**85240**

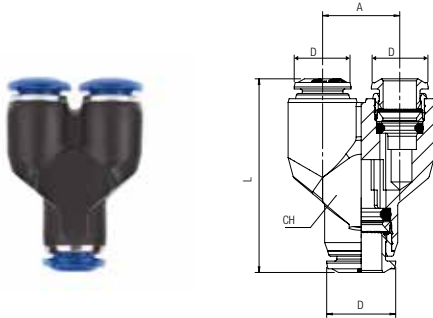
TEE PLUG IN



Part No.	Tube	A	B	L1	L2	CH	D
85240-53-53	5/32 (4)	5/32 (4)	.669 (17)	1.299 (33)	.815 (20,7)	.276 (7)	.394 (10)
85240-53-04	5/32 (4)	1/4	.748 (19)	1.299 (33)	.886 (22,5)	.276 (7)	.394 (10)
85240-04-53	1/4	5/32 (4)	.669 (17)	1.614 (41)	.846 (21,5)	.354 (9)	.492 (12,5)
85240-04-04	1/4	1/4	.748 (19)	1.614 (41)	.933 (23,7)	.354 (9)	.492 (12,5)
85240-05-05	5/16 (8)	5/16 (8)	.787 (20)	1.732 (44)	1.024 (26)	.394 (10)	.551 (14)
85240-05-06	5/16 (8)	3/8	.886 (22,5)	1.732 (44)	1.102 (28)	.394 (10)	.551 (14)
85240-06	3/8	3/8	.886 (22,5)	2.087 (53)	1.181 (30)	.512 (13)	.669 (17)
85240-53-08	3/8	1/2	.983 (25)	2.087 (53)	1.259 (32)	.512 (13)	.669 (17)
85240-08-08	1/2	1/2	1.003 (25,5)	2.422 (61,5)	1.319 (33,5)	.629 (16)	.787 (20)

**85310**

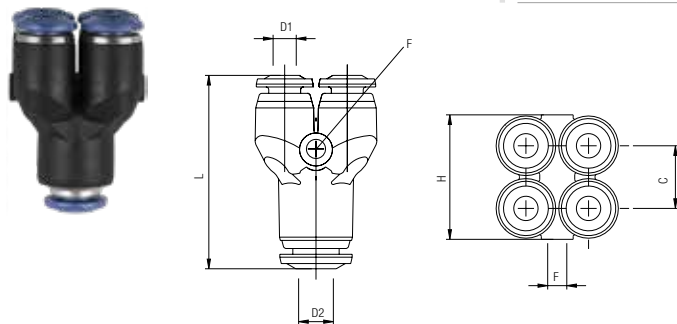
UNION Y



Part No.	Tube	Tube	L1	A	CH	D
85310-53-53	5/32 (4)	5/32 (4)	1.240 (31,5)	.433 (11)	.393 (10)	.393 (10)
85310-04-53	1/4	5/32 (4)	.532 (13,5)	1.437 (36,5)	.472 (12)	.492(12,5)
85310-04-04	1/4	1/4	1.456 (37)	.531 (13,5)	.472 (12)	.492(12,5)
85310-05-04	5/16 (8)	1/4	.610 (15,5)	1.614 (41)	.551 (14)	.551 (14)
85310-05-05	5/16 (8)	5/16 (8)	1.574 (40)	.610 (15,5)	.551 (14)	.551 (14)
85310-06-06	3/8	3/8	1.909 (48,5)	.748 (19)	.669 (17)	.708 (18)
85310-08-05	1/2	5/16 (8)	.866 (22)	2.263 (57,5)	.787 (20)	.787 (20)
85310-08-08	1/2	1/2	2.322 (59)	.866 (22)	.787 (20)	.787 (20)

**85330**

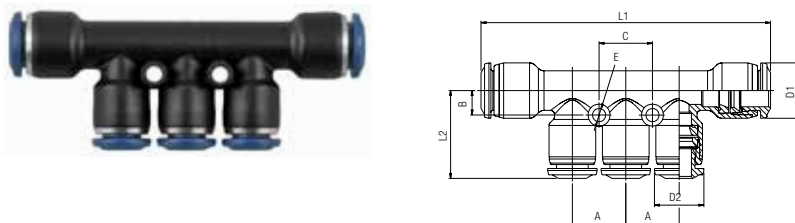
4 POSITION Y



Part No.	D1	D2	C	L	F	H
85330-53-53	5/32 (4)	5/32 (4)	.425 (10,8)	1.319 (33,5)	.130 (3,3)	.846 (21,5)
85330-53-04	5/32 (4)	1/4	.433 (11)	1.359 (34,5)	.130 (3,3)	.846 (21,5)
85330-04-04	1/4	1/4	.531 (13,5)	1.555 (39,5)	.130 (3,3)	1.064 (27)
85330-04-05	1/4	5/16 (8)	.531 (13,5)	1.575 (40)	.130 (3,3)	1.064 (27)

**85350**

REDUCTION MANIFOLD

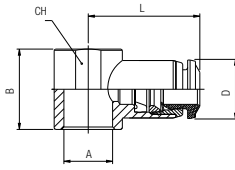


Part No.	Tube	A	B	L1	L2	C	D1	D2	E
85350-05-53	1/4-5/32(4)	.531 (13,5)	.236 (6)	2.913 (74)	.866 (22)	.531 (13,5)	.551 (14)	.472 (12)	.130 (3,3)
85350-05-53	5/16(8)-5/32(4)	.531 (13,5)	.236 (6)	2.873 (73)	.866 (22)	.531 (13,5)	.551 (14)	.472 (12)	.130 (3,3)
85350-05-53	5/16(8)-1/4	.531 (13,5)	.236 (6)	2.873 (73)	.886 (22,5)	.531 (13,5)	.551 (14)	.492(12,5)	.130 (3,3)
85350-05-53	3/8-1/4	.591 (15)	.276 (7)	3.267 (83)	.946 (24)	.590 (15)	.669 (17)	.551 (14)	.130 (3,3)
85350-05-53	3/8-5/16(8)	.591 (15)	.276 (7)	3.267 (83)	.906 (23)	.590 (15)	.669 (17)	.551 (14)	.130 (3,3)



**85500**

SINGLE BANJO BODY

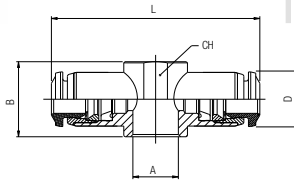


Part No.	Tube	A	B	L	CH	D
85500-02-M6	1/8	M6	.551 (14)	.807 (20,5)	.354 (9)	.394 (10)
85500-02-02	1/8	1/8	.649 (16,5)	.807 (20,5)	.551 (14)	.394 (10)
85500-53-M5	5/32 (4)	M5	.551 (14)	.767 (19,5)	.354 (9)	.394 (10)
85500-53-M6	5/32 (4)	M6	.551 (14)	.767 (19,5)	.354 (9)	.394 (10)
85500-53-02	5/32 (4)	1/8	.649 (16,5)	.846 (21,5)	.551 (14)	.394 (10)
85500-53-04	5/32 (4)	1/4	.728 (18,5)	.925 (23,5)	.708 (18)	.394 (10)
85500-04-M5	1/4	M5	.551 (14)	.826 (21)	.354 (9)	.472 (12)
85500-04-M6	1/4	M6	.551 (14)	.826 (21)	.354 (9)	.472 (12)
85500-04-02	1/4	1/8	.649 (16,5)	.905 (23)	.551 (14)	.472 (12)
85500-04-04	1/4	1/4	.728 (18,5)	1.003 (25,5)	.708 (18)	.472 (12)
85500-05-02	5/16 (8)	1/8	.649 (16,5)	.925 (23,5)	.551 (14)	.551 (14)
85500-05-04	5/16 (8)	1/4	.728 (18,5)	1.023 (26)	.708 (18)	.551 (14)
85500-05-3/8	5/16 (8)	3/8	.866 (22)	1.082 (27,5)	.826 (21)	.551 (14)
85500-06-04	3/8	1/4	.728 (18,5)	1.221 (31)	.708 (18)	.669 (17)
85500-06-06	3/8	3/8	.866 (22)	1.200 (30,5)	.826 (21)	.669 (17)
85500-08-06	1/2	3/8	.866 (22)	1.279 (32,5)	.826 (21)	.787 (20)
85500-08-08	1/2	1/2	1.023 (26)	1.377 (35)	1.023 (26)	.787 (20)

For BANJO STEM assemblies see 10.7/10.8/10.9

**85510**

DOUBLE BANJO BODY

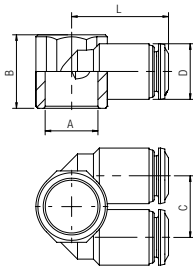


Part No.	Tube	A	B	L	CH	D
85510-53-M5	5/32 (4)	M5	.551 (14)	1.535 (39)	.354 (9)	.394 (10)
85510-53-02	5/32 (4)	1/8	.649 (16,5)	1.692 (43)	.551 (14)	.394 (10)
85510-04-02	1/4	1/8	.649 (16,5)	1.811 (46)	.551 (14)	.472 (12)
85510-04-04	1/4	1/4	.728 (18,5)	2.007 (51)	.708 (18)	.472 (12)
85510-05-02	5/16 (8)	1/8	.649 (16,5)	1.850 (47)	.551 (14)	.551 (14)
85510-05-04	5/16 (8)	1/4	.728 (18,5)	2.047 (52)	.708 (18)	.551 (14)

For BANJO STEM assemblies see 10.7/10.8/10.9

**85520**

DOUBLE BANJO BODY

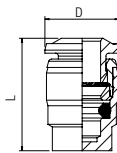


Part No.	Tube	A	B	C	L	D
85520-4-1/8	5/32 (4)	1/8	.650 (16,5)	.512 (13)	.827 (21)	.472 (12)
85520-4-1/4	5/32 (4)	1/4	.728 (18,5)	.610 (15,5)	.945 (24)	.551 (14)
85520-1/4-1/8	1/4	1/8	.650 (16,5)	.512 (13)	.846 (21,5)	.492 (12,5)
85520-1/4-1/4	1/4	1/4	.728 (18,5)	.610 (15,5)	.965 (24,5)	.551 (14)
85520-1/4-3/8	1/4	3/8	.866 (22)	.531 (13,5)	.984 (25)	.492 (12,5)
85520-8-1/4	5/16 (8)	1/4	.728 (18,5)	.610 (15,5)	.965 (24,5)	.551 (14)
85520-8-3/8	5/16 (8)	3/8	.866 (22)	.748 (19)	1.102 (28)	.669 (17)
85520-3/8-3/8	3/8	3/8	.866 (22)	.748 (19)	1.102 (28)	.669 (17)

For BANJO STEM assemblies see 10.7/10.8/10.9

**85620**

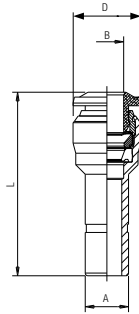
TERMINAL PLUG



Part No.	Tube	D	L
85620-4	5/32 (4)	.393 (10)	.708 (18)
85620-1/4	1/4	.492 (12,5)	.787 (20)
85620-8	5/16 (8)	.551 (14)	.846 (21,5)
85620-3/8	3/8	.669 (17)	.984 (25)
85620-08	1/2	.787 (20)	1.082 (27,5)

**85700**

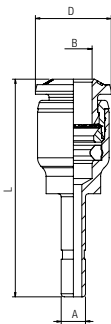
TUBE REDUCER



Part No.	A	B	L	D
85700-04-53	1/4	5/32 (4)	1.339 (34)	.394 (10)
85700-05-53	5/16 (8)	5/32 (4)	1.496 (38)	.472 (12)
85700-05-04	5/16 (8)	1/4	1.535 (39)	.492 (12,5)
85700-06-04	3/8	1/4	1.673 (42,5)	.492 (12,5)
85700-06-05	3/8	5/16 (8)	1.654 (42)	.551 (14)
85700-08-04	1/2	1/4	1.516 (38,5)	.492 (12,5)
85700-08-05	1/2	5/16 (8)	1.634 (41,5)	.551 (14)
85700-08-06	1/2	3/8	1.909 (48,5)	.669 (17)

**85705**

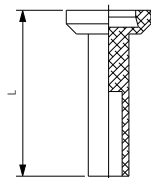
TUBE EXPANDER



Part No.	A	B	L	D
85705-53-04	5/32 (4)	1/4	1.417 (36)	.472 (12)
85705-04-05	1/4	5/16 (8)	1.516 (38,5)	.551 (14)
85705-04-06	1/4	3/8	1.654 (42)	.669 (17)
85705-05-06	5/16 (8)	3/8	1.693 (43)	.669 (17)
85705-06-08	3/8	1/2	1.89 (48)	.787 (20)

**88610B**

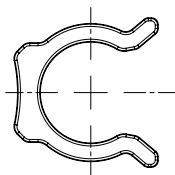
NYLON PLUG



Part No.	Tube	L
88610B-02	1/8	.708 (18)
88610B-53	5/32 (4)	.925 (23,5)
88610B-04	1/4	.964 (24,5)
88610B-05	5/16 (8)	1.023 (26)
88610B-06	3/8	1.122 (28,5)
88610B-08	1/2	1.122 (28,5)

**50980**

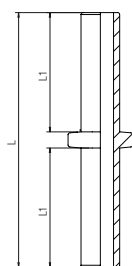
SECURITY CLIP



Part No.	Tube
50980-4-5/32	5/32 (4)
50980-6-1/4	1/4 (6)
50980-8-5/16	5/16 (8)
50980-10-3/8	3/8 (10)
50980-12-1/2	1/2 (12)

**55625**

DOUBLE JOINT



Part No.	Tube	L	L1
55625-4	5/32 (4)	1.358 (34,5)	.630 (16)
55625-6	1/4 (6)	1.555 (39,5)	.728 (18,5)
55625-8	5/16 (8)	1.654 (42)	.768 (19,5)
55625-10	3/8 (10)	2.028 (51,5)	.945 (24)
55625-12	1/2 (12)	2.362 (60)	1.102 (28)

## 55 Series

 <b>55110</b> Pg. 6.5	 <b>55170</b> Pg. 6.5	 <b>55210</b> Pg. 6.5	 <b>55222</b> Pg. 6.6	 <b>55320</b> Pg. 6.6	 <b>55340</b> Pg. 6.6	 <b>55360</b> Pg. 6.6	 <b>55115</b> Pg. 6.7	 <b>55106</b> Pg. 6.7
 <b>55125</b> Pg. 6.7	 <b>55175</b> Pg. 6.8	 <b>55215</b> Pg. 6.8	 <b>55225</b> Pg. 6.8	 <b>55325</b> Pg. 6.9	 <b>55345</b> Pg. 6.9	 <b>55365</b> Pg. 6.9	 <b>55040</b> Pg. 6.9	 <b>55050</b> Pg. 6.10
 <b>55060</b> Pg. 6.10	 <b>55130</b> Pg. 6.10	 <b>55140</b> Pg. 6.10	 <b>55150</b> Pg. 6.10	 <b>55160</b> Pg. 6.11	 <b>55180</b> Pg. 6.11	 <b>55230</b> Pg. 6.11	 <b>55235</b> Pg. 6.11	 <b>55237</b> Pg. 6.12
 <b>55240</b> Pg. 6.12	 <b>55310</b> Pg. 6.12	 <b>55315</b> Pg. 6.12	 <b>55330</b> Pg. 6.13	 <b>55350</b> Pg. 6.13	 <b>55500</b> Pg. 6.13	 <b>55510</b> Pg. 6.13	 <b>55520</b> Pg. 6.14	 <b>55620</b> Pg. 6.14
 <b>55625</b> Pg. 6.14	 <b>55700</b> Pg. 6.14	 <b>55705</b> Pg. 6.14	 <b>50980</b> Pg. 6.15	 <b>50610</b> Pg. 6.15	 <b>50615</b> Pg. 6.15	 <b>55991</b> Pg. 6.15	 <b>55006</b> Pg. 6.15	

For STRAIGHT FITTINGS see 50N series

 <b>50000N</b> Pg. 4.5	 <b>50010N</b> Pg. 4.5	 <b>50010N</b> Pg. 4.6	 <b>50020N</b> Pg. 4.7
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## 56 Series - Mini

 <b>56010</b> Pg. 6.16	 <b>56020</b> Pg. 6.16	 <b>56115</b> Pg. 6.16	 <b>56215</b> Pg. 6.16	 <b>56225</b> Pg. 6.16	 <b>56550</b> Pg. 6.17	 <b>56040</b> Pg. 6.17	 <b>56050</b> Pg. 6.17	 <b>56130</b> Pg. 6.17
 <b>56230</b> Pg. 6.17								

NYLON PUSH-TO-CONNECT FITTINGS  
FOR METRIC TUBE



**55-56 Series**

55000  
56000



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

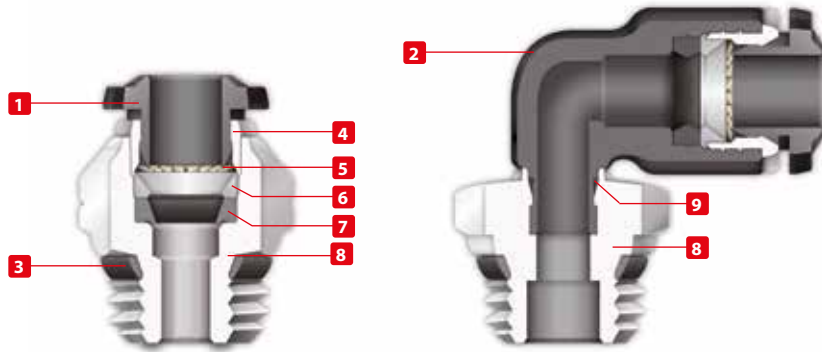
1907/2006  
REACH ✓

2011/65/CE  
RoHS ✓

PED  
2014/68/UE

ISO  
14743:2004

SILICON  
FREE



**Pressure Rating**

**Vacuum ~ 290 PSI**  
-0.99 bar ~ 20 bar  
-0.099 MPa ~ 2.0 MPa



**Temperatures Rating**

**NBR**  
-4° F ~ 176° F  
-20° C ~ 80° C



**Media**

- Compressed air
- Vacuum
- Water



**Applications**

- Pneumatic Automation
- Automotive
- Textile, Packaging
- Compressed Air Circuit
- Vacuum



**Advantages**

- 1 The 303 Stainless Steel gripper ensures a tight clamp for tubes of any material without damaging the tube's surface. The secure connection between the tube and the fitting will hold up to severe conditions such as impact and vibrations.
- 2 The shape of the safety ring and the molded seal perfectly seal off the tube, creating a vacuum.
- 3 Series with several types of threads:  
**SWIFFIT**  
**BSPP**
- 4 All straight fittings can be tightened with an Allen wrench because of our internal hex design. This enables the end user to tighten the fitting in spaces too small for an openend wrench.



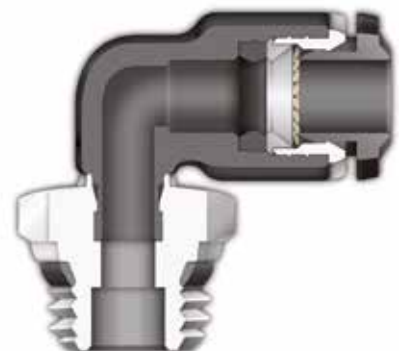
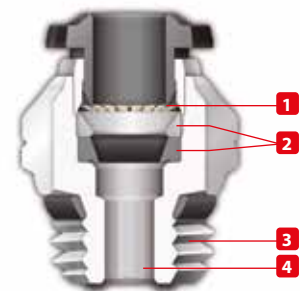
**Component Parts and Materials**

- 1 Composite Release Collet
- 2 Nylon Body
- 3 NBR Thread Seal
- 4 Nickel Plated Brass Sleeve
- 5 303 Stainless Steel Gripper
- 6 Technopolymer Safety Ring
- 7 NBR Molded Seal
- 8 Nickel Plated Thread Brass Body
- 9 NBR Seal



**Tubing Compatibility**

Nylon 6 - 11 -12  
Polyethylene  
Polyurethane ("98 Shore A for best result)  
PTFE  
FEP

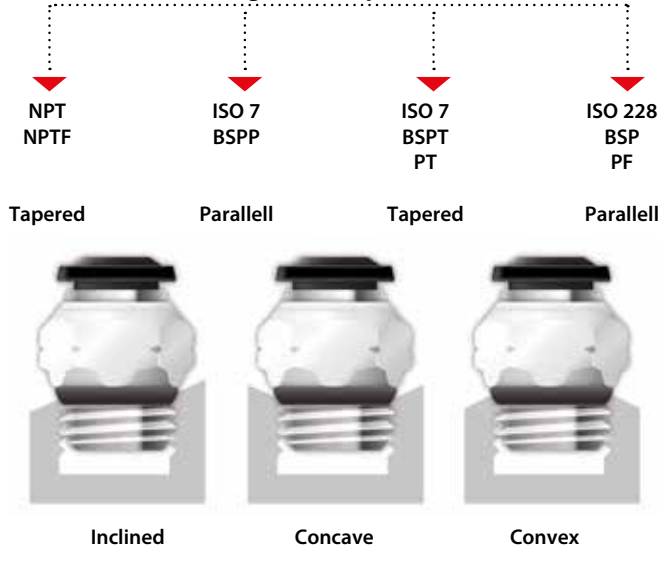




**THREADS & ADVANTAGES**



*One fitting... Endless possibilities*



Our **SWIFFFIT** universal fittings also work on non-flat surfaces without compromising an air-tight seal.

The **SWIFFFIT** Universal Thread has been designed to offer the following advantages to the end users:

- Reduced overall length
- Smaller hex dimensions compared to parallel threads
- Fits with various parallel and tapered threads
- All **SWIFFFIT** fittings have been equipped with threads and an NBR thread seal that will universally connect to all thread types.

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm



**BSPP Threads**



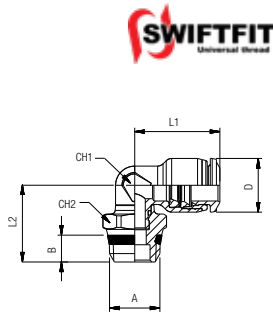
The **BSPP** Thread has been designed to offer the following advantages to the end users:

- Standard ISO 228 and ISO R/262
- Designed for use in BSPP connections with an integrated NBR o-ring that provides a perfect seal
- Completely reusable

**Torque Specifications**

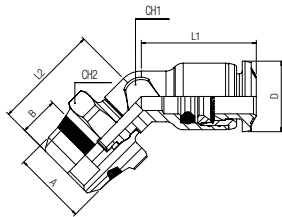
Recommended Torque		
Thread Size	Min.	Breaking Torque
M5	0.8 Nm	3.2 Nm
M8	3 Nm	8 Nm
1/2	3 Nm	8 Nm
1/4	9 Nm	30 Nm
3/8	10 Nm	60 Nm
1/2	12 Nm	50 Nm

**55110**  
SWIVEL ELBOW



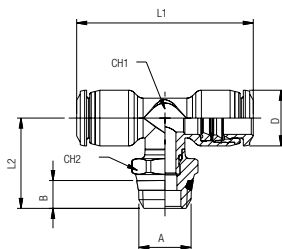
Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55110-4-1/8	5/32 (4)	1/8	.217 (5,5)	.650 (16,5)	.650 (16,5)	.276 (7)	.512 (13)	.394 (10)
55110-4-1/4	5/32 (4)	1/4	.276 (7)	.650 (16,5)	.709 (18)	.276 (7)	.591 (15)	.394 (10)
55110-5-1/8	5	1/8	.217 (5,5)	.787 (20)	.685 (17,4)	.354 (9)	.512 (13)	.472 (12)
55110-6-1/8	6	1/8	.217 (5,5)	.807 (20,5)	.685 (17,4)	.354 (9)	.512 (13)	.472 (12)
55110-6-1/4	6	1/4	.276 (7)	.807 (20,5)	.744 (18,9)	.354 (9)	.591 (15)	.472 (12)
55110-6-3/8	6	3/8	.295 (7,5)	.807 (20,5)	.787 (20)	.354 (9)	.669 (17)	.472 (12)
55110-6-1/2	6	1/2	.354 (9)	.807 (20,5)	.866 (22)	.354 (9)	.827 (21)	.472 (12)
55110-8-1/8	5/16 (8)	1/8	.217 (5,5)	.866 (22)	.728 (18,5)	.394 (10)	.512 (13)	.551 (14)
55110-8-1/4	5/16 (8)	1/4	.276 (7)	.866 (22)	.787 (20)	.394 (10)	.591 (15)	.551 (14)
55110-8-3/8	5/16 (8)	3/8	.295 (7,5)	.866 (22)	.807 (20,5)	.394 (10)	.669 (17)	.551 (14)
55110-8-1/2	5/16 (8)	1/2	.354 (9)	.866 (22)	.906 (23)	.394 (10)	.827 (21)	.551 (14)
55110-10-1/4	10	1/4	.276 (7)	1043 (26,5)	.858 (21,8)	.512 (13)	.630 (16)	.669 (17)
55110-10-3/8	10	3/8	.295 (7,5)	1043 (26,5)	.858 (21,8)	.512 (13)	.669 (17)	.669 (17)
55110-10-1/2	10	1/2	.354 (9)	1043 (26,5)	.957 (24,3)	.512 (13)	.827 (21)	.669 (17)
55110-12-1/4	12	1/4	.276 (7)	1181 (30)	.909 (23,1)	.630 (16)	.630 (16)	.787 (20)
55110-12-3/8	12	3/8	.295 (7,5)	1181 (30)	.909 (23,1)	.630 (16)	.669 (17)	.787 (20)
55110-12-1/2	12	1/2	.354 (9)	1181 (30)	1008 (25,6)	.630 (16)	.827 (21)	.787 (20)
55110-14-3/8	14	3/8	.295 (7,5)	1220 (31)	1043 (26,5)	.709 (18)	.787 (20)	.827 (21)
55110-14-1/2	14	1/2	.354 (9)	1220 (31)	1063 (27)	.709 (18)	.827 (21)	.827 (21)

**55170**  
45° SWIVEL ELBOW



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55170-4-1/8	5/32 (4)	1/8	.217 (5,5)	.492 (12,5)	.650 (16,5)	.276 (7)	.512 (13)	.394 (10)
55170-6-1/8	6	1/8	.217 (5,5)	.807 (20,5)	.689 (17,5)	.354 (9)	.512 (13)	.472 (12)
55170-6-1/4	6	1/4	.276 (7)	.807 (20,5)	.744 (18,9)	.354 (9)	.591 (15)	.472 (12)
55170-8-1/8	5/16 (8)	1/8	.217 (5,5)	.866 (22)	.728 (18,5)	.394 (10)	.512 (13)	.551 (14)
55170-8-1/4	5/16 (8)	1/4	.276 (7)	.866 (22)	.787 (20)	.394 (10)	.591 (15)	.551 (14)
55170-8-3/8	5/16 (8)	3/8	.295 (7,5)	.866 (22)	.807 (20,5)	.394 (10)	.669 (17)	.551 (14)
55170-10-1/4	10	1/4	.276 (7)	1043 (26,5)	.858 (21,8)	.512 (13)	.630 (16)	.669 (17)
55170-10-3/8	10	3/8	.295 (7,5)	1043 (26,5)	.957 (24,3)	.512 (13)	.669 (17)	.669 (17)
55170-10-1/2	10	1/2	.354 (9)	1043 (26,5)	.909 (23,1)	.512 (13)	.827 (21)	.669 (17)
55170-12-1/4	12	1/4	.276 (7)	1181 (30)	.909 (23,1)	.630 (16)	.630 (16)	.787 (20)
55170-12-3/8	12	3/8	.295 (7,5)	1181 (30)	1008 (25,6)	.630 (16)	.669 (17)	.787 (20)
55170-12-1/2	12	1/2	.354 (9)	1181 (30)	.858 (21,8)	.630 (16)	.827 (21)	.787 (20)

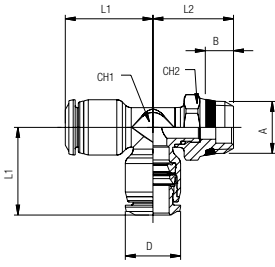
**55210**  
SWIVEL BRANCH TEE



Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55210-4-1/8	5/32 (4)	1/8	.217 (5,5)	1.299 (33)	.736 (18,7)	.276 (7)	.512 (13)	.394 (10)
55210-4-1/4	5/32 (4)	1/4	.276 (7)	1.299 (33)	.795 (20,2)	.276 (7)	.591 (15)	.394 (10)
55210-5-1/8	5	1/8	.217 (5,5)	1.575 (40)	.787 (20)	.354 (9)	.512 (13)	.472 (12)
55210-6-1/8	6	1/8	.217 (5,5)	1.614 (41)	.787 (20)	.354 (9)	.512 (13)	.492 (12,5)
55210-6-1/4	6	1/4	.276 (7)	1.614 (41)	.846 (21,5)	.354 (9)	.591 (15)	.492 (12,5)
55210-8-1/8	5/32 (8)	1/8	.217 (5,5)	1.732 (44)	.835 (21,2)	.394 (10)	.512 (13)	.551 (14)
55210-8-1/4	5/32 (8)	1/4	.276 (7)	1.732 (44)	.894 (22,7)	.394 (10)	.591 (15)	.551 (14)
55210-8-3/8	5/32 (8)	3/8	.295 (7,5)	1.732 (44)	.913 (23,2)	.394 (10)	.669 (17)	.551 (14)
55210-10-1/4	10	1/4	.276 (7)	2.087 (53)	1.012 (25,7)	.512 (13)	.630 (16)	.669 (17)
55210-10-3/8	10	3/8	.295 (7,5)	2.087 (53)	1.012 (25,7)	.512 (13)	.669 (17)	.669 (17)
55210-10-1/2	10	1/2	.354 (9)	2.087 (53)	1.11 (28,2)	.512 (13)	.827 (21)	.669 (17)
55210-12-1/4	12	1/4	.276 (7)	2.362 (60)	1.067 (27,1)	.630 (16)	.630 (16)	.787 (20)
55210-12-3/8	12	3/8	.295 (7,5)	2.362 (60)	1.067 (27,1)	.630 (16)	.669 (17)	.787 (20)
55210-12-1/2	12	1/2	.354 (9)	2.362 (60)	1.165 (29,6)	.630 (16)	.827 (21)	.787 (20)
55210-14-3/8	14	3/8	.295 (7,5)	2.402 (61)	1.189 (30,2)	.709 (18)	.787 (20)	.827 (21)
55210-14-1/2	14	1/2	.354 (9)	2.402 (61)	1.209 (30,7)	.709 (18)	.827 (21)	.827 (21)

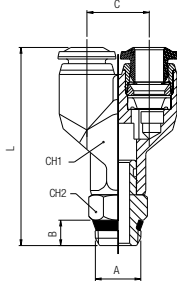


**55222**  
SWIVEL RUN TEE



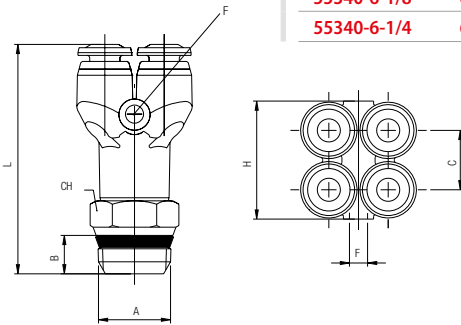
Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55222-4-1/8	5/32 (4)	1/8	.217 (5,5)	.650 (16,5)	.717 (18,2)	.276 (7)	.512 (13)	.394 (10)
55222-4-1/4	5/32 (4)	1/4	.276 (7)	.650 (16,5)	.776 (19,7)	.276 (7)	.591 (15)	.394 (10)
55222-5-1/8	5	1/8	.217 (5,5)	.787 (20)	.685 (17,4)	.354 (9)	.512 (13)	.472 (12)
55222-6-1/8	6	1/8	.217 (5,5)	.807 (20,5)	.685 (17,4)	.354 (9)	.512 (13)	.492 (12,5)
55222-6-1/4	6	1/4	.276 (7)	.807 (20,5)	.744 (18,9)	.354 (9)	.591 (15)	.492 (12,5)
55222-8-1/8	5/16 (8)	1/8	.217 (5,5)	.866 (22)	.744 (18,9)	.394 (10)	.512 (13)	.551 (14)
55222-8-1/4	5/16 (8)	1/4	.276 (7)	.866 (22)	.803 (20,4)	.394 (10)	.591 (15)	.551 (14)
55222-8-3/8	5/16 (8)	3/8	.295 (7,5)	.866 (22)	.823 (20,9)	.394 (10)	.669 (17)	.551 (14)
55222-10-1/4	10	1/4	.276 (7)	1.043 (26,5)	.858 (21,8)	.512 (13)	.630 (16)	.669 (17)
55222-10-3/8	10	3/8	.295 (7,5)	1.043 (26,5)	.858 (21,8)	.512 (13)	.669 (17)	.669 (17)
55222-10-1/2	10	1/2	.354 (9)	1.043 (26,5)	.957 (24,3)	.512 (13)	.827 (21)	.669 (17)
55222-12-1/4	12	1/4	.276 (7)	1.220 (31)	.909 (23,1)	.630 (16)	.630 (16)	.787 (20)
55222-12-3/8	12	3/8	.295 (7,5)	1.220 (31)	.909 (23,1)	.630 (16)	.669 (17)	.787 (20)
55222-12-1/2	12	1/2	.354 (9)	1.220 (31)	1.008 (25,6)	.630 (16)	.827 (21)	.787 (20)
55222-14-3/8	14	3/8	.295 (7,5)	1.201 (30,5)	1.043 (26,5)	.709 (18)	.787 (20)	.827 (21)
55222-14-1/2	14	1/2	.354 (9)	1.201 (30,5)	1.063 (27)	.709 (18)	.827 (21)	.827 (21)

**55320**  
UNION Y



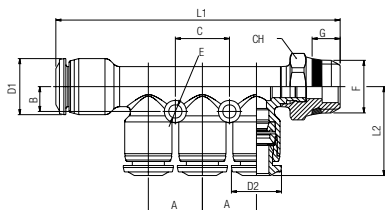
Part No.	Tube	A	B	C	L	CH1	CH2
55320-4-1/8	5/32 (4)	1/8	.217 (5,5)	.433 (11)	1.496 (38)	.394 (10)	.433 (11)
55320-4-1/4	5/32 (4)	1/4	.276 (7)	.433 (11)	1.594 (40,5)	.394 (10)	.551 (14)
55320-6-1/8	6	1/8	.217 (5,5)	.531 (13,5)	1.693 (43)	.472 (12)	.433 (11)
55320-6-1/4	6	1/4	.276 (7)	.531 (13,5)	1.791 (45,5)	.472 (12)	.551 (14)
55320-8-1/8	5/16 (8)	1/8	.217 (5,5)	.610 (15,5)	1.831 (46,5)	.551 (14)	.433 (11)
55320-8-1/4	5/16 (8)	1/4	.276 (7)	.610 (15,5)	1.929 (49)	.551 (14)	.551 (14)
55320-8-3/8	5/16 (8)	3/8	.295 (7,5)	.610 (15,5)	1.949 (49,5)	.551 (14)	.669 (17)
55320-10-1/4	10	1/4	.276 (7)	.748 (19)	2.224 (56,5)	.669 (17)	.551 (14)
55320-10-3/8	10	3/8	.295 (7,5)	.748 (19)	2.264 (57,5)	.669 (17)	.669 (17)
55320-10-1/2	10	1/2	.354 (9)	.748 (19)	2.362 (60)	.669 (17)	.827 (21)
55320-12-3/8	12	3/8	.295 (7,5)	.866 (22)	2.618 (66,5)	.787 (20)	.669 (17)
55320-12-1/2	12	1/2	.354 (9)	.866 (22)	2.677 (68)	.787 (20)	.827 (21)

**55340**  
4 POSITION Y



Part No.	Tube	A	B	C	L	H	CH	F
55340-4-1/8	5/32 (4)	1/8	.217 (5,5)	.425 (10,8)	1.555 (39,5)	.846 (21,5)	.433 (11)	.130 (3,3)
55340-4-1/4	5/32 (4)	1/4	.276 (7)	.425 (10,8)	1.654 (42)	.846 (21,5)	.551 (14)	.130 (3,3)
55340-6-1/8	6	1/8	.217 (5,5)	.524 (13,3)	1.831 (46,5)	1.055 (26,8)	.433 (11)	.130 (3,3)
55340-6-1/4	6	1/4	.276 (7)	.524 (13,3)	1.890 (48)	1.055 (26,8)	.551 (14)	.130 (3,3)

**55360**  
REDUCTION MANIFOLD

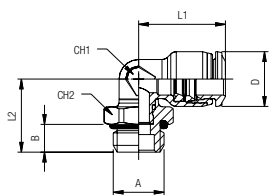


Part No.	Tube	F	A	B	L1	L2	C	E	G	H	D1	D2
55360-6-4-1/8	6-5/32(4)	1/8	.531 (13,5)	.236 (6)	2.756 (70)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.217 (5,5)	.512 (13)	.551 (14)	.472 (12)
55360-6-4-1/4	6-5/32(4)	1/4	.531 (13,5)	.236 (6)	2.811 (71,4)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.276 (7)	.591 (15)	.551 (14)	.472 (12)
55360-8-4-1/8	5/16(8)-5/32(4)	1/8	.531 (13,5)	.236 (6)	2.756 (70)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.217 (5,5)	.512 (13)	.551 (14)	.472 (12)
55360-8-4-1/4	5/16(8)-5/32(4)	1/4	.531 (13,5)	.236 (6)	2.811 (71,4)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.276 (7)	.591 (15)	.551 (14)	.472 (12)
55360-8-6-1/8	5/16(8)-6	1/8	.531 (13,5)	.236 (6)	2.756 (70)	.878 (22,3)	.531 (13,5)	.130 (3,3)	.217 (5,5)	.512 (13)	.551 (14)	.492 (12,5)
55360-8-6-1/4	5/16(8)-6	1/4	.531 (13,5)	.236 (6)	2.811 (71,4)	.878 (22,3)	.531 (13,5)	.130 (3,3)	.276 (7)	.591 (15)	.551 (14)	.492 (12,5)
55360-10-6-1/4	10-6	1/4	.591 (15)	.276 (7)	3.209 (81,5)	.933 (23,7)	.591 (15)	.130 (3,3)	.276 (7)	.630 (16)	.669 (17)	.551 (14)
55360-10-6-3/8	10-6	3/8	.591 (15)	.276 (7)	3.209 (81,5)	.933 (23,7)	.591 (15)	.130 (3,3)	.295 (7,5)	.669 (17)	.669 (17)	.551 (14)
55360-10-8-1/4	10-5/16(8)	1/4	.591 (15)	.276 (7)	3.209 (81,5)	.913 (23,2)	.591 (15)	.130 (3,3)	.276 (7)	.630 (16)	.669 (17)	.551 (14)
55360-10-8-3/8	10-5/16(8)	3/8	.591 (15)	.276 (7)	3.209 (81,5)	.913 (23,2)	.591 (15)	.130 (3,3)	.295 (7,5)	.669 (17)	.669 (17)	.551 (14)

**55115**

SWIVEL ELBOW

**BSPP**

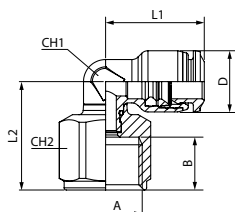


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55115-4-M5	5/32 (4)	M5	.142 (3,6)	.650 (16,5)	.543 (13,8)	.276 (7)	.354 (9)	.394 (10)
55115-4-M7X1	5/32 (4)	M7X1	.189 (4,8)	.650 (16,5)	.567 (14,4)	.276 (7)	.354 (9)	.394 (10)
55115-4-1/8	5/32 (4)	1/8	.213 (5,4)	.650 (16,5)	.591 (15)	.276 (7)	.512 (13)	.394 (10)
55115-4-1/4	5/32 (4)	1/4	.280 (7,1)	.650 (16,5)	.654 (16,6)	.354 (9)	.630 (16)	.394 (10)
55115-4-3/8	5/32 (4)	3/8	.216 (5,5)	.650 (16,5)	.709 (18)	.787 (20)	.280 (7)	.394 (10)
55115-5-M5	5	M5	.142 (3,6)	.787 (20)	.579 (14,7)	.354 (9)	.354 (9)	.472 (12)
55115-5-1/8	5	1/8	.213 (5,4)	.787 (20)	.622 (15,8)	.354 (9)	.512 (13)	.472 (12)
55115-6-M5	6	M5	.142 (3,6)	.807 (20,5)	.579 (14,7)	.354 (9)	.354 (9)	.472 (12)
55115-6-M7	6	M7	.196 (5)	.807 (20,5)	.610 (15,5)	.354 (9)	.354 (9)	.492 (12,5)
55115-6-M10x1	6	M10x1	.216 (5,5)	.807 (20,5)	.610 (15,5)	.512 (13)	.354 (9)	.492 (12,5)
55115-6-M12x1	6	M12x1	.276 (7)	.807 (20,5)	.689 (18)	.630 (16)	.354 (9)	.492 (12,5)
55115-6-1/8	6	1/8	.213 (5,4)	.807 (20,5)	.622 (15,8)	.354 (9)	.512 (13)	.472 (12)
55115-6-1/4	6	1/4	.280 (7,1)	.807 (20,5)	.689 (17,5)	.354 (9)	.630 (16)	.472 (12)
55115-6-3/8	6	3/8	.319 (8,1)	.807 (20,5)	.748 (19)	.354 (9)	.787 (20)	.472 (12)
55115-6-1/2	6	1/2	.378 (9,6)	.807 (20,5)	.827 (21)	.354 (9)	.984 (25)	.472 (12)
55115-8-M10x1	8	M10x1	.216 (5,5)	.886 (22,5)	.768 (19,5)	.512 (13)	.394 (10)	.551 (14)
55115--M12x1	8	M12x1	.296 (7,5)	.886 (22,5)	.748 (19)	.630 (16)	.394 (10)	.551 (14)
55115-8-1/8	5/16 (8)	1/8	.213 (5,4)	.866 (22)	.764 (19,4)	.394 (10)	.512 (13)	.551 (14)
55115-8-1/4	5/16 (8)	1/4	.280 (7,1)	.866 (22)	.736 (18,7)	.394 (10)	.630 (16)	.551 (14)
55115-8-3/8	5/16 (8)	3/8	.319 (8,1)	.866 (22)	.791 (20,1)	.394 (10)	.787 (20)	.551 (14)
55115-8-1/2	5/16 (8)	1/2	.378 (9,6)	.866 (22)	.870 (22,1)	.394 (10)	.984 (25)	.551 (14)
55115-10-1/8	10	1/8	.216 (5,5)	1.043 (26,5)	.827 (21)	.630 (16)	.512 (13)	.669 (17)
55115-10-1/4	10	1/4	.280 (7,1)	1.043 (26,5)	.898 (22,8)	.512 (13)	.630 (16)	.669 (17)
55115-10-3/8	10	3/8	.319 (8,1)	1.043 (26,5)	.878 (22,3)	.512 (13)	.787 (20)	.669 (17)
55115-10-1/2	10	1/2	.378 (9,6)	1.043 (26,5)	.937 (23,8)	.512 (13)	.984 (25)	.669 (17)
55115-12-1/4	12	1/4	.280 (7,1)	1.181 (30)	.949 (24,1)	.630 (16)	.630 (16)	.787 (20)
55115-12-3/8	12	3/8	.319 (8,1)	1.181 (30)	.929 (23,6)	.630 (16)	.787 (20)	.787 (20)
55115-12-1/2	12	1/2	.378 (9,6)	1.181 (30)	.988 (25,1)	.630 (16)	.984 (25)	.787 (20)
55115-14-3/8	14	3/8	.319 (8,1)	1.220 (31)	1.106 (28,1)	.709 (18)	.787 (20)	.827 (21)
55115-14-1/2	14	1/2	.378 (9,6)	1.220 (31)	1.028 (26,1)	.709 (18)	.984 (25)	.827 (21)

**55106**

ORIENTING ELBOW FEMALE ADAPTOR

**BSPP**

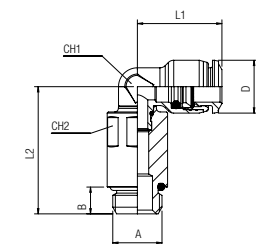


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55106-4-1/8	5/32 (4)	1/8	.335 (8,5)	.650 (16,5)	.748 (19)	.276 (7)	.492 (12,5)	.394 (10)
55106-4-1/4	5/32 (4)	1/4	.433 (11)	.650 (16,5)	.886 (22,5)	.276 (7)	.630 (16)	.394 (10)
55106-6-1/8	6	1/8	.335 (8,5)	.807 (20,5)	.787 (20)	.354 (9)	.512 (13)	.492 (12,5)
55106-6-1/4	6	1/4	.433 (11)	.807 (20,5)	.925 (23,5)	.354 (9)	.630 (16)	.492 (12,5)
55106-8-1/8	5/16 (8)	1/8	.335 (8,5)	.886 (22,5)	.827 (21)	.394 (10)	.512 (13)	.552 (14)
55106-8-1/4	5/16 (8)	1/4	.433 (11)	.886 (22,5)	.925 (23,5)	.394 (10)	.630 (16)	.552 (14)
55106-8-3/8	5/16 (8)	3/8	.472 (12)	.886 (22,5)	.965 (24,5)	.394 (10)	.748 (19)	.552 (14)
55106-10-1/4	10	1/4	.433 (11)	1.043 (26,5)	1.063 (27)	.512 (13)	.630 (16)	.669 (17)
55106-10-3/8	10	3/8	.472 (12)	1.043 (26,5)	1.063 (27)	.512 (13)	.748 (19)	.669 (17)

**55125**

EXTENDED SWIVEL ELBOW

**BSPP**

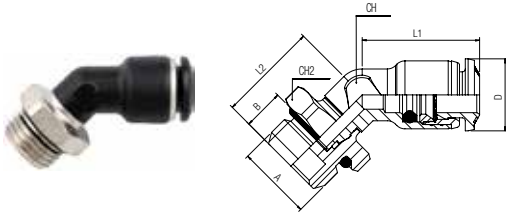


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55125-4-M5	5/32 (4)	M5	.142 (3,6)	.650 (16,5)	1.083 (27,5)	.276 (7)	.315 (8)	.394 (10)
55125-4-1/8	5/32 (4)	1/8	.213 (5,4)	.650 (16,5)	1.122 (28,5)	.276 (7)	.472 (12)	.394 (10)
55125-6-M5	6	M5	.142 (3,6)	.807 (20,5)	1.161 (29,5)	.354 (9)	.315 (8)	.492 (12,5)
55125-6-1/8	6	1/8	.213 (5,4)	.807 (20,5)	1.161 (29,5)	.354 (9)	.472 (12)	.492 (12,5)
55125-8-1/8	5/16 (8)	1/8	.213 (5,4)	.886 (22,5)	1.358 (34,5)	.394 (10)	.472 (12)	.551 (14)
55125-8-1/4	5/16 (8)	1/4	.280 (7,1)	.886 (22,5)	1.319 (33,5)	.394 (10)	.591 (15)	.551 (14)
55125-8-3/8	5/16 (8)	3/8	.312 (8,1)	.886 (22,5)	1.358 (34,5)	.393 (10)	.472 (12)	.551 (14)
55125-10-1/4	10	1/4	.279 (7,1)	1.043 (26,5)	1.693 (43)	.512 (13)	.590 (15)	.669 (17)
55125-10-3/8	10	3/8	.312 (8,1)	1.043 (26,5)	1.693 (43)	.512 (13)	.590 (15)	.669 (17)
55125-10-1/2	10	1/2	.378 (9,6)	1.043 (26,5)	1.771 (45)	.512 (13)	.590 (15)	.669 (17)
55125-12-1/4	12	1/4	.279 (7,1)	1.220 (31)	1.771 (45)	.630 (16)	.590 (15)	.787 (20)
55125-12-3/8	12	3/8	.312 (8,1)	1.200 (30,5)	1.752 (44,5)	.630 (16)	.590 (15)	.787 (20)
55125-12-1/2	12	1/2	.378 (9,6)	1.220 (31)	1.811 (46)	.630 (16)	.590 (15)	.787 (20)

**55175**

45° SWIVEL ELBOW

**BSPP**

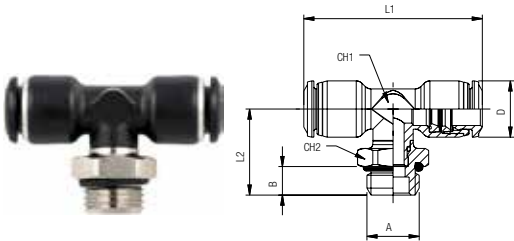


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55175-4-M5	5/32 (4)	M5	.142 (3,6)	.492 (12,5)	.543 (13,8)	.276 (7)	.354 (9)	.394 (10)
55175-4-1/8	5/32 (4)	1/8	.213 (5,4)	.492 (12,5)	.591 (15)	.276 (7)	.512 (13)	.394 (10)
55175-6-M5	6	M5	.142 (3,6)	.807 (20,5)	.579 (14,7)	.354 (9)	.354 (9)	.472 (12)
55175-6-1/8	6	1/8	.213 (5,4)	.807 (20,5)	.622 (15,8)	.354 (9)	.512 (13)	.472 (12)
55175-6-1/4	6	1/4	.280 (7,1)	.807 (20,5)	.689 (17,5)	.354 (9)	.630 (16)	.472 (12)
55175-8-1/8	5/16 (8)	1/8	.213 (5,4)	.866 (22)	.764 (19,4)	.394 (10)	.512 (13)	.551 (14)
55175-8-1/4	5/16 (8)	1/4	.280 (7,1)	.866 (22)	.736 (18,7)	.394 (10)	.630 (16)	.551 (14)
55175-8-3/8	5/16 (8)	3/8	.319 (8,1)	.866 (22)	.791 (20,1)	.394 (10)	.787 (20)	.551 (14)
55175-10-1/4	10	1/4	.280 (7,1)	1.043 (26,5)	.898 (22,8)	.512 (13)	.630 (16)	.669 (17)
55175-10-3/8	10	3/8	.319 (8,1)	1.043 (26,5)	.878 (22,3)	.512 (13)	.787 (20)	.669 (17)
55175-10-1/2	10	1/2	.378 (9,6)	1.043 (26,5)	.937 (23,8)	.512 (13)	.984 (25)	.669 (17)
55175-12-1/4	12	1/4	.280 (7,1)	1.181 (30)	.949 (24,1)	.630 (16)	.630 (16)	.787 (20)
55175-12-3/8	12	3/8	.319 (8,1)	1.181 (30)	.929 (23,6)	.630 (16)	.787 (20)	.787 (20)
55175-12-1/2	12	1/2	.378 (9,6)	1.181 (30)	.988 (25,1)	.630 (16)	.984 (25)	.787 (20)

**55215**

SWIVEL BRANCH TEE

**BSPP**

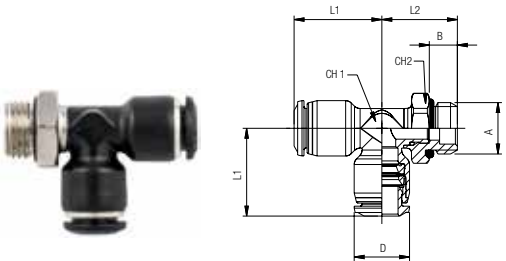


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55215-4-M5	5/32 (4)	M5	.142 (3,6)	1.299 (33)	.610 (15,5)	.276 (7)	.354 (9)	.394 (10)
55215-4-1/8	5/32 (4)	1/8	.213 (5,4)	1.299 (33)	.673 (17,1)	.276 (7)	.512 (13)	.394 (10)
55215-4-1/4	5/32 (4)	1/4	.280 (7,1)	1.299 (33)	.740 (18,8)	.276 (7)	.630 (16)	.394 (10)
55215-5-M5	5	M5	.142 (3,6)	1.575 (40)	.579 (14,7)	.354 (9)	.354 (9)	.472 (12)
55215-5-1/8	5	1/8	.213 (5,4)	1.575 (40)	.724 (18,4)	.354 (9)	.512 (13)	.472 (12)
55215-6-M5	6	M5	.142 (3,6)	1.614 (41)	.579 (14,7)	.354 (9)	.354 (9)	.492 (12,5)
55215-6-1/8	6	1/8	.213 (5,4)	1.614 (41)	.724 (18,4)	.354 (9)	.512 (13)	.492 (12,5)
55215-6-1/4	6	1/4	.280 (7,1)	1.614 (41)	.787 (20)	.354 (9)	.630 (16)	.492 (12,5)
55215-8-1/8	5/16 (8)	1/8	.213 (5,4)	1.732 (44)	.870 (22,1)	.394 (10)	.512 (13)	.551 (14)
55215-8-1/4	5/16 (8)	1/4	.280 (7,1)	1.732 (44)	.843 (21,4)	.394 (10)	.630 (16)	.551 (14)
55215-8-3/8	5/16 (8)	3/8	.319 (8,1)	1.732 (44)	.898 (22,8)	.394 (10)	.787 (20)	.551 (14)
55215-10-1/4	10	1/4	.280 (7,1)	2.087 (53)	1.051 (26,7)	.512 (13)	.630 (16)	.669 (17)
55215-10-3/8	10	3/8	.319 (8,1)	2.087 (53)	1.031 (26,2)	.512 (13)	.787 (20)	.669 (17)
55215-10-1/2	10	1/2	.378 (9,6)	2.087 (53)	1.091 (27,7)	.512 (13)	.984 (25)	.669 (17)
55215-12-1/4	12	1/4	.280 (7,1)	2.421 (61,5)	1.106 (28,1)	.630 (16)	.630 (16)	.787 (20)
55215-12-3/8	12	3/8	.319 (8,1)	2.421 (61,5)	1.087 (27,6)	.630 (16)	.787 (20)	.787 (20)
55215-12-1/2	12	1/2	.378 (9,6)	2.421 (61,5)	1.146 (29,1)	.630 (16)	.984 (25)	.787 (20)
55215-14-3/8	14	3/8	.319 (8,1)	2.402 (61)	1.252 (31,8)	.709 (18)	.787 (20)	.827 (21)
55215-14-1/2	14	1/2	.378 (9,6)	2.402 (61)	1.173 (29,8)	.709 (18)	.984 (25)	.827 (21)

**55225**

SWIVEL RUN TEE

**BSPP**

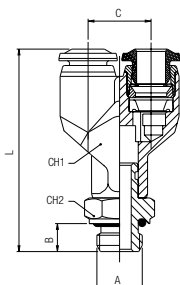


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
55225-4-M5	5/32 (4)	M5	.142 (3,6)	16,5	15,5	7	.354 (9)	10
55225-4-1/8	5/32 (4)	1/8	.217 (5,5)	.650 (16,5)	.717 (18,2)	.276 (7)	.512 (13)	.394 (10)
55225-4-1/4	5/32 (4)	1/4	.276 (7)	.650 (16,5)	.776 (19,7)	.276 (7)	.591 (15)	.394 (10)
55225-5-M5	5	M5	.142 (3,6)	.787 (20)	.571 (14,5)	.354 (9)	.354 (9)	.472 (12)
55225-5-1/8	5	1/8	.217 (5,5)	.787 (20)	.685 (17,4)	.354 (9)	.512 (13)	.472 (12)
55225-6-M5	6	M5	.142 (3,6)	.807 (20,5)	.571 (14,5)	.354 (9)	.354 (9)	.492 (12,5)
55225-6-1/8	6	1/8	.217 (5,5)	.807 (20,5)	.685 (17,4)	.354 (9)	.512 (13)	.492 (12,5)
55225-6-1/4	6	1/4	.276 (7)	.807 (20,5)	.744 (18,9)	.354 (9)	.591 (15)	.492 (12,5)
55225-8-1/8	5/16 (8)	1/8	.217 (5,5)	.866 (22)	.744 (18,9)	.394 (10)	.512 (13)	.551 (14)
55225-8-1/4	5/16 (8)	1/4	.276 (7)	.866 (22)	.803 (20,4)	.394 (10)	.591 (15)	.551 (14)
55225-8-3/8	5/16 (8)	3/8	.295 (7,5)	.866 (22)	.823 (20,9)	.394 (10)	.669 (17)	.551 (14)
55225-10-1/4	10	1/4	.276 (7)	1.043 (26,5)	.858 (21,8)	.512 (13)	.630 (16)	.669 (17)
55225-10-3/8	10	3/8	.295 (7,5)	1.043 (26,5)	.858 (21,8)	.512 (13)	.669 (17)	.669 (17)
55225-10-1/2	10	1/2	.354 (9)	1.043 (26,5)	.957 (24,3)	.512 (13)	.827 (21)	.669 (17)
55225-12-1/4	12	1/4	.276 (7)	1.220 (31)	.909 (23,1)	.630 (16)	.630 (16)	.787 (20)
55225-12-3/8	12	3/8	.296 (7,5)	1.220 (31)	.909 (23,1)	.630 (16)	.669 (17)	.787 (20)
55225-12-1/2	12	1/2	.354 (9)	1.220 (31)	1.008 (25,6)	.630 (16)	.827 (21)	.787 (20)
55225-14-3/8	14	3/8	.295 (7,5)	1.201 (30,5)	1.043 (26,5)	.709 (18)	.787 (20)	.827 (21)
55225-14-1/2	14	1/2	.354 (9)	1.201 (30,5)	1.063 (27)	.709 (18)	.827 (21)	.827 (21)

**55325**

UNION Y

**BSPP**

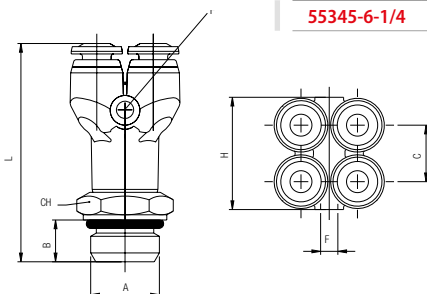


Part No.	Tube	A	B	C	L	CH1	CH2
55325-4-M5	5/32 (4)	M5	.157 (4)	.433 (11)	1.437 (36,5)	.394 (10)	.394 (10)
55325-4-1/8	5/32 (4)	1/8	.236 (6)	.433 (11)	1.516 (38,5)	.394 (10)	.512 (13)
55325-4-1/4	5/32 (4)	1/4	.315 (8)	.433 (11)	1.594 (40,5)	.394 (10)	.630 (16)
55325-6-M5	6	M5	.157 (4)	.531 (13,5)	1.634 (41,5)	.472 (12)	.394 (10)
55325-6-1/8	6	1/8	.236 (6)	.531 (13,5)	1.713 (43,5)	.472 (12)	.512 (13)
55325-6-1/4	6	1/4	.315 (8)	.531 (13,5)	1.831 (46,5)	.472 (12)	.630 (16)
55325-8-1/8	5/16 (8)	1/8	.236 (6)	.610 (15,5)	1.850 (47)	.551 (14)	.512 (13)
55325-8-1/4	5/16 (8)	1/4	.315 (8)	.610 (15,5)	1.969 (50)	.551 (14)	.630 (16)
55325-8-3/8	5/16 (8)	3/8	.354 (9)	.610 (15,5)	2.047 (52)	.551 (14)	.787 (20)
55325-10-1/4	10	1/4	.315 (8)	.748 (19)	2.343 (59,5)	.669 (17)	.630 (16)
55325-10-3/8	10	3/8	.354 (9)	.748 (19)	2.343 (59,5)	.669 (17)	.787 (20)
55325-10-1/2	10	1/2	.394 (10)	.748 (19)	2.441 (62)	.669 (17)	.945 (24)
55325-12-3/8	12	3/8	.354 (9)	.866 (22)	2.697 (68,5)	.787 (20)	.787 (20)
55325-12-1/2	12	1/2	.394 (10)	.866 (22)	2.795 (71)	.787 (20)	.945 (24)

**55345**

4 POSITION Y

**BSPP**

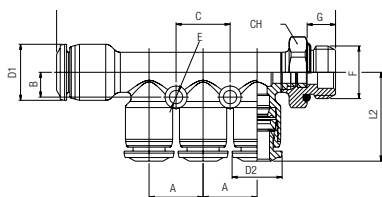


Part No.	Tube	A	B	C	L	H	CH	F
55345-4-1/8	5/32 (4)	1/8	.236 (6)	.425 (10,8)	1.575 (40)	.846 (21,5)	.512 (13)	.130 (3,3)
55345-4-1/4	5/32 (4)	1/4	.315 (8)	.425 (10,8)	1.654 (42)	.846 (21,5)	.630 (16)	.130 (3,3)
55345-6-1/8	6	1/8	.236 (6)	.524 (13,3)	1.850 (47)	1.055 (26,8)	.512 (13)	.130 (3,3)
55345-6-1/4	6	1/4	.315 (8)	.524 (13,3)	1.929 (49)	1.055 (26,8)	.630 (16)	.130 (3,3)

**55365**

REDUCTION MANIFOLD

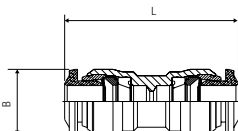
**BSPP**



Part No.	Tube	F	A	B	L1	L2	C	E	G	H	D1	D2
55365-6-4-1/8	6-5/32(4)	1/8	.531 (13,5)	.236 (6)	2.783 (70,7)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.213 (5,4)	.512 (13)	.551 (14)	.472 (12)
55365-6-4-1/4	6-5/32(4)	1/4	.531 (13,5)	.236 (6)	2.756 (70)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.280 (7,1)	.630 (16)	.551 (14)	.472 (12)
55365-8-4-1/8	5/16(8)-5/32(4)	1/8	.531 (13,5)	.236 (6)	2.783 (70,7)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.213 (5,4)	.512 (13)	.551 (14)	.472 (12)
55365-8-4-1/4	5/16(8)-5/32(4)	1/4	.531 (13,5)	.236 (6)	2.756 (70)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.280 (7,1)	.630 (16)	.551 (14)	.472 (12)
55365-8-6-1/8	5/16(8)-6	1/8	.531 (13,5)	.236 (6)	2.783 (70,7)	.878 (22,3)	.531 (13,5)	.130 (3,3)	.213 (5,4)	.512 (13)	.551 (14)	.492 (12,5)
55365-8-6-1/4	5/16(8)-6	1/4	.531 (13,5)	.236 (6)	2.756 (70)	.878 (22,3)	.531 (13,5)	.130 (3,3)	.280 (7,1)	.630 (16)	.551 (14)	.492 (12,5)
55365-10-6-1/4	10-6	1/4	.591 (15)	.276 (7)	3.244 (82,4)	.933 (23,7)	.591 (15)	.130 (3,3)	.280 (7,1)	.630 (16)	.669 (17)	.551 (14)
55365-10-6-3/8	10-6	3/8	.591 (15)	.276 (7)	3.228 (82)	.933 (23,7)	.591 (15)	.130 (3,3)	.319 (8,1)	.787 (20)	.669 (17)	.551 (14)
55365-10-8-1/4	10-5/16(8)	1/4	.591 (15)	.276 (7)	3.244 (82,4)	.913 (23,2)	.591 (15)	.130 (3,3)	.280 (7,1)	.630 (16)	.669 (17)	.551 (14)
55365-10-8-3/8	10-5/16(8)	3/8	.591 (15)	.276 (7)	3.228 (82)	.913 (23,2)	.591 (15)	.130 (3,3)	.319 (8,1)	.787 (20)	.669 (17)	.551 (14)

**55040**

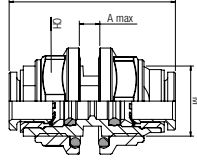
UNION



Part No.	Tube	Tube	L	B
55040-4	5/32 (4)		1.220 (31)	.394 (10)
55040-5	5		1339 (34)	.472 (12)
55040-6	6		1378 (35)	.492 (12,5)
55040-6-4	6	5/32 (4)	1339 (34)	.492 (12,5)
55040-8	5/16 (8)		1457 (37)	.551 (14)
55040-8-4	5/16 (8)	5/32 (4)	1476 (37,5)	.551 (14)
55040-8-6	5/16 (8)	6	1476 (37,5)	.551 (14)
55040-10	10		1772 (45)	.669 (17)
55040-10-6	10	6	1732 (44)	.669 (17)
55040-10-8	10	5/16 (8)	1732 (44)	.669 (17)
55040-12	12		1929 (49)	.787 (20)
55040-12-8	12	5/16 (8)	1929 (49)	.787 (20)
55040-12-10	12	10	1929 (49)	.787 (20)
55040-14	14		1890 (48)	.827 (21)
55040-14-12	14	12	1909 (48,5)	.827 (21)

**55050**

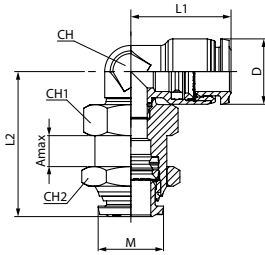
**BULKHEAD UNION**



Part No.	Tube	M	L	CH	A max
<b>55050-8</b>	<b>5/16 (8)</b>	M16x1	1.527 (38,8)	.708 (18)	.571 (14,5)

**55060**

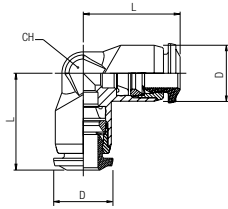
**BULKHEAD ORIENTING ELBOW**



Part No.	Tube	M	L1	L2	CH	CH1	CH2	A max	D
<b>55060-4-M12x1</b>	<b>5/32 (4)</b>	<b>M12x1</b>	.650 (16,5)	1.181 (30)	.276 (7)	.551 (14)	.669 (17)	.256 (6,5)	.394 (10)
<b>55060-6-M14x1</b>	<b>6</b>	<b>M14x1</b>	.807 (20,5)	1.220 (31)	.354 (9)	.630 (16)	.669 (17)	.256 (6,5)	.472 (12)
<b>55060-8-M16x1</b>	<b>5/16 (8)</b>	<b>M16x1</b>	.886 (22,5)	1.339 (34)	.394 (10)	.709 (18)	.748 (19)	.276 (7)	.551 (14)
<b>55060-10-M20x1</b>	<b>10</b>	<b>M20x1</b>	1.043 (26,5)	1.535 (39)	.512 (13)	.709 (18)	.945 (24)	.296 (7,5)	.669 (17)
<b>55060-12-M22x1</b>	<b>12</b>	<b>M22x1</b>	1.181 (30)	1.732 (44)	.630 (16)	.985 (25)	1.024 (26)	.394 (9,5)	.787 (20)

**55130**

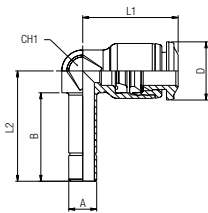
**UNION ELBOW**



Part No.	D1	D2	L	CH	D
<b>55130-4</b>	<b>5/32 (4)</b>		.650 (16,5)	.354 (9)	.394 (10)
<b>55130-5</b>	<b>5</b>		.787 (20)	.433 (11)	.472 (12)
<b>55130-6</b>	<b>6</b>		.807 (20,5)	.433 (11)	.472 (12)
<b>55130-8-6</b>	<b>5/16 (8)</b>	<b>6</b>	.886 (22,5)	.512 (13)	.551 (14)
<b>55130-8</b>	<b>5/16 (8)</b>		.866 (22)	.512 (13)	.551 (14)
<b>55130-10-6</b>	<b>10</b>	<b>6</b>	1.024 (26)	.630 (16)	.669 (17)
<b>55130-10-8</b>	<b>10</b>	<b>5/16 (8)</b>	1.024 (26)	.630 (16)	.669 (17)
<b>55130-10</b>	<b>10</b>		1.043 (26,5)	.630 (16)	.669 (17)
<b>55130-12-10</b>	<b>12</b>	<b>10</b>	1.201 (30,5)	.748 (19)	.787 (20)
<b>55130-12</b>	<b>12</b>		1.181 (30)	.748 (19)	.787 (20)
<b>55130-14</b>	<b>14</b>		1.201 (30,5)	.787 (20)	.827 (21)

**55140**

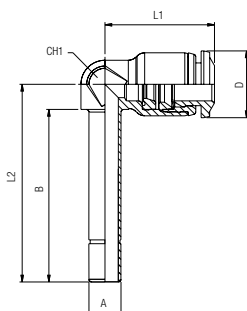
**ELBOW PLUG IN**



Part No.	Tube	A	B	L1	L2	CH1	D
<b>55140-4</b>	<b>5/32 (4)</b>	<b>5/32 (4)</b>	.669 (17)	.650 (16,5)	.819 (20,8)	.276 (7)	.394 (10)
<b>55140-4-6</b>	<b>5/32 (4)</b>	<b>6</b>	.748 (19)	.650 (16,5)	.898 (22,8)	.276 (7)	.394 (10)
<b>55140-6</b>	<b>6</b>	<b>6</b>	.748 (19)	.807 (20,5)	.933 (23,7)	.354 (9)	.492 (12,5)
<b>55140-6-4</b>	<b>6</b>	<b>5/32 (4)</b>	.669 (17)	.807 (20,5)	.854 (21,7)	.354 (9)	.492 (12,5)
<b>55140-6-8</b>	<b>6</b>	<b>5/16 (8)</b>	.787 (20)	.886 (22,5)	1.024 (26)	.394 (10)	.551 (14)
<b>55140-8</b>	<b>5/16 (8)</b>	<b>5/16 (8)</b>	.787 (20)	.866 (22)	1.024 (26)	.394 (10)	.551 (14)
<b>55140-8-10</b>	<b>5/16 (8)</b>	<b>10</b>	.858 (21,8)	.866 (22)	1.087 (27,6)	.394 (10)	.551 (14)
<b>55140-10</b>	<b>10</b>	<b>10</b>	.886 (22,5)	1.043 (26,5)	1.181 (30)	.512 (13)	.669 (17)
<b>55140-10-12</b>	<b>10</b>	<b>12</b>	.972 (24,7)	1.043 (26,5)	1.268 (32,2)	.512 (13)	.669 (17)
<b>55140-12</b>	<b>12</b>	<b>12</b>	1.004 (25,5)	1.181 (30)	1.319 (33,5)	.630 (16)	.787 (20)

**55150**

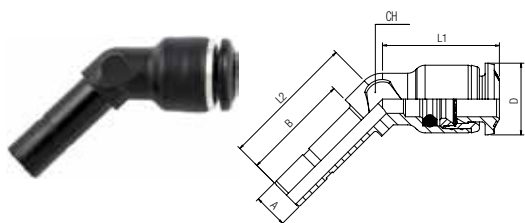
**ELBOW PLUG IN**



Part No.	Tube	A	B	L1	L2	CH1	D
<b>55150-4</b>	<b>5/32 (4)</b>	<b>5/32 (4)</b>	1.102 (28)	.650 (16,5)	1.252 (31,8)	.276 (7)	.394 (10)
<b>55150-4-6</b>	<b>5/32 (4)</b>	<b>6</b>	1.201 (30,5)	.650 (16,5)	1.350 (34,3)	.276 (7)	.394 (10)
<b>55150-6</b>	<b>6</b>	<b>6</b>	1.272 (32,3)	.807 (20,5)	1.457 (37)	.354 (9)	.492 (12,5)
<b>55150-6-4</b>	<b>6</b>	<b>5/32 (4)</b>	1.181 (30)	.807 (20,5)	1.366 (34,7)	.354 (9)	.492 (12,5)
<b>55150-8</b>	<b>5/16 (8)</b>	<b>5/16 (8)</b>	1.417 (36)	.866 (22)	1.654 (42)	.394 (10)	.551 (14)
<b>55150-8-10</b>	<b>5/16 (8)</b>	<b>10</b>	1.476 (37,5)	.866 (22)	1.697 (43,1)	.394 (10)	.551 (14)
<b>55150-10</b>	<b>10</b>	<b>10</b>	1.606 (40,8)	1.043 (26,5)	1.902 (48,3)	.512 (13)	.669 (17)
<b>55150-10-12</b>	<b>10</b>	<b>12</b>	1.701 (43,2)	1.043 (26,5)	1.996 (50,7)	.512 (13)	.669 (17)
<b>55150-12</b>	<b>12</b>	<b>12</b>	1.850 (47)	1.220 (31)	2.165 (55)	.630 (16)	.787 (20)

**55160**

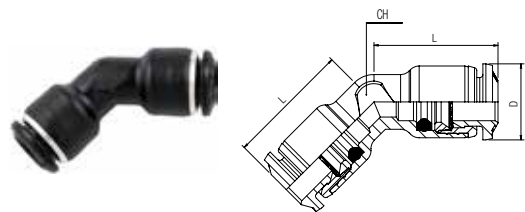
45° ELBOW PLUG IN



Part No.	Tube	A	B	L1	L2	CH1	D
55160-4	5/32 (4)	5/32 (4)	.669 (17)	.492 (12,5)	.827 (21)	.276 (7)	.394 (10)
55160-6	6	6	.748 (19)	.807 (20,5)	.925 (23,5)	.354 (9)	.472 (12)
55160-8	5/16 (8)	5/16 (8)	.787 (20)	.866 (22)	.984 (25)	.394 (10)	.551 (14)
55160-10	10	10	.886 (22,5)	1.043 (26,5)	1.181 (30)	.512 (13)	.669 (17)
55160-12	12	12	1.004 (25,5)	1.181 (30)	1.319 (33,5)	.630 (16)	.787 (20)

**55180**

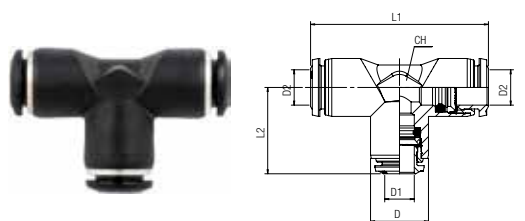
45° UNION ELBOW



Part No.	Tube	L	CH	D
55180-4	5/32 (4)	.650 (16,5)	.276 (7)	.394 (10)
55180-6	6	.807 (20,5)	.354 (9)	.472 (12)
55180-8	5/16 (8)	.866 (22)	.394 (10)	.551 (14)
55180-10	10	1.043 (26,5)	.512 (13)	.669 (17)
55180-12	12	1.181 (30)	.630 (16)	.787 (20)

**55230**

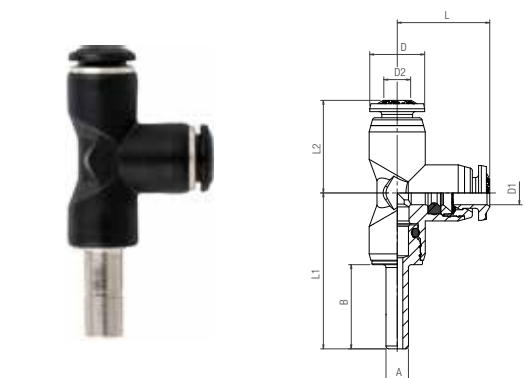
UNION TEE



Part No.	D1	D2	L1	L2	CH	D
55230-4	5/32(4)	5/32(4)	1.299 (33)	.650 (16,5)	.354 (9)	.394 (10)
55230-5	5	5	1.575 (40)	.787 (20)	.433 (11)	.472 (12)
55230-6-4	6	5/32(4)	1.575 (40)	.807 (20,5)	.433 (11)	.492 (12,5)
55230-6	6	6	1.614 (41)	.807 (20,5)	.433 (11)	.472 (12)
55230-4-6	5/32(4)	6	1.614 (41)	.787 (20)	.433 (11)	.492 (12,5)
55230-8-6	5/16(8)	6	1.772 (45)	.886 (22,5)	.512 (13)	.551 (14)
55230-8	5/16(8)	5/16(8)	1.732 (44)	.866 (22)	.512 (13)	.551 (14)
55230-6-8	6	5/16(8)	1.772 (45)	.886 (22,5)	.512 (13)	.551 (14)
55230-10-8	10	5/16(8)	2.047 (52)	1.043 (26,5)	.630 (16)	.669 (17)
55230-10	10	10	2.087 (53)	1.043 (26,5)	.630 (16)	.669 (17)
55230-8-10	5/16(8)	10	2.087 (53)	1.024 (26)	.630 (16)	.669 (17)
55230-12-10	12	10	2.343 (59,5)	1.201 (30,5)	.748 (19)	.787 (20)
55230-12	12	12	2.421 (61,5)	1.181 (30)	.748 (19)	.787 (20)
55230-10-12	10	12	2.421 (61,5)	1.181 (30)	.748 (19)	.787 (20)
55230-14	14	14	2.402 (61)	1.201 (30,5)	.787 (20)	.827 (21)
55230-8-14	5/16(8)	14	2.421 (61,5)	1.161 (29,5)	.787 (20)	.827 (21)
55230-10-14	10	14	2.402 (61)	1.181 (30)	.787 (20)	.827 (21)
55230-12-14	12	14	2.402 (61)	1.201 (30,5)	.787 (20)	.827 (21)

**55235**

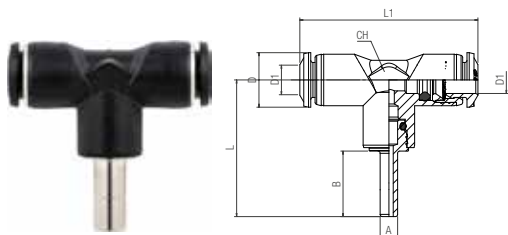
RUN TEE PLUG IN



Part No.	D1	D2	A	B	L	L1	L2	CH	D
55235-4-4-4	5/32(4)	5/32(4)	5/32(4)	.591 (15)	1.102 (28)	.650 (16,5)	.650 (16,5)	.354 (9)	.394 (10)
55235-6-6-6	6	6	6	.669 (17)	1.319 (33,5)	.807 (20,5)	.807 (20,5)	.433 (11)	.492 (12,5)
55235-8-8-8	5/16(8)	5/16(8)	5/16(8)	.709 (18)	1.437 (36,5)	.886 (22,5)	.886 (22,5)	.512 (13)	.551 (14)
55235-10-10-10	10	10	10	.866 (22)	1.732 (44)	1.043 (26,5)	1.043 (26,5)	.630 (16)	.669 (17)
55235-12-12-12	12	12	12	.965 (24,5)	1.220 (31)	1.969 (50)	1.22 (31)	.748 (19)	.787 (20)
55235-4-6-6	5/32(4)	6	6	.669 (17)	.787 (20)	1.319 (33,5)	.807 (20,5)	.433 (11)	.492 (12,5)
55235-6-8-8	6	5/16(8)	5/16(8)	.886 (22,5)	.886 (22,5)	1.437 (36,5)	.886 (22,5)	.512 (13)	.551 (14)
55235-8-10-10	5/16(8)	10	10	.866 (22)	1.024 (26)	1.732 (44)	1.043 (26,5)	.630 (16)	.669 (17)
55235-10-12-12	10	12	12	.965 (24,5)	1.181 (30)	1.969 (50)	1.22 (31)	.748 (19)	.787 (20)

**55237**

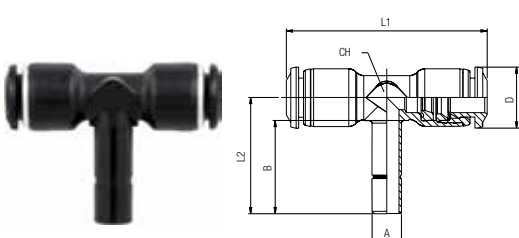
BRANCH TEE PLUG IN



Part No.	D1	A	B	L	L1	CH	D
55237-6-4	6	5/32 (4)	.591 (15)	1.240 (31,5)	1.614 (41)	.433 (11)	.492 (12,5)
55237-8-6	5/16 (8)	6	.669 (17)	1.398 (35,5)	1.772 (45)	.512 (13)	.551 (14)
55237-10-8	10	5/16 (8)	.709 (18)	1.575 (40)	2,087 (53)	.630 (16)	.669 (17)
55237-12-10	12	10	.866 (22)	1.870 (47,5)	2,402 (61)	.748 (19)	.787 (20)

**55240**

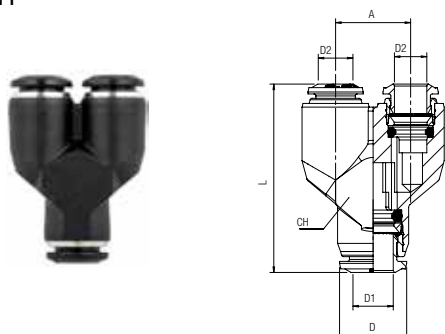
TEE PLUG IN



Part No.	Tube	A	B	L1	L2	CH	D
55240-4	5/32 (4)	5/32 (4)	.669 (17)	1.299 (33)	.815 (20,7)	.276 (7)	.394 (10)
55240-4-6	5/32 (4)	6	.748 (19)	1.299 (33)	.894 (22,7)	.276 (7)	.394 (10)
55240-6	6	6	.748 (19)	1.614 (41)	.933 (23,7)	.354 (9)	.492 (12,5)
55240-6-4	6	5/32 (4)	.669 (17)	1.614 (41)	.854 (21,7)	.354 (9)	.492 (12,5)
55240-8	5/16 (8)	5/16 (8)	.787 (20)	1.732 (44)	1.024 (26)	.394 (10)	.551 (14)
55240-8-10	5/16 (8)	10	.874 (22,2)	1.732 (44)	1.102 (28)	.394 (10)	.551 (14)
55240-10	10	10	.886 (22,5)	2.087 (53)	1.181 (30)	.512 (13)	.669 (17)
55240-10-12	10	12	.984 (25)	2.087 (53)	1.268 (32,2)	.512 (13)	.669 (17)
55240-12	12	12	1.004 (25,5)	2.421 (61,5)	1.319 (33,5)	.630 (16)	.787 (20)

**55310**

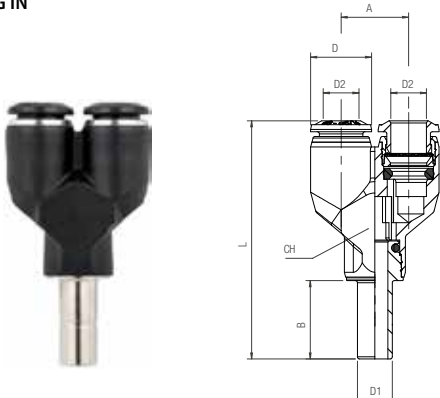
UNION Y



Part No.	D1	D2	A	L	CH	D
55310-4	5/32 (4)	5/32 (4)	.433 (11)	1.24 (31,5)	.394 (10)	.394 (10)
55310-6-4	6	5/32 (4)	.531 (13,5)	1.398 (35,5)	.472 (12)	.492 (12,5)
55310-6	6	6	.531 (13,5)	1.457 (37)	.472 (12)	.472 (12)
55310-8-6	5/16 (8)	6	.610 (15,5)	1.614 (41)	.551 (14)	.551 (14)
55310-8	5/16 (8)	5/16 (8)	.610 (15,5)	1.575 (40)	.551 (14)	.551 (14)
55310-10-8	10	5/16 (8)	.748 (19)	1.870 (47,5)	.669 (17)	.709 (18)
55310-10	10	10	.748 (19)	1.909 (48,5)	.669 (17)	.709 (18)
55310-12-8	12	5/16 (8)	.866 (22)	2.264 (57,5)	.787 (20)	.787 (20)
55310-12	12	12	.866 (22)	2.264 (57,5)	.787 (20)	.787 (20)

**55315**

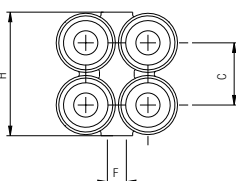
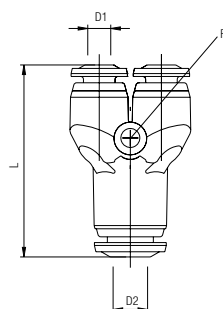
Y PLUG IN



Part No.	D1	D2	A	L	CH	B	D
55315-4	5/32 (4)	5/32 (4)	.433 (11)	1.693 (43)	.394 (10)	.591 (15)	.394 (10)
55315-6-4	6	5/32 (4)	.531 (13,5)	1.949 (49,5)	.472 (12)	.669 (17)	.492 (12,5)
55315-6	6	6	.531 (13,5)	1.969 (50)	.472 (12)	.669 (17)	.492 (12,5)
55315-8-6	5/16 (8)	6	.610 (15,5)	2.165 (55)	.551 (14)	.709 (18)	.492 (12,5)
55315-8	5/16 (8)	5/16 (8)	.610 (15,5)	2.165 (55)	.551 (14)	.709 (18)	.551 (14)
55315-10-8	10	5/16 (8)	.748 (19)	2.559 (65)	.669 (17)	.866 (22)	.669 (17)
55315-10	10	10	.748 (19)	2.579 (65,5)	.669 (17)	.866 (22)	.669 (17)
55315-12	12	12	.866 (22)	3.071 (78)	.787 (20)	.965 (24,5)	.787 (20)

**55330**

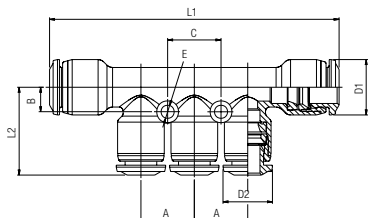
4 POSITION Y



Part No.	D1	D2	C	L	F	H
55330-4-4	5/32 (4)	5/32 (4)	.425 (10,8)	1.319 (33,5)	.130 (3,3)	.846 (21,5)
55330-4-6	5/32 (4)	6	.425 (10,8)	1.358 (34,5)	.130 (3,3)	.846 (21,5)
55330-6-6	6	6	.524 (13,3)	1.555 (39,5)	.130 (3,3)	1.055 (26,8)
55330-6-8	6	5/16 (8)	.524 (13,3)	1.575 (40)	.130 (3,3)	1.055 (26,8)

**55350**

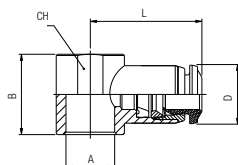
REDUCTION MANIFOLD



Part No.	Tube	A	B	L1	L2	C	E	D1	D2
55350-6-4	6 - 5/32(4)	.531 (13,5)	.236 (6)	2.913 (74)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.551 (14)	.472 (12)
55350-8-4	5/16(8) - 5/32(4)	.531 (13,5)	.236 (6)	2.874 (73)	.858 (21,8)	.531 (13,5)	.130 (3,3)	.551 (14)	.472 (12)
55350-8-6	5/16(8) - 6	.531 (13,5)	.236 (6)	2.874 (73)	.878 (22,3)	.531 (13,5)	.130 (3,3)	.551 (14)	.492 (12,5)
55350-10-6	10 - 6	.591 (15)	.276 (7)	3.268 (83)	.933 (23,7)	.591 (15)	.130 (3,3)	.669 (17)	.551 (14)
55350-10-8	10 - 5/16(8)	.591 (15)	.276 (7)	3.268 (83)	.913 (23,2)	.591 (15)	.130 (3,3)	.669 (17)	.551 (14)

**55500**

SINGLE BANJO BODY

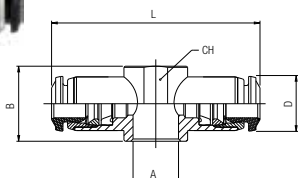


Part No.	Tube	A	B	L	CH	D
55500-4-M5	5/32 (4)	M5	.551 (14)	.768 (19,5)	.354 (9)	.394 (10)
55500-4-M6	5/32 (4)	M6	.551 (14)	.768 (19,5)	.354 (9)	.394 (10)
55500-4-1/8	5/32 (4)	1/8	.65 (16,5)	.846 (21,5)	.551 (14)	.394 (10)
55500-4-1/4	5/32 (4)	1/4	.728 (18,5)	.925 (23,5)	.708 (18)	.472 (12)
55500-5-M5	5	M5	.551 (14)	.807 (20,5)	.354 (9)	.472 (12)
55500-5-M6	5	M6	.551 (14)	.807 (20,5)	.354 (9)	.472 (12)
55500-5-1/8	5	1/8	.650 (16,5)	.886 (22,5)	.551 (14)	.472 (12)
55500-5-1/4	5	1/4	.728 (18,5)	.984 (25)	.709 (18)	.472 (12)
55500-6-M5	6	M5	.551 (14)	.827 (21)	.354 (9)	.472 (12)
55500-6-M6	6	M6	.551 (14)	.827 (21)	.354 (9)	.472 (12)
55500-6-1/8	6	1/8	.650 (16,5)	.906 (23)	.551 (14)	.472 (12)
55500-6-1/4	6	1/4	.728 (18,5)	1.004 (25,5)	.709 (18)	.472 (12)
55500-8-1/8	5/16 (8)	1/8	.650 (16,5)	.925 (23,5)	.551 (14)	.551 (14)
55500-8-1/4	5/16 (8)	1/4	.728 (18,5)	1.024 (26)	.709 (18)	.551 (14)
55500-8-3/8	5/16 (8)	3/8	.866 (22)	1.083 (27,5)	.827 (21)	.551 (14)
55500-10-1/4	10	1/4	.728 (18,5)	1.220 (31)	.708 (18)	.669 (17)
55500-10-3/8	10	3/8	.866 (22)	1.201 (30,5)	.827 (21)	.669 (17)
55500-12-3/8	12	3/8	.866 (22)	1.280 (32,5)	.827 (21)	.787 (20)
55500-12-1/2	12	1/2	1.024 (26)	1.378 (35)	1.024 (26)	.787 (20)

For BANJO STEM assemblies see 10.7/10.8/10.9

**55510**

DOUBLE BANJO BODY



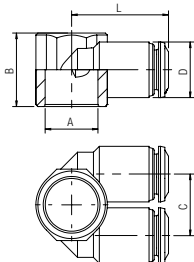
Part No.	Tube	A	B	L	CH	D
55510-4-M5	5/32 (4)	M5	.551 (14)	1.535 (39)	.354 (9)	.394 (10)
55510-4-1/8	5/32 (4)	1/8	.650 (16,5)	1.693 (43)	.551 (14)	.394 (10)
55510-5-1/8	5	1/8	.650 (16,5)	1.772 (45)	.551 (14)	.472 (12)
55510-5-1/4	5	1/4	.728 (18,5)	1.969 (50)	.709 (18)	.472 (12)
55510-6-1/8	6	1/8	.650 (16,5)	1.811 (46)	.551 (14)	.472 (12)
55510-6-1/4	6	1/4	.728 (18,5)	2.008 (51)	.709 (18)	.472 (12)
55510-8-1/8	5/16 (8)	1/8	.650 (16,5)	1.850 (47)	.551 (14)	.551 (14)
55510-8-1/4	5/16 (8)	1/4	.728 (18,5)	2.047 (52)	.709 (18)	.551 (14)

For BANJO STEM assemblies see 10.7/10.8/10.9



**55520**

DOUBLE BANJO BODY

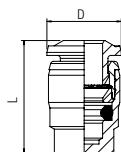


Part No.	Tube	A	B	C	L	D
55520-4-1/8	5/32 (4)	1/8	.650 (16,5)	.512 (13)	.827 (21)	.472 (12)
55520-4-1/4	5/32 (4)	1/4	.728 (18,5)	.610 (15,5)	.945 (24)	.551 (14)
55520-6-1/8	6	1/8	.650 (16,5)	.512 (13)	.846 (21,5)	.472 (12)
55520-6-1/4	6	1/4	.728 (18,5)	.610 (15,5)	.965 (24,5)	.551 (14)
55520-6-3/8	6	3/8	.866 (22)	.531 (13,5)	.984 (25)	.472 (12)
55520-8-1/4	5/16 (8)	1/4	.728 (18,5)	.610 (15,5)	.965 (24,5)	.551 (14)
55520-8-3/8	5/16 (8)	3/8	.866 (22)	.748 (19)	1.102 (28)	.669 (17)
55520-10-3/8	10	3/8	.866 (22)	.748 (19)	1.102 (28)	.669 (17)

For BANJO STEM assemblies see 10.7/10.8/10.9

**55620**

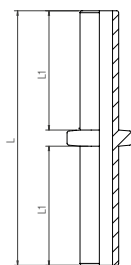
TERMINAL PLUG



Part No.	Tube	D	L
55620-4	5/32 (4)	.393 (10)	.708 (18)
55620-6	6	.492 (12,5)	.787 (20)
55620-8	5/16 (8)	.551 (14)	.846 (21,5)
55620-10	10	.669 (17)	.984 (25)
55620-12	12	.787 (20)	1.082 (27,5)

**55625**

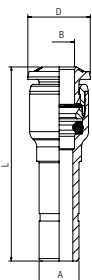
DOUBLE JOINT



Part No.	Tube	L	L1
55625-4	5/32 (4)	1.358 (34,5)	.630 (16)
55625-6	6	1.555 (39,5)	.728 (18,5)
55625-8	5/16 (8)	1.654 (42)	.768 (19,5)
55625-10	10	2.028 (51,5)	.945 (24)
55625-12	12	2.362 (60)	1.102 (28)
55625-14	14	2.736 (69,5)	1.299 (33)

**55700**

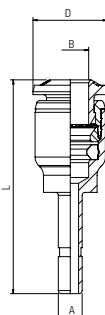
TUBE REDUCER



Part No.	A	B	L	D
55700-6-4	6	5/32 (4)	1.339 (34)	.394 (10)
55700-8-4	5/16 (8)	5/32 (4)	1.496 (38)	.472 (12)
55700-8-6	5/16 (8)	6	1.535 (39)	.492 (12,5)
55700-10-6	10	6	1.673 (42,5)	.492 (12,5)
55700-10-8	10	5/16 (8)	1.654 (42)	.551 (14)
55700-12-6	12	6	1.516 (38,5)	.492 (12,5)
55700-12-8	12	5/16 (8)	1.634 (41,5)	.551 (14)
55700-12-10	12	10	1.909 (48,5)	.669 (17)
55700-14-8	14	5/16 (8)	1.476 (37,5)	.551 (14)
55700-14-10	14	10	1.969 (50)	.787 (20)
55700-14-12	14	12	1.969 (50)	.787 (20)

**55705**

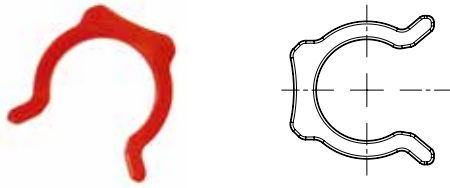
TUBE EXPANDER



Part No.	A	B	L	D
55705-4-6	5/32 (4)	6	1.417 (36)	.472 (12)
55705-6-8	6	5/16 (8)	1.516 (38,5)	.551 (14)
55705-8-10	8	10	1.693 (43)	.669 (17)
55705-10-12	10	12	1.89 (48)	.787 (20)

**50980**

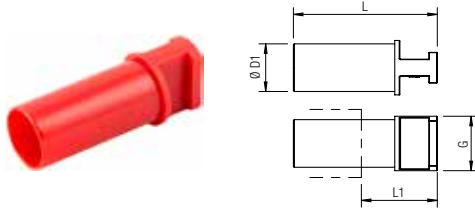
SECURITY CLIPS



Part No.	Tube
50980-53	5/32 (4)
50980-5	3/16 (5)
50980-04	1/4 (6)
50980-05	5/16 (8)
50980-06	3/8 (10)
50980-08	1/2 (12)
50980-14	(14)

**50610**

POLYAMIDE PLUG



Part No.	ØD1	G	L	L1
50610-3	3	.197 (5)	1.201 (30,5)	.709 (18)
50610-4	5/32 (4)	.236 (6)	1.162 (29,5)	.611 (15,5)
50610-5	5	.276 (7)	1.319 (33,5)	.709 (18)
50610-6	6	.315 (8)	1.260 (32)	.611 (15,5)
50610-8	5/16 (8)	.394 (10)	1.398 (35,5)	.768 (19,5)
50610-10	10	.472 (12)	1.575 (40)	.768 (19,5)
50610-12	12	.551 (14)	1.634 (41,5)	.787 (20)
50610-14	14	.630 (16)	1.654 (42)	.768 (19,5)

**50615**

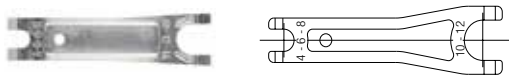
COLORED RELEASE BOTTON COVERS



Part No	Color					Tube
	BN	BL	GI	RO	VE	
50615-4	BN	BL	GI	RO	VE	4
50615-6	BN	BL	GI	RO	VE	6
50615-8	BN	BL	GI	RO	VE	8
50615-10	BN	BL	GI	RO	VE	10
50615-12	BN	BL	GI	RO	VE	12
50615-14	BN	BL	GI	RO	VE	14

**50991**

TOOL FOR DISASSEMBLING



Part No.
50991

**50006**

THREAD PACKING FOR THE SWIFTFIT TAPER THREADS



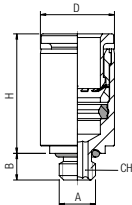
Part No.	Thread
50006-02	1/8
50006-04	1/4
50006-06	3/8
50006-08	1/2

**56 SERIES - MINI**

**56010**

STRAIGHT MALE WITH INTERNAL HEX

**BSPP**

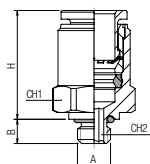


Part No.	Tube	A	B	H	CH	D
56010-4-M3	5/32 (4)	M3	.118 (3)	.591 (15)	.059 (1,5)	.315 (8)
56010-4-M5	5/32 (4)	M5	.142 (3,6)	.551 (14)	.098 (2,5)	.335 (8,5)
56010-4-M7	5/32 (4)	M7	.197 (5)	.551 (14)	.118 (3)	.394 (10)
56010-6-M5	6	M5	.142 (3,6)	.630 (16)	.098 (2,5)	.394 (10)
56010-6-M7	6	M7	.197 (5)	.630 (16)	.157 (4)	.394 (10)

**56020**

STRAIGHT MALE

**BSPP**

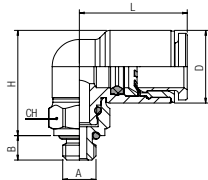


Part No.	Tube	A	B	H	CH1	CH2
56020-2-M3	2	M3	.118 (3)	.433 (11)	.236 (6)	.059 (1,5)
56020-2-M5	2	M5	.157 (4)	.354 (9)	.276 (7)	.059 (1,5)
56020-3-M3	3	M3	.118 (3)	.433 (11)	.236 (6)	.059 (1,5)
56020-3-M5	3	M5	.157 (4)	.394 (10)	.276 (7)	.079 (2)
56020-4-M3	5/32 (4)	M3	.118 (3)	.571 (14,5)	.315 (8)	-
56020-4-M5	5/32 (4)	M5	.142 (3,6)	.551 (14)	.354 (9)	.098 (2,5)
56020-4-M7	5/32 (4)	M7	.197 (5)	.551 (14)	.394 (10)	.118 (3)
56020-4-1/8	5/32 (4)	1/8	.197 (5)	.453 (11,5)	.512 (13)	.118 (3)
56020-6-M5	6	M5	.142 (3,6)	.630 (16)	.433 (11)	.098 (2,5)
56020-6-M7	6	M7	.197 (5)	.630 (16)	.394 (10)	.118 (3)
56020-6-1/8	6	1/8	.197 (5)	.531 (13,5)	.512 (13)	.157 (4)
56020-6-1/4	6	1/4	.280 (7,1)	.472 (12)	.630 (16)	.157 (4)

**56115**

SWIVEL ELBOW

**BSPP**

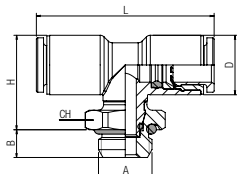


Part No.	Tube	A	B	H	L	D	CH
56115-2-M3	2	M3	.118 (3)	.512 (13)	.433 (11)	.256 (6,5)	.315 (8)
56115-2-M5	2	M5	.157 (4)	.492 (12,5)	.433 (11)	.256 (6,5)	.315 (8)
56115-3-M3	3	M3	.118 (3)	.512 (13)	.433 (11)	.256 (6,5)	.315 (8)
56115-3-M5	3	M5	.157 (4)	.492 (12,5)	.433 (11)	.256 (6,5)	.315 (8)
56115-4-M3	5/32 (4)	M3	.118 (3)	.394 (10)	.551 (14)	.335 (8,5)	.315 (8)
56115-4-M5	5/32 (4)	M5	.142 (3,6)	.531 (13,5)	.551 (14)	.335 (8,5)	.315 (8)
56115-4-1/8	5/32 (4)	1/8	.197 (5)	.512 (13)	.551 (14)	.335 (8,5)	.512 (13)
56115-4-1/4	5/32 (4)	1/4	.280 (7,1)	.512 (13)	.551 (14)	.335 (8,5)	.630 (16)
56115-6-M5	6	M5	.142 (3,6)	.610 (15,5)	.630 (16)	.413 (10,5)	.315 (8)
56115-6-M7	6	M7	.197 (5)	.623 (16)	.623 (16)	.413 (10,5)	.354 (9)
56115-6-1/8	6	1/8	.197 (5)	.591 (15)	.630 (16)	.413 (10,5)	.512 (13)
56115-6-1/4	6	1/4	.280 (7,1)	.591 (15)	.630 (16)	.413 (10,5)	.630 (16)

**56215**

SWIVEL BRANCH TEE

**BSPP**

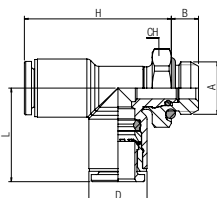


Part No.	Tube	A	B	H	L	CH	D
56215-2-M3	2	M3	.118 (3)	.512 (13)	.866 (22)	.315 (8)	.256 (6,5)
56215-2-M5	2	M5	.157 (4)	.492 (12,5)	.866 (22)	.315 (8)	.256 (6,5)
56215-3-M3	3	M3	.118 (3)	.512 (13)	.866 (22)	.315 (8)	.256 (6,5)
56215-3-M5	3	M5	.157 (4)	.492 (12,5)	.866 (22)	.315 (8)	.256 (6,5)

**56225**

SWIVEL RUN TEE

**BSPP**

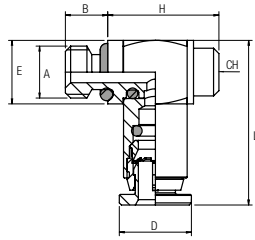


Part No.	Tube	A	B	H	L	CH	D
56225-2-M3	2	M3	.118 (3)	.827 (21)	.433 (11)	.315 (8)	.256 (6,5)
56225-2-M5	2	M5	.157 (4)	.827 (21)	.433 (11)	.315 (8)	.256 (6,5)
56225-3-M3	3	M3	.118 (3)	.827 (21)	.433 (11)	.315 (8)	.256 (6,5)
56225-3-M5	3	M5	.157 (4)	.827 (21)	.433 (11)	.315 (8)	.256 (6,5)

**56550**

SWIVEL SINGLE BANJO BODY

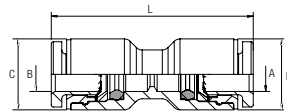
**BSPP**



Part No.	Tube	A	B	H	L	E	CH	D
56550-3-M3	3	M3	.118 (3)	.413 (10,5)	.610 (15,5)	.236 (6)	.079 (2)	.276 (7)
56550-3-M5	3	M5	.157 (4)	.413 (10,5)	.610 (15,5)	.236 (6)	.079 (2)	.276 (7)

**56040**

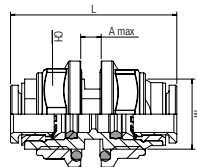
UNION



Part No.	A	B	C	L	D
56040-4-4	5/32 (4)	5/32 (4)	.335 (8,5)	.984 (25)	.335 (8,5)
56040-6-6	6	6	.413 (10,5)	1.102 (28)	.413 (10,5)
56040-8-6	5/16 (8)	6	.413 (10,5)	1.358 (34,5)	.551 (14)

**56050**

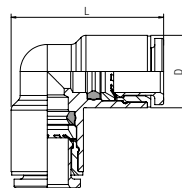
BULKHEAD UNION



Part No.	Tube	M	L	CH	A max
56050-4	5/32 (4)	M10x1	.984 (25)	.512 (13)	.217 (5,5)
56050-6	6	M12x1	1.102 (28)	.591 (15)	.335 (8,5)

**56130**

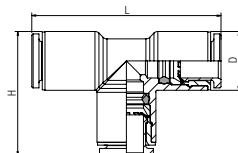
UNION ELBOW



Part No.	Tube	L	D
56130-2	2	.571 (14,5)	.256 (6,5)
56130-3	3	.571 (14,5)	.256 (6,5)
56130-4	5/32 (4)	.748 (19)	.335 (8,5)
56130-6	6	.886 (22,5)	.413 (10,5)

**56230**
















UNION TEE



Part No.	Tube	H	L	D
56230-2	2	.571 (14,5)	.866 (22)	.256 (6,5)
56230-3	3	.571 (14,5)	.866 (22)	.256 (6,5)
56230-4	5/32 (4)	.748 (19)	1.142 (29)	.335 (8,5)
56230-6	6	.886 (22,5)	1.358 (34,5)	.413 (10,5)



## MIST FIT Series

 <b>84000H</b> Pag. 7.6	 <b>84111H</b> Pag. 7.6	 <b>84211H</b> Pag. 7.6	 <b>84040H</b> Pag. 7.7	 <b>84041H 84042H</b> Pag. 7.7	 <b>84130H</b> Pag. 7.7	 <b>84131H</b> Pag. 7.8	 <b>84202H</b> Pag. 7.8	 <b>84230H</b> Pag. 7.8
 <b>84320H</b> Pag. 7.9	 <b>84610H</b> Pag. 7.9	 <b>84620H</b> Pag. 7.9	 <b>84700H</b> Pag. 7.10	 <b>84707H</b> Pag. 7.10	 <b>84708H</b> Pag. 7.10			

PUSH - IN FITTINGS FOR MISTINGS SYSTEMS



**MIST FIT Series**

MIST  
FIT







**TECHNICAL CHARACTERISTICS**



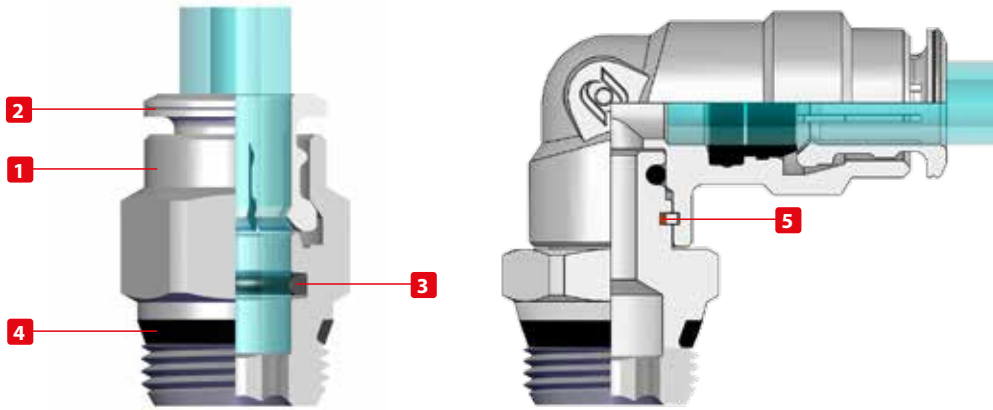
**Reference Standard**

1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

**SILICON FREE**

**PED 2014/68/UE**



**Pressure Rating**

**0 bar ~ 85 bar**  
**0 MPa ~ 8.5 MPa**



**Component Parts and Materials**

- 1 Nickel-plated brass Body
- 2 Nickel-plated brass Clamping washer
- 3 NBR O-Ring
- 4 Nbr Thread packing
- 5 Seeger



**Temperatures Rating**

**NBR**  
**0° F ~ 176° F**  
**0° C ~ 80° C**



**Applications**

- Centralized nebulization
- Dust destruction
- Temperatures destruction
- Humidification
- Greenhouses irrigation
- Aromas diffusion
- insects disinfection



**Media**

- Water



**Tubing Compatibility**

PLASTIC TUBES:  
PA12, Metallic tubes.  
\* Copper or Steel tube, must be grooved.



**Advantages**

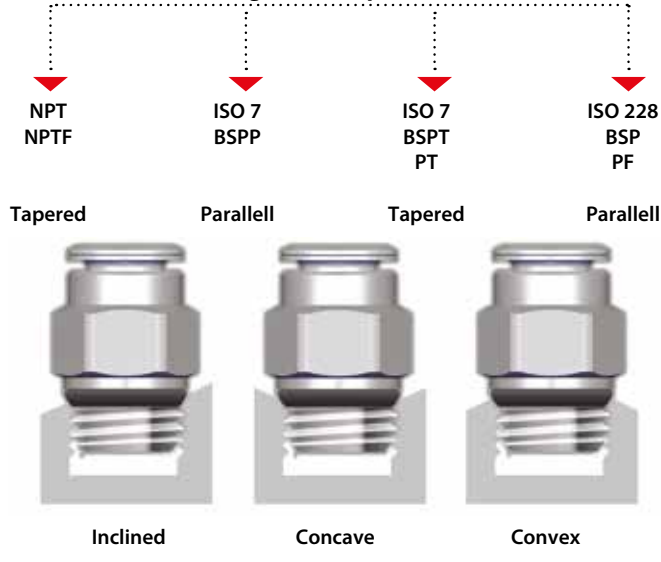
- 1 Immediate connection and disconnection, absolute endurance
- 2 Two available threads
- 3 Protective chemical nickel plating
- 4 Strength because of the entire realization in metal
- 5 Large range in order to satisfy the most demanding applications



**THREADS & ADVANTAGES**



*One fitting... Endless possibilities*



Our **SWIFFFIT** universal fittings also work on non-flat surfaces without compromising an air-tight seal.

The **SWIFFFIT** Universal Thread has been designed to offer the following advantages to the end users:

- Reduced overall length
- Smaller hex dimensions compared to parallel threads
- Fits with various parallel and tapered threads
- All **SWIFFFIT** fittings have been equipped with threads and an NBR thread seal that will universally connect to all thread types.

**Torque Specifications**

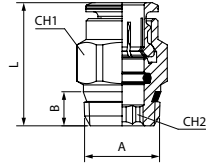
Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm

**84000H**

STRAIGHT MALE



Part No.	Tube	A	B	L	CH1	CH2
84000H-1/4-1/4	1/4	1/4	.276 (7)	1003(25.5)	.551 (14)	-
84000H-1/4-3/8	1/4	3/8	.295 (7,5)	1023 (26)	.669 (17)	-
84000H-3/8-1/4	3/8	1/4	.276 (7)	1181 (30)	.709 (18)	.276 (7)
84000H-3/8-3/8	3/8	3/8	.295 (7,5)	1063 (27)	.709 (18)	.315 (8)

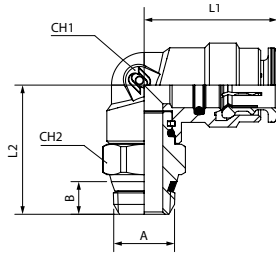


**84111H**

SWIVEL ELBOW



Part No.	Tube	A	B	L1	L2	CH1	CH2
84111H-1/4-1/4	1/4	1/4	.276 (7)	1.063 (27)	.926 (23,5)	.433 (11)	.591 (15)
84111H-1/4-3/8	1/4	3/8	.295 (7,5)	1.063 (27)	.945 (24)	.433 (11)	.669 (17)
84111H-3/8-1/4	3/8	1/4	.276 (7)	1.103 (28)	1.083 (27,5)	.551 (14)	.630 (16)
84111H-3/8-3/8	3/8	3/8	.295 (7,5)	1.103 (28)	1.083 (27,5)	.551 (14)	.669 (17)

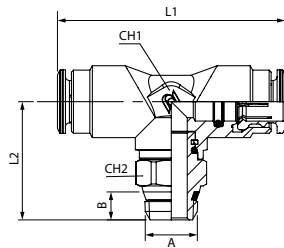


**84211H**

SWIVEL BRANCH TEE



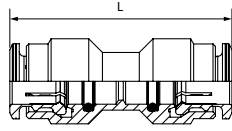
Part No.	Tube	A	B	L1	L2	CH1	CH2
84211H-1/4-1/4	1/4	1/4	.276 (7)	2049 (52)	1003(25.5)	.433 (11)	.591 (15)
84211H-1/4-3/8	1/4	3/8	.295 (7,5)	2049 (52)	.946 (24)	.433 (11)	.669 (17)
84211H-3/8-1/4	3/8	1/4	.276 (7)	2.244 (57)	1.163 (29,5)	.630 (16)	.630 (16)
84211H-3/8-3/8	3/8	3/8	.295 (7,5)	2.244 (57)	1.083 (27,5)	.630 (16)	.669 (17)



**84040H**

UNION

Part No.	Tube	A	L
84040H-1/4	1/4	1/8	1.712 (43.5)
84040H-1/4	3/8	1/8	1.850 (47)

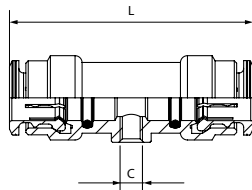


**84041H - 84042H**

UNION FOR NOZZLE ADAPTER

**UNC**

Part No.	Tube	C	L
84041H-1/4	1/4	10-24 UNC	1.929 (49)
84041H-3/8	3/8	10-24 UNC	2.049 (52)
84042H-3/8	3/8	12-24 UNC	2.049 (52)

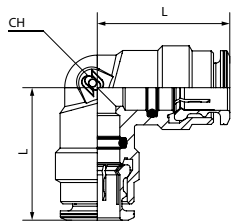


**84130H**

UNION ELBOW

**UNC**

Part No.	Tube	L	CH
84130H-1/4	1/4	1.023 (26)	.433 (11)
84130H-3/8	3/8	1.103 (28)	.551 (14)

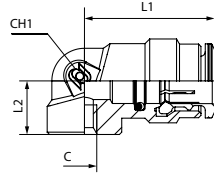


**84131H**

ELBOW FOR NOZZLE ADAPTER

**UNC**

Part No.	Tube	C	L1	L2	CH
84131H-1/4	1/4	10-24 UNC	.984 (25)	.394 (10)	.433 (11)
84131H-3/8	3/8	10-24 UNC	1.103 (28)	.453 (11,5)	.551 (14)

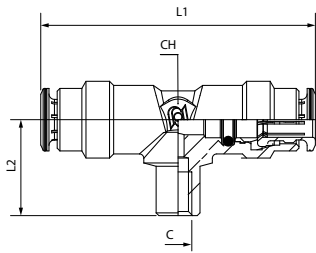


**84202H**

TEE PLUG IN

**UNC**

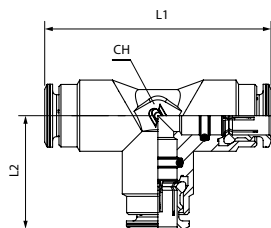
Part No.	Tube	C	L1	L2	CH
84202H-1/4	1/4	10-24 UNC	2.049 (52)	.689 (17,5)	.433 (11)



**84230H**

UNION TEE

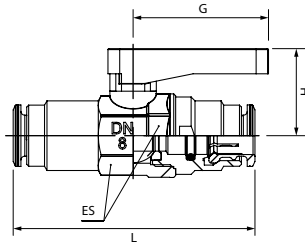
Part No.	Tube	L1	L2	CH	CH2
84230H-1/4	1/4	2.049 (52)	1.023 (26)	.433 (11)	.591 (15)
84230H-3/8	3/8	2.244 (57)	1.103 (28)	.630 (16)	.669 (17)



**84320H**

BALL VALVE - TUBE X TUBE

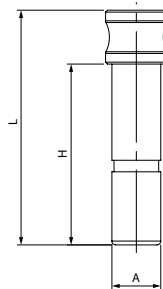
Part No.	Tube	L	H	G	ES
<b>84320H-1/4</b>	<b>1/4</b>	2.303 (58.5)	.878 (22.5)	1.378 (35)	.709 (18) - .748 (19)
<b>84320H-3/8</b>	<b>3/8</b>	2.461 (62.5)	.878 (22.5)	1.378 (35)	.709 (18) - .748 (19)



**84610H**

PLUG

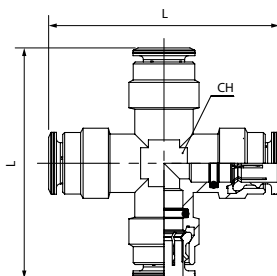
Part No.	Tube	L	H
<b>84610H-1/4</b>	<b>1/4</b>	1.201 (30,5)	.925 (23,5)
<b>84610H-3/8</b>	<b>3/8</b>	1.181 (30)	.867 (22)



**84620H**

UNION CROSS

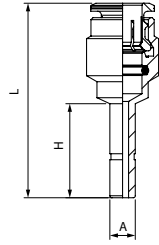
Part No.	Tube	L	CH
<b>84620H-1/4</b>	<b>1/4</b>	2.049 (52)	.512 (13)
<b>84620H-3/8</b>	<b>3/8</b>	2.244 (57)	.669 (17)



**84700H**

REDUCER

Part No.	Tube	A	L	H
84700H-1/4-3/8	1/4	3/8	1.634 (41.5)	.866 (22)
84700H-3/8-1/4	3/8	1/4	1.909 (48.5)	.925 (23.5)

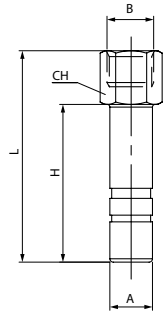


**84707H**

REDUCER FOR NOZZLE ADAPTER

**UNC**

Part No.	A	B	L	H	CH
84707H-1/4	1/4	10-24 UNC	1.240 (31,5)	.925 (23,5)	.315 (8)

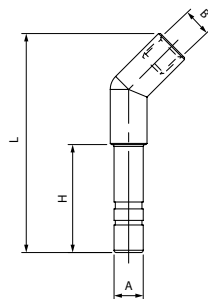


**84708H**

45° REDUCER FOR NOZZLE ADAPTER

**UNC**

Part No.	A	B	L	H
84708H-1/4	1/4	10-24 UNC	1.870 (47,5)	.925 (23,5)



## 60 Series - Metric Swiftfit Stainless Fittings





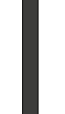



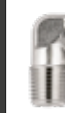









### Inch Tube

 <b>60000</b> Pg. 8.5	 <b>60000</b> Pg. 8.5	 <b>60110</b> Pg. 8.5	 <b>60110</b> Pg. 8.5	 <b>60111X</b> Pg. 8.6	 <b>60111X</b> Pg. 8.6	 <b>60210</b> Pg. 8.6	 <b>60210</b> Pg. 8.6	 <b>60211X</b> Pg. 8.7
 <b>60211X</b> Pg. 8.7	 <b>60040</b> Pg. 8.7	 <b>60050</b> Pg. 8.7	 <b>60130</b> Pg. 8.7	 <b>60130X</b> Pg. 8.8	 <b>60230</b> Pg. 8.8	 <b>60230X</b> Pg. 8.8	 <b>60310X</b> Pg. 8.8	

### Metric Tube

 <b>60020</b> Pg. 8.9	 <b>60115</b> Pg. 8.9	 <b>60115X</b> Pg. 8.9	 <b>60215</b> Pg. 8.10	 <b>60215X</b> Pg. 8.10	 <b>60005</b> Pg. 8.10	 <b>60110</b> Pg. 8.10	 <b>60111X</b> Pg. 8.11	 <b>60210</b> Pg. 8.11
 <b>60211X</b> Pg. 8.11	 <b>60040</b> Pg. 8.11	 <b>60050</b> Pg. 8.12	 <b>60130</b> Pg. 8.12	 <b>60130X</b> Pg. 8.12	 <b>60230</b> Pg. 8.13	 <b>60230X</b> Pg. 8.13	 <b>60310X</b> Pg. 8.13	 <b>60600</b> Pg. 8.13

## 62 Series

 <b>62000</b> Pg. 8.14	 <b>62020</b> Pg. 8.14	 <b>62040</b> Pg. 8.14	 <b>62080</b> Pg. 8.14	 <b>62300</b> Pg. 8.15	 <b>62310</b> Pg. 8.15	 <b>62315</b> Pg. 8.15	 <b>62320</b> Pg. 8.15	 <b>62325</b> Pg. 8.15
 <b>62340</b> Pg. 8.16	 <b>62355</b> Pg. 8.16	 <b>62360</b> Pg. 8.16	 <b>62400</b> Pg. 8.16	 <b>62420</b> Pg. 8.17	 <b>62430</b> Pg. 8.17	 <b>62440</b> Pg. 8.17	 <b>62450</b> Pg. 8.17	 <b>62500</b> Pg. 8.17
 <b>62510</b> Pg. 8.18	 <b>62520</b> Pg. 8.18	 <b>62540</b> Pg. 8.18	 <b>62600</b> Pg. 8.18	 <b>62610</b> Pg. 8.18				



STAINLESS STEEL PUSH-TO-CONNECT  
FITTINGS AND ADAPTERS



**60-62 Series**

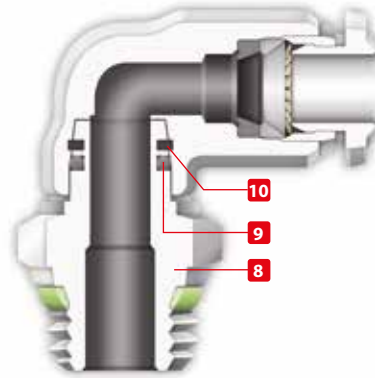
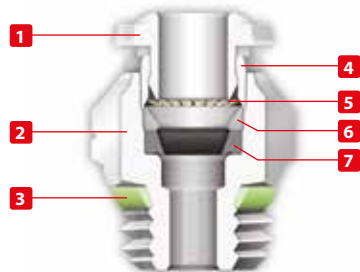
60000  
62000



**TECHNICAL CHARACTERISTICS**



**Reference Standard**



**Pressure Rating**

**Vacuum ~ 290 PSI**  
**-0.99 bar ~ 20 bar**  
**-0.099 MPa ~ 2.0 MPa**



**Temperatures Rating**

**FKM**  
**5° F ~ 392° F**  
**-15° C ~ 200° C**



**Media**

- Compressed Air
- Vacuum
- Water
- Steam



**Applications**

- Pneumatic Automation
- Automotive
- Textile, Packaging
- Compressed Air Circuit
- Vacuum



**Advantages**

- 1 The 316L Stainless Steel gripper ensures a tight clamp for tubes of any material without damaging the tube's surface. The secure connection between the tube and the fitting will hold up to severe conditions such as impact and vibrations.
- 2 The shape of the safety ring and the molded seal perfectly seal off the tube, creating a vacuum.
- 3 Series with several types of threads:  
**SWIFTFIT**  
**UNF**  
**BSPP**  
**BSPT**
- 4 All straight fittings can be tightened with an Allen wrench because of our internal hex design. This enables the end user to tighten the fitting in spaces too small for an openend wrench.
- 5 Our rotating Swivel Elbow fittings are equipped with a safety ring that enables the fitting to rotate without losing a tight seal.



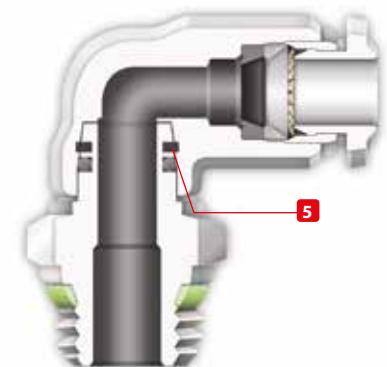
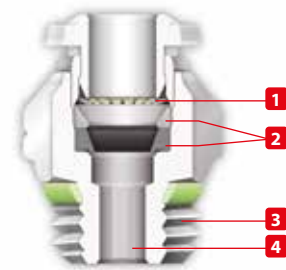
**Component Parts and Materials**

- 1 Stainless Steel Release Collet
- 2 Stainless Steel Body
- 3 FKM Thread Seal
- 4 Stainless Steel Sleeve
- 5 Stainless Steel Gripper
- 6 Technopolymer Safety Ring
- 7 FKM Molded Seal
- 8 Stainless Steel Thread Body
- 9 FKM Seal
- 10 Safety Ring



**Tubing Compatibility**

- Nylon 6 - 11 -12
- Polyethylene
- Polyurethane ("98 Shore A for best result)
- PTFE
- FEP

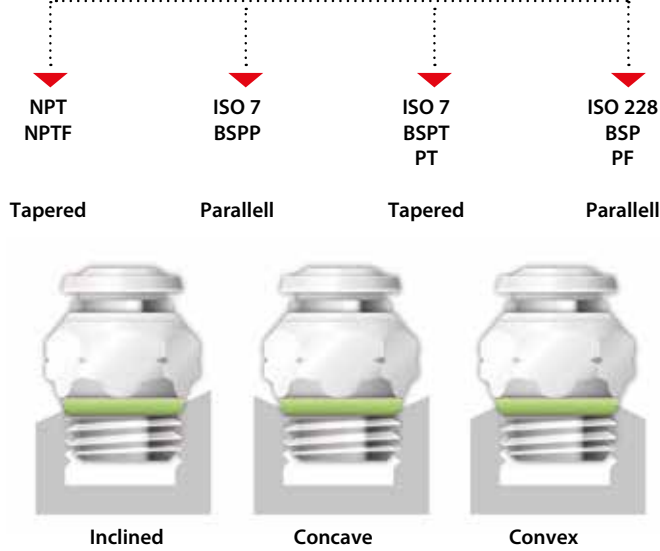




**THREADS & ADVANTAGES**



*One fitting... Endless possibilities*



Our **SWIFFIT** universal fittings also work on non-flat surfaces without compromising an air-tight seal.

The **SWIFFIT** Universal Thread has been designed to offer the following advantages to the end users:

- Reduced overall length
- Smaller hex dimensions compared to parallel threads
- Fits with various parallel and tapered threads
- All **SWIFFIT** fittings have been equipped with threads and an NBR thread seal that will universally connect to all thread types.

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Max.
1/8	5 Nm	7 Nm
1/4	5 Nm	7 Nm
3/8	5 Nm	7 Nm
1/2	5 Nm	7 Nm



**UNF Threads**



The **UNF** Thread has been designed to offer the following advantages to the end users:

- Standard USA design
- Designed for use in UNF connections with an integrated NBR o-ring that provides a perfect seal

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Breaking Torque
10/32	0.8 Nm	3.2 Nm



**BSPP Threads**



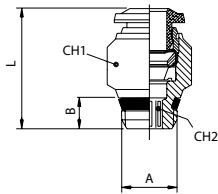
The **BSPP** Thread has been designed to offer the following advantages to the end users:

- Standard ISO 228 and ISO R/262
- Designed for use in BSPP connections with an integrated NBR o-ring that provides a perfect seal
- Completely reusable

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Breaking torque
M5	0.8 Nm	3.2 Nm
1/2	3 Nm	8 Nm
1/4	9 Nm	30 Nm
3/8	10 Nm	60 Nm
1/2	12 Nm	50 Nm

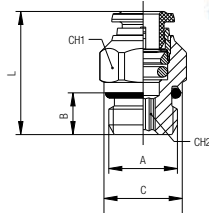
**60000**  
STRAIGHT MALE



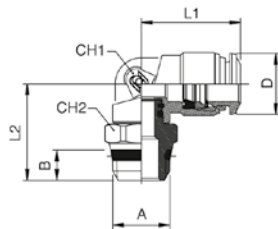
Part No.	Tube	A	B	L	CH1	CH2	C
*60000-53-32	5/32 (4)	10/32	.157 (4)	.826 (21)	.393 (10)	.078 (2)	.314 (8)
60000-53-02	5/32 (4)	1/8	.216 (5,5)	.708 (17,5)	.433 (11)	.118 (3)	-
60000-53-04	5/32 (4)	1/4	.275 (7)	.767 (19,5)	.551 (14)	.118 (3)	-
*60000-04-32	1/4	10/32	.157 (4)	.906 (23)	.472 (12)	.078 (2)	.472 (12)
60000-04-02	1/4	1/8	.334 (8,5)	.925 (23,5)	.511 (13)	.157 (4)	-
60000-04-04	1/4	1/4	.275 (7)	.807 (20,5)	.551 (14)	.157 (4)	-
60000-05-02	5/16 (8)	1/8	.216 (5,5)	.944 (24)	.551 (14)	.196 (5)	-
60000-05-04	5/16 (8)	1/4	.275 (7)	.846 (21,5)	.551 (14)	.236 (6)	-
60000-06-04	3/8	1/4	.275 (7)	1.279 (32,5)	.669 (17)	.275 (7)	-
60000-06-06	3/8	3/8	.295 (7,5)	1.161 (29,5)	.708 (18)	.275 (7)	-
60000-06-08	3/8	1/2	.354 (9)	1.003 (25,5)	.669 (17)	.314 (8)	-
60000-08-06	1/2	3/8	.295 (7,5)	1.220 (31)	.826 (21)	.354 (9)	-
60000-08-08	1/2	1/2	.354 (9)	1.220 (31)	.826 (21)	.393 (10)	-

\* For part numbers with 10-32 threads

**UNF**



**60110**  
SWIVEL ELBOW

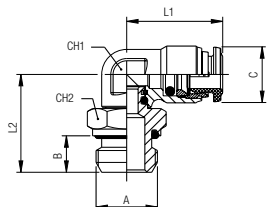


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
*60110-53-32	5/32 (4)	10/32	.157 (4)	.708 (18)	.629 (16)	.354 (9)	.314 (8)	.394 (10)
60110-53-02	5/32 (4)	1/8	.216 (5,5)	.708 (18)	.688 (17,5)	.354 (9)	.511 (13)	.394 (10)
60110-53-04	5/32 (4)	1/4	.275 (7)	.708 (18)	.688 (17,5)	.354 (9)	.551 (14)	.394 (10)
60110-04-02	1/4	1/8	.216 (5,5)	.826 (21)	.748 (19)	.433 (11)	.511 (13)	.492 (12,5)
60110-04-04	1/4	1/4	.275 (7)	.826 (21)	.748 (19)	.433 (11)	.590 (15)	.492 (12,5)
60110-05-02	5/16 (8)	1/8	.216 (5,5)	.885 (22,5)	.826 (21)	.472 (12)	.511 (13)	.571 (14,5)
60110-05-04	5/16 (8)	1/4	.275 (7)	.885 (22,5)	.826 (21)	.472 (12)	.590 (15)	.571 (14,5)
60110-06-04	3/8	1/4	.275 (7)	1.023 (26)	.984 (25)	.629 (16)	.629 (16)	.689 (17,5)
60110-06-06	3/8	3/8	.295 (7,5)	1.023 (26)	.925 (23,5)	.629 (16)	.669 (17)	.689 (17,5)
60110-06-08	3/8	1/2	.354 (9)	1.023 (26)	1.023 (26)	.629 (16)	.826 (21)	.689 (17,5)
60110-08-06	1/2	3/8	.295 (7,5)	1.200 (30,5)	1.003 (25,5)	.748 (19)	.787 (20)	.807 (20,5)
60110-08-08	1/2	1/2	.354 (9)	1.200 (30,5)	1.102 (28)	.748 (19)	.826 (21)	.807 (20,5)

**UNTIL THE END STOCK**

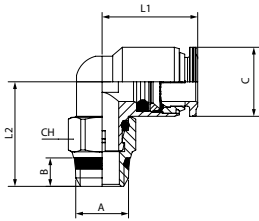
\* For part numbers with 10-32 threads

**UNF**



**60111X**

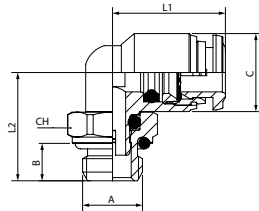
SWIVEL ELBOW



Part No.	Tube	A	B	C	L1	L2	CH
*60111X-53-32	5/32 (4)	10/32	0,157 (4)	0,394 (10)	0,61 (15,5)	0,63 (16)	0,315 (8)
60111X-53-02	5/32 (4)	1/8	0,217 (5,5)	0,394 (10)	0,61 (15,5)	0,61 (15,5)	0,433 (11)
60111X-53-04	5/32 (4)	1/4	0,276 (7)	0,394 (10)	0,61 (15,5)	0,689 (17,5)	0,591 (15)
60111X-04-02	1/4	1/8	0,217 (5,5)	0,492 (12,5)	0,709 (18)	0,669 (17)	0,433 (11)
60111X-04-04	1/4	1/4	0,276 (7)	0,492 (12,5)	0,709 (18)	0,748 (19)	0,591 (15)
60111X-05-02	5/16 (8)	1/8	0,217 (5,5)	0,571 (14,5)	0,787 (20)	0,846 (21,5)	0,472 (12)
60111X-05-04	5/16 (8)	1/4	0,276 (7)	0,571 (14,5)	0,787 (20)	0,846 (21,5)	0,591 (15)
60111X-06-04	3/8	1/4	0,276 (7)	0,669 (17)	0,925 (23,5)	1,004 (25,5)	0,591 (15)
60111X-06-06	3/8	3/8	0,295 (7,5)	0,669 (17)	0,925 (23,5)	0,925 (23,5)	0,669 (17)
60111X-06-08	3/8	1/2	0,354 (9)	0,669 (17)	0,925 (23,5)	1,063 (27)	0,827 (21)
60111X-08-06	1/2	3/8	0,295 (7,5)	0,807 (20,5)	1,083 (27,5)	1,024 (26)	0,669 (17)
60111X-08-08	1/2	1/2	0,354 (9)	0,807 (20,5)	1,083 (27,5)	1,063 (27)	0,827 (21)

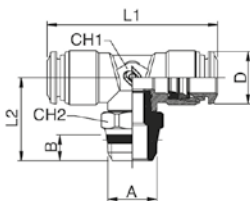
\* For part numbers with 10-32 threads

UNF



**60210**

SWIVEL BRANCH TEE

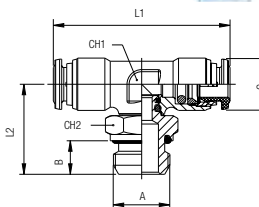


Part No.	Tube	A	B	L1	L2	CH1	CH2	D
*60210-53-32	5/32 (4)	10/32	.157 (4)	1.417 (36)	.629 (16)	.354 (9)	.314 (8)	.394 (10)
60210-53-02	5/32 (4)	1/8	.216 (5,5)	1.417 (36)	.688 (17,5)	.354 (9)	.511 (13)	.394 (10)
60210-53-04	5/32 (4)	1/4	.275 (7)	1.417 (36)	.688 (17,5)	.354 (9)	.590 (15)	.394 (10)
60210-04-02	1/4	1/8	.216 (5,5)	1.653 (42)	.748 (19)	.433 (11)	.511 (13)	.492 (12,5)
60210-04-04	1/4	1/4	.275 (7)	1.653 (42)	.748 (19)	.433 (11)	.590 (15)	.492 (12,5)
60210-05-02	5/16 (8)	1/8	.216 (5,5)	1.771 (45)	.826 (21)	.472 (12)	.511 (13)	.571 (14,5)
60210-05-04	5/16 (8)	1/4	.275 (7)	1.771 (45)	.826 (21)	.472 (12)	.590 (15)	.571 (14,5)
60210-06-04	3/8	1/4	.275 (7)	2.047 (52)	.984 (25)	.629 (16)	.629 (16)	.689 (17,5)
60210-06-06	3/8	3/8	.295 (7,5)	2.047 (52)	.925 (23,5)	.629 (16)	.669 (17)	.689 (17,5)
60210-06-08	3/8	1/2	.354 (9)	2.047 (52)	1.023 (26)	.629 (16)	.826 (21)	.689 (17,5)
60210-08-06	1/2	3/8	.295 (7,5)	2.381 (60,5)	1.003 (25,5)	.748 (19)	.787 (20)	.807 (20,5)
60210-08-08	1/2	1/2	.354 (9)	2.381 (60,5)	1.102 (28)	.748 (19)	.826 (21)	.807 (20,5)

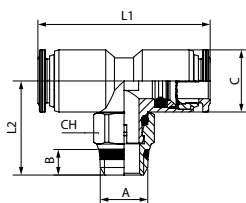
UNTIL THE END STOCK

\* For part numbers with 10-32 threads

UNF



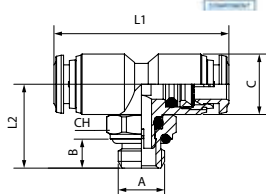
**60211X**  
SWIVEL BRANCH TEE



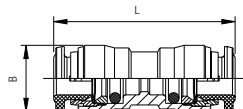
Part No.	Tube	A	B	C	L1	L2	CH
*60211X-53-32	5/32 (4)	10/32	0,157 (4)	0,394 (10)	1,201 (30,5)	0,63 (16)	0,315 (8)
60211X-53-02	5/32 (4)	1/8	0,217 (5,5)	0,394 (10)	1,201 (30,5)	0,61 (15,5)	0,433 (11)
60211X-53-04	5/32 (4)	1/4	0,276 (7)	0,394 (10)	1,201 (30,5)	0,689 (17,5)	0,591 (15)
60211X-04-02	1/4	1/8	0,217 (5,5)	0,492 (12,5)	1,417 (36)	0,669 (17)	0,433 (11)
60211X-04-04	1/4	1/4	0,276 (7)	0,492 (12,5)	1,417 (36)	0,748 (19)	0,591 (15)
60211X-05-02	5/16 (8)	1/8	0,217 (5,5)	0,571 (14,5)	1,575 (40)	0,846 (21,5)	0,472 (12)
60211X-05-04	5/16 (8)	1/4	0,276 (7)	0,571 (14,5)	1,575 (40)	0,846 (21,5)	0,591 (15)
60211X-06-04	3/8	1/4	0,276 (7)	0,669 (17)	1,85 (47)	1,004 (25,5)	0,591 (15)
60211X-06-06	3/8	3/8	0,295 (7,5)	0,669 (17)	1,85 (47)	0,925 (23,5)	0,669 (17)
60211X-06-08	3/8	1/2	0,354 (9)	0,669 (17)	1,85 (47)	1,063 (27)	0,827 (21)
60211X-08-06	1/2	3/8	0,295 (7,5)	0,807 (20,5)	2,165 (55)	1,024 (26)	0,669 (17)
60211X-08-08	1/2	1/2	0,354 (9)	0,807 (20,5)	2,165 (55)	1,063 (27)	0,827 (21)

\* For part numbers with 10-32 threads

**UNF**

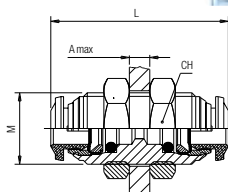


**60040**  
UNION



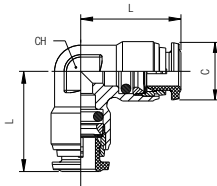
Part No.	Tube	L	B
60040-53	5/32 (4)	1.220 (31)	.393 (10)
60040-04	1/4	1.377 (35)	.492 (12,5)
60040-05	5/16 (8)	1.437 (36,5)	.570 (14,5)
60040-06	3/8	1.653 (42)	.688 (17,5)
60040-08	1/2	1.889 (48)	.807 (20,5)

**60050**  
BULKHEAD UNION



Part No.	Tube	M	L	CH	A max
60050-53	5/32 (4)	M12x1	1.220 (31)	.669 (17)	.275 (7)
60050-04	1/4	M14x1	1.377 (35)	.669 (17)	.354 (9)
60050-05	5/16 (8)	M16x1	1.456 (37)	.748 (19)	.413 (10,5)
60050-06	3/8	M20x1	1.653 (42)	1.023 (26)	.492 (12,5)
60050-08	1/2	M22x1	1.889 (48)	1.023 (26)	.649 (16,5)

**60130**  
UNION ELBOW

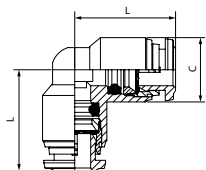


Part No.	Tube	L	CH	C
60130-53	5/32 (4)	.708 (18)	.354 (9)	.394 (10)
60130-04	1/4	.826 (21)	.433 (11)	.492 (12,5)
60130-05	5/16 (8)	.885 (22,5)	.472 (12)	.571 (14,5)
60130-06	3/8	1.023 (26)	.629 (16)	.688 (17,5)
60130-08	1/2	1.200 (30,5)	.748 (19)	.807 (20,5)

**UNTIL THE END STOCK**

**60130X**

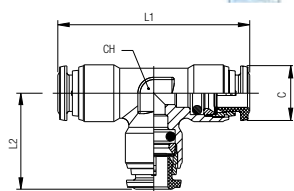
UNION ELBOW



Part No.	Tube	C	L
60130X-53	5/32 (4)	0,394 (10)	0,63 (16)
60130X-04	1/4	0,492 (12,5)	0,768 (19,5)
60130X-05	5/16 (8)	0,571 (14,5)	0,827 (21)
60130X-06	3/8	0,669 (17)	0,098 (2,5)
60130X-08	1/2	0,807 (20,5)	1,142 (29)

**60230**

UNION TEE

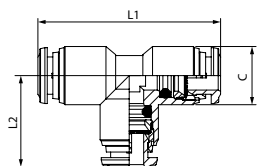


Part No.	Tube	L1	L2	CH	C
60230-53	5/32 (4)	1.417 (36)	.708 (18)	.354 (9)	.394 (10)
60230-04	1/4	1.653 (42)	.826 (21)	.433 (11)	.492 (12,5)
60230-05	5/16 (8)	1.771 (45)	.885 (22,5)	.472 (12)	.571 (14,5)
60230-06	3/8	2.047 (52)	1.023 (26)	.629 (16)	.689 (17,5)
60230-08	1/2	2.381 (60,5)	1.200 (30,5)	.748 (19)	.807 (20,5)

UNTIL THE END STOCK

**60230X**

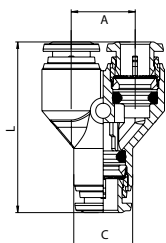
UNION TEE



Part No.	Tube	C	L1	L2
60230X-53	5/32 (4)	0,394 (10)	1,26 (32)	0,63 (16)
60230X-04	1/4	0,492 (12,5)	1,535 (39)	0,768 (19,5)
60230X-05	5/16 (8)	0,571 (14,5)	1,654 (42)	0,827 (21)
60230X-06	3/8	0,669 (17)	1,929 (49)	0,965 (24,5)
60230X-08	1/2	0,807 (20,5)	2,264 (57,5)	1,142 (29)

**60310X**

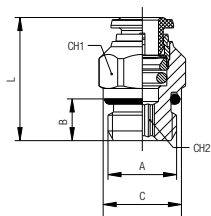
UNION TEE



Part No.	Tube	L	A	C
60310X-53	5/32 (4)	.433 (11)	.394 (10)	1.22 (31)
60310X-05	5/16 (8)	.61 (15,5)	.571 (14,5)	1.575 (40)

**316 STAINLESS STEEL PUSH-TO-CONNECT FOR METRIC TUBE**

**60020**  
STRAIGHT MALE

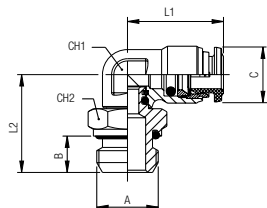


**BSPP**



Part No.	Tube	A	B	C	L	CH1	CH2
60020-4-M5	5/32 (4)	M5	.157 (4)	.315 (8)	.787 (20)	.394 (10)	.079 (2)
60020-4-1/8	5/32 (4)	1/8	.236 (6)	.512 (13)	.768 (19,5)	.394 (10)	.118 (3)
60020-4-1/4	5/32 (4)	1/4	.315 (8)	.591 (15)	.768 (19,5)	.591 (15)	.118 (3)
60020-6-M5	6	M5	.157 (4)	.394 (10)	.906 (23)	.472 (12)	.079 (2)
60020-6-1/8	6	1/8	.236 (6)	.512 (13)	.925 (23,5)	.512 (13)	.157 (4)
60020-6-1/4	6	1/4	.315 (8)	.591 (15)	.925 (23,5)	.591 (15)	.157 (4)
60020-8-1/8	5/16 (8)	1/8	.236 (6)	.512 (13)	1.004 (25,5)	.551 (14)	.197 (5)
60020-8-1/4	5/16 (8)	1/4	.315 (8)	.591 (15)	.925 (23,5)	.591 (15)	.236 (6)
60020-10-1/4	10	1/4	.315 (8)	.630 (16)	1.181 (30)	.669 (17)	.315 (8)
60020-10-3/8	10	3/8	.354 (9)	.787 (20)	1.063 (27)	.669 (17)	.315 (8)
60020-10-1/2	10	1/2	.394 (10)	.669 (17)	1.181 (30)	.866 (22)	.315 (8)
60020-12-3/8	12	3/8	.354 (9)	.827 (21)	1.339 (34)	.827 (21)	.315 (8)
60020-12-1/2	12	1/2	.394 (10)	.984 (25)	1.22 (31)	.866 (22)	.394 (10)
60020-14-1/2	14	1/2	.394 (10)	.984 (25)	1.26 (32)	.866 (22)	.433 (11)

**60115**  
SWIVEL ELBOW



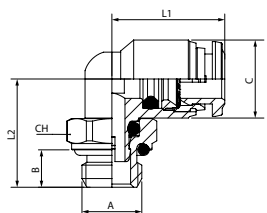
**BSPP**



Part No.	Tube	A	B	C	L1	L2	CH1	CH2
60115-4-M5	5/32 (4)	M5	.157 (4)	.394 (10)	.709 (18)	.591 (15)	.354 (9)	.315 (8)
60115-4-1/8	5/32 (4)	1/8	.236 (6)	.394 (10)	.709 (18)	.669 (17)	.354 (9)	.512 (13)
60115-4-1/4	5/32 (4)	1/4	.315 (8)	.394 (10)	.709 (18)	.768 (19,5)	.354 (9)	.591 (15)
60115-6-M5	6	M5	.157 (4)	.492 (12,5)	.827 (21)	.709 (18)	.433 (11)	.394 (10)
60115-6-1/8	6	1/8	.236 (6)	.492 (12,5)	.827 (21)	.748 (19)	.433 (11)	.512 (13)
60115-6-1/4	6	1/4	.315 (8)	.492 (12,5)	.827 (21)	.846 (21,5)	.433 (11)	.591 (15)
60115-8-1/8	5/16 (8)	1/8	.236 (6)	.571 (14,5)	.886 (22,5)	.768 (19,5)	.472 (12)	.512 (13)
60115-8-1/4	5/16 (8)	1/4	.315 (8)	.571 (14,5)	.886 (22,5)	.846 (21,5)	.472 (12)	.591 (15)
60115-10-1/4	10	1/4	.315 (8)	.689 (17,5)	1.024 (26)	.906 (23)	.630 (16)	.591 (15)
60115-10-3/8	10	3/8	.354 (9)	.689 (17,5)	1.024 (26)	1.043 (26,5)	.630 (16)	.827 (21)
60115-10-1/2	10	1/2	.394 (10)	.689 (17,5)	1.024 (26)	1.142 (29)	.630 (16)	.866 (22)
60115-12-3/8	12	3/8	.354 (9)	.807 (20,5)	1.201 (30,5)	1.142 (29)	.748 (19)	.827 (21)
60115-12-1/2	12	1/2	.394 (10)	.807 (20,5)	1.201 (30,5)	1.240 (31,5)	.748 (19)	.866 (22)

**UNTIL THE END STOCK**

**60115X**  
SWIVEL ELBOW



**BSPP**



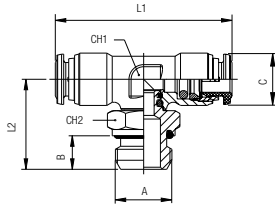
Part No.	Tube	A	B	C	L1	L2	CH
60115X-4-M5	5/32 (4)	M5	.157 (4)	.394 (10)	.61 (15,5)	.63 (16)	.315 (8)
60115X-4-1/8	5/32 (4)	1/8	.236 (6)	.394 (10)	.61 (15,5)	.63 (16)	.512 (13)
60115X-4-1/4	5/32 (4)	1/4	.315 (8)	.394 (10)	.61 (15,5)	.728 (18,5)	.591 (15)
60115X-6-M5	6	M5	.157 (4)	.492 (12,5)	.709 (18)	.689 (17,5)	.315 (8)
60115X-6-1/8	6	1/8	.236 (6)	.492 (12,5)	.709 (18)	.689 (17,5)	.512 (13)
60115X-6-1/4	6	1/4	.315 (8)	.492 (12,5)	.709 (18)	.787 (20)	.591 (15)
60115X-6-3/8	6	3/8	.354 (9)	.492 (12,5)	.709 (18)	.906 (23)	.787 (20)
60115X-8-1/8	5/16 (8)	1/8	.236 (6)	.571 (14,5)	.787 (20)	.906 (23)	.512 (13)
60115X-8-1/4	5/16 (8)	1/4	.315 (8)	.571 (14,5)	.787 (20)	.827 (21)	.591 (15)
60115X-8-3/8	5/16 (8)	3/8	.354 (9)	.571 (14,5)	.787 (20)	.945 (24)	.787 (20)
60115X-10-1/4	10	1/4	.315 (8)	.669 (17)	.925 (23,5)	1.083 (27,5)	.591 (15)
60115X-10-3/8	10	3/8	.354 (9)	.669 (17)	.925 (23,5)	.984 (25)	.787 (20)
60115X-10-1/2	10	1/2	.394 (10)	.669 (17)	.925 (23,5)	1.043 (26,5)	.984 (25)
60115X-12-3/8	12	3/8	.354 (9)	.807 (20,5)	1.083 (27,5)	1.201 (3,5)	.787 (20)
60115X-12-1/2	12	1/2	.394 (10)	.807 (20,5)	1.083 (27,5)	1.122 (28,5)	.984 (25)
60115X-14-1/2	14	1/2	.394 (10)	.846 (21,5)	1.083 (27,5)	1.299 (33)	.984 (25)



**60215**

SWIVEL BRANCH TEE

**BSPP**



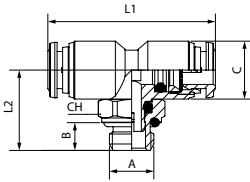
Part No.	Tube	A	B	C	L1	L2	CH1	CH2
60215-4-M5	5/32 (4)	M5	.157 (4)	.394 (10)	1.417 (36)	.591 (15)	.354 (9)	.315 (8)
60215-4-1/8	5/32 (4)	1/8	.236 (6)	.394 (10)	1.417 (36)	.709 (18)	.354 (9)	.512 (13)
60215-4-1/4	5/32 (4)	1/4	.315 (8)	.394 (10)	1.417 (36)	.807 (20,5)	.354 (9)	.591 (15)
60215-6-1/8	6	1/8	.236 (6)	.492 (12,5)	1.654 (42)	.748 (19)	.433 (11)	.512 (13)
60215-6-1/4	6	1/4	.315 (8)	.492 (12,5)	1.654 (42)	.846 (21,5)	.433 (11)	.591 (15)
60215-8-1/8	5/16 (8)	1/8	.236 (6)	.571 (14,5)	1.772 (45)	.787 (20)	.472 (12)	.512 (13)
60215-8-1/4	5/16 (8)	1/4	.315 (8)	.571 (14,5)	1.772 (45)	.866 (22)	.472 (12)	.591 (15)
60215-10-1/4	10	1/4	.315 (8)	.689 (17,5)	2.047 (52)	.925 (23,5)	.630 (16)	.591 (15)
60215-10-3/8	10	3/8	.354 (9)	.689 (17,5)	2.047 (52)	1.063 (27)	.630 (16)	.827 (21)
60215-10-1/2	10	1/2	.394 (10)	.689 (17,5)	2.047 (52)	1.161 (29,5)	.630 (16)	.866 (22)
60215-12-3/8	12	3/8	.354 (9)	.807 (20,5)	2.402 (61)	1.142 (29)	.748 (19)	.827 (21)
60215-12-1/2	12	1/2	.394 (10)	.807 (20,5)	2.402 (61)	1.240 (31,5)	.748 (19)	.866 (22)

UNTIL THE END STOCK

**60215X**

SWIVEL BRANCH TEE

**BSPP**

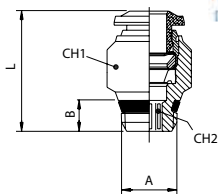


Part No.	Tube	A	B	C	L1	L2	CH
60215X-4-M5	5/32 (4)	M5	.157 (4)	.394 (10)	1.201 (30,5)	.63 (16)	.315 (8)
60215X-4-1/8	5/32 (4)	1/8	.236 (6)	.394 (10)	1.201 (30,5)	.63 (16)	.512 (13)
60215X-4-1/4	5/32 (4)	1/4	.315 (8)	.394 (10)	1.201 (30,5)	.728 (18,5)	.591 (15)
60215X-6-M5	6	M5	.157 (4)	.492 (12,5)	1.417 (36)	.689 (17,5)	.315 (8)
60215X-6-1/8	6	1/8	.236 (6)	.492 (12,5)	1.417 (36)	.689 (17,5)	.512 (13)
60215X-6-1/4	6	1/4	.315 (8)	.492 (12,5)	1.417 (36)	.787 (20)	.591 (15)
60215X-8-1/8	5/16 (8)	1/8	.236 (6)	.571 (14,5)	1.575 (40)	.906 (23)	.512 (13)
60215X-8-1/4	5/16 (8)	1/4	.315 (8)	.571 (14,5)	1.575 (40)	.827 (21)	.591 (15)
60215X-10-1/4	10	1/4	.315 (8)	.669 (17)	1.85 (47)	1.083 (27,5)	.591 (15)
60215X-10-3/8	10	3/8	.354 (9)	.669 (17)	1.85 (47)	.984 (25)	.787 (20)
60215X-10-1/2	10	1/2	.394 (10)	.669 (17)	1.85 (47)	1.043 (26,5)	.984 (25)
60215X-12-3/8	12	3/8	.354 (9)	.807 (20,5)	2.165 (55)	1.201 (30,5)	.787 (20)
60215X-12-1/2	12	1/2	.394 (10)	.807 (20,5)	2.165 (55)	1.122 (28,5)	.984 (25)
60215X-14-1/2	14	1/2	.394 (10)	.846 (21,5)	2.185 (55,5)	1.299 (33)	.984 (25)

**60005**

STRAIGHT MALE

**SWIFFFIT**  
Universal Thread

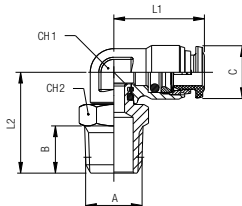


Part No.	Tube	A	B	L	CH1	CH2
60000-53-02	5/32 (4)	1/8	.216 (5,5)	.708 (17,5)	.433 (11)	.118 (3)
60000-53-04	5/32 (4)	1/4	.275 (7)	.767 (19,5)	.551 (14)	.118 (3)
60005-6-1/8	6	1/8	.334 (8,5)	.925 (23,5)	.511 (13)	.157 (4)
60005-6-1/4	6	1/4	.275 (7)	.807 (20,5)	.551 (14)	.157 (4)
60000-05-02	5/16 (8)	1/8	.216 (5,5)	.944 (24)	.551 (14)	.196 (5)
60000-05-04	5/16 (8)	1/4	.275 (7)	.846 (21,5)	.551 (14)	.236 (6)
60005-10-1/4	10	1/4	.275 (7)	1.279 (32,5)	.669 (17)	.275 (7)
60005-10-3/8	10	3/8	.295 (7,5)	1.161 (29,5)	.708 (18)	.275 (7)
60005-10-1/2	10	1/2	.354 (9)	1.024 (26)	.826 (21)	.815 (8)
60005-12-3/8	12	3/8	.295 (7,5)	1.220 (31)	.826 (21)	.354 (9)
60005-12-1/2	12	1/2	.354 (9)	1.220 (31)	.826 (21)	.393 (10)

**60110**

SWIVEL ELBOW

**BSPT**

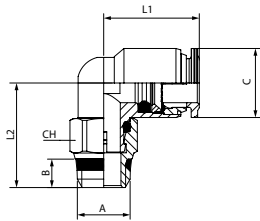


Part No.	Tube	A	B	C	L1	L2	CH1	CH2
60110-4-1/8	5/32 (4)	1/8	.394 (10)	.295 (7,5)	.709 (18)	.689 (17,5)	.354 (9)	.433 (11)
60110-4-1/4	5/32 (4)	1/4	.394 (10)	.433 (11)	.709 (18)	.846 (21,5)	.354 (9)	.551 (14)
60110-6-1/8	6	1/8	.492 (12,5)	.295 (7,5)	.827 (21)	.768 (19,5)	.433 (11)	.433 (11)
60110-6-1/4	6	1/4	.492 (12,5)	.433 (11)	.827 (21)	.925 (23,5)	.433 (11)	.551 (14)
60110-8-1/8	5/16 (8)	1/8	.571 (14,5)	.295 (7,5)	.886 (22,5)	.787 (20)	.472 (12)	.433 (11)
60110-8-1/4	5/16 (8)	1/4	.571 (14,5)	.433 (11)	.886 (22,5)	.945 (24)	.472 (12)	.551 (14)
60110-10-1/4	10	1/4	.689 (17,5)	.433 (11)	1.024 (26)	1.004 (25,5)	.630 (16)	.669 (17)
60110-10-3/8	10	3/8	.689 (17,5)	.453 (11,5)	1.024 (26)	1.063 (27)	.630 (16)	.669 (17)
60110-10-1/2	10	1/2	.689 (17,5)	.551 (14)	1.024 (26)	1.201 (30,5)	.630 (16)	.866 (22)
60110-12-3/8	12	3/8	.807 (20,5)	.453 (11,5)	1.201 (30,5)	1.201 (30,5)	.748 (19)	.709 (18)
60110-12-1/2	12	1/2	.807 (20,5)	.551 (14)	1.201 (30,5)	1.299 (33)	.748 (19)	.866 (22)

UNTIL THE END STOCK

**60111X**

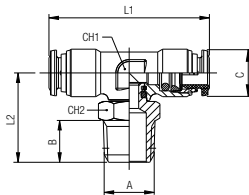
SWIVEL ELBOW



Part No.	Tube	A	B	C	L1	L2	CH
60111X-53-02	5/32 (4)	1/8	0,217 (5,5)	0,394 (10)	0,61 (15,5)	0,61 (15,5)	0,433 (11)
60111X-53-04	5/32 (4)	1/4	0,276 (7)	0,394 (10)	0,61 (15,5)	0,689 (17,5)	0,591 (15)
60111X-6-1/8	6	1/8	0,217 (5,5)	0,492 (12,5)	0,709 (18)	0,669 (17)	0,433 (11)
60111X-6-1/4	6	1/4	0,276 (7)	0,492 (12,5)	0,709 (18)	0,748 (19)	0,591 (15)
60111X-05-02	5/16 (8)	1/8	0,217 (5,5)	0,571 (14,5)	0,787 (20)	0,846 (21,5)	0,472 (12)
60111X-05-04	5/16 (8)	1/4	0,276 (7)	0,571 (14,5)	0,787 (20)	0,846 (21,5)	0,591 (15)
60111X-10-1/4	10	1/4	0,276 (7)	0,669 (17)	0,925 (23,5)	1,004 (25,5)	0,591 (15)
60111X-10-3/8	10	3/8	0,295 (7,5)	0,669 (17)	0,925 (23,5)	0,925 (23,5)	0,669 (17)
60111X-10-1/2	10	1/2	0,354 (9)	0,669 (17)	0,925 (23,5)	1,063 (27)	0,827 (21)
60111X-12-3/8	12	3/8	0,295 (7,5)	0,807 (20,5)	1,083 (27,5)	1,024 (26)	0,669 (17)
60111X-12-1/2	12	1/2	0,354 (9)	0,807 (20,5)	1,083 (27,5)	1,063 (27)	0,827 (21)

**60210**

SWIVEL BRANCH TEE

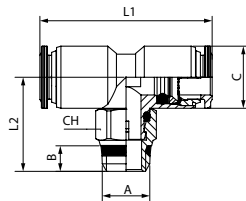


Part No.	Tube	A	B	C	L1	L2	CH1	CH2
60210-4-1/8	5/32 (4)	1/8	.295 (7,5)	.394 (10)	1.417 (36)	.728 (18,5)	.354 (9)	.433 (11)
60210-4-1/4	5/32 (4)	1/4	.433 (11)	.394 (10)	1.417 (36)	.886 (22,5)	.354 (9)	.551 (14)
60210-6-1/8	6	1/8	.295 (7,5)	.492 (12,5)	1.654 (42)	.768 (19,5)	.433 (11)	.433 (11)
60210-6-1/4	6	1/4	.433 (11)	.492 (12,5)	1.654 (42)	.925 (23,5)	.433 (11)	.551 (14)
60210-8-1/8	5/16 (8)	1/8	.295 (7,5)	.571 (14,5)	1.772 (45)	.807 (20,5)	.472 (12)	.433 (11)
60210-8-1/4	5/16 (8)	1/4	.433 (11)	.571 (14,5)	1.772 (45)	.965 (24,5)	.472 (12)	.551 (14)
60210-10-1/4	10	1/4	.433 (11)	.689 (17,5)	2.047 (52)	1.024 (26)	.630 (16)	.551 (14)
60210-10-3/8	10	3/8	.453 (11,5)	.689 (17,5)	2.047 (52)	1.083 (27,5)	.630 (16)	.669 (17)
60210-10-1/2	10	1/2	.551 (14)	.689 (17,5)	2.047 (52)	1.220 (31)	.630 (16)	.866 (22)
60210-12-3/8	12	3/8	.453 (11,5)	.807 (20,5)	2.402 (61)	1.201 (30,5)	.748 (19)	.709 (18)
60210-12-1/2	12	1/2	.551 (14)	.807 (20,5)	2.402 (61)	1.299 (33)	.748 (19)	.866 (22)

UNTIL THE END STOCK

**60211X**

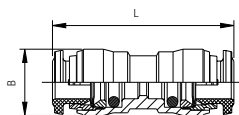
SWIVEL BRANCH TEE



Part No.	Tube	A	B	C	L1	L2	CH
60211X-53-02	5/32 (4)	1/8	0,217 (5,5)	0,394 (10)	1,201 (30,5)	0,61 (15,5)	0,433 (11)
60211X-53-04	5/32 (4)	1/4	0,276 (7)	0,394 (10)	1,201 (30,5)	0,689 (17,5)	0,591 (15)
60211X-6-1/8	6	1/8	0,217 (5,5)	0,492 (12,5)	1,417 (36)	0,669 (17)	0,433 (11)
60211X-6-1/4	6	1/4	0,276 (7)	0,492 (12,5)	1,417 (36)	0,748 (19)	0,591 (15)
60211X-05-02	5/16 (8)	1/8	0,217 (5,5)	0,571 (14,5)	1,575 (40)	0,846 (21,5)	0,472 (12)
60211X-05-04	5/16 (8)	1/4	0,276 (7)	0,571 (14,5)	1,575 (40)	0,846 (21,5)	0,591 (15)
60211X-10-1/4	10	1/4	0,276 (7)	0,669 (17)	1,85 (47)	1,004 (25,5)	0,591 (15)
60211X-10-3/8	10	3/8	0,295 (7,5)	0,669 (17)	1,85 (47)	0,925 (23,5)	0,669 (17)
60211X-10-1/2	10	1/2	0,354 (9)	0,669 (17)	1,85 (47)	1,063 (27)	0,827 (21)
60211X-12-3/8	12	3/8	0,295 (7,5)	0,807 (20,5)	2,165 (55)	1,024 (26)	0,669 (17)
60211X-12-1/2	12	1/2	0,354 (9)	0,807 (20,5)	2,165 (55)	1,063 (27)	0,827 (21)

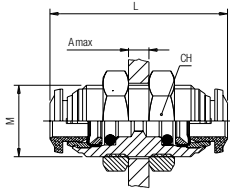
**60040**

UNION



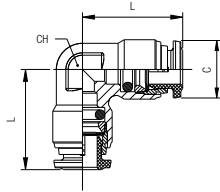
Part No.	Tube	L	B
60040-53	5/32(4)	1.22 (31)	.413 (10,5)
60040-6-53	6-5/32(4)	1.22 (31)	.492 (12,5)
60040-6	6	1.378 (35)	.492 (12,5)
60040-05-6	5/16(8)-6	1.358 (34,5)	.571 (14,5)
60040-05	5/16(8)	1.437 (36,5)	.571 (14,5)
60040-10-05	10-5/16(8)	1.496 (38)	.689 (17,5)
60040-10	10	1.654 (42)	.689 (17,5)
60040-12-10	12-10	1.732 (44)	.807 (20,5)
60040-12	12	1.89 (48)	.807 (20,5)
60040-14	14	1.752 (44,5)	.846 (21,5)

**60050**  
BULKHEAD UNION



Part No.	Tube	M	L	CH	A max
60050-53	5/32 (4)	M12x1	1.220 (31)	.669 (17)	.275 (7)
60050-6	6	M14x1	1.377 (35)	.669 (17)	.374 (9,5)
60050-05	5/16 (8)	M16x1	1.456 (37)	.748 (19)	.413 (10,5)
60050-10	10	M20x1	1.653 (42)	1.023 (26)	.492 (12,5)
60050-12	12	M22x1	1.889 (48)	1.023 (26)	.649 (16,5)

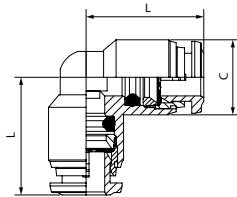
**60130**  
UNION ELBOW



Part No.	Tube	L	CH	C
60130-53	5/32 (4)	.708 (18)	.354 (9)	.394 (10)
60130-6	6	.826 (21)	.433 (11)	.492 (12,5)
60130-05	5/16 (8)	.885 (22,5)	.472 (12)	.571 (14,5)
60130-10	10	1.023 (26)	.629 (16)	.688 (17,5)
60130-12	12	1.200 (30,5)	.748 (19)	.807 (20,5)

UNTIL THE END STOCK

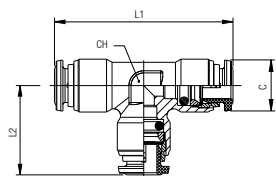
**60130X**  
UNION ELBOW



Part No.	Tube	CH	C
60130X-53	5/32 (4)	.394 (10)	.63 (16)
60130X-6	6	.492 (12,5)	.768 (19,5)
60130X-05	5/16 (8)	.571 (14,5)	.827 (21)
60130X-10	10	.669 (17)	.965 (24,5)
60130X-12	12	.807 (20,5)	1.142 (29)
60130X-14	14	.846 (21,5)	1.122 (28,5)

**60230**

UNION TEE

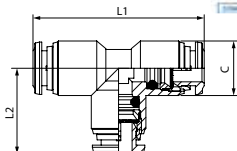


Part No.	Tube	L1	L2	CH	C
60230-53	5/32 (4)	1.417 (36)	.708 (18)	.354 (9)	.394 (10)
60230-6	6	1.653 (42)	.826 (21)	.433 (11)	.492 (12,5)
60230-05	5/16 (8)	1.771 (45)	.885 (22,5)	.472 (12)	.571 (14,5)
60230-10	10	2.047 (52)	1.023 (26)	.630 (16)	.689 (17,5)
60230-12	12	2.381 (60,5)	1.200 (30,5)	.748 (19)	.807 (20,5)

UNTIL THE END STOCK

**60230X**

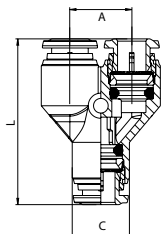
UNION TEE



Part No.	Tube	L1	L2	C
60230X-53	5/32 (4)	.394 (10)	1.26 (32)	.630 (16)
60230X-6	6	.492 (12,5)	1.535 (39)	.768 (19,5)
60230X-05	5/16 (8)	.571 (14,5)	1.654 (42)	.827 (21)
60230X-10	10	.669 (17)	1.929 (49)	.965 (24,5)
60230X-12	12	.807 (20,5)	2.264 (57,5)	1.142 (29)
60230X-14	14	.846 (21,5)	2.264 (57,5)	1.122 (28,5)

**60310X**

UNION TEE

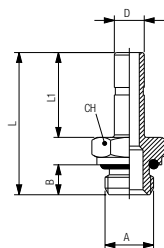


Part No.	Tube	L	A	C
60310X-53	5/32(4)	.433 (11)	.394 (10)	1.22 (31)
60310X-6	6	.531 (13,5)	.492 (12,5)	1.417 (36)
60310X-05	5/16(8)	.61 (15,5)	.571 (14,5)	1.575 (40)
60310X-10	10	1.870 (47,5)	.729 (18,5)	.669 (17)
60310X-12	12	2.224 (56,5)	.846 (21,5)	.807 (20,5)

**60600**

STANDPIPE

**BSPP**



Part No.	D	A	B	L	L1	CH
60600-6-1/8	6	1/8	.236 (6)	1.122 (28,5)	.669 (17)	.512 (13)
60600-8-1/4	5/16 (8)	1/4	.315 (8)	1.240 (31,5)	.709 (18)	.630 (16)
60600-10-1/4	10	1/4	.315 (8)	1.398 (35,5)	.866 (22)	.630 (16)
60600-10-3/8	10	3/8	.354 (9)	1.476 (37,5)	.866 (22)	.787 (20)
60600-12-3/8	12	3/8	.354 (9)	1.575 (40)	.965 (24,5)	.787 (20)
60600-12-1/2	12	1/2	.394 (10)	1.673 (42,5)	.965 (24,5)	.945 (24)

**ADAPTERS**



**TECHNICAL CHARACTERISTICS**



**Pressure Rating**

-14 ~ 290 PSI  
-0.99 bar ~ 20 bar  
-0.099 MPa ~ 2.0 MPa



**Temperatures Rating**

FKM  
-166° F ~ 572° F  
-110° C ~ 300° C



**Reference Standard**



**Media**

- Compressed Air
- Fluids for food and chemical industry compatible with component specifications

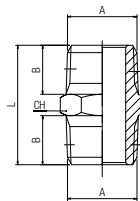


**Threads**

BSPT  
BSPP  
Metric screw thread conforming with ISO R/262

**62000**

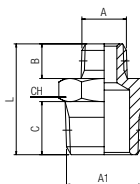
HEX NIPPLE



Part No.	A BSPT	B BSPT	L	CH
62000-1/8	1/8	.295 (7,5)	.768 (19,5)	.433 (11)
62000-1/4	1/4	.433 (11)	1.063 (27)	.551 (14)
62000-3/8	3/8	.453 (11,5)	1.102 (28)	.669 (17)
62000-1/2	1/2	.551 (14)	1.319 (33,5)	.866 (22)
62000-3/4	3/4	.650 (16,5)	1.575 (40)	1.063 (27)

**62020**

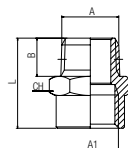
REDUCER NIPPLE



Part No.	A BSPT	A1 BSPT	B	C	L	CH
62020-1/8-1/4	1/8	1/4	.295 (7,5)	.433 (11)	.925 (23,5)	.551 (14)
62020-1/8-3/8	1/8	3/8	.295 (7,5)	.453 (11,5)	.945 (24)	.669 (17)
62020-1/4-3/8	1/4	3/8	.433 (11)	.453 (11,5)	1.083 (27,5)	.669 (17)
62020-1/4-1/2	1/4	1/2	.433 (11)	.551 (14)	1.201 (30,5)	.866 (22)
62020-3/8-1/2	3/8	1/2	.453 (11,5)	.551 (14)	1.220 (31)	.866 (22)
62020-1/2-3/4	1/2	3/4	.551 (14)	.650 (16,5)	1.476 (37,5)	1.063 (27)

**62040**

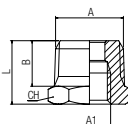
REDUCER (TAPER)



Part No.	A BSPT	A1 BSPP	B	L	CH
62040-1/8-1/4	1/8	1/4	.295 (7,5)	.866 (22)	.669 (17)
62040-1/4-3/8	1/4	3/8	.433 (11)	1.063 (27)	.866 (22)
62040-1/4-1/2	1/4	1/2	.433 (11)	1.181 (30)	.945 (24)
62040-3/8-1/2	3/8	1/2	.453 (11,5)	1.201 (30,5)	.945 (24)
62040-1/2-3/4	1/2	3/4	.551 (14)	1.378 (35)	1.260 (32)

**62080**

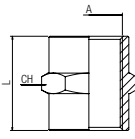
REDUCER (TAPER)



Part No.	A BSPP	A1 BSPP	B	L	CH
62080-1/4-1/8	1/4	1/8	.433 (11)	.630 (16)	.551 (14)
62080-3/8-1/8	3/8	1/8	.453 (11,5)	.650 (16,5)	.669 (17)
62080-3/8-1/4	3/8	1/4	.453 (11,5)	.650 (16,5)	.669 (17)
62080-1/2-1/4	1/2	1/4	.551 (14)	.768 (19,5)	.866 (22)
62080-1/2-3/8	1/2	3/8	.551 (14)	.768 (19,5)	.866 (22)
62080-3/4-1/2	3/4	1/2	.650 (16,5)	.925 (23,5)	1.063 (27)

**62300**

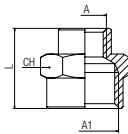
FEMALE COUPLER



Part No.	A BSPP	L	CH
62300-1/8	1/8	.591 (15)	.551 (14)
62300-1/4	1/4	.866 (22)	.669 (17)
62300-3/8	3/8	.945 (24)	.866 (22)
62300-1/2	1/2	1.181 (30)	1.063 (27)
62300-3/4	3/4	1.260 (32)	1.260 (32)

**62310**

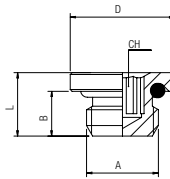
REDUCER COUPLER



Part No.	A BSPP	A1	L	CH
62310-1/8-1/4	1/8	1/4	.748 (19)	.669 (17)
62310-1/4-3/8	1/4	3/8	.906 (23)	.866 (22)
62310-3/8-1/2	3/8	1/2	1.083 (27,5)	.945 (24)
62310-1/2-3/4	1/2	3/4	1.181 (30)	1.181 (30)

**62315**

MALE PLUG WITH INTERNAL HEX

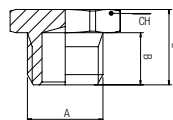


Part No.	A BSPP	B	L	D	CH
62315-M5	M5	.157 (4)	.236 (6)	.315 (8)	.079 (2)
62315-M7	M7	.197 (5)	.295 (7,5)	.374 (9,5)	.118 (3)
62315-1/8	1/8	.236 (6)	.335 (8,5)	.551 (14)	.197 (5)
62315-1/4	1/4	.315 (8)	.433 (11)	.709 (18)	.236 (6)
62315-3/8	3/8	.354 (9)	.492 (12,5)	.787 (20)	.315 (8)
62315-1/2	1/2	.394 (10)	.531 (13,5)	.984 (25)	.394 (10)

	Temperature	<b>min</b>	<b>max</b>
		- 15 °C 5 °F	+ 190 °C 374 °F

**62320**

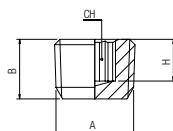
MALE PLUG



Part No.	A BSPP	B	L	CH
62320-1/8	1/8	.256 (6,5)	.394 (10)	.551 (14)
62320-1/4	1/4	.354 (9)	.512 (13)	.669 (17)
62320-3/8	3/8	.374 (9,5)	.531 (13,5)	.748 (19)
62320-1/2	1/2	.394 (10)	.571 (14,5)	.945 (24)
62320-3/4	3/4	.433 (11)	.630 (16)	1.181 (30)

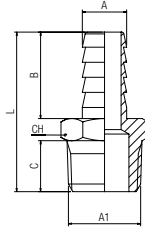
**62325**

MALE PLUG DIN 906



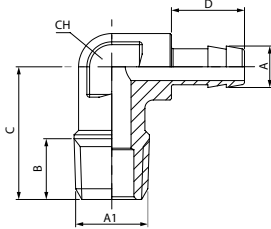
Part No.	A BSPT	B	H	CH
62325-1/8	1/8	.295 (7,5)	.197 (5)	.197 (5)
62325-1/4	1/4	.394 (10)	.276 (7)	.236 (6)
62325-3/8	3/8	.433 (11)	.276 (7)	.315 (8)
62325-1/2	1/2	.512 (13)	.315 (8)	.394 (10)

**62340**  
MALE HOSE ADAPTER



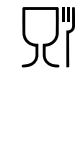
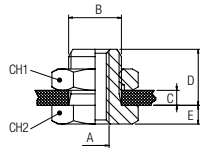
Part No.	A	A1 BSPT	B	C	L	CH
62340-6-1/8	6	1/8	.768 (19,5)	.295 (7,5)	1.260 (32)	.433 (11)
62340-7-1/8	7	1/8	.768 (19,5)	.295 (7,5)	1.260 (32)	.433 (11)
62340-7-1/4	7	1/4	.768 (19,5)	.433 (11)	1.398 (35,5)	.551 (14)
62340-8-1/4	8	1/4	.768 (19,5)	.433 (11)	1.398 (35,5)	.551 (14)
62340-9-1/4	9	1/4	.768 (19,5)	.433 (11)	1.398 (35,5)	.551 (14)
62340-9-3/8	9	3/8	.768 (19,5)	.453 (11,5)	1.417 (36)	.669 (17)
62340-10-1/4	10	1/4	.768 (19,5)	.433 (11)	1.398 (35,5)	.551 (14)
62340-10-3/8	10	3/8	.768 (19,5)	.453 (11,5)	1.417 (36)	.669 (17)
62340-10-1/2	10	1/2	.768 (19,5)	.551 (14)	1.535 (39)	.866 (22)
62340-12-1/4	12	1/4	.768 (19,5)	.433 (11)	1.398 (35,5)	.551 (14)
62340-12-3/8	12	3/8	.768 (19,5)	.453 (11,5)	1.417 (36)	.669 (17)
62340-12-1/2	12	1/2	.768 (19,5)	.551 (14)	1.535 (39)	.866 (22)
62340-14-3/8	14	3/8	.768 (19,5)	.453 (11,5)	1.417 (36)	.669 (17)
62340-14-1/2	14	1/2	.768 (19,5)	.551 (14)	1.535 (39)	.866 (22)
62340-16-1/2	16	1/2	.768 (19,5)	.551 (14)	1.535 (39)	.866 (22)
62340-18-1/2	18	1/2	.768 (19,5)	.551 (14)	1.535 (39)	.866 (22)
62340-18-3/4	18	3/4	.768 (19,5)	.650 (16,5)	1.713 (43,5)	1.063 (27)
62340-20-1/2	20	1/2	.768 (19,5)	.551 (14)	1.535 (39)	.866 (22)
62340-20-3/4	20	3/4	.768 (19,5)	.531 (13,5)	1.575 (40)	1.063 (27)

**62355**  
MALE HOSE ADAPTER ELBOW



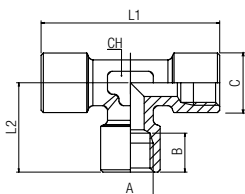
Part No.	A	A1 BSPT	B	C	D	CH
623550044BS00	6	1/8	.295 (7,5)	.709 (18)	.519 (13,2)	.394 (10)
623550044BT00	6	1/4	.433 (11)	.945 (24)	.519 (13,2)	.472 (12)
623550044BZ00	7	1/8	.295 (7,5)	.709 (18)	.519 (13,2)	.394 (10)
623550044BX00	7	1/4	.433 (11)	.945 (24)	.519 (13,2)	.472 (12)
623550044CB00	9	1/4	.433 (11)	.945 (24)	.519 (13,2)	.472 (12)

**62360**  
BULKHEAD CONNECTOR



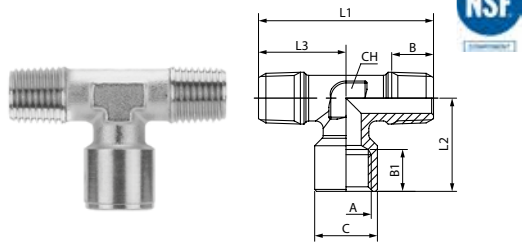
Part No.	A BSPP	B	C	D	E	CH1	CH2
62360-1/8	1/8	.649 (16,5)	.354 (9)	.551 (14)	.157 (4)	0.866 (22)	.748 (19)
62360-1/4	1/4	.807 (20,5)	.590 (15)	.826 (21)	.157 (4)	1.063 (27)	.945 (24)
62360-3/8	3/8	1.043 (26,5)	.551 (14)	.826 (21)	.197 (5)	1.260 (32)	1.181 (30)
62360-1/2	1/2	1.122 (28,5)	.787 (20)	1.063 (27)	.236 (6)	1.417 (36)	1.260 (32)
62360-3/4	3/4	1.358 (34,5)	.886 (22,5)	1.181 (30)	.236 (6)	1.614 (41)	1.614 (41)
62360-1	1"	1.673 (42,5)	.964 (24,5)	1.338 (34)	.315 (8)	1.968 (50)	1.811 (46)

**62400**  
FEMALE TEE



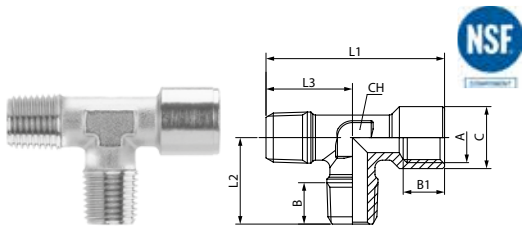
Part No.	A BSPP	B	C	L1	L2	CH
62400-1/8	1/8	.335 (8,5)	.512 (13)	1.457 (37)	.728 (18,5)	.472 (12)
62400-1/4	1/4	.433 (11)	.650 (16,5)	1.929 (49)	.965 (24,5)	.472 (12)
62400-3/8	3/8	.472 (12)	.807 (20,5)	2.126 (54)	1.063 (27)	.591 (15)
62400-1/2	1/2	.591 (15)	1.004 (25,5)	2.520 (64)	1.260 (32)	.787 (20)

**62420**  
CENTRE LEG FEMALE TEE



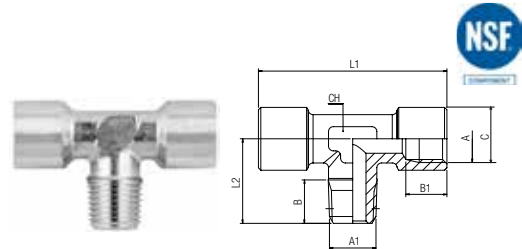
Part No.	A BSPP	B	B1	C	L1	L2	L3	CH
62420-1/8	1/8	.295 (7,5)	.335 (8,5)	.512 (13)	1.417 (36)	.728 (18,5)	.708 (18)	.472 (12)
62420-1/4	1/4	.433 (11)	.433 (11)	.650 (16,5)	1.811 (46)	.965 (24,5)	.906 (23)	.472 (12)
62420-3/8	3/8	.453 (11,5)	.472 (12)	.807 (20,5)	2.007 (51)	1.141 (29)	1.004 (25,5)	.591 (15)
62420-1/2	1/2	.551 (14)	.591 (15)	1.004 (25,5)	2.322 (59)	1.340 (34)	1.161 (29,5)	.787 (20)

**62430**  
OFF SET MALE TEE



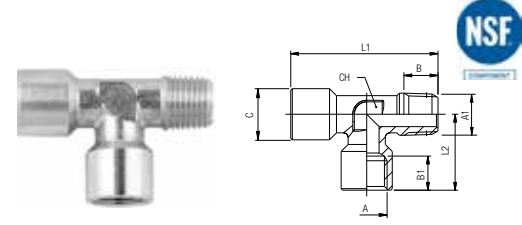
Part No.	A BSPP	B	B1	C	L1	L2	L3	CH
62430-1/8	1/8	.295 (7,5)	.335 (8,5)	.512 (13)	1.437 (36,5)	.708 (18)	.708 (18)	.472 (12)
62430-1/4	1/4	.433 (11)	.433 (11)	.650 (16,5)	1.869 (47,5)	.906 (23)	.906 (23)	.472 (12)
62430-3/8	3/8	.453 (11,5)	.472 (12)	.807 (20,5)	2.067 (52,5)	1.083 (27,5)	1.004 (25,5)	.591 (15)
62430-1/2	1/2	.551 (14)	.591 (15)	1.004 (25,5)	2.422 (61,5)	1.220 (31,5)	1.161 (29,5)	.787 (20)

**62440**  
MALE TEE



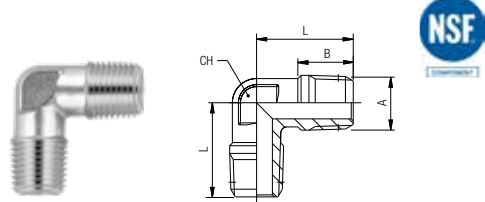
Part No.	A BSPP	A1 BSPT	B	B1	C	L1	L2	CH
62440-1/8	1/8	1/8	.295 (7,5)	.335 (8,5)	.689 (17,5)	1.457 (37)	.689 (17,5)	.472 (12)
62440-1/4	1/4	1/4	.433 (11)	.433 (11)	.906 (23)	1.929 (49)	.906 (23)	.472 (12)
62440-3/8	3/8	3/8	.453 (11,5)	.472 (12)	1.004 (25,5)	2.126 (54)	1.004 (25,5)	.591 (15)
62440-1/2	1/2	1/2	.551 (14)	.591 (15)	1.161 (29,5)	2.52 (64)	1.161 (29,5)	.787 (20)

**62450**  
MALE RUN TEE



Part No.	A BSPP	A1 BSPT	B	B1	C	L1	L2	CH
62450-1/8	1/8	1/8	.295 (7,5)	.335 (8,5)	.728 (18,5)	1.417 (36)	.728 (18,5)	.472 (12)
62450-1/4	1/4	1/4	.433 (11)	.433 (11)	.965 (24,5)	1.87 (47,5)	.965 (24,5)	.472 (12)
62450-3/8	3/8	3/8	.453 (11,5)	.472 (12)	1.063 (27)	2.067 (52,5)	1.063 (27)	.591 (15)
62450-1/2	1/2	1/2	.551 (14)	.591 (15)	1.26 (32)	2.421 (61,5)	1.260 (32)	.787 (20)

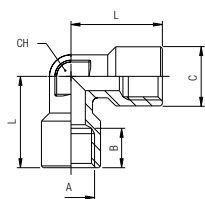
**62500**  
ELBOW M X M



Part No.	A BSPP	B	L	CH
62500-1/8	1/8	.295 (7,5)	.709 (18)	.394 (10)
62500-1/4	1/4	.433 (11)	.945 (24)	.472 (12)
62500-3/8	3/8	.453 (11,5)	1.063 (27)	.591 (15)
62500-1/2	1/2	.551 (14)	1.161 (29,5)	.787 (20)

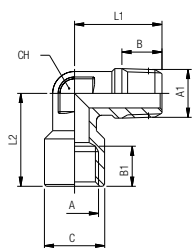


**62510**  
ELBOW FM X FM



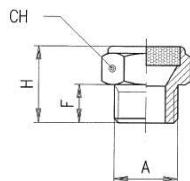
Part No.	A BSPP	C	B	L	CH
62510-1/8	1/8	.512 (13)	.335 (8,5)	.827 (21)	.394 (10)
62510-1/4	1/4	.65 (16,5)	.433 (11)	1.004 (25,5)	.472 (12)
62510-3/8	3/8	.807 (20,5)	.472 (12)	1.102 (28)	.591 (15)
62510-1/2	1/2	1.004 (25,5)	.591 (15)	1.260 (32)	.787 (20)

**62520**  
ELBOW ML X FM



Part No.	A BSPP	A1 BSPT	B	B1	C	L1	L2	CH
62520-1/8	1/8	1/8	.295 (7,5)	.335 (8,5)	.827 (21)	.709 (18)	.827 (21)	.394 (10)
62520-1/4	1/4	1/4	.433 (11)	.433 (11)	1.004 (25,5)	.945 (24)	1.004 (25,5)	.472 (12)
62520-3/8	3/8	3/8	.453 (11,5)	.472 (12)	1.102 (28)	1.063 (27)	1.102 (28)	.591 (15)
62520-1/2	1/2	1/2	.551 (14)	.591 (15)	1.260 (32)	1.161 (29,5)	1.260 (32)	.787 (20)

**62540**  
BREATHER VENT

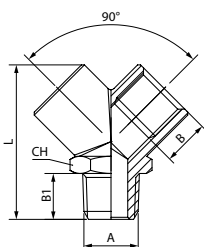


Part No.	A BSPP	F	H	CH	dB*
62540-1/8	1/8	.315 (8)	.591 (15)	.551 (14)	73
62540-1/4	1/4	.315 (8)	.591 (15)	.669 (17)	74
62540-3/8	3/8	.394 (10)	.709 (18)	.866 (22)	86
62540-1/2	1/2	.472 (12)	.866 (22)	1.063 (27)	80

	min	max
Temperature	- 20 °C - 4 °F	+ 300 °C 572 °F
Pressure		10 bar
Filtration threshold		70 µm

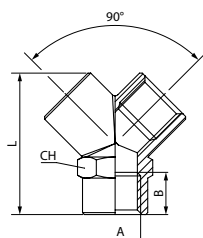
dB\* Acoustic fading at 6 bar

**62600**  
CENTRAL MALE Y 90°



Part No.	A BSPP	B	B1	L	CH
62600-1/4	1/4	.433 (11)	.433 (11)	1.457 (37)	.669 (17)
62600-3/8	3/8	.453 (11,5)	.492 (12,5)	1.811 (46)	.866 (22)
62600-1/2	1/2	.551 (14)	.65 (16,5)	2.285 (58)	1.023 (26)

**62610**  
FEMALE Y 90°



Part No.	A BSPP	B	L	CH
62610-1/4	1/4	.433 (11)	1.457 (37)	.669 (17)
62610-3/8	3/8	.433 (11)	1.811 (46)	.866 (22)
62610-1/2	1/2	.551 (14)	2.285 (58)	1.023 (26)

## Functional Series

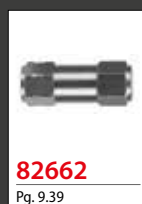
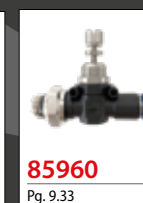
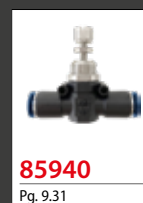


## Functional Series

## PTF-SAE- EXTRA SHORT



## Flow Regulators - Quick Exhaust Valves - Slide Valves - Unidirectional Valves Or Non Return Valves Block Valves



FUNCTIONAL FITTINGS



**Functional Series**

**FLOW CONTROL VALVES**

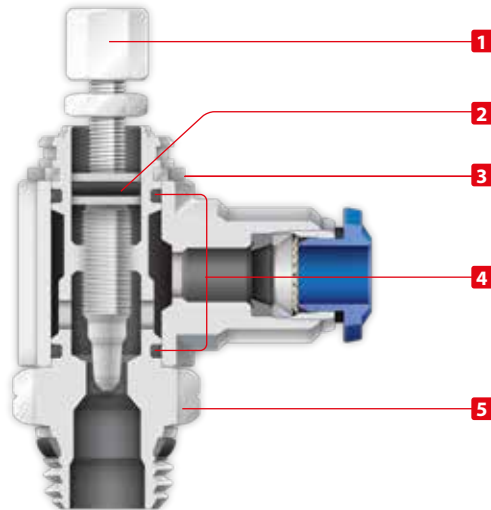


**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- ISO  
14743:2004



**Pressure Rating**

Vacuum ~ 250 PSI  
-0.99 bar ~ 20 bar  
-0.099 MPa ~ 2.0 MPa



**Temperatures Rating**

NBR  
-4° F ~ 176° F  
-20° C ~ 80° C



**Media**

- Compressed Air



**Component Parts and Materials**

- 1 Nickel Plated Brass Adjustment Screw
- 2 NBR 70 O-Ring
- 3 303 Stainless Steel Shaft Clip
- 4 NBR 70 O-Ring
- 5 Nickel Plated Brass Body

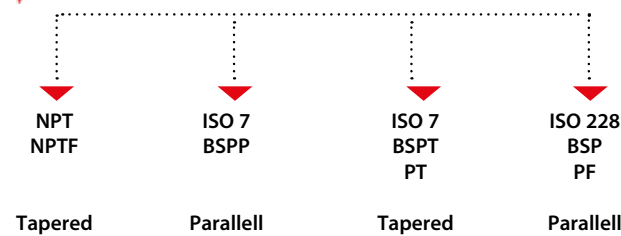


**Tubing Compatibility**

Nylon 11  
Nylon 12  
Polyethylene  
Polyurethane



**Threads & Advantages**



**Advantages**

The **SWIFFFIT** Universal Thread has been designed to offer the following advantages to the end users:

- Reduced overall length
- Smaller hex dimensions compared to parallel threads
- Fits with various parallel and tapered threads

Our **SWIFFFIT** universal fittings also work on non-flat surfaces without compromising an air-tight seal.



**PTF Thread**



The PTF Thread has been designed to offer the following advantages to the end users:

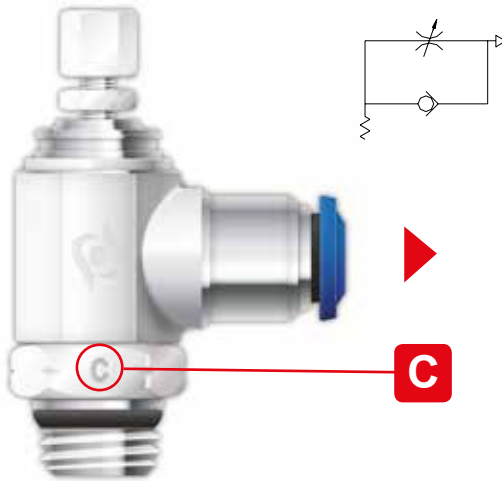
- Standard USA design. PTF/SAE extra short thread
- Designed for connections with an NPTF thread
- Dryseal pipe threads are designed for applications where clearance is not sufficient for the full thread length of NPTF threads.

**Torque Specifications**

Recommended Torque		
Thread Size	Min.	Breaking torque
1/8	5 Nm	8 Nm
1/4	9 Nm	30 Nm



**CONTROLLED FLOW OUT**

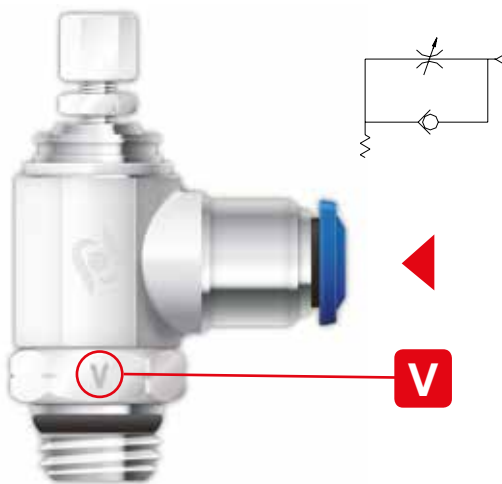


**Part Number:**

89953 - 89958 - 89903 - 89907  
 88953 - 88958 - 87903 - 87907  
 50901N - 50905N - 50903N - 50907N  
 85953 - 85958 - 85903 - 85907  
 55900 - 55905 - 55903 - 55907  
 88952 - 88957 - 82903 - 82907



**CONTROLLED FLOW IN**

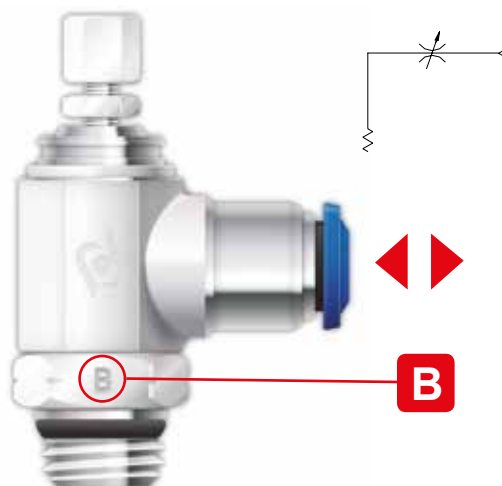


**Part Number:**

89963 - 89968 - 89913 - 89917  
 88963 - 88968 - 87913 - 87917  
 50910N - 50915N - 50913N - 50917N  
 85963 - 85968 - 85913 - 85917  
 55910 - 55915 - 55913 - 55917  
 88962 - 88967 - 82913 - 82917



**BI-DIRECTIONAL FLOW**



**Part Number:**

89973 - 89978 - 89923 - 89927  
 88973 - 88978 - 87923 - 87927  
 50920N - 50925N - 50923N - 50927N  
 85973 - 85978 - 85923 - 85927  
 55920 - 55925 - 55923 - 55927  
 88972 - 88977 - 82923 - 82927

**KEY**



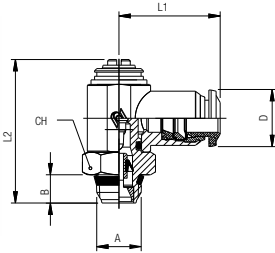
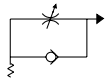
Screw Adjust



Knob Adjust

**89953**

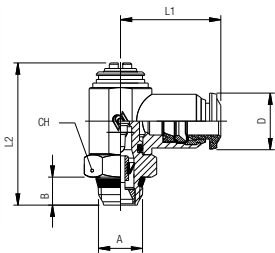
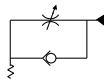
INCH TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2	CH	D
89953-02-32	1/8	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
89953-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89953-53-32	5/32	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
89953-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89953-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
89953-04-04	1/4	1/4	.276 (7)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
89953-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
89953-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
89953-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	1.614 (41)	.787 (20)	.846 (21,5)
89953-08-08	1/2	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)

**89963**

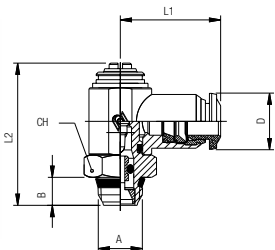
INCH TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2	CH	D
89963-02-32	1/8	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
89963-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89963-53-32	5/32	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
89963-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89963-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
89963-04-04	1/4	1/4	.276 (7)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
89963-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
89963-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
89963-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	1.614 (41)	.787 (20)	.846 (21,5)
89963-08-08	1/2	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)

**89973**

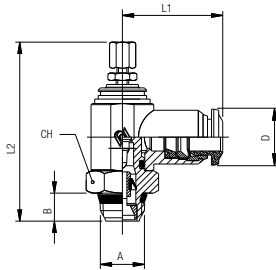
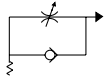
INCH TUBE NEEDLE VALVE



Part No.	Tube	A	B	L1	L2	CH	D
89973-02-32	1/8	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
89973-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89973-53-32	5/32	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
89973-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89973-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
89973-04-04	1/4	1/4	.276 (7)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
89973-06-04	3/8	1/4	.217 (5,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
89973-06-06	3/8	3/8	.217 (5,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
89973-08-06	1/2	3/8	.217 (5,5)	1.280 (32,5)	1.614 (41)	.787 (20)	.846 (21,5)
89973-08-08	1/2	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)

**89958**

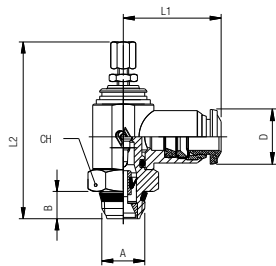
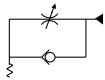
INCH TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
89958-02-32	1/8	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
89958-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89958-53-32	5/32	10/32	.157 (4)	.748 (19)	1.299 (33)	1.472 (37,5)	.315 (8)	.394 (10)
89958-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89958-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
89958-04-04	1/4	1/4	.276 (7)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
89958-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
89958-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
89958-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.480 (63)	.787 (20)	.846 (21,5)
89958-08-08	1/2	1/2	.354 (9)	1.378 (35)	2.402 (61)	2.717 (69)	.945 (24)	.846 (21,5)

**89968**

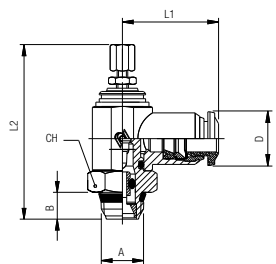
INCH TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
89968-02-32	1/8	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
89968-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89968-53-32	5/32	10/32	.157 (4)	.748 (19)	1.299 (33)	1.472 (37,5)	.315 (8)	.394 (10)
89968-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89968-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
89968-04-04	1/4	1/4	.276 (7)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
89968-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
89968-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
89968-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.480 (63)	.787 (20)	.846 (21,5)
89968-08-08	1/2	1/2	.354 (9)	1.378 (35)	2.402 (61)	2.717 (69)	.945 (24)	.846 (21,5)

**89978**

INCH TUBE NEEDLE VALVE

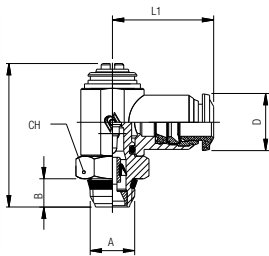
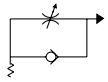


Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
89978-02-32	1/8	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
89978-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89978-53-32	5/32	10/32	.157 (4)	.748 (19)	1.299 (33)	1.472 (37,5)	.315 (8)	.394 (10)
89978-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89978-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
89978-04-04	1/4	1/4	.276 (7)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
89978-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
89978-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
89978-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.480 (63)	.787 (20)	.846 (21,5)
89978-08-08	1/2	1/2	.354 (9)	1.378 (35)	2.402 (61)	2.717 (69)	.945 (24)	.846 (21,5)



**88953**

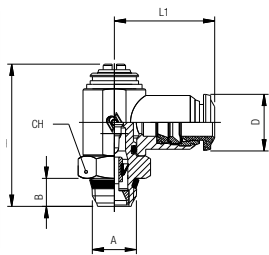
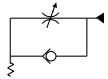
INCH TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2	CH	D
88953-02-32	1/8	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
88953-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
88953-53-32	5/32	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
88953-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
88953-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
88953-04-04	1/4	1/4	.276 (7)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
88953-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
88953-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
88953-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	1.614 (41)	.787 (20)	.846 (21,5)
88953-08-08	1/2	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)

**88963**

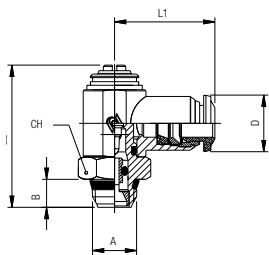
INCH TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2	CH	D
88963-02-32	1/8	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
88963-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
88963-53-32	5/32	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
88963-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
88963-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
88963-04-04	1/4	1/4	.276 (7)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
88963-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
88963-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
88963-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	1.614 (41)	.787 (20)	.846 (21,5)
88963-08-08	1/2	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)

**88973**

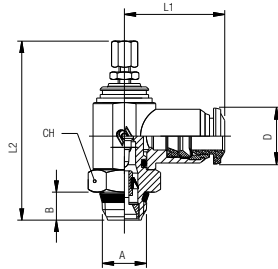
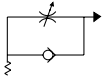
INCH TUBE NEEDLE VALVE



Part No.	Tube	A	B	L1	L2	CH	D
88973-02-32	1/8	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
88973-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
88973-53-32	5/32	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
88973-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
88973-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
88973-04-04	1/4	1/4	.276 (7)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
88973-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
88973-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)
88973-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	1.614 (41)	.787 (20)	.846 (21,5)
88973-08-08	1/2	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)

**88958**

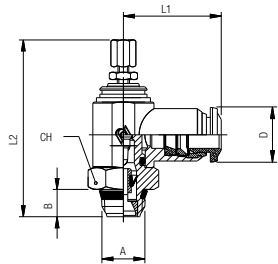
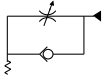
INCH TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
88958-02-32	1/8	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
88958-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
88958-53-32	5/32	10/32	.157 (4)	.748 (19)	1.299 (33)	1.472 (37,5)	.315 (8)	.394 (10)
88958-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
88958-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
88958-04-04	1/4	1/4	.276 (7)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
88958-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
88958-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
88958-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.480 (63)	.787 (20)	.846 (21,5)
88958-08-08	1/2	1/2	.354 (9)	1.378 (35)	2.402 (61)	2.717 (69)	.945 (24)	.846 (21,5)

**88968**

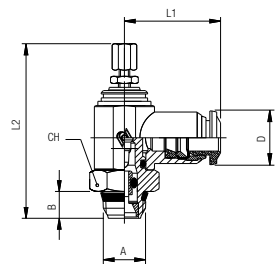
INCH TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
88968-02-32	1/8	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
88968-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
88968-53-32	5/32	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
88968-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
88968-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
88968-04-04	1/4	1/4	.276 (7)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
88968-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
88968-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
88968-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.480 (63)	.787 (20)	.846 (21,5)
88968-08-08	1/2	1/2	.354 (9)	1.378 (35)	2.205 (56)	2.717 (69)	.945 (24)	.846 (21,5)

**88978**

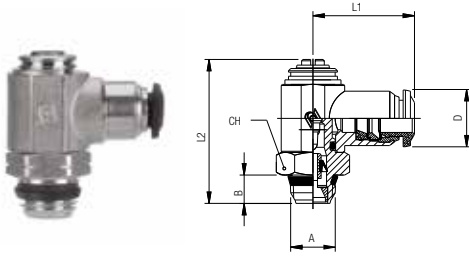
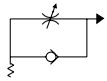
INCH TUBE NEEDLE VALVE



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
88978-02-32	1/8	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
88978-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
88978-53-32	5/32	10/32	.157 (4)	.748 (19)	1.299 (33)	1.472 (37,5)	.315 (8)	.394 (10)
88978-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
88978-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
88978-04-04	1/4	1/4	.276 (7)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
88978-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
88978-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)
88978-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.480 (63)	.787 (20)	.846 (21,5)
88978-08-08	1/2	1/2	.354 (9)	1.378 (35)	2.402 (61)	2.717 (69)	.945 (24)	.846 (21,5)

**50901N**

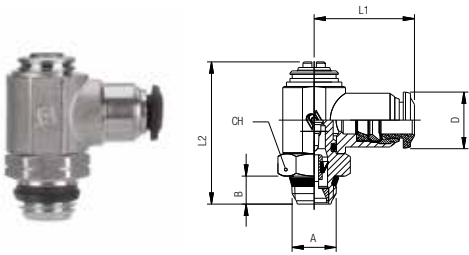
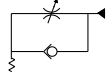
METRIC TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2	CH	D
50901N-3-M5	3	M5	.157 (4)	.748 (19)	1.161 (29,5)	.315 (8)	.394 (10)
50901N-4-M5	5/32 (4)	M5	.157 (4)	.748 (19)	1.161 (29,5)	.315 (8)	.394 (10)
50901N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.827 (21)	1.220 (31)	.551 (14)	.394 (10)
50901N-5-M5	5	M5	.157 (4)	.787 (20)	1.161 (29,5)	.315 (8)	.492 (12,5)
50901N-5-1/8	5	1/8	.217 (5,5)	.846 (21,5)	1.220 (31)	.551 (14)	.492 (12,5)
50901N-5-1/4	5	1/4	.276 (7)	.965 (24,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
50901N-6-M5	6	M5	.157 (4)	.807 (20,5)	1.161 (29,5)	.315 (8)	.492 (12,5)
50901N-6-1/8	6	1/8	.217 (5,5)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
50901N-6-1/4	6	1/4	.276 (7)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
50901N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.945 (24)	1.220 (31)	.551 (14)	.551 (14)
50901N-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)
50901N-8-3/8	5/16 (8)	3/8	.295 (7,5)	1.122 (28,5)	1.673 (42,5)	.787 (20)	.551 (14)
50901N-10-1/4	10	1/4	.276 (7)	1.122 (28,5)	1.437 (36,5)	.669 (17)	.669 (17)
50901N-10-3/8	10	3/8	.295 (7,5)	1.201 (30,5)	1.673 (42,5)	.787 (20)	.669 (17)
50901N-12-3/8	12	3/8	.295 (7,5)	1.280 (32,5)	1.673 (42,5)	.787 (20)	.846 (21,5)
50901N-12-1/2	12	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)
50901N-14-1/2	14	1/2	.354 (9)	1.398 (35,5)	1.850 (47)	.945 (24)	.846 (21,5)

**50910N**

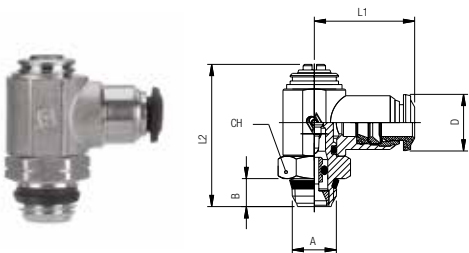
METRIC TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2	CH	D
50910N-3-M5	3	M5	.157 (4)	.748 (19)	1.161 (29,5)	.315 (8)	.394 (10)
50910N-4-M5	5/32 (4)	M5	.157 (4)	.748 (19)	1.161 (29,5)	.315 (8)	.394 (10)
50910N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.827 (21)	1.220 (31)	.551 (14)	.394 (10)
50910N-5-M5	5	M5	.157 (4)	.787 (20)	1.161 (29,5)	.315 (8)	.492 (12,5)
50910N-5-1/8	5	1/8	.217 (5,5)	.846 (21,5)	1.220 (31)	.551 (14)	.492 (12,5)
50910N-5-1/4	5	1/4	.276 (7)	.965 (24,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
50910N-6-M5	6	M5	.157 (4)	.807 (20,5)	1.161 (29,5)	.315 (8)	.492 (12,5)
50910N-6-1/8	6	1/8	.217 (5,5)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
50910N-6-1/4	6	1/4	.276 (7)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
50910N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.945 (24)	1.220 (31)	.551 (14)	.551 (14)
50910N-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)
50910N-8-3/8	5/16 (8)	3/8	.295 (7,5)	1.122 (28,5)	1.673 (42,5)	.787 (20)	.551 (14)
50910N-10-1/4	10	1/4	.276 (7)	1.122 (28,5)	1.437 (36,5)	.669 (17)	.669 (17)
50910N-10-3/8	10	3/8	.295 (7,5)	1.201 (30,5)	1.673 (42,5)	.787 (20)	.669 (17)
50910N-12-3/8	12	3/8	.295 (7,5)	1.280 (32,5)	1.673 (42,5)	.787 (20)	.846 (21,5)
50910N-12-1/2	12	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)
50910N-14-1/2	14	1/2	.354 (9)	1.398 (35,5)	1.850 (47)	.945 (24)	.846 (21,5)

**50920N**

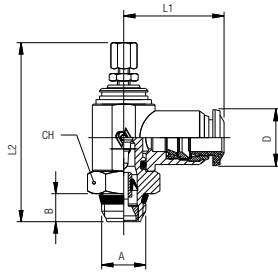
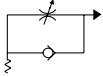
METRIC TUBE NEEDLE VALVE



Part No.	Tube	A	B	L1	L2	CH	D
50920N-3-M5	3	M5	.157 (4)	.748 (19)	1.161 (29,5)	.315 (8)	.394 (10)
50920N-4-M5	5/32 (4)	M5	.157 (4)	.748 (19)	1.161 (29,5)	.315 (8)	.394 (10)
50920N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.827 (21)	1.220 (31)	.551 (14)	.394 (10)
50920N-5-M5	5	M5	.157 (4)	.787 (20)	1.161 (29,5)	.315 (8)	.492 (12,5)
50920N-5-1/8	5	1/8	.217 (5,5)	.846 (21,5)	1.220 (31)	.551 (14)	.492 (12,5)
50920N-5-1/4	5	1/4	.276 (7)	.965 (24,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
50920N-6-M5	6	M5	.157 (4)	.807 (20,5)	1.161 (29,5)	.315 (8)	.492 (12,5)
50920N-6-1/8	6	1/8	.217 (5,5)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
50920N-6-1/4	6	1/4	.276 (7)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
50920N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.945 (24)	1.220 (31)	.551 (14)	.551 (14)
50920N-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)
50920N-8-3/8	5/16 (8)	3/8	.295 (7,5)	1.122 (28,5)	1.673 (42,5)	.787 (20)	.551 (14)
50920N-10-1/4	10	1/4	.276 (7)	1.122 (28,5)	1.437 (36,5)	.669 (17)	.669 (17)
50920N-10-3/8	10	3/8	.295 (7,5)	1.201 (30,5)	1.673 (42,5)	.787 (20)	.669 (17)
50920N-12-3/8	12	3/8	.295 (7,5)	1.280 (32,5)	1.673 (42,5)	.787 (20)	.846 (21,5)
50920N-12-1/2	12	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)
50920N-14-1/2	14	1/2	.354 (9)	1.398 (35,5)	1.850 (47)	.945 (24)	.846 (21,5)

**50905N**

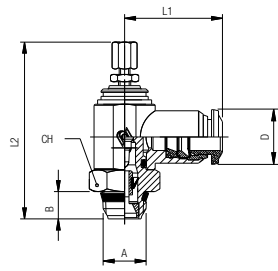
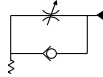
METRIC TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
50905N-3-M5	3	M5	.157 (4)	.748 (19)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.394 (10)
50905N-4-M5	5/32 (4)	M5	.157 (4)	.748 (19)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.394 (10)
50905N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.827 (21)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
50905N-5-M5	5	M5	.157 (4)	.787 (20)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
50905N-5-1/8	5	1/8	.217 (5,5)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50905N-5-1/4	5	1/4	.276 (7)	.965 (24,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50905N-6-M5	6	M5	.157 (4)	.807 (20,5)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
50905N-6-1/8	6	1/8	.217 (5,5)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50905N-6-1/4	6	1/4	.276 (7)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50905N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.945 (24)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
50905N-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)
50905N-8-3/8	5/16 (8)	3/8	.295 (7,5)	1.122 (28,5)	2.205 (56)	2.559 (65)	.787 (20)	.551 (14)
50905N-10-1/4	10	1/4	.276 (7)	1.122 (28,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.669 (17)
50905N-10-3/8	10	3/8	.295 (7,5)	1.201 (30,5)	2.205 (56)	2.559 (65)	.787 (20)	.669 (17)
50905N-12-3/8	12	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.559 (65)	.787 (20)	.846 (21,5)
50905N-12-1/2	12	1/2	.354 (9)	1.378 (35)	2.441 (62)	2.717 (69)	.945 (24)	.846 (21,5)
50905N-14-1/2	14	1/2	.354 (9)	1.398 (35,5)	2.441 (62)	2.717 (69)	.945 (24)	.846 (21,5)

**50915N**

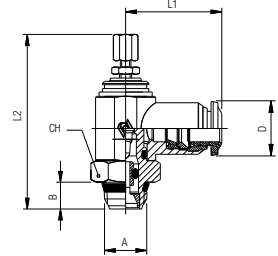
METRIC TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
50915N-3-M5	3	M5	.157 (4)	.748 (19)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.394 (10)
50915N-4-M5	5/32 (4)	M5	.157 (4)	.748 (19)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.394 (10)
50915N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.827 (21)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
50915N-5-M5	5	M5	.157 (4)	.787 (20)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
50915N-5-1/8	5	1/8	.217 (5,5)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50915N-5-1/4	5	1/4	.276 (7)	.965 (24,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50915N-6-M5	6	M5	.157 (4)	.807 (20,5)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
50915N-6-1/8	6	1/8	.217 (5,5)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50915N-6-1/4	6	1/4	.276 (7)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50915N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.945 (24)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
50915N-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)
50915N-8-3/8	5/16 (8)	3/8	.295 (7,5)	1.122 (28,5)	2.205 (56)	2.559 (65)	.787 (20)	.551 (14)
50915N-10-1/4	10	1/4	.276 (7)	1.122 (28,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.669 (17)
50915N-10-3/8	10	3/8	.295 (7,5)	1.201 (30,5)	2.205 (56)	2.559 (65)	.787 (20)	.669 (17)
50915N-12-3/8	12	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.559 (65)	.787 (20)	.846 (21,5)
50915N-12-1/2	12	1/2	.354 (9)	1.378 (35)	2.441 (62)	2.717 (69)	.945 (24)	.846 (21,5)
50915N-14-1/2	14	1/2	.354 (9)	1.398 (35,5)	2.441 (62)	2.717 (69)	.945 (24)	.846 (21,5)

**50925N**

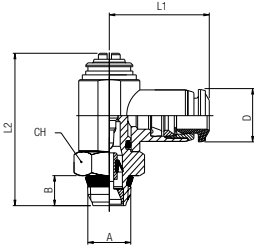
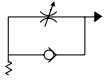
METRIC TUBE NEEDLE VALVE



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
50925N-3-M5	3	M5	.157 (4)	.748 (19)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.394 (10)
50925N-4-M5	5/32 (4)	M5	.157 (4)	.748 (19)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.394 (10)
50925N-4-1/8	5/32 (4)	1/8	.217 (5,5)	.827 (21)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
50925N-5-M5	5	M5	.157 (4)	.787 (20)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
50925N-5-1/8	5	1/8	.217 (5,5)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50925N-5-1/4	5	1/4	.276 (7)	.965 (24,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50925N-6-M5	6	M5	.157 (4)	.807 (20,5)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
50925N-6-1/8	6	1/8	.217 (5,5)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50925N-6-1/4	6	1/4	.276 (7)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50925N-8-1/8	5/16 (8)	1/8	.217 (5,5)	.945 (24)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
50925N-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)
50925N-8-3/8	5/16 (8)	3/8	.295 (7,5)	1.122 (28,5)	2.205 (56)	2.559 (65)	.787 (20)	.551 (14)
50925N-10-1/4	10	1/4	.276 (7)	1.122 (28,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.669 (17)
50925N-10-3/8	10	3/8	.295 (7,5)	1.201 (30,5)	2.205 (56)	2.559 (65)	.787 (20)	.669 (17)
50925N-12-3/8	12	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.559 (65)	.787 (20)	.846 (21,5)
50925N-12-1/2	12	1/2	.354 (9)	1.378 (35)	2.441 (62)	2.717 (69)	.945 (24)	.846 (21,5)
50925N-14-1/2	14	1/2	.354 (9)	1.398 (35,5)	2.441 (62)	2.717 (69)	.945 (24)	.846 (21,5)

**85953**

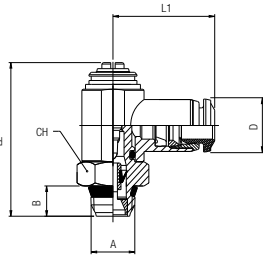
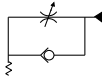
INCH TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2	CH	D
85953-02-32	1/8	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
85953-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85953-53-32	5/32	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
85953-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85953-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.181 (30,5)	.551 (14)	.472 (12)
85953-04-04	1/4	1/4	.276 (7)	.984 (25)	1.417 (36)	.669 (17)	.472 (12)
85953-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.669 (17)
85953-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.669 (17)
85953-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	1.614 (41)	.787 (20)	.787 (20)
85953-08-08	1/2	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.787 (20)

**85963**

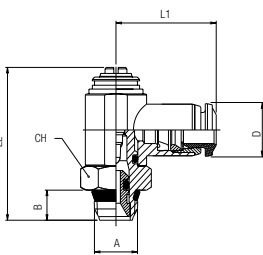
INCH TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2	CH	D
85963-02-32	1/8	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
85963-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85963-53-32	5/32	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
85963-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85963-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.181 (30,5)	.551 (14)	.472 (12)
85963-04-04	1/4	1/4	.276 (7)	.984 (25)	1.417 (36)	.669 (17)	.472 (12)
85963-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.669 (17)
85963-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.669 (17)
85963-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	1.614 (41)	.787 (20)	.787 (20)
85963-08-08	1/2	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.787 (20)

**85973**

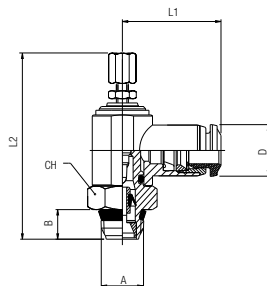
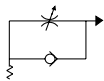
INCH TUBE NEEDLE VALVE



Part No.	Tube	A	B	L1	L2	CH	D
85973-02-32	1/8	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
85973-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85973-53-32	5/32	10/32	.157 (4)	.748 (19)	.945 (21)	.315 (8)	.394 (10)
85973-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85973-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.181 (30,5)	.551 (14)	.472 (12)
85973-04-04	1/4	1/4	.276 (7)	.984 (25)	1.417 (36)	.669 (17)	.472 (12)
85973-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.669 (17)
85973-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	1.614 (41)	.787 (20)	.669 (17)
85973-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	1.614 (41)	.787 (20)	.787 (20)
85973-08-08	1/2	1/2	.354 (9)	1.378 (35)	1.850 (47)	.945 (24)	.787 (20)

**85958**

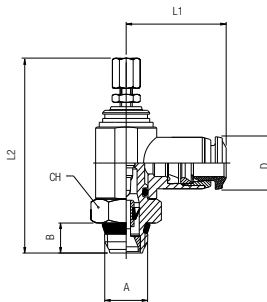
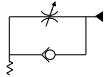
INCH TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
85958-02-32	1/8	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
85958-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85958-53-32	5/32	10/32	.157 (4)	.748 (19)	1.299 (33)	1.472 (37,5)	.315 (8)	.394 (10)
85958-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85958-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.472 (12)
85958-04-04	1/4	1/4	.276 (7)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.472 (12)
85958-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.669 (17)
85958-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.669 (17)
85958-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.480 (63)	.787 (20)	.787 (20)
85958-08-08	1/2	1/2	.354 (9)	1.378 (35)	2.402 (61)	2.717 (69)	.945 (24)	.787 (20)

**85968**

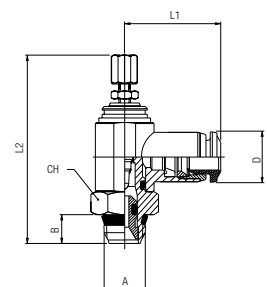
INCH TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
85968-02-32	1/8	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
85968-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85968-53-32	5/32	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
85968-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85968-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.472 (12)
85968-04-04	1/4	1/4	.276 (7)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.472 (12)
85968-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.669 (17)
85968-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.669 (17)
85968-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.480 (63)	.787 (20)	.787 (20)
85968-08-08	1/2	1/2	.354 (9)	1.378 (35)	2.205 (56)	2.717 (69)	.945 (24)	.787 (20)

**85978**

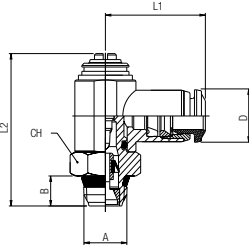
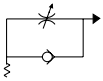
INCH TUBE NEEDLE VALVE



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
85978-02-32	1/8	10/32	.157 (4)	.748 (19)	1.299 (33)	1.476 (37,5)	.315 (8)	.394 (10)
85978-02-02	1/8	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85978-53-32	5/32	10/32	.157 (4)	.748 (19)	1.299 (33)	1.472 (37,5)	.315 (8)	.394 (10)
85978-53-02	5/32	1/8	.217 (5,5)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85978-04-02	1/4	1/8	.217 (5,5)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.472 (12)
85978-04-04	1/4	1/4	.276 (7)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.472 (12)
85978-06-04	3/8	1/4	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.669 (17)
85978-06-06	3/8	3/8	.295 (7,5)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.669 (17)
85978-08-06	1/2	3/8	.295 (7,5)	1.280 (32,5)	2.205 (56)	2.480 (63)	.787 (20)	.787 (20)
85978-08-08	1/2	1/2	.354 (9)	1.378 (35)	2.402 (61)	2.717 (69)	.945 (24)	.787 (20)

**55901**

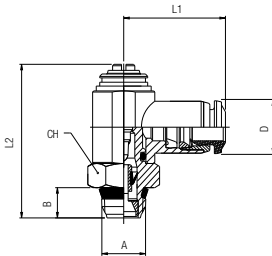
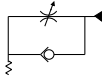
METRIC TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2	CH	D
55901-4-M5	5/32 (4)	M5	.217 (5,5)	.768 (19,5)	1.161 (29,5)	.315 (8)	.394 (10)
55901-4-1/8	5/32 (4)	1/8	.217 (5,5)	.846 (21,5)	1.220 (31)	.551 (14)	.394 (10)
55901-5-M5	5	M5	.217 (5,5)	.807 (20,5)	1.161 (29,5)	.315 (8)	.492 (12,5)
55901-5-1/8	5	1/8	.217 (5,5)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
55901-5-1/4	5	1/4	.276 (7)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
55901-6-M5	6	M5	.217 (5,5)	.827 (21)	1.161 (29,5)	.315 (8)	.492 (12,5)
55901-6-1/8	6	1/8	.217 (5,5)	.906 (23)	1.220 (31)	.551 (14)	.492 (12,5)
55901-6-1/4	6	1/4	.276 (7)	1.004 (25,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
55901-8-1/8	5/16 (8)	1/8	.217 (5,5)	.925 (23,5)	1.220 (31)	.551 (14)	.551 (14)
55901-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)
55901-8-3/8	5/16 (8)	3/8	.335 (8,5)	1.083 (27,5)	1.673 (42,5)	.787 (20)	.551 (14)
55901-10-3/8	10	3/8	.335 (8,5)	1.201 (30,5)	1.673 (42,5)	.787 (20)	.669 (17)
55901-12-3/8	12	3/8	.335 (8,5)	1.280 (32,5)	1.673 (42,5)	.787 (20)	.846 (21,5)
55901-12-1/2	12	1/2	.394 (10)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)

**55910**

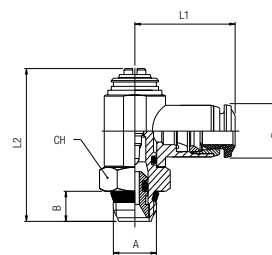
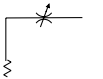
METRIC TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2	CH	D
55910-4-M5	5/32 (4)	M5	.217 (5,5)	.768 (19,5)	1.161 (29,5)	.315 (8)	.394 (10)
55910-4-1/8	5/32 (4)	1/8	.217 (5,5)	.846 (21,5)	1.220 (31)	.551 (14)	.394 (10)
55910-5-M5	5	M5	.217 (5,5)	.807 (20,5)	1.161 (29,5)	.315 (8)	.492 (12,5)
55910-5-1/8	5	1/8	.217 (5,5)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
55910-5-1/4	5	1/4	.276 (7)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
55910-6-M5	6	M5	.217 (5,5)	.827 (21)	1.161 (29,5)	.315 (8)	.492 (12,5)
55910-6-1/8	6	1/8	.217 (5,5)	.906 (23)	1.220 (31)	.551 (14)	.492 (12,5)
55910-6-1/4	6	1/4	.276 (7)	1.004 (25,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
55910-8-1/8	5/16 (8)	1/8	.217 (5,5)	.925 (23,5)	1.220 (31)	.551 (14)	.551 (14)
55910-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)
55910-8-3/8	5/16 (8)	3/8	.335 (8,5)	1.083 (27,5)	1.673 (42,5)	.787 (20)	.551 (14)
55910-10-3/8	10	3/8	.335 (8,5)	1.201 (30,5)	1.673 (42,5)	.787 (20)	.669 (17)
55910-12-3/8	12	3/8	.335 (8,5)	1.280 (32,5)	1.673 (42,5)	.787 (20)	.846 (21,5)
55910-12-1/2	12	1/2	.394 (10)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)

**55920**

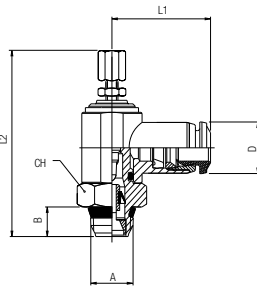
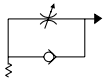
METRIC TUBE NEEDLE VALVE



Part No.	Tube	A	B	L1	L2	CH	D
55920-4-M5	5/32 (4)	M5	.217 (5,5)	.768 (19,5)	1.161 (29,5)	.315 (8)	.394 (10)
55920-4-1/8	5/32 (4)	1/8	.217 (5,5)	.846 (21,5)	1.220 (31)	.551 (14)	.394 (10)
55920-5-M5	5	M5	.217 (5,5)	.807 (20,5)	1.161 (29,5)	.315 (8)	.492 (12,5)
55920-5-1/8	5	1/8	.217 (5,5)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
55920-5-1/4	5	1/4	.276 (7)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
55920-6-M5	6	M5	.217 (5,5)	.827 (21)	1.161 (29,5)	.315 (8)	.492 (12,5)
55920-6-1/8	6	1/8	.217 (5,5)	.906 (23)	1.220 (31)	.551 (14)	.492 (12,5)
55920-6-1/4	6	1/4	.276 (7)	1.004 (25,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
55920-8-1/8	5/16 (8)	1/8	.217 (5,5)	.925 (23,5)	1.220 (31)	.551 (14)	.551 (14)
55920-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)
55920-8-3/8	5/16 (8)	3/8	.335 (8,5)	1.083 (27,5)	1.673 (42,5)	.787 (20)	.551 (14)
55920-10-3/8	10	3/8	.335 (8,5)	1.201 (30,5)	1.673 (42,5)	.787 (20)	.669 (17)
55920-12-3/8	12	3/8	.335 (8,5)	1.280 (32,5)	1.673 (42,5)	.787 (20)	.846 (21,5)
55920-12-1/2	12	1/2	.394 (10)	1.378 (35)	1.850 (47)	.945 (24)	.846 (21,5)

**55905**

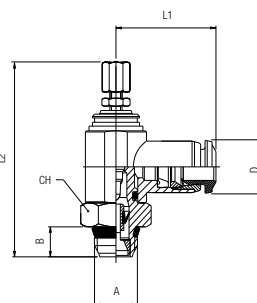
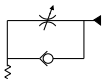
METRIC TUBE FLOW CONTROL (OUT)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
55905-4-M5	5/32 (4)	M5	.217 (5,5)	.768 (19,5)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.394 (10)
55905-4-1/8	5/32 (4)	1/8	.217 (5,5)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
55905-5-M5	5	M5	.217 (5,5)	.807 (20,5)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
55905-5-1/8	5	1/8	.217 (5,5)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55905-5-1/4	5	1/4	.276 (7)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55905-6-M5	6	M5	.217 (5,5)	.827 (21)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
55905-6-1/8	6	1/8	.217 (5,5)	.906 (23)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55905-6-1/4	6	1/4	.276 (7)	1.004 (25,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55905-8-1/8	5/16 (8)	1/8	.217 (5,5)	.925 (23,5)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
55905-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)
55905-8-3/8	5/16 (8)	3/8	.335 (8,5)	1.083 (27,5)	2.205 (56)	2.559 (65)	.787 (20)	.551 (14)
55905-10-3/8	10	3/8	.335 (8,5)	1.201 (30,5)	2.205 (56)	2.559 (65)	.787 (20)	.669 (17)
55905-12-3/8	12	3/8	.335 (8,5)	1.280 (32,5)	2.205 (56)	2.559 (65)	.787 (20)	.846 (21,5)
55905-12-1/2	12	1/2	.394 (10)	1.378 (35)	2.441 (62)	2.717 (69)	.945 (24)	.846 (21,5)

**55915**

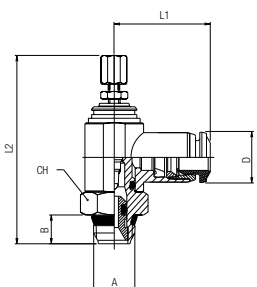
METRIC TUBE FLOW CONTROL (IN)



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
55915-4-M5	5/32 (4)	M5	.217 (5,5)	.768 (19,5)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.394 (10)
55915-4-1/8	5/32 (4)	1/8	.217 (5,5)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
55915-5-M5	5	M5	.217 (5,5)	.807 (20,5)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
55915-5-1/8	5	1/8	.217 (5,5)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55915-5-1/4	5	1/4	.276 (7)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55915-6-M5	6	M5	.217 (5,5)	.827 (21)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
55915-6-1/8	6	1/8	.217 (5,5)	.906 (23)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55915-6-1/4	6	1/4	.276 (7)	1.004 (25,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55915-8-1/8	5/16 (8)	1/8	.217 (5,5)	.925 (23,5)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
55915-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)
55915-8-3/8	5/16 (8)	3/8	.335 (8,5)	1.083 (27,5)	2.205 (56)	2.559 (65)	.787 (20)	.551 (14)
55915-10-3/8	10	3/8	.335 (8,5)	1.201 (30,5)	2.205 (56)	2.559 (65)	.787 (20)	.669 (17)
55915-12-3/8	12	3/8	.335 (8,5)	1.280 (32,5)	2.205 (56)	2.559 (65)	.787 (20)	.846 (21,5)
55915-12-1/2	12	1/2	.394 (10)	1.378 (35)	2.441 (62)	2.717 (69)	.945 (24)	.846 (21,5)

**55925**

METRIC TUBE NEEDLE VALVE



Part No.	Tube	A	B	L1	L2 min	L2 max	CH	D
55925-4-M5	5/32 (4)	M5	.217 (5,5)	.768 (19,5)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.394 (10)
55925-4-1/8	5/32 (4)	1/8	.217 (5,5)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
55925-5-M5	5	M5	.217 (5,5)	.807 (20,5)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
55925-5-1/8	5	1/8	.217 (5,5)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55925-5-1/4	5	1/4	.276 (7)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55925-6-M5	6	M5	.217 (5,5)	.827 (21)	1.516 (38,5)	1.673 (42,5)	.315 (8)	.492 (12,5)
55925-6-1/8	6	1/8	.217 (5,5)	.906 (23)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55925-6-1/4	6	1/4	.276 (7)	1.004 (25,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55925-8-1/8	5/16 (8)	1/8	.217 (5,5)	.925 (23,5)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
55925-8-1/4	5/16 (8)	1/4	.276 (7)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)
55925-8-3/8	5/16 (8)	3/8	.335 (8,5)	1.083 (27,5)	2.205 (56)	2.559 (65)	.787 (20)	.551 (14)
55925-10-3/8	10	3/8	.335 (8,5)	1.201 (30,5)	2.205 (56)	2.559 (65)	.787 (20)	.669 (17)
55925-12-3/8	12	3/8	.335 (8,5)	1.280 (32,5)	2.205 (56)	2.559 (65)	.787 (20)	.846 (21,5)
55925-12-1/2	12	1/2	.394 (10)	1.378 (35)	2.441 (62)	2.717 (69)	.945 (24)	.846 (21,5)

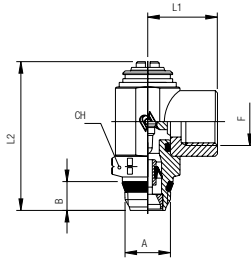
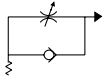


**88952**

FEMALE NPTF FLOW CONTROL (OUT)



Part No.	F NPTF	A	B	L1	L2	CH
88952-32-32	10/32 UNF	10/32	.157 (4)	.394 (10)	.945 (24)	.315 (8)
88952-02-02	1/8	1/8	.217 (5,5)	.650 (16,5)	1.181 (30,5)	.551 (14)
88952-04-04	1/4	1/4	.276 (7)	.866 (22)	1.417 (36)	.669 (17)
88952-06-06	3/8	3/8	.295 (7,5)	1.043 (26,5)	1.614 (26,5)	.787 (20)

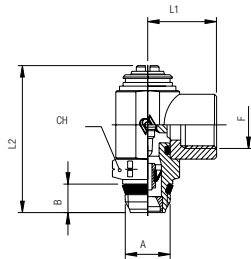
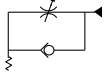


**88962**

FEMALE NPTF FLOW CONTROL (IN)



Part No.	F NPTF	A	B	L1	L2	CH
88962-32-32	10/32 UNF	10/32	.157 (4)	.394 (10)	.945 (24)	.315 (8)
88962-02-02	1/8	1/8	.217 (5,5)	.650 (16,5)	1.181 (30,5)	.551 (14)
88962-04-04	1/4	1/4	.276 (7)	.866 (22)	1.417 (36)	.669 (17)
88962-06-06	3/8	3/8	.295 (7,5)	1.043 (26,5)	1.614 (26,5)	.787 (20)

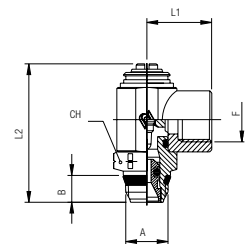


**88972**

FEMALE NPTF NEEDLE VALVE

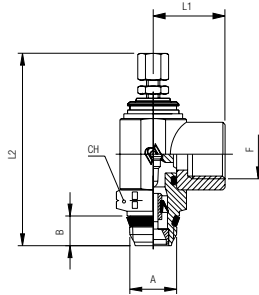
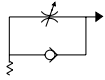


Part No.	F NPTF	A	B	L1	L2	CH
88972-32-32	10/32 UNF	10/32	.157 (4)	.394 (10)	.945 (24)	.315 (8)
88972-02-02	1/8	1/8	.217 (5,5)	.650 (16,5)	1.181 (30,5)	.551 (14)
88972-04-04	1/4	1/4	.276 (7)	.866 (22)	1.417 (36)	.669 (17)
88972-06-06	3/8	3/8	.295 (7,5)	1.043 (26,5)	1.614 (26,5)	.787 (20)



**88957**

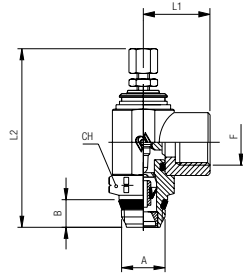
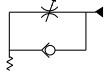
FEMALE NPTF FLOW CONTROL (OUT)



Part No.	F NPTF	A	B	L1	L2 min	L2 max	CH
<b>88957-32-32</b>	<b>10/32 UNF</b>	<b>10/32</b>	.157 (4)	.394 (10)	1.299 (33)	1.477 (37,5)	.315 (8)
<b>88957-02-02</b>	<b>1/8</b>	<b>1/8</b>	.217 (5,5)	.650 (16,5)	1.614 (41)	1.830 (46,5)	.551 (14)
<b>88957-04-04</b>	<b>1/4</b>	<b>1/4</b>	.276 (7)	.866 (22)	1.850 (47)	2.086 (53)	.669 (17)
<b>88957-06-06</b>	<b>3/8</b>	<b>3/8</b>	.295 (7,5)	1.043 (26,5)	2.480 (63)	2.480 (63)	.787 (20)

**88967**

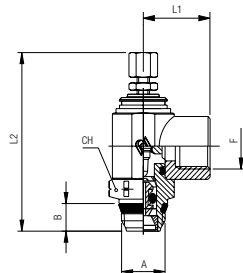
FEMALE NPTF FLOW CONTROL (IN)



Part No.	F NPTF	A	B	L1	L2 min	L2 max	CH
<b>88967-32-32</b>	<b>10/32 UNF</b>	<b>10/32</b>	.157 (4)	.394 (10)	1.299 (33)	1.477 (37,5)	.315 (8)
<b>88967-02-02</b>	<b>1/8</b>	<b>1/8</b>	.217 (5,5)	.650 (16,5)	1.614 (41)	1.830 (46,5)	.551 (14)
<b>88967-04-04</b>	<b>1/4</b>	<b>1/4</b>	.276 (7)	.866 (22)	1.850 (47)	2.086 (53)	.669 (17)
<b>88967-06-06</b>	<b>3/8</b>	<b>3/8</b>	.295 (7,5)	1.043 (26,5)	2.205 (56)	2.480 (63)	.787 (20)

**88977**

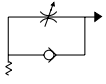
FEMALE NPTF NEEDLE VALVE



Part No.	F NPTF	A	B	L1	L2 min	L2 max	CH
<b>88977-32-32</b>	<b>10/32 UNF</b>	<b>10/32</b>	.157 (4)	.394 (10)	1.299 (33)	1.477 (37,5)	.315 (8)
<b>88977-02-02</b>	<b>1/8</b>	<b>1/8</b>	.217 (5,5)	.650 (16,5)	1.614 (41)	1.830 (46,5)	.551 (14)
<b>88977-04-04</b>	<b>1/4</b>	<b>1/4</b>	.276 (7)	.866 (22)	1.850 (47)	2.086 (53)	.669 (17)
<b>88977-06-06</b>	<b>3/8</b>	<b>3/8</b>	.295 (7,5)	1.043 (26,5)	2.480 (63)	2.480 (63)	.787 (20)

**89903**

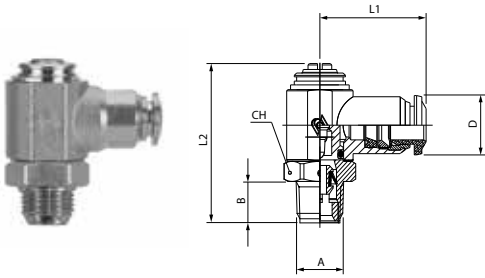
INCH TUBE FLOW CONTROL (OUT)



PTF

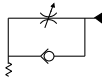


Part No.	Tube	A (PTF)	B	L1	L2	CH	D
89903-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89903-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89903-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
89903-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
89903-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)



**89913**

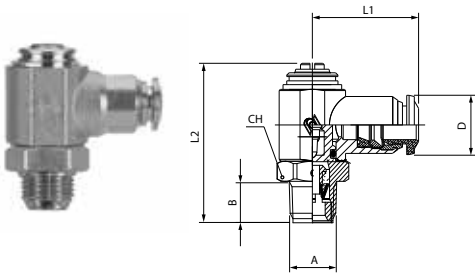
INCH TUBE FLOW CONTROL (IN)



PTF



Part No.	Tube	A (PTF)	B	L1	L2	CH	D
89913-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89913-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89913-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
89913-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
89913-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)



**89923**

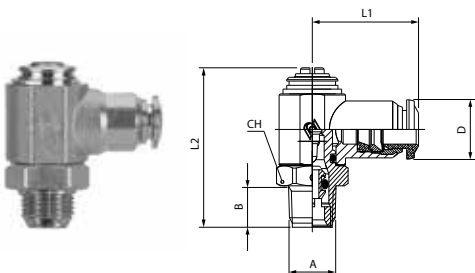
INCH TUBE NEEDLE VALVE



PTF

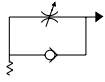


Part No.	Tube	A (PTF)	B	L1	L2	CH	D
89923-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89923-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
89923-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
89923-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
89923-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)



**89907**

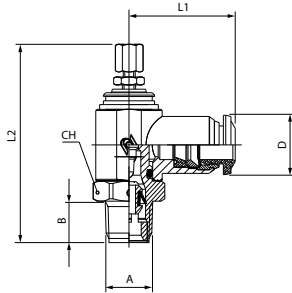
INCH TUBE FLOW CONTROL (OUT)



**PTF** 

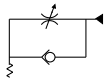
**C** 

Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
89907-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89907-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89907-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
89907-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
89907-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)



**89917**

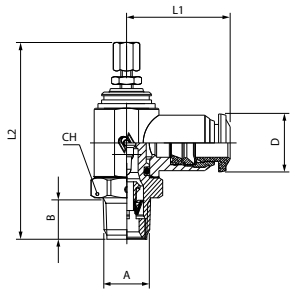
INCH TUBE FLOW CONTROL (IN)



**PTF** 

**V** 

Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
89917-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89917-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89917-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
89917-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
89917-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)



**89927**

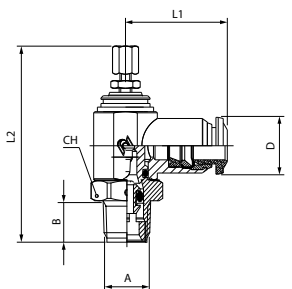
INCH TUBE NEEDLE VALVE



**PTF** 

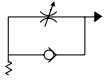
**B** 

Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
89927-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89927-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
89927-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
89927-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
89927-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)

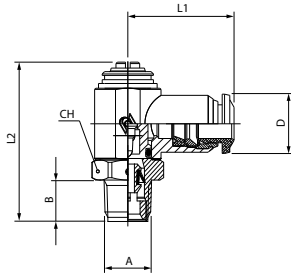


**87903**

INCH TUBE FLOW CONTROL (OUT)

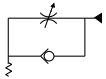


Part No.	Tube	A (PTF)	B	L1	L2	CH	D
87903-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
87903-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
87903-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
87903-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
87903-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)

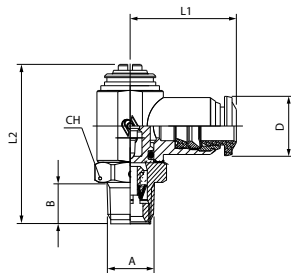


**87913**

INCH TUBE FLOW CONTROL (IN)



Part No.	Tube	A (PTF)	B	L1	L2	CH	D
87913-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
87913-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
87913-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
87913-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
87913-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)

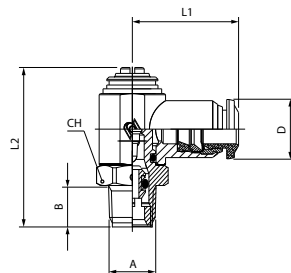


**87923**

INCH TUBE NEEDLE VALVE

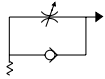


Part No.	Tube	A (PTF)	B	L1	L2	CH	D
87923-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
87923-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
87923-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.181 (30,5)	.551 (14)	.492 (12,5)
87923-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.417 (36)	.669 (17)	.492 (12,5)
87923-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	1.614 (41)	.787 (20)	.689 (17,5)



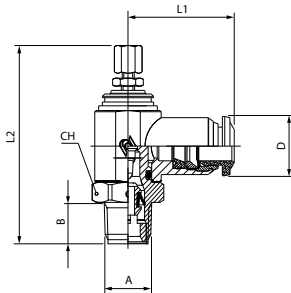
**87907**

INCH TUBE FLOW CONTROL (OUT)



**PTF** 

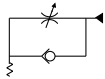
**C** 



Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
87907-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
87907-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
87907-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
87907-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
87907-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)

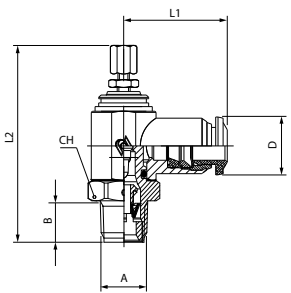
**87917**

INCH TUBE FLOW CONTROL (IN)



**PTF** 

**V** 



Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
87917-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
87917-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
87917-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
87917-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
87917-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)

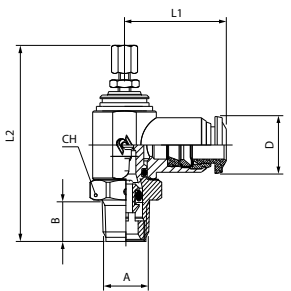
**87927**

INCH TUBE NEEDLE VALVE



**PTF** 

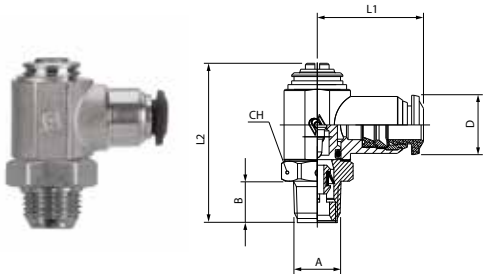
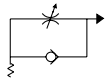
**B** 



Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
87927-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
87927-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
87927-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.492 (12,5)
87927-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.492 (12,5)
87927-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.689 (17,5)

**50903N**

METRIC TUBE FLOW CONTROL (OUT)



**PTF**

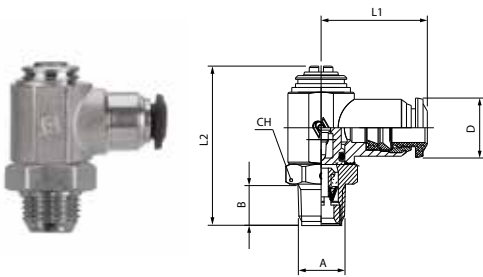
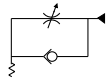


**C**

Part No.	Tube	A (PTF)	B	L1	L2	CH	D
50903N-4-1/8	5/32 (4)	1/8	.240 (6,1)	.827 (21)	1.220 (31)	.551 (14)	.394 (10)
50903N-5-1/8	5	1/8	.240 (6,1)	.846 (21,5)	1.220 (31)	.551 (14)	.492 (12,5)
50903N-5-1/4	5	1/4	.358 (9,1)	.965 (24,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
50903N-6-1/8	6	1/8	.240 (6,1)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
50903N-6-1/4	6	1/4	.358 (9,1)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
50903N-8-1/8	5/16 (8)	1/8	.240 (6,1)	.945 (24)	1.220 (31)	.551 (14)	.551 (14)
50903N-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)

**50913N**

METRIC TUBE FLOW CONTROL (IN)



**PTF**

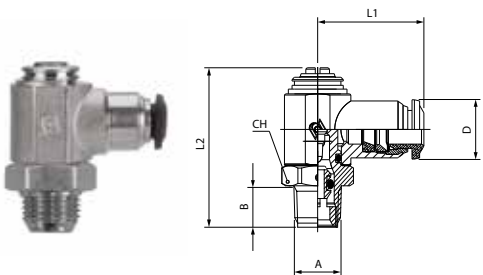


**V**

Part No.	Tube	A (PTF)	B	L1	L2	CH	D
50913N-4-1/8	5/32 (4)	1/8	.240 (6,1)	.827 (21)	1.220 (31)	.551 (14)	.394 (10)
50913N-5-1/8	5	1/8	.240 (6,1)	.846 (21,5)	1.220 (31)	.551 (14)	.492 (12,5)
50913N-5-1/4	5	1/4	.358 (9,1)	.965 (24,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
50913N-6-1/8	6	1/8	.240 (6,1)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
50913N-6-1/4	6	1/4	.358 (9,1)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
50913N-8-1/8	5/16 (8)	1/8	.240 (6,1)	.945 (24)	1.220 (31)	.551 (14)	.551 (14)
50913N-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)

**50923N**

METRIC TUBE NEEDLE VALVE



**PTF**

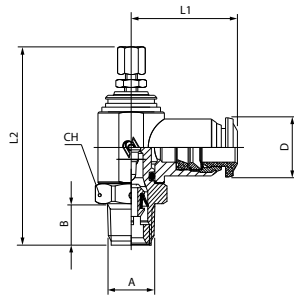
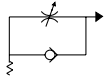


**B**

Part No.	Tube	A (PTF)	B	L1	L2	CH	D
50923N-4-1/8	5/32 (4)	1/8	.240 (6,1)	.827 (21)	1.220 (31)	.551 (14)	.394 (10)
50923N-5-1/8	5	1/8	.240 (6,1)	.846 (21,5)	1.220 (31)	.551 (14)	.492 (12,5)
50923N-5-1/4	5	1/4	.358 (9,1)	.965 (24,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
50923N-6-1/8	6	1/8	.240 (6,1)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
50923N-6-1/4	6	1/4	.358 (9,1)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
50923N-8-1/8	5/16 (8)	1/8	.240 (6,1)	.945 (24)	1.220 (31)	.551 (14)	.551 (14)
50923N-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)

**50907N**

METRIC TUBE FLOW CONTROL (OUT)



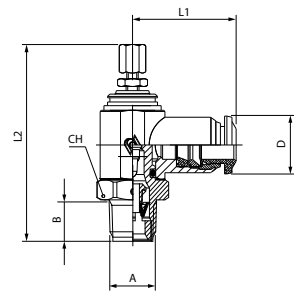
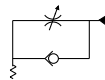
**PTF**

**C**

Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
50907N-4-1/8	5/32 (4)	1/8	.240 (6,1)	.827 (21)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
50907N-5-1/8	5	1/8	.240 (6,1)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50907N-5-1/4	5	1/4	.358 (9,1)	.965 (24,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50907N-6-1/8	6	1/8	.240 (6,1)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50907N-6-1/4	6	1/4	.358 (9,1)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50907N-8-1/8	5/16 (8)	1/8	.240 (6,1)	.945 (24)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
50907N-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)

**50917N**

METRIC TUBE FLOW CONTROL (IN)



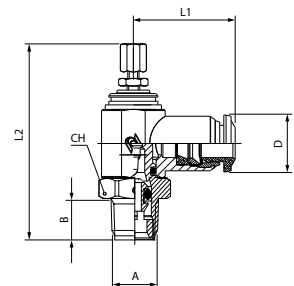
**PTF**

**V**

Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
50917N-4-1/8	5/32 (4)	1/8	.240 (6,1)	.827 (21)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
50917N-5-1/8	5	1/8	.240 (6,1)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50917N-5-1/4	5	1/4	.358 (9,1)	.965 (24,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50917N-6-1/8	6	1/8	.240 (6,1)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50917N-6-1/4	6	1/4	.358 (9,1)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50917N-8-1/8	5/16 (8)	1/8	.240 (6,1)	.945 (24)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
50917N-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)

**50927N**

METRIC TUBE NEEDLE VALVE



**PTF**

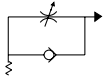
**B**

Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
50927N-4-1/8	5/32 (4)	1/8	.240 (6,1)	.827 (21)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
50927N-5-1/8	5	1/8	.240 (6,1)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50927N-5-1/4	5	1/4	.358 (9,1)	.965 (24,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50927N-6-1/8	6	1/8	.240 (6,1)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
50927N-6-1/4	6	1/4	.358 (9,1)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
50927N-8-1/8	5/16 (8)	1/8	.240 (6,1)	.945 (24)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
50927N-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)

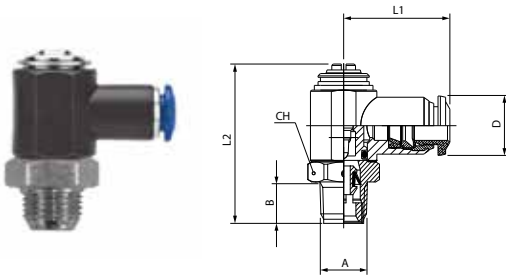


**85903**

INCH TUBE FLOW CONTROL (OUT)

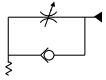


Part No.	Tube	A (PTF)	B	L1	L2	CH	D
85903-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85903-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85903-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.181 (30,5)	.551 (14)	.472 (12)
85903-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.417 (36)	.669 (17)	.472 (12)
85903-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	1.614 (41)	.787 (20)	.669 (17)

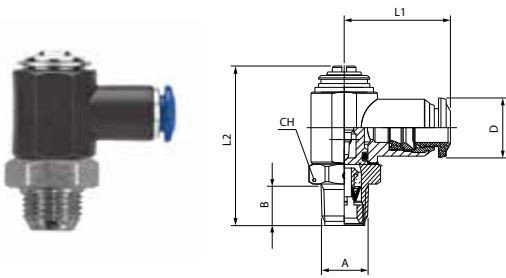


**85913**

INCH TUBE FLOW CONTROL (IN)



Part No.	Tube	A (PTF)	B	L1	L2	CH	D
85913-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85913-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85913-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.181 (30,5)	.551 (14)	.472 (12)
85913-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.417 (36)	.669 (17)	.472 (12)
85913-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	1.614 (41)	.787 (20)	.669 (17)

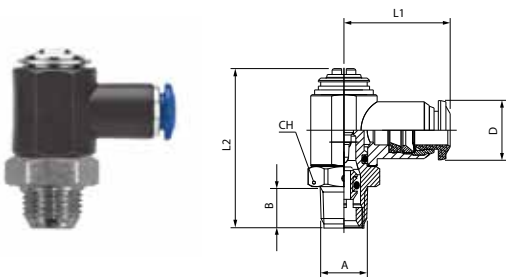


**85923**

INCH TUBE NEEDLE VALVE

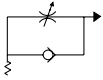


Part No.	Tube	A (PTF)	B	L1	L2	CH	D
85923-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85923-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.181 (30,5)	.551 (14)	.394 (10)
85923-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.181 (30,5)	.551 (14)	.472 (12)
85923-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.417 (36)	.669 (17)	.472 (12)
85923-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	1.614 (41)	.787 (20)	.669 (17)



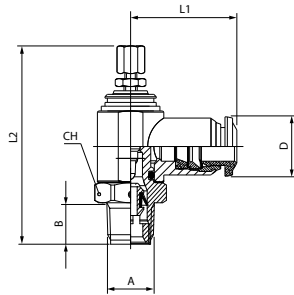
**85907**

INCH TUBE FLOW CONTROL (OUT)



**PTF** 

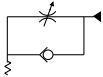
**C** 



Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
85907-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85907-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85907-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.472 (12)
85907-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.472 (12)
85907-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.669 (17)

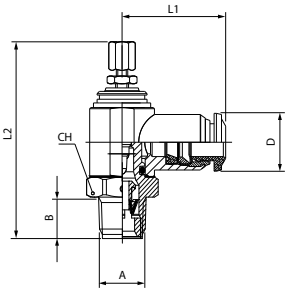
**85917**

INCH TUBE FLOW CONTROL (IN)



**PTF** 

**V** 



Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
85917-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85917-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85917-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.472 (12)
85917-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.472 (12)
85917-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.669 (17)

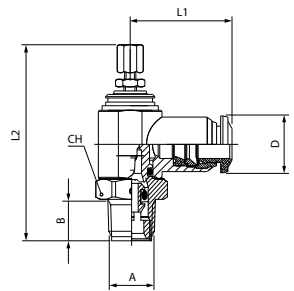
**85927**

INCH TUBE NEEDLE VALVE



**PTF** 

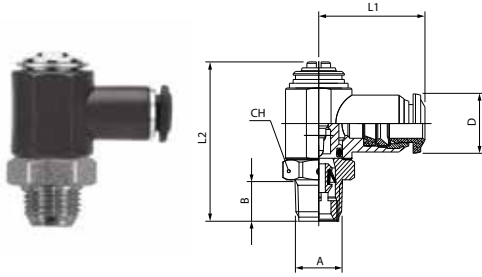
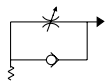
**B** 



Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
85927-02-02	1/8	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85927-53-02	5/32	1/8	.240 (6,1)	.827 (21)	1.614 (41)	1.830 (46,5)	.551 (14)	.394 (10)
85927-04-02	1/4	1/8	.240 (6,1)	.866 (22)	1.614 (41)	1.830 (46,5)	.551 (14)	.472 (12)
85927-04-04	1/4	1/4	.358 (9,1)	.984 (25)	1.850 (47)	2.086 (53)	.669 (17)	.472 (12)
85927-06-04	3/8	1/4	.358 (9,1)	1.181 (30,5)	2.205 (56)	2.480 (63)	.787 (20)	.669 (17)

**55903**

METRIC TUBE FLOW CONTROL (OUT)



**PTF**

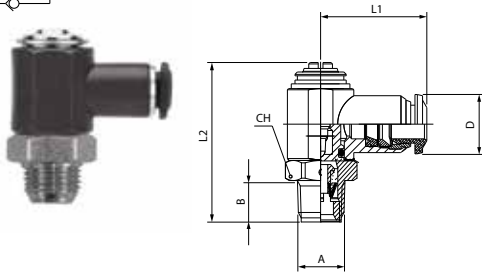
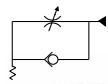


**C**

Part No.	Tube	A (PTF)	B	L1	L2	CH	D
55903-4-1/8	5/32 (4)	1/8	.240 (6,1)	.846 (21,5)	1.220 (31)	.551 (14)	.394 (10)
55903-5-1/8	5	1/8	.240 (6,1)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
55903-5-1/4	5	1/4	.358 (9,1)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
55903-6-1/8	6	1/8	.240 (6,1)	.906 (23)	1.220 (31)	.551 (14)	.492 (12,5)
55903-6-1/4	6	1/4	.358 (9,1)	1.004 (25,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
55903-8-1/8	5/16 (8)	1/8	.240 (6,1)	.925 (23,5)	1.220 (31)	.551 (14)	.551 (14)
55903-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)

**55913**

METRIC TUBE FLOW CONTROL (IN)



**PTF**

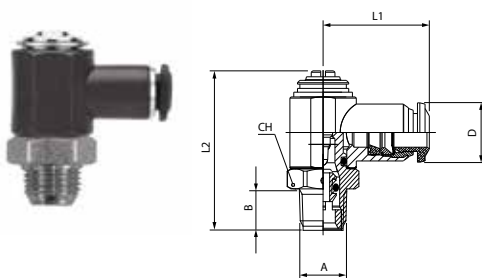


**V**

Part No.	Tube	A (PTF)	B	L1	L2	CH	D
55913-4-1/8	5/32 (4)	1/8	.240 (6,1)	.846 (21,5)	1.220 (31)	.551 (14)	.394 (10)
55913-5-1/8	5	1/8	.240 (6,1)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
55913-5-1/4	5	1/4	.358 (9,1)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
55913-6-1/8	6	1/8	.240 (6,1)	.906 (23)	1.220 (31)	.551 (14)	.492 (12,5)
55913-6-1/4	6	1/4	.358 (9,1)	1.004 (25,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
55913-8-1/8	5/16 (8)	1/8	.240 (6,1)	.925 (23,5)	1.220 (31)	.551 (14)	.551 (14)
55913-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)

**55923**

METRIC TUBE NEEDLE VALVE



**PTF**

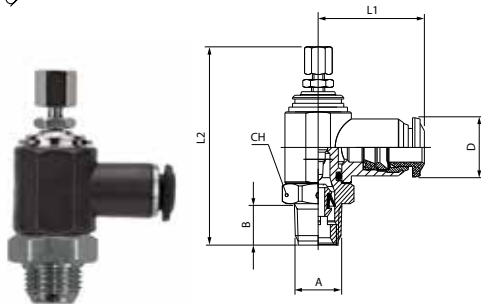
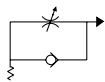


**B**

Part No.	Tube	A (PTF)	B	L1	L2	CH	D
55923-4-1/8	5/32 (4)	1/8	.240 (6,1)	.846 (21,5)	1.220 (31)	.551 (14)	.394 (10)
55923-5-1/8	5	1/8	.240 (6,1)	.886 (22,5)	1.220 (31)	.551 (14)	.492 (12,5)
55923-5-1/4	5	1/4	.358 (9,1)	.984 (25)	1.437 (36,5)	.669 (17)	.492 (12,5)
55923-6-1/8	6	1/8	.240 (6,1)	.906 (23)	1.220 (31)	.551 (14)	.492 (12,5)
55923-6-1/4	6	1/4	.358 (9,1)	1.004 (25,5)	1.437 (36,5)	.669 (17)	.492 (12,5)
55923-8-1/8	5/16 (8)	1/8	.240 (6,1)	.925 (23,5)	1.220 (31)	.551 (14)	.551 (14)
55923-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.437 (36,5)	.669 (17)	.551 (14)

**55907**

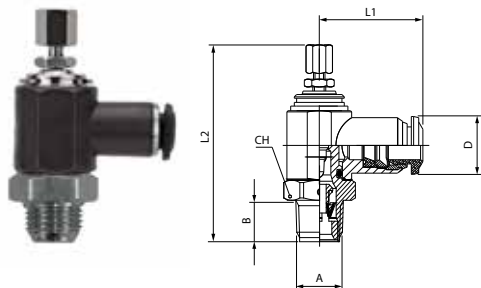
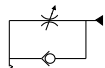
METRIC TUBE FLOW CONTROL (OUT)



Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
55907-4-1/8	5/32 (4)	1/8	.240 (6,1)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
55907-5-1/8	5	1/8	.240 (6,1)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55907-5-1/4	5	1/4	.358 (9,1)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55907-6-1/8	6	1/8	.240 (6,1)	.906 (23)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55907-6-1/4	6	1/4	.358 (9,1)	1.004 (25,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55907-8-1/8	5/16 (8)	1/8	.240 (6,1)	.925 (23,5)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
55907-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)

**55917**

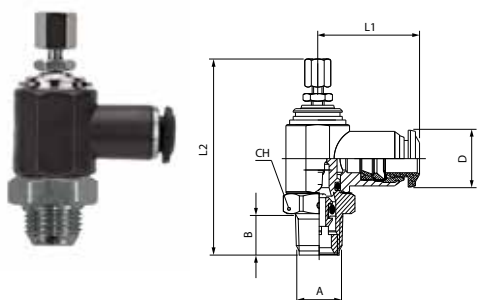
METRIC TUBE FLOW CONTROL (IN)



Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
55917-4-1/8	5/32 (4)	1/8	.240 (6,1)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
55917-5-1/8	5	1/8	.240 (6,1)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55917-5-1/4	5	1/4	.358 (9,1)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55917-6-1/8	6	1/8	.240 (6,1)	.906 (23)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55917-6-1/4	6	1/4	.358 (9,1)	1.004 (25,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55917-8-1/8	5/16 (8)	1/8	.240 (6,1)	.925 (23,5)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
55917-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)

**55927**

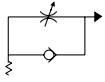
METRIC TUBE NEEDLE VALVE



Part No.	Tube	A (PTF)	B	L1	L2 min	L2 max	CH	D
55927-4-1/8	5/32 (4)	1/8	.240 (6,1)	.846 (21,5)	1.732 (44)	1.929 (49)	.551 (14)	.394 (10)
55927-5-1/8	5	1/8	.240 (6,1)	.886 (22,5)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55927-5-1/4	5	1/4	.358 (9,1)	.984 (25)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55927-6-1/8	6	1/8	.240 (6,1)	.906 (23)	1.732 (44)	1.929 (49)	.551 (14)	.492 (12,5)
55927-6-1/4	6	1/4	.358 (9,1)	1.004 (25,5)	1.909 (48,5)	2.165 (55)	.669 (17)	.492 (12,5)
55927-8-1/8	5/16 (8)	1/8	.240 (6,1)	.925 (23,5)	1.732 (44)	1.929 (49)	.551 (14)	.551 (14)
55927-8-1/4	5/16 (8)	1/4	.358 (9,1)	1.024 (26)	1.909 (48,5)	2.165 (55)	.669 (17)	.551 (14)

**82903**

FEMALE NPTF FLOW CONTROL (OUT)

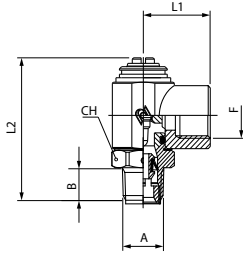


**PTF**



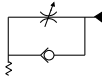
**C**

Part No.	F NPTF	A (PTF)	B	L1	L2	CH
82903-02-02	1/8	1/8	.240 (6,1)	.650 (16,5)	1.181 (30,5)	.551 (14)
82903-04-04	1/4	1/4	.358 (9,1)	.866 (22)	1.417 (36)	.669 (17)



**82913**

FEMALE NPTF FLOW CONTROL (IN)

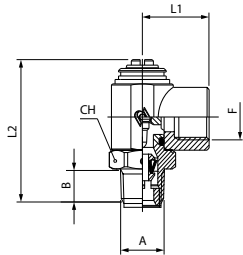


**PTF**



**V**

Part No.	F NPTF	A (PTF)	B	L1	L2	CH
82913-02-02	1/8	1/8	.240 (6,1)	.650 (16,5)	1.181 (30,5)	.551 (14)
82913-04-04	1/4	1/4	.358 (9,1)	.866 (22)	1.417 (36)	.669 (17)



**82923**

FEMALE NPTF NEEDLE VALVE

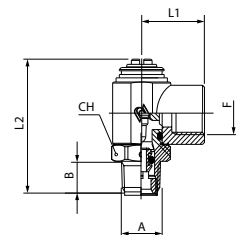


**PTF**



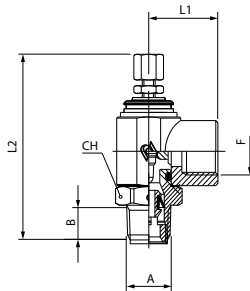
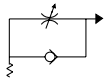
**B**

Part No.	F NPTF	A (PTF)	B	L1	L2	CH
82923-02-02	1/8	1/8	.240 (6,1)	.650 (16,5)	1.181 (30,5)	.551 (14)
82923-04-04	1/4	1/4	.358 (9,1)	.866 (22)	1.417 (36)	.669 (17)



**82907**

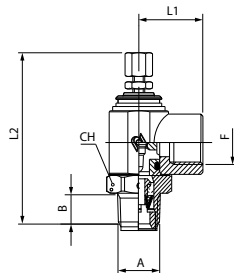
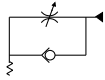
FEMALE NPTF FLOW CONTROL (OUT)



Part No.	F NPTF	A (PTF)	B	L1	L2 min	L2 max	CH
82907-02-02	1/8	1/8	.240 (6,1)	.650 (16,5)	1.614 (41)	1.830 (46,5)	.551 (14)
82907-04-04	1/4	1/4	.358 (9,1)	.866 (22)	1.850 (47)	2.086 (53)	.669 (17)

**82917**

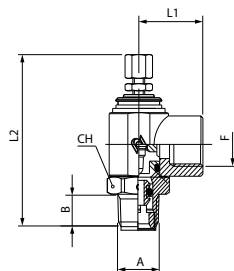
FEMALE NPTF FLOW CONTROL (IN)



Part No.	F NPTF	A (PTF)	B	L1	L2 min	L2 max	CH
82917-02-02	1/8	1/8	.240 (6,1)	.650 (16,5)	1.614 (41)	1.830 (46,5)	.551 (14)
82917-04-04	1/4	1/4	.358 (9,1)	.866 (22)	1.850 (47)	2.086 (53)	.669 (17)

**82927**

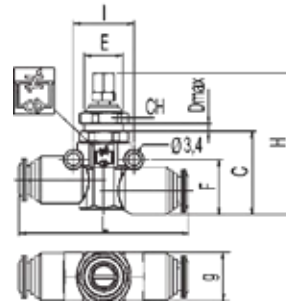
FEMALE NPTF NEEDLE VALVE



Part No.	F NPTF	A (PTF)	B	L1	L2 min	L2 max	CH
82927-02-02	1/8	1/8	.240 (6,1)	.650 (16,5)	1.614 (41)	1.830 (46,5)	.551 (14)
82927-04-04	1/4	1/4	.358 (9,1)	.866 (22)	1.850 (47)	2.086 (53)	.669 (17)

**82815**

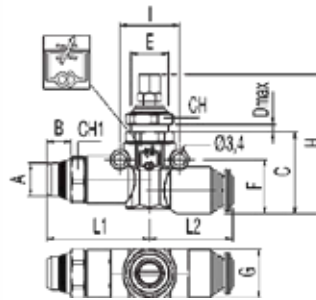
INLINE FLOW CONTROL



Part No.	Tube	C	D	E	F	G	H min	H max	I	L	CH
<b>82815-04</b>	<b>1/4</b>	.928 (23,5)	.157 (4)	M11X1	.618 (15,5)	.551 (14)	1.578 (40,5)	1.827 (46,5)	.677 (17)	1.890 (48)	.512 (13)
<b>82815-06</b>	<b>3/8</b>	.996 (25,5)	.177 (4,5)	M16X1	.807 (20,5)	.807 (20,5)	1.929 (49)	2.161 (55)	.787 (20)	2.272 (57,5)	.709 (18)

**82820**

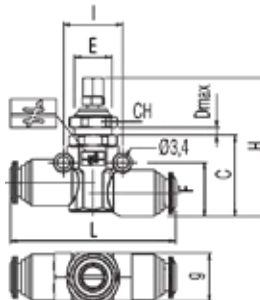
INLINE FLOW CONTROL MALE X TUBE



Part No.	A	Tube	B	C	D	E	F	G	H min	H max	I	L1	L2	CH	CH1
<b>82820-04-04</b>	<b>1/4</b>	<b>1/4</b>	.276 (7)	.928 (23,5)	.157 (4)	M11X1	.618 (15,5)	.551 (14)	1.578 (40,5)	1.827 (46,5)	.677 (17)	1.169 (29,5)	.945 (24)	.512 (13)	.512 (13)
<b>82820-06-04</b>	<b>1/4</b>	<b>3/8</b>	.276 (7)	.996 (25,5)	.177 (4,5)	M16X1	.807 (20,5)	.807 (20,5)	1.929 (49)	2.161 (55)	.787 (20)	1.378 (35)	1.134 (29)	.709 (18)	.630 (13)
<b>82820-06-06</b>	<b>3/8</b>	<b>3/8</b>	.295 (7,5)	.996 (25,5)	.177 (4,5)	M16X1	.807 (20,5)	.807 (20,5)	1.929 (49)	2.161 (55)	.787 (20)	1.299 (33)	1.134 (29)	.709 (18)	.669 (17)

**82830**

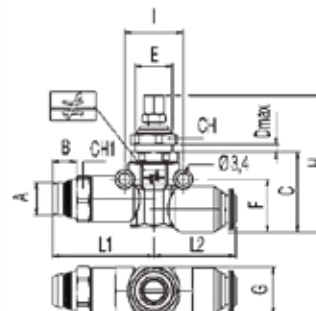
INLINE TUBE NEEDLE VALVE



Part No.	Tube	C	D	E	F	G	H min	H max	I	L	CH
<b>82830-04</b>	<b>1/4</b>	.928 (23,5)	.157 (4)	M11X1	.618 (15,5)	.551 (14)	1.578 (40,5)	1.827 (46,5)	.677 (17)	1.890 (48)	.512 (13)
<b>82830-06</b>	<b>3/8</b>	.996 (25,5)	.177 (4,5)	M16X1	.807 (20,5)	.807 (20,5)	1.929 (49)	2.161 (55)	.787 (20)	2.272 (57,5)	.709 (18)

**82835**

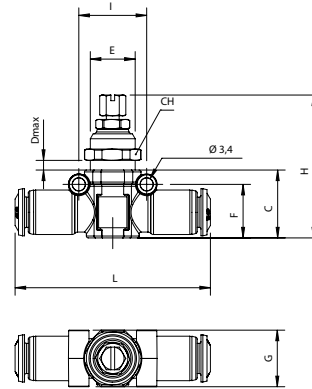
INLINE NEEDLE VALVE MALE X TUBE



Part No.	A	Tube	B	C	D	E	F	G	H min	H max	I	L1	L2	CH	CH1
<b>82835-04-04</b>	<b>1/4</b>	<b>1/4</b>	.276 (7)	.928 (23,5)	.157 (4)	M11X1	.618 (15,5)	.551 (14)	1.578 (40,5)	1.827 (46,5)	.677 (17)	1.169 (29,5)	.945 (24)	.512 (13)	.512 (13)
<b>82835-06-06</b>	<b>3/8</b>	<b>3/8</b>	.295 (7,5)	.996 (25,5)	.177 (4,5)	M16X1	.807 (20,5)	.807 (20,5)	1.929 (49)	2.161 (55)	.787 (20)	1.299 (33)	1.134 (29)	.709 (18)	.669 (17)

**85940**

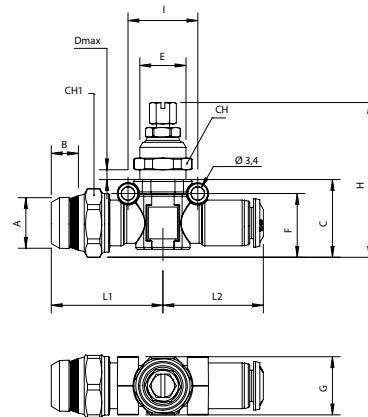
TUBE IN-LINE NEEDLE VALVE (UNIDIRECTIONAL FLOW)



Part No.	Tube	C	D	E	F	G	H	I	L	CH
85940-53	5/32 (4)	.709 (18)	.157 (4)	M12x1	.571 (14,5)	.598 (15)	1.476 (37,5)÷1.712 (43,5)	.709 (18)	2.046 (52)	.551 (14)
85940-04	1/4	.709 (18)	.236 (6)	M12x1	.571 (14,5)	.598 (15)	1.476 (37,5)÷1.712 (43,5)	.709 (18)	2.046 (52)	.551 (14)
85940-05	5/16 (8)	.787 (20)	.256 (6,5)	M14x1	.658 (16,5)	.677 (17)	1.555 (39,5)÷1.791 (45,5)	.787 (20)	2.292 (58)	.630 (16)
85940-06	3/8	.928 (23,5)	.315 (8)	M16x1	.767 (19,5)	.749 (19)	1.870 (47,5)÷2.106 (53,5)	.887 (22,5)	2.637 (67)	.709 (18)

**85945**

MALE "UNIVERSAL SHORT"-TUBE IN-LINE FLOW CONTROL (CONTROLLED FLOW OUT)

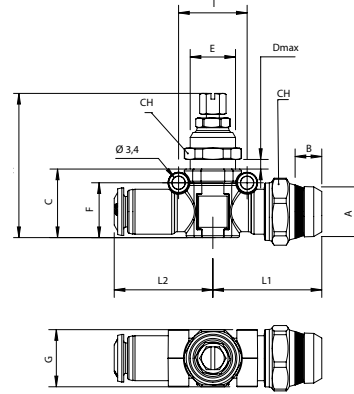


Part No.	Tube	A	B	C	D	E	F	G	H	I	L1	L2	CH	CH1
85945-53-02	5/32 (4)	1/8	.217 (5,5)	.787 (20)	.236 (6)	M12x1	.658 (16,5)	.598 (15)	1.555 (39,5)÷1.791 (45,5)	.709 (18)	1.129 (28,5)	1.016 (26)	.551 (14)	.630 (16)
85945-04-02	1/4	1/8	.217 (5,5)	.787 (20)	.236 (6)	M12x1	.658 (16,5)	.598 (15)	1.555 (39,5)÷1.791 (45,5)	.709 (18)	1.129 (28,5)	1.016 (26)	.551 (14)	.630 (16)
85945-04-04	1/4	1/4	.276 (7)	.787 (20)	.236 (6)	M12x1	.658 (16,5)	.598 (15)	1.555 (39,5)÷1.791 (45,5)	.709 (18)	1.129 (28,5)	1.016 (26)	.551 (14)	.630 (16)
85945-05-04	5/16 (8)	1/4	.276 (7)	.908 (23)	.256 (6,5)	M14x1	.658 (16,5)	.677 (17)	1.673 (42,5)÷1.909 (48,5)	.787 (20)	1.319 (33,5)	1.134 (29)	.630 (16)	.787 (20)
85945-05-06	5/16 (8)	3/8	.295 (7,5)	.908 (23)	.256 (6,5)	M14x1	.658 (16,5)	.677 (17)	1.673 (42,5)÷1.909 (48,5)	.787 (20)	1.319 (33,5)	1.134 (29)	.630 (16)	.787 (20)
85945-06-06	3/8	3/8	.295 (7,5)	.968 (24,5)	.315 (8)	M16x1	.807 (20,5)	.749 (19)	1.673 (42,5)÷2.125 (54)	.887 (22,5)	1.359 (34,5)	1.319 (33,5)	.709 (18)	.787 (20)
85945-06-08	3/8	1/2	.355 (9)	.976 (25)	.315 (8)	M16x1	.827 (21)	.749 (19)	1.673 (42,5)÷2.145 (54,5)	.887 (22,5)	1.359 (34,5)	1.319 (33,5)	.709 (18)	.827 (21)



**85950**

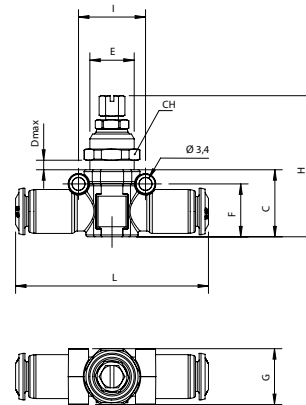
MALE "UNIVERSAL SHORT"- TUBE IN-LINE FLOW CONTROL (CONTROLLED FLOW IN)



Part No.	Tube	A	B	C	D	E	F	G	H	I	L1	L2	CH	CH1
85950-53-02	5/32 (4)	1/8	.217 (5,5)	.787 (20)	.236 (6)	M12x1	.658 (16,5)	.598 (15)	1.555 (39,5)±1,791 (45,5)	.709 (18)	1.134 (29)	1.016 (26)	.551 (14)	.630 (16)
85950-04-02	1/4	1/8	.217 (5,5)	.787 (20)	.236 (6)	M12x1	.658 (16,5)	.598 (15)	1.555 (39,5)±1,791 (45,5)	.709 (18)	1.134 (29)	1.016 (26)	.551 (14)	.630 (16)
85950-04-04	1/4	1/4	.276 (7)	.787 (20)	.236 (6)	M12x1	.658 (16,5)	.598 (15)	1.555 (39,5)±1,791 (45,5)	.709 (18)	1.134 (29)	1.016 (26)	.551 (14)	.630 (16)
85950-05-04	5/16 (8)	1/4	.276 (7)	.908 (23)	.256 (6,5)	M14x1	.658 (16,5)	.677 (17)	1,673 (42,5)±1,909 (48,5)	.787 (20)	1.319 (33,5)	1.134 (29)	.630 (16)	.787 (20)
85950-05-06	5/16 (8)	3/8	.295 (7,5)	.908 (23)	.256 (6,5)	M14x1	.658 (16,5)	.677 (17)	1,673 (42,5)±1,909 (48,5)	.787 (20)	1.319 (33,5)	1.134 (29)	.630 (16)	.787 (20)
85950-06-06	3/8	3/8	.295 (7,5)	.968 (24,5)	.315 (8)	M16x1	.807 (20,5)	.749 (19)	1,673 (42,5)±2,125 (54)	.887 (22,5)	1.359 (34,5)	1.319 (33,5)	.709 (18)	.787 (20)
85950-06-08	3/8	1/2	.355 (9)	.976 (25)	.315 (8)	M16x1	.827 (21)	.749 (19)	1,673 (42,5)±2,145 (54,5)	.887 (22,5)	1.359 (34,5)	1.319 (33,5)	.709 (18)	.827 (21)

**85955**

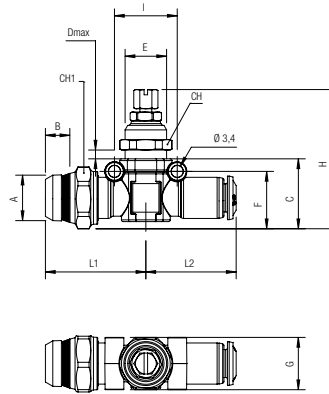
TUBE IN-LINE NEEDLE VALVE (BIDIRECTIONAL FLOW)



Part No.	Tube	C	D	E	F	G	H	I	L	CH
85955-53	5/32 (4)	.709 (18)	.236 (6)	M12x1	.571 (14,5)	.598 (15)	1.476 (37,5)±1.712 (43,5)	.709 (18)	2.046 (52)	.551 (14)
85955-04	1/4	.709 (18)	.236 (6)	M12x1	.571 (14,5)	.598 (15)	1.476 (37,5)±1.712 (43,5)	.709 (18)	2.046 (52)	.551 (14)
85955-05	5/16 (8)	.787 (20)	.256 (6,5)	M14x1	.658 (16,5)	.677 (17)	1.555 (39,5)±1,791 (45,5)	.787 (20)	2.292 (58)	.630 (16)
85955-06	3/8	.928 (23,5)	.315 (8)	M16x1	.767 (19,5)	.749 (19)	1.870 (47,5)±2.106 (53,5)	.887 (22,5)	2.637 (67)	.709 (18)

**85960**

MALE "UNIVERSAL SHORT" - TUBE IN-LINE FLOW CONTROL (BIDIRECTIONAL FLOW)



Code	Tube	A	B	C	D	E	F	G	H	I	L1	L2	CH	CH1
85960-53-02	5/32 (4)	1/8	.217 (5,5)	.787 (20)	.236 (6)	M12x1	.658 (16,5)	.598 (15)	1.555 (39,5)÷1,791 (45,5)	.709 (18)	1.129 (28,5)	1.016 (26)	.551 (14)	.630 (16)
85960-04-02	1/4	1/8	.217 (5,5)	.787 (20)	.236 (6)	M12x1	.658 (16,5)	.598 (15)	1.555 (39,5)÷1,791 (45,5)	.709 (18)	1.129 (28,5)	1.016 (26)	.551 (14)	.630 (16)
85960-04-04	1/4	1/4	.276 (7)	.787 (20)	.236 (6)	M12x1	.658 (16,5)	.598 (15)	1.555 (39,5)÷1,791 (45,5)	.709 (18)	1.129 (28,5)	1.016 (26)	.551 (14)	.630 (16)
85960-05-04	5/16 (8)	1/4	.276 (7)	.908 (23)	.256 (6,5)	M14x1	.658 (16,5)	.677 (17)	1,673 (42,5)÷1,909 (48,5)	.787 (20)	1.319 (33,5)	1.134 (29)	.630 (16)	.787 (20)
85960-05-06	5/16 (8)	3/8	.295 (7,5)	.908 (23)	.256 (6,5)	M14x1	.658 (16,5)	.677 (17)	1,673 (42,5)÷1,909 (48,5)	.787 (20)	1.319 (33,5)	1.134 (29)	.630 (16)	.787 (20)
85960-06-06	3/8	3/8	.295 (7,5)	.968 (24,5)	.315 (8)	M16x1	.807 (20,5)	.749 (19)	1,673 (42,5)÷2,125 (54)	.887 (22,5)	1.359 (34,5)	1.319 (33,5)	.709 (18)	.787 (20)
85960-06-08	3/8	1/2	.355 (9)	.976 (25)	.315 (8)	M16x1	.827 (21)	.749 (19)	1,673 (42,5)÷2,145 (54,5)	.887 (22,5)	1.359 (34,5)	1.319 (33,5)	.709 (18)	.827 (21)

**FLOW REGULATORS**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006  
REACH ✓

2011/65/CE  
RoHS ✓

PED  
2014/68/UE

SILICON  
FREE



**Pressure Rating**

Vacuum ~ 250 PSI  
-0.99 bar ~ 20 bar  
-0.099 MPa ~ 2.0 MPa

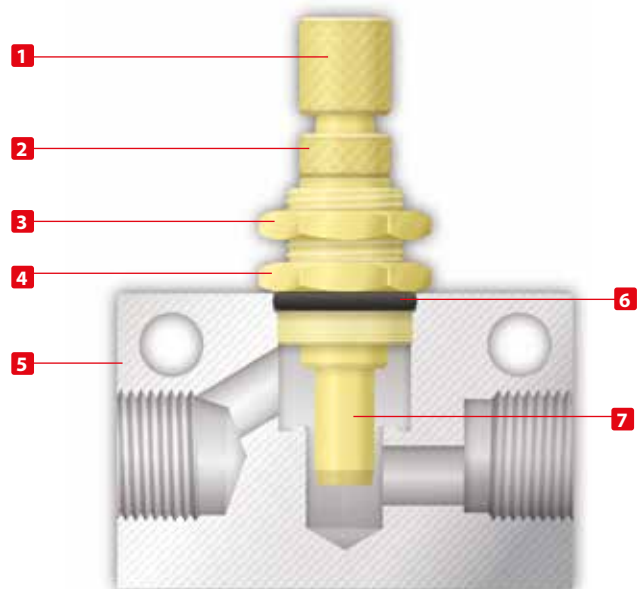
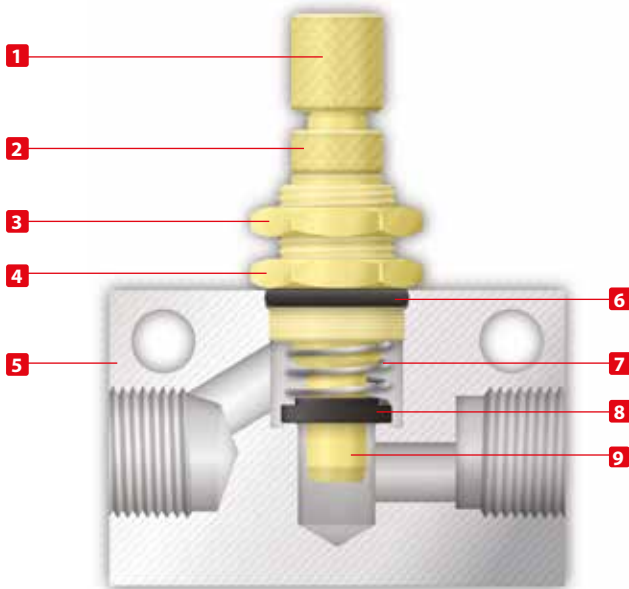


**Temperature Rating:**

NBR  
-4° F ~ 176° F  
-20° C ~ 80° C

**UNI-DIRECTIONAL**

**BI-DIRECTIONAL**



**Component Parts and Materials**

- 1 Brass Adjusting Knob
- 2 Brass Nut
- 3 Brass Locking Nut
- 4 Brass Nipple
- 5 Anodized Aluminium Body
- 6 NBR O-Ring
- 7 Steel Spring
- 8 Seal floating washer
- 9 Brass Adjusting Needle



**Component Parts and Materials**

- 1 Brass Adjusting Knob
- 2 Brass Nut
- 3 Brass Locking Nut
- 4 Brass Nipple
- 5 Anodized Aluminium Body
- 6 NBR O-Ring
- 7 Brass Adjusting Needle

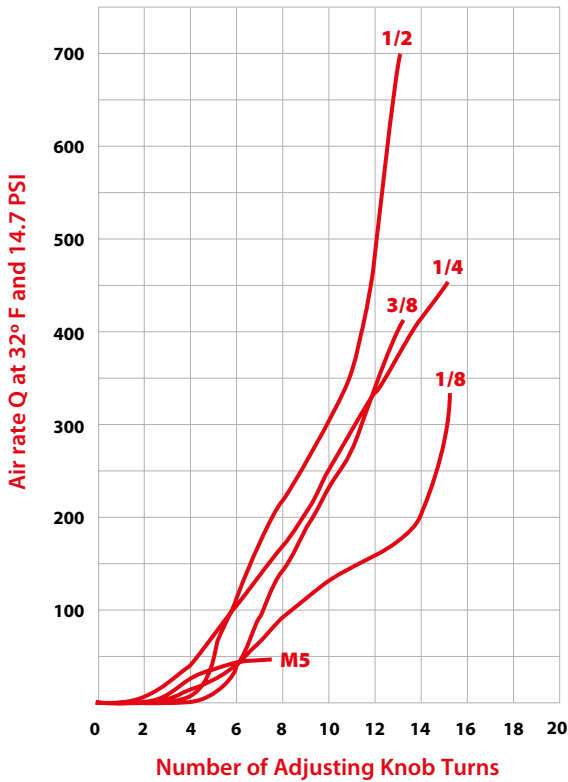


**Flow Characteristics of Inline Flow Control Valves**

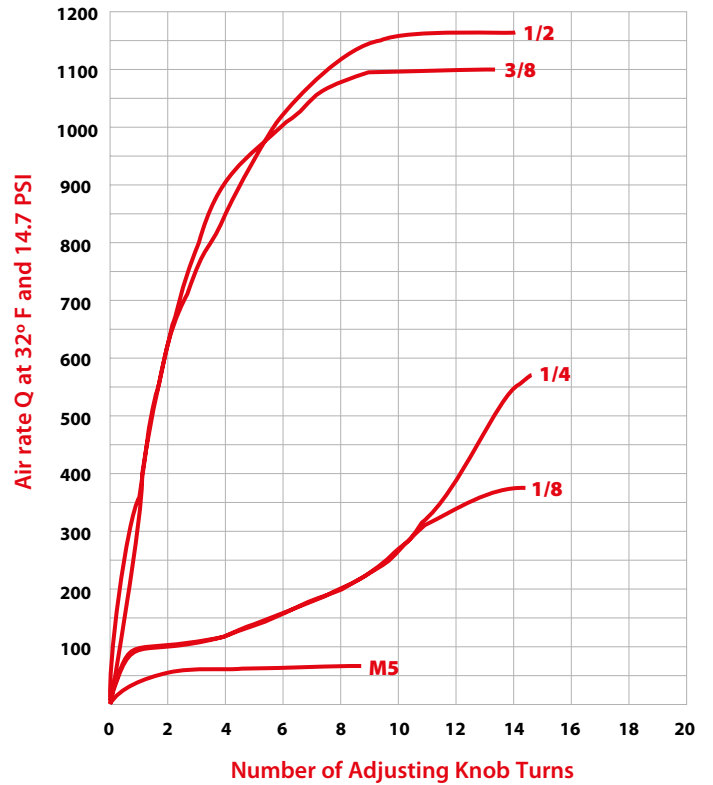
**Inlet Pressure**  
101 PSI

**Outlet Pressure: Atmospheric Pressure**  
14.7 PSI

**UNI-DIRECTIONAL**

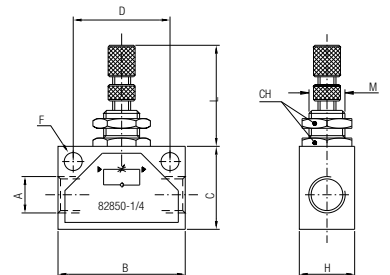


**BI-DIRECTIONAL**



**82850**

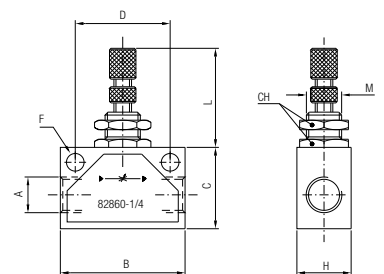
**UNI-DIRECTIONAL INLINE VALVE**



Part No.	A NPTF	B	C	H	D	F	L min	L max	M	CH
82850-02	1/8	1.378 (35)	.866 (22)	.709 (18)	.984 (25)	.177 (4,5)	1.023 (26)	1.417 (36)	M12x0.75	.590 (15)
82850-04	1/4	1.811 (46)	1.181 (30)	.787 (20)	1.378 (35)	.256 (6,5)	1.023 (26)	1.417 (36)	M12x0.75	.590 (15)
82850-06	3/8	1.968 (50)	1.181 (30)	.984 (25)	1.378 (35)	.256 (6,5)	1.259 (32)	1.653 (42)	M18x1.5	.866 (22)
82850-08	1/2	2.362 (60)	1.575 (40)	.984 (25)	1.732 (44)	.256 (6,5)	1.259 (32)	1.734 (44)	M18x1.5	.866 (22)

**82860**

**BI-DIRECTIONAL INLINE NEEDLE VALVE**



Part No.	A NPTF	B	C	H	D	F	L min	L max	M	CH
82860-02	1/8	1.378 (35)	.866 (22)	.709 (18)	.984 (25)	.177 (4,5)	1.023 (26)	1.417 (36)	M12x0.75	.590 (15)
82860-04	1/4	1.811 (46)	1.181 (30)	.787 (20)	1.378 (35)	.256 (6,5)	1.023 (26)	1.417 (36)	M12x0.75	.590 (15)
82860-06	3/8	1.968 (50)	1.181 (30)	.984 (25)	1.378 (35)	.256 (6,5)	1.259 (32)	1.653 (42)	M18x1.5	.866 (22)
82860-08	1/2	2.362 (60)	1.575 (40)	.984 (25)	1.732 (44)	.256 (6,5)	1.259 (32)	1.734 (44)	M18x1.5	.866 (22)

**QUICK EXHAUST VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

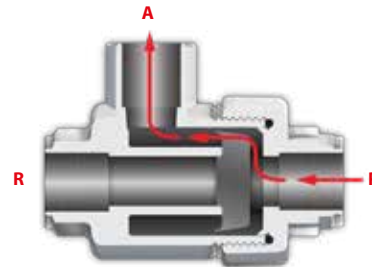
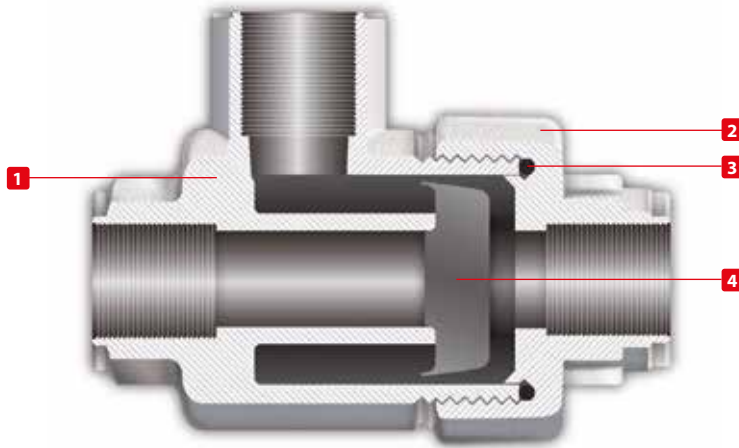
1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

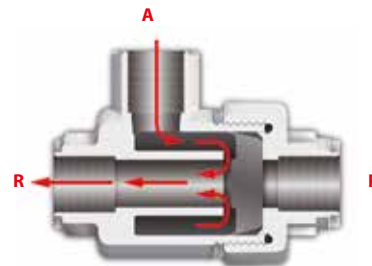
PED  
2014/68/UE

**SILICON  
FREE**

According to the UNI standards ref. UNI- ISO 5598, this valve is considered: "Valve which immediately opens its outlet to exhaust, whenever the pressure of the air decreases at the inlet."



System pressure is applied to the inlet port (P), flow is directed to cylinder port (A).



When system pressure (P) is dropped, exhaust air in the cylinder (A) is discharged directly from the exhaust port (R).



**Component Parts and Materials**

- 1 Nickel Plated Brass Body
- 2 Nylon Cap Seal
- 3 Nickel Plated Brass Cap
- 4 NBR Piston



**Pressure Rating**

- 4.35 PSI ~ 145 PSI
- 0.3 bar ~ 10 bar
- 0.003 MPa ~ 1.0 MPa



**Threads**

**NPTF**



**Temperature Rating**

- 4° F ~ 176° F
- 20° C ~ 80° C



**Media**

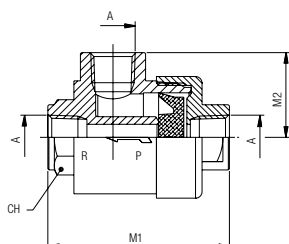
- Compressed air

**WARNING!**

This valve exhausts to atmosphere.  
**DO NOT** use toxic, corrosive or flammable media.

**82650**

**QUICK EXHAUST VALVE**

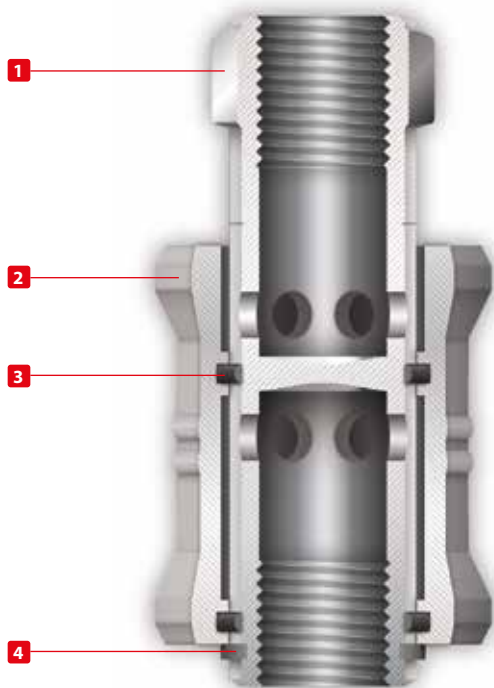


Part No.	A NPTF	M1	M2	CH
82650-02	1/8	1.653 (42)	.768 (19.5)	.591 (15)
82650-04	1/4	2.125 (54)	.984 (25)	.748 (19)
82650-06	3/8	2.381 (60,5)	1.043 (26,5)	.866 (22)
82650-08	1/2	2.834 (72)	1.260 (32)	1.024 (26)
82650-12	3/4	3.664 (88)	1.457 (37)	1.260 (32)
82650-16	1	4.291 (109)	1.890 (48)	1.811 (46)

**SLIDE VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006  
**REACH** ✓

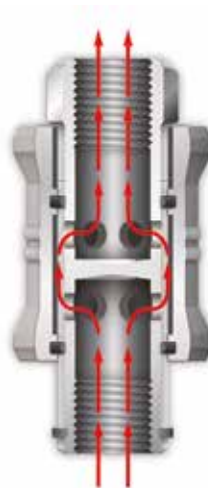
2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

**SILICON  
FREE**

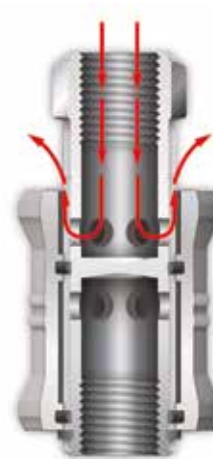
This Slide Valve can be considered a reversing ON-OFF valve. When in the closed position, it allows the used air to exit to the atmosphere.

**ON**



In the On position, the air coming from the air source passes through the holes on the stem of the valve.

**OFF**



In the OFF position, the air in the circuit passes through the holes on the stem and automatically exits to the atmosphere.



**Pressure Rating**

4.35 PSI ~ 145 PSI  
0.3 bar ~ 10 bar  
0.003 MPa ~ 1.0 MPa



**Temperature Rating**

-4° F ~ 176° F  
-20° C ~ 80° C



**Threads**

NPTF



**Component Parts and Materials**

- 1 Aluminium Sleeve
- 2 Nickel Plated Brass Stem
- 3 NBR O-Ring
- 4 Steel Shaft Clip

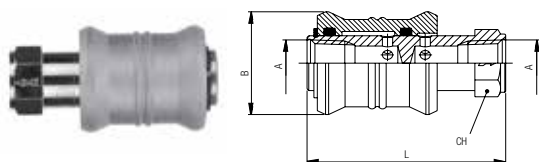


**Media**

- Compressed air

**82660**

SLIDE VALVE



Part No.	A NPTF	B	L	CH
82660-02	1/8	.984 (25)	1.890 (48)	.551 (14)
82660-04	1/4	1.181 (30)	2.283 (58)	.669 (17)
82660-06	3/8	1.378 (35)	2.756 (70)	.866 (22)
82660-08	1/2	1.575 (40)	3.150 (80)	1.024 (26)

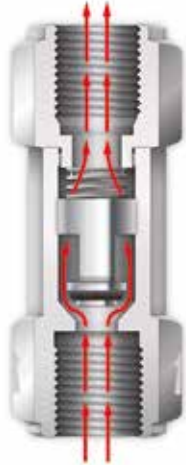
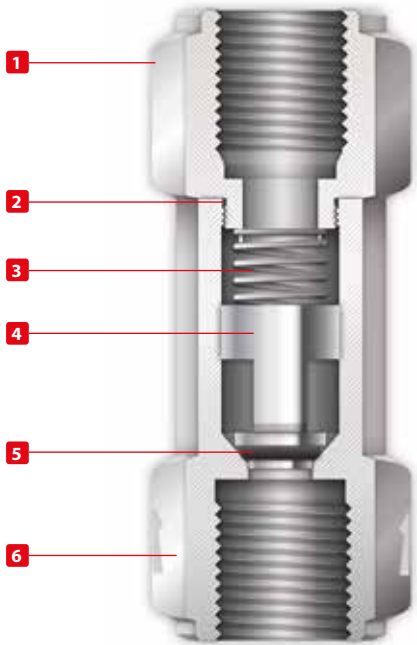
**UNIDIRECTIONAL VALVES OR NON RETURN VALVES**

**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- SILICON  
FREE



Check Valves allow air to flow in only one direction. They do not allow air flow the opposite direction.

They operate directly with the air that passes through. Check Valves are normally used as safety device, permitting air pressure in a part of the circuit. The internal spring keeps the valve closed.



**Pressure Rating**

- 29 PSI ~ 116 PSI
- 2 bar ~ 8 bar
- 0.2 MPa ~ 0.8 MPa

**Approximate Opening Pressure**

- 29 PSI
- 2 bar
- 0.02 MPa



**Component Parts and Materials**

- 1 Nickel Plated Brass Body
- 2 NBR O-Ring
- 3 Steel Spring
- 4 Nickel Plated Brass Shutter
- 5 NBR O-Ring
- 6 Nickel Plated Brass Body



**Temperatures Rating**

- |   |  |
|---|--|
| <p><b>NBR</b></p> <p>-4° F ~ 176° F</p> <p>-20° C ~ 80° C</p> | <p><b>FKM on request (only for 82662 -82663)</b></p> <p>5° F ~ 392° F</p> <p>-15° C ~ 200° C</p> |
|---|--|



**Media**

- Compressed air



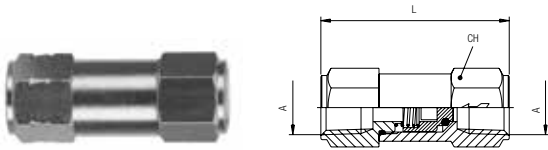
**Threads**

NPTF

**82662**

FEMALE X FEMALE

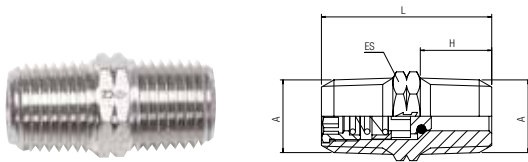
Part No.	A NPTF	L	CH
82662-02	1/8	1.437 (36,5)	.512 (13)
82662-04	1/4	1.850 (47)	.669 (17)



**82663**

MALE X MALE

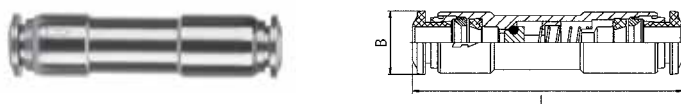
Part No.	A NPTF	L	ES	H
82663-04	1/4	1.220 (31)	.551 (14)	.512 (13)
82663-06	3/8	1.220 (31)	.748 (19)	.512 (13)



**82664**

INCH TUBE X TUBE

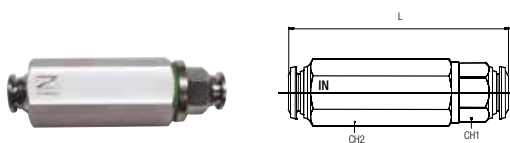
Part No.	Tube	L	B
82664VM-04-04	1/4	2.047 (52)	.512 (13)
82664VM-06-06	3/8	2.244 (57)	.669 (17)



**82670VM**

INLINE FILTER

Part No.	Tube	L	CH1	CH2
82670VM-04	1/4	2.579 (65,5)	.748 (19)	.512 (13)
82670VM-06	3/8	2.834 (72)	.748 (19)	.669 (17)



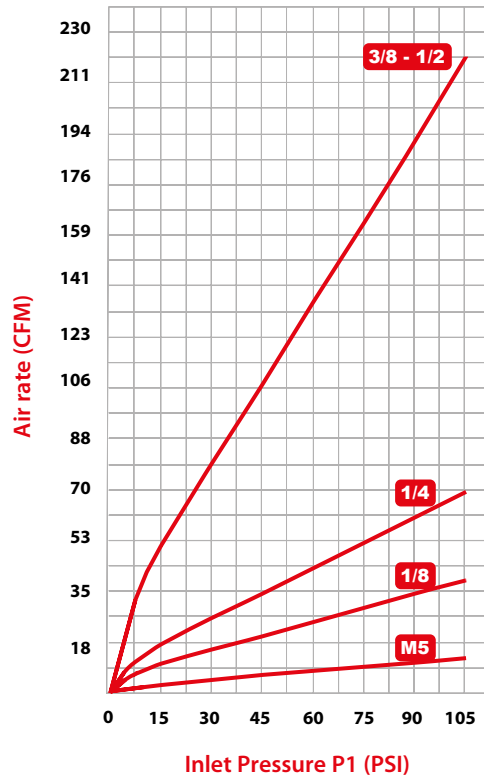




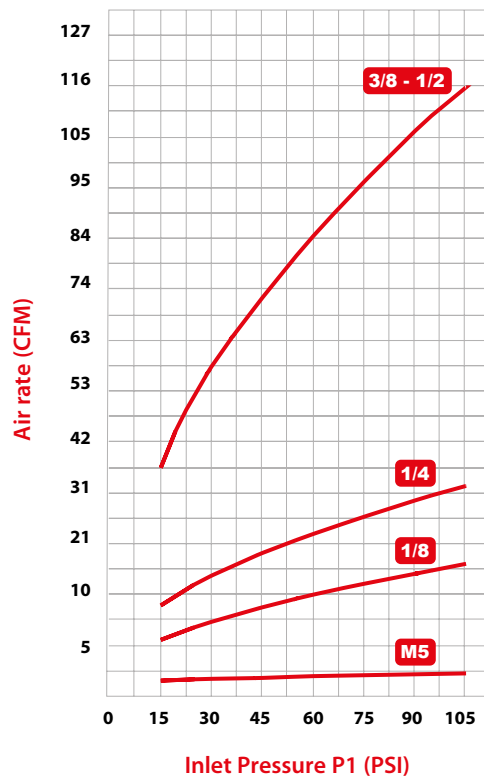
CHECK VALVES SPECIFICATIONS



Flow Rates of Exhaust



Flow Rates of Exhaust with a drop of 14.5 PSI



**BLOCK VALVES**



**TECHNICAL CHARACTERISTICS**

Aignep Block Valves are pneumatic devices used to control the movement of the cylinder. They install directly on the inlet and outlet ports of the cylinder and lock the piston in case of a drop in air pressure. Block Valves are used as safety devices in case of emergency stops, the bursting of an air tube, or anything that would stop the flow of air to the cylinder. Block Valves also enable the cylinder to be stopped in intermediate positions whenever the application would require such a solution.

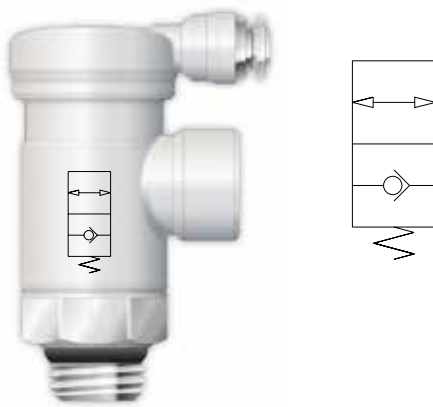


**Advantages**

- 1 Aignep Block Valves are available in Uni-Directional and Bi-Directional versions.
- 2 The bore of these valves do not reduce in size so airflow is never restricted.
- 3 These valves are compact, and the threaded connection and tube connection can rotate for maximum versatility.
- 4 The threaded port can also receive a flow control valve to adjust the speed of the cylinder.

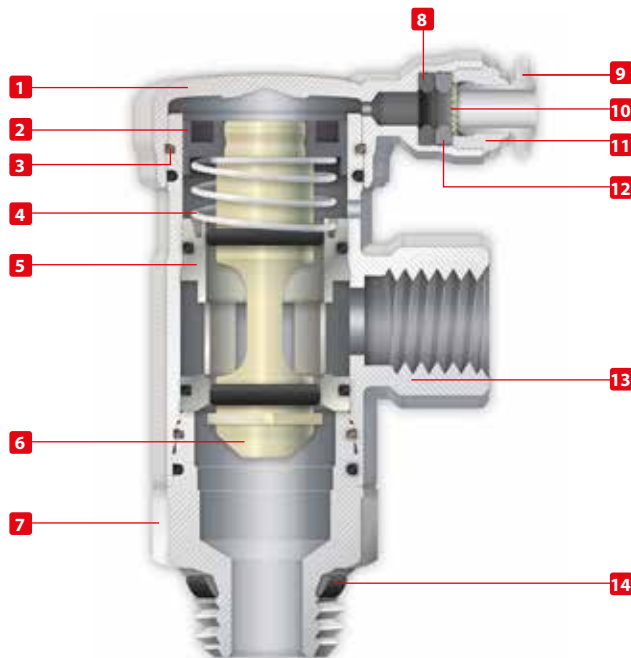
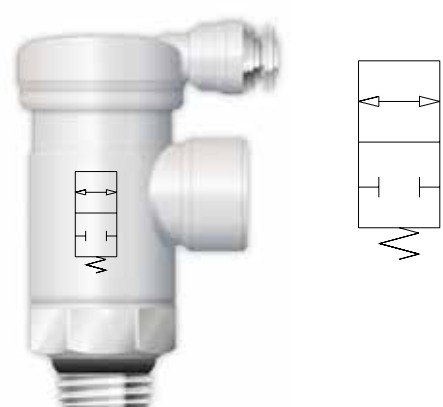
**UNI-DIRECTIONAL**

**82880**



**BI-DIRECTIONAL**

**82890**



**Reference Standard**

1907/2006 <b>REACH</b> ✓	2011/65/CE <b>RoHS</b> ✓	PED 2014/68/UE	<b>SILICON FREE</b>
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**Component Parts and Materials**

- 1 Nickel Plated Brass Cover Cap
- 2 Nylon Lip Seal
- 3 Brass Retaining Ring
- 4 Steel Spring
- 5 Brass Shutter Support
- 6 Brass Shutter
- 7 Nickel Plated Brass Base
- 8 NBR Lip Seal
- 9 Nickel Plated Collet
- 10 303 Stainless Steel Gripper
- 11 Nickel Plated Brass Sleeve
- 12 Technopolymer Safety Ring
- 13 Nickel Plated Brass Body
- 14 NBR Thread Seal



**Size**

1/8"  
1/4"



**Orifice**

1/8"	1/4"
Ø 5.5 mm	Ø 8 mm



**Flow rate (87 PSI)**

1/8"	1/4"
26.5 CFM	50.1 CFM



**Pressure Rating**

4.35 PSI ~ 145 PSI  
0.3 bar ~ 10 bar  
0.03 MPa ~ 1.0 MPa



**Temperature Rating**

-4° F ~ 176° F  
-20° C ~ 80° C

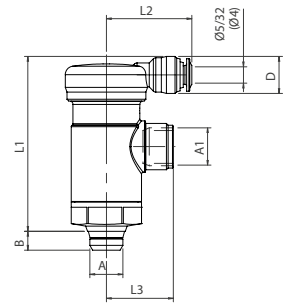


**Media**

• Compressed Air  
(lubricated and non lubricated)

**82880**

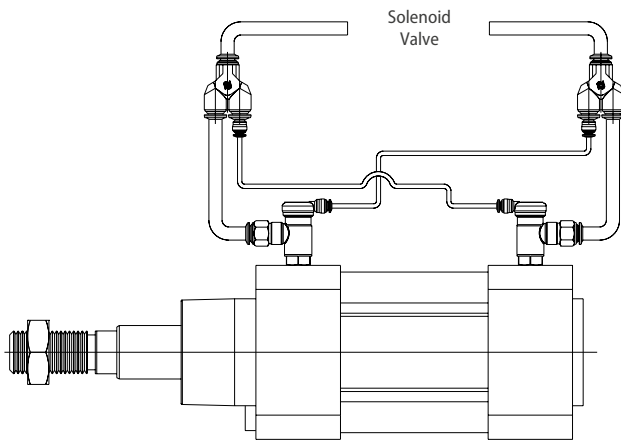
UNI-DIRECTIONAL CHECK VALVE



Part No.	A	A1 NPTF	B	L1	L2	L3	CH	D
82880-02	1/8	1/8	.217 (5,5)	1.969 (50)	.984 (25)	.728 (18,5)	.709 (18)	.433 (11)
82880-04	1/4	1/4	.276 (7)	1.988 (50,5)	.984 (25)	.807 (20,5)	.709 (18)	.433 (11)

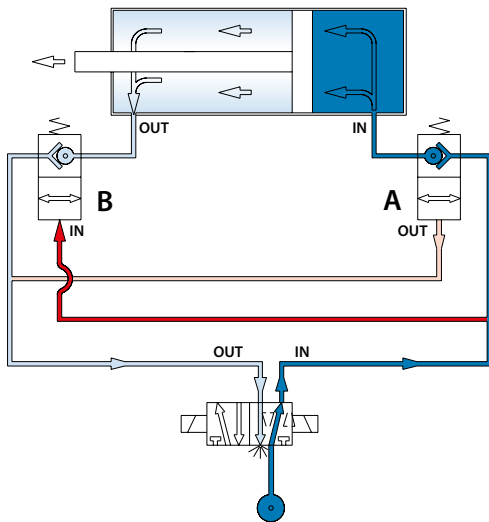


**Installation**



**Pneumatic circuit - Cylinder in Action**

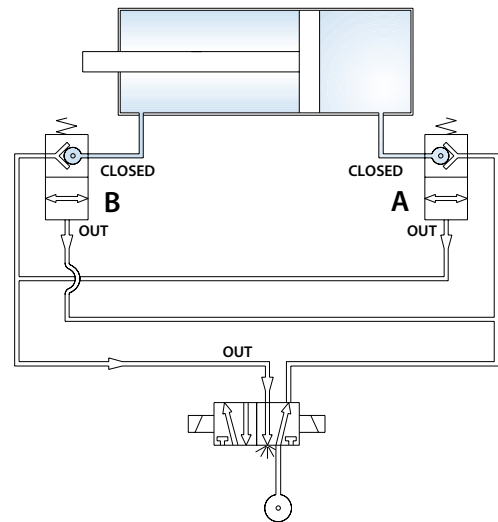
The PO check circuit is connected to the cylinder circuit. When P1 pressure is applied to the directional control valve, pressure is applied simultaneously to PO check valve A and a pilot signal to PO check valve B. The cylinder will extend. When the directional control valve shifts, pressure is applied to PO check valve B with a pilot signal sent to PO check valve A. The cylinder will retract.



■ Pilot  
■ Feeding

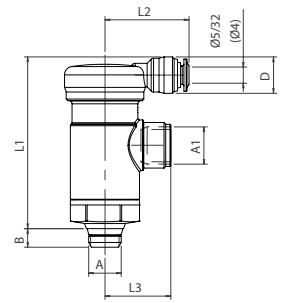
**Pneumatic circuit - Cylinder at Rest**

Remove P1 pressure from the directional control valve to lock the cylinder in place even under load conditions.



**82890**

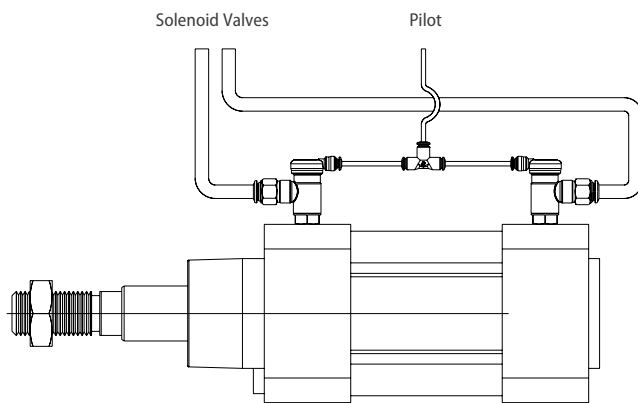
BI-DIRECTIONAL BLOCK VALVE



Part No.	A	A1 NPTF	B	L1	L2	L3	CH	D
82890-02	1/8	1/8	.217 (5,5)	1.969 (50)	.984 (25)	.728 (18,5)	.709 (18)	.433 (11)
82890-04	1/4	1/4	.276 (7)	1.988 (50,5)	.984 (25)	.807 (20,5)	.709 (18)	.433 (11)

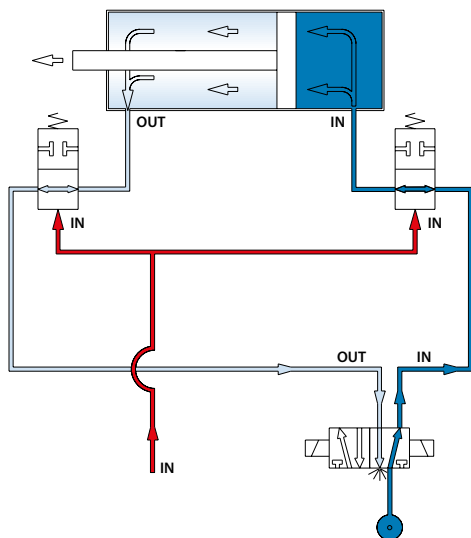


**Installation**



**Pneumatic circuit - Cylinder in Action**

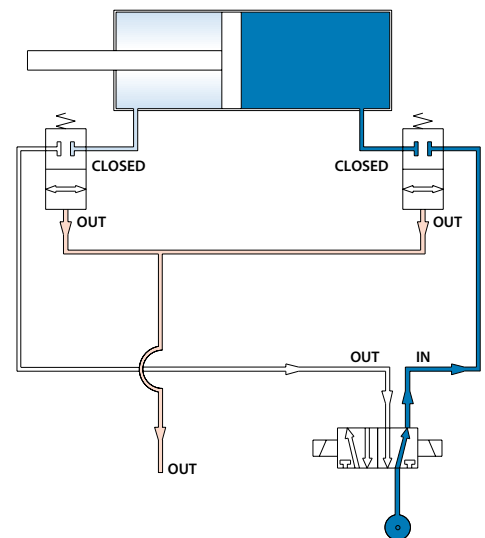
Note, the cylinder circuit and the pilot valve circuit are independent. With a pilot signal applied to the PO block valves and P1 pressure to the directional control valve the cylinder will extend and retract normally.



■ Pilot  
■ Feeding

**Pneumatic circuit - Cylinder at Rest**

Remove the pilot signal pressure from the PO block valves to lock the cylinder in place even under load conditions.



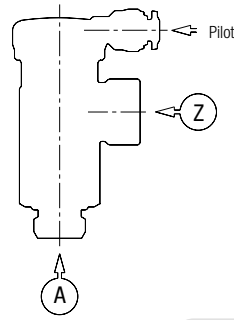


**BLOCK VALVE SPECIFICATIONS**



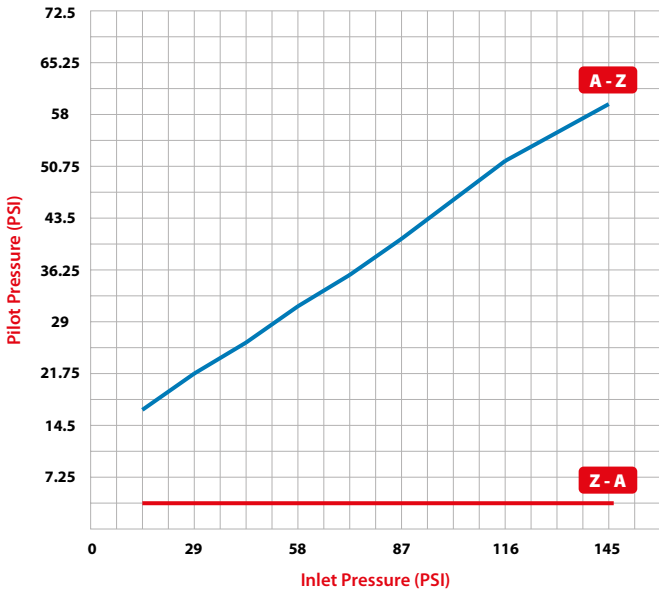
**Pilot Pressure**

Minimum pilot pressure is required to ensure proper valve function and is based on inlet pressure.

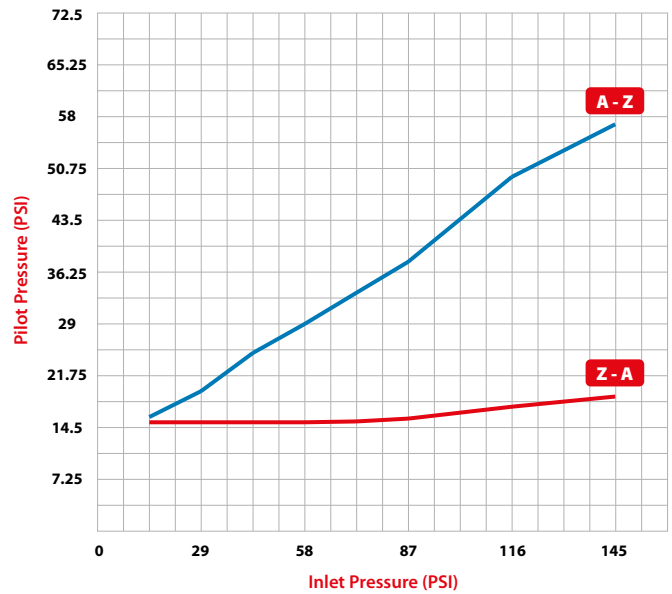


**Pilot Pressure**  
**Inlet Pressure**

**UNI-DIRECTIONAL**  
**82880**  
**1/8" - 1/4"**

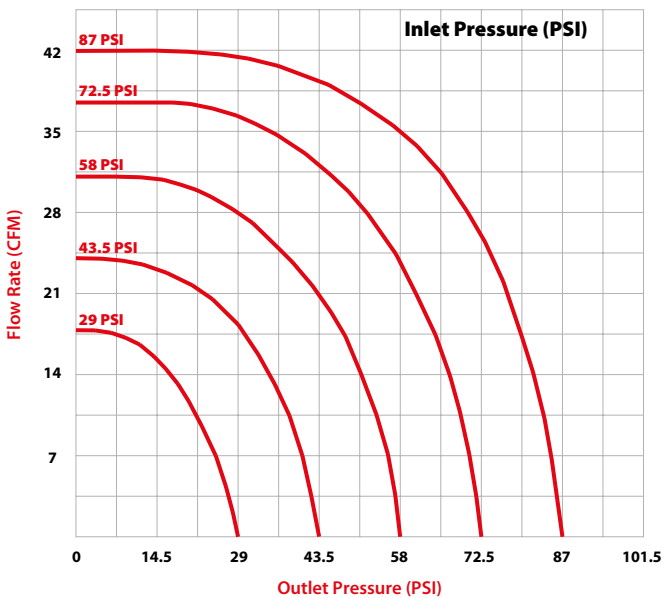


**BI-DIRECTIONAL**  
**82890**  
**1/8" - 1/4"**

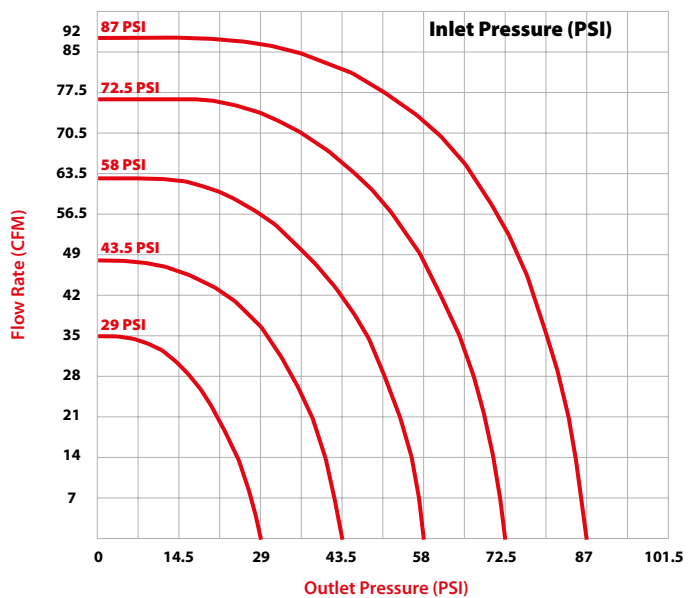


**Flow Rates**

**82880 - 82890**  
**1/8"**



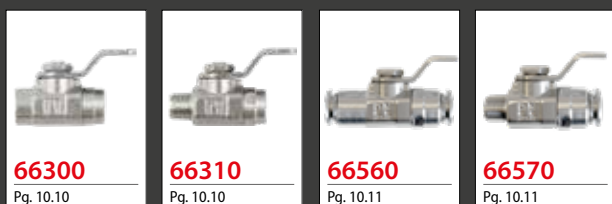
**82880 - 82890**  
**1/4"**



## Ball Valves



## Stainless Steel Ball Valves



## CHROME PLATED BRASS BALL VALVES



**Ball Valves**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

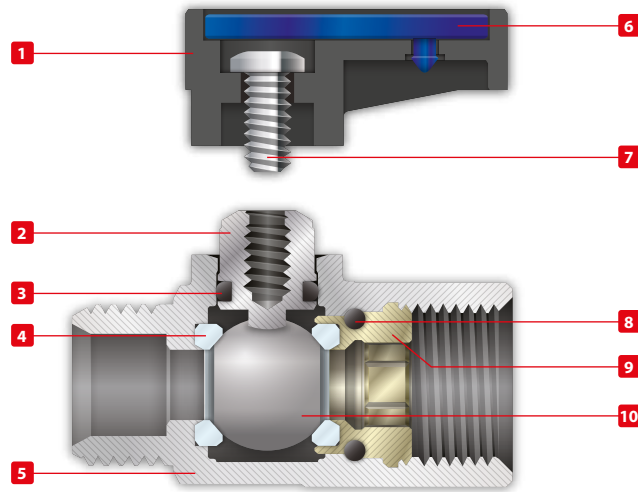
1907/2006  
REACH ✓

2011/65/CE  
RoHS ✓

PED  
2014/68/UE

BS EN  
331:2015

SILICON  
FREE



**Pressure Rating**

**Vacuum ~ 250 PSI**  
-0.99 bar ~ 20 bar  
-0.099 MPa ~ 2.0 MPa



**Temperatures**

<b>NBR</b>	<b>EPDM <i>on request</i></b>	<b>FKM <i>on request</i></b>
-4° F ~ 176° F	-40° F ~ 266° F	5° F ~ 266° C
-20° C ~ 80° C	-40° C ~ 130° C	-15° C ~ 130° C



**Component Parts and Materials**

- 1 PA66 Glass Reinforced Handle
- 2 Chrome Nickel Plated Brass Spindle
- 3 NBR O-Ring Seal
- 4 PTFE Seats
- 5 Chrome Nickel Plated Brass Body
- 6 Acetalic Resin Plate
- 7 Steel Screw
- 8 NBR O-Ring Seal
- 9 Brass Fitting
- 10 Chrome Nickel Plated Brass Ball



**Media**

- Compressed air
- Water
- Oils
- Rated for gases, consult factory for details



**Threads**

Gas in conformity with ISO7.1, BS 21, DIN 2999.  
Parallel gas in conformity with ISO 228 Class A.



**PRESSURE - TEMPERATURE RATINGS DIAGRAM**

PTFE + FKM

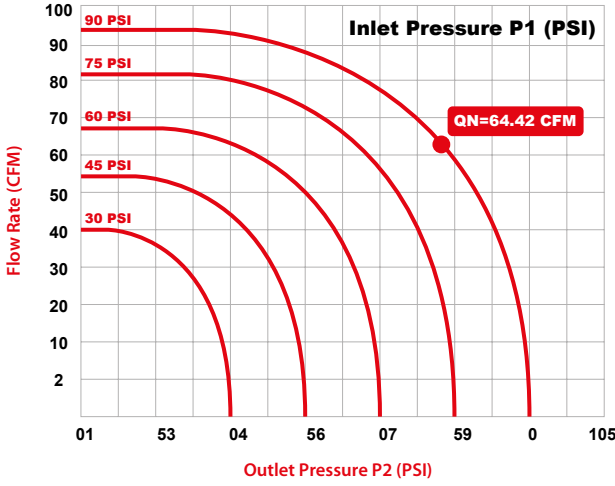
PTFE + NBR



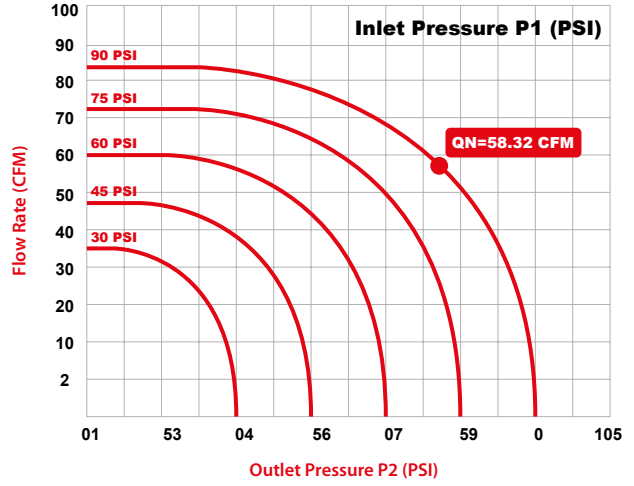


**BALL VALVES SPECIFICATIONS**

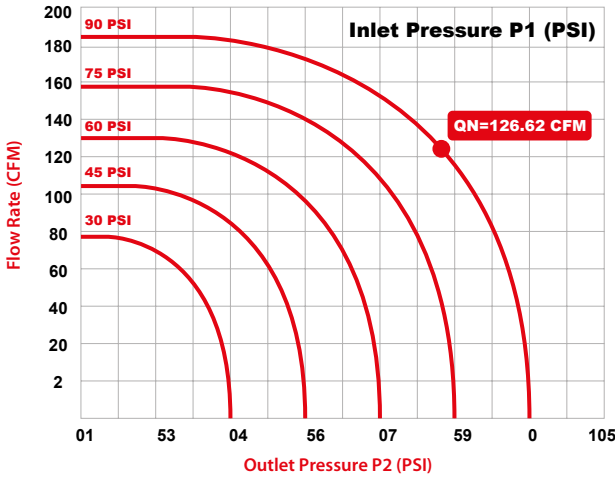
**1/8"**



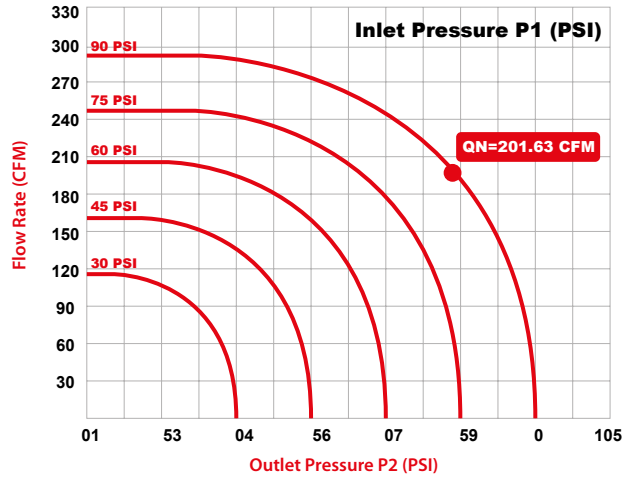
**1/4"**



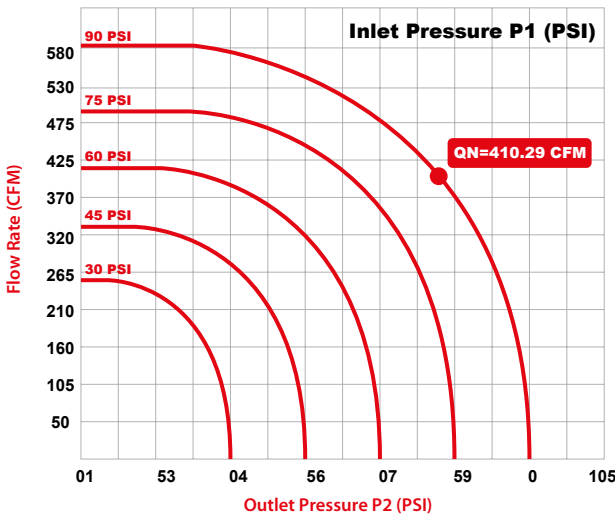
**3/8"**



**1/2"**



**3/4"**





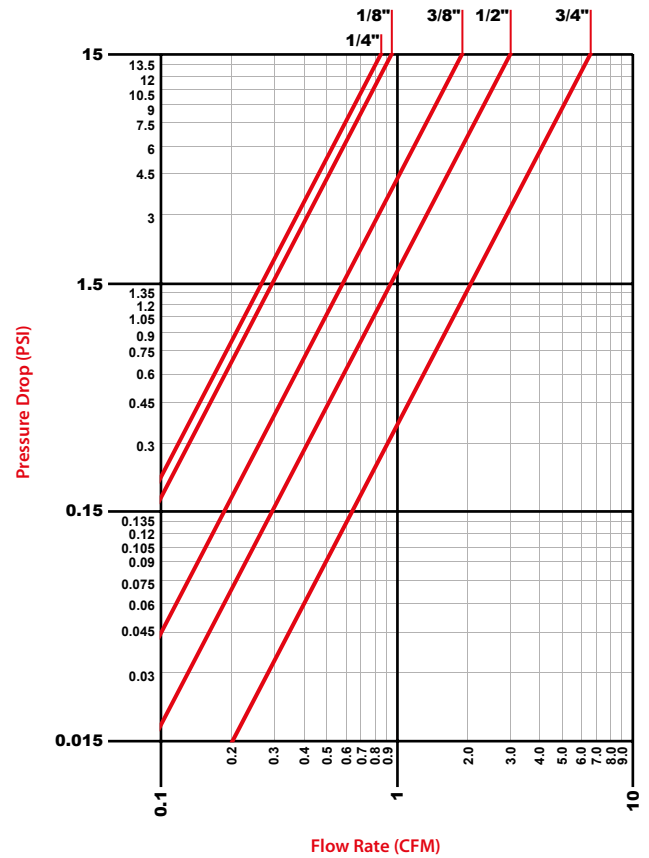
**BALL VALVES SPECIFICATIONS**



**Flow Rate & Pressure Drop**

In the table below, we specify the flow rate factors of our ball valves. These factors represent the amount of air and water that flows through the valve. They are measured by Cubic Feet per Minute at 60° F.

Thread Size	Factors of flow rate	
	CFM	m <sup>3</sup> /h
1/8"	0.95	1.6
1/4"	0.86	1.4
3/8"	1.86	3.1
1/2"	2.97	5
3/4"	6.05	10.2



**Option**

PART NUMBER	SIZE	COLOR	TYPE OF THE SEAL	TYPE OF HANDLE
<b>86300</b>	<b>3/8-3/8</b>	<b>BLUE PLATE</b> Blue Plate BL	<b>NBR</b> NBR	<p>Standard Short Handle for Valve 1/8-1/4-3/8-1/2 Standard Long Handle for Valve 3/4</p>

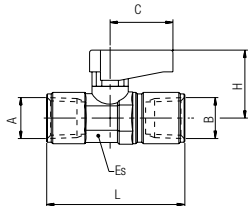
**If required**

Red Plate RO Green Plate VE White Plate BN Yellow Plate GI	<b>FKM</b> <b>HNBR</b> <b>EPDM</b>	LONG Handle  Long Handle with Spindle Extension
<b>GAS:</b> Yellow Plate EN 331 GI		

**86300**

FEMALE X FEMALE

**NPTF**

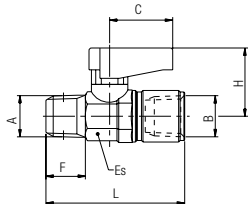


Part No.	A NPTF	B NPTF	DN	ES	L	C	H
86300-02-02	1/8	1/8	.217 (5,5)	.551 (14) - .591 (15)	1.476 (37,5)	.748 (19)	.827 (21)
86300-04-04	1/4	1/4	.217 (5,5)	.551 (14) - .591 (15)	1.811 (46)	.748 (19)	.827 (21)
86300-06-06	3/8	3/8	.315 (8)	.709 (18) - .748 (19)	1.909 (48,5)	.748 (19)	.866 (22)
86300-08-08	1/2	1/2	.394 (10)	.866 (22) - .906 (23)	2.441 (62)	1.024 (26)	1.201 (30,5)

**86310**

MALE X FEMALE

**NPTF**

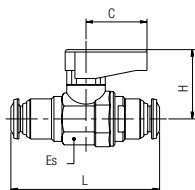


Part No.	A NPTF	B NPTF	DN	ES	F	L	C	H
86310-02-02	1/8	1/8	.217 (5,5)	.551 (14) - .591 (15)	.335 (8,5)	1.476 (37,5)	.748 (19)	.827 (21)
86310-04-04	1/4	1/4	.217 (5,5)	.551 (14) - .591 (15)	.512 (13)	1.811 (46)	.748 (19)	.827 (21)
86310-06-06	3/8	3/8	.315 (8)	.709 (18) - .748 (19)	.512 (13)	1.909 (48,5)	.748 (19)	.866 (22)
86310-08-08	1/2	1/2	.394 (10)	.866 (22) - .906 (23)	.669 (17)	2.441 (62)	1.024 (26)	1.201 (30,5)
86310-12-12	3/4	3/4	.551 (14)	1.102 (28) - 1.181 (30)	.689 (17,5)	2.500 (63,5)	1.953 (49,5)	1.319 (33,5)

**86320**

INCH TUBE X INCH TUBE

**Inch tube**

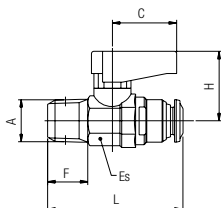


Part No.	Tube	Tube	ES	L	C	H
86320-02-02	1/8	1/8	.551 (14) - .591 (15)	1.673 (42,5)	.748 (19)	.828 (21)
86320-04-04	1/4	1/4	.551 (14) - .591 (15)	1.831 (46,5)	.748 (19)	.828 (21)
86320-06-06	3/8	3/8	.709 (18) - .748 (19)	2.382 (60,5)	.748 (19)	.866 (22)

**86330**

INCH TUBE X MALE

**Inch tube**

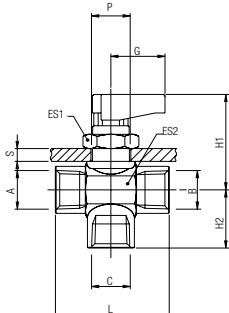


Part No.	Tube	A NPTF	F NPTF	ES	L	C	H
86330-53-02	5/32 (4)	1/8	.332 (8,5)	.551 (14) - .591 (15)	1.365 (35)	.741 (19)	.819 (21)
86330-04-02	1/4	1/8	.332 (8,5)	.551 (14) - .591 (15)	1.574 (40)	.741 (19)	.819 (21)
86330-04-04	1/4	1/4	.488 (12,5)	.551 (14) - .591 (15)	1.502 (38,5)	.741 (19)	.819 (21)
86330-06-06	3/8	3/8	.507 (13)	.709 (18) - .748 (19)	1.755 (45)	.741 (19)	.858 (22)

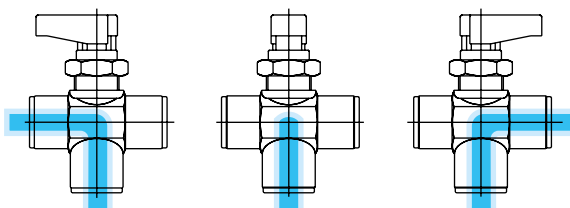
**86700**

THREE POSITION (CLOSED CENTER)

**NPTF**



**NO GAS**

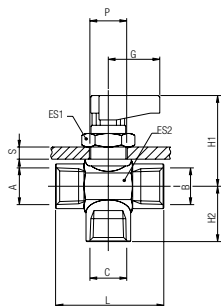


Part No.	A/B/C	DN	ES1	ES2	L	G	H1	H2	S max
86700-02	1/8	.217 (5,5)	.669 (17)	.669 (17)	1.476 (37,5)	.748 (19)	1.319 (33,5)	.650 (16,5)	.177 (4,5)
86700-04	1/4	.217 (5,5)	.669 (17)	.669 (17)	1.476 (37,5)	.748 (19)	1.319 (33,5)	.650 (16,5)	.177 (4,5)
86700-06	3/8	.276 (7)	.669 (17)	.827 (21)	1.909 (48,5)	.748 (19)	1.378 (35)	.866 (22)	.177 (4,5)

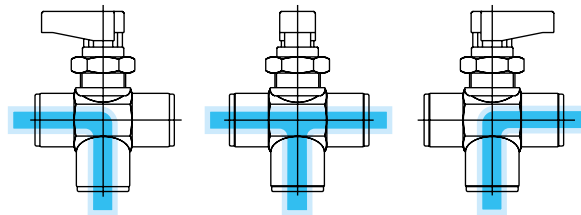
**86710**

THREE POSITION (OPEN CENTER)

**NPTF**



**NO GAS**

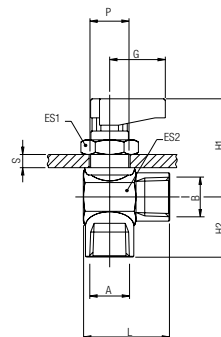


Part No.	A/B/C	DN	ES1	ES2	L	G	H1	H2	S max
86710-02	1/8	.217 (5,5)	.669 (17)	.669 (17)	1.476 (37,5)	.748 (19)	1.319 (33,5)	.650 (16,5)	.177 (4,5)
86710-04	1/4	.217 (5,5)	.669 (17)	.669 (17)	1.476 (37,5)	.748 (19)	1.319 (33,5)	.650 (16,5)	.177 (4,5)
86710-06	3/8	.276 (7)	.827 (21)	.827 (21)	1.909 (48,5)	.748 (19)	1.378 (35)	.866 (22)	.177 (4,5)

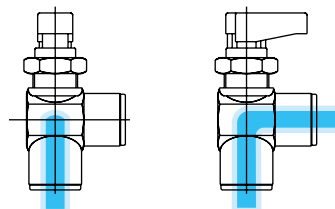
**86720**

RIGHT ANGLE

**NPTF**



**NO GAS**

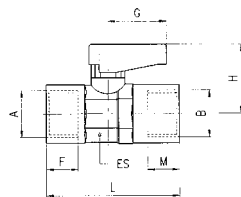


Part No.	A/B	DN	ES1	ES2	L	G	H1	H2	S max
86720-02	1/8	.217 (5,5)	.669 (17)	.669 (17)	1.476 (37,5)	.748 (19)	1.319 (33,5)	.650 (16,5)	.177 (4,5)
86720-04	1/4	.217 (5,5)	.669 (17)	.669 (17)	1.476 (37,5)	.748 (19)	1.319 (33,5)	.650 (16,5)	.177 (4,5)
86720-06	3/8	.276 (7)	.669 (17)	.827 (21)	1.535 (39)	.748 (19)	1.378 (35)	.866 (22)	.177 (4,5)

**6300**

FEMALE X FEMALE

**BSPT**

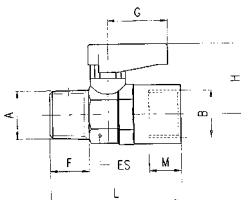


Part No.	A	B	DN	ES	F	M	L	G	H
6300-1/8	1/8	1/8	.217 (5,5)	.551(14) - .591(15)	.291 (7,4)	.291 (7,4)	1.417 (36)	.748 (19)	.827 (21)
6300-1/4	1/4	1/4	.217 (5,5)	.551(14) - .591(15)	.433 (11)	.433 (11)	1.693 (43)	.748 (19)	.827 (21)
6300-3/8	3/8	3/8	.315 (8)	.709(18) - .748(19)	.449 (11,4)	.449 (11,4)	1.850 (47)	.748 (19)	.866 (22)
6300-1/2	1/2	1/2	.394 (10)	.866(22) - .906(23)	.591 (15)	.591 (15)	2.323 (59)	1.024 (26)	1.201 (30,5)
6300-3/4	3/4	3/4	.551 (14)	1.102(28) - 1.181(30)	.642 (16,3)	.642 (16,3)	2.638 (67)	1.969 (50)	1.299 (33)

**6310**

MALE X FEMALE

**BSPT**

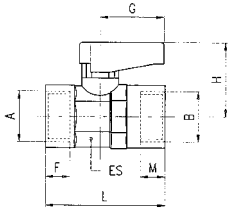


Part No.	A	B	DN	ES	F	M	L	G	H
6310-1/8-1/8	1/8	1/8	.217 (5,5)	.551(14) - .591(15)	.291 (7,4)	.291 (7,4)	1.417 (36)	.748 (19)	.827 (21)
6310-1/4-1/8	1/4	1/8	.217 (5,5)	.551(14) - .591(15)	.433 (11)	.291 (7,4)	1.594 (40,5)	.748 (19)	.827 (21)
6310-1/4-1/4	1/4	1/4	.217 (5,5)	.551(14) - .591(15)	.433 (11)	.433 (11)	1.693 (43)	.748 (19)	.827 (21)
6310-3/8-3/8	3/8	3/8	.315 (8)	.709(18) - .748(19)	.449 (11,4)	.449 (11,4)	1.811 (46)	.748 (19)	.866 (22)
6310-1/2-1/2	1/2	1/2	.394 (10)	.866(22) - .906(23)	.591 (15)	.591 (15)	2.244 (57)	1.024 (26)	1.201 (30,5)
6310-3/4-3/4	3/4	3/4	.551 (14)	1.102(28) - 1.181(30)	.642 (16,3)	.642 (16,3)	2.480 (63)	1.969 (50)	1.299 (33)

**6400**

FEMALE X FEMALE

**BSPP**

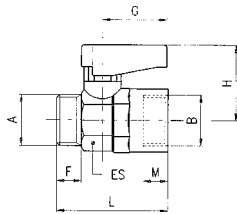


Part No.	A	B	DN	ES	F	M	L	G	H
6400-1/8-1/8	1/8	1/8	.217 (5,5)	.551(14) - .591(15)	.276 (7)	.276 (7)	1.378 (35)	.748 (19)	.827 (21)
6400-1/4-1/4	1/4	1/4	.217 (5,5)	.551(14) - .591(15)	.315 (8)	.315 (8)	1.457 (37)	.748 (19)	.827 (21)
6400-3/8-3/8	3/8	3/8	.315 (8)	.709(18) - .748(19)	.354 (9)	.354 (9)	1.654 (42)	.748 (19)	.866 (22)
6400-1/2-1/2	1/2	1/2	.394 (10)	.866(22) - .906(23)	.394 (10)	.394 (10)	1.929 (49)	1.024 (26)	1.201 (30,5)
6400-3/4-3/4	3/4	3/4	.551 (14)	1.102(28) - 1.181(30)	.472 (12)	.472 (12)	2.283 (58)	1.969 (50)	1.299 (33)

**6410**

MALE X FEMALE

**BSPP**

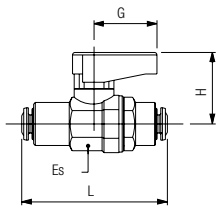


Part No.	A	B	DN	ES	F	M	L	G	H
6410-1/8-1/8	1/8	1/8	.217 (5,5)	.551(14) - .591(15)	.276 (7)	.276 (7)	1.339 (34)	.748 (19)	.827 (21)
6410-1/4-1/8	1/4	1/8	.217 (5,5)	.551(14) - .591(15)	.315 (8)	.276 (7)	1.378 (35)	.748 (19)	.827 (21)
6410-1/4-1/4	1/4	1/4	.217 (5,5)	.551(14) - .591(15)	.315 (8)	.315 (8)	1.378 (35)	.748 (19)	.827 (21)
6410-3/8-3/8	3/8	3/8	.315 (8)	.709(18) - .748(19)	.354 (9)	.354 (9)	1.535 (39)	.748 (19)	.866 (22)
6410-1/2-1/2	1/2	1/2	.394 (10)	.866(22) - .906(23)	.394 (10)	.394 (10)	1.772 (45)	1.024 (26)	1.201 (30,5)
6410-3/4-3/4	3/4	3/4	.551 (14)	1.102(28) - 1.181(30)	.472 (12)	.472 (12)	2.047 (52)	1.969 (50)	1.299 (33)

**6560**

TUBE X TUBE

**Metric tube**



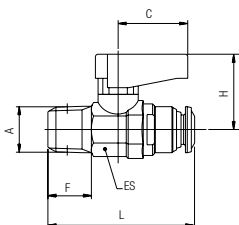
Part No.	Tube	Tube	DN	ES	L	G	H
6560-4-4	5/32 (4)	5/32 (4)	.118 (3)	.551(14) - .591(15)	1.732 (44)	.748 (19)	.827 (21)
6560-6-6	6	6	.197 (5)	.551(14) - .591(15)	1.890 (48)	.748 (19)	.827 (21)
6560-8-8	5/16 (8)	5/16 (8)	.217 (5,5)	.551(14) - .591(15)	1.890 (48)	.748 (19)	.827 (21)
6560-10-10	10	10	.315 (8)	.709(18) - .748(19)	2.303 (58,5)	.748 (19)	.866 (22)
6560-12-12	12	12	.394 (10)	.866(22) - .906(23)	2.598 (66)	1.024 (26)	1.201 (30,5)

**NO GAS**

**6570**

TUBE X MALE

**Metric tube - BSPT**



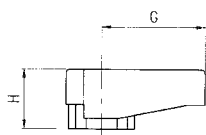
Part No.	A	Tube	DN	F	ES	L	C	H
6570-4-1/8	1/8	5/32 (4)	.118 (3)	.335 (8,5)	.551(14) - .591(15)	1.378 (35)	.748 (19)	.827 (21)
6570-6-1/8	1/8	6	.197 (5)	.335 (8,5)	.551(14) - .591(15)	1.575 (40)	.748 (19)	.827 (21)
6570-8-1/8	1/8	5/16 (8)	.217 (5,5)	.335 (8,5)	.551(14) - .591(15)	1.634 (41,5)	.748 (19)	.827 (21)
6570-6-1/4	1/4	6	.315 (8)	.492 (12,5)	.551(14) - .591(15)	1.516 (38,5)	.748 (19)	.827 (21)
6570-8-1/4	1/4	8	.394 (10)	.492 (12,5)	.551(14) - .591(15)	1.791 (45,5)	.748 (19)	.866 (22)

**NO GAS**

**BALL VALVE ACCESSORIES**

**86900**

SHORT HANDLE

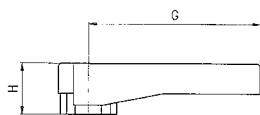


Part No.	C	H	Size Valve
* 86900-02	.748 (19)	.433 (11)	1/8 - 1/4 - 3/8
86900-08	1.024 (26)	.590 (15)	1/2 - 3/4

\* Standard

**86910**

LONG HANDLE

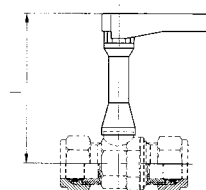


Part No.	C	H	Size Valve
86910-02	1.378 (35)	.433 (11)	1/8 - 1/4 - 3/8
* 86910-08	1.968 (50)	.590 (15)	1/2 - 3/4

\* Standard

**86915**

STEM EXTENSION KIT



Part No.	Size	L
86915-02	1/8	2.283 (58)
	1/4	2.283 (58)
	3/8	2.323 (59)
86915-08	1/2	2.677 (68)
	3/4	2.756 (70)

**86920**

COLOR PLATE



Part No.	Color	Size
86920-01	Blue (Standard Color)	1/8 - 1/4 - 3/8
86920-02	Red	1/8 - 1/4 - 3/8
86920-03	Green	1/8 - 1/4 - 3/8
86920-04	Yellow	1/8 - 1/4 - 3/8
86920-05	White	1/8 - 1/4 - 3/8
86921-01	Blue (Standard Color)	1/2 - 3/4
86921-02	Red	1/2 - 3/4
86921-03	Green	1/2 - 3/4
86921-04	Yellow	1/2 - 3/4
86921-05	White	1/2 - 3/4

**GHINOX SERIES: BALLVALVE IN STAINLESS STEEL AISI 316 L**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

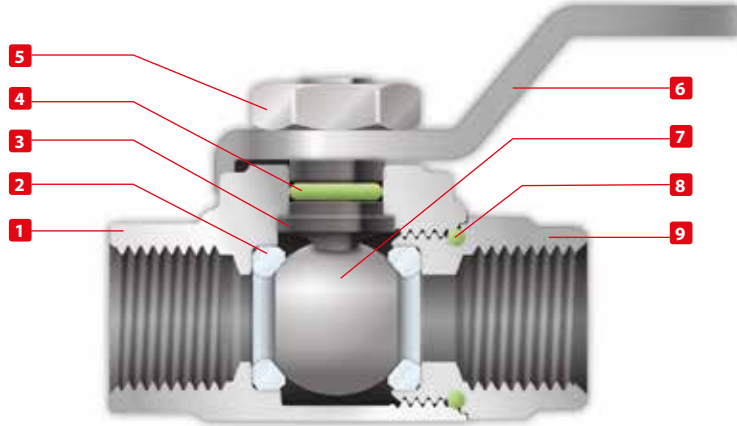
1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

SILICON  
FREE

NSF/ANSI 169  
**NSF**



**Pressure Rating**

**Vacuum ~ 580 PSI**  
-0.99 bar ~ 40 bar  
-0.099 MPa ~ 4 MPa



**Temperatures**

Minimum temperature	5 °F - 15 °C
Maximum temperature in continuous	302 °F + 150 °C
Maximum temperature for short term	356 °F + 180 °C



**Media**

- Compressed air
- Vacuum
- Water
- Oils



**Component Parts and Materials**

- 1 Stainless steel AISI 316L Body
- 2 PTFE Seats
- 3 Stainless steel AISI316L Spindle
- 4 FKM Seal O-RING
- 5 Stainless steel AISI316L Hex Nut
- 6 Stainless steel AISI316L Spindle
- 7 Stainless steel AISI316L Ball
- 8 FKM Seal O-RING
- 9 Stainless steel AISI316L Fitting



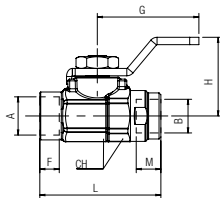
**Threads**

Gas in conformity with ISO7.1, BS 21, DIN 2999.

**66300**

FEMALE x FEMALE

**BSPP**

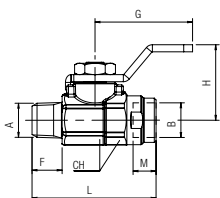


Part No.	A	B	DN	CH	F	M	L	G	H
66300-02-02	1/8	1/8	0.217 (5,5)	0.551-0.591 (14-15)	0.335 (8,5)	0.335 (8,5)	1.300 (33)	1.102 (28)	0.846 (21,5)
66300-04-04	1/4	1/4	0.217 (5,5)	0.630-0.669 (16-17)	0.492 (12,5)	0.492 (12,5)	1.693 (43)	1.102 (28)	0.846 (21,5)

**66310**

MALE x FEMALE

**BSPT**

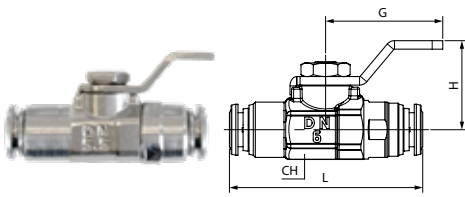


Part No.	A	B BSPT	DN	CH	F	M	L	G	H
66310-02-02	1/8	1/8	0.217 (5,5)	0.551-0.591 (14-15)	0.335 (8,5)	0.335 (8,5)	1.378 (35)	1.102 (28)	0.846 (21,5)
66310-04-04	1/4	1/4	0.217 (5,5)	0.630-0.669 (16-17)	0.492 (12,5)	0.492 (12,5)	1.752 (44,5)	1.102 (28)	0.846 (21,5)

**66560**

TUBE X TUBE

**Metric tube**

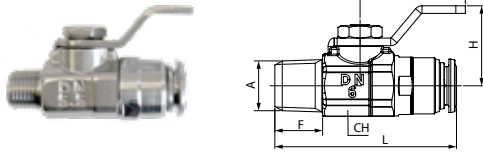


Code	Tube	Tube	DN	CH	L	G	H
66560-6-8	6	6	0.197 (5)	0.551-0.591 (14-15)	1.772 (45)	1.102 (28)	0.846 (21,5)
66560-8-8	8	8	0.217 (5,5)	0.630-0.669 (16-17)	2.0048 (52)	1.102 (28)	0.846 (21,5)

**66570**

TUBE X MALE

**BSPT**



Code	Tube	A	DN	F	CH	L	G	H
66570-6-1/8	6	1/8	0.197 (5)	0.335 (8,5)	0.551-0.591 (14-15)	1.613 (41)	1.102 (28)	0.846 (21,5)
66570-6-1/4	6	1/4	0.197 (5)	0.492 (12,5)	0.630-0.669 (16-17)	1.772 (45)	1.102 (28)	0.846 (21,5)
66570-8-1/8	8	1/8	0.217 (5,5)	0.335 (8,5)	0.551-0.591 (14-15)	1.693 (43)	1.102 (28)	0.846 (21,5)
66570-8-1/4	8	1/4	0.217 (5,5)	0.492 (12,5)	0.630-0.669 (16-17)	1.890 (48)	1.102 (28)	0.846 (21,5)





## Adapters



**82200N**

Pg. 11.4



**82201**

Pg. 11.4



**82203**

Pg. 11.4



**82205**

Pg. 11.4



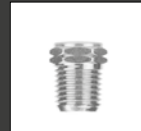
**82241N**

Pg. 11.5



**82242N**

Pg. 11.5



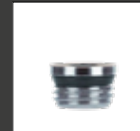
**82280N**

Pg. 11.5



**82300N**

Pg. 11.5



**82320**

Pg. 11.5



**82400N**

Pg. 11.6



**82510N**

Pg. 11.6



**82520N**

Pg. 11.6



**82620N**

Pg. 11.6



**82640N**

Pg. 11.6



**82690**

Pg. 11.7

## NPTF Banjo Stem Assemblies



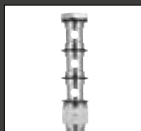
**81410**

Pg. 11.7



**81420**

Pg. 11.8



**81430**

Pg. 11.8



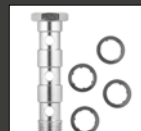
**51410**

Pg. 11.9



**51420**

Pg. 11.9



**51430**

Pg. 11.9

## Tubing



**N11**

Pg. 11.11



**PU - INCH**

Pg. 11.12



**PU - METRIC**

Pg. 11.13



**R811**

Pg. 11.14



**81026**

Pg. 11.14



**1750**

Pg. 11.14

## NICKEL-PLATED BRASS ADAPTERS

# Adapters





**TECHNICAL CHARACTERISTICS**



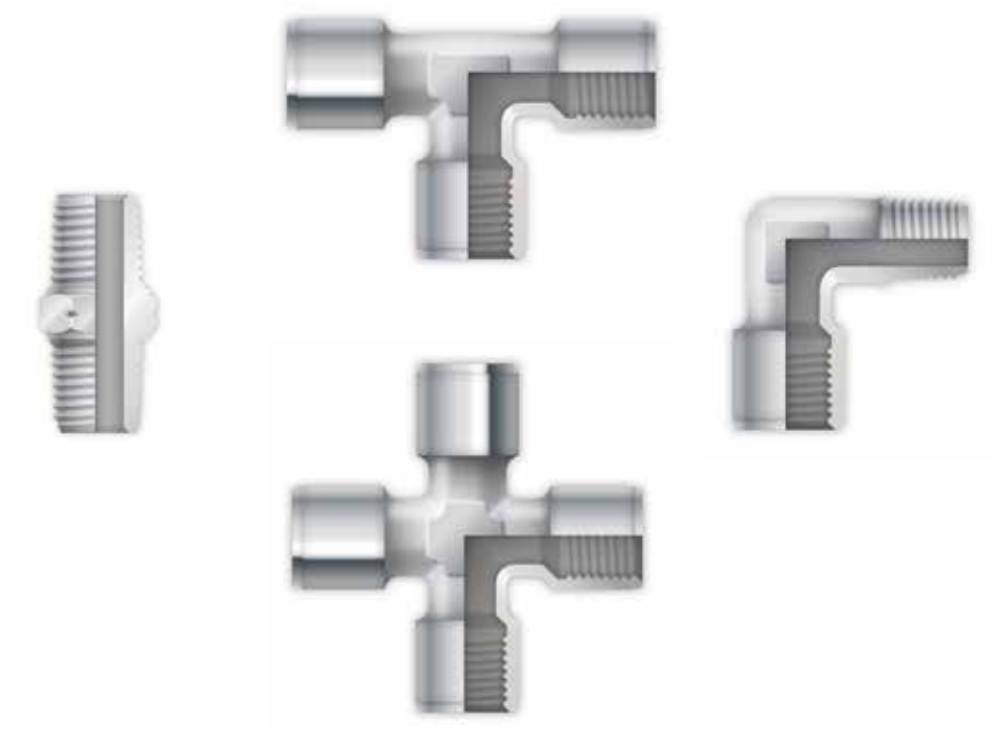
**Reference Standard**

1907/2006  
REACH ✓

2011/65/CE  
ROHS ✓

PED  
2014/68/UE

SILICON  
FREE



**Maximum temperature**

572 °F  
300 °C



**Component Parts and Materials**

These fittings are made in **OT UNI EN 12164/5 CW 614/7N** and undergo a nickel-plating process. All other materials will be specified in catalog.



**Pressure Rating**

Vacuum ~ see data chart  
-0.99 bar ~ see data chart  
-0.099 MPa ~ see data chart



Size	Maximum pressure advised
1/8"	2175 PSI / 150 bar / 15 MPa
1/4"	1450 PSI / 100 bar / 10 MPa
3/8"	1080 PSI / 74 bar / 7.4 MPa
1/2"	725 PSI / 50 bar / 5 MPa



**Connection Tubes**

Tubes and general fittings.



**Threads**

Tapered gas in conformity with ISO7.1, BS 21, DIN 2999.  
Parallel gas in conformity with ISO 228 Class A.  
Metric in conformity with ISO R/262.  
NPTF in conformity with ANSI B1.20.5

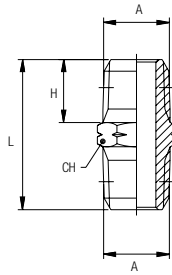


**Media**

- Compressed air
- Water
- Oils
- General fluids for pneumatic, hydraulic and oildynamic facilities.

**82200N**

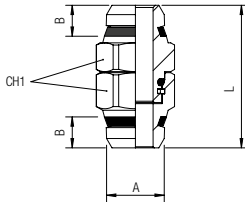
HEX NIPPLE



Part No.	A NPTF	H	L	CH
<b>82200N-02</b>	<b>1/8</b>	.335 (8,5)	.846 (21,5)	.472 (12)
<b>82200N-04</b>	<b>1/4</b>	.512 (13)	1.220 (31)	.551 (14)
<b>82200N-06</b>	<b>3/8</b>	.512 (13)	1.220 (31)	.748 (19)
<b>82200N-08</b>	<b>1/2</b>	.669 (17)	1.575 (40)	.866 (22)

**82201N**

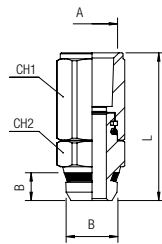
NIPPLE - MALE X MALE



Part No.	A NPTF	B	L	CH1
<b>82201N-04-04</b>	<b>1/4</b>	.275 (7)	1.279 (32,5)	.630 (16)
<b>82201N-06-06</b>	<b>3/8</b>	.295 (7,5)	1.240 (31,5)	.787 (20)

**82203N**

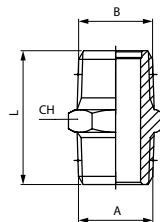
NIPPLE - MALE X FEMALE



Part No.	A NPTF	B	H	L	CH1	CH2
<b>82203N-04-04</b>	<b>1/4</b>	<b>1/4</b>	.275 (7)	1.476 (37,5)	.630 (16)	.630 (16)
<b>82203N-06-06</b>	<b>3/8</b>	<b>3/8</b>	.295 (7,5)	1.417 (36)	.787 (20)	.787 (20)
<b>82203N-06-04</b>	<b>3/8</b>	<b>1/4</b>	.275 (7)	1.496 (38)	.787 (20)	.630 (16)

**82205**

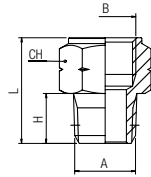
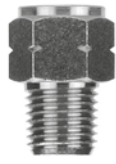
NIPPLE TAPER



Part No.	A BSPT	B NPTF	L	CH
<b>82205-1/8-1/8</b>	<b>1/8</b>	<b>1/8</b>	.807 (20,5)	.472 (12)
<b>82205-1/4-1/4</b>	<b>1/4</b>	<b>1/4</b>	1.142 (29)	.551 (14)
<b>82205-3/8-3/8</b>	<b>3/8</b>	<b>3/8</b>	1.161 (29,5)	.708 (18)
<b>82205-1/2-1/2</b>	<b>1/2</b>	<b>1/2</b>	1.437 (36,5)	.866 (22)
<b>82205-3/4-3/4</b>	<b>3/4</b>	<b>3/4</b>	1.594 (40,5)	1.063 (27)

**82241N**

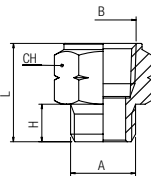
ADAPTER FEMALE G THREAD - MALE NPTF



Part No.	A NPTF	B BSPP	H	L	CH
82241N-32-M5	10/32 UNF	M5	.177 (4,5)	.472 (12)	.315 (8)
82241N-02-02	1/8	1/8	.335 (8,5)	.768 (19,5)	.551 (14)
82241N-04-04	1/4	1/4	.512 (13)	1.063 (27)	.669 (17)
82241N-06-06	3/8	3/8	.512 (13)	1.102 (28)	.866 (22)

**82242N**

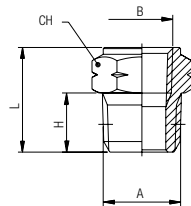
ADAPTER - FEMALE NPTF - MALE G THREAD



Part No.	A BSPP	B NPTF	H	L	CH
82242N-02	1/8	1/8	.236 (6)	.669 (17)	.551 (14)
82242N-04	1/4	1/4	.315 (8)	.906 (23)	.669 (17)
82242N-06	3/8	3/8	.354 (9)	.945 (24)	.866 (22)
82242N-08	1/2	1/2	.472 (12)	1.240 (31,5)	1.063 (27)

**82280N**

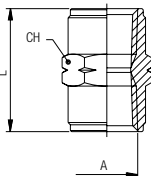
REDUCER FEMALE - MALE NPTF



Part No.	A NPTF	B NPTF	H	L	CH
82280N-02-32	1/8	10/32 UNF	.335 (8,5)	.571 (14,5)	.472 (12)
82280N-04-02	1/4	1/8	.512 (13)	.748 (19)	.551 (14)
82280N-06-02	3/8	1/8	.512 (13)	.768 (19,5)	.748 (19)
82280N-06-04	3/8	1/4	.512 (13)	.906 (23)	.748 (19)
82280N-08-04	1/2	1/4	.669 (17)	.965 (24,5)	.866 (22)
82280N-08-06	1/2	3/8	.669 (17)	.571 (14,5)	.472 (12)

**82300N**

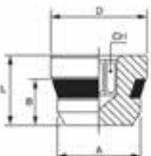
COUPLING FEMALE NPTF



Part No.	A NPTF	L	CH
82300N-02	1/8	.748 (19)	.551 (14)
82300N-04	1/4	1.063 (27)	.669 (17)
82300N-06	3/8	1.063 (27)	.866 (22)
82300N-08	1/2	1.378 (35)	1.063 (27)

**82320**

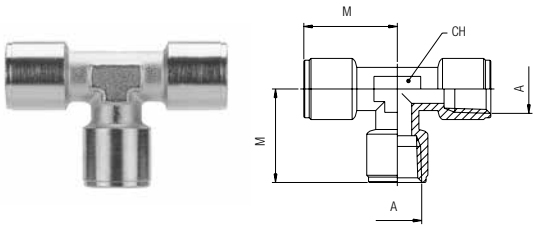
COUPLING FEMALE NPTF



Part No.	A	B	D	L	CH
82320-02	1/8	.217 (5,5)	.394 (10)	.315 (8)	.197 (5)
82320-04	1/4	.275 (7)	.551 (14)	.394 (10)	.236 (6)
82320-06	3/8	.295 (7,5)	.669 (17)	.433 (11)	.315 (8)
82320-08	1/2	.354 (9)	.787 (20)	.512 (13)	.433 (11)

**82400N**

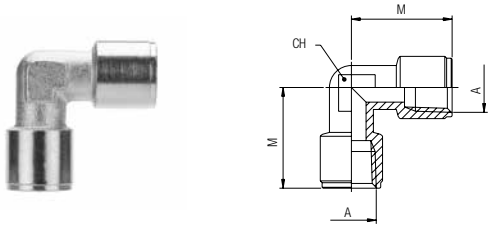
TEE FEMALE NPTF



Part No.	A NPTF	M	CH
82400N-02	1/8	.669 (19,5)	.472 (12)
82400N-04	1/4	.906 (26)	.512 (13)
82400N-06	3/8	.945 (28,5)	.630 (16)
82400N-08	1/2	1.240 (33,5)	.787 (20)

**82510N**

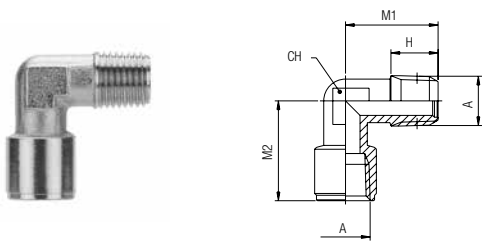
ELBOW - FEMALE NPTF



Part No.	A NPTF	M	CH
82510N-02	1/8	.846 (21,5)	.433 (11)
82510N-04	1/4	1.083 (27,5)	.512 (13)
82510N-06	3/8	1.161 (29,5)	.669 (17)
82510N-08	1/2	1.339 (34)	.787 (20)

**82520N**

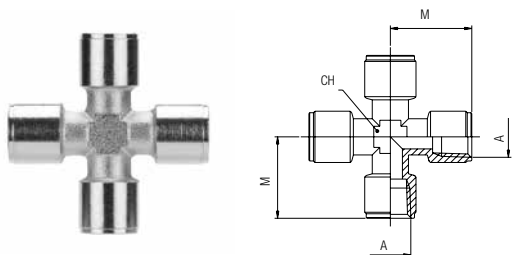
ELBOW - FEMALE - MALE NPTF



Part No.	A NPTF	H	M1	M2	CH
82520N-02	1/8	.335 (8,5)	.827 (21)	.748 (19)	.433 (11)
82520N-04	1/4	.512 (13)	1.083 (27,5)	1.004 (25,5)	.512 (13)
82520N-06	3/8	.512 (13)	1.161 (29,5)	1.083 (27,5)	.669 (17)
82520N-08	1/2	.669 (17)	1.339 (34)	1.260 (32)	.787 (20)

**82620N**

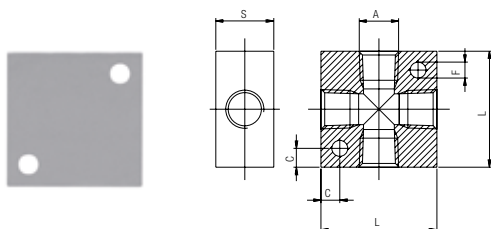
CROSS - FEMALE NPTF



Part No.	A NPTF	M	CH
82620N-02	1/8	.787 (20)	.433 (11)
82620N-04	1/4	1.063 (27)	.512 (13)
82620N-06	3/8	1.142 (29)	.669 (17)

**82640N**

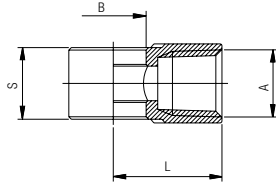
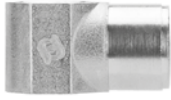
ALUMINUM DISTRIBUTION BLOCK - FEMALE



Part No.	A NPTF	L	S	F	C
82640N-02	1/8	.984 (25)	.630 (16)	.177 (4,5)	.169 (4,5)
82640N-04	1/4	1.575 (40)	.787 (20)	.217 (5,5)	.256 (6,5)
82640N-06	3/8	1.969 (50)	.984 (25)	.217 (5,5)	.295 (7,5)
82640N-08	1/2	1.969 (50)	1.181 (30)	.217 (5,5)	.295 (7,5)

**82690**

SINGLE BANJO BODY FEMALE



Part No.	A NPTF	B	L	S	CH
<b>82690-32</b>	<b>10/32</b>	.240 (6.1)	.570 (14.5)	.484 (12.3)	N/A
<b>82690-02</b>	<b>1/8</b>	.394 (10)	.649 (16,5)	.590 (15)	.551 (14)
<b>82690-04</b>	<b>1/4</b>	.531 (13,5)	.866 (22)	.669 (17)	.708 (18)
<b>82690-06</b>	<b>3/8</b>	.688 (17,5)	1.043 (26,5)	.787 (20)	.827 (21)

**NPTF BANJO STEM ASSEMBLIES**

**BANJO STEM**

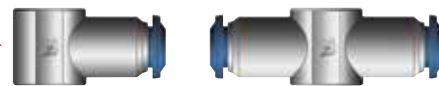
Part No.  
**81410**  
**81420**  
**81430**



**NYLON WASHER**



**BANJO BODY  
INCH  
OR METRIC**



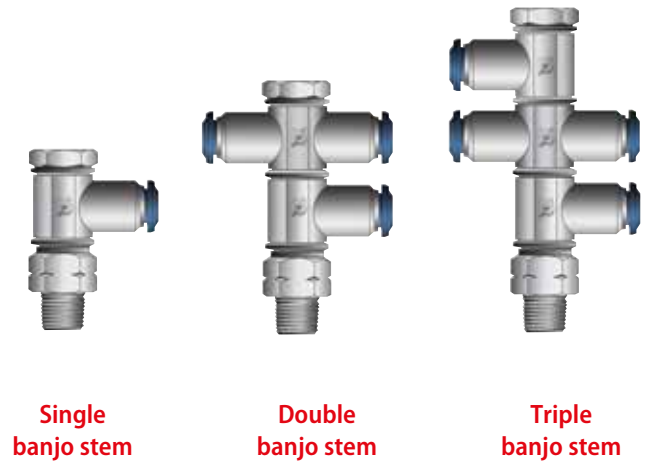
**NYLON WASHER**



**ADAPTER**



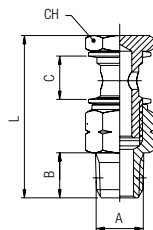
Examples of various banjo stems with single and double banjo bodies



With nylon banjo body remove the washer.

**81410**

SINGLE BANJO STEM

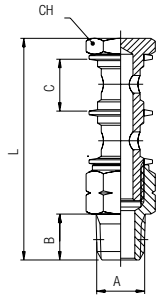


Part No.	A NPTF	B	C	L	CH
<b>81410-32</b>	<b>10/32</b>	.177 (4,5)	.492 (15,5)	1.200 (30,5)	.315 (8)
<b>81410-02</b>	<b>1/8</b>	.334 (8,5)	.591 (15)	1.653 (42)	.551 (14)
<b>81410-04</b>	<b>1/4</b>	.511 (13)	.669 (17)	2.047 (52)	.669 (17)
<b>81410-06</b>	<b>3/8</b>	.511 (13)	.787 (20)	2.106 (53,5)	.748 (19)



**81420**

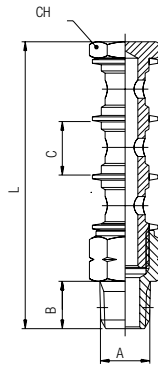
DOUBLE BANJO STEM



Part No.	A NPTF	B	C	L	CH
<b>81420-02</b>	<b>1/8</b>	.334 (8,5)	.591 (15)	2.283 (58)	.551 (14)
<b>81420-04</b>	<b>1/4</b>	.511 (13)	.669 (17)	2.755 (70)	.669 (17)
<b>81420-06</b>	<b>3/8</b>	.511 (13)	.787 (20)	3.031 (77)	.748 (19)

**81430**

TRIPLE BANJO STEM



Part No.	A NPTF	B	C	L	CH
<b>81430-02</b>	<b>1/8</b>	.334 (8,5)	.591 (15)	2.913 (74)	.551 (14)
<b>81430-04</b>	<b>1/4</b>	.511 (13)	.669 (17)	3.464 (88)	.669 (17)
<b>81430-06</b>	<b>3/8</b>	.511 (13)	.787 (20)	3.897 (99)	.748 (19)

**BSPP BANJO STEM ASSEMBLIES**

Examples of various banjo stems with single and double banjo bodies

**BANJO STEM**

Part No.  
**51410**  
**51420**  
**51430**

**NYLON WASHER**

**BANJO BODY**  
**INCH**  
**OR METRIC**

**NYLON WASHER**



**Single  
banjo stem**

**Double  
banjo stem**

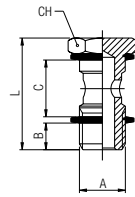
**Triple  
banjo stem**



With nylon banjo body remove the washer.

**51410**

SINGLE BANJO STEM



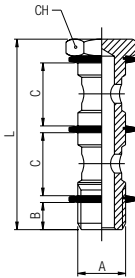
Part No.	A BSPP	B	C	L	CH
<b>51410-M5</b>	<b>M5</b>	.157 (4)	.02 (12.5)	.866 (22)	.315 (8)
<b>51410-M6</b>	<b>M6</b>	.197 (5)	.02 (12.5)	.906 (23)	.315 (8)
<b>51410-1/8</b>	<b>1/8</b>	.236 (6)	.591 (15)	1.102 (28)	.551 (14)
<b>51410-1/4</b>	<b>1/4</b>	.315 (8)	.669 (17)	1.26 (32)	.669 (17)
<b>51410-3/8</b>	<b>3/8</b>	.354 (9)	.787 (20)	1.417 (36)	.748 (19)
<b>51410-1/2</b>	<b>1/2</b>	.394 (10)	.945 (24)	1.654 (42)	.945 (24)
<b>51410-M12x1.5 *M12X1.5</b>		.315 (8)	.669 (17)	1.26 (32)	.669 (17)

This item will be supplied with the PA66 washers (ART. 1610).

\* With this banjo stem using 1/4 orienting banjo body.

**51420**

DOUBLE BANJO STEM



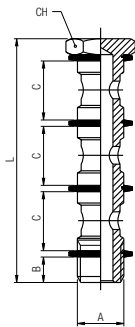
Part No.	A BSPP	B	C	L	CH
<b>51420-1/8</b>	<b>1/8</b>	.236 (6)	.591 (15)	.072 (44,5)	.551 (14)
<b>51420-1/4</b>	<b>1/4</b>	.315 (8)	.669 (17)	.082 (50,5)	.669 (17)
<b>51420-3/8</b>	<b>3/8</b>	.354 (9)	.787 (20)	2.283 (58)	.748 (19)
<b>51420-1/2</b>	<b>1/2</b>	.394 (10)	.945 (24)	2.677 (68)	.945 (24)
<b>51420-M12x1.5 *M12X1.5</b>		.315 (8)	.669 (17)	.082 (50,5)	.669 (17)

This item will be supplied with the PA66 washers (ART. 1610).

\* With this banjo stem using 1/4 orienting banjo body.

**51430**

TRIPLE BANJO STEM



Part No.	A BSPP	B	C	L	CH
<b>51430-1/8</b>	<b>1/8</b>	.236 (6)	.591 (15)	2.402 (61)	.551 (14)
<b>51430-1/4</b>	<b>1/4</b>	.315 (8)	.669 (17)	2.717 (69)	.669 (17)
<b>51430-3/8</b>	<b>3/8</b>	.354 (9)	.787 (20)	3.15 (80)	.748 (19)
<b>51430-1/2</b>	<b>1/2</b>	.394 (10)	.945 (24)	3.701 (94)	.945 (24)

This item will be supplied with the PA66 washers (ART. 1610).





## N11

PA 11 TUBING



### Advantages

- |   |                    |                |
|---|--------------------|----------------|
| 1 | COMPOUND:          | PA12           |
| 2 | TEMPERATURE RANGE  | -60° / +200°   |
| 3 | DIAMETER TOLERANCE | -.004 / +.002  |
| 4 | VACUUM RATING      |                |
| 5 | HARDNESS           | 78 Rockwell R  |
| 6 | COLOR:             | Black, Natural |

Part No.	OD	ID	Wall	Color	Working Pressure 75°F	Working Pressure 150°F	Bend Radius	Standard Pack
N11-021-100	1/8	.93	.016	Black	225 PSI	123 PSI	.375	100' Bag
N11-022-100	1/8	.93	.016	Natural	225 PSI	123 PSI	.375	100' Bag
N11-531-100	5/32 (4)	.108	.016	Black	225 PSI	123 PSI	.375	100' Bag
N11-532-100	5/32 (4)	.108	.016	Natural	225 PSI	123 PSI	.375	100' Bag
N11-041-100	1/4	.205	.035	Black	225 PSI	123 PSI	.375	100' Bag
N11-042-100	1/4	.205	.016	Natural	225 PSI	123 PSI	.375	100' Bag
N11-051-100	5/16 (8)	.232	.016	Black	225 PSI	123 PSI	.375	100' Bag
N11-052-100	5/16 (8)	.232	.016	Natural	225 PSI	123 PSI	.375	100' Bag
N11-061-100	3/8	.275	.016	Black	225 PSI	123 PSI	.375	100' Bag
N11-062-100	3/8	.275	.016	Natural	225 PSI	123 PSI	.375	100' Bag
N11-081-100	1/2	.375	.016	Black	225 PSI	123 PSI	.375	100' Bag
N11-082-100	1/2	.375	.016	Natural	225 PSI	123 PSI	.375	100' Bag

**PU**

POLYURETHANE TUBING - INCH SIZES



**Advantages**

- |   |                    |                           |
|---|--------------------|---------------------------|
| 1 | COMPOUND:          | PU                        |
| 2 | TEMPERATURE RANGE  | -40° / -165°              |
| 3 | DIAMETER TOLERANCE | +/- .003 - .004           |
| 4 | VACUUM RATING      | 125 psi - 200 psi         |
| 5 | HARDNESS           | 98 Shore A                |
| 6 | COLOR:             | Black, Natural, Red, Blue |

Part Number	OD	ID	Wall	Color	Working Pressure at 68°F	Best Pressure at 68°F	Bend Radius	Standard Pack
PU157-0-100	5/32"	3/32"	0.32"	Natural	130 psi	400 psi	0.47"	100' Bag
PU157-1-100	5/32"	3/32"	0.32"	Red	130 psi	400 psi	0.47"	100' Bag
PU157-2-100	5/32"	3/32"	0.32"	Black	130 psi	400 psi	0.47"	100' Bag
PU157-3-100	5/32"	3/32"	0.32"	Blue	130 psi	400 psi	0.47"	100' Bag
PU340-0-100	3/16"	1/8"	0.32"	Natural	130 psi	330 psi	0.55"	100' Bag
PU340-1-100	3/16"	1/8"	0.32"	Red	130 psi	330 psi	0.55"	100' Bag
PU340-2-100	3/16"	1/8"	0.32"	Black	130 psi	330 psi	0.55"	100' Bag
PU340-3-100	3/16"	1/8"	0.32"	Blue	130 psi	330 psi	0.55"	100' Bag
PU445-0-100	1/4"	5/32"	0.45"	Natural	130 psi	370 psi	0.75"	100' Bag
PU445-1-100	1/4"	5/32"	0.45"	Red	130 psi	370 psi	0.75"	100' Bag
PU445-2-100	1/4"	5/32"	0.45"	Black	130 psi	370 psi	0.75"	100' Bag
PU445-3-100	1/4"	5/32"	0.45"	Blue	130 psi	370 psi	0.75"	100' Bag
PU562-0-100	5/16"	3/16"	0.62"	Natural	130 psi	330 psi	0.95"	100' Bag
PU562-1-100	5/16"	3/16"	0.62"	Red	130 psi	330 psi	0.95"	100' Bag
PU562-2-100	5/16"	3/16"	0.62"	Black	130 psi	330 psi	0.95"	100' Bag
PU562-3-100	5/16"	3/16"	0.62"	Blue	130 psi	330 psi	0.95"	100' Bag
PU662-0-100	3/8"	1/4"	0.62"	Natural	130 psi	330 psi	1.5"	100' Bag
PU662-1-100	3/8"	1/4"	0.62"	Red	130 psi	330 psi	1.5"	100' Bag
PU662-2-100	3/8"	1/4"	0.62"	Black	130 psi	330 psi	1.5"	100' Bag
PU662-3-100	3/8"	1/4"	0.62"	Blue	130 psi	330 psi	1.5"	100' Bag
PU890-0-100	1/2"	3/8"	0.62"	Natural	130 psi	330 psi	1.97"	100' Bag
PU890-1-100	1/2"	3/8"	0.62"	Red	130 psi	330 psi	1.97"	100' Bag
PU890-2-100	1/2"	3/8"	0.62"	Black	130 psi	330 psi	1.97"	100' Bag
PU890-3-100	1/2"	3/8"	0.62"	Blue	130 psi	330 psi	1.97"	100' Bag

**PU**

POLYURETHANE TUBING - METRIC SIZES


**Advantages**

- |   |                    |                           |
|---|--------------------|---------------------------|
| 1 | COMPOUND:          | PU                        |
| 2 | TEMPERATURE RANGE  | -40° / -165°              |
| 3 | DIAMETER TOLERANCE | +/- .003 - .004           |
| 4 | VACUUM RATING      | 125 psi - 200 psi         |
| 5 | HARDNESS           | 98 Shore A                |
| 6 | COLOR:             | Black, Natural, Red, Blue |

Part Number	OD	ID	Wall	Color	Working Pressure at 68°F	Best Pressure at 68°F	Bend Radius	Standard Pack
PU4MM-0-100	4 mm	2.5 mm	0.75 mm	Natural	174 psi	536 psi	20 mm	100' Bag
PU4MM-1-100	4 mm	2.5 mm	0.75 mm	Red	174 psi	536 psi	20 mm	100' Bag
PU4MM-2-100	4 mm	2.5 mm	0.75 mm	Black	174 psi	536 psi	20 mm	100' Bag
PU4MM-3-100	4 mm	2.5 mm	0.75 mm	Blue	174 psi	536 psi	20 mm	100' Bag
PU6MM-0-100	6 mm	4 mm	1 mm	Natural	159 psi	464 psi	30 mm	100' Bag
PU6MM-1-100	6 mm	4 mm	1 mm	Red	159 psi	464 psi	30 mm	100' Bag
PU6MM-2-100	6 mm	4 mm	1 mm	Black	159 psi	464 psi	30 mm	100' Bag
PU6MM-3-100	6 mm	4 mm	1 mm	Blue	159 psi	464 psi	30 mm	100' Bag
PU8MM-0-100	8 mm	5.5 mm	1.25 mm	Natural	145 psi	435 psi	45 mm	100' Bag
PU8MM-1-100	8 mm	5.5 mm	1.25 mm	Red	145 psi	435 psi	45 mm	100' Bag
PU8MM-2-100	8 mm	5.5 mm	1.25 mm	Black	145 psi	435 psi	45 mm	100' Bag
PU8MM-3-100	8 mm	5.5 mm	1.25 mm	Blue	145 psi	435 psi	45 mm	100' Bag
PU10MM-0-100	10 mm	7 mm	1.5 mm	Natural	130 psi	406 psi	35 mm	100' Bag
PU10MM-1-100	10 mm	7 mm	1.5 mm	Red	130 psi	406 psi	35 mm	100' Bag
PU10MM-2-100	10 mm	7 mm	1.5 mm	Black	130 psi	406 psi	35 mm	100' Bag
PU10MM-3-100	10 mm	7 mm	1.5 mm	Blue	130 psi	406 psi	35 mm	100' Bag
PU12MM-0-100	12 mm	8 mm	2 mm	Natural	159 psi	464 psi	30 mm	100' Bag
PU12MM-1-100	12 mm	8 mm	2 mm	Red	159 psi	464 psi	30 mm	100' Bag
PU12MM-2-100	12 mm	8 mm	2 mm	Black	159 psi	464 psi	30 mm	100' Bag
PU12MM-3-100	12 mm	8 mm	2 mm	Blue	159 psi	464 psi	30 mm	100' Bag
PU14MM-0-100	14 mm	10 mm	2 mm	Natural	130 psi	391 psi	120 mm	100' Bag
PU14MM-1-100	14 mm	10 mm	2 mm	Red	130 psi	391 psi	120 mm	100' Bag

**R811**

RECOIL ASSEMBLIES

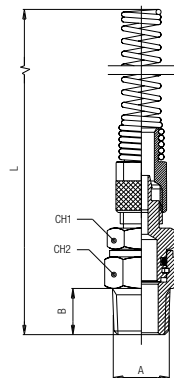


Part No.	Fitting Male NPTF	ID	OD	Lenght Straight	Lenght Working	Lenght Retracted	Coil Diameter	Working Pressure 75°F	Working Pressure 150°F
R811-043-012	1/4	1/4	.309	12	10 1/2	5 1/4	3 1/2	185 PSI	100 PSI
R811-043-025	1/4	1/4	.309	25	22	10 1/2	3 1/2	185 PSI	100 PSI
R811-043-050	1/4	1/4	.309	50	44	21	3 1/2	185 PSI	100 PSI
R811-043-100	1/4	1/4	.309	100	88	42	3 1/2	185 PSI	100 PSI
R811-053-012	3/8	3/8	.470	12	10	5	5 5/8	185 PSI	100 PSI
R811-053-025	3/8	3/8	.470	25	10	10 1/4	5 5/8	185 PSI	100 PSI
R811-053-050	3/8	3/8	.470	50	10	20 1/4	5 5/8	185 PSI	100 PSI
R811-053-100	3/8	3/8	.470	100	10	41	5 5/8	185 PSI	100 PSI
R811-083-012	1/2	1/2	.625	12	8.5	4 1/4	9	185 PSI	100 PSI
R811-083-025	1/2	1/2	.625	25	18	9	9	185 PSI	100 PSI
R811-083-050	1/2	1/2	.625	50	36	18	9	185 PSI	100 PSI
R811-083-100	1/2	1/2	.625	100	72	36	9	185 PSI	100 PSI

**ACCESSORIES**

**81026**

RECOIL FITTING



Part No.	A NPTF	B	C	L	CH
81026-04	1/4	.236 (6)	.591 (15)	2.402 (61)	.551 (14)
81026-06	3/8	.315 (8)	.669 (17)	2.717 (69)	.669 (17)
81026-08	1/2	.354 (9)	.787 (20)	3.150 (80)	.748 (19)

**1750**

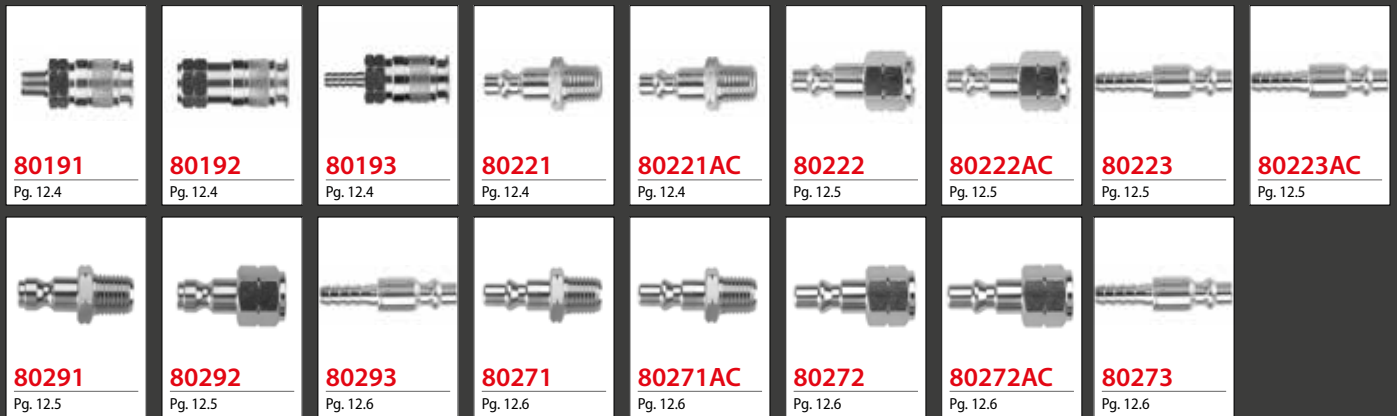
TUBE CUTTER

Part No.
1750



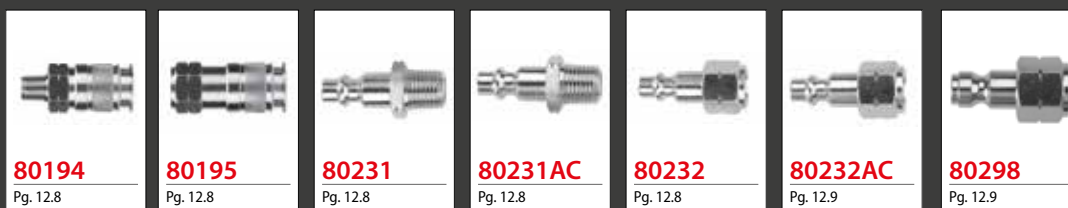
## 1/4 Multisocket

p. 12.4



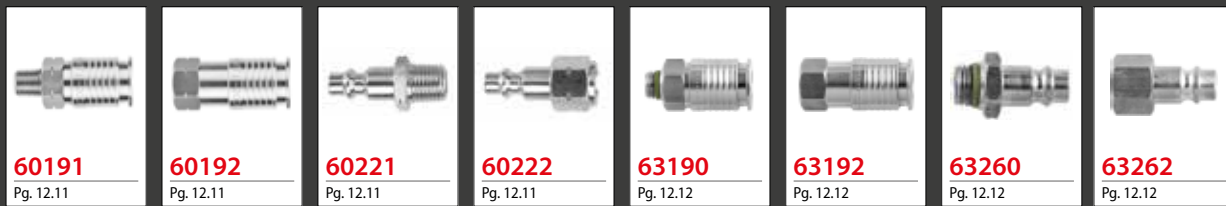
## 3/8 Multisocket

p. 12.8



## 1/4 Multisocket - Stainless Steel

p. 12.11



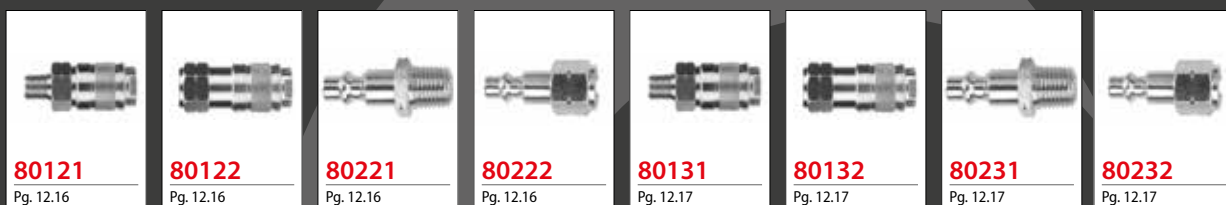
## AC Mini

p. 12.14



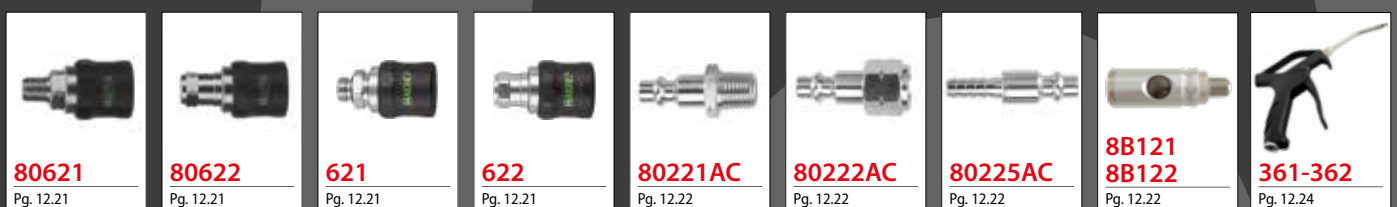
## Industrial

p. 12.16



## Safety Couplers - Blow Guns

p. 12.21





## QUICK DISCONNECT COUPLERS



# Quick Couplers



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

SILICON  
FREE



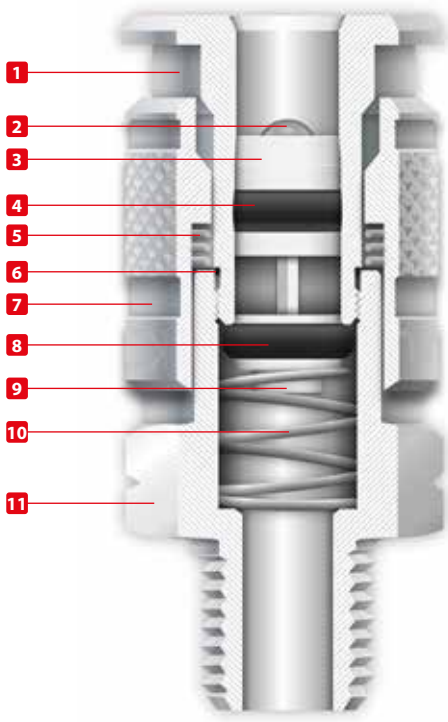
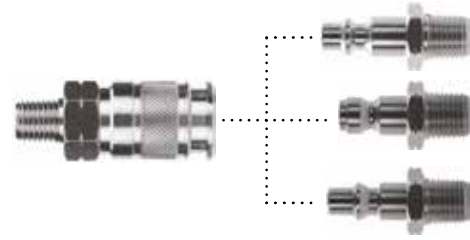
**MULTISOCKET**  
Universal quick disconnect

**One socket for 3 different plugs**

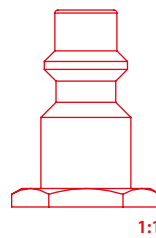
It's a fact that there are various Quick-Disconnect plugs available on the market today. In most cases, each plug needs a specific of coupler that is not interchangeable.

To get around this issue, Aignep is proud to offer to its customers a practical and cost-effective solution.

**MULTISOCKET** is a universal coupler that works with the 3 main types of QD plugs.

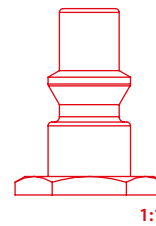


**1/4 INDUSTRIAL**



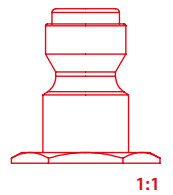
DN  
5.5 mm

**ARO**



DN  
5.5 mm

**TRU-FLATE**



DN  
5 mm



**Component Parts and Materials**

- 1 Nickel Plated Brass Body
- 2 420 Stainless Steel Ball
- 3 Nickel Plated Brass Guide Ring
- 4 NBR O-Ring Seal
- 5 302 Stainless Steel Ring Nut Spring
- 6 NBR O-Ring Seal
- 7 Nickel Plated Brass Sleeve
- 8 NBR O-Ring Seal
- 9 Nickel Plated Brass Shutter
- 10 302 Stainless Steel Shutter Spring
- 11 Nickel Plated Brass Coupler



**Pressure Rating**

0 ~ 232 PSI  
0 bar ~ 16 bar  
0 MPa ~ 1.6 MPa

**Maximum static pressure**

507 PSI  
35 bar  
3.5 MPa



**Temperatures**

**NBR**  
-4° F ~ 176° F  
-20° C ~ 80° C

**FKM on request**  
14° F ~ 392° F  
-10° C ~ 200° C



**Threads**

NPTF



**Media**

• Compressed air  
For other fluids, consult the technical department Aignep.



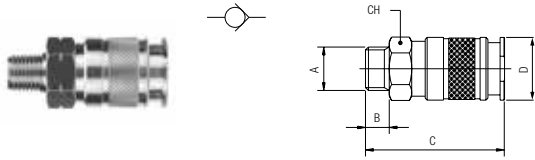
**Flow Rate**

**CFM (NI/min)**

Plug	87 psi	87 psi	87 psi
	Δ 14.5	Δ 7.2	Δ 0 (Exhaust Free)
<b>80220</b>	38.8 (1100)	28.25 (800)	52.97 (1500)
<b>80270</b>	45.9 (1300)	35.31 (1000)	58.27 (1650)
<b>80290</b>	22.95 (650)	16.95 (480)	38.8 (1100)

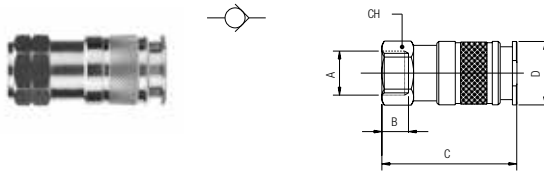
**1/4" MULTISOCKET**

**80191**  
1/4" MALE NPTF



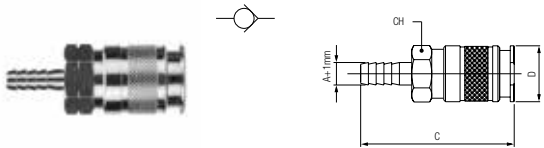
Part No.	A NPTF	B	C	D	CH
<b>80191-04</b>	<b>1/4</b>	.512 (13)	2.126 (54)	.945 (24)	.827 (21)
<b>80191-06</b>	<b>3/8</b>	.512 (13)	2.126 (54)	.945 (24)	.827 (21)
<b>80191-08</b>	<b>1/2</b>	.669 (17)	2.303 (58,5)	.945 (24)	.945 (24)

**80192**  
1/4" FEMALE NPTF



Part No.	A NPTF	B	C	D	CH
<b>80192-04</b>	<b>1/4</b>	.533 (13.5)	2.126 (54)	.945 (24)	.827 (21)
<b>80192-06</b>	<b>3/8</b>	.533 (13.5)	2.126 (54)	.945 (24)	.827 (21)
<b>80192-08</b>	<b>1/2</b>	.689 (17,5)	2.323 (59)	.945 (24)	.945 (24)

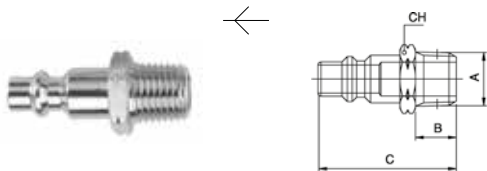
**80193**  
1/4" BARB



Part No.	A	C	D	CH
<b>80193-04</b>	<b>1/4</b>	2.382 (60,5)	.945 (24)	.827 (21)
<b>80193-06</b>	<b>3/8</b>	2.402 (61)	.945 (24)	.827 (21)
<b>80193-08</b>	<b>1/2</b>	2.402 (61)	.945 (24)	.866 (22)

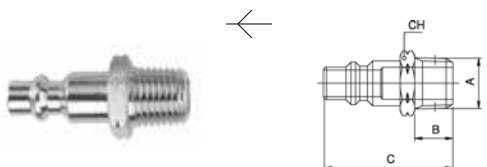
**1/4" INDUSTRIAL**

**80221**  
1/4" INDUSTRIAL MALE



Part No.	A NPTF	B	C	CH
<b>80221-04</b>	<b>1/4</b>	.512 (13)	1.634 (41,5)	.669 (17)
<b>80221-06</b>	<b>3/8</b>	.512 (13)	1.634 (41,5)	.748 (19)
<b>80221-08</b>	<b>1/2</b>	.669 (17)	1.811 (46)	.866 (22)

**80221AC**  
1/4" INDUSTRIAL MALE (STEEL)



Part No.	A NPTF	B	C	CH
<b>80221AC-04</b>	<b>1/4</b>	.512 (13)	1.634 (41,5)	.669 (17)
<b>80221AC-06</b>	<b>3/8</b>	.512 (13)	1.634 (41,5)	.748 (19)
<b>80221AC-08</b>	<b>1/2</b>	.669 (17)	1.811 (46)	.866 (22)

**HARDENED STEEL**

**80222**

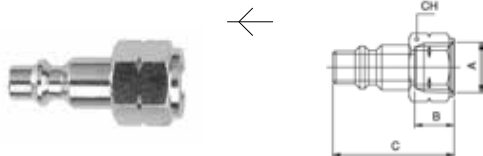
1/4" INDUSTRIAL FEMALE



Part No.	A NPTF	B	C	CH
80222-04	1/4	.531 (13,5)	1.535 (39)	.669 (17)
80222-06	3/8	.531 (13,5)	1.535 (39)	.787 (20)
80222-08	1/2	.689 (17,5)	1.693 (43)	.944 (24)

**80222AC**

1/4" INDUSTRIAL FEMALE (STEEL)

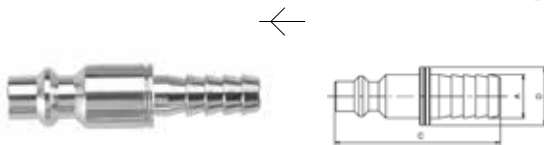


Part No.	A NPTF	B	C	CH
80222AC-04	1/4	.531 (13,5)	1.535 (39)	.669 (17)
80222AC-06	3/8	.531 (13,5)	1.535 (39)	.866 (22)
80222AC-08	1/2	.689 (17,5)	1.693 (43)	.944 (24)

**HARDENED STEEL**

**80223**

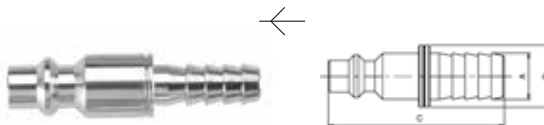
1/4" INDUSTRIAL BARB



Part No.	A	C	D
80223-04	1/4	1.713 (43,5)	.472 (12)
80223-08	1/2	1.811 (46)	.629 (16)

**80223AC**

1/4" INDUSTRIAL BARB (STEEL)



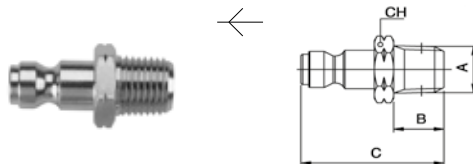
Part No.	A	C	D
80223AC-04	1/4	1.713 (43,5)	.472 (12)

**HARDENED STEEL**

**TRU FLATE**

**80291**

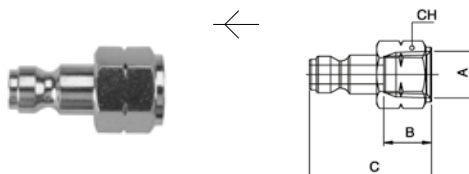
1/4" TRU-FLATE MALE



Part No.	A NPTF	B	C	CH
80291-04	1/4	.512 (13)	1.457 (37)	.669 (17)
80291-06	3/8	.512 (13)	1.457 (37)	.748 (19)
80291-08	1/2	.669 (17)	1.634 (41,5)	.866 (22)

**80292**

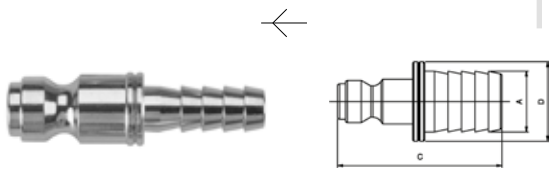
1/4" TRU-FLATE FEMALE



Part No.	A NPTF	B	C	CH
80292-04	1/4	.531 (13,5)	1.358 (34,5)	.669 (17)
80292-06	3/8	.531 (13,5)	1.358 (34,5)	.787 (17)
80292-08	1/2	.689 (17,5)	1.516 (38,5)	.945 (24)

**80293**

1/4" TRU-FLATE BARB

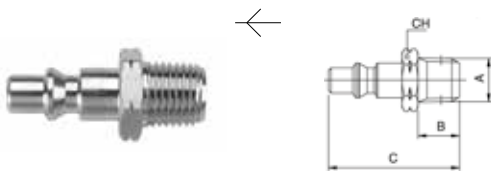


Part No.	A	B	D
80293-04	1/4	1.634 (41,5)	.472 (12)
80293-06	3/8	1.634 (41,5)	.551 (14)
80293-08	1/2	1.634 (41,5)	.787 (20)

**ARO**

**80271**

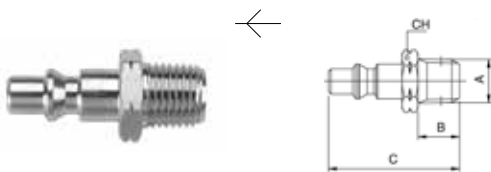
1/4" ARO MALE



Part No.	A NPTF	B	C	CH
80271-04	1/4	.511 (13)	1.574 (40)	.669 (17)
80271-06	3/8	.511 (13)	1.574 (40)	.748 (19)
80271-08	1/2	.669 (17)	1.771 (45)	.866 (22)

**80271AC**

1/4" ARO MALE (STEEL)

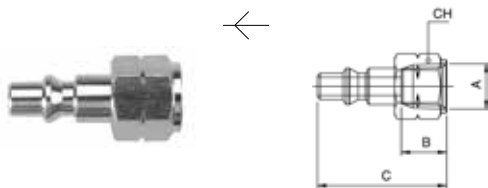


Part No.	A NPTF	B	C	CH
80271AC-04	1/4	.511 (13)	1.574 (40)	.669 (17)

**HARDENED STEEL**

**80272**

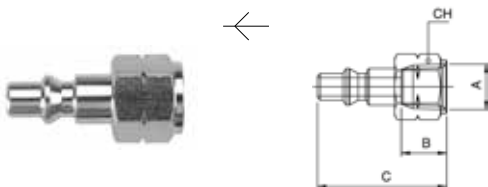
1/4" ARO FEMALE



Part No.	A NPTF	B	C	CH
80272-04	1/4	.531 (13,5)	1.496 (38)	.669 (17)
80272-06	3/8	.531 (13,5)	1.496 (38)	.787 (20)
80272-08	1/2	.689 (17,5)	1.653 (42)	.945 (24)

**80272AC**

1/4" ARO FEMALE (STEEL)

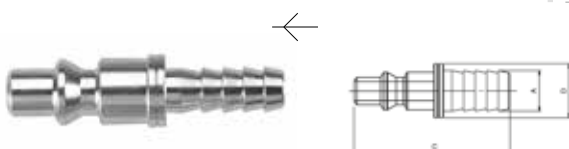


Part No.	A NPTF	C	D	CH
80272AC-04	1/4	.531 (13,5)	1.496 (38)	.669 (17)

**HARDENED STEEL**

**80273**

1/4" ARO BARB



Part No.	A	B	D
80273-04	1/4	1.673 (42,5)	.472 (12)
80273-08	1/2	1.791 (45,5)	.787 (20)



**TECHNICAL CHARACTERISTICS**



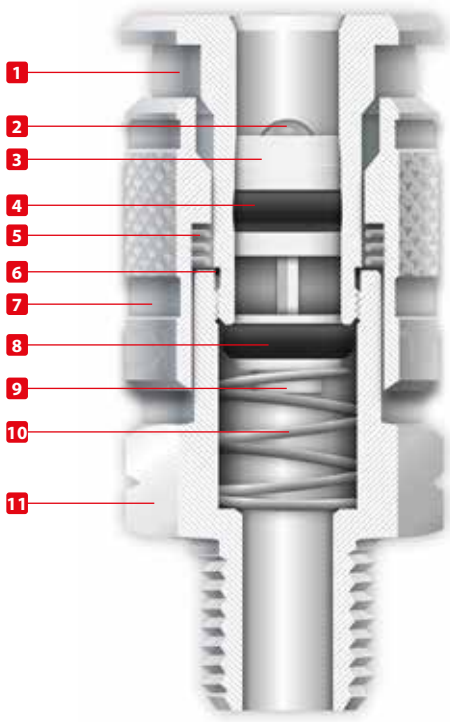
**MULTISOCKET**  
Universal quick disconnect

**One socket for 2 different plugs**

It's a fact that there are various Quick-Disconnect plugs available on the market today. In most cases, each plug needs a specific of coupler that is not interchangeable.

To get around this issue, Aignep is proud to offer to its customers a practical and cost-effective solution.

**MULTISOCKET** is a universal coupler that works with the 2 main types of QD plugs.



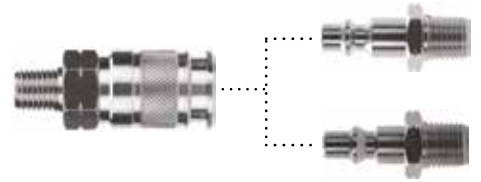
**Reference Standard**

1907/2006  
**REACH** ✓

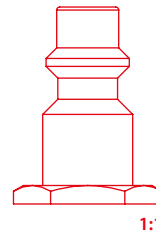
2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

SILICON  
FREE



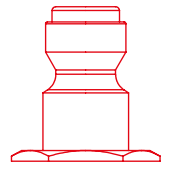
**3/8 INDUSTRIAL**



1:1

DN  
9 mm

**3/8 TRU-FLATE**



1:1

DN  
9 mm



**Component Parts and Materials**

- 1 Nickel Plated Brass Body
- 2 420 Stainless Steel Ball
- 3 Nickel Plated Brass Guide Ring
- 4 NBR O-Ring Seal
- 5 302 Stainless Steel Ring Nut Spring
- 6 NBR O-Ring Seal
- 7 Nickel Plated Brass Sleeve
- 8 NBR O-Ring Seal
- 9 Nickel Plated Brass Shutter
- 10 302 Stainless Steel Shutter Spring
- 11 Nickel Plated Brass Coupler



**Pressure Rating**

0 ~ 232 PSI  
0 bar ~ 16 bar  
0 MPa ~ 1.6 MPa

**Maximum static pressure**

507 PSI  
35 bar  
3.5 MPa



**Temperatures**

**NBR**  
-4° F ~ 176° F  
-20° C ~ 80° C

**FKM on request**  
14° F ~ 392° F  
-10° C ~ 200° C



**Threads**

NPTF



**Media**

• Compressed air  
For other fluids, consult the technical department Aignep.



**Flow Rate**

CFM (NI/min)

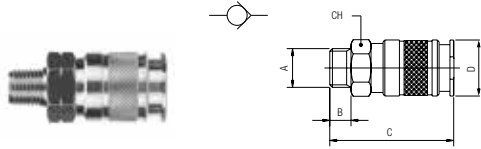
Plug	87 psi Δ 14.5	87 psi Δ 7.2	87 psi Δ 0 (Exhaust Free)
<b>80230</b>	88.2 (2500)	72.3 (2050)	116.5 (3300)
<b>80297</b>	88.2 (2500)	72.3 (2050)	116.5 (3300)

**3/8" MULTISOCKET**

**80194**  
3/8" MALE NPTF



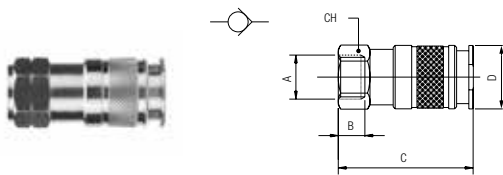
Part No.	A NPTF	B	C	D	CH
<b>80194-06</b>	<b>3/8</b>	.512 (13)	2.342 (59,5)	1.102 (28)	.945 (24)
<b>80194-08</b>	<b>1/2</b>	.669 (17)	2.500 (63,5)	1.102 (28)	.945 (24)



**80195**  
3/8" FEMALE NPTF



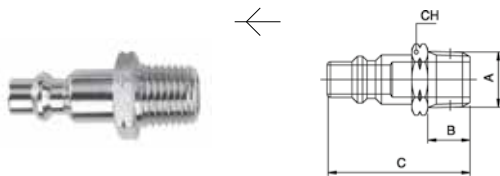
Part No.	A NPTF	B	C	D	CH
<b>80195-06</b>	<b>3/8</b>	.531 (13,5)	2.362 (60)	1.102 (28)	.945 (24)
<b>80195-08</b>	<b>1/2</b>	.689 (17,5)	2.520 (64)	1.102 (28)	.945 (24)



**3/8" INDUSTRIAL**

**80231**  
3/8" INDUSTRIAL MALE

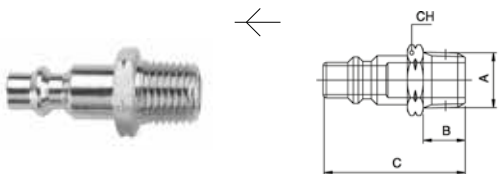
Part No.	A NPTF	B	C	CH
<b>80231-06</b>	<b>3/8</b>	.512 (13)	1.732 (44)	.748 (19)
<b>80231-08</b>	<b>1/2</b>	.669 (17)	1.909 (48,5)	.866 (22)



**80231AC**  
3/8" INDUSTRIAL MALE (STEEL)

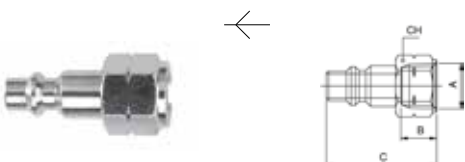
Part No.	A NPTF	B	C	CH
<b>80231AC-06</b>	<b>3/8</b>	.512 (13)	1.732 (44)	.748 (19)
<b>80231AC-08</b>	<b>1/2</b>	.669 (17)	1.909 (48,5)	.866 (22)

**HARDENED STEEL**



**80232**  
3/8" INDUSTRIAL FEMALE

Part No.	A NPTF	B	C	CH
<b>80232-06</b>	<b>3/8</b>	.531 (13,5)	1.634 (41,5)	.787 (20)
<b>80232-08</b>	<b>1/2</b>	.669 (17)	1.791 (45,5)	.866 (22)

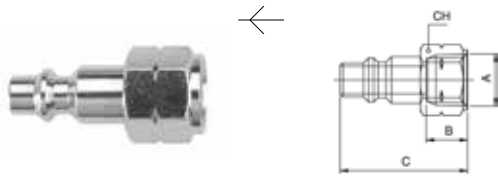


**80232AC**

3/8" INDUSTRIAL FEMALE (STEEL)

Part No.	A NPTF	B	C	CH
<b>80232AC-06</b>	<b>3/8</b>	.531 (13,5)	1.634 (41,5)	.787 (20)
<b>80232AC-08</b>	<b>1/2</b>	.689 (17,5)	1.791 (45,5)	.945 (24)

**HARDENED STEEL**

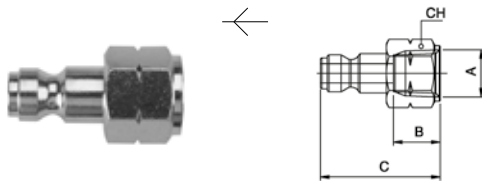


**3/8" TRU FLATE**

**80298**

3/8" TRU-FLATE FEMALE

Part No.	A NPTF	B	C	CH
<b>80298-06</b>	<b>3/8</b>	.531 (13,5)	1.654 (42)	.787 (20)
<b>80298-08</b>	<b>1/2</b>	.689 (17,5)	1.811 (46)	.866 (24)







### TECHNICAL CHARACTERISTICS



**MULTISOCKET**  
Universal quick disconnect



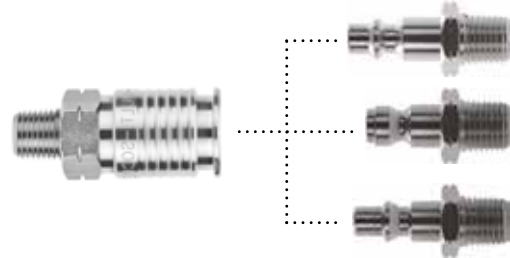
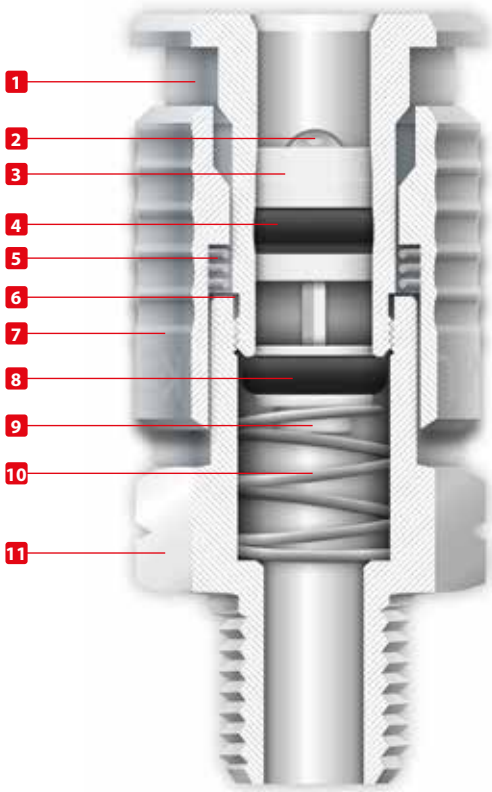
### Reference Standard

1907/2006  
REACH ✓

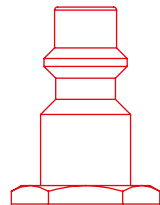
2011/65/CE  
RoHS ✓

PED  
2014/68/UE

SILICON  
FREE



#### 1/4 INDUSTRIAL

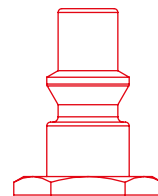


1:1

DN

5.5 mm

#### ARO

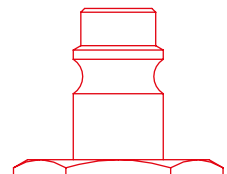


1:1

DN

5.5 mm

#### EUROPEAN



1:1

DN

7.8 mm



### Pressure Rating

0 PSI ~ 232 PSI  
0 bar ~ 16 bar  
0 MPa ~ 1.6 MPa

### Maximum static pressure

507 PSI  
35 bar  
3.5 MPa



### Component Parts and Materials

- 1 316 Stainless Steel Body
- 2 420 Stainless Steel Ball
- 3 316 Stainless Steel Guide Ring
- 4 FKM O-Ring Seal
- 5 302 Stainless Steel Ring Nut Spring
- 6 FKM O-Ring Seal
- 7 316 Stainless Steel Sleeve
- 8 FKM O-Ring Seal
- 9 316 Stainless Steel Shutter
- 10 302 Stainless Steel Shutter Spring
- 11 316 Stainless Steel Coupler



### Temperature Rating

FKM  
5° F ~ 392° F  
-15° C ~ 200° C



### Threads

**SWIFFIT**  
Universal thread

NPTF  
BSPP



### Media

- Compressed air
- Fluid for food and chemical industry compatible with all components.



### Flow Rate

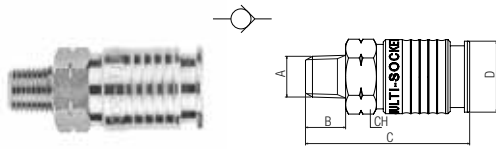
CFM (NI/min)

Plug	87 psi Δ 14.5	87 psi Δ 7.2	87 psi Δ 0 (Exhaust Free)
1/4 INDUSTRIAL	88.2 (2500)	72.3 (2050)	116.5 (3300)
EUROPEAN	53.32 (1510)	42.38 (1200)	79.45 (2250)

**1/4" MULTISOCKET STAINLESS STEEL**

**60191**

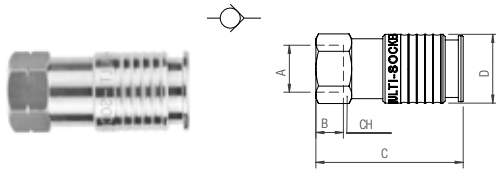
1/4" MALE NPTF 316L  
(STAINLESS)



Part No.	A NPTF	B	C	D	CH
<b>60191-04</b>	<b>1/4</b>	.511 (13)	2.086 (53)	.945 (24)	.827 (21)

**60192**

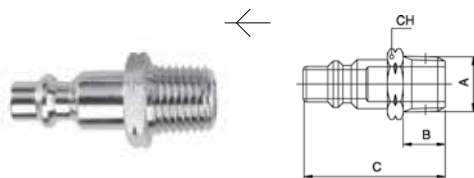
1/4" FEMALE NPTF 316L  
(STAINLESS)



Part No.	A NPTF	B	C	D	CH
<b>60192-04</b>	<b>1/4</b>	.533 (13,5)	2.066 (52,5)	.945 (24)	.827 (21)

**60221**

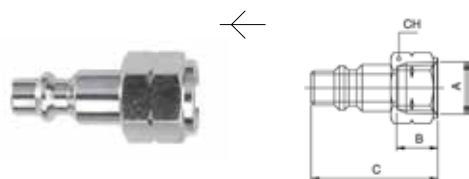
1/4 INDUSTRIAL MALE 316L (STAINLESS)



Part No.	A NPTF	B	C	CH
<b>60221-04</b>	<b>1/4</b>	.512 (13)	1.633 (41)	.669 (17)

**60222**

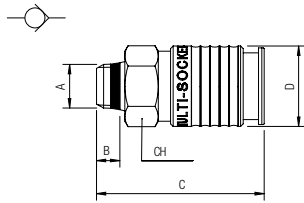
1/4 INDUSTRIAL FEMALE 316L (STAINLESS)



Part No.	A NPTF	B	C	CH
<b>60222-04</b>	<b>1/4</b>	.533 (13,5)	1.535 (39)	.669 (17)

**63190**

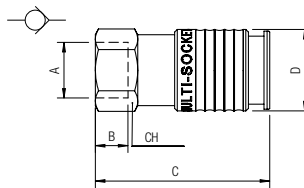
1/4" MALE 316L  
(STAINLESS)



Part No.	A	B	C	D	CH
<b>63190-04</b>	<b>1/4</b>	.276 (7)	1.969 (50)	.945 (24)	.827 (21)
<b>63190-06</b>	<b>3/8</b>	.295 (7,5)	1.988 (50,5)	.945 (24)	.827 (21)
<b>63190-08</b>	<b>1/2</b>	.354 (9)	2.047 (52)	.945 (24)	.827 (21)

**63192**

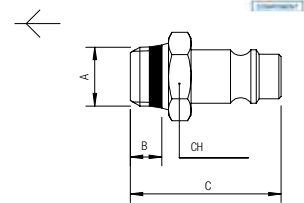
1/4" FEMALE 316L  
(STAINLESS)



Part No.	A BSPP	B	C	D	CH
<b>63192-04</b>	<b>1/4</b>	.433 (11)	2.028 (51,5)	.945 (24)	.827 (21)
<b>63192-06</b>	<b>3/8</b>	.453 (11,5)	2.047 (52)	.945 (24)	.827 (21)
<b>63192-08</b>	<b>1/2</b>	.591 (15)	2.224 (56,5)	.945 (24)	.945 (24)

**63260 DN 7.8**

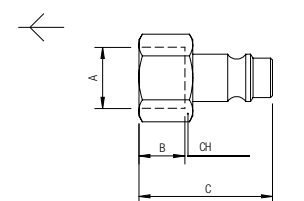
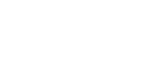
MALE PLUG  
EUROPEAN PROFILE



Part No.	A	B	C	CH
<b>63260-04</b>	<b>1/4</b>	.276 (7)	1.319 (33,5)	.669 (17)
<b>63260-06</b>	<b>3/8</b>	.295 (7,5)	1.339 (34)	.748 (19)
<b>63260-08</b>	<b>1/2</b>	.354 (9)	1.417 (36)	.945 (24)

**63262 DN 7.8**

FEMALE PLUG  
EUROPEAN PROFILE



Part No.	A BSPP	B	C	CH
<b>63262-04</b>	<b>1/4</b>	.433 (11)	1.299 (33)	.669 (17)
<b>63262-06</b>	<b>3/8</b>	.453 (11,5)	1.319 (33,5)	.748 (19)
<b>63262-08</b>	<b>1/2</b>	.591 (15)	1.457 (37)	.945 (24)



**TECHNICAL CHARACTERISTICS**



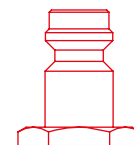
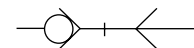
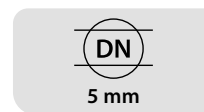
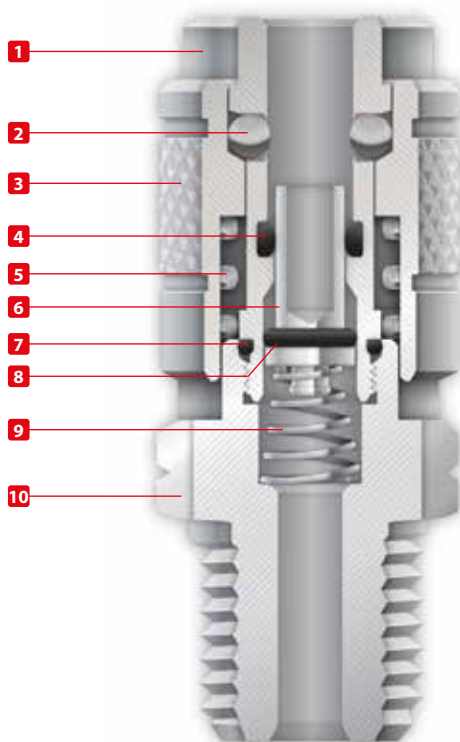
**Reference Standard**

1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

SILICON  
FREE



1:1



**Pressures**

0 PSI ~ 232 PSI  
0 bar ~ 16 bar  
0 MPa ~ 1.6 MPa

**Maximum static pressure**

507 PSI  
35 bar  
3.5 MPa



**Component Parts and Materials**

- 1 Nickel Plated Brass Body
- 2 420 Stainless Steel Ball
- 3 Nickel Plated Brass Sleeve
- 4 NBR O-Ring Seal
- 5 302 Stainless Steel Ring Nut Spring
- 6 Nickel Plated Brass Shutter
- 7 NBR O-Ring Seal
- 8 NBR O-Ring Seal
- 9 302 Stainless Steel Shutter Spring
- 10 Nickel Plated Brass Coupler



**Temperature Rating**

**NBR**  
-4° F ~ 176° F  
-20° C ~ 80° C

**FKM on request**  
14° F ~ 392° F  
-10° C ~ 200° C



**Threads**

NPTF



**Media**

• Compressed air  
For other fluids, consult the technical department Aignep.



**Flow Rate**

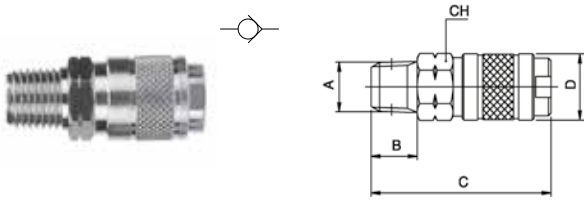
**CFM (NI/min)**

87 psi Δ 14.5	87 psi Δ 7.2	87 psi Δ 0 (Exhaust Free)
8.48 (240)	6.71 (190)	11.3 (320)

**80111**

AC MINI MALE

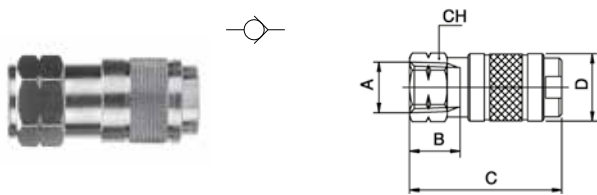
Part No.	A NPTF	B	C	D	CH
80111-02	1/8	.335 (8,5)	1.496 (38)	.709 (18)	.630 (16)
80111-04	1/4	.512 (13)	1.673 (42,5)	.709 (18)	.630 (16)
80111-06	3/8	.512 (13)	1.673 (42,5)	.709 (18)	.751 (19)



**80112**

AC MINI FEMALE

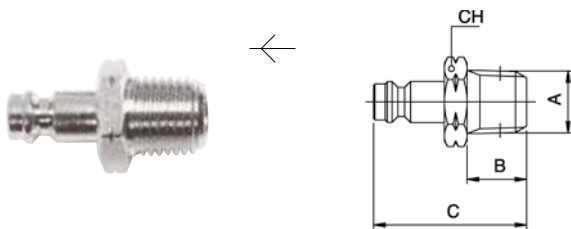
Part No.	A NPTF	B	C	D	CH
80112-02	1/8	.335 (8,5)	1.457 (37)	.709 (18)	.630 (16)
80112-04	1/4	.531 (13,5)	1.614 (41)	.709 (18)	.669 (17)
80112-06	3/8	.531 (13,5)	1.614 (41)	.709 (18)	.787 (20)



**80211**

AC MINI MALE PLUG

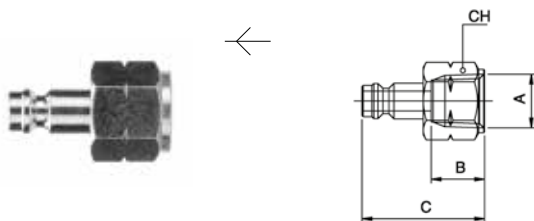
Part No.	A NPTF	B	C	CH
80211-02	1/8	.335 (8,5)	1.122 (28,5)	.551 (14)
80211-04	1/4	.512 (13)	1.319 (33,5)	.669 (17)
80211-06	3/8	.512 (13)	1.319 (33,5)	.748 (19)



**80212**

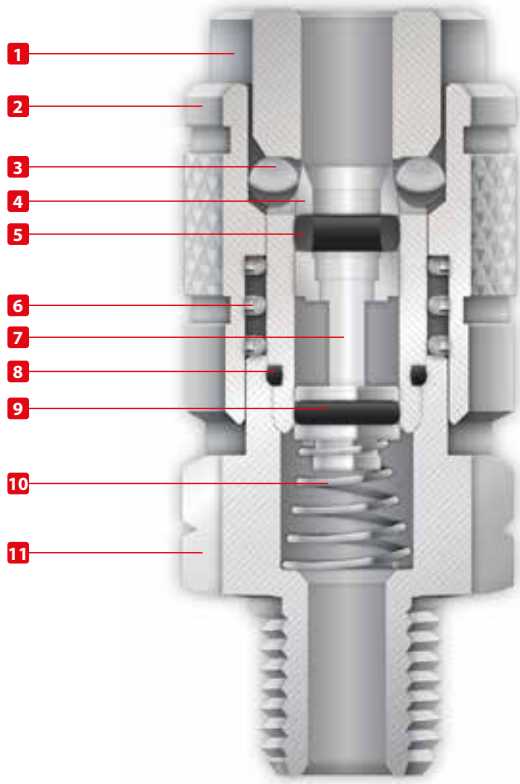
AC MINI FEMALE PLUG

Part No.	A NPTF	B	C	CH
80212-02	1/8	.374 (9,5)	1.063 (27)	.551 (14)
80212-04	1/4	.531 (13,5)	1.220 (31)	.669 (17)
80212-06	3/8	.531 (13,5)	1.220 (31)	.787 (20)





**TECHNICAL CHARACTERISTICS**



**Reference Standard**

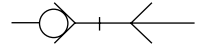
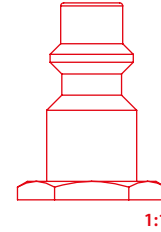
1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

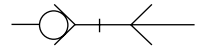
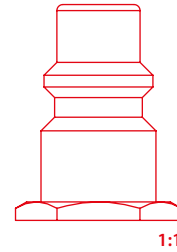
SILICON  
FREE

**1/4 INDUSTRIAL**



**DN**  
5.5 mm

**3/8 INDUSTRIAL**



**DN**  
9 mm



**Pressure Rating**

0 PSI ~ 232 PSI  
0 bar ~ 16 bar  
0 MPa ~ 1.6 MPa

**Maximum static pressure**

507 PSI  
35 bar  
3.5 MPa



**Component Parts and Materials**

- 1 Nickel Plated Brass Body
- 2 Nickel Plated Brass Sleeve
- 3 420 Stainless Steel Ball
- 4 Nickel Plated Brass Guide Ring
- 5 NBR O-Ring Seal
- 6 302 Stainless Steel Ring Nut Spring
- 7 Nickel Plated Brass Shutter
- 8 NBR O-Ring Seal
- 9 NBR O-Ring Seal
- 10 302 Stainless Steel Shutter Spring
- 11 Nickel Plated Brass Coupler



**Temperature Rating**

**NBR** : FKM *on request*  
-4° F ~ 176° F : 14° F ~ 392° F  
-20° C ~ 80° C : -10° C ~ 200° C



**Threads**

NPTF



**Media**

• Compressed air  
For other fluids, consult the technical department Aignep.



**Flow Rate**

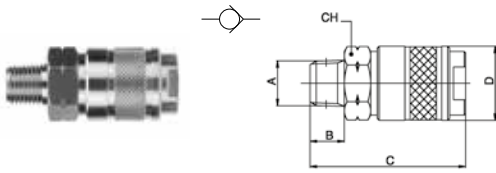
**CFM (NI/min)**

Plug	87 psi Δ 14.5	87 psi Δ 7.2	87 psi Δ 0 (Exhaust Free)
<b>1/4 IND.</b>	38.8 (1100)	28.25 (800)	52.97 (1500)
<b>3/8 IND.</b>	88.28 (2500)	72.39 (2050)	116.53 (3300)

**1/4" INDUSTRIAL INTERCHANGE**

**80121**

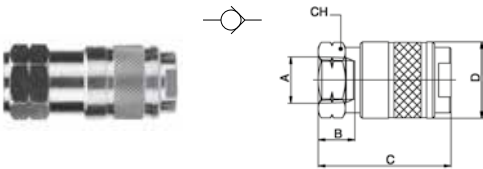
1/4" INDUSTRIAL MALE



Part No.	A NPTF	B	C	D	CH
<b>80121-04</b>	<b>1/4</b>	.512 (13)	2.224 (56,5)	.945 (24)	.827 (21)
<b>80121-06</b>	<b>3/8</b>	.512 (13)	2.224 (56,5)	.945 (24)	.827 (21)
<b>80121-08</b>	<b>1/2</b>	.669 (17)	2.402 (61)	.945 (24)	.945 (24)

**80122**

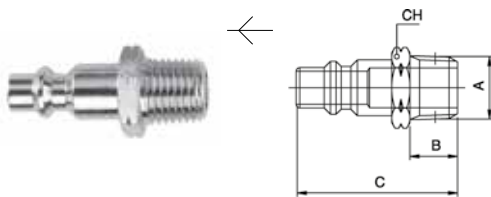
1/4" INDUSTRIAL FEMALE



Part No.	A NPTF	B	C	D	CH
<b>80122-04</b>	<b>1/4</b>	.531 (13,5)	2.205 (56)	.945 (24)	.827 (21)
<b>80122-06</b>	<b>3/8</b>	.531 (13,5)	2.205 (56)	.945 (24)	.827 (21)
<b>80122-08</b>	<b>1/2</b>	.689 (17,5)	2.421 (61,5)	.945 (24)	.945 (24)

**80221**

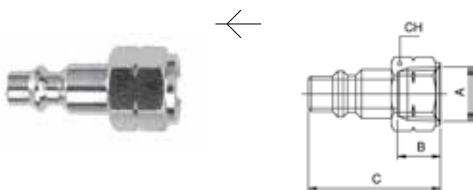
1/4" INDUSTRIAL MALE PLUG



Part No.	A NPTF	B	C	CH
<b>80221-04</b>	<b>1/4</b>	.512 (13)	1.634 (41,5)	.669 (17)
<b>80221-06</b>	<b>3/8</b>	.512 (13)	1.634 (41,5)	.748 (19)
<b>80221-08</b>	<b>1/2</b>	.669 (17)	1.811 (46)	.866 (22)

**80222**

1/4" INDUSTRIAL FEMALE PLUG

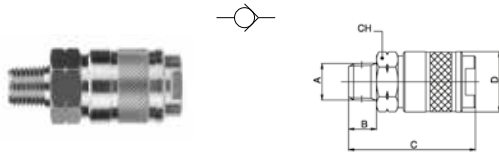


Part No.	A NPTF	B	C	CH
<b>80222-04</b>	<b>1/4</b>	.531 (13,5)	1.535 (39)	.669 (17)
<b>80222-06</b>	<b>3/8</b>	.531 (13,5)	1.535 (39)	.787 (20)
<b>80222-08</b>	<b>1/2</b>	.689 (17,5)	1.693 (43)	.944 (24)

**3/8" INDUSTRIAL INTERCHANGE**

**80131**

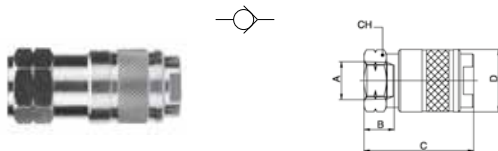
3/8" INDUSTRIAL MALE



Part No.	A NPTF	B	C	D	CH
<b>80131-06</b>	<b>3/8</b>	.512 (13)	2.362 (60)	1.102 (28)	.945 (24)
<b>80131-08</b>	<b>1/2</b>	.669 (17)	2.4802 (63)	1.102 (28)	.945 (24)

**80132**

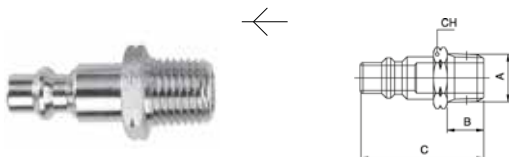
3/8" INDUSTRIAL FEMALE



Part No.	A NPTF	B	C	D	CH
<b>80132-06</b>	<b>3/8</b>	.531 (13,5)	2.343 (59,5)	1.102 (28)	.945 (24)
<b>80132-08</b>	<b>1/2</b>	.689 (17,5)	2.500 (63,5)	1.102 (28)	.945 (24)

**80231**

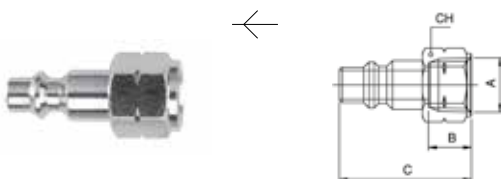
3/8" INDUSTRIAL MALE PLUG



Part No.	A NPTF	B	C	CH
<b>80231-06</b>	<b>3/8</b>	.512 (13)	1.732 (44)	.748 (19)
<b>80231-08</b>	<b>1/2</b>	.669 (17)	1.909 (48,5)	.866 (22)

**80232**

3/8" INDUSTRIAL FEMALE PLUG



Part No.	A NPTF	B	C	CH
<b>80232-06</b>	<b>3/8</b>	.531 (13,5)	1.634 (41,5)	.787 (20)
<b>80232-08</b>	<b>1/2</b>	.689 (17,5)	1.791 (45,5)	.945 (24)



**1/4" Basic size: Industrial**

AIGNEP	MILTON	AMFLO	ARO	COIL HOSE	DIXON	NAPA	PARKER	FOSTER	TOMCO
80192-04	715	C20-AU	MSCF22-000	150	DC20	90-670	B23	2803	M184
80191-04	716	C21	MSCM22-000	152	DC21	90-672	B22	2903	M181
80193-04	717	C20-42	MSCH22-000	153	DC2042	90-671	B20-3B	3603	M186
80193-06	717-6	C20-44	MSCH23-000		DC2044			3703	M187
80192-06	718	C20-23	MSCF23-000	151	DC2023	90-667	B23E	3203	M185
80191-06	719	C21-03	MSCM23-000	155	DC2103	90-657	B22E	3303	M182
80221-04	727	CP21	23902-210	1501	DCP21	90-674	H2C	10-3	1804
80222-04	728	CP20	23902-200	1502	DCP2021	90-676	H3C	11-3	1805
80222-06	732	CP20-23	23902-300	1505	DCP2023	90-659	H3C-E	15-3	1807
80221-06	733	CP21-03	23902-310	1503	DCP2103	90-677	H2C-E	14-3	1806
80223-04	736	CP21-42	23902-220	1506	DCP2142	90-673	H8C	16-3	1824
80223-06	736-6	CP21-44	23902-420	1508	DCP2144		H9C	17-3	1826
80192-04	745								UC2-16
80191-04	746								UC2-15
80192-04	755	C40B	MSCF22-X00		DCB20	90-615	B33		
80191-04	756	C41B	MSCM22-X00		DCB21	90-617	B32		
80193-04	1717-4	C20-42L	MSCP22-000				B20-3BP		
80193-06	1717-6	C20-44L	MSCP23-000				B20-5BP		

**1/4" Basic size: ARO**

AIGNEP	MILTON	AMFLO	ARO	COIL HOSE	DIXON	NAPA	PARKER	FOSTER	TOMCO
80192-04	775	C38,C46	210	140	DC38	90-613	B53	210-3303	A100
80191-04	776	C37,C45	210-212		DC37		B50	210-3103	A101
80193-04	776-4	C38-42	210-022		DC3842	90-679	B50-3BP	210-3603	A104
80193-06	776-6	C38-44	210-215		DC3844		B50-5BP	210-3703	A105
80271-04	777	CP37	2608	1401	DCP37	90-618	A2C	210-10	200
80273-04	777-4	CP37-42	3946	1406	DCP3742		A8C	210-16	400
80273-06	777-6	CP37-44	22238		DCP3744			210-17	500
80272-04	778	CP38	2609	1402	DCP38	90-620	A3C	210-11	300

**1/4" Basic size: TRU-FLATE**

AIGNEP	MILTON	AMFLO	ARO	COIL HOSE	DIXON	NAPA	PARKER	FOSTER	TOMCO
80291-04	783	CP1	TFPM22-000	1601	DCP1	90-628	2C	TF10	2154
80293-04	783-4	CP1-42	TFPH22-000	1606	DCP142	90-630	8C	TF16	2164
80293-06	783-6	CP1-44	TFPH23-000	1608	DCP143	90-626	9C	TF17	2166
80292-04	784	CP2	TFPH22-000	1602	DCP2	90-600	3C	TF11	2155
80192-04	785	C2	TFCF22-000	160	DC2	90-610	B13	TF3003	A2184
80191-04	786	C1	TFCM22-000	162	DC1	90-607	B12	TF3103	A2181
80193-04	786-4	C2-42	TFCH22-000	163	DC242	90-611	B10-3B	TF3603	A2186
80193-06	786-6	C2-44	TFCH23-000	166	DC244	90-609	B10-5B	TF3703	A2188
80192-06	788	C2-23	TFCF23-000					TF3203	A2185
80191-06	789	C1-03	TFCM23-000		DC103			TF3303	A2182

**3/8" Basic size: Industrial**

AIGNEP	MILTON	AMFLO	ARO	COIL HOSE	DIXON	NAPA	PARKER	FOSTER	TOMCO
80195-06	1835	C26	MSCF33-000	580	DC26	90-680	25	4204	T420
80194-06	1836	C25	MSCM33-000	581	DC25	90-682	24	4304	T430
80195-08									T440
80194-08									T450
80231-06	1837	CP25	23903-310	5801	DCP25	90-683	H2E	42-4	T42
80232-06	1838	CP26	23903-300	5802	DCP26	90-681	H3E	43-4	T43
80231-08									T44
80232-08									T45

**3/8" Basic size: TRU-FLATE**

AIGNEP	MILTON	AMFLO	ARO	COIL HOSE	DIXON	NAPA	PARKER	FOSTER	TOMCO
80195-06	1805	C6	TFCF33-000	590	DC6	90-654	15	5005	PT420
80194-06	1806	C5	TFCM33-000	591	DC5	90-656	14	5105	PT430
80281-06	1807	CP5	TFPM33-000	5901	DCP5	90-658	2E	TF42	PT42
80282-06	1808	CP6	TFPF33-000	5902	DCP6	90-660	3E	TF43	PT43

# Safety Couplers

## QUICK DISCONNECT SAFETY COUPLERS





**TECHNICAL CHARACTERISTICS**



**Reference Standard**

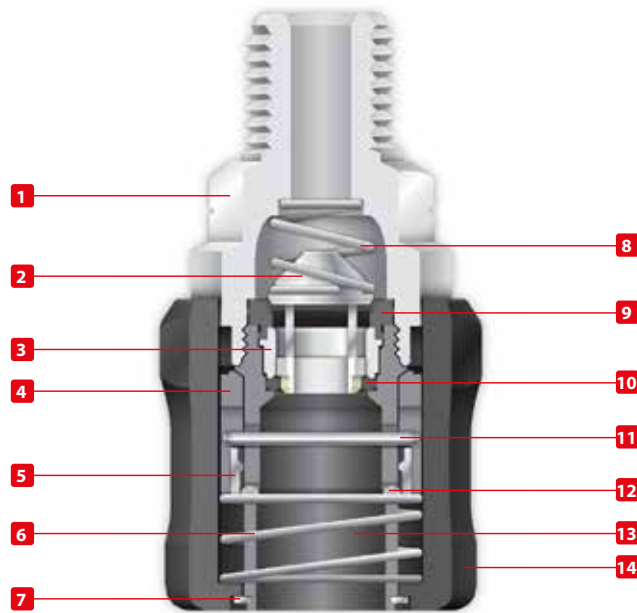
1907/2006  
REACH ✓

2011/65/CE  
ROHS ✓

PED  
2014/68/UE

SILICON  
FREE

ISO  
4414



**Pressure Rating**

Vacuum ~ 217 PSI  
-0.99 bar ~ 15 bar  
-0.099 MPa ~ 1.5 MPa



**Temperature Rating**

-4° F ~ 176° F  
-20° C ~ 80° C



**Media**

• Compressed air



**Threads**

Parallel gas in conformity with ISO 228 Class A



**Component Parts and Materials**

- 1 Nickel Plated Brass Coupler
- 2 Nickel Plated Brass Shutter
- 3 Nickel Plated Brass Ring
- 4 Nylon Trailing Pin Ring
- 5 Stainless Steel Restraining Ball Ring
- 6 Stainless Steel Spring
- 7 Stainless Steel Shaft Clip
- 8 Stainless Steel Shutter Spring
- 9 NBR O-Ring Seal
- 10 NBR O-Ring Seal
- 11 Stainless Steel Pin
- 12 Stainless Steel Ball
- 13 Nylon Body
- 14 Nylon Sleeve

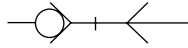


**Flow Rate**

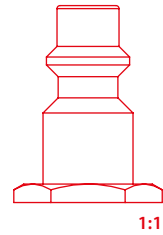
**CFM (NI/min)**

Part No.	87 psi Δ 14.5	87 psi Δ 7.2	87 psi Δ 0 (Exhaust Free)
<b>80220AC</b>	33.55 (950)	24.72 (700)	49.44 (1400)

**SAFETY COUPLERS**

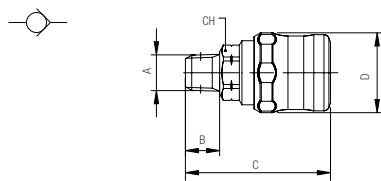


**1/4 INDUSTRIAL**



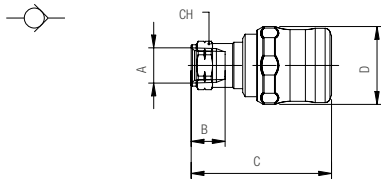
**80621**  
MALE SAFETY COUPLER

Part No.	A NPTF	B	C	D	CH
80621-04	1/4	.512 (13)	2.173 (55)	1.200 (30,5)	.748 (19)
80621-06	3/8	.512 (13)	2.173 (55)	1.200 (30,5)	.748 (19)
80621-08	1/2	.669 (17)	2.322 (59)	1.200 (30,5)	.866 (22)



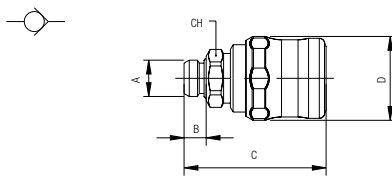
**80622**  
FEMALE SAFETY COUPLER

Part No.	A NPTF	B	C	D	CH
80622-04	1/4	.531 (13,5)	2.165 (55)	1.200 (30,5)	.669 (17)
80622-06	3/8	.531 (13,5)	2.146 (54,5)	1.200 (30,5)	.787 (20)
80622-08	1/2	.689 (17,5)	2.323 (59)	1.200 (30,5)	.945 (24)



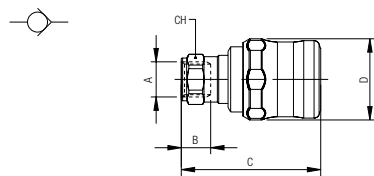
**621**  
MALE SAFETY COUPLER

Part No.	A BSPP	B	C	L	CH
621-04	1/4	.512 (13)	2.173 (55)	1.200 (30,5)	.748 (19)
621-06	3/8	.512 (13)	2.173 (55)	1.200 (30,5)	.787 (20)
621-08	1/2	.512 (13)	2.173 (55)	1.200 (30,5)	.984 (25)



**622**  
FEMALE SAFETY COUPLER

Part No.	A BSPP	B	C	L	CH
622-04	1/4	.531 (13,5)	2.165 (55)	1.200 (30,5)	.669 (17)
622-06	3/8	.531 (13,5)	2.146 (54,5)	1.200 (30,5)	.787 (20)
622-08	1/2	.689 (17,5)	2.323 (59)	1.200 (30,5)	.945 (24)



**80221AC**

1/4 INDUSTRIAL MALE (STEEL)

Part No.	A NPTF	B	C	CH
80221AC-04	1/4	.512 (13)	1.634 (41,5)	.669 (17)
80221AC-06	3/8	.512 (13)	1.634 (41,5)	.748 (19)
80221AC-08	1/2	.669 (17)	1.811 (46)	.866 (22)

**HARDENED STEEL**



**80222AC**

1/4 INDUSTRIAL FEMALE (STEEL)

Part No.	A NPTF	B	C	CH
80222AC-04	1/4	.531 (13,5)	1.535 (39)	.669 (17)
80222AC-06	3/8	.531 (13,5)	1.535 (39)	.866 (22)
80222AC-08	1/2	.689 (17,5)	1.693 (43)	.944 (24)

**HARDENED STEEL**

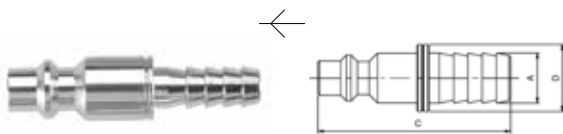


**80223AC**

1/4" INDUSTRIAL BARB (STEEL)

Part No.	A	C	D
80223AC-04	1/4	1.713 (43,5)	.472 (12)

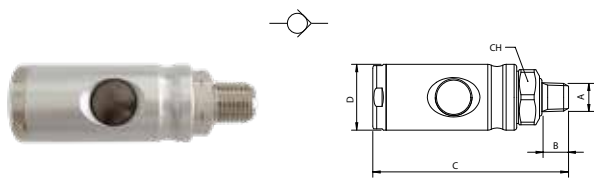
**HARDENED STEEL**



**8B121**

SAFETY INDUSTRIAL MALE SWIFTFIT

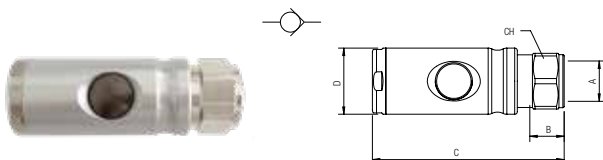
Part No.	A NPTF	B	C	D	CH
8B121-04	1/4 - 18	.512 (13)	3.011 (76,5)	.984 (25)	.827 (21)
8B121-06	3/8 - 18	.512 (13)	3.011 (76,5)	.984 (25)	.827 (21)
8B121-08	1/2 - 14	.669 (17)	3.250 (82,5)	.984 (25)	.984 (25)



**8B122**

SAFETY INDUSTRIAL FEMALE SWIFTFIT

Part No.	A NPTF	B	C	D	CH
8B122-04	1/4 - 18	.531 (13,5)	2.930 (74,5)	.984 (25)	.827 (21)
8B122-06	3/8 - 18	.531 (13,5)	2.910 (74)	.984 (25)	.827 (21)
8B122-08	1/2 - 14	.689 (17,5)	3.110 (79)	.984 (25)	.944 (24)



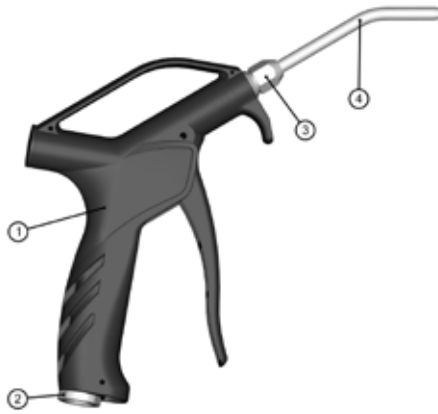
# 360 Series

## BLOW GUNS





**TECHNICAL CHARACTERISTICS**



**Media**

- Compressed Air
- Water

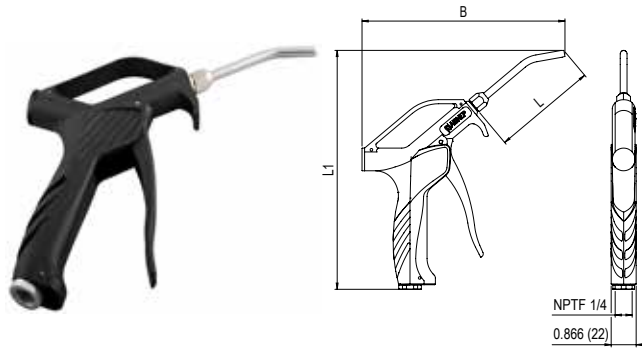


**Component Parts and Materials**

- 1 Technopolymer Body
- 2 Nickel-plated Brass Back Connection
- 3 Nickel-plated Brass Locking Nut
- 4 Stainless Steel AISI 304 Nozzle

**361**

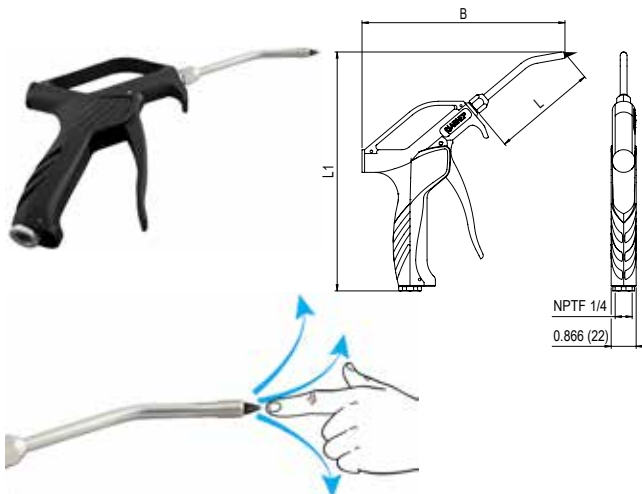
BLOW GUN WITH STAINLESS STEEL PIPE



Code	L	L1	B
WB361 00 001	90	8.287 (210,5)	7.047 (179)
		<b>min</b>	<b>max</b>
<b>Temperature</b>		- 10 °C (14 F)	+ 80 °C (176 F)
<b>Pressure</b>		12 bar (174 Psi) (1.2 MPa)	
<b>433 NI/min @ 6 bar (87 Psi) - 533 NI/min @ 8 bar (116 Psi)</b>			
<b>LAeq 89 dBA @ 6 bar (87 Psi)</b>			
<b>LAeq 90 dBA @ 8 bar (116 Psi)</b>			
<b>Force on handle</b>		19,8 N @ 6 bar (87 Psi)	
<b>Blowing force</b>		3,7 N @ 6 bar (87 Psi)	
<b>2003/10/CE</b>		Max 85 dBA	3 hr @ 6 bar (87 Psi) 3 hr @ 8 bar (116 Psi)
<b>OSHA 1910.95 (b)</b>		Max 90 dB 8 hr (116 Psi)	

**362**

BLOW GUN WITH STAINLESS STEEL PIPE



Code	L	L1	B
WB362 00 001	90	8.287 (210,5)	7.303 (185,5)
		<b>min</b>	<b>max</b>
<b>Temperature</b>		- 10 °C (14 F)	+ 80 °C (176 F)
<b>Pressure</b>		12 bar (174 Psi) (1.2 MPa)	
<b>383 NI/min @ 6 bar (87 Psi) - 500 NI/min @ 8 bar (116 Psi)</b>			
<b>LAeq 78 dBA @ 6 bar (87 Psi)</b>			
<b>LAeq 84 dBA @ 8 bar (116 Psi)</b>			
<b>Force on handle</b>		19,8 N @ 6 bar (87 Psi)	
<b>Blowing force</b>		3,4 N @ 6 bar (87 Psi)	
<b>2003/10/CE</b>		Max 85 dBA	8 hr @ 6 bar (87 Psi) 6 hr @ 8 bar (116 Psi)
<b>OSHA 1910.95 (b)</b>		Max 90 dB 8 hr	
<b>OSHA 1910.242 (b)</b>		Max 2,1 bar (30 Psi) when blocked	

# Valves

## Solenoid Pilot Valves



**01V**  
Pg. 13.4

## Externally Piloted Solenoid Valves



**01V - X1V**  
Pg. 13.10

## Air Pilot Valves



**01V**  
Pg. 13.24

## Manual Valves



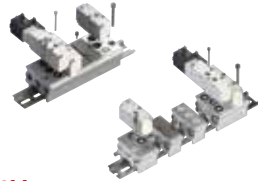
**01V - X1V**  
Pg. 13.30

## Mechanically Actuated Valves



**01V**  
Pg. 13.40

## Din Rail Mounted, Fixed Length and Modular Manifold Bases



**01V**  
Pg. 13.43

## Micro Valves



**02V**  
Pg. 13.49

## 16 mm Valves



**03V**  
Pg. 13.52

## Micro Valves, Panel Mounted



**04V**  
Pg. 13.56

## Individual and Manifold Base Mounted Valves



**05V**  
Pg. 13.59

## Pedal Valves



**06V**  
Pg. 13.67

## Solenoid Valves



**07V**  
Pg. 13.69

## Miniature Solenoid Valves 10 mm



**07V**  
Pg. 13.71

## Miniature Solenoid Valves 15 mm



**07V**  
Pg. 13.73

## NAMUR Standard Valves



**08V**  
Pg. 13.77

## Valves ISO 5599 - Size 1



**10V**  
Pg. 13.84

## Valves ISO 5599 - Size 2



**11V**  
Pg. 13.88

## Solenoids and Connectors



Pg. 13.20 - Pg. 13.23



MANUAL, MECHANICAL, AIR PILOT AND SOLENOID PILOT VALVES



**Valves**

**INLINE VALVES**



**SOLENOID PILOT VALVES**

**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006 REACH ✓
- 2011/65/CE RoHS ✓
- PED 2014/68/UE
- ATEX 2014/34/UE

**Component Parts and Materials**

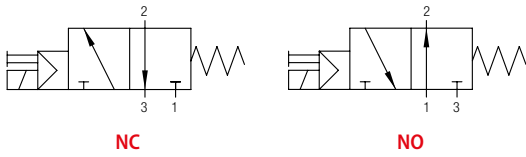
- Anodised and painted aluminium body
- Chemical nickel-plated spool
- NBR seals

		1/8	1/4	3/8	1/2
	THREADED	G 1/8 NPTF 1/8	G 1/4 NPTF 1/4	G 3/8 NPTF 3/8	G 1/2 NPTF 1/2
	6 bar FLOW RATE with Δp 1 bar	740 NI/min	1200 NI/min	2000 NI/min	5000 NI/min
	OPERATING PRESSURE	Monostable		2 ÷ 10 bar 29 ÷ 145 psi	
		Bistable		1 ÷ 10 bar 14.5 ÷ 145 psi	
	TEMPERATURE	min		-10 °C 14 °F	
		max		+60 °C 140 °F	
	SOLENOID VOLTAGE	24V DC - 12V DC - 24V AC - 110V AC - 220V AC			
	MINIMUM POWER	2W - 3VA			
	MANUAL CONTROL	BISTABLE			
	TORQUE OF TIGHTENING THE NUT SOLENOID	0.6 Nm			

Series	Actuation	Reactuation	Function	Size	Thread	
<b>0 1 V</b>	<b>S</b> S = Solenoid	<b>0</b> 0 = Monostable spring return 1 = Bistable	<b>3</b> 3 = 3/2 5 = 5/2 7 = 5/3	<b>NC</b> NO = Normally open NC = Normally closed CC = All Ports Blocked OC = Cylinder Ports Open to Exhaust PC = Cylinder Ports Pressurized 00 = Function not provided	<b>0 2</b> 02 = 1/8 03 = 1/4 04 = 3/8 05 = 1/2	<b>G</b> N = NPTF

**3/2**

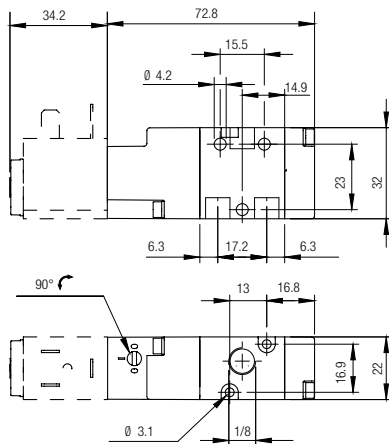
**SINGLE SOLENOID PILOT - SPRING RETURN**



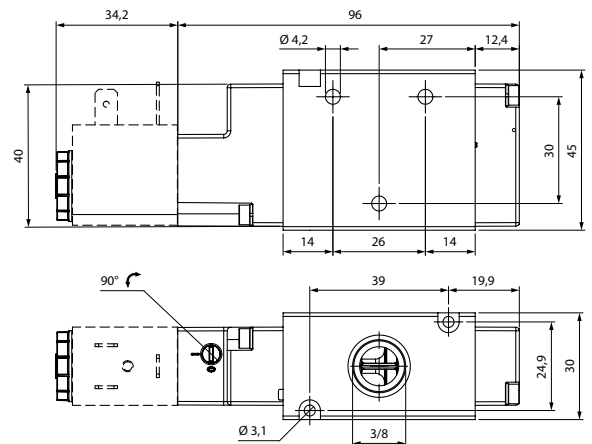
Part No.	Function	Size	Pack.
<b>01V S0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	1
<b>01V S0 3 NC 03</b>	3/2 <b>NC</b>	G 1/4	1
<b>01V S0 3 NC 05</b>	3/2 <b>NC</b>	G 1/2	1
<b>01V S0 3 NO 02</b>	3/2 <b>NO</b>	G 1/8	1
<b>01V S0 3 NO 03</b>	3/2 <b>NO</b>	G 1/4	1
<b>01V S0 3 NO 05</b>	3/2 <b>NO</b>	G 1/2	1

Part No.	Function	Size	Pack.
<b>01V S0 3 NC 02 N</b>	3/2 <b>NC</b>	NPTF 1/8	1
<b>01V S0 3 NC 03 N</b>	3/2 <b>NC</b>	NPTF 1/4	1
<b>01V S0 3 NC 04 N</b>	3/2 <b>NC</b>	NPTF 3/8	1
<b>01V S0 3 NC 05 N</b>	3/2 <b>NC</b>	NPTF 1/2	1
<b>01V S0 3 NO 02 N</b>	3/2 <b>NO</b>	NPTF 1/8	1
<b>01V S0 3 NO 03 N</b>	3/2 <b>NO</b>	NPTF 1/4	1
<b>01V S0 3 NO 04 N</b>	3/2 <b>NO</b>	NPTF 3/8	1
<b>01V S0 3 NO 05 N</b>	3/2 <b>NO</b>	NPTF 1/2	1

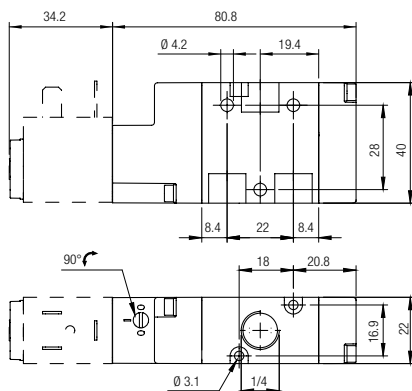
**G 1/8 - NPTF 1/8**



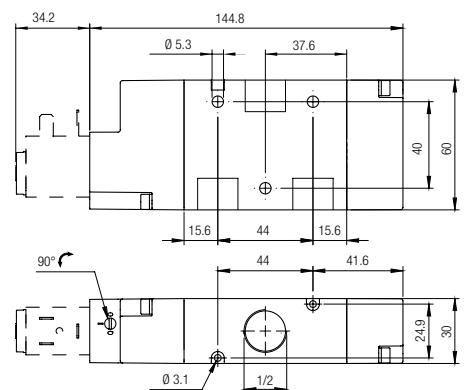
**NPTF 3/8**



**G 1/4 - NPTF 1/4**

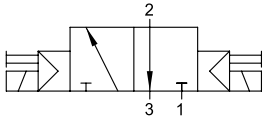


**G 1/2 - NPTF 1/2**



**3/2**

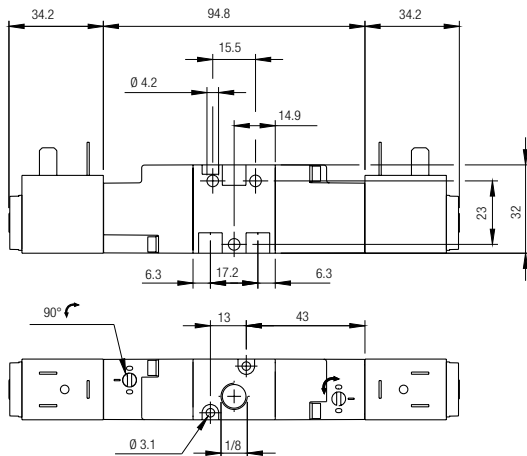
**DOUBLE SOLENOID PILOT**



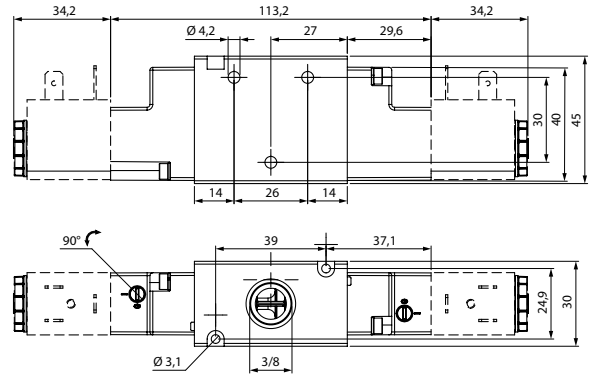
Part No.	Function	Size	Pack.
01V S1 3 00 02	3/2	G 1/8	1
01V S1 3 00 03	3/2	G 1/4	1
01V S1 3 00 05	3/2	G 1/2	1

Part No.	Function	Size	Pack.
01V S1 3 00 02 N	3/2	NPTF 1/8	1
01V S1 3 00 03 N	3/2	NPTF 1/4	1
01V S1 3 00 04 N	3/2	NPTF 3/8	1
01V S1 3 00 05 N	3/2	NPTF 1/2	1

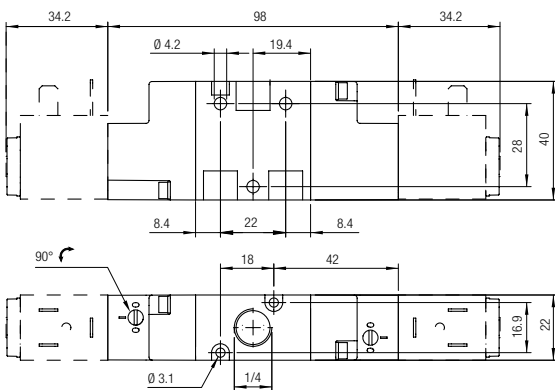
**G 1/8 - NPTF 1/8**



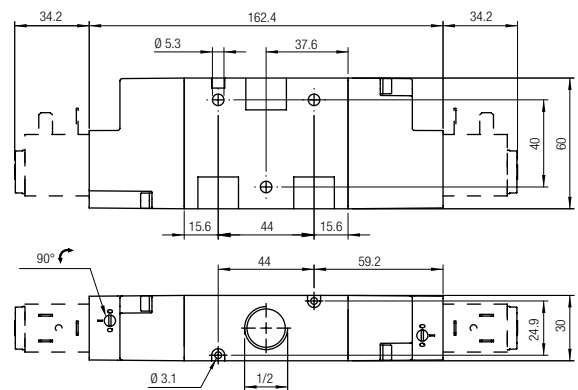
**NPTF 3/8**



**G 1/4 - NPTF 1/4**

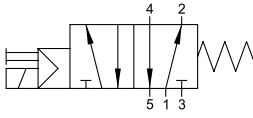


**G 1/2 - NPTF 1/2**



**5/2**

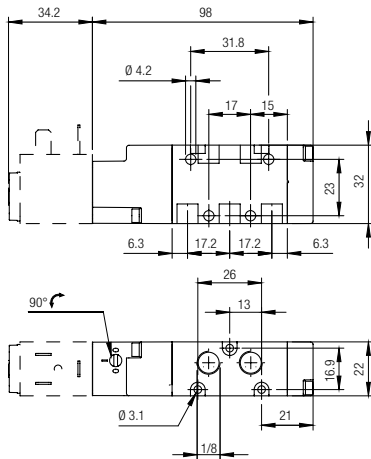
**SINGLE SOLENOID PILOT - SPRING RETURN**



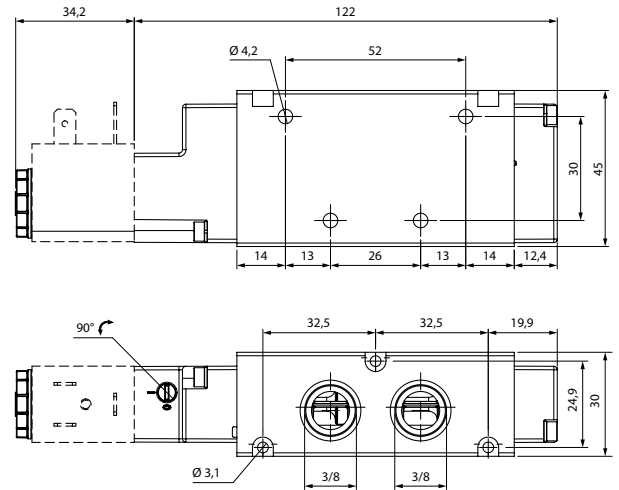
Part No.	Function	Size	Pack.
<b>01V SO 5 00 02</b>	5/2	G 1/8	1
<b>01V SO 5 00 03</b>	5/2	G 1/4	1
<b>01V SO 5 00 05</b>	5/2	G 1/2	1

Part No.	Function	Size	Pack.
<b>01V SO 5 00 02 N</b>	5/2	NPTF 1/8	1
<b>01V SO 5 00 03 N</b>	5/2	NPTF 1/4	1
<b>01V SO 5 00 04 N</b>	5/2	NPTF 3/8	1
<b>01V SO 5 00 05 N</b>	5/2	NPTF 1/2	1

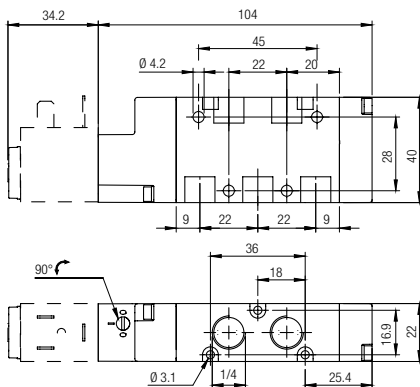
**G 1/8 - NPTF 1/8**



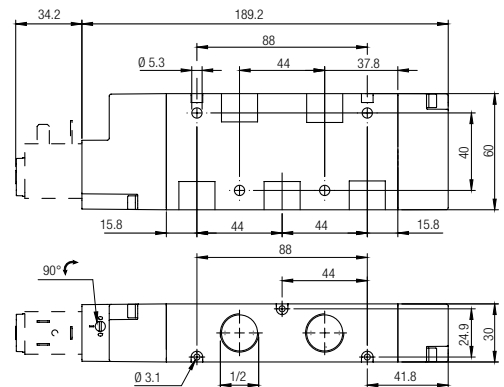
**NPTF 3/8**



**G 1/4 - NPTF 1/4**

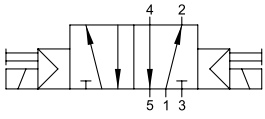


**G 1/2 - NPTF 1/2**



**5/2**

**DOUBLE SOLENOID PILOT**

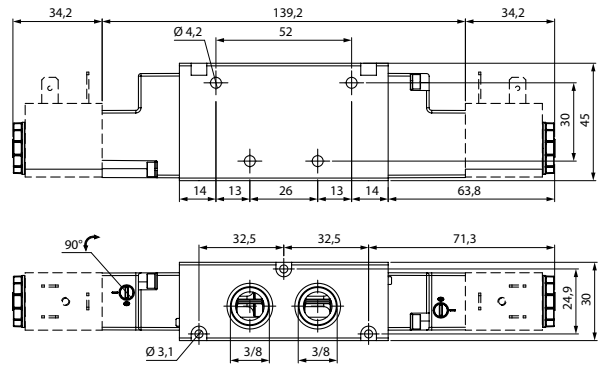
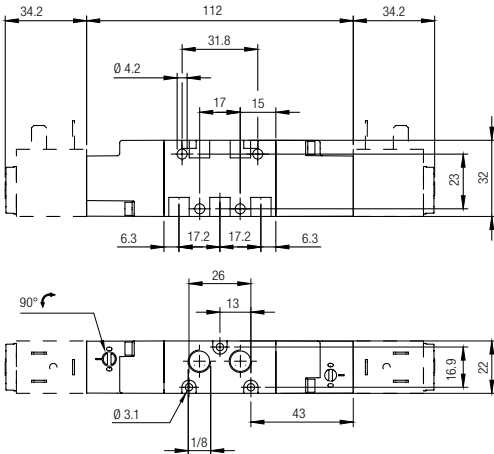


Part No.	Function	Size	Pack.
01V S1 5 00 02	5/2	G 1/8	1
01V S1 5 00 03	5/2	G 1/4	1
01V S1 5 00 05	5/2	G 1/2	1

Part No.	Function	Size	Pack.
01V S1 5 00 02 N	5/2	NPTF 1/8	1
01V S1 5 00 03 N	5/2	NPTF 1/4	1
01V S1 5 00 04 N	5/2	NPTF 1/2	1
01V S1 5 00 05 N	5/2	NPTF 1/2	1

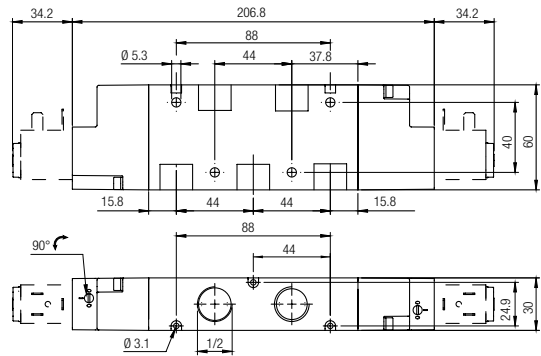
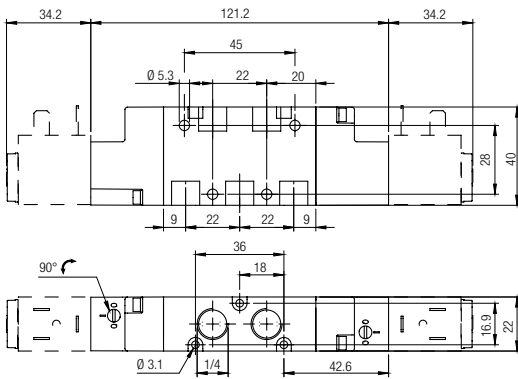
**G 1/8 - NPTF 1/8**

**NPTF 3/8**



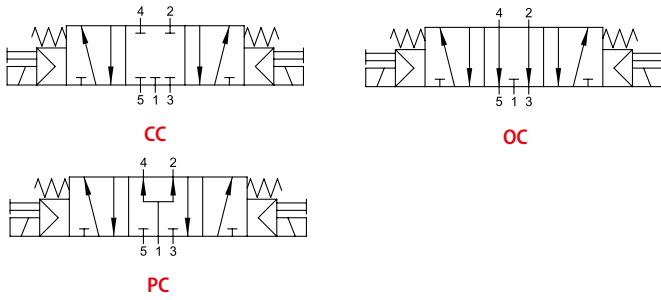
**G 1/4 - NPTF 1/4**

**G 1/2 - NPTF 1/2**



**5/3**

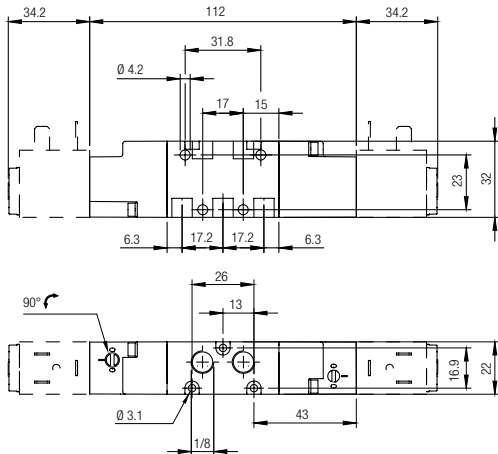
**DOUBLE SOLENOID PILOT - SPRING CENTERED**



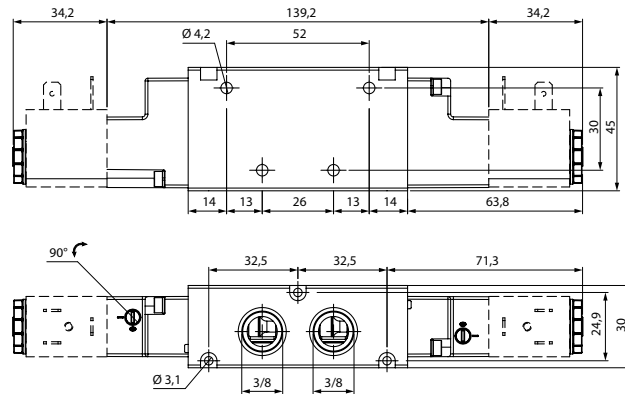
Part No.	Function	Size	Pack.
01V S0 7 CC 02	5/3 <b>CC</b>	G 1/8	1
01V S0 7 CC 03	5/3 <b>CC</b>	G 1/4	1
01V S0 7 CC 05	5/3 <b>CC</b>	G 1/2	1
01V S0 7 OC 02	5/3 <b>OC</b>	G 1/8	1
01V S0 7 OC 03	5/3 <b>OC</b>	G 1/4	1
01V S0 7 OC 05	5/3 <b>OC</b>	G 1/2	1
01V S0 7 PC 02	5/3 <b>PC</b>	G 1/8	1
01V S0 7 PC 03	5/3 <b>PC</b>	G 1/4	1
01V S0 7 PC 05	5/3 <b>PC</b>	G 1/2	1

Part No.	Function	Size	Pack.
01V S0 7 CC 02 N	5/3 <b>CC</b>	NPTF 1/8	1
01V S0 7 CC 03 N	5/3 <b>CC</b>	NPTF 1/4	1
01V S0 7 CC 04 N	5/3 <b>CC</b>	NPTF 3/8	1
01V S0 7 CC 05 N	5/3 <b>CC</b>	NPTF 1/2	1
01V S0 7 OC 02 N	5/3 <b>OC</b>	NPTF 1/8	1
01V S0 7 OC 03 N	5/3 <b>OC</b>	NPTF 1/4	1
01V S0 7 OC 04 N	5/3 <b>OC</b>	NPTF 3/8	1
01V S0 7 OC 05 N	5/3 <b>OC</b>	NPTF 1/2	1
01V S0 7 PC 02 N	5/3 <b>PC</b>	NPTF 1/8	1
01V S0 7 PC 03 N	5/3 <b>PC</b>	NPTF 1/4	1
01V S0 7 PC 04 N	5/3 <b>PC</b>	NPTF 3/8	1
01V S0 7 PC 05 N	5/3 <b>PC</b>	NPTF 1/2	1

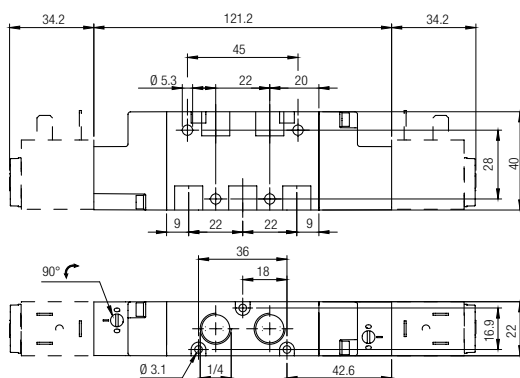
**G 1/8 - NPTF 1/8**



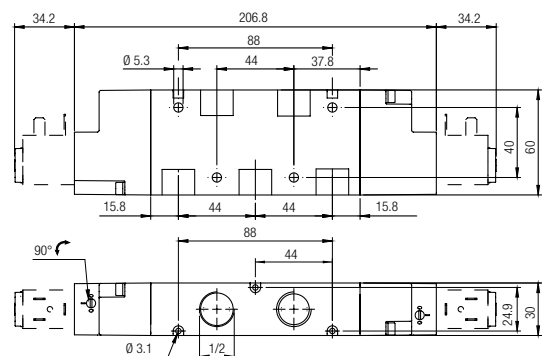
**NPTF 3/8**



**G 1/4 - NPTF 1/4**



**G 1/2 - NPTF 1/2**





**EXTERNALLY PILOTED SOLENOID VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

ATEX  
2014/34/UE



**Component Parts and Materials**

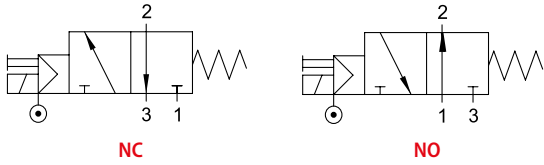
- Anodised and painted aluminium body
- Chemical nickel-plated spool
- NBR seals

		1/8	1/4
	THREADED	G 1/8 NPTF 1/8	G 1/4 NPTF 1/4
	6 bar FLOW RATE with Δp 1 bar	740 NI/min	1200 NI/min
	OPERATING PRESSURE	Vacuum ÷ 10 bar Vacuum ÷ 145 psi	
	PRESSURE DRIVE	Monostable	2 ÷ 10 bar 29 ÷ 145 psi
		Bistable	1 ÷ 10 bar 14.5 ÷ 145 psi
	TEMPERATURE	min	-10 °C 14 °F
		max	+60 °C 140 °F
	SOLENOID VOLTAGE	24V DC - 12V DC - 24V AC 110V AC - 220V AC	
	MINIMUM POWER	2W - 3VA	
	MANUAL CONTROL	BISTABLE	
	TORQUE OF TIGHTENING THE NUT SOLENOID	0.6 Nm	

Series	Actuation	Reactuation	Function	Size	Thread
<b>0 1 V</b>	<b>A</b> A = Solenoid Assisted	<b>0</b> 0 = Monostable spring return 1 = Bistable	<b>3</b> 3 = 3/2 5 = 5/2 7 = 5/3	<b>0 2</b> 02 = 1/8 03 = 1/4	 = G N = NPTF
			<b>N C</b> NO = Normally open NC = Normally closed CC = All Ports Blocked OC = Cylinder Ports Open to Exhaust PC = Cylinder Ports Pressurized 00 = Function not provided		

**3/2**

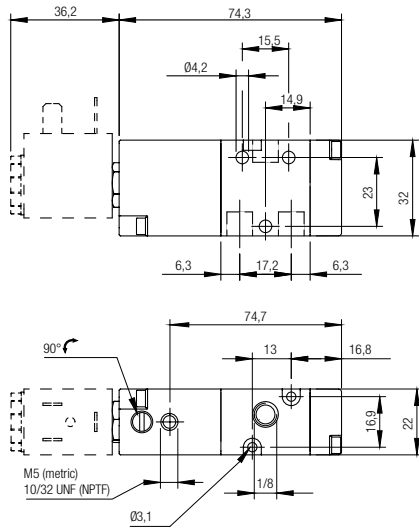
**SINGLE SOLENOID EXTERNAL PILOT - SPRING RETURN**



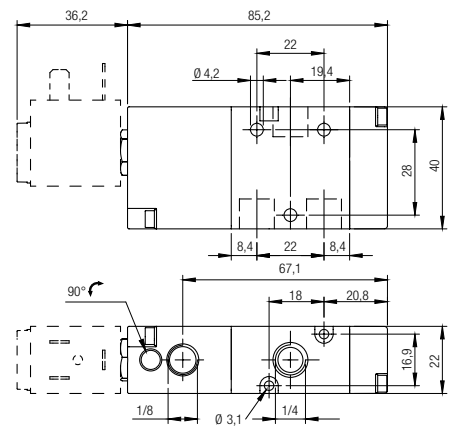
Part No.	Function	Size	Pack.
<b>01V A0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	1
<b>01V A0 3 NC 03</b>	3/2 <b>NC</b>	G 1/4	1
<b>01V A0 3 NO 02</b>	3/2 <b>NO</b>	G 1/8	1
<b>01V A0 3 NO 03</b>	3/2 <b>NO</b>	G 1/4	1

Part No.	Function	Size	Pack.
<b>01V A0 3 NC 02 N</b>	3/2 <b>NC</b>	NPTF 1/8	1
<b>01V A0 3 NC 03 N</b>	3/2 <b>NC</b>	NPTF 1/4	1
<b>01V A0 3 NO 02 N</b>	3/2 <b>NO</b>	NPTF 1/8	1
<b>01V A0 3 NO 03 N</b>	3/2 <b>NO</b>	NPTF 1/4	1

**G 1/8 - NPTF 1/8**

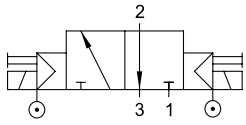


**G 1/4 - NPTF 1/4**



**3/2**

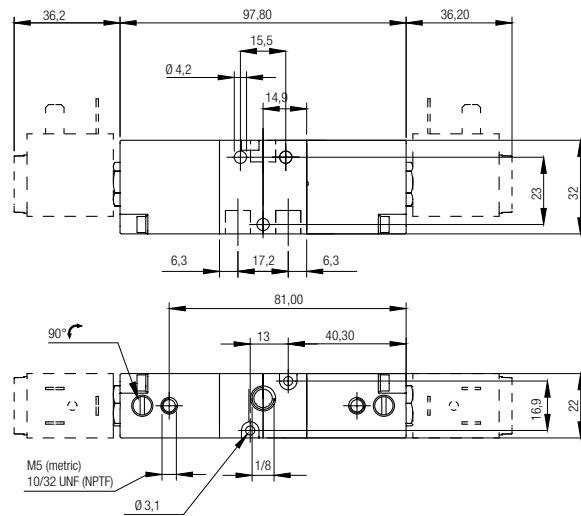
**DOUBLE SOLENOID EXTERNAL PILOT**



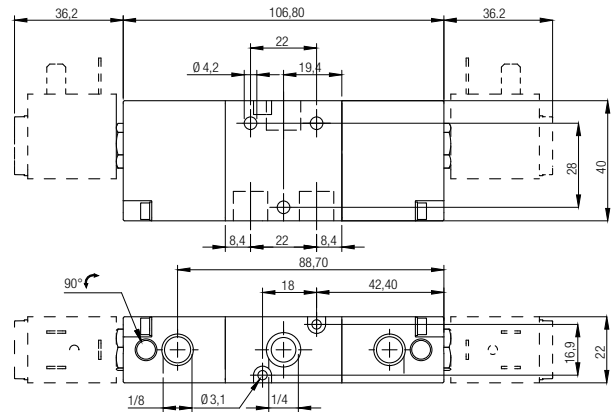
Part No.	Function	Size	Pack.
01V A1 3 00 02	3/2	G 1/8	1
01V A1 3 00 03	3/2	G 1/4	1

Part No.	Function	Size	Pack.
01V A1 3 00 02 N	3/2	NPTF 1/8	1
01V A1 3 00 03 N	3/2	NPTF 1/4	1

**G 1/8 - NPTF 1/8**

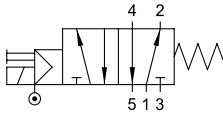


**G 1/4 - NPTF 1/4**



**5/2**

**SINGLE SOLENOID EXTERNAL PILOT - SPRING RETURN**

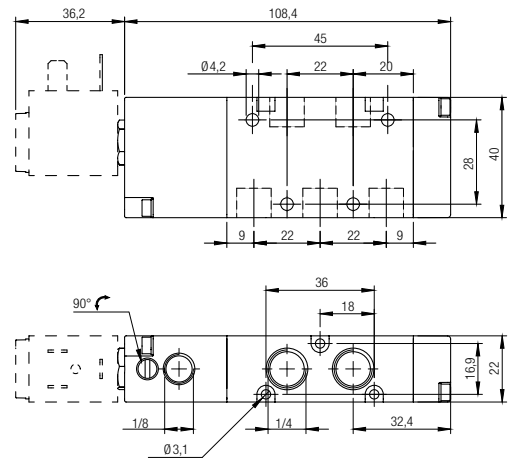
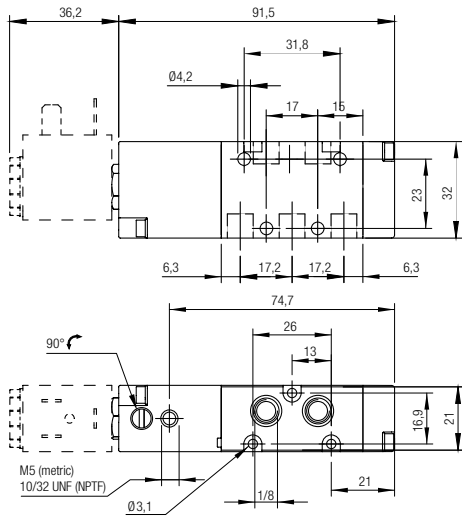


Part No.	Function	Size	Pack.
<b>01V A0 5 00 02</b>	5/2	G 1/8	1
<b>01V A0 5 00 03</b>	5/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>01V A0 5 00 02 N</b>	5/2	NPTF 1/8	1
<b>01V A0 5 00 03 N</b>	5/2	NPTF 1/4	1

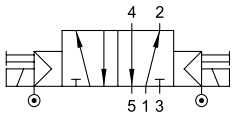
**G 1/8 - NPTF 1/8**

**G 1/4 - NPTF 1/4**



**5/2**

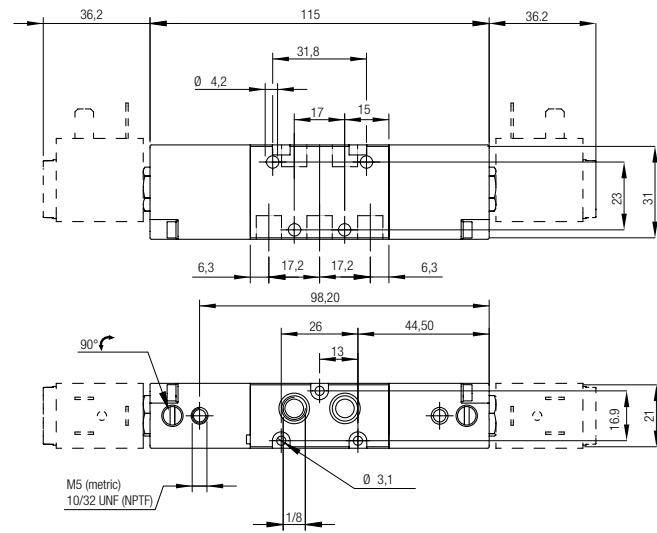
**DOUBLE SOLENOID EXTERNAL PILOT**



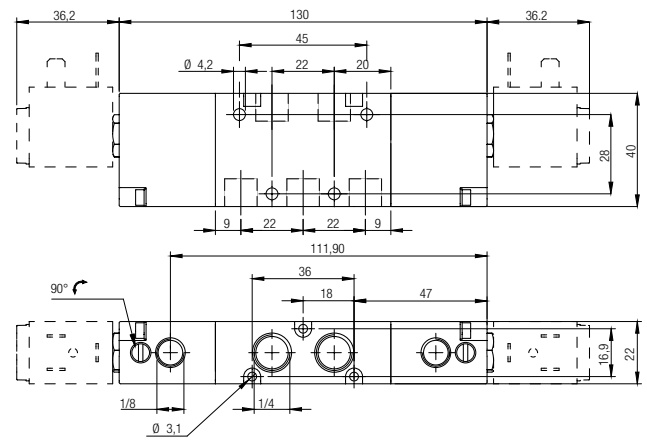
Part No.	Function	Size	Pack.
01V A1 5 00 02	5/2	G 1/8	1
01V A1 5 00 03	5/2	G 1/4	1

Part No.	Function	Size	Pack.
01V A1 5 00 02 N	5/2	NPTF 1/8	1
01V A1 5 00 03 N	5/2	NPTF 1/4	1

**G 1/8 - NPTF 1/8**

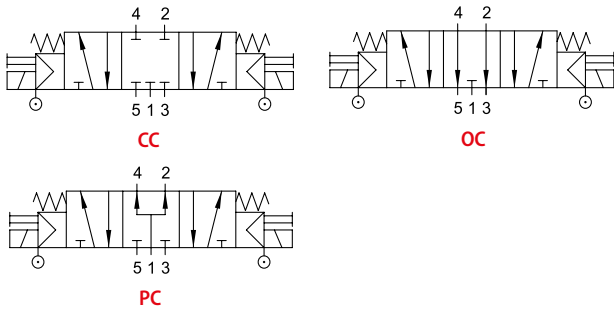


**G 1/4 - NPTF 1/4**



**5/3**

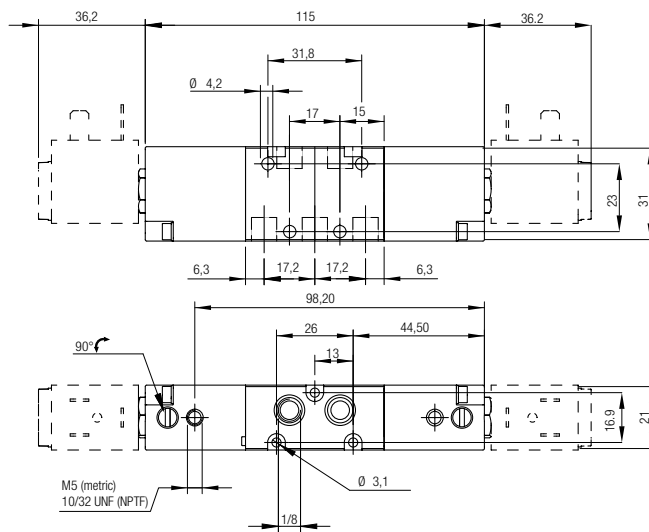
**DOUBLE SOLENOID EXTERNAL PILOT - SPRING CENTERED**



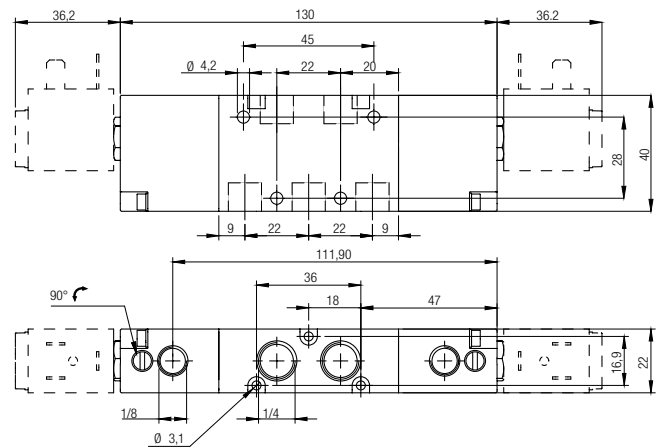
Part No.	Function	Size	Pack.
<b>01V A0 7 CC 02</b>	5/3 <b>CC</b>	G 1/8	1
<b>01V A0 7 CC 03</b>	5/3 <b>CC</b>	G 1/4	1
<b>01V A0 7 OC 02</b>	5/3 <b>OC</b>	G 1/8	1
<b>01V A0 7 OC 03</b>	5/3 <b>OC</b>	G 1/4	1
<b>01V A0 7 PC 02</b>	5/3 <b>PC</b>	G 1/8	1
<b>01V A0 7 PC 03</b>	5/3 <b>PC</b>	G 1/4	1

Part No.	Function	Size	Pack.
<b>01V A0 7 CC 02 N</b>	5/3 <b>CC</b>	NPTF 1/8	1
<b>01V A0 7 CC 03 N</b>	5/3 <b>CC</b>	NPTF 1/4	1
<b>01V A0 7 OC 02 N</b>	5/3 <b>OC</b>	NPTF 1/8	1
<b>01V A0 7 OC 03 N</b>	5/3 <b>OC</b>	NPTF 1/4	1
<b>01V A0 7 PC 02 N</b>	5/3 <b>PC</b>	NPTF 1/8	1
<b>01V A0 7 PC 03 N</b>	5/3 <b>PC</b>	NPTF 1/4	1

**G 1/8 - NPTF 1/8**



**G 1/4 - NPTF 1/4**



**EXTERNALLY PILOTED SOLENOID VALVES**

**AI S I 316 L**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006



2011/65/CE



PED

2014/68/UE



**Component Parts and Materials**

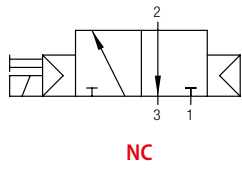
- Stainless Steel 316 L (1.4404) body
- Stainless Steel 316 L (1.4404) spool
- PUR seals and FKM O-Ring

		1/4	1/2
	THREADED	G 1/4 NPTF 1/4	G 1/2 NPTF 1/2
	6 bar FLOW RATE with $\Delta p$ 1 bar	1250 NI/ min	3000 NI/min
	TEMPERATURE	min	-50 °C -58 °F
		max	+50 °C 122 °F
	SOLENOID VOLTAGE	24V DC - 12V DC - 24V AC 110V AC - 220V AC	
	MINIMUM POWER	3W - 5VA	
	MANUAL CONTROL	BISTABLE	
	TORQUE OF TIGHTENING THE NUT SOLENOID	0.6 Nm	

Series	Actuation	Reactuation	Ways	Function	Size	Thread
<b>X 1 V</b>	<b>S</b> S = Solenoid	<b>0</b> 0 = Monostable spring return 1 = Bistable 4 = Monostable pneumatic return	<b>3</b> 3 = 3/2 5 = 5/2	<b>N C</b> NC = Normally closed 00 = Function not provided	<b>0 3</b> 02 = 1/8 03 = 1/4	 = G N = NPTF

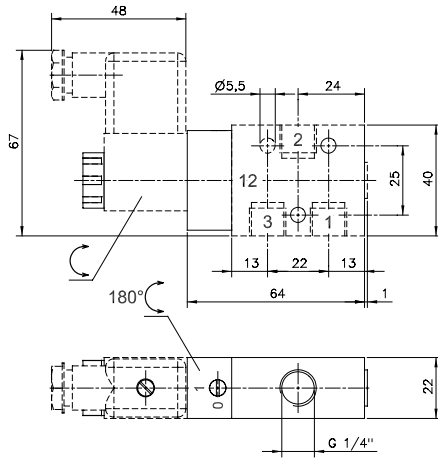
**3/2 Vie** - Ways - Wege - Voies - Vías - Vias

MONOSTABLE PNEUMATIC RETURN

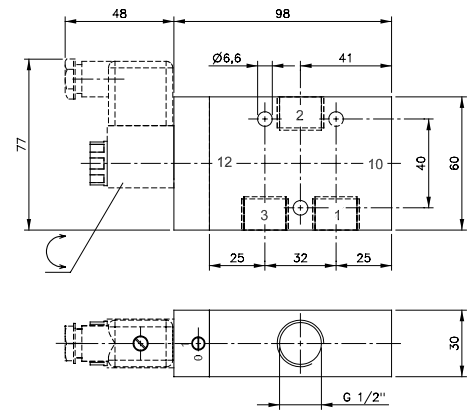


Part No.	Function	Working pressure	Size	Pack.
<b>X1V S4 3 NC 03</b>	3/2 <b>NC</b>	2÷10 bar	1/4	1
<b>X1V S4 3 NC 05</b>	3/2 <b>NC</b>	1÷10 bar	1/2	1

**X1V S4 3 NC 03**

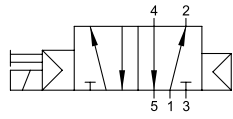


**X1V S4 3 NC 05**



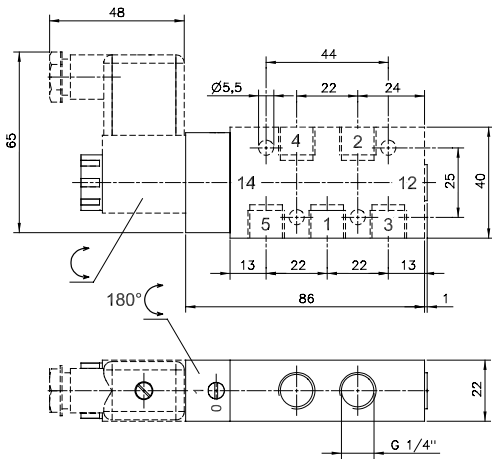


**5/2 Vie** - Ways - Wege - Voies - Vías - Vias  
**MONOSTABLE PNEUMATIC RETURN**

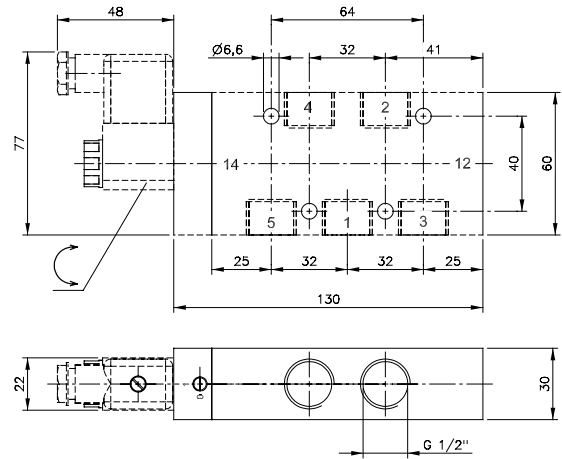


Part No.	Function	Working pressure	Size	Pack.
<b>X1V S4 5 00 03</b>	5/2	2÷10 bar	1/4	1
<b>X1V S4 5 00 05</b>	5/2	2÷10 bar	1/2	1

**X1V S4 5 00 03**

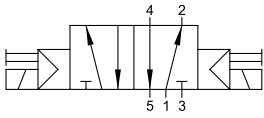


**X1V S4 5 00 05**



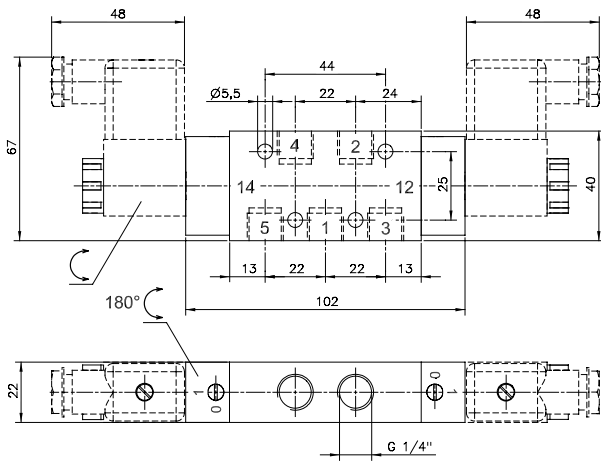
**5/2 Vie** - Ways - Wege - Voies - Vías - Vias

TWO STABLE POSITIONS

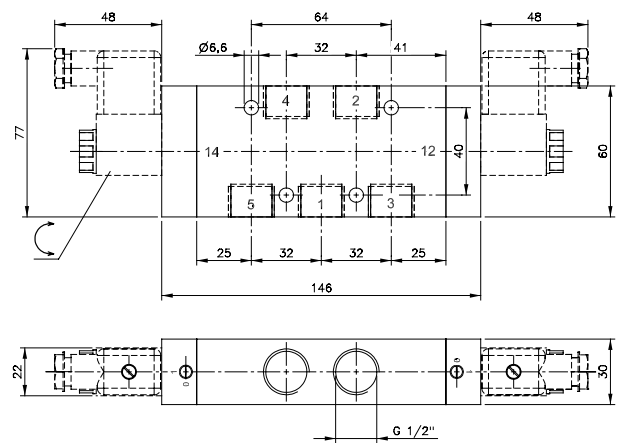


Part No.	Function	Working pressure	Size	Pack.
<b>X1V S1 5 00 03</b>	5/2	2÷10 bar	1/4	1
<b>X1V S1 5 00 05</b>	5/2	1÷10 bar	1/2	1

**X1V S1 5 00 03**

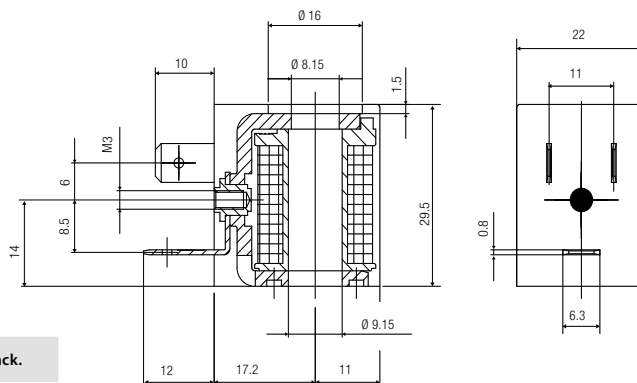


**X1V S1 5 00 05**



**SOLENOIDS AND CONNECTORS**

**Solenoid 22 mm**

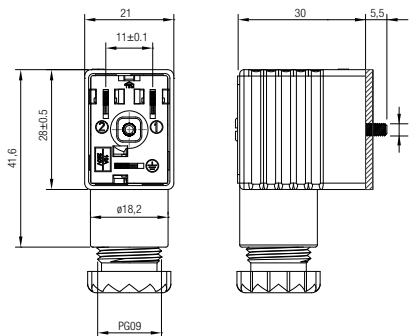


Part No.	Solenoid Voltage	Power	Pack.
SOL01 012 C 1 000	12V DC	3W	1
SOL01 024 C 1 000	24V DC	3W	1
* SOL01 024 C 3 000	24V DC	2W	1
SOL01 024 A 2 000	24V AC	5VA	1
SOL01 110 A 2 000	110V AC	5VA	1
SOL01 220 A 2 000	220V AC	5VA	1

\* Solenoid Recommended (ECO-FRIENDLY), only for 01V - 07V - 08V.

VOLTAGE TOLERANCE	±10 %	CLASS OF ISOLATION	F CEI EN 60085	DUTY RATE (ED)	100 %
DEGREE OF PROTECTION	IP65 IEC 60529 with connector	TERMINALS	INDUSTRIAL AMP		

**Connectors 22 mm**



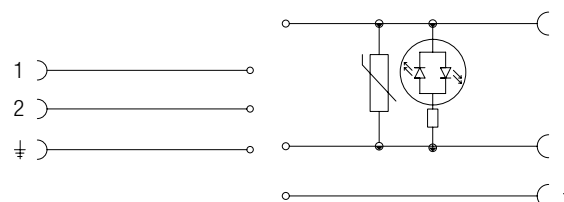
Part No.	Color	Characteristics	Pack.
CON01 000 01	■	STANDARD 2 PIN	1
CON02 024 00	□	LED + VDR 0 - 24V	1
CON02 110 00	□	LED + VDR 110V	1
CON02 250 00	□	LED + VDR 220V	1

■ Black      □ Transparent

VDR: Fitted with varistors as surge protection device.



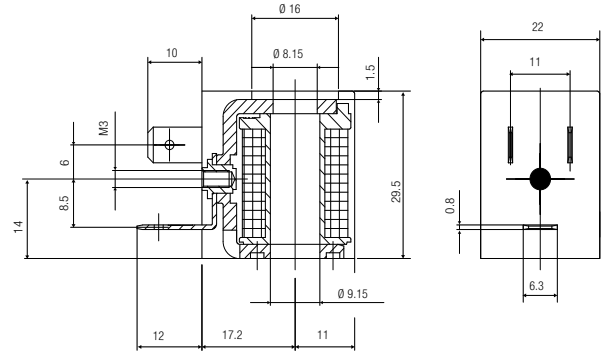
**Wiring**



CON01 000 01	CON02 024 00 CON02 110 00 CON02 250 00
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DEGREE OF PROTECTION	IP65 IEC 60529	CABLE DIAMETER	6 ÷ 8 mm	TERMINALS	INDUSTRIAL AMP
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## Solenoid 22 mm UL1446 CAN/CSA C22.2

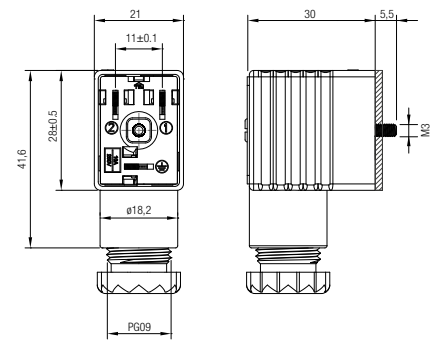


Part No.	Voltage	Power	Size	Pack.
SOLU1 012 C 1 000	12V DC	3W	22	1
* SOLU1 024 C 3 000	24V DC	2W	22	1
SOLU1 024 A 2 000	24V AC	5VA	22	1
SOLU1 110 A 2 000	110V AC	5VA	22	1
SOLU1 220 A 2 000	220V AC	5VA	22	1

\* Solenoid Recommended (ECO-FRIENDLY), only for 01V - 07V - 08V.

VOLTAGE TOLERANCE	±10 %	CLASS OF ISOLATION	H CEI EN 60085	DUTY RATE (ED)	100 %
DEGREE OF PROTECTION	IP65 IEC 60529 with connector	TERMINALS	INDUSTRIAL AMP		

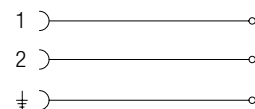
## Connectors 22 mm EN 175301-803 A/ISO 4400 - UL/CSA APPROVED



Part No.	Characteristics	Pack.
CONU1 000 01	STANDARD 2 PIN	1



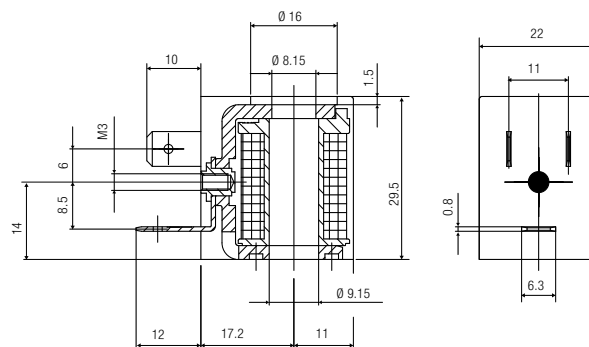
Wiring



CONU1 000 01

DEGREE OF PROTECTION	IP65 IEC 60529	CABLE DIAMETER	6 ÷ 8 mm	TERMINALS	INDUSTRIAL AMP
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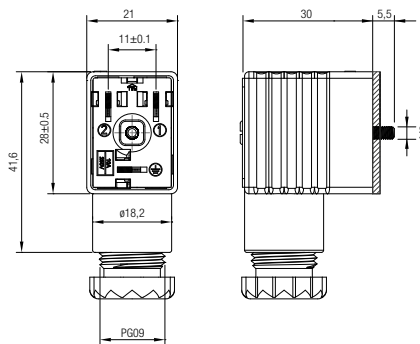
## Solenoid 22 mm ATEX - II 3G Ex nA IIC T5 Gc | II 3D Ex tc IIIC 95°C Dc



Part No.	Voltage	Power	Size	Pack.
<b>SOLX1 012 C 1 000</b>	12V DC	3W	22	1
<b>SOLX1 024 C 1 000</b>	24V DC	3W	22	1
<b>SOLX1 024 A 2 000</b>	24V AC	5VA	22	1

VOLTAGE TOLERANCE	±10 %	DEGREE OF PROTECTION	IP65 IEC 60529 with connector	DUTY RATE (ED)	100 %
TERMINALS	INDUSTRIAL AMP				

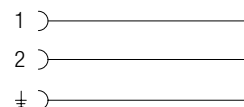
## Connectors 22 mm ATEX - II 2G Ex e IIC T6 Gb | II 2D Ex tb IIIC T85°C Db



Part No.	Color	Characteristics	Pack.
<b>CONX1 000 01</b>	■	2 POLI - Pins - Pins - Broches - Pins - Pinos	1



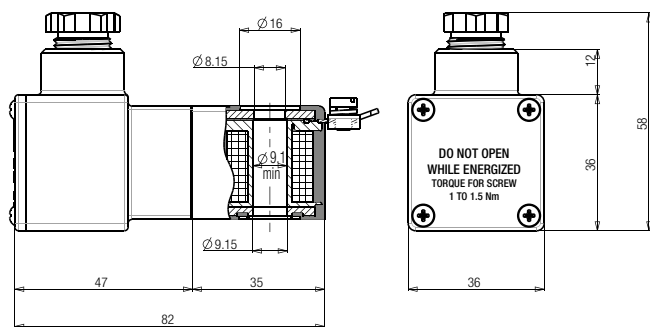
Wiring



CONX1 000 01

DEGREE OF PROTECTION	IP65 IEC 60529	CABLE DIAMETER	6 ÷ 8 mm	TERMINALS	INDUSTRIAL AMP
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## Solenoid 30 mm ATEX II2G EX DMD IIC T5 GB



Part No.	Voltage	Power	Size	Pack.
<b>SOLX2 012 C 1 000</b>	12V DC	3W	30	5
<b>SOLX2 024 C 1 000</b>	24V DC	3W	30	5
<b>SOLX2 024 A 2 000</b>	24V AC	4.8VA	30	5
<b>SOLX2 110 A 2 000</b>	110V AC	4.8VA	30	5
<b>SOLX2 220 A 2 000</b>	220V AC	4.8VA	30	5

VOLTAGE TOLERANCE

±10 %

DEGREE OF PROTECTION

IP66 IEC 60529  
with connector

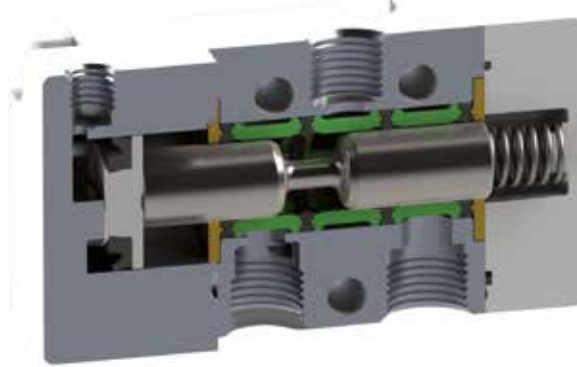
DUTY RATE (ED)

100 %

**AIR PILOT VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- ATEX  
2014/34/UE



**Component Parts and Materials**

- Anodised and painted aluminium body
- Chemical nickel-plated spool
- NBR seals

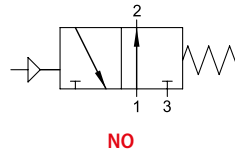
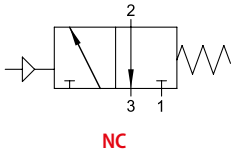
		1/8	1/4	3/8	1/2
	THREADED	G 1/8 NPTF 1/8	G 1/4 NPTF 1/4	G 3/8 NPTF 3/8	G 1/2 NPTF 1/2
	6 bar FLOW RATE with Δp 1 bar	740 NI/min	1200 NI/min	2000 NI/min	5000 NI/min
	OPERATING PRESSURE	0 ÷ 10 bar 0 ÷ 145 psi			
	PRESSURE DRIVE	Monostable	2 ÷ 10 bar 29 ÷ 145 psi		
		Bistable	1 ÷ 10 bar 14.5 ÷ 145 psi		
	TEMPERATURE	min	-10 °C 14 °F		
		max	+60 °C 140 °F		

**Series      Actuation      Reactuation      Function      Size      Thread**

- |              |                      |   |  |  |  |                        |
|--------------|----------------------|---|--|--|--|------------------------|
| <b>0 1 V</b> | <b>P</b>             | <b>0</b>  | <b>3</b>   | <b>N C</b>   | <b>0 2</b>   |                        |
|              | <b>P</b> = Pneumatic | <b>0</b> = Monostable<br>spring return<br><b>1</b> = Bistable | <b>3</b> = 3/2<br><b>5</b> = 5/2<br><b>7</b> = 5/3 | <b>NO</b> = Normally open<br><b>NC</b> = Normally closed<br><b>CC</b> = All Ports Blocked<br><b>OC</b> = Cylinder Ports Open to Exhaust<br><b>PC</b> = Cylinder Ports Pressurized<br><b>00</b> = Function not provided | <b>02</b> = 1/8<br><b>03</b> = 1/4<br><b>04</b> = 3/8<br><b>05</b> = 1/2 | = G<br><b>N</b> = NPTF |

**3/2**

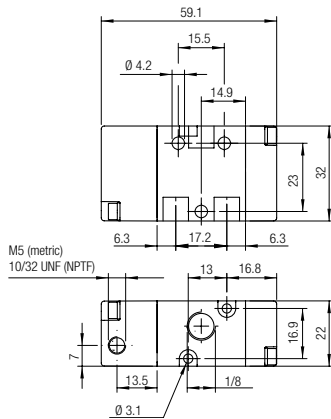
**SINGLE AIR PILOT - SPRING RETURN**



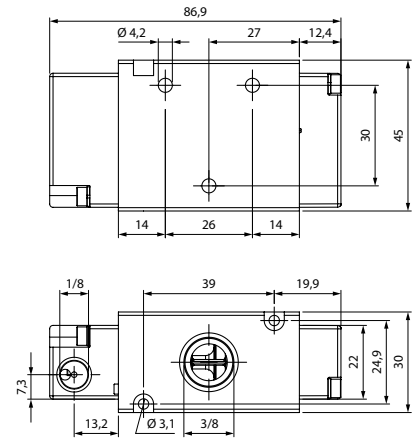
Part No.	Function	Size	Pack.
01V P0 3 NC 02	3/2 <b>NC</b>	G 1/8	1
01V P0 3 NC 03	3/2 <b>NC</b>	G 1/4	1
01V P0 3 NC 05	3/2 <b>NC</b>	G 1/2	1
01V P0 3 NO 02	3/2 <b>NO</b>	G 1/8	1
01V P0 3 NO 03	3/2 <b>NO</b>	G 1/4	1
01V P0 3 NO 05	3/2 <b>NO</b>	G 1/2	1

Part No.	Function	Size	Pack.
01V P0 3 NC 02 N	3/2 <b>NC</b>	NPTF 1/8	1
01V P0 3 NC 03 N	3/2 <b>NC</b>	NPTF 1/4	1
01V P0 3 NC 04 N	3/2 <b>NC</b>	NPTF 3/8	1
01V P0 3 NC 05 N	3/2 <b>NC</b>	NPTF 1/2	1
01V P0 3 NO 02 N	3/2 <b>NO</b>	NPTF 1/8	1
01V P0 3 NO 03 N	3/2 <b>NO</b>	NPTF 1/4	1
01V P0 3 NO 04 N	3/2 <b>NO</b>	NPTF 3/8	1
01V P0 3 NO 05 N	3/2 <b>NO</b>	NPTF 1/2	1

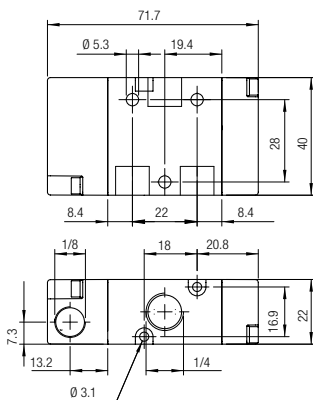
**G 1/8 - NPTF 1/8**



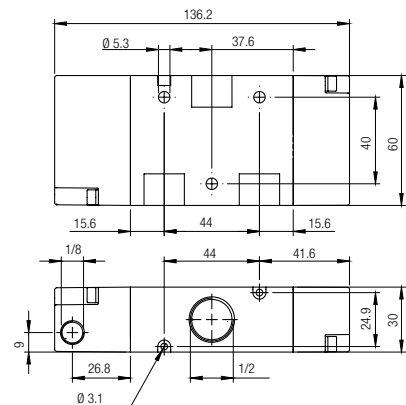
**NPTF 3/8**



**G 1/4 - NPTF 1/4**



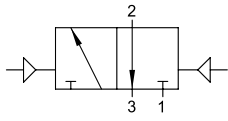
**G 1/2 - NPTF 1/2**





**3/2**

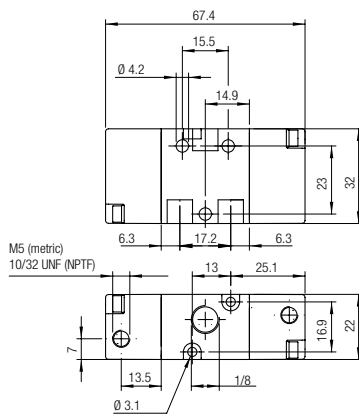
**DOUBLE AIR PILOT**



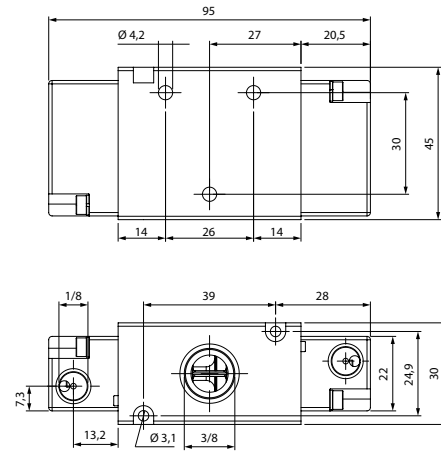
Part No.	Function	Size	Pack.
01V P1 3 00 02	3/2	G 1/8	1
01V P1 3 00 03	3/2	G 1/4	1
01V P1 3 00 05	3/2	G 1/2	1

Part No.	Function	Size	Pack.
01V P1 3 00 02 N	3/2	NPTF 1/8	1
01V P1 3 00 03 N	3/2	NPTF 1/4	1
01V P1 3 00 04 N	3/2	NPTF 3/8	1
01V P1 3 00 05 N	3/2	NPTF 1/2	1

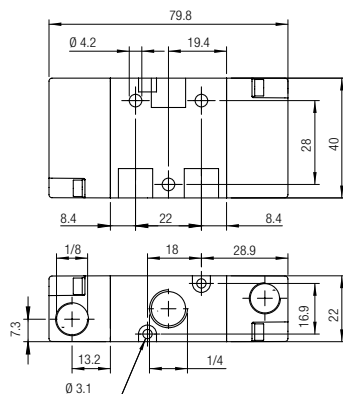
**G 1/8 - NPTF 1/8**



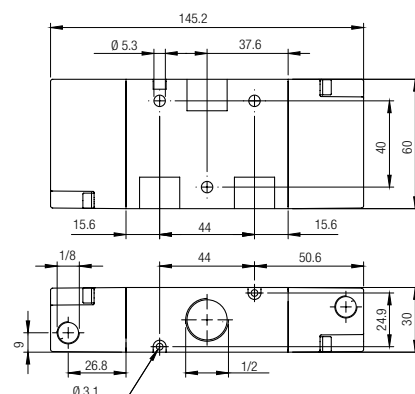
**NPTF 3/8**



**G 1/4 - NPTF 1/4**

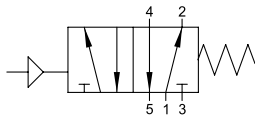


**G 1/2 - NPTF 1/2**



**5/2**

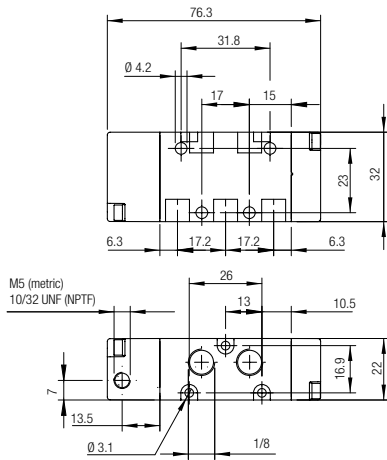
**SINGLE AIR PILOT - SPRING RETURN**



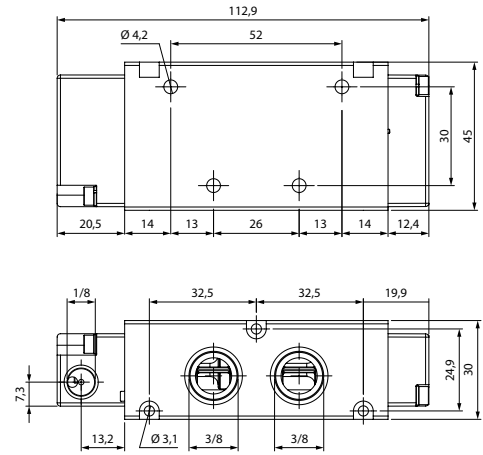
Part No.	Function	Size	Pack.
<b>01V P0 5 00 02</b>	5/2	G 1/8	1
<b>01V P0 5 00 03</b>	5/2	G 1/4	1
<b>01V P0 5 00 05</b>	5/2	G 1/2	1

Part No.	Function	Size	Pack.
<b>01V P0 5 00 02 N</b>	5/2	NPTF 1/8	1
<b>01V P0 5 00 03 N</b>	5/2	NPTF 1/4	1
<b>01V P0 5 00 04 N</b>	5/2	NPTF 3/8	1
<b>01V P0 5 00 05 N</b>	5/2	NPTF 1/2	1

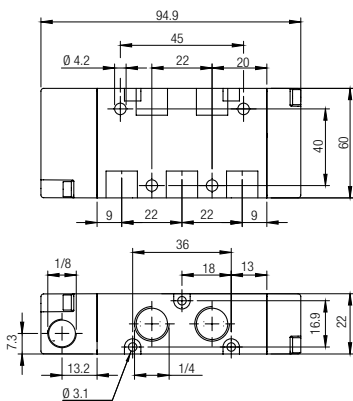
**G 1/8 - NPTF 1/8**



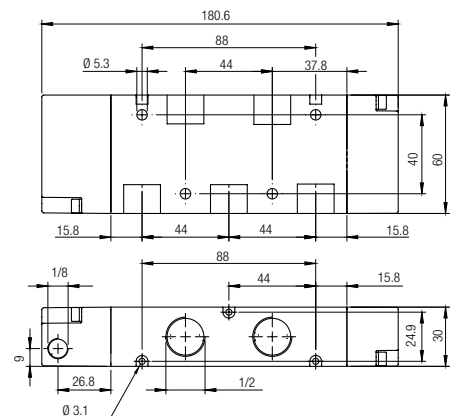
**NPTF 3/8**



**G 1/4 - NPTF 1/4**

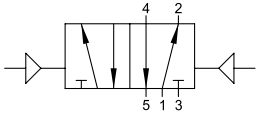


**G 1/2 - NPTF 1/2**



**5/2**

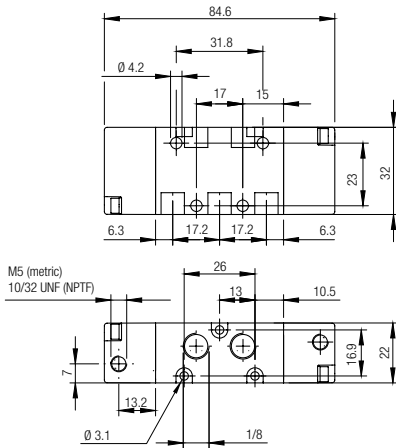
DOUBLE AIR PILOT



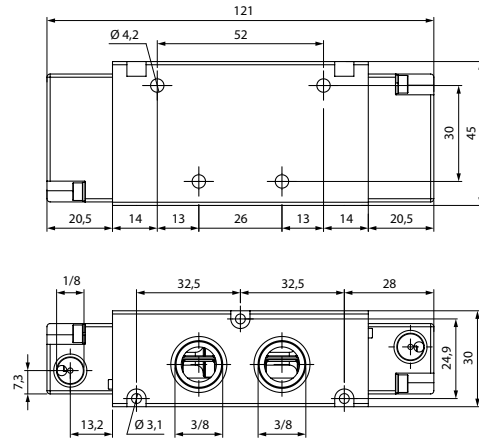
Part No.	Function	Size	Pack.
01V P1 5 00 02	5/2	G 1/8	1
01V P1 5 00 03	5/2	G 1/4	1
01V P1 5 00 05	5/2	G 1/2	1

Part No.	Function	Size	Pack.
01V P1 5 00 02 N	5/2	NPTF 1/8	1
01V P1 5 00 03 N	5/2	NPTF 1/4	1
01V P1 5 00 04 N	5/2	NPTF 3/8	1
01V P1 5 00 05 N	5/2	NPTF 1/2	1

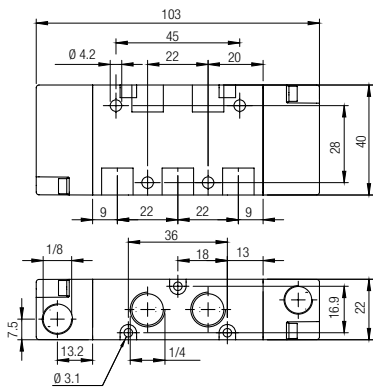
G 1/8 - NPTF 1/8



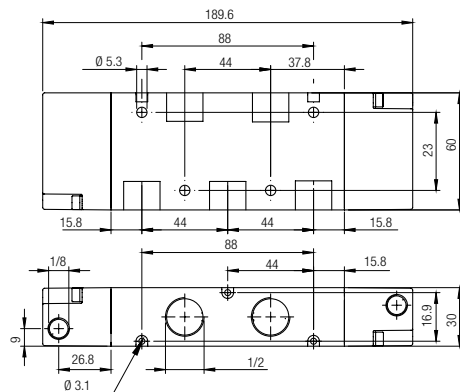
NPTF 3/8



G 1/4 - NPTF 1/4

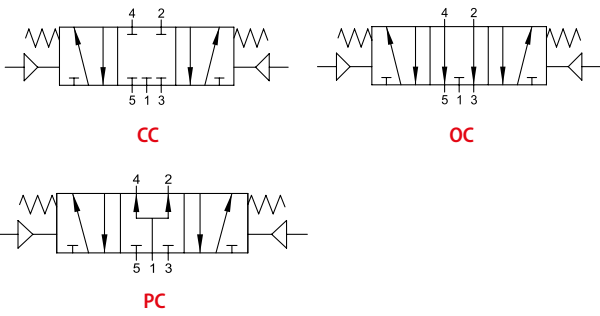


G 1/2 - NPTF 1/2



**5/3**

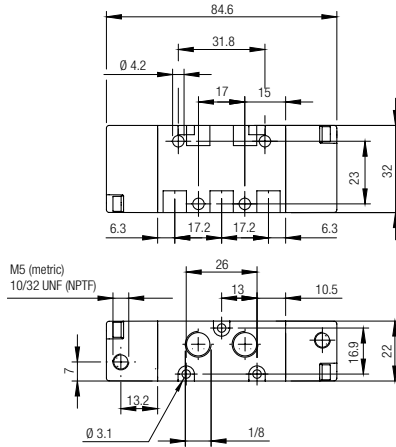
**DOUBLE AIR PILOT - SPRING RETURN**



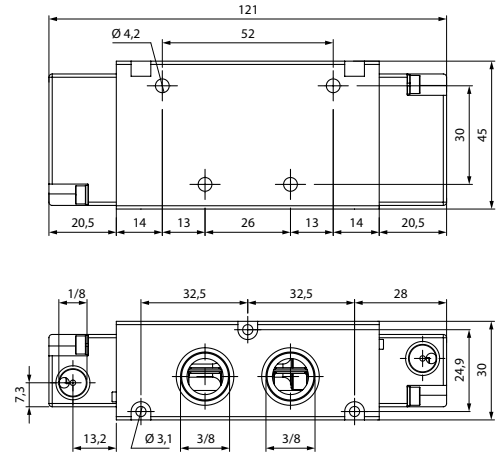
Part No.	Function	Size	Pack.
01V P0 7 CC 02	5/3 CC	G 1/8	1
01V P0 7 CC 03	5/3 CC	G 1/4	1
01V P0 7 CC 05	5/3 CC	G 1/2	1
01V P0 7 OC 02	5/3 OC	G 1/8	1
01V P0 7 OC 03	5/3 OC	G 1/4	1
01V P0 7 OC 05	5/3 OC	G 1/2	1
01V P0 7 PC 02	5/3 PC	G 1/8	1
01V P0 7 PC 03	5/3 PC	G 1/4	1
01V P0 7 PC 05	5/3 PC	G 1/2	1

Part No.	Function	Size	Pack.
01V P0 7 CC 02 N	5/3 CC	NPTF 1/8	1
01V P0 7 CC 03 N	5/3 CC	NPTF 1/4	1
01V P0 7 CC 04 N	5/3 CC	NPTF 3/8	1
01V P0 7 CC 05 N	5/3 CC	NPTF 1/2	1
01V P0 7 OC 02 N	5/3 OC	NPTF 1/8	1
01V P0 7 OC 03 N	5/3 OC	NPTF 1/4	1
01V P0 7 OC 04 N	5/3 OC	NPTF 3/8	1
01V P0 7 OC 05 N	5/3 OC	NPTF 1/2	1
01V P0 7 PC 02 N	5/3 PC	NPTF 1/8	1
01V P0 7 PC 03 N	5/3 PC	NPTF 1/4	1
01V P0 7 PC 04 N	5/3 PC	NPTF 3/8	1
01V P0 7 PC 05 N	5/3 PC	NPTF 1/2	1

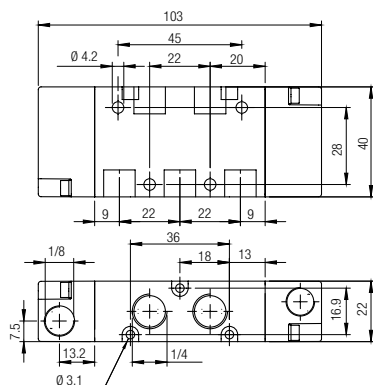
**G 1/8 - NPTF 1/8**



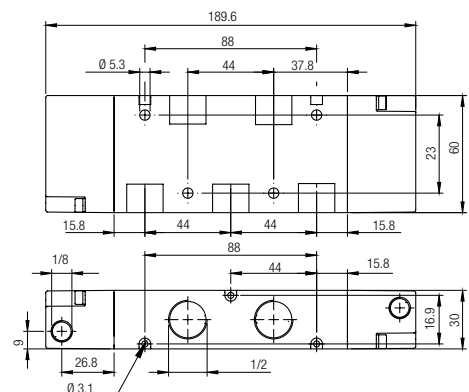
**NPTF 3/8**



**G 1/4 - NPTF 1/4**



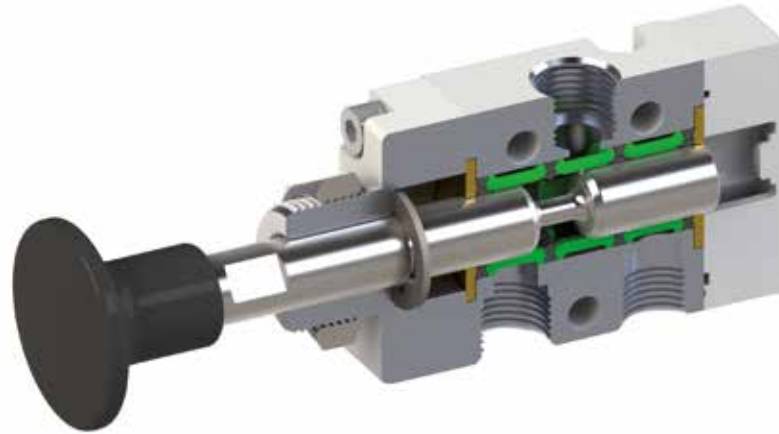
**G 1/2 - NPTF 1/2**



**MANUAL VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

ATEX  
2014/34/UE



**Component Parts and Materials**

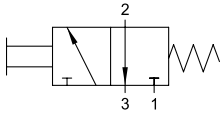
- Anodised and painted aluminium body
- Chemical nickel-plated spool
- NBR seals

	1/8	1/4
<b>THREADED</b>	G 1/8 NPTF 1/8	G 1/4 NPTF 1/4
<b>6 bar FLOW RATE with Δp 1 bar</b>	740 NI/min	1200 NI/min
<b>OPERATING PRESSURE</b>	Vacuum ÷ 10 bar Vacuum ÷ 145 psi	
<b>TEMPERATURE</b>	min	-10 °C 14 °F
	max	+60 °C 140 °F
<b>PANEL MOUNT</b>	M 16x1	

Series	Actuation	Reactuation	Function	Size	Thread
<b>0 1 V</b>	<b>T</b> T = Button L = 90° Lever	<b>0</b> 0 = Monostable spring return 1 = Bistable 2 = Stable in 3 positions	<b>3</b> 3 = 3/2 5 = 5/2 7 = 5/3	<b>0 2</b> 02 = 1/8 03 = 1/4	<b>□</b> = G N = NPTF
			<b>NO</b> = Normally open <b>NC</b> = Normally closed <b>CC</b> = All Ports Blocked <b>OC</b> = Cylinder Ports Open to Exhaust <b>PC</b> = Cylinder Ports Pressurized <b>00</b> = Function not provided		

**3/2**

**BUTTON OPERATED - SPRING RETURN**



Part No.	Function	Size	Pack.
<b>01V T0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	1
<b>01V T0 3 NC 03</b>	3/2 <b>NC</b>	G 1/4	1

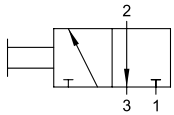
Part No.	Function	Size	Pack.
<b>01V T0 3 NC 02 N</b>	3/2 <b>NC</b>	NPTF 1/8	1
<b>01V T0 3 NC 03 N</b>	3/2 <b>NC</b>	NPTF 1/4	1

**BUTTON OPERATED VALVES**



**3/2**

**BUTTON OPERATED - PUSH / PULL**

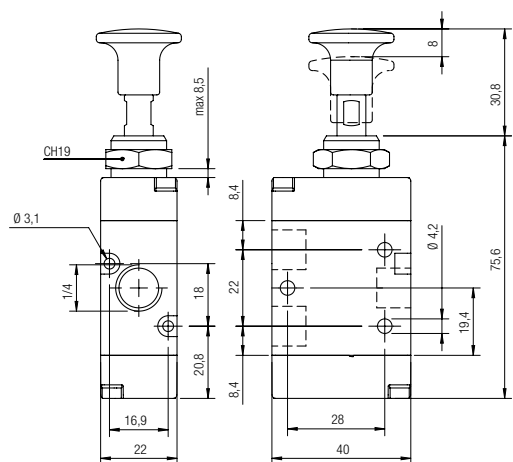
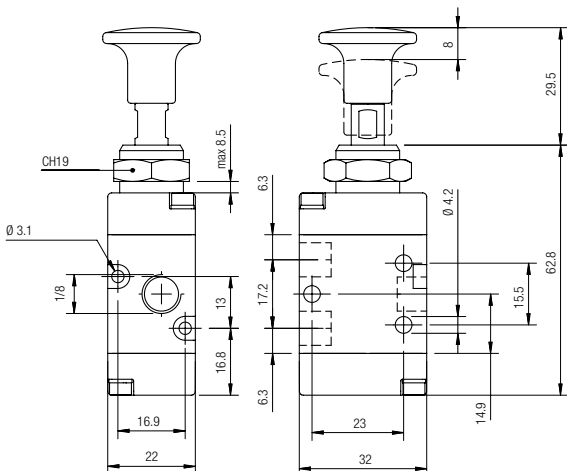


Part No.	Function	Size	Pack.
<b>01V T1 3 00 02</b>	3/2	G 1/8	1
<b>01V T1 3 00 03</b>	3/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>01V T1 3 00 02 N</b>	3/2	NPTF 1/8	1
<b>01V T1 3 00 03 N</b>	3/2	NPTF 1/4	1

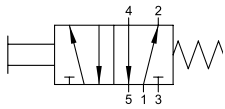
**G 1/8 - NPTF 1/8**

**G 1/4 - NPTF 1/4**



**5/2**

BUTTON OPERATED - SPRING RETURN



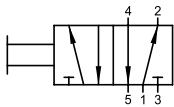
Part No.	Function	Size	Pack.
01V T0 5 00 02	5/2	G 1/8	1
01V T0 5 00 03	5/2	G 1/4	1

Part No.	Function	Size	Pack.
01V T0 5 00 02 N	5/2	NPTF 1/8	1
01V T0 5 00 03 N	5/2	NPTF 1/4	1



**5/2**

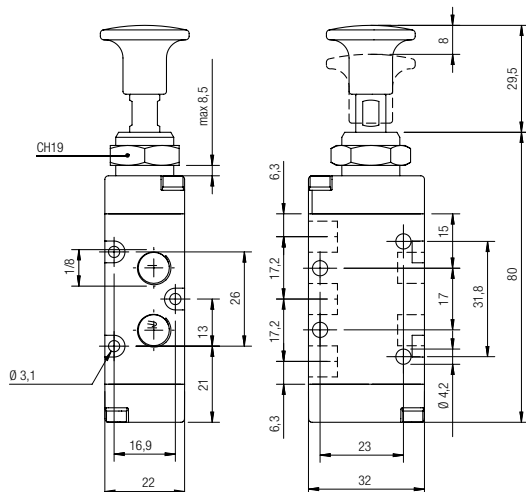
BUTTON OPERATED - PUSH / PULL



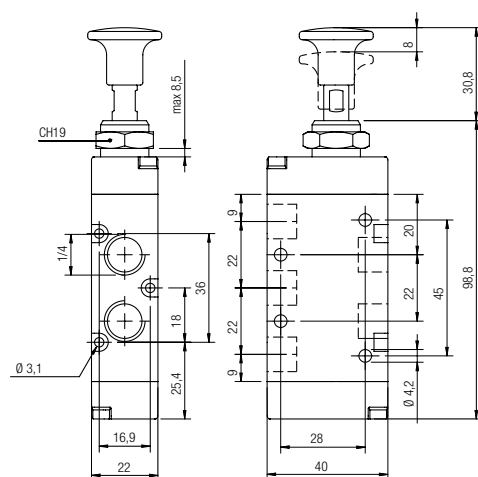
Part No.	Function	Size	Pack.
01V T1 5 00 02	5/2	G 1/8	1
01V T1 5 00 03	5/2	G 1/4	1

Part No.	Function	Size	Pack.
01V T1 5 00 02 N	5/2	NPTF 1/8	1
01V T1 5 00 03 N	5/2	NPTF 1/4	1

G 1/8 - NPTF 1/8



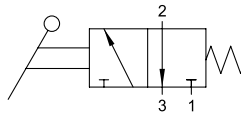
G 1/4 - NPTF 1/4



**3/2**

**LEVER OPERATED - SPRING RETURN**

**90° LEVER OPERATED VALVES**



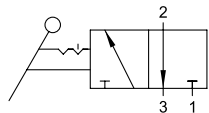
Part No.	Function	Size	Pack.
<b>01V L0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	1
<b>01V L0 3 NC 03</b>	3/2 <b>NC</b>	G 1/4	1

Part No.	Function	Size	Pack.
<b>01V L0 3 NC 02 N</b>	3/2 <b>NC</b>	NPTF 1/8	1
<b>01V L0 3 NC 03 N</b>	3/2 <b>NC</b>	NPTF 1/4	1



**3/2**

**LEVER OPERATED - PUSH / PULL**

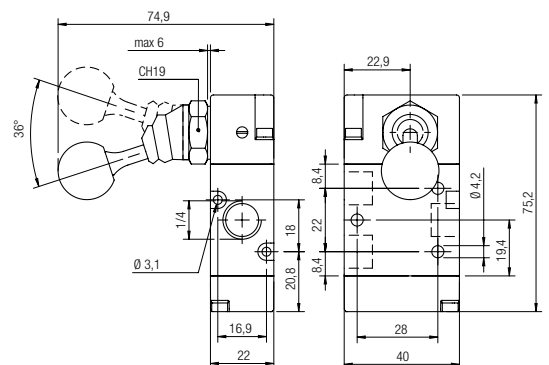
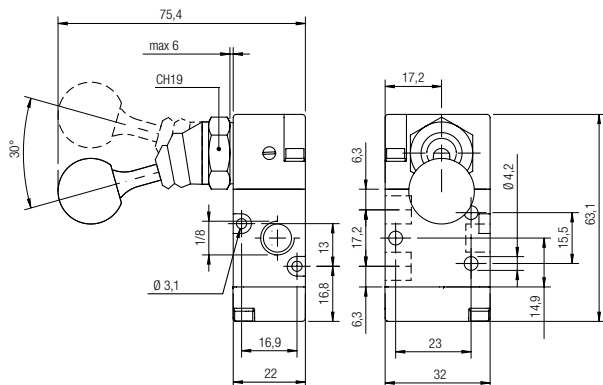


Part No.	Function	Size	Pack.
<b>01V L1 3 00 02</b>	3/2	G 1/8	1
<b>01V L1 3 00 03</b>	3/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>01V L1 3 00 02 N</b>	3/2	NPTF 1/8	1
<b>01V L1 3 00 03 N</b>	3/2	NPTF 1/4	1

**G 1/8 - NPTF 1/8**

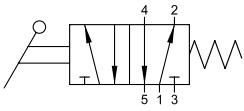
**G 1/4 - NPTF 1/4**





**5/2**

**LEVER OPERATED - SPRING RETURN**



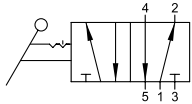
Part No.	Function	Size	Pack.
<b>01V L0 5 00 02</b>	5/2	G 1/8	1
<b>01V L0 5 00 03</b>	5/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>01V L0 5 00 02 N</b>	5/2	NPTF 1/8	1
<b>01V L0 5 00 03 N</b>	5/2	NPTF 1/4	1



**5/2**

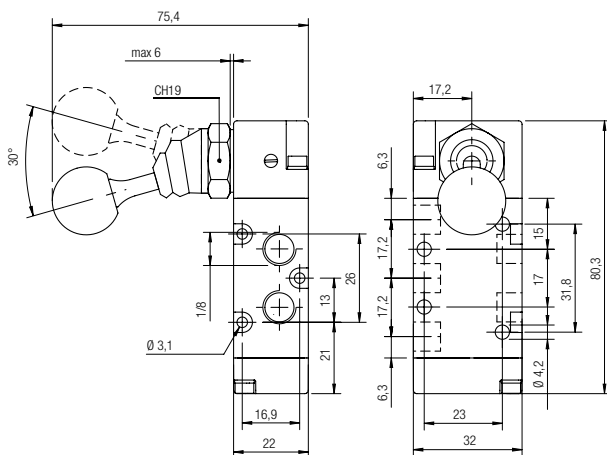
**LEVER OPERATED - PUSH / PULL**



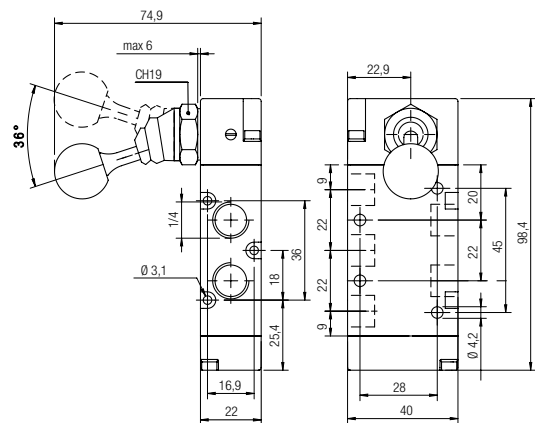
Part No.	Function	Size	Pack.
<b>01V L1 5 00 02</b>	5/2	G 1/8	1
<b>01V L1 5 00 03</b>	5/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>01V L1 5 00 02 N</b>	5/2	NPTF 1/8	1
<b>01V L1 5 00 03 N</b>	5/2	NPTF 1/4	1

**G 1/8 - NPTF 1/8**

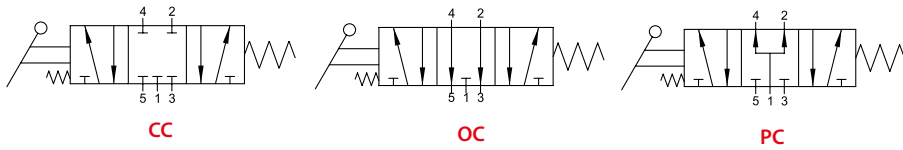


**G 1/4 - NPTF 1/4**



### 5/3

LEVER OPERATED - SPRING CENTERED



Part No.	Function	Size	Pack.
01V L0 7 CC 02	5/3 CC	G 1/8	1
01V L0 7 CC 03	5/3 CC	G 1/4	1
01V L0 7 OC 02	5/3 OC	G 1/8	1
01V L0 7 OC 03	5/3 OC	G 1/4	1
01V L0 7 PC 02	5/3 PC	G 1/8	1
01V L0 7 PC 03	5/3 PC	G 1/4	1

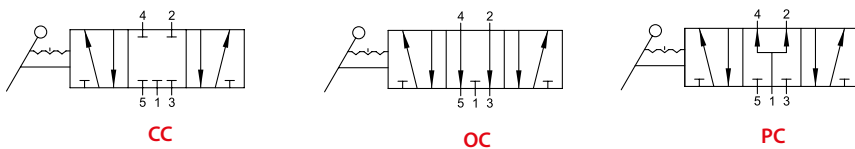
  

Part No.	Function	Size	Pack.
01V L0 7 CC 02 N	5/3 CC	NPTF 1/8	1
01V L0 7 CC 03 N	5/3 CC	NPTF 1/4	1
01V L0 7 OC 02 N	5/3 OC	NPTF 1/8	1
01V L0 7 OC 03 N	5/3 OC	NPTF 1/4	1
01V L0 7 PC 02 N	5/3 PC	NPTF 1/8	1
01V L0 7 PC 03 N	5/3 PC	NPTF 1/4	1



### 5/3

LEVER OPERATED - PUSH / PULL

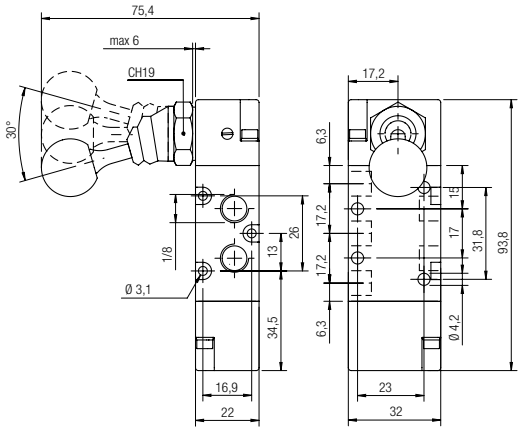


Part No.	Function	Size	Pack.
01V L2 7 CC 02	5/3 CC	G 1/8	1
01V L2 7 CC 03	5/3 CC	G 1/4	1
01V L2 7 OC 02	5/3 OC	G 1/8	1
01V L2 7 OC 03	5/3 OC	G 1/4	1
01V L2 7 PC 02	5/3 PC	G 1/8	1
01V L2 7 PC 03	5/3 PC	G 1/4	1

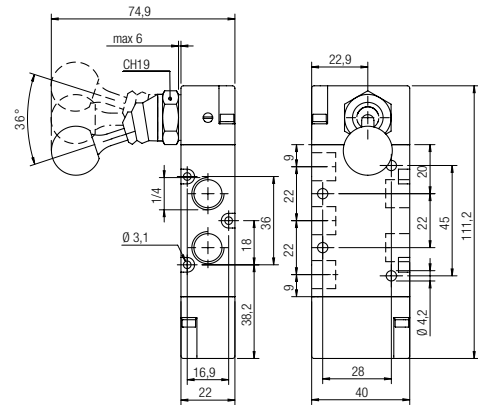
  

Part No.	Function	Size	Pack.
01V L2 7 CC 02 N	5/3 CC	NPTF 1/8	1
01V L2 7 CC 03 N	5/3 CC	NPTF 1/4	1
01V L2 7 OC 02 N	5/3 OC	NPTF 1/8	1
01V L2 7 OC 03 N	5/3 OC	NPTF 1/4	1
01V L2 7 PC 02 N	5/3 PC	NPTF 1/8	1
01V L2 7 PC 03 N	5/3 PC	NPTF 1/4	1

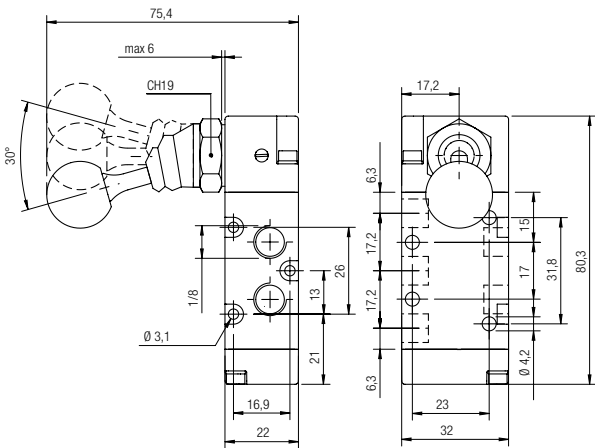
01V L0 7 CC 02 01V L0 7 OC 02 01V L0 7 PC 02  
 01V L0 7 CC 02 N 01V L0 7 OC 02 N 01V L0 7 PC 02 N



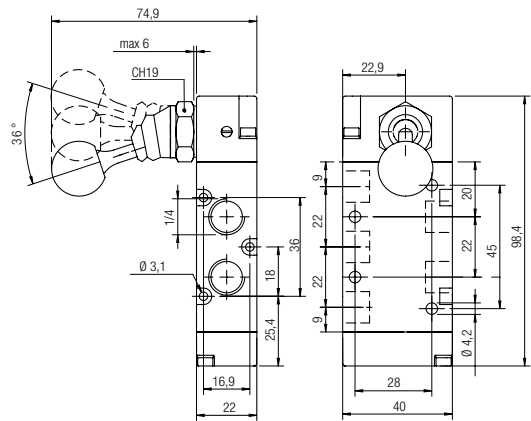
01V L0 7 CC 03 01V L0 7 OC 03 01V L0 7 PC 03  
 01V L0 7 CC 03 N 01V L0 7 OC 03 N 01V L0 7 PC 03 N



01V L2 7 CC 02 01V L2 7 OC 02 01V L2 7 PC 02  
 01V L2 7 CC 02 N 01V L2 7 OC 02 N 01V L2 7 PC 02 N



01V L2 7 CC 03 01V L2 7 OC 03 01V L2 7 PC 03  
 01V L2 7 CC 03 N 01V L2 7 OC 03 N 01V L2 7 PC 03 N



**STAINLESS STEEL AISI 316 L 90° LEVER VALVE**

**AISI 316L**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006  
**REACH**

2011/65/CE  
**RoHS**

PED  
2014/68/UE



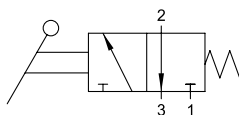
**Component Parts and Materials**

- Stainless Steel 316 L (1.4404) body
- Stainless Steel 316 L (1.4404) spool
- PUR seals and FKM O-Ring

		1/4
	THREADED	G 1/4 NPTF 1/4
	OPERATING PRESSURE	1 ÷ 10 bar
	ACTIVATION FORCE	20 N

**3/2 Ways**

**MONOSTABLE SPRING RETURN**

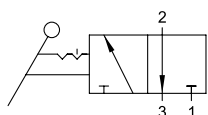


Part No.	Function	Size	Pack.
<b>X1V L0 3 NC 03</b>	3/2 <b>NC</b>	G 1/4	1



**3/2 Ways**

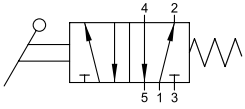
**TWO STABLE POSITIONS**



Part No.	Function	Size	Pack.
<b>X1V L1 3 NC 03</b>	3/2 <b>NC</b>	G 1/4	1

## 5/2 Ways

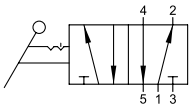
MONOSTABLE SPRING RETURN



Part No.	Function	Size	Pack.
<b>X1V L0 5 00 03</b>	5/2	G 1/4	1

## 5/2 Ways

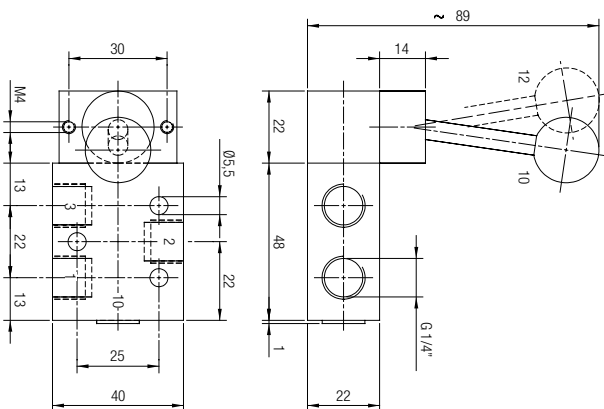
TWO STABLE POSITIONS



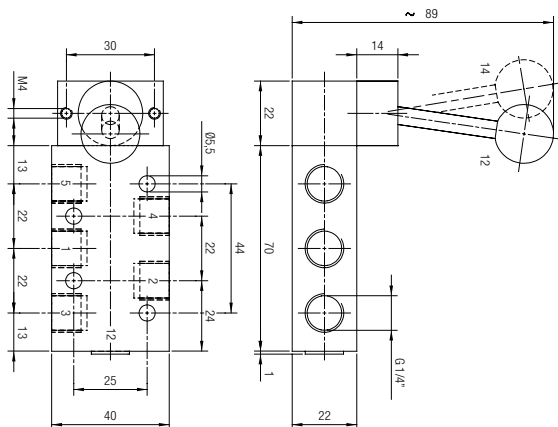
Part No.	Function	Size	Pack.
<b>X1V L1 5 00 03</b>	5/2	G 1/4	1



X1V L0 3 NC 03 X1V L1 3 00 03

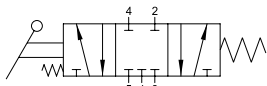


X1V L0 5 00 03 X1V L1 5 00 03

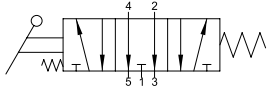


## 5/3 Ways

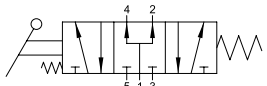
MONOSTABLE SPRING RETURN



CC



OC



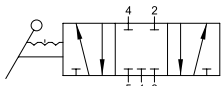
PC

Part No.	Function	Size	Pack.
X1V L0 7 CC 03	5/3 CC	G 1/4	1
X1V L0 7 OC 03	5/3 OC	G 1/4	1
X1V L0 7 PC 03	5/3 PC	G 1/4	1

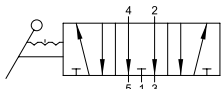


## 5/3 Ways

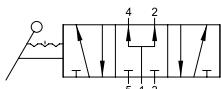
3 STABLE POSITIONS



CC



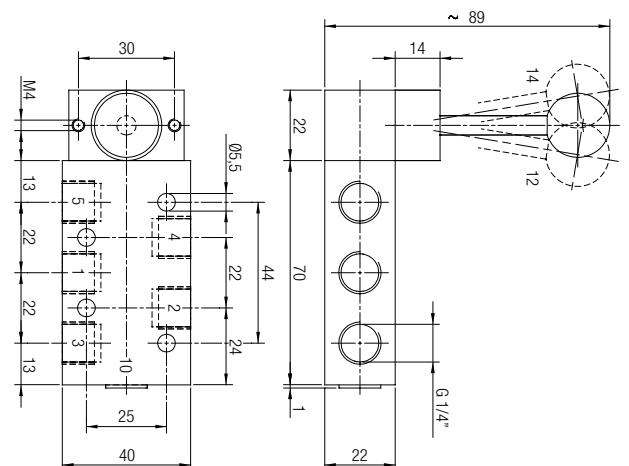
OC



PC

Part No.	Function	Size	Pack.
X1V L2 7 CC 03	5/3 CC	G 1/4	1
X1V L2 7 OC 03	5/3 OC	G 1/4	1
X1V L2 7 PC 03	5/3 PC	G 1/4	1

X1V L0 7 CC 03	X1V L0 7 OC 03	X1V L0 7 PC 03
X1V L2 7 CC 03	X1V L2 7 OC 03	X1V L2 7 PC 03



**MECHANICALLY ACTUATED / SPRING RETURN VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- ATEX  
2014/34/UE



**Component Parts and Materials**

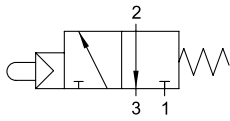
- Anodised and painted aluminium body
- Chemical nickel-plated spool
- NBR seals

		1/8
	THREADED	G 1/8 NPTF 1/8
	6 bar FLOW RATE with Δp 1 bar	740 NI/min
	OPERATING PRESSURE	2 ÷ 10 bar 29 ÷ 145 psi
	DRIVING FORCE	5.8 N
	TEMPERATURE	min
		max
		-10 °C 14 °F
		+60 °C 14 °F

Series	Actuation	Reactuation	Function	Size	Thread
<b>0 1 V</b>	<b>V</b>	<b>0</b>	<b>3</b>	<b>0 2</b>	
	V = Servo-piloted tappet N = Servo-piloted Whisker	0 = Monostable spring return	3 = 3/2 5 = 5/2	02 = 1/8	= G N = NPTF
			NC = Normally closed 00 = Function not provided		

**3/2**

**SERVO-PILOTED TAPPET - SPRING RETURN**

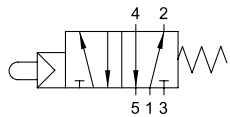


Part No.	Function	Size	Pack.
<b>01V V0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	1

Part No.	Function	Size	Pack.
<b>01V V0 3 NC 02 N</b>	3/2 <b>NC</b>	NPTF 1/8	1

**5/2**

**SERVO-PILOTED TAPPET - SPRING RETURN**



Part No.	Function	Size	Pack.
<b>01V V0 5 00 02</b>	5/2	G 1/8	1

Part No.	Function	Size	Pack.
<b>01V V0 5 00 02 N</b>	5/2	NPTF 1/8	1

**SERVO-PILOTED TAPPET VALVES - SPRING RETURN**

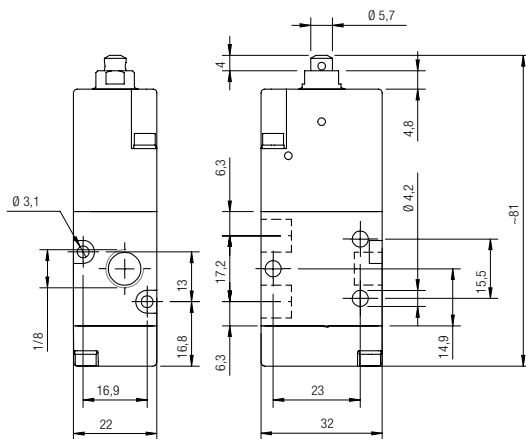


**04V 01 0 00 01**

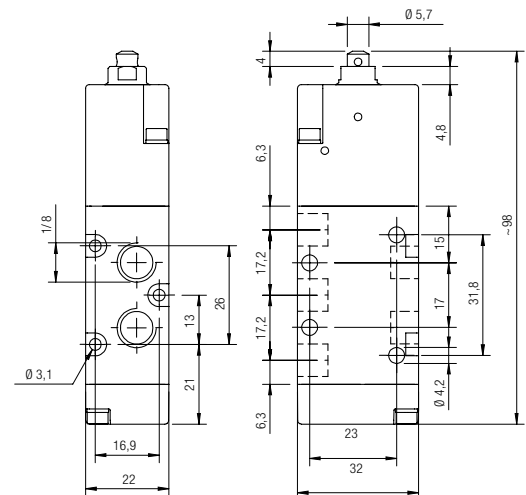
**04V 06 0 00 01**

The servo-piloted valve actuators are designed for panel mounting. For interfaces, refer to the buttons and switches in Series 04V Pg. 45.

**01V V0 3 NC 02 01V V0 3 NC 02 N**



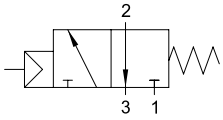
**01V V0 5 00 02 01V V0 5 00 02 N**





**3/2**

SERVO-PILOTED WHISKER - SPRING RETURN



Part No.	Function	Size	Pack.
01V N0 3 NC 02	3/2 NC	G 1/8	1

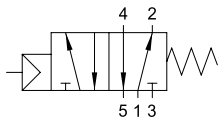
Part No.	Function	Size	Pack.
01V N0 3 NC 02 N	3/2 NC	NPTF 1/8	1

SERVO-PILOTED WHISKER - SPRING RETURN VALVES



**5/2**

SERVO-PILOTED WHISKER - SPRING RETURN

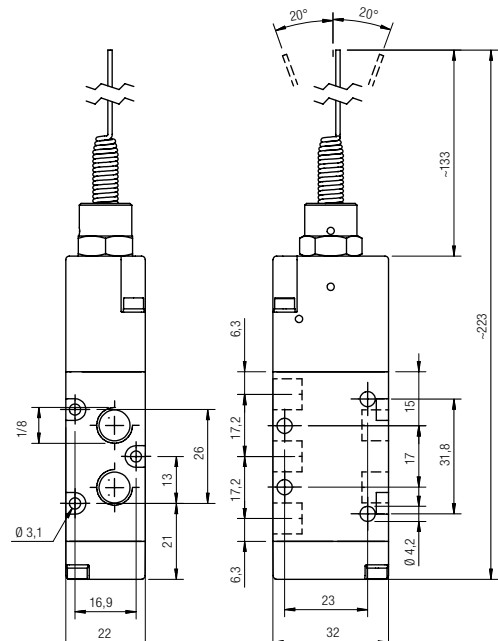
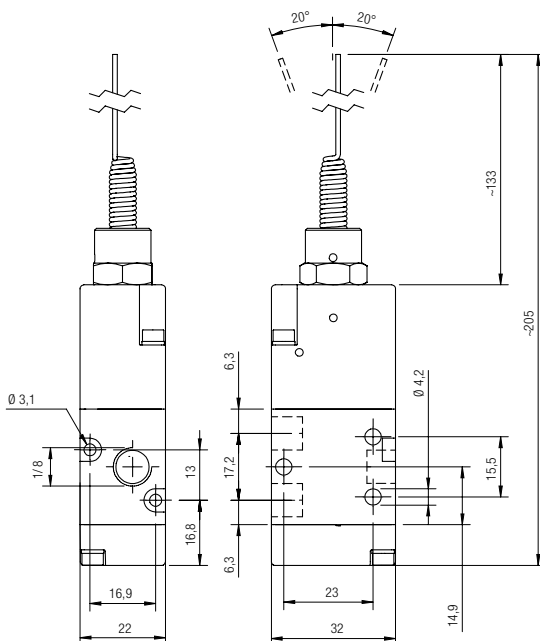


Part No.	Function	Size	Pack.
01V N0 5 00 02	5/2	G 1/8	1

Part No.	Function	Size	Pack.
01V N0 5 00 02 N	5/2	NPTF 1/8	1

01V N0 3 NC 02 01V N0 3 NC 02 N

01V N0 5 00 02 01V N0 5 00 02 N



**DIN RAIL MOUNTED FIXED LENGTH MANIFOLD BASES - NPTF**



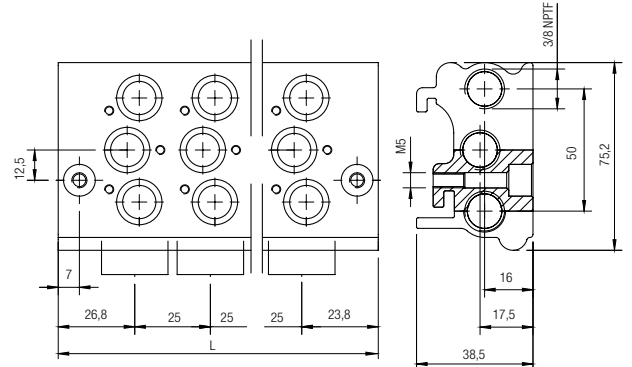
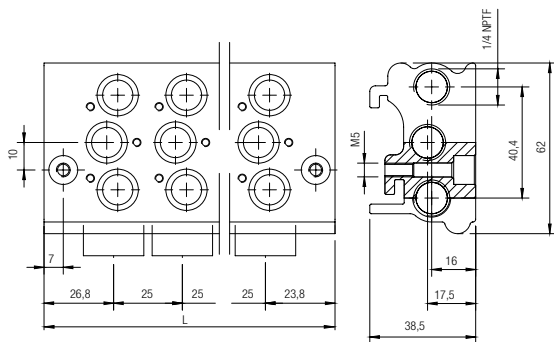
The bases are supplied with screws and O-Ring for attachment of the valves.

**MANIFOLD BASE FOR VALVES 01V - 1/8 NPTF**

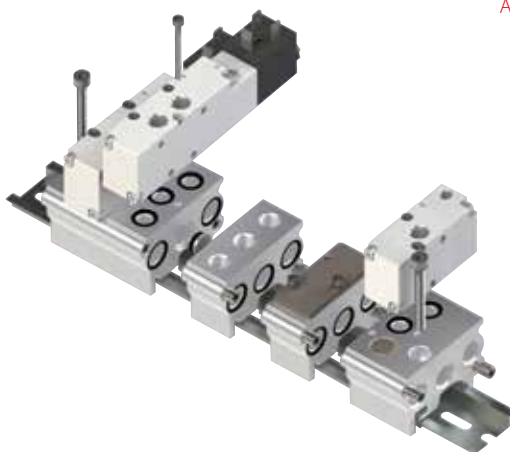
Part Number	Stations	L	Pack.
01V B0 0 00 02 N	2	76	1
01V B0 0 00 03 N	3	101	1
01V B0 0 00 04 N	4	126	1
01V B0 0 00 05 N	5	151	1
01V B0 0 00 06 N	6	176	1
01V B0 0 00 07 N	7	201	1
01V B0 0 00 08 N	8	226	1
01V B0 0 00 09 N	9	251	1
01V B0 0 00 10 N	10	276	1

**MANIFOLD BASE FOR VALVES 01V - 1/4 NPTF**

Part Number	Stations	L	Pack.
01V B0 1 00 02 N	2	76	1
01V B0 1 00 03 N	3	101	1
01V B0 1 00 04 N	4	126	1
01V B0 1 00 05 N	5	151	1
01V B0 1 00 06 N	6	176	1
01V B0 1 00 07 N	7	201	1
01V B0 1 00 08 N	8	226	1
01V B0 1 00 09 N	9	251	1
01V B0 1 00 10 N	10	276	1



**DIN RAIL MOUNTED MODULAR BASES**



All the bases are supplied with screws and seals to secure the correct assembly.

**FRONT MANIFOLD END PLATE**



Part Number	Size	Pack.
<b>01V B1 0 00 00 N</b>	1/8 NPTF	1
<b>01V B1 0 00 01 N</b>	1/4 NPTF	1

**REAR MANIFOLD END PLATE**



Part Number	Size	Pack.
<b>01V B2 0 00 00 N</b>	1/8 NPTF	1
<b>01V B2 0 00 01 N</b>	1/4 NPTF	1

**MODULAR BASE**



Part Number	Size	Pack.
<b>01V B3 0 00 00 N</b>	1/8 NPTF	1
<b>01V B3 0 00 01 N</b>	1/4 NPTF	1

**INTERMEDIATE PRESSURE BASE**



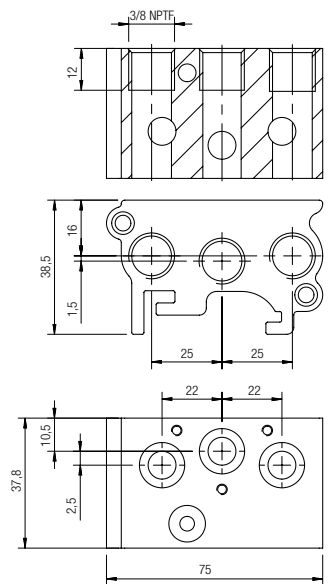
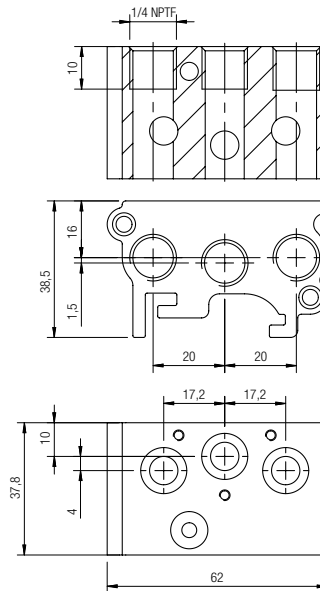
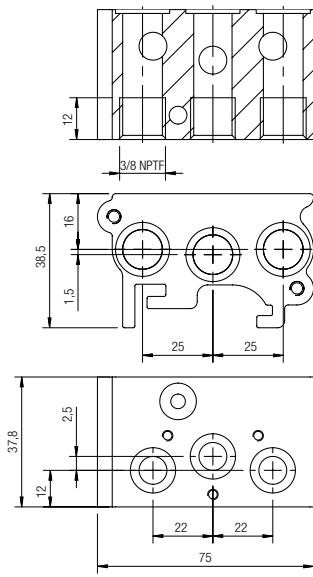
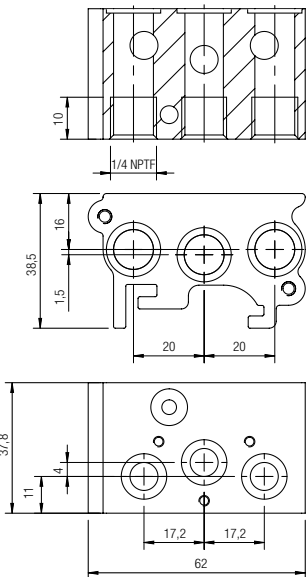
Part Number	Size	Pack.
<b>01V B4 0 00 00 N</b>	1/8 NPTF	1
<b>01V B4 0 00 01 N</b>	1/4 NPTF	1

**01V B1 0 00 00 N**

**01V B1 0 00 01 N**

**01V B2 0 00 00 N**

**01V B2 0 00 01 N**

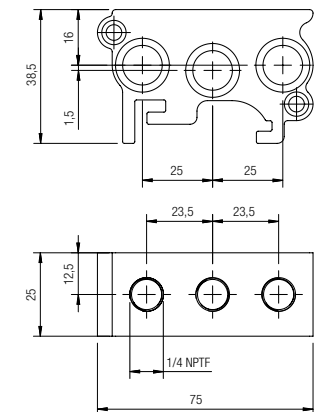
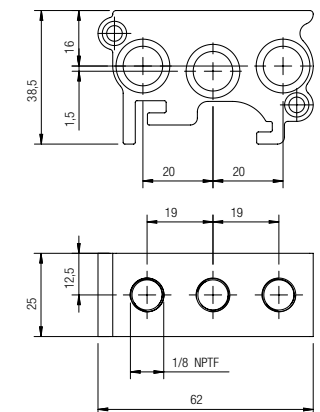
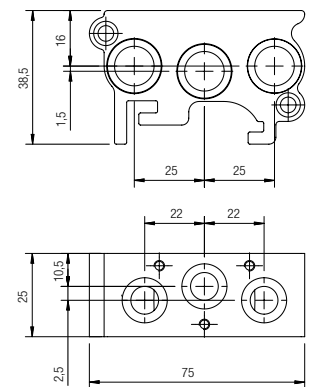
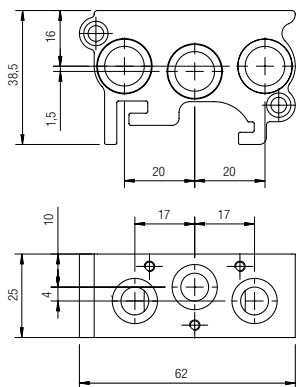


**01V B3 0 00 00 N**

**01V B3 0 00 01 N**

**01V B4 0 00 00 N**

**01V B4 0 00 01 N**



**DIN RAIL MOUNTED FIXED LENGTH MANIFOLD BASES**



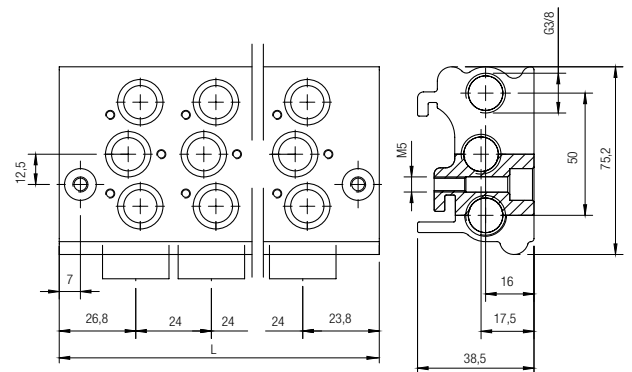
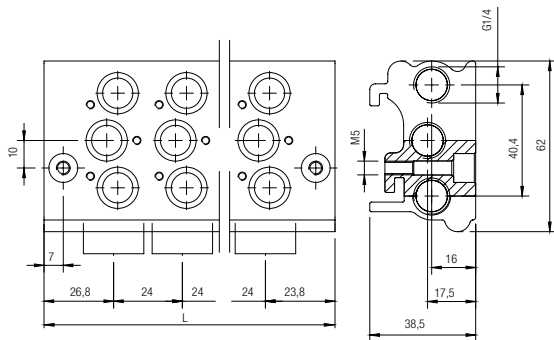
The bases are supplied with screws and O-Ring for attachment of the valves.

**MANIFOLD BASE FOR VALVES 01V - G1/8**

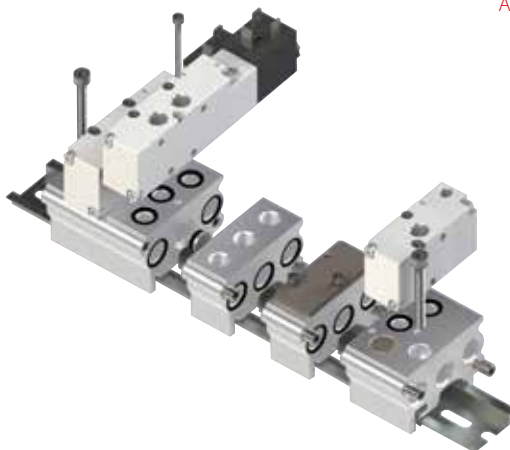
Part Number	Stations	L	Pack.
01V B0 0 00 02	2	75	1
01V B0 0 00 03	3	99	1
01V B0 0 00 04	4	123	1
01V B0 0 00 05	5	147	1
01V B0 0 00 06	6	171	1
01V B0 0 00 07	7	195	1
01V B0 0 00 08	8	219	1
01V B0 0 00 09	9	243	1
01V B0 0 00 10	10	267	1

**MANIFOLD BASE FOR VALVES 01V - G1/4**

Part Number	Stations	L	Pack.
01V B0 1 00 02	2	75	1
01V B0 1 00 03	3	99	1
01V B0 1 00 04	4	123	1
01V B0 1 00 05	5	147	1
01V B0 1 00 06	6	171	1
01V B0 1 00 07	7	195	1
01V B0 1 00 08	8	219	1
01V B0 1 00 09	9	243	1
01V B0 1 00 10	10	267	1



**DIN RAIL MOUNTED MODULAR BASES**



All the bases are supplied with screws and seals to secure the correct assembly.

**FRONT MANIFOLD END PLATE**



Part Number	Size	Pack.
<b>01V B1 0 00 00</b>	G 1/8	1
<b>01V B1 0 00 01</b>	G 1/4	1

**REAR MANIFOLD END PLATE**



Part Number	Size	Pack.
<b>01V B2 0 00 00</b>	G 1/8	1
<b>01V B2 0 00 01</b>	G 1/4	1

**MODULAR BASE**



Part Number	Size	Pack.
<b>01V B3 0 00 00</b>	G 1/8	1
<b>01V B3 0 00 01</b>	G 1/4	1

**INTERMEDIATE PRESSURE BASE**



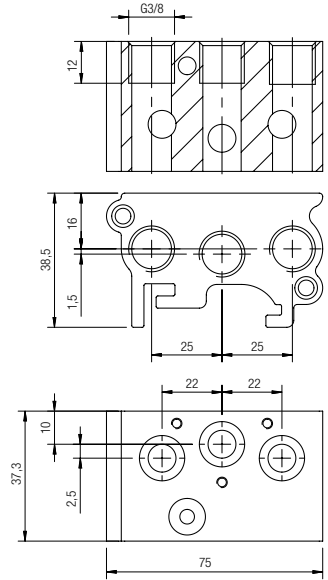
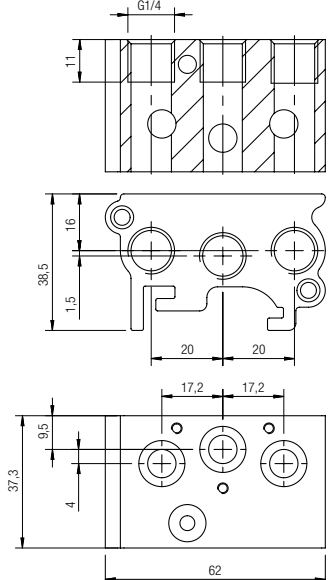
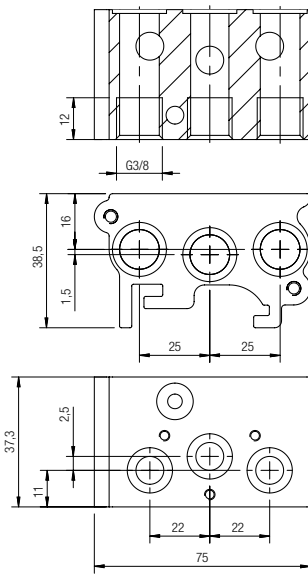
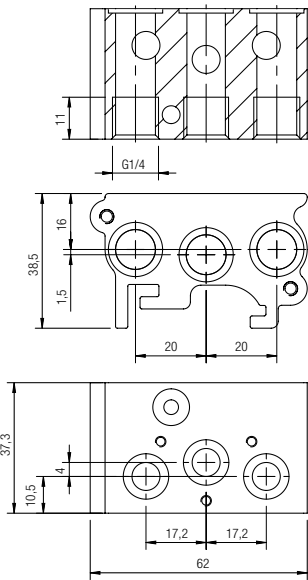
Part Number	Size	Pack.
<b>01V B4 0 00 00</b>	G 1/8	1
<b>01V B4 0 00 01</b>	G 1/4	1

**01V B1 0 00 00**

**01V B1 0 00 01**

**01V B2 0 00 00**

**01V B2 0 00 01**

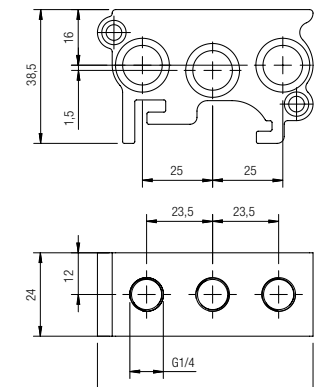
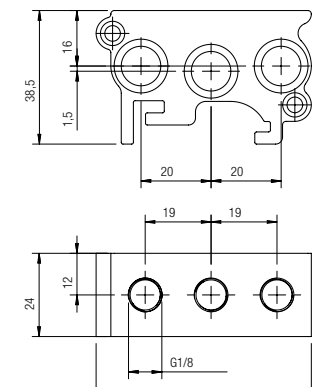
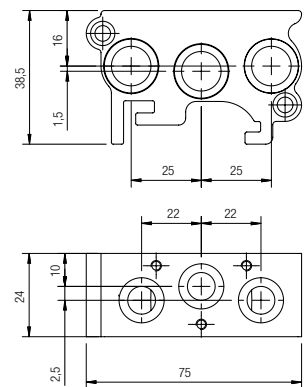
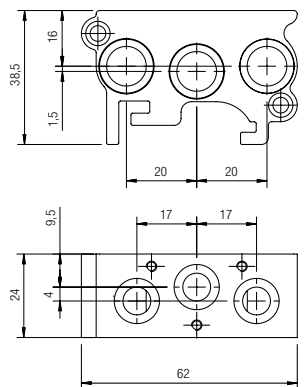


**01V B3 0 00 00**

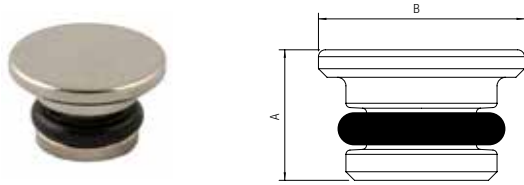
**01V B3 0 00 01**

**01V B4 0 00 00**

**01V B4 0 00 01**

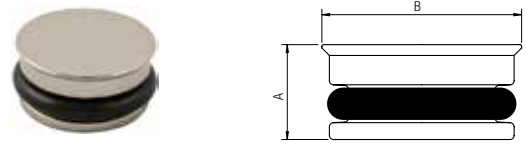


**PLUG FOR 3 WAY VALVE CONNECTION**



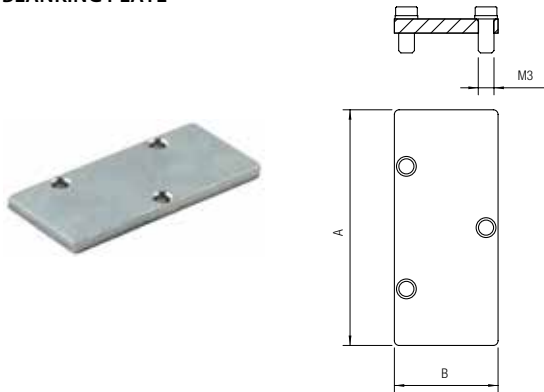
Part No.	Size	A	B	Pack.
<b>01V B6 0 00 00</b>	1/8	7.5	12	1
<b>01V B6 0 00 01</b>	1/4	7.5	14	1

**INTERMEDIATE PLUG FOR MODULAR BASE**



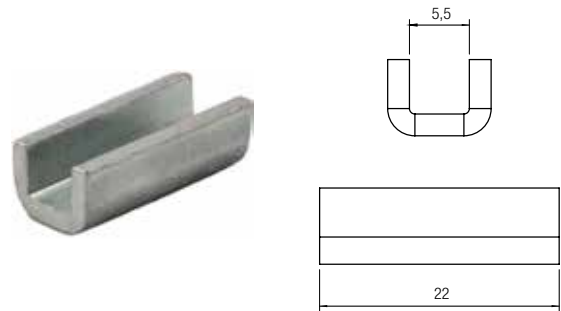
Part No.	Size	A	B	Pack.
<b>01V B8 0 00 00</b>	1/8	7.5	12	1
<b>01V B8 0 00 01</b>	1/4	7.5	14	1

**BLANKING PLATE**

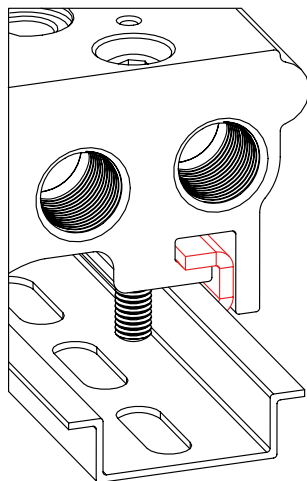


Part No.	Size	A	B	Pack.
<b>01V B9 0 00 00</b>	1/8	50	22	1
<b>01V B9 0 00 01</b>	1/4	62	22	1

**OMEGA BAR BRACKET**



Part No.	Size	Pack.
<b>01V B7 0 00 00</b>	1/8 - 1/4	2



TECHNICAL CHARACTERISTICS	
TYPE OF MOUNTING	SCREW
WITH EN 50222 OMEGA BAR THICKNESS - 15 mm	M5 x 40
WITH EN 50222 OMEGA BAR THICKNESS - 7.5 mm	M5 x 35
DIRECT ON BASE	M4 x 40

MICRO VALVES

**02V**



**MECHANICALLY ACTUATED MICRO VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE



**Component Parts and Materials**

- Anodised aluminium body
- Stainless Steel Spring
- NBR seals

		M5	
	THREADED	M5	
	6 bar FLOW RATE with Δp 1 bar	100 Nl/min	
	OPERATING PRESSURE	2 ÷ 10 bar 29 ÷ 145 psi	
	DRIVING FORCE	6 N	
	TEMPERATURE	min	-10 °C 14 °F
		max	+60 °C 140 °F

Series	Actuation	Reactuation	Function	Size
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**0 2 V**

**G**

**0**

**3**

**N C**

**B 5**

- G** = Tappet
- R** = Short Roller
- U** = Uni-directional Roller
- E** = Panel Mounting  
Taper Microvalve

**0** = Monostable  
spring return

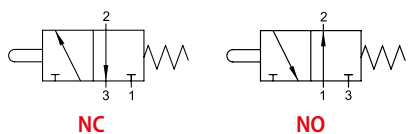
**3** = 3/2

**NO** = Normally open  
**NC** = Normally closed

**B5** = M5 (metric)

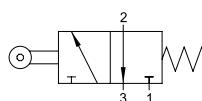
**3/2**

**TAPPET - SPRING RETURN**



**3/2**

**SHORT ROLLER - SPRING RETURN**



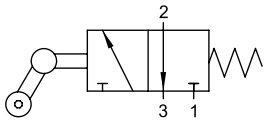
Part No.	Function	Size	Pack.
<b>02V G0 3 NC B5</b>	3/2 <b>NC</b>	M5 (metric)	1
<b>02V G0 3 NO B5</b>	3/2 <b>NO</b>	M5 (metric)	1

Part No.	Function	Size	Pack.
<b>02V R0 3 NC B5</b>	3/2 <b>NC</b>	M5 (metric)	1



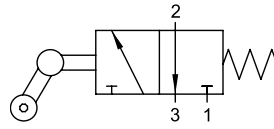
**3/2**

UNI-DIRECTIONAL ROLLER - SPRING RETURN



**3/2**

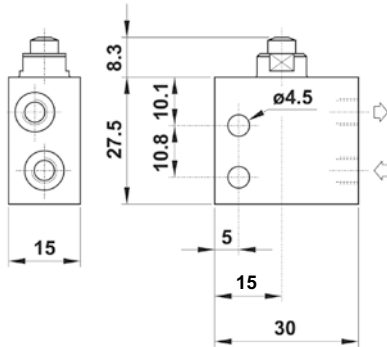
PANEL MOUNTED TAPPET - SPRING RETURN



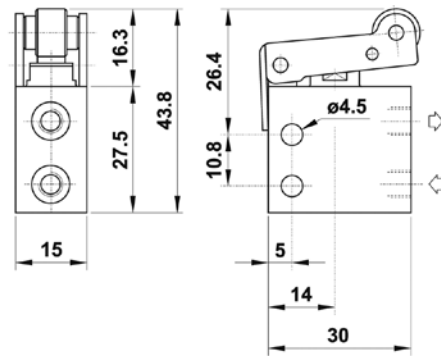
Part No.	Function	Size	Pack.
02V U0 3 NC B5	3/2 NC	M5 (metric)	1

Part No.	Function	Size	Pack.
02V E0 3 NC B5	3/2 NC	M5 (metric)	1

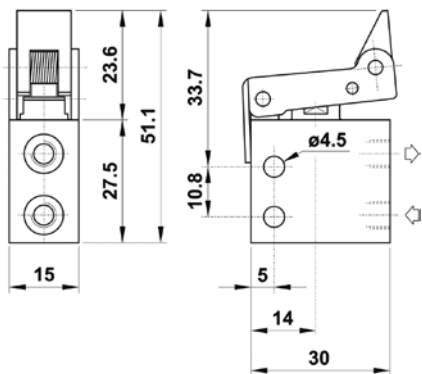
02V G0 3 NC B5



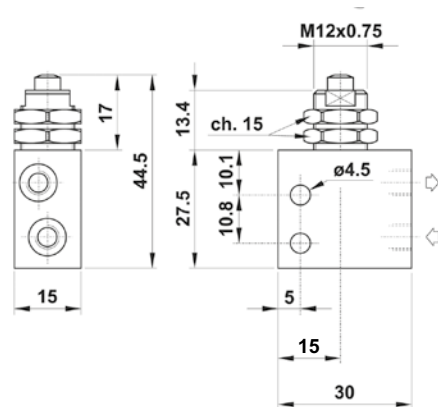
02V R0 3 NC B5



02V U0 3 NC B5



02V E0 3 NC B5



**16 MM VALVES - MECHANICAL AND MANUAL OPERATORS**



**16 MM VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE



**Component Parts and Materials**

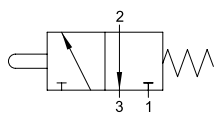
- Anodised aluminium body
- Stainless Steel Spring
- NBR seals

		1/8
	THREADED	G 1/8
	6 bar FLOW RATE with Δp 1 bar	350 NI/min
	OPERATING PRESSURE	2 ÷ 10 bar 29 ÷ 145 psi
	TEMPERATURE	min -10 °C 14 °F
		max +60 °C 140 °F

Series	Actuation	Reactuation	Function	Size
<b>0 3 V</b>	<b>G</b>	<b>0</b>	<b>3</b>	<b>NC</b>
	G = Tappet R = Short Roller H = Lever Z = Long Roller	0 = Monostable spring return	3 = 3/2 5 = 5/2	NC = Normally closed 00 = Function not provided
				<b>0 2</b>
				02 = 1/8

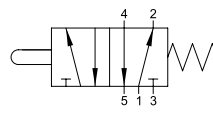
**3/2**

**TAPPET - SPRING RETURN**



**5/2**

**TAPPET - SPRING RETURN**

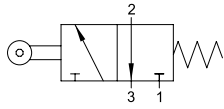


Part No.	Function	Size	Driving Force	Pack.
<b>03V G0 3 NC 02</b>	3/2 NC	G 1/8	19.6 N	1

Part No.	Function	Size	Driving Force	Pack.
<b>03V G0 5 00 02</b>	5/2	G 1/8	39.2 N	1

**3/2**

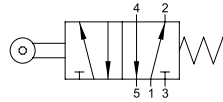
SHORT ROLLER - SPRING RETURN



Part No.	Function	Size	Driving Force	Pack.
<b>03V R0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	9.8 N	1

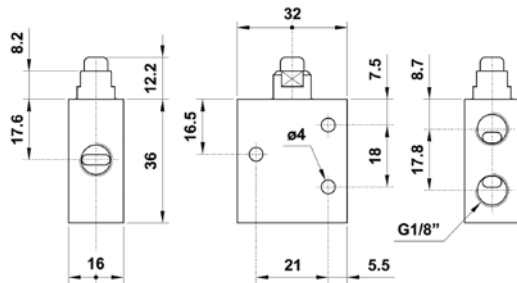
**5/2**

SHORT ROLLER - SPRING RETURN

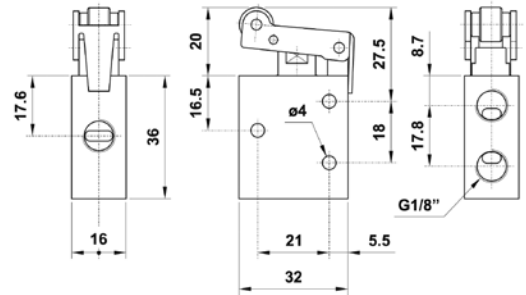


Part No.	Function	Size	Driving Force	Pack.
<b>03V R0 5 00 02</b>	5/2	G 1/8	21.5 N	1

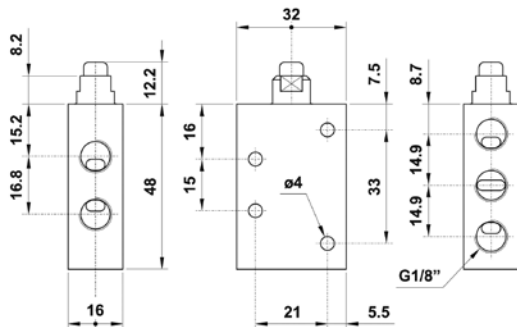
03V G0 3 NC 02



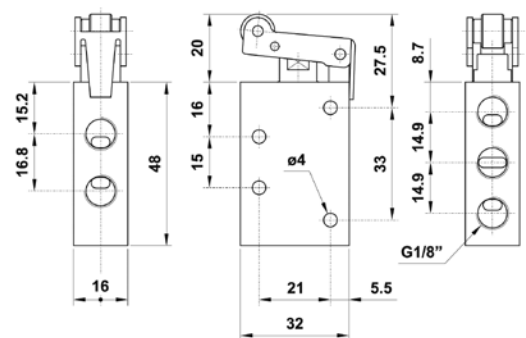
03V R0 3 NC 02



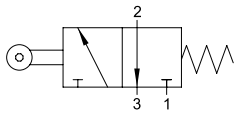
03V G0 5 00 02



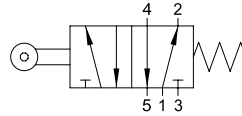
03V R0 5 00 02



**3/2**  
LONG ROLLER - SPRING RETURN



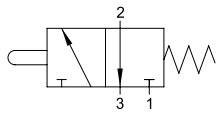
**5/2**  
LONG ROLLER - SPRING RETURN



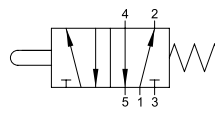
Part No.	Function	Size	Driving Force	Pack.
<b>03V Z0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	8.3 N	1

Part No.	Function	Size	Driving Force	Pack.
<b>03V Z0 5 00 02</b>	5/2	G 1/8	14.2 N	1

**3/2**  
LEVER OPERATED - SPRING RETURN



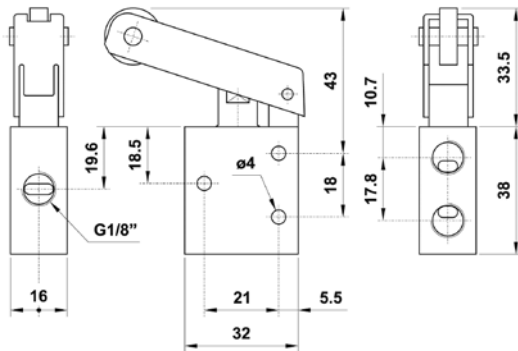
**5/2**  
LEVER OPERATED - SPRING RETURN



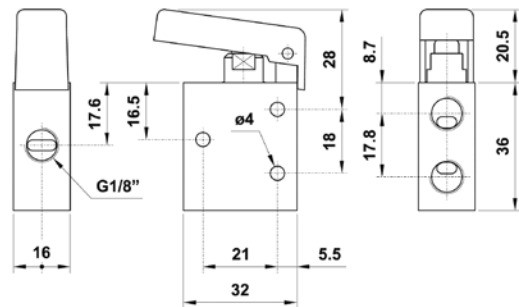
Part No.	Function	Size	Driving Force	Pack.
<b>03V H0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	7.8 N	1

Part No.	Function	Size	Driving Force	Pack.
<b>03V H0 5 00 02</b>	5/2	G 1/8	13.7 N	1

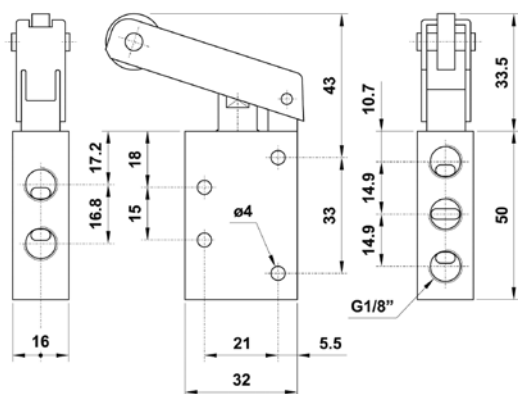
03V Z0 3 NC 02



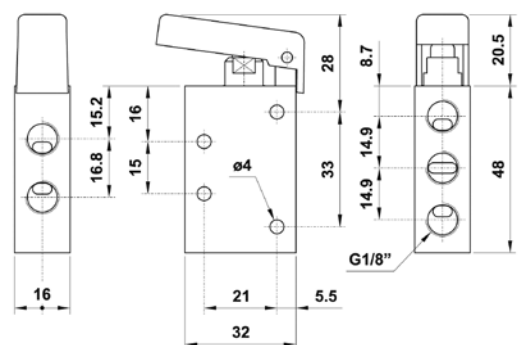
03V H0 3 NC 02



03V Z0 5 00 02



03V H0 5 00 02



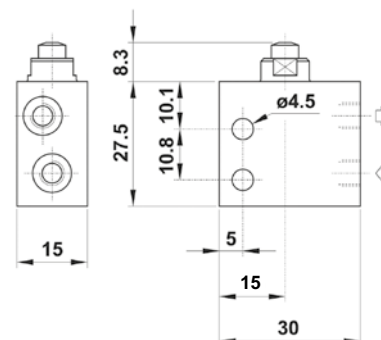
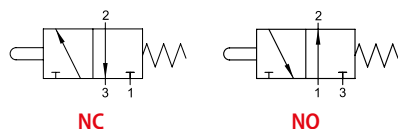
PANEL, PUSH BUTTON AND SELECTOR VALVES



**MICRO VALVES**

**3/2**

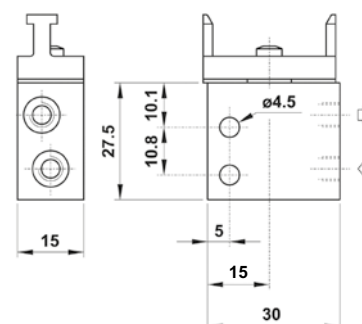
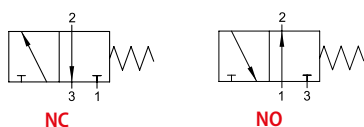
**TAPPET - SPRING RETURN**



Part No.	Function	Size	Pack.
02V G0 3 NC B5	3/2 NC	M5 (metric)	1
02V G0 3 NO B5	3/2 NO	M5 (metric)	1

**3/2**

**PANEL MOUNTED ACTUATOR - SPRING RETURN**



Part No.	Function	Size	Pack.
02V D0 3 NC B5	3/2 NC	M5 (metric)	1
02V D0 3 NO B5	3/2 NO	M5 (metric)	1

**INTERFACE FOR CONNECTION BUTTON**

Part No.	Function	Pack.
04V 06 0 00 01	SINGLE	1
04V 06 0 00 02	DOUBLE	1



04V 06 0 00 02

04V 06 0 00 01

**PUSH BUTTON AND SELECTOR**

**PROTECTED PUSH BUTTON**

Part No.	Standard Color	Pack.
04V 01 0 00 01		1



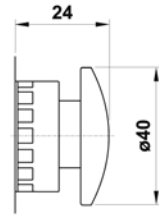
Part No.	Color	Pack.
04V 01 P 00 VE		1
04V 01 P 00 GI		1
04V 01 P 00 AZ		1



The following colors can be ordered separately.

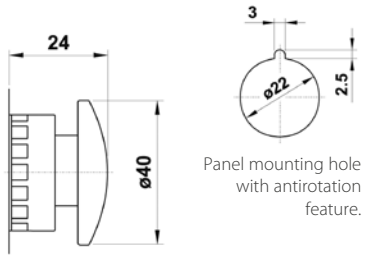
**AXIAL MONO-STABLE MUSHROOM**

Part No.	Color	Pack.
04V 02 0 0N 01	■	1
04V 02 0 0R 01	■	1



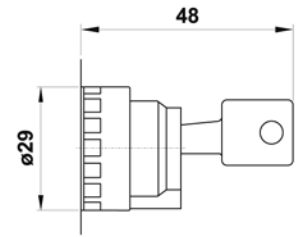
**TURN TO UNLOCK MUSHROOM**

Part No.	Color	Pack.
04V 02 0 0R 02	■	1



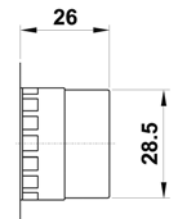
**KEY SELECTOR**

Part No.	Color	Function	Position to pull the key out	Pack.
04V 03 0 00 01	■	0 - 1	Only in central position	1
04V 03 0 00 02	■	0 - 1	Both position	1
04V 03 0 00 03	■	2 - 0 - 1	Only in central position	1



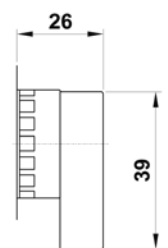
**SHORT LEVER SELECTOR**

Part No.	Color	Function	Pack.
04V 04 0 0N 01	■	0 1	1
04V 04 0 0N 02	■	0 ← 1	1
04V 04 0 0N 03	■	2 0	1
04V 04 0 0N 04	■	2 → 0 ← 1	1



**LONG LEVER SELECTOR**

Part No.	Color	Function	Pack.
04V 05 0 0N 01	■	0 1	1
04V 05 0 0N 02	■	0 ← 1	1
04V 05 0 0N 03	■	2 0	1
04V 05 0 0N 04	■	2 → 0 ← 1	1





18 MM VDMA VALVES

05V



**18 MM SOLENOID PILOT VALVES - VDMA**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH**
- 2011/65/CE  
**RoHS**
- PED  
2014/68/UE
- ISO 15407-1  
VDMA 24563 SIZE 02 (18 mm)



**Component Parts and Materials**

- Anodised aluminium body
- Nickel-plated spool
- NBR seals

	6 bar FLOW RATE with Δp 1 bar		550 NI/min
	OPERATING PRESSURE	Monostable	2.5 ÷ 10 bar 36.5 ÷ 145 psi
		Bistable	1 ÷ 10 bar 14.5 ÷ 145 psi
	TEMPERATURE	min	-10 °C 14 °F
		max	+60 °C 140 °F
	SOLENOID VOLTAGE		24V DC ÷ 24V AC
	MINIMUM POWER		2W - 3VA
	MANUAL CONTROL		MONOSTABLE
	Response time	Monostable	<b>TRA</b> = 13 ms <b>TRR</b> = 26 ms
		Bistable	<b>TRA=TRR</b> = 24 ms

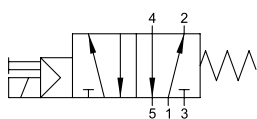
**TRA** = Response time with energised coil

**TRR** = Response time with deenergised coil

Series	Actuation	Reactuation	Function	Size
<b>0 5 V</b>	<b>S</b> S = Solenoid	<b>0</b> 0 = Monostable spring return 1 = Bistable	<b>7</b> 3 = 3/2 5 = 5/2 7 = 5/3	<b>CC</b> CC = All Ports Blocked OC = Normally exhausted OO = Function not provided
				<b>0 0</b> 00 = 24V DC 01 = 24V AC

**5/2**

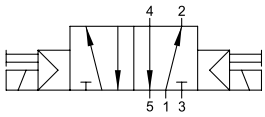
**SINGLE SOLENOID PILOT - SPRING RETURN**



Part No.	Function	Solenoid	Pack.
<b>05V S0 5 00 00</b>	5/2	24V DC	1
<b>05V S0 5 00 01</b>	5/2	24V 50/60Hz	1

**5/2**

**DOUBLE SOLENOID PILOT**

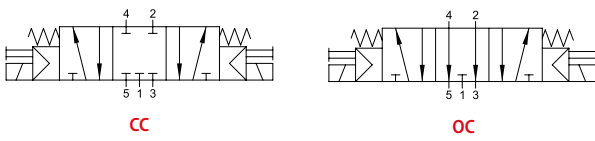


Part No.	Function	Solenoid	Pack.
05V S1 5 00 00	5/2	24V DC	1
05V S1 5 00 01	5/2	24V 50/60Hz	1



**5/3**

**DOUBLE SOLENOID PILOT - SPRING CENTERED**

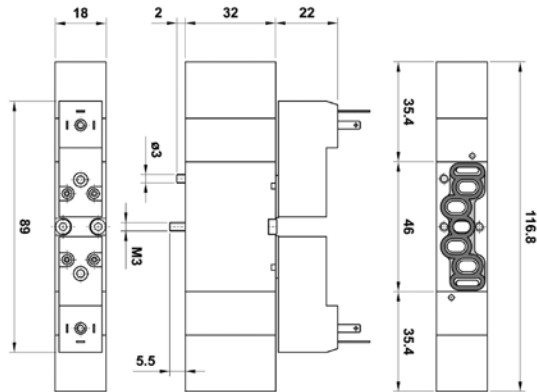
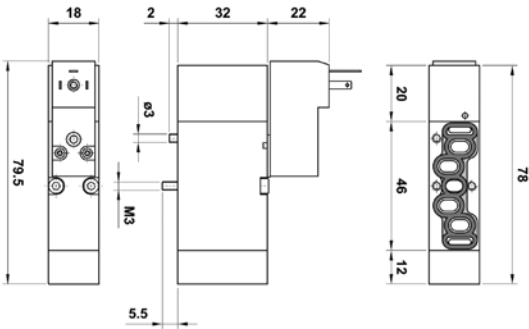


Part No.	Function	Solenoid	Pack.
05V S0 7 CC 00	5/3 <b>CC</b>	24V DC	1
05V S0 7 OC 00	5/3 <b>OC</b>	24V DC	1
05V S0 7 CC 01	5/3 <b>CC</b>	24V 50/60Hz	1
05V S0 7 OC 01	5/3 <b>OC</b>	24V 50/60Hz	1

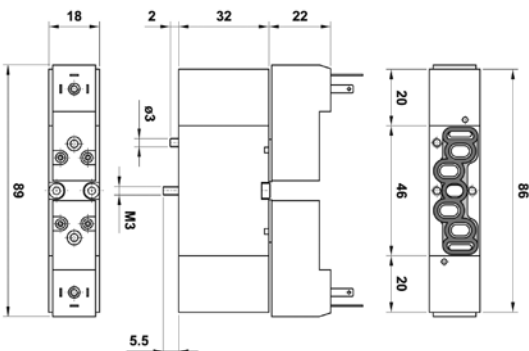


05V S0 5 00 00 05V S0 5 00 01

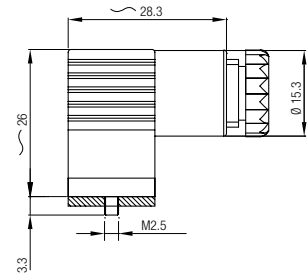
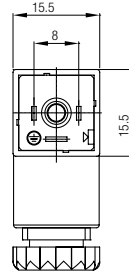
05V S0 7 CC 00 05V S0 7 OC 00 05V S0 7 CC 01 05V S0 7 OC 01



05V S1 5 00 00 05V S1 5 00 01



## Connectors 15 mm



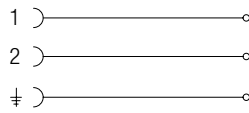
Part No.	Color	Characteristics	Pack.
<b>CON11 000 01</b>	■	STANDARD 2 PIN	1
<b>CON12 024 00</b>	□	LED + VDR 0 - 24V	1

■ Black                                      □ Transparent

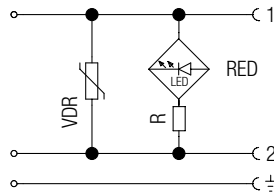
**VDR:** Fitted with varistors as surge protection device.



### Wiring



CON11 000 01



CON12 024 00

DEGREE OF PROTECTION

IP65 IEC 60529

CABLE DIAMETER

4 ÷ 6 mm

TERMINALS

DIN 4365 C

**18 MM AIR PILOT VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

ISO 15407-1  
VDMA 24563 SIZE 02 (18 mm)



**Component Parts and Materials**

- Anodised aluminium body
- Nickel-plated spool
- NBR seals

	6 bar FLOW RATE with $\Delta p$ 1 bar	550 NI/min
	PRESSURE DRIVE	0 ÷ 10 bar 0 ÷ 145 psi
	OPERATING PRESSURE	Monostable 2 ÷ 10 bar 29 ÷ 145 psi
		Bistable 1 ÷ 10 bar 14.5 ÷ 145 psi
	TEMPERATURE	min -10 °C 14 °F
		max +60 °C 140 °F
	RESPONSE TIME	Monostable <b>TRA</b> = 12 ms
		Bistable <b>TRR</b> = 24 ms
		Bistable <b>TRA=TRR</b> = 21 ms

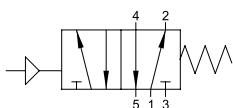
**TRA** = Response time with energised coil

**TRR** = Response time with deenergised coil

Series	Actuation	Reactuation	Function	Size
<b>0 5 V</b>	<b>P</b> P = Pneumatic	<b>0</b> 0 = Monostable spring return 1 = Bistable	<b>5</b> 5 = 5/2 7 = 5/3	<b>0 0</b> CC = All Ports Blocked OC = Normally exhausted 00 = Function not provided

**5/2**

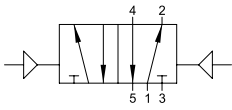
**SINGLE AIR PILOT - SPRING RETURN**



Part No.	Function	Pack.
<b>05V P0 5 00 00</b>	5/2	1

**5/2**

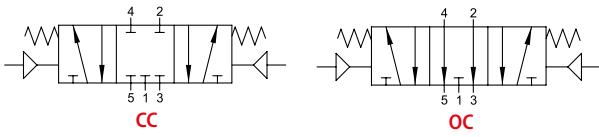
**DOUBLE AIR PILOT**



Part No.	Function	Pack.
05V P1 5 00 00	5/2	1

**5/3**

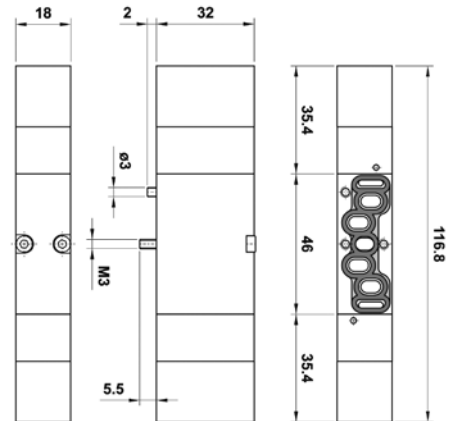
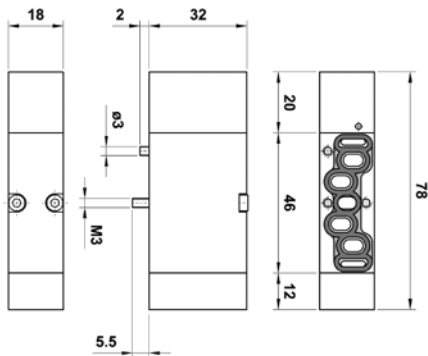
**DOUBLE AIR PILOT - SPRING CENTERED**



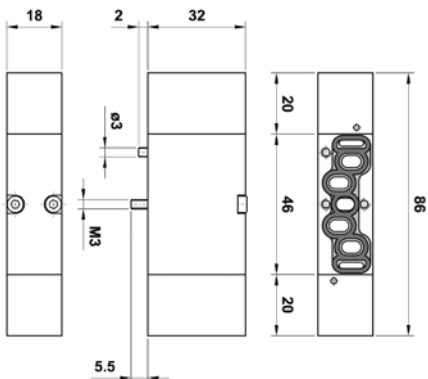
Part No.	Function	Pack.
05V P0 7 CC 00	5/3 CC	1
05V P0 7 OC 00	5/3 OC	1

05V P0 5 00 00

05V P0 7 CC 00 05V P0 7 OC 00



05V P1 5 00 00



**MODULAR BASES AND ACCESSORIES**

All the bases are supplied with screws and seals to secure the correct assembly.

**FRONT MANIFOLD END PLATE**



**REAR MANIFOLD END PLATE**



Part No.	Pack.
<b>05V B1 0 00 00</b>	1

Part No.	Pack.
<b>05V B2 0 00 00</b>	1

**MODULAR BASE**



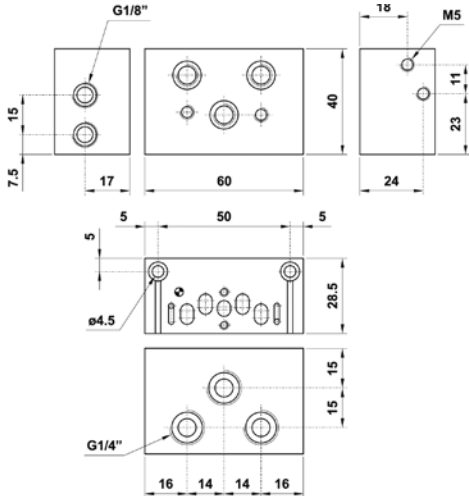
**INTERMEDIATE PRESSURE BASE**



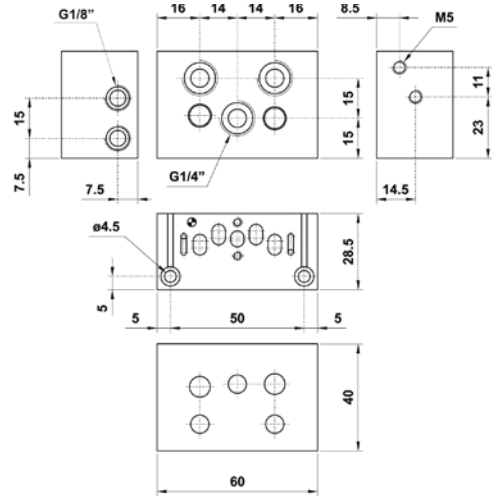
Part No.	Pack.
<b>05V B3 0 00 00</b>	1

Part No.	Pack.
<b>05V B4 0 00 00</b>	1

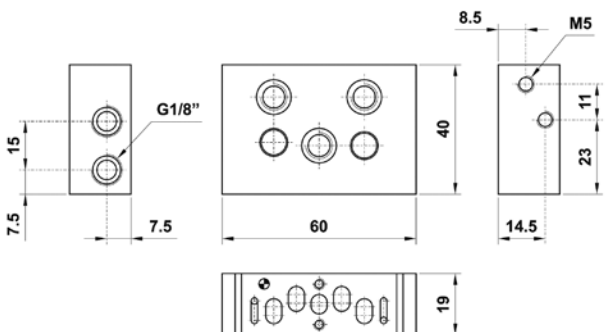
**05V B1 0 00 00**



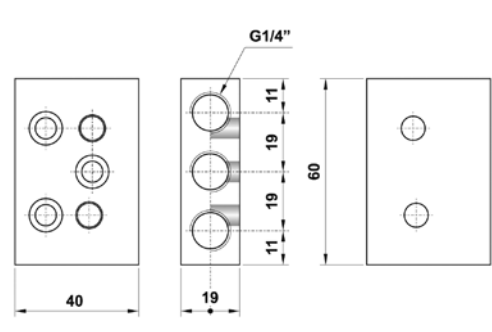
**05V B2 0 00 00**



**05V B3 0 00 00**



**05V B4 0 00 00**



**INTERMEDIATE PLUG**



Part No.	Pack.
<b>05V B8 0 00 00</b>	1

**GASKET FOR INTERMEDIATE PLUG**



The gasket is supplied with M8 dowel.

Part No.	Pack.
<b>05V B7 0 00 00</b>	1

**BLANKING PLATE**



Part No.	Pack.
<b>05V B9 0 00 00</b>	1

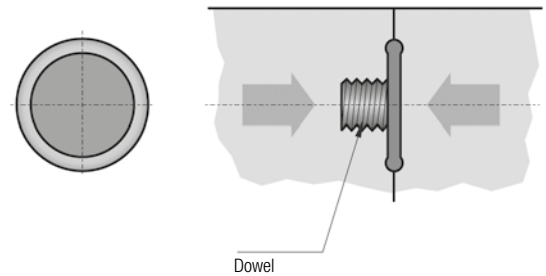
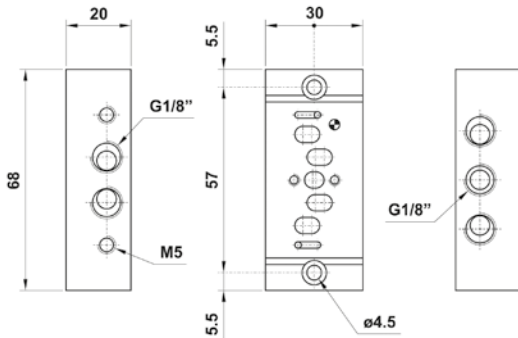
**INDIVIDUAL BASE**



Part No.	Pack.
<b>05V B5 0 00 00</b>	1

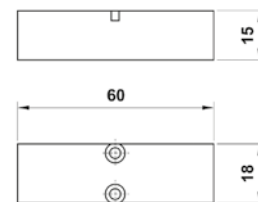
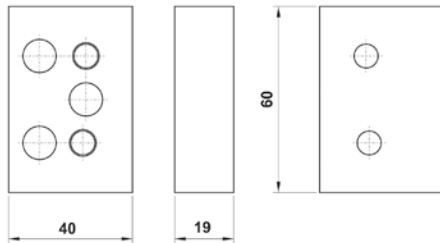
05V B5 0 00 00

05V B7 0 00 00

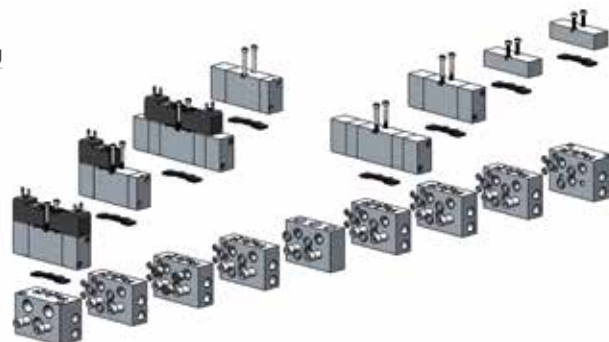


05V B8 0 00 00

05V B9 0 00 00



**Example of assembling**





PEDAL VALVES

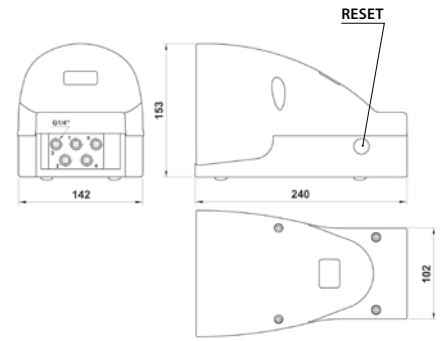
**A90**





### Reference Standard

- 1907/2006  
REACH ✓
- 2011/65/CE  
ROHS ✓
- PED  
2014/68/UE

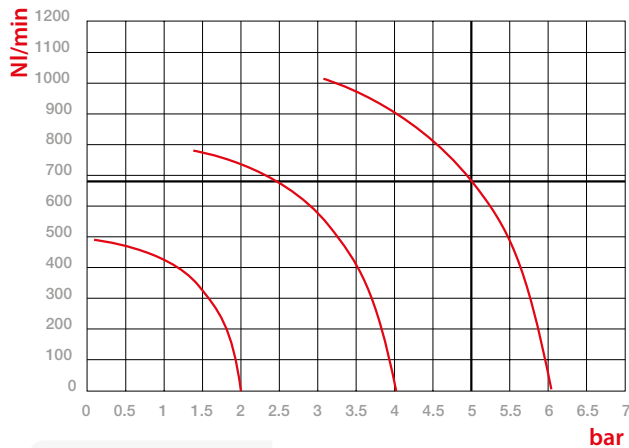


### Functions

- |            |                   |            |                   |
|------------|-------------------|------------|-------------------|
| <b>5/2</b> | SUPPLY = (1)      | <b>3/2</b> | SUPPLY = (1)      |
|            | OUTPUT = (2) (4)  |            | OUTPUT = (2) (X)  |
|            | EXHAUST = (3) (5) |            | EXHAUST = (3) (5) |



### Flow Rates

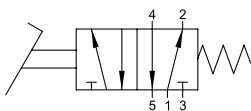


NI/min      bar  
Flow          Pressures

		<b>1/4</b>
	THREADED	G 1/4
	OPERATING PRESSURE	2 ÷ 10 bar 29 ÷ 145 psi
	TEMPERATURE	max +60 °C 140 °F
	PROTECTION	TECHNOPOLYMER

## 5/2

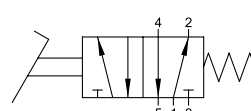
PEDAL WITH PROTECTION COVER - SPRING RETURN



Part No.	Function	Size	Pack.
06V 00 0 00 01	5/2	G 1/4	1

## 5/2

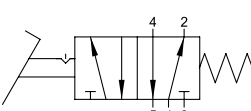
PEDAL WITH PROTECTION COVER AND SAFETY FEATURE - SPRING RETURN



Part No.	Function	Size	Pack.
06V 00 0 00 02	5/2	G 1/4	1

## 5/2

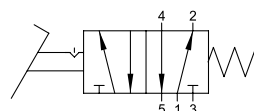
PEDAL WITH PROTECTION COVER DETENT - SPRING RETURN



Part No.	Function	Size	Pack.
06V 00 0 00 03	5/2	G 1/4	1

## 5/2

PEDAL WITH DETENT AND SAFETY LOCK - SPRING RETURN



Part No.	Function	Size	Pack.
06V 00 0 00 04	5/2	G 1/4	1

SOLENOID VALVES

**A70**





**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- ATEX  
2014/34/UE



**Component Parts and Materials**

- Anodised aluminium body
- NBR seals

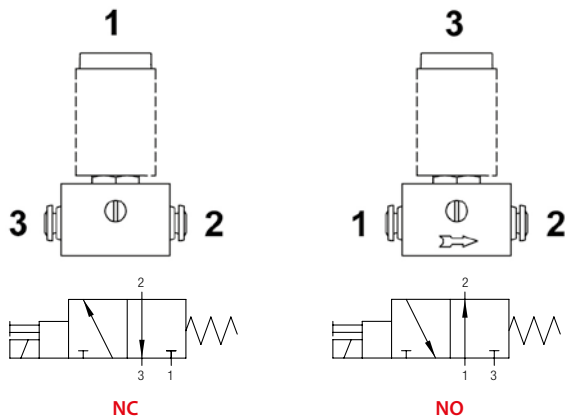
	THREADED	G 1/8 - automatic Ø 5/32 - (4)
	6 bar FLOW RATE with Δp 1 bar	30 NI/min
	OPERATING PRESSURE	0 ÷ 10 bar 0 ÷ 145 psi
	TEMPERATURE	min -10 °C 14 °F max +60 °C 140 °F
	SOLENOID VOLTAGE	24V DC - 12V DC - 24V AC 110V AC - 220V AC
	MINIMUM POWER	3W - 5VA
	MANUAL CONTROL	BISTABLE
	TORQUE OF TIGHTENING THE NUT SOLENOID	0.6 Nm

Series	Actuation	Reactuation	Function	Size
<b>0 7 V</b>	<b>S</b>	<b>0</b>	<b>3</b>	<b>N C</b>
	S = Solenoid with manual override	0 = Monostable spring return	3 = 3/2	NO = Normally open NC = Normally closed
				<b>0 2</b>
				02 = 1/8 X1 = Ø 5/32 (4)

**3/2**

**SOLENOID WITH MANUAL OVERRIDE**

**SOLENOID WITH MANUAL OVERRIDE**

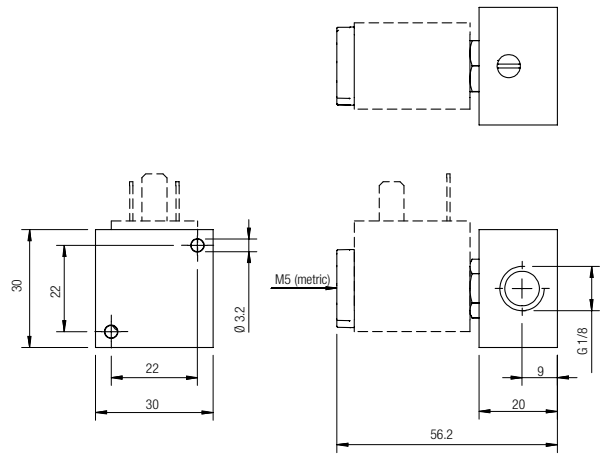
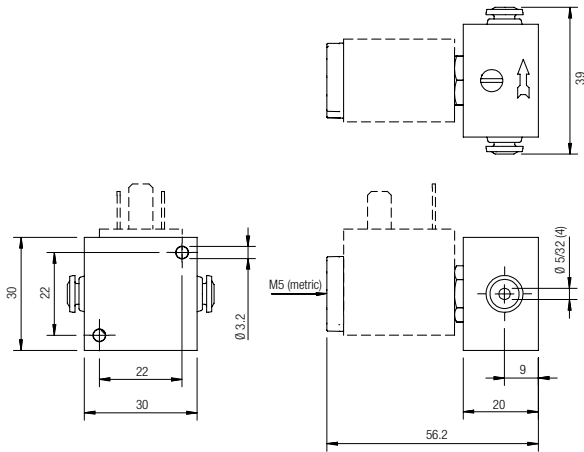


Part No.	Function	Size	Pack.
<b>07V S0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	1
<b>07V S0 3 NC X1</b>	3/2 <b>NC</b>	Ø 5/32 (4)	1
<b>07V S0 3 NO 02</b>	3/2 <b>NO</b>	G 1/8	1
<b>07V S0 3 NO X1</b>	3/2 <b>NO</b>	Ø 5/32 (4)	1
<b>* 07V Y0 3 NC 02</b>	3/2 <b>NC</b>	G 1/8	1

\* Vacuum

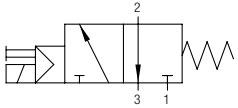
5/32 - (4)

G1/8

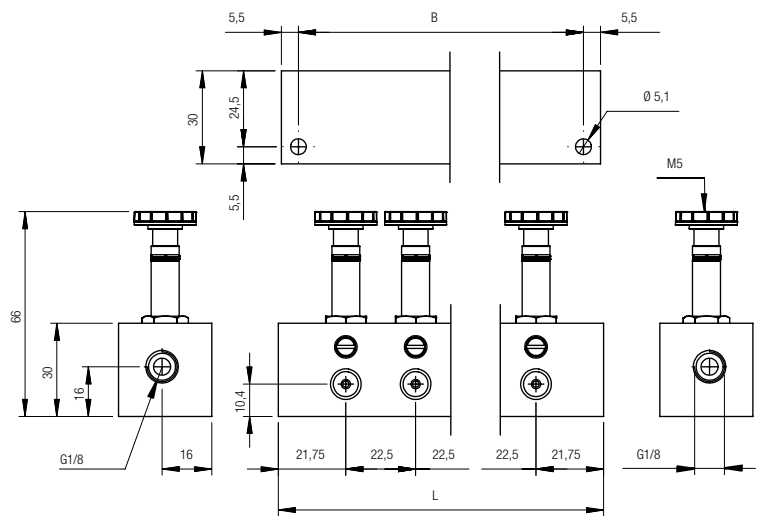


**FIXED LENGTH MANIFOLD WITH MANUAL OVERRIDE**

**SOLENOID VALVES ON FIXED LENGTH MANIFOLD**



Part No.	Function	B	L	Size	Pack.
07V B0 0 00 02	2	55	66	G 1/8	1
07V B0 0 00 03	3	77.5	88.5	G 1/8	1
07V B0 0 00 04	4	100	111	G 1/8	1
07V B0 0 00 05	5	122.5	133.5	G 1/8	1
07V B0 0 00 06	6	145	156	G 1/8	1
07V B0 0 00 07	7	167.5	178.5	G 1/8	1
07V B0 0 00 08	8	190	201	G 1/8	1
07V B0 0 00 09	9	212.5	223.5	G 1/8	1
07V B0 0 00 10	10	235	246	G 1/8	1

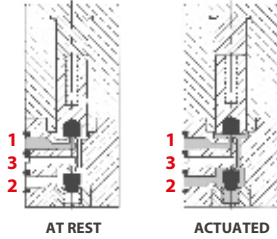


**10 MM MINIATURE SOLENOID VALVES**

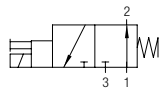
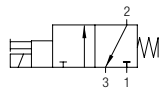
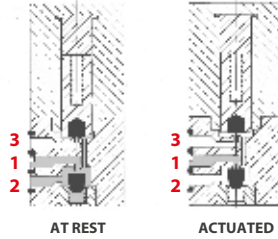


**TECHNICAL CHARACTERISTICS**

**NORMALLY CLOSED (NC) 3/2**



**NORMALLY OPEN (NO) 3/2**



Vacuum: 1 EXH  
2 OUT  
3 IN



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE

	MAX PRESSURE	Vacuum ÷ 7 bar Vacuum ÷ 101.5 psi		VOLTAGE	12 V DC ÷ 24V DC
	TEMPERATURE	- 5 ÷ 50 °C 23 ÷ 122 °F		POWER	1.3 W
	6 bar FLOW RATE with Δp 1 bar	14 NI/min		VOLTAGE TOLLERANCE	-5% +10%
	EXHAUST FLOW	22 NI/min		RESPONSE TIME WHEN ENERGIZED	8 ms
	ORIFICE SIZE	0.7 mm		RESPONSE TIME WHEN DE-ENERGIZED	10 ms
	MAX NUMBER OF CYCLES PER MINUTE	2700		CLASS OF PROTECTION	F (155 °C) F (311 °F)
	LIFE EXPECTANCY	50 MILION CYCLES			

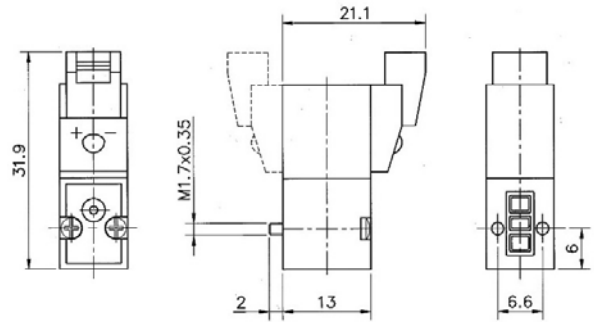
Series	Actuation	Reactuation	Function	Orifice size	Voltage	
<b>0 7 V</b>	<b>1</b> 1 = 10 mm	<b>1</b> 1 = line connector + led 2 = 90° connector + led 3 = Cable (300 mm)	<b>3</b> 3 = 3/2	<b>NC</b> NO = Normally open NC = Normally closed	<b>0</b> 0 = 0.7 mm	<b>0</b> 0 = 12 V DC 1 = 24 V DC

**3/2**

10 MM SOLENOID VALVE WITH LINE CONNECTOR + LED

IP50

07V 11 3 NC 01    07V 11 3 NC 00    07V 11 3 NO 01    07V 11 3 NO 00



Part No.	Function	Vacuum	Solenoid	Pack.
07V 11 3 NC 01	3/2 NC	NO	24V DC	1
07V 11 3 NC 00	3/2 NC	NO	12V DC	1
07V 11 3 NO 01	3/2 NO	NC	24V DC	1
07V 11 3 NO 00	3/2 NO	NC	12V DC	1

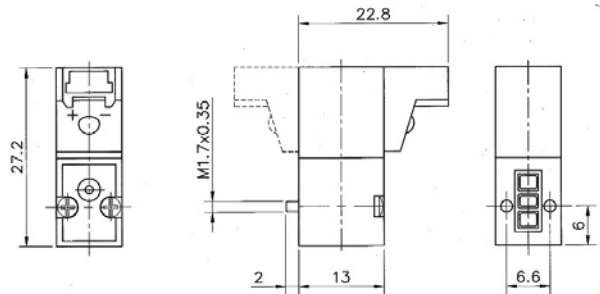
Item integrated with surge protector.

**3/2**

10 MM SOLENOID VALVE WITH 90° CONNECTOR + LED

IP50

07V 12 3 NC 01    07V 12 3 NC 00    07V 12 3 NO 01    07V 12 3 NO 00



Part No.	Function	Vacuum	Solenoid	Pack.
07V 12 3 NC 01	3/2 NC	NO	24V DC	1
07V 12 3 NC 00	3/2 NC	NO	12V DC	1
07V 12 3 NO 01	3/2 NO	NC	24V DC	1
07V 12 3 NO 00	3/2 NO	NC	12V DC	1

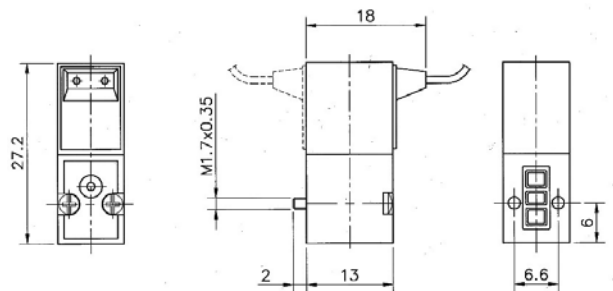
Item integrated with surge protector.

**3/2**

10 MM SOLENOID VALVE WITH CABLE (300 MM)

IP65

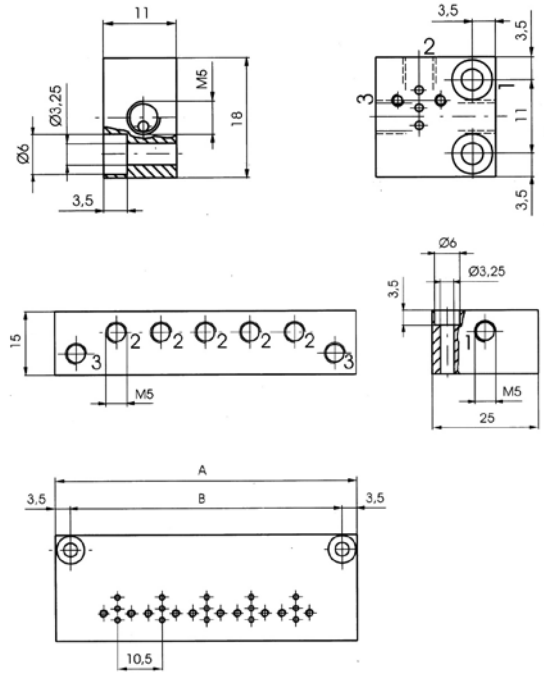
07V 13 3 NC 01    07V 13 3 NC 00    07V 13 3 NO 01    07V 13 3 NO 00



Part No.	Function	Vacuum	Solenoid	Pack.
07V 13 3 NC 01	3/2 NC	NO	24V DC	1
07V 13 3 NC 00	3/2 NC	NO	12V DC	1
07V 13 3 NO 01	3/2 NO	NC	24V DC	1
07V 13 3 NO 00	3/2 NO	NC	12V DC	1

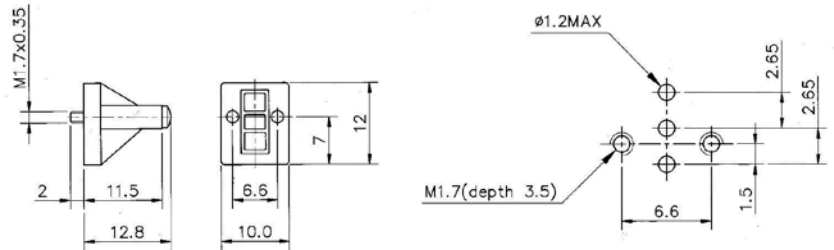
Item integrated with surge protector.

**INDIVIDUAL AND FIXED LENGTH MANIFOLD BASES**



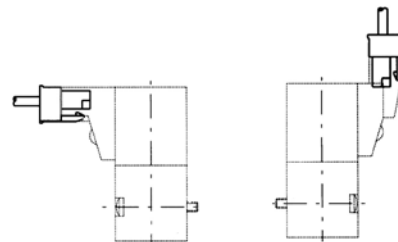
Part No.	Stations	A	B	Pack.
<b>07V 1B 0 00 01</b>	1	-	-	1
<b>07V 1B 0 00 02</b>	2	39.5	32.5	1
<b>07V 1B 0 00 06</b>	6	81.5	74.5	1
<b>07V 1B 0 00 08</b>	8	102.5	95.5	1

**BLANKING PLATE**



Part No.	Pack.
<b>07V B1 9 00 00</b>	1

**CONNECTOR WITH PVC CABLE**



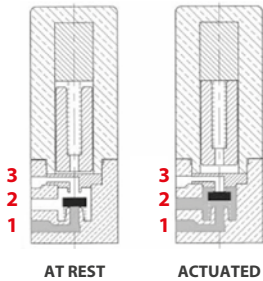
Part No.	Cable Length	Characteristics	Pack.
<b>CON 21 0 24 00</b>	500 mm	0÷24v	1
<b>CON 21 0 24 01</b>	1000 mm	0÷24v	1



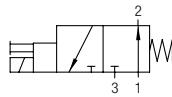
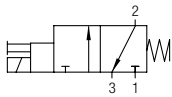
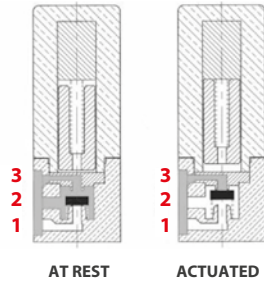
**15 MM MINIATURE SOLENOID VALVES**

**TECHNICAL CHARACTERISTICS**

**NORMALLY CLOSED (NC) 3/2**



**NORMALLY OPEN (NO) 3/2**



**Vacuum:** 1 EXH  
2 OUT  
3 IN

**Reference Standard**

1907/2006 REACH ✓    2011/65/CE RoHS ✓    PED 2014/68/UE    **ISO 15218**

	OPERATING PRESSURE	NO	0 ÷ 7 bar 0 ÷ 101.5 psi
		NC	0 ÷ 10 bar 0 ÷ 145 psi
	TEMPERATURE		- 5 ÷ 50 °C 23 °F ÷ 122 °F
	6 bar FLOW RATE with Δp 1 bar		30 NI/min
	ORIFICE SIZE		1.1 mm
	LIFE EXPECTANCY		50 MILLION CYCLES
	VOLTAGE		12 V DC ÷ 24V DC

	POWER	2.3 W
	VOLTAGE TOLLERANCE	-5% +10%
	RESPONSE TIME WHEN ENERGIZED	10 ÷ 12 ms
	PROTECTION DEGREE	IP50 WITH CONNECTOR
	CLASS OF PROTECTION	F (155 °C) F (311 °F)

Series	Actuation	Reactuation	Function	Orifice size	Voltage	
<b>0 7 V</b>	<b>2</b> 2 = 15 mm	<b>0</b> 0 = For terminals DIN 43650C	<b>3</b> 3 = 3/2	<b>NC</b> NO = Normally open NC = Normally closed	<b>1</b> 1 = 1.1 mm	<b>0</b> 0 = 12 V DC 1 = 24 V DC



NAMUR VALVES

**A80**



**SOLENOID PILOT VALVES**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006  
REACH

2011/65/CE  
RoHS

PED  
2014/68/UE

ATEX  
2014/34/UE

VDI/VDE 3845



**Component Parts and Materials**

- Anodised and painted aluminium body
- Chemical nickel-plated spool
- NBR seals

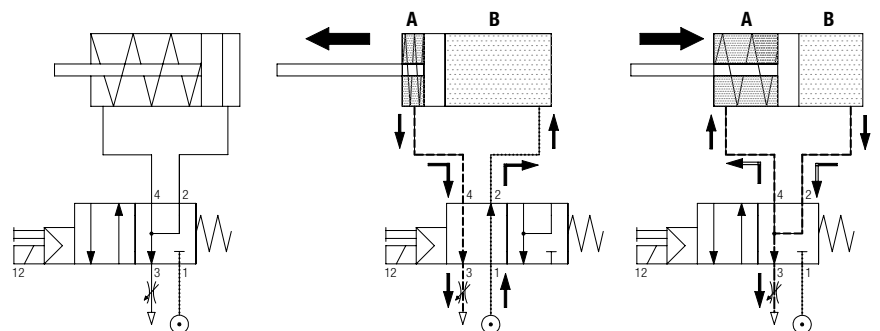
		1/4
	THREADED	G 1/4 - NPTF 1/4
	6 bar FLOW RATE with Δp 1 bar	1200 NI/min
	OPERATING PRESSURE	Monostable 2 ÷ 10 bar 29 ÷ 145 psi
		Bistable 1 ÷ 10 bar 14.5 ÷ 145 psi
	TEMPERATURE	min -10 °C 14 °F
		max +60 °C 140 °F
	SOLENOID VOLTAGE	24V DC - 12V DC - 24V AC 110V AC - 220V AC
	MINIMUM POWER	2W - 3VA
	MANUAL CONTROL	BISTABLE
	TORQUE OF TIGHTENING THE NUT SOLENOID	0.6 Nm

Series	Actuation	Reactuation	Function	Size	Thread
<b>0 8 V</b>	<b>S</b>	<b>0</b>	<b>4</b>	<b>0 3</b>	
	S = Solenoid	0 = Monostable spring return 1 = Bistable	4 = 4/2 5 = 5/2	03 = 1/4	= G N = NPTF
			NC = Normally closed 00 = Function not provided		



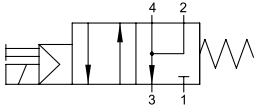
**Schematic diagram of the valve NAMUR 4/2**

To prevent the return phase of the external dirty air enters the chamber in the cylinder, the air escaping from the chamber B is routed to the same room.



**4/2**

**SINGLE SOLENOID PILOT - SPRING RETURN**

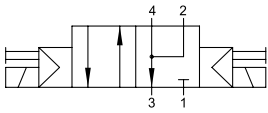


Part No.	Function	Size	Pack.
<b>08V S0 4 NC 03</b>	4/2 <b>NC</b>	G 1/4	1

Part No.	Function	Size	Pack.
<b>08V S0 4 NC 03 N</b>	4/2 <b>NC</b>	NPTF 1/4	1

**4/2**

**DOUBLE SOLENOID PILOT**

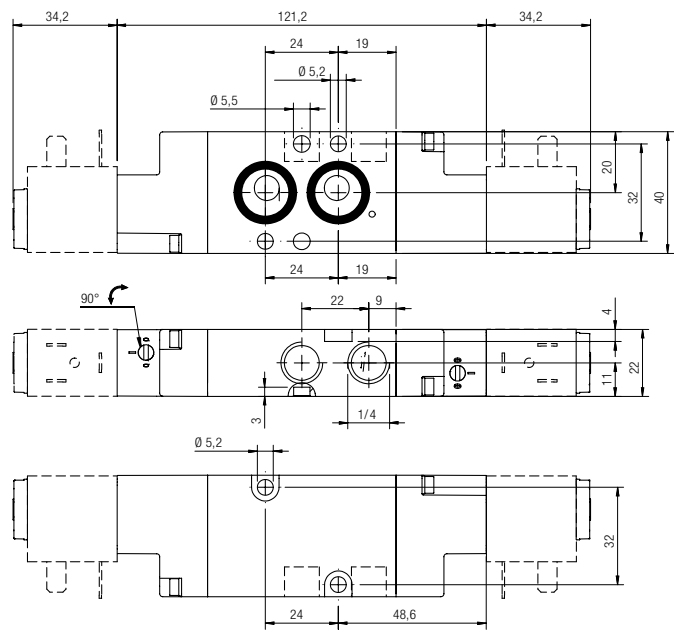
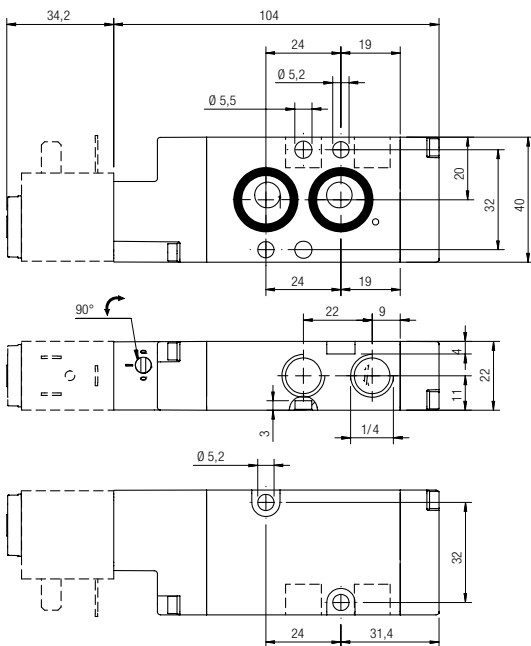


Part No.	Function	Size	Pack.
<b>08V S1 4 00 03</b>	4/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>08V S1 4 00 03 N</b>	4/2	NPTF 1/4	1

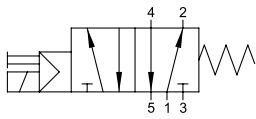
**08V S0 4 NC 03 08V S0 4 NC 03 N**

**08V S1 4 00 03 08V S1 4 00 03 N**



**5/2**

**SINGLE SOLENOID PILOT - SPRING RETURN**

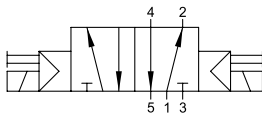


Part No.	Function	Size	Pack.
<b>08V S0 5 00 03</b>	5/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>08V S0 5 00 03 N</b>	5/2	NPTF 1/4	1

**5/2**

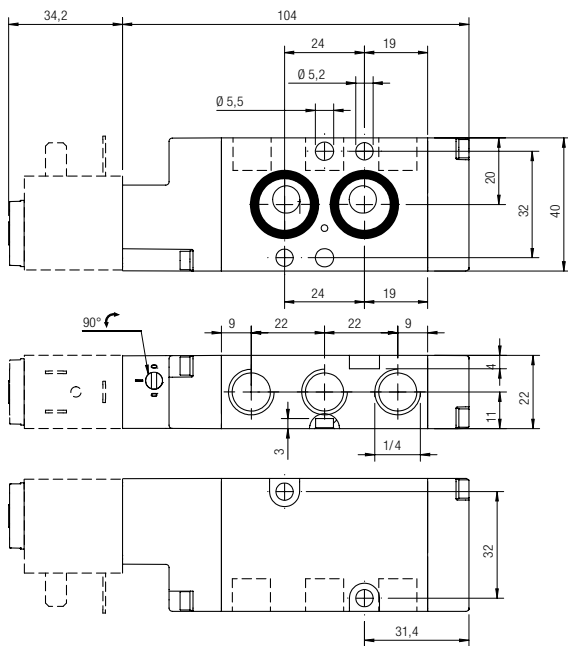
**DOUBLE SOLENOID PILOT**



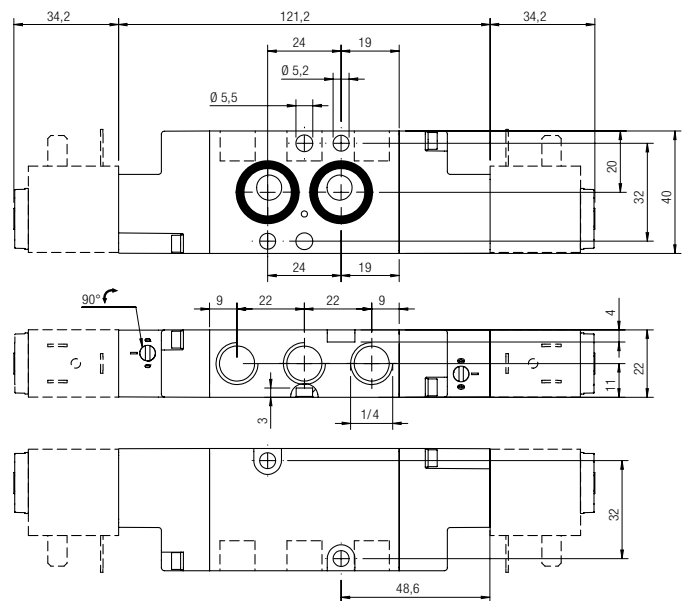
Part No.	Function	Size	Pack.
<b>08V S1 5 00 03</b>	5/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>08V S1 5 00 03 N</b>	5/2	NPTF 1/4	1

**08V S0 5 00 03 08V S0 5 00 03 N**



**08V S1 5 00 03 08V S1 5 00 03 N**



**AIR PILOT VALVES**

**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006 **REACH** ✓

2011/65/CE **RoHS** ✓

PED 2014/68/UE

ATEX 2014/34/UE

**VDI/VDE 3845**



**Component Parts and Materials**

- Anodised and painted aluminium body
- Chemical nickel-plated spool
- NBR seals

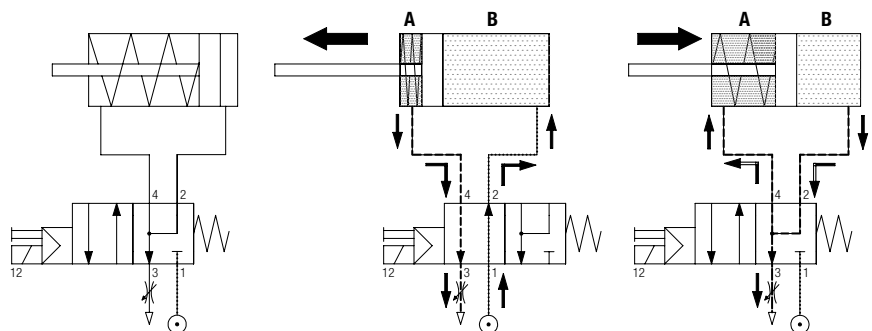
		1/4
	THREADED	G 1/4 - NPTF 1/4
	6 bar FLOW RATE with Δp 1 bar	1200 NI/min
	OPERATING PRESSURE	0 ÷ 10 bar 0 ÷ 145 psi
	PRESSURE DRIVE	Monostable 2 ÷ 10 bar 29 ÷ 145 psi
		Bistable 1 ÷ 10 bar 14.5 ÷ 145 psi
	TEMPERATURE	min -10 °C 14 °F
		max +60 °C 140 °F

Series	Actuation	Reactuation	Function	Size	Thread
<b>0 8 V</b>	<b>P</b>	<b>0</b>	<b>4</b>	<b>NC</b>	<b>0 3</b>
	P = Pneumatic	0 = Monostable spring return 1 = Bistable	4 = 4/2 5 = 5/2	NC = Normally closed 00 = Function not provided	03 = 1/4 = G N = NPTF



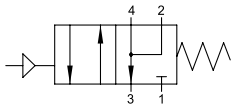
**Schematic diagram of the valve NAMUR 4 / 2**

To prevent the return phase of the external dirty air enters the chamber in the cylinder, the air escaping from the chamber B is routed to the same room.



**4/2**

**SINGLE AIR PILOT - SPRING RETURN**

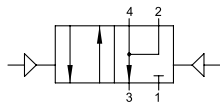


Part No.	Function	Size	Pack.
<b>08V P0 4 NC 03</b>	4/2 <b>NC</b>	G 1/4	1

Part No.	Function	Size	Pack.
<b>08V P0 4 NC 03 N</b>	4/2 <b>NC</b>	NPTF 1/4	1

**4/2**

**DOUBLE AIR PILOT**

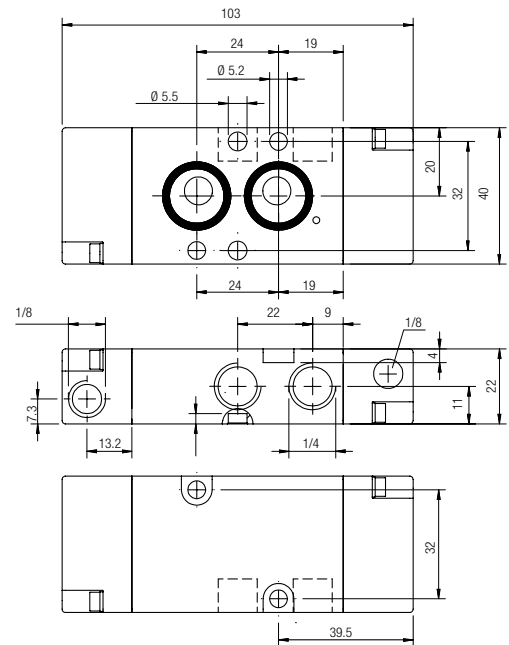
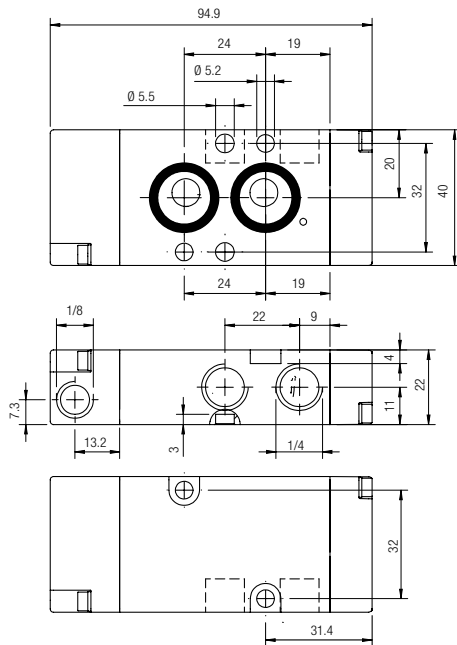


Part No.	Function	Size	Pack.
<b>08V P1 4 00 03</b>	4/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>08V P1 4 00 03 N</b>	4/2	NPTF 1/4	1

**08V P0 4 NC 03 08V P0 4 NC 03 N**

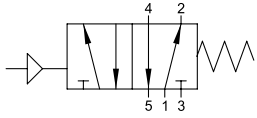
**08V P1 4 00 03 08V P1 4 00 03 N**





**5/2**

**SINGLE AIR PILOT - SPRING RETURN**

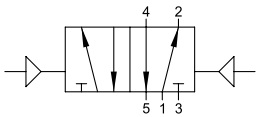


Part No.	Function	Size	Pack.
<b>08V P0 5 00 03</b>	5/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>08V P0 5 00 03 N</b>	5/2	NPTF 1/4	1

**5/2**

**DOUBLE AIR PILOT**

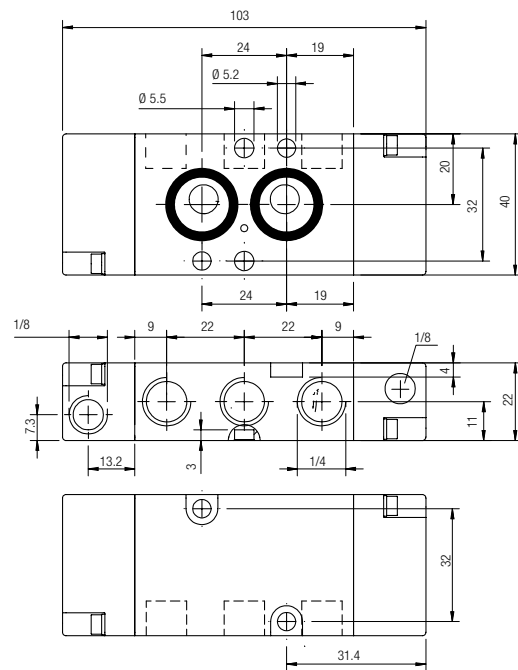
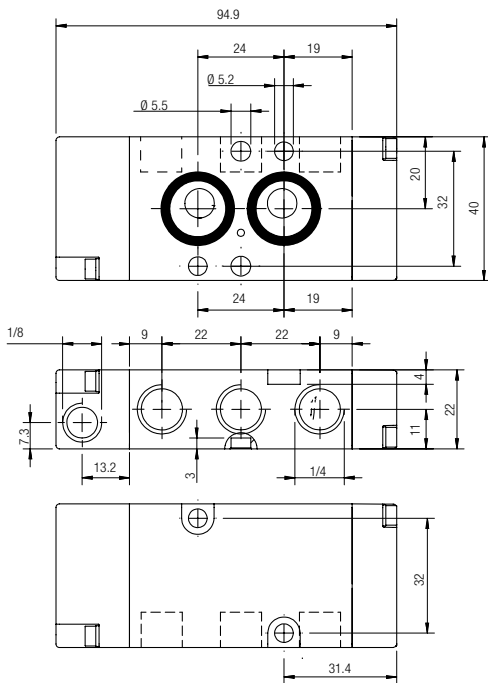


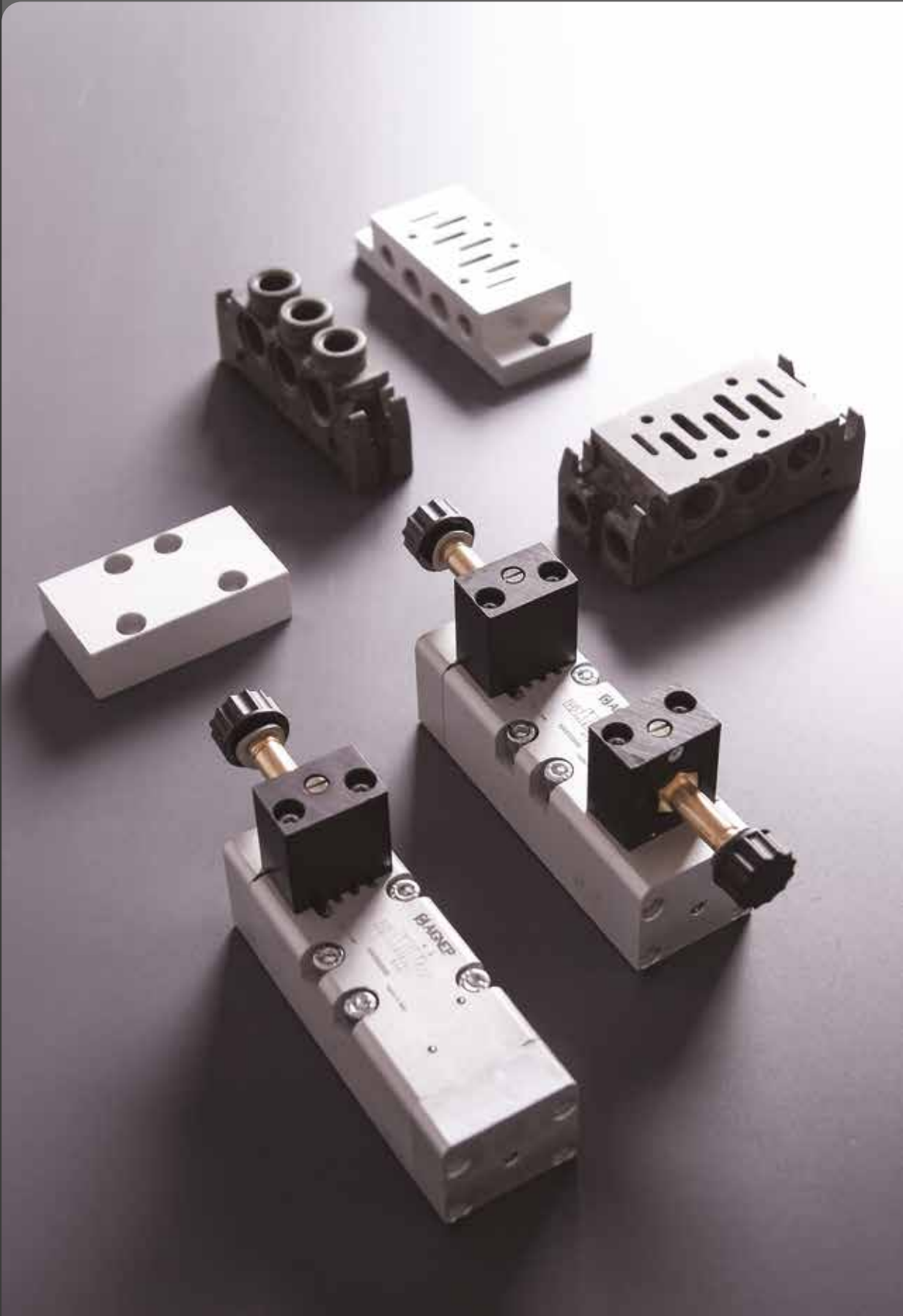
Part No.	Function	Size	Pack.
<b>08V P1 5 00 03</b>	5/2	G 1/4	1

Part No.	Function	Size	Pack.
<b>08V P1 5 00 03 N</b>	5/2	NPTF 1/4	1

**08V P0 5 00 03 08V P0 5 00 03 N**

**08V P1 5 00 03 08V P1 5 00 03 N**





**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- ISO 5599  
SIZE 1**



**Component Parts and Materials**

- Anodised aluminium body
- Nickel-plated spool
- NBR seals

	6 bar FLOW RATE with Δp 1 bar		1100 NI/min
	OPERATING PRESSURE	Monostable	2.5 ÷ 10 bar 36.2 ÷ 145 psi
		Bistable	1 ÷ 10 bar 14.5 ÷ 145 psi
	TEMPERATURE	min	-10 °C 14 °F
		max	+60 °C 140 °F
	MINIMUM POWER		3W - 5VA
	MANUAL CONTROL		Two stable positions
	RESPONSE TIME	Monostable	<b>TRA</b> = 24 ms
			<b>TRR</b> = 50 ms
		Bistable	<b>TRA=TRR</b> = 80 ms

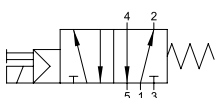
**TRA** = Response time with energised coil

**TRR** = Response time with deenergised coil

Series	Actuation	Reactuation	Ways	Function
<b>1 0 V</b>	<b>S</b> S = Solenoid	<b>0</b> 0 = Monostable spring return 1 = Bistable	<b>7</b> 5 = 5/2 7 = 5/3	<b>CC</b> CC = Normally closed <b>OC</b> = Normally exhausted <b>PC</b> = Normally pressurized <b>00</b> = Function not provided

**5/2**

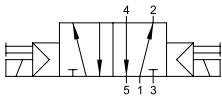
**MONOSTABLE SPRING RETURN**



Part No.	Ways	Pack.
<b>10V S0 5 00 00</b>	5/2	1

**5/2**

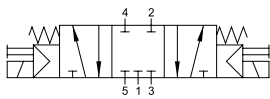
TWO STABLE POSITIONS



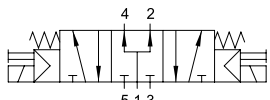
Part No.	Ways	Pack.
10V S1 5 00 00	5/2	1

**5/3**

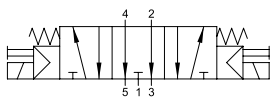
MONOSTABLE SPRING RETURN



CC



PC



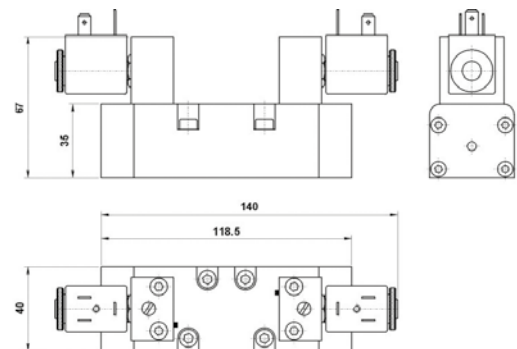
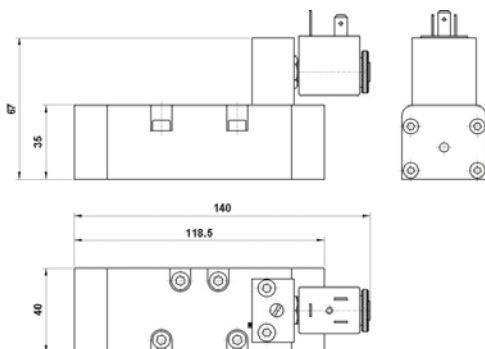
OC



Part No.	Ways	Function	Pack.
10V S0 7 CC 00	5/3	CC	1
10V S0 7 OC 00	5/3	OC	1
10V S0 7 PC 00	5/3	PC	1

10V S0 5 00 00

10V S1 5 00 00 10V S0 7 OC 00  
10V S0 7 CC 00 10V S0 7 PC 00



All the bases are supplied with screws and seals to secure the correct assembly.

**FRONT TERMINAL**



Part No.	Pack.
<b>10V B1 0 00 00</b>	2

**MODULAR BASE**



Part No.	Pack.
<b>10V B3 0 00 00</b>	1

**INDIVIDUAL BASE**



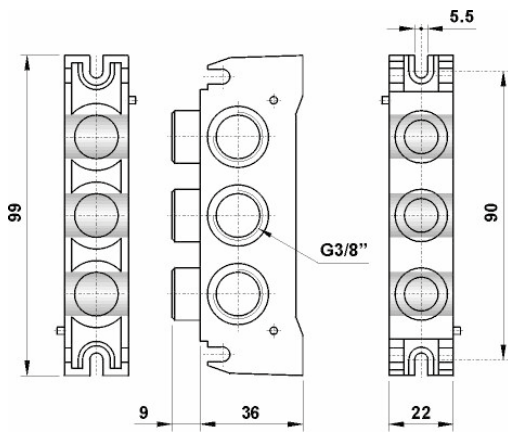
Part No.	Pack.
<b>10V B5 0 00 00</b>	1

**CLOSING PLATE**

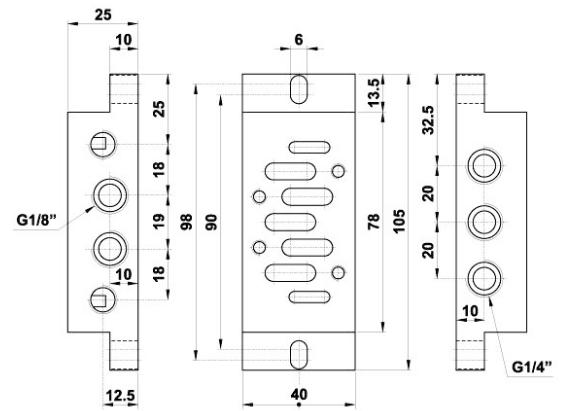


Part No.	Pack.
<b>10V B9 0 00 00</b>	1

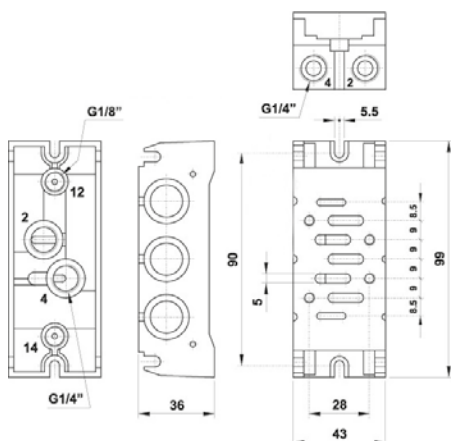
10V B1 0 00 00



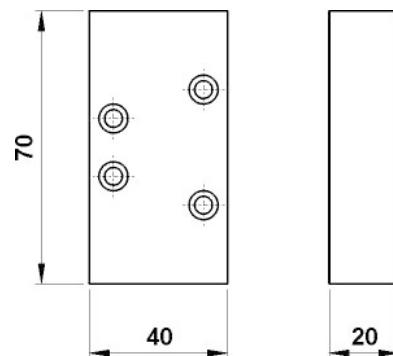
10V B5 0 00 00



10V B3 0 00 00



10V B9 0 00 00





**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- ISO 5599  
SIZE 2



**Component Parts and Materials**

- Anodised aluminium body
- Nickel-plated spool
- NBR seals

	6 bar FLOW RATE with Δp 1 bar	2500 NI/min
	OPERATING PRESSURE	Monostable 2.5 ÷ 10 bar 36.2 ÷ 145 psi
		Bistable 1 ÷ 10 bar 14.5 ÷ 145 psi
	TEMPERATURE	min -10 °C 14 °F
		max +60 °C 140 °F
	MINIMUM POWER	3W - 5VA
	MANUAL CONTROL	Two stable positions
	RESPONSE TIME	Monostable <b>TRA</b> = 35 ms
		<b>TRR</b> = 60 ms
		Bistable <b>TRA=TRR</b> = 90 ms

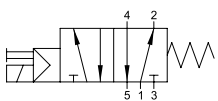
**TRA** = Response time with energised coil

**TRR** = Response time with deenergised coil

Series	Actuation	Reactuation	Ways	Function
<b>1 1 V</b>	<b>S</b> S = Solenoid	<b>0</b> 0 = Monostable spring return 1 = Bistable	<b>7</b> 5 = 5/2 7 = 5/3	<b>C C</b> CC = Normally closed OC = Normally exhausted PC = Normally pressurized 00 = Function not provided

**5/2**

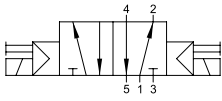
**MONOSTABLE SPRING RETURN**



Part No.	Ways	Pack.
<b>11V S0 5 00 00</b>	5/2	1

**5/2**

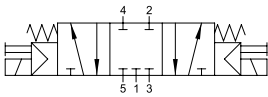
TWO STABLE POSITIONS



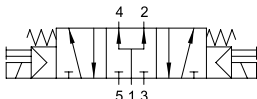
Part No.	Ways	Pack.
11V S1 5 00 00	5/2	1

**5/3**

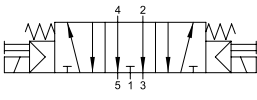
MONOSTABLE SPRING RETURN



CC



PC



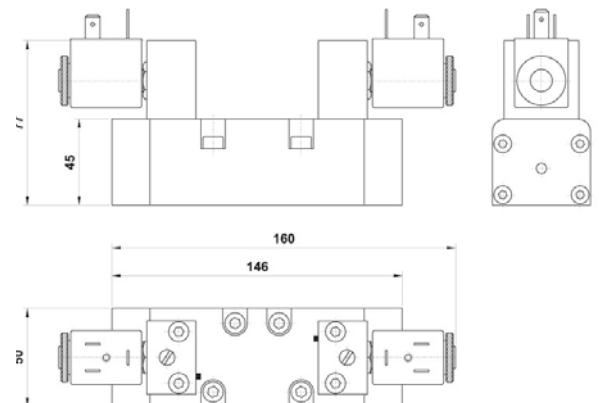
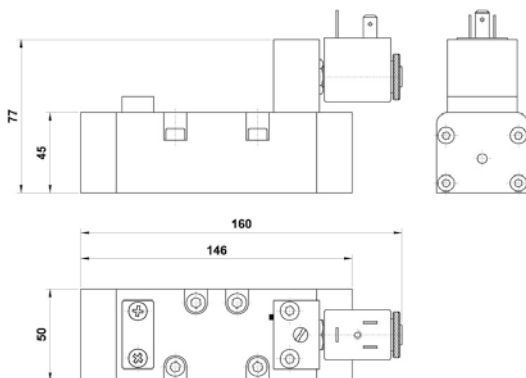
OC



Part No.	Ways	Function	Pack.
11V S0 7 CC 00	5/3	CC	1
11V S0 7 OC 00	5/3	OC	1
11V S0 7 PC 00	5/3	PC	1

11V S0 5 00 00

11V S1 5 00 00 11V S0 7 OC 00  
11V S0 7 CC 00 11V S0 7 PC 00





All the bases are supplied with screws and seals to secure the correct assembly.

**FRONT TERMINAL**



Part No.	Pack.
<b>11V B1 0 00 00</b>	2

**MODULAR BASE**



Part No.	Pack.
<b>11V B3 0 00 00</b>	1

**INDIVIDUAL BASE**



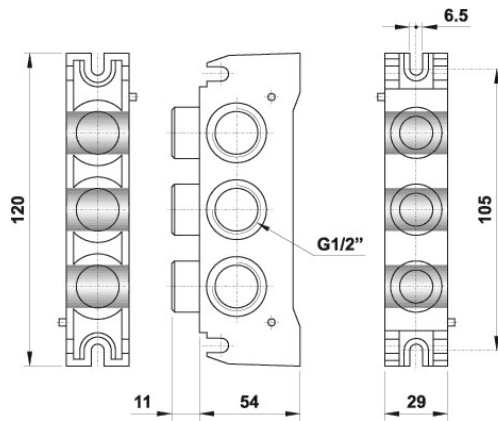
Part No.	Pack.
<b>11V B5 0 00 00</b>	1

**CLOSING PLATE**

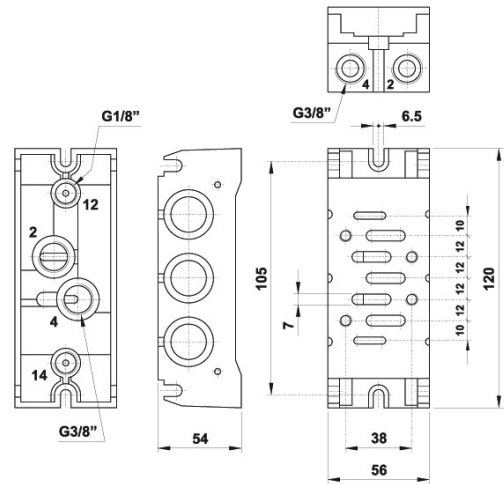


Part No.	Pack.
<b>11V B9 0 00 00</b>	1

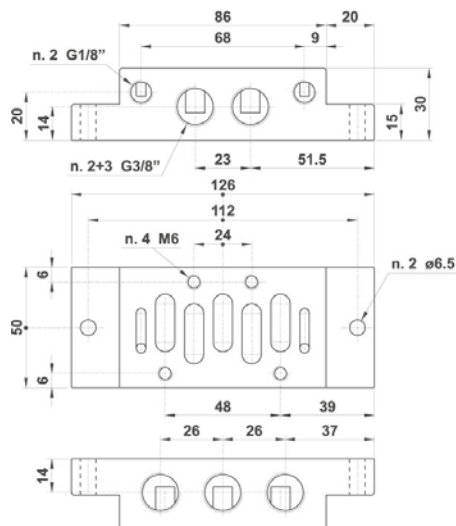
**11V B1 0 00 00**



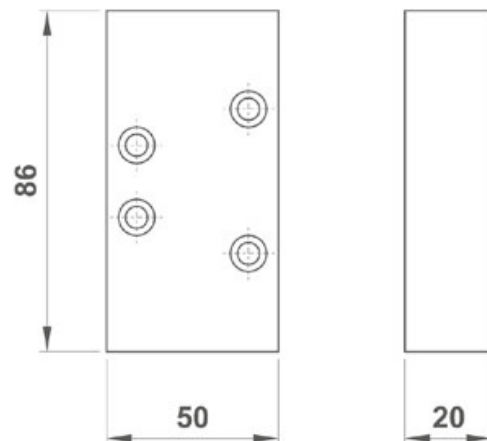
**11V B3 0 00 00**



**11V B5 0 00 00**



**11V B9 0 00 00**



**Directive 2014/34/UE (ATEX)**

The valves and accessories of the Series 01VP - 01VT - 01VL - 01W - 01VN - 01VBxx - 08VP - 01VA - 01VS - 07VS - 07VB - 08VS show the following features:

**II 2 GD c T6 -10°C<Tamb<60°C**

**II 2 GD:** Device for surface installations (II = do not use device in mining) with presence of gas, vapors of powders of category 2 (equipment with high safety factor since it excludes danger of explosion, even in case of damage; it can be used in areas with possible explosive environments).

**c:** Devices are constructively safe

**T6 - 10°C<Tamb<60°C:** Surface temperature class and additional marking for T usage environment.





**TECHNICKÁ INŠPEKCIA, a.s.**  
SLOVENSKÁ REPUBLIKA



**ACKNOWLEDGEMENT OF RECEIPT**  
no. 1175/5/2015

Technická inšpekcia, a. s.,  
Trnavská cesta 56, 821 01 Bratislava  
Notified body: 1354,

**confirms, that Technical File Documentation**  
prepared by

**Aignep S.p.A.**  
Via Don G. Bazzoli 34, 25070 Bione (BS), Italy

has been received and stored according to the Directive 94/9/EC (ATEX) on equipment and protective systems intended for use in potentially explosive atmospheres

Scope of Ex Equipment:

**Pneumatic, manual puller/lever and servo-piloted valves, with related accessories  
Models 01VP, 01VT, 01VL, 01VV, 01VN, 01VBxx, 08VP.  
Solenoid assisted and pilot valves, single or multiple solenoid valves on manifold with manual override and individual or multiple bases for miniature ones  
Models 01VA, 01VS, 07VS, 07VB, 08VS**

Classification:  II 2 GD c T6 -10°C<Tamb<60°C

**Technical File Documentation**

Doc. no.	Issue
Technical Book according to 94/9/EC	20/3/2015 Rev.0

Technical documentation will be stored for 10 years until July 22<sup>nd</sup>, 2025.

Bratislava, July 22<sup>nd</sup>, 2015



On behalf of Technická inšpekcia, a.s.

  
Ing. Dušan Konický  
General Director

**301018**  
PDOKA1-41

See Instructions and Certificate at:  
**WWW.AIGNEP.COM**



# Actuators

## NFPA Cylinders

Ø 1 1/2"- 5"



### NFPA Series

Pg. 14.3

## NFPA Cylinder Accessory section

Ø 1 1/2"- 5"



### NFPA Series

Pg. 14.5

## Cartridge Cylinders

Ø 6-16 mm



### CA - CAF Series

Pg. 14.11

## Mini Cylinders ISO 6432

Ø 8-25 mm



### Mini Series

Pg. 14.13

## Mini Stainless Steel ISO 6432

Ø 16-25 mm



### Mini Stainless Steel Series

Pg. 14.21

## Limited Space

Ø 32-63 mm



### A95 Series

Pg. 14.24

## Compact Cylinders

Ø 12-100 mm



### Q Series

Pg. 14.31

## ISO 15552 Cylinders

Ø 32-125 mm



### X Series

Pg. 14.44

## ISO 6431 Cylinders

Ø 32-320 mm



### E Series

Pg. 14.49

## Stainless Steel ISO 15552

Ø 32-100 mm



### V Series

Pg. 14.51

## Twin Rod Cylinders

Ø 32-100 mm



### NHA Series

Pg. 14.54

## Compact Cylinders

Ø 20-100 mm



### W Series

Pg. 14.58

## Cylinder Accessories

ISO 6431 - ISO 15552 - ISO 21287



Pg. 14.66

## Guided Units

ISO 15552 - Ø 12-25 mm  
ISO 6431 VDMA - Ø 32-100 mm



Pg. 14.75

## Rodless Cylinders

Ø 32-100 mm



### R Series

Pg. 14.84

## Rotary Actuators

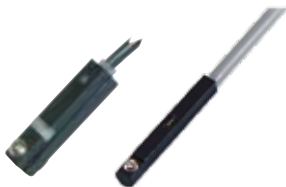
Ø 32-100 mm



### XR Series

Pg. 14.95

## Magnetic Position Sensing Switches



### Switches

Pg. 14.98

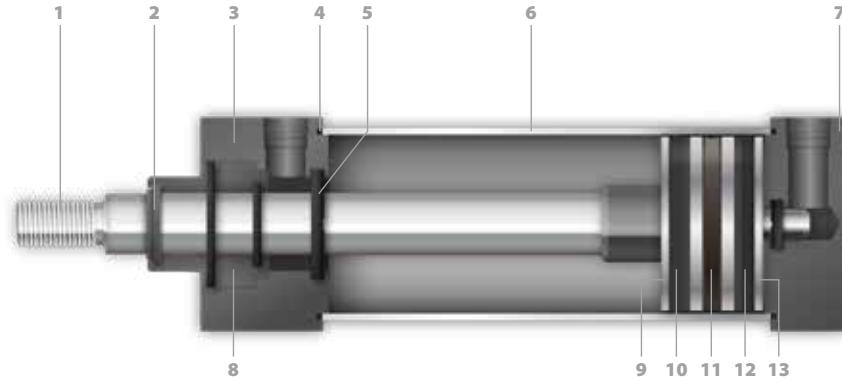
PNEUMATIC ACTUATORS



**Actuators**

**NFPA CYLINDERS**

**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 Chrome Steel Piston Rod
- 2 Polyurethane Rod Seal
- 3 Aluminium Cap
- 4 O-Ring Seal
- 5 Polyurethane cushion seals
- 6 Anodized Aluminium Extrusion
- 7 Aluminum Cap
- 8 Cast Iron Bearing
- 9 Aluminium Piston
- 10 Nitrile Piston Seal
- 11 Magnet
- 12 Nitrile Piston Seal
- 13 Aluminum Piston

Ø	Stroke							
	1"	2"	3"	4"	5"	6"	8"	10"
1.5"	•	•	•	•	•	•	•	•
2"	•	•	•	•	•	•	•	•
2.5"	•	•	•	•	•	•	•	•
3.25"	•	•	•	•	•	•	•	•
4"	•	•	•	•	•	•	•	•
5"	•	•	•	•	•	•	•	•
6"	•	•	•	•	•	•	•	•
8"	•	•	•	•	•	•	•	•

**Pressures**

1 bar (0.1 MPa) / 14.5 psi  
 10 bar (0.7 MPa) / 145 psi

**Temperatures**

0 °C / 32 °F (-20 °C / -4 °F with dry air)  
 + 80 °C / 176 °F

**Media**

Filtered and lubricated  
 or non-lubricated compressed air.

**Functions**

Double acting single or double end rod,  
 magnetic or non-magnetic, cushioned or  
 non-cushioned

**Bores**

1.5" - 6"

**Standard Strokes**

from 0.5" to 10"

Description	Mount	Bore Size (in)	Stroke Length (in)	Port Position	Port Size	Cushion Position	Rod End
-------------	-------	----------------	--------------------	---------------	-----------	------------------	---------

**A S N**

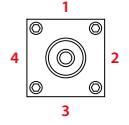
**0 1 5**

**0 1 0 0**

**1 C A 1**

- A NFPA
- B Stainless
- C Double Rod End
- D Air Oil Tank
- E3 Head Square
- E4 Cap Square
- F1 Front Flange
- F2 Rear Flange
- P1 Fixed Clevis
- P2 Detachable Clevis
- P3 Fixed Eye
- P4 Detachable Eye
- S1 Angle
- S2 Side Lug
- S4 Bottom Tapped
- T1 Head Trunion
- T2 Cap Trunion
- T4 Mid Trunion Fixed
- SN Sleeve Nut with MS4
- XO No Mount
- X1 Head & Cap Ext Tie Rod
- X2 Cap Ext Tie Rod
- X3 Head Ext Tie Rod
- XX Special

- 015 1"
- 002 2"
- 025 2.5"
- 325 3.25"
- 004 4"
- 005 5"
- 006 6"
- 008 8"
- 0 Non Standard
- 050 0.5"
- 0100 1"
- 0150 1.5"
- 0200 2"
- 0250 2.5"
- 0300 3"
- 0350 3.5"
- 0400 4"
- 0450 4.5"
- 0500 5"
- 1000 10"
- 1050 10.5"
- XX Other
- A 1/16"
- B 1/8"
- C 3/16"
- D 1/4"
- E 5/16"
- F 3/8"
- G 7/16"
- H 9/16"
- I 5/8"
- J 11/16"
- K 3/4"
- L 13/16"
- M 7/8"
- N 15/16"

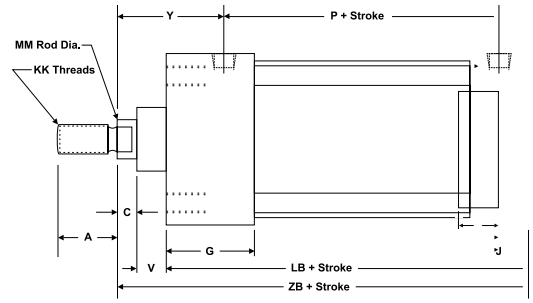
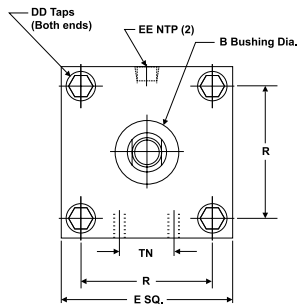


- A 1/8"
- B 1/4"
- C 3/8"
- D 1/2"
- E 3/4"
- A None
- B Position 1 - Head & Cap
- C Position 2 - Head & Cap
- D Position 3 - Head & Cap
- E Position 4 - Head & Cap
- F Position 1 - Head
- G Position 2 - Head
- H Position 3 - Head
- J Position 4 - Head
- K Position 1 - Cap
- L Position 2 - Cap
- M Position 3 - Cap
- N Position 4 - Cap
- X Other

- 1 Standard - KK
- 2 Standard - CC
- 3 Standard - XX
- 6 Oversized - KK
- 7 Oversized - CC
- 8 Oversized - XX

**NFPA**

DOUBLE ACTING - MAGNETIC - CUSHIONED & NON-CUSHIONED

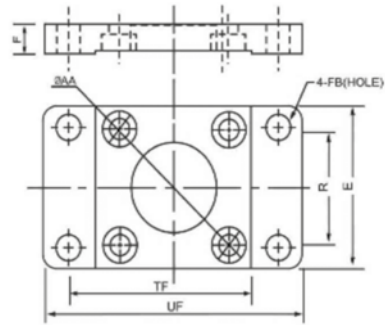
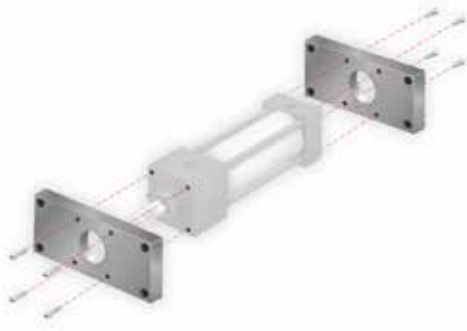


+ = Add Stroke

Bore	A	B	C	DD	E	EE	G	J	KK	LB	MM	P	R	TN	V	Y	ZB
1.5"	.75"	1.125"	0.375"	1/4" - 28	2"	.25"	1.5"	1"	7/16" - 20	3.625"	0.625"	2.375"	1.438"	0.625"	0.625"	1.875"	4.625"
2"	.75"	1.125"	0.375"	1/4" - 28	2.5"	.25"	1.5"	1"	7/16" - 20	3.625"	0.625"	2.375"	1.843"	0.875"	0.625"	1.875"	4.625"
2.5"	.75"	1.125"	0.375"	15/16" - 24	3"	.25"	1.5"	1"	7/16" - 20	3.75"	0.625"	2.5"	2.188"	1.25"	0.625"	1.875"	4.75"
3.25"	1.125"	1.5"	0.5"	3/8" - 24	3.75"	.375"	1.75"	1.25"	3/4" - 16	4.25"	1"	2.75"	2.760"	1.5"	0.875"	2.375"	5.625"
4"	1.125"	1.5"	0.5"	3/8" - 24	4.5"	.375"	1.75"	1.25"	3/4" - 16	4.25"	1"	2.75"	3.32"	2.063"	0.875"	2.375"	5.625"
5"	1.125"	1.5"	0.5"	1/2" - 20	5.5"	.375"	1.75"	1.25"	3/4" - 16	4.5"	1"	3"	4.1"	2.688"	0.875"	2.375"	5.875"
6"	1.625"	2"	0.625"	1/2" - 20	6.5"	.5"	2"	1.5"	1" - 14	5"	1.375"	3.25"	4.875"	3.25"	1"	2.75"	6.625"
8"	1.625"	2"	0.625"	5/8" - 18	8.5"	.75"	2"	1.5"	1" - 14	5.125"	1.375"	3.375"	6.438"	4.5"	1"	2.75"	7.313"

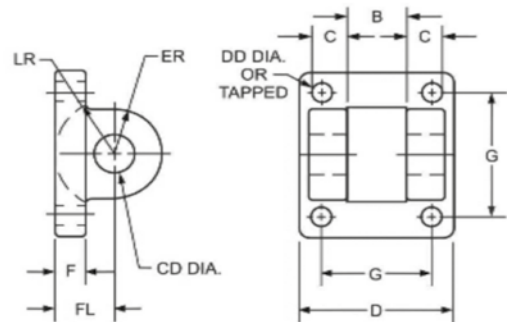
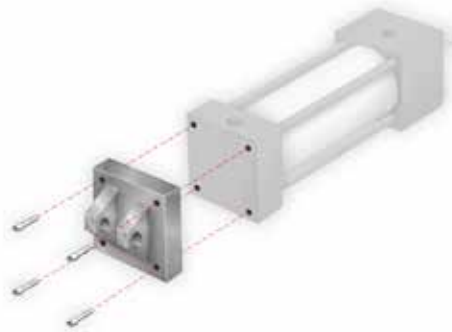
**SERIES NFPA ACCESSORIES**

**MF1 - MF2**



Part No.	Bore Ø	UF	TF	FB	E	R	F	AA	Tapped
MF12150	1.5"	3 3/8"	2 3/4"	5/16"	2"	1.43"	3/8"	2.02"	1/4" - 28
MF12220	2"	4 1/8"	3 3/8"	3/8"	2 1/2"	1.84"	3/8"	2.60"	5/16" - 24
MF12250	2.5"	4 5/8"	3 7/8"	3/8"	3"	2.19"	3/8"	3.10"	5/16" - 24
MF12325	3.25"	5 1/2"	4 11/16"	7/16"	3 3/4"	2.76"	5/8"	3.90"	3/8" - 24
MF12400	4"	6 1/4"	5 7/16"	7/16"	4 1/2"	3.32"	5/8"	4.70"	3/8" - 24
MF12600	6"	8 5/8"	7 5/8"	9/16"	6 1/2"	4.88"	3/4"	6.90"	1/2" - 20

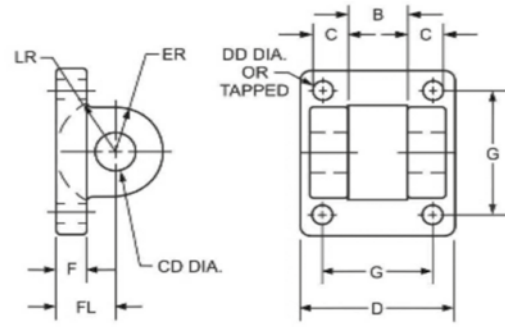
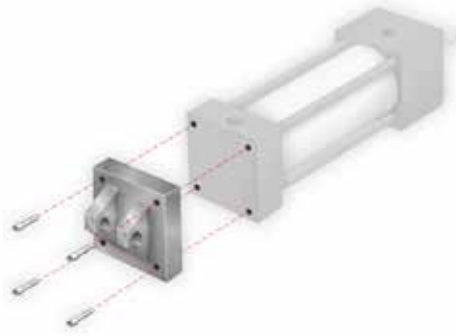
**MP1**



Part No.	Bore Ø	CD	FL	F	B	C	D	ER	G	LR	Tapped	D-DØ
MP1150	1.5"	.502"	.75"	.38"	.76"	.50"	2.00"	.62"	1.43"	.62"	1/4" - 28	.28"
MP1200	2"	.502"	.75"	.38"	.76"	.50"	2.50"	.62"	1.84"	.62"	5/16" - 24	.34"
MP1250	2.5"	.502"	.75"	.38"	.76"	.50"	3.00"	.62"	2.19"	.62"	5/16" - 24	.34"
MP1325	3.25"	.752"	1.25"	.63"	1.26"	.62"	3.75"	.87"	2.77"	.87"	3/8" - 24	.41"
MP1400	4"	.752"	1.25"	.63"	1.26"	.62"	4.50"	.87"	3.32"	.87"	3/8" - 24	.41"
MP1600	6"	1.002"	1.50"	.75"	1.51"	.75"	6.50"	1.25"	4.88"	1.13"	1/2" - 20	.53"

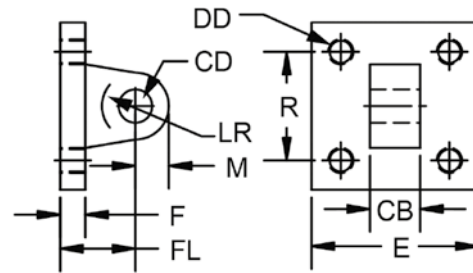
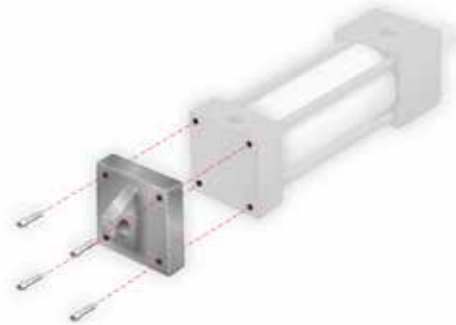


**MP2**



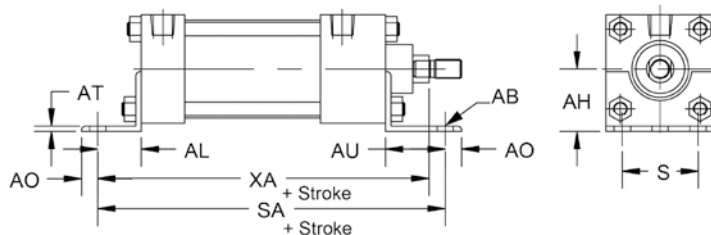
Part No.	Bore Ø	CD	FL	F	B	C	D	ER	G	Tapped	D-DØ
MP2150	1.5"	.502"	1.13"	.38"	.76"	.50"	2.00"	.62"	1.43"	1/4" - 28	.28"
MP2200	2"	.502"	1.13"	.38"	.76"	.50"	2.50"	.62"	1.84"	5/16" - 24	.34"
MP2250	2.5"	.502"	1.13"	.38"	.76"	.50"	3.00"	.62"	2.19"	5/16" - 24	.34"
MP2325	3.25"	.752"	1.88"	.63"	1.26"	.62"	3.75"	.87"	2.77"	3/8" - 24	.41"
MP2400	4"	.752"	1.88"	.63"	1.26"	.62"	4.50"	.87"	3.32"	3/8" - 24	.41"
MP2600	6"	1.002"	2.25"	.75"	1.51"	.75"	6.50"	1.25"	4.88"	1/2" - 20	.53"

**MP4**



Part No.	Bore Ø	CD	FL	F	CB	D	ER	G	KK	D-DØ
MP4150	1.5"	.502"	1.13"	.38"	.75"	2.00"	.62"	1.43"	1/4" - 28	.28"
MP4200	2"	.502"	1.13"	.38"	.75"	2.50"	.62"	1.84"	5/16" - 24	.34"
MP4250	2.5"	.502"	1.13"	.38"	.75"	3.00"	.62"	2.19"	5/16" - 24	.34"
MP4325	3.25"	.752"	1.88"	.63"	1.25"	3.75"	.87"	2.77"	3/8" - 24	.41"
MP4400	4"	.752"	1.88"	.63"	1.25"	4.50"	.87"	3.32"	3/8" - 24	.41"
MP4600	6"	1.00"	2.25"	-	1.50"	6.50"	-	4.88"	1" - 14	-

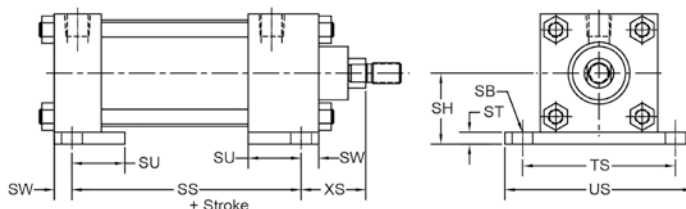
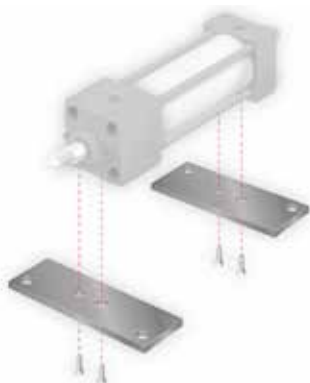
**MS1**



Part No.	Bore Ø	AB	AH	AL	AO	AT	AU	S	SA	XA
<b>MS1150</b>	<b>1.5"</b>	.44"	1.19"	1.00"	.50"	.13"	1.38"	1.25"	6.00"	5.63"
<b>MS1200</b>	<b>2"</b>	.44"	1.44"	1.00"	.50"	.13"	1.38"	1.75"	6.00"	5.63"
<b>MS1250</b>	<b>2.5"</b>	.44"	1.63"	1.00"	.50"	.13"	1.38"	2.25"	6.13"	5.75"
<b>MS1325</b>	<b>3.25"</b>	.56"	1.94"	1.25"	.50"	.13"	1.88"	2.75"	7.38"	6.88"
<b>MS1400</b>	<b>4"</b>	.56"	2.25"	1.25"	.50"	.13"	1.88"	3.50"	7.38"	6.88"
<b>MS1600</b>	<b>6"</b>	.81"	3.25"	1.38"	.63"	.19"	2.13"	5.25"	8.50"	8.00"

**BB**

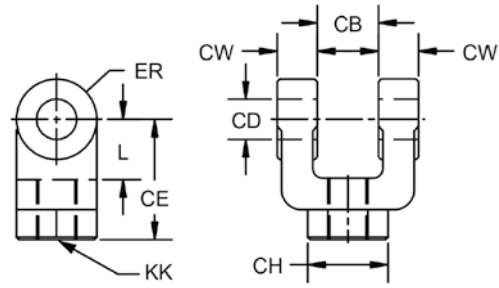
DOUBLE ACTING - MAGNETIC



Part No.	Bore Ø	SB	SH	SS	ST	SU	SW	TS	US	XS
<b>BB150</b>	<b>1.5"</b>	.44"	1.25"	2.88"	.25"	1.13"	.38"	2.75"	3.50"	1.38"
<b>BB200</b>	<b>2"</b>	.44"	1.50"	2.88"	.25"	1.13"	.38"	3.25"	4.00"	1.38"
<b>BB250</b>	<b>2.5"</b>	.44"	1.88"	3.00"	.38"	1.13"	.38"	3.75"	4.50"	1.38"
<b>BB325</b>	<b>3.25"</b>	.56"	2.38"	3.25"	.50"	1.25"	.50"	4.75"	5.75"	1.88"
<b>BB400</b>	<b>4"</b>	.56"	2.75"	3.25"	.50"	1.25"	.50"	5.50"	6.50"	1.88"
<b>BB600</b>	<b>6"</b>	.81"	4.00"	3.63"	.75"	1.31"	.69"	7.88"	9.25"	2.31"

**RC**

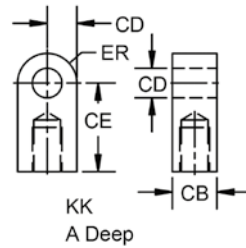
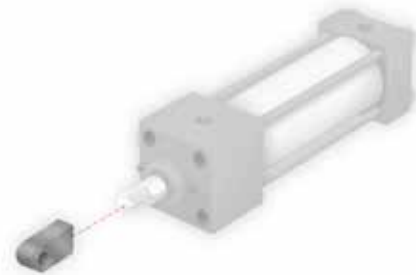
ROD CLEVIS



Part No.	Rod Thread	L	CB	CD	CE	CH	CW	ER	KK
<b>RC71620</b>	<b>7/16 - 20</b>	.75"	.75"	.50"	1.50"	1.00"	.50"	.50"	7/16" - 20
<b>RC3416</b>	<b>3/4 - 16</b>	1.25"	1.25"	.75"	2.38"	1.25"	.63"	.75"	3/4" - 16
<b>RC114</b>	<b>1 - 14</b>	1.50"	1.50"	1.00"	3.13"	1.50"	.75"	1.00"	1" - 14

**RE**

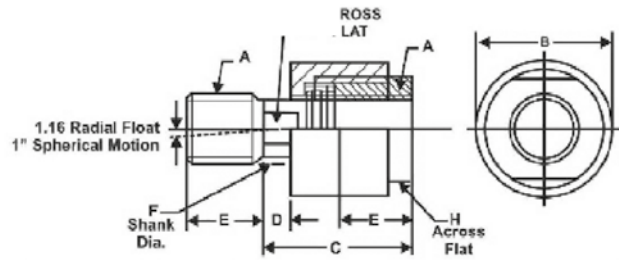
ROD EYE



Part No.	Rod Thread	A	L	CB	CD	CE	ER	KK
<b>RE71620</b>	<b>7/16 - 20</b>	.75"	.75"	.75"	.50"	1.50"	.56"	7/16" - 20
<b>RE3416</b>	<b>3/4 - 16</b>	1.13"	1.25"	1.25"	.75"	2.06"	.94"	3/4" - 16
<b>RE114</b>	<b>1 - 14</b>	1.63"	1.50"	1.50"	1.00"	2.81"	1.13"	1" - 14

**AC**

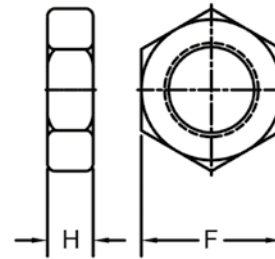
**ROD ALIGNMENT COUPLER**



Part No.	Rod Thread	A	B	C	D	E	F	G	H	Max Pull @ Yield
AC71620	7/16 - 20	7/16" - 20	1 1/4"	2"	1/2"	3/4"	5/8"	9/16"	1 1/8"	10,000
AC3416	3/4 - 16	3/4" - 16	1 3/4"	2 5/16"	5/16"	1 1/8"	31/32"	7/8"	1 1/2"	34,000
AC114	1 - 14	1" - 14	2 1/2"	2 15/16"	1/2"	1 5/8"	1 3/8"	1 1/4"	2 1/4"	64,000

**NUT**

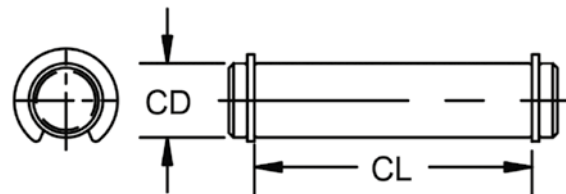
**ROD JAM NUT**



Part No.	Rod Thread	H	F
NUT71620	7/16 - 20	.25"	.69"
NUT3416	3/4 - 16	.42"	1.13"
NUT114	1 - 14	.55"	1.50"

**PP**

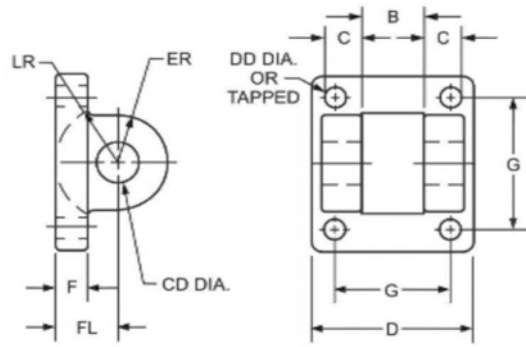
**PIVOT PIN**



Part No.	Rod Thread	CD	CL
PP50	.50"	.50"	1.88"
PP75	.75"	.75"	2.75"
PP100	1.00"	1.00"	3.25"

**CB**

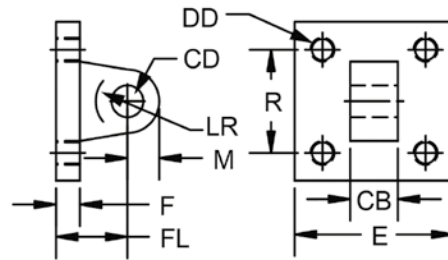
CLEVIS BRACKET



Part No.	Pin Ø	Fits Bore Sizes	CB	CD	CW	DD	E	F	FL	LR	M	R
<b>CB71620</b>	<b>1/2"</b>	<b>1-1/2" · 2" · 2-1/2"</b>	.75"	.50"	.50"	3/8" - 24	2.50"	.38"	1.13"	.50"	.50"	1.63"
<b>CB3416</b>	<b>3/4"</b>	<b>3-1/4" · 4"</b>	1.25"	.75"	.63"	1/2" - 20	3.50"	.63"	1.88"	1.06"	.75"	2.56"
<b>CB114</b>	<b>1"</b>	<b>6"</b>	1.50"	1.00"	.75"	5/8" - 18	4.50"	.75"	2.25"	1.25"	1.00"	3.25"

**EB**

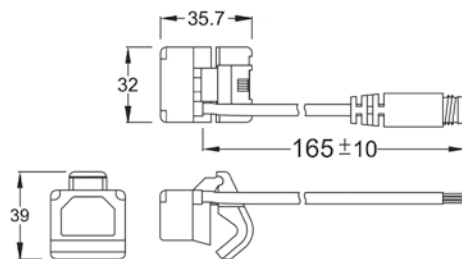
EYE BRACKET



Part No.	Pin Ø	Fits Bore Sizes	CB	CD	DD	E	F	FL	LR	M	R
<b>EB50</b>	<b>1/2"</b>	<b>1-1/2" · 2" · 2-1/2"</b>	.75"	.50"	.41"	2.50"	.38"	1.13"	.75"	.50"	1.63"
<b>EB75</b>	<b>3/4"</b>	<b>3-1/4" · 4"</b>	1.25"	.75"	.53"	3.50"	.63"	1.88"	1.25"	.75"	2.56"
<b>EB100</b>	<b>1"</b>	<b>6"</b>	1.50"	1.00"	.66"	4.50"	.75"	2.25"	1.50"	1.00"	3.25"

**PS**

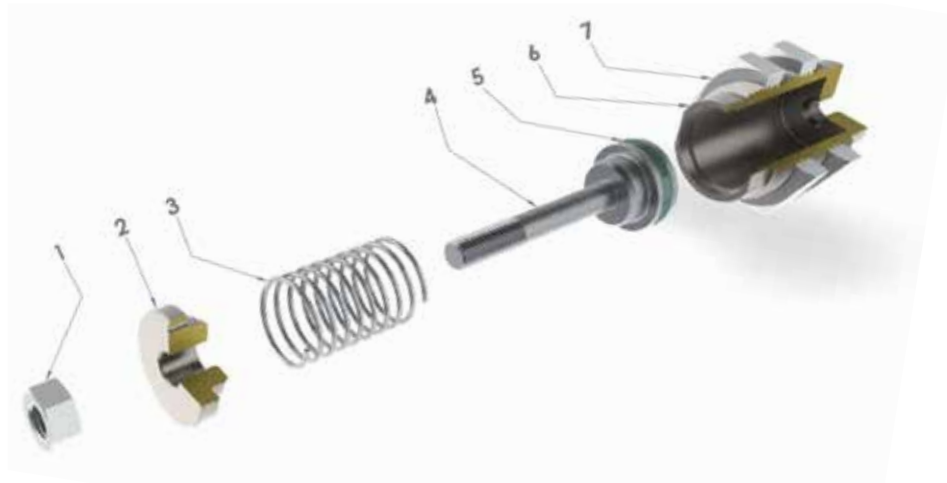
POSITION SENSING SWITCH



Part No.	Type	Switching Logic	Output	Operating Voltage	Switching Current	Power Rating	Voltage Drop	Shock
<b>PSRS</b>	<b>Reed</b>	Normally Open	-	5-240V DC/AC - 50/60 Hz	1 Amp Max.	30 Watts	3.5V Max.	30G/9G
<b>PSSOURCE</b>	<b>PNP Source</b>	Normally Open	PNP Sourcing	5-30V DC	1 Amp Max.	30 Watts	1.5V @ 0.5A Max	50G/9G
<b>PSSINK</b>	<b>NPN Sink</b>	Normally Open	PNP Sinking	5-30V DC	1 Amp Max.	30 Watts	1.5V @ 0.5A Max	50G/9G

**CARTRIDGE CYLINDERS**

**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 Steel plated rod jam nut
- 2 Brass rod bushing
- 3 Steel spring
- 4 303 Stainless steel piston rod
- 5 Polyurethane rod seal
- 6 Nickel plated brass body
- 7 Zinc plated steel locking screw

**Reference Standard**

1907/2006 REACH ✓    2011/65/CE RoHS ✓    PED 2014/68/UE    SILICON FREE    ATEX 2014/34/UE

**Pressures**  
 2 bar (0.2 MPa) / 29 psi  
 7 bar (0.7 MPa) / 101.5 psi

**Temperatures**  
 0 °C / 32 °F (-20 °C / -4 °F with dry air)  
 + 80 °C / 176 °F

**Media**  
 Filtered and lubricated or non-lubricated compressed air

**Functions**  
 Single acting threaded and non-threaded piston rod.

**Bores**  
 6 - 10 - 16 mm

**Standard Strokes**  
 5 - 10 - 15 mm

**Weight**

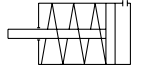
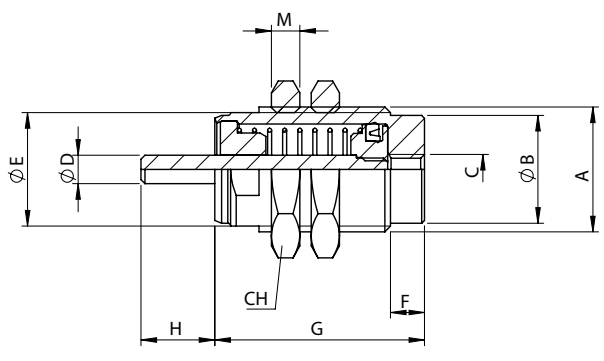
Ø mm	Stroke (mm)		
	5	10	15
<b>6</b>	10 g	12.5 g	15 g
<b>10</b>	27 g	32 g	36 g
<b>16</b>	71 g	78 g	87 g

Series	Ø (mm)	Stroke (mm)
<b>C A F</b>	<b>0 6</b>	<b>0 0 1 0</b>
▲ CA Single acting no-threaded piston rod	06	0005
▲ CAF Single acting threaded piston rod	10	0010
	16	0015

Ø (mm)	Stroke (mm)		
	5	10	15
<b>6</b>	▲	▲	▲
<b>10</b>	▲	▲	▲
<b>16</b>	▲	▲	▲

**CA**

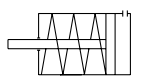
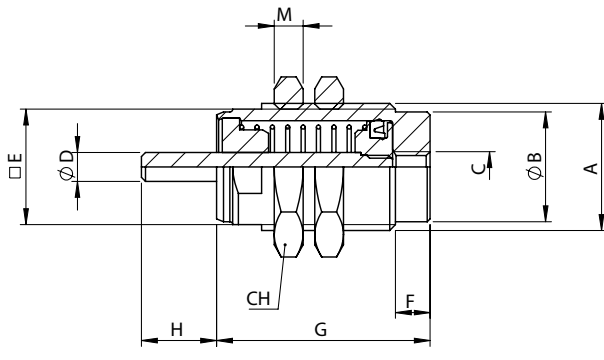
SINGLE ACTING - NON-THREADED PISTON ROD



Ø	A	B	C	D	ØE	F	G Stroke			H	M	CH
							5	10	15			
<b>6</b>	M10x1	8.5	M5	3	9	5	19.5	26.5	33.5	8	3	14
<b>10</b>	M15x1.5	13	M5	5	14	5	21.5	28	35	10.5	4	19
<b>16</b>	M22x1.5	19	M5	5	20	6	24.5	30.5	37	13	5	27

**CAF**

SINGLE-ACTING - THREADED PISTON ROD

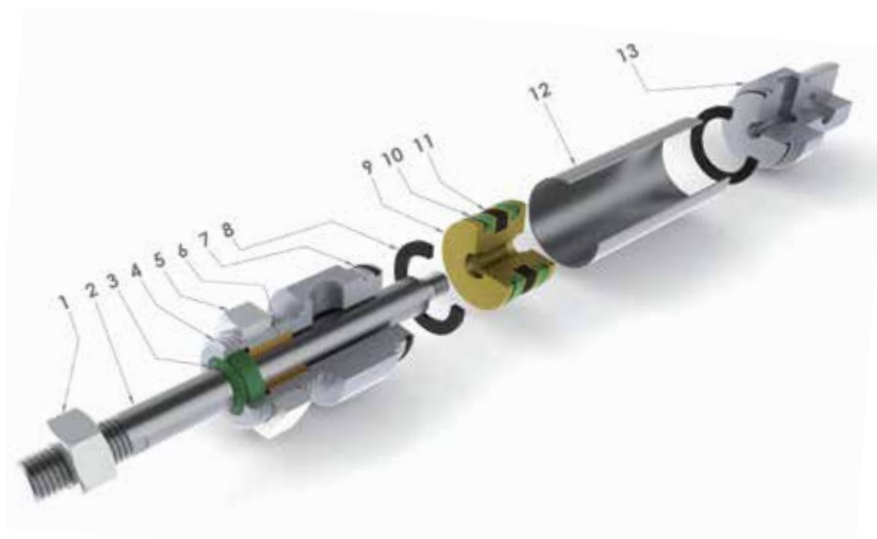


Ø	A	B	C	D	ØE	F	G Stroke			H	M	CH	L
							5	10	15				
<b>6</b>	M10x1	8.5	M5	M3	9	5	19.5	26.5	33.5	8	3	14	7
<b>10</b>	M15x1.5	13	M5	M4	14	5	21.5	28	35	10.5	4	19	10
<b>16</b>	M22x1.5	19	M5	M5	20	6	24.5	30.5	37	13	5	27	12

**MINI CYLINDERS - ISO 6432**



**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 Zinc plated steel rod jam nut
- 2 303 Stainless steel piston rod
- 3 Polyurethane rod seal
- 4 Anodized aluminum end cap
- 5 Zinc plated mounting nut
- 6 Sintered bronze rod bearing
- 7 NBR o-ring seals
- 8 Neoprene bumper
- 9 Brass piston
- 10 Polyurethane piston seal
- 11 Bonded ferrite magnet
- 12 304 Stainless steel body
- 13 Anodized aluminum end cap



**Reference Standard**

1907/2006 <b>REACH</b> ✓	2011/65/CE <b>RoHS</b> ✓	PED 2014/68/UE	SILICON FREE	ATEX 2014/34/UE
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**Pressures**

**1 bar** (0.1 MPa) / 14.5 psi  
**10 bar** (1 MPa) / 145 psi



**Temperatures**

**0 °C / 32 °F** (-20 °C / -4 °F with dry air)  
**+ 80 °C / 176 °F**



**Media**

Filtered and lubricated or non-lubricated compressed air



**Functions**

Single acting magnetic or non-magnetic. Double acting single or double end rod, magnetic or non-magnetic, cushioned or non-cushioned.



**Bores**

**8 - 10 - 12 - 16 - 20 - 25 mm**



**Standard Strokes**

**from 10 to 320 mm**




**FORCES, SPRING LOADS AND AIR CONSUMPTION**
**Extend and Retract Forces**

Cylinder ∅	Piston rod ∅	Piston Area mm <sup>2</sup>	Operating pressure bar									
			1	2	3	4	5	6	7	8	9	10
			Output force N									
8	4	Extend = 50.2	5	10	15	20	25	30	35	40	45	50
		Retract = 37.7	3	6	9	12	15	18	21	24	27	30
10	4	Extend = 78.5	7	14	21	28	35	42	49	56	63	70
		Retract = 66	6	12	18	24	30	36	42	48	54	60
12	6	Extend = 113	10	20	30	40	50	60	70	80	90	100
		Retract = 85	7.5	15	22	30	37	45	52	60	68	75
16	6	Extend = 200	18	36	54	72	90	108	126	144	162	180
		Retract = 173	16	32	48	64	80	96	112	128	144	160
20	8	Extend = 314	28	56	84	112	140	168	196	224	252	280
		Retract = 264	24	48	72	96	120	144	168	192	216	240
25	10	Extend = 490	44	88	132	176	220	264	308	352	396	440
		Retract = 412	36	72	108	144	180	216	252	288	324	360

**Spring Loads**

Cylinder ∅	Load spring	Stroke (mm)		
		10	25	50
		Output force N		
8	Load of spring at rest	4.1	3.5	2.6
	Load of compressed spring	4.5	4.5	4.5
10	Load of spring at rest	4.1	3.5	2.6
	Load of compressed spring	4.5	4.5	4.5
12	Load of spring at rest	5.5	4.8	3.5
	Load of compressed spring	6	6	6
16	Load of spring at rest	16.5	13.7	9
	Load of compressed spring	18.3	18.3	18.3
20	Load of spring at rest	19	15.5	9.5
	Load of compressed spring	21.5	21.5	21.5
25	Load of spring at rest	27	24	13.5
	Load of compressed spring	29	29	29

**Air Consumption**

Cylinder ∅	Piston Rod ∅	Piston Area mm <sup>2</sup>	Operating pressure bar									
			1	2	3	4	5	6	7	8	9	10
			Air consumption for each 10 mm of stroke NI									
8	4	Extend = 50.2	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.006
		Retract = 37.7	0.001	0.001	0.002	0.002	0.002	0.003	0.003	0.003	0.004	0.004
10	4	Extend = 78.5	0.002	0.002	0.003	0.004	0.005	0.005	0.006	0.007	0.008	0.009
		Retract = 66	0.001	0.002	0.003	0.003	0.004	0.005	0.005	0.006	0.007	0.007
12	6	Extend = 113	0.002	0.003	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.012
		Retract = 85	0.002	0.003	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.009
16	6	Extend = 200	0.004	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.022
		Retract = 173	0.003	0.005	0.007	0.009	0.010	0.012	0.014	0.016	0.017	0.019
20	8	Extend = 314	0.006	0.009	0.013	0.016	0.019	0.022	0.025	0.028	0.031	0.035
		Retract = 264	0.005	0.008	0.011	0.013	0.016	0.018	0.021	0.024	0.026	0.029
25	10	Extend = 490	0.010	0.015	0.020	0.025	0.029	0.034	0.039	0.044	0.049	0.054
		Retract = 412	0.008	0.012	0.016	0.021	0.025	0.029	0.033	0.037	0.041	0.045

Series	Ø (mm)	Stroke (mm)	Special version
--------	--------	-------------	-----------------

**M F**

**0 0 8**

**0 0 2 5**

**V S**

- ▲ **MB** Single acting - magnetic
- **MD** Single acting - magnetic  
Spring extend
- **MF** Double acting - magnetic
- **MFN** Double acting - magnetic - head cut  
port at 90°
- **MFx** Double acting - magnetic - head cut  
port on axis
- ◆ **MH** Double acting - cushioned - magnetic
- **MJ** Double acting - magnetic  
with double rod end
- ◆ **ML** Double acting - cushioned - magnetic  
with double rod end

008  
010  
012  
016  
020  
025

0010 0150  
0025 0160  
0050 0200  
0080 0250  
0100 0320  
0125

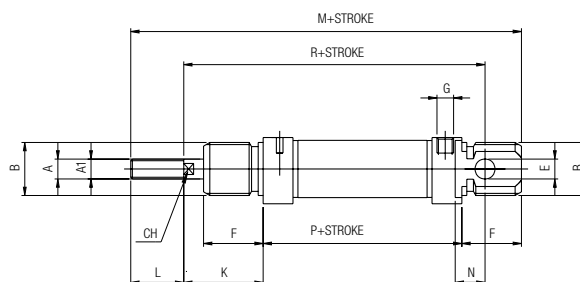
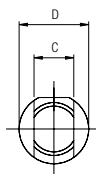
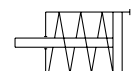
**VS** Rod Seals in FKM  
**V** Seals in FKM

Intermediate or longer strokes  
are available upon request.

Ø (mm)	Stroke (mm)										
	10	25	50	80	100	125	160	200	250	320	
8	▲●	▲●	▲●	●	●	●					
10	▲●	▲●	▲●	●	●	●					
12	▲●	▲●	▲●	●	●	●	●	●	●	●	
16	▲■●○	▲■●○	▲■●○	●○	●○	●○	●○	●○	●○	●○	
20	▲■●○	▲■●○	▲■●○	●○	●○	●○	●○	●○	●○	●○	
25	▲■●○	▲■●○	▲■●○	●○	●○	●○	●○	●○	●○	●○	

## MB

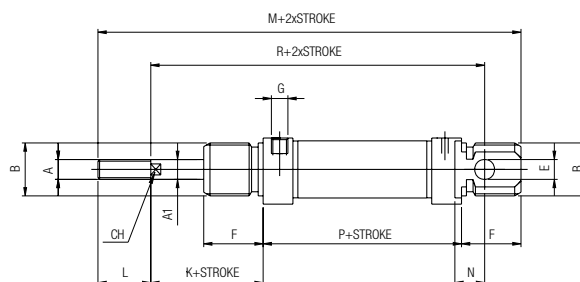
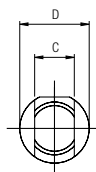
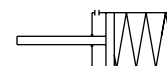
SINGLE ACTING - MAGNETIC



Ø	A	A1	B	C	D	E	F	G	K	L	M	N	P	R	CH
8	M4	4	M12x1.25	8	16	4	12	M5	16	12	86	6	46	64	-
10	M4	4	M12x1.25	8	16	4	12	M5	16	12	86	6	46	64	-
12	M6	6	M16x1.5	12	19	6	18	M5	22	16	104	9	48	75	5
16	M6	6	M16x1.5	12	19	6	18	M5	22	16	109	9	53	82	5
20	M8	8	M22x1.5	16	27	8	20	1/8G	24	20	131	12	67	95	7
25	M10x1.25	10	M22x1.5	16	30	8	22	1/8G	28	22	140	12	68	104	9

## MD

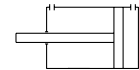
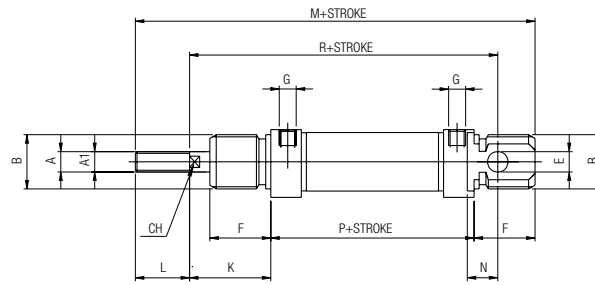
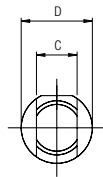
SINGLE ACTING - MAGNETIC - SPRING EXTEND



Ø	A	A1	B	C	D	E	F	G	K	L	M	N	P	R	CH
16	M6	6	M16x1.5	12	19	6	18	M5	22	16	134.5	9	78.5	107.5	5
20	M8	8	M22x1.5	16	27	8	20	1/8G	24	20	154	12	90	118	7
25	M10x1.25	10	M22x1.5	16	30	8	22	1/8G	28	22	166	12	94	130	9

**MF**

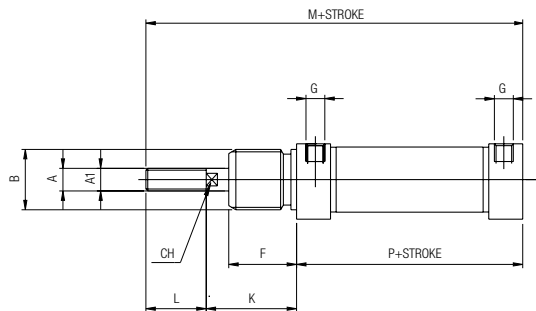
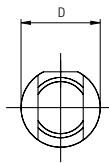
DOUBLE ACTING - MAGNETIC



Ø	A	A1	B	C	D	E	F	G	K	L	M	N	P	R	CH
8	M4	4	M12x1.25	8	16	4	12	M5	16	12	86	6	46	64	-
10	M4	4	M12x1.25	8	16	4	12	M5	16	12	86	6	46	64	-
12	M6	6	M16x1.5	12	19	6	18	M5	22	16	104	9	48	75	5
16	M6	6	M16x1.5	12	19	6	18	M5	22	16	109	9	53	82	5
20	M8	8	M22x1.5	16	27	8	20	1/8G	24	20	131	12	67	95	7
25	M10x1.25	10	M22x1.5	16	30	8	22	1/8G	28	22	140	12	68	104	9

**MFN**

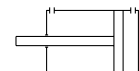
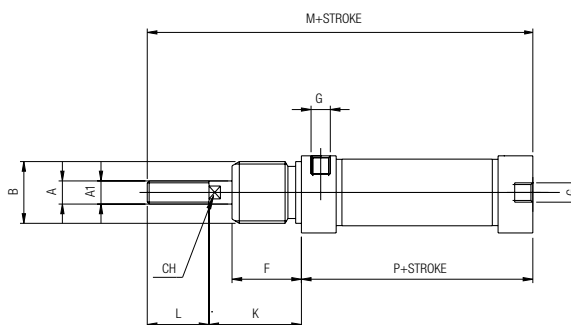
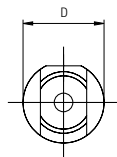
DOUBLE ACTING - MAGNETIC - HEAD CUT, PORT AT 90°



Ø	A	A1	B	D	G	K	L	M	P	CH	F
16	M6	6	M16x1.5	21	M5	22	16	91.5	53	5	18
20	M8	8	M22x1.5	27	1/8G	24	20	111.5	67	7	2
25	M10x1.25	10	M22x1.5	30	1/8G	28	22	118.5	68	9	22

**MFX**

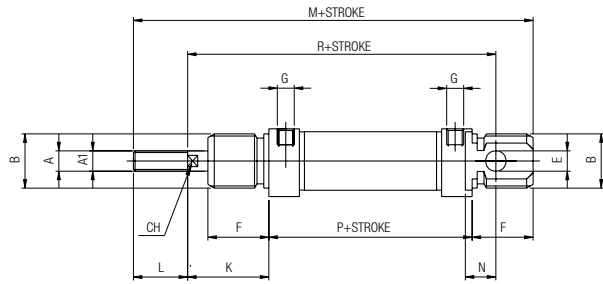
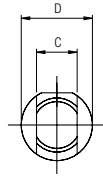
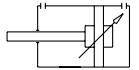
DOUBLE ACTING - MAGNETIC - HEAD CUT, PORT ON AXIS



Ø	A	A1	B	D	G	K	L	M	P	CH	F
16	M6	6	M16x1.5	21	M5	22	16	91.5	53	5	18
20	M8	8	M22x1.5	27	1/8G	24	20	111.5	67	7	2
25	M10x1.25	10	M22x1.5	30	1/8G	28	22	118.5	68	9	22

**MH**

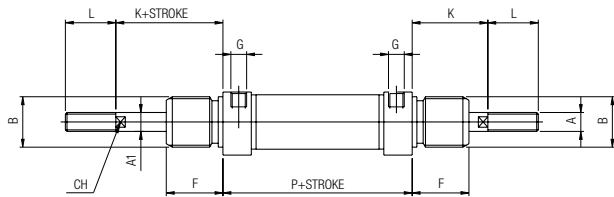
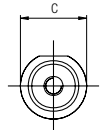
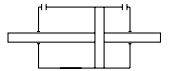
DOUBLE ACTING - CUSHIONED - MAGNETIC



∅	A	A1	B	C	D	E	F	G	K	L	M	N	P	R	CH
16	M6	6	M16x1.5	12	21	6	18	M5	22	16	109	9	53	82	25
20	M8	8	M22x1.5	16	27	8	20	1/8G	24	20	131	12	67	95	7
25	M10x1.25	10	M22x1.5	16	30	8	22	1/8G	28	22	140	12	68	104	9

**MJ**

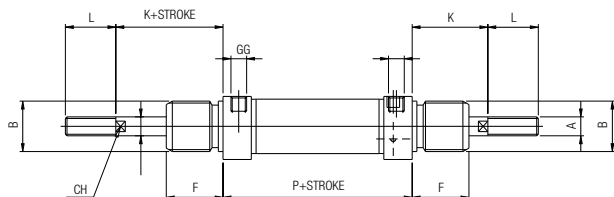
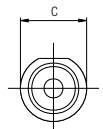
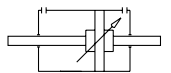
DOUBLE ACTING - MAGNETIC WITH DOUBLE ROD END



∅	A	A1	B	C	F	G	K	L	P	CH
16	M6	6	M16x1.5	19	18	M5	22	16	53	5
20	M8	8	M22x1.5	27	20	1/8G	24	20	67	7
25	M10x1.25	10	M22x1.5	30	22	1/8G	28	22	68	9

**ML**

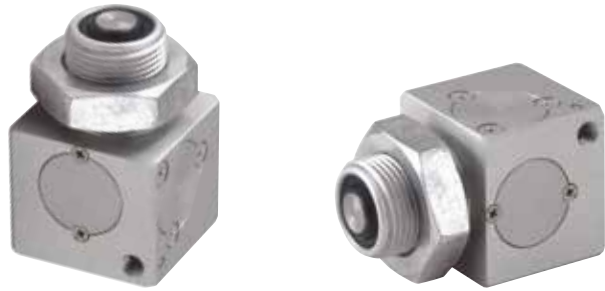
DOUBLE ACTING - CUSHIONED - MAGNETIC WITH DOUBLE ROD END



∅	A	A1	B	C	F	G	K	L	P	CH
16	M6	6	M16x1.5	21	18	M5	22	16	53	5
20	M8	8	M22x1.5	27	20	1/8G	24	20	67	7
25	M10x1.25	10	M22x1.5	30	22	1/8G	28	22	68	9

**PISTON ROD LOCK FOR MINI CYLINDERS - ISO 6432**

**TECHNICAL CHARACTERISTICS**



**How to Order**  
 The piston rod lock can be assembled only with cylinders ISO 6432 Ø 20 or 25 mm produced with an extended piston rod.  
 To identify the cylinder with extended piston rod and piston rod lock assembled, it is necessary to mention after the article code of the cylinder the letter "B".

**Reference Standard**

- 1907/2006 REACH ✓
- 2011/65/CE RoHS ✓
- PED 2014/68/UE
- SILICON FREE

**Pressures**  
**Without Pressures: LOCKED**

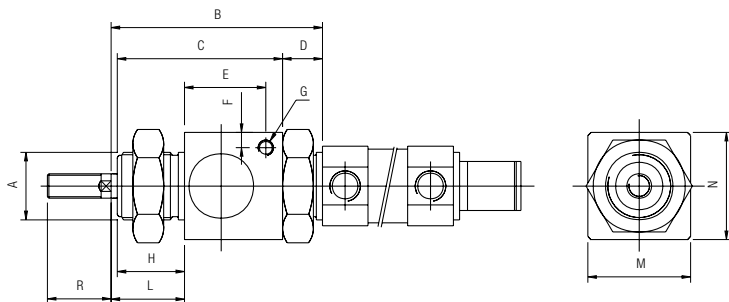
Cylinder supply pressure	Minimum release pressure
0 ÷ 7 bar (0 ÷ 0.7 Mpa)	2.5 bar (0.25 Mpa)
7 ÷ 10 bar (0.7 ÷ 1 Mpa)	3 bar (0.3 Mpa)

**Temperatures**  
 0 °C / 32 °F (-20 °C / -4 °F with dry air)  
 + 80 °C / 176 °F

**Media**  
 Filtered and lubricated or non-lubricated compressed air

Series	Ø (mm)	Stroke (mm)
<b>M F</b>	<b>B</b>	<b>0 0 2 5</b>
	B = Piston Rod Lock Assembled	0010 0150 0025 0160 0050 0200 0080 0250 0100 0320 0125
	020 025	Intermediate or longer strokes are available upon request.

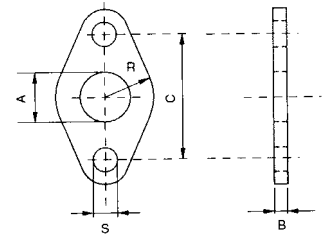
**MRL**  
 PISTON ROD LOCK



Part No.	Ø	A	B	C	D	E	F	G	H	L	M	N	R
<b>MRL 020</b>	<b>20</b>	M22x1.5	68.5	54	13	27	5	M5	22	23.5	34	35	23
<b>MRL 025</b>	<b>25</b>	M22x1.5	69.5	54	13	27	5	M5	22	24.5	34	35	26

ISO 6432 Mounting Accessories

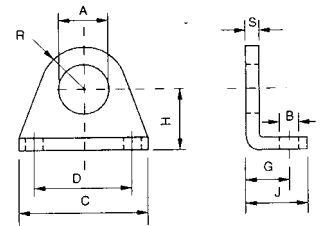
**MFL**  
FLANGE



MATERIAL: Steel

Part No.	∅	A	B	C	R	S
<b>MFL 008</b>	<b>8-10</b>	12	3	30	9	4.5
<b>MFL 012</b>	<b>12-16</b>	16	4	40	13	5.5
<b>MFL 020</b>	<b>20-25</b>	22	5	50	19	6.6

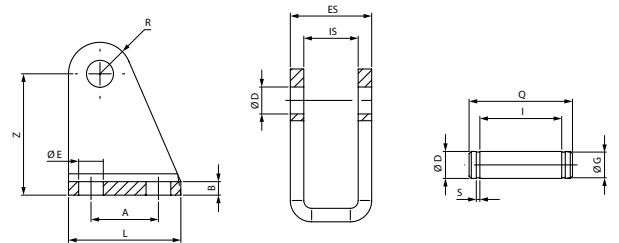
**MPD**  
FOOT



MATERIAL: Steel

Part No.	∅	A	B	C	D	G	H	J	R	S
<b>MPD 008</b>	<b>8-10</b>	12	4.5	35	25	11	16	16	10	3
<b>MPD 012</b>	<b>12-16</b>	16	5.5	42	32	14	20	20	13.5	4
<b>MPD 020</b>	<b>20-25</b>	22	6.6	54	40	17	25	25	18	5

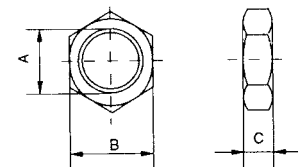
**MCC**  
CLEVIS BRACKET WITH PIN



MATERIAL: Steel

Code	∅	A	B	R	L	Z	IS	ES	S	I	Q	ØE	ØD	ØG
<b>MCC 008</b>	<b>8-10</b>	12.5	2.5	5	22	24	8.1	13	0.8	14	18	4.5	4	2.3
<b>MCC 012</b>	<b>12-16</b>	15	3	7	25	27	12	18	0.8	19	24	5.5	6	4
<b>MCC 020</b>	<b>20-25</b>	20	4	10	32	30	16	24	0.9	25	30	6.5	8	7

**DA**



**MOUNTING NUT**

Part No.	A	B	C
<b>ODA00 00 51 D5 ZI</b>	<b>M12x1.25</b>	19	7
<b>ODA00 00 51 E3 ZI</b>	<b>M16x1.5</b>	22	6
<b>ODA00 00 51 F6 ZI</b>	<b>M22x1.5</b>	27	8

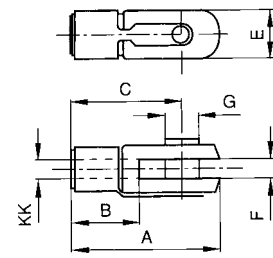
MATERIAL: Steel

**ROD JAM NUT**

Part No.	A	B	C
<b>ODA00 00 51 B1 ZI</b>	<b>M4</b>	7	3.2
<b>ODA00 00 51 B8 ZI</b>	<b>M6</b>	10	5
<b>ODA00 00 51 C3 ZI</b>	<b>M8x1.25</b>	13	6.5
<b>ODA00 00 51 C9 ZI</b>	<b>M10x1.25</b>	17	8

**FC**

ROD CLEVIS WITH LOCKABLE PIN

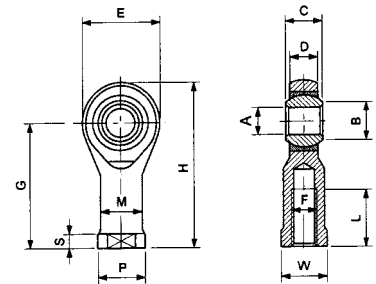


MATERIAL: Steel

Part No.	KK	A	B	C	E	F	G
<b>FC 008</b>	<b>M4</b>	21	8	16	8	4	4
<b>FC 012</b>	<b>M6</b>	31	12	24	12	6	6
<b>FC 020</b>	<b>M8</b>	42	16	32	16	8	8
<b>FC 025</b>	<b>M10x1.25</b>	52	20	40	20	10	10

**TF**

SELF-LUBRICATING SPHERICAL ROD EYE

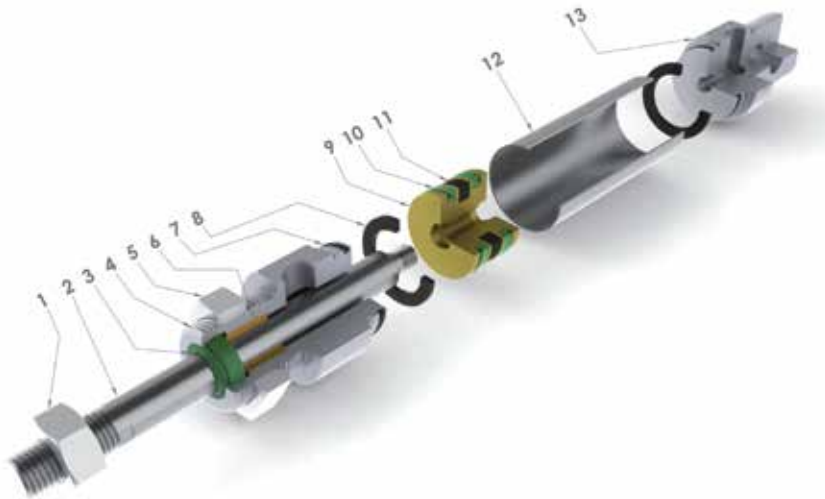


MATERIAL: Steel

Part No.	F	A	B	C	Ø Sphere	D	E	G	H	L	M	P	S	W	Radial load		Weight
															Dynamic	Static	
		H7	0	$\begin{matrix} 0 \\ -0.13 \end{matrix}$		$\pm 0.13$	$\pm 0.5$	$\pm 0.5$		$\pm 0.7$	$\pm 0.7$	$\pm 0.5$	$\begin{matrix} +0.2 \\ -0.7 \end{matrix}$	$\pm 0.25$	kg	kg	g
<b>TF 008</b>	<b>M4x0.7</b>	5	7.7	8	11.11	6	18	27	36	10	9	11	4	9	-	-	-
<b>TF 012</b>	<b>M6x1</b>	6	8.9	9	12.7	6.75	20	30	40	9	10	13	5	11	470	1.100	19
<b>TF 020</b>	<b>M8x1.25</b>	8	10.4	12	15.88	9	24	36	48	12	12.5	16	5	14	780	1.900	36
<b>TF 025</b>	<b>M10x1.25</b>	10	12.9	14	19.05	10.5	28	43	57	15	15	19	6.5	17	1.200	3.100	88

**STAINLESS STEEL MINI CYLINDERS - ISO 6432**

**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 304 Stainless steel rod jam nut
- 2 316 Stainless steel piston rod
- 3 Polyurethane rod seal
- 4 304 Stainless steel end cap
- 5 304 Stainless steel mounting nut
- 6 Sintered bronze rod bearing
- 7 NBR o-ring seals
- 8 Neoprene bumper
- 9 Brass piston
- 10 Polyurethane piston seal
- 11 Plastroferrite magnet
- 12 304 Stainless steel body
- 13 304 Stainless steel end cap



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- SILICON  
FREE
- ATEX  
2014/34/UE



**Pressures**

- 2 bar (0.2 MPa) / 29 psi
- 10 bar (0.7 MPa) / 145 psi



**Temperatures**

- 0 °C / 32 °F (-20 °C / -4 °F with dry air)
- + 80 °C / 176 °F



**Media**

Filtered and lubricated or non-lubricated compressed air.



**Functions**

- Double-acting magnetic.
- Double-acting without magnet.



**Bores**

- 16 - 20 - 25 mm



**Standard Strokes**

- from 10 to 320 mm



Series	Ø (mm)	Stroke (mm)	Special version
--------	--------	-------------	-----------------

**M F I**

• MFI Double acting - magnetic

**0 1 6**

016  
020  
025

**0 0 2 5**

0010    0150  
0025    0160  
0050    0200  
0080    0250  
0100    0320  
0125

**V S**

VS Rod Seals in FKM  
V Seals in FKM

Intermediate or longer strokes are available upon request.

Ø (mm)	Stroke (mm)									
	10	25	50	80	100	125	160	200	250	320
16	•	•	•	•	•	•	•	•	•	•
20	•	•	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•	•	•

**Extend and Retract Forces**

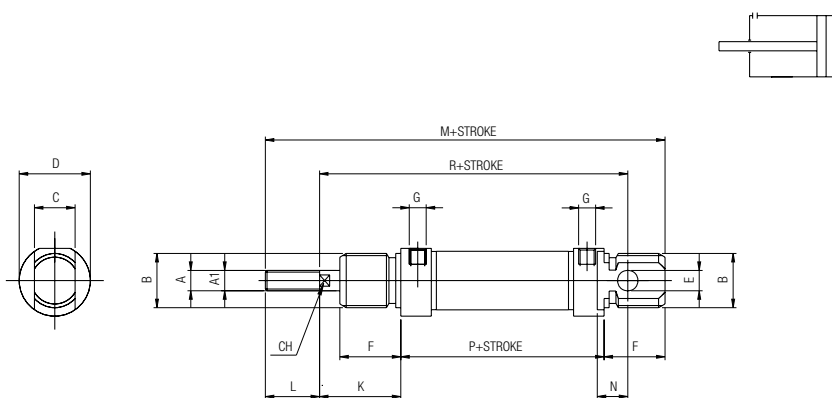
Cylinder Ø	Piston Rod Ø	Piston Area mm <sup>2</sup>	Operating pressure bar									
			1	2	3	4	5	6	7	8	9	10
<b>Output force N</b>												
16	6	Extend = 200	18	36	54	72	90	108	126	144	162	180
		Retract = 173	16	32	48	64	80	96	112	128	144	160
20	8	Extend = 314	28	56	84	112	140	168	196	224	252	280
		Retract = 264	24	48	72	96	120	144	168	192	216	240
25	10	Extend = 490	44	88	132	176	220	264	308	352	396	440
		Retract = 412	36	72	108	144	180	216	252	288	324	360

**Air Consumption**

Cylinder Ø	Piston Rod Ø	Piston Area mm <sup>2</sup>	Operating pressure bar									
			1	2	3	4	5	6	7	8	9	10
<b>Air consumption for each 10 mm of stroke NI</b>												
16	6	Extend = 200	0.004	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.022
		Retract = 173	0.003	0.005	0.007	0.009	0.010	0.012	0.014	0.016	0.017	0.019
20	8	Extend = 314	0.006	0.009	0.013	0.016	0.019	0.022	0.025	0.028	0.031	0.035
		Retract = 264	0.005	0.008	0.011	0.013	0.016	0.018	0.021	0.024	0.026	0.029
25	10	Extend = 490	0.010	0.015	0.020	0.025	0.029	0.034	0.039	0.044	0.049	0.054
		Retract = 412	0.008	0.012	0.016	0.021	0.025	0.029	0.033	0.037	0.041	0.045

**MFI**

DOUBLE ACTING - MAGNETIC

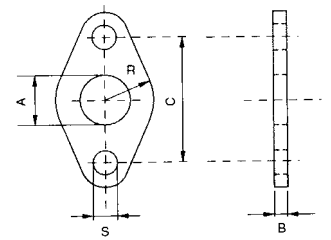


Ø	A	A1	B	C	D	E	F	G	K	L	M	N	P	R	CH
16	M6	6	M16x1.5	12	19	6	18	M5	22	16	109	9	53	82	5
20	M8	8	M22x1.5	16	27	8	20	1/8G	24	20	131	12	67	95	7
25	M10x1.25	10	M22x1.5	16	30	8	22	1/8G	28	22	140	12	68	104	9

ISO 6432 Stainless Steel Mounting Accessories

**MFLI**

FLANGE

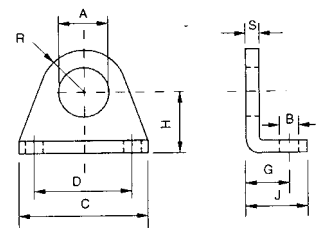


MATERIAL: Stainless Steel

Part No.	Ø	A	B	C	R	S
<b>MFLI 016</b>	<b>16</b>	16	4	40	13	5.5
<b>MFLI 020</b>	<b>20-25</b>	22	5	50	19	6.6

**MPDI**

FOOT

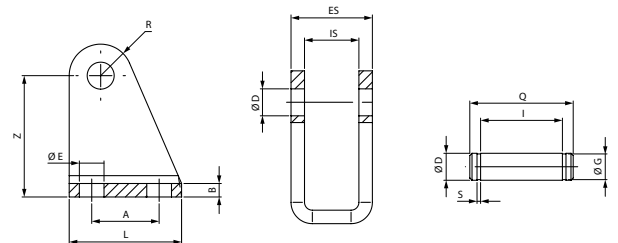


MATERIAL: Stainless Steel

Part No.	Ø	A	B	C	D	G	H	J	R	S
<b>MPDI 016</b>	<b>16</b>	16	5.5	42	32	14	20	20	13.5	4
<b>MPDI 020</b>	<b>20-25</b>	22	6.6	54	43	17	25	25	18	5

**MCCI**

CLEVIS BRACKET WITH PIN



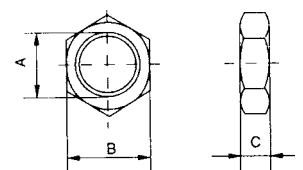
MATERIAL: Stainless Steel

Code	Ø	A	B	R	L	Z	IS	ES	S	I	Q	ØE	ØD	ØG
<b>MCCI 012</b>	<b>16</b>	15	3	7	25	27	12	18	0.8	19	24	5.5	6	4
<b>MCCI 020</b>	<b>20-25</b>	20	4	10	32	30	16	24	0.9	25	30	6.5	8	7

**DA**

MOUNTING NUTS

ROD JAM NUT



MATERIAL: Stainless Steel

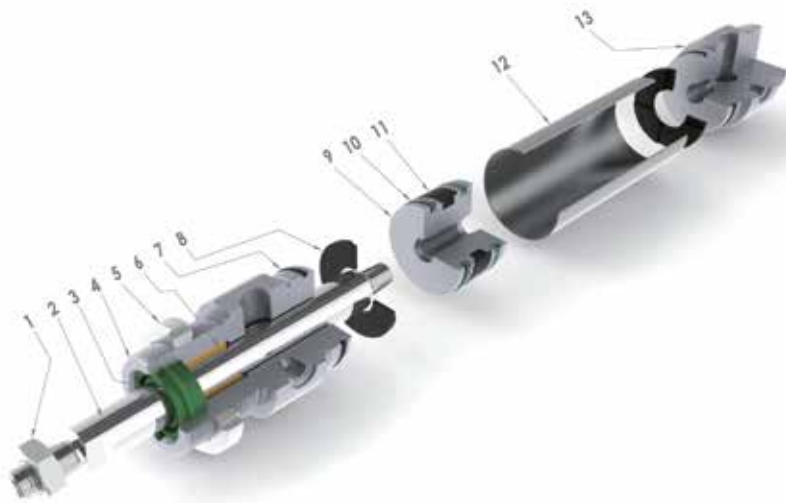
Part No.	A	B	C
<b>ODA00 00 43 E3 00</b>	<b>M16x1.5</b>	22	6
<b>ODA00 00 43 F6 00</b>	<b>M22x1.5</b>	27	8

Part No.	A	B	C
<b>ODA00 00 43 B8 00</b>	<b>M6</b>	10	5
<b>ODA00 00 43 C3 00</b>	<b>M8x1.25</b>	13	6.5
<b>ODA00 00 43 C9 00</b>	<b>M10x1.25</b>	17	8

**SERIES A95 - LIMITED SPACE CYLINDERS**



**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 Zinc plated steel rod jam nut
- 2 Chrome plated steel piston rod
- 3 Polyurethane rod seal
- 4 Anodized aluminum end cap
- 5 Zinc plated mounting nut
- 6 Sintered bronze rod bearing
- 7 NBR o-ring seals
- 8 Neoprene bumper
- 9 Anodized aluminum piston
- 10 Polyurethane piston seal
- 11 Bonded ferrite magnet
- 12 304 Stainless steel body
- 13 Anodized aluminum end cap



**Reference Standard**

1907/2006 <b>REACH</b> ✓	2011/65/CE <b>RoHS</b> ✓	PED 2014/68/UE	SILICON FREE	ATEX 2014/34/UE
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**Pressures**

- 1 bar (0.1 MPa) / 14.5 psi
- 10 bar (1 MPa) / 145 psi



**Temperatures**

- 0 °C / 32 °F (-20 °C / -4 °F with dry air)
- + 80 °C / 176 °F



**Media**

Filtered and lubricated or non-lubricated compressed air.



**Functions**

Single acting magnetic or non-magnetic. Double acting single or double rod end, magnetic or non-magnetic, cushioned or non-cushioned.



**Bores**

- 32 - 40 - 50 - 63 mm



**Standard Strokes**

- from 10 to 500 mm


**FORCES, SPRING LOADS AND AIR CONSUMPTION**
**Extend and Retract Forces**

Cylinder ∅	Piston Rod ∅	Piston Area mm <sup>2</sup>	Operating pressure									
			bar									
			1	2	3	4	5	6	7	8	9	10
			Output force N									
32	12	Extend = 804	72	144	216	288	360	432	504	576	648	720
		Retract = 691	62	124	186	248	310	372	434	496	558	620
40	16	Extend = 1257	110	220	330	440	550	660	770	880	990	1100
		Retract = 1056	95	190	285	380	475	570	665	760	855	950
50	20	Extend = 1963	175	350	525	700	875	1050	1225	1400	1575	1750
		Retract = 1649	148	296	444	592	740	888	1036	1184	1332	1480
63	20	Extend = 3117	280	560	840	1120	1400	1680	1960	2240	2520	2800
		Retract = 2803	250	500	750	1000	1250	1500	1750	2000	2250	2500

**Spring Loads**

Cylinder ∅	Load spring	Stroke (mm)		
		10	25	50
		Output force N		
32	Load of spring at rest	56	51	42
	Load of compressed spring	60	60	60
40	Load of spring at rest	60	55	44
	Load of compressed spring	65	65	65
50	Load of spring at rest	64	57	46
	Load of compressed spring	68	68	68
63	Load of spring at rest	65	58	47
	Load of compressed spring	70	70	70

**Air Consumption**

Cylinder ∅	Piston Rod ∅	Piston Area mm <sup>2</sup>	Operating pressure									
			bar									
			1	2	3	4	5	6	7	8	9	10
			Air consumption for each 10 mm of stroke NI									
32	12	Extend = 804	0.016	0.024	0.032	0.040	0.048	0.056	0.064	0.072	0.080	0.088
		Retract = 691	0.014	0.021	0.028	0.035	0.041	0.048	0.055	0.062	0.069	0.076
40	16	Extend = 1257	0.025	0.038	0.050	0.063	0.075	0.088	0.101	0.113	0.126	0.138
		Retract = 1056	0.021	0.032	0.042	0.053	0.063	0.074	0.084	0.095	0.106	0.116
50	20	Extend = 1963	0.039	0.059	0.079	0.098	0.118	0.137	0.157	0.177	0.196	0.216
		Retract = 1649	0.033	0.049	0.066	0.082	0.099	0.115	0.132	0.148	0.165	0.181
63	20	Extend = 3117	0.062	0.094	0.125	0.156	0.187	0.218	0.249	0.281	0.312	0.343
		Retract = 2803	0.056	0.084	0.112	0.140	0.168	0.196	0.224	0.252	0.280	0.308

Series	Ø (mm)	Stroke (mm)
--------	--------	-------------

**A B**

**0 3 2**

**0 0 2 5**

- ▲ **AB** Single acting - magnetic
- ▲ **AD** Single acting - magnetic - spring extend
- **AF** Double acting - magnetic
- ◆ **AH** Double acting - cushioned - magnetic
- **AJ** Double acting - magnetic with double rod end
- ◆ **AL** Double acting - cushioned - magnetic with double rod end

032  
040  
050  
063

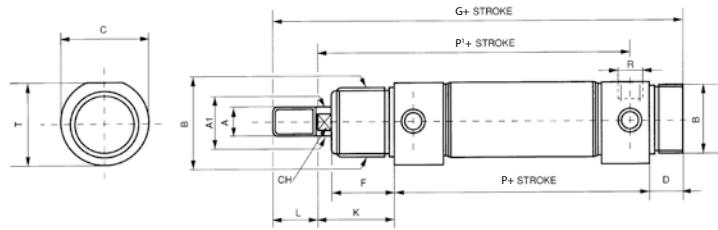
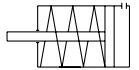
0010    0160  
0025    0200  
0050    0250  
0080    0320  
0100    0400  
0125    0500  
0150

Intermediate or longer strokes are available upon request.

Ø (mm)	Stroke (mm)											
	10	25	50	80	100	125	160	200	250	320	400	500
<b>32</b>	▲●	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
<b>40</b>	▲●	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
<b>50</b>	▲●	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
<b>63</b>	▲●	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆

**AB**

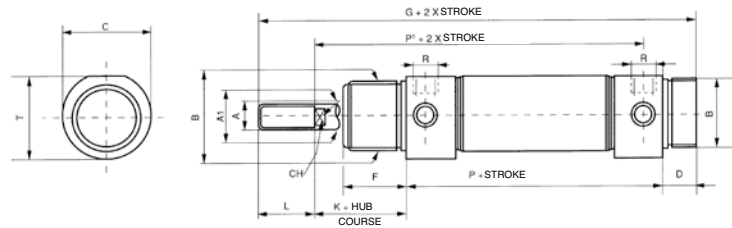
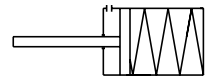
SINGLE ACTING - MAGNETIC



∅	A	A1	B	T	C	D	F	G	K	L	P	P <sup>1</sup>	CH	R
32	M10x1.25	12	M30x1.5	36.5	38	14	30	168	38	20	96	125	10	1/8" GAS
40	M12x1.25	16	M38x1.5	44	46	16	35	196	45	24	111	144	12	1/4" GAS
50	M16x1.5	20	M45x1.5	55	57	18	38	220	50	32	120	158	16	1/4" GAS
63	M16x1.5	20	M45x1.5	67.5	70	18	38	224	50	32	124	161	16	3/8" GAS

**AD**

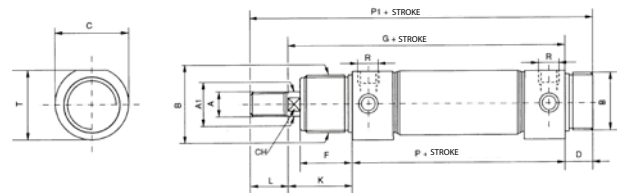
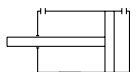
SINGLE ACTING - MAGNETIC - SPRING EXTEND



∅	A	A1	B	T	C	D	F	G	K	L	P	P <sup>1</sup>	CH	R
32	M10x1.25	12	M30x1.5	36.5	38	14	30	168	38	20	96	125	10	1/8" GAS
40	M12x1.25	16	M38x1.5	44	46	16	35	196	45	24	111	144	12	1/4" GAS
50	M16x1.5	20	M45x1.5	55	57	18	38	220	50	32	120	158	16	1/4" GAS
63	M16x1.5	20	M45x1.5	67.5	70	18	38	224	50	32	124	161	16	3/8" GAS

**AF**

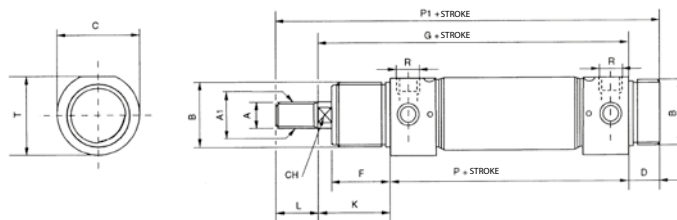
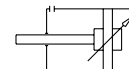
DOUBLE ACTING - MAGNETIC



∅	A	A1	B	T	C	D	F	G	K	L	P	P <sup>1</sup>	CH	R
32	M10x1.25	12	M30x1.5	36.5	38	14	30	134	38	20	96	168	10	1/8" GAS
40	M12x1.25	16	M38x1.5	44	46	16	35	156	45	24	111	196	12	1/4" GAS
50	M16x1.5	20	M45x1.5	55	57	18	38	170	50	32	120	220	16	1/4" GAS
63	M16x1.5	20	M45x1.5	67.5	70	18	38	174	50	32	124	224	16	3/8" GAS

**AH**

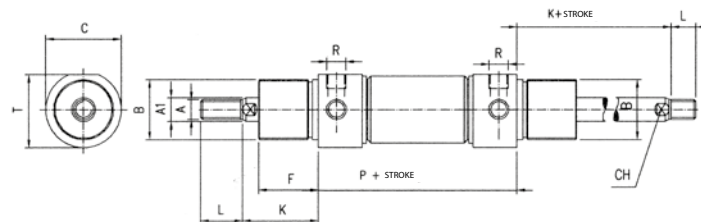
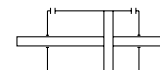
DOUBLE ACTING - CUSHIONED - MAGNETIC



Ø	A	A1	B	T	C	D	F	G	K	L	P	P1	CH	R
32	M10x1.25	12	M30x1.5	36.5	38	14	30	134	38	20	96	168	10	1/8"GAS
40	M12x1.25	16	M38x1.5	44	46	16	35	156	45	24	111	196	12	1/4"GAS
50	M16x1.5	20	M45x1.5	55	57	18	38	170	50	32	120	220	16	1/4"GAS
63	M16x1.5	20	M45x1.5	67.5	70	18	38	174	50	32	124	224	16	3/8"GAS

**AJ**

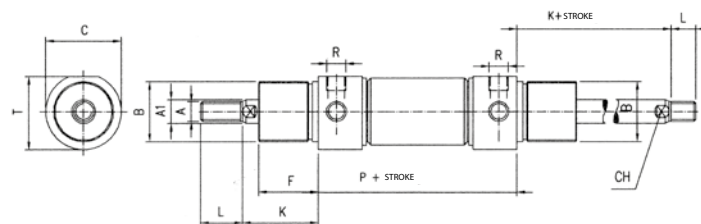
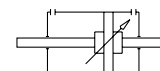
DOUBLE ACTING - MAGNETIC WITH DOUBLE ROD END



Ø	A	A1	B	T	C	F	K	L	P	CH	R
32	M10x1.25	12	M30x1.5	36.5	38	30	38	20	96	10	1/8"GAS
40	M12x1.25	16	M38x1.5	44	46	35	45	24	111	12	1/4"GAS
50	M16x1.5	20	M45x1.5	55	57	38	50	32	120	16	1/4"GAS
63	M16x1.5	20	M45x1.5	67.5	70	38	50	32	124	16	3/8"GAS

**AL**

DOUBLE ACTING - CUSHIONED - MAGNETIC WITH DOUBLE ROD END

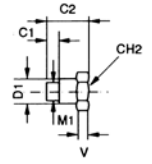
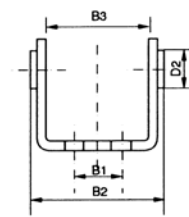
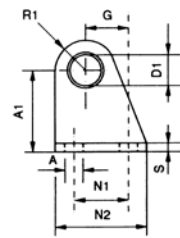


Ø	A	A1	B	T	C	F	K	L	P	CH	R
32	M10x1.25	12	M30x1.5	36.5	38	30	38	20	96	10	1/8"GAS
40	M12x1.25	16	M38x1.5	44	46	35	45	24	111	12	1/4"GAS
50	M16x1.5	20	M45x1.5	55	57	38	50	32	120	16	1/4"GAS
63	M16x1.5	20	M45x1.5	67.5	70	38	50	32	124	16	3/8"GAS

**A95 Cylinder Mounting Accessories**

**ACC**

**CLEVIS BRACKET WITH PINS**

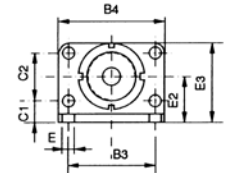
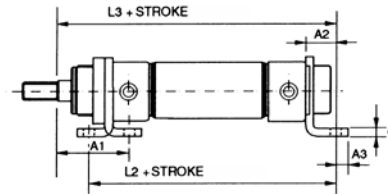


MATERIAL: Steel

Part No.	Ø	D1	D2	A	A1	G	M1	N1	N2	R1	S	CH2	B1	B2	B3	V	C1	C2
ACC 032	32	10	16	7	35	20	M8x1	24	40	12	4	13	20	50.1	38.1	4	6	18
ACC 040	40	12	18	9	40	27	M10x1	30	50	13	5	17	28	60.1	46.1	5	7	21.6
ACC 050	50	14	23	9	45	30	M12x1.5	34	54	14	6	19	36	74.1	57.1	6	9	26.4
ACC 063	63	16	24	9	50	34	M14x1.5	35	65	16	6	19	42	88.1	70.1	6	15	34

**APD**

**FOOT FLANGE**

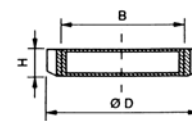


MATERIAL: Steel

Part No.	Ø	E	E2	E3	C1	C2	L2	L3	B3	B4	S	A1	A2	A3
APD 032	32	7	28	49	14	28	124	148	52	66	4	48	14	7
APD 040	40	9	33	58	18	30	151	176	60	80	5	60	20	10
APD 050	50	9	40	70	20	40	160	190	70	90	6	64	20	10
APD 063	63	9	45	80	20	50	164	194	76	96	6	65	20	10

**AGT**

**MOUNTING NUT**

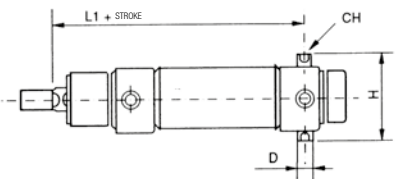
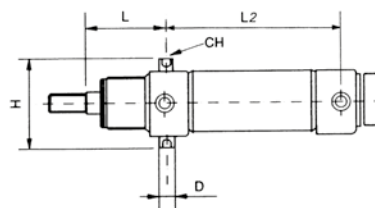


MATERIAL: Steel

Part No.	B	D	H
AGT 032	M30x1.5	45	7
AGT 040	M38x1.5	50	8
AGT 050	M45x1.5	58	9

**APE**

**HEAD TRUNNION**



MATERIAL: Steel

Part No.	Ø	D	H	L1	L2	L	CH
APE 032	32	10	51	125	78	47	5
APE 040	40	12	61	144	87	57	6
APE 050	50	14	75	158	96	62	6
APE 063	63	16	90	161	98	63	8

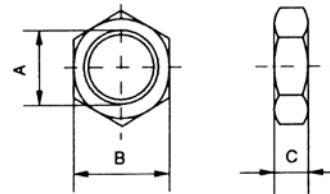


**DA**

**ROD JAM NUT**

MATERIAL: Steel

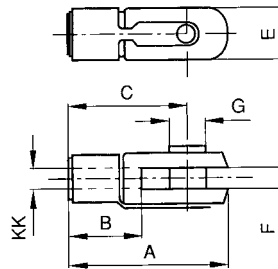
Part No.	A	B	C
<b>ODA00 00 51 C9 ZI</b>	<b>M10x1.25</b>	17	8
<b>ODA00 00 51 D5 ZI</b>	<b>M12x1.25</b>	19	7
<b>ODA00 00 51 E3 ZI</b>	<b>M16x1.5</b>	22	6



**FC**

**ROD CLEVIS WITH LOCKABLE PIN**

MATERIAL: Steel

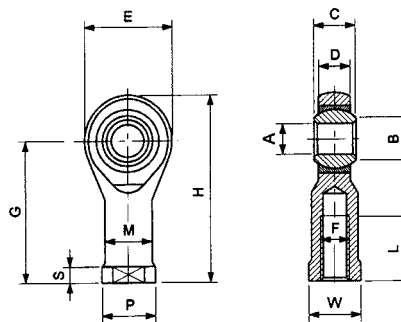


Part No.	KK	A	B	C	E	F	G
<b>FC 025</b>	<b>M10x1.25</b>	52	20	40	20	10	10
<b>FC 040</b>	<b>M12x1.25</b>	62	24	48	24	12	12
<b>FC 050</b>	<b>M16x1.5</b>	83	32	64	32	16	16

**TF**

**SELF-LUBRICATING SPHERICAL ROD EYE**

MATERIAL: Steel



Part No.	F	A	B	C	Ø Sphere	D	E	G	H	L	M	P	S	W	Radial load		Weight
															Dynamic	Static	
		H7	0	0 -0.13		± 0.13	± 0.5	± 0.5		± 0.7	± 0.7	± 0.5	+0.2 -0.7	± 0.25	kg	kg	g
<b>TF 025</b>	<b>M10x1.25</b>	10	12.9	14	19.05	11.5	30	43	58	15	15	19	6.5	16	1.200	3.100	88
<b>TF 040</b>	<b>M12x1.25</b>	12	15.4	16	22.23	12.5	34	50	67	18	17.5	22	6.5	18	1.400	3.700	120
<b>TF 050</b>	<b>M16x1.5</b>	16	19.3	21	28.58	15.5	42	64	85	24	22	27	8	24	2.500	6.300	240

**SERIES Q - COMPACT CYLINDERS**



**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 303 Stainless steel piston rod (ø12-25)  
Chrome plated steel piston rod (ø32-100)
- 2 Anodized aluminum end cap
- 3 Zinc plated steel screw
- 4 Polyurethane rod seal
- 5 Sintered bronze rod bearing
- 6 NBR o-ring seals
- 7 Polyurethane piston seal
- 8 Bonded ferrite magnet
- 9 Aluminum piston
- 10 NBR o-ring seals
- 11 Zinc plated steel piston nut
- 12 Anodized aluminum body
- 13 Anodized aluminum end cap



**Reference Standard**

- 1907/2006 REACH ✓
- 2011/65/CE RoHS ✓
- PED 2014/68/UE
- SILICON FREE
- ATEX 2014/34/UE



**Pressures**

- 1 bar (0.1 MPa) / 14.5 psi
- 10 bar (0.7 MPa) / 145 psi



**Temperatures**

- 0 °C / 32 °F (-20 °C / -4 °F with dry air)
- + 80 °C / 176 °F



**Media**

Filtered and lubricated or non-lubricated compressed air.



**Functions**

- Single acting magnetic.
- Double-acting magnetic.
- Single or through piston rod magnetic.
- Antirotation magnetic.




**Bores**

from 12 to 100 mm



**Standard Strokes**

from 5 to 200 mm

Series	Version	Ø (mm)	Stroke (mm)
<b>Q F</b>		<b>0 1 2</b>	<b>0 0 2 5</b>
<ul style="list-style-type: none"> <li>▲ <b>QB</b> Single acting - magnetic</li> <li>▲ <b>QD</b> Single acting - magnetic - spring extend</li> <li>● <b>QF</b> Double acting - magnetic</li> <li>● <b>QJ</b> Double acting - magnetic with double rod end</li> <li>◆ <b>QFA</b> Double acting - magnetic - anti rotation</li> </ul>	<ul style="list-style-type: none"> <li>= Standard female rod</li> <li><b>M</b> = Male rod (NO QFA)</li> </ul>	012 016 020 025 032 040 050 063 080 100	0005    0050 0010    0060 0015    0080 0020    0100 0025    0125 0030    0150 0040    0200  Intermediate or longer strokes are available upon request.

Ø (mm)	Stroke (mm)													
	5	10	15	20	25	30	40	50	60	80	100	125	150	200
12	▲◆	▲◆	◆	◆	◆	◆	◆							
16	▲◆	▲◆	▲◆	▲◆	▲◆	◆	◆							
20	▲◆	▲◆	▲◆	▲◆	▲◆	◆	◆	◆						
25	▲◆	▲◆	▲◆	▲◆	▲◆	◆	◆	◆	◆					
32	▲◆	▲◆	▲◆	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
40	▲◆	▲◆	▲◆	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
50	▲◆	▲◆	▲◆	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
63	▲◆	▲◆	▲◆	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
80	▲◆	▲◆	▲◆	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
100	▲◆	▲◆	▲◆	▲◆	▲◆	◆	◆	◆	◆	◆	◆	◆	◆	◆

 **FORCES, SPRING LOADS AND AIR CONSUMPTION**

**Extend and Retract Forces**

Cylinder Ø	Piston Rod Ø	Piston Area mm <sup>2</sup>	Operating pressure									
			1	2	3	4	5	6	7	8	9	10
			Output force N									
12	6	Extend = 113	10	20	30	40	50	60	70	80	90	100
		Retract = 85	7.5	15	22	30	37	45	52	60	68	75
16	8	Extend = 200	18	35	53	70	90	105	125	145	160	180
		Retract = 150	13	26	40	53	65	80	95	105	120	130
20	10	Extend = 314	28	55	85	110	140	170	195	220	250	280
		Retract = 235	21	42	60	85	105	125	150	170	190	210
25	10	Extend = 490	44	88	132	176	220	264	308	352	396	440
		Retract = 412	36	72	108	144	180	216	252	288	324	360
32	12	Extend = 804	72	144	216	288	360	432	504	576	648	720
		Retract = 691	62	124	186	248	310	372	434	496	558	620
40	12	Extend = 1257	110	220	330	440	550	660	770	880	990	1100
		Retract = 1144	100	200	300	400	500	600	700	800	900	1000
50	16	Extend = 1963	175	350	525	700	875	1050	1225	1400	1575	1750
		Retract = 1762	155	310	465	620	775	930	1085	1240	1395	1550
63	16	Extend = 3117	280	560	840	1120	1400	1680	1960	2240	2520	2800
		Retract = 2916	260	520	780	1040	1300	1560	1820	2080	2340	2600
80	20	Extend = 5027	450	900	1350	1800	2250	2700	3150	3600	4050	4500
		Retract = 4712	420	840	1260	1680	2100	2520	2940	3360	3780	4200
100	25	Extend = 7854	700	1400	2100	2800	3500	4200	4900	5650	6360	7000
		Retract = 7363	660	1320	1980	2640	3300	3960	4620	5280	5940	6600

**Spring Loads**

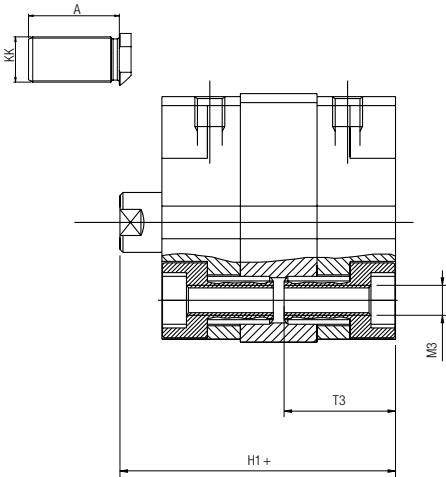
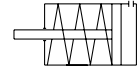
Cylinder Ø	Load spring	Stroke (mm)				
		5	10	15	20	25
<b>Output force N</b>						
<b>12</b>	Load of spring at rest	7.5	6.8			
	Load of compressed spring	8	8			
<b>16</b>	Load of spring at rest	12.3	10.8	9.5	7.8	6.5
	Load of compressed spring	13.3	13.3	13.3	13.3	13.3
<b>20</b>	Load of spring at rest	15.7	14	12.2	10.4	8.7
	Load of compressed spring	17.4	17.4	17.4	17.4	17.4
<b>25</b>	Load of spring at rest	19.5	18.5	17.3	16	15
	Load of compressed spring	22	22	22	22	22
<b>32</b>	Load of spring at rest	27.8	25.3	22.8	20.2	17.7
	Load of compressed spring	30	30	30	30	30
<b>40</b>	Load of spring at rest	36.4	34	31.7	29.5	27
	Load of compressed spring	36	36	36	36	36
<b>50</b>	Load of spring at rest	32	30.5	29	27.8	26.5
	Load of compressed spring	35	35	35	35	35
<b>63</b>	Load of spring at rest	61	58.5	56.3	53.5	51.5
	Load of compressed spring	64.8	64.8	64.8	64.8	64.8
<b>80</b>	Load of spring at rest	91.3	88	85	82	78.7
	Load of compressed spring	94	94	94	94	94
<b>100</b>	Load of spring at rest	150	145	140	134	129
	Load of compressed spring	156	156	156	156	156

**Air Consumption**

Cylinder Ø	Piston Rod Ø	Piston Area mm <sup>2</sup>	Operating pressure bar									
			1	2	3	4	5	6	7	8	9	10
<b>Air consumption for each 10 mm of stroke NI</b>												
<b>12</b>	<b>6</b>	Extend = 113	0.002	0.003	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.012
		Retract = 85	0.002	0.003	0.003	0.004	0.005	0.006	0.007	0.008	0.009	0.009
<b>16</b>	<b>8</b>	Extend = 200	0.004	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.022
		Retract = 150	0.003	0.005	0.006	0.008	0.009	0.011	0.012	0.014	0.015	0.017
<b>20</b>	<b>10</b>	Extend = 314	0.006	0.009	0.013	0.016	0.019	0.022	0.025	0.028	0.031	0.035
		Retract = 235	0.005	0.007	0.009	0.012	0.014	0.016	0.019	0.021	0.024	0.026
<b>25</b>	<b>10</b>	Extend = 490	0.010	0.015	0.020	0.025	0.029	0.034	0.039	0.044	0.049	0.054
		Retract = 412	0.008	0.012	0.016	0.021	0.025	0.029	0.033	0.037	0.041	0.045
<b>32</b>	<b>12</b>	Extend = 804	0.016	0.024	0.032	0.040	0.048	0.056	0.064	0.072	0.080	0.088
		Retract = 691	0.014	0.021	0.028	0.035	0.041	0.048	0.055	0.062	0.069	0.076
<b>40</b>	<b>12</b>	Extend = 1257	0.025	0.038	0.050	0.063	0.075	0.088	0.101	0.113	0.126	0.138
		Retract = 1144	0.023	0.034	0.046	0.057	0.069	0.080	0.092	0.103	0.114	0.126
<b>50</b>	<b>16</b>	Extend = 1963	0.039	0.059	0.079	0.098	0.118	0.137	0.157	0.177	0.196	0.216
		Retract = 1762	0.035	0.053	0.070	0.088	0.106	0.123	0.141	0.159	0.176	0.194
<b>63</b>	<b>16</b>	Extend = 3117	0.062	0.094	0.125	0.156	0.187	0.218	0.249	0.281	0.312	0.343
		Retract = 2916	0.058	0.087	0.117	0.146	0.175	0.204	0.233	0.262	0.292	0.321
<b>80</b>	<b>20</b>	Extend = 5027	0.101	0.151	0.201	0.251	0.302	0.352	0.402	0.452	0.503	0.553
		Retract = 4712	0.094	0.141	0.188	0.236	0.283	0.330	0.377	0.424	0.471	0.518
<b>100</b>	<b>25</b>	Extend = 7854	0.157	0.236	0.314	0.393	0.471	0.550	0.628	0.707	0.785	0.864
		Retract = 7363	0.147	0.221	0.295	0.368	0.442	0.515	0.589	0.663	0.736	0.810

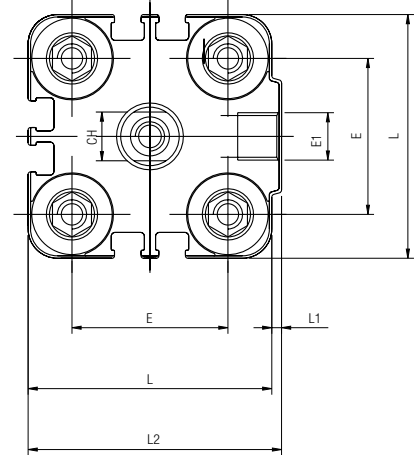
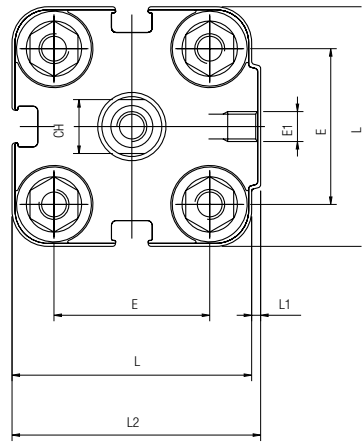
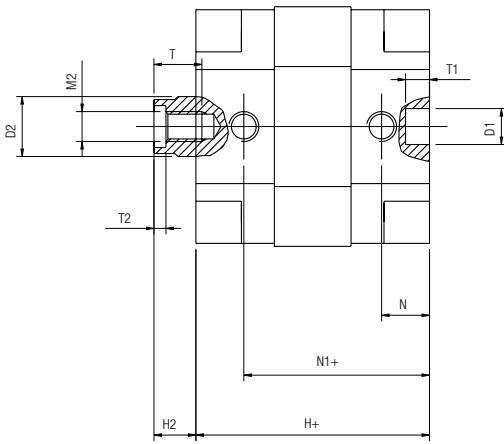
**QB**

SINGLE ACTING - MAGNETIC



Ø 12-16-20-25

Ø 32-40-50-63-80-100

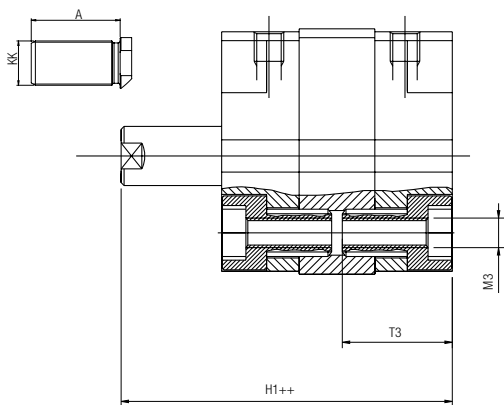


+ = Add Stroke

Ø	KK	A	T	T1	T2	D1	L	E1	M3	T3	M2	H	H2	D2	N	N1	L2	E	L1	H1	CH
12	M6	16	6	4	1.5	6	29	M5	M4	16	M3	35	7.5	6	6.5	28.5	30	18	1	42.5	5
16	M8	20	8	4	2	6	29	M5	M4	16	M4	35	8.5	8	6.5	28.5	30	18	1	43.5	7
20	M10X1,25	22	8	4	2	6	36	M5	M5	18.5	M5	39	7	10	8	31	37.5	22	1.5	46	9
25	M10X1,25	22	8	4	2	6	40	M5	M5	18.5	M5	39	7	10	8	31	41.5	26	1.5	46	9
32	M10X1,25	22	10	4	2.8	6	50	G1/8	M6	21.5	M6	42	7	12	6.5	35.5	52	32	2	49	10
40	M10X1,25	22	10	4	2.8	6	60	G1/8	M6	21.5	M6	45.5	8.5	12	7.5	38	62.5	42	2.5	54	10
50	M12X1,25	24	12	4	3.5	6	68	G1/8	M8	23.5	M8	45.5	10	16	7.5	38	71	50	3	55.5	13
63	M12X1,25	24	12	4	3.5	8	87	G1/8	M10	28.5	M8	51	10.5	16	7.5	43.5	91	62	4	61.5	13
80	M16X1,5	32	16	4	4.5	8	107	G1/8	M10	28.5	M10	62	12	20	9.5	52.5	111	82	4	75	17
100	M20X1,5	40	20	4	6	8	128	G1/4	M10	28.5	M12	68	15.5	25	10.5	57.5	133	103	5	83.5	22

**QD**

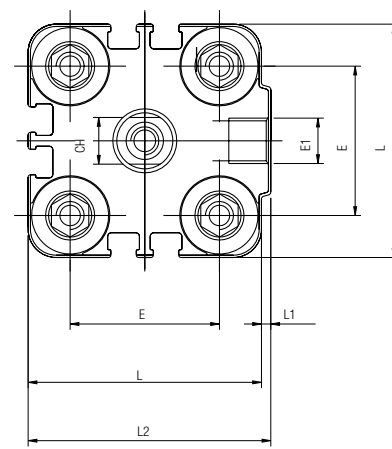
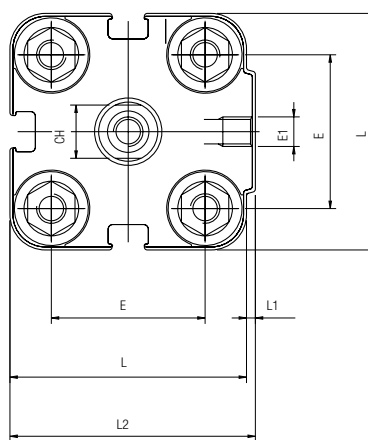
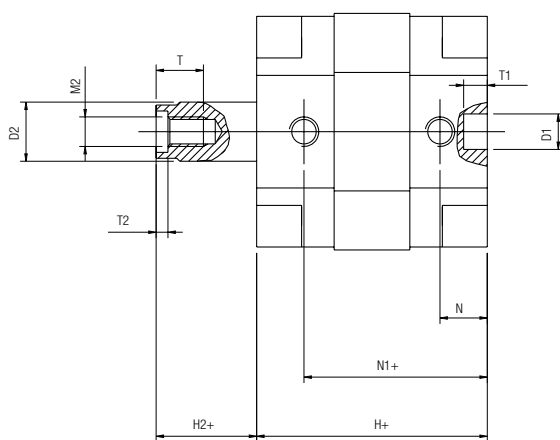
SINGLE ACTING - MAGNETIC - SPRING EXTEND



Ø 12-16-20-25



Ø 32-40-50-63-80-100

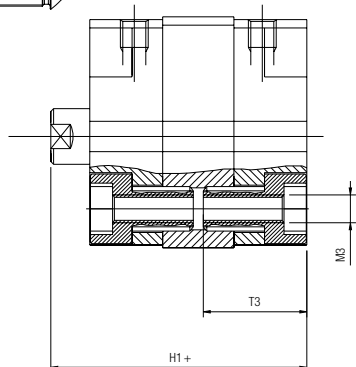
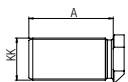
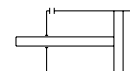


+ = Add Stroke      ++ = Double stroke dimension and add it

Ø	KK	A	T	T1	T2	D1	L	E1	M3	T3	M2	H	H2	D2	N	N1	L2	E	L1	H1	CH
12	M6	16	6	4	1.5	6	29	M5	M4	16	M3	35	7.5	6	6.5	28.5	30	18	1	42.5	5
16	M8	20	8	4	2	6	29	M5	M4	16	M4	35	8.5	8	6.5	28.5	30	18	1	43.5	7
20	M10X1,25	22	8	4	2	6	36	M5	M5	18.5	M5	39	7	10	8	31	37.5	22	1.5	46	9
25	M10X1,25	22	8	4	2	6	40	M5	M5	18.5	M5	39	7	10	8	31	41.5	26	1.5	46	9
32	M10X1,25	22	10	4	2.8	6	50	G1/8	M6	21.5	M6	42	7	12	6.5	35.5	52	32	2	49	10
40	M10X1,25	22	10	4	2.8	6	60	G1/8	M6	21.5	M6	45.5	8.5	12	7.5	38	62.5	42	2.5	54	10
50	M12X1,25	24	12	4	3.5	6	68	G1/8	M8	23.5	M8	45.5	10	16	7.5	38	71	50	3	55.5	13
63	M12X1,25	24	12	4	3.5	8	87	G1/8	M10	28.5	M8	51	10.5	16	7.5	43.5	91	62	4	61.5	13
80	M16X1,5	32	16	4	4.5	8	107	G1/8	M10	28.5	M10	62	12	20	9.5	52.5	111	82	4	75	17
100	M20X1,5	40	20	4	6	8	128	G1/4	M10	28.5	M12	68	15.5	25	10.5	57.5	133	103	5	83.5	22

**QF**

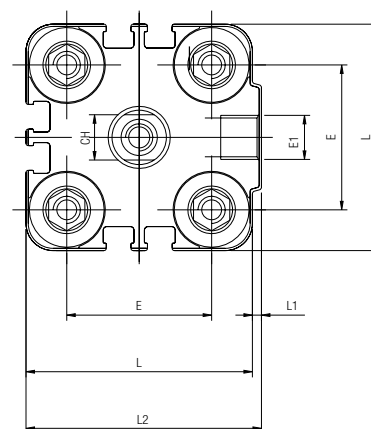
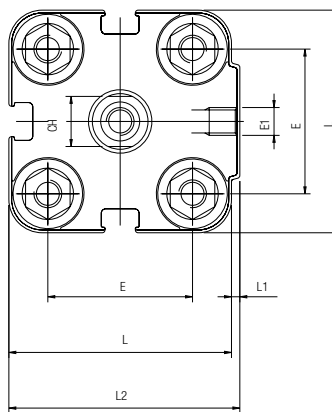
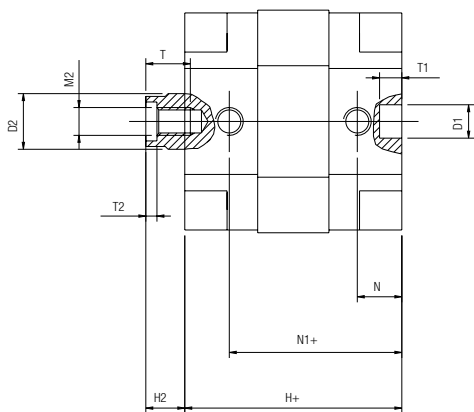
DOUBLE ACTING - MAGNETIC



Ø 12-16-20-25



Ø 32-40-50-63-80-100

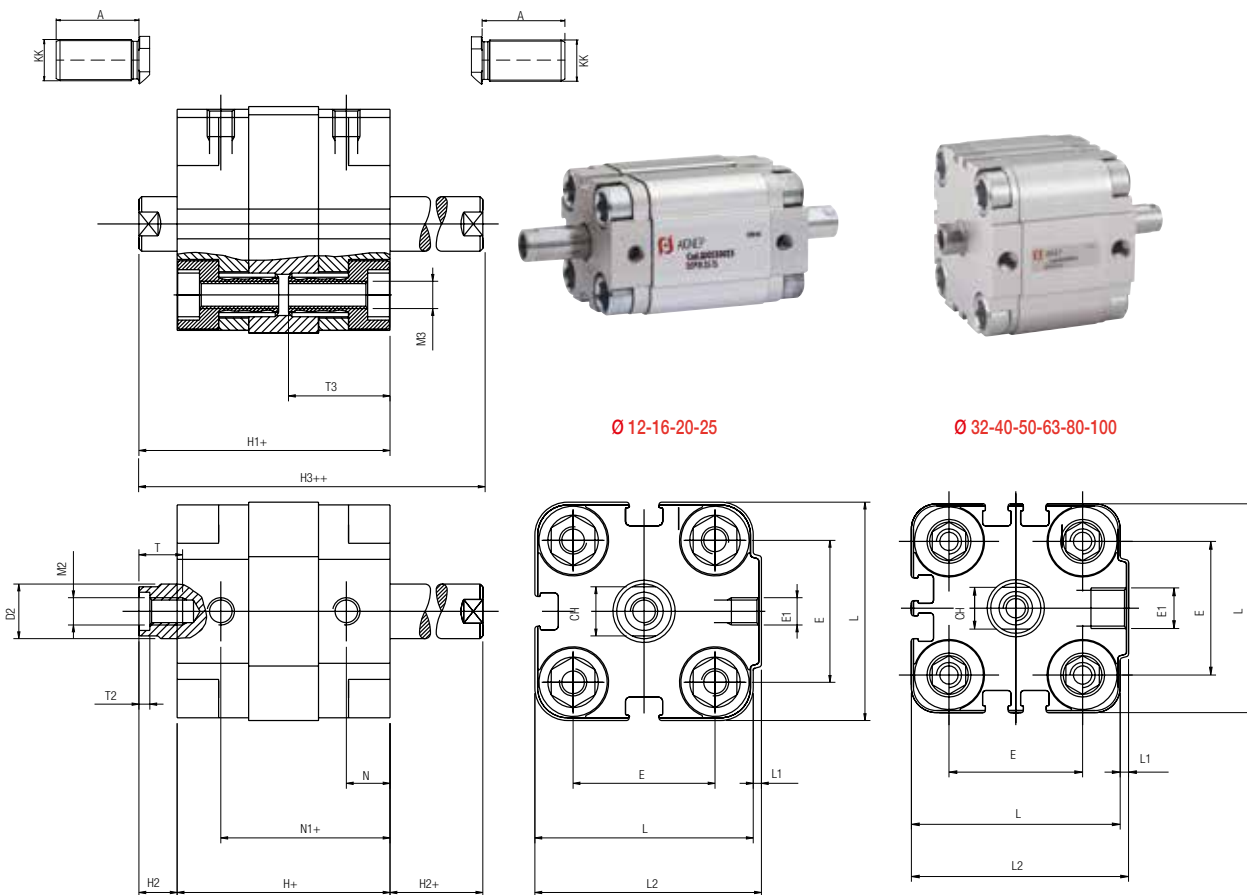
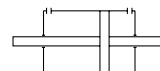


+ = Add Stroke

Ø	KK	A	T	T1	T2	D1	L	E1	M3	T3	M2	H	H2	D2	N	N1	L2	E	L1	H1	CH
12	M6	16	6	4	1.5	6	29	M5	M4	16	M3	35	7.5	6	6.5	28.5	30	18	1	42.5	5
16	M8	20	8	4	2	6	29	M5	M4	16	M4	35	8.5	8	6.5	28.5	30	18	1	43.5	7
20	M10X1,25	22	8	4	2	6	36	M5	M5	18.5	M5	39	7	10	8	31	37.5	22	1.5	46	9
25	M10X1,25	22	8	4	2	6	40	M5	M5	18.5	M5	39	7	10	8	31	41.5	26	1.5	46	9
32	M10X1,25	22	10	4	2.8	6	50	G1/8	M6	21.5	M6	42	7	12	6.5	35.5	52	32	2	49	10
40	M10X1,25	22	10	4	2.8	6	60	G1/8	M6	21.5	M6	45.5	8.5	12	7.5	38	62.5	42	2.5	54	10
50	M12X1,25	24	12	4	3.5	6	68	G1/8	M8	23.5	M8	45.5	10	16	7.5	38	71	50	3	55.5	13
63	M12X1,25	24	12	4	3.5	8	87	G1/8	M10	28.5	M8	51	10.5	16	7.5	43.5	91	62	4	61.5	13
80	M16X1,5	32	16	4	4.5	8	107	G1/8	M10	28.5	M10	62	12	20	9.5	52.5	111	82	4	75	17
100	M20X1,5	40	20	4	6	8	128	G1/4	M10	28.5	M12	68	15.5	25	10.5	57.5	133	103	5	83.5	22

**QJ**

**SINGLE ACTING - MAGNETIC WITH DOUBLE ROD END**



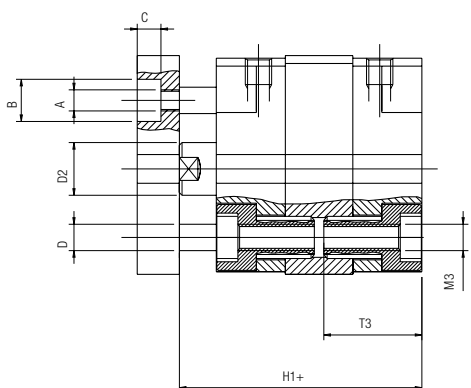
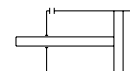
+ = Add Stroke      ++ = Double stroke dimension and add it

Ø	KK	A	T	M2	T2	D2	L	E1	M3	T3	CH	H	H2	H3	N	N1	L2	E	L1	H1
12	M6	16	6	M3	1.5	6	29	M5	M4	16	5	35	7.5	50	6.5	28.5	30	18	1	42.5
16	M8	20	8	M4	2	8	29	M5	M4	16	7	35	8.5	52	6.5	28.5	30	18	1	43.5
20	M10X1,25	22	8	M5	2	10	36	M5	M5	18.5	9	39	7	53	8	31	37.5	22	1.5	46
25	M10X1,25	22	8	M5	2	10	40	M5	M5	18.5	9	39	7	53	8	31	41.5	26	1.5	46
32	M10X1,25	22	10	M6	2.8	12	50	G1/8	M6	21.5	10	42	7	56	6.5	35.5	52	32	2	49
40	M10X1,25	22	10	M6	2.8	12	60	G1/8	M6	21.5	10	45.5	8.5	62.5	7.5	38	62.5	42	2.5	54
50	M12X1,25	24	12	M8	3.5	16	68	G1/8	M8	23.5	13	45.5	10	65.5	7.5	38	71	50	3	55.5
63	M12X1,25	24	12	M8	3.5	16	87	G1/8	M10	28.5	13	51	10.5	72	7.5	43.5	91	62	4	61.5
80	M16X1,5	32	16	M10	4.5	20	107	G1/8	M10	28.5	17	62	12	86	9.5	52.5	111	82	4	75
100	M20X1,5	40	20	M12	6	25	128	G1/4	M10	28.5	22	68	15.5	99	10.5	57.5	133	103	5	83.5



**QFA**

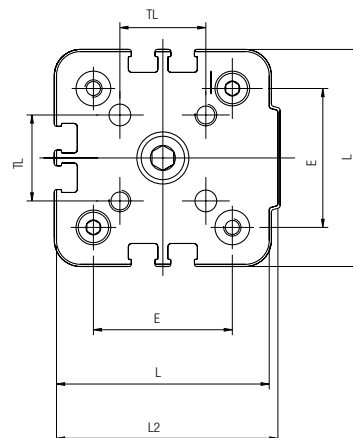
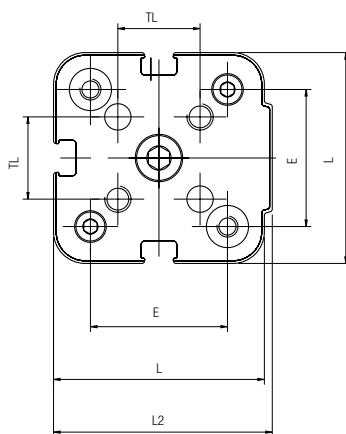
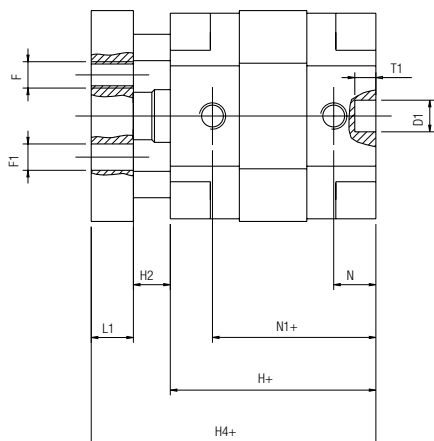
DOUBLE ACTING - MAGNETIC - ANTI ROTATION



Ø 12-16-20-25



Ø 32-40-50-63-80-100



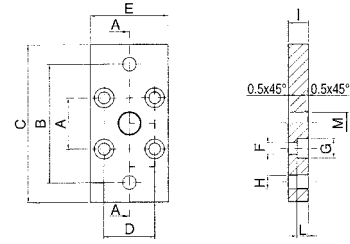
+ = Add Stroke

Ø	A	B	C	D	D1	D2	E	F	F1	H	H1	H2	H4	L	L1	L2	M3	N	N1	T1	T3	TL
12	M3	6	3.5	4	6	6	18	M3	3	35	42.5	7.5	47.5	29	5	30	M4	6.5	28.5	4	16	9.9
16	M3	6	3.5	4	6	8	18	M3	3	35	43.5	8.5	48.5	29	5	30	M4	6.5	28.5	4	16	9.9
20	M3	6	3.5	6	6	10	22	M4	4	39	46	7	54	36	8	37.5	M5	8	31	4	18.5	12
25	M4	8	4.5	6	6	10	26	M5	5	39	46	7	54	40	8	41.5	M5	8	31	4	18.5	15.6
32	M4	8	5.5	6	6	12	32	M5	5	42	49	7	59	50	10	52	M6	6.5	35.5	4	21.5	19.8
40	M4	8	5.5	6	6	12	42	M5	5	45.5	54	8.7	64	60	10	62.5	M6	7.5	38	4	21.5	23.3
50	M6	11	7	8	6	16	50	M6	6	45.5	55.5	10.2	67.5	68	12	71	M8	7.5	38	4	23.5	29.7
63	M6	11	7	8	8	16	62	M6	6	51	61.5	10.5	73.5	87	12	91	M10	7.5	43.5	4	28.5	35.4
80	M8	14	9	12	8	20	82	M8	8	62	75	12	89	107	14	111	M10	9.5	52.5	4	28.5	46
100	M8	14	9	12	8	25	103	M10	10	68	83.5	15.5	97.5	128	14	133	M10	10.5	57.5	4	28.5	56.6

**SERIES Q Mounting Accessories**

**QFL**

FLANGE  
Ø 12-25

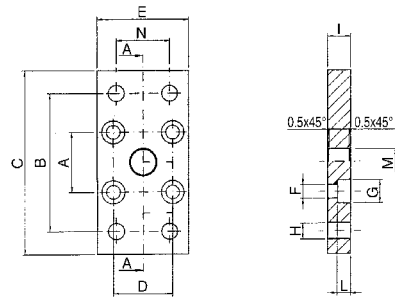


MATERIAL: Steel

Part No.	Ø	A	B	C	D	E	F	G	H	I	L	M
QFL 012	12 - 16	18	43	55	18	29	4.5	9	5.5	10	5.4	10
QFL 020	20	22	55	70	22	36	5.5	10	6.6	10	5.4	12
QFL 025	25	26	60	76	26	40	5.5	10	6.6	10	5.4	12

**QFL**

FLANGE  
Ø 32-100

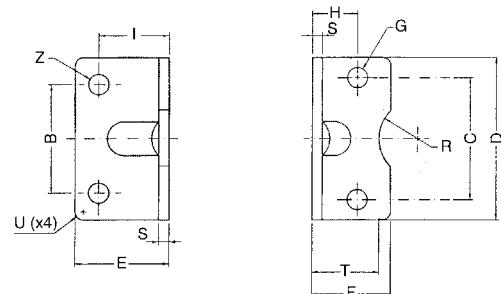


MATERIAL: Steel

Part No.	Ø	A	B	C	D	E	F	G	H	I	L	M	N
QFL 032	32	32	65	80	32	50	6.6	11	7	10	6.4	14	32
QFL 040	40	42	82	102	42	60	6.6	11	9	10	6.4	14	36
QFL 050	50	50	90	110	50	68	9	15	9	12	8.6	18	45
QFL 063	63	62	110	130	62	87	11	15	9	15	10.6	18	50
QFL 080	80	82	135	160	82	107	11	18	12	15	10.6	23	63
QFL 100	100	103	163	190	103	128	11	18	14	15	10.6	28	75

**QCP**

LOW-RISE PEDESTAL  
Ø 12-32

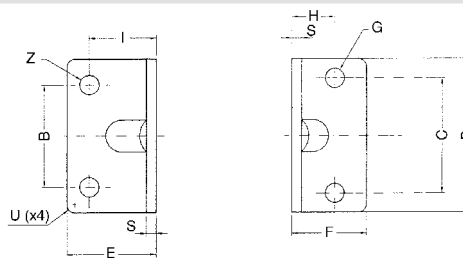


MATERIAL: Steel

Part No.	Ø	C	B	D	E	F	G	H	I	S	T	R	U	Z
QCP 012	12 - 16	18	18	30	17.5	17.5	4.4	13	13	3	15	9	2	5.5
QCP 020	20	22	22	36	22	22	5.4	16	16	4	17	10	2	6.6
QCP 025	25	26	26	40	22	23	5.4	17	16	4	19	11	2	6.6
QCP 032	32	32	32	50	26	24	6.6	16	18	5	20	12	2	6.6

**QPC**

LOW-RISE PEDESTAL  
Ø 40-100

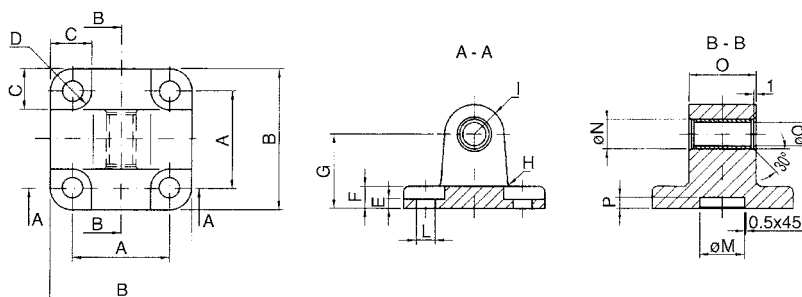


MATERIAL: Steel

Part No.	Ø	C	B	D	E	F	G	H	I	S	U	Z
QCP 040	40	42	42	60	28	29.5	6.6	21.5	20	5	5	9
QCP 050	50	50	50	68	32	30	9	22	24	6	5	9
QCP 063	63	62	62	84	39	39	9	28.5	27	6	5	11
QCP 080	80	82	82	102	36.5	36.5	11	24.5	30	8	5	11
QCP 100	100	103	103	123	38.5	38.5	11	26.5	33	8	5	13.5

**QCM**

EYE BRACKET WITH SELF-LUBRICATING BUSHINGS

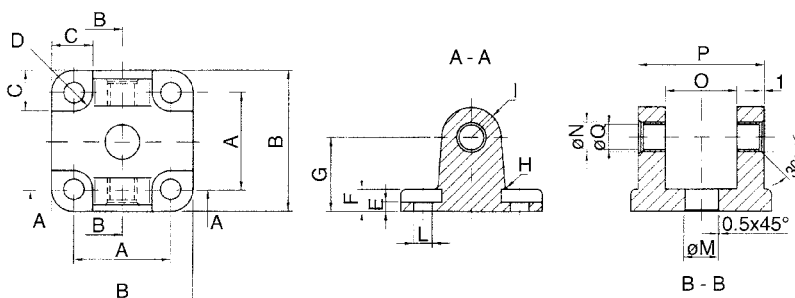


MATERIAL: Aluminium

Part No.	Ø	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q
QCM 012	12 - 16	18	27	10	4.5	2.6	6	16	2	6	4.5	10	8	12	3	6
QCM 020	20	22	34	11	5	2.6	6	20	2	8	5.5	12	10	16	3	8
QCM 025	25	26	38	11	5	2.6	6	20	2	8	5.5	12	10	16	3	8

**QCF**

CLEVIS BRACKET WITH SELF-LUBRICATING BUSHINGS

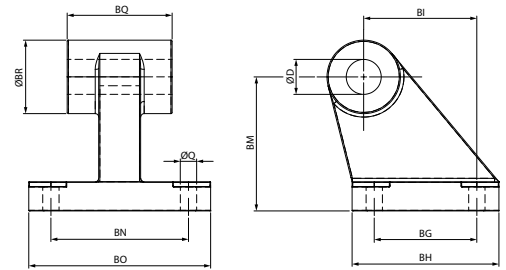


MATERIAL: Aluminium

Part No.	Ø	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q
QCF 032	32	32	48	13.5	5.5	5.5	9	22	2.5	10	6.6	14	12	26	45	10
QCF 040	40	42	58	13.5	5.5	5.5	9	25	2.5	12.5	6.6	14	14	28	52	12
QCF 050	50	50	66	15.5	7.5	6.5	11	27	2.5	12.5	9	18	14	32	60	12
QCF 063	63	62	83	18	7.5	6.5	11	32	4	15	11	18	18	40	70	16
QCF 080	80	82	102	19	9	10	13	36	4	15	11	23	18	50	90	16
QCF 100	100	103	123	19	9	10	15	41	4	20	11	28	23	60	110	20

**VAS**

EYE BRACKET

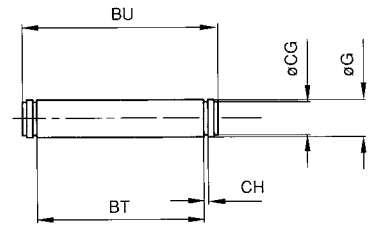


- MATERIAL: Aluminium
- MATERIAL: Stainless Steel

Part No. ●	Part No. ■	∅	Q	BG	BH	BI	BM	BN	BO	BQ	BR
VAS 032	VASI 032	32	6.6	18	31	21	32	38	51	26	20
VAS 040	VASI 040	40	6.6	22	35	24	36	41	54	28	22
VAS 050	VASI 050	50	9	30	45	33	45	50	65	32	26
VAS 063	VASI 063	63	9	35	50	37	50	52	67	40	30
VAS 080	VASI 080	80	11	40	60	47	63	66	86	50	30
VAS 100	VASI 100	100	11	50	70	55	71	76	96	60	38

**VPE**

PIN WITH RETAINER CLIPS

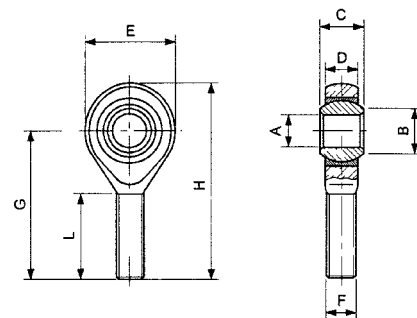


- MATERIAL: Steel
- MATERIAL: Stainless Steel

Part No. ●	Part No. ■	∅	G	BT	BU	CG	CH
VPE 032	VPEI 032	32	10	46	53	9.6	1.1
VPE 040	VPEI 040	40	12	53	60	11.5	1.1
VPE 050	VPEI 050	50	12	61	68	11.5	1.1
VPE 063	VPEI 063	63	16	71	78	15.2	1.1
VPE 080	VPEI 080	80	16	91	98	15.2	1.1
VPE 100	VPEI 100	100	20	111	118	19	1.3

**TM**

SPHERICAL ROD EYE WITH MALE THREAD



MATERIAL: Steel

Part No.	F	A	B	C	∅ Sphere	D	E	G	H	L	Radial load		Weight
											Dynamic	Static	
TM 020	M5x0.8	5	7.5	8	11.11	7.5	18	33	42	19	430	1000	13
TM 032	M6x1	6	8.9	9	12.7	7.5	20	36	46	21	470	1100	15
TM 050	M8x1.25	8	10.4	12	15.88	9.5	24	42	54	25	780	1900	34
TM 080	M10x1.5	10	12.9	14	19.05	11.5	30	48	63	28	1200	3100	70
TM 100	M12x1.75	12	15.4	16	22.23	12.5	34	54	71	32	1400	3700	110


**Extend and Retract Forces**

Cylinder ∅	Piston Rod ∅	Piston Area mm <sup>2</sup>	Operating pressure bar									
			1	2	3	4	5	6	7	8	9	10
Output force N												
32	12	Extend = 804	72	144	216	288	360	432	504	576	648	720
		Retract = 691	62	124	186	248	310	372	434	496	558	620
40	16	Extend = 1257	110	220	330	440	550	660	770	880	990	1100
		Retract = 1056	95	190	285	380	475	570	665	760	855	950
50	20	Extend = 1963	175	350	525	700	875	1050	1225	1400	1575	1750
		Retract = 1649	148	296	444	592	740	888	1036	1184	1332	1480
63	20	Extend = 3117	280	560	840	1120	1400	1680	1960	2240	2520	2800
		Retract = 2803	250	500	750	1000	1250	1500	1750	2000	2250	2500
80	25	Extend = 5027	450	900	1350	1800	2250	2700	3150	3600	4050	4500
		Retract = 4536	405	810	1215	1620	2025	2430	2835	3240	3645	4050
100	25	Extend = 7854	700	1400	2100	2800	3500	4200	4900	5650	6360	7000
		Retract = 7363	660	1320	1980	2640	3300	3960	4620	5280	5940	6600
125	32	Extend = 12270	1104	2208	3312	4416	5520	6624	7728	8832	9936	11040
		Retract = 11468	1032	2064	3096	4128	5160	6192	7224	8256	9288	10320
160	40	Extend = 20096	1774	3548	5322	7097	8871	10645	12419	14194	15968	17742
		Retract = 18840	1663	3326	4990	6653	8316	9980	11643	13307	14970	16633
200	40	Extend = 31440	2772	5544	8316	11089	13861	16633	19406	22178	24950	27723
		Retract = 30144	2661	5322	7984	10645	13307	15968	18629	21291	23952	26614
250	50	Extend = 48750	4331	8663	12995	17326	21658	25990	30322	34653	38985	43317
		Retract = 46800	4158	8316	12475	16663	20792	24950	29109	33267	37426	41584
320	63	Extend = 78872	7097	14194	21291	28388	35485	42582	49679	56776	63873	70971
		Retract = 76776	6822	13644	20466	27288	34110	40932	47754	54576	61398	68220

**Spring Loads**

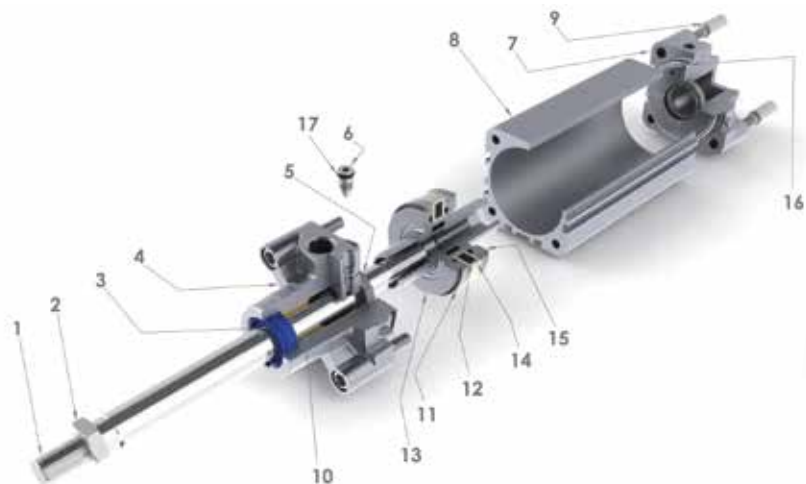
Cylinder ∅	Load spring	Stroke (mm)				
		25	50	75	80	100
Output force N						
32	Load of spring at rest	50	41	33	31.5	24.5
	Load of compressed spring	58	58	58	58	58
40	Load of spring at rest	52	43	34	32	25
	Load of compressed spring	61	61	61	61	61
50	Load of spring at rest	92	77	64	60	49
	Load of compressed spring	110	110	110	110	110
63	Load of spring at rest	92	77	64	60	49
	Load of compressed spring	110	110	110	110	110
80	Load of spring at rest	117	98	79	75	59
	Load of compressed spring	138	138	138	138	138
100	Load of spring at rest	117	98	79	75	59
	Load of compressed spring	138	138	138	138	138

### Air Consumption

Cylinder Ø	Piston Rod Ø	Piston Area mm <sup>2</sup>	Operating pressure									
			bar									
			1	2	3	4	5	6	7	8	9	10
Air consuption for each 10 mm of stroke NI												
32	12	Extend = 804	0.016	0.024	0.032	0.040	0.048	0.056	0.064	0.072	0.080	0.088
		Retract = 691	0.014	0.021	0.028	0.035	0.041	0.048	0.055	0.062	0.069	0.076
40	16	Extend = 1257	0.025	0.038	0.050	0.063	0.075	0.088	0.101	0.113	0.126	0.138
		Retract = 1056	0.021	0.032	0.042	0.053	0.063	0.074	0.084	0.095	0.106	0.116
50	20	Extend = 1963	0.039	0.059	0.079	0.098	0.118	0.137	0.157	0.177	0.196	0.216
		Retract = 1649	0.033	0.049	0.066	0.082	0.099	0.115	0.132	0.148	0.165	0.181
63	20	Extend = 3117	0.062	0.094	0.125	0.156	0.187	0.218	0.249	0.281	0.312	0.343
		Retract = 2803	0.056	0.084	0.112	0.140	0.168	0.196	0.224	0.252	0.280	0.308
80	25	Extend = 5027	0.101	0.151	0.201	0.251	0.302	0.352	0.402	0.452	0.503	0.553
		Retract = 4536	0.091	0.136	0.181	0.227	0.272	0.318	0.363	0.408	0.454	0.499
100	25	Extend = 7854	0.157	0.236	0.314	0.393	0.471	0.550	0.628	0.707	0.785	0.864
		Retract = 7363	0.147	0.221	0.295	0.368	0.442	0.515	0.589	0.663	0.736	0.810
125	32	Extend = 12270	0.245	0.368	0.491	0.614	0.736	0.859	0.982	1.104	1.227	1.350
		Retract = 11468	0.229	0.344	0.459	0.573	0.688	0.803	0.917	1.032	1.147	1.261
160	40	Extend = 20096	0.402	0.603	0.804	1.005	1.206	1.407	1.608	1.809	2.010	2.211
		Retract = 18840	0.377	0.565	0.754	0.942	1.130	1.319	1.507	1.696	1.884	2.072
200	40	Extend = 31440	0.628	0.942	1.256	1.570	1.884	2.198	2.512	2.826	3.140	3.454
		Retract = 30144	0.603	0.904	1.206	1.507	1.809	2.110	2.412	2.713	3.014	3.316
250	50	Extend = 48750	0.981	1.472	1.963	2.453	2.948	3.434	3.925	4.415	4.906	5.400
		Retract = 46800	0.942	1.413	1.884	2.355	2.826	3.297	3.768	4.239	4.710	5.181
320	63	Extend = 78872	1.610	2.411	3.215	4.020	4.820	5.626	6.430	7.234	8.038	8.843
		Retract = 76776	1.545	2.320	3.100	3.863	4.630	5.408	6.181	6.954	7.726	8.450



**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 Chrome plated C40 steel piston rod
- 2 Zinc plated steel jam nut
- 3 Polyurethane rod seal or FKM
- 4 Aluminum end cap
- 5 Polyurethane cushion seals or FKM
- 6 Zinc plated steel cushion adjustment screw
- 7 Aluminum end cap
- 8 Anodized aluminum body
- 9 Zinc plated steel screws
- 10 Sintered bronze rod bearing
- 11 Polyurethane piston seals or FKM
- 12 Plastroferrite magnet
- 13 Aluminum piston
- 14 Support magnet
- 15 Aluminum piston
- 16 NBR o-ring seals or FKM
- 17 NBR o-ring seals or FKM



**Reference Standard**

- 1907/2006 REACH ✓
- 2011/65/CE RoHS ✓
- PED 2014/68/UE
- SILICON FREE
- ATEX 2014/34/UE



**Pressures**

- 1 bar (0.1 MPa) / 14.5 psi
- 10 bar (0.7 MPa) / 145 psi



**Temperatures**

- 0 °C / 32 °F (-20 °C / -4 °F with dry air)
- + 80 °C / 176 °F



**Media**

Filtered and lubricated or non-lubricated compressed air.



**Functions**

Single acting magnetic or non-magnetic. Double acting single or double end rod, magnetic or non-magnetic, cushioned or non-cushioned and tandem.



**Bores**

from 32 to 125 mm



**Standard Strokes**

from 25 to 1000 mm  
Strokes on demand: up to 2700 mm

**FORCES, SPRING LOADS AND AIR CONSUMPTION** See Pg. 14.42-14.43

Series	Ø (mm)	Stroke (mm)	Special version
--------	--------	-------------	-----------------

**X H**

**0 3 2**

**0 0 2 5**

**V S**

- ▲ **XB** Single acting - magnetic
- **XH** Double acting - cushioned - magnetic
- **XL** Double acting - cushioned - magnetic with double rod end

- 032
- 040
- 050
- 063
- 080
- 100
- 125

- 0025
- 0050
- 0075
- 0080
- 0100
- 0125
- 0150
- 0160
- 0200
- 0250
- 0300
- 0320
- 0350
- 0400
- 0450
- 0500
- 0600
- 0700
- 0800
- 0900
- 1000

- VS** Only Rod Seals in FKM
- IS** Stainless steel rod
- V** All FKM seals
- R** Metal Scraper

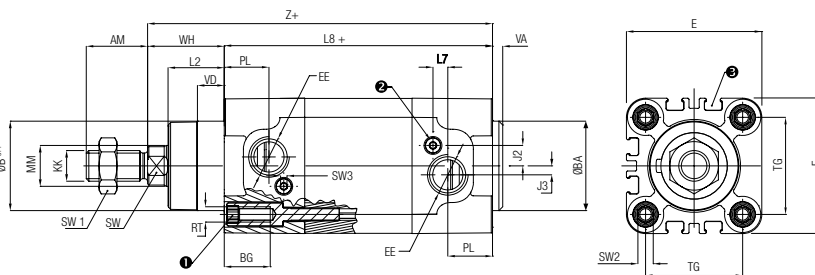
Intermediate or longer strokes are available upon request. Maximum stroke 2700 mm.

Ø (mm)	Stroke (mm)																				
	25	50	75	80	100	125	150	160	200	250	300	320	350	400	450	500	600	700	800	900	1000
32	▲●	▲●	▲●	▲●	▲●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
40	▲●	▲●	▲●	▲●	▲●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
50	▲●	▲●	▲●	▲●	▲●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
63	▲●	▲●	▲●	▲●	▲●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
80	▲●	▲●	▲●	▲●	▲●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
100	▲●	▲●	▲●	▲●	▲●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
125	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●



**XH**

DOUBLE ACTING - CUSHIONED - MAGNETIC

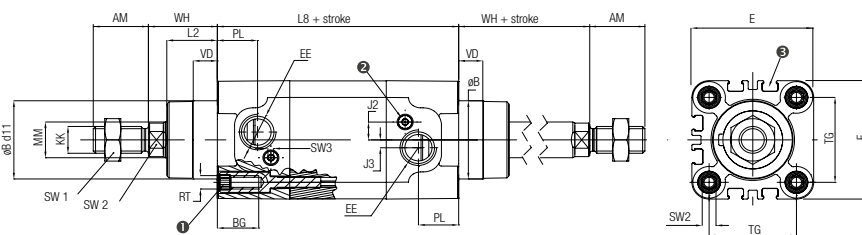


+ = Add Stroke

Ø	ØB d11	VD	VA	L2	WH	Ømm	SW	KK	AM	SW1	ZJ	L8	BG	RT	SW2	E	TG	EE	PL	J3	J2	L7	SW3
32	30	10	4	20	26	12	10	M10X1.25	22	17	120	94	18	M6	6	46	32.5	G1/8	18	4	6.5	2	2.5
40	35	10.5	4	22	30	16	13	M12X1.25	24	19	135	105	18	M6	6	54	38	G1/4	17.5	3.5	8	5.8	2.5
50	40	11.5	4	28	37	20	17	M16X1.5	32	22	143	106	20	M8	8	64	46.5	G1/4	20.5	7	10	2	4
63	45	15	4	29	37	20	17	M16X1.5	32	22	158	121	20	M8	8	74	56.5	G3/8	22	11	8.5	4	4
80	45	15.7	4	35	46	25	22	M20X1.5	40	30	174	128	19	M10	6	94	72	G3/8	22	11	8.5	4	4
100	55	19.2	4	38	51.5	25	22	M20X1.5	40	30	189.5	138	19	M10	6	111	89	G1/2	26	9	12.5	5	4
125	60	20	6	50	65	32	27	M27X2	54	41	225	160	21	M12	8	135	110	G1/2	30	9	12.5	2.5	4

**XL**

DOUBLE ACTING - CUSHIONED - MAGNETIC WITH DOUBLE ROD END



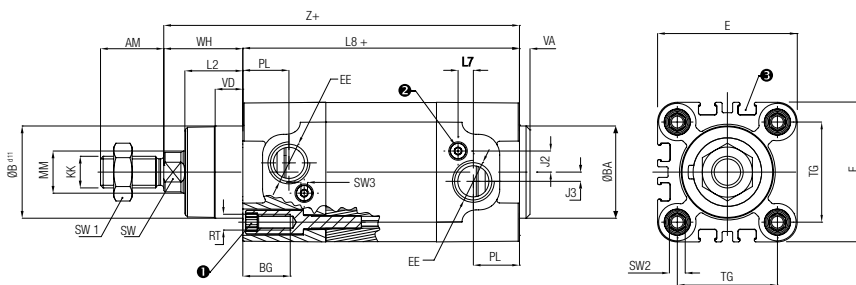
+ = Add Stroke

Ø	ØB d11	VD	VA	L2	WH	Ømm	SW	KK	AM	SW1	ZJ	L8	BG	RT	SW2	E	TG	EE	PL	J3	J2	L7	SW3
32	30	10	4	20	26	12	10	M10X1.25	22	17	120	94	18	M6	6	46	32.5	G1/8	18	4	6.5	2	2.5
40	35	10.5	4	22	30	16	13	M12X1.25	24	19	135	105	18	M6	6	54	38	G1/4	17.5	3.5	8	5.8	2.5
50	40	11.5	4	28	37	20	17	M16X1.5	32	22	143	106	20	M8	8	64	46.5	G1/4	20.5	7	10	2	4
63	45	15	4	29	37	20	17	M16X1.5	32	22	158	121	20	M8	8	74	56.5	G3/8	22	11	8.5	4	4
80	45	15.7	4	35	46	25	22	M20X1.5	40	30	174	128	19	M10	6	94	72	G3/8	22	11	8.5	4	4
100	55	19.2	4	38	51.5	25	22	M20X1.5	40	30	189.5	138	19	M10	6	111	89	G1/2	26	9	12.5	5	4
125	60	20	6	50	65	32	27	M27X2	54	41	225	160	21	M12	8	135	110	G1/2	30	9	12.5	2.5	4

- KEY**
- ① = Socket head screw with female thread for mounting attachments.
  - ② = Adjustment screw for adjustable end-position cushioning.
  - ③ = Slot for proximity sensor.

**XB**

SINGLE ACTING - MAGNETIC



+ = Add Stroke

Ø	ØB d11	VD	VA	L2	WH	Ømm	SW	KK	AM	SW1	ZJ	L8	BG	RT	SW2	E	TG	EE	PL	J3
32	30	10	4	20	26	12	10	M10X1.25	22	17	145	119	18	M6	6	46	32.5	G1/8	18	4
40	35	10.5	4	22	30	16	13	M12X1.25	24	19	160	130	18	M6	6	54	38	G1/4	17.5	3.5
50	40	11.5	4	28	37	20	17	M16X1.5	32	22	168	131	20	M8	8	64	46.5	G1/4	20.5	7
63	45	15	4	29	37	20	17	M16X1.5	32	22	183	146	20	M8	8	74	56.5	G3/8	22	8
80	45	15.7	4	35	46	25	22	M20X1.5	40	30	199	153	19	M10	6	94	72	G3/8	22	11
100	55	19.2	4	38	51.5	25	22	M20X1.5	40	30	214.5	163	19	M10	6	111	89	G1/2	26	9

**KEY**

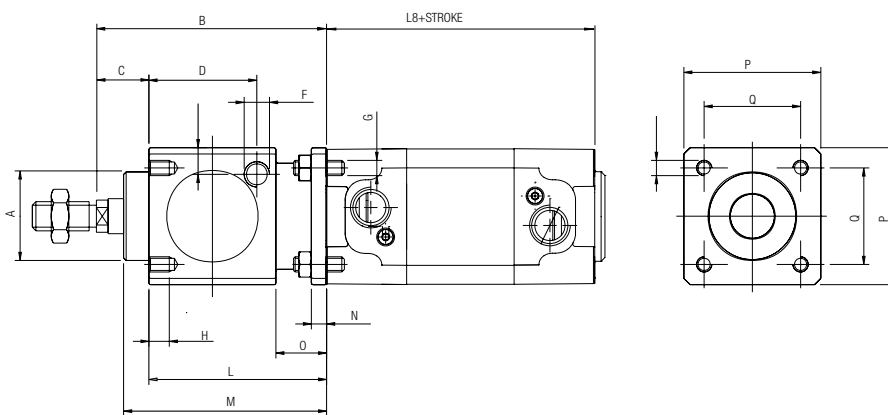
- ① = Socket head screw with female thread for mounting attachments.
- ② = Adjustment screw for adjustable end-position cushioning.
- ③ = Slot for proximity sensor.

**SERIES X - WITH PISTON LOCK ISO 15552**

**XHB**

DOUBLE ACTING - CUSHIONED - MAGNETIC WITH PISTON ROD LOCK

**XLB:** AVAILABLE DOUBLE ROD END



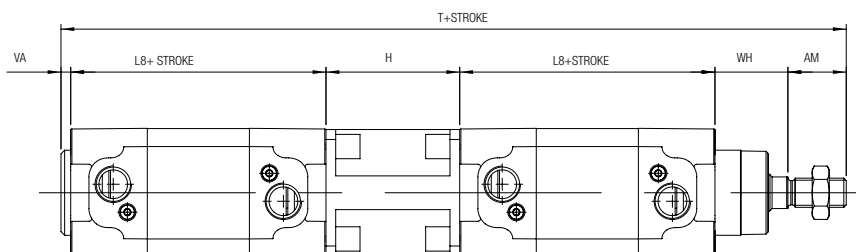
Ø	A	B	C	D	E	F	G	H	L	M	N	O	P	Q	L8
32	30	86	26	33.25	9	1/8"G	M6	8	60	67.5	6	20	47	32.5	94
40	34.5	100	30	42.5	9	1/8"G	M6	8	70	80	6	20	54	38	105
50	40	127	37	58	12.5	1/8"G	M8	12	90	100	8	24	65	46.5	106
63	45	127	37	59	17.5	1/8"G	M8	12	90	100	8	24	75	56.5	121
80	45	156	46	69	17.5	1/4"G	M10	16	110	120	12	32	95	72	128
100	55	161	51	69	20	1/4"G	M10	16	110	120	12	32	114	89	138
125	60	205	65	84.5	19	1/4"G	M12	20	140	156	20	45	138	110	160



Pressures

Without Pressures:  
**LOCKED**

Cylinder Supply Pressure	Minimum release pressure
0 ÷ 7 bar (0 ÷ 0.7 Mpa)	2.5 bar (0.25 Mpa)
7 ÷ 10 bar (0.7 ÷ 1 Mpa)	3 bar (0.3 Mpa)

**SERIES X - TANDEM ISO 15552**
**XHT**
**TANDEM DOUBLE ACTING - MAGNETIC**


$\varnothing$	VA	WH	AM	LB	H	T
32	4	26	22	94	55	295
40	4	30	24	105	55	323
50	4	37	32	106	68	353
63	4	37	32	121	68	383
80	4	46	40	128	92	438
100	4	51.5	40	138	92	463.5
125	6	65	54	160	120	565

For further information please contact our technical department.

**SERIES E - CYLINDER ISO 6431**



**TECHNICAL CHARACTERISTICS**



Ø 32 - 125



Ø 160 - 320



**Functions**

Double acting single or double end rod, magnetic or non-magnetic.



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- SILICON  
FREE
- ATEX  
2014/34/UE



**Pressures**

**1 bar** (0.1 MPa) / 14.5 psi  
**10 bar** (0.7 MPa) / 145 psi



**Temperatures**

**0 °C** / 32 °F (-20 °C / -4 °F with dry air)  
**+ 80 °C** / 176 °F



**Media**

Filtered and lubricated or non-lubricated compressed air.

**FORCES, SPRING LOADS AND AIR CONSUMPTION**

See Pg. 14.42-14.43

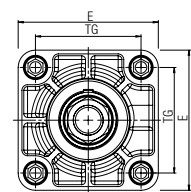
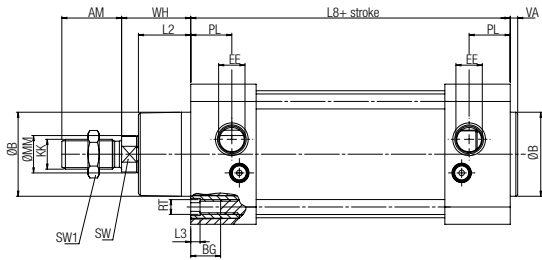
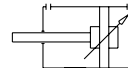
Serie	Ø (mm)	Stroke (mm)	Mounting type	Special version
<b>E H</b>	<b>0 3 2</b>	<b>0 0 2 5</b>	<b>T</b>	<b>V S</b>
<ul style="list-style-type: none"> <li>▲EH Double acting - cushioned - magnetic</li> <li>▲EL Double Acting - cushioned - magnetic with double rod end</li> </ul>	032 040 050 063 080 100 125 160 200 250 320	0025    0320 0050    0350 0075    0400 0080    0450 0100    0500 0125    0600 0150    0700 0160    0800 0200    0900 0250    1000 0300	T Anodized aluminium tube round profile with tie rods	<ul style="list-style-type: none"> <li>VS Only Rod Seals in FKM</li> <li>IS Stainless steel rod</li> <li>V All FKM seals</li> <li>R Metal Scraper (160-200-250)</li> </ul>

Intermediate or longer strokes are available upon request.  
Maximum stroke 2700 mm.

Ø (mm)	Stroke (mm)																				
	25	50	75	80	100	125	150	160	200	250	300	320	350	400	450	500	600	700	800	900	1000
32	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
40	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
50	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
63	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
80	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
100	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
125	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
160	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
200	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
250	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
320	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲

**EH T**

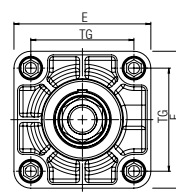
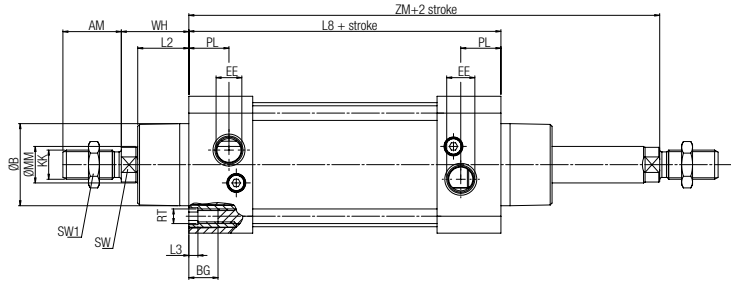
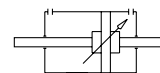
DOUBLE ACTING - CUSHIONED - MAGNETIC



∅	∅ B	VA	L2	WH	∅ mm	SW	KK	A	L8	BG	RT	E	TG	EE	PL	L3	ZM	SW1
32	30	4	20	26	12	10	M10X1.25	22	94	16	M6	47	32.5	G1/8	14	5	146	17
40	35	4	22	30	16	13	M12X1.25	24	105	16	M6	53	38	G1/4	16	5	165	19
50	40	4	28	37	20	17	M16X1.5	32	106	16	M8	65	46.5	G1/4	21	5	180	22
63	45	4	28	37	20	17	M16X1.5	32	121	16	M8	75	56.5	G3/8	22	5	195	22
80	45	4	34	46	25	22	M20X1.5	40	128	18	M10	95	72	G3/8	23	6	220	30
100	55	4	38	51.5	25	22	M20X1.5	40	138	18	M10	115	89	G1/2	26	6	240	30
125	60	5	50	65	32	27	M27X2	54	160	19	M12	140	110	G1/2	30	6	290	41
160	65	6	55	80	40	36	M36X2	72	180	24	M16	180	140	G3/4	29	0	340	55
200	75	6	60	95	40	36	M36X2	72	180	24	M16	220	175	G3/4	29	0	370	55
250	90	10	75	105	50	46	M42X2	84	200	25	M20	275	220	G1"	31	0	410	65
320	110	10	90	120	63	55	M48X2	96	220	30	M24	350	270	G1"	30	0	460	75

**EL T**

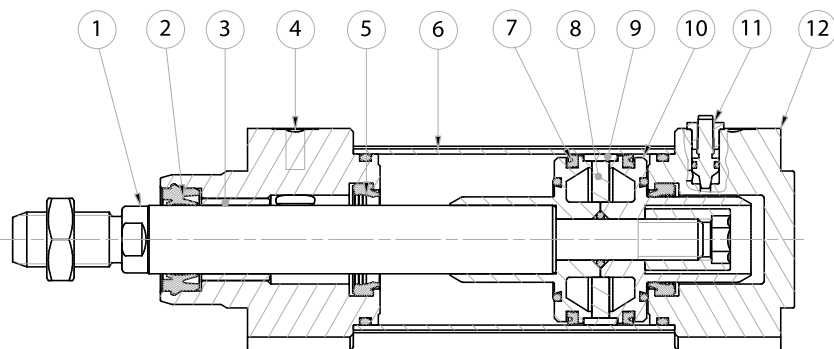
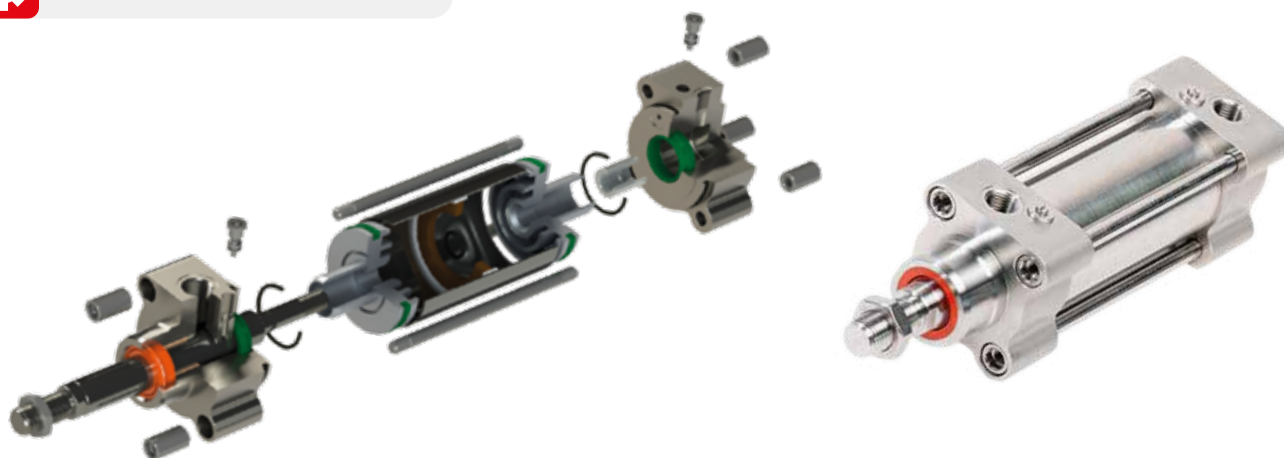
DOUBLE ACTING - CUSHIONED - MAGNETIC WITH DOUBLE ROD END



∅	∅ B	VA	L2	WH	∅ mm	SW	KK	A	L8	BG	RT	E	TG	EE	PL	L3	ZM	SW1
32	30	20	20	26	12	10	M10X1.25	22	94	16	M6	47	32.5	G1/8	14	5	146	17
40	35	22	22	30	16	13	M12X1.25	24	105	16	M6	53	38	G1/4	16	5	165	19
50	40	28	28	37	20	17	M16X1.5	32	106	16	M8	65	46.5	G1/4	21	5	180	22
63	45	28	28	37	20	17	M16X1.5	32	121	16	M8	75	56.5	G3/8	22	5	195	22
80	45	34	34	46	25	22	M20X1.5	40	128	18	M10	95	72	G3/8	23	6	220	30
100	55	38	38	51.5	25	22	M20X1.5	40	138	18	M10	115	89	G1/2	26	6	240	30
125	60	50	50	65	32	27	M27X2	54	160	19	M12	140	110	G1/2	30	6	290	41
160	65	55	55	80	40	36	M36X2	72	180	24	M16	180	140	G3/4	29	0	340	55
200	75	60	60	95	40	36	M36X2	72	180	24	M16	220	175	G3/4	29	0	370	55
250	90	75	75	105	50	46	M42X2	84	200	25	M20	275	220	G1"	31	0	410	65
320	110	90	90	120	63	55	M48X2	96	220	30	M24	350	270	G1"	30	0	460	75

**SERIES V - STAINLESS STEEL - ISO 15552**

**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 316 stainless steel piston rod
- 2 Rod seal
- 3 Sinterized bronze bushing
- 4 304 Stainless steel end cap
- 5 PU seal
- 6 304 stainless steel tube
- 7 Piston seal
- 8 Bonded ferrite magnet
- 9 Piston wear band
- 10 Aluminium piston
- 11 316 stainless steel cushion adjustment screw
- 12 304 stainless steel end cap

**Reference Standard**

1907/2006 REACH ✓

2011/65/CE RoHS ✓

PED 2014/68/UE

SILICON FREE

**Pressures**

1 bar (0.1 MPa) / 14.5 psi  
10 bar (0.7 MPa) / 145 psi

**Temperatures**

0 °C / 32 °F (-20 °C / -4 °F with dry air)  
+ 80 °C / 176 °F

**Media**

Filtered and lubricated or non-lubricated compressed air.

**Functions**

Double-acting cushioned magnetic  
Single or through piston rod.

**Bores**

from 32 to 125 mm

**Standard Strokes**

from 25 to 1000 mm

Series

Ø (mm)

Stroke (mm)

Special version

**V H I**

**0 3 2**

**0 0 2 5**

**V S**

- ▲ **VHI** Double acting - cushioned - magnetic
- ▲ **VLI** Double acting - cushioned - magnetic with double rod end

032  
040  
050  
063  
080  
100  
125

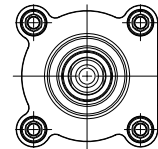
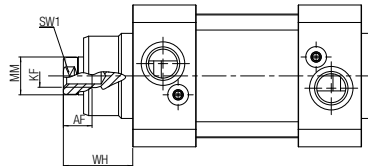
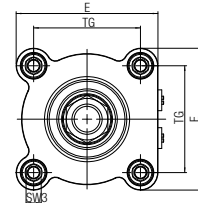
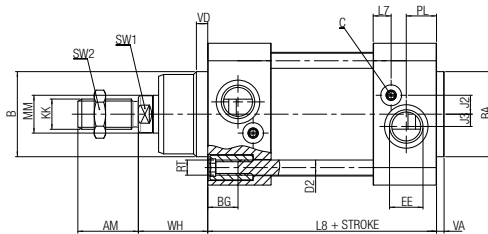
0025 0320  
0050 0350  
0075 0400  
0080 0450  
0100 0500  
0125 0600  
0150 0700  
0160 0800  
0200 0900  
0250 1000  
0300

- VS** Only Rod Seals in FKM
- V** All FKM seals

Intermediate or longer strokes are available upon request. Maximum stroke 2700 mm.

Ø (mm)	Stroke (mm)																				
	25	50	75	80	100	125	150	160	200	250	300	320	350	400	450	500	600	700	800	900	1000
32	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
40	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
50	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
63	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
80	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
100	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
125	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲

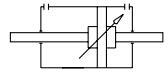
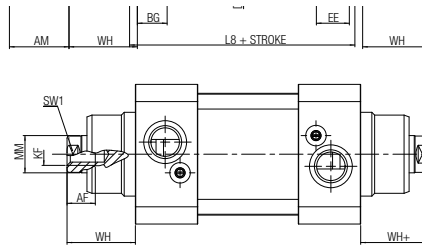
**VHI**  
DOUBLE ACTING - CUSHIONED - MAGNETIC



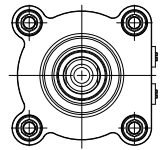
Ø	AM	AF	ØB(d11)	ØBA(d11)	BG	ØD2	E	EE	J2	J3	KF	KK	L2	L7	L8+	Ømm	PL	RT	SW1	SW2	SW3	TG	VA	VD	WH
32	22	12	30	30	16	6	48	G1/8"	6.6	5.3	M6	M10x1.25	18	7.2	94	12	13	M6	10	17	6	32.5	4	5	26
40	24	12	35	35	16	6	52	G1/4"	8.5	5	M8	M12x1.25	22	9.2	105	16	14	M6	13	19	6	38	4	5	30
50	32	16	40	40	16	8	65	G1/4"	8	6	M8	M16x1.5	25.5	9	106	20	14	M8	17	24	8	46.5	4	6	37
63	32	16	45	45	16	8	75	G3/8"	10	6.5	M10	M16x1.5	26	9.5	121	20	16	M8	17	24	8	56.5	4	6	37
80	40	20	45	45	18	10	95	G3/8"	8	8	M10	M20x1.5	32	11	128	25	16	M10	22	30	10	72	4	7	46
100	40	20	55	55	18	10	115	G1/2"	15	7	M12	M20x1.5	38	12	138	25	18	M10	22	30	10	89	4	7	51
125	54	32	60	60	20	12	140	G1/2"	13	7	M16	M27x2	46	12	160	32	18	M12	27	41	-	110	6	10	65

**VLI**

DOUBLE ACTING - CUSHIONED - MAGNETIC WITH DOUBLE ROD END



ØB

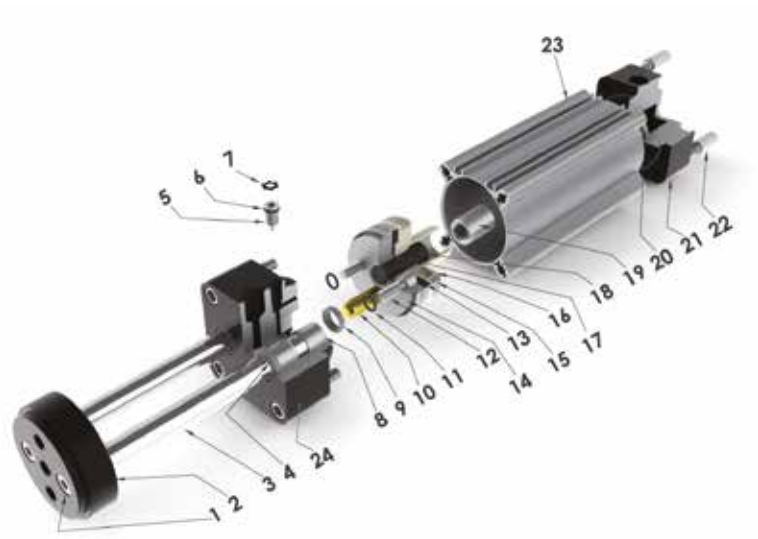


Ø	AM	AF	ØB (d11)	BG	ØD2	E	EE	J2	J3	KF	KK	L2	L7	L8+	Ømm	PL	RT	SW1	SW2	SW3	TG	VA	VD	WH	WH
32	22	12	30	16	6	48	G1/8"	6.6	5.3	M6	M10x1.25	18	7.2	94	12	13	M6	10	17	6	32.5	4	5	26	26
40	24	12	35	16	6	52	G1/4"	8.5	5	M8	M12x1.25	22	9.2	105	16	14	M6	13	19	6	38	4	5	30	30
50	32	16	40	16	8	65	G1/4"	8	6	M8	M16x1.5	25.5	9	106	20	14	M8	17	24	8	46.5	4	6	37	37
63	32	16	45	16	8	75	G3/8"	10	6.5	M10	M16x1.5	26	9.5	121	20	16	M8	17	24	8	56.5	4	6	37	37
80	40	20	45	18	10	95	G3/8"	8	8	M10	M20x1.5	32	11	128	25	16	M10	22	30	10	72	4	7	46	46
100	40	20	55	18	10	115	G1/2"	15	7	M12	M20x1.5	38	12	138	25	18	M10	22	30	10	89	4	7	51	51
125	54	32	60	20	12	140	G1/2"	13	7	M16	M27x2	46	12	160	32	18	M12	27	41	-	110	6	10	65	65



**SERIES NHA - TWIN ROD CYLINDER - ISO 15552**

**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 Galvanized steel fixing screw
- 2 Anodized aluminium tooling plate
- 3 Chromium plated steel or stainless steel piston rods
- 4 Polyurethane rod seal
- 5 Galvanized steel cushion adjustment screw
- 6 NBR o-ring
- 7 Steel elastic ring
- 8 Steel bearing
- 9 Polyurethane cushion seal
- 10 Brass cushion spear
- 11 NBR o-ring
- 12 Galvanized steel fixing screw
- 13 Bonded ferrite magnet
- 14 Aluminium front piston
- 15 Polyurethane piston seal
- 16 Acetal resin piston
- 17 NBR o-ring
- 18 Steel grub screw
- 19 Galvanized steel nut
- 20 Polyurethane cushion seal
- 21 Die-cast aluminium end cap
- 22 Galvanized steel fixing screw
- 23 Anodized aluminium tube
- 24 Die-cast aluminium end cap

**Reference Standard**

1907/2006 <b>REACH</b> ✓	2011/65/CE <b>RoHS</b> ✓	PED 2014/68/UE	SILICON FREE	ATEX 2014/34/UE
-----------------------------	-----------------------------	-------------------	-----------------	--------------------

**Pressures**

1 bar (0.1 MPa) / 14.5 psi  
10 bar (0.7 MPa) / 145 psi

**Temperatures**

0 °C / 32 °F (-20 °C / -4 °F with dry air)  
+ 80 °C / 176 °F

**Media**

Filtered and lubricated or non-lubricated compressed air.

**Functions**

Double-acting cushioned magnetic.  
Single or through piston rod magnetic.

**Bores**

from 32 to 100 mm

**Standard Strokes**

from 25 to 500 mm  
Strokes on demand.

Series	Ø (mm)	Stroke (mm)	Mounting type	Special version
<b>N H A</b>	<b>0 3 2</b>	<b>0 0 2 5</b>	<b>G</b>	<b>I S</b>
<b>▲ NHA</b> Double acting - cushioned - magnetic <b>▲ NLA</b> Double acting - double rod cushioned magnetic <b>▲ NQA</b> Double acting - cushioned - magnetic with double rod end	032 040 050 063 080 100	0025 0050 0080 0100 0125 0160	0200 0250 0320 0350 0400	<b>G</b> Anodized aluminium tube lobed profile with slots <b>IS</b> Stainless steel rod
Intermediate or longer strokes are available upon request.				

Ø (mm)	Stroke (mm)											
	25	50	80	100	125	160	200	250	320	350	400	500
32	▲	▲	▲	▲	▲	▲	▲	▲	▲			
40	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲		
50	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲		
63	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	
80	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
100	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲

**FORCES AND AIR CONSUMPTION**
**Extend and Retract Forces**

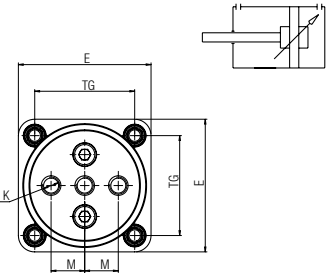
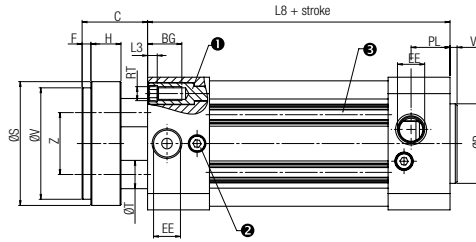
Cylinder Ø	Piston Rod Ø	Piston Area mm <sup>2</sup>		Operating pressure			
				bar			
				1	2	3	4
				Output force N			
32	8	100.48	Extend = 804	72	144	215	287
			Retract = 703.52	54	108	161	215
40	10	157	Extend = 1257	110	220	330	440
			Retract = 1100	84	168	252	336
50	12	226.08	Extend = 1963	175	350	526	701
			Retract = 1736.92	135	270	404	539
63	16	401.92	Extend = 3117	280	560	840	1120
			Retract = 2715.08	206	413	619	826
80	20	628	Extend = 5027	450	900	1350	1800
			Retract = 4399	336	673	1009	1345
100	20	628	Extend = 7854	700	1400	2100	2800
			Retract = 7226	589	1177	1766	2355

**Air Consumption**

Cylinder Ø	Piston Rod Ø	Piston Area mm <sup>2</sup>		Operating pressure			
				bar			
				1	2	3	4
				Air consumption for each 10 mm of stroke NI			
32	8	100.48	Extend = 804	0.016	0.032	0.048	0.064
			Retract = 703.52	0.012	0.024	0.036	0.048
40	10	157	Extend = 1257	0.025	0.050	0.075	0.100
			Retract = 1100	0.019	0.038	0.057	0.075
50	12	226.08	Extend = 1963	0.039	0.079	0.118	0.157
			Retract = 1736.92	0.030	0.060	0.091	0.121
63	16	401.92	Extend = 3117	0.062	0.125	0.187	0.249
			Retract = 2715.08	0.046	0.092	0.139	0.185
80	20	628	Extend = 5027	0.100	0.201	0.301	0.402
			Retract = 4399	0.075	0.151	0.226	0.301
100	20	628	Extend = 7854	0.157	0.314	0.471	0.628
			Retract = 7226	0.132	0.264	0.396	0.528

**NHA**

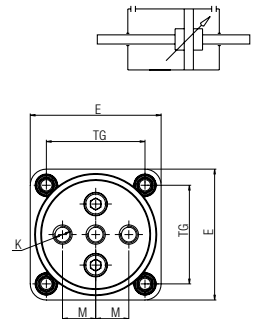
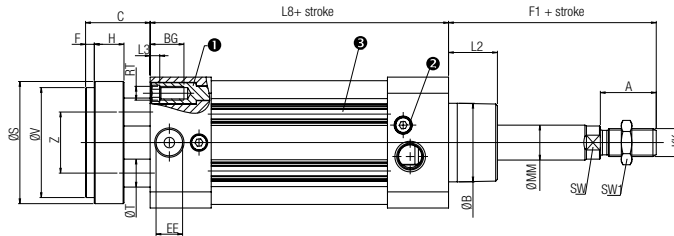
DOUBLE ACTING - CUSHIONED - MAGNETIC



Ø	Ø B d11	C	E	F	H	K	M	S	T	V	Z	F1	VA	L2	WH	Ømm	SW	KK	L8	BG	RT	E	TG	EE	PL	L3	ZM
32	30	26	47	4	15	M6	9.5	35	8	32	18	48	4	20	26	12	10	M10X1.25	94	16	M6	47	32.5	G1/8	14	5	146
40	35	30	53	4	15	M8	11.25	45	10	40	22	54	4	22	30	16	13	M12X1.25	105	16	M6	53	38	G1/4	16	5	165
50	40	37	65	5	18	M8	15	55	12	50	26	69	4	28	37	20	17	M16X1.5	106	16	M8	65	46.5	G1/4	21	5	180
63	45	37	75	5	22	M10	19	70	16	63	35	69	4	28	37	20	17	M16X1.5	121	16	M8	75	56.5	G3/8	22	5	195
80	45	46	95	5	22	M12	25	85	20	80	40	86	4	34	46	25	22	M20X1.5	128	18	M10	95	72	G3/8	23	6	220
100	55	51	115	5	22	M12	35	105	20	100	50	91	4	38	51.5	25	22	M20X1.5	138	18	M10	115	89	G1/2	26	6	240

**NLA**

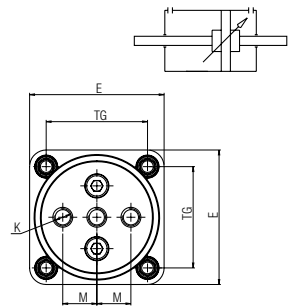
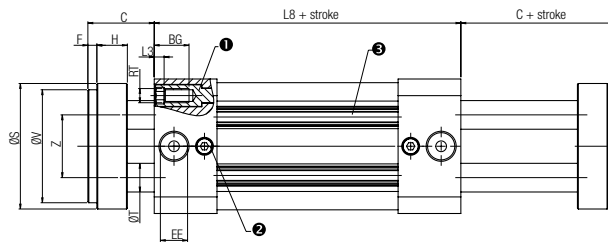
DOUBLE ACTING - DOUBLE ROD - CUSHIONED - MAGNETIC



Ø	A	Ø B d11	C	E	F	H	K	M	S	T	V	Z	F1	VA	L2	WH	Ømm	SW	KK	L8	BG	RT	E	TG	EE	PL	L3	ZM
32	22	30	26	47	4	15	M6	9.5	35	8	32	18	48	4	20	26	12	10	M10X1.25	94	16	M6	47	32.5	G1/8	14	5	146
40	24	35	30	53	4	15	M8	11.25	45	10	40	22	54	4	22	30	16	13	M12X1.25	105	16	M6	53	38	G1/4	16	5	165
50	32	40	37	65	5	18	M8	15	55	12	50	26	69	4	28	37	20	17	M16X1.5	106	16	M8	65	46.5	G1/4	21	5	180
63	32	45	37	75	5	22	M10	19	70	16	63	35	69	4	28	37	20	17	M16X1.5	121	16	M8	75	56.5	G3/8	22	5	195
80	40	45	46	95	5	22	M12	25	85	20	80	40	86	4	34	46	25	22	M20X1.5	128	18	M10	95	72	G3/8	23	6	220
100	40	55	51	115	5	22	M12	35	105	20	100	50	91	4	38	51.5	25	22	M20X1.5	138	18	M10	115	89	G1/2	26	6	240

**NQA**

DOUBLE ACTING - CUSHIONED - MAGNETIC WITH DOUBLE ROD ENDS



Ø	Ø B d11	C	E	F	H	K	M	S	T	V	Z	F1	VA	L2	WH	Ømm	SW	KK	L8	BG	RT	E	TG	EE	PL	L3	ZM
32	30	26	47	4	15	M6	9.5	35	8	32	18	48	4	20	26	12	10	M10X1.25	94	16	M6	47	32.5	G1/8	14	5	146
40	35	30	53	4	15	M8	11.25	45	10	40	22	54	4	22	30	16	13	M12X1.25	105	16	M6	53	38	G1/4	16	5	165
50	40	37	65	5	18	M8	15	55	12	50	26	69	4	28	37	20	17	M16X1.5	106	16	M8	65	46.5	G1/4	21	5	180
63	45	37	75	5	22	M10	19	70	16	63	35	69	4	28	37	20	17	M16X1.5	121	16	M8	75	56.5	G3/8	22	5	195
80	45	46	95	5	22	M12	25	85	20	80	40	86	4	34	46	25	22	M20X1.5	128	18	M10	95	72	G3/8	23	6	220
100	55	51	115	5	22	M12	35	105	20	100	50	91	4	38	51.5	25	22	M20X1.5	138	18	M10	115	89	G1/2	26	6	240

KEY

① = Socket head screw with female thread for mounting attachments.

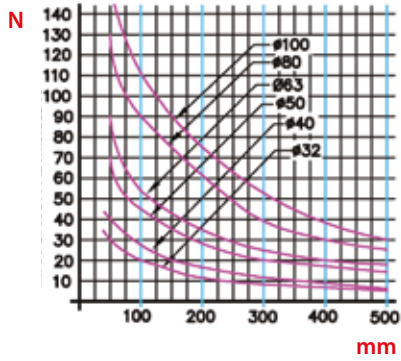
② = Adjustment screw for adjustable end-position cushioning.

③ = Slot for proximity sensor.

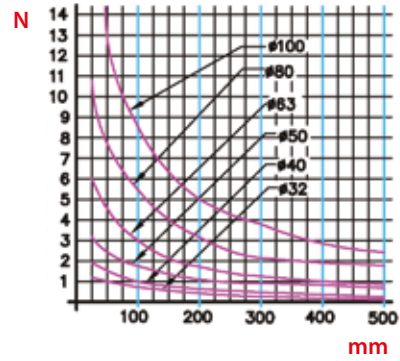
**NHA CYLINDER LOAD CHARTS**



**Transverse Moment**



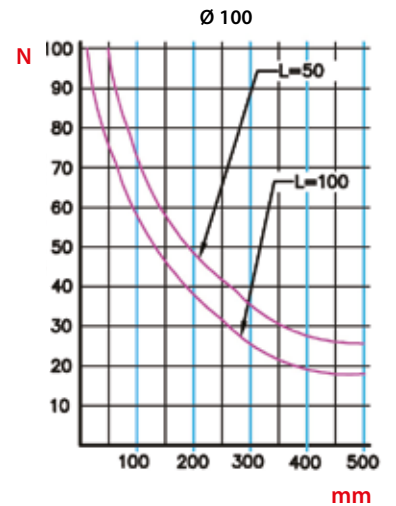
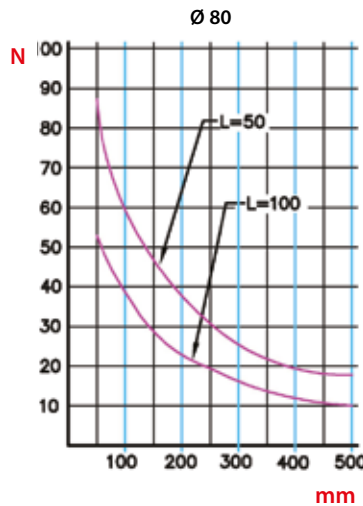
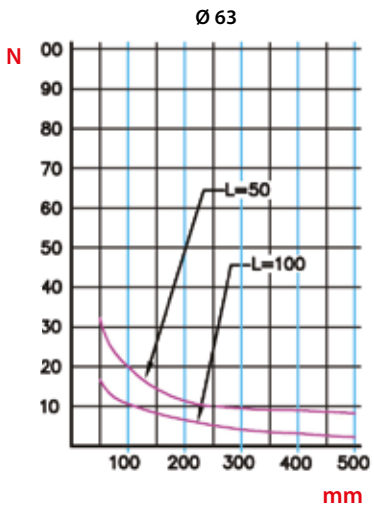
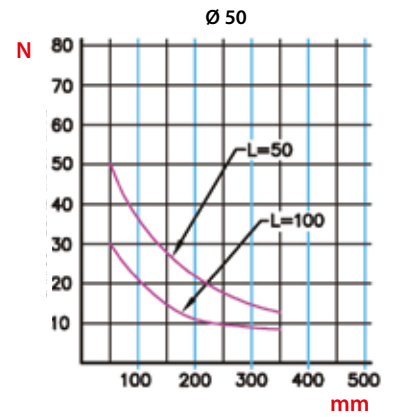
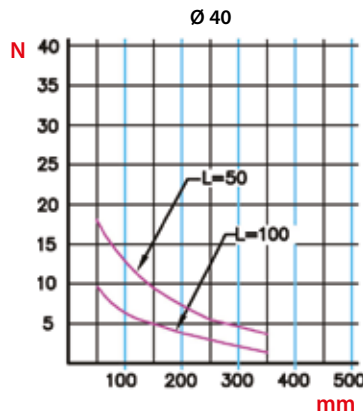
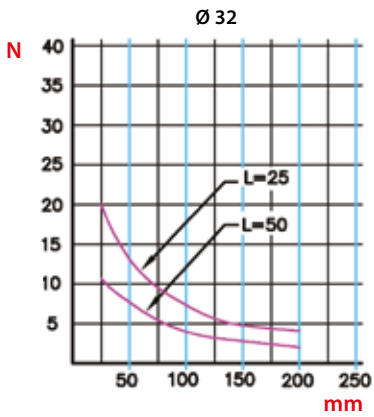
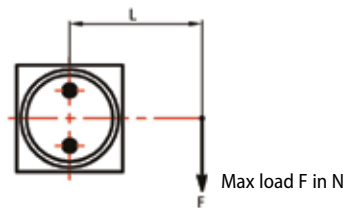
**Torsional Moment**



**N**  
Max admitted load  
**mm**  
Stroke



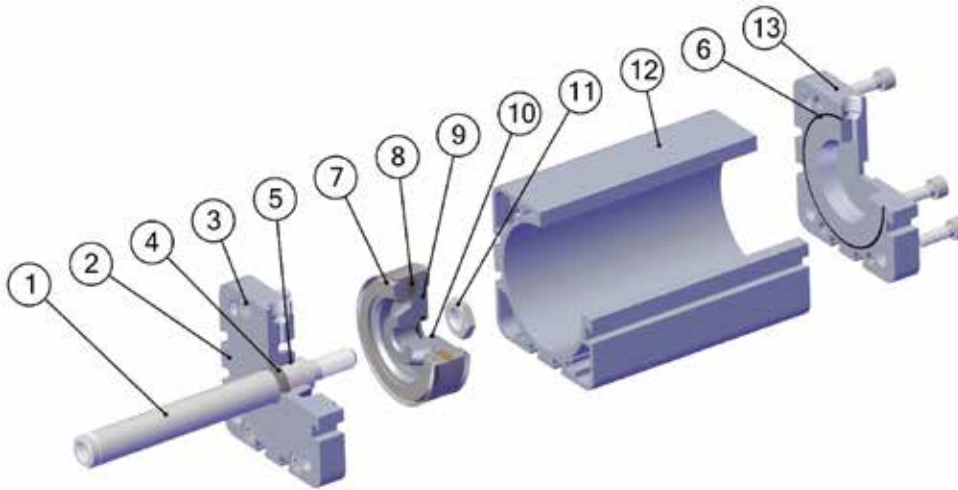
**Maximum Transverse and Torsional Loads by bore**



**SERIES W - COMPACT CYLINDERS - ISO 21287**



**TECHNICAL CHARACTERISTICS**



**Component Parts and Materials**

- 1 (ø12-25) 303 Stainless steel piston rod  
(ø32-100) chrome plated steel piston rod
- 2 Anodized aluminum end cap
- 3 Zinc plated steel screw
- 4 Polyurethane rod seal
- 5 Sintered bronze rod bearing
- 6 NBR o-ring seals
- 7 Polyurethane piston seal
- 8 Bonded ferrite magnet
- 9 Aluminum piston
- 10 NBR o-ring seals
- 11 Zinc plated steel piston nut
- 12 Anodized aluminum body
- 13 Anodized aluminum end cap



**Reference Standard**

1907/2006 <b>REACH</b> ✓	2011/65/CE <b>RoHS</b> ✓	PED 2014/68/UE	SILICON FREE	ATEX 2014/34/UE
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**Pressures**

**1 bar** (0.1 MPa) / 14.5 psi  
**10 bar** (0.7 MPa) / 145 psi



**Temperatures**

**0 °C / 32 °F** (-20 °C / -4 °F with dry air)  
**+ 80 °C / 176 °F**



**Media**

Filtered and lubricated or non-lubricated compressed air.



**Functions**

Single and double-acting magnetic.  
Single, through piston rod and anti rotation.



**Bores**

from **20 to 100 mm**



**Standard Strokes**

from **5 to 200 mm**


**FORCES, SPRING LOADS AND AIR CONSUMPTION**
**Extend and Retract Forces**

Cylinder ∅	Piston Rod ∅	Piston Area mm <sup>2</sup>	Operating pressure bar									
			1	2	3	4	5	6	7	8	9	10
<b>Output force (N)</b>												
20	10	Extend = 314	28	55	85	110	140	170	195	220	250	28
		Retract = 235	21	42	60	85	105	125	150	170	190	210
25	10	Extend = 490	44	88	132	176	220	264	308	352	396	440
		Retract = 412	36	72	108	144	180	216	252	288	324	360
32	12	Extend = 804	72	144	216	288	360	432	504	576	648	720
		Retract = 691	62	124	186	248	310	372	434	496	558	620
40	12	Extend = 1257	110	220	330	440	550	660	770	880	990	1100
		Retract = 1144	100	200	300	400	500	600	700	800	900	1000
50	16	Extend = 1963	175	350	525	700	875	1050	1225	1400	1575	1750
		Retract = 1762	155	310	465	620	775	930	1085	1240	1395	1550
63	16	Extend = 3117	280	560	840	1120	1400	1680	1960	2240	2520	2800
		Retract = 2916	260	520	780	1040	1300	1560	1820	2080	2340	2600
80	20	Extend = 5027	450	900	1350	1800	2250	2700	3150	3600	4050	4500
		Retract = 4712	420	840	1260	1680	2100	2520	2940	3360	3780	4200
100	25	Extend = 7854	700	1400	2100	2800	3500	4200	4900	5650	6360	7000
		Retract = 7363	660	1320	1980	2640	3300	3960	4620	5280	5940	6600

**Spring Loads**

Cylinder ∅	Load spring	Stroke (mm)				
		5	10	15	20	25
<b>Output force (N)</b>						
20	Load of spring at rest	15.7	14	12.2	10.4	8.7
	Load of compressed spring	17.4	17.4	17.4	17.4	17.4
25	Load of spring at rest	19.5	18.5	17.3	16	15
	Load of compressed spring	22	22	22	22	22
32	Load of spring at rest	27.8	25.3	22.8	20.2	17.7
	Load of compressed spring	30	30	30	30	30
40	Load of spring at rest	36.4	34	31.7	29.5	27
	Load of compressed spring	36	36	36	36	36
50	Load of spring at rest	32	30.5	29	27.8	26.5
	Load of compressed spring	35	35	35	35	35
63	Load of spring at rest	61	58.5	56.3	53.5	51.5
	Load of compressed spring	64.8	64.8	64.8	64.8	64.8
80	Load of spring at rest	91.3	88	85	82	78.7
	Load of compressed spring	94	94	94	94	94
100	Load of spring at rest	150	145	140	134	129
	Load of compressed spring	156	156	156	156	156

**Air consumption**

Cylinder ∅	Piston Rod ∅	Piston Area mm <sup>2</sup>	Operating pressure bar									
			1	2	3	4	5	6	7	8	9	10
<b>Air consumption for each 10 mm of stroke (NI)</b>												
20	10	Extend = 314	0.006	0.009	0.013	0.016	0.019	0.022	0.025	0.028	0.031	0.035
		Retract = 235	0.005	0.007	0.009	0.012	0.014	0.016	0.019	0.021	0.024	0.026
25	10	Extend = 490	0.010	0.015	0.020	0.025	0.029	0.034	0.039	0.044	0.049	0.054
		Retract = 412	0.008	0.012	0.016	0.021	0.025	0.029	0.033	0.037	0.041	0.045
32	12	Extend = 804	0.016	0.024	0.032	0.040	0.048	0.056	0.064	0.072	0.080	0.088
		Retract = 691	0.014	0.021	0.028	0.035	0.041	0.048	0.055	0.062	0.069	0.076
40	12	Extend = 1257	0.025	0.038	0.050	0.063	0.075	0.088	0.101	0.113	0.126	0.138
		Retract = 1144	0.023	0.034	0.046	0.057	0.069	0.080	0.092	0.103	0.114	0.126
50	16	Extend = 1963	0.039	0.059	0.079	0.098	0.118	0.137	0.157	0.177	0.196	0.216
		Retract = 1762	0.035	0.053	0.070	0.088	0.106	0.123	0.141	0.159	0.176	0.194
63	16	Extend = 3117	0.062	0.094	0.125	0.156	0.187	0.218	0.249	0.281	0.312	0.343
		Retract = 2916	0.058	0.087	0.117	0.146	0.175	0.204	0.233	0.262	0.292	0.321
80	20	Extend = 5027	0.101	0.151	0.201	0.251	0.302	0.352	0.402	0.452	0.503	0.553
		Retract = 4712	0.094	0.141	0.188	0.236	0.283	0.330	0.377	0.424	0.471	0.518
100	25	Extend = 7854	0.157	0.236	0.314	0.393	0.471	0.550	0.628	0.707	0.785	0.864
		Retract = 7363	0.147	0.221	0.295	0.368	0.442	0.515	0.589	0.663	0.736	0.810

Series	Version	Ø (mm)	Stroke (mm)	
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**W B**



**0 2 0**

**0 0 2 5**

- ▲ **WB - WBM** Single acting - magnetic
- ▲ **WD - WDM** Single acting - magnetic - spring extend
- **WF - WFM** Double acting - magnetic
- **WJ - WJM** Double acting - cushioned - magnetic with double rod end
- # **WFA** Double acting - magnetic - anti rotation

= Standard female rod  
M = Male rod (NO WFA)

- 020
- 025
- 032
- 040
- 050
- 063
- 080
- 100

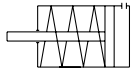
- |      |      |
|------|------|
| 0005 | 0060 |
| 0010 | 0080 |
| 0015 | 0100 |
| 0020 | 0125 |
| 0025 | 0150 |
| 0030 | 0160 |
| 0040 | 0200 |
| 0050 |      |

Intermediate or longer strokes are available upon request.

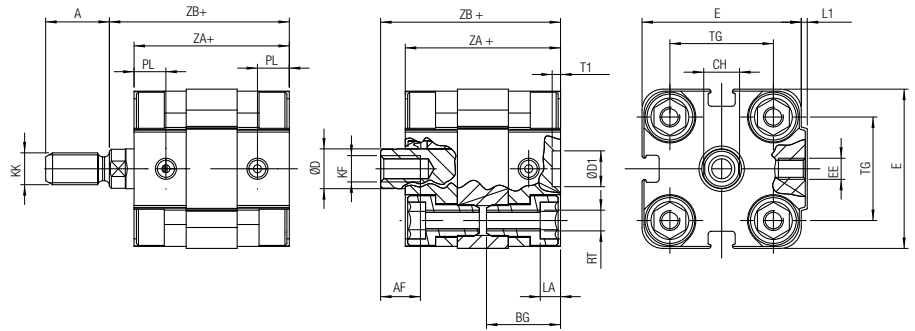
Ø (mm)	Stroke (mm)														
	5	10	15	20	25	30	40	50	60	80	100	125	150	200	
20	▲●#	▲●#	▲●#	▲●#	▲●#	●#	●#	●#							
25	▲●#	▲●#	▲●#	▲●#	▲●#	●#	●#	●#							
32	▲●#	▲●#	▲●#	▲●#	▲●#	●#	●#	●#	●#	●#	●	●	●		
40	▲●#	▲●#	▲●#	▲●#	▲●#	●#	●#	●#	●#	●#	●	●	●		
50	▲●#	▲●#	▲●#	▲●#	▲●#	●#	●#	●#	●#	●#	●	●	●	●	
63	▲●#	▲●#	▲●#	▲●#	▲●#	●#	●#	●#	●#	●#	●	●	●	●	
80	▲●#	▲●#	▲●#	▲●#	▲●#	●#	●#	●#	●#	●#	●	●	●	●	
100	▲●#	▲●#	▲●#	▲●#	▲●#	●#	●#	●#	●#	●#	●	●	●	●	

**WB - WBM**

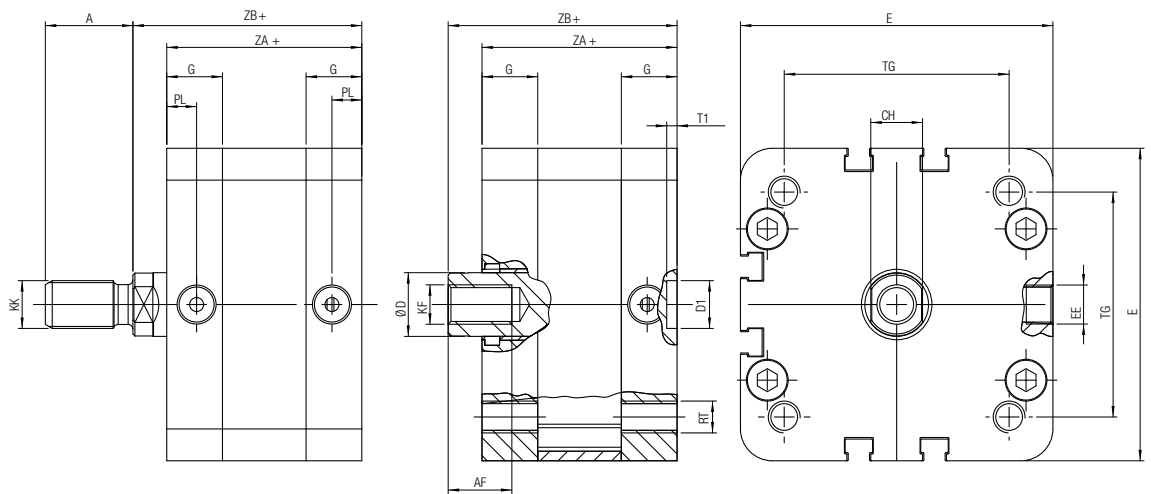
SINGLE ACTING - MAGNETIC



Ø 20-25



Ø 32-40-50-63-80-100



\* Like UNITOP

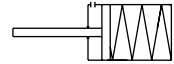
+ = Add Stroke

Ø	Ø D	E	L1	A	KK	CH	AF	KF	BG	LA	RT	G	TG	EE	PL	Ø D1	T1	ZA+	ZB+
<b>*20</b>	10	36	1.5	16	M8x1.25	9	10	M6	18.5	5	M5	-	22	M5	8	*6	*4	*39	*45
<b>*25</b>	10	40	1.5	16	M8x1.25	9	10	M6	18.5	5	M5	-	26	M5	8	*6	*4	39	45.5
<b>32</b>	12	49	-	19	M10x1.25	10	12	M8	-	-	M6	14.5	32.5	G1/8	7.5	9	2.1	44	51
<b>40</b>	12	55	-	19	M10x1.25	10	12	M8	-	-	M6	15	38	G1/8	7.5	9	2.1	45	52
<b>50</b>	16	68	-	22	M12x1.25	13	16	M10	-	-	M8	14.5	46.5	G1/8	7.5	12	2.6	45	53
<b>63</b>	16	78.5	-	22	M12x1.25	13	16	M10	-	-	M8	14	56.5	G1/8	7.5	12	2.6	49	57.5
<b>80</b>	20	98	-	28	M16x1.5	17	20	M12	-	-	M10	15.5	72	G1/8	7.5	12	2.6	54	64
<b>100</b>	25	120	-	28	M16x1.5	22	20	M12	-	-	M10	20	89	G1/8	7.5	12	2.6	67	77

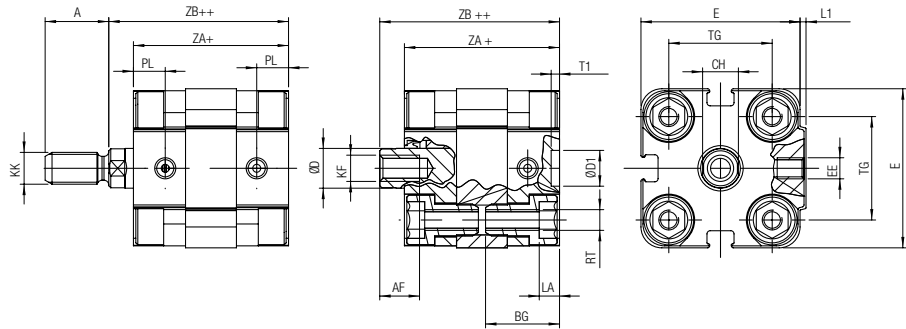


**WD - WDM**

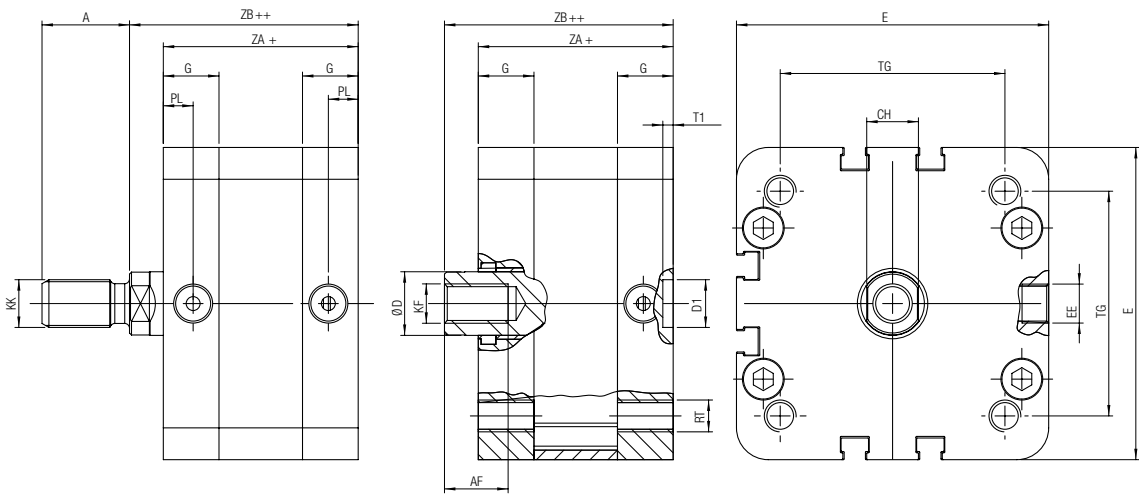
SINGLE ACTING - MAGNETIC - SPRING EXTEND



Ø 20-25



Ø 32-40-50-63-80-100



\* Like UNITOP

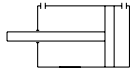
+ = Add Stroke

++ = Double stroke dimension and add it

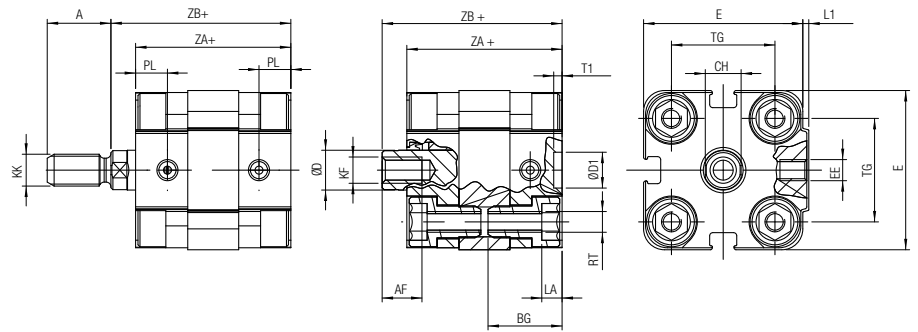
Ø	Ø D	E	L1	A	KK	CH	AF	KF	BG	LA	RT	G	TG	EE	PL	Ø D1	T1	ZA+	ZB++
<b>*20</b>	10	36	1.5	16	M8x1.25	9	10	M6	18.5	5	M5	-	22	M5	8	*6	*4	*39	*45
<b>*25</b>	10	40	1.5	16	M8x1.25	9	10	M6	18.5	5	M5	-	26	M5	8	*6	*4	39	45.5
<b>32</b>	12	49	-	19	M10x1.25	10	12	M8	-	-	M6	14.5	32.5	G1/8	7.5	9	2.1	44	51
<b>40</b>	12	55	-	19	M10x1.25	10	12	M8	-	-	M6	15	38	G1/8	7.5	9	2.1	45	52
<b>50</b>	16	68	-	22	M12x1.25	13	16	M10	-	-	M8	14.5	46.5	G1/8	7.5	12	2.6	45	53
<b>63</b>	16	78.5	-	22	M12x1.25	13	16	M10	-	-	M8	14	56.5	G1/8	7.5	12	2.6	49	57.5
<b>80</b>	20	98	-	28	M16x1.5	17	20	M12	-	-	M10	15.5	72	G1/8	7.5	12	2.6	54	64
<b>100</b>	25	120	-	28	M16x1.5	22	20	M12	-	-	M10	20	89	G1/8	7.5	12	2.6	67	77

**WF - WFM**

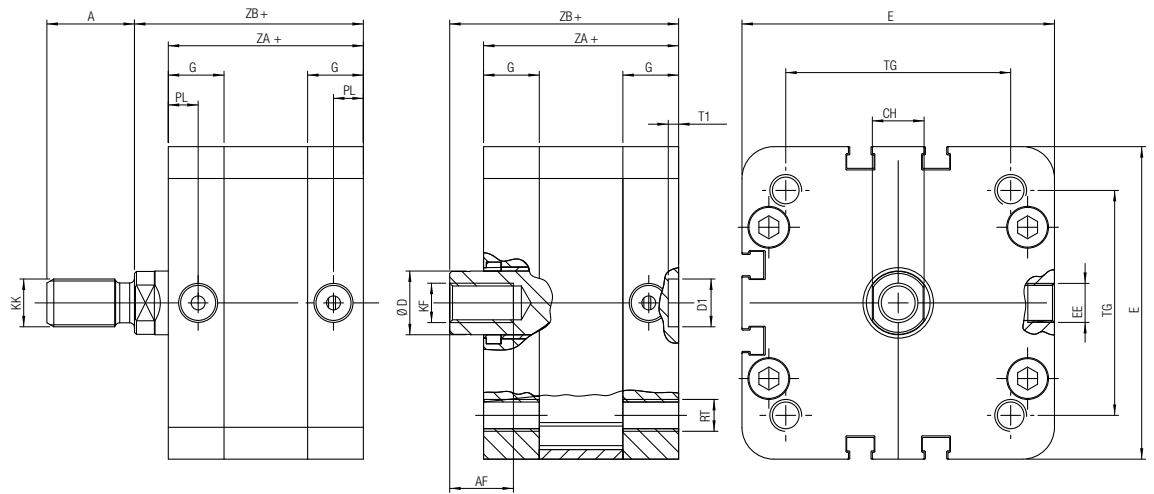
DOUBLE ACTING - MAGNETIC



Ø 20-25



Ø 32-40-50-63-80-100



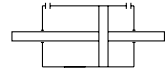
\* Like UNITOP

+ = Add Stroke

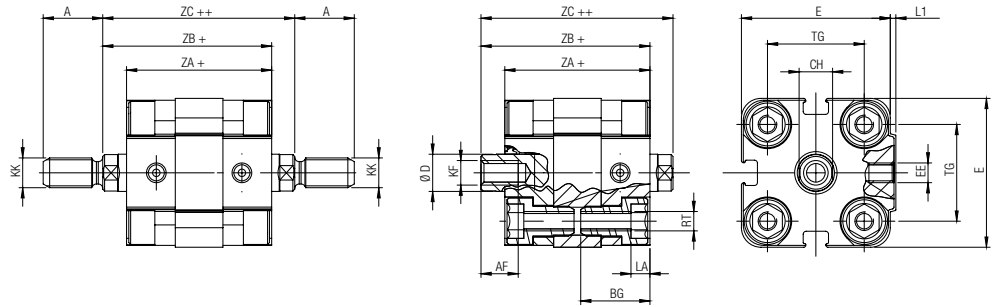
Ø	Ø D	E	L1	A	KK	CH	AF	KF	BG	LA	RT	G	TG	EE	PL	Ø D1	T1	ZA+	ZB+
*20	10	36	1.5	16	M8x1.25	9	10	M6	18.5	5	M5	-	22	M5	8	*6	*4	*39	*45
*25	10	40	1.5	16	M8x1.25	9	10	M6	18.5	5	M5	-	26	M5	8	*6	*4	39	45.5
32	12	49	-	19	M10x1.25	10	12	M8	-	-	M6	14.5	32.5	G1/8	7.5	9	2.1	44	51
40	12	55	-	19	M10x1.25	10	12	M8	-	-	M6	15	38	G1/8	7.5	9	2.1	45	52
50	16	68	-	22	M12x1.25	13	16	M10	-	-	M8	14.5	46.5	G1/8	7.5	12	2.6	45	53
63	16	78.5	-	22	M12x1.25	13	16	M10	-	-	M8	14	56.5	G1/8	7.5	12	2.6	49	57.5
80	20	98	-	28	M16x1.5	17	20	M12	-	-	M10	15.5	72	G1/8	7.5	12	2.6	54	64
100	25	120	-	28	M16x1.5	22	20	M12	-	-	M10	20	89	G1/8	7.5	12	2.6	67	77

**WJ - WJM**

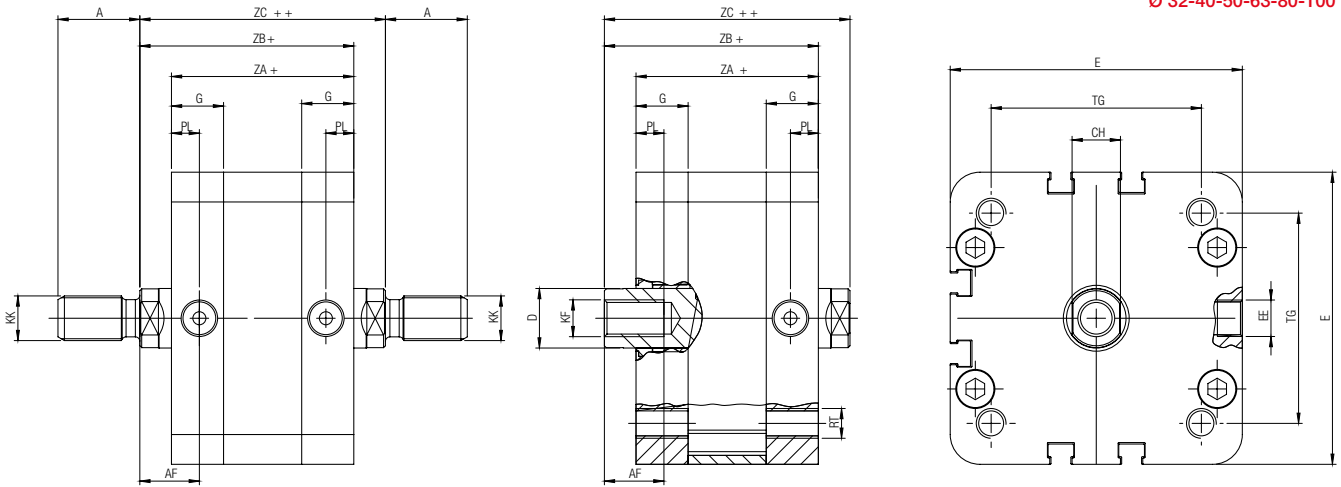
DOUBLE ACTING - MAGNETIC WITH DOUBLE ROD END



Ø 20-25



Ø 32-40-50-63-80-100



\* Like UNITOP

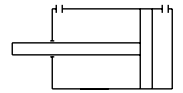
+ = Add Stroke

++ = Double stroke dimension and add it

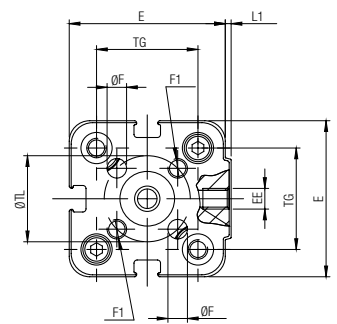
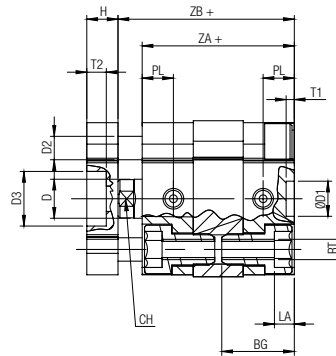
Ø	Ø D	E	L1	A	KK	CH	AF	KF	BG	LA	RT	G	TG	EE	PL	ZA+	ZB+	ZC++
*20	10	36	1.5	16	M8x1.25	9	10	M6	18.5	5	M5	-	22	M5	8	*39	*45	*51
25	10	40	1.5	16	M8x1.25	9	10	M6	18.5	5	M5	-	26	M5	8	39	45.5	51.5
32	12	49	-	19	M10x1.25	10	12	M8	-	-	M6	14.5	32.5	G1/8	7.5	44	51	58
40	12	55	-	19	M10x1.25	10	12	M8	-	-	M6	15	38	G1/8	7.5	45	52	59
50	16	68	-	22	M12x1.25	13	16	M10	-	-	M8	14.5	46.5	G1/8	7.5	45	53	61
63	16	78.5	-	22	M12x1.25	13	16	M10	-	-	M8	14	56.5	G1/8	7.5	49	57.5	66
80	20	98	-	28	M16x1.5	17	20	M12	-	-	M10	15.5	72	G1/8	7.5	54	64	74
100	25	120	-	28	M16x1.5	22	20	M12	-	-	M10	20	89	G1/8	7.5	67	77	87

**WFA**

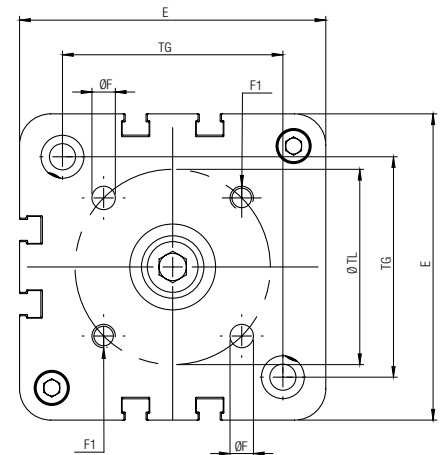
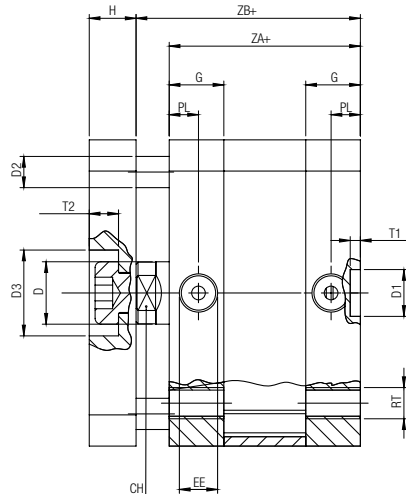
DOUBLE ACTING - MAGNETIC - ANTI ROTATION



Ø 20-25



Ø 32-40-50-63-80-100



\* Like UNITOP

+ = Add Stroke

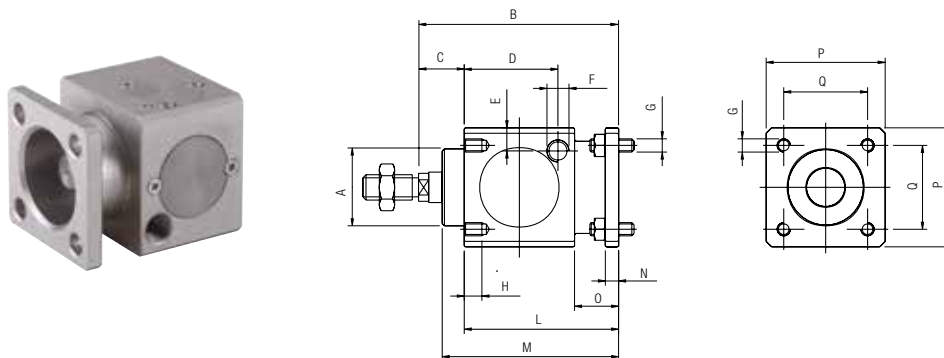
Ø	ØD	E	L1	CH	AF	KF	BG	LA	RT	G	TG	EE	PL	Ø D1	T1	Ø TL	H	Ø F	F1	D2	D3	T2	ZA+	ZB+
*20	10	36	1.5	9	10	M6	18.5	5	M5	-	22	M5	8	*6	*4	17	8	4	M4	6	10.5	5	*39	*45
*25	10	40	1.5	9	10	M6	18.5	5	M5	-	26	M5	8	*6	*4	22	8	5	M5	6	14	5	39	45.5
32	12	49	-	10	12	M8	-	-	M6	14.5	32.5	G1/8	7.5	9	2.1	28	10	5	M5	6	17	6	44	51
40	12	55	-	10	12	M8	-	-	M6	15	38	G1/8	7.5	9	2.1	33	10	5	M5	6	17	6	45	52
50	16	68	-	13	16	M10	-	-	M8	14.5	46.5	G1/8	7.5	12	2.6	42	12	6	M6	8	22	7.5	45	53
63	16	78.5	-	13	16	M10	-	-	M8	14	56.5	G1/8	7.5	12	2.6	50	12	6	M6	8	22	7.5	49	57.5
80	20	98	-	17	20	M12	-	-	M10	15.5	72	G1/8	7.5	12	2.6	65	14	8	M8	12	24	10.5	54	64
100	25	120	-	22	20	M12	-	-	M10	20	89	G1/8	7.5	12	2.6	80	14	10	M10	12	24	10.5	67	77

CYLINDER ACCESSORIES FOR ISO 6431 - ISO 15552 - ISO 21287

Screw included.

### VRL

PISTON ROD LOCK

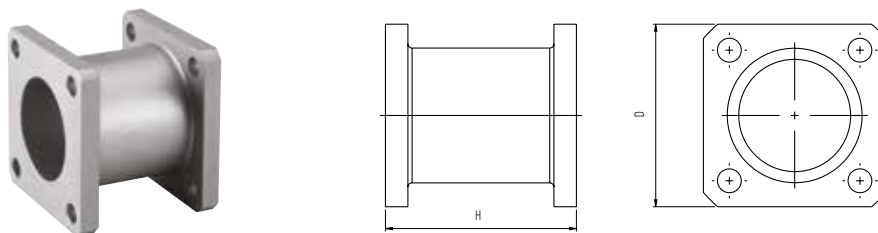


MATERIAL: Aluminium

Part No.	∅	A	B	C	D	E	F	G	H	L	M	N	O	P	Q
VRL 032	32	30	86	26	33.25	9	1/8"G	M6	8	60	67.5	6	20	47	32.5
VRL 040	40	34.5	100	30	42.5	9	1/8"G	M6	8	70	80	6	20	54	38
VRL 050	50	40	127	37	58	12.5	1/8"G	M8	12	90	100	8	24	65	46.5
VRL 063	63	45	127	37	59	17.5	1/8"G	M8	12	90	100	8	24	75	56.5
VRL 080	80	45	156	46	69	17.5	1/4"G	M10	16	110	120	12	32	95	72
VRL 100	100	55	161	51	69	20	1/4"G	M10	16	110	120	12	32	114	89
VRL 125	125	60	205	65	84.5	19	1/4"G	M12	20	140	156	20	45	138	110

### VFT

JOINING FLANGE

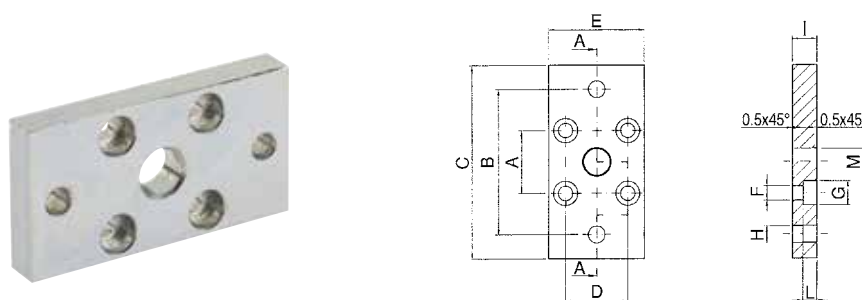


MATERIAL: Aluminium

Part No.	∅	H	D
VFT 032	32	55	45
VFT 040	40	55	52
VFT 050	50	68	65
VFT 063	63	68	75
VFT 080	80	92	95
VFT 100	100	92	115
VFT 125	125	120	140

### QFL

FLANGE

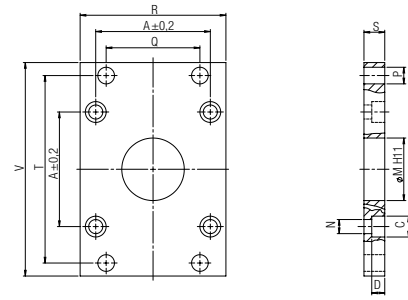


MATERIAL: Steel

Part No.	∅	A	B	C	D	E	F	G	H	I	L	M
QFL 012	12-16	18	43	55	18	29	4.5	9	5.5	10	5.4	10
QFL 020	20	22	55	70	22	36	5.5	10	6.6	10	5.4	12
QFL 025	25	26	60	76	26	40	5.5	10	6.6	10	5.4	12

**VFL**

FLANGE

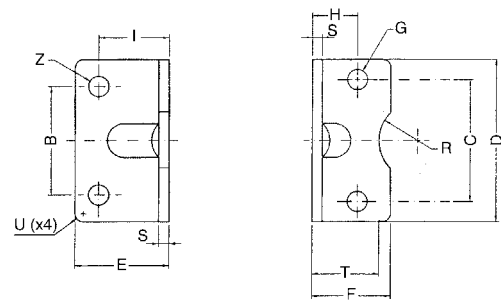


- MATERIAL: Steel
- MATERIAL: Stainless Steel

Part No. ●	Part No. ■	Ø	Ø M	P	S	D	C	N	A	Q	R	T	V
VFL 032	VFLI 032	32	30	7	10	6.5	10.5	6.5	32.5	32	45	64	80
VFL 040	VFLI 040	40	35	9	10	6.5	10.5	6.5	38	36	52	72	90
VFL 050	VFLI 050	50	40	9	12	8.5	13.5	8.5	46.5	45	65	90	110
VFL 063	VFLI 063	63	45	9	12	8.5	13.5	8.5	56.5	50	75	100	120
VFL 080	VFLI 080	80	45	12	16	10.5	16.5	10.5	72	63	95	126	150
VFL 100	VFLI 100	100	55	14	16	10.5	16.5	10.5	89	75	115	150	170
VFL 125	-	125	60	16	20	12.5	20	13.5	110	90	140	180	205
VFL 160	-	160	65	18	20	16.5	25	17	140	115	180	230	260
VFL 200	-	200	75	22	25	16.5	25	17	175	135	220	270	300
VFL 250	-	250	90	26	25	14.5	33	22	220	165	285	330	400
VFL 320	-	320	110	33	30	15	39	26	270	200	350	400	470

**QCP**

LOW-RISE PEDESTAL  
Ø 12-25

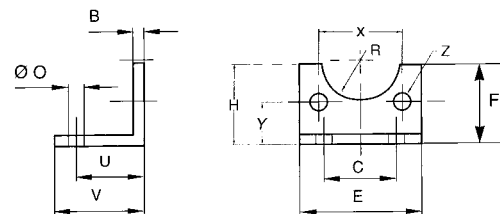


MATERIAL: Steel

Part No.	Ø	C	B	D	E	F	G	H	I	S	T	R	U	Z
QCP 012	12 - 16	18	18	30	17.5	17.5	4.4	13	13	3	15	9	2	5.5
QCP 020	20	22	22	36	22	22	5.4	16	16	4	17	10	2	6.6
QCP 025	25	26	26	40	22	23	5.4	17	16	4	19	11	2	6.6

**VCP**

LOW RISE PEDISTAL

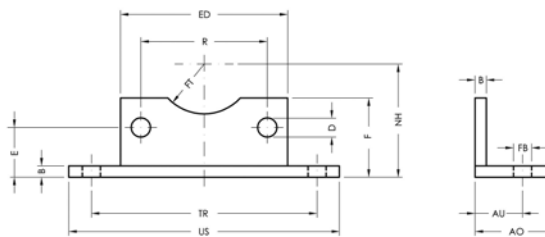


- MATERIAL: Steel
- MATERIAL: Stainless Steel

Part No. ●	Part No. ■	Ø	B	C	E	F	O	U	V	R	Z	X	Y	H
VCP 032	VCPI 032	32	4	32	45	30	7	24	35	15	7	32.5	15.75	32
VCP 040	VCPI 040	40	4	36	52	30	10	28	36	17.5	7	38	17	36
VCP 050	VCPI 050	50	5	45	65	36	10	32	47	20	9	46.5	21.75	45
VCP 063	VCPI 063	63	5	50	75	35	10	32	45	22.5	9	56.5	21.75	50
VCP 080	VCPI 080	80	6	63	95	47	12	41	55	22.5	11	72	27	63
VCP 100	VCPI 100	100	6	75	115	53	14.5	41	57	27.5	11	89	26.5	71
VCP 125	VCPI 125	125	8	90	140	70	16.5	45	70	30	14	110	35	90
VCP 160	-	160	9	115	180	115	18	60	75	32.5	18	140	45	115
VCP 200	-	200	12	135	220	135	21	70	100	37.5	18	175	47.5	135
VCP 250	-	250	14	165	270	165	26	75	100	45	22	220	55	165

**VCB**

LARGE LOW RISE PEDISTAL  
Ø 32-100

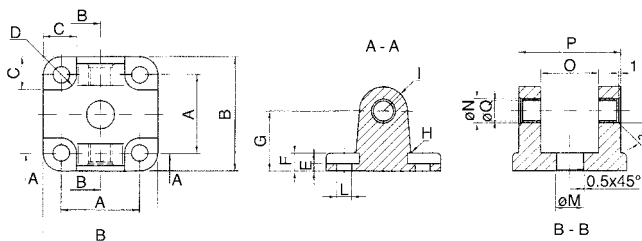


MATERIAL: Steel

Part No.	Ø	US	ED	F	AO	B	TR	E	D	FT	NH	R	AU	FB
<b>VCB 032 NE</b>	<b>32</b>	79	45	30	30	5	65	15.75	6.5	15	32	32.5	18	6.5
<b>VCB 040 NE</b>	<b>40</b>	90	55	30	30	5	75	17	6.5	17.5	36	38	18	6.5
<b>VCB 050 NE</b>	<b>50</b>	110	65	35	35	5	90	21.75	8.5	22.5	50	56.5	21	8.5
<b>VCB 063 NE</b>	<b>63</b>	120	75	35	35	5	100	21.75	8.5	22.5	50	56.5	21	8.5
<b>VCB 080 NE</b>	<b>80</b>	153	95	45	45	6	128	26.5	10.5	22.5	63	72	27	10.5
<b>VCB 100 NE</b>	<b>100</b>	178	115	45	45	6	148	27	10.5	27.5	71	89	27	10.5

**VCF**

CLEVIS BRACKET WITH  
SELF-LUBRICATING BUSHINGS

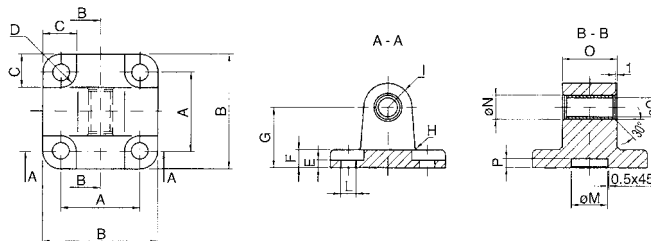


- MATERIAL: Aluminium
- MATERIAL: Stainless Steel

Part No. ●	Part No. ■	Ø	B	E	G	T	Z	CM	MR
<b>VCF 032</b>	<b>VCFI 032</b>	<b>32</b>	9	45	10	45	22	26	10
<b>VCF 040</b>	<b>VCFI 040</b>	<b>40</b>	9	52	12	52	25	28	12
<b>VCF 050</b>	<b>VCFI 050</b>	<b>50</b>	11	65	12	60	27	32	12
<b>VCF 063</b>	<b>VCFI 063</b>	<b>63</b>	11	75	16	70	32	40	16
<b>VCF 080</b>	<b>VCFI 080</b>	<b>80</b>	14	95	16	90	36	50	16
<b>VCF 100</b>	<b>VCFI 100</b>	<b>100</b>	14	115	20	110	41	60	20
<b>VCF 125</b>	<b>VCFI 125</b>	<b>125</b>	20	140	25	130	50	70	25
<b>VCF 160</b>	<b>VCFI 160</b>	<b>160</b>	20	180	30	170	55	90	25
<b>VCF 200</b>	<b>VCFI 200</b>	<b>200</b>	25	220	30	170	60	90	25

**QCM**

EYE BRACKET WITH  
SELF-LUBRICATING BUSHINGS

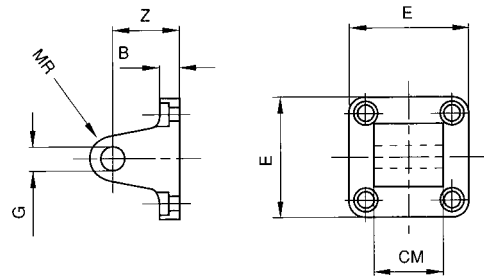


MATERIAL: Aluminium

Part No.	Ø	A	B	C	D	E	F	G	H	I	L	M	N	O	P	Q
<b>QCM 012</b>	<b>12 - 16</b>	18	27	10	4.5	2.6	6	16	2	6	4.5	10	8	12	3	6
<b>QCM 020</b>	<b>20</b>	22	34	11	5	2.6	6	20	2	8	5.5	12	10	16	3	8
<b>QCM 025</b>	<b>25</b>	26	38	11	5	2.6	6	20	2	8	5.5	12	10	16	3	8

**VCM**

**EYE BRACKET**

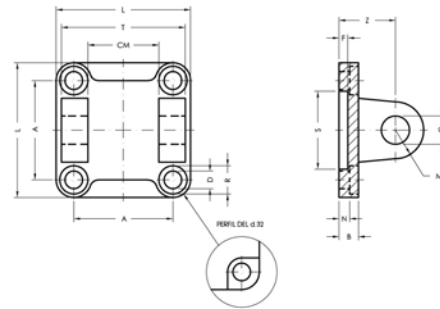


- MATERIAL: Aluminium
- MATERIAL: Stainless Steel
- ◆ MATERIAL: Iron

Part No. ●	Part No. ■	Part No. ◆	Ø	B	E	G	Z	CM	MR
VCM 032	VCFMI 032	VCFMZ 032 NE	32	9	45	10	22	26	10
VCM 040	VCFMI 040	VCFMZ 040 NE	40	9	52	12	25	28	12
VCM 050	VCFMI 050	VCFMZ 050 NE	50	11	65	12	27	32	12
VCM 063	VCFMI 063	VCFMZ 063 NE	63	11	75	16	32	40	16
VCM 080	VCFMI 080	VCFMZ 080 NE	80	14	95	16	36	50	16
VCM 100	VCFMI 100	VCFMZ 100 NE	100	14	115	20	41	60	20
VCM 125	VCFMI 125	VCFMZ 125 NE	125	20	140	25	50	70	25
VCM 160	VCFMI 160	VCFMZ 160 NE	160	20	180	30	55	90	25
VCM 200	VCFMI 200	VCFMZ 200 NE	200	25	220	30	60	90	25
VCM 250	-	VCFMZ 250 NE	250	25	270	40	70	110	40

**VCH**

**CLEVIS BRACKET**

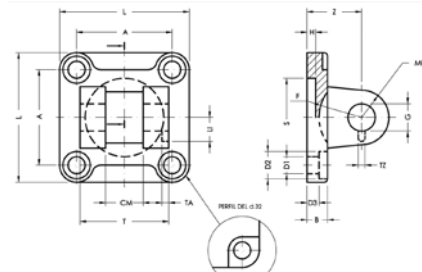


- MATERIAL: Aluminium
- ◆ MATERIAL: Iron

Part No.	Part No. ◆	Ø	A	L	D	R	N	B	S	F	Z	G	M	CM	T
VCH 032	VCFHZ 032 NE	32	32.5	45	6.6	11	5.5	9	30	5	22	10	10	26	45
VCH 040	VCFHZ 040 NE	40	38	52	6.6	11	5.5	9	35	5	25	12	12	28	52
VCH 050	VCFHZ 050 NE	50	46.5	65	9	15	6.5	11	40	5	27	12	12	32	60
VCH 063	VCFHZ 063 NE	63	56.5	75	9	15	6.5	11	45	5	32	16	16	40	70
VCH 080	VCFHZ 080 NE	80	72	95	11	18	10	14	45	5	36	16	16	50	90
VCH 100	VCFHZ 100 NE	100	89	115	11	18	10	14	55	5	41	20	20	60	110
VCH 125	VCFHZ 125 NE	125	110	140	14	20	10	20	60	7	50	25	25	70	130
VCH 160	VCFHZ 160 NE	160	140	180	18	26	10	20	65	7	55	30	25	90	170
VCH 200	VCFHZ 200 NE	200	175	220	18	26	11	25	75	7	60	30	25	90	170
VCH 250	VCFHZ 250 NE	250	220	270	22	33	11	25	90	-	70	40	40	110	200

**VCD**

**NARROW CLEVIS BRACKET**



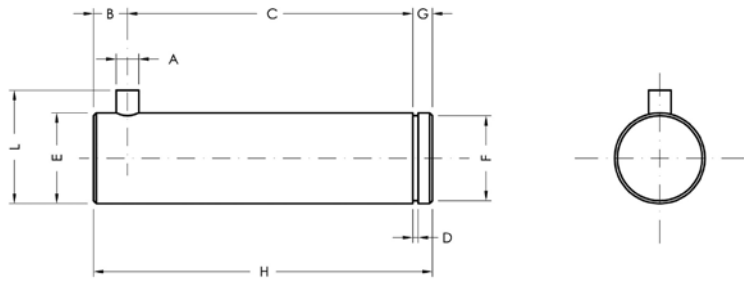
- MATERIAL: Aluminium
- ◆ MATERIAL: Iron

Part No. ●	Part No. ◆	Ø	L	T	CM	A	Z	H	B	D3	S	G	MR	D1	D2	TA	TZ	LI	F
VCD 032	VCFDZ 032 NE	32	45	34	14	32.5	22	5	9	5.5	30	10	10	6.6	11	3	3.3	11.5	17
VCD 040	VCFDZ 040 NE	40	52	40	16	38	25	5	9	5.5	35	12	12	6.6	11	4	4.3	12	20
VCD 050	VCFDZ 050 NE	50	65	45	21	46.5	27	5	11	6.5	40	16	14	9	15	4	4.3	14	22
VCD 063	VCFDZ 063 NE	63	75	51	21	56.5	32	5	11	6.5	45	16	18	9	15	4	4.3	14	25
VCD 080	VCFDZ 080 NE	80	95	65	25	72	36	5	14	10	45	20	20	11	18	4	4.3	16	30
VCD 100	VCFDZ 100 NE	100	115	75	25	89	41	5	14	10	55	20	22	11	18	4	6.3	16	32
VCD 125	VCFDZ 125 NE	125	140	97	37	110	50	7	20	10	60	30	25	14	20	6	6.3	24	42
VCD 160	-	160	180	122	43	140	55	7	20	10	65	35	30	18	26	6	6.3	26.5	46
VCD 200	-	200	220	122	43	175	60	7	25	11	75	35	30	18	26	6	6.3	26.5	49



**VPS**

**PIN WITH ANTI-ROTATION AND RETAINER CLIP FOR VCD CLEVIS BRACKET**

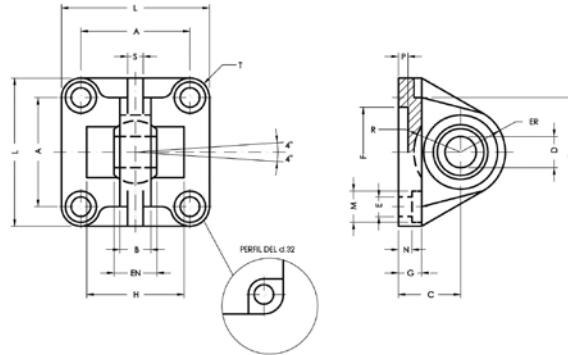


- MATERIAL: Steel
- MATERIAL: Stainless Steel

Part No. ●	Part No. ■	∅	A	C	D	E	F	G	H	L	B
VPS 032	VPSI 032	32	3	32.5	1.1	10	9.6	4	41	14	4.5
VPS 040	VPSI 040	40	4	38	1.1	12	11.5	4	48	16	6
VPS 050	VPSI 050	50	4	43	1.1	16	15.2	5	60	20	6
VPS 063	VPSI 063	63	4	49	1.1	16	15.2	5	60	20	6
VPS 080	VPSI 080	80	4	63	1.3	20	19	6	75	24	6
VPS 100	VPSI 100	100	4	73	1.3	20	19	6	85	24	6
VPS 125	VPSI 125	125	6	94	1.6	30	28.6	7	110	36	9
VPS 160	-	160 - 200	6	119	1.6	35	33	7	135	41	9

**VCS**

**EYE BRACKET WITH SPHERICLE ROD EYE**

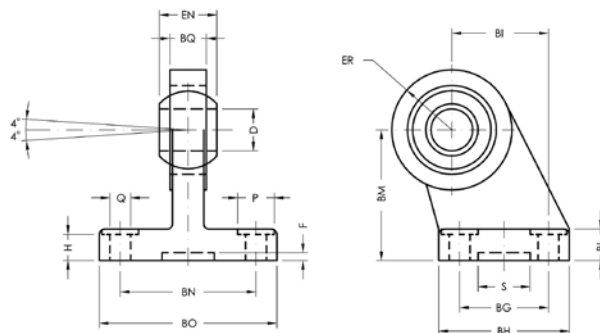


- MATERIAL: Aluminium
- MATERIAL: Stainless Steel
- ◆ MATERIAL: Iron

Part No. ●	Part No. ■	Part No. ◆	∅	A	B	C	D	EN	ER	F	G	E	L	M	N	P	H	R	S	Z	T
VCS 032	VCSI 032	VCSZ 032 NE	32	32.5	10.5	22	10	14	16	30	9	6.6	45	11	5.5	5	-	-	4	32.5	6.25
VCS 040	VCSI 040	VCSZ 040 NE	40	38	12	25	12	16	19	35	9	6.6	52	11	5.5	5	-	-	6	39	7
VCS 050	VCSI 050	VCSZ 050 NE	50	46.5	15	27	16	21	21	40	11	9	65	15	6.5	5	51	18	8	47	9.25
VCS 063	VCSI 063	VCSZ 063 NE	63	56.5	15	32	16	21	24	45	11	9	75	15	6.5	5	-	-	8	52	9.25
VCS 080	VCSI 080	VCSZ 080 NE	80	72	18	36	20	25	28.5	45	14	11	95	18	10	5	72	24	10	67	11.5
VCS 100	VCSI 100	VCSZ 100 NE	100	89	18	41	20	25	30	55	14	11	115	18	10	8	-	-	10	77	13
VCS 125	VCSI 125	VCSZ 125 NE	125	110	25	50	30	37	40	60	20	13.5	140	20	10	7	-	-	13	98	15
VCS 160	-	-	160	140	28	55	35	43	45	65	20	18	180	26	10	7	-	-	14	130	20
VCS 200	-	-	200	175	28	60	35	43	48	75	25	18	220	26	11	7	-	-	14	155	22.5

**VADZ**

**EYE BRACKET WITH SPHERICLE ROD EYE**

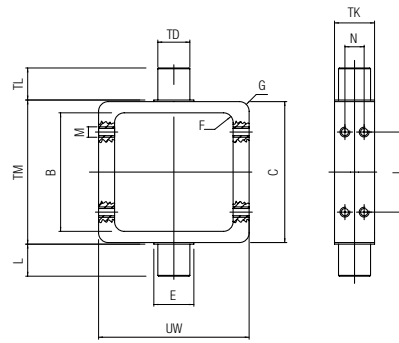


- MATERIAL: Steel
- TREATMENT: Black Cataphoresis

Part No.	∅	Q	P	BG	BH	BI	BL	BM	BN	BO	EN	ER	BQ	D	H	S	F
VADZ 032 NE	32	6.6	11	18	31	21	10	32	38	51	14	15	10.5	10	8.5	20	3
VADZ 040 NE	40	6.6	11	22	35	24	10	36	41	54	16	18	12	12	8.5	20	3
VADZ 050 NE	50	9	15	30	45	33	12	45	50	65	21	20	15	16	10.5	20	3
VADZ 063 NE	63	9	15	35	50	37	12	50	52	67	21	23	15	16	10.5	20	3
VADZ 080 NE	80	11	18	40	60	47	14	63	66	86	25	27	18	20	11.5	20	3
VADZ 100 NE	100	11	18	50	70	55	15	71	76	96	25	30	18	20	12.5	20	3
VADZ 125 NE	125	13.5	20	60	90	70	20	90	94	124	37	40	25	30	17	20	3

**XCN**

INTERMEDIATE  
ADJUSTABLE TRUNNION  
MOUNT

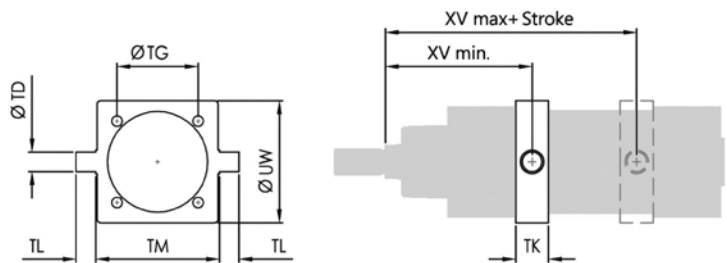


MATERIAL: Steel

Part No.	∅	UW	B	C	TD	E	F	G	TK	I	TL	M	N	TM
XCN 032	32	65	45	50	12	-	5	4	20	28	12	M5	7	50
XCN 040	40	75	53	62	16	20	5	5	20	32	16	M5	8	63
XCN 050	50	90	64	74	16	20	6	6	20	40	16	M6	8	75
XCN 063	63	100	74	88	20	25	6	6	25	50	20	M6	12	90
XCN 080	80	130	93	109	20	25	7	7	25	64	20	M8	12	110
XCN 100	100	140	110	130	25	30	8	8	30	80	25	M8	15	132
XCN 125	125	150	134	155	25	30	8	8	30	100	25	M10	15	160

**VCNT**

INTERMEDIATE FIXED  
TRUNNION MOUNT

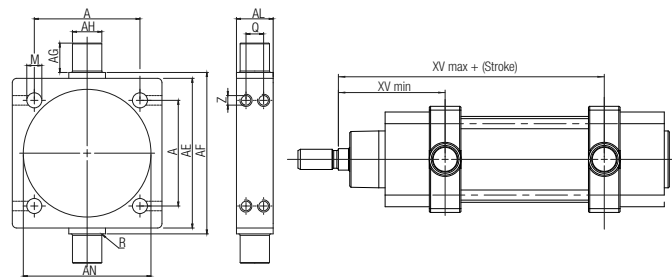


MATERIAL: Steel

Part No.	∅	TD	TG	TK	TL	TM	UW	XV min	XV max	RT
VCNT 032	32	12	32.5	15	12	50	46	61.5	84.5	M6
VCNT 040	40	16	38	20	16	63	59	71.5	93.5	M6
VCNT 050	50	16	46.5	20	16	75	69	78.5	101.5	M8
VCNT 063	63	20	56.5	25	20	90	84	84.5	110.5	M8
VCNT 080	80	20	72	25	20	110	102	94.5	125.5	M10
VCNT 100	100	25	89	30	25	132	125	107	133	M10
VCNT 125	125	25	110	32	25	160	155	126	163	M12
VCNT 160	160	32	140	40	32	200	190	149	191	M16
VCNT 200	200	32	175	40	32	250	240	164	206	M16
VCNT 250	250	40	220	50	40	320	296	187	223	M20

**VCNL**

INTERMEDIATE TRUNNION  
FOR SMOOTH TIE-RODS

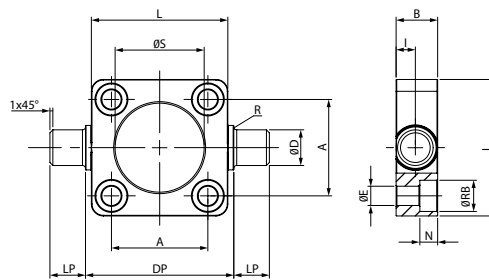


MATERIAL: Steel

Part No.	∅	TD	TG	TK	TL	TM	UW	XV min	XV max
VCNL 032	32	12	32.5	15	12	50	46	61.5	84.5
VCNL 040	40	16	38	20	16	63	59	71.5	93.5
VCNL 050	50	16	46.5	20	16	75	69	78.5	101.5
VCNL 063	63	20	56.5	25	20	90	84	84.5	110.5
VCNL 080	80	20	72	25	20	110	102	94.5	125.5
VCNL 100	100	25	89	30	25	132	125	107	133
VCNL 125	125	25	110	32	25	160	155	126	163
VCNL 160	160	32	140	40	32	200	190	149	191
VCNL 200	200	32	175	40	32	250	240	164	206

**VCNF**

FRONT - REAR HINGE

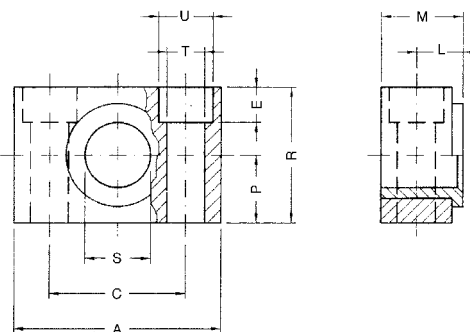


MATERIAL: Steel

Part No.	∅	A	L	DP	LP	D	S	B	R	I	E	RB	N
<b>VCNF 032</b>	<b>32</b>	32,5	46	50	12	12	30	14	1	6.5	6.5	10.5	6
<b>VCNF 040</b>	<b>40</b>	38	59	63	16	16	35	19	1,5	9	6.5	10.5	6
<b>VCNF 050</b>	<b>50</b>	46,5	69	75	16	16	40	19	1,6	9	8.5	13.5	8
<b>VCNF 063</b>	<b>63</b>	56,5	84	90	20	20	45	24	1,6	11.5	8.5	13.5	8
<b>VCNF 080</b>	<b>80</b>	72	102	110	20	20	45	24	1,6	11.5	10.5	16.5	10
<b>VCNF 100</b>	<b>100</b>	89	125	132	25	25	55	29	2	14	10.5	16.5	10
<b>VCNF 125</b>	<b>125</b>	110	150	160	25	25	60	30	2	15	13.5	20	12

**VSI**

SUPPORT BLOCK FOR INTERMEDIATE TRUNNION

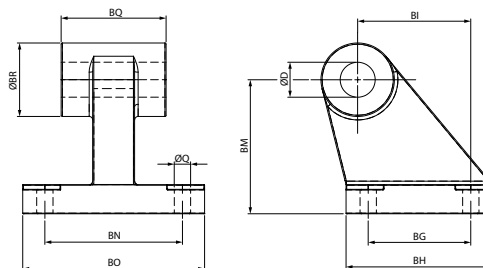


MATERIAL: Steel

Part No.	∅	A	M	R	P	C	S	L	U	T	E
<b>VSI 032</b>	<b>32</b>	46	18	30	15	32	12	10.5	11	6.6	7
<b>VSI 040</b>	<b>40 - 50</b>	55	21	36	18	36	16	12	15	9	9
<b>VSI 063</b>	<b>63 - 80</b>	65	23	40	20	42	20	13	18	11	11
<b>VSI 100</b>	<b>100 - 125</b>	75	28.5	50	25	50	25	16	20	14	13
<b>VSI 160</b>	<b>160 - 200</b>	92	40	60	30	60	32	22.5	26	18	17
<b>VSI 250</b>	<b>250</b>	140	56	70	35	90	40	31	33	22	20

**VAS**

EYE BRACKET

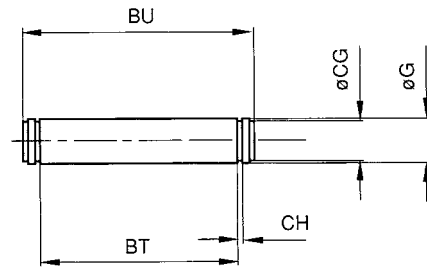


- MATERIAL: Aluminium
- ◆ MATERIAL: Stainless Steel

Part No. •	Part No. ■	∅	Q	BG	BH	BI	BM	BN	BO	BQ	BR	∅
<b>VAS 032</b>	<b>VASI 032</b>	<b>32</b>	6.6	18	31	21	32	38	51	26	20	10
<b>VAS 040</b>	<b>VASI 040</b>	<b>40</b>	6.6	22	35	24	36	41	54	28	22	12
<b>VAS 050</b>	<b>VASI 050</b>	<b>50</b>	9	30	45	33	45	50	65	32	26	12
<b>VAS 063</b>	<b>VASI 063</b>	<b>63</b>	9	35	50	37	50	52	67	40	30	16
<b>VAS 080</b>	<b>VASI 080</b>	<b>80</b>	11	40	60	47	63	66	86	50	30	16
<b>VAS 100</b>	<b>VASI 100</b>	<b>100</b>	11	50	70	55	71	76	96	60	38	20
<b>VAS 125</b>	<b>VASI 125</b>	<b>125</b>	14	60	90	70	90	94	124	70	45	25
<b>VAS 160</b>	-	<b>160</b>	14	88	126	97	115	118	156	90	63	30
<b>VAS 200</b>	-	<b>200</b>	18	90	130	105	135	122	162	90	63	30

**VPE**

PIN WITH  
RETAINER CLIPS

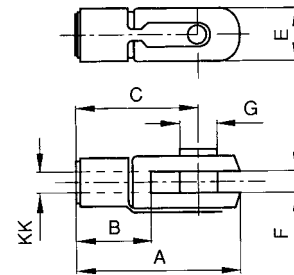


- MATERIAL: Steel
- MATERIAL: Stainless Steel

Part No. ●	Part No. ■	Ø	G	BT	BU	CG	CH
VPE 032	VPEI 032	32	10	46	53	9.6	1.1
VPE 040	VPEI 040	40	12	53	60	11.5	1.1
VPE 050	VPEI 050	50	12	61	68	11.5	1.1
VPE 063	VPEI 063	63	16	71	78	15.2	1.1
VPE 080	VPEI 080	80	16	91	98	15.2	1.1
VPE 100	VPEI 100	100	20	111	118	19	1.3
VPE 125	VPEI 125	125	25	132	139	23.9	1.3
VPE 160	VPEI 160	160 - 200	30	171.5	178	28.6	1.6
VPE 250	-	250	40	202	211	37.5	1.85
VPE 320	-	320	45	222	236	42.5	1.85

**FC**

ROD CLEVIS WITH LOCKABLE PIN



- MATERIAL: Steel
- MATERIAL: Stainless Steel

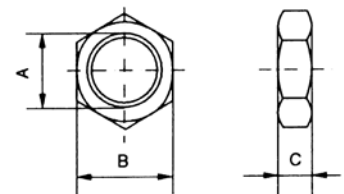
Part No. ●	Part No. ■	KK	A	B	C	E	F	G
FC 020	*FCI 020	M8x1.25	42	16	32	16	8	8
FC 025	*FCI 025	M10x1.25	52	20	40	20	10	10
FC 040	*FCI 040	M12x1.25	62	24	48	24	12	12
FC 050	*FCI 050	M16x1.5	83	32	64	32	16	16
FC 080	*FCI 080	M20x1.5	105	40	80	40	20	20
*FC 125	*FCI 125	M27x2	148	56	110	55	30	30
*FC 160	*FCI 160	M36x2	188	72	144	70	35	35
*FC 250	-	M42x2	232	84	168	85	42	42
*FC 320	-	M48x2	265	96	192	96	50	50

\* With pin and seeger.

**DA**

ROD JAM NUT

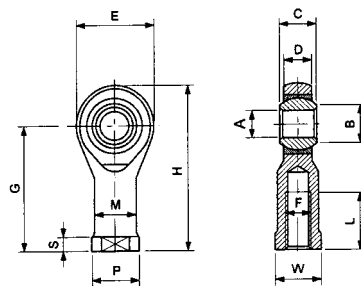
MATERIAL: Steel



Part No.	A	B	C
ODA00 00 51 C3 ZI	M8x1.25	13	6.5
ODA00 00 51 C9 ZI	M10x1.25	17	8
ODA00 00 51 D5 ZI	M12x1.25	19	7
ODA00 00 51 E3 ZI	M16x1.5	22	6
ODA00 00 51 F2 ZI	M20x1.5	30	9
ODA00 00 51 G8 ZI	M27x2	41	12
EDA00 00 51 I6 ZI	M36x2	55	14
EDA00 00 51 L0 ZI	M42x2	65	20
EDA00 00 51 DG ZI	M48x2	75	24

**TF**

SELF-LUBRICATING SPHERICAL ROD EYE

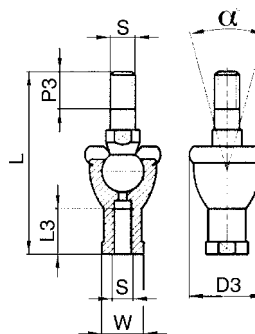


MATERIAL: Steel

Part No.	F	A	B	C	Ø Sphere	D	E	G	H	L	M	P	S	W	Radial load		Weight
															Dynamic	Static	
		<sup>0</sup> / <sub>H7</sub>	0	<sup>0</sup> / <sub>-0.13</sub>		± 0.13	± 0.5	± 0.5		± 0.7	± 0.7	± 0.5	± 0.7	± 0.25	kg	kg	g
<b>TF 020</b>	<b>M8x1.25</b>	8	10.4	12	15.88	9	24	36	48	12	12.5	16	5	14	780	1.900	36
<b>TF 025</b>	<b>M10x1.25</b>	10	12.9	14	19.05	11.5	30	43	58	15	15	19	6.5	16	1.200	3.100	88
<b>TF 040</b>	<b>M12x1.25</b>	12	15.4	16	22.23	12.5	34	50	67	18	17.5	22	6.5	18	1.400	3.700	120
<b>TF 050</b>	<b>M16x1.5</b>	16	19.3	21	28.58	15.5	42	64	85	24	22	27	8	24	2.500	6.300	240
<b>TF 080</b>	<b>M20x1.5</b>	20	24.4	25	34.93	18.5	50	77	102	30	27.5	34	10	30	3.700	8.300	430
<b>TF 125</b>	<b>M27x2</b>	28	32.3	35	47.59	26	66	103	136	41	37	46	14	41	7.100	14.200	1.120
<b>TF 160</b>	<b>M36x2</b>	35	-	43	-	-	-	125	-	56	-	58	-	-	-	-	1.600
<b>TF 250</b>	<b>M42x2</b>	40	-	49	-	-	-	142	-	60	-	65	-	-	-	-	2.800
<b>TF 320</b>	<b>M48x2</b>	50	-	60	-	-	-	162	-	65	-	75	-	-	-	-	5.000

**TS**

SELF-ALIGNING ROD END COUPLER

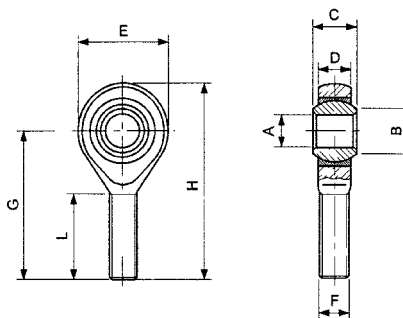


MATERIAL: Steel

Part No.	S	L	L3	W	P3	D3	α°	(kN)
<b>TS 020</b>	<b>M8x1.25</b>	65	16	14	12	20	30°	3.5
<b>TS 025</b>	<b>M10x1.25</b>	74.5	18	17	15	28	30°	5
<b>TS 040</b>	<b>M12x1.25</b>	84	20	19	17	32	30°	6.7
<b>TS 050</b>	<b>M16x1.5</b>	112	27	22	23	40	22°	7.8
<b>TS 080</b>	<b>M20x1.5</b>	133	38	30	25	45	15°	10

**TM**

SPHERICAL ROD EYE WITH MALE THREAD



MATERIAL: Steel

Part No.	F	A	B	C	Ø	D	E	G	H	L	Radial load		Weight
											Dynamic	Static	
<b>TM 020</b>	<b>M5x0.8</b>	5	7.5	8	11.11	7.5	18	33	42	19	430	1000	13
<b>TM 032</b>	<b>M6x1</b>	6	8.9	9	12.7	7.5	20	36	46	21	470	1100	15
<b>TM 050</b>	<b>M8x1.25</b>	8	10.4	12	15.88	9.5	24	42	54	25	780	1900	34
<b>TM 080</b>	<b>M10x1.5</b>	10	12.9	14	19.05	11.5	30	48	63	28	1200	3100	70
<b>TM 100</b>	<b>M12x1.75</b>	12	15.4	16	22.23	12.5	34	54	71	32	1400	3700	110



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

1907/2006  
**REACH** ✓

2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

SILICON  
FREE

- ISO 6431 VDMA  
(from 32 to 100)
- ISO 6432  
(from 20 to 25)
- ISO 15552  
(from 32 to 100)



**Bores**

from 12 to 100 mm



**Standard Strokes**

from 50 to 500 mm

Series

Ø (mm)

Stroke (mm)

**M L C U B**

**0 1 2**

**0 0 5 0**

- ◆ **MLCUB** Guide unit "U" with self lubricating sintered bronze bushings
- **MLCHB** Guide unit "H" with self lubricating sintered bronze bushings
- **MLCHC** Guide unit "H" with recirculating ball sleeves
- **VLCUB** Guide unit "U" with self lubricating sintered bronze bushings
- **VLCHB** Guide unit "H" with self lubricating sintered bronze bushings
- **VLCHC** Guide unit "H" with recirculating ball sleeves

- 012
- 020
- 025
- 032
- 040
- 050
- 063
- 080
- 100

- 0050
- 0100
- 0160
- 0200
- 0250
- 0320
- 0400
- 0500

Intermediate or longer strokes are available upon request.

Ø (mm)	Stroke (mm)								
	50	100	160	200	250	320	400	500	
12 - 16	◆○	◆○	◆○	◆○	○				
20	◆○	◆○	◆○	◆○	○				
25	◆○	◆○	◆○	◆○	○				
32	●■	●■	●■	●■	●■	●■	●■	●■	
40	●■	●■	●■	●■	●■	●■	●■	●■	
50	●■	●■	●■	●■	●■	●■	●■	●■	
63	●■	●■	●■	●■	●■	●■	●■	●■	
80	●	●	●	●	●	●	●	●	
100	●	●	●	●	●	●	●	●	

**MAXIMUM LOADS**

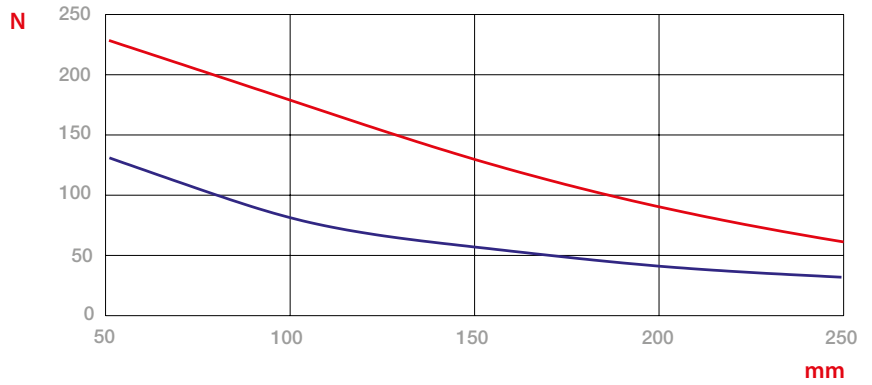
**N**  
Max load

**mm**  
Stroke

**Art. MLCHB**

Guide units with self lubricating sintered bronze bushings

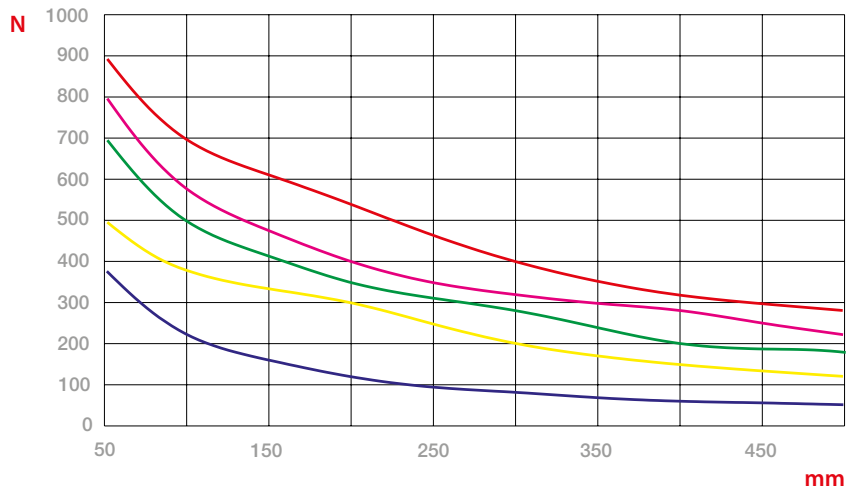
- Ø20 - Ø25
- Ø12 - Ø16



**Art. VLCHB**

Guide units with self lubricating sintered bronze bushings

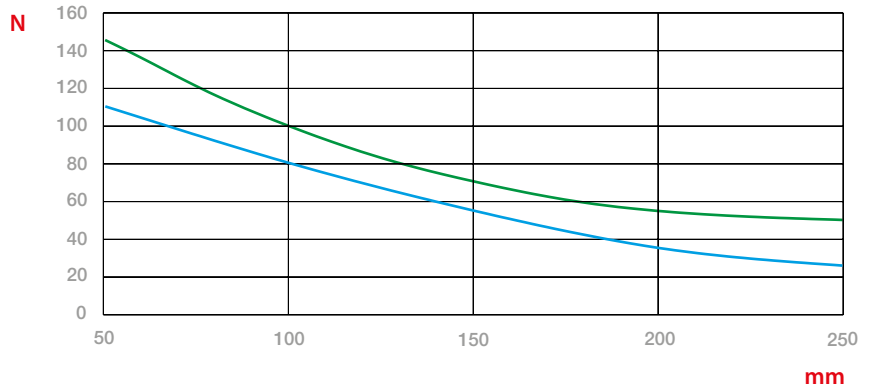
- Ø80 - Ø100
- Ø63
- Ø50
- Ø40
- Ø32



**Art. MLCHC**

Guide units with recirculating ball bearing

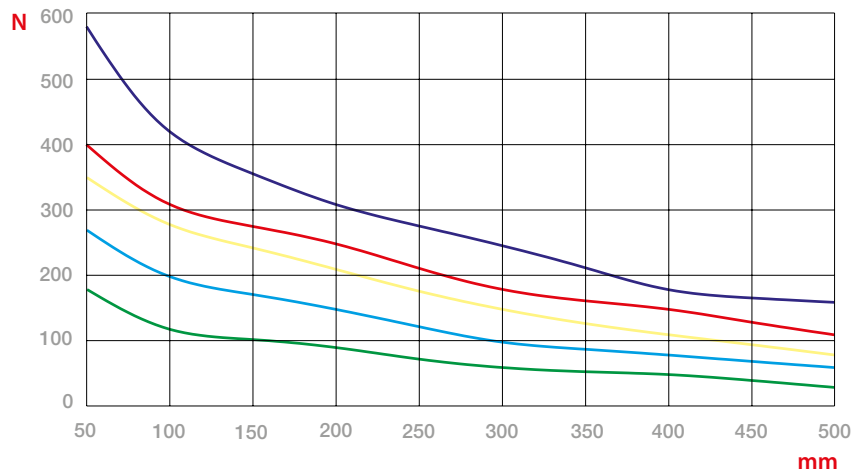
- Ø20 - Ø25
- Ø12 - Ø16



**Art. VLCHC**

Guide units with recirculating ball bearing

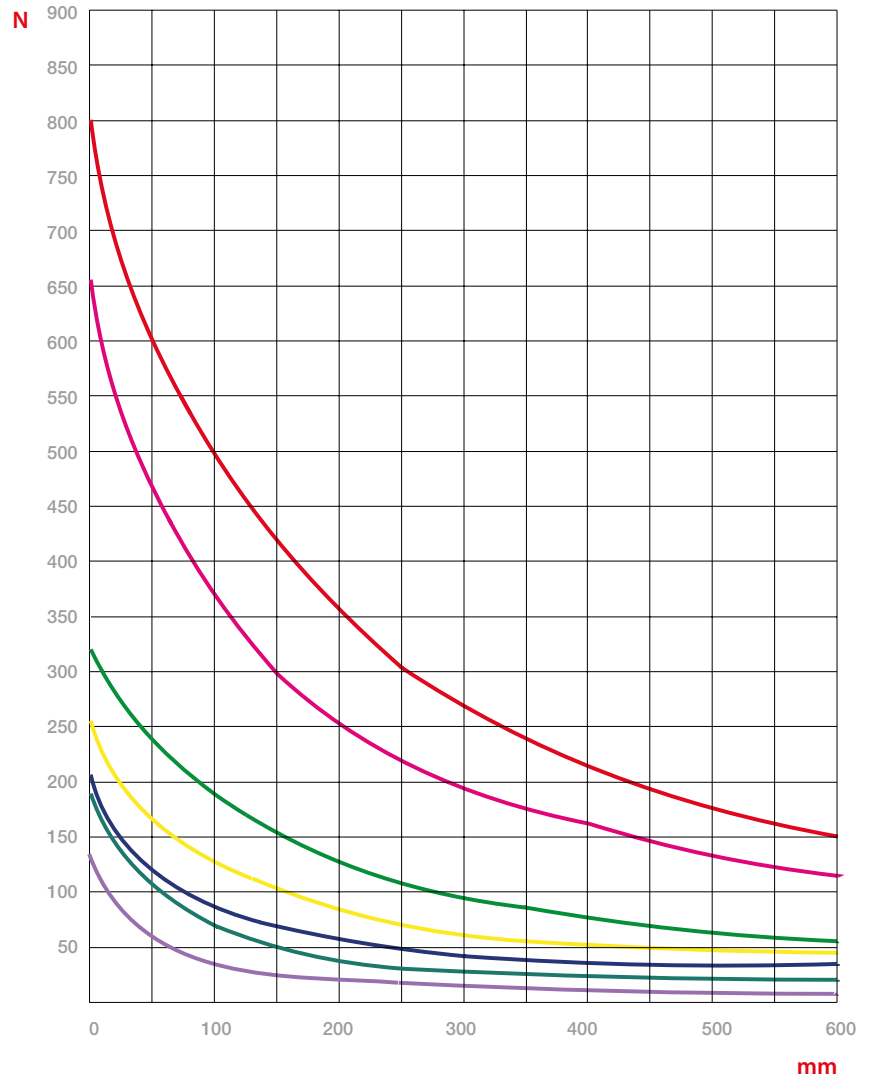
- Ø80 - Ø100
- Ø63
- Ø50
- Ø40
- Ø32



**Art. VLCUB**

Guide units with self lubricating sintered bronze bushings

- Ø100
- Ø80
- Ø63
- Ø50
- Ø40
- Ø20-25-32
- Ø16

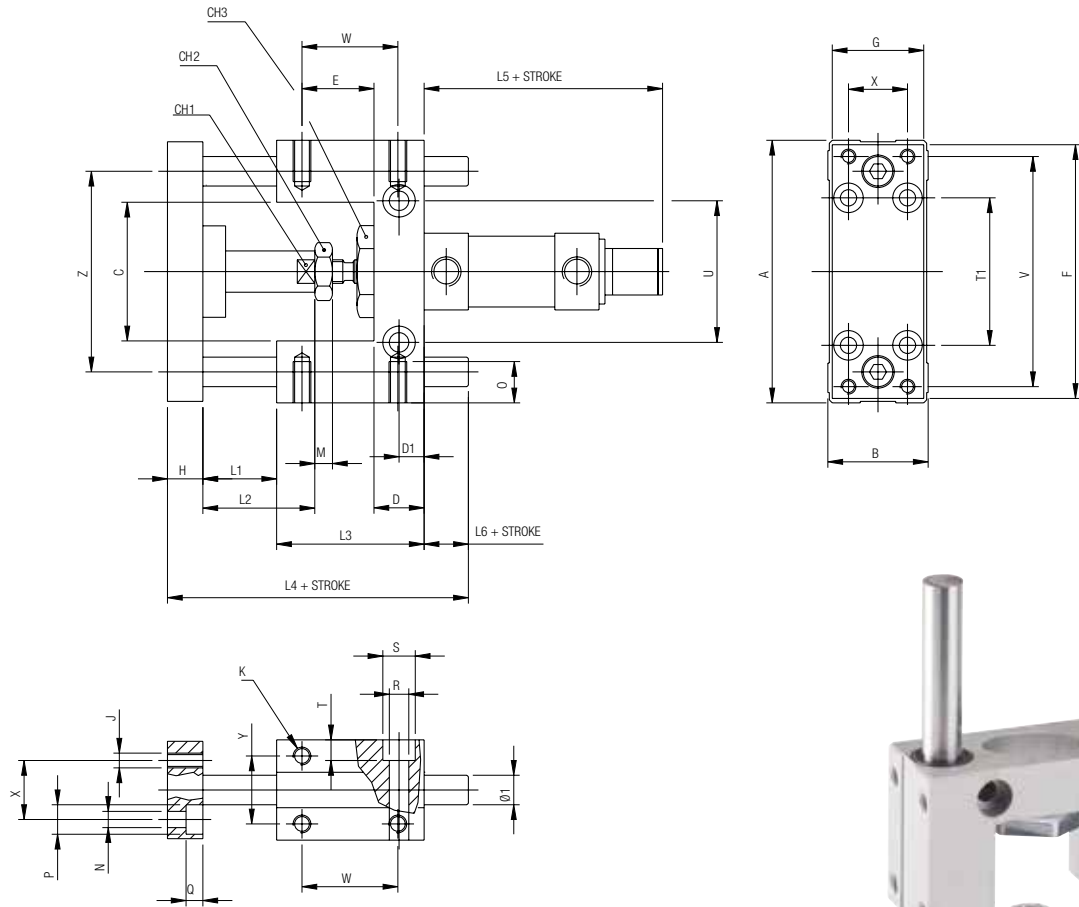




**MLCUB**

GUIDE UNIT "U" WITH SELF-LUBRICATING SINTERED BRONZE BUSHINGS

ISO 6432



Ø	A	B	C	CH1	CH2	CH3	D	D1	E	F	G	H	Ø1	J	K	L1	L2	L3	L4	L5	L6
12 - 16	69	30	30	8	10	24	12	5.5	19.5	66	29	10	10	M4	M4	3	15	38	66.5	73	15.5
20	79	34	37	12	13	27	17	8.75	24.25	78	32	12	12	M5	M6	5	18	48	83	87	18
25	79	34	37	12	17	27	17	8.75	24.25	78	32	12	12	M5	M6	5	18	48	83	91	18

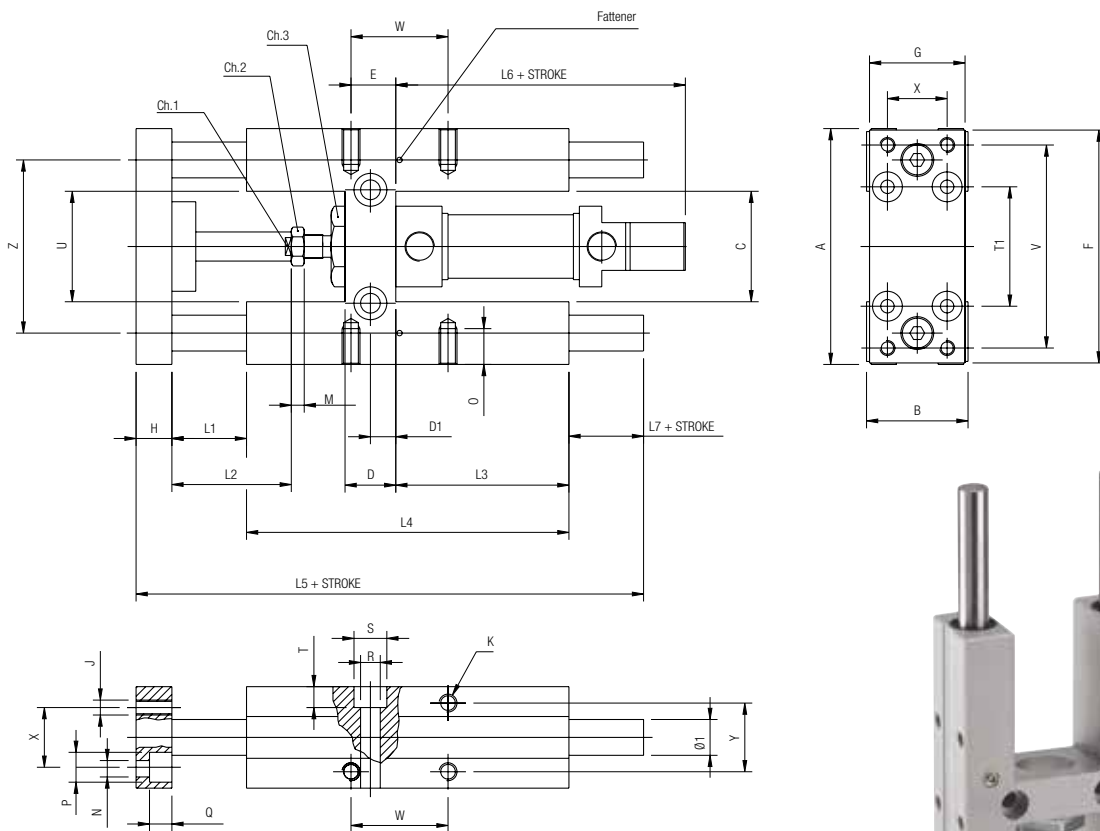
Ø	M	N	O	P	Q	R	S	T	T1	U	V	W	X	Y	Z
12 - 16	6	4.5	6	7.5	4.5	5.5	9	5.5	32	24	58	25	18	22	49.5
20	8	5.5	9	10	7.5	6.5	11	6.5	38	38	68	32.5	20	23	58
25	8	5.5	9	10	7.5	6.5	11	6.5	38	38	68	32.5	20	23	58

Ø (mm)	Stroke (mm)			
	50	100	160	200
12 - 16	▲	▲	▲	▲
20	▲	▲	▲	▲
25	▲	▲	▲	▲

**MLCHB**

GUIDE UNIT "H" WITH SELF-LUBRICATING SINTERED BRONZE BUSHINGS

**ISO 6432**



Ø	A	B	C	CH1	CH2	CH3	D	D1	E	F	G	H	Ø1	J	K	L1	L2	L3	L4	L5	L6
<b>12 - 16</b>	69	30	30	8	10	24	12	6	8	66	29	10	10	M4	M4	25	18	46	68	123.5	73
<b>20</b>	79	34	37	12	13	27	17	8.5	15	78	32	12	12	M5	M6	25	40	58	108	166	87
<b>25</b>	79	34	37	12	17	27	17	8.5	15	78	32	12	12	M5	M6	25	40	58	108	166	91

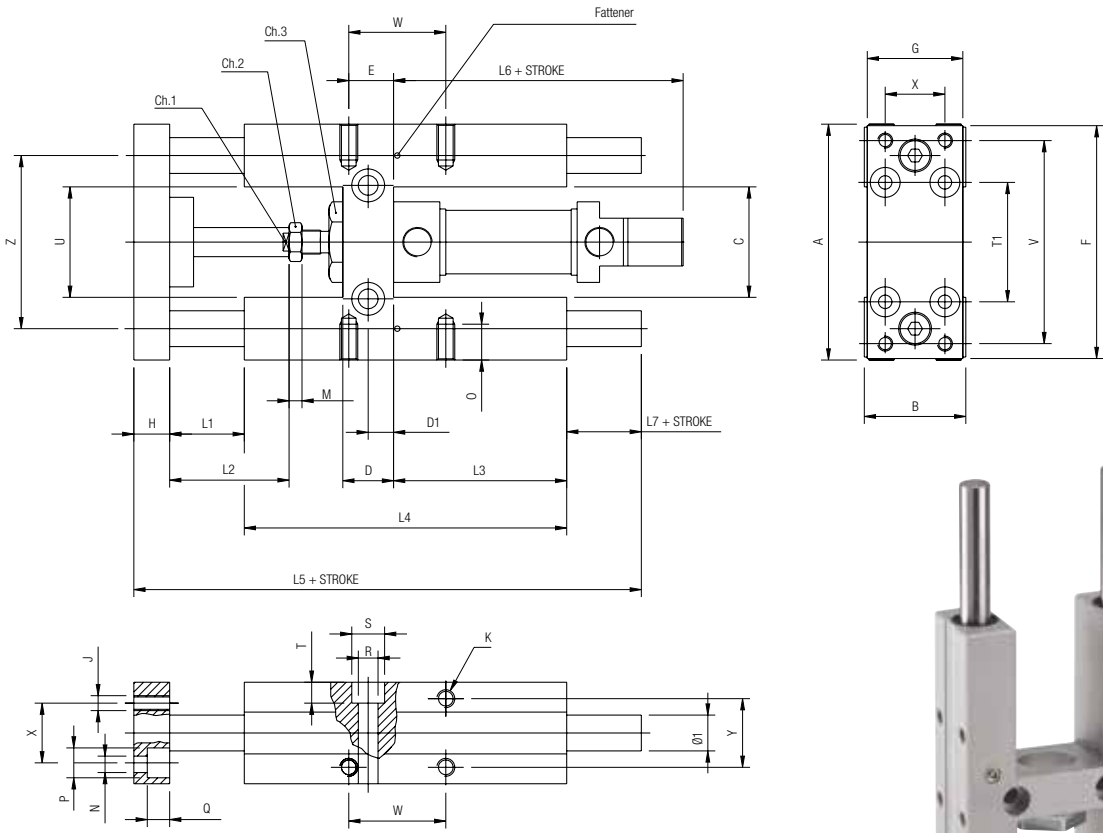
Ø	L7	M	N	O	P	Q	R	S	T	T1	U	V	W	X	Y	Z
<b>12 - 16</b>	12	6	4.5	6	8	4.5	5.5	9	5.5	32	24	58	18	18	22	49.5
<b>20</b>	10	8	5.5	9	10	7.5	6.5	11	6.5	38	38	68	32.5	20	23	58
<b>25</b>	10	8	5.5	9	10	7.5	6.5	11	6.5	38	38	68	32.5	20	23	58

Ø (mm)	Stroke (mm)				
	50	100	160	200	250
<b>12 - 16</b>	▲	▲	▲	▲	▲
<b>20</b>	▲	▲	▲	▲	▲
<b>25</b>	▲	▲	▲	▲	▲

**MLCHC**

GUIDE UNIT "H" WITH RECIRCULATING BALL SLEEVES

ISO 6432



Ø	A	B	C	CH1	CH2	CH3	D	D1	E	F	G	H	Ø1	J	K	L1	L2	L3	L4	L5	L6
12 - 16	69	30	30	8	10	24	12	6	8	66	29	10	10	M4	M4	25	18	46	68	123.5	73
20	79	34	37	12	13	27	17	8.5	15	78	32	12	12	M5	M6	25	40	58	108	166	87
25	79	34	37	12	17	27	17	8.5	15	78	32	12	12	M5	M6	25	40	58	108	166	91

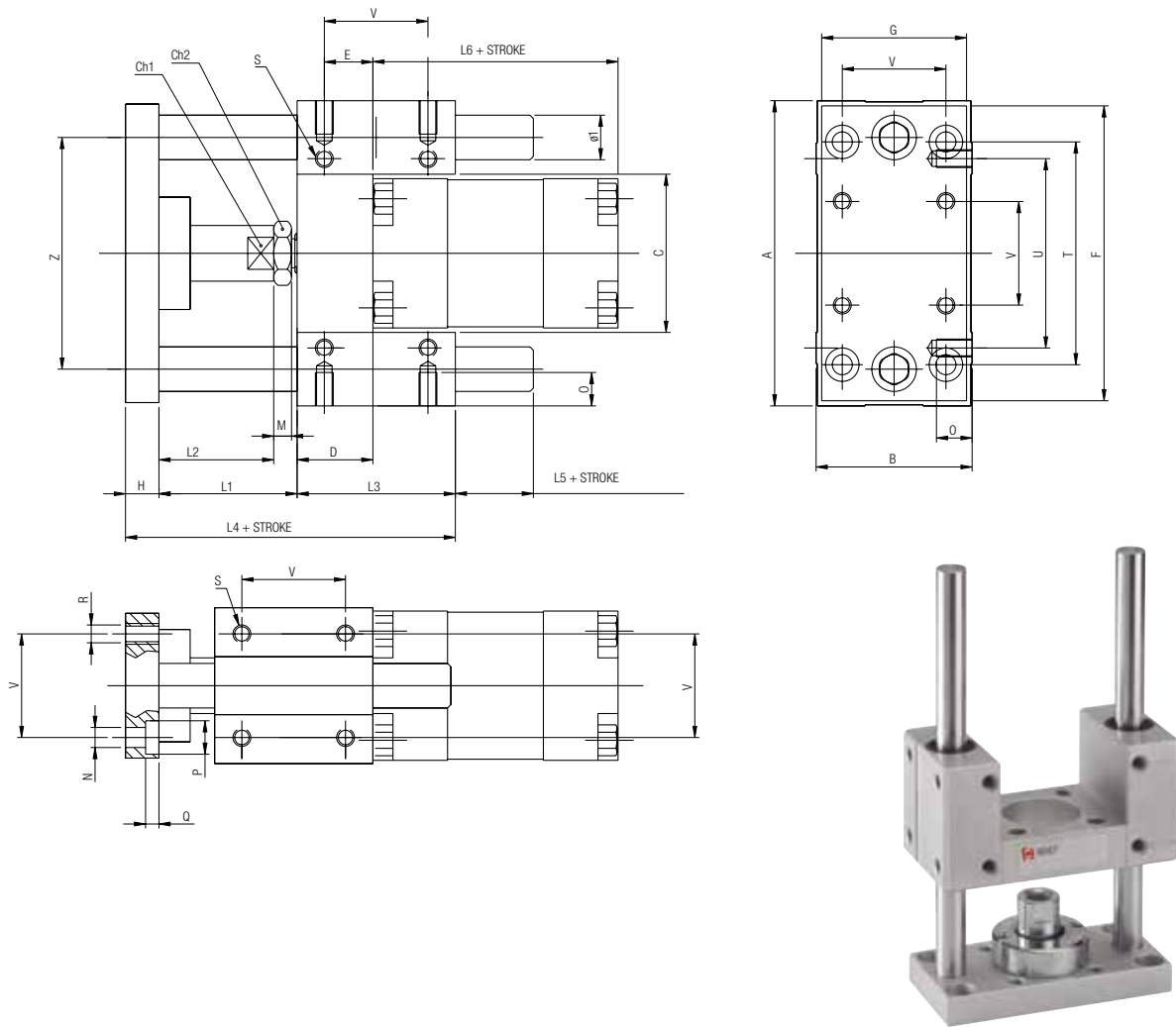
Ø	L7	M	N	O	P	Q	R	S	T	T1	U	V	W	X	Y	Z
12 - 16	12	6	4.5	6	8	4.5	5.5	9	5.5	32	24	58	18	18	22	49.5
20	10	8	5.5	9	10	7.5	6.5	11	6.5	38	38	68	32.5	20	23	58
25	10	8	5.5	9	10	7.5	6.5	11	6.5	38	38	68	32.5	20	23	58

Ø (mm)	Stroke (mm)				
	50	100	160	200	250
12 - 16	▲	▲	▲	▲	▲
20	▲	▲	▲	▲	▲
25	▲	▲	▲	▲	▲

**VLCUB**

GUIDE UNIT "U" WITH SELF-LUBRICATING SINTERED BRONZE BUSHINGS

ISO 15552



Ø	A	B	C	CH1	CH2	D	E	F	G	H	Ø1	L1	L2	L3	L4	L5	L6	M	N	O
32	97	49	51	15	17	17	9.25	93	45	12	12	42	25	48	102	18	97	8	6.6	12
40	115	58	58.5	15	19	21	11	112	55	12	16	43	24	58	113	17	109	7	6.6	12
50	137	70	70.2	20	24	25	18.8	134	65	15	20	49	30	59	123	20	110	6	9	16
63	152	85	85.2	20	24	25	15.3	147	80	15	20	49	30	76	140	21	125	6	9	16

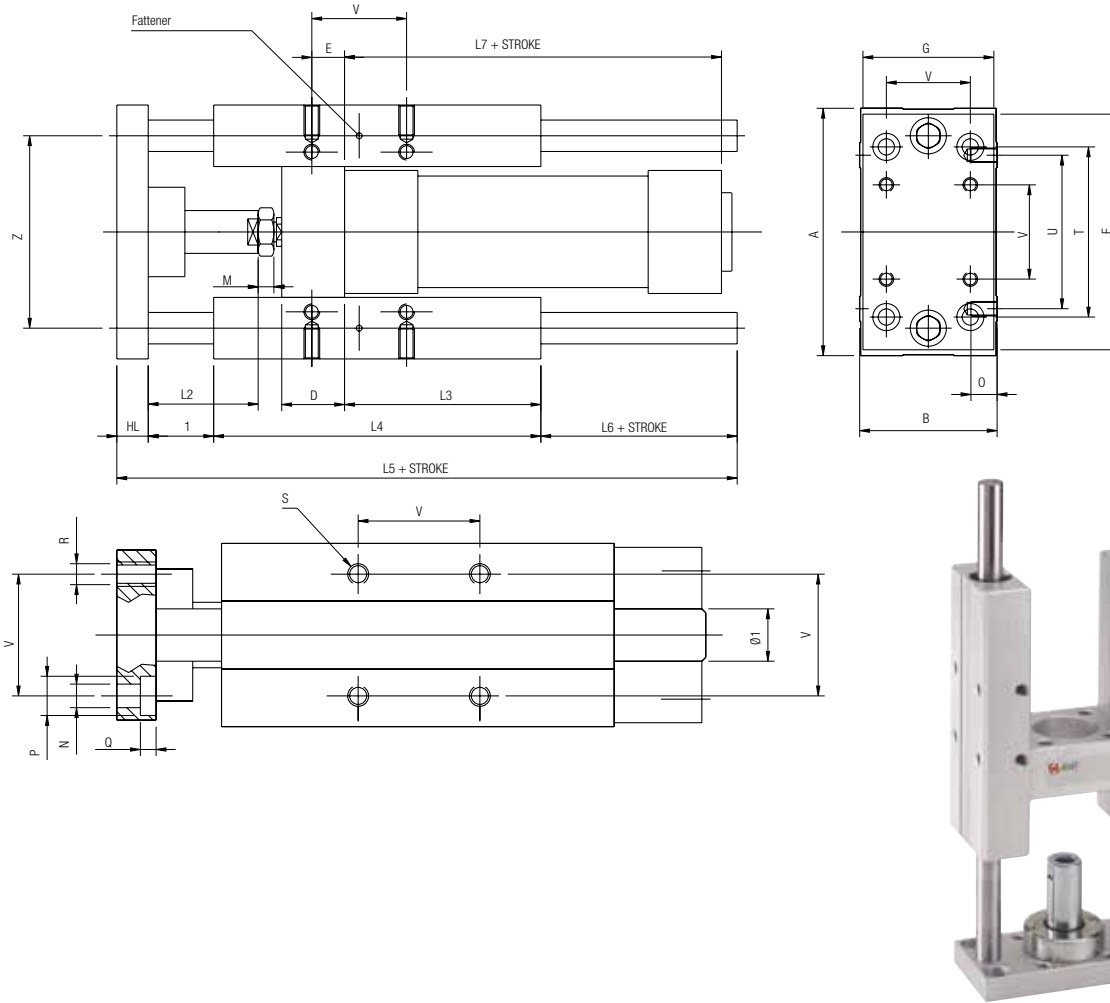
Ø	P	Q	R	S	T	U	V	Z
32	11	6.5	M6	M6	78	61	32.5	74
40	11	6.5	M6	M6	84	69	38	87
50	15	8.5	M8	M8	100	85	46.5	104
63	15	9	M8	M8	105	100	56.5	119

Ø (mm)	Stroke (mm)							
	50	100	160	200	250	320	400	500
32	▲	▲	▲	▲	▲	▲	▲	▲
40	▲	▲	▲	▲	▲	▲	▲	▲
50	▲	▲	▲	▲	▲	▲	▲	▲
63	▲	▲	▲	▲	▲	▲	▲	▲

**VLCHB**

GUIDE UNIT "H" WITH SELF-LUBRICATING SINTERED BRONZE BUSHINGS

ISO 15552



Ø	A	B	C	CH1	CH2	D	E	F	G	H	Ø1	L1	L2	L3	L4	L5	L6	L7	M	N	O
32	97	49	51	15	17	24	4.3	93	45	12	12	25	42	75	125	187	25	97	8	6.6	12
40	115	58	58.2	15	19	28	11	112	55	12	16	25	42	80	140	207	30	109	7	6.6	12
50	137	70	70.2	20	24	34	18.8	134	65	15	20	25	50	78	148	223	35	110	6	9	16
63	152	85	85.2	20	24	34	15.3	147	80	15	20	25	50	106	178	243	25	125	6	9	16
80	189	105	105.5	26	30	50	25	180	100	20	25	25	50	111	195	267	27	133	9	11	20
100	213	130	130.5	26	30	55	30	206	120	20	25	25	50	128	218	290	27	144	9	11	20

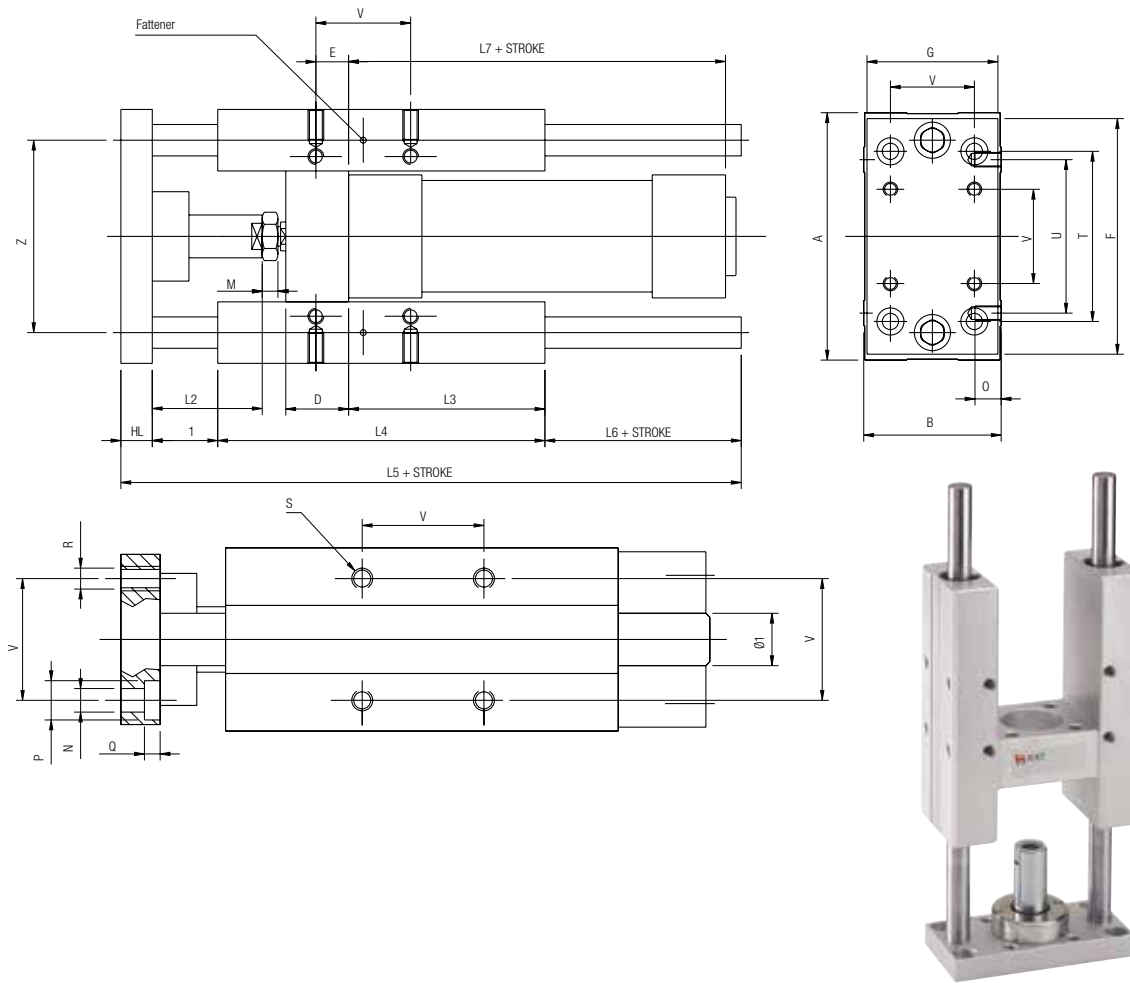
Ø	P	Q	R	S	T	U	V	Z
32	11	6.5	M6	M6	78	61	32.5	74
40	11	6.5	M6	M6	84	69	38	87
50	15	8.5	M8	M8	100	85	46.5	104
63	15	9	M8	M8	105	100	56.5	116
80	18	11	M10	M10	130	130	72	148
100	16.5	11	M10	M10	150	150	89	173

Ø (mm)	Stroke (mm)							
	50	100	160	200	250	320	400	500
32	▲	▲	▲	▲	▲	▲	▲	▲
40	▲	▲	▲	▲	▲	▲	▲	▲
50	▲	▲	▲	▲	▲	▲	▲	▲
63	▲	▲	▲	▲	▲	▲	▲	▲
80	▲	▲	▲	▲	▲	▲	▲	▲
100	▲	▲	▲	▲	▲	▲	▲	▲

**VLCHC**

GUIDE UNIT "H" WITH RECIRCULATING BALL SLEEVES

ISO 15552



Ø	A	B	C	CH1	CH2	D	E	F	G	H	Ø1	L1	L2	L3	L4	L5	L6	L7	M	N	O
32	97	49	51	15	17	24	4.3	93	45	12	12	25	42	75	125	187	25	97	8	6.6	12
40	115	58	58.2	15	19	28	11	112	55	12	16	25	42	80	140	207	30	109	7	6.6	12
50	137	70	70.2	20	24	34	18.8	134	65	15	20	25	50	78	148	223	35	110	6	9	16
63	152	85	85.2	20	24	34	15.3	147	80	15	20	25	50	106	178	243	25	125	6	9	16
80	189	105	105.5	26	30	50	25	180	100	20	25	25	50	111	195	267	27	133	9	11	20
100	213	130	130.5	26	30	55	30	206	120	20	25	25	50	128	218	290	27	144	9	11	20

Ø	P	Q	R	S	T	U	V	Z
32	11	6.5	M6	M6	78	61	32.5	74
40	11	6.5	M6	M6	84	69	38	87
50	15	8.5	M8	M8	100	85	46.5	104
63	15	9	M8	M8	105	100	56.5	116
80	18	11	M10	M10	130	130	72	148
100	16.5	11	M10	M10	150	150	89	173

Ø (mm)	Strokes (mm)							
	50	100	160	200	250	320	400	500
32	▲	▲	▲	▲	▲	▲	▲	▲
40	▲	▲	▲	▲	▲	▲	▲	▲
50	▲	▲	▲	▲	▲	▲	▲	▲
63	▲	▲	▲	▲	▲	▲	▲	▲
80	▲	▲	▲	▲	▲	▲	▲	▲
100	▲	▲	▲	▲	▲	▲	▲	▲

**SERIES R - RODLESS CYLINDERS WITH INTERNAL GUIDING**

**TECHNICAL CHARACTERISTICS**

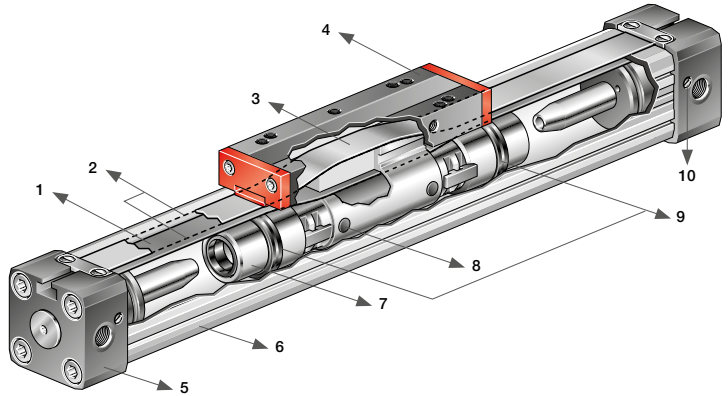
**Reference Standard**

- 1907/2006 REACH ✓
- 2011/65/CE RoHS ✓
- PED 2014/68/UE
- SILICON FREE



**Component Parts and Materials**

- 1 Inner sealing band
- 2 Magnet strip
- 3 Outer sealing band
- 4 Internally guided carriage (anodized aluminum)
- 5 End cap anodized aluminum
- 6 Profile tube with slots for position sensing switches (anodized aluminum)
- 7 Piston (anodized aluminum)
- 8 Plastroferrite magnets
- 9 NBR piston seals
- 10 Cushion adjustment screw



**Pressures**

**0.5 bar** (0.05 MPa) / 7.3 psi  
**8 bar** (0.8 MPa) / 116 psi

**Temperatures**

- 10 °C / 14 °F  
 + 80 °C / 176 °F

**Media**

Filtered and lubricated or non-lubricated compressed air.

**Functions**

Rodless cylinder - double acting cushioned magnetic.

**Bores**

from 16 to 63 mm

**Strokes**

Ø 16 From 100 to 4400 mm.  
 Ø 25-63 From 100 to 5700 mm.

**Advantages**

- Requires 50% less space than a traditional cylinder
- Forces are generated equally on both pistons
- Strokes up to > 5700 mm
- Cushions are standard with 3 ports in each end cap
- Fast acceleration and high piston velocity
- Offers design flexibility
- Lubricated or non-lubricated air supply

**Sensors recommended**

DT

**Sensor adapter - 016 / 25**

DSTR025

\* Note: Before changing operation from lubricated to non lubricated air the cylinder has to be disassembled, cleaned, newly greased and reassembled.

Series	Ø (mm)	Stroke (mm)						
<b>R H</b>	<b>0 1 6</b>	<b>0 1 0 0</b>						
<b>RH</b> Rodless cylinder cushioned - magnetic	016 025 032 040 050 063	<table border="1"> <thead> <tr> <th>Ø (mm)</th> <th>Stroke (mm)</th> </tr> </thead> <tbody> <tr> <td>16</td> <td>100 to 4400</td> </tr> <tr> <td>25 - 63</td> <td>100 to 5700</td> </tr> </tbody> </table>	Ø (mm)	Stroke (mm)	16	100 to 4400	25 - 63	100 to 5700
Ø (mm)	Stroke (mm)							
16	100 to 4400							
25 - 63	100 to 5700							



**Forces and Moments**

The figures below are maximum values based on light, shock-free duty and a speed of  $v \leq 0.45$  m/sec. Maximum pressure 6 bar. Avoid exceeding the values in dynamic operations, even for short moments.

Note: Resulting forces could lead to exceeding the values. In case of undefinable situations the above maximum values should be reduced by 10–20 %.

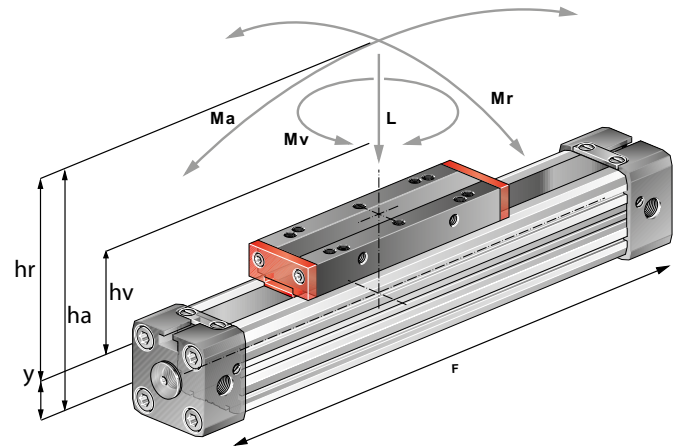
$$\frac{Ma}{Ma_{max}} + \frac{Mr}{Mr_{max}} + \frac{Mv}{Mv_{max}} + \frac{L}{L_{max}} \leq 1$$

**Formulas**

$$Ma = F \times ha$$

$$Mr = F \times hr$$

$$Mv = F \times hv$$



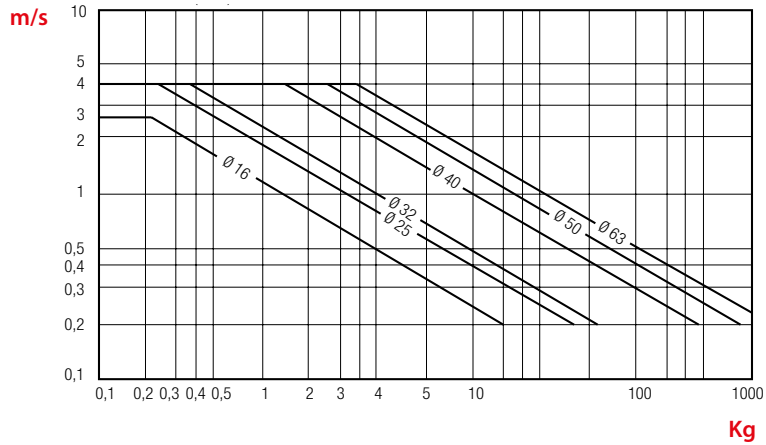
**Forces and Torque**

Cylinder		Force	Cushioning	Allowable load	Maximum allowable bending moments		Maximum allowable torque
Ø	Y	N - 6 bar	mm	N	Nm		Nm
		F	S	RH	Ma axial	Mr radial	Mv central
16	9	110	15	120	4	0.3	0.5
25	14	250	21	300	15	1	3.0
32	18	420	26	450	30	2	4.5
40	22	640	32	750	60	4	8.0
50	28	1000	32	1200	115	7	15.0
63	36	1550	40	1650	200	8	24.0



**Note:**

- If the limits above are exceeded shock absorbers are necessary.
- For piston speeds of more than  $\leq 1$  m/s viton seals are recommended.
- For piston speeds  $\leq 0.1$  m/s (NBR),  $\leq 0.2$  m/s (FKM) slow speed lubrication is required.
- Maximum life will be achieved when piston speeds do not exceed 1 m/s.a



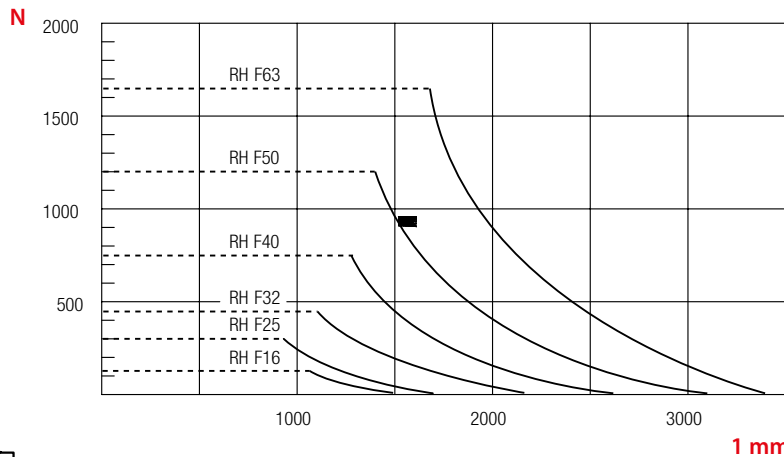
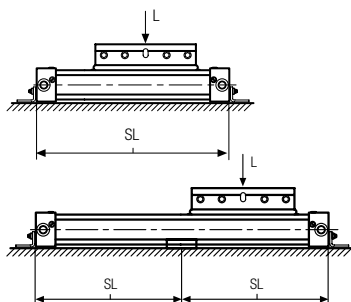
**m/s**  
Piston

**Kg**  
Mass



**Deflection Graph**

- Calculated deflections without support of 0.5 – 1 mm allow exceeding of supporting distance.
- Calculated deflections without support of 1 mm – maximum 1.5 mm require reduction of the supporting distance.



**N**  
Load

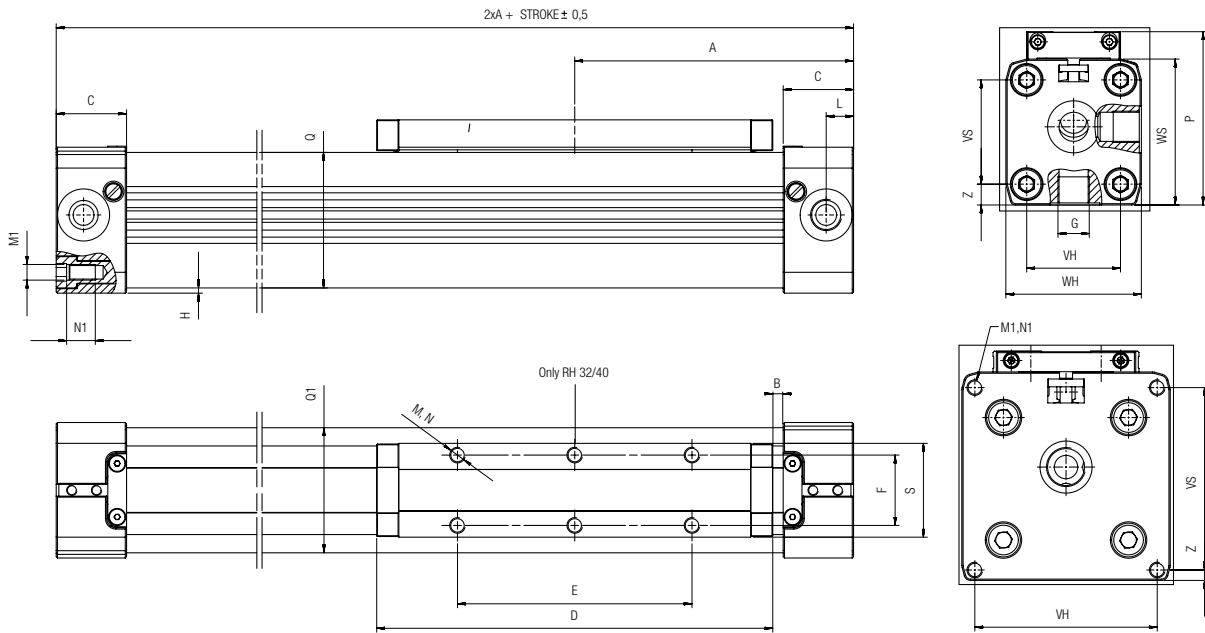
**1 mm**  
Deflection

Distances SL of mounting with deflection 1 mm.



**RH**

**RODLESS CYLINDER - CUSHIONED - MAGNETIC**



Ø	A	B	C	D	E	F	G	H	L	M	M1	N	N1	P	QxQ1	S	VS	VH	WS	WH	Z
<b>16</b>	65	15.5	15	69	36	16.5	M5	1.0	5.5	M4	M3	7	7.0	36.5	24.5x25	22.0	18	18	27	27	4.5
<b>25</b>	100	21.0	23	111	65	25.0	G1/8	2.0	8.5	M5	M5	10	12	52.5	36x36	33.0	27	27	40	40	6.5
<b>32</b>	125	22.0	27	152	90	27.0	G1/4	2.0	10.5	M6	M6	7	14	66.5	52x51	36.0	40	36	56	52	8.0
<b>40</b>	150	44.0	30	152	90	27.0	G1/4	6.75	15.0	M6	M6	10	17	80.0	58.5x59	36.4	54	54	69	72	9.0
<b>50</b>	175	42.0	33.0	200	110	27.0	G1/4	0.5	11.7	M6	M6	6	18	88.0	77x78	56.0	70	70	80	80	4.0
<b>63</b>	215	47.5	50	235	155	36.0	G3/8	1.5	25.0	M8	M8	15	18	123.0	102x102	50.0	78	78	106	106	14.5

**SERIES RHV - RODLESS CYLINDERS WITH "V" EDGE SLIDE SYSTEM**



**TECHNICAL CHARACTERISTICS**



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- SILICON  
FREE



**Pressures**

**0.5 bar** (0.05 MPa) / 7.3 psi  
**8 bar** (0.8 MPa) / 116 psi



**Temperatures**

- 10 °C / 14 °F  
+ 80 °C / 176 °F



**Media**

Filtered and lubricated or non-lubricated compressed air.



**Functions**

Rodless cylinder - double acting cushioned magnetic.



**Bores**

from 25 to 50 mm



**Standard Strokes**

From 100 to 5700 mm



**Advantages**

- High load carrying characteristics
- Heavy duty bearing housing
- Ground and hardened guide rail
- Low friction bearings
- Quiet and smooth running



**Sensors recommended**

**DT**



**Sensor adapter - 016 / 25**

**DSTR025**

Series	Ø (mm)	Stroke (mm)
R H V	0 2 5	0 1 0 0
RHV Rodless cylinder cushioned - magnetic	025 032 040 050	From 100 to 5700 mm

**Forces and Torque**

Cylinder	A	B	C/D/E/F	G	H	I	Load forces max		Axial moments max		Radial moments max
							Moment forces max		Torsion moments max		
							La.	Lr. Lv	Mv	Mr	
	mm	mm	mm	mm	mm	mm	N	Nm	Nm	Nm	
25	53.0	20.5	*	38.0	40.0	40.0	1400	50	14		
32	64.0	26.0	*	55.5	58.0	58.0	3100	165	65		
40	72.5	28.0	*	54.5	67.5	67.5	3100	250	90		
50	88.5	28.0	*	58.5	67.5	67.5	3100	250	90		

\* Dimensions according design.



**Forces and Moments**

- 1 The moments in the chart on the previous page ( $M_a$  max,  $M_r$  max,  $M_v$  max) relate to the guide rail center. The load force  $L$  is the total of all single forces related to the common center of the mass. The center of the mass can be placed inside or outside the surface area of the carriage.
- 2 Normally the carriage would experience a dynamic load which has to be considered with the needed piston force ( $F$ ) and capacity of the ballguided system. Use the following formula when calculating:

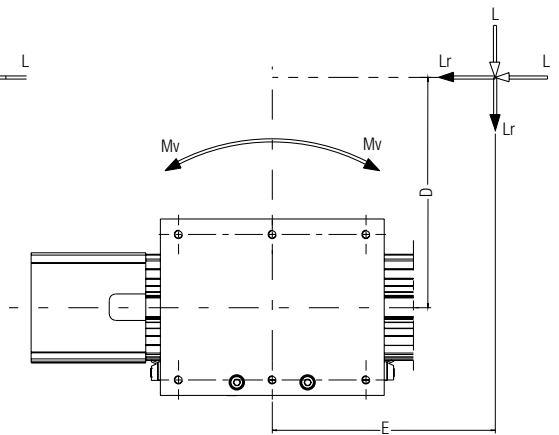
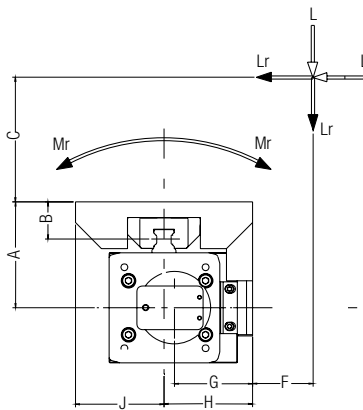
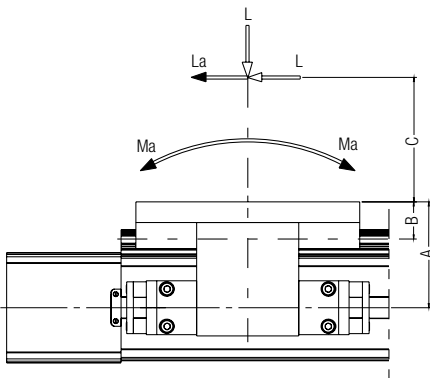
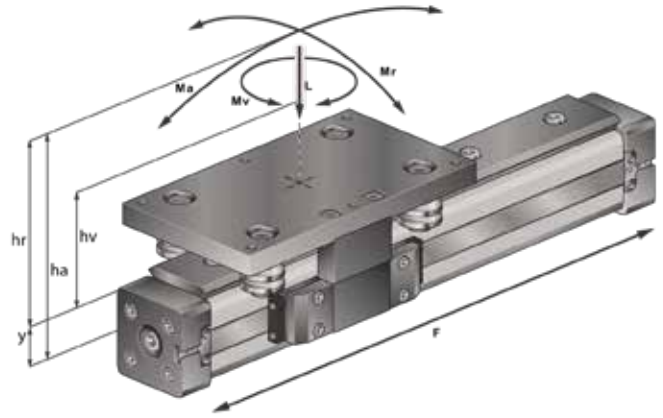
$$\frac{M_a}{M_{a_{max}}} + \frac{M_r}{M_{r_{max}}} + \frac{M_v}{M_{v_{max}}} + \frac{L}{L_{max}} \leq 1$$

**Formulas**

$$M_a = F \times h_a$$

$$M_r = F \times h_r$$

$$M_v = F \times h_v$$

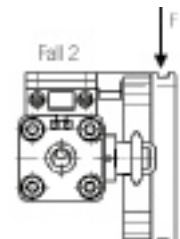
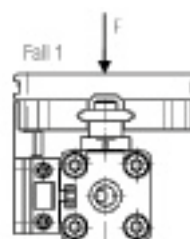
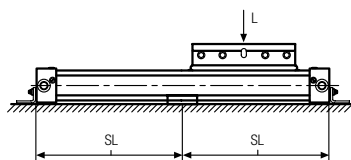
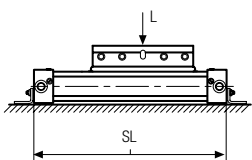
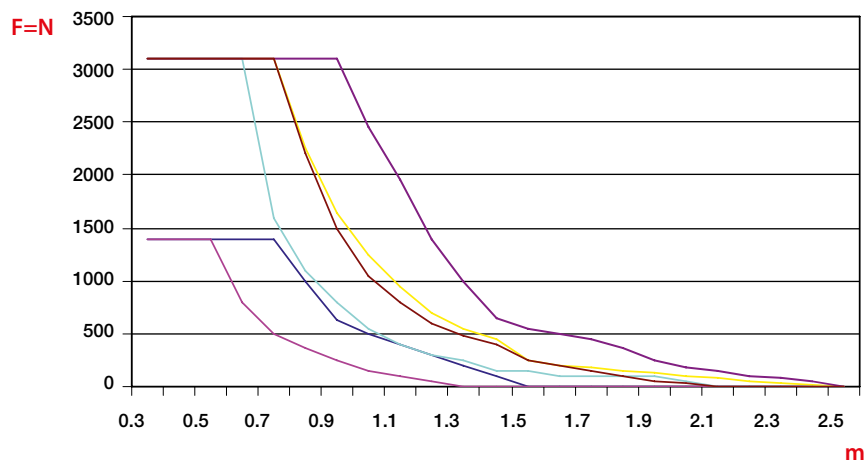


**Deflection Graph**

- Calculated deflections without support of 0.5 – 1 mm allow exceeding of supporting distance.
- Calculated deflections without support of 1mm – maximum 1.5 mm require reduction of the supporting distance.

**F=N** Load      **m** Distance SL

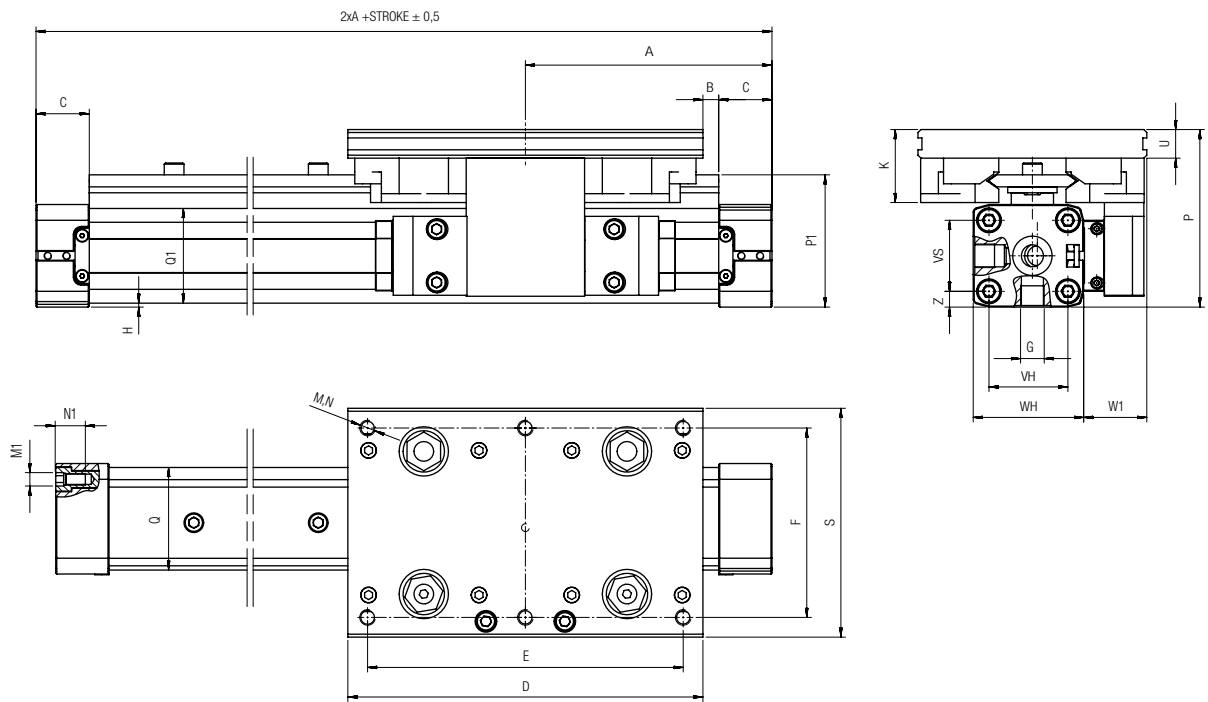
- RHV25/25 Fall 1
- RHV25/25 Fall 2
- RHV32/44 Fall 1
- RHV32/44 Fall 2
- RHV40/60 Fall 1
- RHV40/60 Fall 2



Distances SL of mounting with deflection 1 mm.

**RHV**

RODLESS CYLINDER - CUSHIONED - MAGNETIC



$\emptyset$	A	B	C	D	E	F	G	H	K	M	N	M1	N1	P	P1	QxQ1	S	U	VH	VS	WS	W1	Z
25	100	9.5	23	135	120	65	1/8	2.0	29.5	M6	11	M5	10	74.0	56.8	36 x 36	80	11	27	27	40	22	6.5
32	125	8.0	27	180	160	96	1/4	2.0	37	M8	14.5	M6	14	90.0	64.5	52 x 48	116	14.5	40	36	56	32	8.0
40	150	0	30	240	216	115	1/4	6.75	39	M8	16.5	M6	17	108.5	84.0	58.5 x 59	135	16.5	54	54	69	34.5	9.0
50	175	22	33	240	216	115	1/4	1.0	39	M8	16.5	M6	18	122.0	97.5	77 x 78	135	16.5	70	70	80	31	5.0

**SERIES RHL - RODLESS CYLINDERS - EXTERNALLY GUIDED**

**TECHNICAL CHARACTERISTICS**

**Reference Standard**

- 1907/2006 **REACH** ✓
- 2011/65/CE **RoHS** ✓
- PED 2014/68/UE
- SILICON FREE



**Pressures**

0.5 bar (0.05 MPa) / 7.3 psi  
8 bar (0.8 MPa) / 116 psi

**Temperatures**

- 10 °C / 14 °F  
+ 80 °C / 176 °F

**Media**

Filtered and lubricated or non-lubricated compressed air.

**Functions**

Rodless cylinder - double acting cushioned magnetic.

**Bores**

from Ø 32 to Ø 63 mm

**Standard Strokes**

From 100 to 5700 mm

**Advantages**

- Ability to accept high loads and moments in all directions.
- High tolerance to shock loads and vibrations.
- Highly resistant to wear and corrosion.
- Quiet running.
- Guiding elements are interchangeable.

**Sensors recommended**

**DT**

**Sensor adapter - 016 / 25**

**DSTR025**

Series	Ø (mm)	Stroke (mm)
<b>R H L</b>	<b>0 3 2</b>	<b>0 1 0 0</b>
RHL Rodless cylinder cushioned - magnetic	032 040 050 063	From 100 to 5700 mm

**Forces and Torque**

Cylinder	Max. zul. Last L	Max. L a, L r, L v	Max. Ma	Max. Mr	Max. Mv
	N	N	Nm	Nm	Nm
<b>32</b>	760	760	39	15	39
<b>40</b>	1330	1330	99	35	99
<b>50</b>	1600	1600	170	58	170
<b>63</b>	2770	2770	315	105	317



**Forces and Moments**

- The moments in the chart on the previous page ( $M_a$  max,  $M_r$  max,  $M_v$  max) relate to the guide rail center. The load force  $L$  is the total of all single forces related to the common center of the mass. The center of the mass can be placed inside or outside the surface area of the carriage.
- Normally the carriage would experience a dynamic load which has to be considered with the needed piston force ( $F$ ) and capacity of the ballguided system. Use the following formula for calculations:

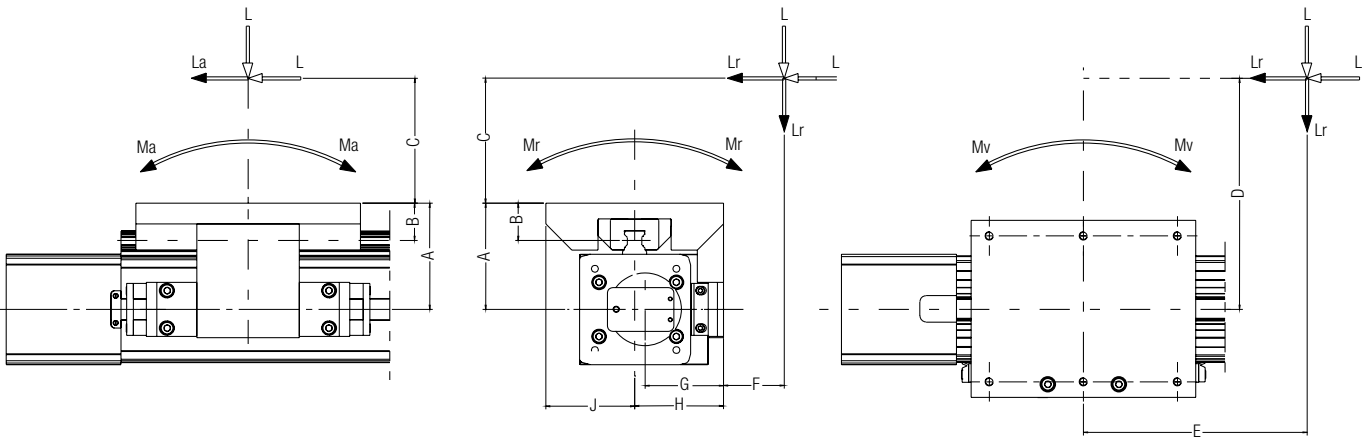
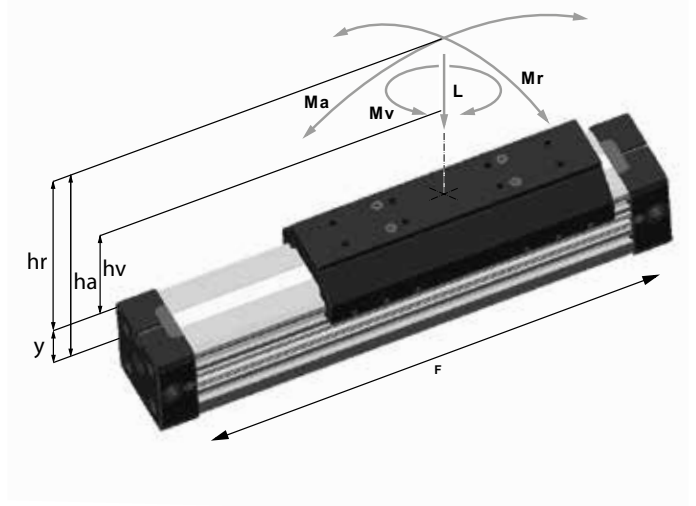
$$\frac{M_a}{M_{a_{max}}} + \frac{M_r}{M_{r_{max}}} + \frac{M_v}{M_{v_{max}}} + \frac{L}{L_{max}} \leq 1$$

**Formulas**

$$M_a = F \times ha$$

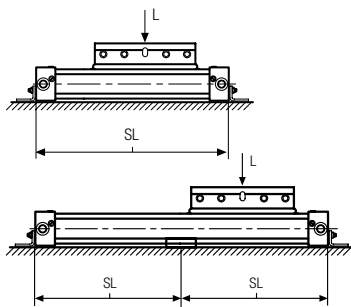
$$M_r = F \times hr$$

$$M_v = F \times hv$$



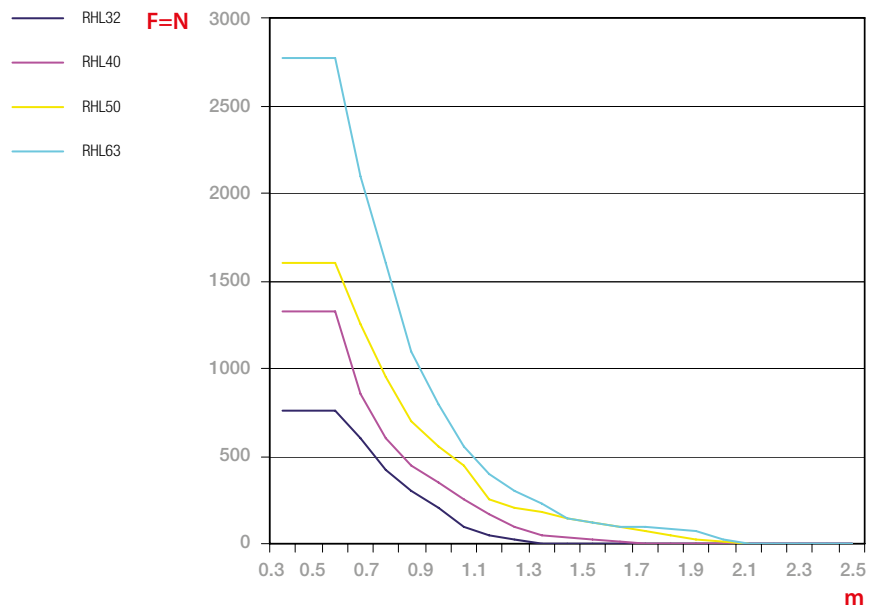
**Deflection Graph**

- Calculated deflections without support of 0.5 – 1 mm allow exceeding of supporting distance.
- Calculated deflections without support of 1mm – maximum 1.5 mm require reduction of the supporting distance.



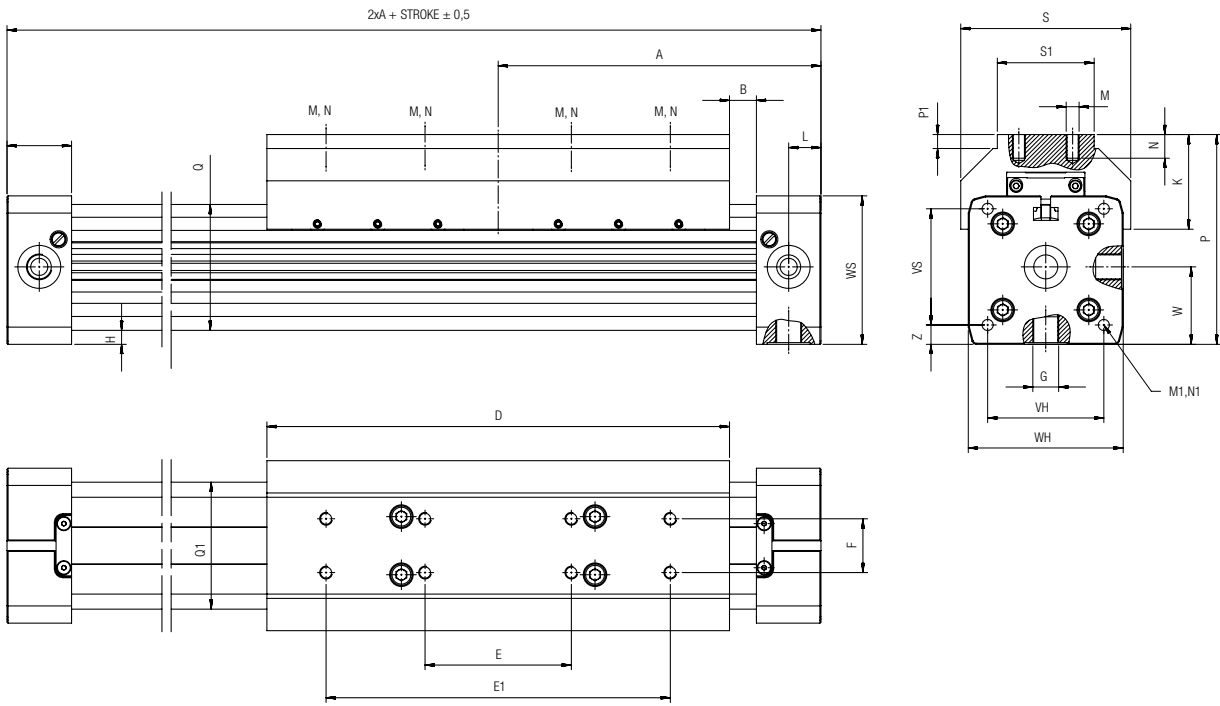
Distances SL of mounting with deflection 1 mm.

<b>F=N</b>	<b>m</b>
Load	Distance SL



**RHL**

RODLESS CYLINDER - CUSHIONED - MAGNETIC

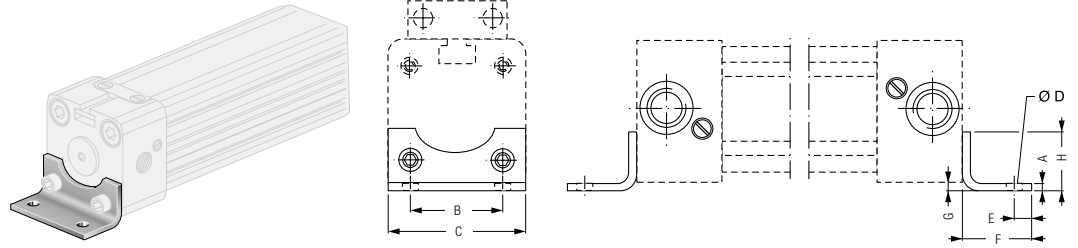


$\emptyset$	A	B	C	D	E	E1	F	G	H	K	L	M	N	M1	N1	P	P1	QxQ1	S	S1	VH	VS	W	WH	WS	Z
<b>32</b>	125	22	27	152	60	120	25	1/4	2.0	42.5	10.5	M5	10	M6	14	81.5	6.5	52x51	66	40	36	40	30	52	56	8
<b>40</b>	150	12.5	30	215	68	160	25	1/4	7.0	44	15	M8	10	M6	17	97.5	6.5	58.5x59	79	45	54	54	36	72	69	9
<b>50</b>	175	17.5	33	250	84	190	25	1/4	0.5	48.5	11.7	M8	10	M6	18	110	6.5	77x78	92	50	70	70	43.5	80	80	4
<b>63</b>	215	6.5	55	320	120	240	25	3/8	1.5	56	25	M8	14	M8	18	137	5.0	102x102	116	50	78	78	62.5	106	106	14.5

**SERIES R ACCESSORIES**

**RCP**

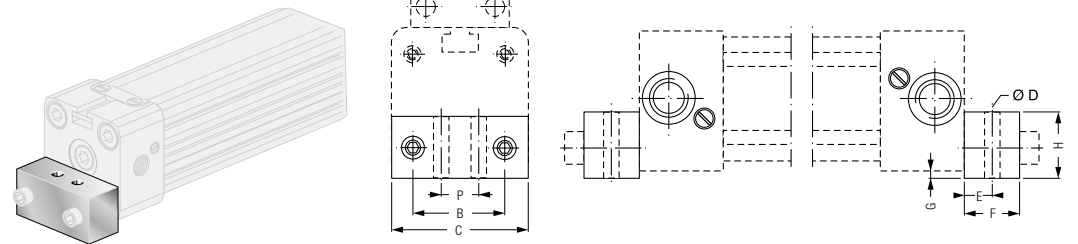
FOOT MOUNT  
Ø 16-25 mm



Part No.	Ø	A	B	C	D	E	F	G	H
RCP 016	16	1.5	18	26	3.6	4.0	14	1.5	12.5
RCP 025	25	2.5	27	40	5.5	6.0	22	2	18

**RCP**

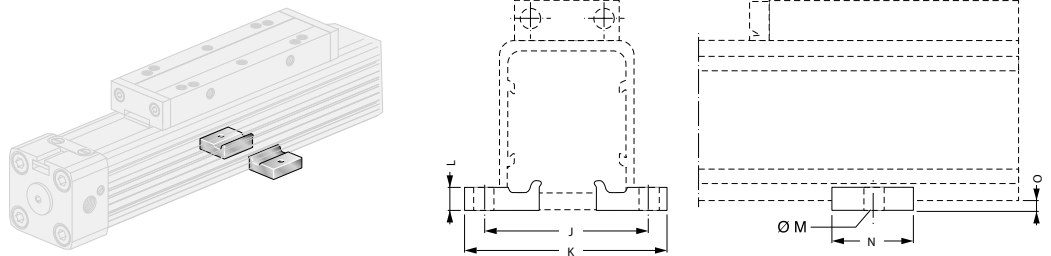
FOOT MOUNT  
Ø 32-63 mm



Code	Ø	B	C	D	E	F	G	H	P
RCP 032	32	36	51	6,5	8	24	4	20	20
RCP 040	40	54	71	9	11,5	24	2	20	30
RCP 050	50	70	80	9	12,5	25	1	25	45
RCP 063	63	78	105	11	15	30	2	40	48

**RCN**

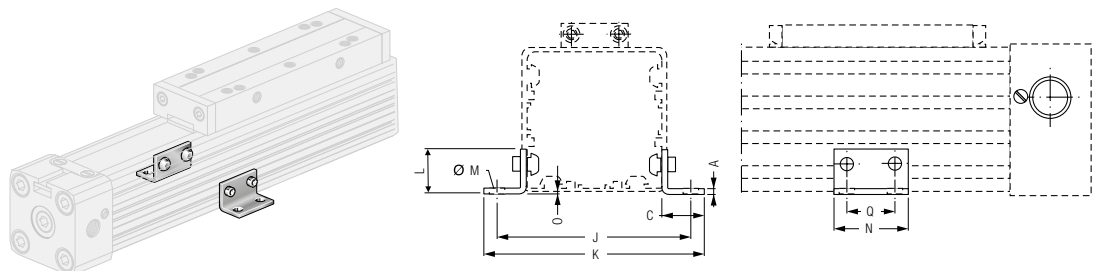
INTERMEDIATE SUPPORT  
BRACKET  
Ø 16-25 mm



Part No.	Ø	J	K	L	M	N	O
RCN 016	16	41.5	53.5	5	Ø 5.5	20	3
RCN 025	25	48.5	60	6	Ø 5.5	20	4

**RCN**

INTERMEDIATE SUPPORT  
BRACKET  
Ø 32-63 mm

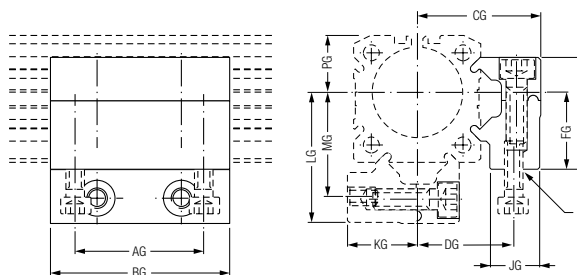
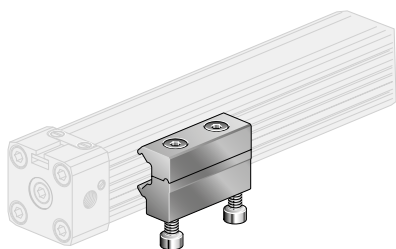


Part No.	Ø	A	C	J	K	L	M	N	O	Q
RCN 032	32	5	20	82	91	30	4.5	45	6	30
RCN 040	40	5	20	90	99	25	4.5	45	8.5	30
RCN 050	50	5	35	123	148	35	6.5	45	1	30
RCN 063	63	5	35	147	172	35	6.5	45	3.5	30



**RCNG**

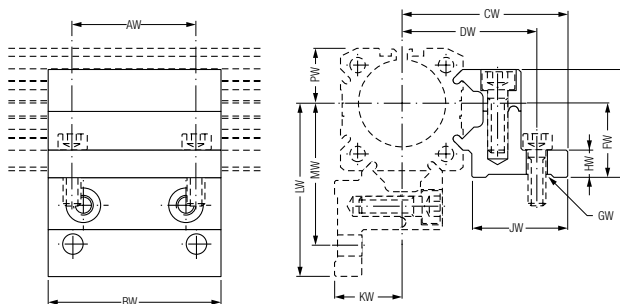
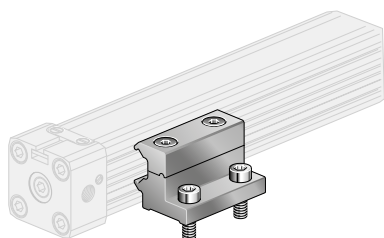
INTERMEDIATE SUPPORT BRACKET



Part No.	∅	AG	BG	CG	DG	EG	FG	GG	JG	KG	LG	MG	PG
<b>RCNG 016</b>	<b>16</b>	18.0	30.0	27.5	18.4	21.0	15.0	M4	11.5	13.9	29.0	19.7	10.8
<b>RCNG 025</b>	<b>25</b>	36.0	50.0	34.5	27.0	31.3	22.0	M5	14.0	20.0	36.5	29.0	16.0
<b>RCNG 032</b>	<b>32</b>	36.0	50.0	41.8	34.2	39.0	30.0	M6	14.0	27.6	47.0	39.5	21.5

**RCNN**

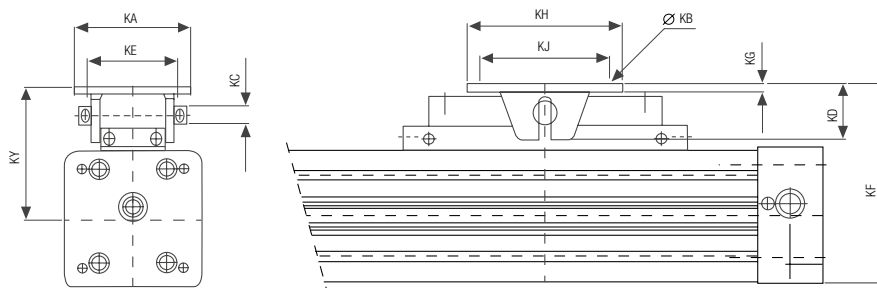
INTERMEDIATE SUPPORT BRACKET



Part No.	∅	AW	BW	CW	DW	EW	FW	GW	HW	JW	KW	LW	MW	PW
<b>RCNN 016</b>	<b>16</b>	18.0	30.0	37.0	32.5	21.0	15.0	∅4.5	6.0	22.4	13.9	38.0	32.9	10.8
<b>RCNN 025</b>	<b>25</b>	36.0	50.0	47.5	40.0	31.3	22.0	∅5.5	10.0	26.0	20.0	49.5	42.0	16.0
<b>RCNN 032</b>	<b>32</b>	36.0	50.0	56.0	47.5	39.0	30.0	∅6.5	10.0	28.5	27.6	61.0	52.5	21.5

**RCOL**

ARTICULATED CARRIAGE



Part No.	∅	KA	KB	KD	KE	KF	KG	KH	KJ	KY
<b>RCOL 016</b>	<b>16</b>	26	M4	10	10	46.5-47.5	3.0	28	20	33
<b>RCOL 025</b>	<b>25</b>	38	M5	19	16	71.5-73.5	3.5	40	30	51.5
<b>RCOL 032</b>	<b>32</b>	62	M6	28	25	94.5-96.5	6.0	60	46	66.5
<b>RCOL 040</b>	<b>40</b>	62	M6	28	25	108-110	6.0	60	46	73.5
<b>RCOL 050</b>	<b>50</b>	90	9	43.7	70	135-150	6.4	120	100	95-110
<b>RCOL 063</b>	<b>63</b>	90	9	43.7	70	155-170	6.4	120	100	102-117

**SERIES XR - ROTARY ACTUATORS - ISO 15552**



**TECHNICAL CHARACTERISTICS**



Male output shaft



Female output shaft



**Reference Standard**

- 1907/2006  
**REACH** ✓
- 2011/65/CE  
**RoHS** ✓
- PED  
2014/68/UE
- SILICON  
FREE
- ATEX  
2014/34/UE



**Pressures**

**1 bar** (0.1 MPa) / 14.5 psi  
**10 bar** (0.7 MPa) / 145 psi



**Temperatures**

**0 °C / 32 °F** (-20 °C / -4 °F with dry air)  
**+ 80 °C / 176 °F**



**Media**

Filtered and lubricated or non-lubricated compressed air.



**Functions**

Double acting - cushioned - magnetic with male output shaft.  
Double acting - cushioned - magnetic with female output shaft.



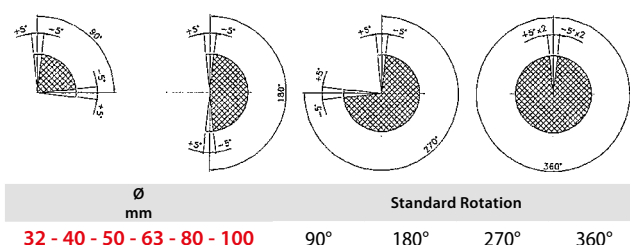
**Bores**

from 32 to 100 mm

Series	Ø (mm)	Rotation
<b>X R M</b>	<b>0 3 2</b>	<b>0 9 0</b>
<b>XRM</b> Rotary Actuator with Male Output Shaft and Angle Adjustment +/- 5°	032 040 050	90° 180° 270°
<b>XRF</b> Rotary Actuator with Female Output Shaft and Angle Adjustment +/- 5°	063 080 100	360°



**Adjustable angle**

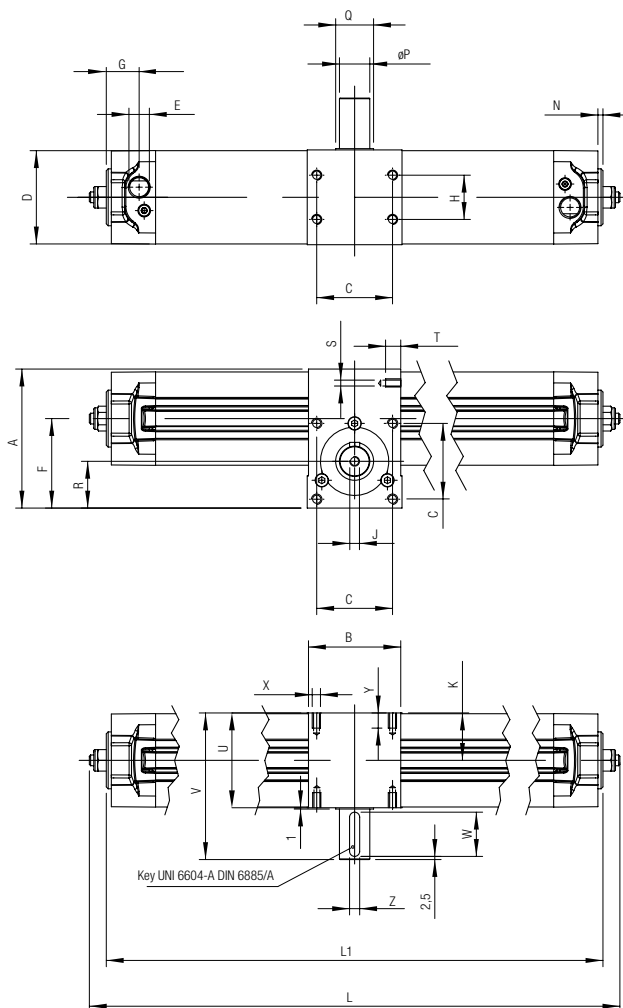


**Torque at 1 bar**

Ø mm	Nm
<b>32</b>	1.2
<b>40</b>	2.25
<b>50</b>	3.9
<b>63</b>	7.3
<b>80</b>	15.7
<b>100</b>	26.35

**XRM**

ROTARY ACTUATOR WITH MALE OUTPUT SHAFT AND ANGLE ADJUSTMENT +/- 5°



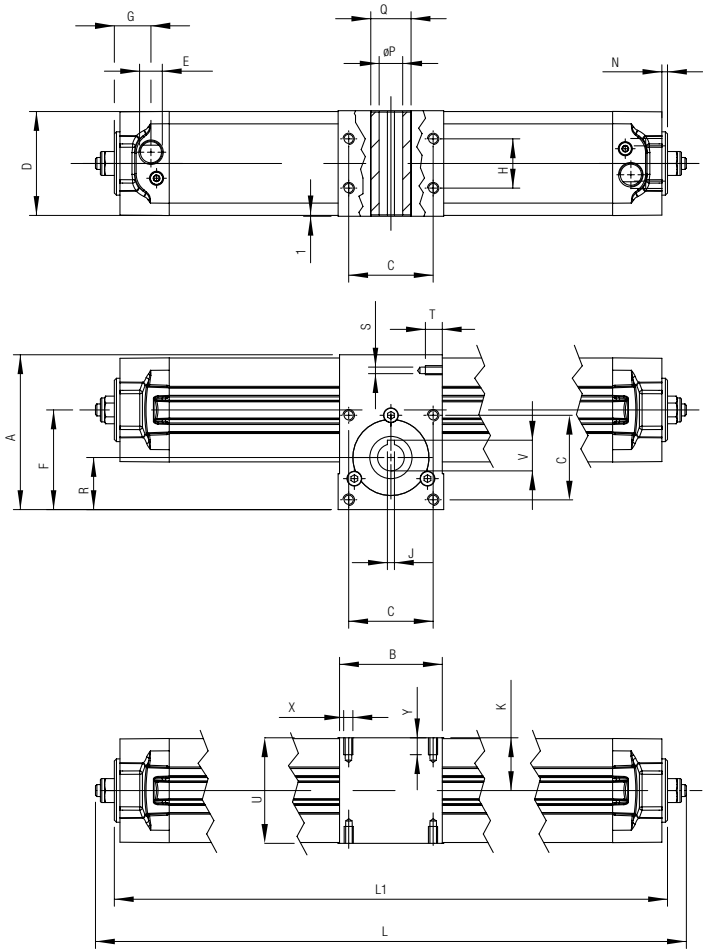
Ø mm	Rotation							
	90°		180°		270°		360°	
	L	L1	L	L1	L	L1	L	L1
<b>32</b>	232	213	279	260	326	307	373	354
<b>40</b>	274	254	330	310	387	367	464	424
<b>50</b>	301	276	364	339	427	402	489	464
<b>63</b>	343	320	418	395	493	470	567	544
<b>80</b>	416	386	515	485	614	584	713	683
<b>100</b>	449	418	556	525	662	631	769	738

Dimensions L and L1 for rotations.

Ø	A	B	C	D	E	F	G	H	J	K	N	P	Q	R	S	T	U	V	W	X	Y	Z
<b>32</b>	71.5	50	33	46	1/8 G	46.5	22	18	M5	25	4	14	25	25	M5	9	50	81	25	M6	10	5
<b>40</b>	82	60	40	54	1/4G	54.5	21.5	22	M5	30	4	14	25	30	M5	10	60	91	25	M6	10	5
<b>50</b>	94	70	50	64	1/4G	60.5	24.5	25	M6	32.5	4	19	30	32.5	M6	8	65	106	35	M8	13	6
<b>63</b>	110	75	60	74	3/8G	70.8	26	35	M8	37.5	4	24	30	37	M8	10	75	116	35	M8	13	8
<b>80</b>	142	99	80	94	3/8 G	93.5	26	50	M8	49.5	4	28	45	50	M9	12	99	150	45	M10	16	8
<b>100</b>	156.5	115	80	111	1/2 G	99	30	60	M10	57.5	4	38	50	54	M9	17	115	166	45	M10	16	10

**XRF**

ROTARY ACTUATOR WITH FEMALE OUTPUT SHAFT AND ANGLE ADJUSTMENT +/- 5°

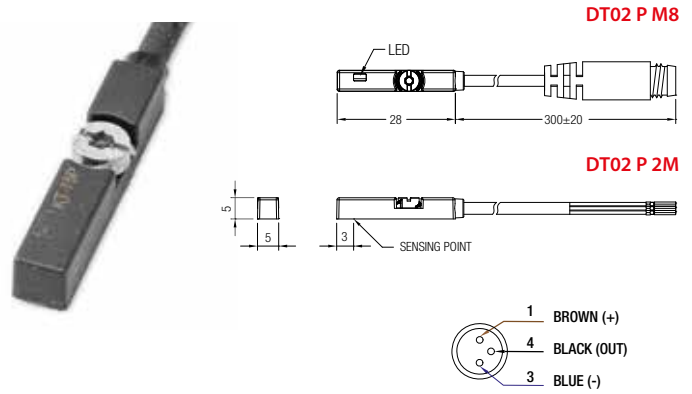
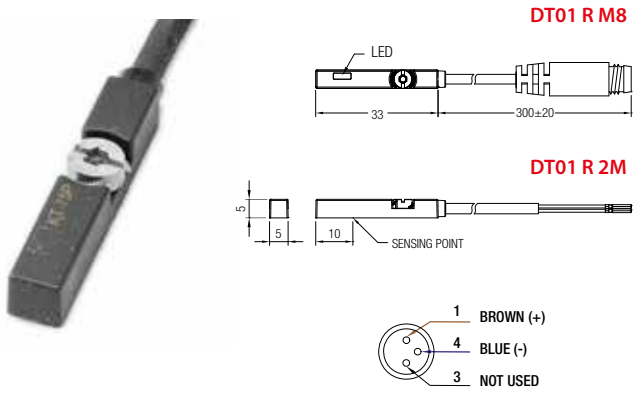


Ø mm	Rotation							
	90°		180°		270°		360°	
	L	L1	L	L1	L	L1	L	L1
32	232	213	279	260	326	307	373	354
40	274	254	330	310	387	367	464	424
50	301	276	364	339	427	402	489	464
63	343	320	418	395	493	470	567	544
80	416	386	515	485	614	584	713	683
100	449	418	556	525	662	631	769	738

Dimensions L and L1 for rotations.

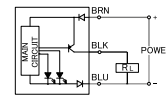
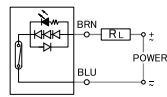
Ø	A	B	C	D	E	F	G	H	J	K	N	ØP	Q	R	S	T	U	V	X	Y
32	71.5	50	33	46	1/8 G	46.5	22	18	5	25	4	14	25	25	M5	9	50	16.3	M6	10
40	82	60	40	54	1/4 G	54.5	21.5	22	5	30	4	14	25	30	M5	10	60	16.3	M6	10
50	94	70	50	64	1/4 G	60.5	24.5	25	6	32.5	4	19	30	32.5	M6	8	65	21.8	M8	13
63	110	75	60	74	3/8 G	70.8	26	35	6	37.5	4	19	30	37	M8	10	75	21.8	M8	13
80	142	99	80	94	3/8 G	93.5	26	50	8	49.5	4	24	45	50	M9	12	99	27.3	M10	16
100	156.5	115	80	111	1/2 G	99	30	60	8	57.5	4	28	50	54	M9	17	115	31.3	M10	16

**SERIES DT - MAGNETIC SWITCHES**



<b>Part No.</b> <b>DT01 R 2M</b>	<b>Part No.</b> <b>DT01 R M8</b>
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<b>Part No.</b> <b>DT02 P 2M</b>	<b>Part No.</b> <b>DT02 P M8</b>
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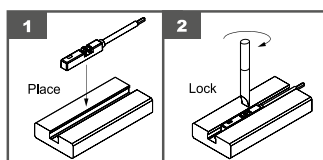


Connection	∅ 2.8 - 2 WIRE PU - 2MT	∅ 2.8 - 2 WIRE PU - M8 CONNECTOR
Switching logic	SPST. Normally open	
Sensor type	Reed Switch	
Voltage Range	5÷240V DC/AC	
Switching current	100 mA max	
Contact rating	10W max	
Max voltage drop	0.3V	
Output status indicator	RED LED	
Operating frequency	200 Hz	
Working temperature	-10 / + 70 °C 14 / 158 °F	
Shock	30 G	
Vibration	9 G	
Protection degree	IEC 60529 IP67	
Protection Circuit	NO	

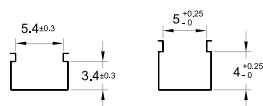
Connection	∅ 2.8 - 3 WIRE PU - 2MT	∅ 2.8 - 3 WIRE PU - M8 CONNECTOR
Switching logic	Solid State Output. Normally open	
Sensor type	PNP Current Sourcing	
Voltage Range	10÷28V DC	
Switching current	80 mA max	
Contact rating	2W max	
Max voltage drop	10mA @ 24V DC max	
Max voltage drop	1.5V max	
Leakage current	0.05mA max	
Output status indicator	RED/GREEN LED	
Operating frequency	1000 Hz	
Magnetic requirement	50 Gauss	
Working temperature	-10 / + 60 °C 14 / 140 °F	
Shock	50 G	
Vibration	9 G	
Protection degree	IEC 60529 IP67	



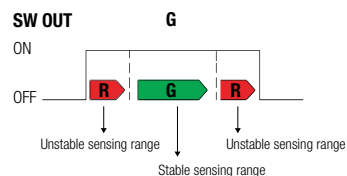
**Quick Installation**



Common cylinder slot dimensions



Dual color LED allows more precise positioning.



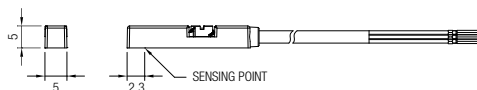
**SERIES DTEX - ATEX SWITCHES**



CE ATEX APPROVAL  
(Baseefa14ATEX0118)

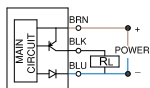


II 3GDEx ic IIB T4 Gc (-10°C ≤ Ta ≤ +70°C)  
Ex ic IIB T135 °C Dc (-10°C ≤ Ta ≤ +70°C)



**DTEX03 P 2M**

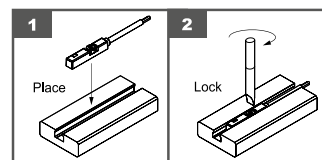
**Part No.**  
**DTEX03 P 2M**



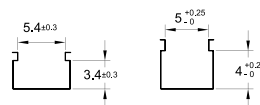
Connection	∅ 2.8 - 3WIRE PU - 2 MT
Switching logic	Solid State Output. Normally open
Sensor type	PNP Current Sourcing
Voltage Range	10÷28 V DC
Switching current	200 mA max
Contact rating	5.5 W max
Max voltage drop	10 mA @ 24 V DC max
Max voltage drop	1.5 V @ 50mA max
Leakage current	0.05 mA max
Output status indicator	RED YELLOW
Operating frequency	1000 Hz
Magnetic requirement	50 Gauss
Working temperature	-10 / + 70 °C 14 / 158 °F
Shock	50 G
Vibration	9 G
Protection degree	IEC 60529 IP67



**Quick Installation**

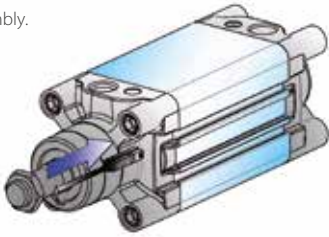


Common cylinder slot dimensions

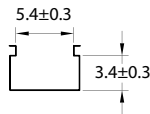


**SERIES DSL - MAGNETIC SWITCHES**

DSL sensor lengthwise assembly.



Common cylinder slot dimensions



	Part No. <b>DSL1 C 225</b>	Part No. <b>DSL1 M8</b>	Part No. <b>DSL4 N 225</b>	Part No. <b>DSL4 M8</b>
Image				
Circuit diagram				
Connection	2 WIRE PVC - 2.5 MT	2 WIRE PVC - 0.3 MT - M8 CONNECTOR	3 WIRE PVC - 2.5 MT	3 WIRE PVC - 0.3 MT - M8 CONNECTOR
Switching logic	N.O.			
Sensor type	REED	REED	PNP - HALL	PNP - HALL
Voltage Range	3-130 V AC/DC	3-130 V AC/DC	10-30 V DC	10-30 V DC
Max current at 25°C (77 °F)	50 mA	50 mA	200 mA	200 mA
Max power/Resistive load	10 W	10 W	6 W	6 W
Max voltage drop	3.2 V	3.2 V	0.8 V	0.8 V
Output status indicator	YELLOW LED			
Response time	0.5 ms max	0.5 ms max	0.2 ms max	0.2 ms max
Decay time	0.1 ms max			
Electric life (resistive load)	4x10 <sup>7</sup>			
Working temperature	-20 / + 70 °C -4 / 158 °F			
Protection degree	IP 68			
Short circuit	NO			
Type of mounting to the cylinder	Longitudinal only			

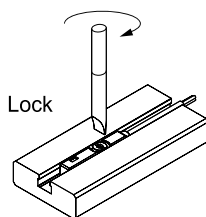
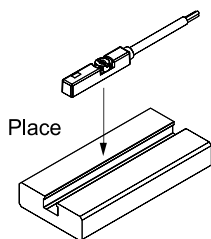
**BRACKET FOR DSL TO USE WITH MINI CYLINDERS ISO 6432 AND A95 SERIES CYLINDERS**

Part No.	Ø	F = Ø	A	B	Part No.	Ø	F = Ø	A	B
<b>MFX 008</b>	<b>8</b>	9.4 mm	14	8	<b>AFX 032</b>	<b>32</b>	33.5 mm	14	8
<b>MFX 010</b>	<b>10</b>	11.3 mm	14	8	<b>AFX 040</b>	<b>40</b>	41.5 mm	14	8
<b>MFX 012</b>	<b>12</b>	13.3 mm	14	8	<b>AFX 050</b>	<b>50</b>	52 mm	14	8
<b>MFX 016</b>	<b>16</b>	17.3 mm	14	8	<b>AFX 063</b>	<b>63</b>	65 mm	14	8
<b>MFX 020</b>	<b>20</b>	21.3 mm	14	8					
<b>MFX 025</b>	<b>25</b>	26.3 mm	14	8					

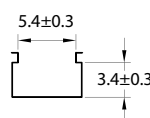


**SERIES DSH - MAGNETIC SWITCHES**

DSH sensors with axial or long inserting slot.



Common cylinder slot dimensions



	Part No. <b>DSH2 R 2F 20</b>	Part No. <b>DSH2 R 2F M8</b>	Part No. <b>DSH4 H 3F 20</b>	Part No. <b>DSH4 H 3F M8</b>
Image				
Circuit diagram				
Connection	2 WIRE PVC - 2 MT	2 WIRE PVC - 0.3 MT - M8 CONNECTOR	3 WIRE PUR - 2 MT	3 WIRE PUR - 0.3 MT - M8 CONNECTOR
Switching logic	N.O.			
Sensor type	REED	REED	PNP - HALL	PNP - HALL
Voltage Range	5-120 V AC/DC	5-120 V AC/DC	10-30 V DC	10-30 V DC
Max current at 25°C (77 °F)	100 mA			
Max power/Resistive load	10 W	10 W	-	-
Max voltage drop	< 5 V	< 5 V	< 2.5 V	< 2.5 V
Output status indicator	YELLOW LED			
Response time	0.5 ms max	0.5 ms max	-	-
Decay time	0.1 ms max	0.1 ms max	< 30 ms	< 30 ms
Electric life (resistive load)	10 <sup>7</sup>	10 <sup>7</sup>	INFINITE	INFINITE
Working temperature	-20 / + 70 °C -4 / 158 °F		-25 / + 85 °C -13 / 185 °F	
Protection degree	IP 67			
Short circuit	NO			
Type of mounting to the cylinder	Axial and longitudinal			

**BRACKET FOR DSH TO USE WITH MINI CYLINDERS ISO 6432**

Part No.	Ø	F = Ø
<b>MFH 012</b>	<b>12</b>	13.3 mm
<b>MFH 016</b>	<b>16</b>	17.3 mm
<b>MFH 020</b>	<b>20</b>	21.3 mm
<b>MFH 025</b>	<b>25</b>	26.3 mm





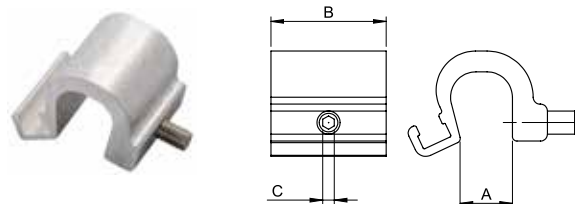
**BRACKET FOR CYLINDERS WITH TIE RODS**



**EXF**

BRACKET FOR DSL - DSH - DT SENSORS

Part No.	∅	A	B	C
<b>EXF032</b>	32 - 40	7,5	25	2
<b>EXF050</b>	50 - 63	11,3	25	2,5
<b>EXF080</b>	80 - 100 - 125	15,3	25	2,5
<b>EXF160</b>	160 - 200 - 250	20	25	2,5



**EXTENSION MAGNETIC FOR SWITCHES**

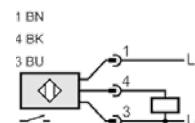
**EXF**

BRACKET FOR DSL - DSH - DT SENSORS

Part No.	Lunghezza - Length - Länge - Longueur - Longitud - Comprimento
<b>PX 2000 PUR</b>	2 MT
<b>PX 5000 PUR</b>	5 MT



Circuit diagram



**SENSOR DC ADAPTER**

**DC**

SENSOR DC ADAPTER



**DC 00 001**



**DC 10 001**

**Directive 2014/34/UE (ATEX)**

The Pneumatic Cylinders: Cartridge, Mini Cylinders ISO 6432, Stainless steel Mini Cylinders, A95, Compact (Q - W), Short Stroke (B), Series X ISO 15552, Series E ISO 6431, Twin-piston rod Series NHA ISO 15552 and Series P ISO 15552 show the following features:

**II 2 GD c T6 -20°C<Tamb<80°C**

**II 2 GD:** Device for surface installations (II = do not use device in mining) with presence of gas, vapors of powders of category 2 (equipment with high safety factor since it excludes danger of explosion, even in case of damage; it can be used in areas with possible explosive environments).

**c:** Devices are constructively safe

**T6 – 10°C<Tamb<60°C:** Surface temperature class and additional marking for T usage environment.



		<b>TECHNICKÁ INŠPEKCIA, a.s.</b> 					
<b>SLOVENSÁ REPUBLIKA</b> <b>ACKNOWLEDGEMENT OF RECEIPT</b> <b>no. 564/5/2015</b>							
Technická inšpekcia, a. s., Trnavská cesta 56, 821 01 Bratislava Notified body: 1354,							
<b>confirms, that Technical File Documentation</b> prepared by <b>Aignep S.p.A.</b> <b>Via Don G. Bazzoli 34, 25070 Bione (BS), Italy</b>							
has been received and stored according to the Directive 94/9/EC (ATEX) on equipment and protective systems intended for use in potentially explosive atmospheres							
Scope of Ex Equipment:							
<b>Cylinders</b> Types: Cartridge Cylinders, Mini Cylinders ISO 6432, Mini Cylinders inox, A95 Cylinders, Compact Cylinders, Short Stroke Cylinders, Cylinders X ISO 15552, Cylinders E ISO 6431, Twin Piston Rod Cylinders NHA ISO 15552, Cylinders P ISO 15552							
Classification:  II 2 GD c T6 - 20°C<Tamb<80°C							
<b>Technical File Documentation</b>							
<table border="1"> <thead> <tr> <th>Doc. no.</th> <th>Issue</th> </tr> </thead> <tbody> <tr> <td>Technical Book According to 94/9/EC</td> <td>10/3/15 Rev.0</td> </tr> </tbody> </table>		Doc. no.	Issue	Technical Book According to 94/9/EC	10/3/15 Rev.0		
Doc. no.	Issue						
Technical Book According to 94/9/EC	10/3/15 Rev.0						
Technical documentation will be stored for 10 years until March 25 <sup>th</sup> , 2025.							
Bratislava, March 25 <sup>th</sup> , 2015							
		On behalf of Technická inšpekcia, a.s.  Ing. Dušan Konický General Director					
271018 PDOKA1-41							

See Instructions and Certificate at:

**WWW.AIGNEP.COM**



## Mini FRL Series



**N010 Mini**  
Pag. 15.4



**N015 Mini**  
Pag. 15.6



**N020 Mini**  
Pag. 15.8



**N070 Mini**  
Pag. 15.10



**N080 Mini**  
Pag. 15.12



**N030 Mini**  
Pag. 15.14



**N040 Mini**  
Pag. 15.16



**N100 Mini**  
Pag. 15.18



**N400 Mini**  
Pag. 15.20



**Accessories**  
Pag. 15.22

## FRL Evo Series



**N010**  
Pag. 15.29



**N015**  
Pag. 15.31



**N020**  
Pag. 15.33



**N025**  
Pag. 15.35



**N030**  
Pag. 20.37



**N040**  
Pag. 15.39



**N050**  
Pag. 15.41



**N051**  
Pag. 15.43



**N052**  
Pag. 15.45



**N060**  
Pag. 15.47



**N090**  
Pag. 15.49



**N100**  
Pag. 15.51



**N400**  
Pag. 15.53



**Accessories**  
Pag. 15.55

**AIR TREATMENT UNIT**



**FRL Series**



**Mini technical instruction**

The FRL components must be assembled in the following order: Filter, Regulator, Lubricator.  
While connecting the components, be sure that the air flows towards the direction of the arrows located on the upper surface of the components



**Assembling and Setting pressure**

- 1 To set up each component, follow these steps:
  - Line the plates up with the bodies.
  - Assemble parts together, making sure that the o-ring seals are in their proper seats.
  - Tighten the screws on the plates.
- 2 To regulate the pressure, follow these instructions:
  - Turn the knob to the desired pressure.
  - Rotate the knob to increase or decrease the pressure.
  - Press the knob to the block position.

The pressure gauge has to be assembled manually with the addition of liquid sealant.

The mini quick exhaust regulator allows the circuit downstream to exhaust rapidly when upstream pressure is interrupted.



**Mini technical instruction**

- 1 The manual/semiautomatic condensation exhaust is normally in the open position; i.e. it automatically exhausts the condensation when there is no pressure inside the bowl. Pressing the knob will exhaust the condensation even if there is pressure. Turning the knob counter-clockwise will close off the exhaust.
- 2 To add oil to the lubricator, unscrew the plug located on the upper surface or disassemble the bowl. Make sure that there is no pressure in the system before adding oil or disassembling the bowl.
- 3 To remove the bowl, use CH3 caliper face spanners.

The transparent bowl shows the condensation level in the filter and the oil level in the lubricator.



**N010 MINI**

**FILTER**



**TECHNICAL CHARACTERISTICS**



Reference standard

1907/2006  
**REACH** ✓

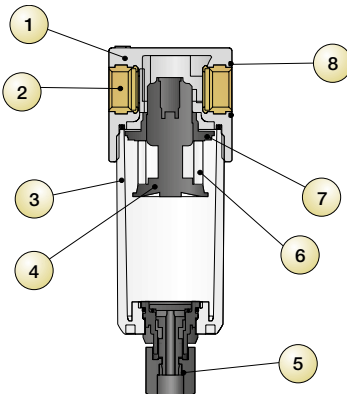
2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE



**Component Parts and Materials**

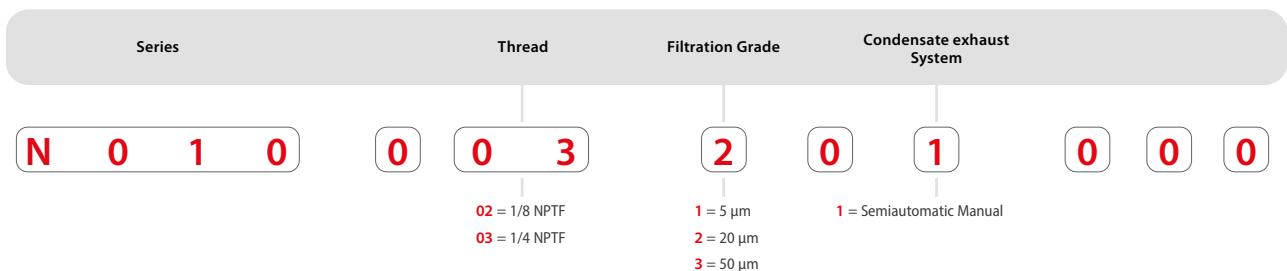
- 1 Technopolymeric Body
- 2 Brass Threaded insert
- 3 Technopolymeric Bowl
- 4 Technopolymeric Filter ring
- 5 Technopolymeric Condensate exhaust
- 6 PE Filtering cartridge
- 7 Technopolymeric Slinger
- 8 NBR O-Ring



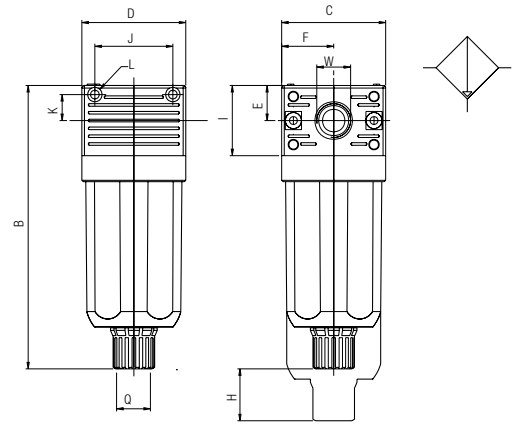
	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	5 µm 20 µm STANDARD 50 µm
	6 bar FLOW RATE with Δp 1 bar	800 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	17.5 cm <sup>3</sup>
	CONDENSATION EXHAUST	Manual    Semi Automatic



**Part Numbering System**



**N010**



**Dimensions**

B	C	D	E	F	H	I	J	K	L	W	Q
109	40	40	13.5	20	11	27	30	10	Ø X M3	1/8 - 1/4	1/8

Part Number	Size	Thread (NPTF)	Filtration	Flow Rate (NPTF)
<b>N010 002 201 000</b>	FIL 0	1/8	20 µm	800 NI/min
<b>N010 003 201 000</b>	FIL 0	1/4	20 µm	800 NI/min



**N015 MINI**

**COALESCER FILTER**



**TECHNICAL CHARACTERISTICS**



Reference standard

1907/2006  
**REACH** ✓

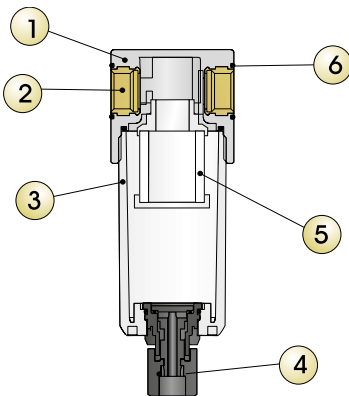
2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE



**Component Parts and Materials**

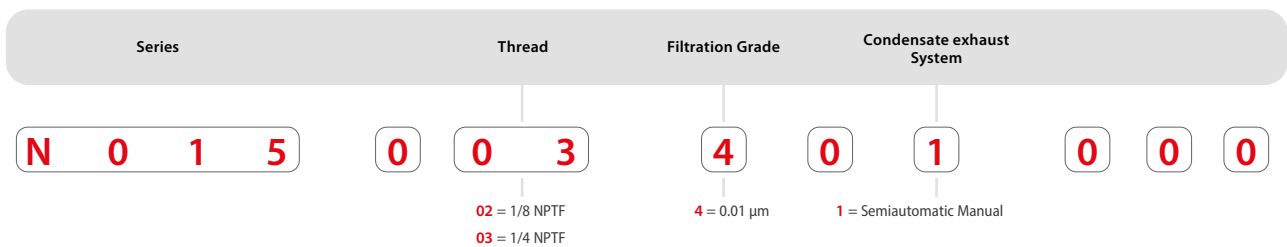
- 1 Technopolymeric Body
- 2 Brass Threaded insert
- 3 Technopolymeric Bowl
- 4 Technopolymeric Condensate exhaust
- 5 Coalescer cartridge
- 6 NBR O-Ring



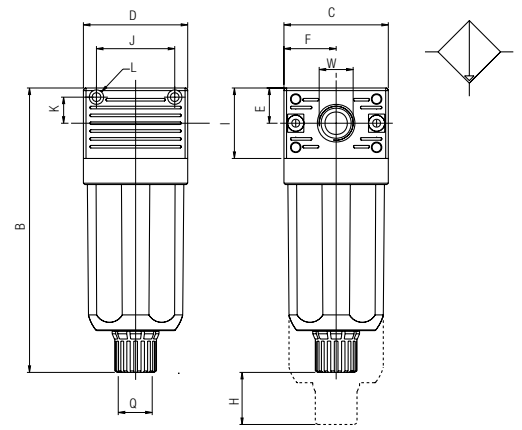
	FLUID	5 µm Filtered Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	0.01 µm
	6 bar FLOW RATE with Δp 1 bar	450 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	17.5 cm <sup>3</sup>
	CONDENSATION EXHAUST	Manual    Semi Automatic



**Part Numbering System**



**N015 Mini**



**Dimensions**

B	C	D	E	F	H	I	J	K	L	W	Q
109	40	40	13.5	20	11	27	30	10	Ø X M3	1/8 - 1/4	1/8

NB: With Coalescer filter T015 we recommend to install a 5 µm Filter upstream..

Part Number	Size	Thread (NPTF)	Filtration	Flow Rate (NPTF)
<b>N015 002 401 000</b>	FC 0	1/8	0.01 µm	450 NI/min
<b>N015 003 401 000</b>	FC 0	1/4	0.01 µm	450 NI/min

**N020 MINI**

**REGULATOR**



**TECHNICAL CHARACTERISTICS**



Reference standard

1907/2006  
**REACH** ✓

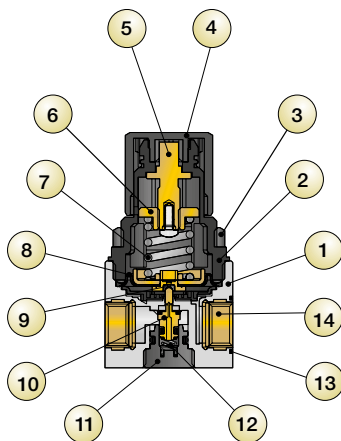
2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE



**Component Parts and Materials**

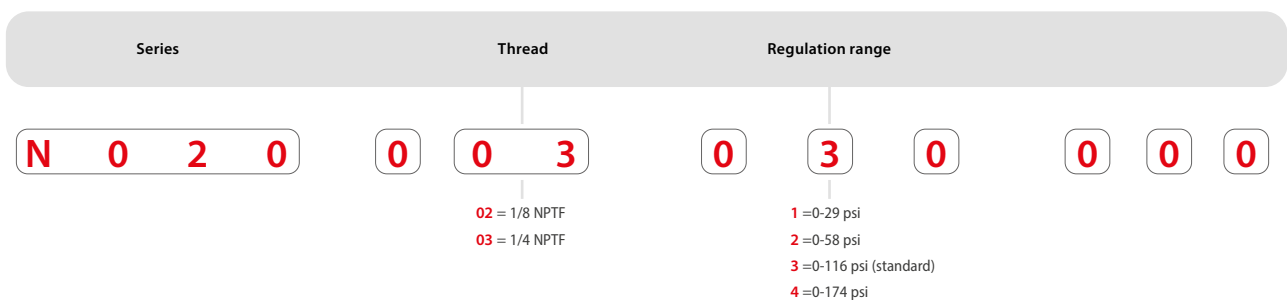
- 1 Technopolymeric Boby
- 2 Technopolymeric Bell
- 3 Technopolymeric Fixing nut
- 4 Technopolymeric Knob
- 5 Brass Register screw
- 6 Brass Female screw
- 7 Steel Register spring
- 8 Membrane Rolling
- 9 NBR Relieving diaphragm
- 10 Shutter with NBR vulcanized seal
- 11 Technopolymeric Plug
- 12 Stainless steel Push-shutter spring
- 13 NBR O-Ring
- 14 Brass Threaded insert



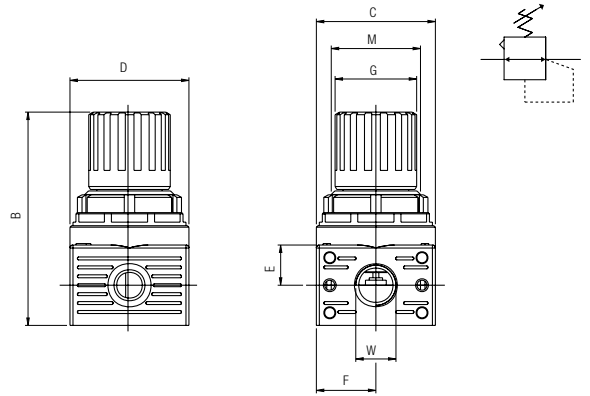
	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	6 bar FLOW RATE with Δp 1 bar	600 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	GAUGE THREAD	G 1/8



**Part Numbering System**



**N020 Mini**



**Dimensions**

B	C	D	E	F	G	I	M	W
74	40	40	13.5	20	27.5	27	M30X1.5	1/8 - 1/4

Part Number	Size	Thread (NPTF)	Regulation	Flow Rate (NPTF)
<b>N020 002 030 000</b>	REG 0	1/8	0-116 psi	600 NI/min
<b>N020 003 030 000</b>	REG 0	1/4	0-116 psi	600 NI/min

**N070 MINI**

**QUICK EXHAUST REGULATOR**



**TECHNICAL CHARACTERISTICS**



Reference standard

1907/2006  
**REACH** ✓

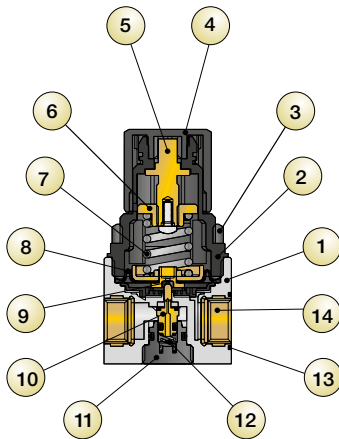
2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE



**Component Parts and Materials**

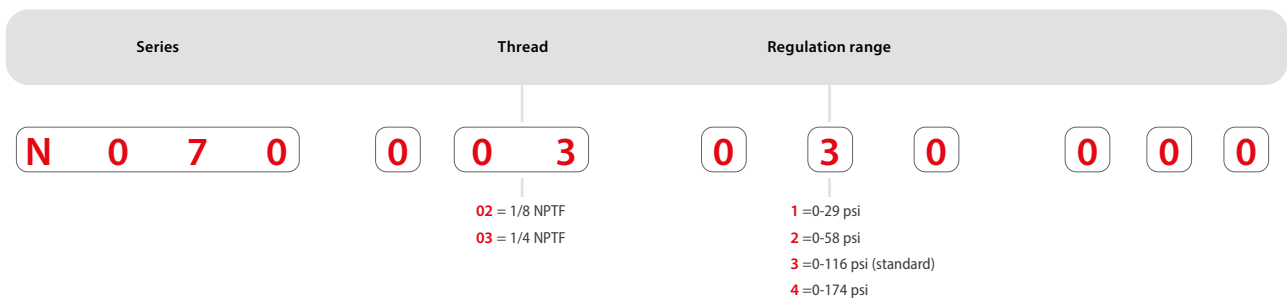
- 1 Technopolymeric Boby
- 2 Technopolymeric Bell
- 3 Technopolymeric Fixing nut
- 4 Technopolymeric Knob
- 5 Brass Register screw
- 6 Brass Female screw
- 7 Steel Register spring
- 8 Membrane Rolling
- 9 NBR Relieving diaphragm
- 10 Shutter with NBR vulcanized seal
- 11 Technopolymeric Plug
- 12 Stainless steel Push-shutter spring
- 13 NBR O-Ring
- 14 Brass Threaded insert



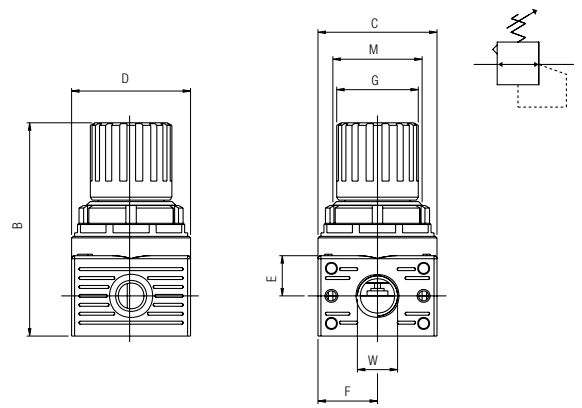
	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	6 bar FLOW RATE with Δp 1 bar	600 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	GAUGE THREAD	G 1/8



**Part Numbering System**



**N070 Mini**



**Dimensions**

B	C	D	E	F	G	I	M	W
74	40	40	13.5	20	27.5	27	M30X1.5	1/8 - 1/4

Part Number	Size	Thread (NPTF)	Regulation	Flow Rate (NPTF)
<b>N070 002 030 000</b>	REG. 0	1/8	0-116 psi	600 NI/min
<b>N070 003 030 000</b>	REG. 0	1/4	0-116 psi	600 NI/min

**N080 MINI**

**WATER REGULATOR**



**TECHNICAL CHARACTERISTICS**



Reference standard

1907/2006  
REACH ✓

2011/65/CE  
RoHS ✓

PED  
2014/68/UE

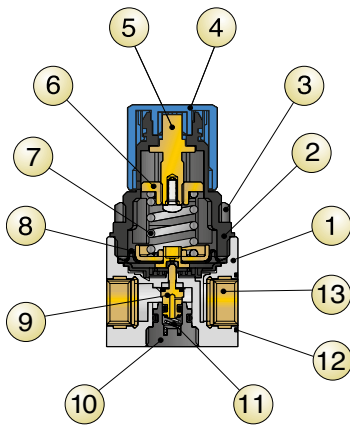


Food grade approved version also available.

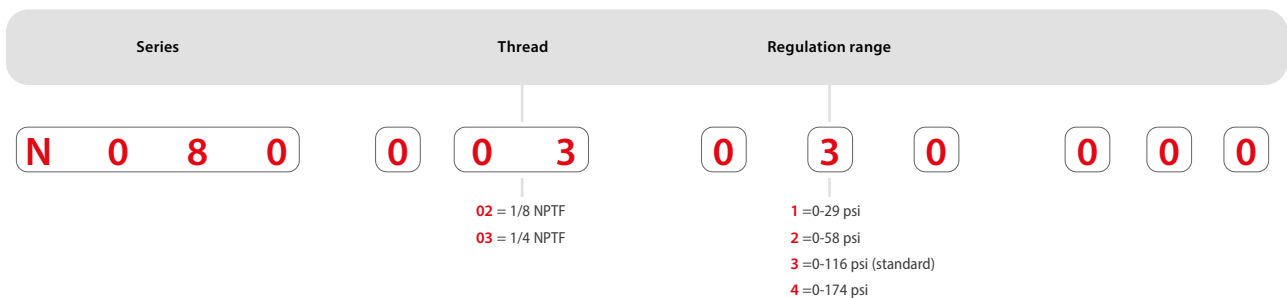


**Component Parts and Materials**

- 1 Technopolymeric Boby
- 2 Technopolymeric Bell
- 3 Technopolymeric Fixing nut
- 4 Technopolymeric Knob
- 5 Brass Register screw
- 6 Brass Female screw
- 7 Steel Register spring
- 8 Membrane Rolling
- 9 Shutter with NBR vulcanized seal
- 10 Technopolymeric Plug
- 11 Stainless steel Push-shutter spring
- 12 NBR O-Ring
- 13 Brass Threaded insert

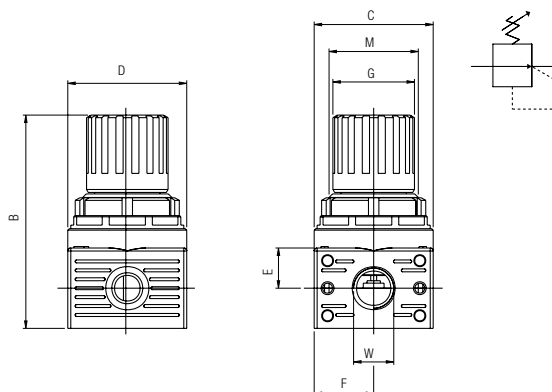


**Part Numbering System**



	FLUID	Water
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	+ 5 °C (41 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	GAUGE THREAD	G 1/8

**N080 Mini**



**Dimensions**

B	C	D	E	F	G	I	M	W
74	40	40	13.5	20	27.5	27	M30X1.5	1/8 - 1/4

Part Number	Size	Thread (NPTF)	Regulation
<b>N080 002 030 000</b>	WATER REG. 0	1/8	0-116 psi
<b>N080 003 030 000</b>	WATER REG. 0	1/4	0-116 psi



**N030 MINI**

**FILTER REGULATOR**



**TECHNICAL CHARACTERISTICS**



**Reference standard**

1907/2006  
**REACH** ✓

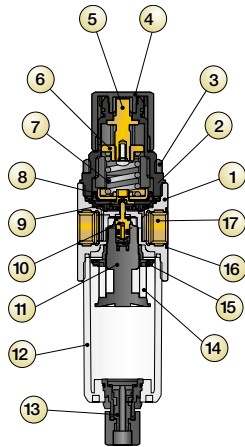
2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE



**Component Parts and Materials**

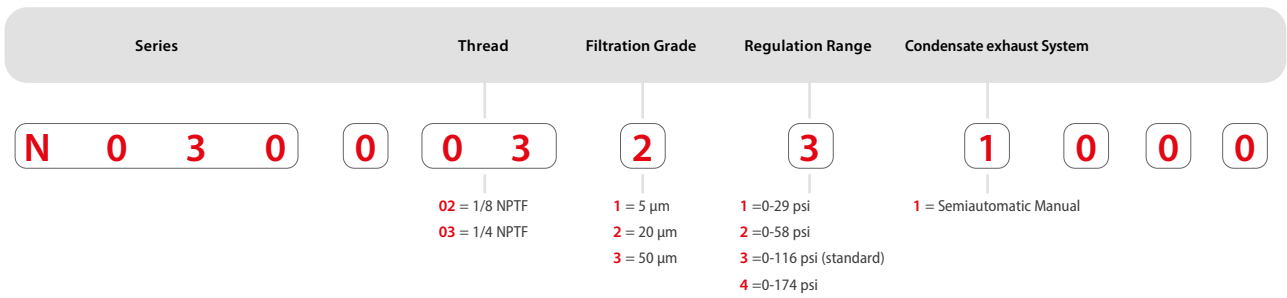
- 1 Technopolymeric Body
- 2 Technopolymeric Bell
- 3 Technopolymeric Fixing nut
- 4 Technopolymeric Knob
- 5 Brass Register screw
- 6 Brass Female screw
- 7 Register spring made in steel
- 8 Rolling membrane
- 9 NBR Relieving diaphragm
- 10 Shutter with NBR vulcanized seal
- 11 Technopolymeric Filter ring
- 12 Technopolymeric Bowl
- 13 Technopolymeric Condensate exhaust
- 14 PE Filtering cartridge
- 15 Technopolymeric Slinger
- 16 NBR O-Ring
- 17 Brass Threaded insert



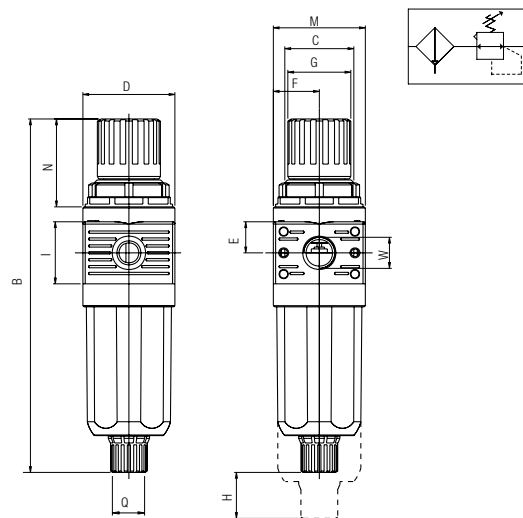
	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	REGULATION RANGE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	FILTRATION GRADE	5 µm 20 µm STANDARD 50 µm
	6 bar FLOW RATE with Δp 1 bar	600 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	+ 5 °C (41 F) + 50 °C (122 F)
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	17.5 cm <sup>3</sup>
	CONDENSATE EXHAUST	Manual      Semi Automatic
	GAUGE THREAD	G 1/8



**Part Numbering System**



**N030 Mini**



**Dimensions**

B	C	D	E	F	G	H	I	M	N	W
156	M30X1.5	40	13.5	20	27.5	11	27	40	40	1/8 - 1/4

Part Number	Size	Thread (NPTF)	Filtration	Regulation	Flow Rate (NPTF)
<b>N030 002 231 000</b>	FR 0	1/8	20µm	0-116 psi	600 NI/min
<b>N030 003 231 000</b>	FR 0	1/4	20µm	0-116 psi	600 NI/min

**N040 MINI**

**LUBRICATOR**



**TECHNICAL CHARACTERISTICS**



Reference standard

1907/2006  
REACH ✓

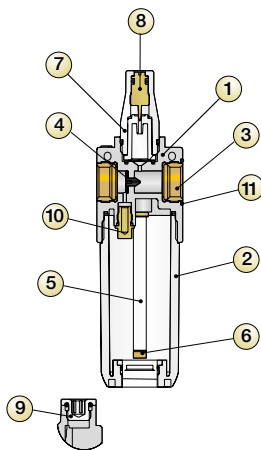
2011/65/CE  
RoHS ✓

PED  
2014/68/UE



**Component Parts and Materials**

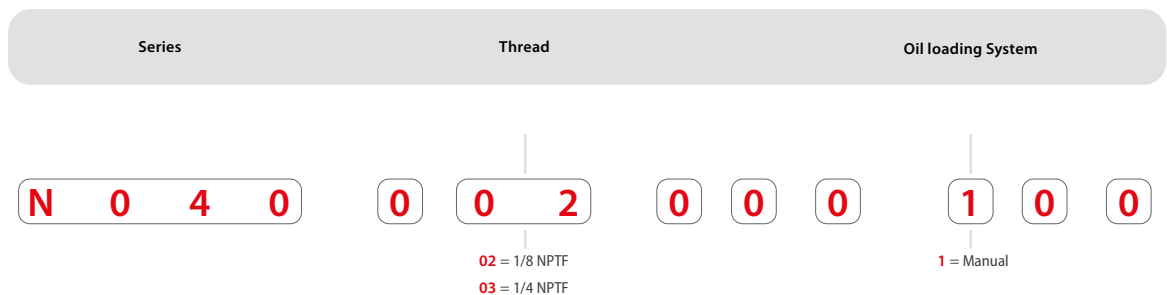
- 1 Technopolymeric Body
- 2 Technopolymeric Bowl
- 3 Brass Threaded insert
- 4 Membrane Venturi device
- 5 Oil aspiration tube made in PA11
- 6 Small filter
- 7 Trasparent technopolymeric Visual dome
- 8 Brass Oil regulating capacity pin
- 9 Brass Oil loading plug
- 10 Brass Air diffuser
- 11 NBR O-Ring



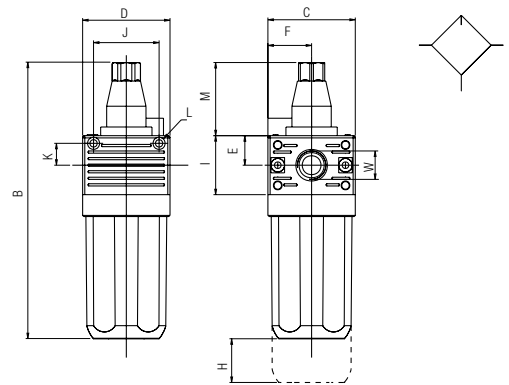
	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	6 bar FLOW RATE with Δp 1 bar	700 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	WALL CLAMPING SCREWS	M3
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	28 cm <sup>3</sup>
	RECOMMENDED OILS	ISO VG 22A CLASS ISO 3448 NORMA



**Part Numbering System**



**N040 Mini**



**Dimensions**

B	C	D	E	F	H	I	J	K	L	M	W
130	40	40	13.5	20	11	27	30	10	Ø X M3	33.5	1/8 - 1/4

Part Number	Size	Thread (NPTF)	Flow Rate (NPTF)
<b>N040 002 000 100</b>	LUB 0	1/8	700 NI/min
<b>N040 003 000 100</b>	LUB 0	1/4	700 NI/min

**N100 MINI**

**FILTER REGULATOR + LUBRICATOR**



**TECHNICAL CHARACTERISTICS**



Reference standard

1907/2006  
**REACH** ✓

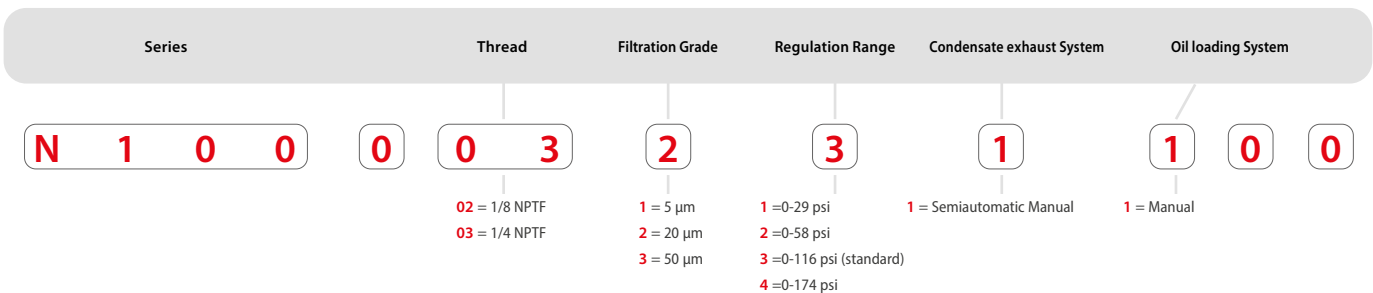
2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

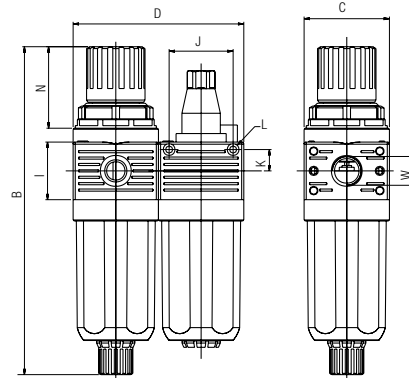
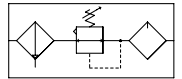
	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	5 µm 20 µm STANDARD 50 µm
	REGULATION RANGE	0-29 psi 0-58 psi 0-116 psi (standard) 0-174 psi
	6 bar FLOW RATE with Δp 1 bar	260 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	WALL CLAMPING SCREWS	M3
	ASSEMBLY POSITION	Vertical
	BOWL CAPACITY	28 cm <sup>3</sup>
	RECOMMENDED OILS	ISO VG 22A CLASS ISO 3448 NORMA



**Part Numbering System**



**N100 Mini**



**Dimensions**

B	C	D	I	J	K	L	N	W
156	40	80	27	30	10	Ø X M3	40	1/8 - 1/4

Part Number	Size	Thread (NPTF)	Filtration	Regulation	Flow Rate (NPTF)
<b>N100 002 231 100</b>	FR+L 0	1/8	20µm	0-116 psi	260 NI/min
<b>N100 003 231 100</b>	FR+L 0	1/4	20µm	0-116 psi	260 NI/min

**N400 MINI**

**FILTER + FILTER COALESSER**



**TECHNICAL CHARACTERISTICS**



Reference standard

1907/2006  
**REACH** ✓

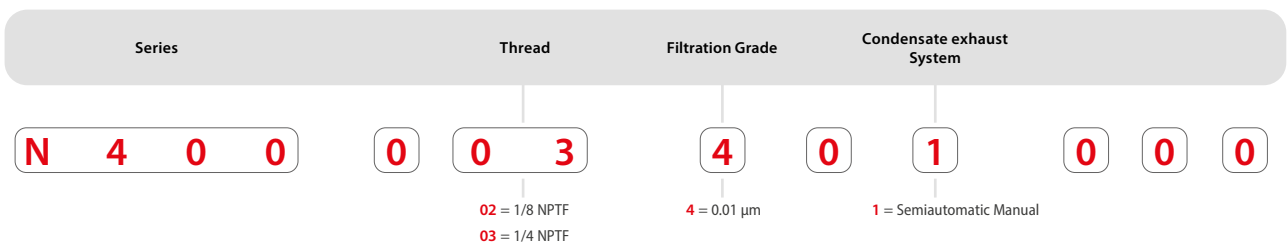
2011/65/CE  
**RoHS** ✓

PED  
2014/68/UE

	FLUID	Compressed Air
	THREAD	1/8" NPTF 1/4" NPTF
	FILTRATION GRADE	5 µm + 0.01 µm
	6 bar FLOW RATE with Δp 1 bar	370 NI/min
	MAX PRESSURE	15 bar (217 psi)
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)
	WALL CLAMPING SCREWS	M3
	ASSEMBLY POSITION	Vertical



**Part Numbering System**





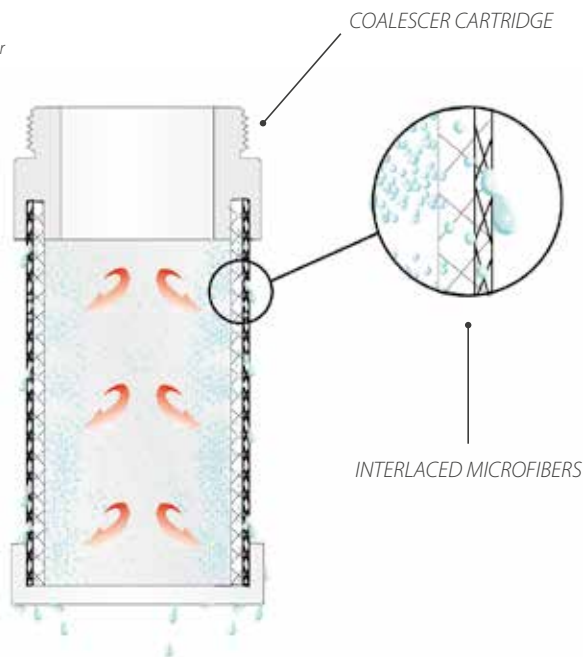
**Information**

Coalescer cartridge is made of a microfiber inner layer with an external stainless steel structure.

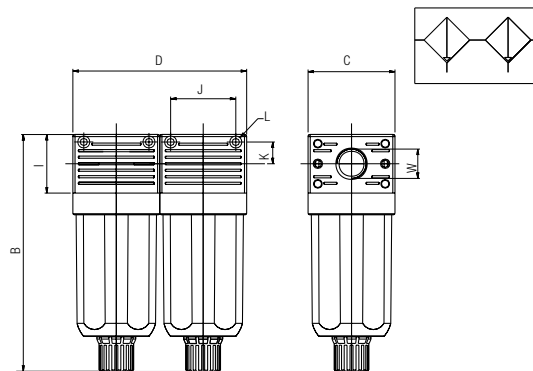
The coalescing cartridge uses inertial impact, interception and coalescence to collect excess liquid. This liquid will then drain into the bottom of the bowl.

The coalescing filter is used as oil separator which removes oil-vapours from the air output.

We recommend installing a 5 µm filter upstream to protect coalescing filter from choking the cartridge.



**N400 Mini**



**Dimensions**

B	C	D	I	J	K	L	W
109	40	80	27	30	10	Ø X M3	1/8 - 1/4

Part Number	Size	Thread (NPTF)	Filtration	Flow Rate (NPTF)
<b>N400 002 401 000</b>	FIL+FC 0	1/8	5µm + 0.01µm	370 NI/min
<b>N400 003 401 000</b>	FIL+FC 0	1/4	5µm + 0.01µm	370 NI/min



**FRL ACCESSORIES**

**T500**

CONNECTION PLATE



Part Number

**T500 000 000 000**

FRL 0

**T520**

BOWL FOR FILTER UNIT



Part Number

**T520 000 001 000**

FRL 0

**T530**

BOWL FOR LUBRICATOR UNIT



Part Number

**T530 000 000 100**

FRL 0

**T545**

COALESCER FILTER



Part Number

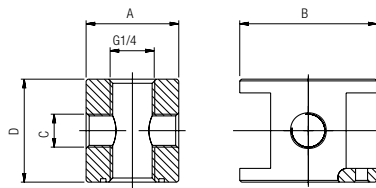
**T545 000 000 000**

FRL 0

**DIS00**

AIR DISTRIBUTOR

Part Number		A	B	C	D
<b>DIS00 001 100 NE</b>	FRL 0	27	40	1/8	30



**FIL04**

SINTERED FILTER

Part Number		
<b>FIL04 003 805 SC</b>	FRL 0	5 µm
<b>FIL04 003 820 SC</b>	FRL 0	20 µm
<b>FIL04 003 850 SC</b>	FRL 0	50 µm



**REG06**

REGISTER SPRING

Part Number		
<b>REG06 005 401 SC</b>	FRL 0	0-29 psi
<b>REG06 005 402 SC</b>	FRL 0	0-58 psi
<b>REG06 005 403 SC</b>	FRL 0	0-116 psi (standard)
<b>REG06 005 404 SC</b>	FRL 0	0-174 psi



**REG09**

MEMBRANE

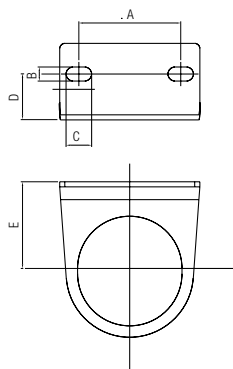
Part Number	
<b>REG09 001 700 SC</b>	FRL 0



**REG16**

CLAMP BRACKET

Part Number	A	B	C	D	F
<b>REG16 005 000 NE</b> FRL 0	21,5	5,5	12	15	31



**SOL01**

SOLENOID COIL

See Cap. Valves 13 - page 13.20

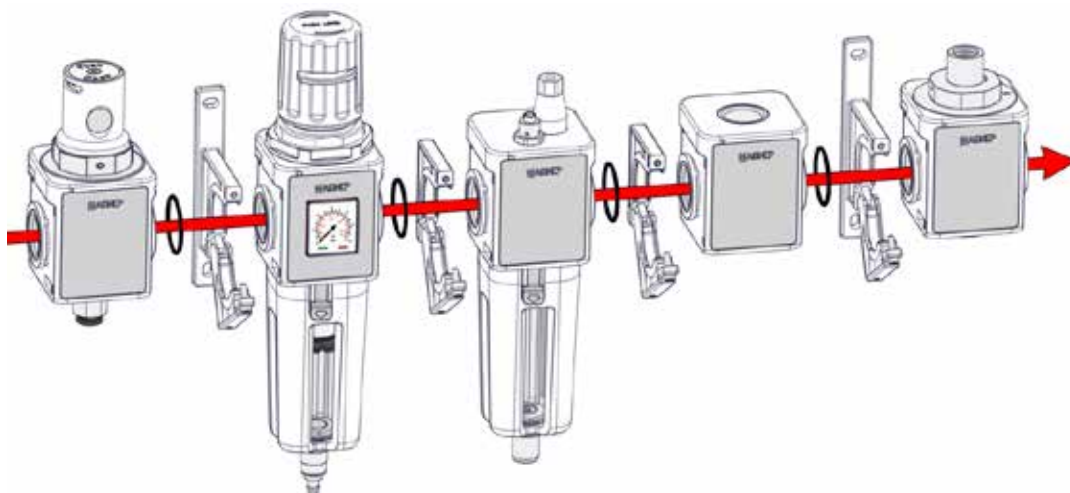


**TECHNICAL CHARACTERISTICS FRL 1-2**



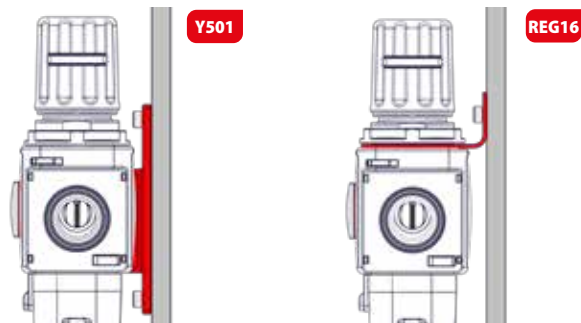
**Basic Assembly**

The "FRL Evo" line is modular and the connection between each unit is simplified thanks to the connection brackets. The assembly of the modules may change according to individual use. To operate, make sure the shut off valve is in the first position and the soft start valve is in the last. There is an arrow on every unit to indicate the correct direction of air flow.



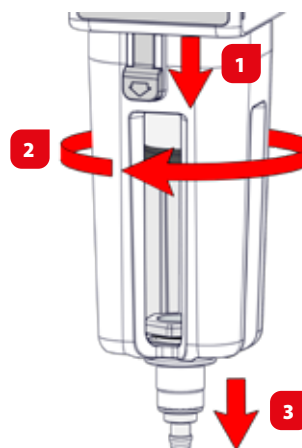
**Mounting Instructions**

Two mounting brackets are available for the FRL Evo Series to give the end user 2 different mounting options.



**Removing the Bowl**

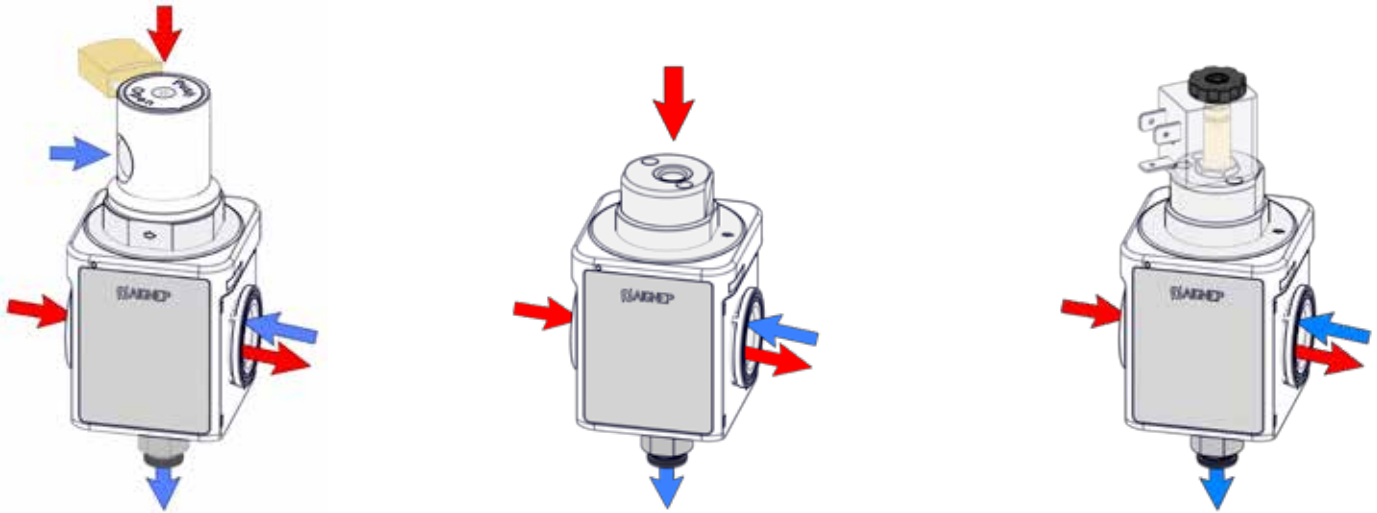
To release the bowl, press down the button with the arrow and rotate the bowl clockwise as shown in the drawing, then pull downward. The windows in the bowl allow you to view the level of condensation in the filter, or the amount of oil in the lubricator.





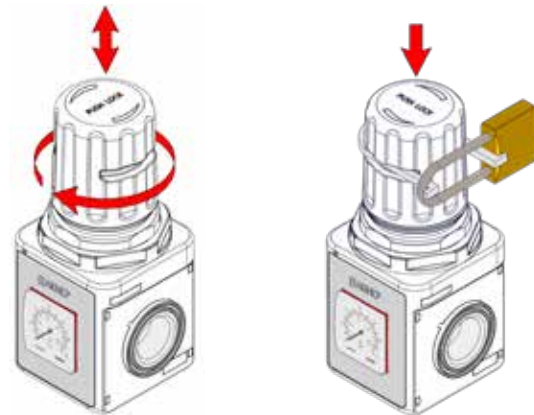
**Shut Off Valves**

3 versios of the Shut Off Valves are available: Manual with lock and anti-tampering system, pneumatic and electro-pneumatic.



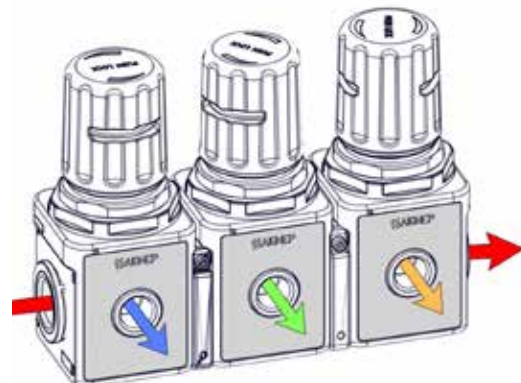
**Regulators**

Regulators are available with a built-in manometer or without. The adjustor knobs can lock into place and come with an anti-tampering system. Assembly kits for 1/8" manometer are available upon request.



**Regulators**

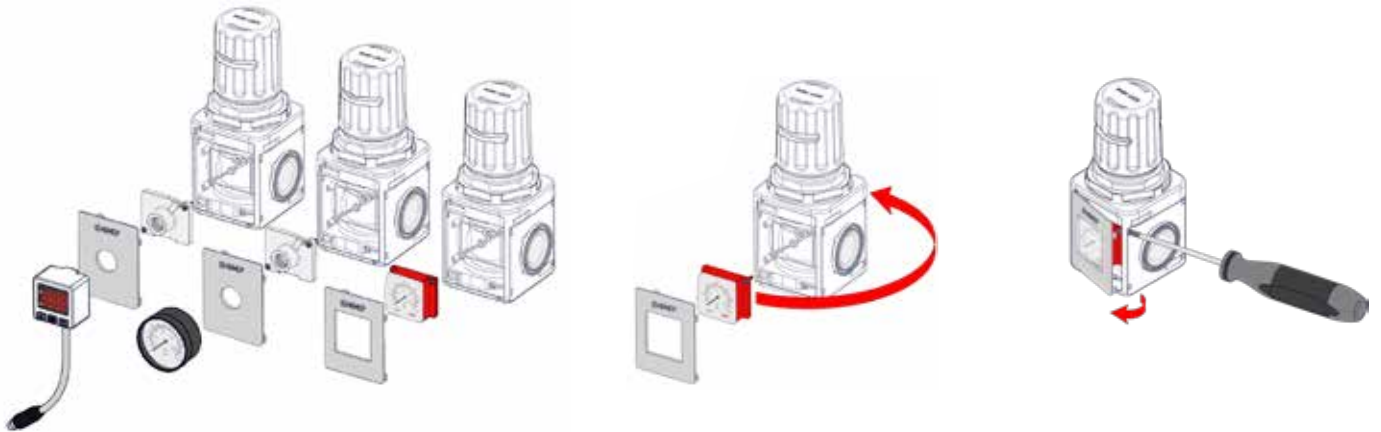
Regulators can be assebled together. Whether they have the built-in manometer or not, they all can be connected.





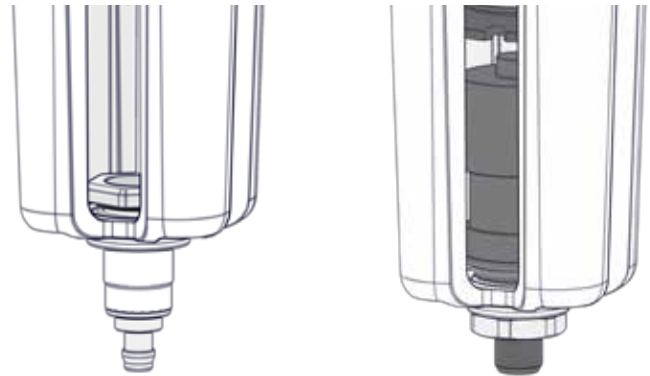
**Regulators**

Several options of manometers and pressure switches are available.  
Manometers and pressure switches can be inverted if desired.



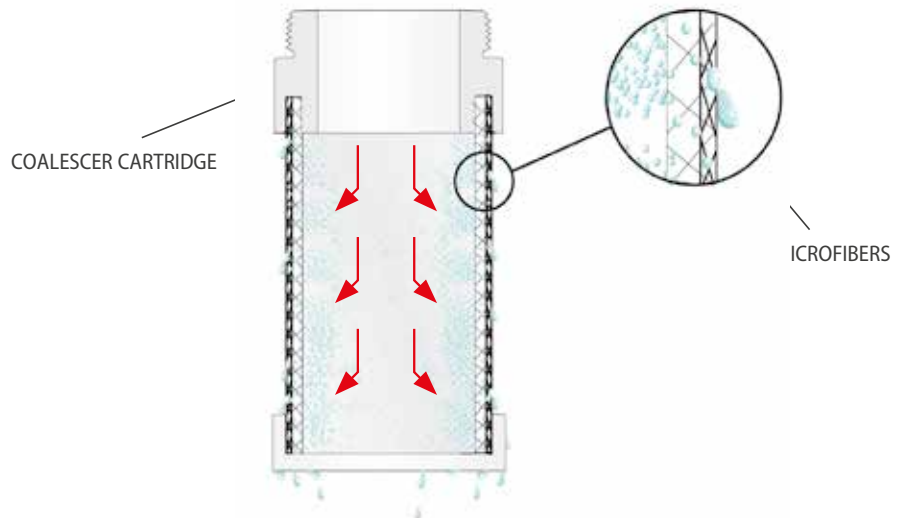
**Condensation Drains**

The condensation drain is available in 2 options, with vacuum or automatic with float.



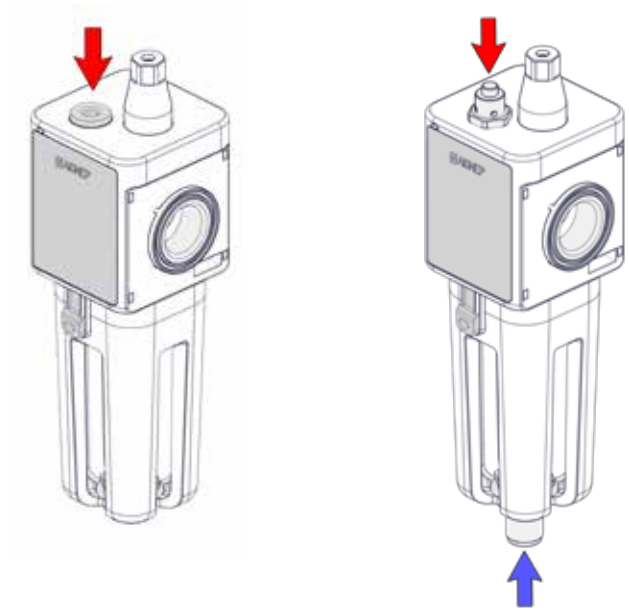
**Coalescer Filter**

20  $\mu\text{m}$ , 5  $\mu\text{m}$  filters and 0.01  $\mu\text{m}$  coalescer filter.



**Lubricators**

The lubricator unit is available in 2 options, with manual loading or with automatic vacuum-operated loading.

**Soft Start Valve**

Soft start valve with adjustment screw.





**TECHNICAL CHARACTERISTICS**



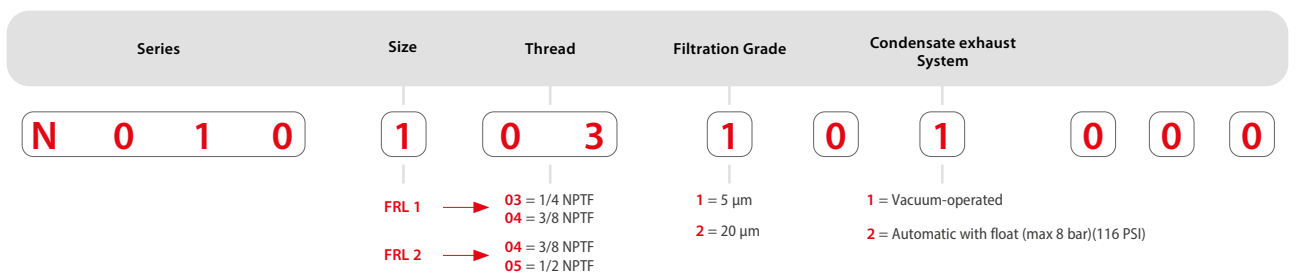
**Reference standard**



		FRL 1	FRL 2
	METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
	TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
	6 bar FLOW RATE with Δp 1 bar	2500 NI/min	4100 NI/min
	MOUNTING SCREWS	M5 x 15	
	BOWL CAPACITY	28 cm <sup>3</sup>	37 cm <sup>3</sup>
	FILTRATION GRADE	5 μm 20 μm STANDARD	
	FLUID	Compressed Air	
	MAX PRESSURE	18 bar (260 PSI)	
	TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
	MOUNTING POSITION	Vertical	

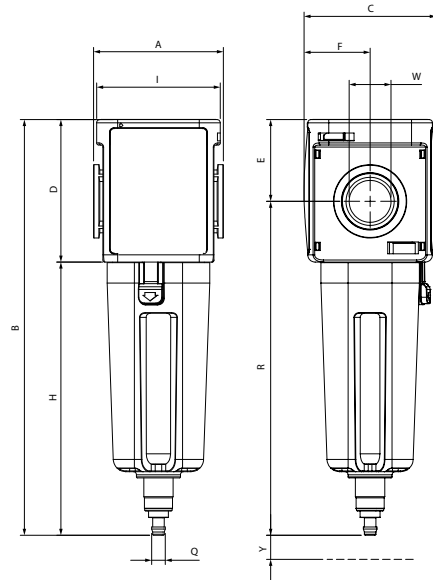


**Part Numbering System**





**N010**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	H	I	Q	R	T
51	176	51	57	1/4 - 3/8	32.5	25.5	119	47.5	E.D. .256 (6.5)	144	7

**Dimensions - FRL 2**

A	B	C	D	W	E	F	H	I	Q	R	T
62	197.5	63	68	3/8 - 1/2	39	31.5	129.5	59	E.D. .256 (6.5)	158.5	9.5

DEP = Vacuum-operated      A = Automatic

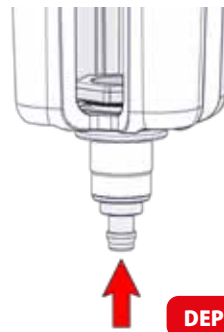
Part Number	Size	Thread (NPTF)	Filtration	Flow Rate	Exhaust
<b>N010 103 201 000</b>	FIL 1	1/4	20 µm	2500 NI/min	DEP
<b>N010 104 201 000</b>	FIL 1	3/8	20 µm	2500 NI/min	DEP
<b>N010 104 202 000</b>	FIL 1	3/8	20 µm	2500 NI/min	A
<b>N010 204 201 000</b>	FIL 2	3/8	20 µm	4100 NI/min	DEP
<b>N010 205 201 000</b>	FIL 2	1/2	20 µm	4100 NI/min	DEP
<b>N010 205 202 000</b>	FIL 2	1/2	20 µm	4100 NI/min	A



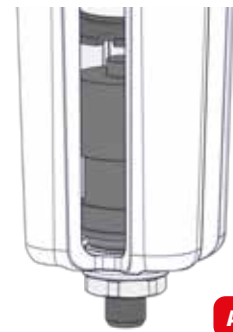
**Condensation Drain**

**DEP:** The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurize and will drain.

**A:** The automatic condensation drain with float drains the condensation when the maximum level is reached independently from the air pressure.



**DEP**



**A**

**N015**

**COALESCER FILTER**



**TECHNICAL CHARACTERISTICS**



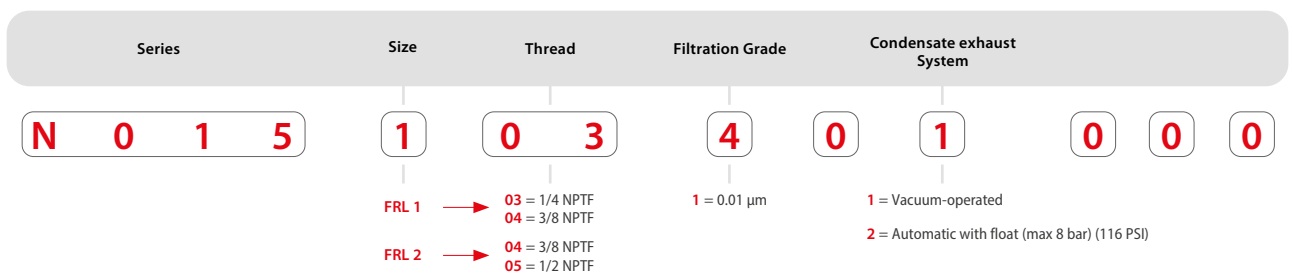
**Reference standard**



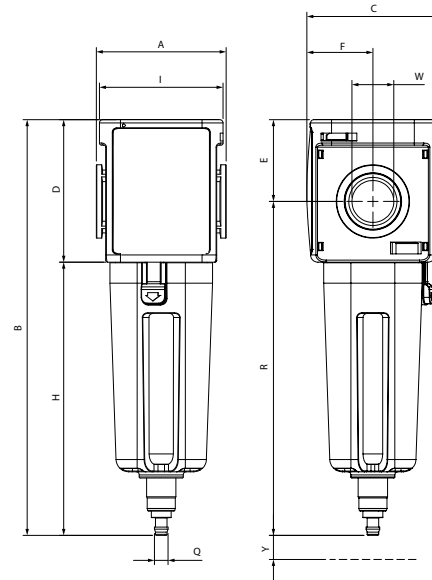
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	800 NI/min	850 NI/min
MOUNTING SCREWS	M5 x 15	
BOWL CAPACITY	28 cm <sup>3</sup>	37 cm <sup>3</sup>
FILTRATION GRADE	0.01 μm	
FLUID	5 μm filtered Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



**Part Numbering System**



**N015**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	H	I	Q	R	Y
51	176	51	57	1/4 - 3/8	32.5	25.5	119	47.5	E.D. .256 (6.5)	144	7

**Dimensions - FRL 2**

A	B	C	D	W	E	F	H	I	Q	R	Y
62	197.5	63	68	3/8 - 1/2	39	31.5	129.5	59	E.D. .256 (6.5)	158.5	9.5

DEP = Vacuum-operated

NB: With Coalescer Filter Series N015, we recommend installing a 5 µm Filter upstream.

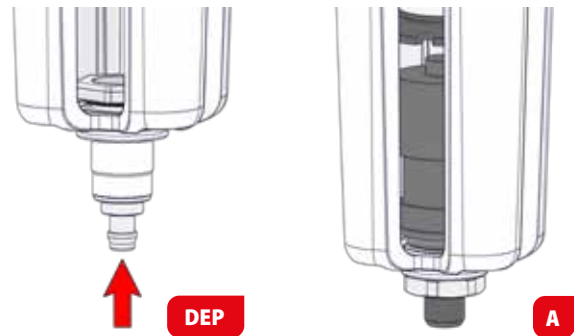
Part Number	Size	Thread (NPTF)	Filtration	Flow Rate	Exhaust
<b>N015 103 401 000</b>	FC 1	1/4	0.01 µm	800 NI/min	DEP
<b>N015 104 401 000</b>	FC 1	3/8	0.01 µm	800 NI/min	DEP
<b>N015 104 402 000</b>	FC 1	3/8	0.01 µm	800 NI/min	A
<b>N015 204 401 000</b>	FC 2	3/8	0.01 µm	850 NI/min	DEP
<b>N015 205 401 000</b>	FC 2	1/2	0.01 µm	850 NI/min	DEP
<b>N015 205 402 000</b>	FC 2	1/2	0.01 µm	850 NI/min	A



**Condensation Drain**

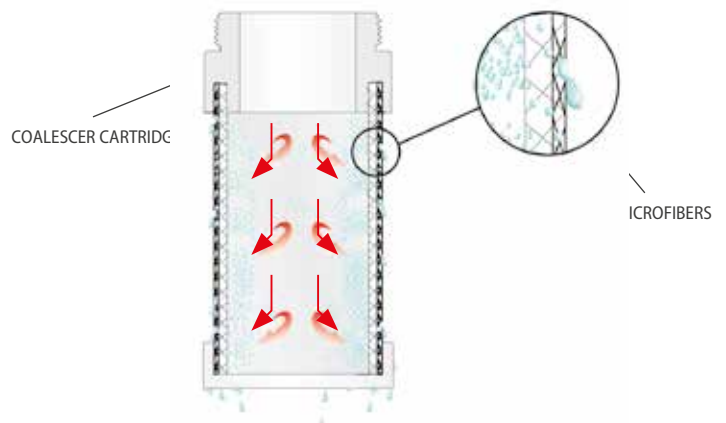
**DEP:** The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurize and will drain.

**A:** The automatic condensation drain with float drains the condensation when the maximum level is reached independently from the air pressure.



**Coalescer Cartridge**

The coalescer cartridge is made of a microfiber layer with an external stainless steel structure. The coalescer cartridge uses inertial impact, interception and coalescence to form liquid particles into drops. These drops will fall into the bottom of the bowl. The coalescer filter is used as an oil separator which removes oil-vapours from the air output. We recommend installing a 5 µm filter upstream to protect the coalescing filter from choking the cartridge.



**N020**

**REGULATOR**



**TECHNICAL CHARACTERISTICS**



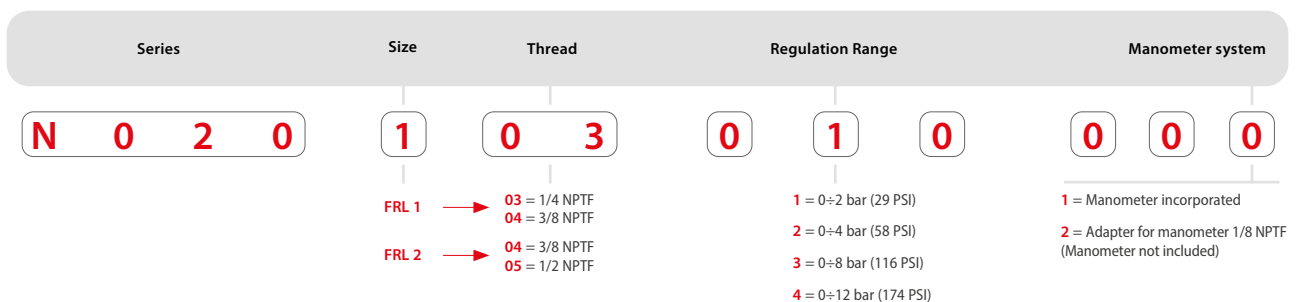
**Reference standard**



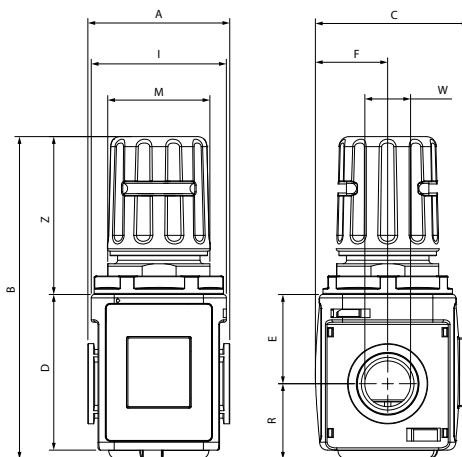
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
REGULATION RANGE	0 ÷ 2 bar (29 PSI) 0 ÷ 4 bar (58 PSI) 0 ÷ 8 bar STANDARD (116 PSI) 0 ÷ 12 bar (174 PSI)	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



**Part Numbering System**



**N020**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	I	R	M	Z
51	117	57	57	1/4 - 3/8	32.5	25.5	47.5	28	M37 x 1.5	57

**Dimensions - FRL 2**

A	B	C	D	W	E	F	I	R	M	Z
62	141.5	67	68	3/8 - 1/2	39	31.5	59	33	M37 x 1.5	72.5

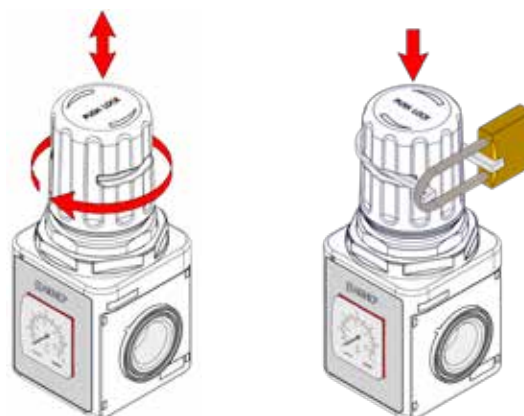
Part Number	Size	Thread (NPTF)	Regulation	Flow Rate
<b>N020 103 030 000</b>	REG 1	1/4	0 ÷ 8 bar (116 PSI)	2700 NI/min
<b>N020 104 030 000</b>	REG 1	3/8	0 ÷ 8 bar (116 PSI)	2700 NI/min
<b>N020 204 030 000</b>	REG 2	3/8	0 ÷ 8 bar (116 PSI)	3500 NI/min
<b>N020 205 030 000</b>	REG 2	1/2	0 ÷ 8 bar (116 PSI)	3500 NI/min



**Regulating the Air Pressure**

Follow the instructions below to set the air pressure:

- 1 Raise the knob to the regulating position.
- 2 Rotate to set the desired pressure, always in ascending order.
- 3 Press the knob down to lock into position.  
The knob can be padlocked to prevent tampering.



**N025**

**FRONTAL REGULATOR**



**TECHNICAL CHARACTERISTICS**



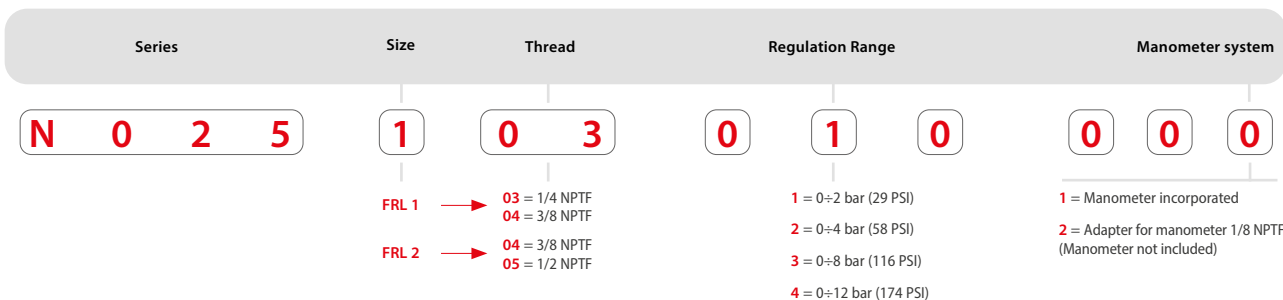
**Reference standard**



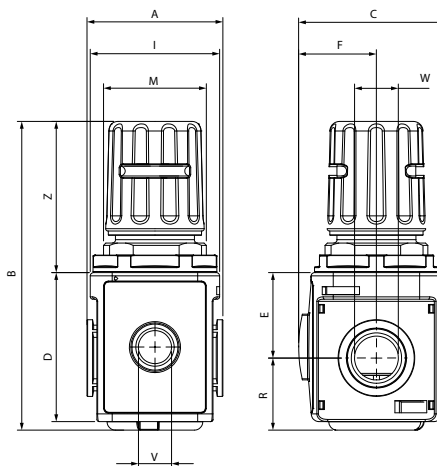
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
REGULATION RANGE	0 ÷ 2 bar (29 PSI) 0 ÷ 4 bar (58 PSI) 0 ÷ 8 bar STANDARD (116 PSI) 0 ÷ 12 bar (174 PSI)	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	
FRONT THREADED	1/8" NPTF	3/8" NPTF



**Part Numbering System**



**N025**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	I	R	M	Z	V
51	117	57	57	1/4 - 3/8	32.5	31	47.5	28	M37 x 1.5	57	1/8

**Dimensions - FRL 2**

A	B	C	D	W	E	F	I	R	M	Z	V
62	114.5	67	68	3/8 - 1/2	39	35.5	59	33	M37 x 1.5	72.5	3/8

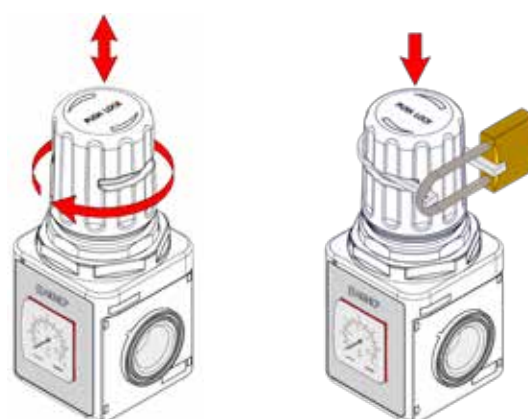
Part Number	Size	Thread (NPTF)	Regulation	Flow Rate
<b>N025 103 030 000</b>	REG F 1	1/4	0 ÷ 8 bar (116 PSI)	2700 NI/min
<b>N025 104 030 000</b>	REG F 1	3/8	0 ÷ 8 bar (116 PSI)	2700 NI/min
<b>N025 204 030 000</b>	REG F 2	3/8	0 ÷ 8 bar (116 PSI)	3500 NI/min
<b>N025 205 030 000</b>	REG F 2	1/2	0 ÷ 8 bar (116 PSI)	3500 NI/min



**Regulating the Air Pressure**

Follow the instructions below to set the air pressure:

- 1 Raise the knob to the regulating position.
- 2 Rotate to set the desired pressure, always in ascending order.
- 3 Press the knob down to lock into position.  
The knob can be padlocked to prevent tampering.



**Regulators**

Regulators can be assembled together. Whether they have the built-in manometer or not, they all can be connected.



**N030**

**FILTER REGULATOR**



**TECHNICAL CHARACTERISTICS**



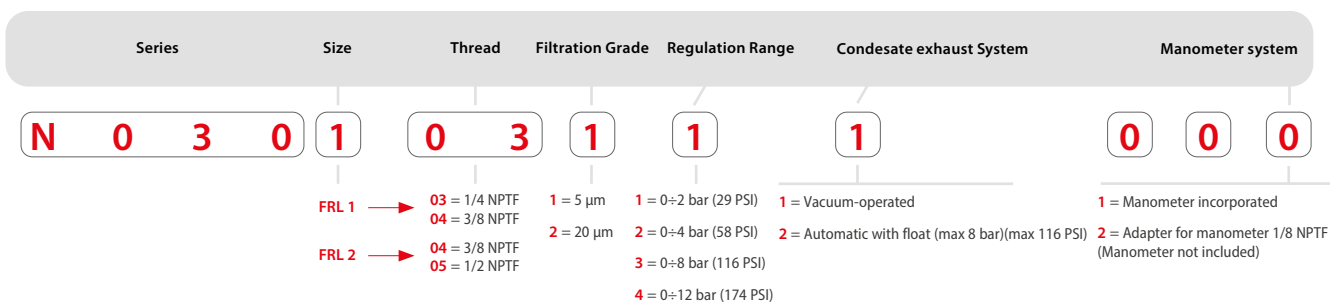
**Reference standard**



	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2200 NI/min	3300 NI/min
MOUNTING SCREWS	M5 x 15	
BLOW CAPACITY	28 cm <sup>3</sup>	37 cm <sup>3</sup>
FILTRATION GRADE	5 μm 20 μm STANDARD	
REGULATION RANGE	0 ÷ 2 bar (29 PSI) 0 ÷ 4 bar (58 PSI) 0 ÷ 8 bar STANDARD (116 PSI) 0 ÷ 12 bar (174 PSI)	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	

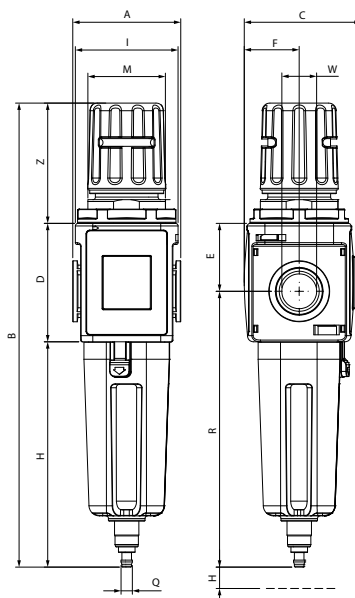


**Part Numbering System**





**N030**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	H	I	M	R	Q	Z	Y
51	233	57	57	1/4 - 3/8	32.5	25.5	119	47.5	M37 x 1.5	144	E.D.256 (6.5)	57	7

**Dimensions - FRL 2**

A	B	C	D	W	E	F	H	I	M	R	Q	Z	Y
62	270	67	68	3/8 - 1/2	39	31.5	129.5	59	M47 x 1.5	158.5	E.D.256 (6.5)	72.5	9.5

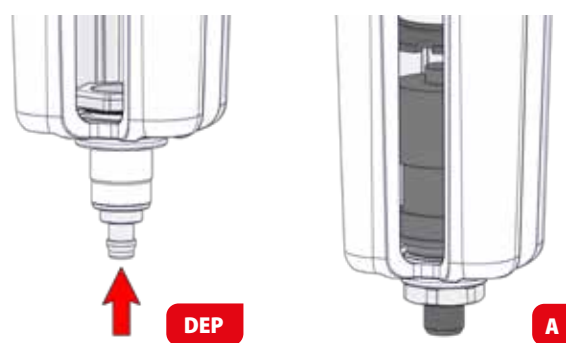
DEP = Vacuum-operated      A = Automatic

Part Number	Size	Thread (NPTF)	Filtration	Regulation	Flow Rate	Exhaust
<b>N030 103 231 000</b>	FR 1	1/4	20 µm	0 ÷ 8 bar (116 PSI)	2200 NI/min	DEP
<b>N030 104 231 000</b>	FR 1	3/8	20 µm	0 ÷ 8 bar (116 PSI)	2200 NI/min	DEP
<b>N030 104 232 000</b>	FR 1	3/8	20 µm	0 ÷ 8 bar (116 PSI)	2200 NI/min	A
<b>N030 204 231 000</b>	FR 2	3/8	20 µm	0 ÷ 8 bar (116 PSI)	3300 NI/min	DEP
<b>N030 205 231 000</b>	FR 2	1/2	20 µm	0 ÷ 8 bar (116 PSI)	3300 NI/min	DEP
<b>N030 205 232 000</b>	FR 2	1/2	20 µm	0 ÷ 8 bar (116 PSI)	3300 NI/min	A

**i** **Condensation Drain**

**DEP:** The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurized and will drain.

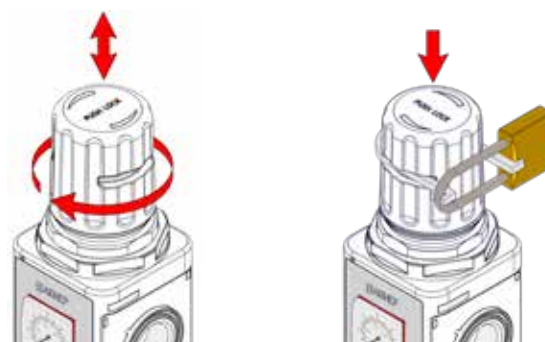
**A:** The automatic condensation drain with float drains the condensation when the maximum level is reached independently from the air pressure.



**i** **Regulating the Air Pressure**

Follow the instructions below to set the air pressure:

- 1 Raise the knob to the regulating position.
- 2 Rotate to set the desired pressure, always in ascending order.
- 3 Press the knob down to lock into position. The knob can be padlocked to prevent tampering.



**N040**

**LUBRICATOR**



**TECHNICAL CHARACTERISTICS**



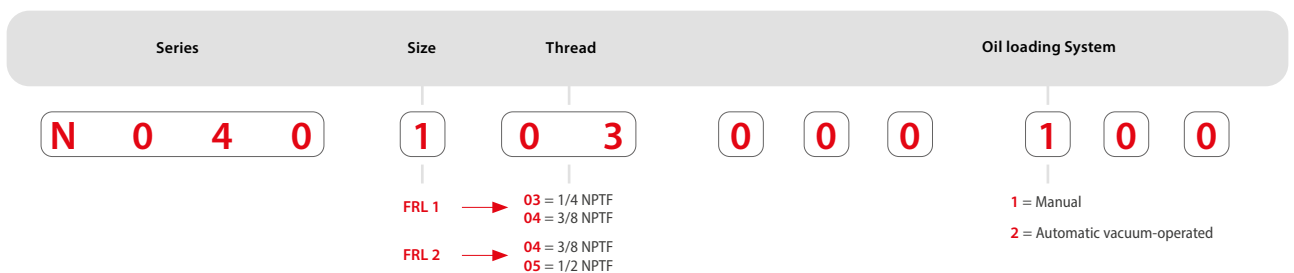
**Reference standard**



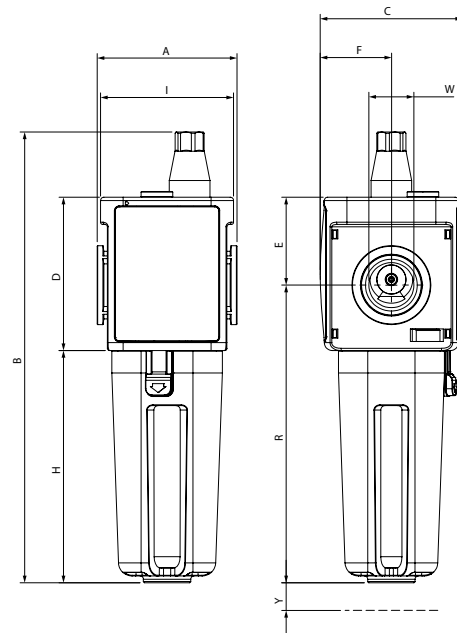
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	3400 NI/min	6100 NI/min
MOUNTING SCREWS	M5 x 15	
BLOW CAPACITY	28 cm³	37 cm³
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	
RECOMMENDED OILS	CLASS ISO 22 ISO 3448 NORMA	



**Part Numbering System**



**N040**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	H	I	R	Y
51	178.5	51	57	1/4 - 3/8	32.5	25.5	92.5	47.5	117.5	7

**Dimensions - FRL 2**

A	B	C	D	W	E	F	H	I	R	Y
62	200	63	68	3/8 - 1/2	39	31.5	103	59	132	9.5

DEP = Manual

A = Automatic vacuum-operated

Part Number	Size	Thread (NPTF)	Flow Rate	Oil loading System
<b>N040 103 000 100</b>	LUB 1	1/4	3400 NI/min	M
<b>N040 104 000 100</b>	LUB 1	3/8	3400 NI/min	M
<b>N040 104 000 200</b>	LUB 1	3/8	3400 NI/min	A
<b>N040 204 000 100</b>	LUB 2	3/8	6100 NI/min	M
<b>N040 205 000 100</b>	LUB 2	1/2	6100 NI/min	M
<b>N040 205 000 200</b>	LUB 2	1/2	6100 NI/min	A



**Lubricators**



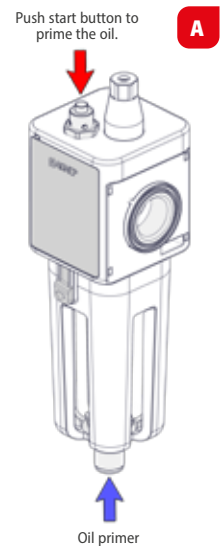
The oil is added to the lubricator unit by unscrewing the cap on the top or by removing the bowl. Make sure that there is no pressure running to the unit. You can adjust the oil by using screwdriver. We recommend adding one drop of oil every 300-600 NI/min.



**Lubricators**



The vacuum-operated oil loading enables the bowl to be filled with oil automatically. The system is activated by a button on top. The newly added oil, also positioned at a lower height with respect to the lubricator unit, flows into the bowl thanks to a G1/8" attachment positioned on the bottom side of the unit. Stop adding oil once the oil reaches the maximum level, shown by the windows in the side of the bowl.



**N050**

**MANUAL SHUT OFF VALVE**



**TECHNICAL CHARACTERISTICS**



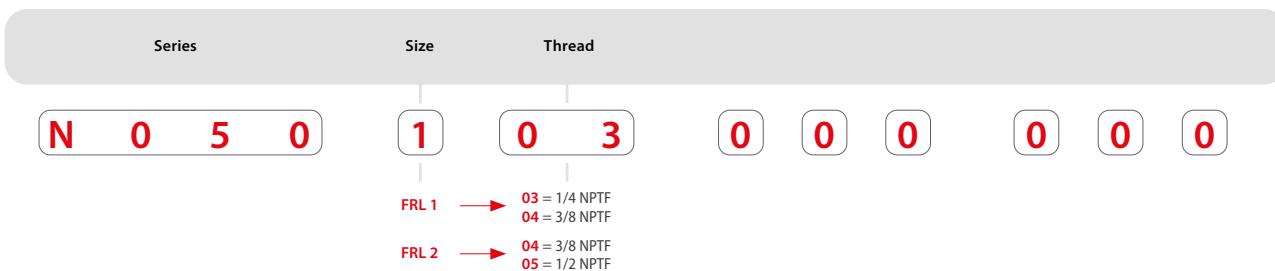
Reference standard



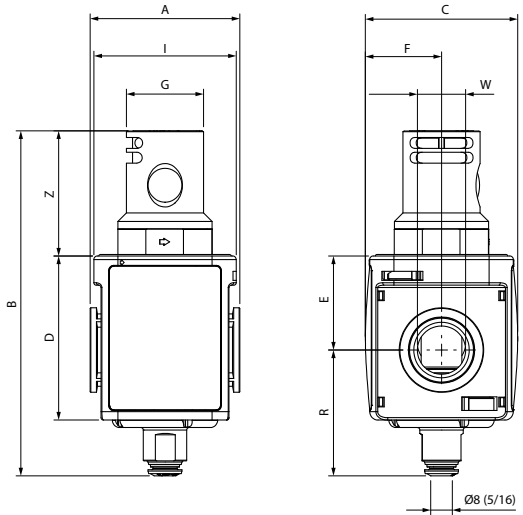
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



**Part Numbering System**



**N050**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	G	I	R	Y
51	134	51	57	1/4 - 3/8	32.5	25.5	32	47.5	46	56

**Dimensions - FRL 2**

A	B	C	D	W	E	F	G	I	R	Y
62	143	63	68	3/8 - 1/2	39	31.5	32	59	52	51

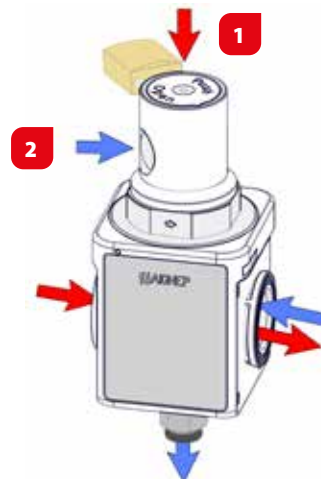
Part Number	Size	Thread (NPTF)	Flow Rate	Function	Oil loading System
<b>N050 103 000 000</b>	V3V 1	1/4	2700 NI/min	NC	M
<b>N050 104 000 000</b>	V3V 1	3/8	2700 NI/min	NC	M
<b>N050 204 000 000</b>	V3V 2	3/8	3500 NI/min	NC	M
<b>N050 205 000 000</b>	V3V 2	1/2	3500 NI/min	NC	M



**Shut Off Valves**

The shut off valve is activated in the following phases:

1. By pressing the trigger switch 1, the primary circuit opens.
2. By pressing button 2, the primary circuit closes and the secondary circuit drains.  
This latter position can be padlocked.



**N051**

**PNEUMATIC SHUT OFF VALVE**



**TECHNICAL CHARACTERISTICS**



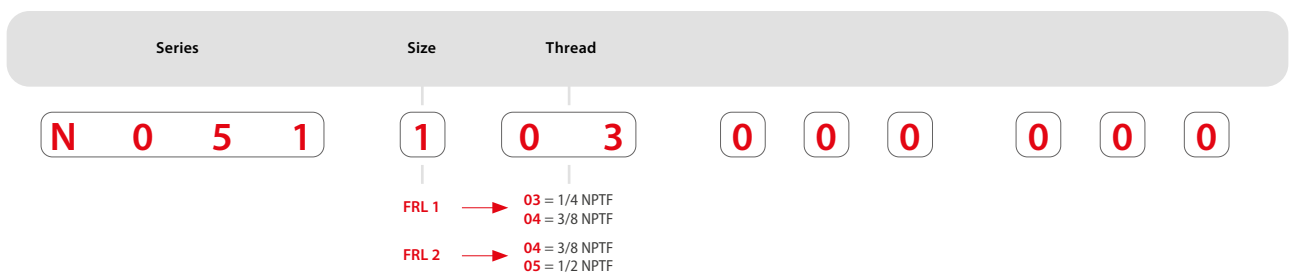
**Reference standard**



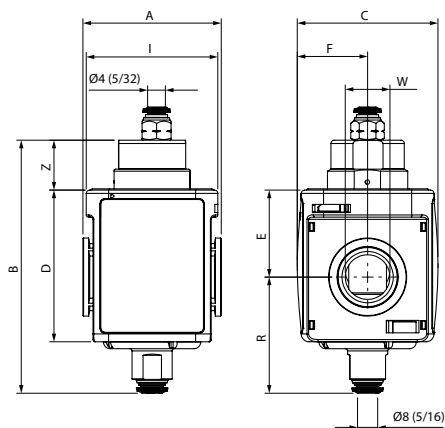
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
FLUID	Compressed Air	
MAX PRESSURE	from 2.5 bar (36 PSI) to 10 bar (145 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



**Part Numbering System**



**N051**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	I	R	Z
51	98	51	57	1/4 - 3/8	32.5	25.5	47.5	46	19.5

**Dimensions - FRL 2**

A	B	C	D	W	E	F	I	R	Z
62	113.5	63	68	3/8 - 1/2	39	31.5	59	52	22

P = Pneumatic

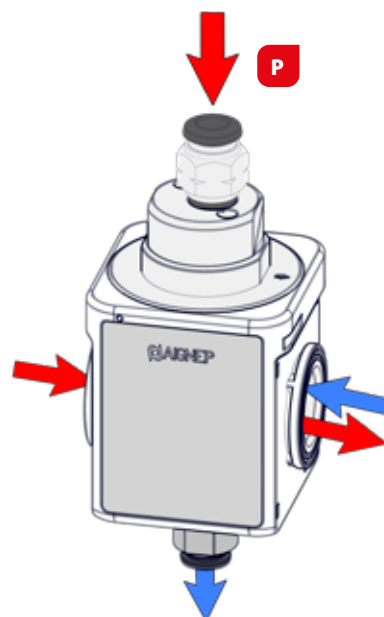
Part Number	Size	Thread (NPTF)	Flow Rate	Function	Oil loading System
<b>N051 104 000 000</b>	V3V 1	3/8	2700 NI/min	NC	P
<b>N051 205 000 000</b>	V3V 2	1/2	3500 NI/min	NC	P



**Shut Off Valves**

The pneumatic shut off valve functions in the following phases:

1. By pressurising the pilot "P", the primary circuit opens.
2. By removing pressure from the operator "P", the primary circuit closes and the secondary circuit drains.



**N052**

**MANUAL/ELECTRO-PNEUMATIC SHUT OFF VALVE**



**TECHNICAL CHARACTERISTICS**



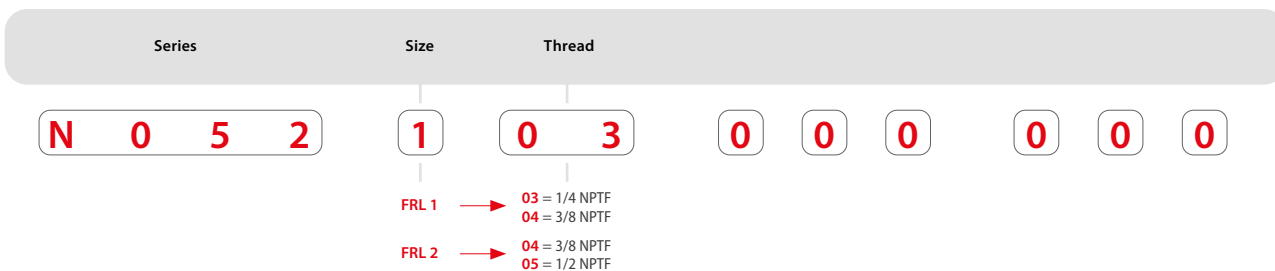
**Reference standard**



	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
FLUID	Compressed Air	
MAX PRESSURE	from 2.5 bar (36 PSI) to 10 bar (145 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	
SOLENOID	See Chapter 18 - page 18.24 - 18.25	

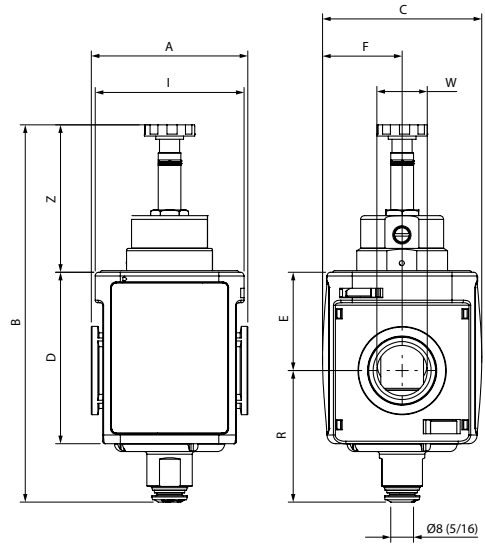


**Part Numbering System**





**N052**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	I	R	Z
51	98	51	57	1/4 - 3/8	32.5	25.5	47.5	46	19.5

**Dimensions - FRL 2**

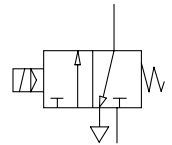
A	B	C	D	W	E	F	I	R	Z
62	113.5	63	68	3/8 - 1/2	39	31.5	59	52	22

\*NB: Standard without solenoid

EP = Electro-pneumatic

NB: ATEX II 2GD Ex h TX category can be reclassified in accordance to the kind of solenoid applied.

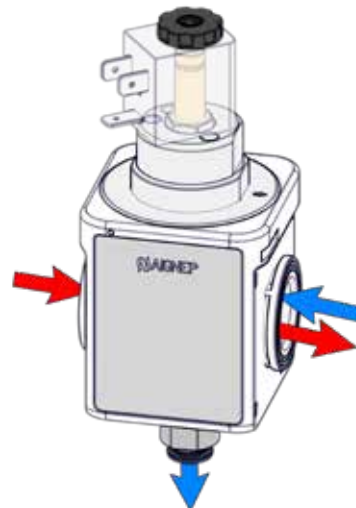
Part Number	Size	Thread (NPTF)	Flow Rate	Function	Oil loading System
<b>N052 104 000 000</b>	V3V 1	3/8	2700 NI/min	NC	EP
<b>N052 205 000 000</b>	V3V 2	1/2	3500 NI/min	NC	EP



**i Shut Off Valves**

The electro-pneumatic shut off valve functions in the following phases:

1. By activating the electric impulse, the primary circuit opens.
2. By removing the electric impulse, the primary circuit closes and the secondary circuit drains.



**N060**

**SOFT START VALVE**



**TECHNICAL CHARACTERISTICS**



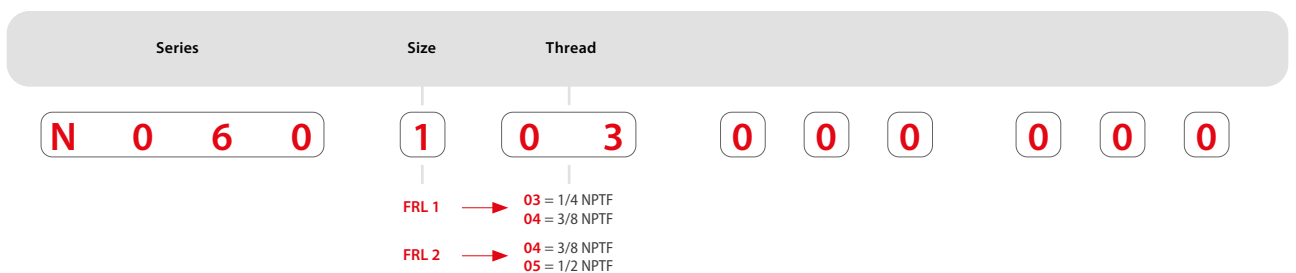
**Reference standard**



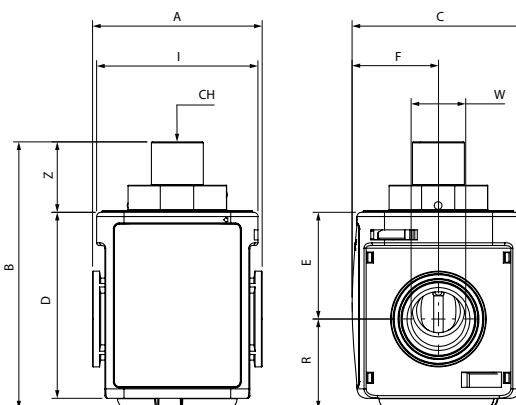
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	2700 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
MAXIMUM INLET PRESSURE	10 bar (145 PSI)	
FLUID	Compressed Air	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
ASSEMBLY POSITION	Vertical	
MOUNTING POSITION	End of all FRL components	



**Part Numbering System**



**N060**



**Dimensions - FRL 1**

A	B	C	D	W	E	F	I	R	Z	CH
51	84.5	51	57	1/4 - 3/8	32.5	25.5	47.5	28	23.5	5

**Dimensions - FRL 2**

A	B	C	D	W	E	F	I	R	Z	CH
62	97.5	63	68	3/8 - 1/2	39	31.5	59	33	25	5

Part Number	Size	Thread (NPTF)	Flow Rate
<b>N060 103 000 000</b>	APE 1	1/4	2700 NI/min
<b>N060 104 000 000</b>	APE 1	3/8	2700 NI/min
<b>N060 204 000 000</b>	APE 2	3/8	3500 NI/min
<b>N060 205 000 000</b>	APE 2	1/2	3500 NI/min



**Soft Start Valve**

Our soft start valve is a pneumatic device that allows a pneumatic circuit to be pressurised gradually. With the adjustment screw shown in the drawing to the right, you can progressively increase or decrease the air flow introduced to your pneumatic circuit. This valve is designed to completely open the air flow of your circuit at 50% of the inlet pressure.



**N090**

**AIR DISTRIBUTOR**



**TECHNICAL CHARACTERISTICS**



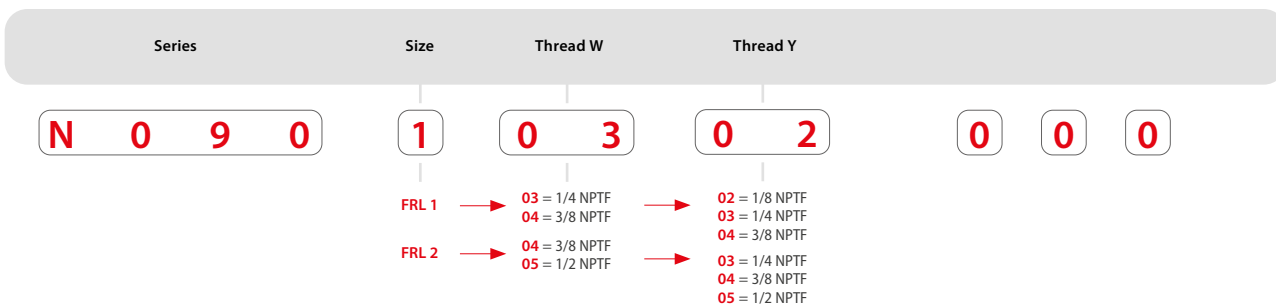
**Reference standard**



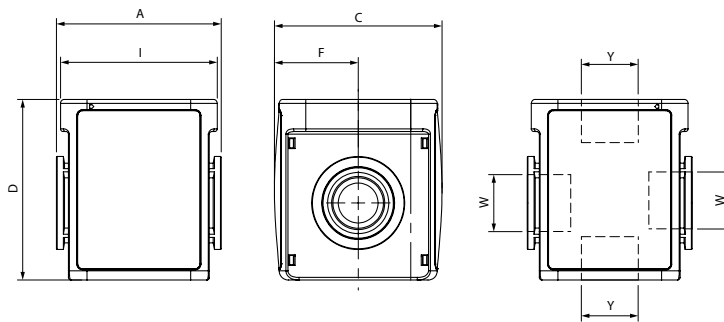
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	3400 NI/min	6100 NI/min
MOUNTING SCREWS	M5 x 15	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



**Part Numbering System**



**N090**



**Dimensions - FRL 1**

A	C	D	W	F	I	Y
51	51	57	1/4 - 3/8	25.5	47.5	1/4 - 3/8

**Dimensions - FRL 2**

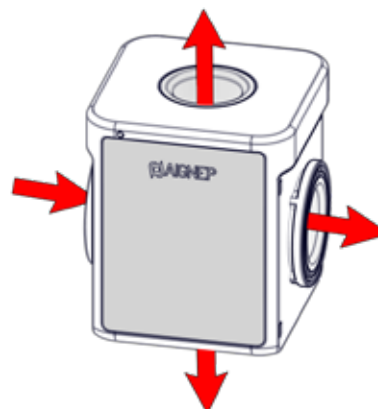
A	C	D	W	F	I	Y
62	63	68	3/8 - 1/2	31.5	59	1/4 - 3/8 - 1/2

Part Number	Size	Thread (NPTF)	Flow Rate
<b>N090 103 030 000</b>	DIS 1	1/4 - 1/4	3400 NI/min
<b>N090 104 030 000</b>	DIS 1	3/8 - 1/4	3400 NI/min
<b>N090 104 040 000</b>	DIS 1	3/8 - 3/8	3400 NI/min
<b>N090 204 030 000</b>	DIS 2	3/8 - 1/4	6100 NI/min
<b>N090 204 040 000</b>	DIS 2	3/8 - 3/8	6100 NI/min
<b>N090 205 030 000</b>	DIS 2	1/2 - 1/4	6100 NI/min
<b>N090 205 050 000</b>	DIS 2	1/2 - 1/2	6100 NI/min



**Air Distributor**

The air distributor allows you to branch off your air flow to several components such as pressure switches and other units. The air distributor can be placed anywhere in your air treatment unit.



**N100**

**FR + L**



**TECHNICAL CHARACTERISTICS**



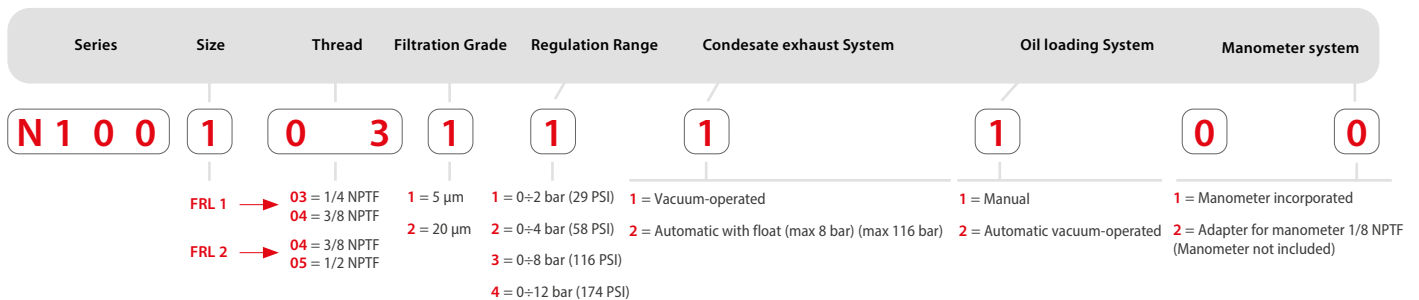
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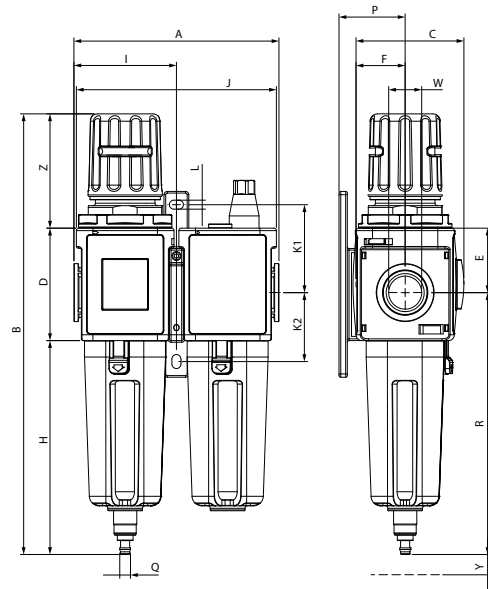
	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	1500 NI/min	2700 NI/min
MOUNTING SCREWS	M5 x 15	
BLOW CAPACITY	28 cm <sup>3</sup>	37 cm <sup>3</sup>
FILTRATION GRADE	5 μm 20 μm STANDARD	
REGULATION RANGE	0 ÷ 2 bar (29 PSI) 0 ÷ 4 bar (58 PSI) 0 ÷ 8 bar STANDARD (116 PSI) 0 ÷ 12 bar (174 PSI)	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
MOUNTING POSITION	Vertical	



**Part Numbering System**



**N100**



**Dimensions - FRL 1**

A	B	C	D	E	F	H	I	J	K1	K2	L	P	Q	R	W	Y	Z
102	233	57	57	32.5	25.5	119	47.5	98.5	45	35.5	5.5	34.5	ED.256 (6.5)	144	1/4-3/8	7	57

**Dimensions - FRL 2**

A	B	C	D	E	F	H	I	J	K1	K2	L	P	Q	R	W	Y	Z
124	270	67	68	39	31.5	129.5	59	121	53	41.5	5.5	40	ED.256 (6.5)	158.5	3/8-1/2	9.5	72.5

DEP = Vacuum-operated

A = Automatic

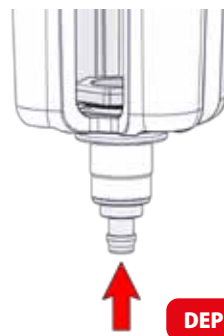
Part Number	Size	Thread (NPTF)	Filtration	Regulation	Flow Rate	Exhaust
<b>N100 103 231 100</b>	FR+L1	1/4	20 µm	0 ÷ 8 bar (116 PSI)	1500 NI/min	DEP
<b>N100 104 231 100</b>	FR+L1	3/8	20 µm	0 ÷ 8 bar (116 PSI)	1500 NI/min	DEP
<b>N100 104 232 100</b>	FR+L1	3/8	20 µm	0 ÷ 8 bar (116 PSI)	1500 NI/min	A
<b>N100 204 231 100</b>	FR+L2	3/8	20 µm	0 ÷ 8 bar (116 PSI)	2700 NI/min	DEP
<b>N100 205 231 100</b>	FR+L2	1/2	20 µm	0 ÷ 8 bar (116 PSI)	2700 NI/min	DEP
<b>N100 205 232 100</b>	FR+L2	1/2	20 µm	0 ÷ 8 bar (116 PSI)	2700 NI/min	A



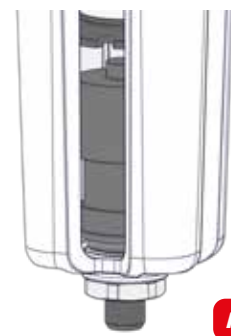
**Condensation Drain**

**DEP:** The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurized and will drain.

**A:** The automatic condensation drain with float drains the condensation when the maximum level is reached independently from the air pressure.



**DEP**



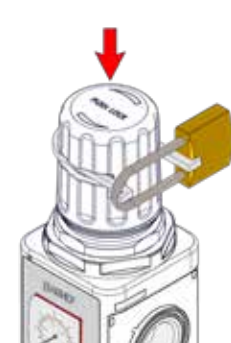
**A**



**Regulating the Air Pressure**

Follow the instructions below to set the air pressure:

- 1 Raise the knob to the regulating position.
- 2 Rotate to set the desired pressure, always in ascending order.
- 3 Press the knob down to lock into position.  
The knob can be padlocked to prevent tampering.



**N400**

**FIL + FC**



**TECHNICAL CHARACTERISTICS**



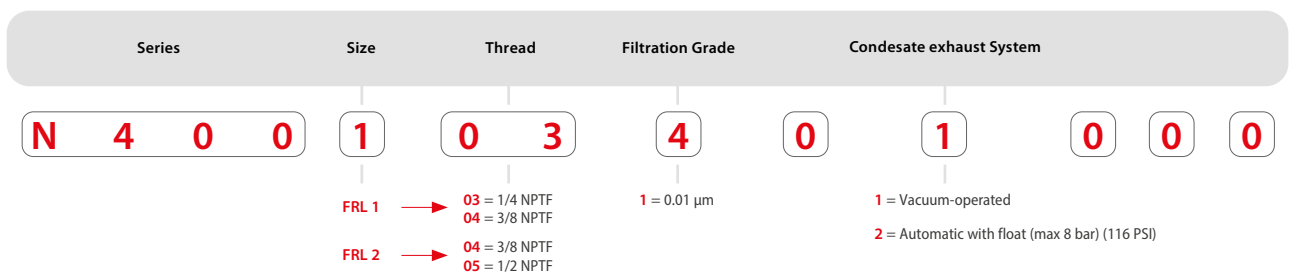
**Reference standard**



	FRL 1	FRL 2
METALLIC THREAD	1/4" NPTF 3/8" NPTF	3/8" NPTF 1/2" NPTF
TORQUE SPECIFICATIONS	Max 15 Nm	Max 20 Nm
6 bar FLOW RATE with Δp 1 bar	1800 NI/min	3500 NI/min
MOUNTING SCREWS	M5 x 15	
BLOW CAPACITY	28 cm <sup>3</sup>	37 cm <sup>3</sup>
FILTRATION GRADE	5 μm + 0.01 μm	
FLUID	Compressed Air	
MAX PRESSURE	18 bar (260 PSI)	
TEMPERATURE	-10 °C (14 F) + 50 °C (122 F)	
CONDENSATION EXHAUST	Vacuum-operated	
MOUNTING POSITION	Vertical	

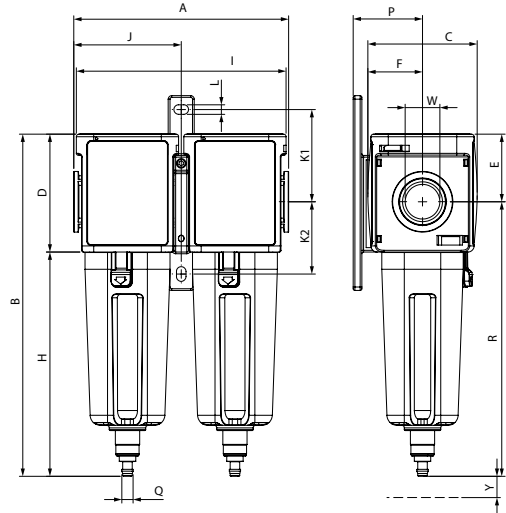


**Part Numbering System**





**N400**



**Dimensions - FRL 1**

A	B	C	D	E	F	H	I	J	K1	K2	L	P	Q	R	W	Y	Z
102	176	57	57	32.5	25.5	119	47.5	98.5	45	35.5	5.5	34.5	ED.256 (6.5)	144	1/4-3/8	7	57

**Dimensions - FRL 2**

A	B	C	D	E	F	H	I	J	K1	K2	L	P	Q	R	W	Y	Z
124	197.5	67	68	39	31.5	129.5	59	121	53	41.5	5.5	40	ED.256 (6.5)	158.5	3/8-1/2	9.5	72.5

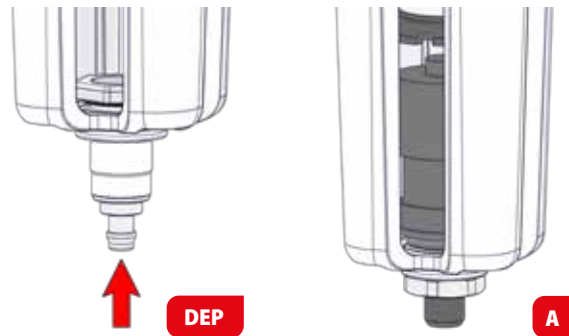
Part Number	Size	Thread (NPTF)	Filtration	Flow Rate
<b>N400 103 401 000</b>	FIL+FC 1	1/4	5 µm + 0.01 µm	1800 NI/min
<b>N400 104 401 000</b>	FIL+FC 1	3/8	5 µm + 0.01 µm	1800 NI/min
<b>N400 204 401 000</b>	FIL+FC 2	3/8	5 µm + 0.01 µm	3500 NI/min
<b>N400 205 401 000</b>	FIL+FC 2	1/2	5 µm + 0.01 µm	3500 NI/min



**Condensation Drain**

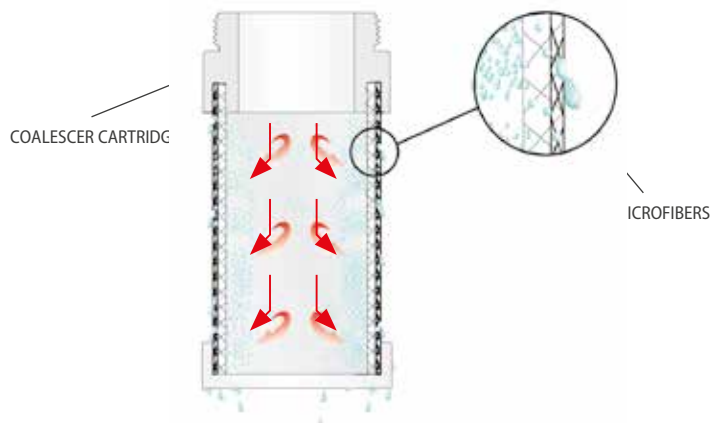
**DEP:** The vacuum-operated condensation drain is normally in the open position. It automatically drains the condensation when there is no pressure in the bowl. By pressing the hose connector, the condensation will be pressurized and will drain.

**A:** The automatic condensation drain with float drains the condensation when the maximum level is reached independently from the air pressure.



**Coalescer Cartridge**

The coalescer cartridge is made of a microfiber layer with an external stainless steel structure. The coalescer cartridge uses inertial impact, interception and coalescence to form liquid particles into drops. These drops will fall into the bottom of the bowl. The coalescer filter is used as an oil separator which removes oil-vapours from the air output. We recommend installing a 5 µm filter upstream to protect the coalescing filter from choking the cartridge.



**REG16**

CLAMP BRACKET



Part Number

REG16 1Y 50 00 ZI	FRL 1
REG16 2Y 50 00 ZI	FRL 2

**Y501**

WALL MOUNT BRACKET



Part Number

Y501 100 000 000	FRL 1
Y501 200 000 000	FRL 2

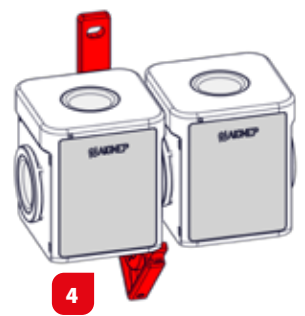
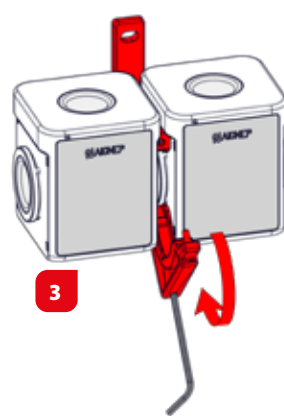
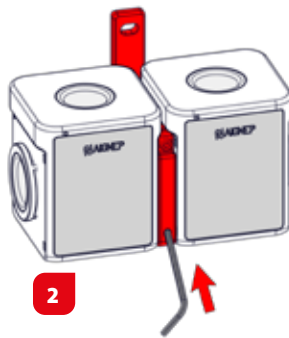
**Y502**

CONNECTION BRACKET



Part Number

Y502 100 000 000	FRL 1
Y502 200 000 000	FRL 2



**T545**

COALESCER FILTER



Part Number

T545 10Y 000 000	FRL 1
T545 20Y 000 000	FRL 2

**FIL04**

SINTERED FILTER



Part Number		
FIL04 1Y3 805 SC	FRL 1	5 µm
FIL04 1Y3 820 SC	FRL 2	5 µm
FIL04 2Y3 805 SC	FRL 1	20 µm
FIL04 2Y3 820 SC	FRL 2	20 µm

**Y520**

BOWL FOR FILTER UNIT



Part Number		
Y520 100 001 000	FRL 1	DEP
Y520 100 002 000	FRL 1	A
Y520 200 001 000	FRL 2	DEP
Y520 200 002 000	FRL 2	A

\*DEP: Vacuum-operated

\*A: Automatic with float

**Y530**

BOWL FOR LUBRICATOR UNIT



Part Number		
Y530 100 000 100	FRL 1	MAN
Y530 100 000 200	FRL 1	A
Y530 200 000 100	FRL 2	MAN
Y530 200 000 200	FRL 2	A

\*MAN: Manual oil loading system

\*A: Automatic oil loading system

**MAS1**

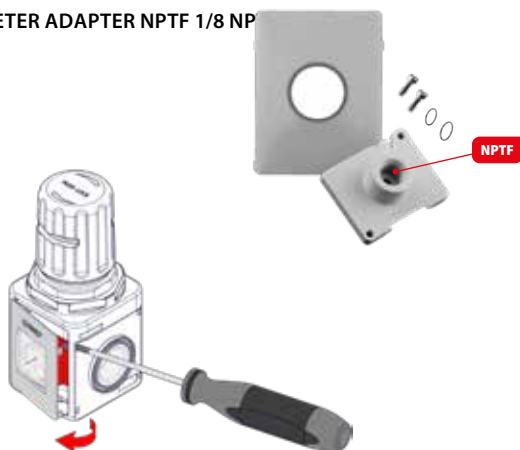
MANOMETER



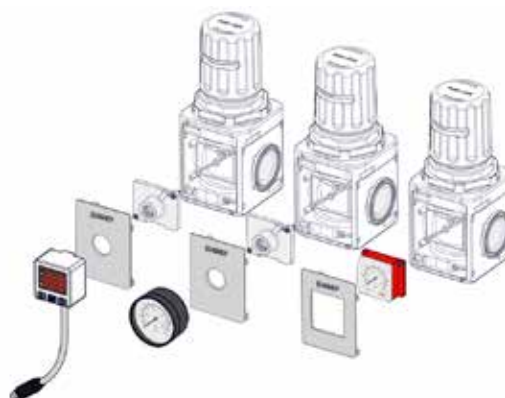
Part Number		Bar
MAS1 1N0 020 000	FRL 1	0 - 4
MAS1 1N0 040 000	FRL 1	0 - 12
MAS1 2N0 020 000	FRL 2	0 - 4
MAS1 2N0 040 000	FRL 2	0 - 12

**MAS0**

MANOMETER ADAPTER NPTF 1/8 NPT



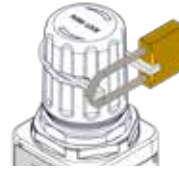
Part Number		NPTF
MAS0 112 000 000	FRL 1	1/8
MAS0 212 000 000	FRL 2	1/8



**Y503**

PADLOCK FOR ADJUSTER AND ADJUSTER FILTER KIT

Part Number	
Y503 100 000 000	FRL 1
Y503 200 000 000	FRL 2



**MANOMETERS**



*Reference Standard*

- EN 837-1
- IP31
- EN 60 529

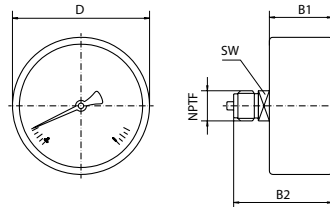


*Media*

- Compressed Air
- Inert gases
- Steam
- Non-highly viscose and non-crystallizing liquids

**MAN09**

MANOMETER BACK CONNECTION

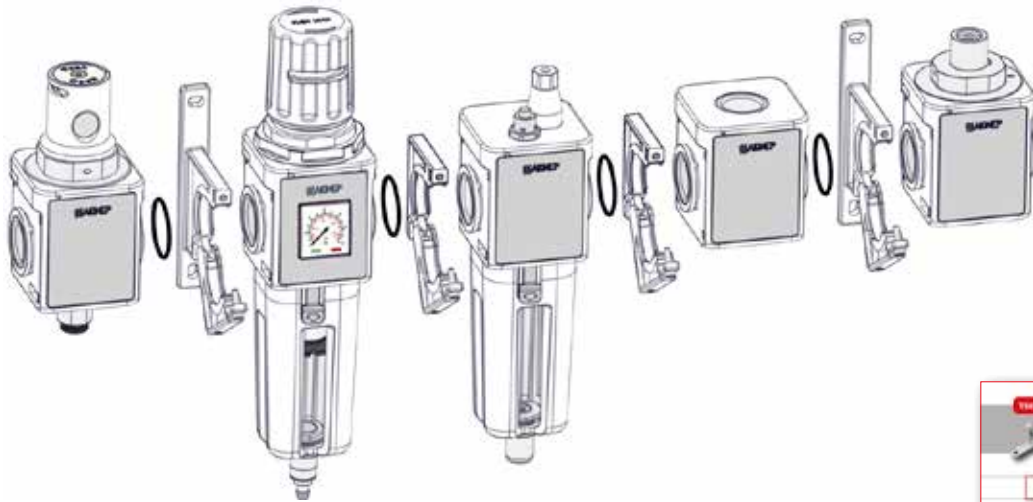


Code	bar	D	B1	B2	SW	G (NPTF)
MAN09 N2 040 000	0 ÷ 12	40	25	41.5	12	1/8
			<b>min</b>			<b>max</b>
			<b>- 20 °C</b>			<b>+ 60 °C</b>



*Temperature*

# SET YOUR FRL EVO



Y501	Y502
<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Enter your part number and accessory part number in the table below to configure your FRL Evo system

	Part Numbers		
1° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
2° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
3° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
4° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
5° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
6° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
7° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
8° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
9° POS	-----		
	+	<input type="checkbox"/>	<input type="checkbox"/>
10° POS	-----		





