



ZSi-Foster



Manufacturers of Quick Disconnects, Cushioned Clamping, and Support Systems



ENGINEERING CATALOG

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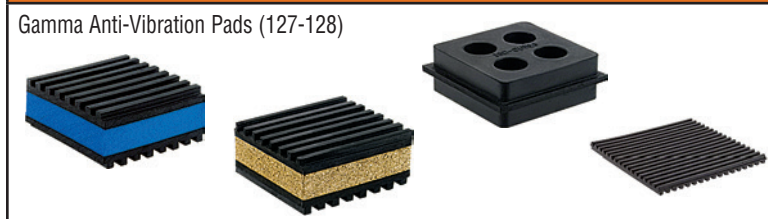
Beta Clamp Products (For Support of High Pressure Hydraulic Pipe, Tube, or Hose)

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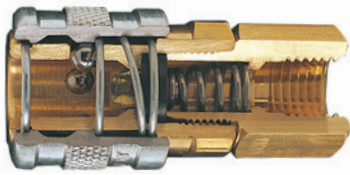
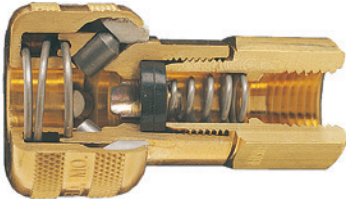

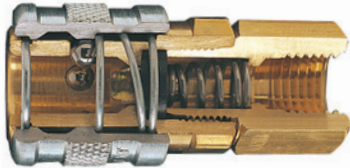
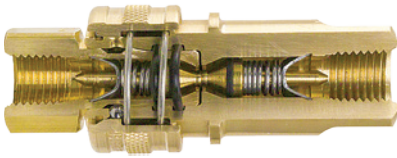
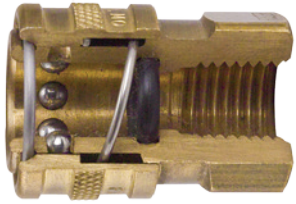
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How To Select – Proper coupler selection is important because of the variety of media for which they are used. Four basic factors should be considered to assure proper selection:

Type – Operation – Flow – Media

Type – All couplers consist of two basic components – a socket and a plug. The type of coupler varies by the valving arrangements in these two components.

<p>Manual</p>  <p>Manual sockets require manual retraction of the sleeve to both connect and disconnect the plug. Ball Lock (BL) is an optional feature available on manual sockets. After connection, the sleeve is rotated locking the coupler against accidental disconnect.</p>	<p>Automatic</p>  <p>Automatic sockets accept the plug by simple insertion into the socket and do not require retraction of the sleeve to connect. Sleeve Lock (SL) is an optional feature on automatic sockets to prevent accidental disconnect. It is functionally the same as the Ball Lock (BL) on manual sockets.</p>	<p>Safety Coupler</p>  <p>Safety sockets are a variation of automatic operation. The socket accepts the plug by insertion. The sleeve is moved straight forward to lock and turn on the air. The sleeve is moved back by rotating first to the left and then to the right. This shuts off the supply line, exhausts the downstream line, and then releases the plug.</p>
<p>One Way Shut-Off</p>  <p>In a "One Way Shut-Off," only the socket has valving to shut off the flow when disconnected; it is, therefore, installed on the pressure side of the line. The plug has no valving and exhausts the downstream line at disconnect.</p>	<p>Two Way Shut-Off</p>  <p>The "Two Way Shut-Off" provides valving in both the socket and the plug, thereby shutting off flow at both of the disconnected ends. Originally developed for hydraulic lines, they are suitable for many other media because of the variety of metals and seal compounds offered.</p>	<p>Straight-Thru</p>  <p>"Straight-Thru" couplers, as the name implies, do not have valving in either the socket or the plug. Therefore, both ends of the line are exhausted at disconnect.</p>

Operation: Operation refers to the action required to connect and disconnect a coupler. Operation is a function of sockets only and does not vary for plugs.

Flow: The most important factor in properly sizing couplers is flow. Flow data is given throughout the catalog for industrial interchange design couplers, as well as many of Foster's interchanges for competitors' non-standard designs. Where flow information is not shown, it is the same as the originating competitors' non-standard design. Most One Way Shut-Off non-standard couplers have the same flow as the same basic size industrial interchange design. All flows shown are for FPT couplers.

Media: The media flowing through the coupler will usually determine the type. Compressed air, many other gasses, and some liquids can be handled by One Way Shut-Off couplers. Hydraulic fluids as well as many other liquids and some gasses require Two Way Shut-Off. Straight-Thru couplers are suitable where there is no pressure in the line at connect or disconnect and loss of media at disconnect does not matter.

Pressurized lines employing quick-disconnect couplers should be considered potentially hazardous and **must be used with safety in mind**. Proper selection and use of Foster products will help you maintain a safe working environment for your personnel, your equipment, and your products.

Foster's quick-disconnect couplers are precision devices—do not modify, strike, or otherwise abuse the coupling halves. Never exceed their pressure or temperature limits and always protect the hose and coupler assembly from moving equipment.

Be cautious when moving pressurized hoses as some types of quick-disconnect couplers may unintentionally disconnect if the coupler encounters an obstacle as the hose is dragged. The pressurized media subsequently escaping from the freed line can force the hose assembly to violently whip about, possibly causing personal injury, equipment/product damage, and economic loss. Foster couplers and plugs designed to

minimize hose-whip hazards should be used whenever the risk is present, and personnel must be instructed to maintain a firm grip on both coupler halves when connecting or disconnecting pressurized lines.

Above all, always wear appropriate personal-protection equipment and safety glasses when working with, or near, pressurized lines utilizing quick-disconnect couplers.

Described below are several products offered by Foster Manufacturing Company that are designed to minimize the possibility of inadvertent disconnection and dangerous hose-whip:

- Couplers -

Sleeve Guard Sockets:

Sleeve guard sockets (models SG3 and TF3) employ a rigid flange at the nose of the socket that protects the sleeve from accidental retraction if the coupler encounters an obstacle while the hose is being dragged or moved.

Sleeve Locking Options:

BL and SL options employ a ball or pin to restrict sleeve retraction and are available on all Foster manual and automatic couplers having retractable sleeves. Couplers with the BL or SL designation are constructed with sleeves having a slot that must be aligned with a ball or pin before the sleeve is allowed to retract. Rotating the sleeve 180 degrees so the slot is not aligned with the ball or pin will minimize the chance of accidental sleeve retraction.

Twist-lock Sockets:

Our twist-lock couplers (RL series and SHD series) offer another option for minimizing the chance of hose-whip. These models are very resistant to accidental disconnection because the sleeves must be rotated, rather than retracted, to release the plug. In addition, the RL and SHD couplers are push-to-connect automatic models designed for easy operation when using gloved hands.

Safety Vent Sockets:

Foster SV series safety-vent sockets are "zero pressure" connect/disconnect type couplers designed to safely vent downstream pressure prior to disengaging the plug. Besides being nearly effortless to connect and great for hose use, SV sockets are especially useful for single-hand operation when they are mounted to hard lines such as an overhead air drop. Once inserted into the SV socket, the plug is lightly gripped and will stay in place allowing the operator to use the same hand to actuate the sleeve to the "on" position. As the sleeve is being moved to the "on" position, the SV socket will securely lock the plug in place before flow begins. Foster SV sockets can also be used as a 3-way valve to turn off the flow of air and exhaust the downstream pressure without disengaging the plug. By turning and sliding the sleeve to the "exhaust" position, downstream air pressure is relieved but the plug remains locked in place. Turning and sliding the sleeve in the opposite direction allows air to flow again. Foster SV series sockets are the ultimate solution to accidental-disconnect hose-whip dangers.

- Plugs -

Ball Check Plugs

Ball check plugs are offered in several sizes of Industrial Interchange and RL plugs. Ball-check plugs have a free-floating internal ball that acts as a check valve when the plug is disconnected from the coupler. The check-valve action minimizes hose-whip by causing the pressurized gas to escape slowly from the disconnected hose.

- Air Blowguns -

Foster manufactures several types of air blowgun products designed for cleaning, blow-off, inflation, and other operations. The blowguns are available with zinc or nylon bodies and we offer a variety of optional tips for nearly any use. Foster blowguns are available in OSHA* compliant and non-compliant** models to suit your particular needs.

** Blowguns that comply with OSHA regulations will limit the pressure of air exiting the gun to less than 30 psig when the tip is dead-headed. All Foster blowguns using "standard" and "safety" tips are OSHA compliant and are available with either removable threaded tips or tamper resistant crimped tips.*

*** Note: If a non-compliant blowgun/tip assembly is being used, air pressure to the gun's inlet must be regulated to less than 30 PSI to meet OSHA regulations.*

- Product Selection and Training -

We strongly recommend that the end user obtain proper training before using quick-disconnect couplers, air blowguns, and other Foster products. Thoughtful analysis of the user's needs and application must be given before selecting a product.

Our dedicated employees and distributors are eager to explain the features, benefits, and proper selection of Foster products, and answer your questions regarding their correct application and safe use.



One Way Shut-Off – Series 2 thru 6



Type: One Way Shut-Off – Socket is valved, shutting off supply line at disconnect. Plug is un-valved, exhausting downstream line at disconnect. Install socket on pressure side of line.

Interchangeability: Standard industrial interchange design, most widely used in industry. 3 and 5 Series Automatic water service comply with A-A-59439 (formerly MIL-C-4109F). 3-4-5-6 SERIES MEET ISO 6150-B, ANSI(NFPA)T3.20.14-1990. IN ADDITION, SV SOCKETS MEET ISO 4414.

Rated Pressure: 300 PSIG; Vacuum to 26"Hg (connected) Contact Foster for higher pressure applications.

Manual: Socket sleeve must be manually retracted to connect and disconnect.

- Low cost, general purpose coupler
- Positive locking mechanism
- 65% more ball retention
- Precision leakproof seal and heavy steel sleeve.

Automatic: Inserting the plug into the socket automatically retracts the sleeve to connect. Manually retract the sleeve to disconnect.

- One hand operation
- One piece sleeve with rear crimp
- Precision leakproof seal
- Long wearing pin type locking mechanism
- Greater plug contact

Features:

- High flow capability for small coupler
- Precision leak-proof seal
- Positive locking mechanism
- Sockets other than standard are color coded: Water (Blue), Steam (Black), and Heat (Red)

Safety: To connect, insert plug and pull sleeve forward. To disconnect, push sleeve back while rotating first counter clockwise and then clockwise.

As sleeve goes black, supply line is shut off, downstream line is exhausted, and plug is released. Remove plug.

- 100% safety
- Connect and disconnect at "0" pressure
- Plug locked before air is turned on and downstream line is exhausted before plug is released, completely eliminating hose whip
- Tested to 100,000 operations with no leakage
- Special lubrication eliminates dry breakaway
- Can be used as 3-Way on-off valve without disconnecting

Connection Sizes:

- 1/8" to 1" NPT
- 1/4" to 1" Hose Barb (Hose clamp required. See page 96 for Python hose clamps)
- 1/4" to 1/2" Push-on Hose Barb (Clamps not required when used with Push-On Hose. See page 63 for Push-On Hose)

Options:

Ball Lock (BL) – Locks manual socket against accidental disconnect. To connect, align ball with slot. After connection, rotate sleeve to lock. To disconnect, realign ball with slot and retract sleeve..

Sleeve Lock (SL) – Locks automatic socket against accidental disconnect. To connect, align notch with slot. After connection, rotate sleeve to lock. To disconnect, realign notch with slot and retract sleeve.

BALL CHECK PLUG – Eliminates hose whip at disconnect by checking the rapid flow of downstream exhaust air.

SWIVEL PLUGS – Free swivel under pressure. Eliminates hose twist on end drop applications such as blow guns, air tools, etc.

Performance Data:

Foster Series	Body Size	PSI Rated Pressure, Coupled (Body / Sleeve)				Pressure Drop					
						Air Flow – CFM				Water Flow	
		100 PSIG		80 PSIG		GPM 60 PSIG					
		10 PSIG	5 PSIG	10 PSIG	5 PSIG	10 PSIG	5 PSIG				
Series 2	1/8"	300*	300*	n/a	300*	16	12	14	11	1.8	1.2
Series 3	1/4"	300*	300*	300	300*	36	26	33	24	3.7	2.5
Series 4	3/8"	300*	300	300	n/a	68	50	62	45	6.8	5
Series 5	1/2"	300*	300	300	n/a	118	90	107	82	11	8
Series 6	3/4"	300	300	300	n/a	190	135	172	122	22	16

* Contact factory for higher pressure applications.



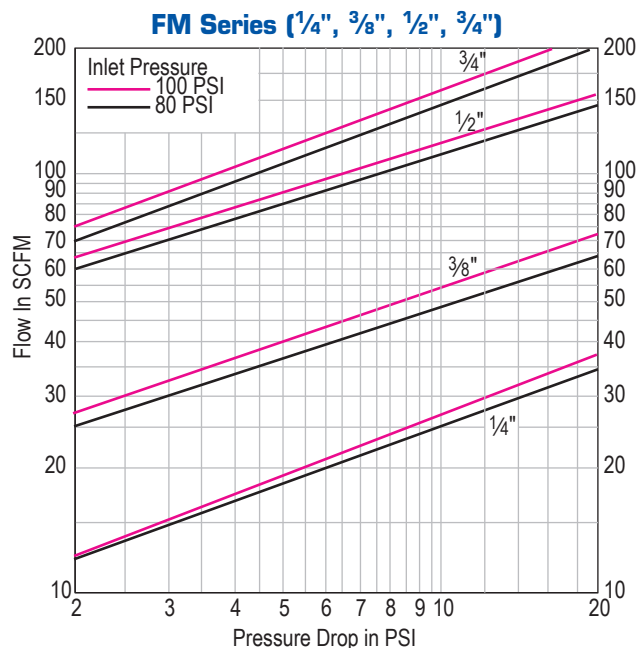
Foster 3 thru 6 Series couplers are designed for rigid mounting that allows a simple push-to-connect operation, constructed of a solid brass body and a steel valve. The "FM" Series are mechanically interchangeable with similar industrial interchange couplings made by other manufacturers and accept plugs that conform to MIL-C4109-F. Plugs used with the "FM" Series are the Industrial Interchange plugs that are found on page xx of this catalog. FM Series 3 and 5 couplers comply with A-A-59439.

Sleeve-Lock Option

Sleeve-Lock feature locks automatic socket against accidental disconnect. To connect, align ball with slot. After connection, rotate sleeve to lock. To disconnect, realign ball with slot and retract sleeve. Sizes available with sleeve lock are shown in the tables on following pages.



Performance:



Specifications	Body Size			
	1/4"	3/8"	1/2"	3/4"
Rated Pressure (psi)	300 PSIG; vacuum to 26" Hg			
Temperature Range (std seals)	-40° to +250° F			
Locking Device	3 pawls	4 pawls	5 pawls	6 pawls
Vacuum Data				
-- Disconnected (coupler only)	Not Recommended			
-- Connected	27.4 inches Hg			
Approximate CFM at 100 (psi)	37	70	150	

Optional Seal [Ordering]:

Buna-N seal is standard. Alternate seals are specified by the appropriate suffix on the catalog number. For example, 3003 socket with Heat Adder is 3003H

Service	Construction	Seal	Temperature	Suffix
Air, Vacuum, Grease & Oil	Brass & Steel	Buna-N	-40° to +250°F	none
Water	Brass & S/S	Buna-N	+32° to +100°F	W
Hot Water	Brass & S/S	Viton	-40° to +400°F	HW
Steam	Brass & S/S	EPDM	-40° to +250°F	S
Heat	Brass & Steel	Viton	-40° to +400°F	H
Less Valve	Brass & Steel	Buna-N	-40° to +250°F	LV

Note: Temperatures shown are seal compatibility. Consult factory for operational characteristics.



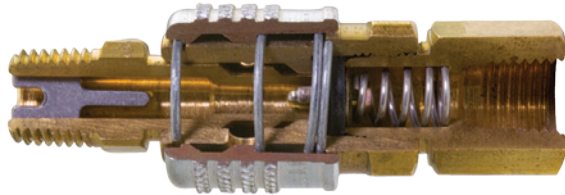
One Way Shut-Off - Series 2 thru 6



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Features:

- High flow metal valves.
- Precision molded seals form a "bubble tight" seal for reliable operation within rated working pressures. Nitrile (Buna-N) seals are standard. EPDM, Viton and Neoprene seals are available as options.
- Proven ball locking mechanism with large numbers of stainless steel locking balls evenly distribute the load to resist wear and provide positive connections and allow a swiveling action to reduce hose torque.
- Integral sleeve guard protects the sleeve and resists accidental disconnects for the "SG" series.
- Knurling and/or grooves on the sleeve provide a gripping surface for ease of operation.
- Wide range of body sizes, materials, options and end terminations are available to meet specific needs.
- Accepts Industrial Interchange Plug.



Operation: Sleeve type couplings are widely used to connect air and low pressure fluid lines. Their compact and economical design uses a ball locking mechanism consisting of captive stainless steel balls that engage the locking groove on the mating plug. The sliding spring loaded sleeve on the socket must be manually retracted in order to connect or disconnect the plug.

Material: Brass body and socket end, zinc-plated steel sleeve

Working Pressure: 300 PSIG; vacuum to 26" Hg

Interchangeability: Complies with ANSI/NFPA T3.20.14-1990 & ISO 6150-B

Specifications	Body Size		
	1/4"	3/8"	1/2"
Rated Pressure (psi)	300	300	300
Temp. Range (Buna-N Seal)	-40° to +250° F		
Locking Device	Stainless Steel Balls		
Vacuum Data (inches Hg)			
-- Disconnected (coupler only)	Not Recommended		
-- Connected	27.4	27.4	27.4
Approximate CFM at 100 (psi)	37	70	150

1/8" One Way Shut-Off - 2 Series

2 Series 1/8" Plugs

Plastic and Metal Tubing		Part No.	Size	Description
		PJ8-2	.170" x 1/4"	Plastic
		PJ8-2V	.170" x 1/4"	Plastic - Valve Core Brass
		PJ8-2VLV	.170" x 1/4"	Plastic - Less Valve
		PJ8-2M	1/4"	Soft Metal
		PJ8-2S/S	1/4"	Stainless Steel
		PJ8-2VM	1/4"	Soft Metal - Valve Core Brass

Female Thread		Part No.	FPT	Description
		23-2	1/8"	Steel
		27-2	1/4"	


Male Thread		Part No.	MPT	Description
		22-2	1/8"	Steel
		22-2B	1/8"	Brass
		22-2S/S	1/8"	303 Stainless
24-2	1/4"	Steel		


Hose Stem		Part No.	I.D.	Description
		02-2	1/8"	Steel Requires Hose Clamp (See page 96 for typical hose clamps)
		03-2	3/16"	
		04-2	1/4"	


Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		PB3-2	1/4" x 1/2"	Steel
		PB5-2	1/4" x 9/16"	
PB7-2	1/4" x 5/8"			





2 Series 1/8" Sockets

Plastic and Metal Tubing		Part No.	Size	Description
		SJ8-2	.170" x 1/4"	Plastic
		BLSJ8-2		Ball Lock, 1/4" Plastic
		SJ8-2M	1/4"	Soft Metal
		BLSJ8-2M		Ball Lock, Soft Metal
		SJ8-2S/S		303 Stainless

Plastic & Metal Tubing Panel Mount		Part No.	Size	Description
		SJ8P-2	.170" x 1/4"	Plastic
		BLSJ8P-2		Ball Lock, Plastic
		SJ8P-2HW		Plastic for Hot Water
		SJ8P-2W		Plastic, for Water
		SJ8P-2M	1/4"	Soft Metal
		BLSJ8P-2M		Ball Lock, Soft Metal

Female Thread		Part No.	FPT	Description	
		2302	1/8"	Brass/Steel	
		BL2302		Ball Lock	
		2302H		Brass/Steel For Heat, Viton Seal	
		2302HW		Brass/SS For Hot Water, Viton Seal	
		2302S/S		303 Stainless	
		BL2302S/S		Ball Lock, 303 Stainless	
		2302S/SH		303 Stainless For Heat, Viton Seal	
		2302W		Brass/SS For Water, Buna-N Seal	
		2702		1/4"	Brass/Steel
		BL2702			Ball Lock
		2702H			Brass/Steel For Heat, Viton Seal
		2702HW			Brass/SS For Hot Water, Viton Seal

Male Thread		Part No.	MPT	Description
		2202	1/8"	Brass/Steel
		BL2202		Ball Lock
		2202S/S		Brass
		BL2202S/S		Ball Lock, 303 Stainless
		2202H		For Heat, Viton Seal
		2202S		For Steam, Brass/SS, EPDM Seal
		2202W	For Water, Brass/SS, Buna-N Seal	
		2402	1/4"	Brass/Steel
		BL2402		Ball Lock
2402H	For Heat, Viton Seal			

Hose Stem		Part No.	I.D.	Description
		2022	1/8"	Brass/Steel
		BL2022		Ball Lock
		2022W		For Water, Brass/SS, Buna-N Seal
		2032	3/16"	Brass/Steel
		BL2032		Ball Lock
		2032HW		For Hot Water, Brass/SS, Viton Seal
		2032S		For Steam, Brass/SS, EPDM Seal
		2042	1/4"	Brass/Steel
		BL2042		Ball Lock
		2042HW		For Hot Water, Brass/SS, Viton Seal

Requires Hose Clamp (See page 96 for typical hose clamps)

Non-Standard Product Standard Product

See page 138 for full size templates





1/4" One Way Shut-Off - 3 Series




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3 Series 1/4" Plugs

Female Thread		Part No.	FPT	Description
		13-3	1/8"	Steel
		13-3B		Brass
		13-3S/S		303 Stainless
		11-3	1/4"	Steel
		11-3B		Brass
		11-3S/S		303 Stainless
		15-3	3/8"	Steel

Hose Stem		Part No.	I.D.	Description
		16-3	1/4"	Steel
		16-3B		Brass
		165-3	5/16"	Steel
		17-3	3/8"	Steel
		17-3B		Brass

Requires Hose Clamp (See page 96 for typical hose clamps)

Male Thread		Part No.	MPT	Description
		12-3	1/8"	Steel
		12-3B		Brass
		12-3S/S		303 Stainless
		12S-3		Free Swivel Under Pressure Steel
		10-3	1/4"	Steel
		10-3B		Brass
		10-3S/S		303 Stainless
		10-3D		w/Dill Valve Steel
		10-3G		Ball Check, Steel
		10-3GB		Ball Check, Brass
		10-3GS		Ball Check, Spring Loaded, For Steam, Brass/SS Material, EPDM Seal
		10-3GS/S		Ball Check, 303 Stainless
		10S-3		Free Swivel Under Pressure
		10-3DB		Brass, Valve Core Plug
		14-3	3/8"	Steel
		14-3B		Brass
		14-3GB		Ball Check, Brass
		14S-3		Free Swivel Under Pressure


Push-On Hose Stem		Part No.	I.D.	Description
		51-3	1/4"	Steel
		71-3	3/8"	Steel

Hose clamps not required when used with "Push On" hose. See page 63.

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		PB3-3	1/4" x 1/2"	Steel
		PB3-3B	1/4" x 1/2"	Brass
		PB3-3S/S	1/4" x 1/2"	303 Stainless
		PB5-3	1/4" x 9/16"	Steel
		PB5-3B	1/4" x 9/16"	Brass
		PB7-3	1/4" x 5/8"	Steel
		PB7-3B	1/4" x 5/8"	Brass
		PB7-3S/S	1/4" x 5/8"	303 Stainless
		PC5-3	5/16" x 9/16"	Steel
		PC7-3	5/16" x 5/8"	Steel
		PD7-3	3/8" x 5/8"	Steel
		PD9-3	3/8" x 11/16"	Steel
		PD11-3	3/8" x 3/4"	Steel
PD13-3	3/8" x 13/16"	Steel		

- [1] Ball check plugs eliminate hose whip at disconnect by checking the rapid flow of downstream exhaust air
- [2] Swivel Plugs – Eliminates hose twist on end drop applications such as blow guns, air tools, etc.

Dust Caps

Dust Cap		Part No.	Size	Description
		3PDC	1/4"	Plastic

Dust Caps, Sockets		Part No.	I.D. x O.D.	Description
		3SDC	1/4"	For Manual 1/4" only

Non-Standard Product Standard Product

See page 138 for full size templates



One Way Shut-off

Safety Vent Series

Non-Std. Interchange

Straight Through


Hydraulic Two Way Shut-off


Mold / Die

Hose Fittings & Accessories


ZSi Products

3 Series 1/4" 1-Way Manual Sleeve Guard Sockets


Female Thread		Part No.	FPT	Description
		SG2803	1/8"	Brass
		SG3003	1/4"	
		SG3003LV	1/4"	Brass, less Valve
		SG3203	3/8"	Brass

Male Thread		Part No.	MPT	Description
		SG2903	1/8"	Brass
		SG3103	1/4"	
		SG3103D	1/4"	Brass w/Dill Valve
		SG3303	3/8"	Brass

[1] Sockets with modified valves are recommended for use with valve core plugs. Suffix-D to socket Cat. No.


Hose Stem		Part No.	I.D.	Description
		SG3603	1/4"	Brass
		SG3703	3/8"	


Requires Hose Clamp (See page 96 for typical hose clamps)

Push-On Hose Stem		Part No.	I.D.	Description
		SG1513	1/4"	Brass
		SG1713	3/8"	

Hose clamps not required when used with "Push On" hose. See page 63.

3 Series 1/4" 1-Way Manual Sockets

Female Thread		Part No.	FPT	Description
		2803	1/8"	Brass/Steel
		BL2803		Ball Lock
		2803GB		Brass
		2803GS		Steel
		2803H		Steel, For Heat, Viton Seal
		2803S		Brass/SS, For Steam, EPDM Seal
		2803S/S		303 Stainless
		BL2803S/S		Ball Lock, 303 Stainless
		2803W		Brass/SS, For Water, Buna-N Seal
		3003		1/4"
		BL3003	Ball Lock	
		3003D	w/Dill Valve	
		3003GB	Brass	
		3003GS	Steel	
		3003H	Steel, For Heat, Viton Seal	
		3003HW	Brass/SS, For Hot Water, Viton Seal	
		3003LV	Steel, Less Valve	
		3003S	Brass/SS, For Steam, EPDM Seal	
		3003S/S	303 Stainless	
		BL3003S/S	Ball Lock, 303 Stainless	
		3003S/SH	303 Stainless, For Heat, Viton Seal	
		3003W	Brass/SS, For Water, Buna-N Seal	
		BL3003W	Brass/SS, Ball Lock, For Water, Buna-N Seal	
		3203	3/8"	Brass/Steel
		BL3203		Ball Lock
		3203GB		Brass
		3203GS		Steel
		3203H		Steel, For Heat, Viton Seal
		3203LV		Steel, Less Valve
3203S/S	303 Stainless			
BL3203S/S	Ball Lock, 303 Stainless			
3203S/SLV	Less Valve, 303 Stainless			
3203W	Brass/SS, For Water, Buna-N Seal			

Male Thread		Part No.	MPT	Description	
		2903	1/8"	Brass/Steel	
		BL2903		Ball Lock	
		2903GB		Brass	
		2903GS		Steel	
		2903H		Steel, For Heat, Viton Seal	
		2903S		Brass/SS, For Steam, EPDM Seal	
		2903S/S		303 Stainless	
		BL2903S/S		Ball Lock, 303 Stainless	
		3103		1/4"	Brass/Steel
		BL3103			Brass/Steel, Ball Lock
		3103D	Brass/Steel, w/Dill Valve		
		3103GB	Brass		
		3103GS	Steel		
		3103H	Brass/Steel, For Heat, Viton Seal		
		3103LV	Brass/Steel, Less Valve		
		3103S	Brass/SS, For Steam, EPDM Seal		
		3103S/S	303 Stainless		
		BL3103S/S	Ball Lock, 303 Stainless, w/Silicone Seal		
		3103S/SH	303 Stainless, For Heat, Viton Seal		
		3103S/SLV	303 Stainless, Less Valve		
		3103W	Brass/SS, For Water, Buna-N Seal		
		BL3103W	Ball Lock, For Water, Brass/SS, Buna-N Seal		
		3303	3/8"	Brass/Steel	
BL3303	Ball Lock				
3303GB	Brass				
3303GS	Steel				
3303H	Steel, For Heat, Viton Seal				
3303S/S	303 Stainless				
BL3303S/S	Ball Lock, 303 Stainless				
3303W	Brass/SS, For Water, Buna-N Seal				



1/4" One Way Shut-Off - 3 Series



FOSTER
MANUFACTURING COMPANY

3 Series 1/4" 1-Way Manual Sockets (Continued)

Hose Stem	Part No.	I.D.	Description	
	3603	1/4"	Brass/Steel	
	BL3603		Ball Lock	
	3603GB		Brass	
	3603GS		Steel	
	3603S		Brass/SS, For Steam, EPDM Seal	
	3603S/S		303 Stainless	
	BL3603S/S		Ball Lock, 303 Stainless	
	3603W		Brass/SS, For Water, Buna-N Seal	
	3653		5/16"	Brass/Steel
	BL3653			Ball Lock
	3653GB	Brass		
	3653GS	Steel		
	3703	3/8"	Brass/Steel	
	BL3703		Ball Lock	
	3703GB		Brass	
	3703GS		Steel	
	3703S		Brass/SS, For Steam, EPDM Seal	
	3703S/S		303 Stainless	
	BL3703S/S		Ball Lock, 303 Stainless	
3703W	Brass/SS, For Water, Buna-N Seal			

Requires Hose Clamp (See page 96 for typical hose clamps)



Push-On Hose Stem	Part No.	I.D.	Description
	1513	1/4"	Brass/Steel
	BL1513		Ball Lock
	1513GB		Brass
	1513W		For Water, Brass/SS, Buna-N Seal
	1713	3/8"	Brass/Steel
	BL1713		Ball Lock
	1713GB		Brass
	1713W		For Water, Brass/SS, Buna-N Seal

Hose clamps not required when used with "Push On" hose. See page 63.



Reusable Hose Clamp	Part No.	I.D. x O.D.	Description
	SB3-3	1/4" x 1/2"	Brass/Steel
	BLSB3-3W		Ball Lock, For Water, Brass/SS, Buna-N Seal
	SB3-3GB		Brass
	SB3-3GS		Steel
	SB3-3S/S		303 Stainless
	SB3-3W		For Water, Brass/SS, Buna-N Seal
	SB5-3	1/4" x 9/16"	Brass/Steel
	BLSB5-3		Ball Lock
	SB5-3GB		Brass
	SB5-3GS		Steel
	BLSB5-3W		Ball Lock, For Water, Brass/SS, Buna-N Seal
	SB7-3	1/4" x 5/8"	Brass/Steel
	BLSB7-3		Ball Lock
	SB7-3GB		Brass
	SB7-3GS		Steel
	SB7-3S/S		303 Stainless
	BLSB7-3S/S		Ball Lock, 303 Stainless
	SB7-3W		For Water, Brass/SS, Buna-N Seal
	BLSB7-3W	Ball Lock, For Water, Brass/SS, Buna-N Seal	
	SC5-3	5/16" x 9/16"	Brass/Steel
	BLSC5-3		Ball Lock
	SC7-3	5/16" x 5/8"	Brass/Steel
	BLSC7-3		Ball Lock
	SD7-3	3/8" x 5/8"	Brass/Steel
	BLSD7-3		Ball Lock
	SD7-3GB		Brass
	SD7-3GS	Steel	
	SD9-3	3/8" x 11/16"	Brass/Steel
	BLSD9-3		Ball Lock
	SD11-3	3/8" x 3/4"	Brass/Steel
	BLSD11-3		Ball Lock
	SD11-3GB		Brass
	SD11-3GS		Steel
	SD13-3	3/8" x 13/16"	Brass/Steel
BLSD13-3	Ball Lock		





[1] Sockets with modified valves (Dill Valve) are recommended for use with valve core plugs.

Non-Standard Product Standard Product
See page 138 for full size templates




3 Series 1/4" 1-Way Automatic Sockets


Female Thread		Part No.	FPT	Description
		FM2803	1/8"	Brass
		FM2803S		For Steam, Brass/SS, EPDM Seal
		SL2803		Sleeve Lock
		FM2803W	For Water, Brass/SS, Buna-N Seal	
		FM3003	1/4"	Brass
		SL3003		Sleeve Lock
		FM3003HW		For Hot Water, Brass/SS, Viton Seal
		FM3003S		For Steam, Brass/SS, EPDM Seal
		FM3003W		For Water, Brass/SS, Buna-N Seal
		SL3003W		Sleeve Lock, For Water, Brass/SS, Buna-N Seal
		FM3203	3/8"	Brass
		SL3203		Sleeve Lock
		FM3203H		For Heat, Viton Seal
		FM3203W		For Water, Brass/SS, Buna-N Seal

Male Thread		Part No.	MPT	Description
		FM2903	1/8"	Brass
		SL2903		Sleeve Lock, Brass
		FM3103	1/4"	Brass
		SL3103		Sleeve Lock, Brass
		FM3103D		w/Dill Valve
		SL3103D		Sleeve Lock, w/Dill Valve, Brass
		FM3103H		For Heat, Viton Seal
		FM3103HW		For Hot Water, Brass/SS, Viton Seal
		SL3103HW	Sleeve Lock, For Hot Water, Brass/SS, Viton Seal	
		FM3103S	For Steam, Brass/SS, EPDM Seal	
		FM3103W	For Water, Brass/SS, Buna-N Seal	
		SL3103W	Sleeve Lock, For Water, Brass/SS, Buna-N Seal	
		FM3303	3/8"	Brass
		SL3303		Sleeve Lock, Brass
		FM3303W		For Water, Brass/SS, Buna-N Seal


[1] Sockets with modified valves (Dill Valve) are recommended for use with valve core plugs.


Hose Stem		Part No.	I.D.	Description
		FM3603	1/4"	Brass
		SL3603	1/4"	Sleeve Lock, Brass
		FM3603S	1/4"	For Steam, Brass/SS, EPDM Seal
		FM3653	5/16"	Brass
		SL3653	5/16"	Sleeve Lock, Brass
		FM3703	3/8"	Brass
		SL3703	3/8"	Sleeve Lock, Brass
FM3703S	3/8"	For Steam, Brass/SS, EPDM Seal		

Requires Hose Clamps (See page 96 for typical hose clamps)

Push-On Hose Stem		Part No.	I.D.	Description
		FM1513	1/4"	Brass
		SL1513	1/4"	Sleeve Lock, Brass
		FM1713	3/8"	Brass
		SL1713	3/8"	Sleeve Lock, Brass
		FM1713W	3/8"	For Water, Brass/SS, Buna-N Seal

Hose clamps not required when used with "Push On" hose. See page 63.

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		FMSB3-3	1/4" x 1/2"	Brass
		FMSB5-3	1/4" x 9/16"	
		FMSB7-3	1/4" x 5/8"	
		FMSC5-3	5/16" x 9/16"	
		FMSC7-3	5/16" x 5/8"	
		FMSD7-3	3/8" x 5/8"	
		FMSD9-3	3/8" x 11/16"	
		FMSD11-3	3/8" x 3/4"	
		FMSD13-3	3/8" x 13/16"	

Reusable Hose Clamp with Sleeve Lock		Part No.	I.D. x O.D.	Description
		SLSB3-3	1/4" x 1/2"	Sleeve Lock, Brass
		SLSB5-3	1/4" x 9/16"	
		SLSB7-3	1/4" x 5/8"	
		SLSB7-3W		Sleeve Lock, For Water, Brass/SS, Buna-N Seal
		SLSC5-3	5/16" x 9/16"	Sleeve Lock,, Brass
		SLSC7-3	5/16" x 5/8"	
		SLSD7-3	3/8" x 5/8"	
		SLSD9-3	3/8" x 11/16"	
		SLSD11-3	3/8" x 3/4"	
SLSD13-3	3/8" x 13/16"			

One Way Shut-off

Safety Vent Series

Non-Std. Interchange

Straight Through

Hydraulic Two Way Shut-off

Mold / Die

Hose Fittings & Accessories

ZSi Products





3/8" One Way Shut-Off - 4 Series





FOSTER
MANUFACTURING COMPANY

4 Series 3/8" Plugs


Female Thread		Part No.	FPT	Description
		41-4	1/4"	Steel
		43-4	3/8"	
		43-4S/S		303 Stainless
		45-4	1/2"	Steel

Male Thread		Part No.	MPT	Description
		38-4	1/8"	Steel
		40-4	1/4"	
		40-4B		Brass
		40-4S/S		303 Stainless
		42-4	3/8"	Steel
		42-4B		Brass
		42-4S/S		303 Stainless
44-4	1/2"	Steel		


Male Thread Free Swivel - Under Pressure		Part No.	MPT	Description
		40S-4	1/4"	Steel
		42S-4	3/8"	

Hose Stem		Part No.	I.D.	Description
		46-4	1/4"	Steel
		47-4	5/16"	
		48-4	3/8"	
		48-4B		Brass
		49-4	1/2"	Steel


Requires Hose Clamps (See page 96 for typical hose clamps)


Push-On Hose Stem		Part No.	I.D.	Description
		51-4	1/4"	Steel
		71-4	3/8"	
		71-4B		Brass
		81-4	1/2"	Steel

Hose clamps not required when used with "Push On" hose. See page 63.


Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		PB3-4	1/4" x 1/2"	Steel
		PB5-4	1/4" x 9/16"	Steel
		PB7-4	1/4" x 5/8"	Steel
		PD7-4	3/8" x 5/8"	Steel
		PD9-4	3/8" x 11/16"	Steel
		PD11-4	3/8" x 3/4"	Steel
PD13-4	3/8" x 13/16"	Steel		


4 Series 3/8" 1-Way Manual Sockets

Female Thread		Part No.	FPT	Description
		4004	1/4"	Brass/Steel
		BL4004		Ball Lock, Brass/Steel
		4204	3/8"	Brass/Steel
		BL4204		Ball Lock, Brass/Steel
		4204H		For Heat, Viton Seal, Brass/Steel
		4204S		For Steam, Brass/SS, EPDM Seal
		4204S/S		303 Stainless
		BL4204S/S		Ball Lock, 303 Stainless
		4204W		For Water, Brass/SS, Buna-N Seal
		4404	1/2"	Brass/Steel
BL4404	Ball Lock, Brass/Steel			

Hose Stem		Part No.	I.D.	Description
		4604	1/4"	Brass/Steel
		BL4604		Ball Lock, Brass/Steel
		4604W		For Water, Brass/SS, Buna-N Seal
		4704	5/16"	Brass/Steel
		BL4704		Ball Lock, Brass/Steel
		4804	3/8"	Brass/Steel
		BL4804		Ball Lock, Brass/Steel
		4804S		For Steam, Brass/SS, EPDM Seal
		4804W		For Water, Brass/SS, Buna-N Seal
		4904	1/2"	Brass/Steel
BL4904	Ball Lock, Brass/Steel			
4904S	For Steam, Brass/SS, EPDM Seal			


Requires Hose Clamp (See page 96 for typical hose clamps)

Male Thread		Part No.	MPT	Description
		4104	1/4"	Brass/Steel
		BL4104		Ball Lock, Brass/Steel
		4104H		For Heat, Viton Seal, Brass/Steel
		4104S		For Steam, Brass/SS, EPDM Seal
		4104W	For Water, Brass/SS, Buna-N Seal	
		4304	3/8"	Brass/Steel
		BL4304		Ball Lock, Brass/Steel
		4304S		For Steam, Brass/SS, EPDM Seal
		4304S/S		303 Stainless
		BL4304S/S	Ball Lock, 303 Stainless	
		4304W	For Water, Brass/SS, Buna-N Seal	
		4504	1/2"	Brass/Steel
		BL4504		Ball Lock, Brass/Steel
4504H	For Heat, Viton Seal, Brass/Steel			
4504S	For Steam, Brass/SS, EPDM Seal			
4504W	For Water, Brass/SS, Buna-N Seal			

Push-On Hose Stem		Part No.	I.D.	Description
		1714	3/8"	Brass/Steel
		BL1714		Ball Lock
		1714W		For Water, Brass/SS, Buna-N Seal
		1814	1/2"	Brass/Steel
		BL1814		Ball Lock
1814W	For Water, Brass/SS, Buna-N Seal			


Hose clamps not required when used with "Push On" hose. See page 63.


4 Series 3/8" 1-Way Manual Sockets (Continued)


Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		SB3-4	1/4" x 1/2"	Brass/Steel
		BLSB3-4		Ball Lock, Brass/Steel
		SB5-4	1/4" x 9/16"	Brass/Steel
		BLSB5-4		Ball Lock, Brass/Steel
		SB7-4	1/4" x 5/8"	Brass/Steel
		BLSB7-4		Ball Lock, Brass/Steel
		SD7-4	3/8" x 5/8"	Brass/Steel
		B LSD7-4		Ball Lock, Brass/Steel
		SD9-4	3/8" x 11/16"	Brass/Steel
		B LSD9-4		Brass/Steel
		SD11-4	3/8" x 3/4"	Brass/Steel
		B LSD11-4		Ball Lock, Brass/Steel
		SD13-4	3/8" x 13/16"	Brass/Steel
B LSD13-4	Ball Lock, Brass/Steel			

- [1] Ball check plugs eliminate hose whip at disconnect by checking the rapid flow of downstream exhaust air
- [2] Swivel Plugs – Eliminates hose twist on end drop applications such as blow guns, air tools, etc.


4 Series 3/8" 1-Way Automatic Sockets

Female Thread		Part No.	FPT	Description
		FM4004	1/4"	Brass
		SL4004		Sleeve Lock Brass
		FM4204	3/8"	Brass
		SL4204		Sleeve Lock, Brass
		FM4204H		For Heat, Viton Seal
		FM4204W		For Water, Brass/SS, Buna-N Seal
		FM4404	1/2"	Brass
		SL4404		Sleeve Lock, Brass
		FM4404S		For Steam, Brass/SS, EPDM Seal
FM4404W	For Water, Brass/SS, Buna-N Seal			


Male Thread		Part No.	MPT	Description
		FM4104	1/4"	Brass
		SL4104		Sleeve Lock, Brass
		FM4104S		For Steam, Brass/SS, EPDM Seal
		FM4104W		For Water, Brass/SS, Buna-N Seal
		FM4304	3/8"	Brass
		SL4304		Sleeve Lock, Brass
		FM4304S		For Steam, Brass/SS, EPDM Seal
		FM4304W		For Water, Brass/SS, Buna-N Seal
		FM4504	1/2"	Brass
		SL4504		Sleeve Lock, Brass
		FM4504S		For Steam, Brass/SS, EPDM Seal
		FM4504W		For Water, Brass/SS, Buna-N Seal

Hose Stem		Part No.	I.D.	Description
		FM4604	1/4"	Brass
		SL4604		Sleeve Lock, Brass
		FM4704	5/16"	Brass
		SL4704		Sleeve Lock, Brass
		FM4804	3/8"	Brass
		SL4804		Sleeve Lock, Brass
		FM4804H		For Heat, Viton Seal
		FM4804W	For Water, Brass/SS, Buna-N Seal	
		FM4904	1/2"	Brass
		SL4904		Sleeve Lock, Brass
FM4904W	For Water, Brass/SS, Buna-N Seal			

Requires Hose Clamp
(See page 96 for
typical hose clamps)

Push-On Hose Stem		Part No.	I.D.	Description
		FM1714	3/8"	Brass
		SL1714		Sleeve Lock, Brass
		FM1814	3/8"	Brass
		SL1814		Sleeve Lock, Brass
		FM1814W		For Water, Brass/SS, Buna-N Seal

Hose clamps not required when used with "Push On" hose. See page 63.

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		FMSB3-4	1/4" x 1/2"	Brass
		SLSB3-4		Sleeve Lock, Brass
		FMSB5-4	1/4" x 9/16"	Brass
		SLSB5-4		Sleeve Lock, Brass
		FMSB7-4	1/4" x 5/8"	Brass
		SLSB7-4		Sleeve Lock, Brass
		FMSD7-4	3/8" x 5/8"	Brass
		S LSD7-4		Sleeve Lock, Brass
		FMSD9-4	3/8" x 11/16"	Brass
		S LSD9-4		Sleeve Lock, Brass
		FMSD11-4	3/8" x 3/4"	Brass
		S LSD11-4		Sleeve Lock, Brass
		FMSD13-4	3/8" x 13/16"	Brass
S LSD13-4	Sleeve Lock, Brass			

- [1] Swivel Plugs – Eliminates hose twist on end drop applications such as blow guns, air tools, etc.
- [2] Ball Lock (BL) – Locks manual socket against accidental disconnect.
- [3] Sleeve Lock (SL) – Locks automatic socket against accidental disconnect.

Non-Standard Product Standard Product

See page 138 for full size templates





1/2" One Way Shut-Off - 5 Series





FOSTER
MANUFACTURING COMPANY

5 Series 1/2" Plugs


Female Thread		Part No.	FPT	Description
		53-5	3/8"	Steel
		55-5	1/2"	Steel
		55-5S/S		303 Stainless
57-5	3/4"	Steel		


Hose Stem		Part No.	I.D.	Description
		59-5	3/8"	Steel
		59-5B	3/8"	Brass
		60-5	1/2"	Steel
		60-5G	1/2"	Ball Check, Steel
		60-5B	1/2"	Brass
		61-5	3/4"	Steel
61-5B	3/4"	Brass		
Requires Hose Clamps (See page 96 for typical hose clamps)				

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		PB3-5	1/4" x 1/2"	Steel
		PB5-5	1/4" x 9/16"	
		PB7-5	1/4" x 5/8"	
		PD7-5	3/8" x 5/8"	
		PD9-5	3/8" x 11/16"	
		PD11-5	3/8" x 3/4"	
		PD13-5	3/8" x 13/16"	
		PP13-5	1/2" x 13/16"	
		PP15-5	1/2" x 7/8"	
		PP17-5	1/2" x 15/16"	
PP19-5	1/2" x 1"			


Push-On Hose Stem		Part No.	I.D.	Description
		71-5	3/8"	Steel
		81-5	1/2"	
		81-5B	1/2"	Brass


Hose clamps not required when used with "Push On" hose. See page 63.


Male Thread		Part No.	MPT	Description
		50-5	1/4"	Steel
		52-5	3/8"	Steel
		52-5B		Brass
		54-5GB	1/2"	Ball Check, Brass
		54-5		Steel
		54-5G		Ball Check, Steel
		54-5B	Brass	
		54-5S/S	303 Stainless	
		56-5	3/4"	Steel
		56-5S/S		303 Stainless

Male Thread Swivel Under Pressure		Part No.	MPT	Description
		54S-5	1/2"	Free Swivel Under Pressure, Steel

Coaxial Plug/Coupler

Male Thread Plug		Part No.	I.D.	Description
		54-5CA	1/2"	Steel


Male Thread Coupler		Part No.	I.D.	Description
		SV5305CA	1/2"	Steel, Safety Coupler
SV5505CA	3/4"			


Female Thread Coupler		Part No.	I.D.	Description
		SV5205CA	1/2"	Steel, Safety Coupler


Non-Standard Product Standard Product

See page 138 for full size templates


5 Series 1/2" 1-Way Shut-Off Sockets

Female Thread		Part No.	FPT	Description
		4015	1/4"	Brass/Steel
		BL4015		Ball Lock, Brass/Steel
		5005	3/8"	Brass/Steel
		BL5005		Ball Lock, Brass/Steel
		5005H		For Heat, Viton Seal
		5005W	For Water, Brass/SS, Buna-N Seal	
		5205	1/2"	Brass/Steel
		BL5205		Ball Lock, Brass/Steel
		5205H		For Heat, Viton Seal
		5205LV		Less Valve
		5205S/S		303 Stainless
		5205W	For Water, Brass/SS, Buna-N Seal	
		5405	3/4"	Brass/Steel
		BL5405		Ball Lock, Brass/Steel
5405W	For Water, Brass/SS, Buna-N Seal			


Male Thread		Part No.	MPT	Description
		4905	1/4"	Brass/Steel
		BL4905		Ball Lock, Brass/Steel
		5105	3/8"	Brass/Steel
		BL5105		Ball Lock, Brass/Steel
		5305	1/2"	Brass/Steel
		BL5305		Ball Lock, Brass/Steel
		5305H		For Heat, Viton Seal
		5305S/S		303 Stainless
		5305W		For Water, Brass/SS, Buna-N Seal
		5505	3/4"	Brass/Steel
		BL5505		Ball Lock, Brass/Steel

Hose Stem		Part No.	I.D.	Description
		5605	1/4"	Brass/Steel
		BL5605		Ball Lock, Brass/Steel
		5705	3/8"	Brass/Steel
		BL5705		Ball Lock, Brass/Steel
		5705H		For Heat, Viton Seal
		5805	1/2"	Brass/Steel
		BL5805		Ball Lock, Brass/Steel
		5805H		For Heat, Viton Seal
		5805HW		For Hot Water, Brass/SS, Viton Seal
		5805W		For Water, Brass/SS, Buna-N Seal
		5905	3/4"	Brass/Steel
BL5905	Ball Lock, Brass/Steel			
5905W	For Water, Brass/SS, Buna-N Seal			

Requires Hose Clamps (See page 96 for typical hose clamps)

Push-On Hose Stem		Part No.	I.D.	Description
		1815	1/2"	Brass/Steel
		1815W	1/2"	For Water, Brass/SS, Buna-N Seal
		BL1815	1/2"	Ball Lock, Brass/Steel

Hose clamps not required when used with "Push On" hose. See page 63.

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		SD7-5	3/8" x 5/8"	Brass/Steel
		BLSD7-5		Ball Lock, Brass/Steel
		SD7-5W	For Water, Brass/SS, Buna-N Seal	
		SD9-5	3/8" x 11/16"	Brass/Steel
		BLSD9-5		Ball Lock, Brass/Steel
		SD9-5W		For Water, Brass/SS, Buna-N Seal
		SD11-5	3/8" x 3/4"	Brass/Steel
		BLSD11-5		Ball Lock, Brass/Steel
		SD13-5	3/8" x 13/16"	Brass/Steel
		BLSD13-5		Ball Lock, Brass/Steel
		SP13-5	1/2" x 13/16"	Brass/Steel
		BLSP13-5		Ball Lock, Brass/Steel
		SP13-5W		For Water, Brass/SS, Buna-N Seal
		SP15-5	1/2" x 7/8"	Brass/Steel
		BLSP15-5		Ball Lock, Brass/Steel
		SP17-5	1/2" x 15/16"	Brass/Steel
		BLSP17-5		Ball Lock, Brass/Steel
		SP19-5	1/2" x 1"	Brass/Steel
		BLSP19-5		Ball Lock, Brass/Steel

One Way Shut-off

Safety Vent Series

Non-Std. Interchange

Straight Through

Hydraulic Two Way Shut-off

Mold / Die

Hose Fittings & Accessories

ZSI Products





1/2" One Way Shut-Off - 5 Series




FOSTER
MANUFACTURING COMPANY


5 Series 1/2" 1-Way Automatic Sockets

Female Thread		Part No.	FPT	Description
		FM4015	1/4"	Brass
		SL4015		Sleeve Lock, Brass
		FM5005	3/8"	Brass
		SL5005		Sleeve Lock, Brass
		FM5005H		For Heat, Viton Seal, Brass
		FM5005S		For Steam, Brass/SS, EPDM Seal
		FM5005W		For Water, Brass/SS, Buna-N Seal
		FM5205		1/2"
		SL5205	Sleeve Lock, Brass	
		FM5205H	For Heat, Viton Seal, Brass	
		FM5205LV	Less Valve, Brass	
		FM5205S	For Steam, Brass/SS, EPDM Seal	
		FM5205W	For Water, Brass/SS, Buna-N Seal	
		FM5405	3/4"	Brass
SL5405	Sleeve Lock, Brass			
FM5405W	For Water, Brass/SS, Buna-N Seal			


Male Thread		Part No.	MPT	Description
		FM4905	1/4"	Brass
		SL4905		Sleeve Lock, Brass
		FM5105	3/8"	Brass
		SL5105		Sleeve Lock, Brass
		FM5305	1/2"	Brass
		SL5305		Sleeve Lock, Brass
		FM5305S		For Steam, Brass/SS, EPDM Seal
		FM5305W		For Water, Brass/SS, Buna-N Seal
		FM5505	3/4"	Brass
		SL5505		Sleeve Lock, Brass
		FM5505S		For Steam, Brass/SS, EPDM Seal

Hose Stem		Part No.	I.D.	Description
		FM5605	1/4"	Brass
		SL5605		Sleeve Lock, Brass
		FM5705	3/8"	Brass
		SL5705		Sleeve Lock, Brass
		FM5705H	1/2"	For Heat, Viton Seal, Brass
		FM5805		Brass
		SL5805		Sleeve Lock, Brass
		FM5805H		For Heat, Viton Seal, Brass
		SL5805H		For Heat, Sleeve Lock, Viton Seal
		FM5805W		For Water, Brass/SS, Buna-N Seal
		FM5905	3/4"	Brass
SL5905	Sleeve Lock, Brass			

Requires Hose Clamp (See page 96 for typical hose clamps)

Push-On Hose Stem		Part No.	I.D.	Description
		FM1815	1/2"	Brass

Hose clamps not required when used with "Push On" hose. See page 63.


Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		FMSD7-5	3/8" x 5/8"	Brass
		SLSD7-5		Sleeve Lock, Brass
		FMSD7-5H		For Heat, Viton Seal, Brass
		FMSD9-5	3/8" x 11/16"	Brass
		SLSD9-5		Sleeve Lock, Brass
		FMSD11-5	3/8" x 3/4"	Brass
		SLSD11-5		Sleeve Lock, Brass
		FMSD13-5	3/8" x 13/16"	Brass
		SLSD13-5		Sleeve Lock, Brass
		FMSP13-5	1/2" x 13/16"	Brass
		SLSP13-5		Sleeve Lock, Brass
		FMSP13-5H		For Heat, Viton Seal, Brass
		FMSP15-5	1/2" x 7/8"	Brass
		SLSP15-5		Sleeve Lock, Brass
		FMSP17-5	1/2" x 15/16"	Brass
		SLSP17-5		Sleeve Lock, Brass
		FMSP19-5	1/2" x 1"	Brass
SLSP19-5	Sleeve Lock, Brass			


- [1] Swivel Plugs – Eliminates hose twist for applications such as blow guns, air tools, etc.
- [2] Ball check plugs eliminate hose whip at disconnect by checking the rapid flow of downstream exhaust air
- [3] Ball Lock (BL) – Locks manual socket against accidental disconnect.
- [4] Sleeve Lock (SL) – Locks automatic socket against accidental disconnect.


Non-Standard Product Standard Product

See page 138 for full size templates


6 Series 3/4" Plugs


Female Thread		Part No.	FPT	Description
		65-6	1/2"	Steel
		67-6	3/4"	
		69-6	1"	

Male Thread		Part No.	MPT	Description
		64-6	1/2"	Steel
		66-6	3/4"	
		68-6	1"	


Hose Stem		Part No.	I.D.	Description
		70-6	1/2"	Steel Requires Hose Clamps (See page 96 for typical hose clamps)
		71-6	3/4"	
		72-6	1"	

6 Series 3/4" 1-Way Automatic Sockets

Female Thread		Part No.	FPT	Description
		FM6206	1/2"	Brass
		SL6206		Sleeve Lock, Brass
		FM6206W		For Water, Brass/SS, Buna-N Seal
		FM6406	3/4"	Brass
		SL6406		Sleeve Lock, Brass
		FM6406H		For Heat, Viton Seal
		SL6406H		For Heat, Sleeve Lock, Viton Seal, Brass
		FM6406S		For Steam, Brass/SS, EPDM Seal
		FM6406W		For Water, Brass/SS, Buna-N Seal
		FM6606	1"	Brass
		SL6606		Sleeve Lock, Brass
		FM6606W		For Water, Brass/SS, Buna-N Seal


Male Thread		Part No.	MPT	Description
		FM6306	1/2"	Brass
		SL6306		Sleeve Lock, Brass
		FM6306S		For Steam, Brass/SS, EPDM Seal
		FM6306W	3/4"	For Water, Brass/SS, Buna-N Seal
		FM6506		Brass
		SL6506	Sleeve Lock, Brass	
		FM6506S	1"	For Steam, Brass/SS, EPDM Seal
		FM6506W		For Water, Brass/SS, Buna-N Seal
		FM6706		Brass
SL6706	Sleeve Lock, Brass			


[1] Sleeve Lock (SL) – Locks automatic socket against accidental disconnect.


Hose Stem		Part No.	I.D.	Description
		FM6806	1/2"	Brass
		SL6806		Sleeve Lock, Brass
		FM6806W		For Water, Brass/SS, Buna-N Seal
		FM6906	3/4"	Brass
		SL6906		Sleeve Lock, Brass
		FM6906W		For Water, Brass/SS, Buna-N Seal
		FM7006	1"	Brass
SL7006	Sleeve Lock, Brass			

Requires Hose Clamp (See page 96 for typical hose clamps)

6 Series Coaxial Plug/Coupler

Male Thread Plug		Part No.	I.D.	Description
		64-6CA	1/2"	Steel
		66-6CA	3/4"	

Male Thread Coupler		Part No.	I.D.	Description
		SV6506CA	3/4"	Steel, Safety Coupler

Female Thread Coupler		Part No.	I.D.	Description
		SV6406CA	3/4"	Steel, Safety Coupler

Non-Standard Product Standard Product

See page 138 for full size templates

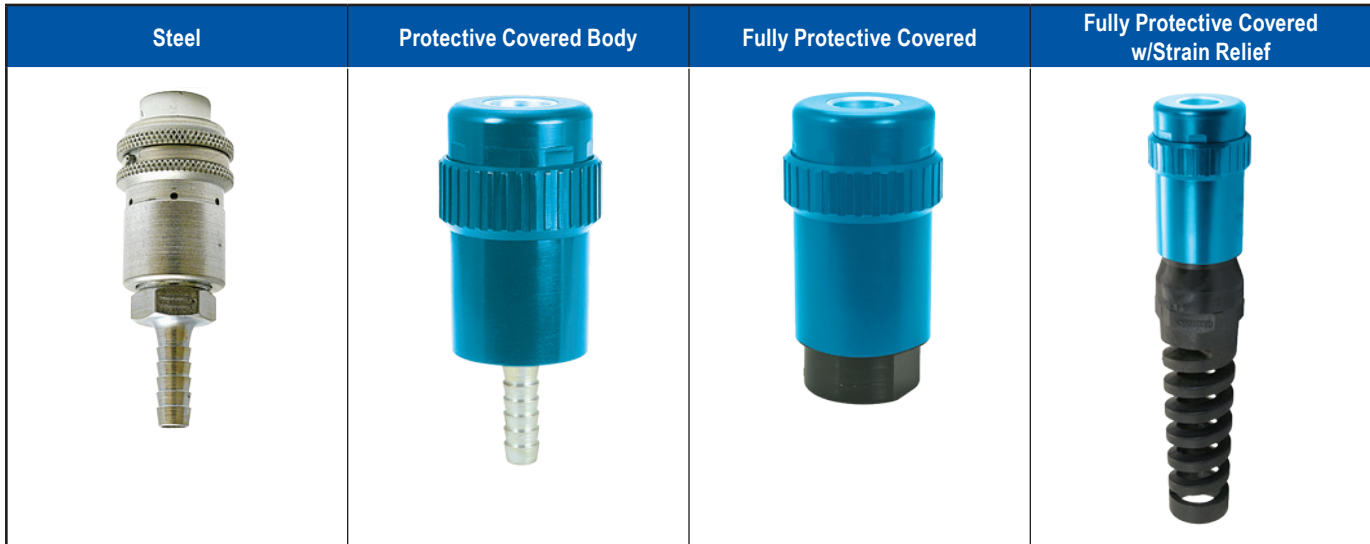


Safety Vent Series

Zero Pressure Connect and Disconnect Design



FOSTER
MANUFACTURING COMPANY



Foster SV and SVPC Series Safety Vent couplings are designed for maximum user and equipment safety. Foster SV and SVPC Series couplings allow for safe and easy connection/disconnection under zero line pressure to minimize the possibility of inadvertent disconnection and potential hose whip.

The fully encapsulated non-marring models significantly reduce the risk of surface nicks and scratches. Ideal for use in paint booth applications or for air lines used around finished surfaces, such as fiberglass, painted metal or glass surfaces.

Features:

- Made in the USA
- Rubber or polyurethane hose connections available
- Extra thick heat-treated steel walls extend service life
- Zero pressure connect/disconnect design vents down stream pressure for safe, easy connect/disconnect. It also minimizes possible inadvertent disconnection and potentially dangerous hose whip
- "O-ring" plug seal for leak-free performance
- No replacement parts used (valve, spring, or washer) that could block flow of air.
- Silicone-free assembly.
- Meets ISO 4414, 9.6 Quick-Action Couplings requirements: Quick-Action (quick release) couplings shall be selected so that when they are coupled or uncoupled
 - a) the coupling shall not be forced apart in a hazardous manner
 - b) compressed air particles shall not be expelled in a hazardous manner
 - c) a controlled pressure-release system shall be provided where a hazard may exist.

Specifications:

Material: Zinc-plated steel, Acetal Copolymer outside cover, Steel internals

Seal: Buna-N

Working Pressure: 300 PSIG; vacuum to 26"Hg

Body Sizes: 1/4" to 3/4" Industrial Interchange Design

Connection Sizes: 1/4" to 1" NPT; 1/4" to 3/4" Hose Barb

Interchangeability: Complies with ANSI/NFPA T3.20.14-1990, ISO 6150-B, & ISO 4414

Rated Pressure: 300 psi

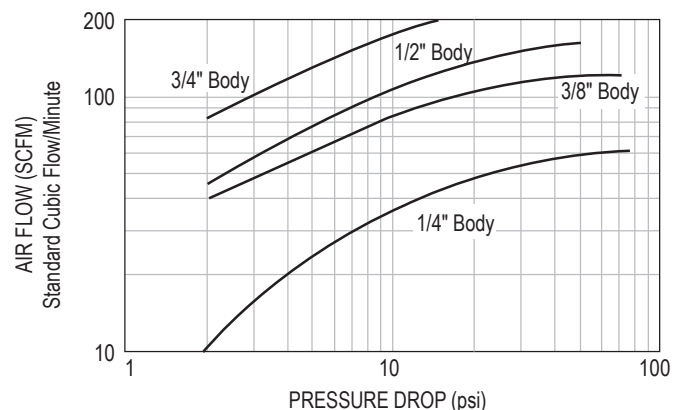
Temperature Range (std seals): 0° to +150° F

Locking Device: Stainless Steel Balls

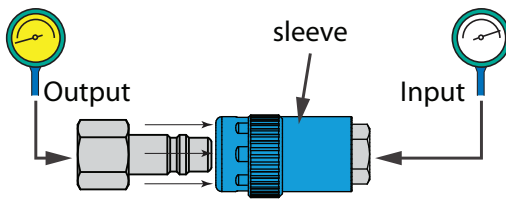
Force required to Connect: Less than 10 lbs

Performance:

**"SV", "SVPC" Series (1/4", 3/8", 1/2", 3/4")
Pressure Drop/Flow Performance Curves
@ 100 PSIG Inlet**

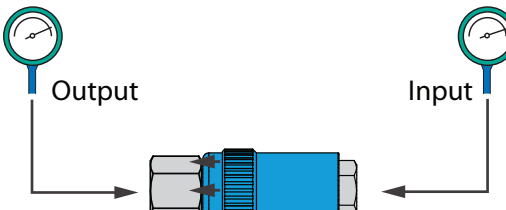


Insert Plug – Output is Zero Pressure



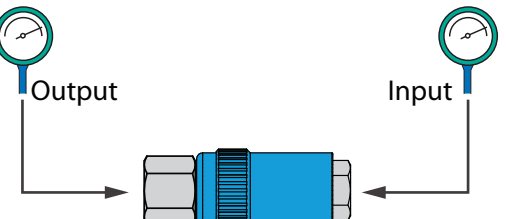
① Make sure sleeve is fully retracted to allow insertion of the plug. Output pressure is zero at this point.

Plug is Locked in Place, Now Restore Output Pressure



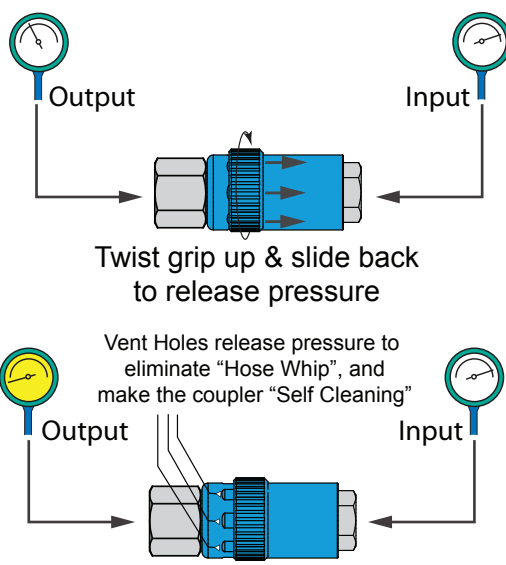
② Make sure sleeve is fully extended to allow pressure on the output plug

System Under Pressure (both source and Output)



③

Remove Pressure From Output -- Acts as a Shut-Off Valve --

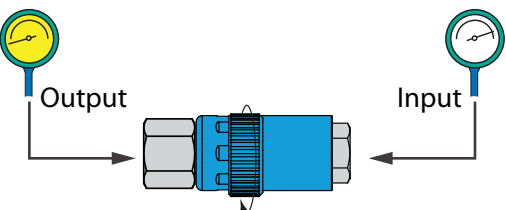


④ Twist grip up & slide back to release pressure

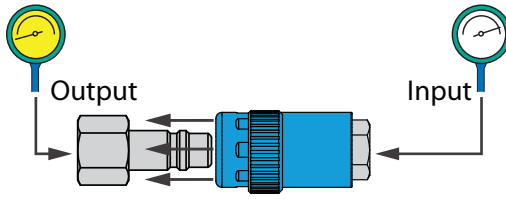
Vent Holes release pressure to eliminate "Hose Whip", and make the coupler "Self Cleaning"

Output Pressure is Released

Remove Plug – Output Pressure is Automatically Zero



⑤ When Output=0 pressure turn slightly down & forward to allow release. Coupler automatically prevents this action if pressure not yet released



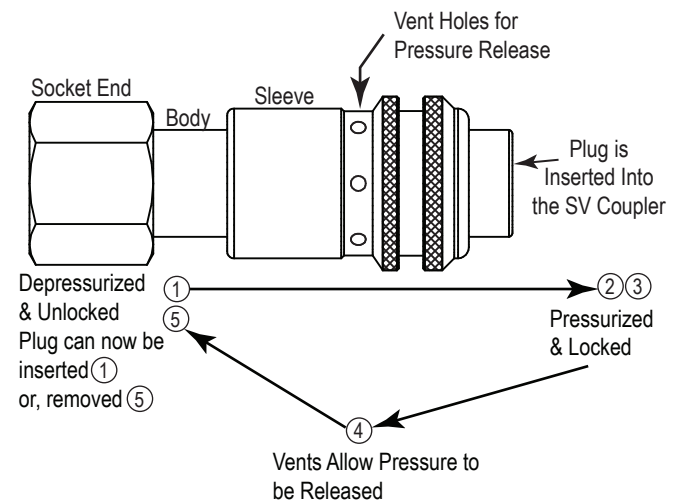
⑤ Since output pressure is zero, and coupler is in release position, Plug can be removed

Operation: SV and SVPC Series Safety Vent couplers are nearly effortless to connect and great for hose use. They are also especially useful for single-hand operation when they are mounted to hard lines such as an overhead air drop.

Once inserted into the SV or SVPC socket, the plug is lightly gripped and will stay in place allowing the operator to use the same hand to slide the sleeve straight forward to the "on" position.

SV or SVPC Series sockets can also be used as a 3-way valve to turn off the flow of air and exhaust the downstream pressure without disengaging the plug. By turning and sliding the sleeve to the "exhaust" position, downstream air pressure is relieved but the plug remains locked in place. Turning and sliding the sleeve in the opposite direction allows air to flow again.

Foster SV or SVPC Series couplers are the ultimate solution to accidental disconnect hose whip dangers.






Safety Vent Series


Zero Pressure Connect and Disconnect Design





FOSTER
MANUFACTURING COMPANY


SV & SVPC Series Safety Vent Couplers (Industrial Interchange)

Female Pipe Thread		Part No.	Body	FPT	Description
		SV3003	1/4"	1/4"	Steel Safety Coupler,
		SV3203		3/8"	
		SV4004	3/8"	1/4"	
		SV4204		3/8"	
		SV4404		1/2"	
		SV5005	1/2"	3/8"	
		SV5205		1/2"	
		SV5405		3/4"	
		SV6406	3/4"	3/4"	
		SV6606		1"	


Female Pipe Thread with Protective Cover		Part No.	Body	FPT	Description
		SVPC3003	1/4"	1/4"	Steel with Protective Covered Body*
		SVPC3203		3/8"	
		SVPC4004	3/8"	1/4"	
		SVPC4204		3/8"	
		SVPC4404		1/2"	
		SVPC5005	1/2"	3/8"	
		SVPC5205		1/2"	
		SVPC5405		3/4"	
		SVPC6406	3/4"	3/4"	
				3/4"	

Male Pipe Thread		Part No.	Body	MPT	Description
		SV3103	1/4"	1/4"	Steel Safety Coupler,
		SV3303		3/8"	
		SV4104	3/8"	1/4"	
		SV4304		3/8"	
		SV4504		1/2"	
		SV5105	1/2"	3/8"	
		SV5305		1/2"	
		SV5505		3/4"	
		SV6506	3/4"	3/4"	
		SV6706		1"	


Male Pipe Thread with Protective Cover		Part No.	Body	MPT	Description
		SVPC3103	1/4"	1/4"	Steel with Protective Covered Body*
		SVPC3303		3/8"	
		SVPC4104	3/8"	1/4"	
		SVPC4304		3/8"	
		SVPC4504		1/2"	
		SVPC5105	1/2"	3/8"	
		SVPC5305		1/2"	
		SVPC5505		3/4"	
		SVPC6506	3/4"	3/4"	
		SVPC6706		1"	


Push-On Hose Stem		Part No.	Body	Hose ID	Description
		SV1513	1/4"	1/4"	Steel, Safety Coupler
		SV1713		3/8"	
		SV1714	3/8"	3/8"	
		SV1814		1/2"	
		SV1815		1/2"	

Hose clamps not required when used with "Push On" hose. See page 63.

Push-On Hose Stem with Protective Cover		Part No.	Body	Hose ID	Description
		SVPC1513	1/4"	1/4"	Steel with Protective Covered Body*
		SVPC1713		3/8"	
		SVPC1714	3/8"	3/8"	
		SVPC1814		1/2"	
		SVPC1815		1/2"	


Hose clamps not required when used with "Push On" hose. See page 63.

Hose Barb		Part No.	Body	Hose ID	Description	
		SV3603	1/4"	1/4"	Steel, Safety Coupler	
		SV3703		3/8"		
		SV4604	3/8"	1/4"		
		SV4804		3/8"		
		SV4904		1/2"		
		SV5705	1/2"	3/8"		Requires Hose Clamp (See page 96 for typical hose clamps)
		SV5805		1/2"		
		SV5905		3/4"		
		SV6906	3/4"	3/4"		
	3/4"					

Hose Barb with Protective Cover		Part No.	Body	Hose ID	Description	
		SVPC3603	1/4"	1/4"	Steel with Protective Covered Body*	
		SVPC3703		3/8"		
		SVPC4604	3/8"	1/4"		
		SVPC4804		3/8"		
		SVPC4904		1/2"		
		SVPC5705	1/2"	3/8"		Requires Hose Clamp (See page 96 for typical hose clamps)
		SVPC5805		1/2"		
		SVPC5905		3/4"		
		SVPC6906	3/4"	3/4"		
	3/4"					

* All SV, SVPC Sockets feature a Silicone-free assembly.


SVPC Series Safety Vent Couplers (Industrial Interchange)

Hose Barb		Part No.	Body	Hose ID	Description
		SVPCA62.R	3/8"	3/8"	Fully Protective Cover*, for Rubber Hose
		SVPCA62.P		3/8"	Fully Protective Cover*, for Poly Hose
		SVPCA72.P		7/16"	Fully Protective Cover*, for Poly Hose
		SVPC262.R	1/2"	3/8"	Fully Protective Cover*, for Rubber Hose
		SVPC262.P		3/8"	Fully Protective Cover*, for Poly Hose
SVPC272.P	7/16"	Fully Protective Cover*, for Poly Hose			

Requires Hose Clamp (See page 96 for typical hose clamps)


* All SV, SVPC Sockets feature a Silicone-free assembly.

See page 140 for full size templates


Hose Barb with Strain Relief		Part No.	Body	Hose ID	Description
		SVPCA66.R	3/8"	3/8"	Fully Protective Cover*, w/Strain Relief for Rubber Hose
		SVPCA66.P		3/8"	Fully Protective Cover*, w/Strain Relief for Poly Hose
		SVPCA76.P		7/16"	Fully Protective Cover*, w/Strain Relief for Poly Hose
		SVPC266.R	1/2"	3/8"	Fully Protective Cover*, w/Strain Relief for Rubber Hose
		SVPC266.P		3/8"	Fully Protective Cover*, w/Strain Relief for Poly Hose
SVPC276.P	7/16"	Fully Protective Cover*, w/Strain Relief for Poly Hose			

Requires Hose Clamp (See page 96 for typical hose clamps)

Protective Covers

Protective Cover for "SV4" Sockets		Part No.	Size	Description
		SV4-PC	3/8"	Plastisol Rubber

- Superior cushioning effect of Plastisol cover provides better protection for auto, motorcycle, marine, & appliance finishes.
- Flexible protective cover allows normal coupling operation while reducing the entry of contaminants in dirty environments.
- Standard SV couplers with protective covers are less expensive than competitive hard plastic models.

Protective Cover for "SV5" Sockets		Part No.	Size	Description
		SV5-PC	1/2"	Plastisol Rubber

- Superior cushioning effect of Plastisol cover provides better protection for auto, motorcycle, marine, & appliance finishes.
- Flexible protective cover allows normal coupling operation while reducing the entry of contaminants in dirty environments.
- Standard SV couplers with protective covers are less expensive than competitive hard plastic models, plus they eliminate the need to stock both standard and plastic bodied couplers.

Push-Button Safety Vent Series

Zero Pressure Connect and Disconnect Design

Features:

- Industrial Interchange, Pneumatic Application
- Anodized Aluminum Body for long life
- Swivel body to keep hose untangled
- Push twice for release. First push vents, second releases
- Button, Valve & Venting Ring: Hardened zinc plated steel
- Springs, Balls: Stainless Steel
- ISO 4414 Norm
- Flow capacity: 37SCFM (at 90 psi with connected insert)
- Max working pressure: 175 psi (safety factor 4:1)
- Recommended working Temperature: 0°F-160°F

Female Pipe Thread Industrial Interchange		Part No.	Size	Description
		SPB3003	1/4"	1/4" Body, Safety Push Button
SPB4204	3/8"			

Male Pipe Thread Industrial Interchange		Part No.	MPT	Description
		SPB3103	1/4"	1/4" Body, Safety Push Button
SPB4304	3/8"			

Note: Foster approved components (May be imported)



Interchangeable Couplers For Non-Standard Designs

As various manufacturers started to offer quick detachable couplers, most of them entered the market with their own design, which was different from their competitors. There was very little interchangeability from one brand to another. Efforts to correct this problem began about 50 years ago with the creation of a military specification (MIL-C-4109) for One Way Shut-Off couplers. This design is now the most commonly used and is referred to as the standard industrial interchange.

Two Way Shut-Off designs are also being standardized, based on ISO dimensions. However, there are still many different Two Way designs, most of which vary by application. Although there is no organizational standard governing the design of Straight-Thru couplers, a standard industrial design (Foster Series FST) has developed from usage. On the catalog pages following; Foster offers couplers that will interchange with many of these non-standard designs as shown below

LN Series	Interchange with Lincoln Long Nose	Page 26 - 27
SHD Series	Interchange with Schrader Standard & Heavy Duty	Page 28 - 29
FRL Series	Interchange with Hansen 2RL & 3RL	Page 30 - 31
O60 Series	Interchange with Hansen 600 Series.	Page 32
A70 Series	Interchange with Hansen 700 Series.	Page 33
210 Series	Interchange with ARO 210 Series	Page 34 - 35
310 Series	Interchange with ARO 310 Series	Page 36
ISO A Series	Conforms with ISO 7241-1, Series A.	Page 37
TF3 Series	Interchange with Tru-Flate Series	Page 38 - 39
FST Series	Straight-Thru Industrial Interchange	Page 40 - 41
FF Series	Flush Face	Page 42
FHK Series	Compatible with ISO 7241-1, Series B	Page 43 - 46
FH & FIH Series.	Interchange with Snap-Tite H Series.	Page 47 - 48
FWN Series	Wing Nut Series.	Page 49
FJT Series	Interchange with DME, Jiffy-Tite, Jiffy-Matic, Parker Moldmate	Page 50 - 56

LN Series - 1/4"

(Interchange with Lincoln Long Nose)

Foster LN Series couplings are interchangeable with Lincoln's "Long Nose" series couplings and offer quick coupling of all air-operated equipment. They are only available in 1/4" body size, brass and steel construction.

- Locking mechanism prevents accidental coupler detachment
- Increased air flow due to a larger air passage
- Automatic air check valve shuts off air instantly when uncoupled, providing leak-proof seal.
- Corrosion resistant steel for long service life
- Free swivel helps prevent kinking or curling of air hoses

Specifications:

Type: One Way Shut-Off

Rated Pressure: 300 PSIG

Temperature Range (std seals): -40° to +250°F.

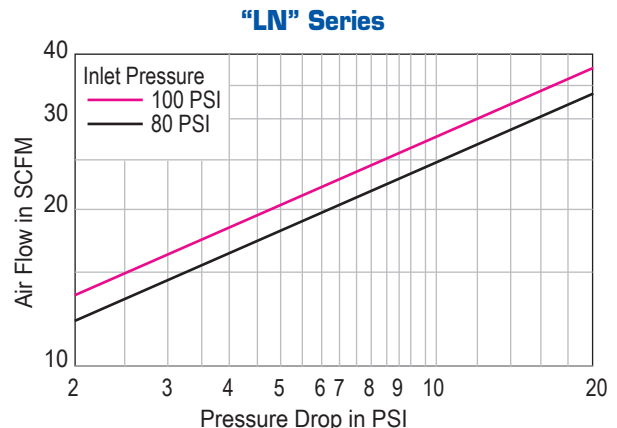
Locking Device: Balls or pins

Operation:


Manual - socket sleeve must be retracted to connect and disconnect


Automatic - Push to Connect

Performance:





Plugs - 1/4"


Female Thread		Part No.	FPT	Description
		LN13	1/8"	Steel
		LN11	1/4"	


Male Thread		Part No.	MPT	Description
		LN12	1/8"	Steel
		LN10	1/4"	


Automatic 1/4" Sockets

Female Thread		Part No.	FPT	Description
		LN2803	1/8"	Brass/Steel
		LN3003	1/4"	
		LN3203	3/8"	


Push-On Hose Stem		Part No.	Size I.D.	Description
		LN1513	1/4"	Brass/Steel
		LN1713	3/8"	
		Hose clamps not required when used with "Push On" hose. See page 63.		


Male Thread		Part No.	MPT	Description
		LN2903	1/8"	Brass/Steel
		LN3103	1/4"	
		LN3303	3/8"	


Reusable Hose Clamp		Part No.	Size (I.D. x O.D.)	Description
		LNSB3	1/4" x 1/2"	Brass/Steel
		LNSB5	1/4" x 9/16"	
		LNSB7	1/4" x 5/8"	
		LN5C5	15/16" x 9/16"	
		LN5C7	15/16" x 5/8"	
		LNSD11	3/8" x 5/8"	
		LNSD13	3/8" x 11/16"	
		LNSD7	3/8" x 3/4"	
		LNSD9	3/8" x 13/16"	

Hose Stem		Part No.	I.D.	Description
		LN3603	1/4"	Brass/Steel Requires Hose Clamp (See page 96 for typical hose clamps)
		LN3653	5/16"	
		LN3703	3/8"	

Manual 1/4" Sockets

Female Thread		Part No.	FPT	Description
		LN2803M	1/8"	Brass/Steel
		LN3003M	1/4"	
		LN3203M	3/8"	

Hose Stem		Part No.	I.D.	Description
		LN3603M	1/4"	Brass/Steel Requires Hose Clamp (See page 96 for typical hose clamps)
		LN3703M	3/8"	

Male Thread		Part No.	MPT	Description
		LN2903M	1/8"	Brass/Steel
		LN3103M	1/4"	
		LN3303M	3/8"	

See page 141 for full size templates
 See page 130 -131 for optional seal compounds



SHD Series

(Interchange with Schrader Standard & Heavy Duty)



Features:

- Engineered for speedy coupling and uncoupling. To lock - push in; To unlock - rotate sleeve 1/8 turn.
- Designed to protect against accidental uncoupling. A variety of types and sizes are available to meet specific needs.
- Standard Twist-Lock couplings are ideal for low to medium air flows, such as air tools.

Specifications:

Temperature Range (Nitrile seal): -10° to +165°F

Locking Device: Twist-Lock

Vacuum Service: 27 HG

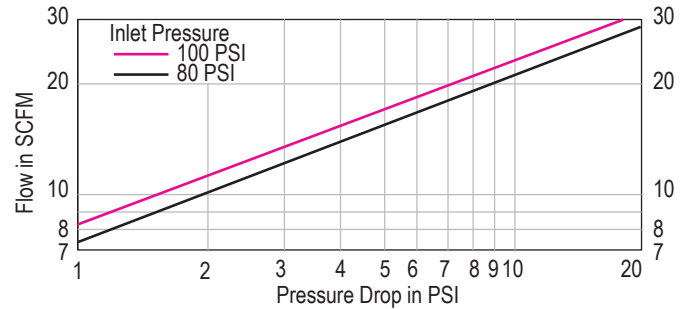
Type: One Way Shut-Off

Rated Pressure: 300 PSIG

Operation: Automatic Push to Connect; Twist-to-release

Materials: Aluminum bodies and zinc plated steel sleeves. Buna-N seals. Brass adapters.

Performance:



SHD3 Series 1/4" Plugs

Female Thread		Part No.	FPT	Description
		SHD13	1/8"	Steel
		SHD11	1/4"	Steel
		SHD11S/S	1/4"	303 Stainless

Male Thread		Part No.	MPT	Description
		SHD12	1/8"	Steel
		SHD10	1/4"	Steel
		SHD10S/S	1/4"	303 Stainless

Hose Stem		Part No.	I.D.	Description
		SHD16	1/4"	Steel
		SHD17	3/8"	Requires Hose Clamp (See page 96 for typical hose clamps)

Push-On Hose Stem		Part No.	I.D.	Description
		SHD51	1/4"	Steel

Hose clamps not required when used with "Push On" hose. See page 63.

SHD5 Series 1/2" Plugs

Female Thread		Part No.	FPT	Description
		SHD53	3/8"	Steel


Male Thread		Part No.	MPT	Description
		SHD50	1/4"	Steel
		SHD52	3/8"	
		SHD54	1/2"	


Hose Stem		Part No.	I.D.	Description
		SHD59	3/8"	Steel
		SHD60	1/2"	Requires Hose Clamp (See page 96 for typical hose clamps)


Non-Standard Product Standard Product

See page 141 for full size templates


SHD3 Series 1/4" Automatic Sockets

Female Thread		Part No.	FPT	Description
		SHD2803	1/8"	Aluminum/Steel/Brass
		SHD2803S/S		303 Stainless
		SHD3003	1/4"	Aluminum/Steel/Brass
		SHD3003-104		Aluminum/Steel/Brass w/Silicone Seal
		SHD3003LV		Aluminum/Steel/Brass Less Valve
		SHD3003S/S		303 Stainless
		SHD3203	3/8"	Aluminum/Steel/Brass
SHD3203S/S	303 Stainless			


Male Thread		Part No.	MPT	Description
		SHD2903	1/8"	Aluminum/Steel/Brass
		SHD2903S/S		303 Stainless
		SHD3103	1/4"	Aluminum/Steel/Brass
		SHD3103-104		Aluminum/Steel/Brass w/Silicone Seal
		SHD3103S/S		303 Stainless
		SHD3303	3/8"	Aluminum/Steel/Brass
		SHD3303S/S		303 Stainless

Hose Stem		Part No.	I.D.	Description
		SHD3603	1/4"	Aluminum/Steel/Brass
		SHD3603S/S		303 Stainless
		SHD3653	5/16"	Aluminum/Steel/Brass
		SHD3703	3/8"	Aluminum/Steel/Brass
		SHD3703S/S		303 Stainless


Requires Hose Clamp (See page 96 for typical hose clamps)


Push-On Hose Stem		Part No.	I.D.	Description
		SHD1513	1/4"	Aluminum/Steel/Brass
		SHD1713	3/8"	


Hose clamps not required when used with "Push On" hose. See page 63.


Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		SHDSB33	1/4" x 1/2"	Aluminum/Steel/Brass
		SHDSB33S/S		303 Stainless
		SHDSB53	1/4" x 9/16"	Aluminum/Steel/Brass
		SHDSB73	1/4" x 5/8"	Aluminum/Steel/Brass
		SHDSB73S/S		303 Stainless
		SHDSC53	5/16" x 9/16"	Aluminum/Steel/Brass
		SHDSC73	5/16" x 5/8"	Aluminum/Steel/Brass
		SHDSD73	3/8" x 5/8"	Aluminum/Steel/Brass
		SHDSD93	3/8" x 11/16"	Aluminum/Steel/Brass
		SHDSD113	3/8" x 3/4"	Aluminum/Steel/Brass
		SHDSD133	3/8" x 13/16"	Aluminum/Steel/Brass

SHD5 Series 1/2" Auto. Sockets


Female Thread		Part No.	FPT	Description
		SHD4015	1/4"	Aluminum/Steel/Brass
		SHD5005	3/8"	
		SHD5205	1/2"	
		SHD5405	3/4"	


Male Thread		Part No.	MPT	Description
		SHD4905	1/4"	Aluminum/Steel/Brass
		SHD5105	3/8"	
		SHD5305	1/2"	
		SHD5505	3/4"	

Hose Stem		Part No.	I.D.	Description
		SHD5605	1/4"	Aluminum/Steel/Brass
		SHD5705	3/8"	
		SHD5805	1/2"	Requires Hose Clamp (See page 96 for typical hose clamps)
		SHD5905	3/4"	

Push-On Hose Stem		Part No.	I.D.	Description
		SHD1815	1/2"	Aluminum/Steel/Brass

Hose clamps not required when used with "Push On" hose. See page 63.

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		SHDSD75	3/8" x 5/8"	Aluminum/Steel/Brass
		SHDSD95	3/8" x 11/16"	
		SHDSD115	3/8" x 3/4"	
		SHDSD135	3/8" x 13/16"	
		SHDSP135	1/2" x 13/16"	
		SHDSP155	1/2" x 7/8"	
		SHDSP175	1/2" x 15/16"	
		SHDSP195	1/2" x 1"	

Dust Plug		Part No.	Size	Description
		SHD-DP	1/4"	Aluminum w/Lanyard

Non-Standard Product Standard Product

See page 141 for full size templates

See page 130 - 131 for optional seal compounds



FRL Series

(Interchange with Hansen 2RL & 3RL)



FOSTER
MANUFACTURING COMPANY

Type: One Way Shut-Off

Rated Pressure: 300 PSIG

Operation: Automatic Push to Connect; Twist-to-release

Features:

- High flow capacity
 - 2RL flow equals that of most 3/8" couplings
 - 3RL flow equals that of most 1/2" couplings
- Ring lock
- Push to connect
- Will not disconnect when hose is dragged on the ground
- Rotate locking sleeve approximately 20° to disconnect
- Optional seal materials available


Standard Materials:


- Socket
 - Zinc Plated Steel Body
 - Brass Socket End
 - Nickel Plated Steel Sleeve
 - Zinc Plated Steel Valve
 - Buna-N (Nitrile) Seal
 - Stainless Steel Spring
 - Zinc Plated Steel Locking Ring
- Plug
 - Zinc Plated Case-Hardened Steel


Accessories:


- Dust caps and dust plugs

2FRL Series 3/8" Plugs


Female Thread		Part No.	FPT	Description
		2L41	1/4"	Steel
		2L43	3/8"	
		2L45	1/2"	


Male Thread		Part No.	MPT	Description
		2L38	1/8"	Steel
		2L40	1/4"	
		2L42	3/8"	
		2L44	1/2"	


Hose Stem		Part No.	I.D.	Description
		2L46	1/4"	Steel
		2L48	3/8"	Requires Hose Clamp (See page 96 for typical hose clamps)
		2L49	1/2"	

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		2LPD7	3/8" x 5/8"	Steel
		2LPD9	3/8" x 11/16"	
		2LPD11	3/8" x 3/4"	
		2LPD13	3/8" x 13/16"	
		2LPP13	1/2" x 13/16"	
		2LPP15	1/2" x 7/8"	
		2LPP17	1/2" x 15/16"	
		2LPP19	1/2" x 1"	

3FRL Series 1/2" Plugs

Female Thread		Part No.	FPT	Description
		3L51	1/4"	Steel
		3L55	1/2"	
		3L57	3/4"	

Male Thread		Part No.	MPT	Description
		3L50	1/4"	Steel
		3L52	3/8"	
		3L54	1/2"	
		3L56	3/4"	


Hose Stem (3FRL Series 1/2")		Part No.	I.D.	Description
		3L58	1/4"	Steel
		3L59	3/8"	
		3L60	1/2"	
		3L60G	1/2"	Steel, Ball Check
		3L61	3/4"	Steel
		3L61G	3/4"	Steel, Ball Check
		Requires Hose Clamp (See page 96 for typical hose clamps)		


Non-Standard Product Standard Product


See page 141 for full size templates


See page 130 - 131 for optional seal compounds

2FRL Series $\frac{3}{8}$ " Automatic Sockets


Female Thread		Part No.	FPT	Description
		2R4004	$\frac{1}{4}$ "	Brass/Steel
		2R4204	$\frac{3}{8}$ "	
		2R4404	$\frac{1}{2}$ "	

Male Thread		Part No.	MPT	Description
		2R4104	$\frac{1}{4}$ "	Brass/Steel
		2R4304	$\frac{3}{8}$ "	
		2R4504	$\frac{1}{2}$ "	


Hose Stem		Part No.	I.D.	Description
		2R4604	$\frac{1}{4}$ "	Brass/Steel
		2R4704	$\frac{5}{16}$ "	Requires Hose Clamp (See page 96 for typical hose clamps)
		2R4804	$\frac{3}{8}$ "	
		2R4904	$\frac{1}{2}$ "	


Push-On Hose Stem		Part No.	I.D.	Description
		2R1714	$\frac{3}{8}$ "	Brass/Steel
		2R1814	$\frac{1}{2}$ "	


Hose clamps not required when used with "Push On" hose. See page 63.


Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		2RSD7	$\frac{3}{8}$ " x $\frac{5}{8}$ "	Brass/Steel
		2RSD9	$\frac{3}{8}$ " x $\frac{11}{16}$ "	
		2RSD11	$\frac{3}{8}$ " x $\frac{3}{4}$ "	
		2RSD13	$\frac{3}{8}$ " x $\frac{13}{16}$ "	

3FRL Series $\frac{1}{2}$ " Automatic Sockets


Female Thread		Part No.	FPT	Description
		3R4015	$\frac{1}{4}$ "	Brass/Steel
		3R5005	$\frac{3}{8}$ "	
		3R5205	$\frac{1}{2}$ "	
		3R5405	$\frac{3}{4}$ "	

Male Thread		Part No.	MPT	Description
		3R4905	$\frac{1}{4}$ "	Brass/Steel
		3R5105	$\frac{3}{8}$ "	
		3R5305	$\frac{1}{2}$ "	
		3R5505	$\frac{3}{4}$ "	

Hose Stem		Part No.	I.D.	Description
		3R5605	$\frac{1}{4}$ "	Brass/Steel
		3R5705	$\frac{3}{8}$ "	Requires Hose Clamp (See page 96 for typical hose clamps)
		3R5805	$\frac{1}{2}$ "	
		3R5905	$\frac{3}{4}$ "	

Push-On Hose Stem		Part No.	I.D.	Description
		3R1815	$\frac{1}{2}$ "	Brass/Steel

Hose clamps not required when used with "Push On" hose. See page 63.

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		3RSD7	$\frac{3}{8}$ " x $\frac{5}{8}$ "	Brass/Steel
		3RSD9	$\frac{3}{8}$ " x $\frac{11}{16}$ "	
		3RSD11	$\frac{3}{8}$ " x $\frac{3}{4}$ "	
		3RSD13	$\frac{3}{8}$ " x $\frac{13}{16}$ "	
		3RSP13	$\frac{1}{2}$ " x $\frac{13}{16}$ "	
		3RSP15	$\frac{1}{2}$ " x $\frac{7}{8}$ "	
3RSP17	$\frac{1}{2}$ " x $\frac{15}{16}$ "			
3RSP19	$\frac{1}{2}$ " x 1"			

See page 141 for full size templates

See page 130 - 131 for optional seal compounds



O60 & A70 1/4" Series

(Interchange with Hansen 600 & 700 Series)



FOSTER
MANUFACTURING COMPANY

Type: One Way Shut-Off

Rated Pressure: 300 PSIG

Safety: Sleeve must be retracted to connect and disconnect


Applications & Markets:


- Designed for use with compressed air and other gases
- General Pneumatics • Breathing Equipment • Welding • Shipyards • Construction
- Series O60 couplings used with oxygen at 100 psig or less
- Series A70 couplings used with acetylene at 15 psig or less


Features:

- Safety sleeve lock prevents accidental disconnections
- Non-Interchangeable design prevents crossing of lines
- Color coded sleeves for easy identification:
O60 - green, A70 - red
- OSHA compliant
- Construction: Brass w/Buna-N seal


O60 Series 1/4" Plugs


Female Thread		Part No.	FPT	Description
		O-11	1/4"	Brass


Male Thread		Part No.	MPT	Description
		O-12	1/8"	Brass
		O-10	1/4"	

Hose Stem		Part No.	I.D.	Description
		O-16	1/4"	Brass
O-17	3/8"	Requires Hose Clamp (See page 96 for typical hose clamps)		


O60 Series 1/4" Standard Sockets


Female Thread		Part No.	FPT	Description
		O-2803	1/8"	Brass
		O-3003	1/4"	
		O-3003LV	1/4"	Less Valve, Brass
		O-3203	3/8"	Brass
		BLO-2803	1/8"	Ball Lock, Brass
		BLO-3003	1/4"	
BLO-3203	3/8"			

Male Thread		Part No.	MPT	Description
		O-2903	1/8"	Brass
		O-3103	1/4"	
		O-3303	3/8"	
		BLO-2903	1/8"	Ball Lock, Brass
		BLO-3103	1/4"	
		BLO-3303	3/8"	

Hose Stem		Part No.	I.D.	Description
		O-3603	1/4"	Brass
		O-3653	5/16"	
		O-3703	3/8"	
		BLO-3603	1/4"	Ball Lock, Brass
		BLO-3653	5/16"	
		BLO-3703	3/8"	

Requires Hose Clamp (See page 96 for typical hose clamps)

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		O-SB3	1/4" x 1/2"	Brass
		O-SB5	1/4" x 9/16"	
		O-SB7	1/4" x 5/8"	
		O-SC5	5/16" x 9/16"	
		O-SC7	5/16" x 5/8"	
		O-SD7	3/8" x 5/8"	
		O-SD9	3/8" x 11/16"	
		O-SD11	3/8" x 3/4"	
		O-SD13	3/8" x 13/16"	
		BLO-SB3	1/4" x 1/2"	Ball Lock, Brass
		BLO-SB5	1/4" x 9/16"	
		BLO-SB7	1/4" x 5/8"	
		BLO-SC5	5/16" x 9/16"	
		BLO-SC7	5/16" x 5/8"	
BLO-SD7	3/8" x 5/8"			


Push-On Hose Stem		Part No.	I.D.	Description
		O-1513	1/4"	Brass
		O-1713	3/8"	
		BLO-1513	1/4"	Ball Lock, Brass
		BLO-1713	3/8"	


Hose clamps not required when used with "Push On" hose. See page 63.


See page 141 for full size templates. See page 130 - 131 for optional seal compounds

Non-Standard Product Standard Product


A70 Series 1/4" Plugs


Female Thread		Part No.	FPT	Description
		A-11	1/4"	Brass


Male Thread		Part No.	MPT	Description
		A-12	1/8"	Brass
A-10	1/4"			

Hose Stem		Part No.	I.D.	Description
		A-16	1/4"	Brass Requires Hose Clamp (See page 96 for typical hose clamps)
A-17	3/8"			


A70 Series 1/4" Standard Sockets

Female Thread		Part No.	FPT	Description
		A-2803	1/8"	Brass
		A-3003	1/4"	
		A-3203	3/8"	
		BLA-2803	1/8"	Ball Lock, Brass
		BLA-3003	1/4"	
BLA-3203	3/8"			

Male Thread		Part No.	MPT	Description
		A-2903	1/8"	Brass
		A-3103	1/4"	
		A-3303	3/8"	
		BLA-2903	1/4"	Ball Lock, Brass
		BLA-3103	15/16"	
BLA-3303	3/8"			

Hose Stem		Part No.	I.D.	Description
		A-3603	1/4"	Brass
		A-3653	5/16"	
		A-3703	3/8"	
		BLA-3603	1/4"	Ball Lock, Brass
		BLA-3653	5/16"	
BLA-3703	3/8"			

Requires Hose Clamp (See page 96 for typical hose clamps)

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		A-SB3	1/4" x 1/2"	Brass
		A-SB5	1/4" x 9/16"	
		A-SB7	1/4" x 5/8"	
		A-SC5	5/16" x 9/16"	
		A-SC7	5/16" x 5/8"	
		A-SD7	3/8" x 5/8"	
		A-SD9	3/8" x 11/16"	
		A-SD11	3/8" x 3/4"	
		A-SD13	3/8" x 13/16"	
		BLA-SB3	1/4" x 1/2"	
		BLA-SB5	1/4" x 9/16"	
		BLA-SB7	1/4" x 5/8"	
		BLA-SC5	5/16" x 9/16"	
		BLA-SC7	5/16" x 5/8"	
		BLA-SD7	3/8" x 5/8"	
		BLA-SD9	3/8" x 11/16"	
		BLA-SD11	3/8" x 3/4"	
		BLA-SD13	3/8" x 13/16"	

COLOR CODED SOCKETS

060 – GREEN SLEEVE BAND • OXYGEN SERVICE **A70 – RED SLEEVE BAND • ACETYLENE SERVICE**
 When used for oxygen/acetylene service, order with Ball Lock (BL) to comply with OSHA Std. 1915.55(f)(5).

Non-Standard Product Standard Product

See page 141 for full size templates

See page 130 - 131 for optional seal compounds



210 1/4" Series

(Interchange with ARO 210 Series)



FOSTER
MANUFACTURING COMPANY

Foster 210 Series couplings are manual to connect designs and interchange with 1/4" body size ARO 210 series plugs.

Specifications:

Type: One Way Shut-Off

Rated Pressure: 300 psi

Temperature Range (Buna seal): -40° to +250°F.

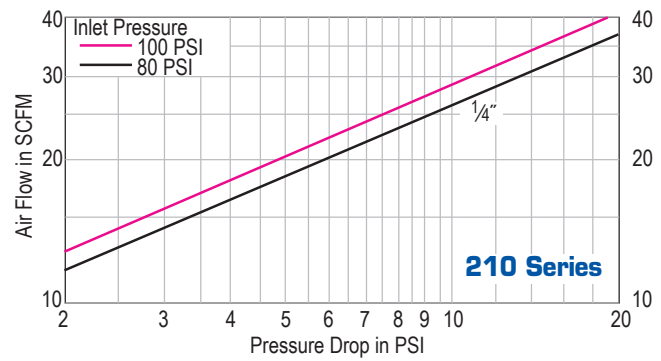
Locking Device: Stainless Steel pins

Operation:


Manual - socket sleeve must be retracted to connect and disconnect


Automatic - Push to Connect


Performance:




210 Series 1/4" Plugs

Female Thread		Part No.	FPT	Description
		210-11	1/4"	Steel
		210-11S/S	1/4"	303 Stainless


Male Thread		Part No.	MPT	Description
		210-12	1/8"	Steel
		210-10	1/4"	
210-10S/S	1/4"	303 Stainless		


Hose Stem		Part No.	I.D.	Description
		210-16	1/4"	Steel Requires Hose Clamp (See page 96 for typical hose clamps)
		210-165	5/16"	
210-17	3/8"			

Push-On Hose Stem		Part No.	I.D.	Description
		210-51	1/4"	Steel


Hose clamps not required when used with "Push On" hose. See page 63.

210 Series 1/4" Manual Sockets

Female Thread		Part No.	FPT	Description
		210M-2803	1/8"	Brass/Steel
		210M-2803NP	1/8"	Brass/Steel Nickel Plated Sleeve
		210M-2803S/S	1/8"	303 Stainless
		210M-3003	1/4"	Brass/Steel
		210M-3003NP	1/4"	Brass/Steel Nickel Plated Sleeve
		210M-3003S/S	1/4"	303 Stainless
		210M-3203	3/8"	Brass/Steel
210M-3203S/S	3/8"	303 Stainless		

Hose Stem		Part No.	I.D.	Description
		210M-3603	1/4"	Brass/Steel
		210M-3603NP	1/4"	Brass/Steel Nickel Plated sleeve
		210M-3603S/S	1/4"	303 Stainless
		210M-3653	5/16"	Brass/Steel
		210M-3653S/S	5/16"	303 Stainless
		210M-3703	3/8"	Brass/Steel
		210M-3703S/S	3/8"	303 Stainless


Requires Hose Clamp (See page 96 for typical hose clamps)


Male Thread		Part No.	MPT	Description
		210M-2903	1/8"	Brass/Steel
		210M-2903NP	1/8"	Brass/Steel Nickel Plated sleeve
		210M-2903S/S	1/8"	303 Stainless
		210M-3103	1/4"	Brass/Steel
		210M-3103NP	1/4"	Brass/Steel Nickel Plated sleeve
		210M-3103S/S	1/4"	303 Stainless
		210M-3303	3/8"	Brass/Steel
210M-3303S/S	3/8"	303 Stainless		


Non-Standard Product Standard Product


See page 141 for full size templates

Series 210 1/4" Safety Vent Sockets

Female Thread		Part No.	FPT	Description
		SV210-3003	1/4"	Steel, Safety Coupler
		SV210-3203	3/8"	


Male Thread		Part No.	MPT	Description
		SV210-3103	1/4"	Steel, Safety Coupler
		SV210-3303	3/8"	


Hose Stem		Part No.	I.D.	Description
		SV210-3603	1/4"	Steel, Safety Coupler Requires Hose Clamp (See page 96 for typical hose clamps)
		SV210-3703	3/8"	


Push-On Hose Stem		Part No.	I.D.	Description
		SV210-1513	1/4"	Steel, Safety Coupler
		SV210-1713	3/8"	

Hose clamps not required when used with "Push On" hose. See page 63.


Series 210 1/4" Automatic Sockets

Female Thread		Part No.	FPT	Description
		210-2803	1/8"	Brass/Steel
		210-2803S/S	1/8"	303 Stainless
		210-3003	1/4"	Brass/Steel
		210-3003S/S	1/4"	303 Stainless
		210-3203	3/8"	Brass/Steel
210-3203S/S	3/8"	303 Stainless		


Male Thread		Part No.	MPT	Description
		210-2903	1/8"	Brass/Steel
		210-2903S/S	1/8"	303 Stainless
		210-3103	1/4"	Brass/Steel
		210-3103S/S	1/4"	303 Stainless
		210-3303	3/8"	Brass/Steel
210-3303S/S	3/8"	303 Stainless		

Hose Stem		Part No.	I.D.	Description
		210-3603	1/4"	Brass/Steel
		210-3603S/S	1/4"	303 Stainless
		210-3653	5/16"	Brass/Steel
		210-3703	3/8"	Brass/Steel
		210-3703S/S	3/8"	303 Stainless

Requires Hose Clamp (See page 96 for typical hose clamps)

Push-On Hose Stem		Part No.	I.D.	Description
		210-1513	1/4"	Brass/Steel
		210-1713	3/8"	

Hose clamps not required when used with "Push On" hose. See page 63.

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		210-SB3	1/4" x 1/2"	Brass/Steel
		210-SB3S/S	1/4" x 1/2"	303 Stainless
		210-SB5	1/4" x 9/16"	Brass/Steel
		210-SB7	1/4" x 5/8"	
		210-SB7S/S	1/4" x 5/8"	303 Stainless
		210-SC5	5/16" x 9/16"	Brass/Steel
		210-SC7	5/16" x 5/8"	
		210-SD7	3/8" x 5/8"	
		210-SD9	3/8" x 11/16"	
210-SD11	3/8" x 3/4"			
210-SD13	3/8" x 13/16"			

Non-Standard Product Standard Product

See page 141 for full size templates



310 3/8" Series

(Interchange with ARO 310 Series)



FOSTER
MANUFACTURING COMPANY

Type: One Way Shut-Off


Rated Pressure: 300 PSIG


Operation:


Manual - retract socket sleeve to connect and disconnect

Automatic - Push to Connect


310 Series 3/8" Plugs


Female Thread		Part No.	FPT	Description
		310-43	3/8"	Steel


Male Thread		Part No.	MPT	Description
		310-42	3/8"	Steel

Hose Stem		Part No.	I.D.	Description
		310-48	3/8"	Requires Hose Clamp (See page 96 for typical hose clamps)
310-49	1/2"			


310 Series 3/8" Automatic Sockets


Female Thread		Part No.	FPT	Description
		310-4004	1/4"	Brass/Steel
		310-4204	3/8"	Brass/Steel
310-4404	1/2"	Brass/Steel		


Male Thread		Part No.	MPT	Description
		310-4104	1/4"	Brass/Steel
		310-4304	3/8"	Brass/Steel
310-4504	1/2"	Brass/Steel		

Hose Stem		Part No.	I.D.	Description Requires Hose Clamp (See page 96 for typical hose clamps)
		310-4604	1/4"	
		310-4704	5/16"	
		310-4804	3/8"	
310-4904	1/2"			


310 Series 3/8" Manual Sockets

Female Thread		Part No.	FPT	Description Brass/Steel
		310M-4004	1/4"	
		310M-4204	3/8"	
		310M-4204NP	3/8"	Brass/Steel Nickel Plated sleeve
310M-4404	1/2"	Brass/Steel		


Male Thread		Part No.	MPT	Description
		310M-4104	1/4"	Brass/Steel
		310M-4304NP	1/4"	Brass/Steel Nickel Plated sleeve
		310M-4303	3/8"	Brass/Steel
310M-4504	1/2"	Brass/Steel		

Hose Stem		Part No.	I.D.	Description Brass/Steel
		310M-4604	1/4"	
		310M-4704	5/16"	
		310M-4804	3/8"	
		310M-4804NP	3/8"	Brass/Steel Nickel Plated sleeve
		310M-4904	1/2"	Brass/Steel

Requires Hose Clamp (See page 96 for typical hose clamps)

Push-On Hose Stem		Part No.	I.D.	Description Brass/Steel
		310-1714	3/8"	
		310-1814	1/2"	

Hose clamps not required when used with "Push On" hose. See page 63.

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description Brass/Steel
		310-SB3	1/4" x 1/2"	
		310-SB5	1/4" x 9/16"	
		310-SB7	1/4" x 5/8"	
		310-SD7	3/8" x 5/8"	
		310-SD9	3/8" x 11/16"	
		310-SD11	3/8" x 3/4"	
310-SD13	3/8" x 13/16"			

Non-Standard Product Standard Product

Call factory for nickel plating on additional items

See page 141 for full size templates

See page 130 - 131 for optional seal compounds

Features:

- ISO A Series couplings feature poppet valves with solid metal perch that maintains valve alignment and prevents flow checking. Both the sleeves of the socket and plug are case hardened to make the couplings resistant to damage from brinelling and mechanical shock.
- The durable ball-locking mechanism ensures a reliable connection every time.
- These couplings have female pipe and straight thread end configurations as standard. The dimensional requirements of Series A in ISO 7241-1. Socket and plug are interchangeable with other parts compatible with ISO 7241-1.
- ISO A couplings with sleeve lock, comply with OSHA requirements that couplings shall be the type that cannot be unlocked or disconnected by means of a straight pull without rotary motion.

Specifications:

	SIZE				
	1/4"	3/8"	1/2"	3/4"	1"
Working Pressure	5000	4000	4000	4000	4000
Temperature Range (std seals)	-40° to +250° F.				

ISO-A SERIES PLUGS

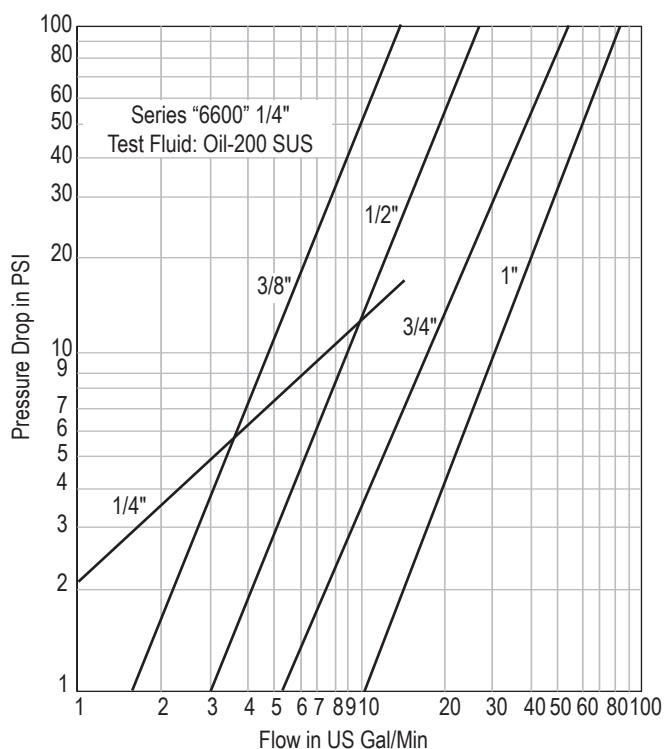
FEMALE THREAD	PART No. STEEL	SIZE	THREAD SIZE	
			NPTF	ORB
			B-6602-2-4	1/4"
B-6602-4-4	1/4-18			
B-6602-6-6	3/8"	3/8-18		
B-6602-8-10		1/2-14		
B-6602-12-10	1/2"	3/4-14		
B-6610-8-10		3/4-16		
B-6610-10-10		7/8-14		
B-6610-12-10	3/4"	1 1/16-12		
B-6602-12-12		3/4-14		
B-6610-12-12	1"	-		
B-6602-16-16		1 - 11 1/2		
B-6610-16-16	-	1 5/16-12		

ISO-A SERIES SOCKETS



FEMALE THREAD	PART No. STEEL	SIZE	THREAD SIZE	
			NPTF	ORB
			B-6601-2-4	1/4"
B-6601-4-4	1/4-18			
B-6601-6-6	3/8"	3/8-18		
B-6601-8-10		1/2-14		
B-6601-12-10	1/2"	3/4-14		
B-6608-8-10		3/4-16		
B-6608-10-10		7/8-14		
B-6608-12-10	3/4"	1 1/16-12		
B-6601-12-12		3/4-14		
B-6608-12-12	1"	-		
B-6601-16-16		1 - 11 1/2		
B-6608-16-16	-	1 5/16-12		


Applications:

The versatile ISO A Series couplings are used in a wide range of hydraulic applications including construction equipment, manufacturing machinery, and in-plant systems. They can be found anywhere the fluid transfer lines need to be connected and disconnected for operation or maintenance of equipment. Rugged construction makes it a good choice for mobile applications including dump trucks, snow plows, refuse hauling, mining, asphalt paving, truck trailer connections and many more. In-plant machinery applications include hydraulic fluid, chemicals and gas lines for paper mills, steel production, and many varieties of plant maintenance and production equipment.



DUST CAPS & DUST PLUGS

DUST CAP	PART No.	SIZE	DUST PLUG	PART No.	SIZE
	B-6657-4	1/4"		B-6659-4	1/4"
	B-6657-6	3/8"		B-6659-6	3/8"
	B-6657-10	1/2"		B-6659-10	1/2"
	B-6657-12	3/4"		B-6659-12	3/4"
	B-6657-16	1"		B-6659-16	1"

DUST CAP & PLUG COMBO	PART No.	SIZE
	A04DC-DP	1/4"
	A06DC-DP	3/8"
	A12DC-DP	1/2"
	A16DC-DP	3/4"

Note: Foster approved components (May be imported)

See page 141 for full size templates



TF Series

(Interchange with Tru-Flate Series)



TF Series Couplers (pneumatic) up to 300 psi connect with Tru-Flate design, commonly called the automotive interchange. They have manual sleeves and are single shut off quick couplings. The steel tubular valve delivers high air flow with minimal pressure drop. Couplers and Nipples are available in a wide range of sizes and materials for use in a variety of applications with air or fluid.

Type: One Way Shut-Off

Rated Pressure: 300 PSIG

Operation: Automatic Push to Connect;

Sizes: Sizes: 1/4", 3/8", (For 1/2" use Industrial Interchange product)


Features:


- Developed for the automotive industry
- High flow valves with minimal pressure drop
- Integral Sleeve guard helps prevent accidental disconnect
- Grip-ring sleeve version has a larger knurled diameter to provide easy operation when gloves are worn


Applications:


- Air compressors, Pneumatic Tools
- Grease guns, Paint applicators

TF Series 1/4" Plugs


Female Thread		Part No.	FPT	Description
		TF13	1/8"	Steel
		TF11	1/4"	
		TF15	3/8"	

Male Thread		Part No.	MPT	Description
		TF12	1/8"	Steel
		TF10	1/4"	
		TF14	3/8"	


Hose Stem		Part No.	I.D.	Description
		TF16	1/4"	Steel Requires Hose Clamps (See page 96 for typical hose clamps)
		TF165	15/16"	
		TF17	3/8"	


Push-On Hose Stem		Part No.	I.D.	Description
		TF51	1/4"	Steel
		TF71	3/8"	


Hose clamps not required when used with "Push On" hose. See page 63.


Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		TFPB3	1/4" x 1/2"	Steel
		TFPB5	1/4" x 9/16"	
		TFPB7	1/4" x 5/8"	

TF Series 1/4" Automatic Sockets


Female Thread		Part No.	FPT	Description
		TF2803	1/8"	Brass/Steel
		TF3003	1/4"	
		SGTF3003	1/4"	Brass w/Steel Valve w/Sleeve Guard
TF3203	3/8"			

Male Thread		Part No.	MPT	Description
		TF2903	1/8"	Brass/Steel
		TF3103	1/4"	
		SGTF3103	1/4"	Brass w/Steel Valve w/Sleeve Guard
TF3303	3/8"			

Hose Stem		Part No.	I.D.	Description
		TF3603	1/4"	Brass/Steel Requires Hose Clamps (See page 96 for typical hose clamps)
		TF3653	5/16"	
TF3703	3/8"			

Push-On Hose Stem		Part No.	I.D.	Description
		TF1513	1/4"	Brass/Steel
		TF1713	3/8"	


Hose clamps not required when used with "Push On" hose. See page 63.


Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		TFSB3	1/4" x 1/2"	Brass/Steel
		TFSB5	1/4" x 9/16"	
		TFSB7	1/4" x 5/8"	
		TFSC5	15/16" x 9/16"	
		TFSC7	5/16" x 5/8"	
		TFSD7	3/8" x 5/8"	
		TFSD9	3/8" x 11/16"	
TFSD11	3/8" x 3/4"			
TFSD13	3/8" x 13/16"			


Non-Standard Product Standard Product

See page 143 for full size templates


TF Series 3/8" Plugs


Female Thread		Part No.	FPT	Description
		TF41	1/4"	Steel
		TF43	3/8"	


Hose Stem		Part No.	I.D.	Description
		TF48	3/8"	Steel Requires Hose Clamps (See page 96 for typical hose clamps)


Male Thread		Part No.	MPT	Description
		TF40	1/4"	Steel
TF42	3/8"			

TF Series 3/8" Automatic Sockets

Female Thread		Part No.	FPT	Description
		TF4004	1/4"	Brass/Steel
		TF4204	3/8"	
TF4404	1/2"			

Male Thread		Part No.	MPT	Description
		TF4104	1/4"	Brass/Steel
		TF4304	3/8"	
TF4504	1/2"			

Hose Stem		Part No.	I.D.	Description
		TF4604	1/4"	Brass/Steel Requires Hose Clamps (See page 96 for typical hose clamps)
		TF4704	5/16"	
		TF4804	3/8"	
TF4904	1/2"			

Push-On Hose Stem		Part No.	I.D.	Description
		TF1714	3/8"	Brass/Steel
TF1814	1/2"			

Hose clamps not required when used with "Push On" hose. See page 63.

Reusable Hose Clamp		Part No.	I.D. x O.D.	Description
		TFSB34	1/4" x 1/2"	Brass/Steel
		TFSB54	1/4" x 9/16"	
		TFSB74	1/4" x 5/8"	
		TFSD74	3/8" x 5/8"	
		TFSD94	3/8" x 11/16"	
		TFSD114	3/8" x 3/4"	
TFSD134	3/8" x 13/16"			

Non-Standard Product Standard Product
 See page 143 for full size templates



FST Series

(Straight-Thru Industrial Interchange)



FOSTER
MANUFACTURING COMPANY

Type: FST Straight-Thru, No valve in either socket or plug.

Interchangeability: Standard industrial interchange design, most widely used in industry. Within each series, only sockets and plugs of the same size will couple together.

Operation: Manual – Socket sleeve must be manually retracted to connect and disconnect.

Options: Ball Lock (BL) – Locks socket against accidental disconnect. To connect, align ball with slot. After connection, rotate sleeve to lock. To disconnect, realign ball with slot and retract sleeve.

Seal Compound: Standard seals are Buna-N

Performance Data Flow: Couplers have same inside diameter as nominal pipe.


Rated Pressure: Rated pressures as defined by ANSI/B93.2-1986, based on 4:1 Safety Factor and non-shock service.


Vacuum Service: 27" Hg maximum


Body Size	Brass Socket w/ Brass Plug	Brass Socket w/ Steel Plug	S/S Socket w/ S/S Plug
	PSIG	PSIG	PSIG
1/8"	2500	2600	4200
1/4"	5200	5500	6700
3/8"	2700	3500	5500
1/2"	2200	2700	3000
3/4"	1700	2700	3000
1"	1700	2000	1700
1 1/4"	1700	2700	-
1 1/2"	1400	2200	-

Only Sockets & Plugs with same prefix digits connect together.
Example: 25FS & 25MPB

FST Series Plugs, Straight Thru

Female Thread		Part No.	FPT	Description
		12FPB	1/8"	Brass
12FPS	303 Stainless			
25FP	1/4"	Steel		
25FPB		Brass		
25FPS	303 Stainless			
38FP	3/8"	Steel		
38FPB		Brass		
38FPS	303 Stainless			
50FP	1/2"	Steel		
50FPB		Brass		
50FPS	303 Stainless			
75FP	3/4"	Steel		
75FPB		Brass		
75FPS	303 Stainless			
100FP	1"	Steel		
100FPB		Brass		
100FPS	303 Stainless			
125FP	1-1/4"	Steel		
125FPB		Brass		
150FP	1-1/2"	Steel		
150FPB		Brass		


Male Thread		Part No.	MPT	Description
		12MP	1/8"	Steel
12MPB	Brass			
12MPS	303 Stainless			
25MP	1/4"	Steel		
25MPB		Brass		
25MPS	303 Stainless			
38MP	3/8"	Steel		
38MPB		Brass		
38MPS	303 Stainless			
50MP	1/2"	Steel		
50MPB		Brass		
50MPS	303 Stainless			
75MP	3/4"	Steel		
75MPB		Brass		
75MPS	303 Stainless			
100MP	1"	Steel		
100MPB		Brass		
100MPS	303 Stainless			
125MP	1-1/4"	Steel		
125MPB		Brass		
150MP	1-1/2"	Steel		
150MPB		Brass		


Hose Stem		Part No.	I.D.	Description
		25HP	1/4"	Steel
38HPB	3/8"	Brass		
75HPB	3/4"			


See page 142 for full size templates

See page 130 - 131 for optional seal compounds

FST Series Sockets, Straight Thru

Female Thread		Part No.	FPT	Description
		12FS		Brass
12FS-101		Brass, w/Viton Seal		
BL12FS		Ball Lock, Brass		
12FSS	1/8"	303 Stainless		
12FSS-101		303 Stainless, w/Viton Seal		
12FSS-103		303 Stainless, w/EPDM Seal		
BL12FSS		Ball Lock, 303 Stainless Steel		
25FS		1/4"	Brass	
25FS-101			Brass, w/Viton Seal	
BL25FS	Ball Lock, Brass			
25FS-SWVL	Power Washer Swivel Tip, Brass			
25FSS	303 Stainless			
25FSS-101	303 Stainless, w/Viton Seal			
25FSS-103	303 Stainless, w/EPDM Seal			
BL25FSS	Ball Lock, 303 Stainless Steel			
38FS	3/8"		Brass	
38FS-101			Brass, w/Viton Seal	
38FS-103		Brass, w/EPDM Seal		
BL38FS		Ball Lock, Brass		
38FSS		303 Stainless		
38FSS-101		303 Stainless, w/Viton Seal		
38FSS-103	303 Stainless, w/EPDM Seal			
BL38FSS	Ball Lock, 303 Stainless Steel			
50FS	1/2"	Brass		
50FS-101		Brass, w/Viton Seal		
50FS-103		Brass, w/EPDM Seal		
BL50FS		Ball Lock, Brass		
50FSS		303 Stainless		
50FSS-101		303 Stainless, w/Viton Seal		
50FSS-103	303 Stainless, w/EPDM Seal			
BL50FSS	Ball Lock, 303 Stainless Steel			
75FS	3/4"	Brass		
BL75FS		Ball Lock, Brass		
75FS-101		Brass, w/Viton Seal		
75FS-103		Brass, w/EPDM Seal		
75FS-104		Brass, w/Silicone Seal		
75FSS		303 Stainless		
75FSS-101	303 Stainless, w/Viton Seal			
75FSS-103	303 Stainless, w/EPDM Seal			
BL75FSS	Ball Lock, 303 Stainless Steel			
100FS	1"	Brass		
100FS-101		Brass, w/Viton Seal		
BL100FS		Ball Lock, Brass		
100FSS		303 Stainless		
BL100FSS	Ball Lock, 303 Stainless Steel			
125FS	1-1/4"	Brass		
BL125FS		Ball Lock, Brass		
125FS-103	Brass, w/EPDM Seal			
150FS	1-1/2"	Brass		
BL150FS		Ball Lock, Brass		

Male Thread		Part No.	MPT	Description
		12MS	1/8"	Brass
BL12MS	Ball Lock, Brass			
25MS	1/4"	Brass		
BL25MS		Ball Lock, Brass		
25MS-101		Brass, w/Viton Seal		
38MS	3/8"	Brass		
38MS-101		Brass, w/Viton Seal		
BL38MS		Ball Lock, Brass		
50MS	1/2"	Brass		
50MS-101		Brass, w/Viton Seal		
BL50MS		Ball Lock, Brass		
75MS	3/4"	Brass		
BL75MS		Ball Lock, Brass		
100MS	1"	Brass		
BL100MS		Ball Lock, Brass		

Hose Stem		Part No.	I.D.	Description
		38HS	3/8"	Brass
BL38HS	3/8"	Ball Lock, Brass		
50HS	1/2"	Brass		
BL50HS	1/2"	Ball Lock, Brass		

Requires Hose Clamp
(See page 96 for typical hose clamps)

Non-Standard Product Standard Product

See page 142 for full size templates

See page 130 - 131 for optional seal compounds



FF Series

Flush Face



The FF Series couplers are a two-way shut-off hydraulic coupler. Typical applications include portable hydraulic tools, railway and construction maintenance equipment, utility company field equipment and general purpose hydraulic service. The flush face technology provides for ease of cleaning, minimal air inclusion and minimal fluid loss. The arrow stamped on the coupler indicates the direction of flow for installation purposes.

Features:

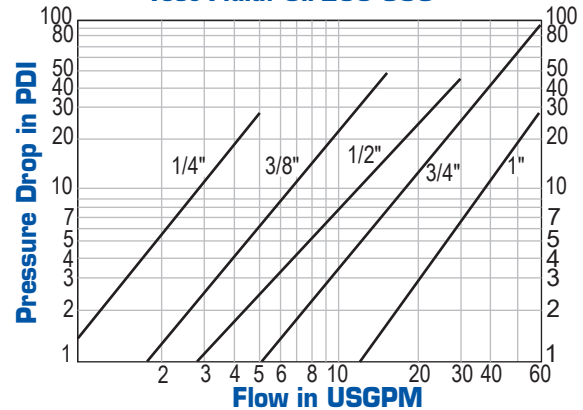
- Meets dimensional and performance standards of ISO 16028 as well as HTMA* and NFPA.
- "FF" Series style double shut-off hydraulic couplings are intended for use on medium pressure hydraulic systems up to 2500 psi operating pressures.
- Combines dual flush face valving, push-to-connect operation, minimum fluid loss upon disconnect, low air inclusion and sleeve lock.
- Primary applications are with hydraulic tools where cleaner automatic connections are needed and in machine tool line connections where minimum fluid leaks can be tolerated.

*Hydraulic Tool Mfg. Assoc. and National Fluid Power Assoc.

Specifications	Size				
	1/4"	3/8"	1/2"	3/4"	1"
Rated Pressure (psi)	5,000	5,000	5,000	5,000	5,000
Minimum Burst pressure, Male half (psi)	27,000	22,000	24,000	23,000	21,000
Minimum Burst pressure, Female half (psi)	27,000	25,000	23,000	20,000	20,000
Minimum Burst pressure, Coupled (psi)	27,000	23,000	25,000	22,000	22,000
Rated Flow (gpm)	3	6	12	26	50
Temperature Range	-10°F to +250° F				
Spillage (ML) (max. per disconnect)	.015	.015	.020	.150	.200
Air Inclusion (max. per disconnect)	.020	.020	.070	.100	.150

Performance:

FF Series (1/4"; 3/8"; 1/2"; 3/4"; 1")
Test Fluid: Oil-200 SUS



FF Series Plugs

Female Thread	Part No.	Size	Dust Plug	Thread Size NPT
	B-FF2F2-FP	1/4"	SDC-2	1/4-20 FPT
	B-FF2F2-FP-SAE			1/4-20 SAE
	B-FF3F3-FP	3/8"	SDC-3	3/8-18 FPT
	B-FF3F4-FP			1/2-14 FPT
	B-FF4F4-FP	1/2"	SDC-4	1/2-14 FPT
	B-FF4F4-FP-SAE			3/4-16 SAE
	B-FF4F6-FP			3/4-14 FPT
	B-FF4F6-FP-SAE			1/16-12-SAE
	B-FF6F6-FP	3/4"	SDC-6	3/4-14 FPT
	B-FF6F6-FP-SAE			1/16-12-SAE
	B-FF8F8-FP	1"	SDC-8	1-11/2 FPT

FF Series Sockets

Female Thread	Part No.	Size	Dust Plug	Thread Size NPT
	B-2FF2-FP	1/4"	PDC-2	1/4-20 FPT
	B-2FF2-FP-SAE			1/4-20 SAE
	B-3FF3-FP	3/8"	PDC-3	3/8-18 FPT
	B-3FF4-FP			1/2-14 FPT
	B-4FF4-FP	1/2"	PDC-4	1/2-14 FPT
	B-4FF4-FP-SAE			3/4-16 SAE
	B-4FF6-FP			3/4-14 FPT
	B-4FF6-FP-SAE			1/16-12-SAE
	B-6FF6-FP	3/4"	PDC-6	3/4-14 FPT
	B-6FF6-FP-SAE			1/16-12-SAE
	B-8FF8-FP	1"	PDC-8	1-11/2 FPT

Note: Foster approved components (May be imported)

Performance Data								
Body Size	Rated Pressure Coupled PSI (Non Shock Service)			Air Flow – CFM				Oil Flow-GPM MIL-H5606-125°F Pressure Drop
				100 PSIG		80 PSIG		
	Steel			Pressure Drop			10 PSIG	
				10 PSIG	5 PSIG	10 PSIG		5 PSIG
1/8"	4000	3000	5000	22	17	20	15	1.8
1/4"	5000	2700	3700	32	22	29	20	3.6
3/8"	3700	2200	3700	58	42	53	38	6.7
1/2"	5000	2250	4250	130	88	118	80	11.0
3/4"	4000	2000	3500	305	207	277	188	26.3
1"	4000	1500	3000	372	252	338	229	31.8

Applications: FHK Series sockets incorporate valves in both socket and plug halves to prevent fluid loss when the socket is disconnected. These sockets are normally referred to as "hydraulic couplings", but they are used extensively with other media where objectionable. The FHK Series sockets are available in ROHS compliant steel and brass.

Vacuum Service: 27" Hg. maximum Rated pressures as defined by ANSI/B93.2-1986 based on 4:1 Safety Factor and non-shock service.

Type: FHK, Two-Way Shutoff, Both socket and plug are sealed at disconnect.

Interchangeability: Standard, most widely used, industrial interchange design. Within each series, only sockets and plugs of the same size will couple to gether. Compatible with ISO 7241-1, Series B.

Operation: Manual - Socket sleeve must be manually retracted to connect and disconnect.

Seal Compound: Standard seals are Buna-N.

Options:

- One Way Shut-Off: Add suffix VA to either socket or plug catalog number for valve actuator.
- Straight-Thru: Add suffix LV to both socket and plug catalog number for less valve.
- Ball Lock (BL): Locks against accidental disconnect. To connect, align ball with slot. After connection, rotate sleeve to lock. To disconnect, realign ball with slot and retract sleeve.

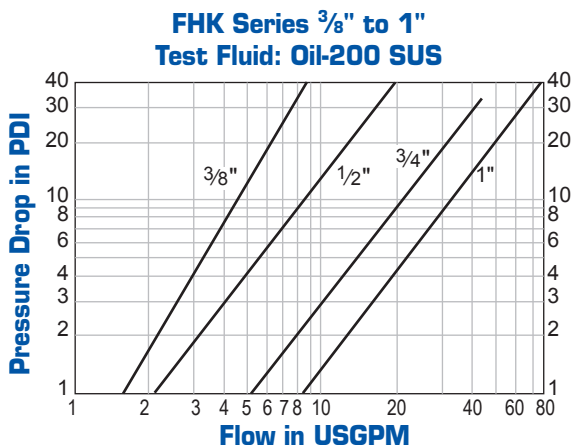
Ordering information:

FHK Series couplings are available in ROHS compliant plated steel, brass, and 303 Stainless as standard. Brass couplings have double O-Ring seals (excluding 1/8") and stainless locking balls. Standard seals are Buna-N (Nitrile). Consult factory for optional seals.

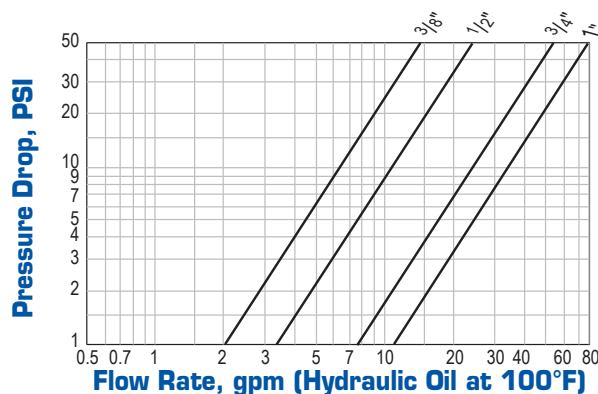
All sizes can be furnished with locking sleeves designated by "BL" (Ball Lock) suffix after regular catalog numbers.

Specifications:

Performance:



Rated Pressure, Coupled							
Size	Brass		Steel		Stainless Steel		
	PSI	BAR	PSI	BAR	PSI	BAR	
H3	2,200	152	3,700	255	3,700	255	
H4	2,250	155	5,000	345	4,250	293	
H6	2,000	138	4,000	275	3,500	242	
H8	1,500	103	4,000	275	2,500	173	





FHK Series 1/8" to 1"

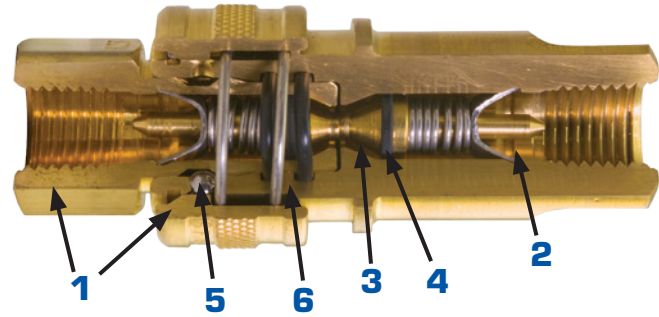
(Compatible with ISO 7241-1, Series B)



FOSTER
MANUFACTURING COMPANY


Features:


- 1 ISO B, Hardened plugs and sleeves constructed from solid bar stock ensures long service life and maximum resistance to damage from hydraulic and mechanical shock.
- 2 High flow capacity.
- 3 Foster's conical valve with its 360° metal to metal valve stop maintains valve alignment and ensures that poppets open fully every time.
- 4 Captive valve seal ensures "bubble tight" poppet sealing since seal is positively captured by the metal poppet to minimize seal washout or damage from high fluid velocity.



- 5 Ball locking mechanism ensures reliable connections every time. Many ball bearings distribute the load while providing alignment and excellent swiveling action to reduce hose torque and prolong hose life.
- 6 Broad range of metals and seal materials allow the use of most fluids.


FHK Series 1/8" Two Way Shut-Off, Plugs and Sockets

Plugs		Part No.	Thread	Description
		K1S	1/8"	Steel
		K1S-101		Steel w/Viton Seal
		K1B		Brass
		K1B-101		Brass, w/Viton Seal
		K1B-103		Brass, w/EPDM Seal
		K1BLV		Brass Less Valve
		K1S/S		303 Stainless
		K1S/S-101	303 Stainless, w/Viton Seal	
		K1S4	7/16-20*	Steel


Sockets		Part No.	Thread	Description
		H1S	1/8"	Steel
		H1S-101		Steel w/Viton Seal
		H1B		Brass
		H1B-101		Brass, w/Viton Seal
		H1B-103		Brass, w/Ethylene Propylene Seal
		H1BLV		Brass Less Valve,
		H1S/S		303 Stainless
		H1S/S-101	303 Stainless, w/Viton Seal	
		H1S/S-104	303 Stainless, w/Silicone Seal	
		BLH1S	Steel Ball Lock	
		BLH1B	Brass Ball Lock	
		BLH1S/S	303 Stainless Ball Lock	
		H1S4	17/16-20*	Steel
BLH1S4	Steel Ball Lock			


FHK Series 1/4" Two Way Shut-Off, Plugs and Sockets

Plugs		Part No.	Thread	Description
		K2S	1/4"	Steel
		K2S-101		Steelw/Viton Seal
		K2S-103		Steel w/EPDM Seal
		K2S-104		Steel w/Silicone Seal
		K2SLV		Steel Less Valve
		K2B		Brass
		K2B-101		Brass, w/Viton Seal
		K2B-102		Brass, w/Neoprene Seal
		K2B-103		Brass, w/EPDM Seal
		K2B-104		Brass, w/Silicone Seal
		K2BLV		Brass Less Valve
		K2S/S		303 Stainless
		K2S/S-101		303 Stainless, w/Viton Seal
		K2S/S-103		303 Stainless, w/EPDM Seal
		K2S/S-104		303 Stainless, w/Silicone Seal
		K2S/SLV		303 StainlessLess Valve
		K2S6		9/16-18*


Sockets		Part No.	Thread	Description
		H2S	1/4"	Steel
		H2S-101		Steelw/Viton Seal
		H2S-103		Steel w/EPDM Seal
		H2S-104		Steel w/Silicone Seal
		H2B		Brass
		H2B-101		Brass, w/Viton Seal
		H2B-102		Brass, w/Neoprene Seal
		H2B-103		Brass, w/EPDM Seal
		H2BLV		Brass Less Valve
		H2S/S		303 Stainless
		H2S/S-101		303 Stainless, w/Viton Seal
		H2S/S-103		303 Stainless, w/EPDM Seal
		H2S/S-104		303 Stainless, w/Silicone Seal
		H2S/SLV		303 StainlessLess Valve
		BLH2S		Steel Ball Lock
		BLH2B		Brass Ball Lock
		BLH2S/S		303 Stainless Ball Lock
H2S6	9/16-18*	Steel		
BLH2S6	Steel Ball Lock			


FHK Series 3/8" Two Way Shut-Off, Plugs and Sockets

Plugs		Part No.	Thread	Description
		K3S	3/8"	Steel
		K3S-101		Steel w/Viton Seal
		K3S-102		Steel w/Neoprene Seal
		K3S-103		Steel w/EPDM Seal
		K3S-104		Steel w/Silicone Seal
		K3SLV		Steel Less Valve
		K3B		Brass
		K3B-101		Brass, w/Viton Seal
		K3B-102		Brass, w/Neoprene Seal
		K3B-103		Brass, w/EPDM Seal
		K3S/S		303 Stainless
		K3S/S-101		303 Stainless, w/Viton Seal
		K3S/S-103		303 Stainless, w/EPDM Seal
		K3S8		3/4-16*

Sockets		Part No.	Thread	Description
		H3S	3/8"	Steel
		H3S-101		Steel w/Viton Seal
		H3S-102		Steel w/Neoprene Seal
		H3S-103		Steel w/EPDM Seal
		H3S-104		Steel w/Silicone Seal
		H3B		Brass
		H3B-101		Brass, w/Viton Seal
		H3B-102		Brass, w/Neoprene Seal
		H3B-103		Brass, w/Ethylene Propylene Seal
		H3B-104		Brass, w/Silicone Seal
		H3S/S		303 Stainless
		H3S/S-101		303 Stainless, w/Viton Seal
		BLH3S		Steel Ball Lock
		BLH3B		Brass Ball Lock
		BLH3S/S	303 Stainless Sleeve Lock	
		H3S8	3/4-16**	Steel
		BLH3S8	Steel Ball Lock	

FHK Series 1/2" Two Way Shut-Off, Plugs and Sockets

Plugs		Part No.	Thread	Description
		K4S	1/2"	Steel
		K4S-101		Steel w/Viton Seal
		K4S-103		Steel w/EPDM Seal
		K4SLV		Steel Less Valve
		K4B		Brass
		K4B-101		Brass, w/Viton Seal
		K4B-102		Brass, w/Neoprene Seal
		K4B-103		Brass, w/EPDM Seal
		K4BLV		Brass Less Valve
		K4S/S		303 Stainless
		K4S/S-101		303 Stainless, w/Viton Seal
		K4S/S-103		303 Stainless, w/EPDM Seal
		K4S/SLV		303 Stainless Less Valve
		K4S10		7/8-14*

Sockets		Part No.	Thread	Description
		H4S	1/2"	Steel
		H4S-101		Steel w/Viton Seal
		H4S-103		Steel w/EPDM Seal
		H4B		Brass
		H4B-101		Brass, w/Viton Seal
		H4B-102		Brass, w/Neoprene Seal
		H4B-103		Brass, w/Ethylene Propylene Seal
		H4S/S		303 Stainless
		H4S/S-101		303 Stainless, w/Viton Seal
		H4S/S-103		303 Stainless, w/EPDM Seal
		BLH4S		Steel Ball Lock
		BLH4B		Brass Ball Lock
		BLH4S/S		303 Stainless Ball Lock
		H4S10		7/8-14*
		BLH4S10	Steel Ball Lock	

Non-Standard Product Standard Product

*SAE straight thread O-ring seal boss
 See page 143 for full size templates
 See page 130 - 131 for optional seal compounds



FHK Series 1/8" to 1"

(Compatible with ISO 7241-1, Series B)



FOSTER
MANUFACTURING COMPANY

FHK Series 3/4" Two Way Shut-Off, Plugs and Sockets

Plugs	Part No.	Thread	Description
	K6S	3/4"	Steel
	K6S-101		Steel w/Viton Seal
	K6S-102		Steel w/Neoprene Seal
	K6S-103		Steel w/EPDM Seal
	K6SLV		Steel Less Valve
	K6B		Brass
	K6B-101		Brass, w/Viton Seal
	K6B-103		Brass, w/Ethylene Propylene Seal
	K6S/S		303 Stainless
	K6S/S-101		303 Stainless, w/Viton Seal
	K6S/S-103		303 Stainless, w/EPDM Seal
	K6S/SLV		303 Stainless Less Valve
	K6S12		1-1/16-12*

Sockets (cont.)	Part No.	Thread	Description	
	H6S-101	3/4"	Steel w/Viton Seal	
	H6S-102		Steel w/Neoprene Seal	
	H6S-103		Steel w/EPDM Seal	
	H6SLV		Steel Less Valve	
	H6B		Brass	
	H6B-101		Brass, w/Viton Seal	
	H6B-103		Brass, w/Ethylene Propylene Seal	
	H6B-104		Brass, w/Silicone Seal	
	H6S/S		303 Stainless	
	H6S/S-101		303 Stainless, w/Viton Seal	
	H6S/S-103		303 Stainless, w/EPDM Seal	
	H6S/SLV		303 Stainless Less Valve	
	BLH6S		Steel Ball Lock	
	BLH6B		Brass Ball Lock	
	BLH6S/S		303 Stainless Ball Lock	
	H6S12		1-1/16-12*	Steel
	BLH6S12		Steel Ball Lock	

FHK Series 1" Two Way Shut-Off, Plugs and Sockets

Plugs	Part No.	Thread	Description
	K8S	1" x 1"	Steel
	K8S-101		Steel w/Viton Seal
	K8SLV		Steel Less Valve
	K8B		Brass
	K8B-101		Brass, w/Viton Seal
	K8B-103		Brass, w/Ethylene Propylene Seal
	K8S/S		303 Stainless
	K8S/S-101		303 Stainless, w/Viton Seal
	K8S/S-103		303 Stainless, w/EPDM Seal
	K8S16		1" x 1-5/16-12*

Sockets (cont.)	Part No.	Thread	Description
	H8S	1"	Steel
	H8S-101		Steel w/Viton Seal
	H8SLV		Steel Less Valve
	H8B		Brass
	H8B-101		Brass, w/Viton Seal
	H8B-103		Brass, w/Ethylene Propylene Seal
	H8S/S		303 Stainless
	H8S/S-101		303 Stainless, w/Viton Seal
	H8S/S-103		303 Stainless, w/EPDM Seal
	BLH8S		Steel Ball Lock
	BLH8B		Brass Ball Lock
	BLH8S/S		303 Stainless Ball Lock
	H8S16		1-5/16-12*
BLH8S16	Steel Ball Lock		

Non-Standard Product Standard Product

*SAE straight thread O-ring seal boss
See page 143 for full size templates
See page 130 - 131 for optional seal compounds

Dust Plugs and Caps

Dust Plugs and Dust Caps

Protective dust plugs and caps play a crucial role in the use of quick couplings and no purchase of a hydraulic quick coupling is complete without the selection of an appropriate dust plug and cap. Dust plugs and caps keep the mating surface clean and free of contamination and protect the critical

mating elements of the coupling halves when they are disconnected. In this way the plug is protected from damage that would make the total coupling unusable.

Note: When ordering the dust cap/plug body size must correspond to that of the socket or plug.

Dust Caps and Plugs Rubber	Part No.	Size	Description
	B1DC	1/8"	Dust Cap
	B1DP	1/8"	Dust Plug
	B2DC-DP	1/4"	Dust Cap and Plug
	B3DC-DP	3/8"	Dust Cap and Plug
	B4DC-DP	1/2"	Dust Cap and Plug
	B6DC-DP	3/4"	Dust Cap and Plug
	B8DC-DP	1"	Dust Cap and Plug

Aluminum - Dust Plug w/Lanyard	Part No.	Part No.	For Use With
	NPT Thread	SAE Thread	
	H1DP	H1DP4	1/8" Socket
	H2DP	H2DP6	1/4" Socket
	H3DP	H3DP8	3/8" Socket
	H4DP	H4DP10	1/2" Socket
	H6DP	H6DP12	3/4" Socket
	H8DP	H8DP16	1" Socket

FH & FIH Series Quick Disconnect has provided years of reliable service on hydraulic/pneumatic applications in the handling of gases and fluids. The FH & FIH Series couplings are engineered to meet or exceeds MIL-C-51234. Options are available for static pressure hydraulic systems and also for pneumatic air tool use.

Type:

- FH – Two Way Shut-Off and Straight-Thru
- FIH – One Way Shut-Off

Interchangeability:

- FH Series interchanges with Snap-Tite “H” Series.
- FIH Series interchanges with Snap-Tite “IH” Series.
- Within each series, only sockets and plugs of the same size will couple together.

Operation: Manual – Socket sleeve must be manually retracted to connect and disconnect.

Options: Ball Lock (BL prefix) – Locks against accidental disconnect. To connect align ball with slot. After connection, rotate sleeve to lock. To disconnect, realign ball with slot and retract sleeve.

Seal Compound: Standard seals are Buna-N.

Rated Pressure: Rated Pressure as defined by ANSI/B93.2 – 1986, non-shock service.

Socket Features:

- Latch Mechanism
 - Manual connect and disconnect
 - Steel sleeves are hardened to provide maximum service life
- Material and Finish
 - Machined from solid bar stock
 - Steel components are zinc plated
- Coupled Seal
- Valved units incorporate a Teflon back-up ring to with-stand dynamic impulse

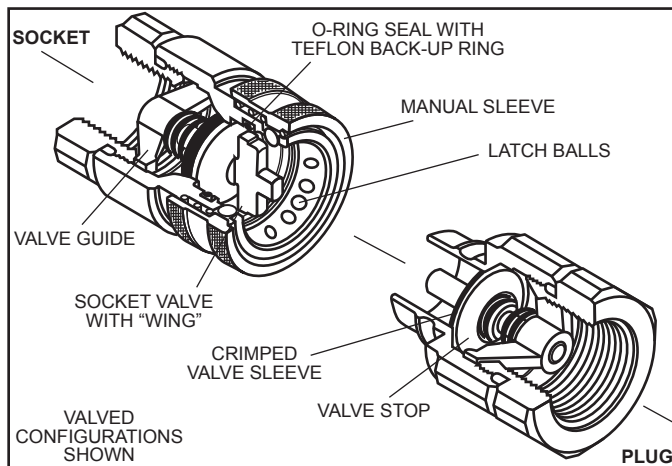
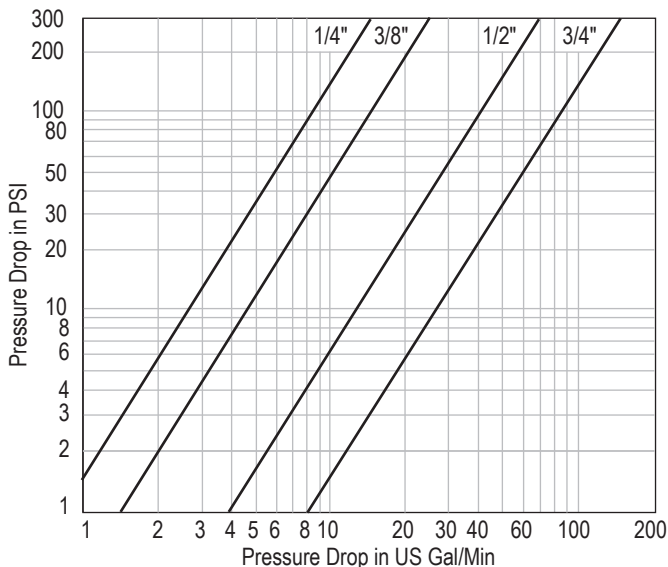
Plug Features:

- Machined from solid bar stock
- Steel plugs are hardened and zinc plated to provide heavy duty performance
- Flow - Large diameters provide for higher flow than other double shut-off quick disconnects
- Seals
 - Buna-N (Nitrile) seals are standard
 - Valve seals are crimped in place to maintain integrity during excessive flow conditions

Body Size	FH Series, Two Way		FH, Straight Thru		FIH Series, One Way
	Steel PSIG	Brass PSIG	Steel PSIG	Brass PSIG	Steel PSIG
1/4"	3250	2000	3000	3000	3000
3/8"	2250	1200	4000	3500	2250
1/2"	1800	1200	4000	2500	2000

Performance:

Series “FH & FIH” - Valved or Non-Valved
 Test Fluid: Hydraulic Oil at 100°F



The FIH Series sockets & plugs are for pneumatic applications. The FIH sockets have a valve with 360° contact with plug.

■ Non-Standard Product □ Standard Product

Profile drawings available at www.couplers.com
 See page 144 for full size templates
 See page 130 - 131 for optional seal compounds




FH & FIH Series


(Interchange with Snap-Tite H & IH Series)




FOSTER
MANUFACTURING COMPANY


FH Series, Two Way Valved Plugs

Female Thread		Part No.	FPT	Description
		FHP2F2	1/4"	Steel
		FHP2F2-101		Steel w/Viton Seal
		FHP2F2B		Brass
		FHP2F2B-101		Brass, w/Viton Seal
		FHP3F3	3/8"	Steel
		FHP3F3B		Brass
		FHP4F4	1/2"	Steel
		FHP4F4B		Brass


Male Thread		Part No.	MPT	Description
		FHP2M2	1/4"	Steel
		FHP2M2-103		Steel w/Ethylene Prop. Seal
		FHP2M2B		Brass
		FHP2M2B-103		Brass w/EPDM Seal
		FHP3M3	3/8"	Steel
		FHP3M3B		Brass
		FHP4M4	1/2"	Steel
		FHP4M4-101		Steel w/Viton Seal
FHP4M4B	Brass			


FH Series, Two Way Valved Sockets

Female Thread		Part No.	FPT	Description
		FHS2F2	1/4"	Steel
		BLFHS2F2		Ball Lock, Steel
		FHS2F2-101		Steel w/Viton Seal
		FHS3F3	3/8"	Steel
		BLFHS3F3		Ball Lock, Steel
		FHS4F4	1/2"	Steel
		BLFHS4F4		Ball Lock, Steel
		FHS2F2B	1/4"	Brass
		BLFHS2F2B		Ball Lock, Brass
		FHS2F2B-101		Brass, w/Viton Seal
		FHS2F2B-103	3/8"	Brass w/EPDM Seal
		FHS3F3B		Brass
		BLFHS3F3B		Ball Lock, Brass
FHS4F4B	1/2"	Brass		
BLFHS4F4B		Ball Lock, Brass		


Male Thread		Part No.	MPT	Description
		FHS2M2	1/4"	Steel
		FHS2M2-101		Steel w/Viton Seal
		BLFHS2M2		Ball Lock, Steel
		FHS3M3	3/8"	Steel
		BLFHS3M3		Ball Lock, Steel
		FHS4M4	1/2"	Steel
		FHS4M4-101		w/Viton Seal
		BLFHS4M4		Ball Lock, Steel
		FHS2M2B	1/4"	Brass
		BLFHS2M2B		Ball Lock, Brass
		FHS3M3B		3/8"
		BLFHS3M3B	Ball Lock, Brass	
		FHS4M4B	1/2"	Brass
BLFHS4M4B	Ball Lock, Brass			
FHS4M4B-103	Brass w/EPDM Seal			


FIH Series, Unvalved Plugs (Use with both FI & FIH Sockets)

Female Thread		Part No.	FPT	Description
		FH21F	1/8"	Steel
		FH22F	1/4"	Steel
		FH22FB		Brass
		FH33F	3/8"	Steel
		FH33FB		Brass
		FH44F	1/2"	Steel
		FH44FB		Brass


Male Thread		Part No.	MPT	Description
		FH22M	1/4"	Steel
		FH22MB		Brass
		FH33M	3/8"	Steel
		FH33MB		Brass
		FH44M	1/2"	Steel
		FH44MB		Brass

FIH Series, One Way Valved Sockets

Female Thread		Part No.	FPT	Description
		FIS2F2	1/4"	Steel
		BLFIS2F2		Ball Lock, Steel
		FIS3F3	3/8"	Steel
		BLFIS3F3		Ball Lock, Steel
		FIS4F4	1/2"	Steel
BLFIS4F4	Ball Lock, Steel			

Male Thread		Part No.	MPT	Description
		FIS2M2	1/4"	Steel
		BLFIS2M2		Ball Lock, Steel
		FIS3M3	3/8"	Steel
		BLFIS3M3		Ball Lock, Steel
		FIS4M4	1/2"	Steel
BLFIS4M4	Ball Lock, Steel			

FH Series, Straight-Thru Sockets

Female Thread		Part No.	FPT	Description (no valve)
		FHS2	1/4"	Steel
		BLFHS2		Ball Lock, Steel
		FHS2B		Brass
		BLFHS2B	3/8"	Ball Lock, Brass
		FHS2B-101		Brass, w/Viton Seal
		FHS3	3/8"	Steel
		BLFHS3		Ball Lock, Steel
		FHS3-101		Brass, w/Viton Seal
		FHS3B	1/2"	Brass
		BLFHS3B		Ball Lock, Brass
		FHS4	1/2"	Steel
		BLFHS4		Ball Lock, Steel
		FHS4B		Brass
BLFHS4B	Ball Lock, Brass			

Non-Standard Product Standard Product

See page 144 for full size templates

Features:

- For use on hydraulic applications with operating pressure up to 3,000 PSI
- Heavy duty, double shutoff coupler
- Connect/disconnect under pressure with minimal air inclusion and fluid loss
- Interchangeable with manufacturers' couplings
- Plugs can be bulkhead mounted

Construction:

- Brass body resists corrosion
- Zinc plated steel wing nut
- Stainless steel springs
- Buna-N Seals

Temperature Range:

- -40° to +250° F

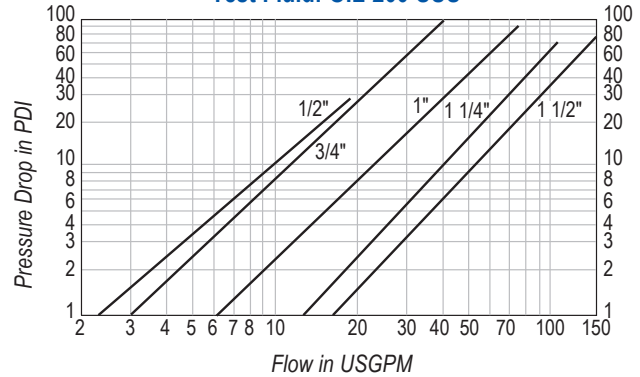
* Minimum burst pressure is equal to three times the rated pressure. Not recommended for continuous hydraulic impulse applications at rated pressures.

Specifications:


	SIZE				
	3/4"	3/4"	1	1 1/4"	1 1/2"
Dash Number	-08	-12	-16	-20	-24
* Rated Pressure (PSI)					
Female Half	3000	3000	3000	2750	2000
Male Half	3000	3000	3000	2500	2500
Complete Coupling Assembly	3000	3000	3000	2750	2500
Rated Flow (GPM)	12	28	50	76	100


Performance:

FWN Series (1/2" to 1-1/2") Test Fluid: OIL-200 SUS



FWN Series, Coupling Assemblies

Coupling with Wing Nut	Part No.		Size	Thread Size NPTF
	With Flange	Without Flange		
		B-6100-08	B-6120-08	3/4"
B-6100-12		B-6120-12	3/4-14	
B-6100-16		B-6120-16	1"	1 - 11-1/2
B-6100-20		B-6120-20	1-1/4"	1 1/4 - 11-1/2
B-6100-24		B-6120-24	1-1/2"	1 1/2 - 11-1/2

Coupling	Part No.		Size	Thread Size NPTF
	With Flange	Without Flange		
		B-6110-08	B-6130-08	3/4"
B-6110-12		B-6130-12	3/4-14	
B-6110-16		B-6130-16	1"	1 - 11-1/2
B-6110-20		B-6130-20	1-1/4"	1 1/4 - 11-1/2
B-6110-24		B-6130-24	1-1/2"	1 1/2 - 11-1/2


FWN Series, Sockets

Sockets	Part No.	Size	Thread Size NPTF
	Brass		
		B-6125-08	3/4"
B-6125-12		3/4-14	
B-6125-16		1"	1 - 11-1/2
B-6125-20		1-1/4"	1 1/4 - 11-1/2
B-6125-24		1-1/2"	1 1/2 - 11-1/2

Hex Nut	Part No.	Size	Thread Size NPTF
	Brass		
		B-6135-08	3/4"
B-6135-12		3/4-14	
B-6135-16		1"	1 - 11-1/2
B-6135-20		1-1/4"	1 1/4 - 11-1/2
B-6135-24		1-1/2"	1 1/2 - 11-1/2

Note: Foster approved components (May be imported)

FWN Series, Plugs

Plugs	Part No.		Size	Thread Size NPTF
	With Flange	Without Flange		
		B-6115-08	B-6105-08	3/4"
B-6115-12		B-6105-12	3/4-14	
B-6115-16		B-6105-16	1"	1 - 11-1/2
B-6115-20		B-6105-20	1-1/4"	1 1/4 - 11-1/2
B-6115-24		B-6105-24	1-1/2"	1 1/2 - 11-1/2

Optional Flange	Part No.	Size
	B-6107-08	3/4"
	B-6107-16	1"
B-6107-20	1-1/4"	
B-6107-24	1-1/2"	

Dust Plugs & Dust Caps

Dust Plugs	Part No.	Size	NPTF Thread	Description
				B-6109-08
B-6109-16	1"	1 - 11-1/2		
B-6109-20	1-1/4"	1 1/4 - 11-1/2		
B-6109-24	1-1/2"	1 1/2 - 11-1/2		

Dust Caps	Part No.	Size	NPTF Thread	Description
				B-6108-08
B-6108-16	1"	1 - 11-1/2		
B-6108-20	1-1/4"	1 1/4 - 11-1/2		
B-6108-24	1-1/2"	1 1/2 - 11-1/2		



FJT Series

(Interchange with DME, Jiffy-Tite, Jiffy-Matic, Parker Moldmate)



FOSTER
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Specifications & Layouts FJT Series

Foster FJT Series couplers are designed to connect coolant lines to plastic molds and die casting dies. FJT Series plugs are mounted in the mold. They can be threaded directly into the mold coolant ports or recessed into the mold for a flush surface during storage. Sockets have hose stems, either standard hose or "Push-on" type, for direct connection to the coolant line going to the manifold. Seal compound is silicone for use with water, ethylene glycol, or air.

Type: Straight-Thru, One Way or Two Way

Interchangeability: DME Jiffy-Tite and Jiffy-Matic and Parker Moldmate couplers

Operation: Manual – Socket sleeve must be manually retracted to connect and disconnect

Options:

Ball Lock (BL) - Locks manual socket against accidental disconnect. To connect, align ball with slot.

After connection, rotate sleeve to lock.

To disconnect, realign ball with slot and retract sleeve.

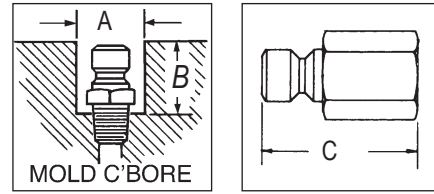
Features:

- Precision leakproof seal
- Two piece construction on straight stem sockets
- Double knurl on socket sleeve for easier grip
- Sockets have six balls.

Specifications:

Temperature Range: -65° to +425° F

Rated Pressure: 200 PSIG

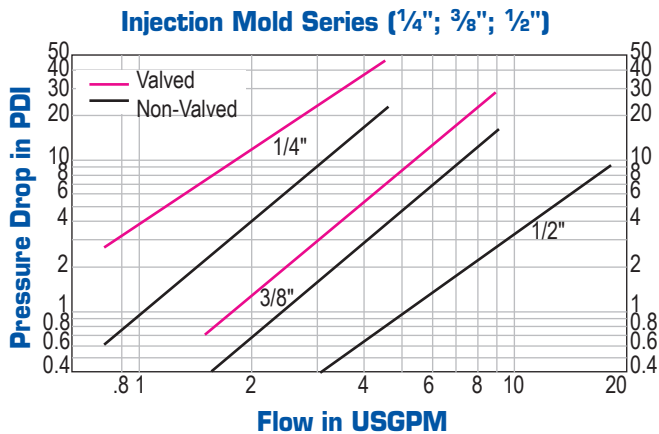


Cat. No.	NPT	A	B	C
FP251 (F)	1/8	.687	.687	1.000
FP252 (F)	1/4	.843	.937	1.278
FP352 (F)		1.00	1.092	1.450
FP253 (F)	3/8	1.00	.937	1.373
FP353 (F)		1.00	1.125	1.574
FP354	1/2	1.187	1.250	–
FP554 (F)		1.250	1.500	1.750
FP556 (F)	3/4	1.500	1.562	1.750

(F) – Suffix F for female pipe thread

PERFORMANCE DATA		FLOW
		Water – GPM 10 PSIG Pressure Drop
FJT 1/4	Straight-Thru	4.5
FJT 1/4 V	One Way (valved)	2.3
FJT 3/8	Straight-Thru	10.0
FJT 3/8 HF	High Flow	13.8
FJT 3/8 V	One Way (valved)	5.9
FJT 1/2	Straight-Thru	28.2

Performance:



Features:

1. Available with or without valves in the coupler. Non-valved couplers have minimum flow resistance for maximum cooling. Valved couplers shut off automatically upon disconnect. Valved couplers can be used with either valved or non-valved nipples.
2. Nipples are designed to be recessed below mold surfaces to provide more efficient storage of molds and prevent damage to the nipple.
3. Widest choice of end fittings available, including straight, 45° or 90° with standard hose barb or Push-Lok barbs for easy installation.
4. Couplers and nipples are made of corrosion resistant steel and brass.

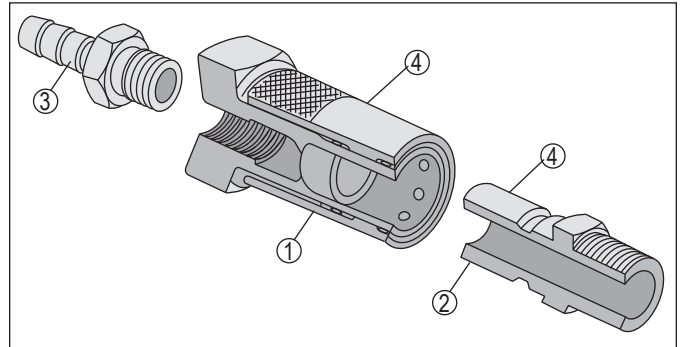
Applications: Injection Mold Series couplings are specifically designed for connecting coolant lines to molds and dies, on injection molding machinery in the plastics and die casting industries. Injection Mold Series couplings significantly reduce machine downtime by providing fast and easy connection of coolant lines during mold changes. Their short nipples can be recessed below the surface of the mold for more efficient storage of molds. Injection Mold Series couplers are available with or without valves in the female half. Non-valved couplers provide maximum flow for efficient cooling. Valved couplers shut off when disconnected.

Selection Guidelines: Injection Mold Series couplings are designed for a maximum working pressure of 200 PSI. Most thermoplastic and thermostat heat transfer systems have pumps which provide relatively high flow rates at relatively low pressures. Water and water glycol (anti-freeze) systems usually have capacities ranging from 10 to 40 gpm, with most from 10 to 15 gpm. Normal medial opening pressures are 20 to 60 PSI for these systems. Heat transfer systems using oil generally operate from 10 to 30 PSI. However, their flow rates are usually much higher, requiring the total volume of oil to be circulated at least once per minute.

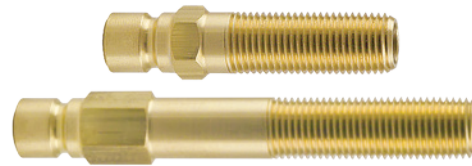
The number of hose connections in a single mold system results in a cumulative pressure drop. Please note the Pressure Drop vs. Flow Rate chart provided, to select the appropriate size.

Temperature is another important consideration. Injection Mold Series couplings with their standard Silicone seal have a temperature capability of -65° to +425°F. Rapid deterioration of the seal and leaking may result if used beyond these limits.

External conditions of temperature, corrosive atmospheres, and other abnormalities may affect coupling performance and must be considered when selection is made consult factory with questions.



FJT Series Brass Extension Plugs



- One piece construction for fast assembly, positive removal
- Installation problems associated with pipe nipple extensions on standard plugs are eliminated
- One-piece brass construction eliminates a potential leak point and ensures removability
- A variety of pipe sizes and lengths are available per the enclosed table
- Lengths available: 2.5" thru 13" Standard, Call factory for available lengths
- To Order: Add desired length to the end of the part number; i.e. FP251x2.5.




FJT Series


(Interchange with DME, Jiffy-Tite, Jiffy-Matic, Parker Moldmate)




FOSTER
MANUFACTURING COMPANY


FJT 1/4" Series - Plugs

Female Thread		Part No.	FPT	Description
		FP251F	1/8"	Steel
		FP251FB		Brass
		FP252F	1/4"	Steel
		FP252FB		Brass
FP253F	3/8"	Steel		


Male Thread		Part No.	MPT	Description
		FP251	1/8"	Brass
		FP252	1/4"	
		FP252S		Steel
FP253	3/8"	Brass		


Male Extension Plug		Part No.	Pipe Size	Description
		FP251X	1/8"	Call with length, material, and thread requirements Lengths available: 2.5" - 13" To Order: Add length to part number: i.e. FP251x2.5
		FP252X	1/4"	
FP253X	3/8"			


FJT 1/4" Series Straight Thru Sockets

Straight Hose Stem		Part No.	I.D.	Description
		FS204	1/4"	Brass
		BLFS204		Ball Lock, Brass
		FS205	5/16"	Brass
		BLFS205		Ball Lock, Brass
		FS206	3/8"	Brass
BLFS206	Ball Lock, Brass			


90° Hose Stem		Part No.	I.D.	Description
		FS214	1/4"	Brass
		BLFS214		Ball Lock, Brass
		FS215	5/16"	Brass
		BLFS215		Ball Lock, Brass
		FS216	3/8"	Brass
BLFS216	Ball Lock, Brass			

45° Hose Stem		Part No.	I.D.	Description
		FS224	1/4"	Brass
		BLFS224		Ball Lock, Brass
		FS225	5/16"	Brass
		BLFS225		Ball Lock, Brass
		FS226	3/8"	Brass
BLFS226	Ball Lock, Brass			


Socket w/o Stem		Part No.	FPT	Description
		FS200	1/8"	Brass
BLFS200	Ball Lock, Brass			

Straight Push-On Hose Stem		Part No.	I.D.	Description
		FS204P	1/4"	Brass
		FS206P	3/8"	

Hose clamps not required when used with "Push On" hose. See page 63.


90° Push-On Hose Stem		Part No.	I.D.	Description
		FS214P	1/4"	Brass
		BLFS214P		Ball Lock, Brass
		FS216P	3/8"	Brass
		BLFS216P		Ball Lock, Brass

Hose clamps not required when used with "Push On" hose. See page 63.


45° Push-On Hose Stem		Part No.	I.D.	Description
		FS224P	1/4"	Brass
		BLFS224P		Ball Lock, Brass
		FS226P	3/8"	Brass
		BLFS226P		Ball Lock, Brass

Hose clamps not required when used with "Push On" hose. See page 63.


FJT 1/4" Series One Way Valved Sockets


Straight Hose Stem		Part No.	I.D.	Description
		FS204V	1/4"	Brass
		BLFS204V		Ball Lock, Brass, Valved
		FS205V	5/16"	Brass
		BLFS205V		Ball Lock, Brass, Valved
		FS206V	3/8"	Brass
BLFS206V	Ball Lock, Brass, Valved			

Hose clamps not required when used with "Push On" hose. See page 63.


Straight Push-On Hose Stem		Part No.	Body x I.D.	Description
		FS204VP	1/4" x 1/4"	Brass
		BLFS204VP		Ball Lock, Brass, Valved
FS206VP	1/4" x 3/8"	Brass		


Hose clamps not required when used with "Push On" hose. See page 63.

90° Hose Stem		Part No.	I.D.	Description
		FS214V	1/4"	Brass
		BLFS214V		Ball Lock, Brass
		FS215V	5/16"	Brass
		BLFS215V		Ball Lock, Brass
		FS216V	3/8"	Brass
BLFS216V	Ball Lock, Brass			


90° Push-On Hose Stem		Part No.	Body x I.D.	Description
		FS214VP	1/4"	Brass
		BLFS214VP		Ball Lock, Brass
		FS216VP	3/8"	Brass
BLFS216VP	Ball Lock, Brass			

Hose clamps not required when used with "Push On" hose. See page 63.


45° Hose Stem		Part No.	I.D.	Description
		FS224V	1/4"	Brass
		BLFS224V		Ball Lock, Brass
		FS225V	5/16"	Brass
		BLFS225V		Ball Lock, Brass
		FS226V	3/8"	Brass
BLFS226V	Ball Lock, Brass			


45° Push-On Hose Stem		Part No.	Body x I.D.	Description
		FS224VP	1/4" x 1/4"	Brass
		BLFS224VP	1/4" x 1/4"	Ball Lock, Brass, Valved
		FS226VP	1/4" x 3/8"	Brass
BLFS226VP	1/4" x 3/8"	Ball Lock, Brass, Valved		

Hose clamps not required when used with "Push On" hose. See page 63.

Socket w/o Stem		Part No.	FPT	Description
		FS200V	1/8"	Brass Valved
BLFS200V	Ball Lock, Brass			

FJT 3/8" Series - Plugs

Female Thread		Part No.	FPT	Description
		FP352F	1/4"	Steel
		FP352FB		Brass
		FP353F	3/8"	Steel
FP353FB	Brass			

Male Thread		Part No.	MPT	Description
		FP351	1/8"	Brass
		FP352	1/4"	Brass
		FP352S		Steel
		FP353	3/8"	Brass
		FP353V		Brass, Valved Plug, for Two Way sockets
FP354	1/2"	Brass		

Male Extension Plug		Part No.	Pipe Size	Description
		FP352X	1/4"	Call with length, material, and thread requirements Lengths available: 2.5" - 13" To Order: Add length to part number: i.e. FP251x2.5
		FP353X	3/8"	
FP354X	1/2"			

Non-Standard Product Standard Product

See page 144 for full size templates



FJT Series

(Interchange with DME, Jiffy-Tite, Jiffy-Matic, Parker Moldmate)



FOSTER
MANUFACTURING COMPANY

FJT 3/8" Series Straight Thru Sockets

Straight Hose Stem		Part No.	I.D.	Description
		FS306	3/8"	Brass
		BLFS306		Ball Lock, Brass
		FS308	1/2"	Brass
BLFS308	Ball Lock, Brass			

90° Hose Stem		Part No.	I.D.	Description
		FS316	3/8"	Brass
		BLFS316		Ball Lock, Brass
		FS318	1/2"	Brass
BLFS318	Ball Lock, Brass			

45° Hose Stem		Part No.	I.D.	Description
		FS326	3/8"	Brass
		BLFS326		Ball Lock, Brass
		FS328	1/2"	Brass
BLFS328	Ball Lock, Brass			

Socket w/o Stem		Part No.	FPT	Description
		FS300	1/4"	Brass
	BLFS300	1/4"	Ball Lock, Brass	

Straight Push-On Hose Stem		Part No.	I.D.	Description
		FS306P	3/8"	Brass
		BLFS306P		Ball Lock, Brass
		FS308P	1/2"	Brass
BLFS308P	Ball Lock, Brass			

Hose clamps not required when used with "Push On" hose. See page 63.

90° Push-On Hose Stem		Part No.	I.D.	Description
		FS316P	3/8"	Brass
		BLFS316P		Ball Lock, Brass
		FS318P	1/2"	Brass
BLFS318P	Ball Lock, Brass			

Hose clamps not required when used with "Push On" hose. See page 63.

45° Push-On Hose Stem		Part No.	I.D.	Description
		FS326P	3/8"	Brass
		BLFS326P		Ball Lock, Brass
		FS328P	1/2"	Brass
BLFS328P	Ball Lock, Brass			

Hose clamps not required when used with "Push On" hose. See page 63.

FJT 3/8" Series One Way Valved Sockets

Straight Hose Stem		Part No.	I.D.	Description
		FS306V	3/8"	Brass
		BLFS306V		Ball Lock, Brass
		FS308V	1/2"	Brass
BLFS308V	Ball Lock, Brass			

Hose clamps not required when used with "Push On" hose. See page 63.

90° Hose Stem		Part No.	I.D.	Description
		FS316V	3/8"	Brass
		BLFS316V		Ball Lock, Brass, Valved
		FS318V	1/2"	Brass
BLFS318V	Ball Lock, Brass, Valved			

45° Hose Stem		Part No.	I.D.	Description
		FS326V	3/8"	Brass
		BLFS326V		Ball Lock, Brass, Valved
		FS328V	1/2"	Brass
BLFS328V	Ball Lock, Brass, Valved			

Socket w/o Stem		Part No.	FPT	Description
		FS300V	1/4"	Brass Valved
	BLFS300V	1/4"	Ball Lock, Brass, Valved	

Straight Push-On Stem		Part No.	I.D.	Description
		FS306VP	3/8"	Brass
		BLFS306VP		Ball Lock, Brass
		FS308VP	1/2"	Brass
BLFS308VP	Ball Lock, Brass			

Hose clamps not required when used with "Push On" hose. See page 63.

90° Push-On Hose Stem		Part No.	Body x I.D.	Description
		FS316P	3/8" x 3/8"	Brass
		BLFS216P	1/4" x 3/8"	Ball Lock, Brass
		FS318P	3/8" x 1/2"	Brass
		BLFS316P	3/8" x 3/8"	Ball Lock, Brass
BLFS516P	1/2" x 3/8"	Ball Lock, Brass		


Hose clamps not required when used with "Push On" hose. See page 63.


45° Push-On Hose Stem		Part No.	Body x I.D.	Description
		FS326VP	3/8"	Brass
		BLFS326VP		Ball Lock, Brass, Valved
		FS328VP	1/2"	Brass
BLFS328VP	Ball Lock, Brass, Valved			


Hose clamps not required when used with "Push On" hose. See page 63.


Non-Standard Product Standard Product


FJT 3/8" Series Two Way (Valved) Sockets

Straight Hose Stem		Part No.	Body x I.D.	Description
		FS306V2	3/8"	Brass
		BLFS306V2		Ball Lock, Brass
		FS308V2	1/2"	Brass
BLFS308V2	Ball Lock, Brass			


90° Hose Stem		Part No.	I.D.	Description
		FS316V2	3/8"	Brass
		BLFS316V2	3/8"	Ball Lock, Brass, Two Way Valved
		FS318V2	1/2"	Brass
BLFS318V2	1/2"	Ball Lock, Brass, Two Way Valved		

45° Hose Stem		Part No.	I.D.	Description
		FS326V2	3/8"	Brass
		BLFS326V2		Ball Lock, Brass, Two Way Valved
		FS328V2	1/2"	Brass
BLFS328V2	Ball Lock, Brass, Two Way Valved			


Socket w/o Hose Stem		Part No.	FPT	Description
		FS300V2	1/4"	Brass
		BLFS300V2	1/4"	Ball Lock, Brass,

Straight Push-On Hose Stem		Part No.	I.D.	Description
		FS306VP2	3/8"	Brass
		BLFS306VP2		Ball Lock, Brass, Two Way Valved
		FS308VP2	1/2"	Brass
BLFS308VP2	Ball Lock, Brass, Two Way Valved			

Hose clamps not required when used with "Push On" hose. See page 63.


90° Push-On Hose Stem		Part No.	I.D.	Description
		FS316VP2	3/8"	Brass
		BLFS316VP2		Ball Lock, Brass, Two Way Valved
		FS318VP2	1/2"	Brass, Two Way Valved
BLFS318VP2	Ball Lock, Brass, Two Way Valved			


"Hose clamps not required when used with "Push On" hose. See page 63.


45° Push-On Hose Stem		Part No.	I.D.	Description
		FS326VP2	3/8"	Brass
		BLFS326VP2		Ball Lock, Brass, Two Way Valved
		FS328VP2	1/2"	Brass
BLFS328VP2	Ball Lock, Brass, Two Way Valved			


Hose clamps not required when used with "Push On" hose. See page 63.

FJT 3/8" Series High Flow Straight-Thru Sockets


Straight Hose Stem		Part No.	I.D.	Description
		FS308HF	1/2"	Brass
BLFS308HF	Ball Lock, Brass			

90° Hose Stem		Part No.	I.D.	Description
		FS318HF	1/2"	Brass
BLFS318HF	Ball Lock, Brass			

Socket w/o Hose Stem		Part No.	FPT	Description
		FS300HF	3/8"	Brass High Flow
BLFS300HF	Ball Lock, Brass, High Flow			

Straight Push-On Hose Stem		Part No.	I.D.	Description
		FS308HFP	1/2"	Brass High Flow
BLFS308HFP	Ball Lock, Brass, High Flow			

Hose clamps not required when used with "Push On" hose. See page 63.

90° Push-On Hose Stem		Part No.	I.D.	Description
		FS318HFP	1/2"	Brass High Flow
BLFS318HFP	Ball Lock, Brass, High Flow			

Hose clamps not required when used with "Push On" hose. See page 63.

Non-Standard Product Standard Product




FJT Series


(Interchange with DME, Jiffy-Tite, Jiffy-Matic, Parker Moldmate)



FOSTER
MANUFACTURING COMPANY


FJT 1/2" Series - Plugs


Female Thread		Part No.	FPT	Description
		FP554F	1/2"	Steel
		FP556F	3/4"	

Male Thread		Part No.	MPT	Description
		FP554	1/2"	Brass
		FP556	3/4"	


Male Extension Plug		Part No.	Pipe Size	Description
		FP554X	1/2"	Call with length, material, and thread requirements Lengths available: 2.5" - 13" To Order: Add length to part number: i.e. FP251x2.5


FJT 1/2" Series Straight-Thru Sockets

Straight Hose Stem		Part No.	I.D.	Description
		FS504	1/2"	Brass
		BLFS504		Ball Lock, Brass
		FS506	3/4"	Brass
		BLFS506		Ball Lock, Brass


Straight Push-On Hose Stem		Part No.	I.D.	Description
		FS504P	1/2"	Brass
		BLFS504P		Ball Lock, Brass
		FS506P	3/4"	Brass
		BLFS506P		Ball Lock, Brass


Hose clamps not required when used with "Push On" hose. See page 63.

90° Hose Stem		Part No.	I.D.	Description
		FS514	1/2"	Brass
		BLFS514	1/2"	Ball Lock, Brass
		FS516	3/4"	Brass
BLFS516	3/4"	Ball Lock, Brass		


90° Push-On Hose Stem		Part No.	I.D.	Description
		FS514P	1/2"	Brass
		BLFS514P		Ball Lock, Brass
		FS516P	3/4"	Brass
BLFS516P	Ball Lock, Brass			

Hose clamps not required when used with "Push On" hose. See page 63.

45° Hose Stem		Part No.	I.D.	Description
		FS524	1/2"	Brass
		BLFS524	1/2"	Ball Lock, Brass
		FS526	3/4"	Brass
BLFS526	3/4"	Ball Lock, Brass		

45° Push-On Hose Stem		Part No.	I.D.	Description
		FS524P	1/2"	Brass
		BLFS524P		Ball Lock, Brass
		FS526P	3/4"	Brass
BLFS526P	Ball Lock, Brass			

Hose clamps not required when used with "Push On" hose. See page 63.

Socket w/o Hose Stem		Part No.	FTP	Description
		FS500	1/2"	Brass
		BLFS500		Ball Lock, Brass

See page 144 for full size templates

Features:

- Greater durability than other recoil hoses due to exceptional wear characteristics
- Longer life expectancy due to kink resistant properties
- Superior recoil memory due to elastic properties
- Pre-assembled and ready to use

Specifications:

Construction: Yellow polyurethane recoil hose with reusable brass fitting ends. Inlet end includes in-line brass swivel fitting.

Working Length: 80-90% of hose length

Polyurethane Recoil Hose Benefits:

- Greater durability than Nylon or Hytrel recoil hoses due to exceptional wear characteristics
- Longer life expectancy due to kink resistant properties
- Superior recoil memory due to elastic properties
- Working length is approximately 80-90% of hose length
- Hoses are pre-assembled with reusable brass fittings reducing assembly time
- $\frac{5}{32}$ " ID hose is ideal for use with Foster blow guns

Temperature Range: -40°F to +125°F

Rated Pressure: 125 psig @ 75°F

Options: Available in Transparent Blue & Yellow

Fully Assembled and Ready to Use Configurations with and without DW-Series Universal Sockets Includes Swivel NPT Fitting End Pre-Installed with Thread Compound 15' and 25' Lengths

Foster Polyurethane Recoil Hose has greater durability than other types of hose due to exceptional wear characteristics. Polyurethane Recoil Hose is kink resistant and has exceptional memory characteristics due to elastic properties of the polyurethane hose. Hoses are pre-assembled with reusable brass fittings for reduced assembly time.

Two assembly configurations include Foster DW Series Universal Sockets ready for connection to air tools or other accessories. The Foster Polyurethane Recoil Hose products are pre-bagged for convenience. Ideally suited as counter sale products.



Polyurethane Recoil Hose T=Transparent Blue, Y=Yellow	Part No.	Body Size x I.D. x Length	Description
			FPR532-10B-T
FPR532-10B-Y	Yellow, Rigid x Swivel		
FPR14-15A-T	$\frac{1}{4}$ " x $\frac{3}{8}$ " x 15 Ft.	Blue, Rigid x Swivel	
FPR14-15A-Y		Yellow, Rigid x Swivel	
FPR14-25A-T	$\frac{1}{4}$ " x $\frac{3}{8}$ " x 25 Ft.	Blue, Rigid x Swivel	
FPR14-25A-Y		Yellow, Rigid x Swivel	
FPR38-15A-T	$\frac{3}{8}$ " x $\frac{9}{16}$ " x 15 Ft.	Blue, Rigid x Swivel	
FPR38-15A-Y		Yellow, Rigid x Swivel	
FPR38-25A-T	$\frac{3}{8}$ " x $\frac{9}{16}$ " x 25 Ft.	Blue, Rigid x Swivel	
FPR38-25A-Y		Yellow, Rigid x Swivel	



Hytrell Hose Assemblies

Hytrell Recoil Hose Benefits:

- Impervious to oil, very abrasion resistant
- Recoil memory superior to Nylon
- Working length is approximately 60% of hose length
- Coiled length is 1/30th of hose length

Temperature Range: -40°F to +125°F

Rated Pressure: 170 psig @ 76°F

Options:

- Color - Light Blue (Suffix - B) and Yellow (Suffix Y for Yellow)
- Available in 100' lengths

Hytrell Recoil Hose		Part No.	Hose Size	Description
		FR25*-100	1/4"	Wound as 3-3/4" Dia. Loop
		FR38*-100	3/8"	Wound as 5-3/4" Dia. Loop
		FR50*-100	1/2"	Wound as 8" Dia. Loop

Hytrell Recoil Hose Assemblies W/(2) Male FTGS		Part No. Blue	Part No. Yellow	Hose Size	Length
		FR25-6MB	FR25-6MY	1/4"	6 FT
		FR25-12MB	FR25-12MY		12 FT
		FR25-25MB	FR25-25MY		25 FT
		FR25-50MB	FR25-50MY		50 FT
		FR38-6MB	FR38-6MY	3/8"	6 FT
		FR38-12MB	FR38-12MY		12 FT
		FR38-25MB	FR38-25MY		25 FT
		FR38-50MB	FR38-50MY		50 FT
		—	FR50-12MY	1/2"	12 FT
		—	FR50-25MY		25 FT
		—	FR50-50MY		50 FT

Hytrell Recoil Hose Assemblies W/(2) Swivel FTGS		Part No. Blue	Part No. Yellow	Hose Size	Length
		FR25-6SB	FR25-6SY	1/4"	6 FT
		FR25-12SB	FR25-12SY		12 FT
		FR25-25SB	FR25-25SY		25 FT
		FR25-50SB	FR25-50SY		50 FT
		FR38-6SB	FR38-6SY	3/8"	6 FT
		FR38-12SB	FR38-12SY		12 FT
		FR38-25SB	FR38-25SY		25 FT
		FR38-50SB	FR38-50SY		50 FT
		—	FR50-12SY	1/2"	12 FT
		—	FR50-25SY		25 FT
		—	FR50-50SY		50 FT

Hytrell Recoil Hose Assemblies W/(1) Swivel (1) Male FTG		Part No. Blue	Part No. Yellow	Hose Size	Length
		FR25-6SMB	FR25-6SMY	1/4"	6 FT
		FR25-12SMB	FR25-12SMY		12 FT
		FR25-25SMB	FR25-25SMY		25 FT
		FR25-50SMB	FR25-50SMY		50 FT
		FR38-6SMB	FR38-6SMY	3/8"	6 FT
		FR38-12SMB	FR38-12SMY		12 FT
		FR38-25SMB	FR38-25SMY		25 FT
		FR38-50SMB	FR38-50SMY		50 FT
		FR38-6SMB	—	1/2"	6 FT
		—	FR50-12SMY		12 FT
		—	FR50-25SMY		25 FT
		—	FR50-50SMY	50 FT	

Hytrell Recoil Hose Assemblies W/(2) Elbow FTGS		Part No. Blue	Part No. Yellow	Hose Size	Length
		FR25-6LB	FR25-6LY	1/4"	6 FT
		FR25-12LB	FR25-12LY		12 FT
		FR25-25LB	FR25-25LY		25 FT
		FR25-50LB	FR25-50LY		50 FT
		FR38-6LB	FR38-6LY	3/8"	6 FT
		FR38-12LB	FR38-12LY		12 FT
		FR38-25LB	FR38-25LY		25 FT
		FR38-50LB	FR38-50LY		50 FT

Blue Hytrell Recoil Hose Assemblies W/(2) Female FTGS		Part No. Blue	Part No. Yellow	Hose Size	Length
		FR25-6FB	FR25-6FY	1/4"	6 FT
		FR25-12FB	FR25-12FY		12 FT
		FR25-25FB	FR25-25FY		25 FT
		FR25-50FB	FR25-50FY		50 FT
		FR38-6FB	FR38-6FY	3/8"	6 FT
		FR38-12FB	FR38-12FY		12 FT
		FR38-25FB	FR38-25FY		25 FT
		FR38-50FB	FR38-50FY		50 FT

Hytrell Hose Fittings

Spare Reusable Fittings - Male MPT		Part No.	I.D. x O.D.	MPT	Description
		PSM53204	5/32" x 1/4"	1/4"	Swivel
		PRM0404	1/4" x 3/8"	1/4"	Rigid
		PSM0404			Swivel
		PRM0606	3/8" x 9/16"	3/8"	Rigid
		PSM0606			Swivel

Hytrell Recoil Straight Hose Fittings Free Swivel Under Pressure, Male NPT		Part No.	Hose Size x NPT Threa	Description
		FR25S	1/4" x 1/4"	Kit
		FR38S	3/8" x 3/8"	
		FR50S	1/2" x 1/2"	

Hytrell Recoil Hose Fittings - Male MPT		Part No.	Hose Size x NPT Thread	Description
		FR25M	1/4" x 1/4"	Kit
		FR38M	3/8" x 3/8"	
		FR50M	1/2" x 1/2"	

Hytrell Recoil Elbow Hose Fittings Male NPT		Part No.	Hose Size x NPT Thread	Description
		FR25L	1/4" x 1/4"	Kit
		FR38L	3/8" x 3/8"	

Hytrell Recoil Straight Hose Fittings Female NPT		Part No.	Hose Size x NPT Thread	Description
		FR25F	1/4" x 1/4"	Kit
		FR38F	3/8" x 3/8"	

One Way Shut-off

Safety Vent Series

Non-Std. Interchange

Straight Through

Hydraulic Two Way Shut-off

Mold / Die

Hose Fittings & Accessories

ZSI Products



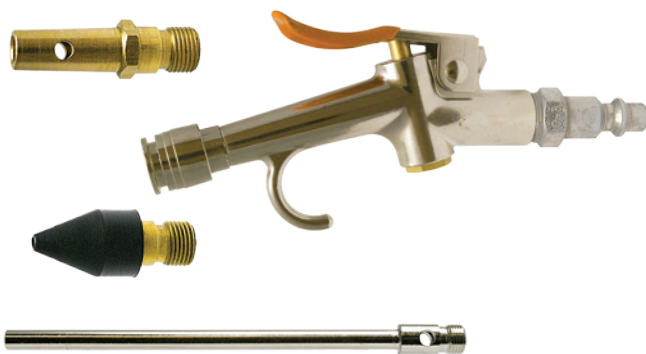
Handy-Air® Blow Guns & Accessories

		Part No.	Description
Lever Operated		BG2L-30P	Pressed – Standard Tip
		BG2L-30STP	Pressed – Safety Tip
		BG2L-30STT	Threaded – Safety Tip
		BG2L-30T	Threaded – Standard Tip
Button Operated		BG2-30P	Pressed – Standard Tip
		BG2-30STP	Pressed – Safety Tip
		BG2-30STT	Threaded – Safety Tip
		BG2-30T	Threaded – Standard Tip
Pistol Grip Blow Gun		PG2P	Pressed – Safety Tip
		PG2T	Threaded – Safety Tip

		Part No.
Blow Gun Accessories		EX10DH
		EX12
		EX2
		EX2RT
		EX2ST

Non-Standard Product Standard Product

Blow Gun Kits



BG-KIT-F1 – The versatile Foster blow gun kit BG-KIT-F1 contains three of the most popular nozzles for industrial and automotive uses as well as a 1/4" standard plug for easy air hose connection. This kit includes a high quality, lever-operated heavy duty blow gun featuring a quick disconnect coupler which allows users to switch nozzles quickly and easily. Also included are a high flow safety nozzle, six inch extension safety nozzle, rubber tip nozzle and quick connector plug for connecting blow gun to shop air supply. The kit comes ready for hanging display in a clear clamshell package.





BG-KIT-F2 – The Foster BG-KIT-F2 contains five of the most popular nozzles for industrial and automotive uses. This kit includes a high quality, lever-operated heavy-duty blow gun featuring a quick disconnect coupler which allows users to switch nozzles quickly and easily. This multi-use kit also contains a high flow safety nozzle, six inch extension safety nozzle, rubber tip nozzle, needle tip nozzle, and air-screen safety nozzle. For handy storage, a clear vinyl compartmented snap pouch is included.


Note: Foster approved components (May be imported)




Non Swivel Adapters

1/8" MPT Non Swivel		Part No.	I.D. x O.D.	Description
		1B3	1/4" x 1/2"	Brass
		1B5	1/4" x 9/16"	
		1B7	1/4" x 5/8"	


1/4" MPT Non Swivel		Part No.	I.D. x O.D.	Description
		2B3	1/4" x 1/2"	Brass
		2B5	1/4" x 9/16"	
		2B7	1/4" x 5/8"	
		2B7S/S	1/4" x 5/8"	303 Stainless
		2C5	5/16" x 9/16"	Brass
		2C7	5/16" x 5/8"	
		2D7	3/8" x 5/8"	
		2D9	3/8" x 11/16"	
		2D11	3/8" x 3/4"	
		2D13	3/8" x 13/16"	
		2P13	1/2" x 13/16"	
		2P15	1/2" x 7/8"	
		2P17	1/2" x 15/16"	
2P19	1/2" x 1"			


3/8" MPT Non Swivel		Part No.	I.D. x O.D.	Description
		4B3	1/4" x 1/2"	Brass
		4B5	1/4" x 9/16"	
		4B7	1/4" x 5/8"	
		4D7	3/8" x 5/8"	
		4D9	3/8" x 11/16"	
		4D11	3/8" x 3/4"	
		4D13	3/8" x 13/16"	
		4P13	1/2" x 13/16"	
		4P15	1/2" x 7/8"	
4P17	1/2" x 15/16"			
4P19	1/2" x 1"			


1/2" MPT Non Swivel		Part No.	I.D. x O.D.	Description
		6D7	3/8" x 5/8"	Brass
		6D9	3/8" x 11/16"	
		6D11	3/8" x 3/4"	
		6D13	3/8" x 13/16"	
		6P13	1/2" x 13/16"	
		6P15	1/2" x 7/8"	
		6P17	1/2" x 15/16"	
6P19	1/2" x 1"			

Non-Standard Product Standard Product


Swivel Under Pressure Adapters


1/4" MPT Swivel Free Swivel Under Pressure		Part No.	I.D. x O.D.	Description
		2B3MS	1/4" x 1/2"	Brass
		2B5MS	1/4" x 9/16"	
		2B7MS	1/4" x 5/8"	

3/8" MPT Swivel Free Swivel Under Pressure		Part No.	I.D. x O.D.	Description
		4D7MS	3/8" x 5/8"	Brass
		4D9MS	3/8" x 11/16"	
		4D11MS	3/8" x 3/4"	
		4D13MS	3/8" x 13/16"	

1/2" MPT Swivel Free Swivel Under Pressure		Part No.	I.D. x O.D.	Description
		6P13MS	1/2" x 13/16"	Brass
		6P15MS	1/2" x 7/8"	
		6P17MS	1/2" x 15/16"	
		6P19MS	1/2" x 1"	

Female Swivel w/Nut

Female Swivel No. 1 Nut - 9/16-20 NS		Part No.	I.D. x O.D.	Description
		1B3-S	1/4" x 1/2"	Brass/Steel
		1B5-S	1/4" x 9/16"	
		1B7-S	1/4" x 5/8"	
		1C5-S	5/16" x 9/16"	
		1C7-S	5/16" x 5/8"	
		1D7-S	3/8" x 5/8"	
		1D9-S	3/8" x 11/16"	
		1D11-S	3/8" x 3/4"	
		1D13-S	3/8" x 13/16"	

Female Swivel No. 2 Nut - 3/8-18 NF		Part No.	I.D. x O.D.	Description
		2B3-S	1/4" x 1/2"	Brass/Steel
		2B5-S	1/4" x 9/16"	
		2B7-S	1/4" x 5/8"	
		2D7-S	3/8" x 5/8"	
		2D9-S	3/8" x 11/16"	
		2D11-S	3/8" x 3/4"	
		2D13-S	3/8" x 13/16"	

One Way Shut-off

Safety Vent Series

Non-Std. Interchange

Straight Through

Hydraulic Two Way Shut-off

Mold / Die

Hose Fittings & Accessories


ZSi Products





Reusable Hose Fittings




Female Swivel w/Nut (Continued)

Female Swivel No. 5 Nut – 1/4-18 NPS		Part No.	I.D. x O.D.	Description
		5B3-S	1/4" x 1/2"	Brass/Steel
		5B5-S	1/4" x 9/16"	
		5B7-S	1/4" x 5/8"	
		5C5-S	5/16" x 9/16"	
		5C7-S	5/16" x 5/8"	
		5D7-S	3/8" x 5/8"	
		5D9-S	3/8" x 11/16"	
		5D11-S	3/8" x 3/4"	
5D13-S	3/8" x 13/16"			


Female Swivel No. 8 Nut – 3/8-18 NPS		Part No.	I.D. x O.D.	Description
		8D7-S	3/8" x 5/8"	Brass/Steel
		8D9-S	3/8" x 11/16"	
		8D11-S	3/8" x 3/4"	
8D13-S	3/8" x 13/16"			

Female Swivel No. 10 Nut – 1/2-14 NPS		Part No.	I.D. x O.D.	Description
		10P13-S	1/2" x 13/16"	Brass/Steel
		10P15-S	1/2" x 7/8"	
		10P17-S	1/2" x 15/16"	
10P19-S	1/2" x 1"			

Male Adapter for Female Swivel

Female Swivel Adapter No. 1 Nut – 9/16-20 NS		Part No.	Size	Description
		1-2M	1/4"	Brass
1-3M	3/8"			

Female Swivel Adapter No. 5 Nut – 1/4-18 NPS		Part No.	Size	Description
		5-2M	1/4"	Brass

Female Swivel Adapter No. 10 Nut – 1/2-14 NPS		Part No.	Size	Description
		10-3M	3/8"	Brass
10-4M	1/2"			

Features:

- "Push-On" fittings do not require hose clamps. Hose grips barb through distortion of braid. Forms leak proof grip with "Push-On" fitting. "Push-On" hose used with standard barbed fittings requires hose clamp.
- For shop air, pneumatic tools, petroleum base hydraulic oils, anti-freeze compounds, gasoline, water, lubricating oils and diesel fuels.

Construction:

Foster "Push-On" hose is constructed with a synthetic rubber tube, fiber braid reinforcement and a synthetic rubber cover, resistant to abrasion, oil and mildew.

- Temperature range: -40° to +212°F.

One Way Shut-off

Safety Vent Series

Non-Std. Interchange

Straight Through


Hydraulic Two Way Shut-off

Mold / Die

Hose Fittings & Accessories


ZSi Products

Push-On Hose


Bulk Hose		Part No.	Size	Description
		PO25	1/4" x 9/16"	Fiber Braid Reinforced Synthetic Rubber
		PO38	3/8" x 11/16"	Fiber Braid Reinforced Synthetic Rubber
		PO50	1/2" x 13/16"	Fiber Braid Reinforced Synthetic Rubber


Note: When used with Push-On fittings, hose clamps are not required.

Brass Nipples


Brass Hex Nipples		Part No.	Male NPT x Male NPT
		1M1M	1/8" x 1/8"
		1M2M	1/8" x 1/4"
		2M2M	1/4" x 1/4"
		2M3M	1/4" x 3/8"
		3M3M	3/8" x 3/8"
		3M4M	3/8" x 1/2"
		4M4M	1/2" x 1/2"
6M6M	3/4" x 3/4"		

Brass Splicers


Hose Splicer		Part No.	I.D. x O.D.
		HS-B3	1/4" x 1/2"
		HS-B5	1/4" x 3/16"
		HS-B7	1/4" x 5/16"
		HS-D7	3/8" x 5/16"
		HS-D9	3/8" x 11/16"
		HS-D11	3/8" x 3/4"
		HS-D13	3/8" x 13/16"

Push On		Part No.	ID x ID
		PHS82	1/4" x 1/4"
		PHS84	3/8" x 3/8"
		PHS85	1/2" x 1/2"


Hose clamps not required when used with "Push On" hose. (shown above).

Barbed Insert		Part No.	ID x ID
		BHS81	3/16" x 3/16"
		BHS82	1/4" x 1/4"
		BHS83	5/16" x 5/16"
		BHS84	3/8" x 3/8"
		BHS85	1/2" x 1/2"


Requires Hose Clamps
(See page 96 for typical hose clamps)

Push-On Swivel Fitting		Part No.	Male NPT x ID
		PM7S	1/4" x 1/4"
		PM13S	3/8" x 3/8"
		PM17S	1/2" x 1/2"


Hose clamps not required when used with "Push On" hose (shown above)

Male Push-On Fitting		Part No.	Male NPT x ID
		PM3	1/8" x 1/4"
		PM5	1/8" x 3/8"
		PM7	1/4" x 1/4"
		PM9	1/4" x 3/8"
		PM11	1/4" x 1/2"
		PM13	3/8" x 3/8"
		PM14	3/8" x 1/2"
		PM16	1/2" x 3/8"
		PM17	1/2" x 1/2"
		PM19	1/2" x 3/4"


Hose clamps not required when used with "Push On" hose. See page 63.

Male Hose Stem Fitting		Part No.	Male NPT x ID
		M1	1/8" x 1/8"
		M2	1/8" x 3/16"
		M3	1/8" x 1/4"
		M4	1/8" x 5/16"
		M5	1/8" x 3/8"
		M6	1/4" x 3/16"
		M7	1/4" x 1/4"
		M8	1/4" x 5/16"
		M9	1/4" x 3/8"
		M11	1/4" x 1/2"
		M12	3/8" x 1/4"
		M13	3/8" x 3/8"
		M14	3/8" x 1/2"
M16	1/2" x 3/8"		
M17	1/2" x 1/2"		
M19	1/2" x 3/4"		
M22	3/4" x 3/4"		


Requires Hose Clamp
(See page 96 for typical hose clamps)

Female (Solid)		Part No.	Female NPT x ID
		F33	1/8" x 1/4"
		F36	1/4" x 1/4"
		F38	1/4" x 3/8"
		F40	3/8" x 3/8"
		F41	3/8" x 1/2"
		F42	1/2" x 1/2"

Requires Hose Clamp
(See page 96 for typical hose clamps)

Female (Ball End)		Part No.	Female NPT x Hose ID
		SB55	1/4" x 1/4"
		SB57	1/4" x 3/8"
		SB58	3/8" x 3/8"

Requires Hose Clamp
(See page 96 for typical hose clamps)

Male Hose Stem Swivel		Part No.	Size
		M7S	1/4" MPT x 1/4" ID STEM
		M13S	3/8" MPT x 3/8" ID STEM
		M17S	1/2" MPT x 1/2" ID STEM

Hose clamps not required when used with "Push On" hose. See page 63.



3-Way Sleeves




3-Way Sleeve w/optional lockout

Features:

- Provides low cost ON-OFF-EXHAUST operation
- Slide the sleeve to the ON position. Exhaust ports are closed, valve is open. Reversing the sleeve, opens exhaust ports, shuts off flow
- Ports covered for protection against exhaust flow
- Body detent secures sleeve position
- Valve with lockout complies with OSHA Standard 29 CFR, Part 1910

Rated Pressure: to 200 PSIG

Temperature: -25° to +200°F

"Fost-Air" Three Way Sleeve Valve			Part No.	NPT	Description
			3W125	1/8"	Brass
			3W250	1/4"	
			3W375	3/8"	
			3W500	1/2"	

"Fost-Air" Three Way Sleeve Valve Lockout			Part No.	NPT	Description
			LO250	1/4"	Valve Lockout With Chain
			LO375	3/8"	
			LO500	1/2"	

Foster Swivel Fittings improve maneuverability and ergonomics when using air tools and spray guns. Functioning like a universal joint, swivel fittings allow the hose to remain vertical at all times, which reduces operator fatigue, repetitive motion trauma, and fitting chafe. The non-marring series (plastic encapsulated) is ideal for applications where non-marring and scratch reduction is needed.

Features:

- Steel body ($\frac{1}{4}$ " and $\frac{3}{8}$ "), Aluminum body ($\frac{1}{2}$ ")
- High flow capacity, low pressure drop
- More sizes for simplified plumbing
- Plastic encapsulation (non-marring Series)
- 300 PSIG inlet maximum

Benefits:

- Swivels 360 degrees in two independent planes
- Allows air hose to hang straight down when used with air tools
- Reduces operator fatigue
- Reduces the possibility of carpal tunnel syndrome
- Increases air hose life.





Maximum Working Pressure:

- 300 PSIG


Materials of Construction:


- Body: Brass and plated steel
- Seals: Buna N


90° Swivel		Part No.	FPT x MPT	Description
		25US90	$\frac{1}{4}$ " x $\frac{1}{4}$ "	Brass
25US90-101	Brass, w/Viton Seal			

Male to Female Pipe		Part No.	FPT x MPT	Description
		25US	$\frac{1}{4}$ " x $\frac{1}{4}$ "	
		38US	$\frac{3}{8}$ " x $\frac{3}{8}$ "	
50US	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Brass/Steel		


Brass / Steel Dual Swivel		Part No.	FPT x MPT	Description
		25US36	$\frac{1}{4}$ " x $\frac{1}{4}$ "	Brass/Steel

Non-Marring Dual Swivel		Part No.	FPT x MPT	Description
		190010A	$\frac{3}{8}$ " x $\frac{1}{4}$ "	Steel
		190011A	$\frac{3}{8}$ " x $\frac{3}{8}$ "	
190012	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Steel/Aluminum		

Non-Marring Dual Swivel		Part No.	FPT x MPT	Description
		190040	$\frac{3}{8}$ " x $\frac{1}{4}$ "	Steel
		190041	$\frac{3}{8}$ " x $\frac{3}{8}$ "	
190042	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Steel/Aluminum		

Standard Swivel		Part No.	FPT x MPT	Description
		190026A	$\frac{1}{4}$ " x $\frac{1}{4}$ "	
		190029A	$\frac{3}{8}$ " x $\frac{1}{4}$ "	
		190027A	$\frac{3}{8}$ " x $\frac{3}{8}$ "	
190028	$\frac{1}{2}$ " x $\frac{1}{2}$ "	Steel/Aluminum		

Without Plastic Covering

Brass 3 Position Swivel Tip Nozzle		Part No.	Size
		2STF2-SWVL	$\frac{3}{4}$ "

- Used on Power Washers
- Get to those hard to reach places without bending or being a contortionist!

Note: Foster approved components (May be imported)

Non-Standard Product Standard Product



CUSHIONED CLAMPING

ZSi-Foster offers a comprehensive line of cushioning clamps – from the original Cush-A-Clamp® to the newer Cush-A-Nator®. There is a ZSi-Foster solution to cushion shock, vibration, noise and temperature.

CUSH-A-NATOR® (See Pages 68 - 70)

The Cush-A-Nator® is the newest breakthrough in cushioned clamping. It offers the user with an option for the highest temperature range of any cushion clamp on the market -65°F to 340°F (-53°C to 170°C), or just the advanced features of the superior new design.

The new Cush-A-Nator® features a "thumb drive" tab that simplifies installation.

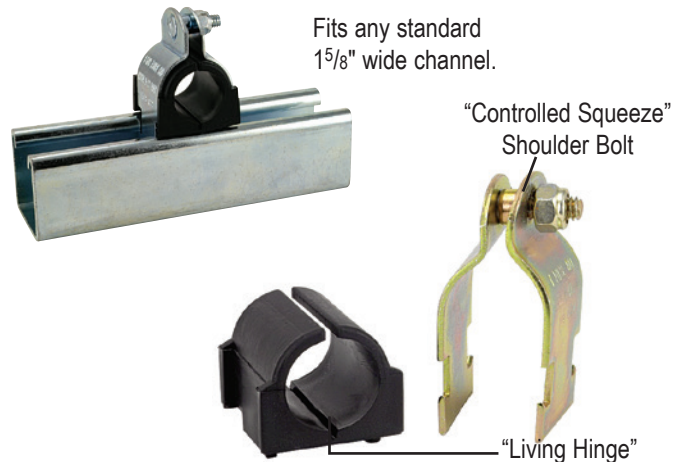
It is also a perfect solution for retrofit since the clamp can be installed on a pipe that is already resting on the channel support.



CUSH-A-CLAMP® (See Page 71)

CUSH-A-CLAMP® – channel mounted clamping systems is ideal for multiple line runs. It absorbs shock and vibration, reducing unwanted noise and it prevents galvanic corrosion.

THE CLAMP — This **Controlled Squeeze™** design eliminates over-tightening and rotation while a nylon-insert nut assures a positive lock. **THE CUSHION** — Manufactured from a thermoplastic elastomer, it's built tough to withstand the effects of most oils, chemicals and industrial cleaning compounds, in temperatures from -50°F to 275°F. A patented "Living Hinge" allows the cushion to be spread apart for quick, easy installation. Interlock edges and channel locator legs ensure that the cushion remains in place.



Fits any standard 1 5/8" wide channel.

"Controlled Squeeze" Shoulder Bolt

"Living Hinge"



OMEGA SERIES™ (See Page 77)



OMEGA SERIES™ – The Omega Series™ clamp assembly retains, guides, protects and uniformly spaces line runs. Attached with two standard fasteners to any flat surface, providing a savings in both space and cost.

THE CLAMP — Available in steel (with electro-dichromate finish), and stainless steel.

THE CUSHION — Manufactured from a thermoplastic elastomer, it's built tough to withstand the effects of most oils, chemicals and industrial cleaning compounds, in temperatures from -50°F to 275°F. Interlock edge ensures that the cushion remains in place.

CUSH-A-CLAW (See Page 72)



Cush-A-Claw Grabs on to your Tube, Pipe, or Hose and holds it in place. The unique one piece patent pending design allows for quick, simple, and easy installation. It will not rust because it's molded from the same choice TPE Material of some of our other products that you've come to know and trust.

Available for surface mount, or strut mount.

CUSH-A-CLIP

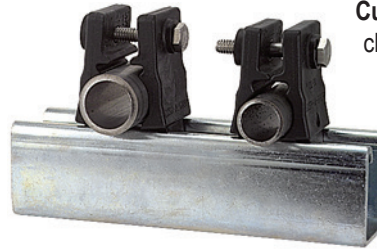
(See Page 73)



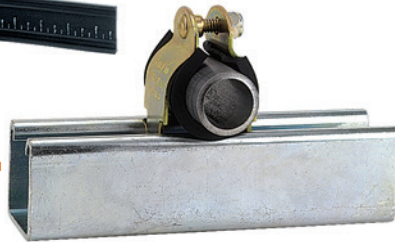
Cush-A-Clip is a simple, economical lightweight hanger for supporting tubing. The secure but non-tightening design allows for expansion, greatly reducing joint fractures

CUSH-A-GRIP

(See Page 74)



Cush-A-Grip non-metallic strut clamps allow quick and easy corrosion resistant attachment of pipe, tube, and hose to Z-Strut support channels. They offer a cost effective alternative to metallic clamps.



CUSH-A-STRIP™

(See Page 75)

CUSH-A-STRIP™ is manufactured from a thermoplastic elastomer, Cush-A-Strip™ is designed for use from -50°F to 275°F.

Cush-A-Strip™ is designed for use with standard steel clamps ranging from 1/4" tube to 6" pipe and is packaged in 20 Ft. rolls in an E-Z dispenser box.

The special locking lip edges ensure that Cush-A-Strip™ will remain in place with a balanced grip.

AIRSTRIP™

(See Page 76)



The **AIRSTRIP™** is designed to dampen the noise and vibration that can occur between piping or duct work and the supporting channel. Made from 64 durometer Santoprene, the AIRSTRIP™ is light weight, dependable, and long-lasting.



ALPHA SERIES™

(See Page 78)



ALPHA SERIES™ – Designed for the tough jobs, the Alpha Series™ U-Bolt Assembly secures pipe runs to any flat surface. The cushion design provides total load distribution, allowing the U-Bolt to become a full contact hanger, eliminating knife-edge loading.

The U-Bolt traps and secures the cushion in place to prevent lateral movement, while nylon insert locknuts provide a positive lock. Available in electro-galvanized steel or 316 stainless steel.

The Cushion is a thermoplastic elastomer.

Porce-A-Clamp™ Replaces Porcelain and Maple Cable Clamp. Assembly consists of thermoplastic elastomer cushion with plated or stainless steel clamp. Plated steel and stainless are both supplied with Silicon Bronze bolt and nut used to breakup the magnetic field around the cable at the clamping location.

Porce-A-Clamp™ offers a convenient alternative to troublesome porcelain since it is made from non-breakable material.

PORCE-A-CLAMP™

(See Page 79)



FLAME RETARDANT PRODUCTS

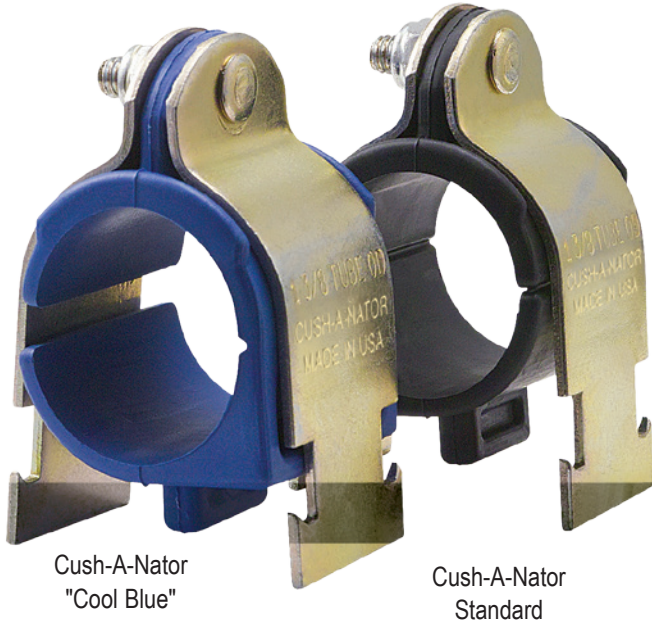
ZSi-Foster offers flame retardant options for many of the clamping products. They are available in two different types of cushion. The Flame Retardant/High Hardness cushion is designed for applications such as wire and cable insulation, electrical connectors, seals, gaskets and boots. The Halogen-Free/Flame Retardant cushions contain an optimal combination of rubbers and thermoplastics reactively combined with non halogenated flame retardant additives.

Flame retardant options are indicated by the logos shown below.





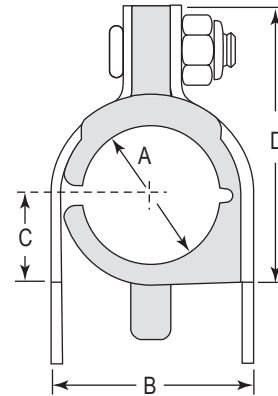
A NEW BREAKTHROUGH IN CUSHIONED CLAMPING DEVELOPED BY INDUSTRY LEADER ZSI



Cush-A-Nator
"Cool Blue"

Cush-A-Nator
Standard

The Cush-A-Nator® cushion is manufactured in the United States and made from a new incredibly durable thermoplastic rubber that resists high heat and provides longer life against vibration fatigue. The Cush-A-Nator is made from a proprietary thermoplastic vulcanized material cross-linked with high performance rubber and thermoplastic elastomers, which produces the highest operating temperature range in the industry.



Patent Pending

The Cush-A-Nator® is designed to provide the user with a choice of the highest heat range resistance of any cushion on the market or simply the advanced features of a superior design. *The Cush-A-Nator® is designed and manufactured in Michigan.*



Features

A Thumb Drive

The Cush-A-Nator® has the exclusive "Thumb Drive" that provides the installer a gripping point to easily open the cushion with the help of leverage tabs and a living hinge. Easy and effortlessly to install.

B Self-Alignment

Cushion can be opened and placed over the pipe or tube and rotated into place while on the channel and automatically aligned with the channel opening ready for clamping.

C Pressure Control

The Cush-A-Nator® cushion has a built in squeeze control as part of the cushion design. The side opening and the squeeze control tab provides evenly distributed pressure around the tube or pipe.

D Complete Clamping Unit

The Cush-A-Nator® is the only strut mounted cushion that is mechanically connected to the supporting steel clamp because the bolt passes through the squeeze control tab forming the single unit connection. This design helps prevent the cushion from excess vibration by being attached directly to the clamp.

Installation examples shown on page 8



Cush-A-Nator® “Cool Blue” has service temperatures of -65°F to 340°F (-53°C to 170°C).



Cush-A-Nator® standard has an operating range of -50°F to 275°F (-45°C to 135°C).

Cush-A-Nator® “Cool Blue” - Tube							
Part No.			O.D. Tube Size	Dimensions (inches)			
Steel	SS304	SS316		A	B	C	D
HT04	HT04SS	HT04S6	1/4"	0.25	0.62	0.27	0.98
HT06	HT06SS	HT06S6	3/8"	0.37	0.82	0.33	1.13
HT08	HT08SS	HT08S6	1/2"	0.50	0.94	0.40	1.34
HT10	HT10SS	HT10S6	5/8"	0.62	1.06	0.46	1.54
HT12	HT12SS	HT12S6	3/4"	0.75	1.20	0.52	1.68
HT14	HT14SS	HT14S6	7/8"	0.87	1.31	0.58	1.82
HT16	HT16SS	HT16S6	1"	1.00	1.44	0.65	1.95
HT18	HT18SS	HT18S6	1 1/8"	1.12	1.57	0.70	2.08
HT20	HT20SS	HT20S6	1 1/4"	1.25	1.70	0.77	2.21
HT22	HT22SS	HT22S6	1 3/8"	1.37	1.82	0.83	2.34
HT24	HT24SS	HT24S6	1 1/2"	1.50	1.95	0.90	2.47
HT26	HT26SS	HT26S6	1 5/8"	1.62	2.07	0.96	2.60
HT28	HT28SS	HT28S6	1 3/4"	1.75	2.20	1.02	2.73
HT30	HT30SS	HT30S6	1 7/8"	1.87	2.32	1.09	2.86
HT32	HT32SS	HT32S6	2"	2.00	2.45	1.15	3.04
HT34	HT34SS	HT34S6	2 1/8"	2.12	2.57	1.27	3.23
HT36	HT36SS	HT36S6	2 1/4"	2.25	2.82	1.41	3.67
HT38	HT38SS	HT38S6	2 3/8"	2.37	2.82	1.41	3.67
HT40	HT40SS	HT40S6	2 1/2"	2.50	2.94	1.46	3.79
HT42	HT42SS	HT42S6	2 5/8"	2.62	3.07	1.53	3.92
HT46	HT46SS	HT46S6	2 7/8"	2.87	3.32	1.66	4.17
HT48	HT48SS	HT48S6	3"	3.00	3.57	1.78	4.42
HT50	HT50SS	HT50S6	3 1/8"	3.12	3.57	1.78	4.42
HT56	HT56SS	HT56S6	3 1/2"	3.50	3.95	1.97	4.79
HT64	HT64SS	HT64S6	4"	4.00	4.45	2.28	5.11
HT66	HT66SS	HT66S6	4 1/8"	4.12	4.57	2.34	5.54
HT72	HT72SS	HT72S6	4 1/2"	4.50	4.95	2.53	5.92

Cush-A-Nator® Standard - Tube							
Part No.			O.D. Tube Size	Dimensions (inches)			
Steel	SS304	SS316		A	B	C	D
CN04	CN04SS	CN04S6	1/4"	0.25	0.62	0.27	0.98
CN06	CN06SS	CN06S6	3/8"	0.37	0.82	0.33	1.13
CN08	CN08SS	CN08S6	1/2"	0.50	0.94	0.40	1.34
CN10	CN10SS	CN10S6	5/8"	0.62	1.06	0.46	1.54
CN12	CN12SS	CN12S6	3/4"	0.75	1.20	0.52	1.68
CN14	CN14SS	CN14S6	7/8"	0.87	1.31	0.58	1.82
CN16	CN16SS	CN16S6	1"	1.00	1.44	0.65	1.95
CN18	CN18SS	CN18S6	1 1/8"	1.12	1.57	0.70	2.08
CN20	CN20SS	CN20S6	1 1/4"	1.25	1.70	0.77	2.21
CN22	CN22SS	CN22S6	1 3/8"	1.37	1.82	0.83	2.34
CN24	CN24SS	CN24S6	1 1/2"	1.50	1.95	0.90	2.47
CN26	CN26SS	CN26S6	1 5/8"	1.62	2.07	0.96	2.60
CN28	CN28SS	CN28S6	1 3/4"	1.75	2.20	1.02	2.73
CN30	CN30SS	CN30S6	1 7/8"	1.87	2.32	1.09	2.86
CN32	CN32SS	CN32S6	2"	2.00	2.45	1.15	3.04
CN34	CN34SS	CN34S6	2 1/8"	2.12	2.57	1.27	3.23
CN36	CN36SS	CN36S6	2 1/4"	2.25	2.82	1.41	3.67
CN38	CN38SS	CN38S6	2 3/8"	2.37	2.82	1.41	3.67
CN40	CN40SS	CN40S6	2 1/2"	2.50	2.94	1.46	3.79
CN42	CN42SS	CN42S6	2 5/8"	2.62	3.07	1.53	3.92
CN46	CN46SS	CN46S6	2 7/8"	2.87	3.32	1.66	4.17
CN48	CN48SS	CN48S6	3"	3.00	3.57	1.78	4.42
CN50	CN50SS	CN50S6	3 1/8"	3.12	3.57	1.78	4.42
CN56	CN56SS	CN56S6	3 1/2"	3.50	3.95	1.97	4.79
CN64	CN64SS	CN64S6	4"	4.00	4.45	2.28	5.11
CN66	CN66SS	CN66S6	4 1/8"	4.12	4.57	2.34	5.54
CN72	CN72SS	CN72S6	4 1/2"	4.50	4.95	2.53	5.92

Cush-A-Nator® “Cool Blue” - Pipe							
Part No.			Pipe Size	Dimensions (inches)			
Steel	SS304	SS316		A	B	C	D
HT14P	HT14PSS	HT14PS6	1/2"	0.840	1.29	0.58	1.82
HT17P	HT17PSS	HT17PS6	3/4"	1.050	1.57	0.70	2.08
HT21P	HT21PSS	HT21PS6	1"	1.315	1.76	0.81	2.34
HT30P	HT30PSS	HT30PS6	1 1/2"	1.900	2.32	1.09	2.86
HT38P	HT38PSS	HT38PS6	2"	2.375	2.82	1.41	3.67
HT46P	HT46PSS	HT46PS6	2 1/2"	2.875	3.32	1.66	4.17
HT56P	HT56PSS	HT56PS6	3"	3.500	3.95	1.97	4.79
HT64P	HT64PSS	HT64PS6	3 1/2"	4.000	4.45	2.28	5.11
HT72P	HT72PSS	HT72PS6	4"	4.500	4.95	2.53	5.92

Cush-A-Nator® Standard - Pipe							
Part No.			Pipe Size	Dimensions (inches)			
Steel	SS304	SS316		A	B	C	D
CN14P	CN14PSS	CN14PS6	1/2"	0.840	1.29	0.58	1.82
CN17P	CN17PSS	CN17PS6	3/4"	1.050	1.57	0.70	2.08
CN21P	CN21PSS	CN21PS6	1"	1.315	1.76	0.81	2.34
CN30P	CN30PSS	CN30PS6	1 1/2"	1.900	2.32	1.09	2.86
CN38P	CN38PSS	CN38PS6	2"	2.375	2.82	1.41	3.67
CN46P	CN46PSS	CN46PS6	2 1/2"	2.875	3.32	1.66	4.17
CN56P	CN56PSS	CN56PS6	3"	3.500	3.95	1.97	4.79
CN64P	CN64PSS	CN64PS6	3 1/2"	4.000	4.45	2.28	5.11
CN72P	CN72PSS	CN72PS6	4"	4.500	4.95	2.53	5.92

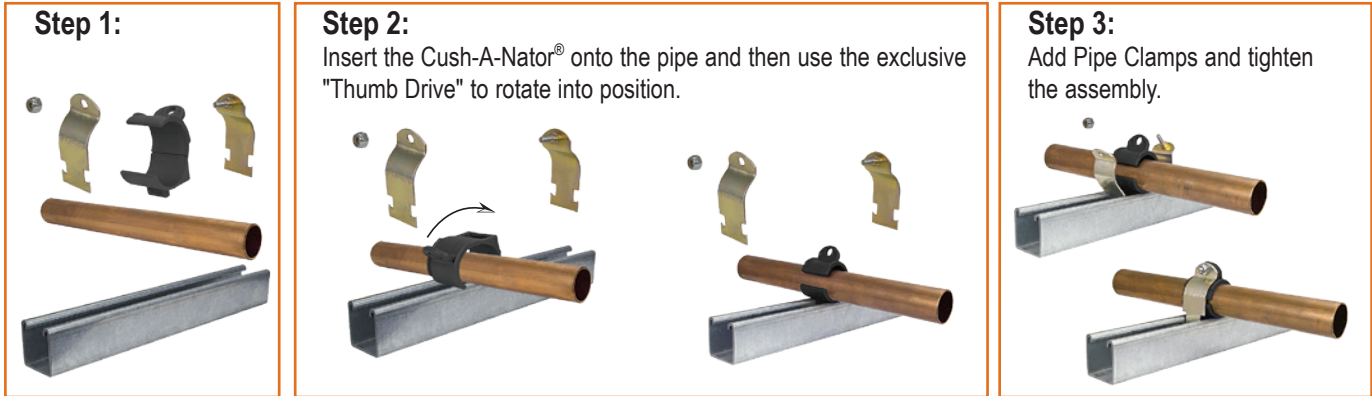
Contact Factory for Additional Sizes

Contact Factory for Additional Sizes

Cushioned Clamping
Insulating Clamping
Loop & Hose Clamps
Cush-A-Block
Z-Strut Channels
Beta Clamps
Z-Clamps
Gamma Pads



Cush-A-Nator® – New Installations



Cush-A-Nator® – Retrofit / Replacement Applications

A key feature of the Cush-A-Nator® is this ability to place the cushion and rotate into position. *Perfect for retrofit applications!*

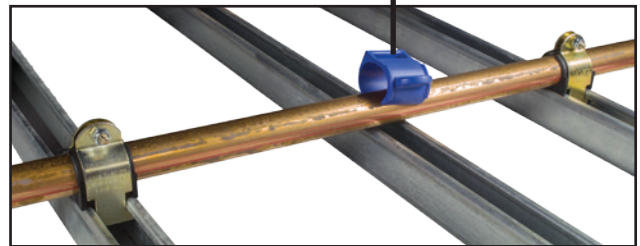
Retrofit - The Common Problem

Replacing a cush-a-clamp within a long pipe run poses a problem. Clamps before and after the one to be replaced prohibit the pipe from being raised so that the new cushion can be installed correctly. All too often a work-around is used which compromises the connection.

Retrofit - The Perfect Solution

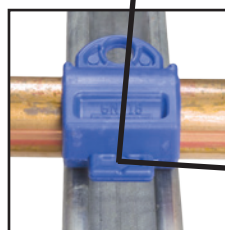
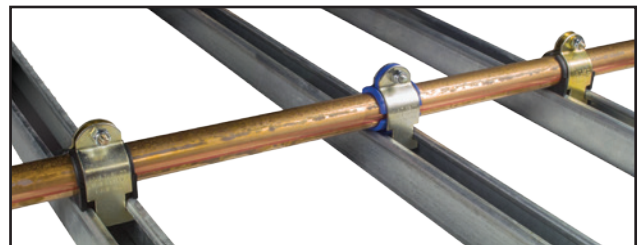
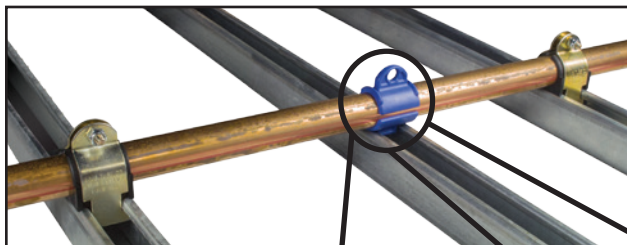
Step 1: Remove Bad Cushion.

Step 2: The Cush-A-Nator can be installed without raising the pipe. The unique "Thumb Drive" allows you to rotate the Cush-A-Nator into position.

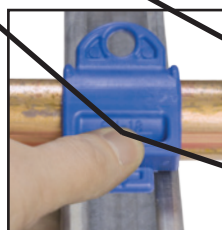


Step 3: Rotated into place while on the channel and the Self-Alignment tab automatically aligns with the channel opening ready for clamping.

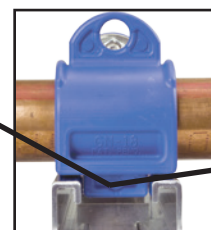
Step 3: Add Pipe Clamps and tighten the assembly.



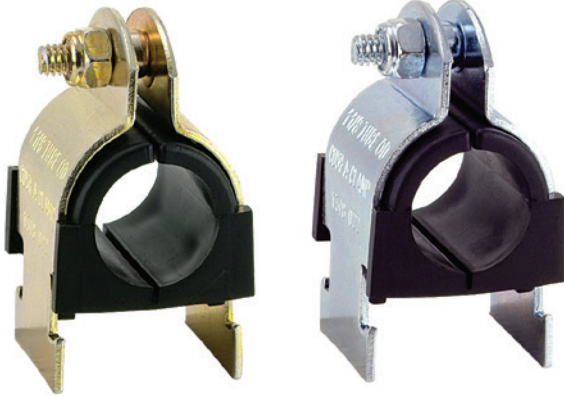
Rotate into Position



Thumb Drive

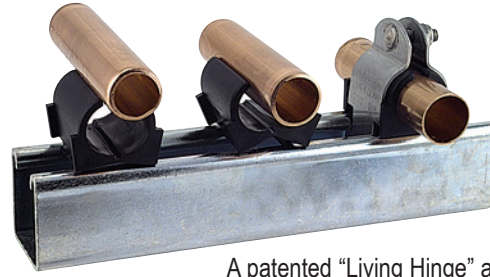


"Self-Alignment"



Gold Electro-Galvanized Steel

Stainless Steel

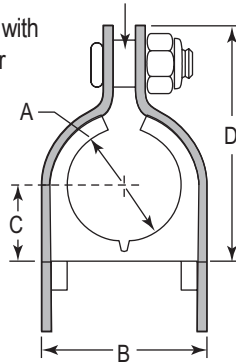


A patented "Living Hinge" allows the cushion to be spread apart for quick, easy installation.

CUSH-A-CLAMP® — Channel mounted clamping systems are ideal for multiple line runs, while absorbing shock and vibration, reducing unwanted noise and preventing galvanic corrosion. Cush-A-Clamp® fits any standard 1-5/8" wide channel.

Assembly consisting of steel clamp with locknut and thermoplastic elastomer cushion. All parts are marked for easy identification and packaged for small lot or bulk use. When specified, Cush-A-Clamp® assemblies up to 2", are available individually packaged.

Controlled Squeeze Shoulder Bolt



THE CLAMP — Features a unique shoulder stud which is securely fastened to one clamp half. Steel clamps for tube sizes up to 1-3/8" have the "Controlled Squeeze™" design which eliminates over-tightening and rotation while a nylon-insert nut assures a positive lock. Clamps are available in steel (with electro-dichromate finish), and stainless steel type 304. (Contact factory for type 316).

THE CUSHION — Made from a thermoplastic elastomer, it's built tough to withstand the effects of most oils, chemicals and industrial cleaning compounds, in temperatures from -50°F to 275°F. Interlock edges and channel locator legs ensure that the cushion remains in place.

INSTALLATION — One man, one tool time savings. Retrofits can be added without disassembly. A patented "Living Hinge" allows the cushion to be spread apart for quick, easy installation on sizes from 1/4" through 1-3/4".

Loading Values Mounted in Standard 12 Gage Channel.					
Nut	Torque (in-lbs)	Products	Pullout (lbs)	Slip (lbs)	
				Along	Through
1/4"	40	004T008 - 022T026	1,000	100	100
5/16"	60	024T028 - 050N056	2,200	200	200
3/8"	150	053N050 - 106N114	3,600	600	350

Loads are the same for Stainless Steel Clamps (Example 024NS028)

Steel Part No.	Stainless-Steel Part No.	Dimension "A"			Dimensions (inches)			
		*Copper and Steel Tubing	Copper Water Pipe (Nom.)	Nom. Pipe Size	A	B	C	D
004T008	004NS008	1/4"	-	-	0.25	0.62	0.27	0.98
006T010	006NS010	3/8"	1/4"	-	0.37	0.82	0.33	1.13
008T012	008NS012	1/2"	3/8"	-	0.50	0.94	0.40	1.34
009N012	009NS012	-	-	1/4"	0.54	0.98	0.43	1.34
010T014	010NS014	5/8"	1/2"	-	0.62	1.06	0.46	1.54
011N014	011NS014	-	-	3/8"	0.67	1.13	0.49	1.54
012T016	012NS016	3/4"	5/8"	-	0.75	1.20	0.52	1.68
014N018	014NS018	-	-	1/2"	0.84	1.29	0.58	1.82
014T018	014NS018	7/8"	3/4"	-	0.87	1.31	0.58	1.82
016T020	016NS020	1"	-	-	1.00	1.44	0.65	1.95
017N022	017NS022	-	-	3/4"	1.05	1.57	0.70	2.08
018T022	018NS022	1-1/8"	1"	-	1.12	1.57	0.70	2.08
020T024	020NS024	1-1/4"	-	-	1.25	1.70	0.77	2.21
021N026	021NS026	-	-	1"	1.31	1.76	0.81	2.34
022T026	022NS026	1-3/8"	1-1/4"	-	1.37	1.82	0.83	2.34
024N028	024NS028	1-1/2"	-	-	1.50	1.95	0.90	2.47
026N030	026NS030	1-5/8"	1-1/2"	-	1.62	2.07	0.96	2.60
027N032	027NS032	-	-	1-1/4"	1.66	2.17	0.99	2.73
028N032	028NS032	1-3/4"	-	-	1.75	2.2	1.02	2.73
030N034	030NS034	1-7/8"	-	1-1/2"	1.90	2.32	1.09	2.86
032N036	032NS036	2"	-	-	2.00	2.45	1.15	3.04
034N040	034NS040	2-1/8"	2"	-	2.12	2.57	1.27	3.23
038N042	038NS042	2-1/4"	-	-	2.37	2.82	1.41	3.67
038N044	038NS044	2-3/8"	-	2"	2.37	2.82	1.41	3.67
040N046	040NS046	2-1/2"	-	-	2.50	2.94	1.46	3.79
042N048	042NS048	2-5/8"	2-1/2"	-	2.62	3.07	1.53	3.92
046N052	046NS052	2-7/8"	-	2-1/2"	2.87	3.32	1.66	4.17
050N054	050NS054	3"	-	-	3.00	3.57	1.78	4.42
050N056	050NS056	3-1/8"	3"	-	3.12	3.57	1.78	4.42
053N060	053NS060	3-5/16"	-	-	3.31	3.96	1.90	4.75
056N062	056NS062	3-1/2"	-	3"	3.50	3.95	1.97	4.79
058N064	058NS064	3-5/8"	3-1/2"	-	3.62	4.20	2.03	5.11
064N072	064NS072	4"	-	3-1/2"	4.00	4.45	2.28	5.11
066N074	066NS074	4-1/8"	4"	-	4.12	4.57	2.34	5.54
069N076	069NS076	4-5/16"	-	-	4.34	4.96	2.40	5.84
072N080	072NS080	4-1/2"	-	4"	4.50	4.95	2.53	5.92
082N090	082NS090	5-1/8"	5"	-	5.12	5.57	2.84	6.54
089N096	089NS096	-	-	5"	5.56	6.01	3.06	6.92
096N106	096NS106	6"	-	-	6.00	6.57	3.34	7.54
098N106	098NS106	6-1/8"	6"	-	6.12	6.57	3.34	7.54
106N114	106NS114	-	-	6"	6.62	7.07	3.59	8.23

*Tube O.D. is Cushion I.D. ; Design load deflection data available on request.



CUSH-A-CLAW



Strut Mounted

Insert	Twist & Lock	Position Pipe	Snap In



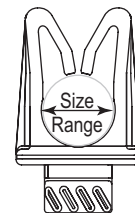
Surface Mounted

Position	Mount w/Screw	Position Pipe	Snap In
Side grooves provide Centering guide	Counter-sunk hole allows tightening of any type of #10 fastener		

The Cush-A-Claw Grabs on to your Tube, Pipe, or Hose and holds it in place. The unique one piece patent pending design allows for quick, simple, and easy installation. It will not rust because it's molded from the same choice TPE Material of some of our other products that you've come to know and trust.

- Easy Snap-in Installation of Tube, Pipe, or Hose
- Sure Grip Strut Base easily rotates into strut
- Will not Rust
- Non Conducting
- Saves Time and Money
- Temp Range: -50° to 275° F
- Works Great Indoors or Outdoors
- Six Sizes of Tube and Three Sizes of EMT
- Designed for Light Duty Loads and Applications
- Prevents Galvanic Corrosion of Dissimilar Metals
- An Excellent Alternative to Steel, Stainless Steel, or Galvanized Clamps.

O.D. Tube Size				EMTS Conduit Sizes			
Strut Mount Part #	Surface Mount Part #	Size		Strut Mount Part #	Surface Mount Part #	Size	
		O.D.	In.			O.D.	In.
CL-04	CLS-04	¼"	0.250	EMT-1/2	EMTS-1/2	½"	0.706
CL-06	CLS-06	⅜"	0.375	EMT-3/4	EMTS-3/4	¾"	0.922
CL-08	CLS-08	½"	0.500	EMT-1	EMTS-1	1"	1.163
CL-10	CLS-10	⅝"	0.625				
CL-12	CLS-12	¾"	0.750				
CL-14	CLS-14	⅞"	0.875				
CL-18	CLS-18	1⅛"	1.125				

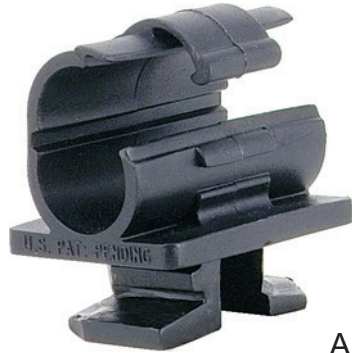


75 Lbs. Load
(safety Factor 3)



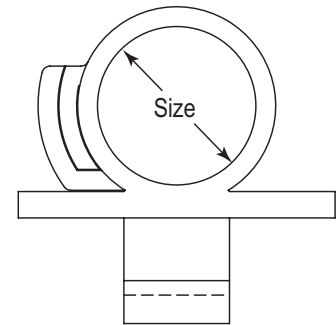
Cush-A-Claw® is manufactured under U.S. patent D631739

CUSH-A-CLIP



- Manufactured from polyamide alloy
- U.L. Rated
- Sizes from 3/8" to 1 1/8"
- One piece design makes installation a snap.
- No nuts to tighten, no parts to lose.
- Temperatures from -40°F to 275°F
- Secure but non-tightening design allows for expansion, greatly reducing joint fractures

A SIMPLE, ECONOMICAL,
LIGHTWEIGHT HANGER FOR
SUPPORTING TUBING

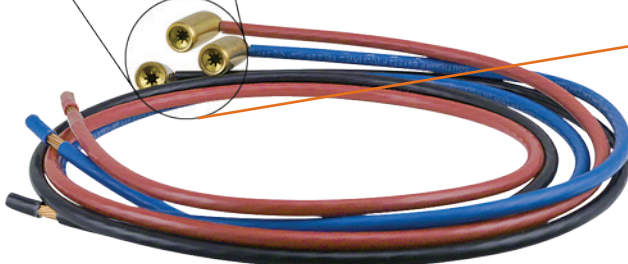
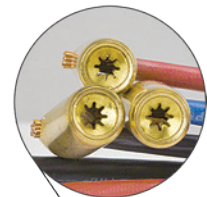


Part Number	Tube Sizes Only	
	O.D.	In.
RPC-3/8	3/8"	0.375"
RPC-1/2	1/2"	0.500"
RPC-5/8	5/8"	0.625"
RPC-3/4	3/4"	0.750"
RPC-7/8	7/8"	0.875"
RPC-1-1/8	1-1/8"	1.125"

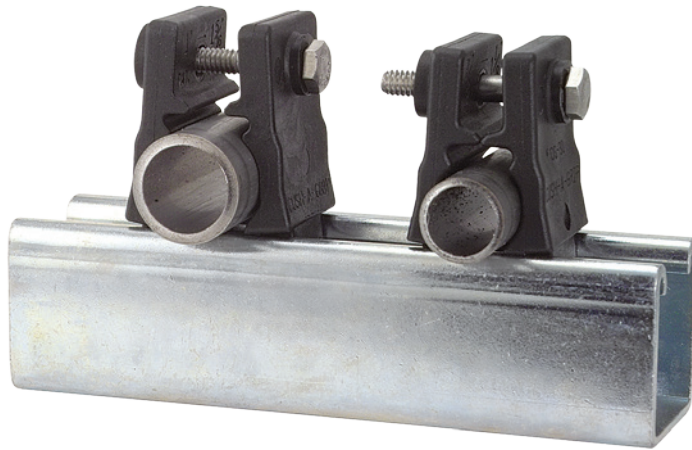
GATOR-LOK HVAC Terminal Repair Kit

Our patented design was made to be one-of-a-kind with not 1 but 2 layers of "Lok"ing technology. Constructed with 10 gauge, 30 inch copper-wire leads.

- Two layers of "Lok"ing technology
- No need for tools
- Easily replaces damaged wire leads
- Installs in under five minutes
- Part number is GL-1000



Patent #: 7854635



Multi-size adjustment capability allows four clamp sizes to fit fifteen sizes of tube and pipe. Comes complete with stainless steel bolt and captured nut hardware.

FEATURES

- Ten sizes of tube, five sizes of pipe
- Diameters from .25" to 1.31" (6mm to 32mm)

ADVANTAGES

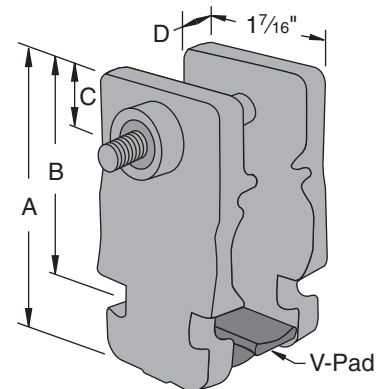
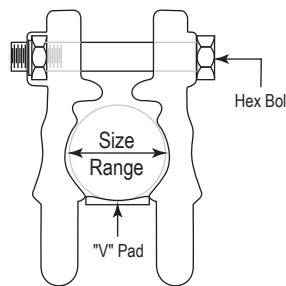
- Reduces inventory SKU's
- Simplifies take-offs and requirements on projects using both tube and pipe sizes
- Easy installation, Non conducting
- Permissible outdoors
- Temperature range: -40°F to +380°F
- No galvanic reaction, Will not rust

BENEFITS

- Lowers overall inventory costs
- Works with screw or nut driver
- Resists vibration
- Use in place of steel clamps with steel tube
- Multi-environmental
- Covers a wide range of applications and maintains thermal barrier
- For use on copper tube
- Use in place of stainless, aluminum, PVC or hot dipped galvanized clamps



Patented Product



Part No.	O.D. Tube Sizes		Pipe Sizes	Metric Sizes	Diameters (in)
CG-10	1/4"	3/8"	1/2"	1/4"	6mm – 14mm 0.25 – 0.54
CG-20	5/8"	3/4"	7/8"	3/8" – 1/2"	15mm – 22mm 0.62 – 0.87
CG-30	7/8"	1"	1-1/8"	3/4"	22mm – 28mm 0.87 – 1.12
CG-40	1"	1-1/8"	1-1/4"	3/4" – 1"	26mm – 32mm 1.00 – 1.31

Part No.	Nominal Pipe Size	Dimensions				Hex Head Cap Screw & Lock Nut
		"A"	"B"	"C"	"D"	
CG-10	1/4"	1-15/16"	1-3/8"	3/8"	3/16"	1/4"-20 x 1-1/2"
CG-20	3/8"	2-3/8"	1-5/8"	7/16"	1/4"	1/4"-20 x 2"
CG-30	1/2"	2-9/16"	1-13/16"	7/16"	5/16"	1/4"-20 x 2"
CG-40	3/4"	2-11/16"	1-15/16"	7/16"	5/16"	1/4"-20 x 2"

- Manufactured from a thermoplastic elastomer, Cush-A-Strip™ is designed for use from -50°F to 275°F.
- Easy Stocking – Packaged in 20 foot rolls in an E-Z dispenser box for convenience in handling and storage. **Cush-A-Strip™ roll part number is S-716**
- Easy Measuring – Marked in 1/4" increments for fast measuring and cutting, while eliminating waste.
- Lock-lip edges ensure that Cush-A-Strip™ will remain in place with a balanced grip.
- Clamps ordered separately. They are available with a standard bolt and nylon lock nut in steel (electro-dichromate), and stainless steel, in sizes ranging from 1/4" tube to 6" pipe.



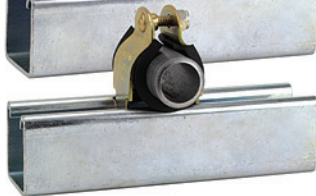
(1) Cut appropriate length strip using the cutting schedule shown on right.



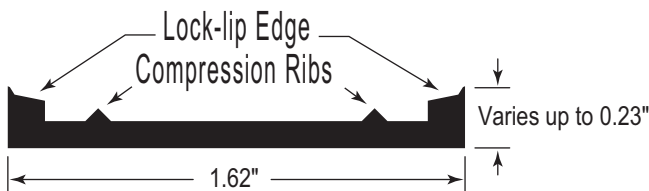
(2) Place the pipe on the Cush-A-Strip™



(3) Insert the clamps in the strut



(4) Tighten the clamps.



Cush-A-Strip™ Cutting Guide					
Clamp Part No.		Dimensions (Inches)			
Gold Plated Steel	Stainless Steel Type 304	Clamp Size O.D.	Tube Size O.D.	Pipe Size (Nom.)	Cutting Schedule
N008C	NS008	1/2"	1/4"	-	7/8
N010C	NS010	5/8"	3/8"	-	1-1/8
N012C	NS012	3/4"	1/2"	1/4"	1-1/2
N014C	NS014	7/8"	5/8"	3/8"	2
N016C	NS016	1"	3/4"	-	2-1/4
N018C	NS018	1-1/8"	7/8"	1/2"	3
N020C	NS020	1-1/4"	1"	3/4"	3-1/4
N022C	NS022	1-3/8"	1-1/8"	-	3-5/8
N024C	NS024	1-1/2"	1-3/16"	-	3-7/8
N024C	NS024	1-1/2"	1-1/4"	1"	4
N026C	NS026	1-5/8"	1-3/8"	-	4-1/2
N028C	NS028	1-3/4"	1-1/2"	-	4-7/8
N030C	CS030	1-7/8"	1-5/8"	1-1/4"	5-1/4
N032C	CS032	2"	1-3/4"	-	5-1/2
N034C	CS034	2-1/8"	1-7/8"	1-1/2"	6
N036C	CS036	2-1/4"	2"	-	6-3/8
N038C	CS038	2-3/8"	2-1/8"	-	6-3/4
N040C	CS040	2-1/2"	2-1/4"	-	7-1/4
N042C	CS042	2-5/8"	2-3/8"	2"	7-1/2
N044C	CS044	2-3/4"	2-1/2"	-	8
N048C	CS048	3"	2-3/4"	-	8-3/4
N050C	CS050	3-1/8"	2-7/8"	2-1/2"	9-1/4
N054C	CS054	3-1/4"	3"	-	9-1/2
N060C	CS060	3-3/4"	3-1/2"	3"	11
N068C	CS068	4-1/4"	4"	3-1/2"	12-1/4
N076C	CS076	4-3/4"	4-1/2"	4"	14
N092C	CS092	5-3/4"	-	5"	15-1/2
N110C	CS110	6-7/8"	-	6"	18-1/2

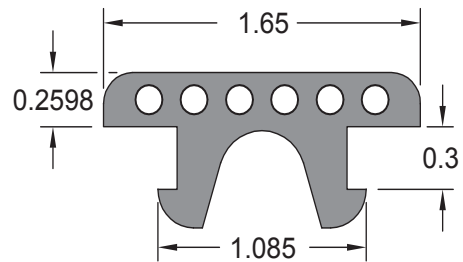
* Gold Plated Steel Clamps Supplied with Fixed Stud and Nylon Lock Nut
 * Stainless Steel Clamps Supplied with fixed Stud and Nylon Lock Nut from 1/2" through 1-3/4" Sizes and 1-7/8" through 6-7/8" Sizes are supplied with a Loose Bolt and Hex Nut



The AIRSTRIP™ is designed to dampen the noise and vibration that can occur between piping or duct work and the supporting channel. Made from 64 Durometer Santoprene, the AIRSTRIP™ is light weight, dependable, and long-lasting.

Part No.	Max. Load Lbs. per Lineal In.		Length	
	Lbs.	(kg/25.4mm)	Ft.	(m)
AS1	40	18.1	10	3.05

- Temp Range: -40°F to 250°F (-40°C to 121°C)
- Available in 10' lengths
- Santoprene UL94HB rated
- Made in USA



Installs simply by pushing into place

To remove, squeeze the tabs at the end and push up





Gold Electro-Galvanized Steel

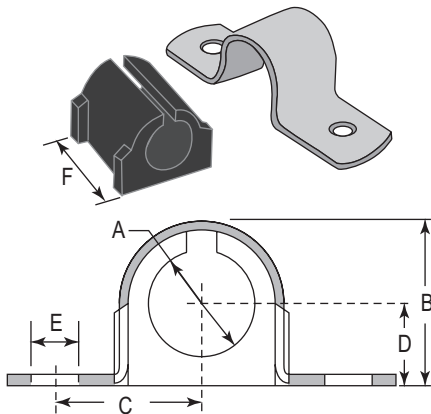


Stainless Steel

The Omega Series™ clamp assembly retains, guides, protects and uniformly spaces line runs. Attached with two standard fasteners to any flat surface, the Omega Series™ clamp eliminates the use of special channels, providing a savings in both space and cost. They go up fast, lines are rigid and look neat.

THE CLAMP — Steel with electro-dichromate finish, or stainless steel type 304.

THE CUSHION — Manufactured from a thermoplastic elastomer, it's built tough to withstand the effects of most oils, chemicals and industrial cleaning compounds, in temperatures from -50°F to 275°F. Interlock edge ensures that the cushion remains in place.



Assembly consists of clamp and thermoplastic elastomer cushion. Fasteners not included.

Steel Part No.	Stainless Steel Part No.	Copper & Steel Tubing O.D.	Copper Water Pipe (Nom.)	Pipe Size (Nom.)	Dimensions (inches)						Hanging Design Load
					A	B	C	D	E	F	
004M007	004MS007	1/4"	-	-	0.25	0.48	0.60	0.22	0.26	0.78	50
006M008	006MS008	3/8"	1/4"	-	0.37	0.62	0.66	0.31	0.26	0.81	50
008M011	008MS011	1/2"	3/8"	1/4"	0.50	0.81	0.83	0.40	0.26	0.98	50
010M013	010MS013	5/8"	1/2"	3/8"	0.62	0.93	0.85	0.46	0.26	0.98	50
012M015	012MS015	3/4"	5/8"	-	0.75	1.02	0.90	0.50	0.26	0.98	50
014M017	014MS017	7/8"	3/4"	1/2"	0.87	1.12	1.03	0.53	0.26	0.98	50
016M019	016MS019	1"	-	-	1.00	1.24	1.04	0.59	0.26	0.98	50
018M020	018MS020	-	-	3/4"	1.05	1.40	1.11	0.70	0.26	0.98	50
018M021	018MS021	1-1/8"	1"	-	1.12	1.40	1.17	0.70	0.26	0.98	50
020M024	020MS024	1-1/4"	-	-	1.25	1.60	1.20	0.77	0.26	1.56	50
021M026	021MS026	-	-	1"	1.31	1.71	1.28	0.81	0.26	1.56	50
022M026	022MS026	1-3/8"	1-1/4"	-	1.37	1.71	1.28	0.83	0.26	1.56	50
024M028	024MS028	1-1/2"	-	-	1.50	1.85	1.36	0.90	0.26	1.56	200
026M030	026MS030	1-5/8"	1-1/2"	-	1.62	1.98	1.43	0.96	0.26	1.56	200
027M032	027MS032	-	-	1-1/4"	1.66	2.12	1.55	0.99	0.34	1.56	400
028M032	028MS032	1-3/4"	-	-	1.75	2.12	1.55	1.02	0.34	1.56	400
030M034	030MS034	1-7/8"	-	1-1/2"	1.87	2.25	1.64	1.09	0.34	1.56	400
032M036	032MS036	2"	-	-	2.00	2.38	1.69	1.15	0.34	1.56	400
034M040	034MS040	2-1/8"	-	-	2.12	2.62	1.86	1.27	0.34	1.56	400
038M044	038MS044	2-3/8"	-	2"	2.37	2.88	1.94	1.41	0.34	1.56	400
040M046	040MS046	2-1/2"	-	-	2.50	3.00	2.00	1.47	0.34	1.56	400
042M048	042MS048	2-5/8"	2-1/2"	-	2.62	3.13	2.07	1.53	0.34	1.56	400
046M052	046MS052	2-7/8"	-	2-1/2"	2.87	3.38	2.19	1.65	0.34	1.56	400
050M056	050MS056	3-1/8"	3"	-	3.12	3.68	2.32	1.78	0.34	1.56	400
056M062	056MS062	3-1/2"	-	3"	3.50	4.06	2.50	1.97	0.34	1.56	400
058M064	058MS064	3-5/8"	3-1/2"	-	3.62	4.19	2.57	2.03	0.34	1.56	700
064M072	064MS072	4"	-	3-1/2"	4.00	4.68	2.82	2.28	0.34	1.56	700
066M074	066MS074	4-1/8"	4"	-	4.12	4.84	3.05	2.34	0.43	1.56	800
072M080	072MS080	4-1/2"	-	4"	4.50	5.22	3.24	2.53	0.43	1.56	800
082M090	082MS090	5-1/8"	5"	-	5.12	5.82	3.55	2.84	0.43	1.56	800
089M096	089MS096	-	-	5"	5.56	6.31	4.00	3.06	0.56	1.56	1,200
098M106	098MS106	6-1/8"	6"	-	6.12	6.90	4.31	3.34	0.56	1.56	1,200
106M114	106MS114	-	-	6"	6.62	7.39	4.56	3.58	0.56	1.56	1,200

PART NO. SUFFIX	Cushions	Example
NONE	Thermoplastic elastomer	004M007 (STEEL) 004MS007 (STAINLESS STEEL)
N	Flame Retardant	004M007N (STEEL) 004MS007N (STAINLESS STEEL)
NH	Flame Retardant Halogen Free	004M007NH (STEEL) 004MS007NH (STAINLESS STEEL)

Note: Fasteners not included.

Cushioned Clamping

Insulating Clamping

Loop & Hose Clamps

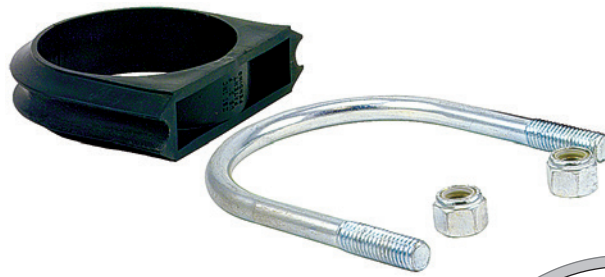
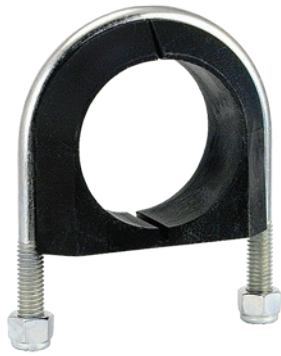
Cush-A-Block

Z-Strut Channels

Beta Clamps

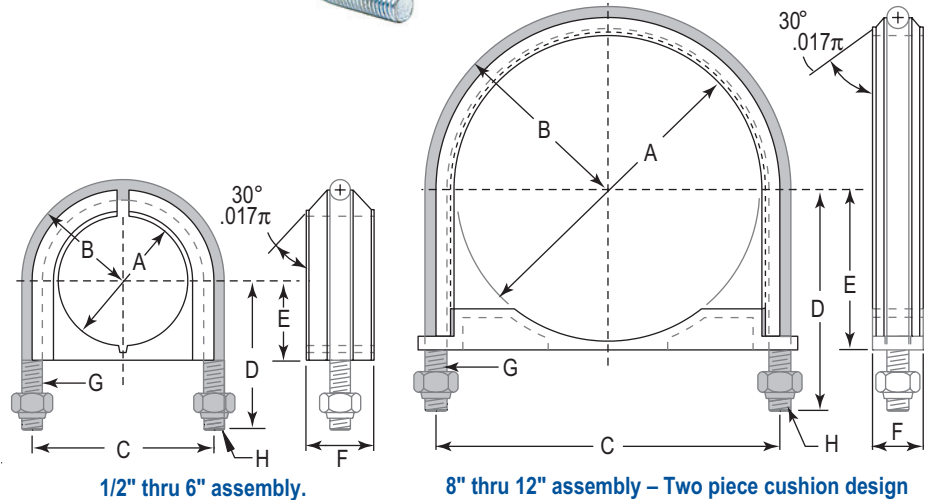
Z-Clamps

Gamma Pads



Designed for the tough jobs, the **Alpha Series™** U-Bolt Assembly secures pipe runs to any flat surface. The cushion design provides total load distribution, allowing the U-Bolt to become a full contact hanger, eliminating knife-edge loading. The U-Bolt traps and secures the cushion in place to prevent lateral movement, while nylon insert locknuts provide a positive lock.

Alpha Series™ U-Bolt Assembly conforms to MIL-S-901D for shock testing.



Assy. Part No.	Pipe Size (Nom.)	Dimensions (Inches)								Torque	Design Load	Slip Through
		A Dia.	B Radius	C	D	E	F	G	H			
UB1/2PA	1/2"	0.840	0.80	1.60	1.50	0.67	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB3/4PA	3/4"	1.05	0.90	1.80	1.60	0.78	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB1PA	1"	1.31	1.02	2.05	1.70	0.91	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB1-1/4PA	1-1/4"	1.66	1.27	2.55	2.10	1.08	1.24	3/8	3/8-16 UNC-2B	150	1,220	500
UB1-1/2PA	1-1/2"	1.90	1.40	2.80	2.20	1.19	1.24	3/8	3/8-16 UNC-2B	150	1,220	500
UB2PA	2"	2.37	1.67	3.35	2.50	1.45	1.24	3/8	3/8-16 UNC-2B	150	1,220	500
UB2-1/2PA	2-1/2"	2.87	1.95	3.90	3.00	1.69	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB3PA	3"	3.50	2.27	4.55	3.30	2.00	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB3-1/2PA	3-1/2"	4.00	2.52	5.05	3.70	2.25	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB4PA	4"	4.50	2.50	5.50	3.90	2.50	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB5PA	5"	5.56	3.25	6.56	4.50	3.03	1.24	1/2	1/2-13 UNC-2B	200	2,260	500
UB6PA	6"	6.62	3.87	7.75	5.40	3.56	1.44	5/8	5/8-11 UNC-2B	250	3,620	500
UB8PA	8"	8.62	4.85	9.82	6.40	4.56	1.44	5/8	5/8-11 UNC-2B	250	3,620	500
UB10PA	10"	10.75	6.08	12.16	7.70	5.68	1.65	3/4	3/4-10 UNC-2B	275	5,420	500
UB12PA	12"	12.75	7.13	14.25	8.70	6.68	1.65	3/4	3/4-10 UNC-2B	275	5,420	500

Assy. Part No.	Tube Size (O.D.)	Dimensions (Inches)								Torque	Design Load	Slip Through
		A Dia.	B Radius	C	D	E	F	G	H			
UB7/8TA	7/8"	0.875	0.80	1.60	1.50	0.67	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB1TA	1"	1.00	0.90	1.80	1.60	0.78	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB11/4TA	1-1/4"	1.25	1.02	2.05	1.70	0.91	0.68	1/4	1/4-20 UNC-2B	100	485	500
UB1 3/8TA	1-3/8"	1.375	1.02	2.05	1.70	0.91	0.68	1/4	1/4-20 UNC-2B	100	485	500

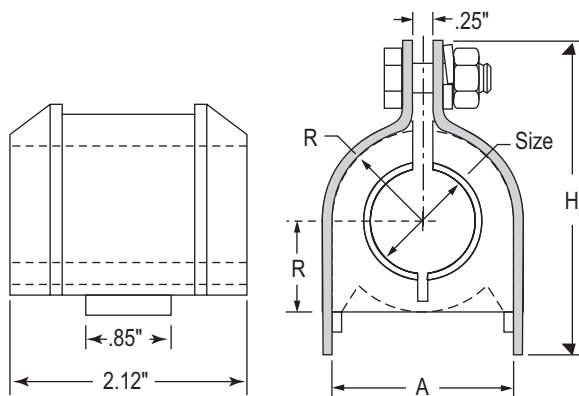
SUFFIX	Clamp	Cushion	Example
NONE	Electro-galvanized	Thermoplastic elastomer	UB1/2PA
6	Stainless Steel, Type 316	Thermoplastic elastomer	UB1/2PA6
N6	Stainless Steel, Type 316	 Flame Retardant	UB1/2PAN6
N	Electro-galvanized		UB1/2PAN
NH	Electro-galvanized	 Flame Retardant Halogen Free	UB1/2PANH
NH6	Stainless Steel, Type 316		UB1/2PANH6



The hinged cushion allows easy installation of the wire, but the components will not get separated and lost or broken.

Replaces Porcelain and Maple Cable Clamp. Assembly consists of thermoplastic elastomer cushion with plated or stainless steel clamp. Plated steel and stainless are both supplied with Silicon Bronze bolt and nut.

- Non-breakable material
- Chemical and UV resistant
- **U.L. Listed** - Burning stops within 10 seconds after two applications of ten seconds each of a flame to a test bar with no flaming drips.
- Plated Steel, or Stainless steel clamps
- Tapered flange to protect cable
- Dielectric strength 640 volts per mil
- One piece cushion design, available with Flame retardant / Halogen Free cushions
- Silicon Bronze Hardware used to Breakup the Magnetic field around the Cable at the Clamping Location.



Part No.	Dimensions (Inches)			Total Assy. Height - H
	Hole Dia.	A	R	
006CC018	3/8	1.12	0.56	1.82
008CC018	1/2	1.12	0.56	1.82
010CC018	5/8	1.12	0.56	1.82
012CC026	3/4	1.62	0.81	2.34
014CC026	7/8	1.62	0.81	2.34
016CC026	1	1.62	0.81	2.34
018CC026	1-1/8	1.62	0.81	2.34
020CC034	1-1/4	2.12	1.06	2.86
022CC034	1-3/8	2.12	1.06	2.86
024CC034	1-1/2	2.12	1.06	2.86
026CC034	1-5/8	2.12	1.06	2.86
028CC042	1-3/4	2.62	1.31	3.50
030CC042	1-7/8	2.62	1.31	3.50
032CC042	2	2.62	1.31	3.50
034CC042	2-1/8	2.62	1.31	3.50
036CC050	2-1/4	3.12	1.56	4.05
038CC050	2-3/8	3.12	1.56	4.05
040CC050	2-1/2	3.12	1.56	4.05
042CC050	2-5/8	3.12	1.56	4.05
044CC058	2-3/4	3.62	1.81	4.75
046CC058	2-7/8	3.62	1.81	4.75
048CC058	3	3.62	1.81	4.75
050CC058	3-1/8	3.62	1.81	4.75
052CC066	3-1/4	4.12	2.06	5.125
054CC066	3-3/8	4.12	2.06	5.125
056CC066	3-1/2	4.12	2.06	5.125
058CC066	3-5/8	4.12	2.06	5.125
060CC074	3-3/4	4.62	2.31	5.54
062CC074	3-7/8	4.62	2.31	5.54
064CC074	4	4.62	2.31	5.54
066CC074	4-1/8	4.62	2.31	5.54
068CC080	4-1/4	5.00	2.50	5.92
070CC080	4-3/8	5.00	2.50	5.92
072CC080	4-1/2	5.00	2.50	5.92

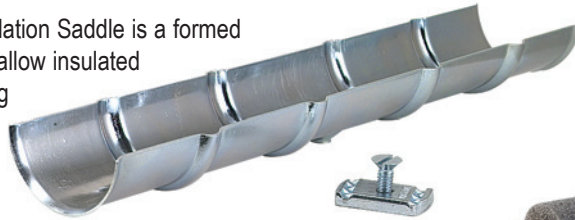
Note: All clamps have Silicon Bronze Hardware

SUFFIX	Clamp	Cushion	Example
Z	Plated Steel	Flame Retardant	006CC018Z
S	Stainless Steel	Flame Retardant	006CC018S
ZH	Plated Steel	Flame Retardant Halogen Free	006CC018ZH
SH	Stainless Steel	Flame Retardant Halogen Free	006CC018SH



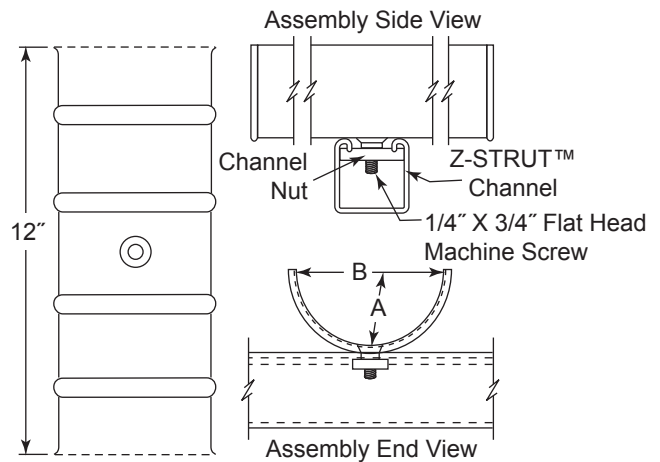
INSULATION SADDLE

The Saddle-Up Pipe Insulation Saddle is a formed metal shield designed to allow insulated refrigeration pipe or tubing to pass through the support without need to compromise the vapor barrier and protects from crushing or damage at hanger and support locations. Made from 20 gage electro-galvanized steel the ribbed design along its 12 inch length offers the superior support needed to spread out loading on insulation which reduces the potential for internal cavity creation between the pipe and insulation. The Z-Strut mounting option provides a time tested secure and safe attachment method so there is no need for other tie downs to the support.



OTHER FEATURES INCLUDE:

- Shipped with all necessary hardware to attach to Z-Strut or any other industry standard 1 5/8" wide strut channel.
- Features flared edges to protect pipe insulation jacketing.
- Each Saddle individually marked with part number
- Counter Sunk attachment Hole and Flat Head Machine Screw prevent possible damage to insulation.
- Electro-Galvanized Steel provides excellent rust protection and has no exposed fabricated edges.

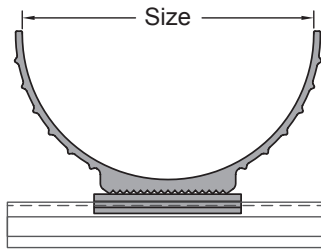
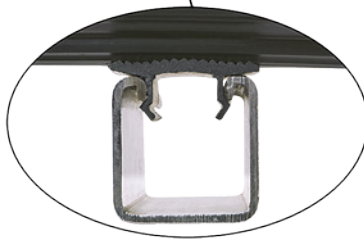


Dimensions (Inches)			1/2" Insulation		3/4" Insulation		1" Insulation		1 1/2" Insulation	
Part Number	B Width	A Radius	OD Tube Size	OD With Insulation	OD Tube Size	OD With Insulation	OD Tube Size	OD With Insulation	OD Tube Size	OD With Insulation
SD150	1 1/2	3/4	3/8	1 3/8	-	-	-	-	-	-
			1/2	1 1/2	-	-	-	-	-	-
SD200	2	1	5/8	1 5/8	3/8	1 1/8	-	-	-	-
			3/4	1 3/4	1/2	2	-	-	-	-
			7/8	1 7/8	-	-	-	-	-	-
SD250	2 1/2	1 1/4	1 1/8	2 1/8	5/8	2 1/8	3/8	2 3/8	-	-
			1 3/8	2 3/8	3/4	2 1/4	1/2	2 1/2	-	-
			-	-	7/8	2 3/8	-	-	-	-
SD300	3	1 1/2	1 5/8	2 5/8	1 1/8	2 5/8	5/8	2 5/8	-	-
			-	-	1 3/8	2 1/8	3/4	2 3/4	-	-
			-	-	-	-	7/8	2 7/8	-	-
SD350	3 1/2	1 3/4	2 1/8	3 1/8	1 5/8	3 1/8	1 1/8	3 1/8	3/8	3 3/8
			2 3/8	3 3/8	-	-	1 3/8	3 3/8	1/2	3 1/2
SD450	4 1/2	2 1/4	2 5/8	3 5/8	2 1/8	3 5/8	1 5/8	3 5/8	5/8	3 5/8
			-	-	2 3/8	3 1/8	-	-	3/4	3 3/4
			-	-	-	-	-	-	7/8	3 7/8
			3 1/8	4 1/8	2 5/8	4 1/8	2 1/8	4 1/8	1 1/8	4 1/8
			-	-	-	-	2 3/8	4 3/8	1 3/8	4 3/8
SD550	5 1/2	2 3/4	3 5/8	4 5/8	3 1/8	4 5/8	2 5/8	4 5/8	1 5/8	4 5/8
			4 1/8	5 1/8	3 3/8	5 1/8	3 1/8	5 1/8	2 1/8	5 1/8
			-	-	-	-	-	-	2 3/8	5 3/8
SD650	6 1/2	3 1/4	-	-	4 1/8	5 5/8	3 5/8	5 5/8	2 5/8	5 5/8
			-	-	-	-	4 1/8	6 1/8	3 1/8	6 1/8

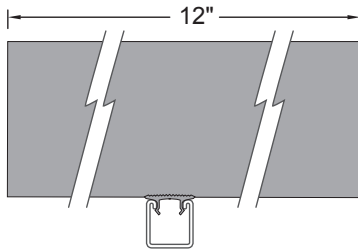
The SNAP-A-SADDLE™ provides an easy way to attach insulated pipes to support channel, with one step, tool-free installation.



Snaps easily into channel



Part No.		Nominal Inside Opening
Black	White	
SB225	SW225	2¼"
SB325	SW325	3¼"
SB425	SW425	4¼"
SB525	SW525	5¼"
SB625	SW625	6¼"
SB825	SW825	8⅝"



- Temp Range: -50° to 275°F (-46° to 135° C)
- Available in both black and white
- UL94-HB1 Rated TPV Material
- Made in USA
- Easy Installation
- Standard 12" lengths. Special lengths available upon request



Tubing Size	Insulation Thickness				
	½"	¾"	1"	1½"	2"
¼"	S*225	S*225	S*325	S*425	S*525
⅜"					
½"					
⅝"					
¾"					
1"	S*325	S*425	S*525	S*625	
1¼"					
1½"					
2"	S*425	S*525	S*625	S*825	
2½"					
3"	S*525	S*625	S*825		
3½"					
4"	S*625	S*825			

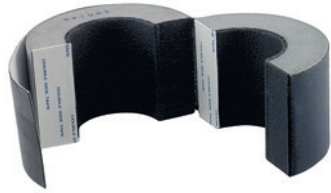
* Add "B" for Black or "W" for White

Pipe Size	Insulation Thickness				
	½"	¾"	1"	1½"	2"
¼"	S*225	S*325	S*425	S*525	S*625
⅜"					
½"					
¾"					
1"					
1¼"	S*325	S*425	S*525	S*625	
1½"					
2"	S*425	S*525	S*625	S*825	
2½"					
3"	S*525	S*625	S*825		
3½"					
4"	S*625	S*825			

* Add "B" for Black or "W" for White



AIRTIGHT CRUSH-RESISTANT INSULATION CLAMP

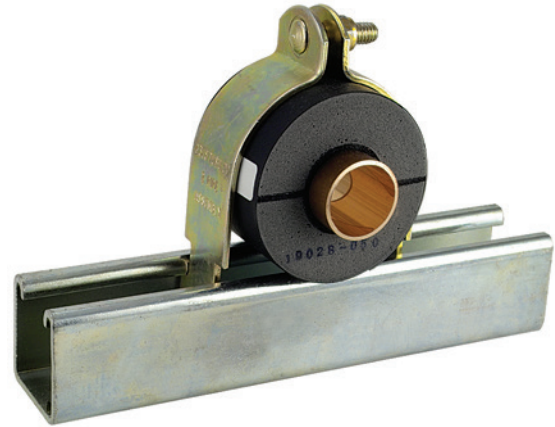


Cush-A-Therm™ Clamp is a perfect crush-resistant airtight seal for chilled refrigeration or mechanical pipe lines that require continuous insulation.

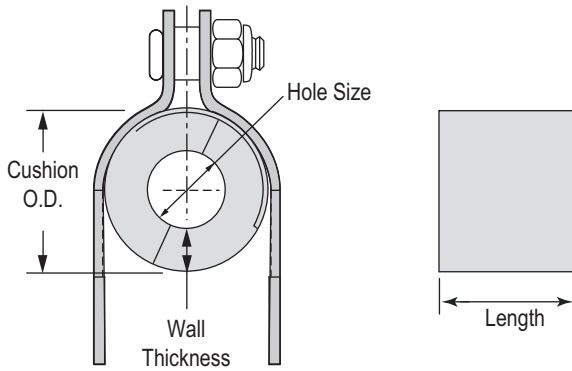
The rigid foam construction has an insulating tape inner lining which supports tube and absorbs vibration of operating pipe lines.

The outer cover consists of a special rubber coating which seals the cushion after installation in order to prevent condensation.

It's strong closed-cell structure is ideal for liquid cooling lines to prevent condensation, save energy, and maintain the vapor barrier.



NOTE: Complete assembly supplied with gold electro-galvanized channel clamp and hardware



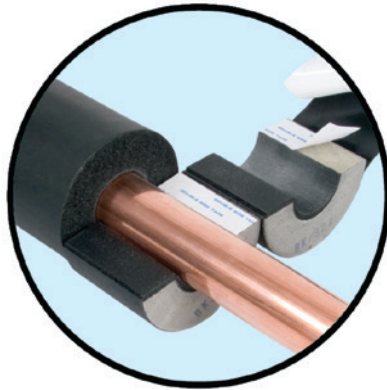
FEATURES

- Temperature range: -70°F to +250°F (-200°C to +125°C)
- Flammability is Self-Extinguishing as tested under ASTM D 635
- Maintains thermal barrier protection
- Prevents condensation
- Properly supports pipe and tube
- Absorbs vibration
- Polyurethane foam laminated with a rubber lining

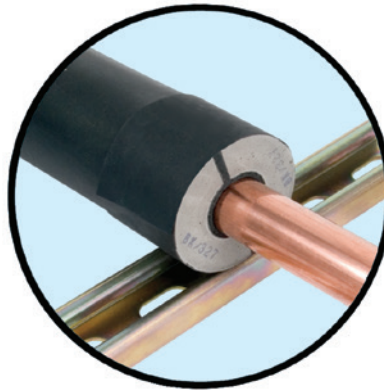
Dimensions (Inches)					Nominal 1/2" Wall Thickness		Nominal 3/4" Wall Thickness		Nominal 1" Wall Thickness		Nominal 1-1/2" Wall Thickness		Nominal 2" Wall Thickness	
Hole Size	Copper I.D.	Pipe O.D.	IPS	Len.	Part No.	Cushion O.D.	Part No.	Cushion O.D.	Part No.	Cushion O.D.	Part No.	Cushion O.D.	Part No.	Cushion O.D.
1/4	-	1/4	-	2.953"	UX1412	1 1/4 (1.250")	UX1434	1 3/4 (1.750")	UX1410	2 1/4 (2.250")			-	
3/8	1/4	3/8	-	2.953"	UX3812	1 3/8 (1.375")	UX3834	1 7/8 (1.875")	UX3810	2 3/8 (2.375")	UX3815	3 3/8 (3.375")	-	
1/2	3/8	1/2	1/4	2.953"	UX1212	1 1/2 (1.500")	UX1234	2 (2.000")	UX1210	2 1/2 (2.500")	UX1215	3 1/2 (3.500")	-	
5/8	1/2	5/8	3/8	2.953"	UX5812	1 5/8 (1.625")	UX5834	2 1/8 (2.125")	UX5810	2 5/8 (2.625")	UX5815	3 5/8 (3.625")	UX5820	4 5/8 (4.625")
3/4	5/8	3/4	-	2.953"	UX3412	1 3/4 (1.750")	UX3434	2 1/4 (2.250")	UX3410	2 3/4 (2.750")	UX3415	3 3/4 (3.750")	UX3420	4 3/4 (4.750")
7/8	3/4	7/8	1/2	2.953"	UX7812	1 7/8 (1.875")	UX7834	2 3/8 (2.375")	UX7810	2 7/8 (2.875")	UX7815	3 7/8 (3.875")	UX7820	4 7/8 (4.875")
1-1/8	1	1 1/8	3/4	2.953"	UX11812	2 1/8 (2.125")	UX11834	2 5/8 (2.625")	UX11810	3 1/8 (3.125")	UX11815	4 1/8 (4.125")	UX11820	5 1/8 (5.125")
1-3/8	1 1/4	1 3/8	1	2.953"	UX13812	2 3/8 (2.375")	UX13834	2 7/8 (2.875")	UX13810	3 3/8 (3.375")	UX13815	4 3/8 (4.375")	UX13820	5 3/8 (5.375")
1-5/8	1 1/2	1 5/8	1 1/4	2.953"	UX15812	2 5/8 (2.625")	UX15834	3 1/8 (3.125")	UX15810	3 5/8 (3.625")	UX15815	4 5/8 (4.625")	UX15820	5 5/8 (5.625")
1-7/8	-	1 7/8		2.953"	UX17812	2 7/8 (2.875")	UX17834	3 3/8 (3.375")	UX17810	3 7/8 (3.875")	UX17815	4 7/8 (4.875")	UX17820	5 7/8 (5.875")
2-1/8	2	2 1/8	-	2.953"	UX21812	3 1/8 (3.125")	UX21834	3 5/8 (3.625")	UX21810	4 1/8 (4.125")	UX21815	5 1/8 (5.125")	UX21820	6 1/8 (6.125")
2-3/8	2 1/4	2 3/8	2	2.953"	UX23812	3 3/8 (3.375")	UX23834	3 7/8 (3.875")	UX23810	4 3/8 (4.375")	UX23815	5 3/8 (5.375")	UX23820	6 3/8 (6.375")
2-5/8	2 1/2	2 5/8	-	3.937"	UX25812	3 5/8 (3.625")	UX25834	4 1/8 (4.125")	UX25810	4 5/8 (4.625")	UX25815	5 5/8 (5.625")	UX25820	6 5/8 (6.625")
2-7/8	-	2 7/8	2 1/2	3.937"	UX27812	3 7/8 (3.875")	UX27834	4 3/8 (4.375")	UX27810	4 7/8 (4.875")	UX27815	5 7/8 (5.875")	UX27820	6 7/8 (6.875")
3-1/8	3	3 1/8	-	3.937"	UX31812	4 1/8 (4.125")	UX31834	4 5/8 (4.625")	UX31810	5 1/8 (5.125")	UX31815	6 1/8 (6.125")	UX31820	7 1/8 (7.125")
3-1/2	-	3 1/2	3	3.937"	UX31212	4 1/2 (4.500")	UX31234	5 (5.000")	UX31210	5 1/2 (5.500")	UX31215	6 1/2 (6.500")	UX31220	7 1/2 (7.500")
3-5/8	3 1/2	3 5/8	-	3.937"	UX35812	4 5/8 (4.625")	UX35834	5 1/8 (5.125")	UX35810	5 5/8 (5.625")	UX35815	6 5/8 (6.625")	UX35820	7 5/8 (7.625")
4-1/8	4	4-1/8	3 1/2	3.937"	UX41812	5 1/8 (5.125")	UX41834	5 5/8 (5.625")	UX41810	6 1/8 (6.125")	UX41815	7 1/8 (7.125")	UX41820	8 1/8 (8.125")

AIRTIGHT CRUSH-RESISTANT INSULATION CLAMP

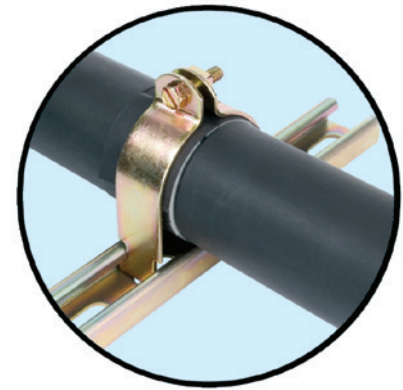
INSTALLATION IS AS EASY AS 1-2-3!



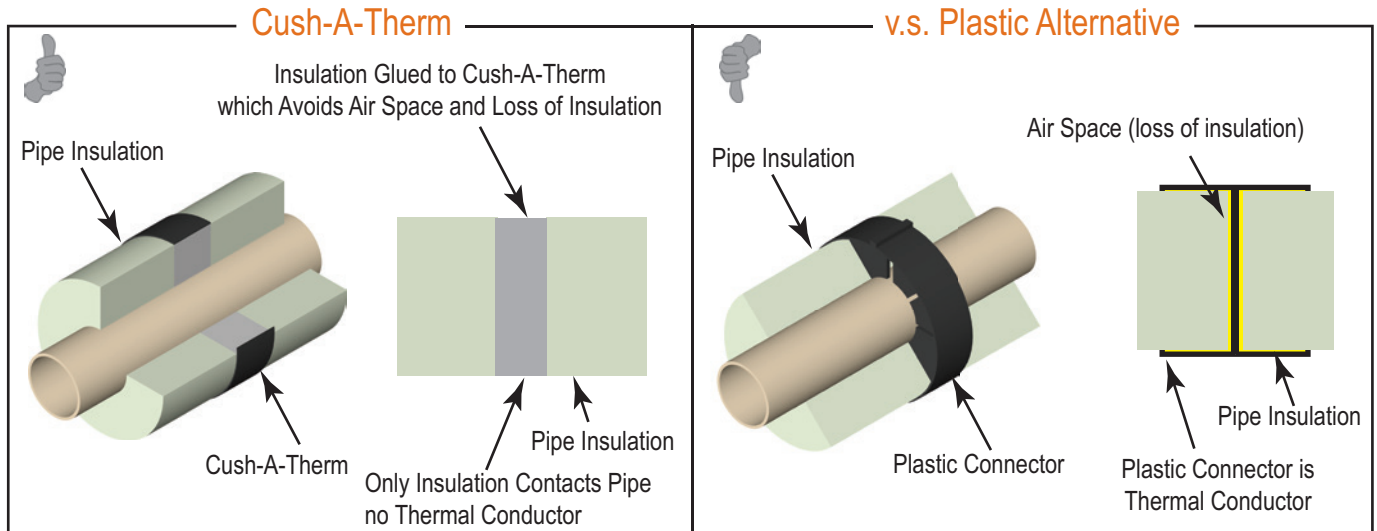
1. Insulation slides over pipes. Self adhesive surfaces provide seal.



2 Put in place and glue to insulation.



3. Wrap and seal with ProTape.



ASHRAE Insulation Recommendations

Cush-A-Therm is designed to meet the ASHRAE recommendations for insulation for mechanical systems which indicate that insulated pipe hangers should provide the following:

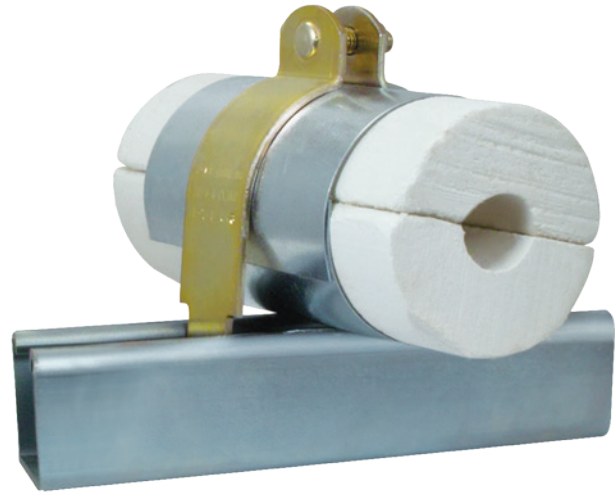
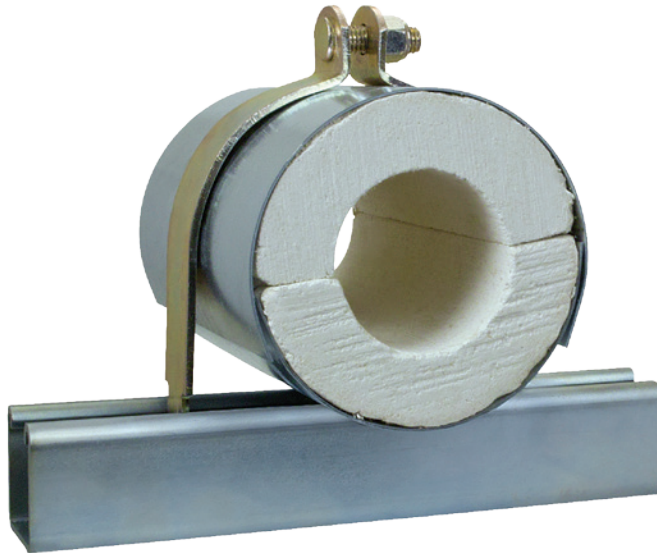
1. Complete sealing of pipe against water vapor ingress
2. No energy transfer of cold to supporting clamp to prevent condensation of water and possible growth of mold. If the support incasing the insulation is in contact with the pipe or tube and supported by a metallic clamp, which is not protected by insulation, below ambient temperatures will be transfer to the clamp causing energy transfer and condensation.
3. No interruption of the insulation envelope
4. Limit or avoid compression at support location

ASHRAE Section 23.13-23.14 further states “when the goal is avoiding compression of low-compressive-strength insulation products, it is recommended to use high-strength insulation inserts made of a product that offers the desired compressive strength and other necessary performance properties. Other higher-strength materials that are not thermal insulation material and interrupt the insulation envelope, or do not allow complete sealing of an insulation system against water vapor ingress are not recommended for supporting insulated piping on pipe hangers. Note that wood blocks have poor thermal conductivity and are not recommended, especially for cold pipe systems.”

Insulated cold piping should receive special attention when exposed to ambient or unconditioned air. The Cush-A-Therm is a product that seals out air, and insulates the pipe/tube from the supporting clamp, and is therefore in compliance with the 2013 ASHRAE insulation recommendations.



CAL-CLAMP CRUSH RESISTANT INSULATION



MODEL "HW" - For Hot or Cold applications

- Works equally well on both hot and cold lines.
- Includes the strut clamps required for installation with strut.
- Special order insulation lengths, double sheet metal wrap, load bearing plates and alternate sheet metal gauges are available upon request.

MODEL "CWP" - For applications requiring a wet lag insulation

- Insulations extends 1" beyond sheet metal.
- The minimum length for our "CWP" insert is 6" .
- Includes the strut clamps required for installation with strut.
- Special order insulation lengths, double sheet metal wrap, load bearing plates and alternate sheet metal gauges are available upon request.

Maximum Allowable Load (lbs)	
Pipe Size	HW/CWP
1/2"	51
3/4"	62
1"	72
1-1/4"	92
1-1/2"	123
2"	164
2-1/2"	225
3"	276
4"	388
5"	500
6"	612
8"	827
10"	1102
12"	1326

Insulation Length Specification (in.)						
I.P.S. NOMINAL	Insulation Thickness					
	1"	1 1/2"	2"	2 1/2"	3"	4"
1/2" to 1 1/2"	4**			6"		
2"	6"					
2-1/2" to 6"	6"			9"		
8" to 10"	9"					
12" to 18"	12"					

*CWP Model Inserts have a minimum length of 6"

**Larger Sizes Available Upon Requestt

Material:

- Asbestos Free Calcium Silicate (Cellular Glass and Polyurethane also available upon request), treated for water resistance, encased in a 360 degree A-653 Galvanized Sheet Metal jacket (304SS and 316SS available upon request).
- Minimum 140PSI compressive strength. Working Temperature is 42°F to 1200°F. (5.6°C to 649°C) Lower temps upon request.

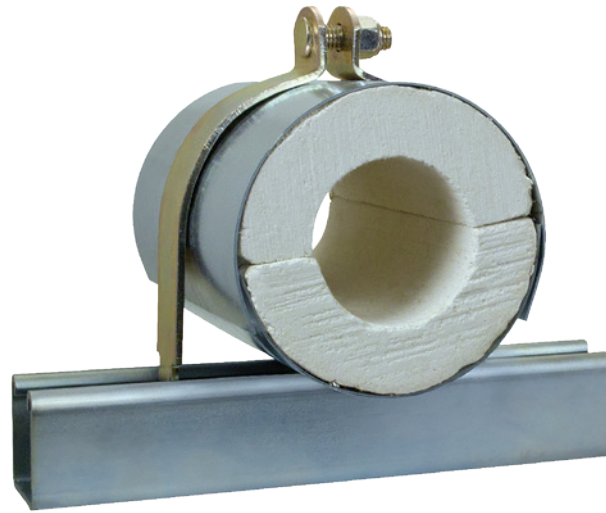
Sheet Metal Gauge ¹						
I.P.S. NOMINAL	Insulation Thickness					
	1"	1 1/2"	2"	2 1/2"	3"	4"
1/2" to 1-1/2"	24			20		
2" to 5"	20					
6"	20			16		
8" to 24"	16					

¹A double thickness of sheet metal is recommended on the lower half when used with rollers or when hanger span exceeds ten feet.

MODEL "HW"

For Hot or Cold applications

Strut Clamp included



Model HWP, Insulation and Strut Clamps													
IPS	Pipe OD	1/2"		1"		1 1/2"		2"		2 1/2"		3"	
		Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.
3/4"	1.05	HWP3412	2.16	HWP3410	2.82	HWP3415	3.95	HWP3420	4.95	HWP3425	-	HWP3430	-
1"	1.315	HWP112	2.41	HWP110	3.45	HWP115	4.45	HWP120	5.51	HWP125	-	HWP130	-
1 1/4"	1.66	HWP11412	2.72	HWP11410	3.45	HWP11415	4.95	HWP11420	5.51	HWP11425	-	HWP11430	-
1 1/2"	1.99	HWP11212	2.99	HWP11210	3.95	HWP11215	4.95	HWP11220	6.57	HWP11225	7.57	HWP11230	8.57
2"	2.375	HWP212	3.42	HWP210	4.45	HWP215	5.51	HWP220	6.57	HWP225	7.57	HWP230	8.57
2 1/2"	2.875	HWP21212	3.93	HWP21210	4.95	HWP21215	6.57	HWP21220	7.57	HWP21225	8.57	HWP21230	9.57
3"	3.5	HWP312	4.56	HWP310	5.51	HWP315	6.57	HWP320	7.57	HWP325	8.57	HWP330	9.57
3 1/2"	4	HWP31212	5.07	HWP31210	6.57	HWP31215	7.57	HWP31220	8.57	HWP31225	9.57	HWP31230	10.7
4"	4.5	HWP412	5.57	HWP410	6.57	HWP415	7.57	HWP420	8.57	HWP425	9.57	HWP430	10.7
5"	5.563	HWP512	6.64	HWP510	7.57	HWP515	8.57	HWP520	9.57	HWP525	10.7	HWP530	11.7
6"	6.625	HWP612	7.71	HWP610	8.57	HWP615	9.57	HWP620	10.7	HWP625	11.7	HWP630	12.7
8"	8.625	HWP812	9.74	HWP810	10.7	HWP815	11.7	HWP820	12.7	HWP825	13.95	HWP830	14.95
10"	10.75	HWP1012	11.87	HWP1010	12.7	HWP1015	13.95	HWP1020	14.95	HWP1025	15.95	HWP1030	16.95
12"	12.75	HWP1212	13.88	HWP1210	14.95	HWP1215	15.95	HWP1220	16.95	HWP1225	17.95	HWP1230	18.95

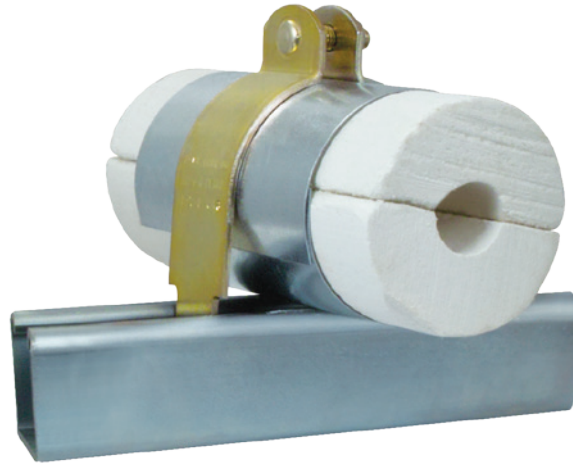
Model HWT, Copper Tube Sizes, Insulation and Strut Clamps													
Copper Tube	Tube OD	1/2"		1"		1 1/2"		2"		2 1/2"		3"	
		Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.
1/2"	5/8"	HWT5812	1.66	HWT5810	2.82	HWT5815	3.45	-	-	-	-	-	-
3/4"	7/8"	HWT7812	1.92	HWT7810	2.82	HWT7815	3.95	HWT7820	4.95	-	-	-	-
1"	1-1/8"	HWT11812	2.16	HWT11810	2.82	HWT11815	3.95	HWT11820	4.95	-	-	-	-
1 1/4"	1-3/8"	HWT13812	2.41	HWT13810	3.45	HWT13815	4.45	HWT13820	5.51	-	-	-	-
1 1/2"	1-5/8"	HWT15812	2.72	HWT15810	3.45	HWT15815	4.95	HWT15820	5.51	-	-	-	-
2"	2-1/8"	HWT21812	3.16	HWT21810	3.95	HWT21815	4.95	HWT21820	6.57	HWT21825	7.57	HWT21830	8.57
2 1/2"	2-5/8"	HWT25812	3.66	HWT25810	4.45	HWT25815	5.51	HWT25820	6.57	HWT25825	7.57	HWT25830	8.57
3"	3-1/8"	HWT31812	4.16	HWT31810	4.95	HWT31815	6.57	HWT31820	7.57	HWT31825	8.57	HWT31830	9.57
4"	4-1/8"	HWT41812	5.16	HWT41810	6.57	HWT41815	7.57	HWT41820	8.57	HWT41825	9.57	HWT41830	10.7
5"	5-1/8"	HWT51812	6.16	HWT51810	7.57	HWT51815	8.57	HWT51820	9.57	HWT51825	10.7	HWT51830	11.7
6"	6-1/8"	HWT61812	7.16	HWT61810	8.57	HWT61815	9.57	HWT61820	10.7	HWT61825	11.7	HWT61830	12.7



MODEL "CW"

For applications requiring a wet lag insulation. Insulation extends 1" beyond metal.

Strut Clamp included



Model CWP, Insulation and Strut Clamps													
IPS	Pipe OD	1/2"		1"		1 1/2"		2"		2 1/2"		3"	
		Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.
3/4"	1.05	CWP3412	2.16	CWP3410	2.82	CWP3415	3.95	CWP3420	4.95	-	-	-	-
1"	1.315	CWP112	2.41	CWP110	3.45	CWP115	4.45	CWP120	5.51	-	-	-	-
1 1/4"	1.66	CWP11412	2.72	CWP11410	3.45	CWP11415	4.95	CWP11420	5.51	-	-	-	-
1 1/2"	1.99	CWP11212	2.99	CWP11210	3.95	CWP11215	4.95	CWP11220	6.57	CWP11225	7.57	CWP11230	8.57
2"	2.375	CWP212	3.42	CWP210	4.45	CWP215	5.51	CWP220	6.57	CWP225	7.57	CWP230	8.57
2 1/2"	2.875	CWP21212	3.93	CWP21210	4.95	CWP21215	6.57	CWP21220	7.57	CWP21225	8.57	CWP21230	9.57
3"	3.5	CWP312	4.56	CWP310	5.51	CWP315	6.57	CWP320	7.57	CWP325	8.57	CWP330	9.57
3 1/2"	4	CWP31212	5.07	CWP31210	6.57	CWP31215	7.57	CWP31220	8.57	CWP31225	9.57	CWP31230	10.7
4"	4.5	CWP412	5.57	CWP410	6.57	CWP415	7.57	CWP420	8.57	CWP425	9.57	CWP430	10.7
5"	5.563	CWP512	6.64	CWP510	7.57	CWP515	8.57	CWP520	9.57	CWP525	10.7	CWP530	11.7
6"	6.625	CWP612	7.71	CWP610	8.57	CWP615	9.57	CWP620	10.7	CWP625	11.7	CWP630	12.7
8"	8.625	CWP812	9.74	CWP810	10.7	CWP815	11.7	CWP820	12.7	CWP825	13.95	CWP830	14.95
10"	10.75	CWP1012	11.87	CWP1010	12.7	CWP1015	13.95	CWP1020	14.95	CWP1025	15.95	CWP1030	16.95
12"	12.75	CWP1212	13.88	CWP1210	14.95	CWP1215	15.95	CWP1220	16.95	CWP1225	17.95	CWP1230	18.95

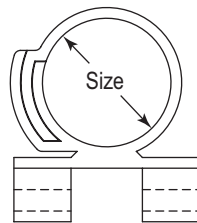
Model CWT, Copper Tube Sizes, Insulation and Strut Clamps													
Copper Tube	Tube OD	1/2"		1"		1 1/2"		2"		2 1/2"		3"	
		Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.	Part No.	Insulation O.D.
1/2"	5/8"	CWT5812	1.66	CWT5810	2.82	CWT5815	3.45	-	-	-	-	-	-
3/4"	7/8"	CWT7812	1.92	CWT7810	2.82	CWT7815	3.95	CWT7820	4.95	-	-	-	-
1"	1 1/8"	CWT11812	2.16	CWT11810	2.82	CWT11815	3.95	CWT11820	4.95	-	-	-	-
1 1/4"	1 3/8"	CWT13812	2.41	CWT13810	3.45	CWT13815	4.45	CWT13820	5.51	-	-	-	-
1 1/2"	1 5/8"	CWT15812	2.72	CWT15810	3.45	CWT15815	4.95	CWT15820	5.51	-	-	-	-
2"	2 1/8"	CWT21812	3.16	CWT21810	3.95	CWT21815	4.95	CWT21820	6.57	CWT21825	7.57	CWT21830	8.57
2 1/2"	2 3/8"	CWT25812	3.66	CWT25810	4.45	CWT25815	5.51	CWT25820	6.57	CWT25825	7.57	CWT25830	8.57
3"	3 1/8"	CWT31812	4.16	CWT31810	4.95	CWT31815	6.57	CWT31820	7.57	CWT31825	8.57	CWT31830	9.57
4"	4 1/8"	CWT41812	5.16	CWT41810	6.57	CWT41815	7.57	CWT41820	8.57	CWT41825	9.57	CWT41830	10.7
5"	5 1/8"	CWT51812	6.16	CWT51810	7.57	CWT51815	8.57	CWT51820	9.57	CWT51825	10.7	CWT51830	11.7
6"	6 1/8"	CWT61812	7.16	CWT61810	8.57	CWT61815	9.57	CWT61820	10.7	CWT61825	11.7	CWT61830	12.7

QUICK-CLIP

Quick-Clip's unique one-piece composite polyamide alloy design combines strength with light weight. It will overcome the problems of using cable ties for piping, electrical, optical and network cabling



- Quick Clip locates easily on 3/8" rod
- No breaks in insulation material
- Fast and easy installation, saves time and money
- Single handed installation
- Manufactured from a composite polyamide, tested from -40°F to + 275°F, (-40°C to +135°C) makes it ideal for network cables
- Studding panel inserts.



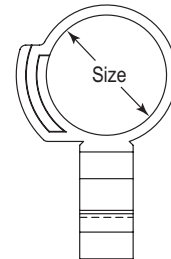
Slide onto threaded rod, twist to engage. Insert pipe and clip to lock.

Part No.	CLAMPING RANGE				Condensate Drain
	Standard Copper	Metric Copper	Copper Tube		
	(no insulation)		with 3/8" Insulation	with 1/2" Insulation	
QC12	3/4"	-	-	-	-
QC14	7/8"	22mm	-	-	yes
QC16	1"	-	1/4" tube	-	-
QC18	1 1/8"	28mm	3/8" tube	-	-
QC20	1 1/4"	-	1/2" tube	1/4" tube	-
QC22	1 3/8"	-	5/8" tube	3/8" tube	yes
QC24	1 1/2"	-	7/8" tube	5/8" tube	-
QC26	1 5/8"	42mm	1 1/8" tube	3/4" tube	yes
QC32	2"	-	-	7/8" tube	-
QC34	2 1/8"	54mm	1 3/8" tube	1 1/8" tube	yes

Inside diameter: Certain clips have two or more positions to accommodate both metric and standard sizes

CUSH-A-CLICK

The great advantage with the **Cush-A-Click** is it retains an unbroken vapor barrier seal, eliminating the problem of sweating on metal fittings. The Cush-A-Click is ideal for the installation of refrigeration systems allowing the barrier seal to run the length of the pipe work without cutting the insulation material. The Cush-A-Click quickly secures both the pipe and the insulation.



- Time and labor savings
- Simple, secure installation of refrigeration and plumbing pipe work
- No break insulation material
- Corrosion resistance
- Light weight



Part No.	CLAMPING RANGE				Condensate Drain
	Standard Copper	Metric Copper	Copper Tube		
	(no insulation)		with 3/8" Insulation	with 1/2" Insulation	
CC12	3/4"	-	-	-	-
CC14	7/8"	22mm	-	-	yes
CC16	1"	-	1/4" tube	-	-
CC18	1 1/8"	28mm	3/8" tube	-	-
CC20	1 1/4"	-	1/2" tube	1/4" tube	-
CC22	1 3/8"	-	5/8" tube	3/8" tube	yes
CC24	1 1/2"	-	7/8" tube	5/8" tube	-
CC26	1 5/8"	42mm	1 1/8" tube	3/4" tube	yes
CC32	2"	-	-	7/8" tube	-
CC34	2 1/8"	54mm	1 3/8" tube	1 1/8" tube	yes

Inside diameter: Certain clips have two or more positions to accommodate both metric and standard sizes

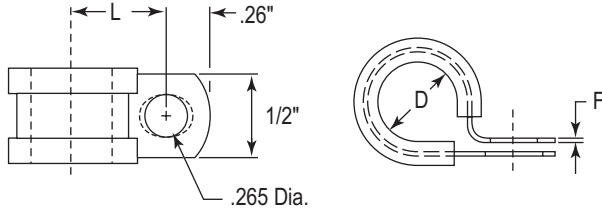


SPN LOOP CLAMPS

PLATED STEEL LOOP CLAMPS, 1/2" WIDE

FEATURES:

- Light to medium duty steel clamp
- E.P.D.M. cushion for electrical insulation and vibration absorption
- Steel clamps are zinc electroplated for corrosion resistance
- Some sizes available in aluminum. Contact factory for details.
- Temperature range -50°F to +275°F (-45°C to 135°C)



SPN					
Plated Steel Part No.	Stainless Steel Part No.	Size In.	Dimensions (in)		
			D	L	F
SPN-03	SPN-03SS	3/16"	0.188	0.499	0.032
SPN-04	SPN-04SS	1/4"	0.250	0.530	
SPN-05	SPN-05SS	5/16"	0.312	0.561	
SPN-06	SPN-06SS	3/8"	0.375	0.592	
SPN-07	SPN-07SS	7/16"	0.438	0.623	
SPN-08	SPN-08SS	1/2"	0.500	0.655	
SPN-09	SPN-09SS	9/16"	0.562	0.749	
SPN-10	SPN-10SS	5/8"	0.625	0.780	
SPN-11	SPN-11SS	11/16"	0.688	0.811	
SPN-12	SPN-12SS	3/4"	0.750	0.840	
SPN-14	SPN-14SS	7/8"	0.875	0.889	
SPN-16	SPN-16SS	1"	1.000	0.952	
SPN-18	SPN-18SS	1 1/8"	1.125	1.030	
SPN-20	SPN-20SS	1 1/4"	1.250	1.093	
SPN-22	SPN-22SS	1 3/8"	1.375	1.155	
SPN-24	SPN-24SS	1 1/2"	1.500	1.218	
SPN-26	SPN-26SS	1 5/8"	1.625	1.280	
SPN-28	SPN-28SS	1 3/4"	1.750	1.343	
SPN-30	SPN-30SS	1 7/8"	1.875	1.405	
SPN-32	SPN-32SS	2"	2.000	1.476	
SPN-34	SPN-34SS	2 1/8"	2.125	1.538	
SPN-36	SPN-36SS	2 1/4"	2.250	1.661	
SPN-38	SPN-38SS	2 3/8"	2.375	1.663	
SPN-40	SPN-40SS	2 1/2"	2.500	1.728	
SPN-42	SPN-42SS	2 5/8"	2.625	1.788	
SPN-48	SPN-48SS	3"	3.000	1.976	
SPN-52	SPN-52SS	3 1/4"	3.250	2.100	
SPN-56	SPN-56SS	3 1/2"	3.500	2.226	
SPN-64	SPN-64SS	4"	4.000	2.476	

SPW LOOP CLAMPS

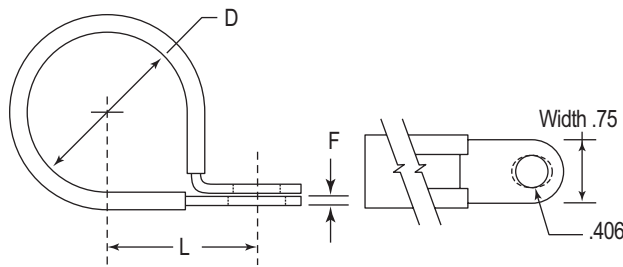
PLATED STEEL $\frac{3}{4}$ " WIDE

FEATURES:

- Light to medium duty steel clamp
- E.P.D.M. cushion for electrical insulation and vibration absorption
- Steel clamps are zinc electroplate for corrosion resistance
- Color - Silver with black durable cushion.
- Temperature range -50°F to +275°F (-45°C to 135°C)



Available in stainless steel. Some sizes available in aluminum. Contact factory for details.



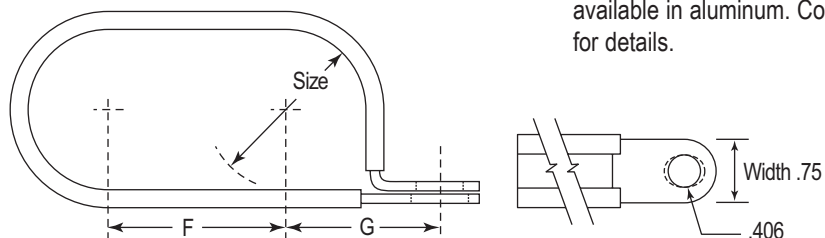
SPW					
Part No.	Size in	Dimensions (in)			
		D	L	F	
SPW-04	$\frac{1}{4}$ "	0.250	0.639	0.031	
SPW-06	$\frac{3}{8}$ "	0.375	0.702		
SPW-07	$\frac{7}{16}$ "	0.438	0.732		
SPW-08	$\frac{1}{2}$ "	0.500	0.764		
SPW-09	$\frac{9}{16}$ "	0.563	0.795		
SPW-10	$\frac{5}{8}$ "	0.625	0.827		
SPW-12	$\frac{3}{4}$ "	0.750	0.889		
SPW-14	$\frac{7}{8}$ "	0.875	0.952		
SPW-16	1"	1.000	1.014		
SPW-18	1 $\frac{1}{8}$ "	1.125	1.090		0.050
SPW-20	1 $\frac{1}{4}$ "	1.250	1.159		
SPW-24	1 $\frac{1}{2}$ "	1.500	1.284		
SPW-26	1 $\frac{5}{8}$ "	1.625	1.346		
SPW-28	1 $\frac{3}{4}$ "	1.750	1.409		
SPW-30	1 $\frac{7}{8}$ "	1.875	1.471		
SPW-32	2"	2.000	1.534		
SPW-36	2 $\frac{1}{4}$ "	2.250	1.659		
SPW-40	2 $\frac{1}{2}$ "	2.500	1.784		
SPW-48	3"	3.000	2.034		

SPD LOOP CLAMPS

2-TUBE CUSHIONED CABLE CLAMPS, PLATED STEEL $\frac{3}{4}$ " WIDE

FEATURES:

- Medium duty steel clamp that can be slipped over two tubes or multiple wires and closed with a bolt at assembly.
- Steel clamps are zinc electroplate for corrosion resistance
- E.P.D.M. cushion for electrical insulation and vibration absorption
- Temperature range -50°F to +275°F (-45°C to 135°C)



SPD			
Part No.	Size In.	Dimensions (in)	
		F	G
SPD-08	$\frac{1}{2}$ "	0.50	0.764
SPD-12	$\frac{3}{4}$ "	0.75	0.889
SPD-16	1"	1.00	1.014
SPD-20	1 $\frac{1}{4}$ "	1.125	1.159

Available in stainless steel. Some sizes available in aluminum. Contact factory for details.



SPH CLAMP

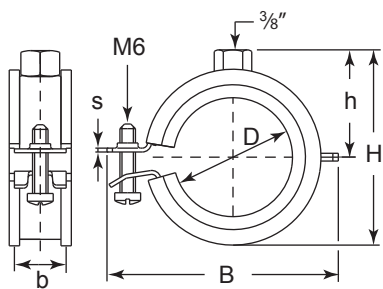
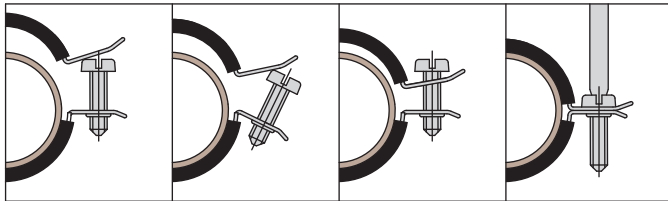
CUSH-A-RING



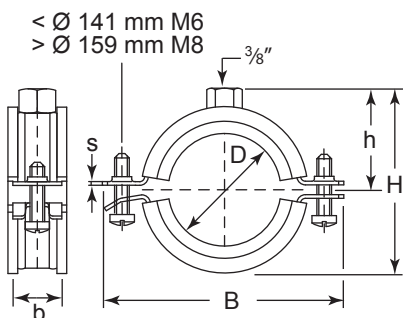
The Cush-A-Ring is a unique rubber lined hanger for copper and steel tube or pipe. The SPH-1 thru SPH-10 is a two-part clamp that has a hinged side with a single screw patented locking system. The quick locking system is easy to close with one hand which makes it easier and faster for installation. The noise insulating rubber lining is made of UV-resistant EPDM rubber. The Cush-A-Ring is zinc plated for corrosion resistance.

FEATURES:

- Rubber lined, noise insulated
- With quick locking system
- Clamp easy to close with one hand
- UV-resistant black EPDM rubber lining
- Zinc plated
- ASTM E-84
- Meets - Buy America Act



SPH-1 thru SPH-10



SPH-11 thru SPH-14

SPH							
Part No.	Dimensions (in)						
	D	IP	CT	B	H	h	b x s
SPH-1	11 – 14	1/4"	3/8"	1.9	1.4	0.87	20 x 1.25
SPH-2	15 – 18	3/8"	1/2"	1.9	1.4	0.87	
SPH-3	20 – 23	1/2"	3/4"	2.2	1.6	0.94	
SPH-4	25 – 28	3/4"	1	2.4	1.8	1.10	
SPH-5	31 – 35	1	1 1/4"	2.6	2.0	1.20	
SPH-6	40 – 43	1 1/4"	1 1/2"	3.0	2.4	1.30	
SPH-7	48 – 53	1 1/2"	-	3.3	2.6	1.50	
SPH-8	54 – 56	-	2	3.5	2.8	1.60	
SPH-9	57 – 63	2	-	3.7	3.1	1.70	
SPH-10	64-70	-	2 1/2"	4.5	3.9	2.20	
Below parts have 2 bolt configurations							
SPH-11	73-80	2 1/2"	3	5.0	4.3	2.40	23 x 2.00
SPH-12	83-91	3	-	5.4	4.8	2.60	25 x 2.50
SPH-13	100- 105	-	4	6.0	5.3	2.90	
SPH-14	108-114	4	-	6.3	5.7	3.10	

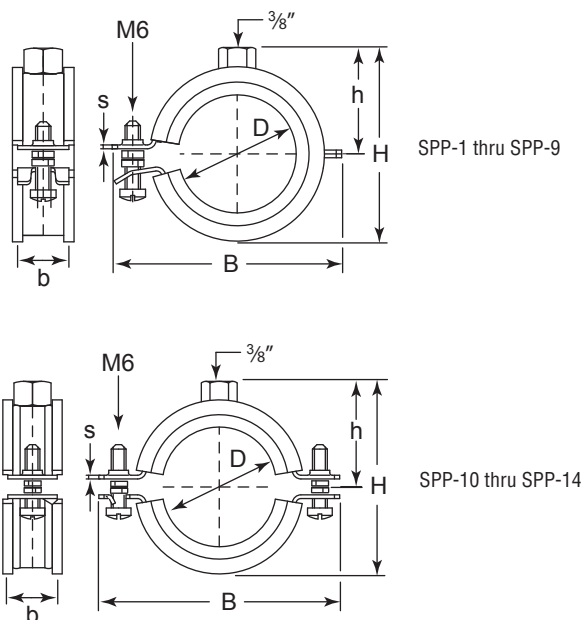
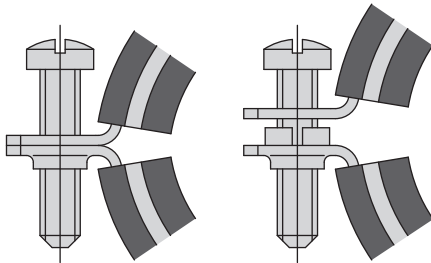
SPP CLAMPS CUSH-A-RING



The Cush-A-Ring is a unique rubber lined hanger for PEX, CPVC, and PVC pipe. The SPP-1 thru SPP-10 has a two-part clamp with a hinged side and a single screw patented locking system. The quick locking system is easy to close with one hand which makes it easier and faster for installation. The noise insulating rubber lining is made of UV-resistant EPDM rubber. The Cush-A-Ring is zinc plated for corrosion resistance.

FEATURES:

- With quick locking system
- Clamp easy to close with one hand
- Specially formulated, green, UV and age resistant EPDM rubber lining
- Perfect for PEX, Fusion, CPVC and PVC pipe
- ASTM E-84
- Complies with MSS SP-58 and SP-69
- Material steel, zinc plated

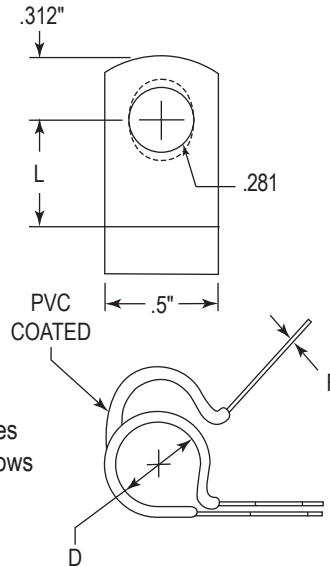


SPP							
Part No.	Dimensions (in)						Rod Size
	D (mm)	IP	CT	B	H	h	
SPP-2	15 – 18	3/8"	1/2"	1.9	1.4	0.87	3/8"
SPP-3	20 – 23	1/2"	3/4"	2.2	1.7	0.94	
SPP-4	25 – 28	3/4"	1"	2.4	1.9	1.0	
SPP-5	31 – 35	1"	1 1/4"	2.6	2.2	1.2	
SPP-6	40 – 43	1 1/4"	1 1/2"	3.0	2.6	1.3	
SPP-7	48 – 53	1 1/2"	-	3.3	3.0	1.5	
SPP-8	54 – 56	-	2"	3.5	3.0	1.6	
SPP-9	60 – 65	2"	-	4.3	3.4	1.7	
SPP-10	70 – 76	2 1/2"	-	4.9	4.1	2.2	
SPP-11	86 – 91	3"	-	5.4	4.6	2.4	
SPP-12	110 – 114	4"	-	6.3	5.8	2.9	
SPP-13	124 – 132	-	-	6.8	5.9	3.1	1/2"
SPP-14	155 – 160	-	-	8.0	7.4	3.9	



SVN LOOP CLAMPS

VINYL DIPPED - GALVANIZED STEEL 1/2" WIDE



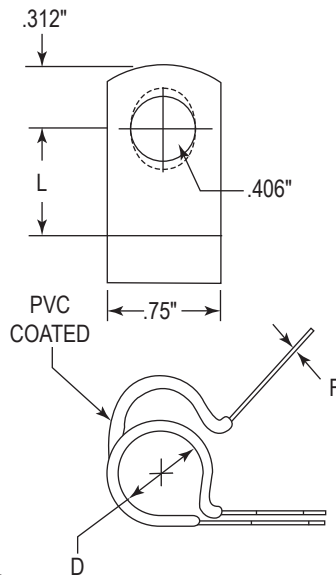
FEATURES:

- Medium duty steel clamp that can be slipped over a tube or wire and closed with a bolt at assembly. Holes provide easy alignment. Its pre developed shape allows for proper closing and excellent fit of the clamp.
- Galvanized Steel
- PVC coated, black color
- Temperature range -25°F to +160°F

SVN				
Part No.	Size in.	Dimensions (in)		
		D	L	F
SVN-03	3/16"	0.187	0.500	0.032
SVN-04	1/4"	0.250	0.531	
SVN-05	5/16"	0.312	0.562	
SVN-06	3/8"	0.375	0.593	
SVN-08	1/2"	0.500	0.656	
SVN-09	9/16"	0.562	0.687	
SVN-10	5/8"	0.625	0.718	0.048
SVN-12	3/4"	0.750	0.781	
SVN-14	7/8"	0.875	0.843	
SVN-16	1"	1.000	0.906	
SVN-18	1 1/8"	1.125	0.968	

SVW LOOP CLAMPS

VINYL DIPPED GALVANIZED STEEL 3/4" WIDE



FEATURES:

- Medium duty steel clamp that can be slipped over a tube or wire and closed with a bolt at assembly. Holes provide easy alignment. Its pre developed shape allows for proper closing and excellent fit of the clamp..
- Galvanized Steel
- PVC coated, black color
- Temperature range -25°F to +160°F

SVW				
Part No.	Size in.	Dimensions (in)		
		D	L	F
SVW-04	1/4"	0.250	0.656	0.032
SVW-05	5/16"	0.312	0.562	
SVW-06	3/8"	0.375	0.718	
SVW-08	1/2"	0.500	0.781	0.048
SVW-09	9/16"	0.562	0.812	
SVW-10	5/8"	0.625	0.843	
SVW-12	3/4"	0.750	0.906	
SVW-13	13/16"	0.812	0.937	
SVW-14	7/8"	0.875	0.968	
SVW-15	15/16"	0.937	1.000	
SVW-16	1"	1.000	1.031	
SVW-18	1 1/8"	1.125	1.092	
SVW-20	1 1/4"	1.125	1.156	
SVW-22	1 3/8"	1.375	1.218	

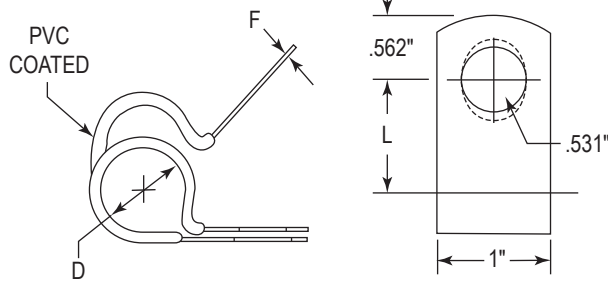
LVZ LOOP CLAMPS

VINYL DIPPED GALVANIZED STEEL 1" WIDE



FEATURES:

- Heavy duty steel clamp
- Galvanized Steel
- PVC coated, black color
- Temperature range -25°F to +160°F

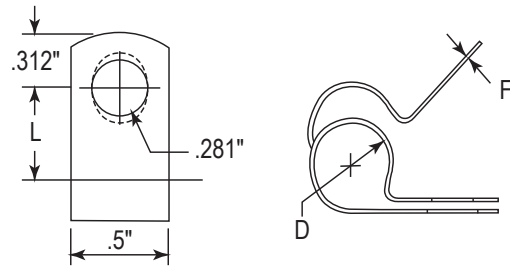


LVZ				
Part No.	Size in.	Dimensions (in)		
		D	L	F
LVZ-18	1 ¹ / ₈ "	1.13	1.218	0.048
LVZ-19	1 ³ / ₁₆ "	1.19	1.250	
LVZ-20	1 ¹ / ₄ "	1.25	1.281	
LVZ-21	1 ⁵ / ₁₆ "	1.31	1.312	
LVZ-24	1 ¹ / ₂ "	1.50	1.406	
LVZ-25	1 ⁹ / ₁₆ "	1.56	1.437	
LVZ-28	1 ³ / ₄ "	1.75	1.531	
LVZ-29	1 ¹³ / ₁₆ "	1.81	1.562	
LVZ-32	2"	2.00	1.687	
LVZ-33	2- ¹ / ₁₆ "	2.06	1.718	
LVZ-36	2- ¹ / ₄ "	2.25	1.812	
LVZ-40	2- ¹ / ₂ "	2.50	1.937	
LVZ-42	2- ⁵ / ₈ "	2.63	2.000	
LVZ-44	2- ³ / ₄ "	2.75	2.062	
LVZ-46	2- ⁷ / ₈ "	2.88	2.125	
LVZ-57	3- ⁹ / ₁₆ "	3.56	2.437	



SSN LOOP CLAMPS

STAINLESS STEEL 1/2" WIDE



FEATURES:

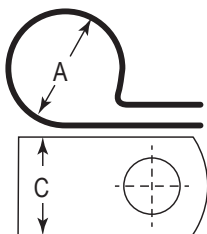
- Medium duty steel clamp that can be slipped over a tube or wire and closed with a bolt at assembly. Holes provide easy alignment. Its pre-developed shape allows for proper closing and excellent fit.
- Stainless steel, type 301 or 304

SSN stainless steel				
Part No.	Size in.	Dimensions (in)		
		D	L	F
SSN-03	3/16"	0.187	0.500	0.032
SSN-04	1/4"	0.250	0.531	
SSN-05	5/16"	0.312	0.562	
SSN-06	3/8"	0.375	0.593	
SSN-08	1/2"	0.500	0.656	0.048
SSN-09	9/16"	0.562	0.687	
SSN-10	5/8"	0.625	0.718	
SSN-12	3/4"	0.750	0.781	
SSN-14	7/8"	0.875	0.843	
SSN-16	1"	1.000	0.906	
SSN-18	1 1/8"	1.125	0.968	

CABLE CLAMPS



Cable Clamps are perfect for securing wires and cables in the electric, automotive and aircraft industries.



CC UV Black also available upon request Closed Bottom			
Part No.	A (in.)	C (in.)	Screw Dia. (in.)
CC3-1/8	0.130	0.358	0.21
CC3-3/16	0.189		
CC3-1/4	0.260		
CC3-5/16	0.307	0.362	
CC3-3/8	0.382		
CC5-1/8	0.114	0.500	
CC5-1/4	0.232		
CC5-3/8	0.358		
CC5-1/2	0.480		
CC5-9/16	0.543		
CC5-3/4	0.732		
CC5-7/8	0.858		
CC5-1-1/8	1.100		

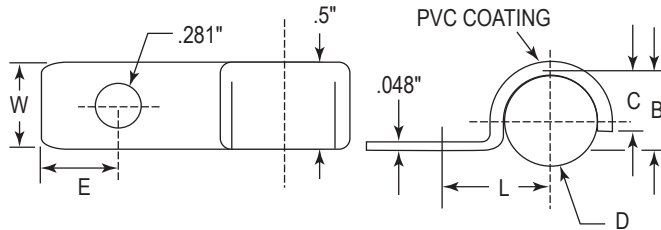
HVN LOOP CLAMPS

VINYL DIPPED GALVANIZED STEEL 1/2" WIDE



FEATURES:

- Black vinyl plastic coated (PVC)
- Galvanized Steel for corrosion resistance
- Temperature range -25°F to +160°F



HVN							
Part No.	Size in.	Dimensions (in)					
		D	L	E	B	C	W
HVN-04	1/4"	0.250	0.500	0.250	0.250	0.188	1/2"
HVN-05	5/16"	0.312	0.531	0.312	0.312	0.218	5/8"
HVN-06	3/8"	0.375	0.562	0.312	0.375	0.281	
HVN-08	1/2"	0.500	0.687	0.312	0.500	0.343	
HVN-09	9/16"	0.562	0.750	0.312	0.562	0.437	
HVN-10	5/8"	0.625	0.812	0.312	0.625	0.406	
HVN-11	3/4"	0.750	0.875	0.312	0.750	0.468	
HVN-12	3/4"	0.750	0.875	0.312	0.750	0.468	

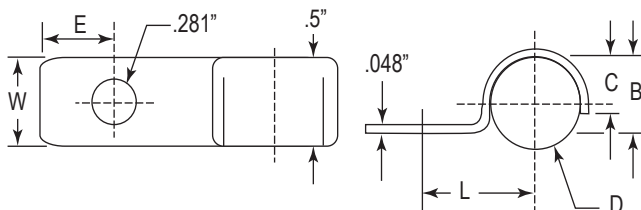
HSN LOOP CLAMPS

STAINLESS STEEL 1/2" WIDE



FEATURES:

- Stainless steel, Type 301 or 304



HSN Stainless Steel							
Part Number	Size in.	Dimensions (in)					
		D	L	E	B	C	W
HSN-04	1/4"	0.250	0.500	0.250	0.250	0.188	1/2"
HSN-05	5/16"	0.312	0.531	0.312	0.312	0.218	5/8"
HSN-06	3/8"	0.375	0.562	0.312	0.375	0.281	
HSN-08	1/2"	0.500	0.687	0.312	0.500	0.343	
HSN-09	9/16"	0.562	0.750	0.312	0.562	0.437	
HSN-10	5/8"	0.625	0.812	0.312	0.625	0.406	
HSN-11	3/4"	0.750	0.875	0.312	0.750	0.468	
HSN-12	3/4"	0.750	0.875	0.312	0.750	0.468	



PYTHON CABLE CLAMPS



PYTHON SERIES

STRONG: Load is applied at right angles to ensure tight fit. Python hose clamps keep their grip on the hose and can be reused. Rolled up band edges ensure a smooth transition between band and hose. Hexagonal screw head with drive slot makes for easy accessibility.



The **Python II** provides greater clamping force with less trouble than heavy-duty T-Bolt type clamps.

- Lower cost than T-Bolts with superb performance.
- Thicker band for greater tensile strength.
- Greater clamping range than T-Bolt 1½" clamping range over 2" diameter
- Zinc plated or 304, 316, or 430 stainless steel
- Non perforated band with embossed threads safely seals without cutting the hose.

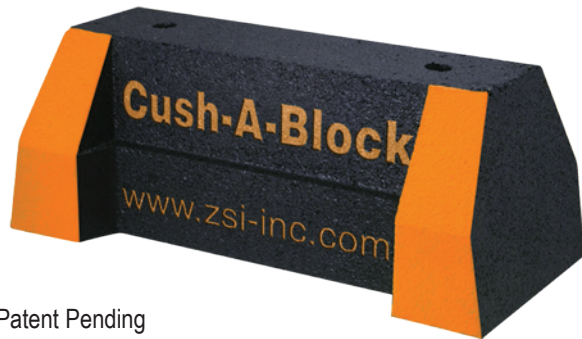


Python – Zinc Plated, or Stainless Steel Type 304				
Zinc Plated Part No.	Stainless Steel Part No.	SAE Size	Clamping Range	
			in.	mm
PY-3	PY-30	3	5/16 – 9/16	8 – 14
PY-4	PY-40S	4	7/16 – 11/16	11 – 17
PY-6	PY-60	6	1/2 – 13/16	13 – 20
PY-8	PY-80S	8	5/8 – 15/16	15 – 24
PY-10	PY-100	10	3/4 – 1 1/8	19 – 28
PY-12	PY-120	12	7/8 – 1 1/4	22 – 32
PY-16	PY-160	16	1 1/16 – 1 1/2	26 – 38
PY-20	PY-200	20	1 1/4 – 1 3/4	32 – 44
PY-24	PY-240	24	1 1/2 – 2	38 – 50
PY-28	PY-280	28	1 3/4 – 2 1/4	44 – 56
PY-32	PY-320	32	2 – 2 3/16	50 – 65
PY-40	PY-400	40	2 5/16 – 3	58 – 75
PY-44	PY-440	44	2 11/16 – 3 3/8	68 – 85
PY-52	PY-520	52	3 – 3 3/4	77 – 95
PY-64	PY-640	64	3 7/16 – 4 7/16	87 – 112
PY-80	PY-800	80	4 1/8 – 5 7/16	104 – 138
PY-96	PY-960	96	5 1/8 – 6 1/2	130 – 165
PY-104	PY-1040	104	5 7/8 – 7 7/8	150 – 180
PY-122	PY-1220	122	6 7/8 – 8 7/8	175 – 205
PY-138	PY-1380	138	7 7/8 – 9 7/8	200 – 231
PY-154	PY-1540	154	8 7/8 – 10 7/16	226 – 256
PY-170	PY-1700	170	9 7/8 – 11 7/8	251 – 282
PY-186	PY-1860	186	10 7/8 – 12 7/8	277 – 307

PYTHON II – Stainless Steel Type 316		
Part No.	Clamping Range	
	in.	mm
PY-331	5/16 – 9/16	8 – 14
PY-431	7/16 – 11/16	11 – 17
PY-631	1/2 – 13/16	13 – 20
PY-831	5/8 – 15/16	15 – 24
PY-1031	3/4 – 1 1/8	19 – 28
PY-1231	7/8 – 1 1/4	22 – 32
PY-1631	1 1/16 – 1 1/2	26 – 38
PY-2031	1 1/4 – 1 3/4	32 – 44
PY-2431	1 1/2 – 2	38 – 50
PY-2831	1 3/4 – 2 1/4	32 – 57
PY-3231	1 1/2 – 2 1/2	38 – 64
PY-3631	1 3/4 – 2 3/4	44 – 70
PY-4031	2 – 3	51 – 76
PY-4431	2 1/4 – 3 1/4	57 – 83
PY-4831	2 1/2 – 3 1/2	64 – 89
PY-5231	2 3/4 – 3 3/4	70 – 95
PY-5631	3 – 4	76 – 102
PY-6031	3 1/4 – 4 1/4	83 – 108
PY-6431	3 1/2 – 4 1/2	89 – 114
PY-7231	3 1/2 – 5	89 – 127
PY-8031	4 – 5 1/2	102 – 140
PY-8831	4 1/2 – 6	114 – 152
PY-9631	5 – 6 1/2	127 – 165
PY-10431	5 1/2 – 7	140 – 178
PY-11231	6 – 7 1/2	152 – 191
PY-12031	6 1/2 – 8	165 – 203
PY-12831	7 – 8 1/2	178 – 216
PY-13831	7 5/8 – 9 1/8	194 – 232
PY-15431	8 5/8 – 10 1/8	219 – 257
PY-17031	9 5/8 – 11 1/8	244 – 283
PY-18631	10 5/8 – 12 7/8	270 – 308



CUSH-A-BLOCK SUPPORTS



Patent Pending



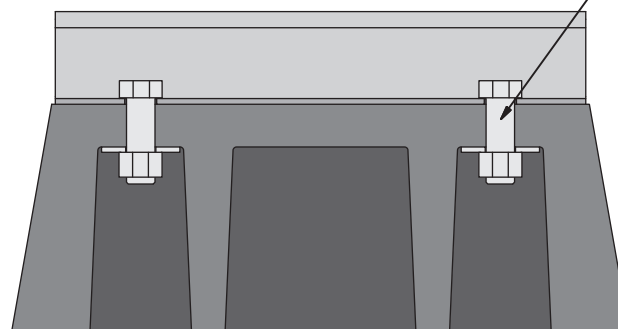
Cush-A-Block features:

- 100% Recycled Rubber
- LEED Certifiable
- Meets the Buy America Act and American Reinvestment Recovery Act (A.R.R.A.)
- Independent Laboratory Tested to the following
 - ASTM D575 Method B – Modified, Compression/Deflection
 - ASTM D1171 Modified – Ozone Resistance
 - Freeze/Thaw Environmental Simulation
- Resistance to Freeze and Thaw
- All 4 Corners coated with reflective safety orange for visibility
- Dampens Vibrations
- Compatible with most rooftop materials

Cush-A-Block support applications:

- Solar Racking
- Pipe & Conduit supports
- HVAC, Duct, Cable Tray supports
- Air Conditioning supports
- Roof Walkway supports

The channel for Cush-A-Block support assemblies includes a variety of options. The strut can be made in special lengths, finishes, and alloys including Aluminum, Stainless Steel both 304 & 316, PVC coated, Powder coated, Zinc Trivalent Chromium, Pre-Galvanized and Hot Dipped Galvanized.

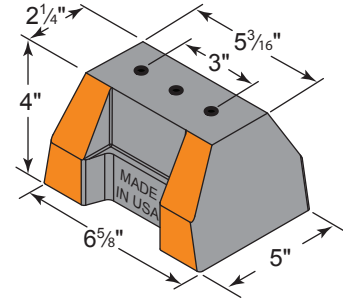


All Cush-A-Block products made with 1-5/8" and higher channel is equipped with (2) 1/2" x 1-1/2" hex head cap screws, washers and nuts.



CUSH-A-BLOCK SUPPORTS

CBS-MINI SERIES

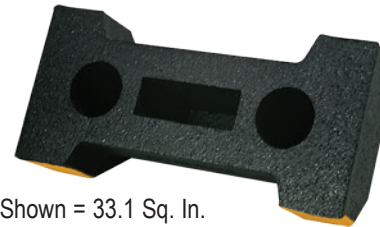
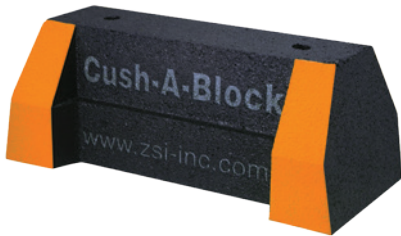


CBS-Mini Series	
Part No.	Uniform Load Capacity (Lbs) *
CBS-MINI	400 *

* This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof load capacity

CUSH-A-BLOCK SUPPORTS

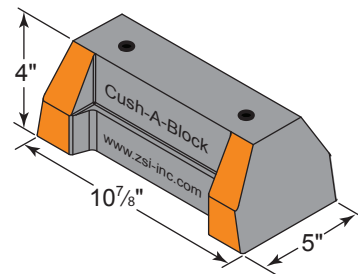
CBS BASE SERIES



Base Area Shown = 33.1 Sq. In.
For use in bearing calculations

CBS-Base Series	
Part No.	Uniform Load Capacity (Lbs) *
CBS	2,500 *

* This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof load capacity





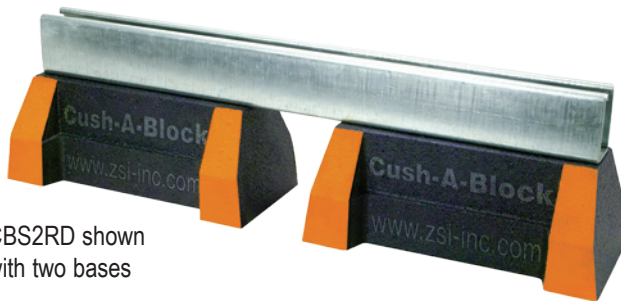
CUSH-A-BLOCK SUPPORTS

CBS SERIES W/METAL CHANNEL

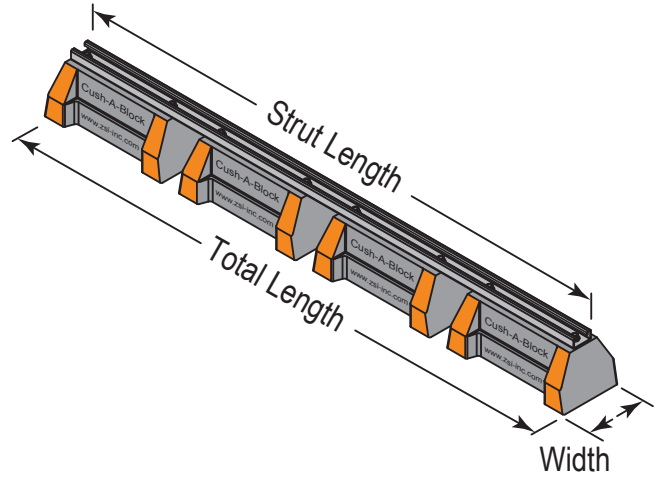
Standard strut mount pipe clamps are used to secure the pipes.

Note: Roof supports come pre-assembled

The CBS Series provides a longer mounting surface with strut lengths up to 46³/₈"



CBS2RD shown with two bases



CBS-Support With ¹³ / ₁₆ " Pre-Galv. Steel Channel					
	Part No.	No. of Bases	Strut Length	Total Length	Uniform Load Capacity (Lbs) *
	CBS1S	1	9.312"	10 ⁻⁷ / ₈ "	2,500 *
	CBS2S	2	22.375"	24"	5,000 *
	CBS3S	3	34.375"	36"	7,500 *
	CBS4S	4	46.375"	48"	10,000 *
CBS-Support With ¹⁵ / ₈ " Pre-Galv. Steel Channel					
	CBS1D	1	9.312"	10 ⁻⁷ / ₈ "	2,500 *
	CBS2D	2	22.375"	24"	5,000 *
	CBS3D	3	34.375"	36"	7,500 *
	CBS4D	4	46.375"	48"	10,000 *
CBS Support With ²⁷ / ₁₆ " Pre-Galv. Steel Channel					
	CBS1RD	1	9.312"	10 ⁻⁷ / ₈ "	2,500 *
	CBS2RD	2	22.375"	24"	5,000 *
	CBS3RD	3	34.375"	36"	7,500 *
	CBS4RD	4	46.375"	48"	10,000 *

* This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof load capacity



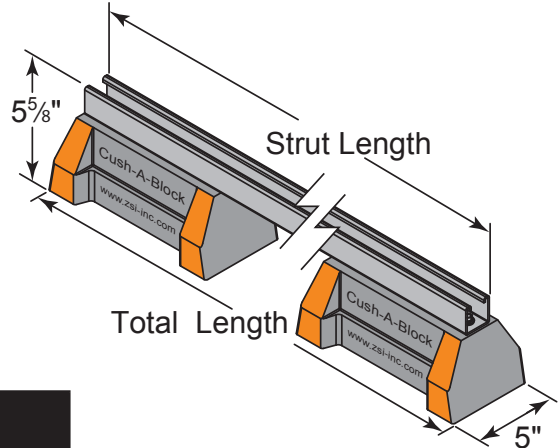
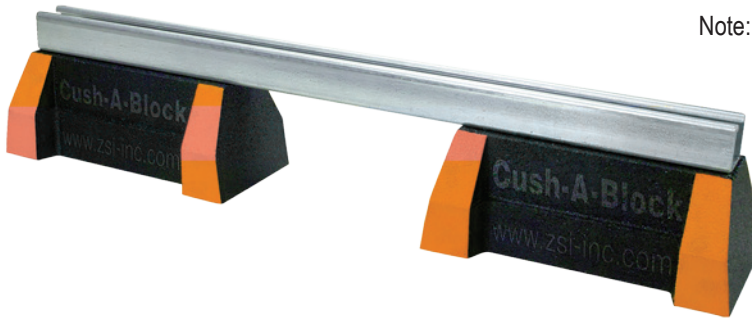
CUSH-A-BLOCK SUPPORTS

CBS-BR BRIDGE SERIES WITH CHANNEL



Standard strut mount pipe clamps are used to secure the pipes.

Note: Roof supports come pre-assembled



CBS-CB-Bridge Series - Bridge Length Supports With 2 CBS Bases and Channel			
Part No.	Strut Length	Total Length	Uniform Load Capacity (Lbs) *
CBS28BR	28"	29-3/4"	1,491*
CBS36BR	36"	37-3/4"	1,160*
CBS42BR	42"	43-3/4"	994*
CBS50BR	50"	51-3/4"	835*
CBS60BR	60"	61-3/4"	696*

* This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof load capacity

CUSH-A-BLOCK SUPPORTS

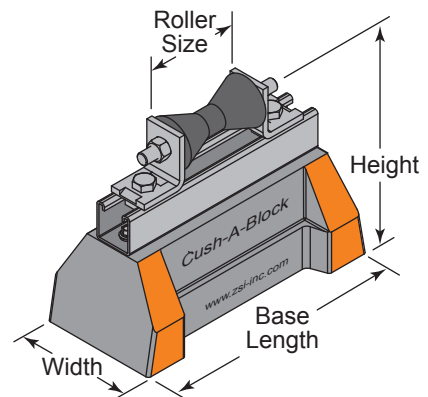
CBS-PRB SERIES, WITH PIPE ROLLER



Note: Roof supports come pre-assembled

CBS-R-Roller-Series With 1-5/8" Pre-Galv. Steel Channel With Rollers						
Part No.	Pipe Size (O.D.)	Height	Overall Height to Roller Center	Base Length	No. of Bases	Uniform Load Capacity (Lbs) *
CBS1PRB	1" to 2"	8"	7"	10-7/8"	1	2,500 *
CBS2PRB	2" to 3-1/2"				1	2,500 *
CBS3PRB	4" to 6"	8-1/8"	8-1/4"	24"	1	2,500 *
CBS4PRB	8" to 10"	10-5/16"			2	2,500 *

* This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof load capacity





CUSH-A-BLOCK SUPPORTS

CBS-CE SERIES WITH RAISED CHANNEL

Standard strut mount pipe clamps are used to secure the pipes.

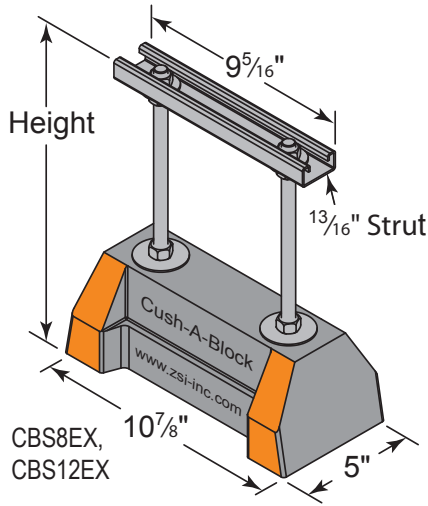
Note: Roof supports come pre-assembled



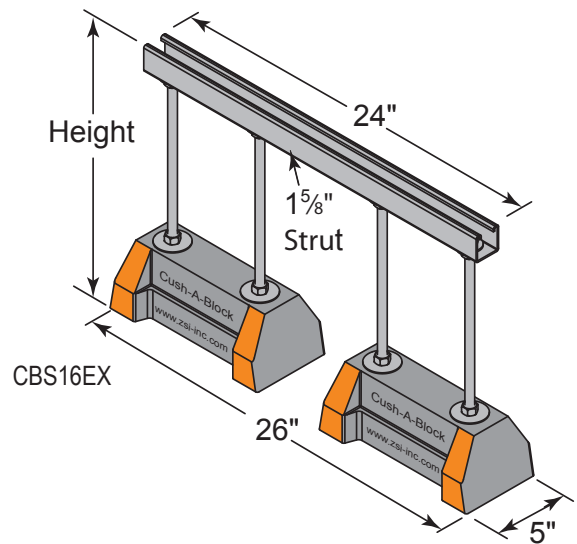
CBS8EX,
CBS12EX



CBS16EX



CBS8EX,
CBS12EX



CBS16EX

CBS-EX-Extension Series Support With Threaded Rod Extension and Channel		
Part No.	Height	Uniform Load Capacity (Lbs) *
CBS8EX	8"	1,000 *
CBS12EX	12"	1,000 *
CBS16EX	16"	2,000 *

* This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof load capacity

Cushioned Clamping

Insulating Clamping

Loop & Hose Clamps

Cush-A-Block

Z-Strut Channels

Beta Clamps

Z-Clamps

Gamma Pads



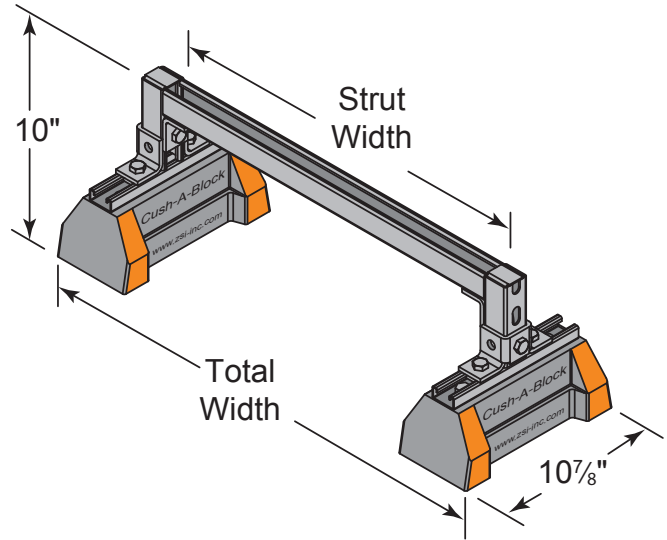
CUSH-A-BLOCK SUPPORTS

CBS-RB SERIES WITH RAISED BRIDGE MEDIUM SUPPORT



Standard strut mount pipe clamps are used to secure the pipes.

Note: Roof supports come pre-assembled



Raised Bridge Length With 2 CBS Bases 1-5/8" Pre-Galv Steel Channel				
Part No.	Base Width	Strut Width	Base Length	Uniform Load Capacity (Lbs) *
CBS1RB	18-5/8"	12"	10-7/8"	3,000 *
CBS2RB	30-5/8"	24"		1,500 *

* This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof load capacity

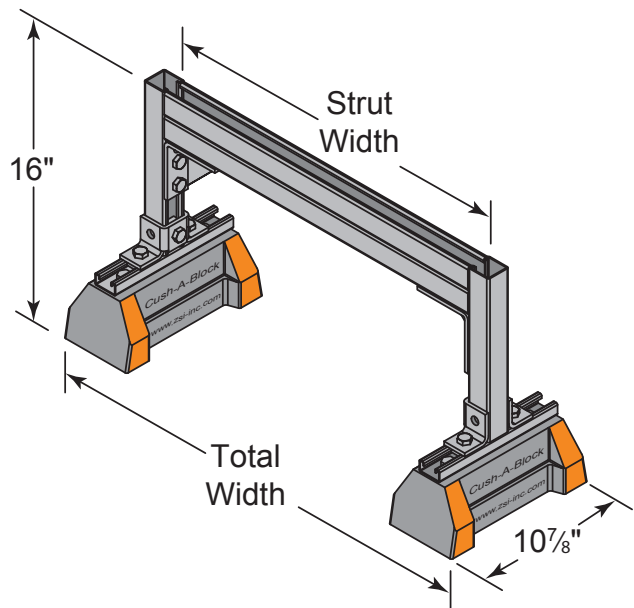
CUSH-A-BLOCK SUPPORTS

CBS-RB SERIES WITH RAISED CHANNEL HEAVY SUPPORT



Standard strut mount pipe clamps are used to secure the pipes.

Note: Roof supports come pre-assembled



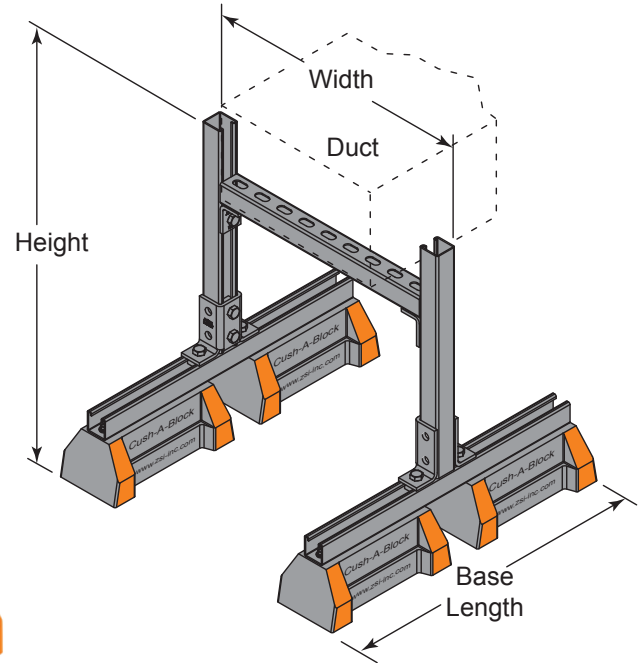
Raised Bridge Length With 2 CBS Bases 3-1/4" Back-to-Back Pre-Galv Steel Channel			
Part No.	Base Width	Strut Width	Uniform Load Capacity (Lbs) *
CBS3RB	30-5/8"	24"	3,500 *
CBS4RB	42-5/8"	36"	3,250 *

* This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof load capacity



CUSH-A-BLOCK SUPPORTS

CBS-DSFW SERIES, FIXED WIDTH
DUCT SUPPORT



CBS-DSF Duct Support Series With Fixed Width					
Model No.	Height	Width	Base Length	No. of Bases	Uniform Load Capacity (Lbs) *
CBS1-DSFW	23"	18"	24"	4	2042 *
CBS2-DSFW		24"			1531 *
CBS3-DSFW		36"			1021 *
CBS4-DSFW		48"			766 *
CBS5-DSFW	29"	18"	24"	4	2042 *
CBS6-DSFW		24"			1531 *
CBS7-DSFW		36"			1021 *
CBS8-DSFW		48"			766 *
CBS9-DSFW	41"	18"	24"	4	2042 *
CBS10-DSFW		24"			1531 *
CBS11-DSFW		36"			1021 *
CBS12-DSFW		48"			766 *
CBS13-DSFW	53"	18"	36"	6	2042 *
CBS14-DSFW		24"			1531 *
CBS15-DSFW		36"			1021 *
CBS16-DSFW		48"			766 *

* This load is only for the capacity of the components in this assembly.
Please consult roofing manufacturer or engineer for roof load capacity

Cushioned Clamping

Insulating Clamping

Loop & Hose Clamps

Cush-A-Block

Z-Strut Channels

Beta Clamps

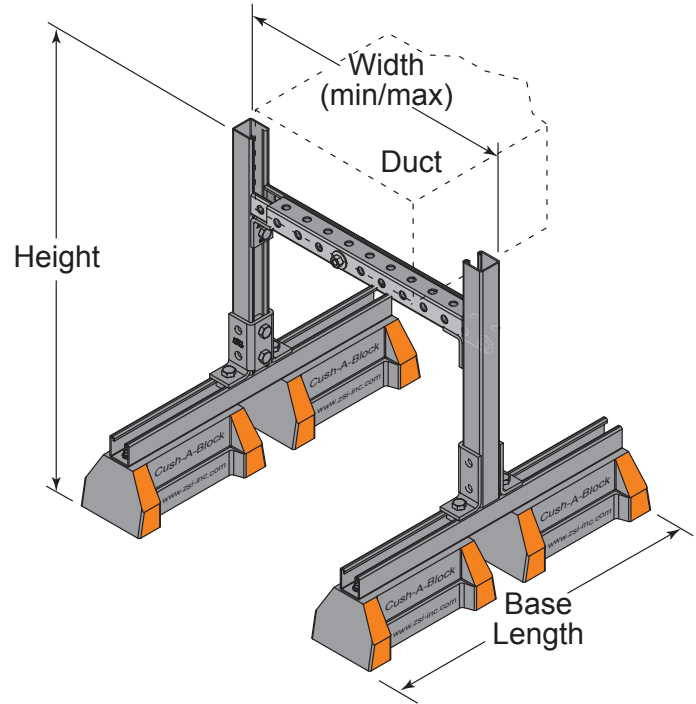
Z-Clamps

Gamma Pads



CUSH-A-BLOCK SUPPORTS

CBS-DS SERIES, ADJUSTABLE WIDTH
DUCT SUPPORT



The CBS-DS Series is designed specifically for ductwork support. The telescopic cross beam provides easy size adjustments.

Standard strut mount pipe clamps are used to secure the pipes.

Note: Roof supports come pre-assembled

CBS-DS-Duct Support Series With Adjustable Width and Height						
Part No.	Width		Height	Base Length	Total Bases	Uniform Load at Min. Width(Lbs) *
	Min.	Max.				
CBS1DS	19- ¹ / ₄ "	26- ³ / ₄ "	28.813"	10- ⁷ / ₈ " (276mm)	2	1,909 *
CBS2DS	24- ⁷ / ₈ "	39- ⁷ / ₈ "		10- ⁷ / ₈ " (276mm)	2	1,477 *
CBS3DS	38"	62- ³ / ₈ "		24" (610mm)	4	967 *
CBS4DS	62- ³ / ₈ "	103- ⁵ / ₈ "		36" (914mm)	6	589 *
CBS5DS	19- ¹ / ₄ "	26- ³ / ₄ "	36"	10- ⁷ / ₈ " (276mm)	2	1,909 *
CBS6DS	24- ⁷ / ₈ "	39- ⁷ / ₈ "		10- ⁷ / ₈ " (276mm)	2	1,477 *
CBS7DS	38"	62- ³ / ₈ "		24" (610mm)	4	967 *
CBS8DS	62- ³ / ₈ "	103- ⁵ / ₈ "		36" (914mm)	6	589 *

* This load is only for the capacity of the components in this assembly. Please consult roofing manufacturer or engineer for roof load capacity



All Z-Strut is 1-5/8" Wide, With 7/8" opening

STRUT PRODUCTS

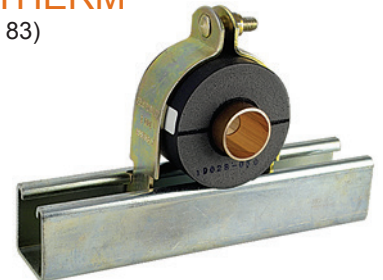
ZSi-Foster offers a line of standard strut channel and a variety of clamps tailored for use with strut. Cush-A-Clamp[®], Cush-A-Therm[™], and Porce-A-Clamp[™] provide cushioned clamping solutions.

Complementing products are offered for quick connection of pipe, tube and hose to strut.

ZSi-Foster's family of cushioned clamps presented earlier in the catalog offer solutions for isolation of the pipes from vibration or thermal transfers. And, "fire retardant" and "fire retardant, halogen free" options are available.

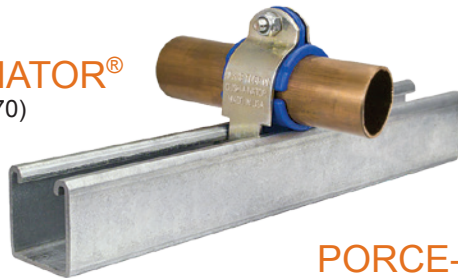
CUSH-A-THERM[™]

(See Page 82 - 83)



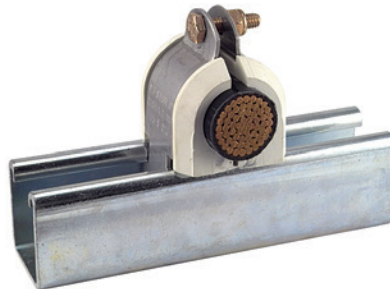
CUSH-A-NATOR[®]

(See Page 68 - 70)



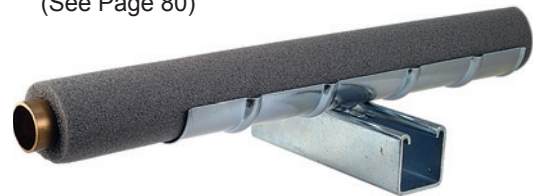
PORCE-A-CLAMP[™]

(See Page 79)



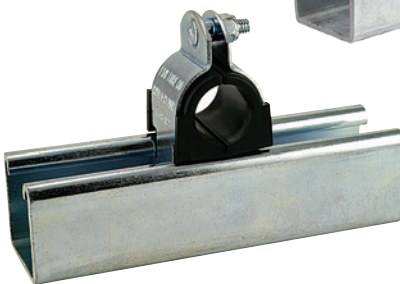
SADDLE-UP

(See Page 80)



CUSH-A-CLAMP[®]

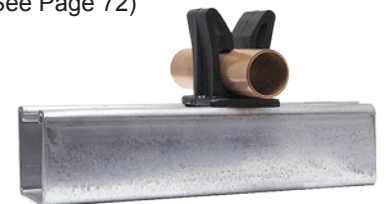
(See Page 71)



ZSi-Foster's family of non-metallic strut clamps allow quick and easy attachment of pipe, tube, and hose to Z-Strut support channels and are corrosion resistant. They are all a great and cost effective alternative to metallic clamps.

CUSH-A-CLAW

(See Page 72)



CUSH-A-CLIP

(See Page 73)



QUICK-CLIP

(See Page 87)



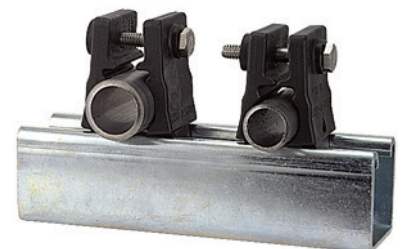
CUSH-A-CLICK

(See Page 87)



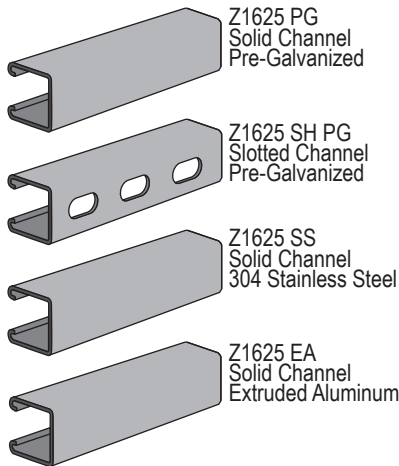
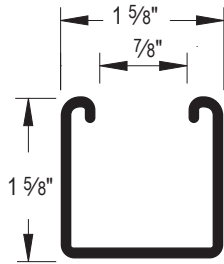
CUSH-A-GRIP

(See Page 74)





Z1625 SERIES

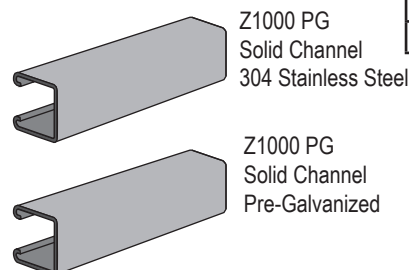
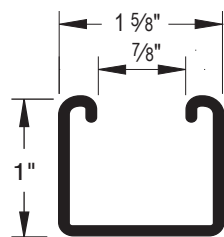


Z1625 - 1 5/8" x 1 5/8" Channel, 12 Ga.				
Solid Channel			Slotted Channel	Length
Pre-galvanized Part No.	Stainless Steel Type 304 Part No.	Extruded Aluminum Part No.	Pre-galvanized Part No.	
Z1625-06PG	Z1625-06SS	Z1625-06EA	Z1625SH-06PG	0' - 6"
Z1625-12PG	Z1625-12SS	Z1625-12EA	Z1625SH-12PG	1' - 0"
Z1625-18PG	Z1625-18SS	Z1625-18EA	Z1625SH-18PG	1' - 6"
Z1625-24PG	Z1625-24SS	Z1625-24EA	Z1625SH-24PG	2' - 0"
Z1625-30PG	Z1625-30SS	Z1625-30EA	Z1625SH-30PG	2' - 6"
Z1625-36PG	Z1625-36SS	Z1625-36EA	Z1625SH-36PG	3' - 0"
Z1625-42PG	Z1625-42SS	Z1625-42EA	Z1625SH-42PG	3' - 6"
Z1625-48PG	Z1625-48SS	Z1625-48EA	Z1625SH-48PG	4' - 0"
Z1625-54PG	Z1625-54SS	Z1625-54EA	Z1625SH-54PG	4' - 6"
Z1625-60PG	Z1625-60SS	Z1625-60EA	Z1625SH-60PG	5' - 0"

MATERIAL/FINISH

- Pre-galvanized – Steel conforming to ASTM A653 GR 33.
- Stainless Steel - Type 304 Stainless Steel conforming to ASTM A 240 (Type 304)
- Aluminum - Extruded Aluminum conforming to ASTM B221 (Type 6063-T6)

Z1000 SERIES

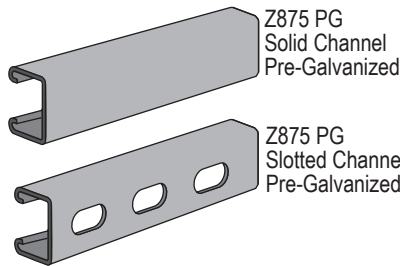
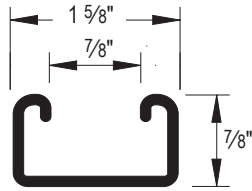


Z1000 - 1 5/8" x 1" Channel, 12 Ga.		
Solid Channel		
Pre-galvanized Part No.	Stainless Steel Type 304 Part No.	Length
Z1000-06PG	Z1000-06SS	0' - 6"
Z1000-12PG	Z1000-12SS	1' - 0"
Z1000-18PG	Z1000-18SS	1' - 6"
Z1000-24PG	Z1000-24SS	2' - 0"
Z1000-30PG	Z1000-30SS	2' - 6"
Z1000-36PG	Z1000-36SS	3' - 0"
Z1000-42PG	Z1000-42SS	3' - 6"
Z1000-48PG	Z1000-48SS	4' - 0"
Z1000-54PG	Z1000-54SS	4' - 6"
Z1000-60PG	Z1000-60SS	5' - 0"

MATERIAL/FINISH

- Pre-galvanized – Steel conforming to ASTM A653 GR 33.
- Stainless Steel - Type 304 Stainless Steel conforming to ASTM A 240 (Type 304)

Z875 SERIES

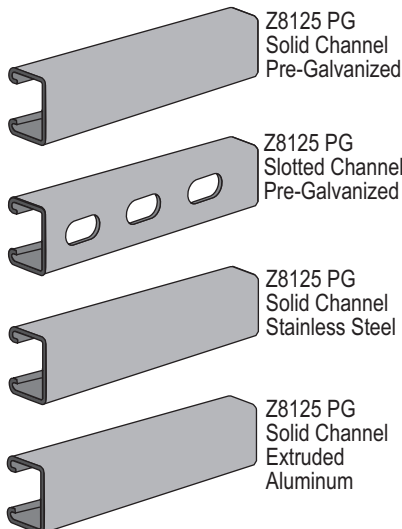
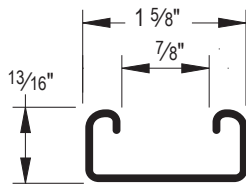


Z875 - 1 ⁵ / ₈ " x 7 ⁷ / ₈ " Channel, 12 Ga.			
Solid Channel		Slotted Channel	Length
Pre-galvanized Part No.		Pre-galvanized Part No.	
Z875-06PG		Z875SH-06PG	0' - 6"
Z875-12PG		Z875SH-12PG	1' - 0"
Z875-18PG		Z875SH-18PG	1' - 6"
Z875-24PG		Z875SH-24PG	2' - 0"
Z875-30PG		Z875SH-30PG	2' - 6"
Z875-36PG		Z875SH-36PG	3' - 0"
Z875-42PG		Z875SH-42PG	3' - 6"
Z875-48PG		Z875SH-48PG	4' - 0"
Z875-54PG		Z875SH-54PG	4' - 6"
Z875-60PG		Z875SH-60PG	5' - 0"

MATERIAL/FINISH

- Pre-galvanized – Steel conforming to ASTM A653 GR 33.
- Stainless Steel - Type 304 Stainless Steel conforming to ASTM A 240 (Type 304)
- Aluminum - Extruded Aluminum conforming to ASTM B221 (Type 6063-T6)

Z8125 SERIES



Z8125 - 1 ⁵ / ₈ " x 1 ³ / ₁₆ " Channel, 14 Ga.				Length
Solid Channel			Slotted Channel	
Pre-galvanized Part No.	Stainless Steel Type 304 Part No.	Extruded Aluminum Part No.	Pre-galvanized Part No.	
Z8125-06PG	Z8125-06SS	Z8125-06EA	Z8125SH-06PG	0' - 6"
Z8125-12PG	Z8125-12SS	Z8125-12EA	Z8125SH-12PG	1' - 0"
Z8125-18PG	Z8125-18SS	Z8125-18EA	Z8125SH-18PG	1' - 6"
Z8125-24PG	Z8125-24SS	Z8125-24EA	Z8125SH-24PG	2' - 0"
Z8125-30PG	Z8125-30SS	Z8125-30EA	Z8125SH-30PG	2' - 6"
Z8125-36PG	Z8125-36SS	Z8125-36EA	Z8125SH-36PG	3' - 0"
Z8125-42PG	Z8125-42SS	Z8125-42EA	Z8125SH-42PG	3' - 6"
Z8125-48PG	Z8125-48SS	Z8125-48EA	Z8125SH-48PG	4' - 0"
Z8125-54PG	Z8125-54SS	Z8125-54EA	Z8125SH-54PG	4' - 6"
Z8125-60PG	Z8125-60SS	Z8125-60EA	Z8125SH-60PG	5' - 0"

MATERIAL/FINISH

- Pre-galvanized – Steel conforming to ASTM A653 GR 33.
- Stainless Steel - Type 304 Stainless Steel conforming to ASTM A 240 (Type 304)
- Aluminum - Extruded Aluminum conforming to ASTM B221 (Type 6063-T6)



Beta Clamps are ideal for clamping pipe, tube, hose, and electric cables. They are an economical and easy way of securing them in all types of terrestrial, marine, O.E.M. and Industrial applications. Thanks to the advanced features and the breadth and depth of our product offering, Beta Clamps are used in all areas of industrial, mobile and marine hydraulics, general industrial pipe construction, the field of press technology, instrumentation and control technology and many more.

- Beta Clamps offer shock-absorption, vibration dampening and noise reducing properties.
- Beta Clamps feature a practical and economical design which make for quick, easy pipe installation and layout.
- Using weldable plates, it's easy to anchor the clamps to machinery and steel work.
- Fast, safe, economic installation and service in piping system.
- Upper and lower clamp half are identical.
- Ribs in clamp bore are designed to absorb shock and vibration in the direction of the tube axis.
- Due to their design the clamps can be easily cleaned.

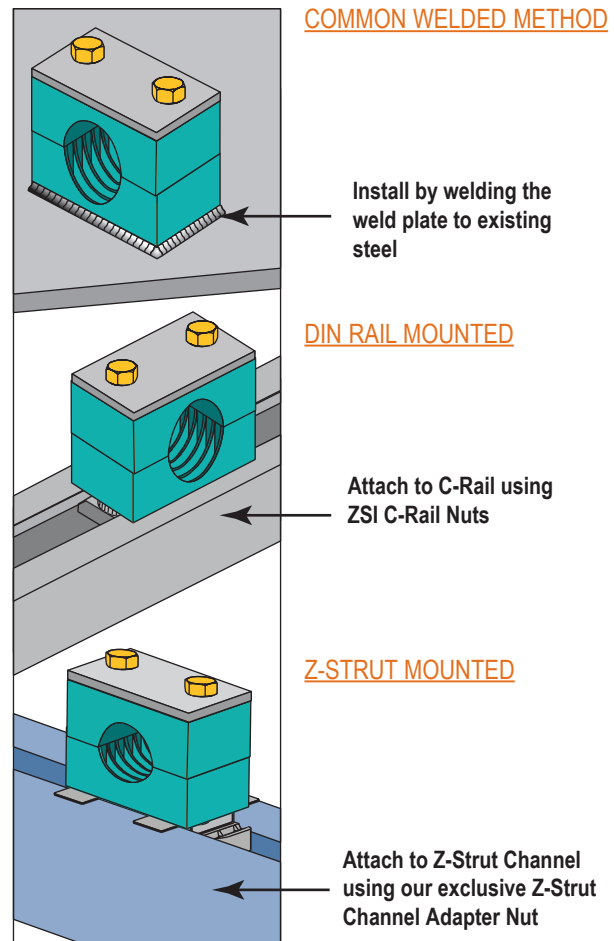
CLAMP BODY

- Standard – Polypropylene (Green Color)
-22°F to 194°F (-30°C to +90°C)
- Aluminum is available for use in high heat applications

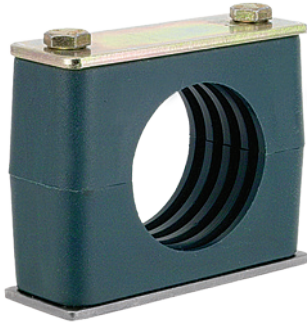
CLAMP COMPONENTS – The other metallic components of the clamps are manufactured in:

- Lower and upper plates: steel, stainless steel type 304
- Screw bolts: steel, S40C, stainless steel type 304
- Other metallic on request.

ZSi-Foster offers an installation option for all of your application needs.

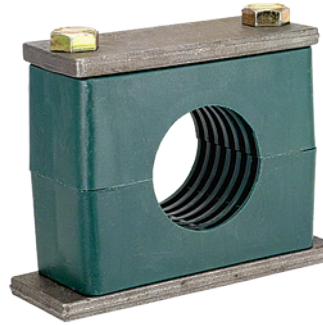


BETA STANDARD (Pages 110 - 111)



- For standard hydraulics and systems with less than 1500 PSI without dynamic loads
- Polypropylene cushion
- Steel components

BETA HEAVY (Pages 112 - 113)



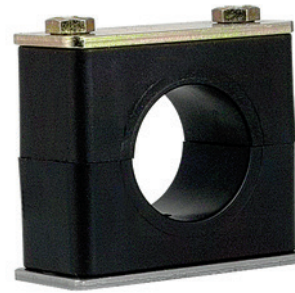
- For systems with greater than 1500 PSI operating pressure, operations with pressure surges, and applications with wide temperature fluctuations.
- Absorbs high levels of shock, noise, and vibration
- Polypropylene cushion & steel components

BETA TWIN (Pages 114 - 115)



- For standard hydraulics, general pipe construction and electrical cables
- Polypropylene cushion
- Steel components

BETA SMOOTHIE (Page 116)



- Reduces wear on hose connection caused by vibration and surge.
- Chamfered and smooth core protects hose cover and extends hose life.
- Uses Beta Standard hardware
- Polypropylene cushion
- Steel components

BETA SMOOTHIE TWIN (Page 117)



- Reduces wear on hose connection caused by vibration and surge.
- Chamfered and smooth core protects hose cover and extends hose life.
- Uses Beta Twin hardware
- Polypropylene cushion
- Steel components

BETA SPECIAL METALS (Pages 110, 112, 114)



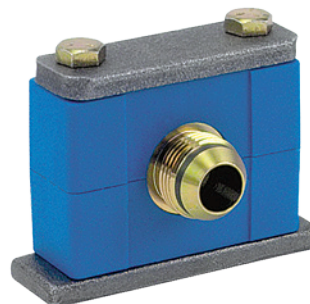
- Aluminum cushions with steel components are used in high heat applications up to 500°F
- Stainless steel clamp hardware with polypropylene cushion are used in applications where external corrosion is a concern.

BETA RUBBER INSERTS (Pages 118 - 119)



- Available in standard and heavy
- One cushion block provides flexible size range of cushioning.
- Smooth bore core can be used on hose, or for vibration reduction

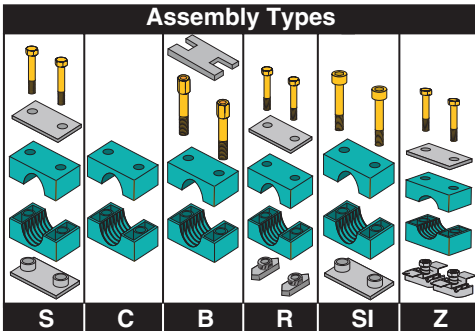
BETA ADAPTER (Page 120)



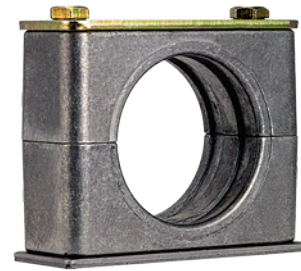
- Allows a clamping junction to be inserted into hydraulic lines.
- The adapter body is offered in two sizes for use with the Z-Clamp adapter inserts.



BETA CLAMPS STANDARD SERIES



Steel w/
Polypropylene
Cushion

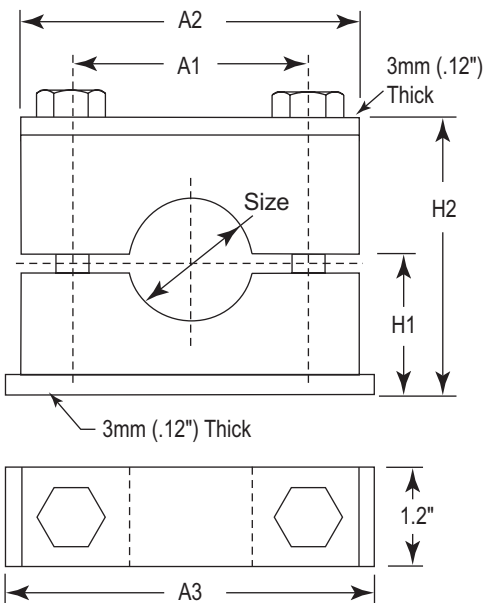


Steel w/
Aluminum
Cushion

BETA STANDARD SERIES

- Cushions are Polypropylene (Green Color)
- Recommended for systems with less than 1500 PSI without dynamic loads.
- Use for standard hydraulics, general pipe construction, electrical cables, and general duty piping applications subject to moderate levels of shock and vibration.
- Aluminum cushions and are used in higher heat applications up to 500 Degrees.

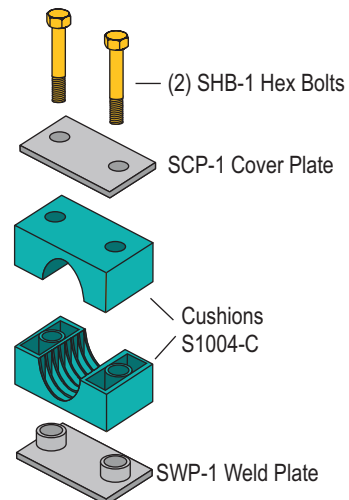
INSTALLATION - Refer to pages 147-148 for complete installation guide.



Group	Part No. *	Tube Size	Pipe Size	Metric Size	Dimensions - inch (mm)					Bolt	
					A1	A2	A3	H1	H2		
S1	S1004	1/4" (0.250)	-	-	0.78 (20)	1.34 (34)	1.41 (36)	0.62 (16)	1.25 (32)	1/4"- 20 x 1 1/4"	
	S1006	3/8" (0.375)	-	-							
	SM1006	-	-	6mm							
	S1007	-	1/8" (0.405)	-							
	SM1008	-	-	8mm							
S2	SM1012	-	-	12mm	1.02 (26)	1.57 (40)	1.65 (42)	0.76 (19.5)	1.54 (39)	1/4"- 20 x 1 3/8"	
	S2008	1/2" (0.500)	-	-							
	S2009	-	1/4" (0.540)	-							
	S2010	5/8" (0.625)	-	-							
	S2011	-	3/8" (0.675)	-							
	SM2014	-	-	14mm							
	SM2015	-	-	15mm							
S3	SM2018	-	-	18mm	1.29 (33)	1.96 (50)	2.04 (52)	0.80 (20.5)	1.61 (41)	1/4"- 20 x 1 1/2"	
	S3012	3/4" (0.750)	-	-							
	S3014	-	1/2" (0.840)	-							
	S3015	7/8" (0.875)	-	-							
	S3016	1" (1.000)	-	-							
S4	SM3020	-	-	20mm	1.57 (40)	2.28 (58)	2.36 (60)	0.94 (24)	1.88 (48)	1/4"- 20 x 1 3/4"	
	SM3025	-	-	25mm							
	S4017	-	3/4" (1.050)	-							
S5	S4018	1 1/8" (1.125)	-	-	2.04 (52)	2.75 (70)	2.83 (72)	1.25 (32)	2.52 (64)	1/4"- 20 x 2 1/2"	
	SM4030	-	-	30mm							
	S5020	1 1/4" (1.250)	-	-							
	S5021	-	1" (1.315)	-							
	S5024	1 1/2" (1.500)	-	-							
S6	S5027	-	1 1/4" (1.660)	-	2.59 (66)	3.38 (86)	3.46 (88)	1.41 (36)	2.83 (72)	1/4"- 20 x 2 3/4"	
	SM5035	-	-	35mm							
	S6028	1 3/4" (1.750)	-	-							
S7	S6030	-	1 1/2" (1.900)	-	3.70 (94)	4.75 (121)	4.81 (122)	2.00 (51)	4.05 (103)	1/4"- 20 x 4"	
	S6032	2" (2.000)	-	-							
	S7038	-	2" (2.375)	-							
	S7036	2 1/4" (2.250)	-	-							
	S7040	2 1/2" (2.500)	-	-							
	S7044	2 3/4" (2.750)	-	-							
S7048	3" (3.000)	-	-								
SUFFIX	*For additional sizes contact factory. Note: Add assembly type to part number. Example: S-1004S-SS provides the complete assembly as shown with stainless steel components. NOTE: SM (metric) only available in Steel with Polypropylene (green) cushion.										
		Components	Cushion	Example							
	none	Steel	Polypropylene (green)	S-1004S							
	-AL	Steel	Aluminum	S-1004S-AL							
-SS	Stainless Steel	Polypropylene (green)	S-1004S-SS								

STANDARD SERIES COVER PLATE			STANDARD SERIES SAFETY PLATE		
	SCP1	Use with Group S1		SP1	Use with Group S1
	SCP2	Use with Group S2		SP2	Use with Group S2
	SCP3	Use with Group S3		SP3	Use with Group S3
	SCP4	Use with Group S4		SP4	Use with Group S4
	SCP5	Use with Group S5		SP5	Use with Group S5
	SCP6	Use with Group S6		SP6	Use with Group S6
	SCP7	Use with Group S7			
HEX BOLT (Two required per assembly)			STANDARD SERIES CAP SCREW (Two required per assembly)		
	SHB1	Use with Group S1		SC-1	Use with Group S1
	SHB2	Use with Group S2		SC-2	Use with Group S2
	SHB3	Use with Group S3		SC-3	Use with Group S3
	SHB4	Use with Group S4		SC-4	Use with Group S4
	SHB5	Use with Group S5		SC-5	Use with Group S5
	SHB6	Use with Group S6		SC-6	Use with Group S6
	SHB7	Use with Group S7			
STACKING BOLTS (Two required per assembly)			C-RAIL NUT (Two required per assembly)		
	SB1	Use with Group S1		SRN1-6	1/4" nut, Use with SCR Rail
	SB2	Use with Group S2			
	SB3	Use with Group S3			
	SB4	Use with Group S4			
	SB5	Use with Group S5			
	SB6	Use with Group S6			
STANDARD SERIES WELD PLATE			C-RAIL		
	SWP1	Use with Group S1		SCR1	39" (1 meter)
	SWP2	Use with Group S2		SCR2	78" (2 meter)
	SWP3	Use with Group S3			
	SWP4	Use with Group S4			
	SWP5	Use with Group S5			
	SWP6	Use with Group S6			
	SWP7	Use with Group S7			
STRUT NUT - For connection to Z-Strut Channel (Two required per assembly)			Z-Strut		
	ZSA1-8	Use with Groups S1-S8		Z1625	1 5/8" x 1 5/8"
				Z8125	1 5/8" x 1 3/16"
		Z1000		1 5/8" x 1"	
		Z875		1 5/8" x 7/8"	

ORDERING EXAMPLE		
S1004S		
Assembly Includes		
Quantity	Part No.	Description
1 Each	SWP1	Weld Plate
1 Each	SCP1	Cover Plate
2 Each	SHB1	Hex Bolts
1 set	S1004C	Cushions



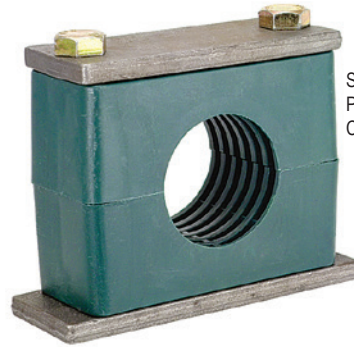
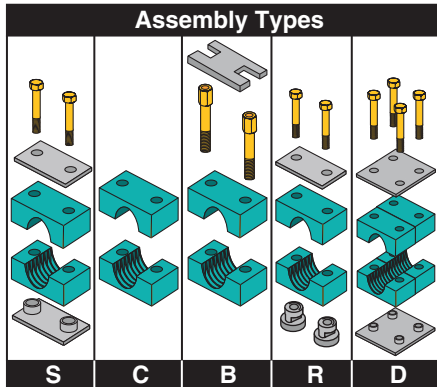


BETA CLAMPS - HEAVY



BETA CLAMPS

HEAVY SERIES



Steel w/
Polypropylene
Cushion

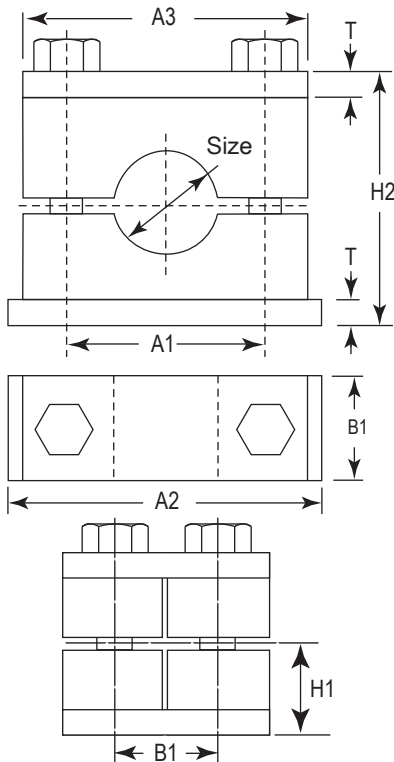


Steel w/
Aluminum
Cushion

BETA HEAVY SERIES

- Recommended systems with greater than 1500 PSI operating pressure, operations with pressure surges, and applications with wide temperature fluctuations.
- Absorbs high levels of shock, noise, and vibration
- Cushions are polypropylene (Green color) or Aluminum.
- Aluminum cushions and are used in higher heat applications up to 500 Degrees.

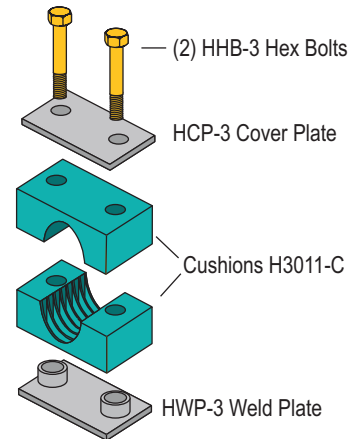
INSTALLATION - Refer to pages 147-148 for complete installation guide.



Group	Part No.	Tube Size	Pipe Size	Dimensions-inch(mm)						Hex Bolt	
				A1	A2	A3	B1	H1	H2		T
H3	H3004	1/4" (0.250)	-	1.29 (33)	2.87 (73)	2.16 (55)	1.18 (30)	0.94 (24)	1.88 (48)	0.31 (8)	3/8"-16 x 1 3/4"
	H3006	3/8" (0.375)	-								
	H3007	-	1/8" (0.405)								
	H3008	1/2" (0.500)	-								
	H3009	-	1/4" (0.540)								
	H3010	5/8" (0.625)	-								
H4	H4012	3/4" (0.750)	-	1.77 (45)	3.34 (85)	2.75 (70)	1.18 (30)	1.25 (32)	2.51 (64)	0.31 (8)	3/8"-16 x 2-1/4"
	H4014	-	1/2" (0.840)								
	H4015	7/8" (0.875)	-								
	H4016	1" (1.000)	-								
	H4017	-	3/4" (1.050)								
H5	H5020	1 1/4" (1.250)	-	2.36 (60)	3.93 (100)	3.30 (84)	1.18 (30)	1.49 (38)	2.99 (76)	0.31 (8)	3/8"-16 x 2-3/4"
	H5021	-	1" (1.315)								
	H5024	1 1/2" (1.500)	-								
	H5027	-	1 1/4" (1.660)								
H6	H6028	1 3/4" (1.750)	-	3.54 (90)	5.90 (150)	4.52 (115)	1.77 (45)	2.16 (55)	4.33 (110)	0.39 (10)	1/2"-13 x 4"
	H6032	2" (2.000)	-								
	H6034	2 1/4" (2.250)	-								
	H6038	2 3/8" (2.375)	2" (2.375)								
	H6040	2 1/2" (2.500)	-								
H7	H7044	2 3/4" (2.750)	-	4.80 (122)	7.08 (180)	5.98 (152)	2.36 (60)	2.75 (70)	5.51 (140)	0.39 (10)	5/8"-11x 5-1/4"
	H7046	-	2 1/2" (2.870)								
	H7050	3" (3.000)	-								
	H7056	-	3" (3.500)								
H8	H8072	-	4" (4.500)	6.61 (168)	8.86 (225)	8.07 (205)	3.15 (80)	3.94 (100)	7.87 (200)	0.59 (15)	3/4"-10 x 7 1/2"
	H9089	-	5" (5.563)	8.07 (221)	10.63 (270)	9.92 (252)	3.54 (90)	4.53 (115)	9.06 (230)	0.59 (15)	7/8"-9 x 8-1/4"
H9	H9106	-	6" (6.625)	10.43 (265)	13.39 (340)	12.60 (320)	4.72 (120)	6.30 (160)	12.60 (320)	0.98 (25)	M30 x300mm
H10	H10137	-	8" (8.625)	15.55 (395)	20.47 (520)	18.35 (466)	6.30 (160)	9.25 (235)	18.50 (470)	1.18 (30)	M30 x450mm
H11	H11170	-	10" (10.750)	15.55 (395)	20.47 (520)	18.35 (466)	6.30 (160)	9.25 (235)	18.50 (470)	1.18 (30)	M30 x450mm
		*For additional sizes contact factory. Note: Add assembly type to part number. Example: H-3004S-SS provides the complete assembly as shown with stainless steel components.									
	SUFFIX	Components	Cushion	Example (complete assembly):							
	NONE	Steel	Polypropylene (green)	H-3004S							
	-AL	Steel	Aluminum	H-3004S-AL							
	-SS	Stainless Steel	Polypropylene (green)	H-3004S-SS							

HEAVY SERIES COVER PLATE			HEAVY SERIES SAFETY PLATE			C-RAIL NUTS (Two required per single assembly)		
	HCP3	Use w/Group H3		HSP3	Use w/Group H3		HRN-3-5	3/8" nut, Use w/ Groups H3-H5
	HCP4	Use w/Group H4		HSP4	Use w/Group H4		HRN6	7/1" nut, Use w/ Group H6
	HCP5	Use w/Group H5		HSP5	Use w/Group H5		Note: Rail mounted stacking kit is only available on groups H3, H4, and H5	
	HCP6	Use w/Group H6		HSP6	Use w/Group H6			
	HCP7	Use w/Group H7		HSP7	Use w/Group H7			
	HCP8	Use w/Group H8		HSP8	Use w/Group H8			
	HCP9	Use w/Group H9		HSP9	Use w/Group H9			
HEAVY SERIES HEX BOLTS (Two required per single assembly)			HEAVY SERIES STACKING BOLTS (Two required per single assembly)			C-RAIL		
	HHB3	Use w/Group H3		HSB3	Use w/Group H3		HCR-1	39" (1 meter)
	HHB4	Use w/Group H4		HSB4	Use w/Group H4		HCR-2	78" (2 meter)
	HHB5	Use w/Group H5		HSB5	Use w/Group H5	<p>40 mm 13 mm 5 mm 22 mm</p>		
	HHB6	Use w/Group H6		HSB6	Use w/Group H6			
	HHB7	Use w/Group H7		HSB7	Use w/Group H7			
	HHB8	Use w/Group H8		HSB8	Use w/Group H8			
	HHB9	Use w/Group H9		HSB9	Use w/Group H9			
HEAVY SERIES WELD PLATE			HEAVY SERIES DOUBLE WELD PLATE			HEAVY SERIES DOUBLE COVER PLATE		
	HWP3	Use w/Group H3		HDP3	Use w/Group H3		DCP3	Use w/Group H3
	HWP4	Use w/Group H4		HDP4	Use w/Group H4		DCP4	Use w/Group H4
	HWP5	Use w/Group H5		HDP5	Use w/Group H5		DCP5	Use w/Group H5
	HWP6	Use w/Group H6		HDP6	Use w/Group H6		DCP6	Use w/Group H6
	HWP7	Use w/Group H7		HDP7	Use w/Group H7		DCP7	Use w/Group H7
	HWP8	Use w/Group H8						
	HWP9	Use w/Group H9						

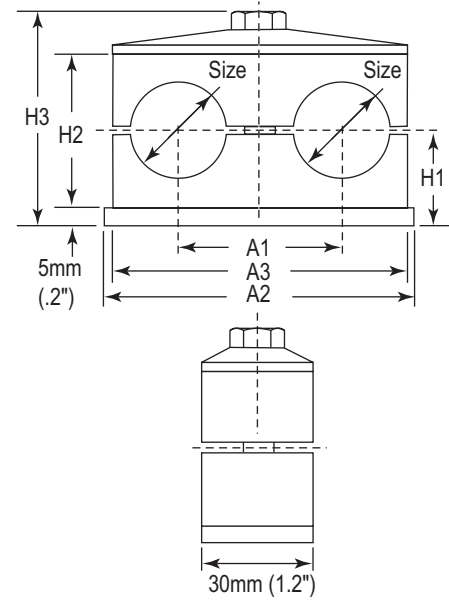
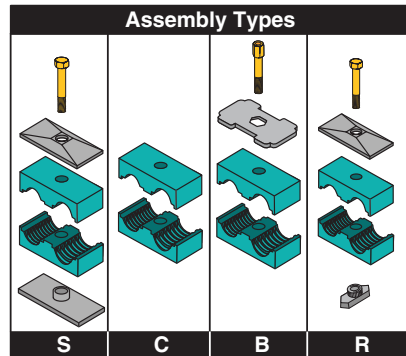
ORDERING EXAMPLE		
H3004S		
Assembly Includes		
Quantity	Part No.	Description
1 Each	HWP-3	Weld Plate
1 Each	HCP-3	Cover Plate
2 Each	HHB-3	Hex Bolts
1 set	H3011C	Cushions





BETA CLAMPS

TWIN SERIES



BETA CLAMPS TWIN SERIES are ideal for general-duty applications subject to moderate levels of shock and vibration. Cushions in this series are Polypropylene (Green Color).

Call factory for additional sizes and cushion materials

INSTALLATION - Refer to pages 147-148 for complete installation guide.

Group	Steel Part No.	Tube Size	Pipe Size	Dimensions - inch (mm)						WT/100	Hex Bolt
				A1	A2	A3	H1	H2	H3		
T1	T1004	1/4"								21	1/4"-20 x 1 3/8"
	T1006	3/8"		0.78 (20)	1.45 (37)	1.41 (36)	0.72 (18.5)	1.06 (27)	1.69 (43)	21	
	T1007		1/8"							21	
T2	T2008	1/2"								31	5/16"-18 x 1 3/8"
	T2009		1/4"	1.14 (29)	2.16 (55)	2.08 (53)	0.70 (18)	1.02 (26)	1.71 (43.5)	31	
	T2010		5/8"							31	
	T2011		3/8"							31	
T3	T3012	3/4"								40	5/16"-18 x 1 3/4"
	T3014		1/2"	1.41 (36)	2.75 (70)	2.63 (67)	0.92 (23.5)	1.45 (37)	2.14 (54.5)	39	
	T3015		7/8"							39	
	T3016		1"							38	
T4	T4017		3/4"	1.77 (45)	3.34 (85)	3.22 (82)	1.02 (26)	1.65 (42)	2.34 (59.5)	49	5/16"-18 x 2"
	T4018		1 1/8"							49	
T5	T5020	1 1/4"								65	5/16"-18 x 2-3/8"
	T5021		1"	2.20 (56)	4.33 (110)	4.17 (106)	1.25 (32)	2.12 (54)	2.81 (71.5)	65	
	T5024		1 1/2"							64	
	T5027		1 1/4"							62	

* For additional sizes contact factory.

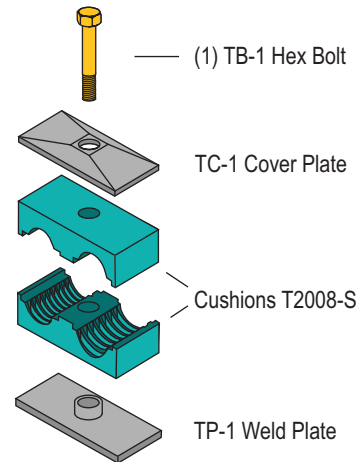
Note: Add assembly type to part number.

Example: **T1004S-SS** provides the complete assembly as shown with stainless steel components.

SUFFIX	Components		Cushion		Example	
	none	Steel	Polypropylene (green)		T1004S	
SS	Stainless Steel	Polypropylene (green)		T1004S-SS		

TWIN SERIES COVER PLATE			TWIN SERIES SAFETY PLATE		
	TC1	Use with Group T1		TSP1	Use with Group T1
	TC2	Use with Group T2		TSP2	Use with Group T2
	TC3	Use with Group T3		TSP3	Use with Group T3
	TC4	Use with Group T4		TSP4	Use with Group T4
	TC5	Use with Group T5		TSP5	Use with Group T5
TWIN HEX BOLT			C-RAIL NUT		
	TB1	Use with Group T1		SRN1-6	1/4" Nut, Use with Group T1
	TB2	Use with Group T2		TRN2-5	5/16" Nut, Use with Group T2 to T5
	TB3	Use with Group T3			
	TB4	Use with Group T4			
	TB5	Use with Group T5			
TWIN STACKING BOLT			C-RAIL		
	TSB1	Use with Group T1		SCR1	39" (1 meter)
	TSB2	Use with Group T2		SCR2	78" (2 meter)
	TSB3	Use with Group T3			
	TSB4	Use with Group T4			
	TSB5	Use with Group T5			
TWIN SERIES WELD PLATE			<p>28 mm 11 mm 2 mm 11 mm</p>		
	TP1	Use with Group T1			
	TP2	Use with Group T2			
	TP3	Use with Group T3			
	TP4	Use with Group T4			
	TP5	Use with Group T5			

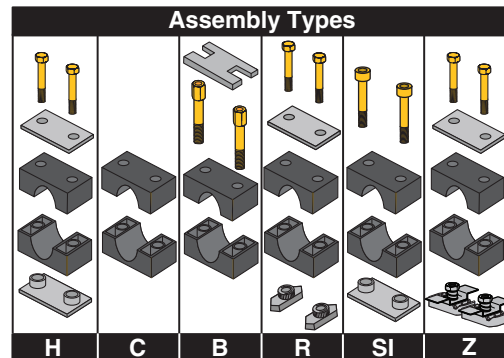
ORDERING EXAMPLE		
T2008S		
Assembly Includes		
Quantity	Part No.	Description
1 Each	TP1	Weld Plate
1 Each	TC1	Cover Plate
1 Each	TB1	Hex Bolts
1 set	T2008S	Cushions





BETA "SMOOTHIE"

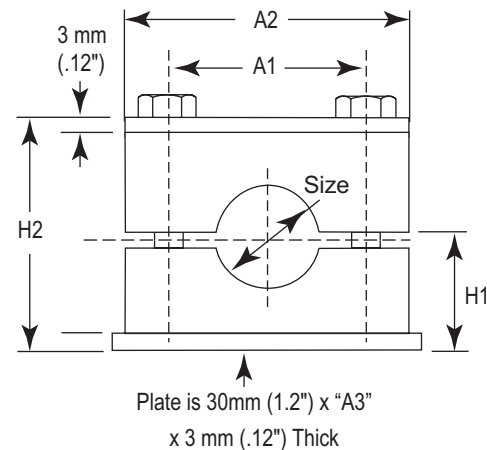
STANDARD SERIES



Beta "Smoothie" is ideal for general-duty applications where there is a need to reduce wear on hose connection caused by vibration and surge.

- Chamfered and smooth core protects hose cover and extends the life of the hose
- Uses Standard Beta hardware
- Reduces wear on hose connection caused by vibration and surge

INSTALLATION - Refer to pages 147-148 for complete installation guide.



Group	Part No.	SAE 100R1 Hose Size	Dimensions (Inches)					WT/100	Bolt
			A1	A2	A3	H1	H2		
S2	S2004H	1/4" (0.53)	1.02	1.57	1.65	0.76	1.535	20	1/4 - 20 x 1 3/8
	S2006H	3/8" (0.69)	1.02	1.57	1.65	0.76	1.535	20	
S3	S3008H	1/2" (0.81)	1.29	1.96	2.04	0.80	1.61	25	1/4 - 20 x 1 1/2
	S3010H	5/8" (0.93)	1.29	1.96	2.04	0.80	1.61	25	
S4	S4012H	3/4" (1.10)	1.57	2.28	2.36	0.94	1.88	29	1/4 - 20 x 1 3/4
S5	S5016H	1" (1.42)	2.05	2.75	2.83	1.25	2.52	39	1/4 - 20 x 2 1/2

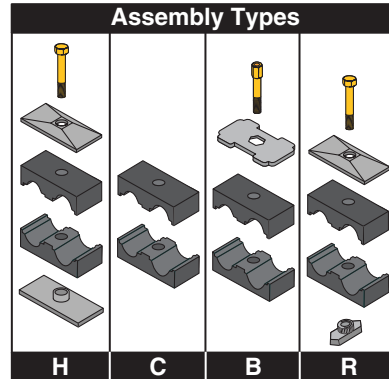
*For additional sizes and stainless steel contact factory.

Note: For configurations other than "H", Add Assembly type to Part No.

Example: **S2004H** provides the complete assembly as shown and **S2004H-Z** provides the "Z" assembly as shown

BETA "SMOOTHIE"

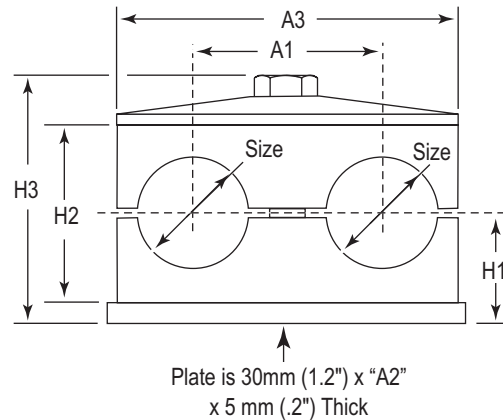
TWIN SERIES



Beta "Smoothie" is ideal for general-duty applications where there is a need to reduce wear on hose connection caused by vibration and surge.

- Chamfered and smooth core protects hose cover and extends the life of the hose
- Uses Standard Beta Twin hardware
- Reduces wear on hose connection caused by vibration and surge

INSTALLATION - Refer to pages 147-148 for complete installation guide.



Group	Part No.	SAE 100R1 Hose Size	Dimensions (Inches)						WT/100	Bolt
			A1	A2	A3	H1	H2	H3		
T2	T2004H	1/4" (0.53)	1.14	2.16	2.08	0.70	1.02	1.71	31	5/16 - 18 x 1 3/8
	T2006H	3/8" (0.69)	1.14	2.16	2.08	0.70	1.02	1.71		
T3	T3008H	1/2" (0.81)	1.41	2.75	2.63	0.92	1.45	2.14	39	5/16 - 18 x 1 3/4
T4	T4010H	5/8" (0.93)	1.77	3.34	3.22	1.02	1.65	2.34	49	5/16 - 18 x 2
	T4012H	3/4" (1.10)	1.77	3.34	3.22	1.02	1.65	2.34		
T5	T5016H	1" (1.42)	2.2	4.33	4.17	1.25	2.12	2.81	65	5/16 - 18 x 2 3/8

*For additional sizes and stainless steel contact factory.

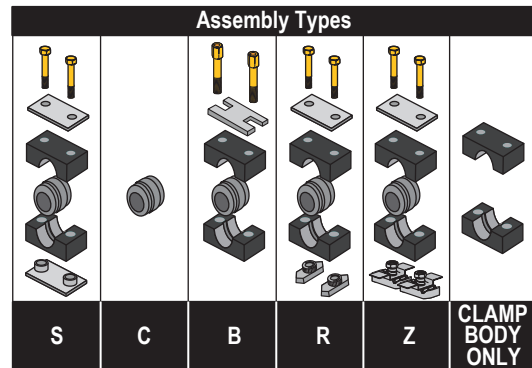
Note: For configurations other than "H", Add Assembly type to Part No.

Example: T2004H provides the complete assembly as shown and T2004H-B provides the "B" assembly as shown

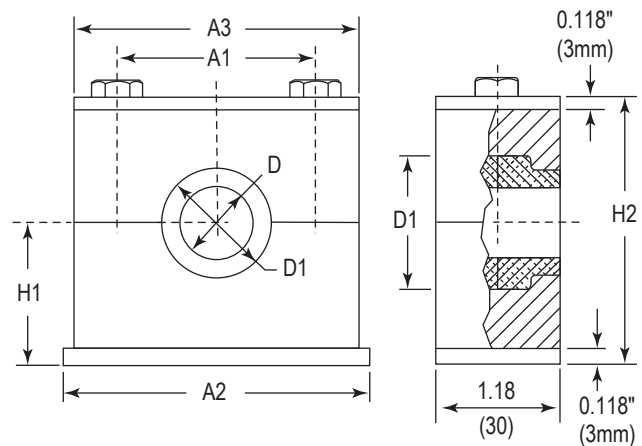


BETA CLAMPS

STANDARD RUBBER INSERT



- One cushion block provides flexible size range of cushioning.
- Smooth bore core can be used on hose, or for vibration reduction
- Broad range of metric sizes.
- Maintains center line when used in groups.



INSTALLATION - Refer to pages 147-148 for complete installation guide.

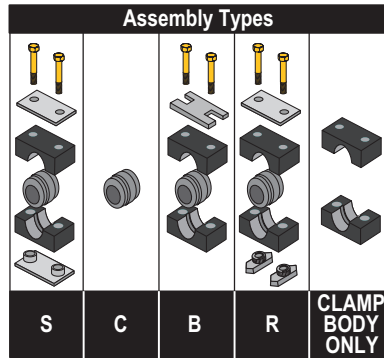
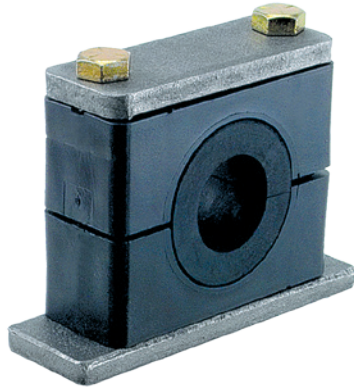
Group	Part No.	Bore Size Ø D		Tube O.D.	Pipe Size	Nom. Size Hose O.D. Min - Max	Dimensions – inches (mm)						Bolt Size	
		in	(mm)				D	D1	H1	H2	A1	A2		A3
S4	SM4006RI	0.24	6	-	-	0.22 - 0.24	1.00 (25.5)	1.22 (31)	0.925 (23.5)	1.85 (47)	1.57 (40)	2.32 (59)	2.24 (57)	1/4-20 x 13/4
	SM4008RI	0.32	8	1/16"	-	0.30 - 0.32								
	S4007RI	0.39	10	-	1/8"	0.37 - 0.39								
	SM4012RI	0.47	12	-	-	0.45 - 0.47								
	S4008RI	0.50	12.7	1/2"	-	0.48 - 0.50								
	SM4014RI	0.55	14	-	-	0.53 - 0.55								
	SM4015RI	0.59	15	-	-	0.57 - 0.59								
	S4010RI	0.63	16	5/8"	-	0.61 - 0.63								
	S4011RI	0.68	17.2	-	3/8"	0.66 - 0.68								
	S4012RI	0.75	19	3/4"	-	0.73 - 0.75								
S4C	Clamp Body Only (Group S4)													
S6	S6014RI	0.79	20	-	1/2"	0.77 - 0.79	1.54 (39)	1.81 (46)	1.40 (35.5)	2.80 (71)	2.60 (66)	3.46 (88)	3.39 (86)	1/4-20 x 2-3/4
	S6015RI	0.87	22	7/8"	-	0.85 - 0.87								
	S6016RI	0.98	25	1"	-	0.96 - 0.98								
	S6017RI	1.06	26.9	-	3/4"	1.04 - 1.06								
	SM6028RI	1.10	28	-	-	1.08 - 1.10								
	SM6030RI	1.18	30	-	-	1.16 - 1.18								
	S6020RI	1.26	32	1 1/4"	-	1.24 - 1.26								
S6C	Clamp Body Only (Group S5)													

*For additional sizes and stainless steel contact factory.

Note: Add Assembly type to Part No. - Example: **SM4006RIS** provides the complete assembly as shown

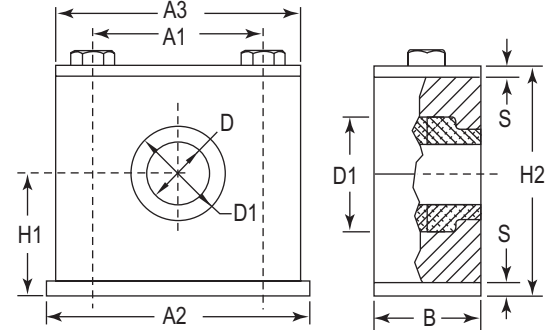
BETA CLAMPS

HEAVY RUBBER INSERT



INSTALLATION - Refer to pages 147-148 for installation guide.

- One block provides flexible size range of cushioning.
- Smooth bore core for hose, or vibration reduction
- Broad range of metric sizes.
- Maintains center line when used in groups.
- For high pressure hydraulics and heavy duty operations.
- Used for intermittent load and high oil speeds.
- Increase size range over standard series.



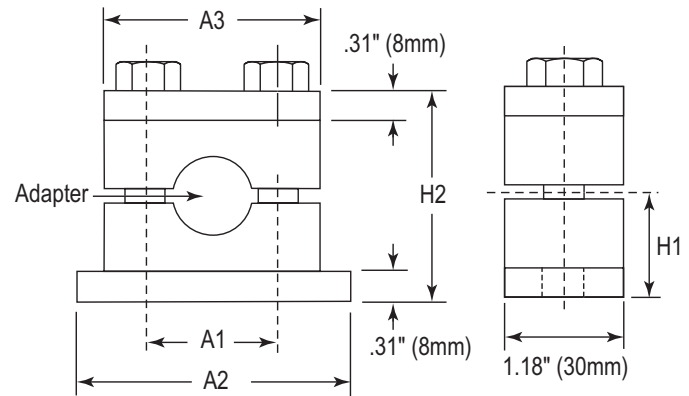
Group	Part No.	Bore Ø D in. (mm)	Tube O.D.	Pipe Size	Nom. Size Hose O.D	Dimensions -inches (mm)									Bolt Size
						D	D1	B	H1	H2	A1	A2	A3	S	
H4	HM4006RI	0.24 (6)	-	-	0.22 - 0.24	1.00 (25.5)	1.24 (31.5)	1.18 (30)	1.22 (31)	2.44 (62)	1.77 (45)	3.35 (85)	2.76 (70)	0.32 (8)	3/8-16x 2-1/4
	HM4008RI	0.32 (8)	1/16"	-	0.30 - 0.32										
	H4007RI	0.39 (10)	-	1/8"	0.37 - 0.39										
	HM4012RI	0.47 (12)	-	-	0.45 - 0.47										
	H4008RI	0.50 (12.7)	1/2"	-	0.48 - 0.50										
	HM4014RI	0.55 (14)	-	-	0.53 - 0.55										
	HM4015RI	0.59 (15)	-	-	0.57 - 0.59										
	H4010RI	0.63 (16)	5/8"	-	0.61 - 0.63										
	H4011RI	0.68 (17.2)	-	3/8"	0.66 - 0.68										
	H4012RI	0.75 (19)	3/4"	-	0.73 - 0.75										
H4C	Clamp Body Only (Group H4)														
H5	H5014RI	0.79 (20)	-	1/2"	0.77 - 0.79	1.54 (39)	1.83 (46.5)	1.18 (30)	1.46 (37)	2.91 (74)	2.36 (60)	3.94 (100)	3.35 (85)	0.32 (8)	3/8-16x 2-3/4
	H5015RI	0.87 (22)	7/8"	-	0.85 - 0.87										
	H5016RI	0.98 (25)	1"	-	0.96 - 0.98										
	H5017RI	1.06 (26.9)	-	3/4"	1.04 - 1.06										
	HM5028RI	1.10 (28)	-	-	1.08 - 1.10										
	HM5030RI	1.18 (30)	-	-	1.16 - 1.18										
	H5020RI	1.26 (32)	1 1/4"	-	1.24 - 1.26										
H5C	Clamp Body Only (Group H5)														
H6	H6021RI	1.33 (33.7)	-	1"	1.31 - 1.33	2.56 (65)	2.91 (74)	1.77 (45)	2.11 (53.5)	4.21 (107)	3.56 (90.5)	5.51 (140)	4.53 (115)	0.39 (10)	1/2-13x 4
	HM6035RI	1.38 (35)	-	-	1.36 - 1.38										
	H6024RI	1.50 (38)	1 1/2"	-	1.48 - 1.50										
	HM6040RI	1.58 (40)	-	-	1.56 - 1.58										
	H6027RI	1.65 (42)	-	1 1/4"	1.63 - 1.65										
	HM6045RI	1.79 (45.5)	-	-	1.77 - 1.79										
	H6030RI	1.89 (48)	-	1 1/2"	1.87 - 1.89										
	H6032RI	2.01 (51)	2"	-	1.99 - 2.01										
	H6034RI	2.10 (53.4)	2 1/8"	-	2.08 - 2.10										
	HM6056RI	2.22 (56.4)	-	-	2.2 - 2.22										
H6C	Clamp Body Only (Group H6)														
H7	H7038RI	2.36 (60)	-	2"	2.34 - 2.36	3.50 (89)	3.86 (98)	2.36 (60)	2.70 (68.5)	5.39 (137)	4.80 (122)	7.09 (180)	5.98 (152)	0.39 (10)	5/8-11x 5-1/2
	HM7065RI	2.56 (65)	-	-	2.54 - 2.56										
	HM7070RI	2.76 (70)	-	-	2.74 - 2.76										
	H7046RI	2.87 (73)	-	2 1/2"	2.85 - 2.87										
	H7050RI	2.99 (76)	3"	-	2.97 - 2.99										
H7C	Clamp Body Only (Group H7)														
H8	HM8083RI	3.27 (83)	-	-	3.19 - 3.27	4.57 (116)	5.20 (132)	3.15 (80)	3.88 (98.5)	7.76 (197)	6.61 (168)	8.86 (225)	8.07 (205)	0.59 (15)	3/4-10x 7-1/2
	H8056RI	3.50 (89)	3 1/2"	3"	3.43 - 3.50										
	H8C	Clamp Body Only (Group H8)													

*For additional sizes and stainless steel contact factory.

Note: Add Assembly type to Part No. - Example: **HM4006RIS** provides the complete assembly as shown



BETA ADAPTER





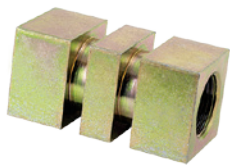
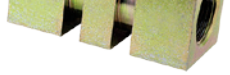


The **BETA-ADAPTER** allows a clamping junction to be inserted into virtually any hydraulic line. The exclusive square bodied junction adapter design can be used with metallic tubing or hydraulic hose ends. It provides a point of union for hydraulic runs which transition from one form of conveyance to another (i.e. hose to tubing). Once inserted into the customized Beta-Adapter clamp body, the junction point is securely clamped fighting the effects of vibration, insuring a leak-free system.

Group	A1	A2	A3	H1	H2	Hex Bolt
Group 1 H4 BETA	45mm 1.77	85mm 3.34	70mm 2.75	32mm 1.25	64mm 2.51	3/8"-16 x 2-1/4"
Group 2 H5 BETA	60mm 2.36	100mm 3.93	84mm 3.30	38mm 1.49	76mm 2.99	3/8"-16 x 2-3/4"

- Beta-Adapter cushions can also be used with rubber inserts.
- Z-Clamp split bushings from Group 1 can be utilized with the basic Beta-Adapter Group 4 cushion.
- Z-Clamp bushings from Group 2 coincide with Group 5 Beta-Adapter assemblies.
- The split bushings provide extra vibration absorption for delicate clamping surfaces.

INSTALLATION - Refer to page 149 for complete installation guide.

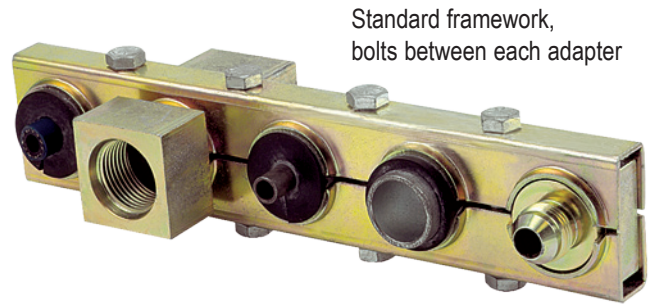


		Tube Size	Group 1 (H4) Part No.	Group 2 (H5) Part No.
	37° JIC	1/4"	H4MJA1-4-S	H5MJA2-4-S
		3/8"	H4MJA1-6-S	H5MJA2-6-S
		1/2"	H4MJA1-8-S	H5MJA2-8-S
		5/8"	H4MJA1-10S	H5MJA2-10S
		3/4"	-	H5MJA2-12S
		5/8"	-	H5MJA2-14S
		1"	-	H5MJA2-16S
	O-Ring Face Seal	3/8"	H4MJO1-6-S	H5MJO2-6-S
		1/2"	H4MJO1-8-S	H5MJO2-8-S
		5/8"	H4MJO1-10S	H5MJO2-10S
		3/4"	-	H5MJO2-12S
		1"	-	H5MJO2-16S
	Female Junction	1/2"	H4FJA1-8-S	-
		3/4"	-	H5FJA2-12S
	Female Pipe	3/8" NPT	H4FJA1-6P-S	H5FJA2-12P-S
	Beta Cushions Only (Set of Two)	-	H4JCN-C	H5JCN-C
	Z-Clamp Split Bushing	-	HAC-1 (1-1/2" SERIES) CAN BE USED	HAC-2 (2" SERIES) CAN BE USED

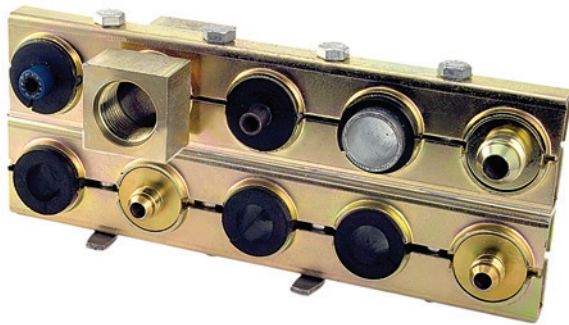
Z-CLAMP UNITS

The **Z-Clamp** is designed to maintain a consistent center line dimension for horizontal clamping or vertical stackable clamping applications. Z-Clamp maintains that center line while accommodating the same, or different diameter tubing, hose or pipe. Suited for all types of hydraulic hose, tubing, and pipe clamping applications, the Z-Clamp provides yet another alternative to the broadest cushion clamping product line in the world.

A Z-Clamp consists of an adapter framework which is offered in two versions. One has mounting bolts between each adapter insert and the other has two additional mounting bolts at each end of the frame.



Standard framework, bolts between each adapter



Z-Clamps can be stacked for even more line clamping ability.



Outside hole framework, bolts between each adapter and two additional bolts at each end

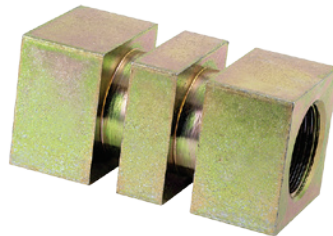
Z-CLAMP & BETA ADAPTER

OPTIONAL ADAPTERS



O-RING FACE SEAL

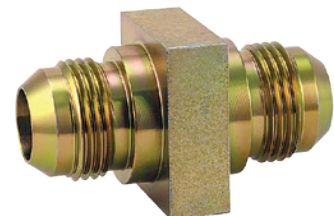
FEMALE JUNCTION ADAPTER



The Z-Clamp inserts are also used with the Beta Adapter.



RUBBER SPLIT BUSHINGS

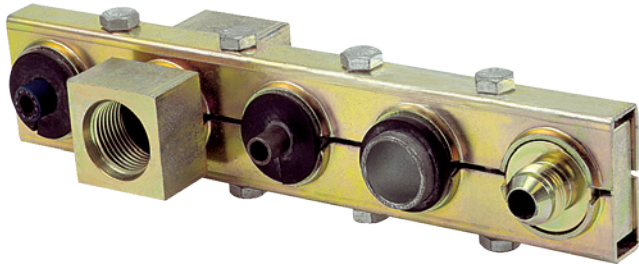


37° FLARE MALE JUNCTION ADAPTER



Z-CLAMP - MULTIPLE LINE CLAMPING SYSTEM

STANDARD CLAMP UNITS

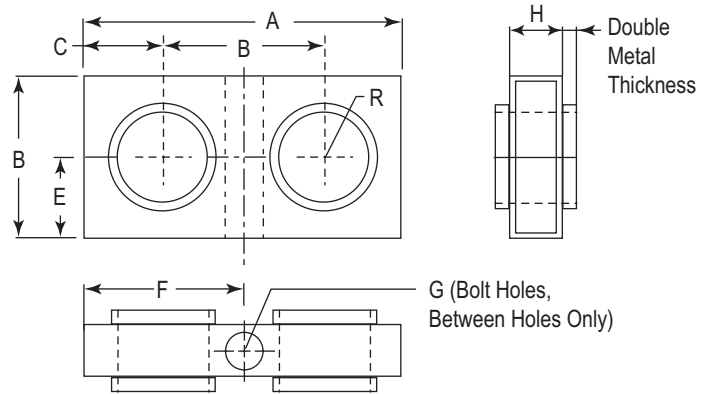


The standard Z-Clamp unit features an anchor bolt between each of the adapter inserts.

The junction adapter provides break points in lines allowing for shorter hose and tubing runs reducing leaks at connection points by securing the adapter against vibration within the Z-Clamp units. These break points may also serve as securely clamped changeover points between hose and tube, and vice versa.

- Stackable for space conservation
- Maintains consistent center line dimensions between lines both horizontally and vertically (in a stacking application)
- Mix and match pipe, tube, hose and junction adapters
- Suited for all types of hydraulic applications
- Available in standard and outside hole mounting configurations

INSTALLATION - Refer to page 149 for complete installation guide.



Note: Adapters and Hardware are ordered separately. Please see pages 124 - 126 for selection of these items.



Part No.	# Adapter Holes	# Bolts	A	B	C	E	F	G	H	R
HAC1 Series 1½" 14 Gauge										
HAC1-2	2	1	2.938"	1.5"	0.719"	0.75"	1.469"	0.344"	0.550"	0.422"
HAC1-3	3	2	4.406"	1.5"	0.719"	0.75"	1.469"	0.344"	0.550"	0.422"
HAC1-4	4	3	5.940"	1.5"	0.719"	0.75"	1.469"	0.344"	0.550"	0.422"
HAC1-5	5	4	7.140"	1.5"	0.594"	0.75"	1.343"	0.344"	0.550"	0.422"
HAC1-6	6	5	8.938"	1.5"	0.719"	0.75"	1.469"	0.344"	0.550"	0.422"
HAC1-7	7	6	10.188"	1.5"	0.594"	0.75"	1.343"	0.344"	0.550"	0.422"
HAC1-32	32	31	48.000"	1.5"	-	0.75"	-	0.344"	0.550"	0.422"
HAC2 Series 2" 14 Gauge										
HAC2-2	2	1	3.875"	2"	0.938"	1"	1.938"	0.344"	0.550"	0.594"
HAC2-3	3	2	5.641"	2"	0.844"	1"	1.844"	0.344"	0.550"	0.594"
HAC2-4	4	3	7.891"	2"	0.938"	1"	1.938"	0.344"	0.550"	0.594"
HAC2-5	5	4	9.672"	2"	0.844"	1"	1.844"	0.344"	0.550"	0.594"
HAC2-6	6	5	11.672"	2"	0.813"	1"	1.813"	0.344"	0.550"	0.594"
HAC2-7	7	6	13.625"	2"	0.813"	1"	1.813"	0.344"	0.550"	0.594"
HAC2-24	24	23	48.000"	2"	-	1"	-	0.344"	0.550"	0.594"
HAC3 Series 3" 11 Gauge										
HAC3-2	2	1	6.766"	3"	1.875"	1.5"	3.375"	0.406"	0.750"	1.063"
HAC3-3	3	2	8.703"	3"	1.406"	1.5"	2.984"	0.406"	0.750"	1.063"
HAC3-4	4	3	11.703"	3"	1.406"	1.5"	2.797"	0.406"	0.750"	1.063"
HAC3-5	5	4	14.703"	3"	1.406"	1.5"	2.859"	0.406"	0.750"	1.063"
HAC3-6	6	5	17.703"	3"	1.406"	1.5"	2.859"	0.406"	0.750"	1.063"
HAC3-16	16	15	48.000"	3"	-	1.5"	-	0.406"	0.750"	1.063"

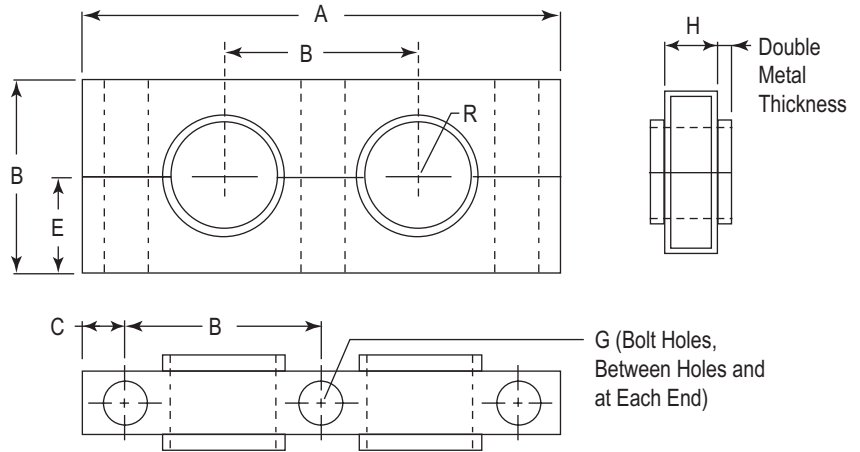
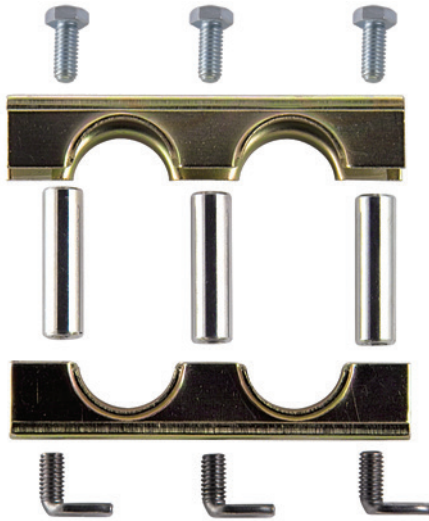
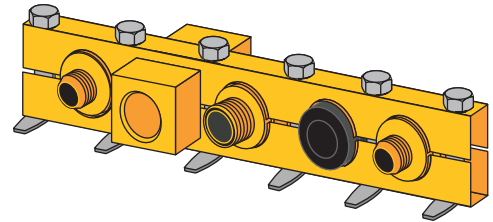
NOTE: Hardware & Adapters not included.

Z-CLAMP

OUTSIDE HOLE CLAMP UNITS

- Stackable for space conservation
- Maintains consistent center line dimensions between lines both horizontally and vertically (in a stacking application)
- Mix and match pipe, tube, hose and junction adapters
- Suited for all types of hydraulic applications
- Available in standard and outside hole mounting configurations

INSTALLATION - Refer to page 149 for complete installation guide.



Note: Adapters and Hardware are ordered separately. Please see pages 124 - 126 for selection of these items.



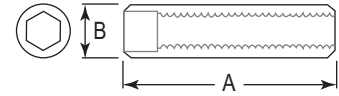
Part No.	# Adapter Holes	# Bolts	A	B	C	E	G	H	R
HAC1 Series 1 1/2"									
HAC1-1-2	1	2	2.188"	1.5"	0.344"	0.75"	0.344"	0.550"	0.422"
HAC1-2-3	2	3	3.797"	1.5"	0.391"	0.75"	0.344"	0.550"	0.422"
HAC1-3-4	3	4	5.297"	1.5"	0.391"	0.75"	0.344"	0.550"	0.422"
HAC1-4-5	4	5	6.797"	1.5"	0.391"	0.75"	0.344"	0.550"	0.422"
HAC1-5-6	5	6	8.297"	1.5"	0.391"	0.75"	0.344"	0.550"	0.422"
HAC2 Series 2"									
HAC2-1-2	1	2	2.656"	2"	0.328"	1"	0.344"	0.550"	0.594"
HAC2-2-3	2	3	4.766"	2"	0.391"	1"	0.344"	0.550"	0.594"
HAC2-3-4	3	4	6.797"	2"	0.391"	1"	0.344"	0.550"	0.594"
HAC2-4-5	4	5	8.297"	2"	0.391"	1"	0.344"	0.550"	0.594"
HAC3 Series 3"									
HAC3-1-2	1	2	4.000"	3"	0.500"	1.5"	0.406"	0.750"	1.063"
HAC3-2-3	2	3	6.859"	3"	0.422"	1.5"	0.406"	0.750"	1.063"
HAC3-3-4	3	4	9.859"	3"	0.422"	1.5"	0.406"	0.750"	1.063"
HAC3-4-5	4	5	12.859"	3"	0.422"	1.5"	0.406"	0.750"	1.063"



Z-CLAMP

HARDWARE

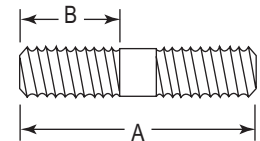
SOCKET HEAD STACKING NUT



Part No.	HAC Series	A	B Dia.	Thread size
S-1	1	1.335"	1/2"	5/16"-18
S-2	2	1.800"	1/2"	5/16"-18
S-3	3	2.780"	11/16"	3/8"

THREAD ADAPTER

(Install or Stack)

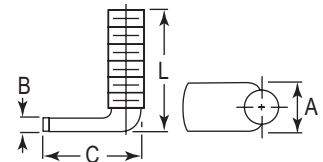


Part No.	HAC Series	A	B	Thread size
T-1	1 & 2	1.38"	0.63"	5/16"-18
T-3	3	2.00"	0.88"	3/8"-16

WELD NUT



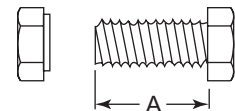
Part No.	HAC Series	Thread Size	A	B	C	L
W-1/W-2	HAC 1	5/16-18	0.437"	0.12"	0.875"	3/4"
W-1/W-2	HAC 2	5/16-18	0.437"	0.12"	0.875"	3/4"
W-3	HAC 3	3/8-16	0.531"	0.151"	1.00"	1.00"



HEX BOLT and HEX NUT



Part No.	HAC Series	Thread Size	A
HB-1	HAC 1 & 2	5/16"-18	3/4"
HB-3	HAC 3	3/8"-16	1"



LOCK WASHER



Part No.	HAC Series	Size
HW-1	HAC 1 & 2	5/16"
HW-3	HAC 3	3/8"



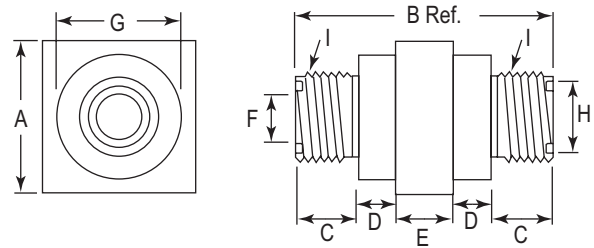
O-RING FACE SEAL



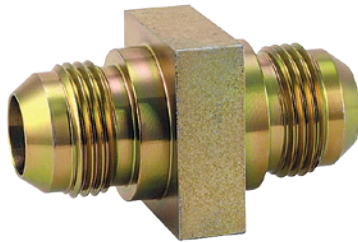
FOR USE with BETA ADAPTERS & Z-CLAMPS

Part No.	Tube Size	Dimensions – inches								
		A	B	C	D	E	F	G	I (Thread)	H
MJO-1-6	3/8"	1.00"	1.96"	0.43"	0.28"	0.54"	0.26"	0.84"	11/16"-16	0.496"
MJO-1-8	1/2"	1.00"	2.10"	0.50"	0.28"	0.54"	0.38"	0.84"	13/16"-16	0.621"
MJO-1-10	5/8"	1.00"	2.30"	0.60"	0.28"	0.54"	0.48"	0.84"	1"-14	0.748"
MJO-2-6	3/8"	1.50"	2.08"	0.43"	0.34"	0.54"	0.26"	1.20"	11/16"-16	0.496"
MJO-2-8	1/2"	1.50"	2.22"	0.50"	0.34"	0.54"	0.38"	1.20"	13/16"-16	0.621"
MJO-2-10	5/8"	1.50"	2.42"	0.60"	0.34"	0.54"	0.48"	1.20"	1"-14	0.748"
MJO-2-12	3/4"	1.50"	2.52"	0.65"	0.34"	0.54"	0.61"	1.20"	13/16"-12	0.873"
MJO-2-16	1"	1.50"	2.58"	0.68"	0.34"	0.54"	0.81"	1.20"	17/16"-12	1.058"
MJO-3-20	1 1/4"	2.25"	2.98"	0.68"	0.437"	0.75"	1.02"	2.12"	1 11/16"-12	1.309"
MJO-3-24	1 1/2"	2.25"	2.98"	0.68"	0.437"	0.75"	1.26"	2.12"	2"-12	1.621"

- Offered in a wide range of sizes in JIC, NPT, SAE, and ORFS thread configurations.
- Zinc plated to prevent corrosion
- Clamping at the fitting prevents loosening and other vibration related leaks



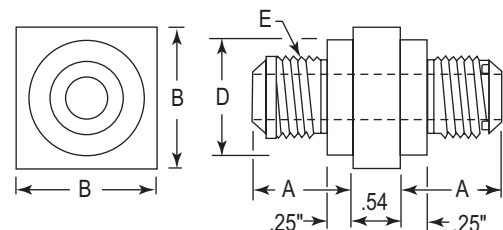
37° FLARE MALE JUNCTION ADAPTER



FOR USE with BETA ADAPTERS & Z-CLAMPS

Part No.	Tube Size	Dimensions – Inches			E (Thread)
		A	B	D	
1 1/2" Series					
MJA-1-4	1/4"	0.76"	1"	0.84"	7/16"-20
MJA-1-6	3/8"	0.76"	1"	0.84"	9/16"-18
MJA-1-8	1/2"	0.87"	1"	0.84"	3/4"-16
MJA-1-10	5/8"	0.96"	1"	0.84"	7/8"-14
2" Series					
MJA-2-4	1/4"	0.76"	1 1/2"	1.20"	7/16"-20
MJA-2-6	3/8"	0.76"	1 1/2"	1.20"	9/16"-18
MJA-2-8	1/2"	0.87"	1 1/2"	1.20"	3/4"-16
MJA-2-10	5/8"	0.96"	1 1/2"	1.20"	7/8"-14
MJA-2-12	3/4"	1.07"	1 1/2"	1.20"	1 1/16"-12
MJA-2-14	7/8"	1.10"	1 1/2"	1.20"	1 3/16"-12
MJA-2-16	1"	1.10"	1 1/2"	1.20"	1 5/16"-12

- Offered in a wide range of sizes in JIC, NPT, SAE, and ORFS thread configurations.
- Zinc plated to prevent corrosion
- Clamping at the fitting prevents loosening and other vibration related leaks





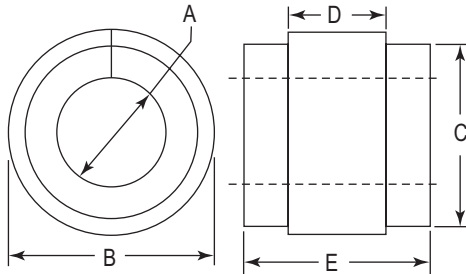
SPLIT RUBBER BUSHINGS



FOR USE with BETA ADAPTERS & Z-CLAMPS

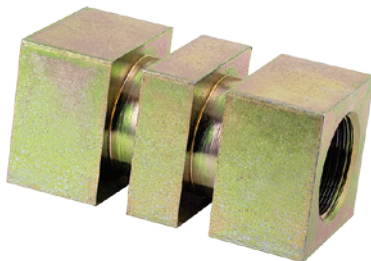
ANTI-VIBRATION SPLIT RUBBER BUSHING

- Unique “grip” design secures cushion in place
- High quality EPDM rubber provides superior vibration damping with excellent oil resistance.



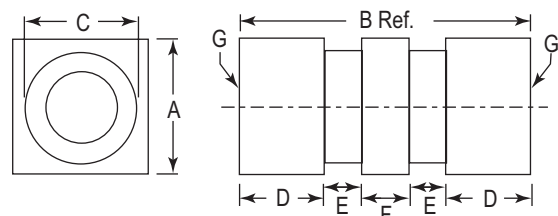
Part No.	Tube Size	Pipe Size	A	B	C	D	E
HAC-1 Series 1½"							
G-1-4	¼"	–	0.235"	0.975"	0.875"	0.50"	1.312"
G-1-6	⅜"	–	0.360"				
G-1-8	½"	–	0.485"				
G-1-10	⅝"	–	0.610"				
G-1-12	¾"	–	0.735"				
HAC-2 Series 2"							
G-2-4	¼"	–	0.235"	1.350"	1.250"	0.50"	1.312"
G-2-6	⅜"	–	0.360"				
G-2-8	½"	–	0.485"				
G-2-4P	–	¼"	0.525"				
G-2-10	⅝"	–	0.610"				
G-2-6P	–	⅜"	0.660"				
G-2-12	¾"	–	0.735"				
G-2-8P	–	½"	0.825"				
G-2-14	⅞"	–	0.860"				
G-2-16	1"	–	0.985"				
G-2-12P	–	¾"	1.035"				
HAC-3 Series 3"							
G-3-4	¼"	–	0.234"	2.287"	2.187"	0.750"	1.750"
G-3-6	⅜"	–	0.360"				
G-3-8	½"	–	0.485"				
G-3-4P	–	¼"	0.525"				
G-3-10	⅝"	–	0.610"				
G-3-6P	–	⅜"	0.660"				
G-3-12	¾"	–	0.735"				
G-3-8P	–	½"	0.825"				
G-3-14	⅞"	–	0.860"				
G-3-16	1"	–	0.985"				
G-3-12P	–	¾"	1.035"				
G-3-20	1¼"	–	1.235"				
G-3-16P	–	1"	1.300"				
G-3-24	1½"	–	1.485"				
G-3-20P	–	1¼"	1.645"				
G-3-24P	–	1½"	1.885"				
G-3-32	2"	–	1.985"				

FEMALE JUNCTION ADAPTER



For Use With Beta Adapters & Z-CLAMPS

Part No.	Dimensions – Inches						G (Thread)
	A	B	C	D	E	F	
FJA-1-6-P	1"	2-13/16"	0.84"	0.84"	0.30"	0.54"	¾" N.P.T.
FJA-2-12-P	1½"	3-1/8"	1.20"	0.97"	0.32"	0.54"	¾" N.P.T.
FJA-3-20-P	2-¼"	2-5/8"	2.12"	0.49"	0.45"	0.74"	1¼" N.P.T.
FJA-1-8	1"	2-13/16"	0.84"	0.84"	0.30"	0.54"	¾"-16 SAE
FJA-2-12	1½"	3-1/8"	1.20"	0.97"	0.32"	0.54"	1¼"-12 SAE
FJA-3-20	2-¼"	2-5/8"	2.12"	0.49"	0.45"	0.74"	1½"-12 SAE

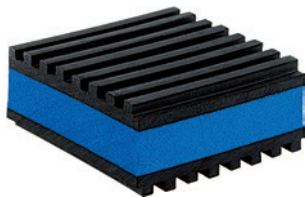


- Offered in a wide range of sizes in JIC, NPT, SAE, and ORFS thread configurations.
- Zinc plated to prevent corrosion
- Clamping at the fitting prevents loosening and other vibration related leaks

GAMMA PADS

When installing pipe, tube, hose, or equipment the effects of vibration, shock, surge, galvanic corrosion and unwanted noise are a major concern. Improperly cushioned equipment, pipe, tube, or hose invites failure and potential problems. New developments in cushioned clamping and vibration isolation products from ZSi provide the proper solutions to combat these effects.

ZSi's products have earned a well-deserved reputation for unparalleled quality and effectiveness. As industry develops new needs, ZSi can and will respond with superior quality products and innovative solutions.



EXTREME



STANDARD

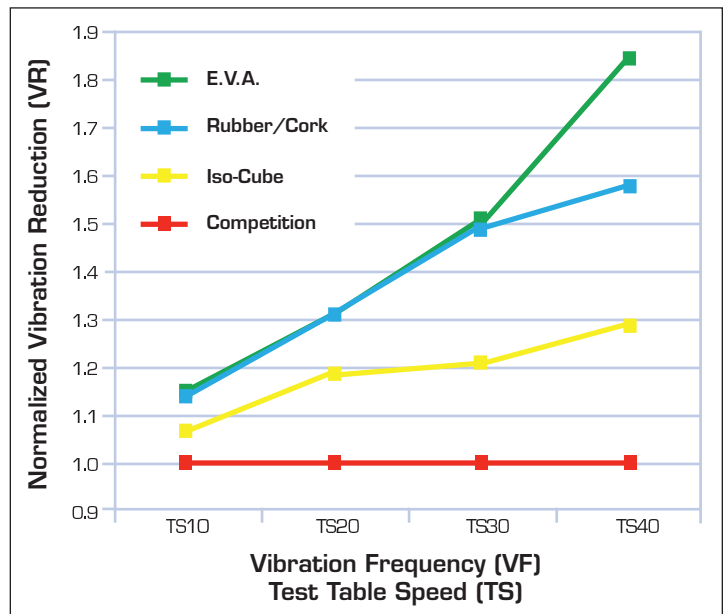


ISO-CUBE



SHIELD

ANTI-VIBRATION PAD PERFORMANCE



Cushioned Clamping

Insulating Clamping

Loop & Hose Clamps

Cush-A-Block

Z-Strut Channels

Beta Clamps

Z-Clamps

Gamma Pads



GAMMA SHIELD

RUBBER MAT

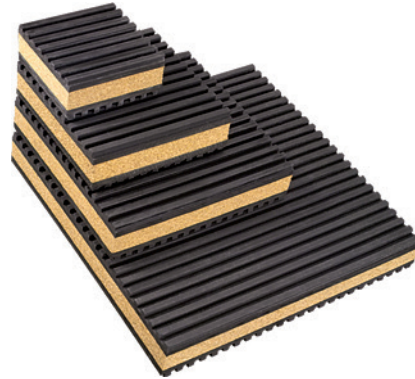
Shields equipment from vibration and movement when lesser amounts of vibration absorption is needed.



Part No.	Description
AR-2	2" x 2" x 3/8" All Rubber AV Pad
AR-3	3" x 3" x 3/8" All Rubber AV Pad
AR-4	4" x 4" x 3/8" All Rubber AV Pad
AR-6	6" x 6" x 3/8" All Rubber AV Pad
AR-18	18" x 18" x 3/8" All Rubber AV Pad

GAMMA STANDARD PAD

The Industry Standard Highest quality elastomeric oil resistant padding. Designed to withstand 50 psi. The rubber pads are corrugated on both sides and laminated to the cork center.



Part No.	Description
AC-2	2" x 2" x 7/8" Cork / Rubber AV Pad
AC-3	3" x 3" x 7/8" Cork / Rubber AV Pad
AC-4	4" x 4" x 7/8" Cork / Rubber AV Pad
AC-6	6" x 6" x 7/8" Cork / Rubber AV Pad
AC-18	18" x 18" x 7/8" Cork / Rubber AV Pad

ISO - CUBE

SOLID RUBBER TOUGH

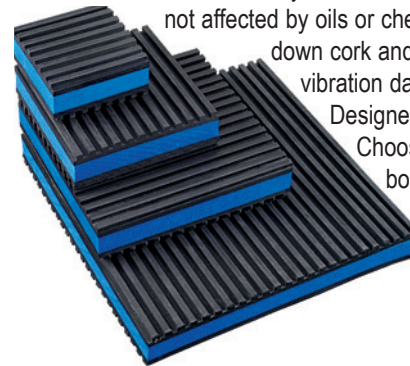
Natural rubber pads designed to reduce vibration and noise emanating from refrigeration or AC equipment. Circular design offers a suction cup effect eliminating the need to bolt the pads down. A standard 18" pad divides into eighty-one 2" segments which may be cut or torn into smaller pads. The 50 durometer pads will withstand a load of 180 psi with great resiliency.



Part No.	Description
AS-2	2" x 2" x 3/4" Iso-Cube
AS-18	18" x 18" x 3/4" Iso-Cube

GAMMA EXTREME PAD

The **BEST** Performer E.V.A. (Extreme Vibration Attenuation) is the latest generation in vibration dampening technology. In the most severe vibration extremes, testing shows the E.V.A. pad outperforms cork and rubber by greater than 3:1 and outperforms our competitor's "waffle" pad by greater than 8:1! The enhanced performance comes from the special composite foam center which is structurally more sound than cork. E.V.A. is not affected by oils or chemicals that can break down cork and is much more effective at vibration dampening than solid rubber. Designed to withstand 50 psi. Choose E.V.A. to get the best of both worlds!



Part No.	Description
AV-2	2" x 2" x 7/8" EVA Pad
AV-3	3" x 3" x 7/8" EVA Pad
AV-4	4" x 4" x 7/8" EVA Pad
AV-6	6" x 6" x 7/8" EVA Pad
AV-18	18" x 18" x 7/8" EVA Pad

Be Safe When Selecting Quick Couplings!

! Quick disconnect couplings can fail without warning! Prior to the operation of quick coupling products, be sure to inspect and replace worn out fittings and safety devices. If a leak is detected during operation, release the pressure from the circuit before investigating the cause of the fluid leak. Do not use your fingers or skin to check for leaks, high pressure leaks of fluids can easily penetrate the skin and can cause serious injury or death.

Safe Quick Coupling Practices

- Always wipe the coupling cavities and faces clean before connecting a coupling.
- Connect coupling before installation to ensure that it works properly.
- 3. Always check the body seals before connecting a coupling.
- 4. Shut-off power source before connecting a coupling.
- 5. Always install a safety check valve on a pneumatic line and/or compressor.
- 6. Always use a safety cable on large air lines (½" lines and larger).
- 7. Always use a whip hose on hydraulic or air tools.
- 8. Use dust caps or plugs when couplings are not in use.
- 9. If the locking sleeve is inoperable, check the safety lock.
- 10. Wear eye protection while connecting or disconnecting a coupling.

Unsafe Quick Coupling Practices

- 1. Never hit coupling valves to release trapped pressure.
- 2. Never leave couplings in the path of moving equipment.
- 3. Never use couplings near a welder, flash heat, or fire / flame sources.
- 4. Never use API modified sealants or over apply PTFE tape during installation.
- 5. Use care if you must install quick couplings onto black iron pipe.
- 6. Never hit a coupling sleeve with a hammer or blunt object.
- 7. Never overtighten a coupling connection.
- 8. Never rotate a quick disconnect coupling under pressure.
- 9. Do not overpressurize quick disconnect couplings.
- 10. Never use a hose with a quick disconnect coupling to lift a tool.

OSHA Regulations Ensure Operator Safety



Safety Cables



Safety Check Valves

Standard - 29 CFR, 1926.302 (partial):

(b)(1) Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.

(b)(2) Safety Clips or retainers shall be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.

(b)(4) Compressed air shall not be used for cleaning purposes except where reduced to 30 PSI and then only with effective chip guarding and personal protective equipment which meets the requirements of Subpart E of this part. The 30 PSI requirement does not apply for concrete form, mill scale and similar cleaning purposes.

(b)(5) The manufacturer's safe operating pressure for hoses, pipes, valves, filters and other fittings shall not be exceeded.

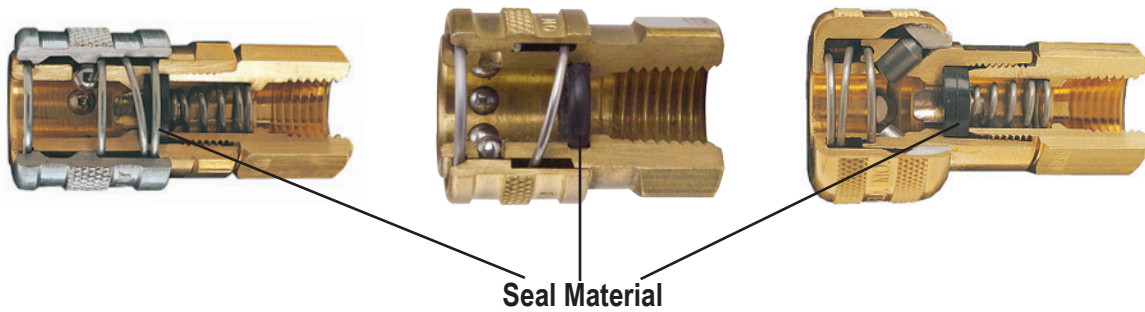
(b)(6) The use of hoses for hoisting or lowering tools shall not be permitted.

(b)(7) All hoses exceeding ½" inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure.

Standard - 29 CFR, 1926.603 (partial):

(a)(9) Steam hose leading to a steam hammer or jet pipe shall be securely attached to the hammer with an adequate length of at least ¼" diameter chain or cable to prevent whipping in the event the joint at the hammer is broken. Air hammer hoses shall be provided with the same protection as required for steam lines.

(a)(10) Safety chains, or equivalent means, shall be provided for each hose connection to prevent the line from thrashing around in case the coupling becomes disconnected.



Seal Compound Data		
Seal Material	Part No. Suffix	Coupler Color Code
Nitrile (Buna-N)	Std.	None
Viton (product of DuPont)	-101	Blue
Neoprene	-102	Red
Ethylene Propylene	-103	Black
Silicone	-104	White

To Order: Add seal compound part number to the end of coupling part number.
Example: H4S-103, 1/2" NPT, FHK Series, steel socket with ethylene propylene seals (-103).

Note: Please consult with your Foster representative or the factory for any media not listed.

Optional Seal [Ordering]:

Buna-N seal is standard. Alternate seals are specified by adding the appropriate suffix to the catalog number. For example, 1502 socket with Heat Adder is 1502H

Service	Construction	Seal	Temperature	Suffix
Air, Vacuum, Grease & Oil	Brass & Steel	Buna-N	-40° to +225°F	none
Water	Brass & S/S	Buna-N	+32° to +100°F	W
Hot Water	Brass & S/S	Viton	-40° to +400°F	HW
Steam	Brass & S/S	Ethylene Propylene	-40° to +325°F	S
Heat	Brass & Steel	Viton	-40° to +400°F	H
Less Valve	Brass & Steel	Buna-N	-40° to +225°F	LV
Dill Valve Series 3 Only	Brass & Steel	Buna-N	-40° to +225°F	D



Media	Body	Seal
Acetic Acid (5%)	SS	Viton
Acetone	B, SS	EPDM
Acetophenone	SS	EPDM
Acetylene	SS	Standard
Air (up to 200°F)	B, SS	Standard
Air (up to 400°F)	B, SS	Viton, Silicone
Ammonia (Anhydrous)	SS	Neoprene
Ammonia (Cold, Gas)	SS	EPDM
Ammonium Nitrite	SS	Standard
Amyl Chloride	SS	Viton
Arsenic Acid	SS	Standard
Asphalt	SS	Viton
Brine (Sodium Chloride)	SS	Standard
Butane	SS	Standard
Butanol (Butyl Alcohol)	SS	Standard
Calcium Acetate	B, STD	EPDM
Carbon Dioxide	B, SS	Standard
Carbon Tetrachloride	B	Viton
Castor Oil	B, STD, SS	Standard
China Wood Oil (Tung Oil)	SS	Standard
Chloroform	SS	Viton
Corn Oil	B, STD, SS	Standard
Creosote	SS	Standard
Crude Oil	SS	Viton
Cutting Oil	STD, SS	Standard
Detergent, Water Solution	SS	Standard
Diesel Fuel	B, SS	Standard
Diethylene Glycol	STD, SS	Standard
Dimethyl Formamide	SS	EPDM
Ethanol	B	EPDM
Freon 11	B	Viton
Freon 12	B, STD, SS	Neoprene
Freon 22	B, SS	Neoprene
Freon R134a	B, STD, SS	Neoprene
Fuel Oil	SS	Standard
Gas, Liquid Propane (LPG)	B, SS	Standard
Gas, Natural	B, SS	Standard
Gasoline (unleaded)	B, SS	Viton
Glucose	B, STD, SS	Standard
Glycerine (Glycercol)	STD, SS	Standard
Glycols	STD, SS	Standard
Helium	B, STD, SS	Standard
Heptane	B, STD, SS	Standard
Hydraulic Oil (Petroleum Base)	B, STD, SS	Standard
Hydraulic Oil (Water Base)	STD, SS	EPDM
Hydrazine	SS	EPDM
Hydrogen Gas	B, STD, SS	Standard
Isobutyl Alcohol	SS	Viton
Isopropyl Alcohol	B, STD, SS	Viton
Isopropyl Ether	B, STD, SS	Standard
Isocyanate	STD	Viton
Kerosene	B, SS	Standard
Linseed Oil	STD, SS	Standard
Lubricating Oil (SAE 10 thru 50)	B, STD, SS	Standard
Mercury	SS	Standard
Methane	B, SS	Standard
Methanol	B, SS	Standard
Methyl Bromide	STD, SS	Viton
Methyl Chloride (wet)	B	Viton
Methyl Ethyl Ketone (MEK)	B, STD, SS	EPDM
Mineral Oils	B, STD, SS	Standard
Potassium Acetate	STD	EPDM
Potassium Dichromate	STD	Standard
Potassium Nitrate	STD, SS	Standard
Potassium Sulfate	SS	Standard

Media	Body	Seal
Propane	B, SS	Standard
Propyl Alcohol	B, STD, SS	Standard
Propylene	B, STD, SS	Viton
Pydraul 10E	STD, SS	EPDM
Pydraul A-200, C-Series	STD, SS	Viton
Pydraul, 3 Series	STD, SS	Viton
Sea Water / Salt Water	SS	Standard
Silicone Greases	B, STD, SS	Standard
Skydrol 500, Type 2	STD, SS	EPDM
Skydrol 7000, type 2	STD, SS	EPDM
Soap Solutions	SS	Standard
Sodium Acetate	B, STD, SS	EPDM
Sodium Carbonate (Soda Ash)	STD, SS	Standard
Sodium Cyanide	STD, SS	Standard
Sodium Metaphosphate	STD	Standard
Sodium Nitrate	SS	EPDM
Sodium Perborate	SS	Viton
Sodium Peroxide	STD	Viton
Sodium Phosphates	B, SS	Standard
Sodium Sulfate	SS	Standard
Soybean Oil	STD, SS	Standard
Steam (below 400°F)	B, SS	EPDM
Sucrose Solutions	B, STD, SS	Standard
Tannic Acid (10%)	B	Standard
Tertiary Butyl Alcohol	B, STD, SS	Viton
Tetraethyl Lead	B, STD, SS	Viton
Tetraethyl Lead (blend)	B, STD, SS	Viton
Titanium Tetrachloride	STD	Viton
Toluene	B, STD, SS	Viton
Transmission Fluid (Type A)	B, STD, SS	Standard
Turbine Oil #15	SS	Viton
Turpentine	SS	Standard
Varnish	B, STD, SS	Viton
Water (below 100°F)	B, SS	Standard
Water (above 100°F)	B, SS	EPDM
Xylene	B, SS	Viton
Naphtha	STD	Viton
Napthalene	STD	Viton
Napthenic Acid	STD	Viton
Nickel, Acetate	SS	EPDM
Nickel Sulfate	SS	Standard
Nitrogen	B, STD, SS	Standard
Nitrous Oxide	SS	Standard
Octyl Alcohol	B, STD, SS	Viton
Oxalic Acid	SS	Viton
Oxygen (200-400°F)	B, SS	Viton
Oxygen (below 200°F)	B, SS	Standard
Ozone	SS	Viton
Palmitic Acid	B, SS	Standard
Para-Dichlorobenzene	STD	Viton
Peanut Oil	STD, SS	Standard
Petrolatum	B, STD, SS	Standard
Petroleum Oil (below 200°F)	B, STD, SS	Standard
Phenol	B, STD, SS	Viton
Phosphorous Trichloride	SS	Viton
Plating Solutions (Chrome)	B, SS	Viton
Plating Solutions (other)	SS	Viton

Disclaimer: Data is only to be used as a guideline, please test individual parts thoroughly for each application.

Body Material Data	
Brass	B
Steel	S
303 / Stainless Steel	SS

Think Safety First

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Be Safe When Installing Quick Couplings Installation Of Reusable Hose Couplings



1 Trim the end of the hose as square as possible.



2 Insert Hose completely into ferrule and make note of how deep the hose goes.



3 Mark the point of full hose insertion depth with a piece of tape.



4 Verify tape line is correct for full insertion.



5 Add a bit of lubricant to the reusable hose barb before inserting into the ferrule.



6 Turn reusable hose barb into ferrule ensuring hose stays completely inserted.

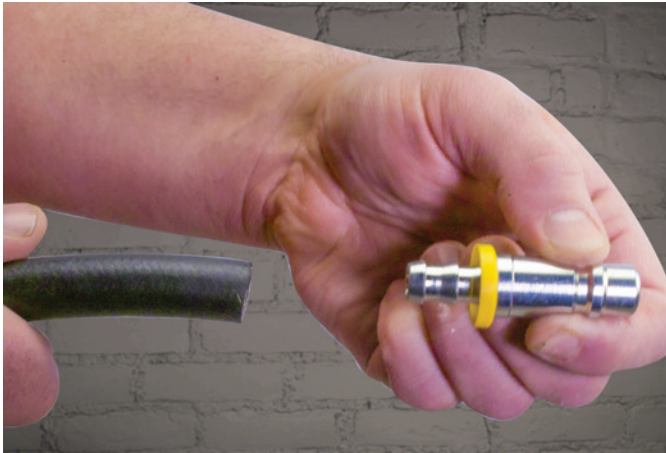


7 Tighten reusable hose barb into ferrule ensuring hose stays completely inserted.

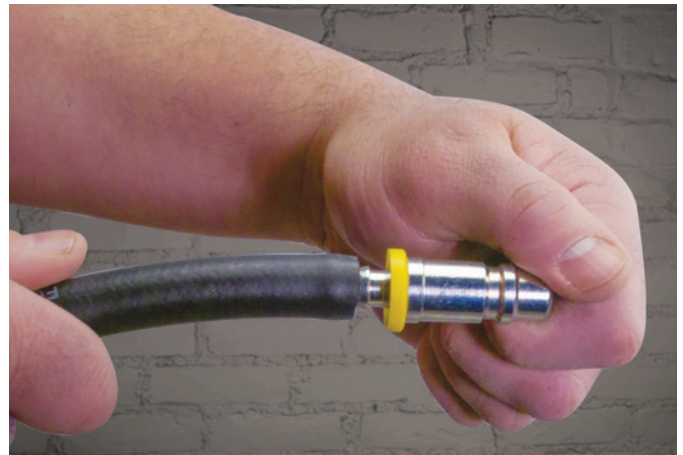


8 Completed connection, Use marker applied in **step [3]** to ensure hose is completely inserted.

Be Safe When Installing Quick Couplings Installation "Push-On" Hose



1 Trim the end of the hose as square as possible.



2 Grip the Plug or socket firmly and Push On hose.



3 Completed connection, ensure that the hose is completely inserted.



Be Safe When Installing Quick Couplings Inspection and Maintenance



Plugs:

- Inspect for cracks, chips, dings or other damage.
- Clean as necessary using water and a mild detergent. External buildup may be removed using a wire brush, taking care not to mar the surface of the plug.
- Replace any damaged plug.



Sockets:

- Inspect overall for cracks, dents or other damage.
- Inspect inside socket for damage or debris.
- Actuate all moving parts to ensure they operate freely with no scraping or binding.
- Clean as necessary using water and a mild detergent.
- Replace any damaged socket.

Assemblies:

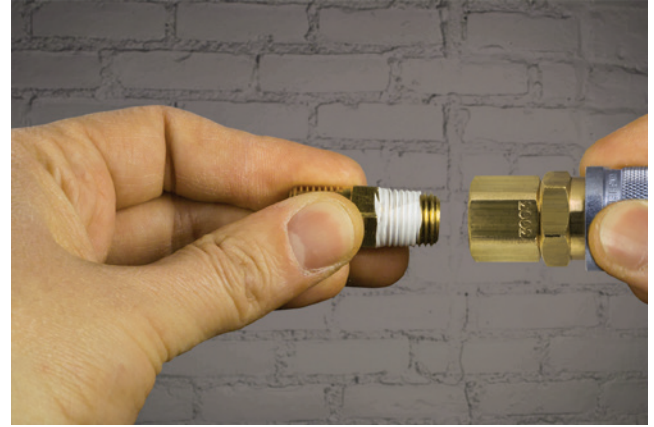
- Install the plug into the socket, making sure the parts connect easily and hold firmly.
- Disconnect coupler, check that the plug and socket release easily and smoothly, with no scraping or binding.
- On BL (ball lock) and SL Series (with locking sleeve), rotate sleeve to the locked position and attempt to disconnect, pulling firmly to ensure the coupler stays connected.
- Rotate sleeve to the unlocked position, and ensure the coupler disconnects easily.
- If any damage, binding or unintended disconnecting is found, both the coupler and plug should be replaced.



Be Safe When Installing Quick Couplings Installation of Tapered Thread Connections



1 Apply 1½ to 2 wraps of PTFE tape, starting one or two threads from the lead edge, in a clockwise direction. For type 316 stainless steel, be sure to use stainless grade tape.



2 Check threads to make sure there is no damage and that tape is properly installed. Align threaded connections and carefully begin threading the two halves together.



3 Finger tighten the connection.



4 With *even and smooth* force applied, wrench tighten according to the “Turns From Finger Tight” values listed in the table below.
DO NOT OVERTIGHTEN!



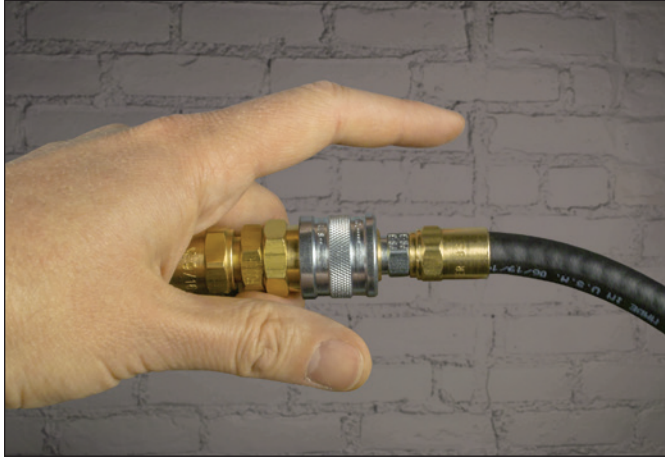
5 Coupling is ready for use.

SAE Size	NPFE Thread Size	Turns from Finger Tight
-4	¼" - 18	2
-6	⅜" - 18	2
-8	½" - 14	2
-12	¾" - 14	1.5
-16	1" - 11½	1.5

Do Not Overtighten!



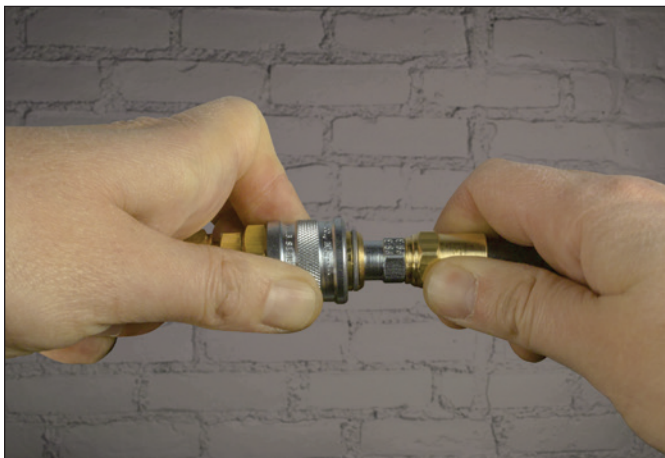
Be Safe When Installing Quick Couplings Automatic Safety Exhausting Coupler Operation



1 To Disconnect;
Begin by holding the hose with three of your fingers leaving your thumb and index finger free.



2 Grab the sleeve with your thumb and index finger and begin to pull the sleeve towards the palm of your hand.



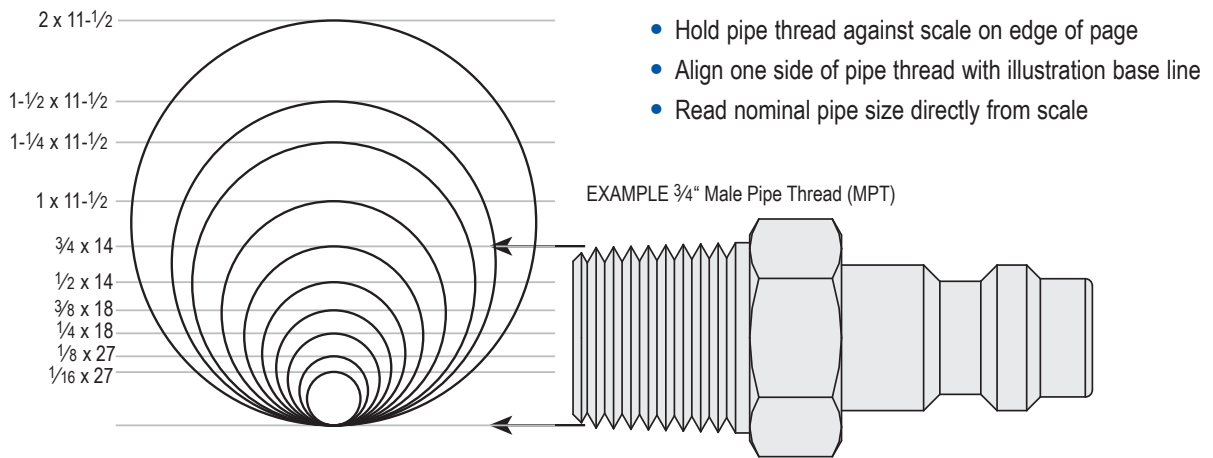
3 After pulling the sleeve, the plug will move out of the couple slightly. Continue to hold the hose and coupling sleeve until *all air is fully exhausted*.



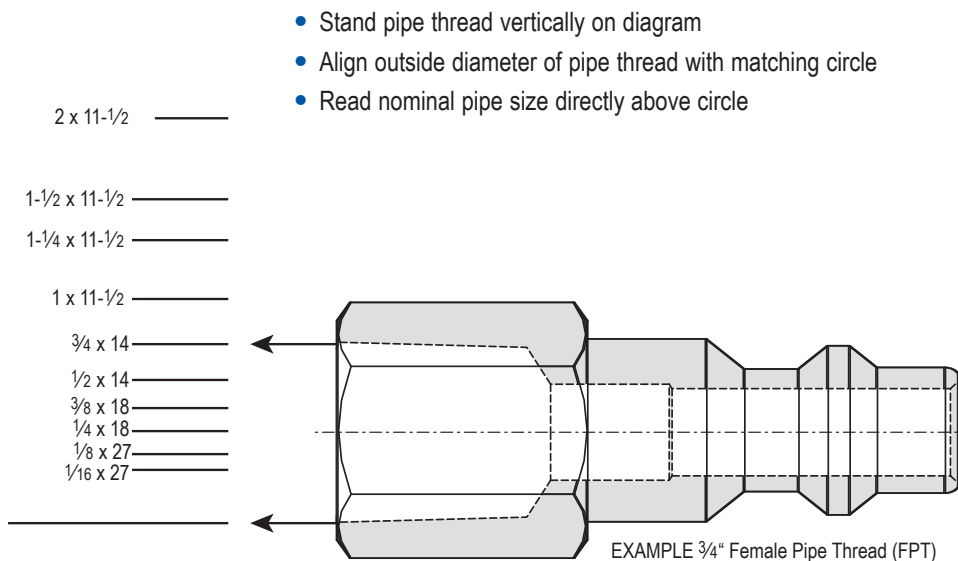
4 After the line is fully exhausted, you are able to safely separate the plug from the coupler.

Nominal Pipe Size (inches)	Actual Pipe Size (inches)	Nominal Thread Size (inches)
1/8	0.41	1/8 - 27
1/4	0.54	1/4 - 18
3/8	0.68	3/8 - 18
1/2	0.84	1/2 - 14
3/4	1.05	3/4 - 14
1	1.32	1-11-1/2
1-1/4	1.66	1-1/4 - 11-1/2
1-1/2	1.90	1-1/2 - 11-1/2
2	2.38	2 - 11-1/2
2-1/2	2.88	2-1/2 - 8
3	3.50	3 - 8

Female Pipe Thread Gauge



Male Pipe Thread Gauge

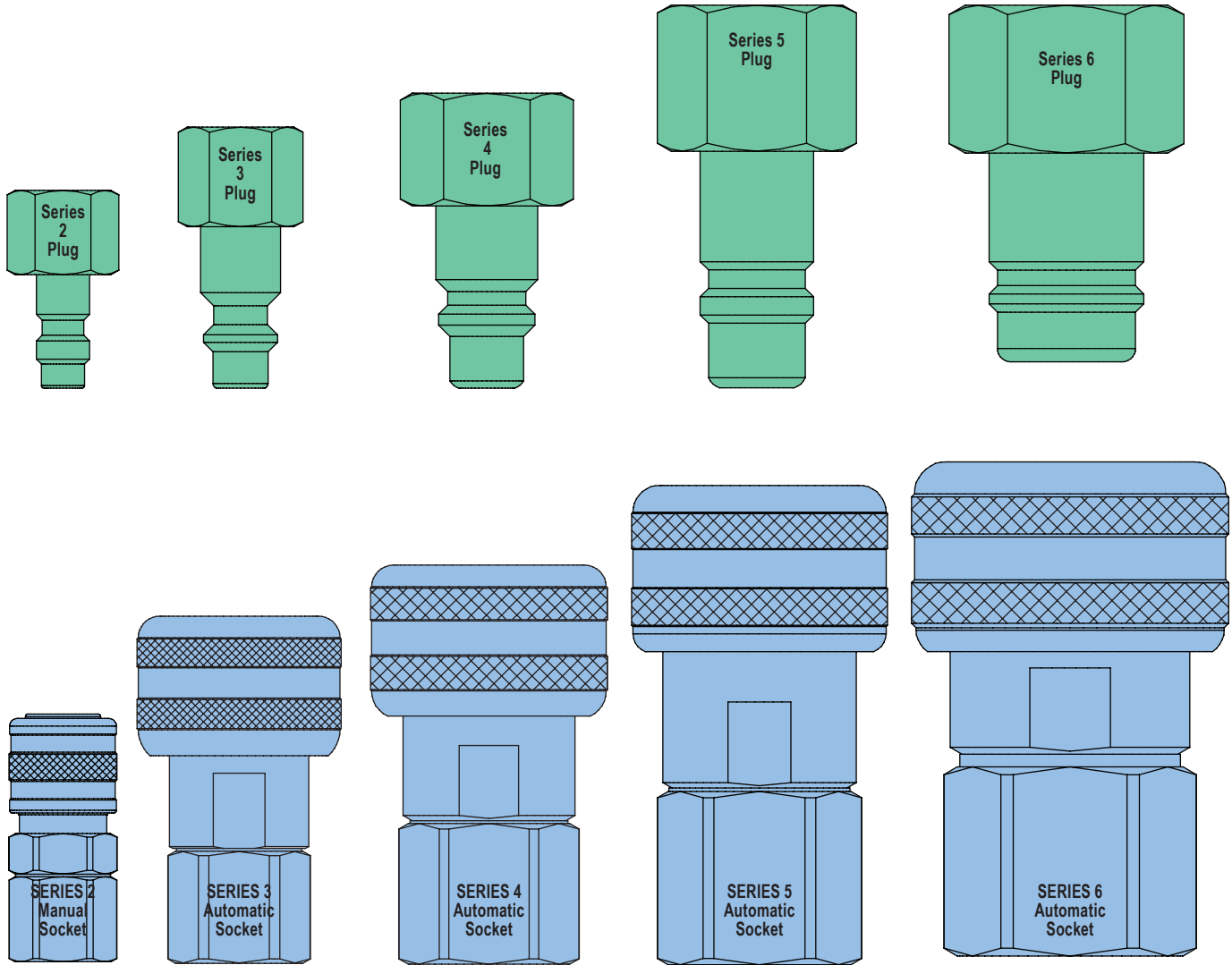




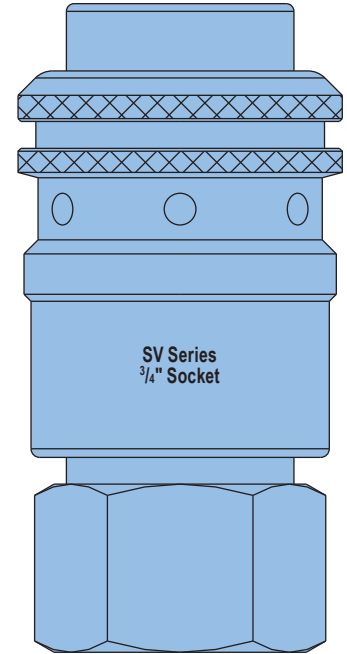
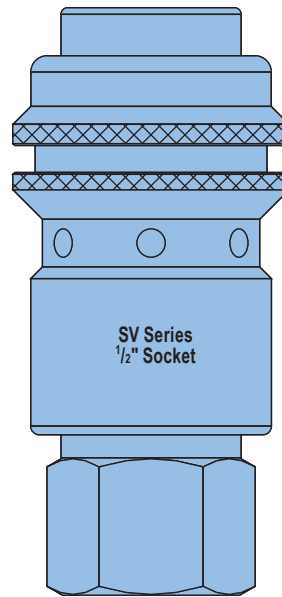
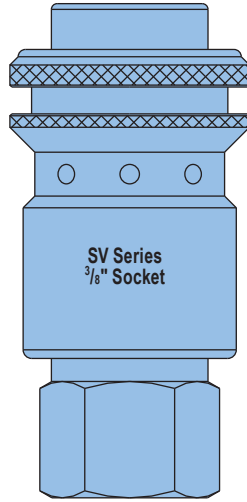
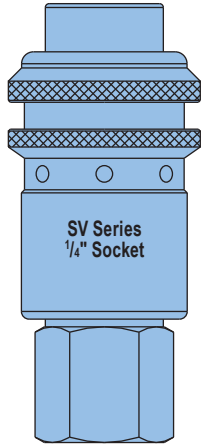
Actual Size Layouts



Series 2 thru 6 Industrial Interchange



SV Series

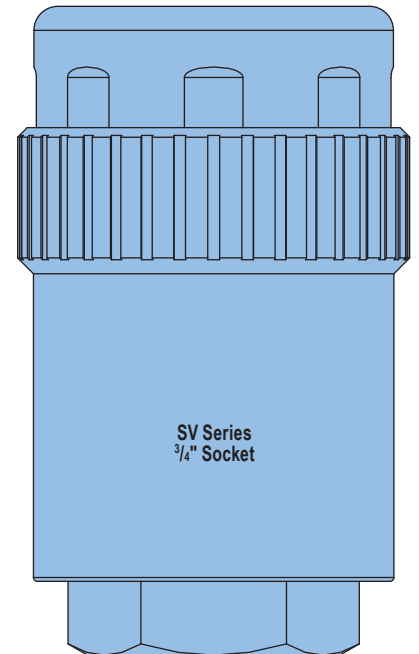
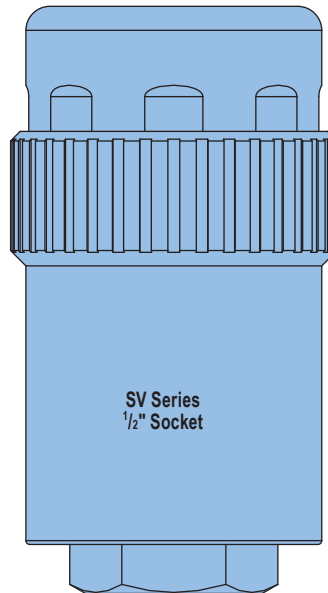
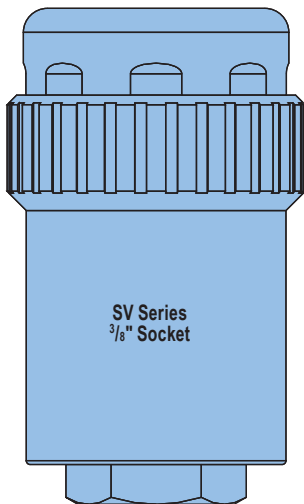
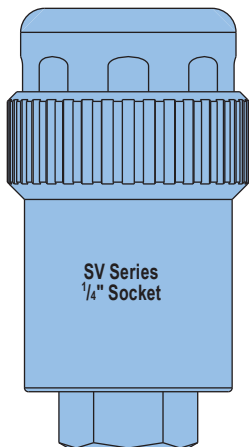


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Coupling Installation

Actual Size Layouts

SVPC Series



Beta Clamp Technical Data

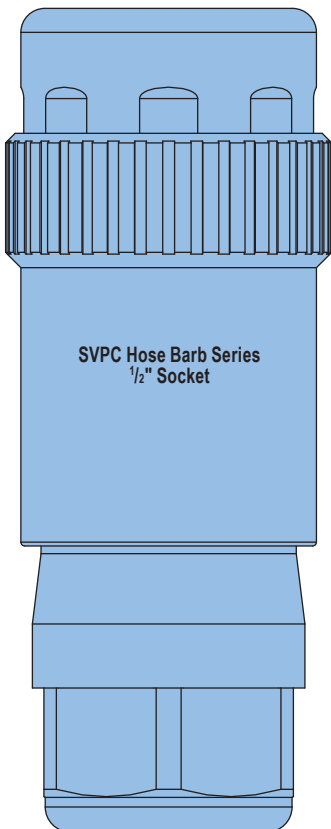
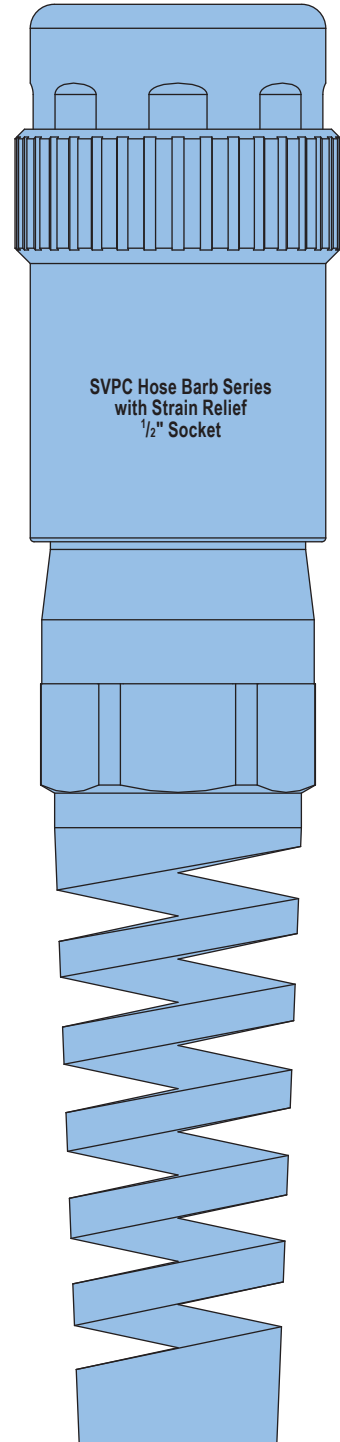
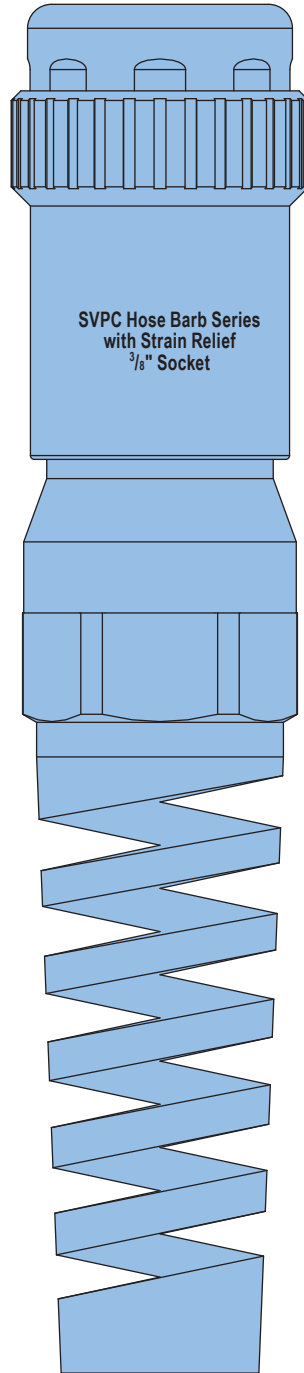
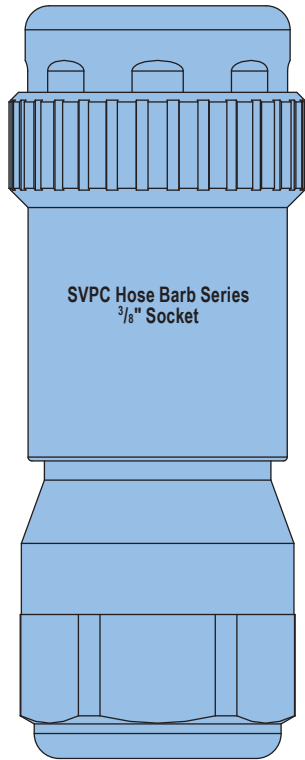
Clamp Installation

Technical Data

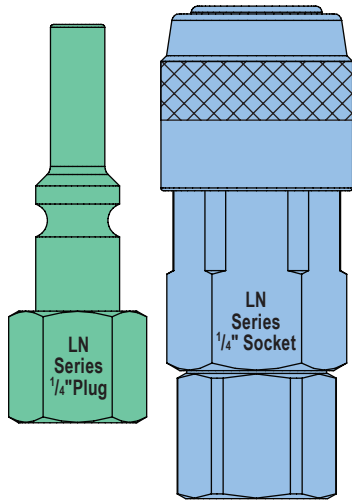
Index



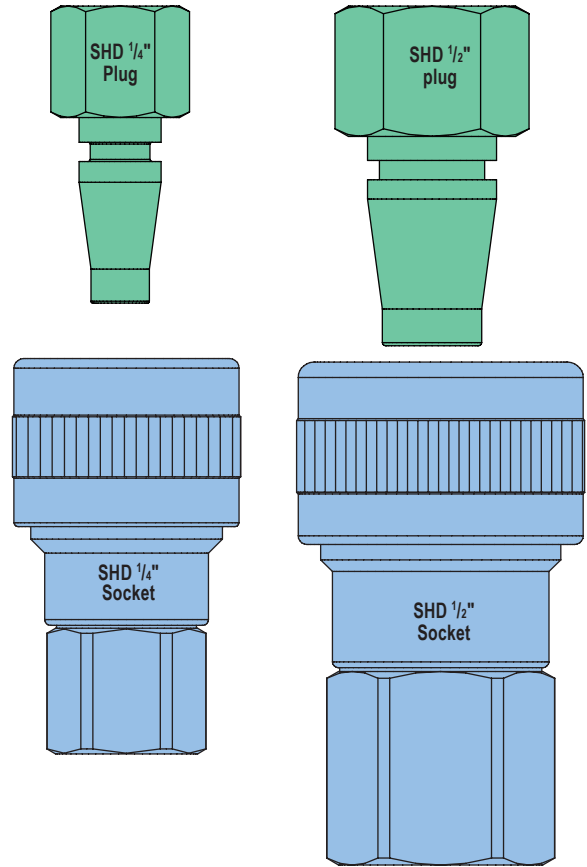
SVPC Series



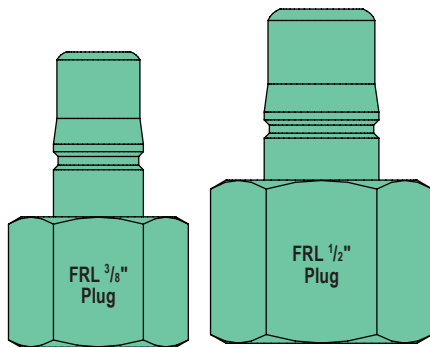
LN Series



SHD Series

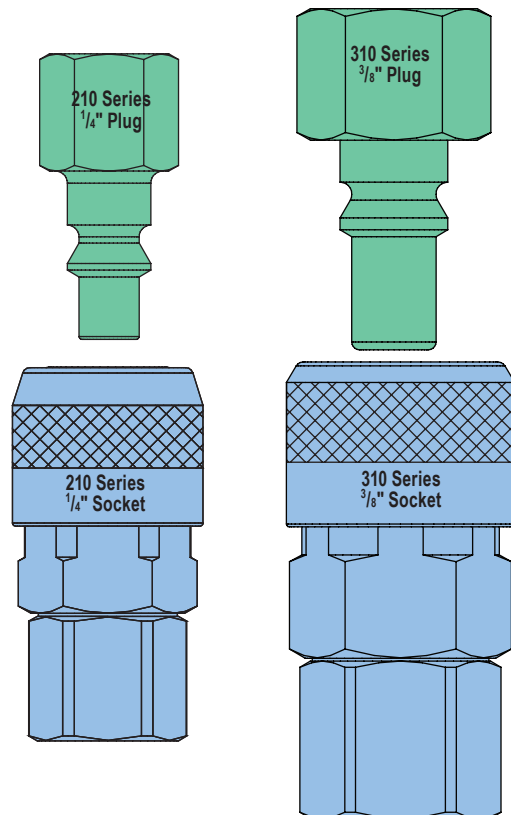
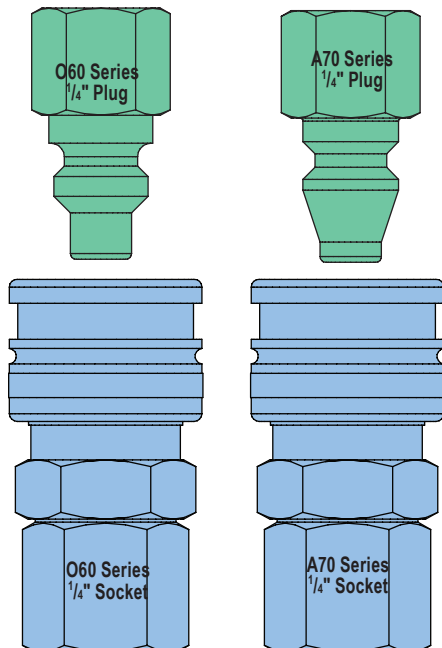


FRL Series



Series 210 & 310

O60 & A70 Series



Think Safety First

Coupling Installation

Actual Size Layouts

Beta Clamp Technical Data

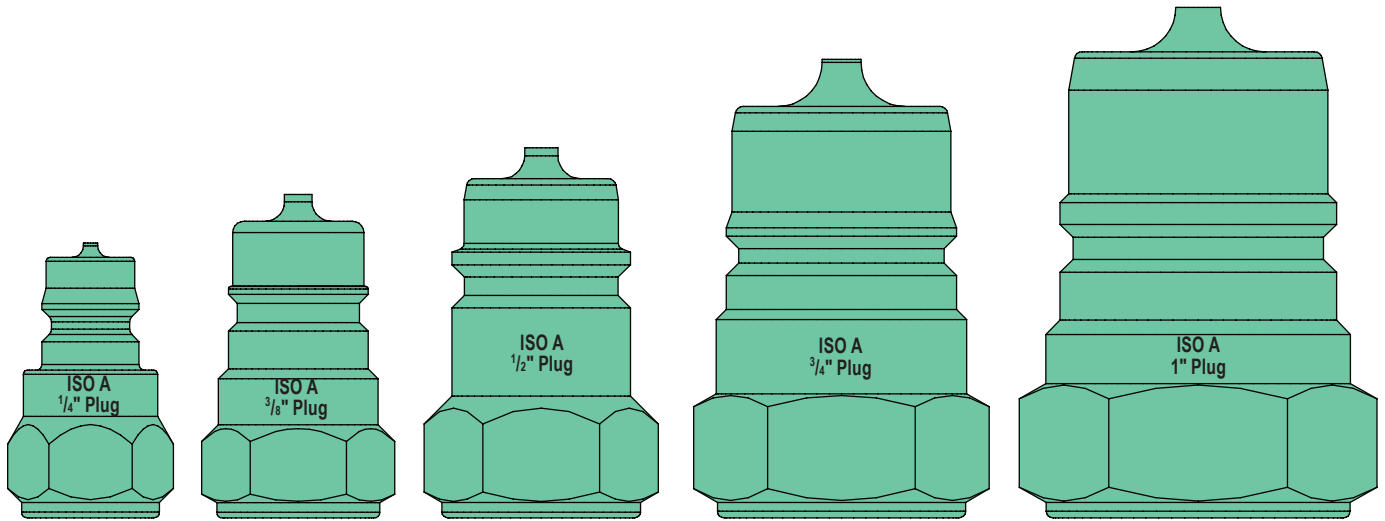
Clamp Installation

Technical Data

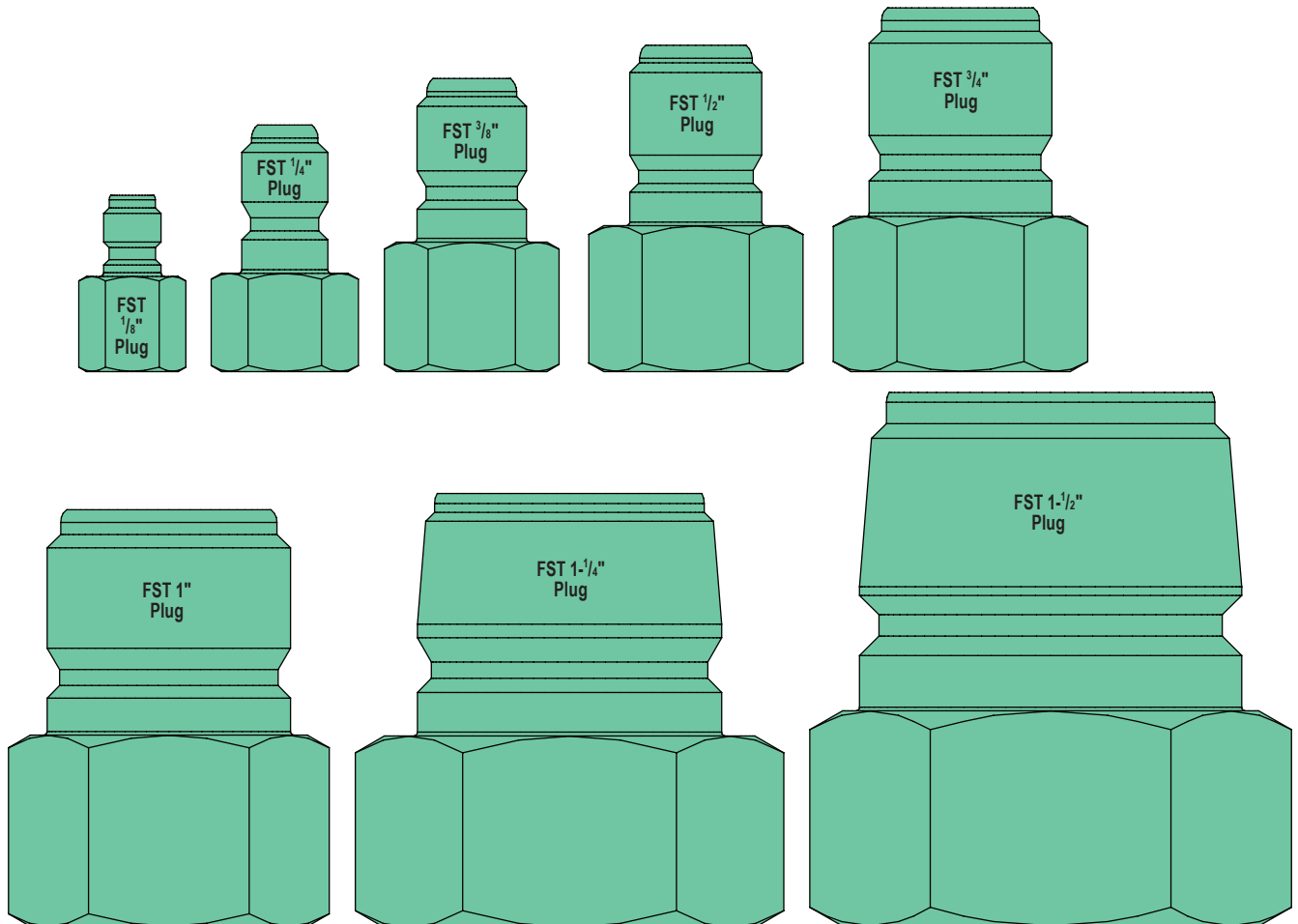
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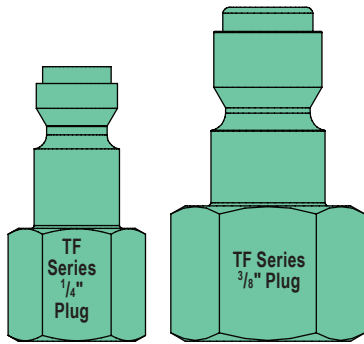
ISO A



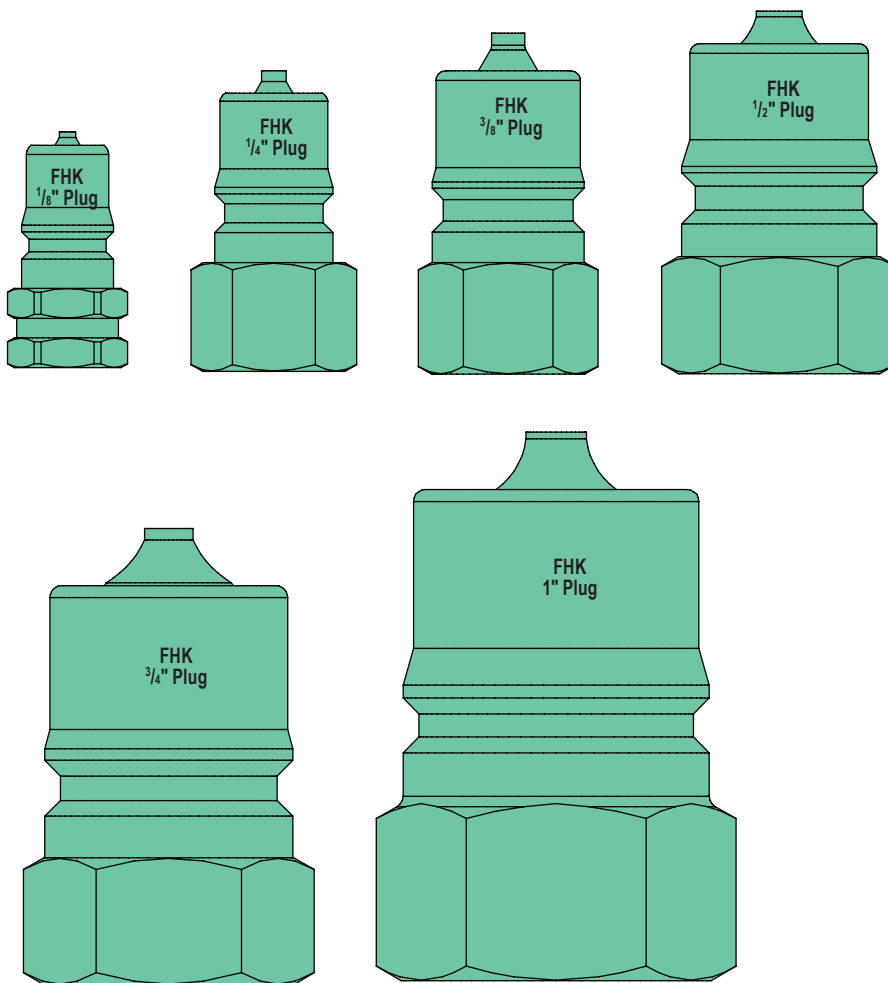
FST Series



TF Series

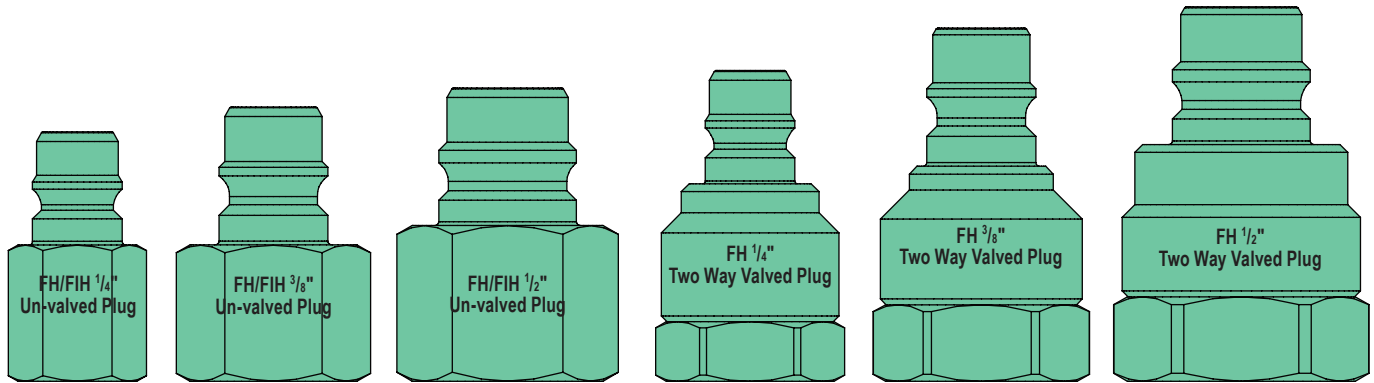


Series FHK

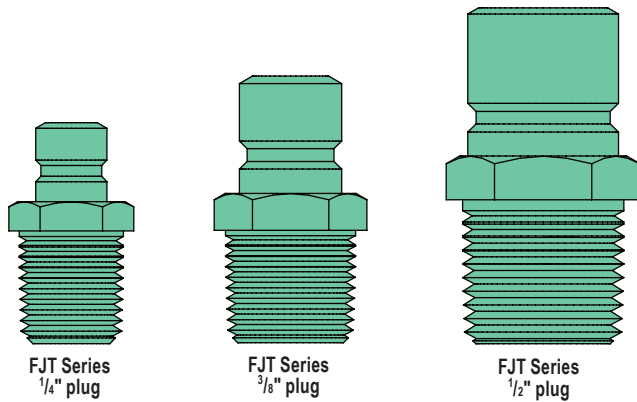




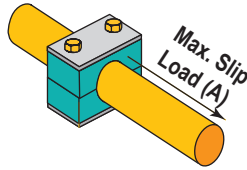
Series FH & FIH



Series FJT



Maximum Slip Load



Max. Pipe Slip indicates that Sliding starts when the specified values (A) are reached.

Beta Standard Series

ZSI (DIN)	Hex Head Bolt UNC Thread (Metric ISO)	Polypropylene		Polyamide		Aluminium	
		Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)
S1 (1)	1/4-20 UNC (M6)	6 (8)	247 (11)	7 (10)	157 (7)	9 (12)	944 (42)
S2 (2)			292 (13)		180 (8)		967 (43)
S3 (3)			315 (14)		360 (16)		1,101 (49)
S4 (4)			337 (15)		382 (17)		1,124 (50)
S5 (5)			427 (19)		450 (20)		1,641 (73)
S6 (6)			450 (20)		562 (25)		2,000 (89)
S7 (7)			517 (23)		719 (32)		
S8 (8)			585 (26)		787 (35)		

Beta Heavy Series

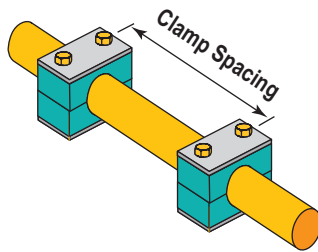
ZSI (DIN)	Hex Head Bolt UNC Thread (Metric ISO)	Polypropylene		Polyamide		Aluminium	
		Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)
H3 (1)	3/8-16 (M10)	9 (12)	360 (16)	15 (20)	944 (42)	22 (30)	2,720 (121)
H4 (2)		9 (12)	652 (29)	15 (20)	1044 (45)	22 (30)	3,395 (151)
H5 (3)		11 (15)	742 (33)	18 (25)	1146 (51)	26 (35)	3,485 (155)
H6 (4)	7/16-14 (M12)	22 (30)	1843 (82)	30 (40)	2090 (93)	41 (55)	6,609 (295)
H7 (5)	5/8-11 (M16)	33 (45)	2472 (110)	41 (55)	3551 (158)	86 (120)	7,845 (349)
H8 (6)	3/4-10 (M20)	59 (80)	3147 (140)	111 (150)	4720 (210)	162 (220)	11,240 (500)
H9 (7)	7/8-9 (M24)	81 (110)	6300 (280)	148 (200)	7193 (320)	184 (250)	15,871 (706)
H10 (8)	1-1/8-7 (M30)	133 (180)	8992 (400)	258 (350)	10790 (480)	369 (500)	18,996 (845)
H11 (9)		148 (200)	26752 (1,190)	273 (370)	27650 (1,250)	369 (500)	40,802 (1,815)
H12 (10)		199 (270)	37767 (1,680)	332 (450)	40465 (1,800)	443 (600)	54,965 (2,445)

Beta Twin Series

ZSI (DIN)	Hex Head Bolt UNC Thread (Metric ISO)	Polypropylene		Polyamide	
		Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)	Tightening Torque ft•lb (N•m)	Max. Pipe Slip lbf (kN)
T1 (1)	1/4-20 (M6)	4 (5)	202 (09)	4 (5)	202 (09)
T2 (2)	5/16-18 (M8)	9 (12)	472 (21)	9 (12)	495 (22)
T3 (3)	5/16-18 (M10)	9 (12)	427 (19)	9 (12)	450 (20)
T4 (4)	5/16-18 (M12)	9 (12)	607 (27)	9 (12)	652 (29)
T5 (5)	5/16-18 (M16)	6 (8)	382 (17)	6 (8)	562 (25)

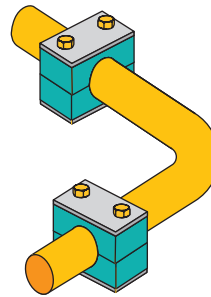


Recommended Pipe Clamp Spacing



Pipe OD in (mm)	Spacing ft - in. (m)
0.24" - 0.5" (6 - 12.7)	3' - 3" (1)
0.5" - 0.87" (12.7 - 22)	3' - 11" (1.2)
0.87" - 1.26" (22 - 32)	4' - 11" (1.5)
1.26" - 1.5" (32 - 38)	6' - 7" (2)
1.5" - 2.24" (38 - 57)	8' - 10" (2.7)
2.24" - 2.95" (57 - 75)	9' - 10" (3)
2.95" - 3" (75 - 76.1)	11' - 6" (3.5)
3" - 3.5" (76.1 - 88.9)	12' - 2" (3.7)
3.5" - 4" (88.9 - 102)	13' - 1" (4)
4" - 4.5" (102 - 114)	14' - 9" (4.5)
4.5" - 6.6" (114 - 168)	16' - 5" (5)
6.6" - 8.6" (168 - 219)	19' - 8" (6)
8.6" - 12.8" (219 - 324)	21' - 12" (6.7)
12.8" - 14" (324 - 356)	22' - 12" (7)
14" - 16" (356 - 406)	24' - 7" (7.5)
16" - 16.5" (406 - 419)	26' - 11" (8.2)
16.5" - 20" (419 - 508)	27' - 11" (8.5)
20" - 20.5" (508 - 521)	29' - 6" (9)
20.5" - 22" (521 - 558)	32' - 10" (10)
22" - 31.5" (558 - 800)	41' - 0" (12.5)

Recommended Clamping for Bends



Bends in the line should be clamped on BOTH sides of the bend as shown.

BETA CLAMP MATERIAL PROPERTIES Polypropylene (PP) Cushion

Material Properties		
Density	-	0.906 g/cm ³
Tensile strength	DIN 53454	25-35 N/mm ²
Flexure stress limit	DIN 53452	36N N/mm ²
Compressive strength	DIN 53454	90 N/mm ²
Impact strength	DIN 53453	No break
Thermo Properties		
Max. temp. resistance	-30 to 90°C	
Thermal conductivity	15 x 10 ⁻⁵ /°C	
Linear expansion coeff.	0.22 W/[mk]	
Electrical Properties		
Specific volume	DIN 53482	1016 ohm x cm
Chemical Properties		
Consistent for weak acids, solvents, mineral oils and seawater.		

Beta Bolt Tightening Torque

Clamp	Group	Bolt Size	Aluminum Cushion		Polypropylene Cushion		Polyamide Cushion	
			Lbf	Nm	Lbf	Nm	Lbf	Nm
Beta Standard	S1 - S7	1/4"-20	7	10	6	8	6	8
Beta Heavy	H3, H4	3/8"-16	22	30	9	12	15	20
	H5	3/8"-16	26	35	11	15	18	25
	H6	1/2"-13	41	55	29	30	30	40
	H7	5/8"-11	89	120	33	45	41	55
Beta Twin	T1	1/4"-20	-	-	4	6	4	6
	T2 - T5	5/16"-18	-	-	9	12	9	12

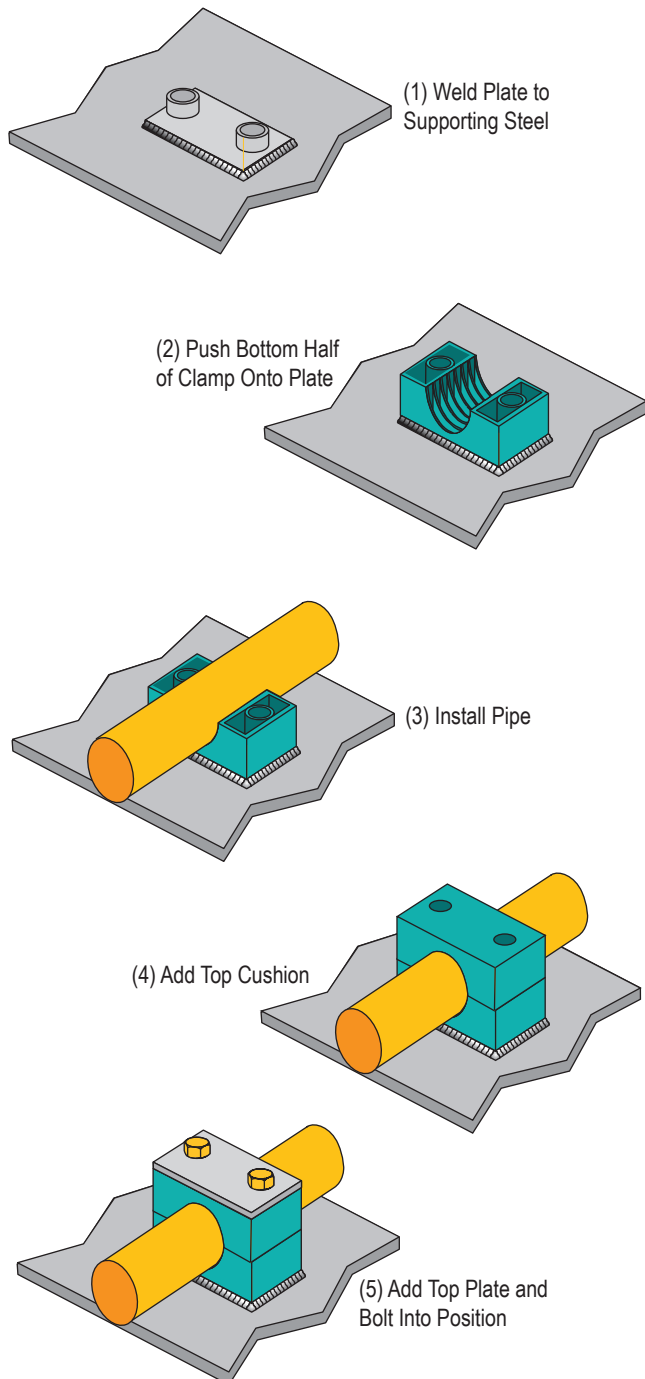
The outlined particulars are approximate values and are only valid as references, which are not binding, also with regard to possible protection of third parties, and they do not exempt you from your own examination of suitability of the products delivered by us. Therefore, these values can only be used in a limited sense for construction purposes. The application of the products is carried out outside our control possibilities and, therefore, is exclusively subject to your own area of responsibility. If, however, liability should be possible, it would be limited for all damages to the value of the goods supplied by us and in use by you. It goes without saying, that we guarantee the perfect quality of our products according to our general sales and delivery conditions.

INSTALLATION ON WELD PLATES

ZSi weld plates are available for the following Series:

- Standard-Series
- Heavy-Series
- Twin-Series
- Beta Adapters

For best alignment of ZSi clamps we recommend that you mark their location before welding.



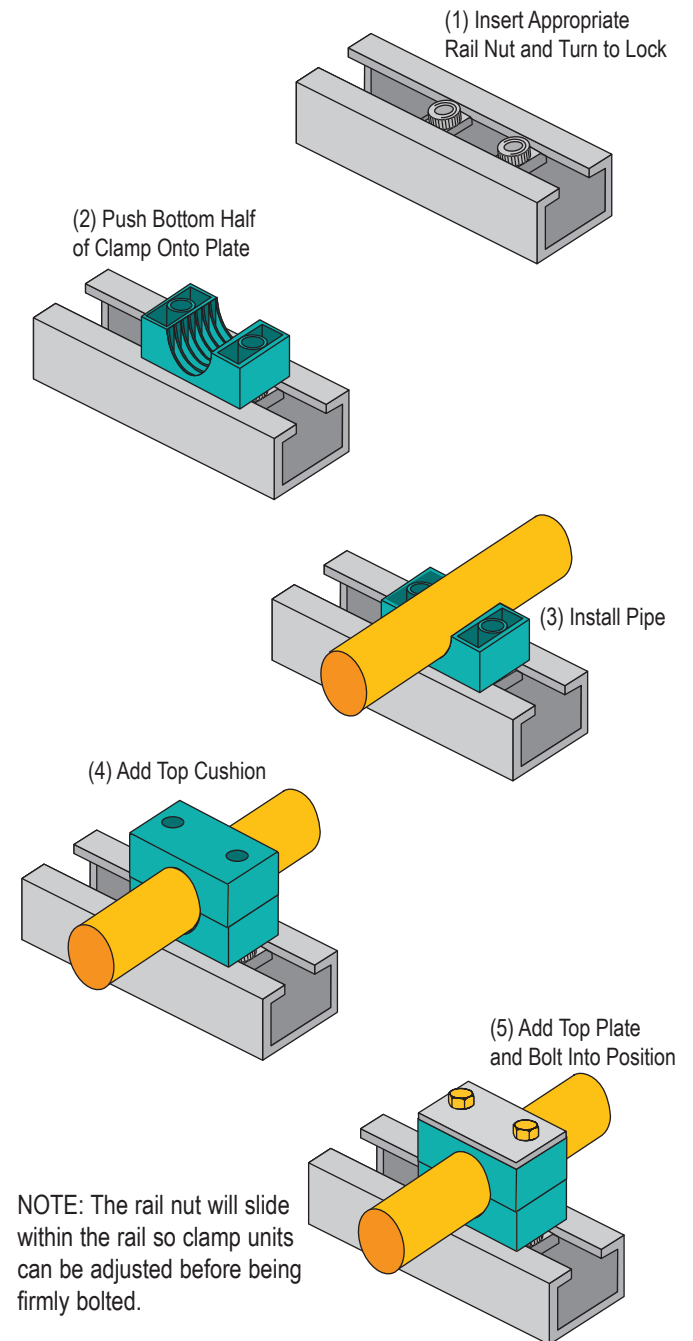
INSTALLATION ON MOUNTING RAILS

ZSi mounting rails can be used with the following Series:

- Standard-Series
- Heavy-Series (Group H3 to H6)
- Twin-Series
- Beta Adapters

ZSi mounting rails are available in two different height sizes and are either welded or bolted to the supporting construction.

For Standard-Series and Twin-Series insert hexagon rail nut and turn to lock. For Heavy-Series slide in rail nut.



NOTE: The rail nut will slide within the rail so clamp units can be adjusted before being firmly bolted.



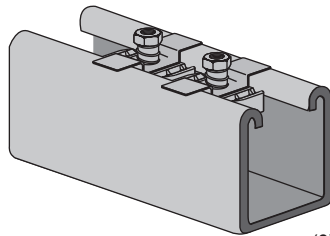
BETA CLAMP INSTALLATION



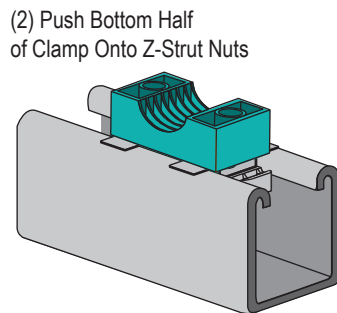
INSTALLATION ON Z-STRUT CHANNEL

The Z-Strut Nuts can be used with any clamp using a 1/4-20 mounting bolt. This includes:

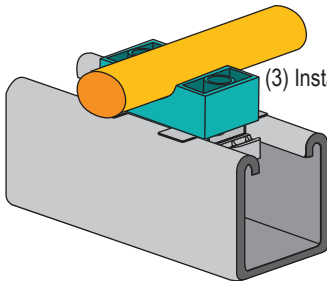
- Standard-Series
- Twin-Series (T1 Only)
- Beta Rubber Inserts



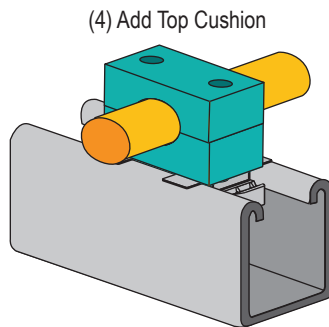
(1) Insert Z-Strut Nuts Into Z-Strut Channel And Turn to Lock



(2) Push Bottom Half of Clamp Onto Z-Strut Nuts

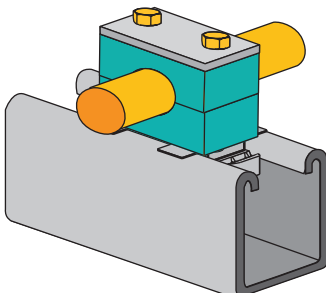


(3) Install Pipe



(4) Add Top Cushion

(5) Add Top Plate and Bolt Into Position



NOTE: The Z-Strut Nut will slide within the Z-Strut Channel so clamp units can be adjusted before being firmly bolted.

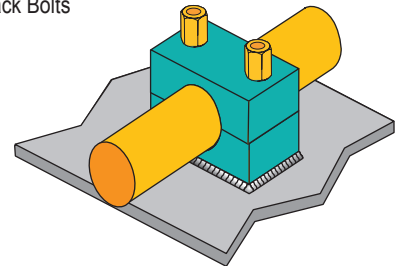
MULTI-LEVEL ASSEMBLY

ZSi multi-level pipe clamps permit easy stacking of several tubes or pipes of the same group. The clamps are connected by stacking bolts.

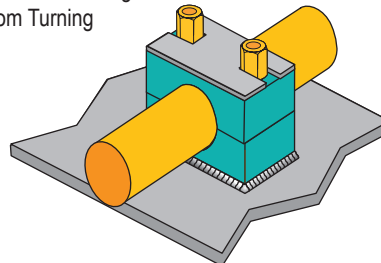
Safety plates are inserted between the clamps to prevent the stacking bolts from turning.

The example below shows a stacking clamp added to a welded clamp, however, ZSi stacking assemblies can be fitted to weld plates, rails, or strut in the same manner.

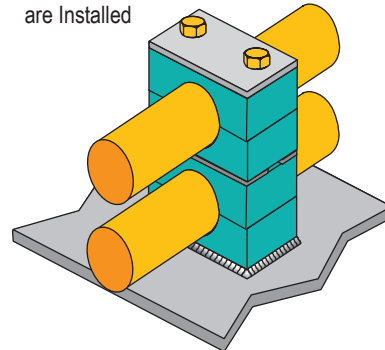
(1) After the Top Cushion is Added, Secure it with the Stack Bolts



(2) Add Safety Plate to Prevent Stacking Bolts from Turning



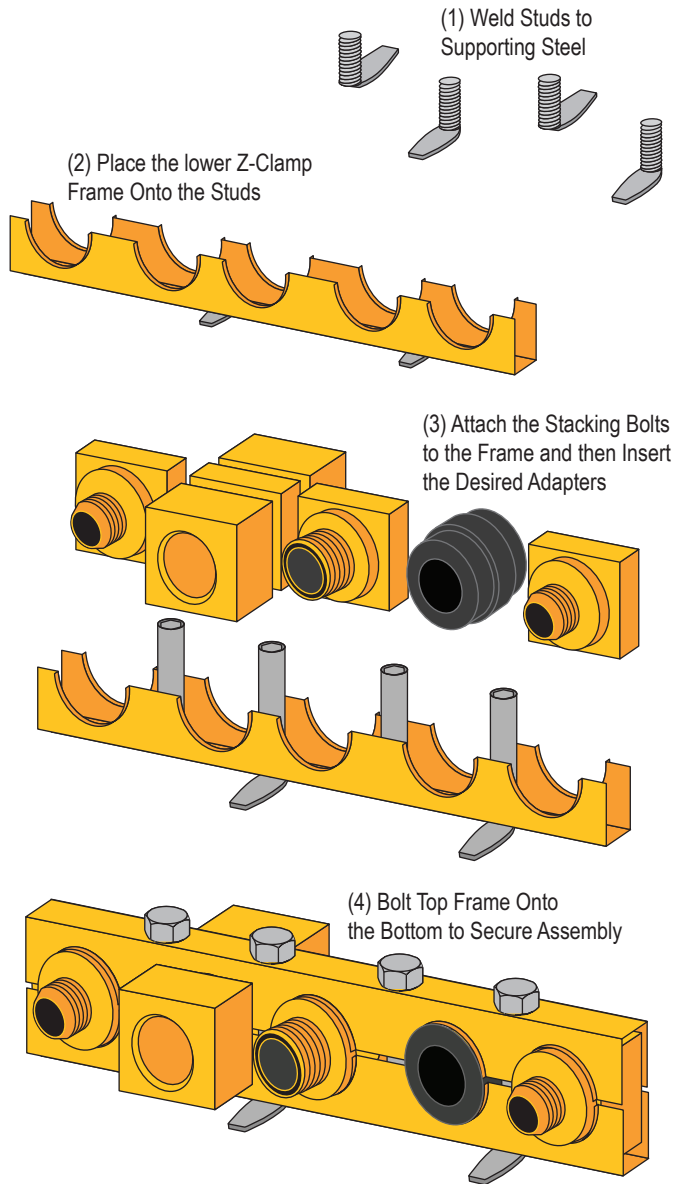
(2) Assemble Another Clamp Onto the Stacking Bolt in Same Manner as Single Clamps are Installed



ZSi Z-CLAMP & BETA ADAPTER INSTALLATION

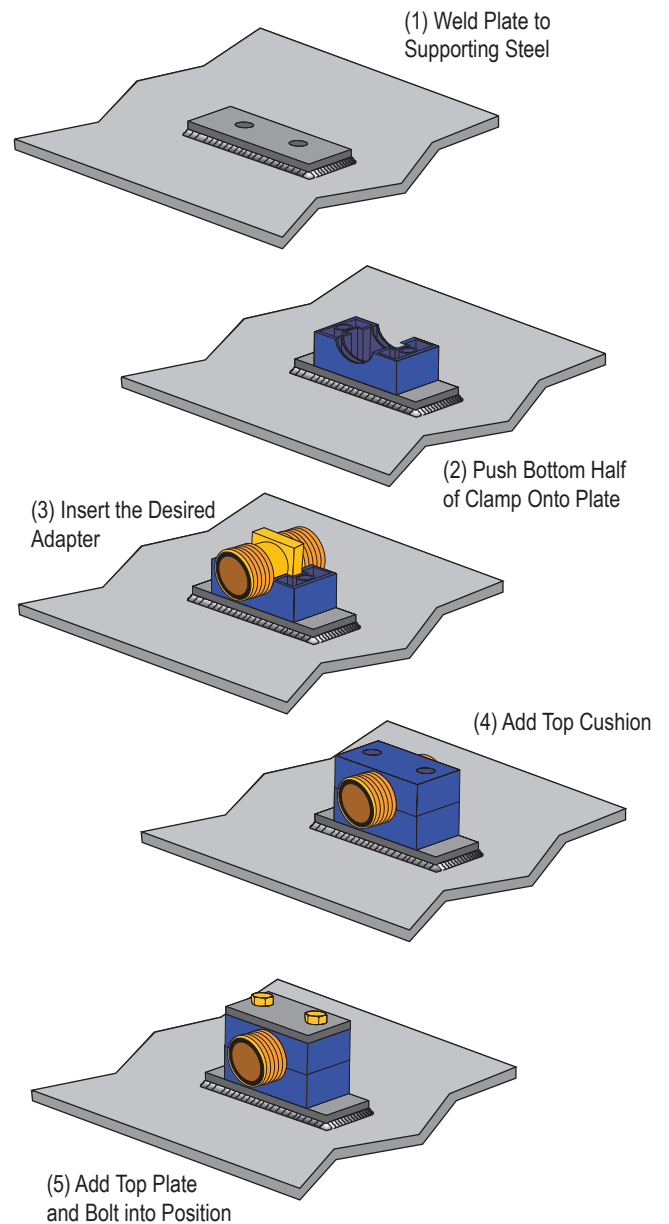
Installation of Z-Clamps

Z-Clamps are installed in much the same manner as Beta Clamps. The weld studs are welded onto existing structure and the clamp assembled onto them.

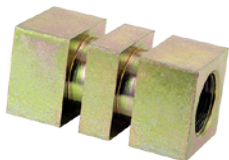


Installation of Beta Adapter

Beta Adapters are installed in much the same manner as Beta Clamps. The weld plate is welded onto existing structure and the Beta cushion and adapter is assembled onto it.



Z-CLAMP & BETA ADAPTER OPTIONAL ADAPTERS



FEMALE JUNCTION ADAPTER



O-RING FACE SEAL



37° FLARE MALE JUNCTION ADAPTER



RUBBER SPLIT BUSHINGS



TECHNICAL DATA



Drill Sizes for NPT Pipe Taps		
Tap Size (In.)	Threads/Inch	Drill Dia. (In.)
1/8	27	R
1/4	18	7/16
3/8	18	31/64
1/2	14	23/32
3/4	14	59/64
1	11 1/2	1 5/32
1 1/4	11 1/2	1 1/2
1 1/2	11 1/2	1 47/64
2	11 1/2	2 7/32
2 1/2	8	2 5/8
3	8	3 1/4
3 1/2	8	3 3/4
4	8	4 1/4

Tap & Drill Sizes (Unified National Coarse)		
Tap Size (In.)	Threads/Inch	Drill Size (In.)
1/4	20	7
5/16	18	F
3/8	16	5/16
7/16	14	U
1/2	13	27/64
9/16	12	31/64
5/8	11	17/32
3/4	10	21/32
7/8	9	49/64
1	8	7/8
1 1/8	7	63/64
1 1/4	7	1 1/64
1 3/8	6	1 1/32
1 1/2	6	1 11/32
1 3/4	5	1 9/16
2	4 1/2	1 25/32

Standard Weight Pipe Data					
Pipe	Nom. Diameter (In.)		Nom. Wt./Ft. (lbs.)	Length Containing One Cu. Ft.	Gallons / Linear Ft. (Gallons)
	Inside	Outside			
1/8	0.269	0.405	0.245	2,526.000	0.0030
1/4	0.364	0.540	0.425	1,383.800	0.0054
3/8	0.493	0.675	0.568	754.360	0.0099
1/2	0.622	0.840	0.851	473.910	0.0158
3/4	0.824	1.050	1.131	270.030	0.0277
1	1.049	1.315	1.679	166.620	0.0449
1 1/4	1.380	1.660	2.273	96.275	0.0777
1 1/2	1.610	1.900	2.718	70.733	0.1058
2	2.067	2.375	3.653	49.913	0.1743
2 1/2	2.469	2.875	5.793	30.077	0.2487
3	3.068	3.500	7.580	19.479	0.3840
3 1/2	3.548	4.000	9.110	14.565	0.5136
4	4.026	4.500	10.790	11.312	0.6613
5	5.047	5.563	14.620	7.198	1.0393
6	6.065	6.625	18.970	4.984	1.5008
8	7.981	8.625	28.550	2.878	2.5988
10	10.020	10.750	40.480	1.826	4.0963

Copper Tube Data - Type L					
Size (In.)	O.D. (In.)	O.D. (In.)	Wall Thick. (In.)	Weight per Foot (lbs)	Weight of Water / Ft. (lbs)
1/4	3/8	0.375	0.030	0.126	0.034
3/8	1/2	0.500	0.035	0.198	0.062
1/2	5/8	0.625	0.040	0.285	0.100
5/8	3/4	0.750	0.042	0.362	0.151
3/4	7/8	0.875	0.045	0.455	0.209
1	1 1/8	1.125	0.050	0.655	0.357
1 1/4	1 3/8	1.375	0.055	0.884	0.546
1 1/2	1 5/8	1.625	0.060	1.140	0.767
2	2 1/8	2.125	0.070	1.750	1.341
2 1/2	2 5/8	2.625	0.080	2.480	2.064
3	3 1/8	3.125	0.090	3.330	2.949
3 1/2	3 5/8	3.625	0.100	4.290	3.989
4	4 1/8	4.125	0.110	5.380	5.188
5	5 1/8	5.125	0.125	7.610	8.081
6	6 1/8	6.125	0.140	10.200	11.616
8	8 1/8	8.125	0.200	19.290	20.289
10	10 1/8	10.125	0.250	30.100	31.590
12	12 1/8	12.125	0.280	40.400	45.426

Copper Tube Data - Type K					
Size (In.)	O.D. (In.)	O.D. (In.)	Wall Thick. (In.)	Weight per Foot (lbs)	Weight of Water / Ft. (lbs)
1/4	3/8	0.375	0.035	0.145	0.032
3/8	1/2	0.500	0.049	0.269	0.055
1/2	5/8	0.625	0.049	0.344	0.094
5/8	3/4	0.750	0.049	0.418	0.144
3/4	7/8	0.875	0.065	0.641	0.188
1	1 1/8	1.125	0.065	0.839	0.337
1 1/4	1 3/8	1.375	0.065	1.040	0.527
1 1/2	1 5/8	1.625	0.072	1.360	0.743
2	2 1/8	2.125	0.083	2.060	1.310
2 1/2	2 5/8	2.625	0.095	2.920	2.000
3	3 1/8	3.125	0.109	4.000	2.960
3 1/2	3 5/8	3.625	0.120	5.120	3.900
4	4 1/8	4.125	0.134	6.510	5.060
5	5 1/8	5.125	0.160	9.670	8.000
6	6 1/8	6.125	0.192	13.870	11.200
8	8 1/8	8.125	0.271	25.900	19.500
10	10 1/8	10.125	0.338	40.300	30.423
12	12 1/8	12.125	0.405	57.800	43.675

Steel Pipe Data — Schedule No 40 & 80					
Nominal Size (In.)	O.D. (In.)	Schedule No.	Wall Thick. (In.)	Weight per Foot (lbs)	Weight of Water per Foot (lbs)
3/8	0.675	40	0.091	0.567	0.083
		80	0.126	0.738	0.061
1/2	0.840	40	0.109	0.850	0.132
		80	0.147	1.087	0.101
3/4	1.050	40	0.113	1.130	0.230
		80	0.154	1.473	0.186
1	1.315	40	0.133	1.678	0.374
		80	0.179	2.171	0.311
1 1/4	1.660	40	0.140	2.272	0.647
		80	0.191	2.996	0.555
1 1/2	1.900	40	0.145	2.717	0.882
		80	0.200	3.631	0.765
2	2.375	40	0.154	3.652	1.452
		80	0.218	5.022	1.279
2 1/2	2.875	40	0.203	5.790	2.072
		80	0.276	7.660	1.834
3	3.500	40	0.216	7.570	3.200
		80	0.300	10.250	2.860
3 1/2	4.000	40	0.226	9.110	4.280
		80	0.318	12.510	3.850
4	4.500	40	0.237	10.790	5.510
		80	0.337	14.980	4.980
5	5.563	40	0.258	14.620	8.660
		80	0.375	20.780	7.870
6	6.625	40	0.280	18.970	12.510
		80	0.432	28.570	11.290
8	8.625	40	0.322	28.550	21.600
		80	0.500	43.390	19.800
10	10.750	40	0.365	40.480	34.100
		80	0.593	64.400	31.100
12	12.75	40	0.406	53.600	48.500
		80	0.687	88.600	44.000
14	14.000	40	0.437	63.000	58.500
		80	0.750	107.000	51.200
16	16.000	40	0.500	83.000	76.500
		80	0.843	137.000	69.700
18	18.000	40	0.563	105.000	97.200
		80	0.937	171.000	88.500
20	20.000	40	0.593	123.000	120.400
		80	1.031	209.000	109.400

PVC and CPVC Pipes - Schedule 40 (inches)					
Nominal Pipe Size	Outside Diameter	Minimum Wall Thickness	Nominal Inside Diameter	Weight (lb/100 ft)	
				PVC	CPVC
1/2	0.840	0.109	0.622	16	17
3/4	1.050	0.113	0.824	21	23
1	1.315	0.133	1.049	32	34
1 1/4	1.660	0.140	1.380	43	46
1 1/2	1.900	0.145	1.610	51	55
2	2.375	0.154	2.067	68	74
2 1/2	2.875	0.203	2.469	107	118
3	3.500	0.216	3.068	141	154
4	4.500	0.237	4.026	201	220
5	5.563	0.258	5.047	273	-
6	6.625	0.280	6.065	353	386
8	8.625	0.322	7.981	539	581
10	10.750	0.365	10.020	755	824
12	12.750	0.406	11.938	1001	1089
14	14.000	0.438	13.124	1180	-
16	16.000	0.500	15.000	1543	-

PVC and CPVC Pipes - Schedule 80 (inches)					
Nominal Pipe Size	Outside Diameter	Minimum Wall Thickness	Nominal Inside Diameter	Weight (lb/100 ft)	
				PVC	CPVC
1/2	0.840	0.147	0.546	20	22
3/4	1.050	0.154	0.742	27	30
1	1.315	0.179	0.957	41	44
1 1/4	1.660	0.191	1.278	52	61
1 1/2	1.900	0.200	1.500	67	74
2	2.375	0.218	1.939	95	102
2 1/2	2.875	0.276	2.323	145	156
3	3.500	0.300	2.900	194	209
4	4.500	0.337	3.826	275	305
5	5.563	0.375	4.813	387	-
6	6.625	0.432	5.761	542	582
8	8.625	0.500	7.625	805	883
10	10.750	0.593	9.564	1200	1309
12	12.750	0.687	11376	1650	180
14	14.000	0.750	12.500	1930	-
16	16.000	0.843	14.314	2544	-

PVC - Wall Schedule 40 - Support Spacing (feet)			
NPS (inches)	Operating Temperature (°F)		
	60	100	140
1/2	4 1/2	4	2 1/2
3/4	5	4	2 1/2
1	5 1/2	4 1/2	2 1/2
1 1/4	5 1/2	5	3
1 1/2	6	5	3
2	6	5	3
3	7	6	3 1/2
4	7 1/2	6 1/2	4
6	8 1/2	7 1/2	4 1/2
8	9	8	4 1/2

PVC - Wall Schedule 80 - Support Spacing (feet)			
NPS (inches)	Operating Temperature (°F)		
	60	100	140
1/2	5	4 1/2	2 1/2
3/4	5 1/2	4 1/2	2 1/2
1	6	5	3
1 1/4	6 1/2	5 1/2	3 1/2
1 1/2	7	6	3 1/2
2	8	7	4
3	9	7 1/2	4 1/2
4	10	9	5
6	11	9 1/2	5 1/2
8	9	8	4 1/2

Hydraulic Hose - No Skive SAE 100R1 Type AT				
SAE Number	Hose I.D.		Hose O.D.	
	(in.)	(mm)	(in.)	(mm)
SAE-3	3/16	5.0	0.46	12
SAE-4	1/4	6.3	0.53	13
SAE-5	5/16	8.0	0.59	15
SAE-6	3/8	10.0	0.68	17
SAE-8	1/2	12.5	0.81	21
SAE-10	5/8	16.0	0.94	24
SAE-12	3/4	19.0	1.09	28
SAE-16	1	25.0	1.41	36
SAE-20	1 1/4	31.5	1.79	45
SAE-24	1 1/2	38.0	2.00	51
SAE-32	2	51.0	2.54	64

Hydraulic Hose - No Skive SAE 100R2 Type AT - ISO 1436 Type 2AT - EN 853 Type 2SN				
SAE Number	Hose I.D.		Hose O.D.	
	(in.)	(mm)	(in.)	(mm)
SAE-4	1/4	6.3	0.53	13
SAE-5	5/16	8.0	0.59	15
SAE-6	3/8	10.0	0.68	17
SAE-8	1/2	12.5	0.81	21
SAE-10	5/8	16.0	0.94	24
SAE-12	3/4	19.0	1.09	28
SAE-16	1	25.0	1.41	36
SAE-20	1 1/4	31.5	1.79	45
SAE-24	1 1/2	38.0	2.00	51
SAE-32	2	51.0	2.54	64

Hydraulic Hose - SAE 100R16 Type AT				
SAE Number	Hose I.D.		Hose O.D.	
	(in.)	(mm)	(in.)	(mm)
SAE-4	1/4	6.3	0.53	13
SAE-5	5/16	8.0	0.59	15
SAE-6	3/8	10.0	0.68	17
SAE-8	1/2	12.5	0.81	21
SAE-10	5/8	16.0	0.94	24
SAE-12	3/4	19.0	1.09	28
SAE-16	1	25.0	1.41	36

Hydraulic Hose - No Skive SAE 100R17 Abrasion Resistant "Tough Cover" and "Super Tough" Cover				
SAE Number	Hose I.D.		Hose O.D.	
	(in.)	(mm)	(in.)	(mm)
SAE-4	1/4	6.3	0.53	13
SAE-6	3/8	10.0	0.68	17
SAE-8	1/2	12.5	0.81	21
SAE-10	5/8	16.0	0.94	24
SAE-12	3/4	19.0	1.09	28
SAE-16	1	25.0	1.41	36
SAE-20	1 1/4	31.5	1.79	45



FRACTION CONVERSION TABLE

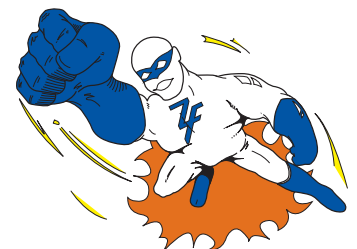


Fractions	Decimal (in)	Metric (mm)
1/64	0.016	0.40
1/32	0.031	0.79
	0.039	1
3/64	0.047	1.19
1/16	0.063	1.59
5/64	0.078	1.98
	0.079	2
3/32	0.094	2.38
7/64	0.109	2.78
	0.118	3
1/8	0.125	3.18
9/64	0.141	3.57
5/32	0.156	3.97
	0.157	4
11/64	0.172	4.37
3/16	0.188	4.76
	0.197	5
13/64	0.203	5.16
7/32	0.219	5.56
15/64	0.234	5.95
	0.236	6
1/4	0.250	6.35
17/64	0.266	6.75
	0.276	7
9/32	0.281	7.14
19/64	0.297	7.54
5/16	0.313	7.94
	0.315	8
21/64	0.328	8.33
11/32	0.344	8.73
	0.354	9
23/64	0.359	9.13
3/8	0.375	9.53
25/64	0.391	9.92
	0.394	10
13/32	0.406	10.32
27/64	0.422	10.72
	0.433	11
7/16	0.438	11.11
29/64	0.453	11.51
15/32	0.469	11.91
	0.472	12
31/64	0.484	12.30
1/2	0.500	12.70
	0.512	13
33/64	0.516	13.10
17/32	0.531	13.49
35/64	0.547	13.89
	0.551	14
9/16	0.563	14.29
37/64	0.578	14.68
	0.591	15
19/32	0.594	15.08
39/64	0.609	15.48
5/8	0.625	15.88
	0.630	16
41/64	0.641	16.27
21/32	0.656	16.67
	0.669	17
43/64	0.672	17.07
11/16	0.688	17.46
45/64	0.703	17.86
	0.709	18
23/32	0.719	18.26
47/64	0.734	18.65
	0.748	19
3/4	0.750	19.05
49/64	0.766	19.45

Fractions	Decimal (in)	Metric (mm)
25/32	0.781	19.84
	0.787	20
51/64	0.797	20.24
13/16	0.813	20.64
53/64	0.828	21.03
27/32	0.844	21.43
55/64	0.859	21.83
7/8	0.875	22.23
57/64	0.891	22.62
29/32	0.906	23
59/64	0.922	23.42
15/16	0.938	23.81
61/64	0.953	24.21
31/32	0.969	24.61
63/64	0.984	25
1	1	25.40
1 1/32	1.031	26.19
1 1/16	1.063	26.99
1 3/32	1.094	27.78
1 1/8	1.125	28.58
1 5/32	1.156	29.37
	1.181	30
1 3/16	1.188	30.16
1 7/32	1.219	30.96
1 1/4	1.250	31.75
1 9/32	1.281	32.54
1 5/16	1.313	33.34
1 11/32	1.344	34.13
1 3/8	1.375	34.93
	1.378	35
1 13/32	1.406	35.72
1 7/16	1.438	36.51
1 15/32	1.469	37.31
1 1/2	1.500	38.10
1 17/32	1.531	38.89
1 9/16	1.563	39.69
	1.575	40
1 19/32	1.594	40.48
1 5/8	1.625	41.28
1 21/32	1.656	42.07
1 11/16	1.688	42.86
1 23/32	1.719	43.66
1 3/4	1.750	44.45
	1.772	45
1 25/32	1.781	45.24
1 13/16	1.813	46.04
1 27/32	1.844	46.83
1 7/8	1.875	47.63
1 29/32	1.906	48.42
1 15/16	1.938	49.21
	1.969	50
1 31/32	1.969	50.01
2	2	50.80
2 1/32	2.031	51.59
2 1/16	2.063	52.39
2 3/32	2.094	53.18
2 1/8	2.125	53.98
2 5/32	2.156	54.77
	2.165	55
2 3/16	2.188	55.56
2 7/32	2.219	56.36
2 1/4	2.250	57.15
2 9/32	2.281	57.94
2 5/16	2.313	58.74
2 11/32	2.344	59.53
	2.362	60
2 3/8	2.375	60.33
2 13/32	2.406	61.12

Fractions	Decimal (in)	Metric (mm)
2 7/16	2.438	61.91
2 15/32	2.469	62.71
2 1/2	2.500	63.50
2 17/32	2.531	64.29
	2.559	65
2 9/16	2.563	65.09
2 19/32	2.594	65.88
2 5/8	2.625	66.68
2 21/32	2.656	67.47
2 11/16	2.688	68.26
2 23/32	2.719	69.06
2 3/4	2.750	69.85
	2.756	70
2 25/32	2.781	70.64
2 13/16	2.813	71.44
2 27/32	2.844	72.23
2 7/8	2.875	73.03
2 29/32	2.906	73.82
2 15/16	2.938	74.61
	2.953	75
2 31/32	2.969	75.41
3	3	76.20
3 1/32	3.031	76.99
3 1/16	3.063	77.79
3 3/32	3.094	78.58
3 1/8	3.125	79.38
	3.150	80
3 5/32	3.156	80.17
3 3/16	3.188	80.96
3 7/32	3.219	81.76
3 1/4	3.250	82.55
3 9/32	3.281	83.34
3 5/16	3.313	84.14
3 11/32	3.344	84.93
	3.346	85
3 3/8	3.375	85.73
3 13/32	3.406	86.52
3 7/16	3.438	87.31
3 15/32	3.469	88.11
3 1/2	3.500	88.90
3 17/32	3.531	89.69
	3.543	90
3 9/16	3.563	90.49
3 19/32	3.594	91.28
3 5/8	3.625	92.08
3 21/32	3.656	92.87
3 11/16	3.688	93.66
3 23/32	3.719	94.46
	3.740	95
3 3/4	3.750	95.25
3 25/32	3.781	96.04
3 13/16	3.813	96.84
3 27/32	3.844	97.63
3 7/8	3.875	98.43
3 29/32	3.906	99.22
	3.937	100
3 15/16	3.938	100.01
3 31/32	3.969	100.81
4	4	101.60
4 1/16	4.063	103.19
4 1/8	4.125	104.78
4 3/16	4.188	106.36
4 1/4	4.250	107.95
4 5/16	4.313	109.54
	4.331	110
4 3/8	4.375	111.13
4 7/16	4.438	112.71
4 1/2	4.500	114.30

Fractions	Decimal (in)	Metric (mm)
4 9/16	4.563	115.89
4 5/8	4.625	117.48
4 11/16	4.688	119.06
	4.724	120
4 3/4	4.750	120.65
4 13/16	4.813	122.24
4 7/8	4.875	123.83
4 15/16	4.938	125.41
5	5	127.00
	5.118	130
5 1/4	5.250	133.35
5 1/2	5.500	139.70
	5.512	140
5 3/4	5.750	146.05
	5.906	150
6	6	152.40
6 1/4	6.250	158.75
	6.299	160
6 1/2	6.500	165.10
	6.693	170
6 3/4	6.750	171.45
7	7	177.80
	7.087	180
	7.480	190
7 1/2	7.500	190.50
	7.874	200
8	8	203.20
8 1/2	8.500	215.90
9	9	228.60
9 1/2	9.500	241.30
	9.843	250
10	10	254.00
11	11	279.40
	11.811	300
12	12	304.80
13	13	330.20
	13.780	350
14	14	355.60
15	15	381.00
	15.748	400
16	16	406.40
17	17	431.80
	17.717	450
18	18	457.20
19	19	482.60
	19.685	500
20	20	508.00





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