

RADIALLY INSTALLED

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EXTERNAL – E-CLIP

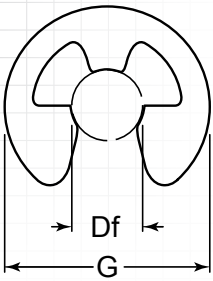


DESCRIPTION

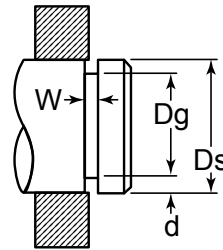
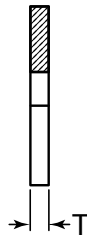
Perhaps the most popular and widely used radial retaining ring is the E-clip (so named because it is shaped like the letter "E"). Three prongs make contact with the bottom of the groove and provide a shoulder for effective retention of assemblies.

HOW TO IDENTIFY

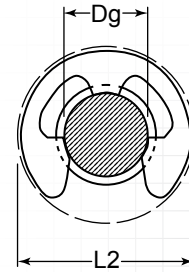
1. Verify E-shape design and appearance.
2. Measure the shaft diameter (Ds).
3. Measure the ring outside diameter (G).
4. Measure the ring thickness (T).
5. Find the part in the chart.



Ring Dimensions



Groove Dimensions



Clearance Diameter Installed In Groove

Item #	Shaft Diameter	Groove Size					Ring Size & Weight				
		Diameter		Width		Depth	Free Diameter		Thickness ²		Weight Per 1,000 pcs.
		Ds	Dg	Tol.	W Max.	Tol.	d	Df	Tol.	T	Tol.
E-004***	.040"	.026"	+.002/-0.000"	.012"	+0.002/-0.000"	.007"	.025"	+0.001/-0.003"	.010"	±.001"	.009
E-006	.062" (1/16)	.052"		.012"	+0.002/-0.000"	.005"	.051"	+0.001/-0.003"	.010"	±.001"	.030
SE-006	.062" (1/16)	.052"		.012"	+0.002/-0.000"	.005"	.051"	+0.001/-0.003"	.010"	±.001"	.028
YE-006	.062" (1/16)	.052"		.023"	+0.002/-0.000"	.005"	.051"	+0.001/-0.003"	.020"	±.002"	.094
SE-009	.094" (3/32)	.074"		.020"	+0.002/-0.000"	.010"	.069"	+0.002/-0.003"	.015"	±.002"	.100
E-009	.094" (3/32)	.074"		.020"	+0.002/-0.000"	.01"	.073"	+0.001/-0.003"	.015"	±.002"	.058
SE-011	.110" (7/64)	.079"		.020"	+0.002/-0.000"	.015"	.076"	+0.001/-0.003"	.015"	±.002"	.310
SE-012	.125" (1/8)	.095"		.029"	+0.002/-0.000"	.015"	.094"	+0.001/-0.003"	.025"	±.002"	.120
E-012	.125" (1/8)	.095"		.020"	+0.002/-0.000"	.015"	.094"	+0.001/-0.003"	.015"	±.002"	.087
SE-014	.140" (9/64)	.102"		.020"	+0.002/-0.000"	.019"	.100"	+0.001/-0.003"	.015"	±.002"	.060
YE-014	.140" (9/64)	.110"		.020"	+0.002/-0.000"	.015"	.108"	+0.001/-0.003"	.015"	±.002"	.100
E-014	.140" (9/64)	.105"		.029"	+0.003/-0.000"	.017"	.102"	+0.001/-0.003"	.025"	±.002"	.210
SE-015	.156" (5/32)	.118"		.046"	+0.003/-0.000"	.019"	.116"	+0.001/-0.003"	.042"	±.002"	.760
E-015	.156" (5/32)	.116"		.029"	+0.003/-0.000"	.02"	.114"	+0.001/-0.003"	.025"	±.002"	.210
SE-017	.172" (11/64)	.127"		.029"	+0.003/-0.000"	.022"	.125"	+0.001/-0.003"	.025"	±.002"	.240
SE-018	.188" (3/16)	.125"		.029"	+0.003/-0.000"	.031"	.122"	+0.001/-0.003"	.025"	±.002"	.450
YE-018	.188" (3/16)	.147"	.029"	+0.003/-0.000"	.02"	.145"	+0.001/-0.003"	.025"	±.002"	.700	
ZE-018	.188" (3/16)	.125"	.029"	+0.003/-0.000"	.031"	.122"	+0.001/-0.003"	.025"	±.002"	1.050	
E-018	.188" (3/16)	.147"	.029"	+0.003/-0.000"	.02"	.145"	+0.001/-0.003"	.025"	±.002"	.290	
SE-021	.219" (7/32)	.188"	.029"	+0.003/-0.000"	.015"	.185"	+0.001/-0.003"	.025"	±.002"	.470	

Additional attribute data on adjacent page. ▶

TO ORDER DIFFERENT MATERIAL/FINISHES, APPEND SUFFIX WITH YOUR CHOICE:
 "NONE" • -BC • -SS • -ZD • -Z3

STACKED OPTIONS AVAILABLE, SEE HUYETT.COM FOR MORE DETAILS

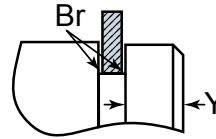
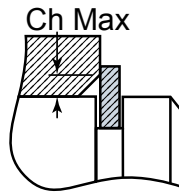
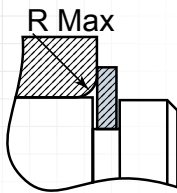
EXTERNAL – E-CLIP



SUFFIX MATERIAL/FINISH

- ### = CARBON SPRING STEEL, PHOSPHATE
- ###-BC = BERYLLIUM COPPER, PLAIN
- ###-SS = PH 15-7 MO STAINLESS STEEL, PLAIN
- ###-ZD = CARBON SPRING STEEL, ZINC YELLOW
- ###-Z3 = CARBON SPRING STEEL, ZINC TRIVALENT

Material/finish combinations may not be available in all sizes.
More finishes available, see page 22 for a complete listing.



Maximum Corner Radius (R Max) & Chamfer (Ch Max) for Retained Part

Edge Margin (Y)

Maximum Bottom Radii (Br)
Sharp corners for rings E-004 – E-006;
.005 for sizes SE-009 – E-025;
.010 for sizes SE-031 – SE-043;
.015 for sizes E-050 – SE-137

Item #	Clearance Diameter		Thrust Load ¹ Square Corner Abutment		Allowable Corner Radii & Chamfers		Max. Load w/R Max. or Ch Max.	Edge Margin	RPM Limits Standard Material	Use with Applicator
	Free Outside Diameter Ref.	Installed in Groove	Ring Safety Factor of 3	Groove Safety Factor of 2	R Max.	Ch Max.				
	G	L2	Pr lbs.	Pg lbs.			P'r lbs.	Y	G Min.	
E-004***	.079"	.090"	13	6	.015"	.010"	13	.014"	40,000	RRA-010
E-006	.156"	.165"	20	7	.030"	.020"	20	.010"	40,000	RRA-040
SE-006	.140"	.150"	20	7	.030"	.020"	20	.010"	40,000	RRA-020
YE-006	.187"	.200"	41	7	.035"	.025"	40	.010"	40,000	RRA-030
SE-009	.230"	.245"	46	20	.053"	.040"	45	.020"	36,000	RRA-050
E-009	.187"	.200"	46	20	.040"	.030"	45	.020"	36,000	RRA-510
SE-011	.375"	.390"	61	40	.080"	.060"	60	.030"	35,000	RRA-060
SE-012	.214"	.225"	110	45	.040"	.030"	108	.030"	35,000	RRA-N50
E-012	.230"	.240"	66	45	.040"	.030"	65	.030"	35,000	RRA-050
SE-014	.203"	.215"	76	60	.029"	.022"	75	.038"	32,000	RRA-080
YE-014	.250"	.265"	76	45	.040"	.030"	75	.030"	32,000	RRA-090
E-014	.270"	.285"	173	60	.060"	.045"	170	.034"	32,000	RRA-070
SE-015	.375"	.390"	300	70	.080"	.060"	250	.038"	31,000	–
E-015	.282"	.295"	178	75	.060"	.045"	175	.040"	31,000	RRA-100
SE-017	.312"	.325"	183	90	.060"	.045"	180	.044"	30,000	RRA-110
SE-018	.375"	.390"	203	135	.060"	.045"	200	.062"	30,000	RRA-130
YE-018	.470"	.485"	193	90	.060"	.045"	190	.040"	25,000	–
ZE-018	.550"	.565"	203	135	.060"	.045"	200	.062"	18,000	–
E-018	.335"	.350"	193	90	.060"	.045"	190	.040"	30,000	RRA-120
SE-021	.437"	.450"	228	75	.060"	.045"	225	.030"	26,000	RRA-140

◀ Additional attribute data on adjacent page.

For hardness specifications, see page 127.
Larger sizes may be available upon request.

** F.I.M. (Full Indicator Movement) – Maximum allowable deviation of runout between groove and shaft.

*** Available in beryllium copper only.

¹ Based on housings/shafts made of cold rolled steel. For more information on thrust load and safety factor see pages 14 & 15.

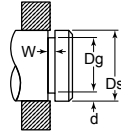
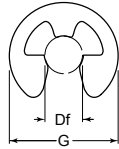
² For plated rings add .002" to the listed maximum thickness. Maximum ring thickness will be a minimum of .0002" less than the listed groove width (W) minimum.

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EXTERNAL – E-CLIP



HOW TO IDENTIFY

1. Verify E-shape design and appearance.
2. Measure the shaft diameter (Ds).
3. Measure the ring outside diameter (G).
4. Measure the ring thickness (T).
5. Find the part in the chart.

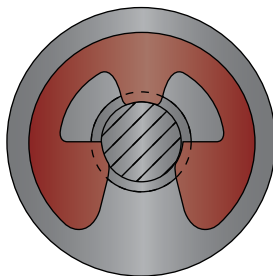
Item #	Shaft Diameter		Groove Size				Ring Size & Weight				
	Diameter		Tol.	Width		Depth	Free Diameter		Thickness ²		Weight Per 1,000 pcs.
	Ds	Dg		W Max.	Tol.	d	Df	Tol.	T	Tol.	lbs.
E-025	.250" (1/4)	.210"	+.003/-0.000" .004"***	.029"	+0.003/-0.000"	.020"	.207"	+0.01/-0.003"	.025"	±.002"	.760
SE-031	.312" (5/16)	.250"		.029"	+0.003/-0.000"	.031"	.243"	+0.002/-0.004"	.025"	±.002"	.570
YE-031	.312" (5/16)	.250"		.029"	+0.003/-0.000"	.031"	.243"	+0.002/-0.004"	.025"	±.002"	1.220
SE-037	.375" (3/8)	.306"		.039"	+0.003/-0.000"	.034"	.303"	+0.002/-0.004"	.035"	±.002"	1.050
E-037	.375" (3/8)	.303"		.039"	+0.003/-0.000"	.036"	.300"	+0.002/-0.004"	.035"	±.002"	1.500
E-043	.438" (7/16)	.343"		.039"	+0.003/-0.000"	.047"	.337"	+0.002/-0.004"	.035"	±.002"	1.500
SE-043	.438" (7/16)	.38"		.039"	+0.003/-0.000"	.029"	.375"	+0.002/-0.004"	.035"	±.002"	1.000
E-050	.500" (1/2)	.396"		.046"	+0.003/-0.000"	.052"	.392"	+0.002/-0.004"	.042"	±.002"	2.500
E-062	.625" (5/8)	.485"		.046"	+0.003/-0.000"	.07"	.480"	+0.003/-0.005"	.042"	±.002"	3.200
SE-074	.750" (3/4)	.625"		.056"	+0.003/-0.000"	.062"	.616"	+0.003/-0.005"	.050"	±.002"	4.300
E-075	.750" (3/4)	.58"		.056"	+0.003/-0.000"	.085"	.574"	+0.003/-0.005"	.050"	±.002"	5.800
E-087	.875" (7/8)	.675"		.056"	+0.003/-0.000"	.1"	.668"	+0.003/-0.005"	.050"	±.002"	7.600
SE-098	.984" (63/64)	.835"		.056"	+0.003/-0.000"	.074"	.822"	+0.003/-0.005"	.050"	±.002"	9.200
	1.000" (1)	.835"		.056"	+0.003/-0.000"	.082"	.822"	+0.003/-0.005"	.050"	±.002"	9.200
SE-118	1.188" (1-3/16)	1.079"	+.005/-0.000" .005"***	.068"	+0.004/-0.000"	.054"	1.066"	+0.006/-0.010"	.062"	±.003"	11.300
SE-137	1.375" (1-3/8)	1.23"		.068"	+0.004/-0.000"	.072"	1.213"	+0.006/-0.010"	.062"	±.003"	15.400

Additional attribute data on adjacent page. ▶

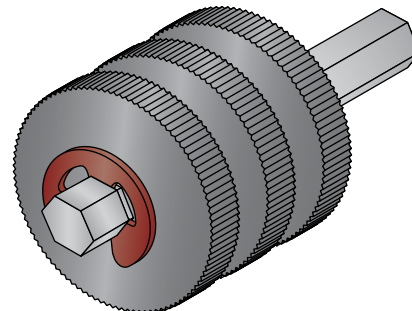
TO ORDER DIFFERENT MATERIAL/FINISHES,
APPEND SUFFIX WITH YOUR CHOICE:
"NONE" • -BC • -SS • -ZD • -Z3

STACKED OPTIONS
AVAILABLE, SEE
HUYETT.COM FOR
MORE DETAILS

APPLICATIONS



An E-clip "wraps" around the shaft with tooth-like grip points that yield greater thrust load rating and typically dig into deeper grooves than a wire ring.



Without anything to hold it in place, the blades of this paper shredder will eventually walk off the shaft. By machining a groove onto the shaft and installing an E-clip, the cutter is stopped by the shoulder of the E-clip to prevent it from falling off.

FOR DETAILED SPECIFICATIONS AND TOLERANCES, VISIT HUYETT.COM.
Prices, materials, dimensions, tolerances, designs, and grades subject to change without notice. © 2022 Huyett

EXTERNAL – E-CLIP



SUFFIX MATERIAL/FINISH

- ### = CARBON SPRING STEEL, PHOSPHATE
- ###-BC = BERYLLIUM COPPER, PLAIN
- ###-SS = PH 15-7 MO STAINLESS STEEL, PLAIN
- ###-ZD = CARBON SPRING STEEL, ZINC YELLOW
- ###-Z3 = CARBON SPRING STEEL, ZINC TRIVALENT

Material/finish combinations may not be available in all sizes.
More finishes available, see page 22 for a complete listing.

Item #	Clearance Diameter		Thrust Load ¹ Square Corner Abutment		Allowable Corner Radii & Chamfers		Max. Load w/R Max. or Ch Max.	Edge Margin	RPM Limits Standard Material	Use with Applicator
	Free Outside Diameter Ref.	Installed in Groove	Ring Safety Factor of 3	Groove Safety Factor of 2	R Max.	Ch Max.				
	G	L2	Pr lbs.	Pg lbs.	R	Ch	Pr lbs.	Y	G Min.	
E-025	.527"	.540"	259	115	.060"	.045"	255	.040"	25,000	RRA-150
SE-031	.500"	.520"	330	225	.060"	.045"	325	.062"	22,000	RRA-160
YE-031	.670"	.685"	325	220	.060"	.045"	320	.062"	15,000	-
SE-037	.567"	.587"	680	300	.060"	.045"	680	.068"	20,000	RRA-290
E-037	.660"	.680"	700	315	.065"	.050"	690	.072"	20,000	RRA-170
E-043	.687"	.710"	842	480	.065"	.050"	830	.094"	16,500	RRA-180
SE-043	.600"	.620"	812	280	.050"	.035"	800	.058"	16,500	RRA-190
E-050	.800"	.820"	1,127	600	.080"	.060"	1,110	.104"	14,000	RRA-200
E-062	.940"	.960"	1,441	1,050	.080"	.060"	1,420	.140"	12,000	RRA-210
SE-074	1.000"	1.020"	1,979	1,100	.057"	.042"	1,900	.124"	11,000	RRA-220
E-075	1.120"	1.140"	2,030	1,500	.085"	.065"	2,000	.170"	10,500	RRA-230
E-087	1.300"	1.320"	2,385	2,050	.085"	.065"	2,350	.200"	9,000	RRA-240
SE-098	1.500"	1.530"	2,639	1,750	.085"	.065"	2,700	.148"	6,500	RRA-250
	1.500"	1.530"	2,690	1,900	.077"	.057"	2,700	.164"	6,500	RRA-250
SE-118	1.626"	1.670"	3,501	1,500	.090"	.070"	3,450	.108"	5,500	RRA-260
SE-137	1.875"	1.920"	4,162	2,350	.090"	.070"	4,100	.144"	4,000	RRA-491

◀ Additional attribute data on adjacent page.

Larger sizes may be available upon request.

- ** F.I.M. (Full Indicator Movement) – Maximum allowable deviation of runout between groove and shaft.
- ¹ Based on grooves made of cold rolled steel. For more information on thrust load and safety factor see pages 14 & 15.
- ² For plated rings add .002" to the listed maximum thickness. Maximum ring thickness will be a minimum of .0002" less than the listed groove width (W) minimum.

PEOPLE ALSO BOUGHT



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BENT PINS



GROOVED CLEVIS PINS



GROOVED HEADLESS CLEVIS PINS

HARDNESS RANGES: E-CLIPS

Material	Size Range	Scale	Rockwell Hardness
(blank) Carbon Steel, (SAE 1060-1090)	E-006 – SE-006	15N	84.5 – 87 **
	YE-006 – YE-014	15N	84.5 – 87
	E-014 – SE-031	30N	66.5 – 71
	E-037+	C	47 – 52
-SS Stainless Steel, (PH 15-7 Mo)	E-006 – SE-006	15N	82.5 – 86 **
	YE-006 – YE-014	15N	82.5 – 86
	E-014 – SE-031	30N	63 – 69.5
	E-037+	C	44 – 51
-BC Beryllium Copper	E-006 – SE-006	15N	79 – 82 **
	YE-006 – YE-014	15N	79 – 82
	E-014 – SE-031	30N	56.5 – 62
	E-037+	C	37 – 43

** Hardness cannot be checked with any degree of accuracy directly on these rings.