

Catálogo

2015-2016

**" LA PIEZA ADECUADA, EN EL LUGAR INDICADO,
EN EL MOMENTO REQUERIDO "**

Industrial



www.calgro.com.mx 36091649 PARTES PARA MANTENIMIENTO INDUSTRIAL,
HERRAMIENTAS, TORNILLERÍA, SEGURIDAD PERSONAL, EQUIPOS, SUMINISTROS,
MATERIALES Y MUCHO MÁS, PRODUCTOS NACIONALES Y DE IMPORTACIÓN.

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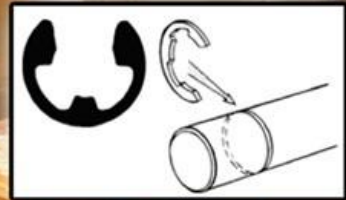
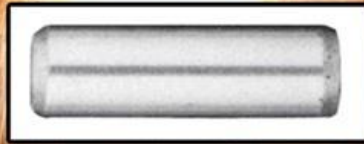
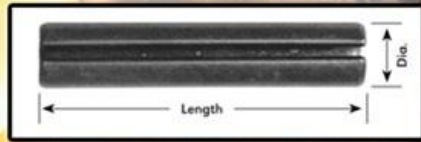
Pins, Retaining Rings, Shaft Collars and O-Rings

Pins

Retaining Rings

Shaft Collars

O-Rings



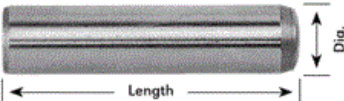
Pull Dowel Pins



- Case-hardened to Rc 58-62
- Average 0.0002" over nominal size
- Case depth 0.010" minimum
- Internally threaded for easy removal and reuse
- Ideal for applications that require repetitive installation and removal without replacing the pin
- Applications where a through hole is not an option, and pin removal is required

Nominal Dia. (Inches)	Internal Thread Size	Overall Length (Inches)	Part No.	Pkg. Qty.
1/4	8-32	1/2	58029	10
		3/4	58030	10
		1	58031	10
		1-1/4	58032	10
		1-1/2	58033	10
		1-3/4	58034	10
		2	58035	10
		2-1/2	58036	10
		1/2	58037	10
		3/4	58038	10
5/16	10-32	1	58039	10
		1-1/4	58040	10
		1-1/2	58041	10
		2	58042	10
		2-1/2	58043	10
		1	58044	10
		1-1/4	58045	10
		1-1/2	58046	10
		1-3/4	58047	10
		2	58048	10
3/8	10-32	2-1/4	58049	10
		2-1/2	58050	10
		3	58051	10
		1	58052	5
		1-1/4	58053	5
		1-1/2	58054	5
		1-3/4	58055	5
		2	58056	5
		2-1/4	58057	5
		2-1/2	58058	5
1/2	1/4-20	3	58059	5
		3-1/2	58060	5

Metric Pull Dowel Pins



- DIN 7979/m6 tolerance
- Case-hardened to Rc 58-62
- Case depth 0.01mm minimum
- Internally threaded for easy removal and reusability

Applications:

- Die makers
- Machine tool makers
- Ideal for applications that require repetitive installation and removal without replacing the pin
- Applications where a through hole is not an option and pin removal is required

Dia.	m6 Tolerance	Internal Thread Size	Overall Length (mm)	Part No.	Pkg. Qty.
M6	+0.004mm to +0.012mm	M4 x 0.7	10	58061	5
			16	58062	5
			20	58063	5
			24	58064	5
			30	58065	5
			32	58066	5
			36	58067	5
			40	58068	5
			16	58069	5
			20	58070	5
M8	+0.006mm to +0.015mm	M5 x 0.8	24	58071	5
			30	58072	5
			36	58073	5
			40	58074	5
			50	58075	5
			20	58076	5
			24	58077	5
			30	58078	5
			36	58079	5
			40	58080	5
M10	+0.006mm to +0.015mm	M6 x 1.0	50	58081	5
			60	58082	5
			28	58083	2
			30	58084	2
			36	58085	2
			40	58086	2
			50	58087	2
			60	58088	2
			70	58089	2
			80	58090	2
M12	+0.007mm to +0.018mm	M6 x 1.0			



Alloy Steel Dowel Pins

- Precision-ground
- Heat-treated, quenched and tempered
- Core hardness RHN C 47-58, case hardness RHN C 60
- Case depth 0.020" minimum
- Average 0.0002" over nominal size
- Meets ANSI B18.8.2, SS 206, USAS B5.20, MIL-P-21143 and MS16555 specifications



Available In Assortment
LP348
(24 items, 313 pieces)
See page 6-65



Nominal Dia. (Inches)	Overall Length (Inches)	Double Shear Strength (Lbs.)	Part No.	Pkg. Qty.	Nominal Dia. (Inches)	Overall Length (Inches)	Double Shear Strength (Lbs.)	Part No.	Pkg. Qty.
1/8	3/8	3,200	93006	25	3/8	1/2	28,700	55057	25
	1/2	3,200	93007	25		5/8	28,700	55058	25
	3/4	3,200	93008	25		3/4	28,700	93034	25
	1	3,200	93009	25		7/8	28,700	55059	25
	1-1/4	3,200	93010	25		1	28,700	93035	25
	1-1/2	3,200	93011	25		1-1/4	28,700	55060	25
	1-3/4	3,200	93012	25		1-1/2	28,700	93036	10
3/16	2	3,200	93013	25		1-3/4	28,700	55061	10
	1/2	7,200	93014	25		2	28,700	93037	10
	5/8	7,200	55046	25		2-1/4	28,700	55062	10
	3/4	7,200	93015	25		2-1/2	28,700	93038	10
	7/8	7,200	55047	25		3	28,700	93039	10
	1	7,200	93016	25	7/16	1	39,100	93040	10
	1-1/4	7,200	93017	25		1-1/4	39,100	55063	10
1/4	1-1/2	7,200	93018	25		1-1/2	39,100	93041	10
	1-3/4	7,200	55048	25		1-3/4	39,100	93042	10
	2	7,200	93019	25		2	39,100	93043	10
	1/2	12,800	93020	25		2-1/2	39,100	55064	10
	5/8	12,800	55049	25		3	39,100	93044	10
	3/4	12,800	93021	25		3/4	51,000	55065	10
	7/8	12,800	55050	25	1/2	1	51,000	93045	10
5/16	1	12,800	93022	25		1-1/4	51,000	55066	10
	1-1/4	12,800	93023	25		1-1/2	51,000	93046	10
	1-1/2	12,800	93024	25		1-3/4	51,000	55067	10
	1-3/4	12,800	55051	25		2	51,000	93047	10
	2	12,800	93025	25		2-1/4	51,000	55068	10
	2-1/4	12,800	55052	25		2-1/2	51,000	55069	10
	2-1/2	12,800	93026	25		3	51,000	93048	10
3/8	1/2	20,000	55053	25	5/8	3-1/2	51,000	55070	10
	5/8	20,000	55054	25		4	51,000	93049	10
	3/4	20,000	93027	25		1	79,800	55071	10
	1	20,000	93028	25		1-1/2	79,800	55072	10
	1-1/4	20,000	93029	25		2	79,800	55073	10
	1-1/2	20,000	93030	25		2-1/2	79,800	55074	10
	1-3/4	20,000	55055	25		3	79,800	55075	5
1/2	2	20,000	93031	10		3-1/2	79,800	55076	5
	2-1/4	20,000	55056	10		4	79,800	55077	5
	2-1/2	20,000	93032	10		5	79,800	55078	5
	3	20,000	93033	10					



SMART

Tip

Go with an Assortment!

Assortments come in standard or custom kits and enable you to have the most commonly used fasteners and pins available any time you need them.



Metric Dowel Pins

- DIN 6325/m6
- Precision-ground
- Hardened steel

Applications:

- Shafts
- Guide pins
- Stops
- Roller for bearings
- Plug gauges
- Feeler gauges in assembly work
- Valve plungers on hydraulic equipment



Available In Assortments
LP551
(19 items, 280 pieces)
LP704
(24 items, 175 pieces)
See page 6-65



Nominal Dia.	Length (mm)	Single Shear Strength (Lbs.)	Part No.	Pkg. Qty.
M4	10	4,250	99187	25
	12	4,250	99188	25
	16	4,250	99189	25
	20	4,250	99190	25
	24	4,250	99191	25
	30	4,250	99192	25
	34	4,250	99193	25
	36	4,250	99194	25
	40	4,250	99195	25
	50	4,250	99196	25
M5	12	6,650	99197	25
	16	6,650	99198	25
	20	6,650	99199	25
	24	6,650	99200	25
	30	6,650	99201	25
	34	6,650	99202	25
	36	6,650	99203	25
	40	6,650	99204	25
M6	50	6,650	99205	25
	12	9,600	99206	25
	16	9,600	99207	25
	20	9,600	99208	25
	24	9,600	99209	25
	30	9,600	99210	25
	34	9,600	99211	25
	36	9,600	99212	25
	40	9,600	99213	25
	50	9,600	99214	25

Nominal Dia.	Length (mm)	Single Shear Strength (Lbs.)	Part No.	Pkg. Qty.
M8	16	17,100	99215	25
	20	17,100	99216	25
	24	17,100	99217	25
	30	17,100	99218	25
	34	17,100	99219	25
	36	17,100	99220	25
	40	17,100	99221	25
	50	17,100	99222	10
	60	17,100	99223	10
	80	17,100	99224	10
M10	16	26,750	99225	25
	20	26,750	99226	25
	24	26,750	99227	25
	30	26,750	99228	10
	34	26,750	99229	10
	36	26,750	99230	10
	40	26,750	99231	10
	50	26,750	99232	10
	60	26,750	99233	10
	80	26,750	99234	10
M12	24	38,500	99235	10
	30	38,500	99236	10
	34	38,500	99237	10
	36	38,500	99238	10
	40	38,500	99239	10
	50	38,500	99240	5
	60	38,500	99241	5
	80	38,500	99242	5

WARNING: Consult your installation specifications for proper use of this product. Improper use may lead to bodily injury and/or property damage. Use tools properly and for the purpose intended. Wear safety goggles.



PINS

www.calgro.com.mx Tel.(33)3609-1649 ventas@calgro.com.mx

Springlok Pins High Carbon and Stainless Steel

- Also known as Roll Pins
- Heat-treated*
- Chamfered ends allow easy installation

1074 High Carbon Steel Pins

- Meets military and industrial standards MIL-P-10971, MS 171401 through MS 171900, MS 9047, MS 9048, MS 16562, NAS 561

Dia. (Inches)	Length (Inches)	Carbon Steel Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
1/16	1/4	11420	100	52880	50
	3/8	11423	100	52881	50
	1/2	11421	100	52882	50
	5/8	11424	100	52883	50
	3/4	11422	100	52884	50
5/64	1	11425	100	52885	50
	1/4	11426	100	52886	50
	3/8	11429	100	52887	50
	1/2	11427	100	52888	50
	5/8	11430	100	52889	50
3/32	3/4	11428	100	52890	50
	1	11431	100	52891	50
	1/4	11432	100	52892	50
	3/8	11435	100	52893	50
	7/16	11436	100	52894	50
1/8	1/2	11437	100	52895	50
	9/16	11441	100	52896	50
	5/8	11442	100	52897	50
	3/4	11433	100	52898	50
	7/8	11443	100	52899	50
5/32	1	11434	100	52900	50
	1-1/4	11447	100	52901	50
	3/8	11438	100	52902	50
	1/2	11448	100	52903	50
	5/8	11449	100	52904	50
3/16	3/4	11439	100	52905	50
	7/8	11455	100	52906	50
	1	11459	100	52907	50
	1-1/4	11460	100	52908	50
	1-1/2	11440	100	52909	50
7/32	1/2	11444	100	52910	50
	5/8	11467	100	52911	50
	3/4	11473	100	52912	50
	7/8	11479	100	52913	50
	1	11445	100	52914	50
1/2	1-1/4	11485	100	52915	50
	1-1/2	11446	100	52916	50
	1/2	11450	100	52917	50
	3/4	11453	100	52918	50
	7/8	11490	100	52919	50
5/8	1	11451	100	52920	50
	1-1/4	11454	100	52921	50
	1-1/2	11491	100	52922	50
	1-3/4	11492	100	52923	50
	2	11452	100	52924	50
3/4	5/8	11493	100	52925	50
	3/4	11456	100	52926	50
	1	11494	50	52927	25
	1-1/4	11495	50	52928	25
	1-1/2	11457	50	52929	25
7/8	1-3/4	11496	50	52930	25
	2	11458	50	52931	25

*Some discoloration may occur due to heat treatment. This will not affect corrosion resistance.



Available In Assortments

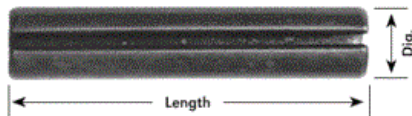
LP93

(24 items, 1,150 pieces)

LP139

(24 items, 260 pieces)

See page 6-66



Type 420 (Magnetic) Stainless Steel Pins

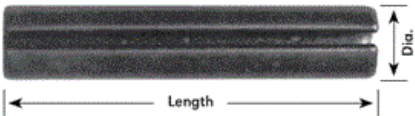
- Meets military and industrial standards MIL-P-10971

Dia. (Inches)	Length (Inches)	Carbon Steel Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
1/4	5/8	11497	100	52932	50
	3/4	11498	100	52933	50
	1	11462	50	52934	25
	1-1/4	11465	50	52935	25
	1-1/2	11466	50	52936	25
5/16	1-3/4	11499	50	52937	25
	2	11463	25	52938	10
	2-1/4	11418	25	52939	10
	2-1/2	11406	25	52940	10
	2-3/4	11419	25	52941	10
3/8	3	11464	25	52942	10
	3/4	11407	100	52943	50
	7/8	11408	100	52944	50
	1	11468	50	52945	25
	1-1/4	11409	50	52946	25
1/2	1-3/8	11410	50	52947	25
	1-1/2	11469	25	52948	25
	1-3/4	11411	50	52949	25
	2	11470	25	52950	10
	2-1/4	11403	25	52951	10
5/8	2-1/2	11471	10	52952	5
	2-3/4	11404	10	52953	5
	3	11472	10	52954	5
	3/4	11412	100	52955	50
	1	11474	25	52956	10
3/4	1-1/4	11413	25	52957	10
	1-1/2	11475	25	52958	10
	1-3/4	11414	25	52959	10
	2	11476	25	52960	10
	2-1/2	11477	10	52961	5
7/8	3	11478	10	52962	5
	1	11480	25	52963	10
	1-1/4	11405	25	52964	10
	1-1/2	11481	25	52965	10
	1-3/4	11461	25	52966	10
1	2	11482	25	52967	10
	2-1/2	11483	10	52968	5
	3	11484	10	52969	5
	1-1/2	11486	25	52970	10
	1-3/4	11415	25	52971	10
1-1/4	2	11487	25	52972	10
	2-1/2	11488	10	52973	5
	3	11489	10	52974	5
	3-1/2	11416	10	52975	5
	4	11417	10	51948	5

Nominal Pin Dia. (Inches)	Recommended Hole Size (Inches)	Minimum Double Shear Strength (Lbs.)
.062 (1/16)	.062 - .065	425
.078 (5/64)	.078 - .081	650
.094 (3/32)	.094 - .097	1,000
.125 (1/8)	.125 - .129	2,100
.156 (5/32)	.156 - .160	3,000
.187 (3/16)	.187 - .192	4,400
.219 (7/32)	.219 - .224	5,700
.250 (1/4)	.250 - .256	7,700
.312 (5/16)	.312 - .318	11,500
.375 (3/8)	.375 - .382	17,600
.437 (7/16)	.437 - .445	20,000
.500 (1/2)	.500 - .510	25,800

Metric Springlok Pins

- DIN 1481
- Also known as Roll Pins
- Heat-treated
- Chamfered ends for easy installation



Dia.	Length (mm)	Part No.	Pkg. Qty.
M4	10	99138	25
	12	99139	25
	16	99140	25
	20	99141	25
	24	99142	25
	30	99143	25
M5	36	99144	25
	40	99145	25
	12	99146	25
	16	99147	25
	20	99148	25
	24	99149	25
M6	30	99150	25
	36	99151	25
	40	99152	25
	50	99153	25
	12	99154	25
	16	99155	25

Dia.	Length (mm)	Part No.	Pkg. Qty.
M6	20	99156	25
	24	99157	25
	30	99158	25
	36	99159	25
	40	99160	25
	50	99161	25
M8	16	99162	25
	20	99163	25
	24	99164	25
	30	99165	25
	36	99166	25
	40	99167	25
M10	50	99168	25
	60	99169	10
	80	99170	10
	16	99171	25
	20	99172	25
	24	99173	25

Dia.	Length (mm)	Part No.	Pkg. Qty.
M10	30	99174	25
	36	99175	25
	40	99176	25
	50	99177	25
	60	99178	10
	80	99179	10
M12	24	99180	25
	30	99181	25
	36	99182	25
	40	99183	25
	50	99184	25
	60	99185	10
M12	80	99186	10

Nominal Dia.	Recommended Maximum Hole Size (mm)	Recommended Minimum Hole Size (mm)	Single Shear Strength (Lbs.)
M4	4.2	4	1,275
M5	5.2	5	1,990
M6	6.25	6	2,950
M8	8.3	8	4,850
M10	10.3	10	7,950
M12	12.35	12	11,800



Available In Assortments

LP549
(24 items, 510 pieces)

LP550
(24 items, 270 pieces)
See page 6-66



Retaining Rings

Retaining rings are precision-engineered components placed on shafts or in bores, which provide a shoulder that accurately positions, locates or retains other parts of an assembly. They save time and labor, and decrease maintenance costs. Our rigid quality-control program provides you with the finest rings on the market today.

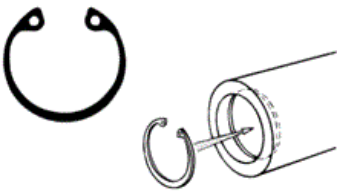
- Replaces pins, washers, threaded sections, collars and machine shoulders
- Manufactured from SAE 1065-1090 high carbon spring steel
- Heat-treated and oil-dipped
- Conforms to NAS 669 and 670 and MS 16624 through MS 1116634 specifications
- Maximum operating temperature: 480°F (249°C)

Retaining Ring Design

Retaining rings have two basic applications – internal and external

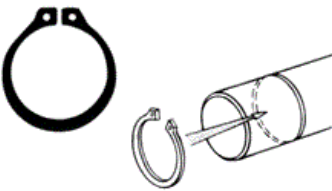
Internal Axial

Applied axially into the bore



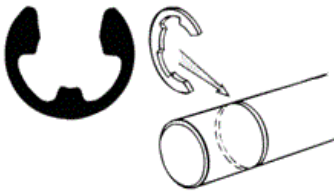
External Axial

Applied axially over the end of shaft



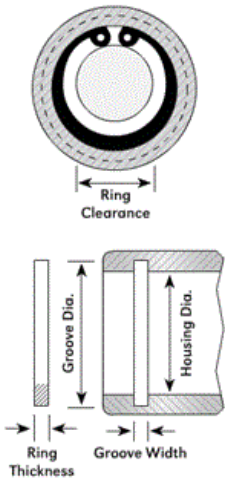
External Radial

Applied radially directly into the groove



Internal Type Retaining Rings

Housing Dia. (Inches)	Ring Clearance (Inches)	Ring Thickness (Inches)	Groove Dia. (Inches)	Groove Width (Inches)	Phosphate Finish Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
1/4	.11	.015	.268	.018	11219	50	59500	5
5/16	.17	.015	.330	.018	11220	50	59501	5
3/8	.20	.025	.397	.029	11221	50	59502	5
7/16	.23	.025	.461	.029	11340	50	59503	5
1/2	.26	.035	.530	.039	11222	50	59504	5
9/16	.28	.035	.596	.039	11223	50	59505	5
5/8	.34	.035	.665	.039	11341	50	59506	5
11/16	.40	.035	.732	.039	97324	50	59507	5
3/4	.45	.035	.796	.039	11342	50	59508	5
13/16	.49	.042	.862	.046	97325	50	59509	5
7/8	.55	.042	.931	.046	11343	50	59510	5
15/16	.61	.042	1.000	.046	97326	50	59511	5
1	.66	.042	1.066	.046	11344	50	59512	5
1.023	.69	.042	1.091	.046	11345	50		
1-1/16	.69	.050	1.130	.056	11346	25		
1-1/8	.74	.050	1.197	.056	11224	25		
1-3/16	.80	.050	1.262	.056	97327	25		
1-1/4	.87	.050	1.330	.056	11350	25		
1-5/16	.93	.050	1.396	.056	11225	25		
1-3/8	.99	.050	1.461	.056	11349	25		
1-7/16	1.06	.050	1.528	.056	97328	25		
1-1/2	1.12	.050	1.594	.056	11348	25		
1-9/16	1.14	.062	1.658	.068	97329	25		
1-5/8	1.15	.062	1.725	.068	11226	25		
1-11/16	1.21	.062	1.792	.068	97330	25		
1-3/4	1.26	.062	1.858	.068	11347	25		
1-13/16	1.32	.062	1.922	.068	97331	25		
1-7/8	1.39	.062	1.989	.068	11227	25		
1-15/16	1.43	.062	2.056	.068	97332	25		
2	1.50	.062	2.122	.068	11228	25		
2-1/16	1.54	.078	2.186	.086	92567	10		
2-1/8	1.58	.078	2.251	.086	92568	10		
2-1/4	1.69	.078	2.382	.086	92569	10		
2-5/16	1.75	.078	2.450	.086	92570	10		
2-3/8	1.81	.078	2.517	.086	92571	10		
2-7/16	1.86	.078	2.584	.086	92572	10		
2-1/2	1.91	.078	2.648	.086	92573	10		
2-5/8	2.02	.093	2.781	.103	92574	10		
2-3/4	2.12	.093	2.914	.103	92575	10		
2-7/8	2.22	.093	3.051	.103	92576	10		
3	2.35	.093	3.182	.103	92577	10		



Available In Assortments

- LP92 (24 items, 250 pieces) See page 6-70
- LP403 (21 items, 475 pieces)
- LP436 (11 items, 75 pieces) See page 6-71

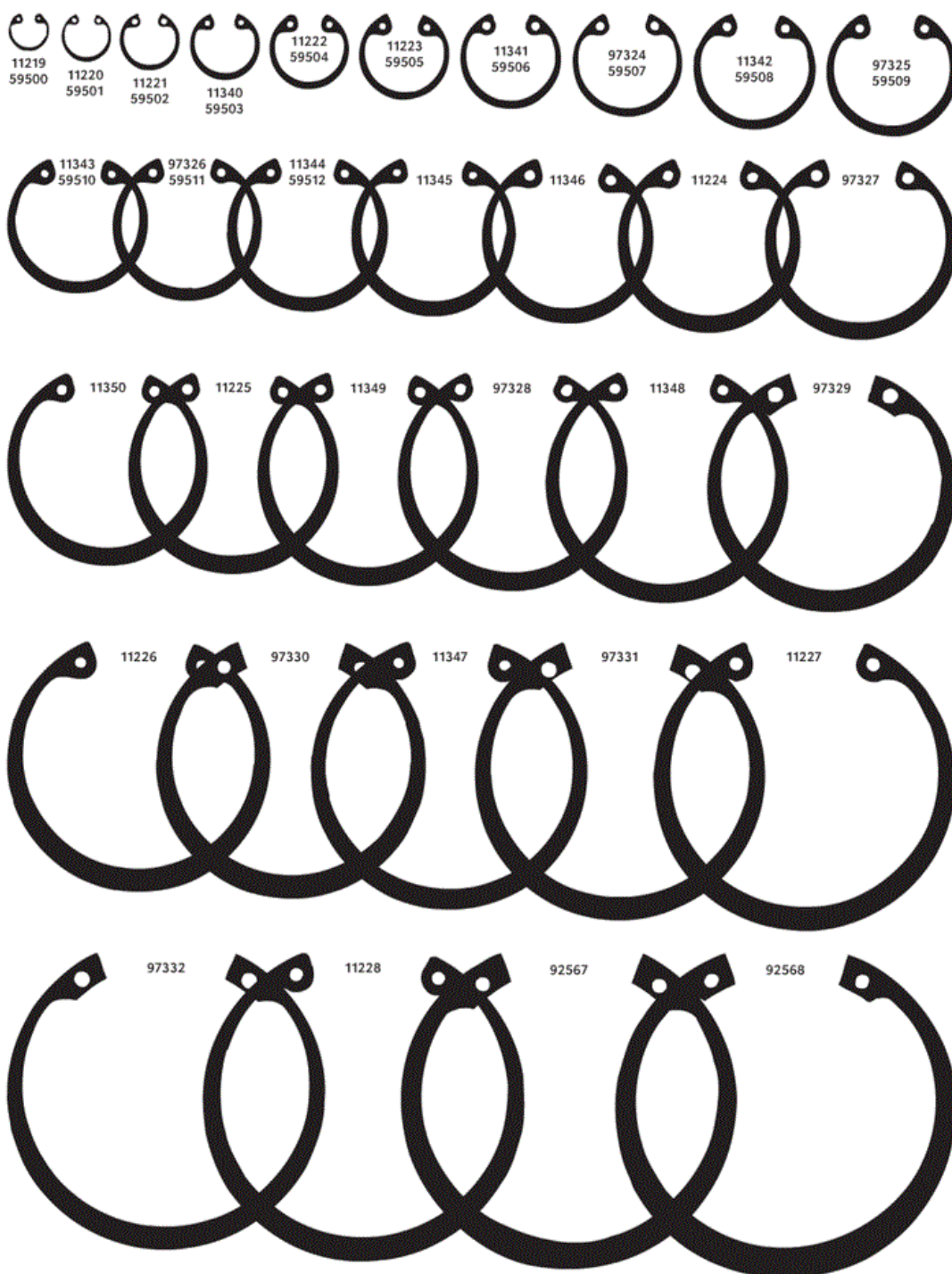
NOTE: See pages 5-56 and 5-57 for actual size internal type retaining ring pictures.



RETAINING Rings

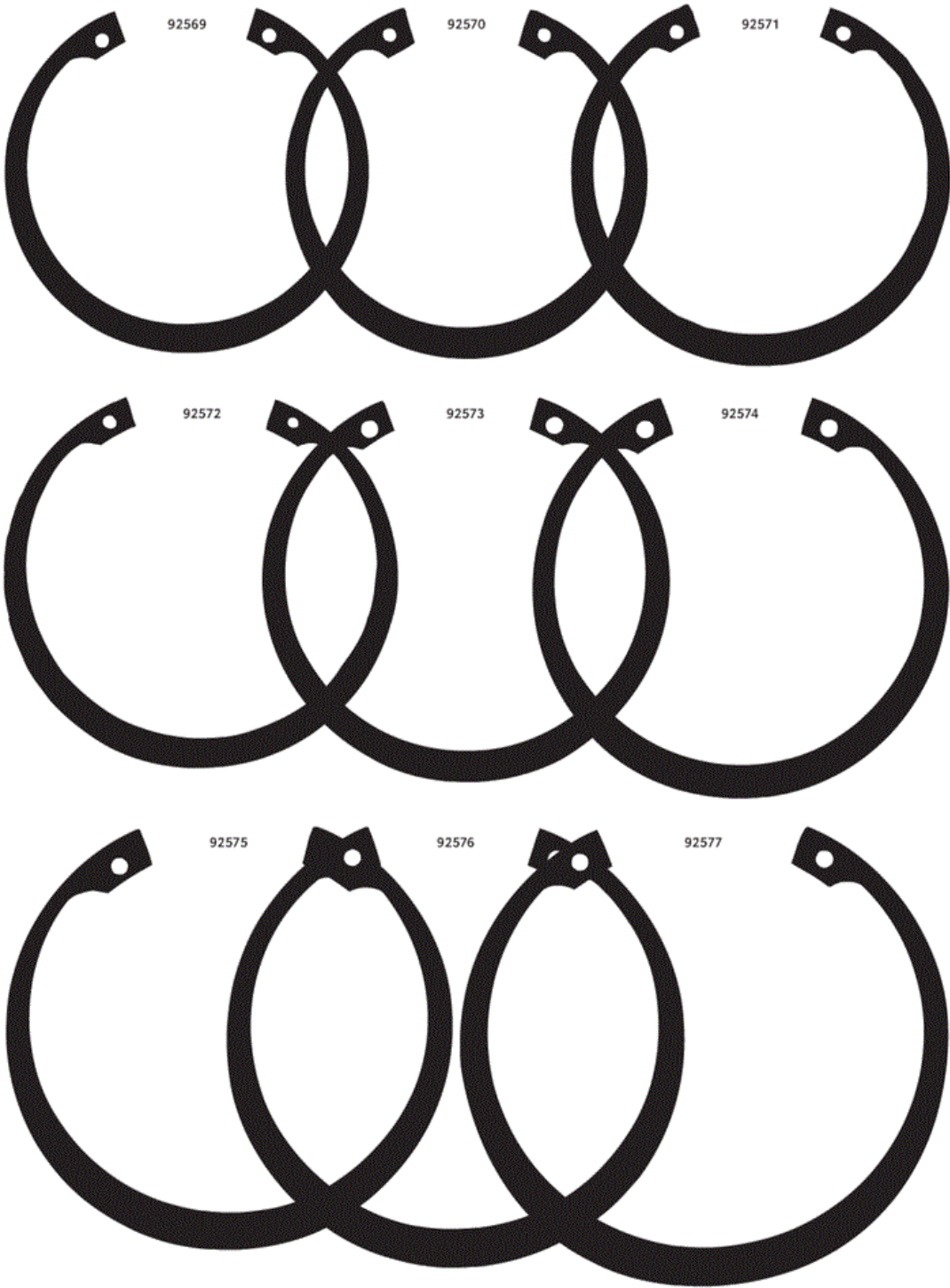
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Internal Type Retaining Rings





Internal Type Retaining Rings





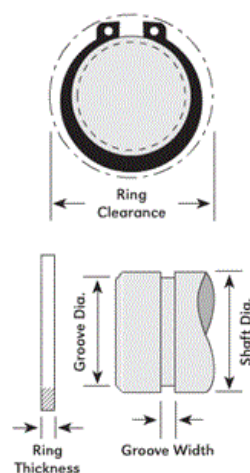
RETAINING Rings

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External Type Retaining Rings

Shaft Dia. (Inches)	Ring Clearance (Inches)	Ring Thickness (Inches)	Groove Dia. (Inches)	Groove Width (Inches)	Phosphate Finish Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
1/8	.22	.010	.117	.012	97333*	50		
5/32	.27	.010	.146	.012	11351*	50		
3/16	.30	.015	.175	.018	11352*	50		
1/4	.45	.025	.230	.029	11353	50	59513	5
9/32	.49	.025	.261	.029	97334	50		
5/16	.54	.025	.290	.029	11354	50	59514	5
3/8	.61	.025	.352	.029	11230	50	59515	5
7/16	.66	.025	.412	.029	11231	50	59516	5
1/2	.77	.035	.468	.039	11355	50	59517	5
.551	.81	.035	.519	.039	11356	50		
9/16	.82	.035	.530	.039	11232	50	59518	5
5/8	.90	.035	.588	.039	11357	50	59519	5
11/16	1.01	.042	.646	.046	11358	50	59520	5
3/4	1.09	.042	.704	.046	11362	50	59521	5
25/32	1.12	.042	.733	.046	11361	50		
13/16	1.15	.042	.762	.046	97335	50	59522	5
27/32	1.19	.042	.791	.046	11360	50		
7/8	1.21	.042	.821	.046	11233	50	59523	5
15/16	1.34	.042	.882	.046	97336	50	59524	5
1	1.41	.042	.940	.046	11234	50	59525	5
1-1/16	1.50	.050	.998	.056	97337	25		
1-1/8	1.55	.050	1.059	.056	11235	25		
1-3/16	1.61	.050	1.118	.056	97338	25		
1-1/4	1.69	.050	1.176	.056	11236	25		
1-5/16	1.75	.050	1.232	.056	11237	25		
1-3/8	1.80	.050	1.291	.056	11238	25		
1-7/16	1.87	.050	1.350	.056	97339	25		
1-1/2	1.99	.050	1.406	.056	92254	25		
1-9/16	2.10	.062	1.468	.068	11359	25		
1-5/8	2.17	.062	1.529	.068	11239	25		
1-3/4	2.31	.062	1.650	.068	11240	10		
1-13/16	2.38	.062	1.708	.068	97340	10		
1-7/8	2.44	.062	1.769	.068	11241	10		
2	2.55	.062	1.886	.068	11242	10		
2-1/16	2.68	.078	1.946	.086	92578	10		
2-1/8	2.75	.078	2.003	.086	92579	10		
2-1/4	2.87	.078	2.120	.086	92580	10		
2-5/16	2.94	.078	2.178	.086	92581	10		
2-3/8	3.01	.078	2.239	.086	92582	10		
2-7/16	3.07	.078	2.299	.086	92583	10		
2-1/2	3.12	.078	2.360	.086	92584	10		
2-5/8	3.25	.078	2.481	.086	92585	10		
2-3/4	3.45	.093	2.602	.103	92586	10		
2-7/8	3.57	.093	2.721	.103	92587	10		
3	3.69	.093	2.838	.103	92588	10		

*Retaining Ring Material is Copper



Available In Assortments

LP92

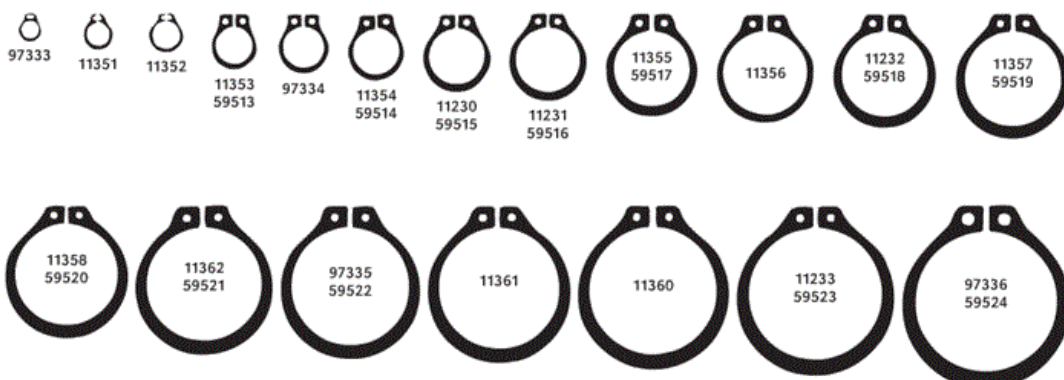
(24 items, 250 pieces)
See page 6-70

LP404

(24 items, 525 pieces)

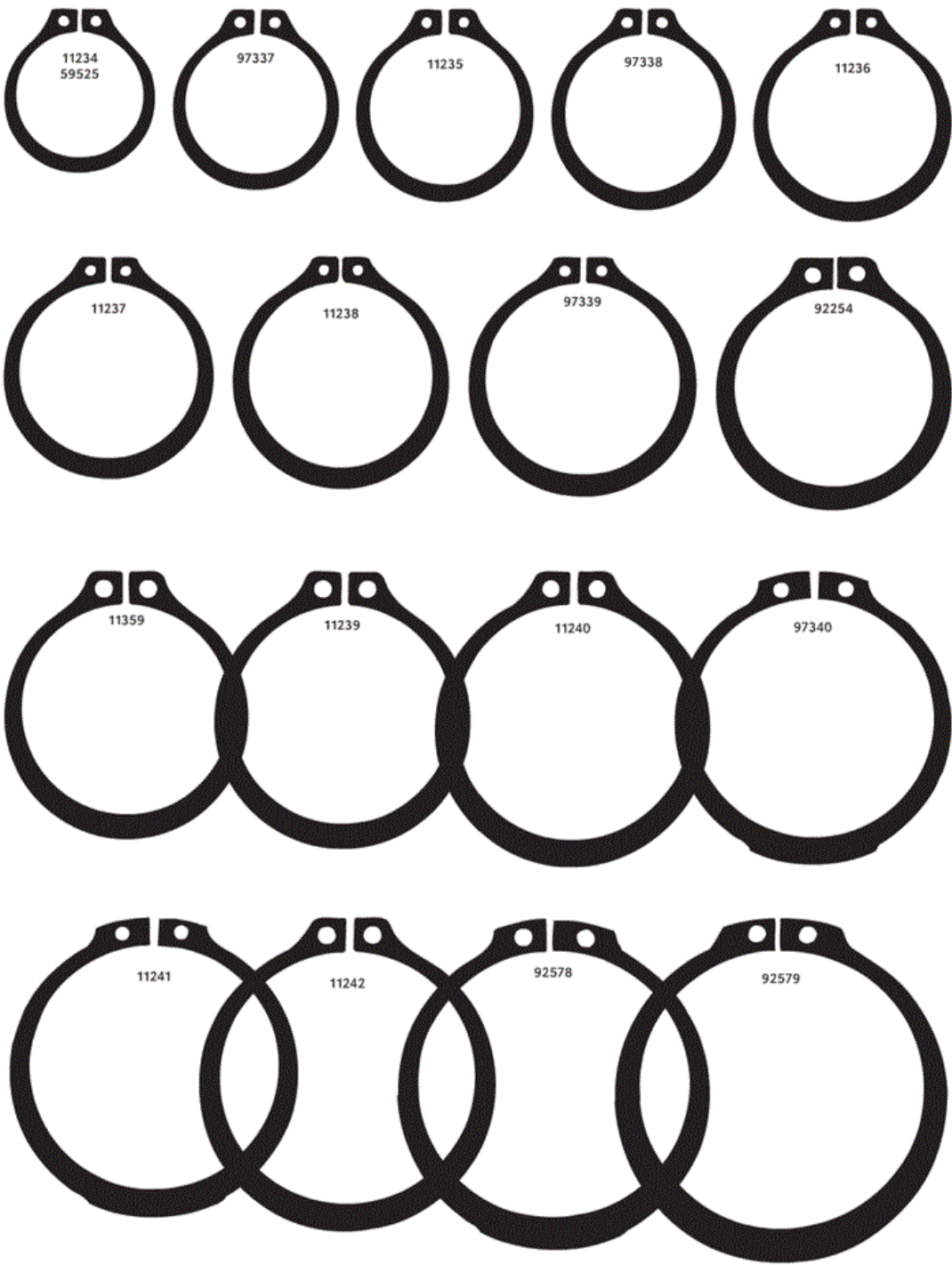
LP435

(11 items, 75 pieces)
See page 6-71





External Type Retaining Rings

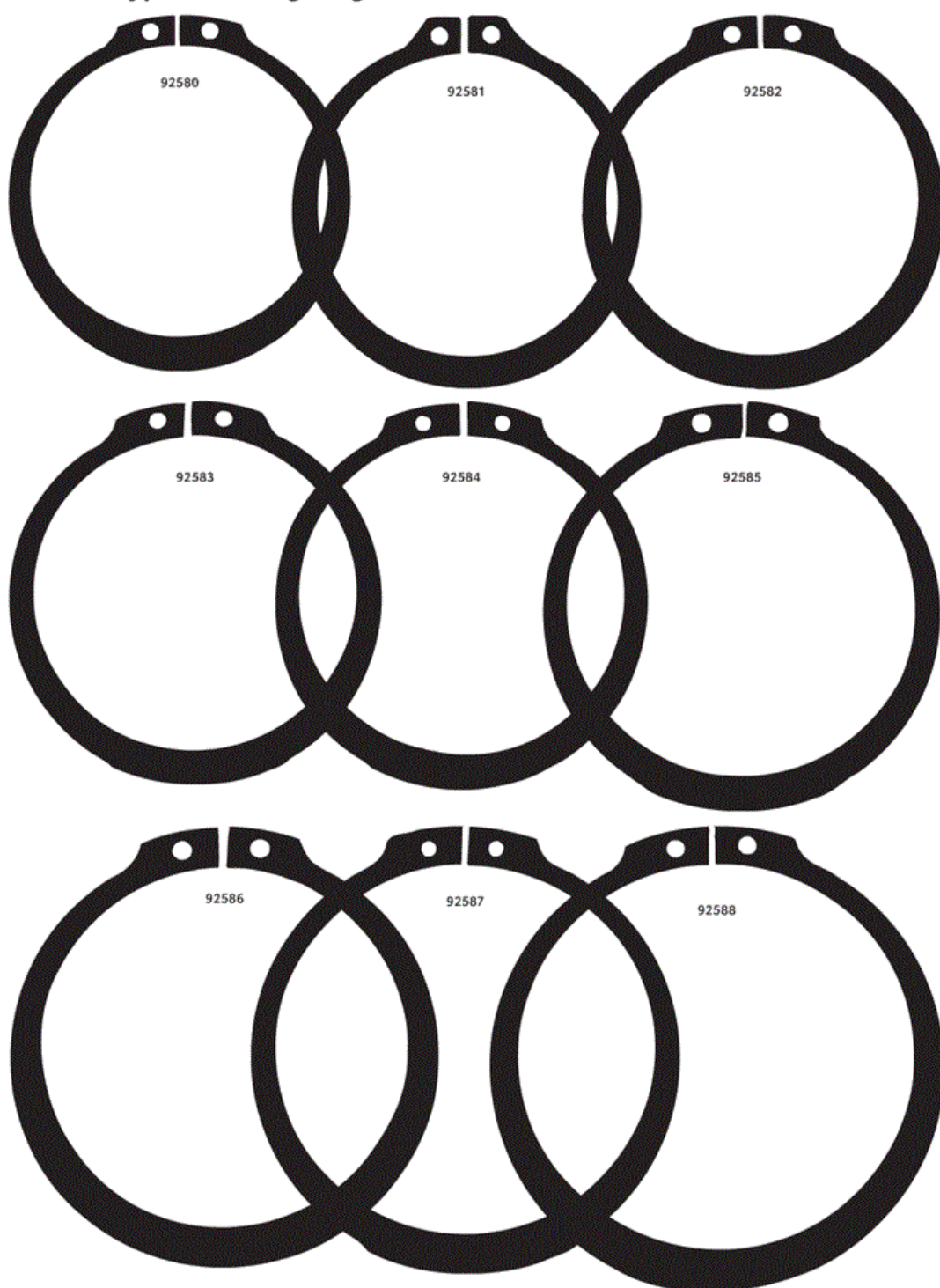




RETAINING Rings

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External Type Retaining Rings





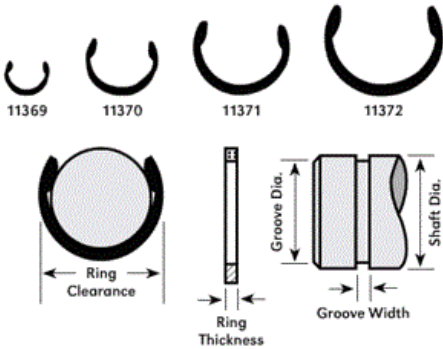
Special Application – Crescent Retaining Rings

- Applicable where it is impossible to axially apply an external ring
- Can be used for varying shaft diameters
- May be easily applied and removed with a screwdriver or other simple tool

External Type Retaining Rings

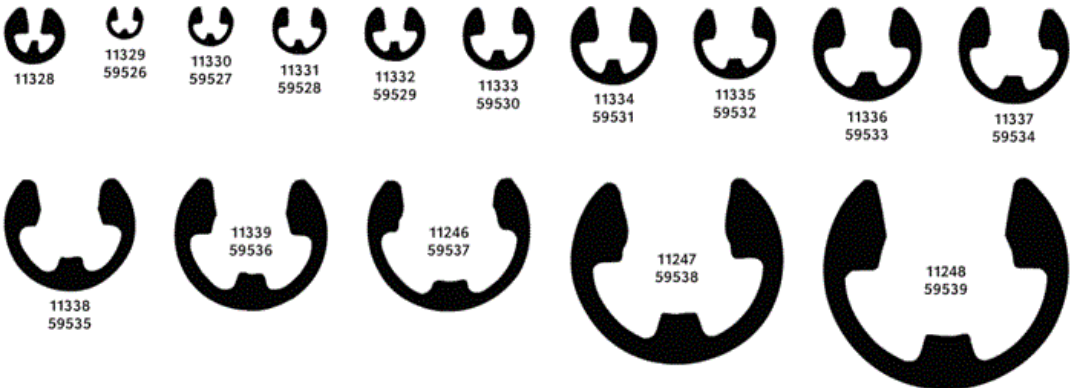
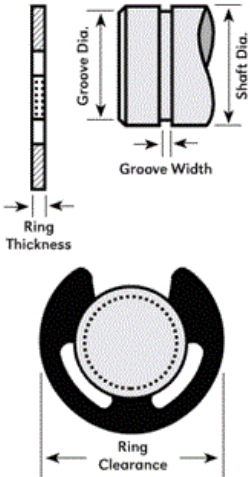
Phosphate Finish

Shaft Dia. (Inches)	Ring Clearance (Inches)	Ring Thickness (Inches)	Groove Dia. (Inches)	Groove Width (Inches)	Part No.	Pkg. Qty.
7/32	.275	.025	.193	.029	11369	50
3/8	.448	.025	.335	.029	11370	50
1/2	.581	.035	.450	.039	11371	50
5/8	.715	.035	.563	.039	11372	50



External “E” Type Retaining Rings

Shaft Dia. (Inches)	Ring Clearance (Inches)	Ring Thickness (Inches)	Groove Dia. (Inches)	Groove Width (Inches)	Phosphate Finish Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
7/64	.375	.015	.079	.018	11328	50		
1/8	.230	.015	.095	.018	11329	50	59526	5
5/32	.282	.025	.116	.018	11330	50	59527	5
3/16	.335	.025	.147	.029	11331	50	59528	5
3/16	.375	.025	.125	.029	11332	50	59529	5
7/32	.437	.025	.188	.029	11333	50	59530	5
1/4	.527	.025	.210	.029	11334	50	59531	5
5/16	.500	.025	.250	.029	11335	50	59532	5
3/8	.660	.035	.303	.039	11336	50	59533	5
7/16	.687	.035	.343	.039	11337	50	59534	5
1/2	.800	.042	.396	.046	11338	50	59535	5
5/8	.940	.042	.485	.046	11339	50	59536	5
3/4	1.000	.050	.625	.056	11246	25	59537	5
7/8	1.300	.050	.675	.056	11247	25	59538	5
1	1.500	.050	.835	.056	11248	25	59539	5





RETAINING Rings

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Special Application – Crescent Retaining Rings

External “E” Type – Extra Grip

- For applications which require greater holding power than standard “E” type rings



Shaft Dia. (Inches)	Ring Clearance (Inches)	Ring Thickness (Inches)	Groove Dia. (Inches)	Groove Width (Inches)	Phosphate Finish Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
1/4	.516	.025	.210	.029	11365	50	59540	5
5/16	.588	.025	.250	.029	11366	50	59541	5
3/8	.660	.035	.303	.039	11367	50	59542	5
9/16	.870	.042	.437	.046	11368	50	59543	5



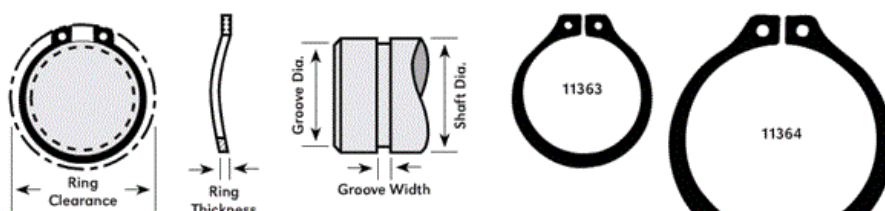
Available In Assortment
LP100
(21 items, 355 pieces)
See page 6-71

Bowed Retaining Rings

- Can be used for the take-up of end play due to cumulative machining tolerances, groove positioning and actual ring thickness tolerance

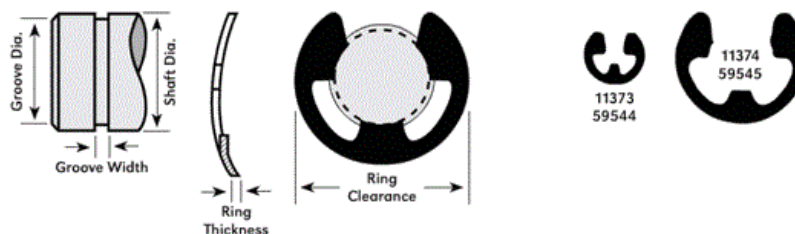
External Type

- Phosphate finish



Shaft Dia. (Inches)	Ring Clearance (Inches)	Ring Thickness (Inches)	Groove Dia. (Inches)	Groove Width (Inches)	Part No.	Pkg. Qty.
25/32	1.08	.042	.733	.062	11363	50
1-1/4	1.62	.050	1.176	.070	11364	25

External “E” Type

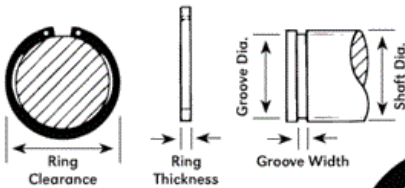


Shaft Dia. (Inches)	Ring Clearance (Inches)	Ring Thickness (Inches)	Groove Dia. (Inches)	Groove Width (Inches)	Phosphate Finish Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
5/32	.282	.025	.116	.018	11373	50	59544	5
1/2	.800	.042	.396	.073	11374	50	59545	5



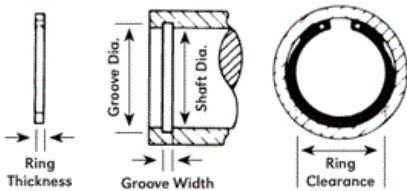
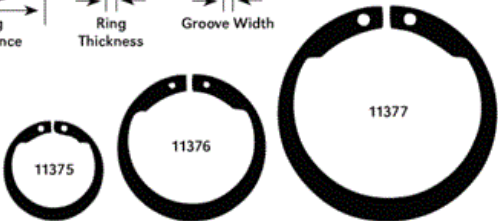
Inverted Retaining Rings

- Phosphate finish
- Used when a high, uniform protrusion is desired
- Smaller overall maximum diameter and a much better appearance (for cameras, appliances, etc.) than the basic type
- Ideal for lenses, seals and bearings



External Type

Shaft Dia. (Inches)	Ring Clearance (Inches)	Ring Thickness (Inches)	Groove Dia. (Inches)	Groove Width (Inches)	Part No.	Pkg. Qty.
1/2	.67	.035	.468	.039	11375	50
3/4	.99	.042	.704	.046	11376	25
1-1/8	1.45	.050	1.059	.056	11377	25



Internal Type

Shaft Dia. (Inches)	Ring Clearance (Inches)	Ring Thickness (Inches)	Groove Dia. (Inches)	Groove Width (Inches)	Part No.	Pkg. Qty.
1	.81	.042	1.066	.046	11378	25
1-1/8	.93	.050	1.197	.056	11379	25

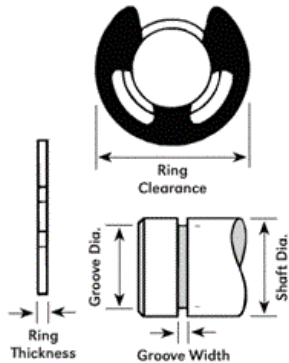


Metric External “E” Type Retaining Rings

- Phosphate finish or Stainless Steel
- Meets DIN 6799



Shaft Dia. (mm)	Ring Clearance (mm)	Ring Thickness (mm)	Groove Dia. (mm)	Groove Width (mm)	Steel Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
1.7	2.90	.30	1.2	.34	97029	50		
2.25	3.85	.40	1.5	.44	97030	50		
2.75	4.40	.50	1.9	.54	97031	50		
3.5	5.90	.60	2.3	.64	97032	50	41596	10
4.5	6.80	.60	3.2	.64	97033	50	41597	10
6	8.80	.70	4.0	.74	97034	50	41598	10
7	10.75	.70	5.0	.74	97035	50	41599	10
8	11.75	.70	6.0	.74	97036	50	41600	10
9.5	13.80	.90	7.0	.94	97037	50	41601	10
10.5	15.60	1.00	8.0	1.05	97038	50	41602	10
12	18.20	1.10	9.0	1.15	97039	50	41603	10
13	19.65	1.20	10.0	1.25	97040	50	41604	10
15.5	22.65	1.30	12.0	1.35	97041	50	41605	10
20	28.60	1.50	15.0	1.55	97042	50	41606	5
25.5	36.70	1.75	19.0	1.85	97043	50	41607	5



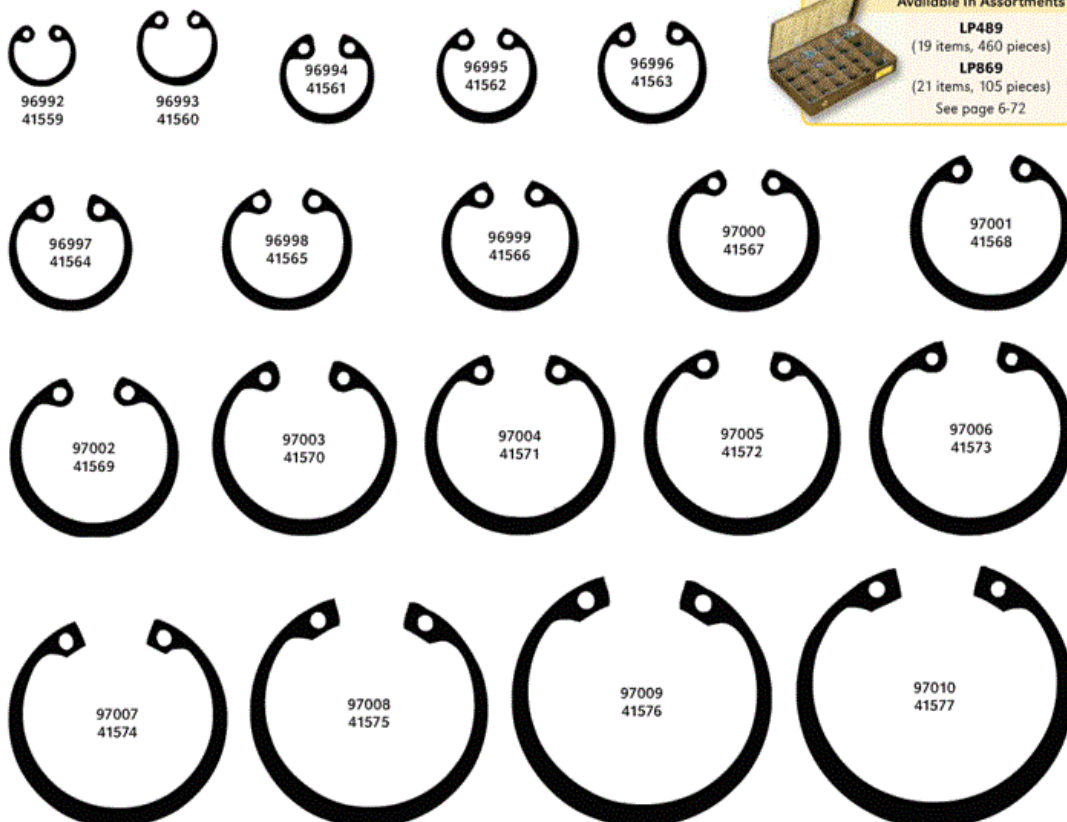


RETAINING Rings

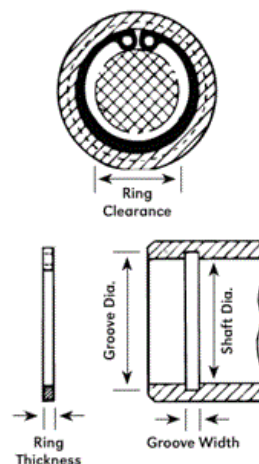
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Metric Internal Type Retaining Rings

- Phosphate finish or Stainless Steel
- Meets DIN 472



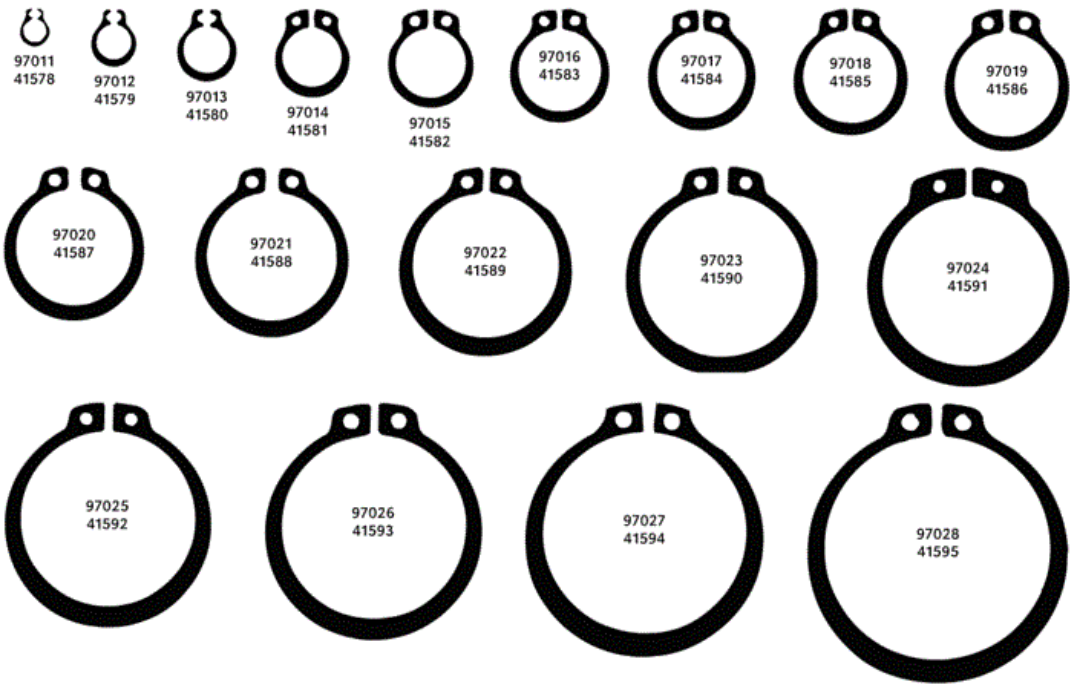
Shaft Dia. (mm)	Ring Clearance (mm)	Ring Thickness (mm)	Groove Dia. (mm)	Groove Width (mm)	Steel Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
10	3.3	1.00	10.4	1.10	96992	50	41559	5
12	4.9	1.00	12.5	1.10	96993	50	41560	5
14	6.2	1.00	14.6	1.10	96994	50	41561	5
15	7.2	1.00	15.7	1.10	96995	50	41562	5
16	8.0	1.00	16.8	1.10	96996	50	41563	5
18	9.4	1.00	19.0	1.10	96997	50	41564	5
19	10.4	1.00	20.0	1.10	96998	50	41565	5
20	11.2	1.00	21.0	1.10	96999	50	41566	5
22	13.2	1.00	23.0	1.10	97000	25	41567	5
24	14.8	1.20	25.2	1.30	97001	25	41568	5
25	15.5	1.20	26.2	1.30	97002	25	41569	5
27	17.1	1.20	28.4	1.30	97003	25	41570	5
28	17.9	1.20	29.4	1.30	97004	25	41571	5
29	18.9	1.20	30.4	1.30	97005	25	41572	5
30	19.9	1.20	31.4	1.30	97006	25	41573	5
32	20.6	1.20	33.7	1.30	97007	10	41574	5
35	23.6	1.50	37.0	1.60	97008	10	41575	5
38	26.4	1.50	40.0	1.60	97009	10	41576	5
40	27.8	1.75	42.5	1.85	97010	10	41577	5





Metric External Type Retaining Rings

- Phosphate finish or Stainless Steel
- Meets DIN 471



Shaft Dia. (mm)	Ring Clearance (mm)	Ring Thickness (mm)	Groove Dia. (mm)	Groove Width (mm)	Steel Part No.	Pkg. Qty.	Stainless Steel Part No.	Pkg. Qty.
4	8.6	.40	3.8	.50	97011	50	41578	5
6	11.7	.70	5.7	.80	97012	50	41579	5
8	14.7	.80	7.6	.90	97013	50	41580	5
10	17.0	1.00	9.6	1.10	97014	50	41581	5
12	19.0	1.00	11.5	1.10	97015	50	41582	5
14	21.4	1.00	13.4	1.10	97016	50	41583	5
15	22.6	1.00	14.3	1.10	97017	50	41584	5
16	23.8	1.00	15.2	1.10	97018	50	41585	5
18	26.2	1.20	17.0	1.30	97019	50	41586	5
20	28.4	1.20	19.0	1.30	97020	25	41587	5
22	30.8	1.20	21.0	1.30	97021	10	41588	5
25	34.2	1.20	23.9	1.30	97022	10	41589	5
28	37.9	1.50	26.6	1.60	97023	10	41590	5
29	39.1	1.50	27.6	1.60	97024	10	41591	5
30	40.5	1.50	28.6	1.60	97025	10	41592	5
32	43.0	1.50	30.3	1.60	97026	10	41593	5
35	46.8	1.50	33.0	1.60	97027	10	41594	5
38	50.2	1.75	36.0	1.85	97028	10	41595	5

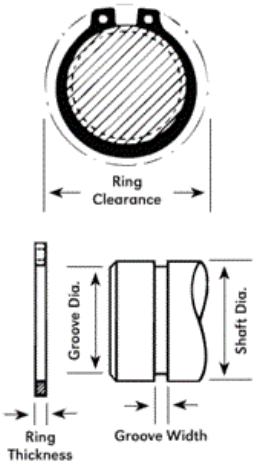


Available In Assortments

LP490
(18 items, 460 pieces)

LP869
(21 items, 105 pieces)

See page 6-72

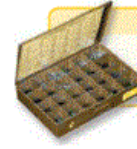




SHAFT Collars

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- Manufactured to precision tolerances
- No need to disassemble machinery
- Provides greatest locking force
- Will not mar shaft



Available In Assortment
LP643
(14 items, 18 pieces)
See page 6-72

Two-Piece Split Style

High-Strength Shaft Collars

- Carbon steel with black oxide finish



Bore I.D. (Inches)	Collar O.D. (Inches)	Collar Width (Inches)	Hex Key Size (Inches)	Part No.	Pkg. Qty.
1/4	13/16	1/4	3/32	91868	5
5/16	13/16	1/4	3/32	91869	5
3/8	1-1/16	5/16	7/64	91870	5
1/2	1-1/4	3/8	9/64	91871	5
5/8	1-1/2	13/32	5/32	91872	2
3/4	1-3/4	1/2	3/16	91873	2
7/8	1-7/8	1/2	3/16	91874	2
1	2	1/2	3/16	91875	2
1-1/8	2-1/8	1/2	3/16	91876	2
1-3/16	2-1/8	1/2	3/16	57052	2
1-1/4	2-1/4	1/2	3/16	91877	2
1-3/8	2-3/8	1/2	3/16	91878	2
1-7/16	2-3/8	1/2	3/16	91879	2
1-1/2	2-1/2	1/2	3/16	91880	2
1-5/8	3	5/8	1/4	57053	2
1-3/4	3	5/8	1/4	57054	2
1-7/8	3-1/4	5/8	1/4	57055	1
2	3-1/4	5/8	5/32	57056	1

Two-Piece Split Style Type 303 Stainless Steel Shaft Collars



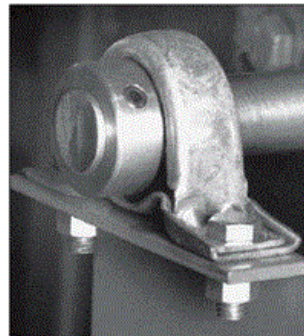
Bore I.D. (Inches)	Collar O.D. (Inches)	Collar Width (Inches)	Hex Key Size (Inches)	Part No.	Pkg. Qty.
1/4	13/16	1/4	3/32	57057	2
5/16	13/16	1/4	3/32	57058	2
3/8	1-1/16	5/16	7/64	57059	2
1/2	1-1/4	3/8	9/64	57060	2
5/8	1-1/2	13/32	5/32	57061	2
3/4	1-3/4	1/2	3/16	57062	1
7/8	1-7/8	1/2	3/16	57063	1
1	2	1/2	3/16	57064	1
1-1/8	2-1/8	1/2	3/16	57065	1
1-3/16	2-1/8	1/2	3/16	57066	1
1-1/4	2-1/4	1/2	3/16	57067	1
1-3/8	2-3/8	1/2	3/16	57068	1
1-1/2	2-1/2	1/2	1/4	57069	1
1-5/8	3	5/8	1/4	57070	1
1-3/4	3	5/8	1/4	57071	1
1-7/8	3-1/4	5/8	1/4	57072	1
2	3-1/4	5/8	1/4	57073	1

Set Screw Collars

- Carbon steel
- Flush set screw
- Stamped with bore size



Bore I.D. (Inches)	Collar O.D. (Inches)	Collar Width (Inches)	Hex Key Size (Inches)	Part No.	Pkg. Qty.
1/4	1/2	9/32	3/32	91847	5
5/16	5/8	5/16	3/32	91848	5
3/8	3/4	3/8	1/8	91849	5
7/16	7/8	7/16	1/8	91850	5
1/2	1	7/16	1/8	91851	5
9/16	1	7/16	1/8	91852	2
5/8	1-1/8	1/2	5/32	91853	2
11/16	1-1/4	9/16	5/32	91854	2
3/4	1-1/4	9/16	5/32	91855	2
7/8	1-1/2	9/16	5/32	91857	2
1	1-5/8	5/8	5/32	91859	2
1-1/8	1-3/4	5/8	5/32	91861	2
1-3/16	2	11/16	3/16	91862	2
1-1/4	2	11/16	3/16	91863	2
1-3/8	2-1/8	3/4	3/16	57047	2
1-1/2	2-1/4	3/4	3/16	91867	2
1-5/8	2-1/2	13/16	3/16	57048	2
1-3/4	2-5/8	7/8	1/4	57049	2
1-7/8	2-3/4	7/8	1/4	57050	2
2	3	7/8	1/4	57051	2



Available In Assortment
LP644
(16 items, 47 pieces)
See page 6-72

BUSHINGS, Woodruff Keys and Keystock



Machinery Bushings

Narrow Rim

Shaft Size (Inches)	O.D. (Inches)	I.D. (Inches)	Part No.	Pkg. Qty.
1/2	7/8	33/64	83531	25
9/16	1	37/64	58393	25
5/8	1	41/64	83532	25
3/4	1-1/4	49/64	83533	25
7/8	1-3/8	57/64	83534	25
1	1-1/2	1-1/64	83535	25
1-1/8	1-3/4	1-9/64	83536	25
1-1/4	1-7/8	1-17/64	83537	25
1-3/8	2-1/8	1-25/64	83538	25
1-1/2	2-1/4	1-33/64	83539	25
1-5/8	2-3/8	1-41/64	83540	25

Narrow Rim

Shaft Size (Inches)	O.D. (Inches)	I.D. (Inches)	Part No.	Pkg. Qty.
1-3/4	2-1/2	1-49/64	83541	25
1-7/8	2-7/8	1-57/64	83542	25
2	3	2-1/64	83543	25
2-1/8	3-1/8	2-9/64	58394	25
2-1/4	3-1/4	2-17/64	58395	25
2-3/8	3-3/8	2-49/64	58396	25



Wide Rim

Shaft Size (Inches)	O.D. (Inches)	I.D. (Inches)	Part No.	Pkg. Qty.
2-1/2	3-7/8	2-33/64	58397	25
2-3/4	4	2-49/64	58398	25
3	4-1/4	3-1/64	58399	25

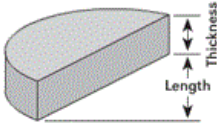
- 14 Ga. steel
- Thickness: 0.068" to 0.082"
- Specially designed for use as spacers on shafts

Woodruff Keys

- For repair work on automobiles, trucks and trailers, and for general use
- Manufactured of medium carbon steel from selected cold-drawn stock
- Smooth finish
- Burr-free edges
- Meets SAE J502 mechanical and dimensional properties

Thickness (Inches)	Length (Inches)	Key No.**	USA No.**	Part No.	Pkg. Qty.
1/16	1/2	1	-	3023	25
1/16	3/8	211	203	82114	25
3/32	3/8	212	303	82115	25
3/32	1/2	2	-	3024	25
3/32	5/8	4	-	3026	25
1/8	3/8	213	-	82116	25
1/8	1/2	3	-	3025	25
1/8	5/8	5	-	3027	25
1/8	3/4	7	-	3029	25
5/32	5/8	6	-	3028	25
5/32	3/4	8	-	3030	25
5/32	7/8	10	-	3032	25
3/16	5/8	61	-	3045	25
3/16	3/4	9	-	3031	25
3/16	7/8	11	-	3033	25
3/16	1	13	-	3036	25

Thickness (Inches)	Length (Inches)	Key No.**	USA No.**	Part No.	Pkg. Qty.
3/16	1-1/8	16	-	3040	25
3/16	1-1/4	19	-	3047	25
7/32	7/8	12	-	3034	25
7/32	1	14	-	3037	25
7/32	1-1/8	17	-	3041	25
1/4	3/4	91	-	3046	25
1/4	7/8	A	-	3035	25
1/4	1	15	-	3038	25
1/4	1-1/8	18	-	3042	25
1/4	1-1/4	21	-	3044	25
5/16	1	B	-	3039	25
5/16	1-1/8	C	-	3043	25
5/16	1-1/4	D	-	3048	25
3/8	1	152	1208	88771	10
3/8	1-1/4	E	1210	88772	10
3/8	1-1/2	G	1212	90314	10

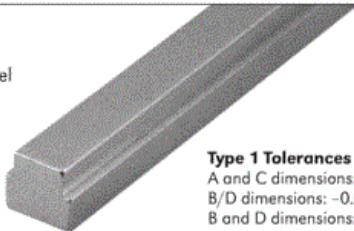


Available In Assortment
LP78
(22 items, 239 pieces)
See page 6-72

*Corresponds to SAE J502 Part No.
**Meets ANSI B17.2

Step Keystock

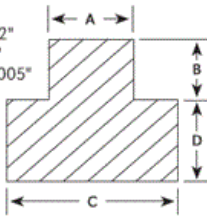
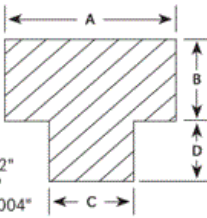
- Manufactured of Type 1018 Cold Finished Steel
- Oversized stock, ground down to A - D dimensions per tolerances below
- Use for couplings, gears, sheaves, sprockets, pulleys or anything that keys to a shaft
- Zinc-plated for corrosion resistance
- Seven-piece Step Keystock Set contains one piece of each size



12" pre-cut lengths

Type 1 Tolerances
A and C dimensions: 0.000" to 0.002"
B/D dimensions: -0.003" to +0.003"
B and D dimensions: -0.004" to +0.004"

Type 2 Tolerances
A and C dimensions: 0.000" to 0.002"
B/D dimensions: -0.005" to +0.005"
B and D dimensions: -0.005" to +0.005"



Type	A (Inches)	B (Inches)	C (Inches)	D (Inches)	Part No.	Pkg. Qty.
1	3/16	3/32	1/8	1/16	55839	1
2	3/16	3/32	1/4	1/8	55840	1
2	1/4	1/8	5/16	1/8	55841	1
2	1/4	1/8	3/8	3/16	55842	1
1	3/8	3/16	5/16	5/32	55843	1
2	3/8	3/16	1/2	1/4	55844	1
2	1/2	1/4	5/8	5/16	55845	1
Step Keystock Set					55846	1



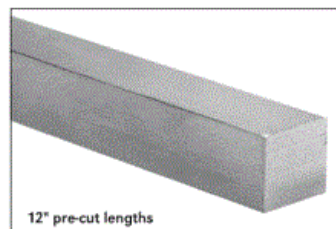
KEYSTOCK

www.calgro.com.mx Tel.(33)3609-1649 ventas@calgro.com.mx

Square and Flat Keystock

- Manufactured of cold finished steel
- Zinc-coated to prevent rust
- Smooth-cut, burr-free bars
- Clean and greaseless
- Tolerances on dimension are oversized to assure tight fit in keyways for positive, zero-backlash power transmission

- Square Keystock Set contains five pieces each of 1/8", 3/16", 1/4", 5/16" and 3/8" sizes, and three pieces each of 7/16" and 1/2" sizes
- Metric Square Keystock Set contains five pieces each of M4, M5, M6, M7 and M8 sizes, and three pieces each of M10 and M12 sizes



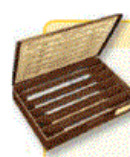
12" pre-cut lengths

Square

Size (Inches)	Part No.	Pkg. Qty.
1/8	9032	5
3/16	9026	5
1/4	9027	5
5/16	9028	5
3/8	9029	5
7/16	9030	3
1/2	9031	3
5/8	9094	1
3/4	9095	1
7/8	9096	1
1	9097	1
1-1/8	97047	1
1-1/4	97048	1
1-1/2	97049	1
M4	98464	5
M5	98465	5
M6	98466	5
M7	98467	5
M8	98468	5
M10	98469	3
M12	98470	3

Flat

Size (Inches)	Part No.	Pkg. Qty.
1/8 x 3/8	97050	5
3/16 x 1/4	9085	5
1/4 x 5/16	9098	5
1/4 x 3/8	97051	5
1/4 x 1/2	97052	5
5/16 x 3/8	9099	5
3/8 x 1/2	97053	5
1/2 x 5/8	97054	5



Available In Assortments

- LP429**
(4 items, 32 pieces)
 - LP430**
(3 items, 15 pieces)
 - LP431**
(4 items, 8 pieces)
- See page 6-73

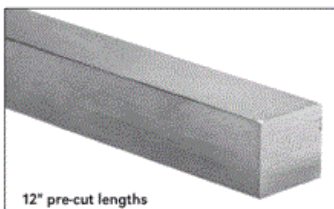
Sets

Description	Part No.	Pkg. Qty.
Square Keystock Set	9025	1
Metric Square Keystock Set	98462	1



Stainless Steel Square Keystock

- Type 303 Stainless Steel
- For use in corrosive, caustic and sanitary environments
- Smooth-cut, burr-free bars
- Clean and greaseless
- Tolerances on dimensions are oversized to assure tight fit
- Square Keystock Set contains five pieces each of 1/8", 3/16", 1/4", 5/16" and 3/8" sizes and three pieces each of 7/16" and 1/2" sizes

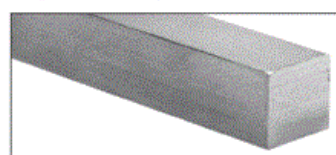


12" pre-cut lengths

Size (Inches)	Part No.	Pkg. Qty.
1/8	98471	5
3/16	98472	5
1/4	98473	5
5/16	98474	5
3/8	98475	5
7/16	98476	3
1/2	98477	3
Square Keystock Set	98463	1



Stainless Steel Metric Square Keystock



- Type 303 Stainless Steel
- Dimension tolerances: -0.000" to +0.005"

Size (mm)	Part No.	Pkg. Qty.
4	55857	1
5	55858	1
6	55859	1
7	55860	1
8	55861	1
10	55862	1
12	55863	1



Square Mill Stock

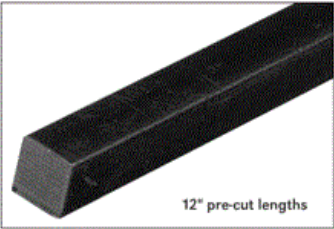
Steel Mill Stock

- Manufactured of cold finished steel
- Smooth-cut, burr-free
- Lightly coated with oil to inhibit rust
- Unplated for exact tolerances on dimensions (-0.002" to +0.000")
- 31-piece kit contains five pieces each of 1/8", 3/16", 1/4", 5/16" and 3/8" sizes, and three pieces each of 7/16" and 1/2" sizes

Size (Inches)	Part No.	Pkg. Qty.
1/8	52120	5
3/16	52121	5
1/4	52122	5
5/16	52123	5
3/8	52124	5
7/16	52125	3
1/2	52126	3
5/8	52127	1
3/4	52128	1
7/8	52129	1
1	52130	1
1-1/8	52131	1
1-1/4	52132	1
1-1/2	52133	1
Mill Stock Kit	52150	1

High-Carbon Steel Mill Stock

- Use where extreme tolerance and strength are required
- Annealed for easy machining
- Manufactured of 1090-1095 Steel - Unplated
- Dimension tolerances:
0.249" and smaller ± 0.0005 ;
0.250" to 0.749" ± 0.001 ;
0.750" ± 0.0015 "



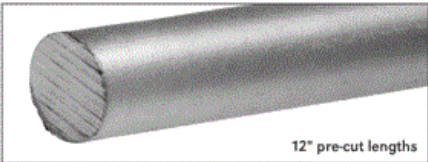
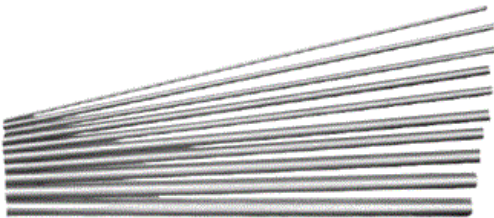
12" pre-cut lengths

Size (Inches)	Part No.	Pkg. Qty.
1/8	55847	5
3/16	55848	5
1/4	55849	5
5/16	55850	5
3/8	55851	5
7/16	55852	3
1/2	55853	3
5/8	55855	1
3/4	55856	1

Round Pins

- Made from special bar-quality open-hearth steel
- Can be riveted and drilled
- Tensile strength: 75,000 to 85,000 PSI
- Yield: 60,000 to 70,000 PSI
- Elongation in 2": 18% to 25%
- Reduction in 2" of area: 50% to 55%
- Brinell hardness: 165 - 180
- Kit contains one piece each of 1/8", 3/8", 7/16" and 1/2" sizes, and two pieces each of 3/16", 1/4" and 5/16" sizes

Size (Inches)	Part No.	Pkg. Qty.
1/8	9101	6
3/16	9102	6
1/4	9103	6
5/16	9104	6
3/8	9105	6
7/16	9106	3
1/2	9107	3
5/8	9108	1
3/4	9109	1
7/8	9110	1
1	9111	1
Round Pin Kit	9100	1



12" pre-cut lengths



What You Need To Know About O-Rings

Leaks result in serious loss of productivity, system contamination and even failure of major components. It is essential that you match the O-ring to the application and that you consider characteristics such as material composition, tensile strength, and temperature ranges when specifying O-rings for your application.

Buna-N (Nitrile) O-Rings

- Manufactured from 70 Durometer stock nitrile rubber
- Conforms to SAE J120r and ASTM specifications
- Buna-N (Nitrile) is the most versatile rubber material for O-rings because of its resistance to a wide variety of fluids and its unique combination of physical properties which are well suited for O-ring applications
- Tensile strength: 2,500 to 4,000 PSI at room temperature
- Temperature range: -65°F to +300°F (-54°C to +149°C)
- Nitrile compounds have good resistance to alkaline and salt solutions, oils, gas and water. They are not suitable for use with strong oxidizing agents
- Nitrile compounds have proved extremely abrasion-resistant in field tests
- When sunlight and air are factors in an application, Viton O-rings should be considered

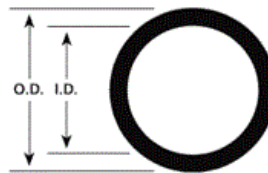
Lawson offers a variety of high-quality O-ring products for your application, with sizes you use most and materials tested to meet the demands of the most severe environments.

Viton O-Rings

- Recognized by their rust color
- Manufactured from 75 Durometer stock fluorocarbon rubber
- Conforms to the following specifications:
Dimensional - SAE J120r, Class 1;
Physical - SAE J200j and ASTM D2000 2HK 720;
MIL-R-25897 Type 1, Class 1
- Viton O-rings should be considered for use in mechanical devices that require maximum resistance to deterioration by heat and fluids. Their unique properties enable them to be used in applications where severe conditions will not permit consideration of other materials
- Tensile strength: 1,500 to 2,500 PSI at room temperature
- Withstands temperatures of 500°F (260°C) or more and still retains a substantial percentage of its original mechanical properties; not recommended for sealing below -20°F (-29°C)
- Unaffected by atmospheric oxidation, ozone and sunlight. Samples have been exposed to ozone concentrations for more than a year and to sunlight for more than four years without cracking
- Resistant to most fuels, lubricants and hydraulic fluids at temperatures over 400°F (204°C)

How to Measure O-Rings

Thickness



SMART

Go With an Assortment!

Assortments come in standard or custom kits and they enable you to have the most commonly used fittings and O-rings available any time you need them.



1/16" Thickness O-Rings

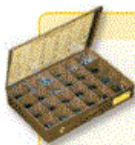
Industry No.	I.D. (Inches)	O.D. (Inches)	Buna-N Part No.	Pkg. Qty.	Viton Part No.	Pkg. Qty.
003	1/16	3/16	55529	10	55532	10
004	5/64	13/64	55530	10	55533	10
005	3/32	15/64	55531	10	55534	10
006	1/8	1/4	11186 01	10	87053	10
007	5/32	9/32	11186 02	10	87054	10
008	3/16	5/16	11186 03	10	87055	10
009	7/32	11/32	11186 04	10	87056	10
010	1/4	3/8	11186 05	10	87057	10
011	5/16	7/16	11186 06	10	87058	10
012	3/8	1/2	11186 07	10	87059	10
013	7/16	9/16	87018	10	87060	10
014	1/2	5/8	87019	10	87061	10
015	9/16	11/16	92866	10	92879	10
016	5/8	3/4	87020	10	87063	10
017	11/16	13/16	87021	10	87064	10
018	3/4	7/8	87022	10	87065	10
019	13/16	15/16	87023	10	87066	10
020	7/8	1	87024	10	87067	10
021	15/16	1-1/16	87025	10	87068	10
022	1	1-1/8	87026	10	87069	10
023	1-1/16	1-3/16	87027	10	92880	5
024	1-1/8	1-1/4	87028	10	92881	5
025	1-3/16	1-5/16	92867	10	92882	5
026	1-1/4	1-3/8	87029	10	92883	5

Industry No.	I.D. (Inches)	O.D. (Inches)	Buna-N Part No.	Pkg. Qty.	Viton Part No.	Pkg. Qty.
027	1-5/16	1-7/16	87030	10	92884	5
028	1-3/8	1-1/2	87031	10	92885	5
029	1-1/2	1-5/8	52052	10	52264	5
030	1-5/8	1-3/4	52053	10	52265	5
031	1-3/4	1-7/8	52054	10	52266	5
032	1-7/8	2	52055	10	52267	5
033	2	2-1/8	52056	10	52268	5
034	2-1/8	2-1/4	52057	5	52269	5
035	2-1/4	2-3/8	52058	5	52270	5
036	2-3/8	2-1/2	52059	5	52271	5
037	2-1/2	2-5/8	52060	5	52272	5
038	2-5/8	2-3/4	52061	5	52273	5
039	2-3/4	2-7/8	52062	5	52274	5
040	2-7/8	3	52063	5	52275	5
041	3	3-1/8	57162	10	57281	5
042	3-1/4	3-3/8	57163	10	57282	5
043	3-1/2	3-5/8	57164	10	57283	5
044	3-3/4	3-7/8	57165	10	57284	5
045	4	4-1/8	57166	10	57285	5
046	4-1/4	4-3/8	57167	10	57286	5
047	4-1/2	4-5/8	57168	10	57287	2
048	4-3/4	4-7/8	57169	10	57288	2
049	5	5-1/8	57170	10	57289	2
050	5-1/4	5-3/8	57171	10	57290	2

3/32" Thickness O-Rings

Industry No.	I.D. (Inches)	O.D. (Inches)	Buna-N Part No.	Pkg. Qty.	Viton Part No.	Pkg. Qty.
102	1/16	1/4	57172	10	57291	5
103	3/32	9/32	57173	10	57292	5
104	1/8	5/16	57174	10	57293	5
105	5/32	11/32	57175	10	57294	5
106	3/16	3/8	57176	10	57295	5
107	7/32	13/32	57177	10	57296	5
108	1/4	7/16	57178	10	57297	5
109	5/16	1/2	57179	10	57298	5
110	3/8	9/16	11186 08	10	87070	10
111	7/16	5/8	11186 09	10	87071	10
112	1/2	11/16	11186 10	10	87072	10
113	9/16	3/4	11186 11	10	87073	10
114	5/8	13/16	11186 12	10	87074	10
115	11/16	7/8	11186 13	10	87075	10
116	3/4	15/16	11186 14	10	87076	10
117	13/16	1	87032	10	92886	10
118	7/8	1-1/16	87033	10	92887	10
119	15/16	1-1/8	87034	10	92888	10
120	1	1-3/16	87035	10	92889	5
121	1-1/16	1-1/4	92868	10	92890	5
122	1-1/8	1-5/16	87036	10	92891	5
123	1-3/16	1-3/8	92869	10	92892	5
124	1-1/4	1-7/16	87037	10	92893	5
125	1-5/16	1-1/2	87038	10	92894	5
126	1-3/8	1-9/16	92870	10	92895	5
127	1-7/16	1-5/8	87039	10	92896	5
128	1-1/2	1-11/16	92871	10	92897	5
129	1-9/16	1-3/4	87040	10	92898	5
130	1-5/8	1-13/16	87041	10	92899	5
131	1-11/16	1-7/8	87042	10	92900	5
132	1-3/4	1-15/16	87043	10	92901	5
133	1-13/16	2	92872	10	92902	5
134	1-7/8	2-1/16	87044	10	92903	5
135	1-15/16	2-1/8	92873	10	92904	5
136	2	2-3/16	87045	10	92905	5
137	2-1/16	2-1/4	92874	5	92906	5
138	2-1/8	2-5/16	87046	5	92907	5
139	2-3/16	2-3/8	92875	5	92908	5
140	2-1/4	2-7/16	87047	5	92909	5

Industry No.	I.D. (Inches)	O.D. (Inches)	Buna-N Part No.	Pkg. Qty.	Viton Part No.	Pkg. Qty.
141	2-5/16	2-1/2	92876	5	92910	5
142	2-3/8	2-9/16	87048	5	92922	5
143	2-7/16	2-5/8	92877	5	92923	5
144	2-1/2	2-11/16	87049	5	92924	5
145	2-9/16	2-3/4	57180	10	57299	2
146	2-5/8	2-13/16	57181	10	57300	2
147	2-11/16	2-7/8	57182	10	57301	2
148	2-3/4	2-15/16	57183	10	57302	2
149	2-13/16	3	57184	10	57303	2
150	2-7/8	3-1/16	57185	10	57304	2
151	3	3-3/16	57186	10	57305	2
152	3-1/4	3-7/16	57187	10	57306	2
153	3-1/2	3-11/16	57188	10	57307	2
154	3-3/4	3-15/16	57189	10	57308	2
155	4	4-3/16	57190	10	57309	2
156	4-1/4	4-7/16	57191	10	57310	2
157	4-1/2	4-11/16	57192	10	57311	2
158	4-3/4	4-15/16	57193	10	57312	2
159	5	5-3/16	57194	10	57313	2
160	5-1/4	5-7/16	57195	10	57314	2
161	5-1/2	5-11/16	57196	10	57315	2
162	5-3/4	5-15/16	57197	10	57316	2
163	6	6-3/16	57198	10	57317	2
164	6-1/4	6-7/16	57199	10	57318	2
165	6-1/2	6-11/16	57200	10	57319	2
166	6-3/4	6-15/16	57201	10	57320	2
167	7	7-3/16	57202	10	57321	2
168	7-1/4	7-7/16	57203	10	57322	2
169	7-1/2	7-11/16	57204	5	57323	2
170	7-3/4	7-15/16	57205	5	57324	2
171	8	8-3/16	57206	5	57325	2
172	8-1/4	8-7/16	57207	5	57326	2
173	8-1/2	8-11/16	57208	5	57327	2
174	8-3/4	8-15/16	57209	5	57328	2
175	9	9-3/16	57210	5	57329	2
176	9-1/4	9-7/16	57211	5	57330	2
177	9-1/2	9-11/16	57212	5	57331	2
178	9-3/4	9-15/16	57213	5	57332	2



LP96 (24 items, 400 pieces)
LP156 (16 items, 80 pieces)
See page 6-79

Available In Assortments
LP383 (23 items, 370 pieces)
LP409 (20 items, 335 pieces)
LP410 (17 items, 215 pieces)
LP412 (15 items, 120 pieces)
See page 6-80

LP411 (13 items, 65 pieces)
LP458 (12 items, 220 pieces)
See page 6-81



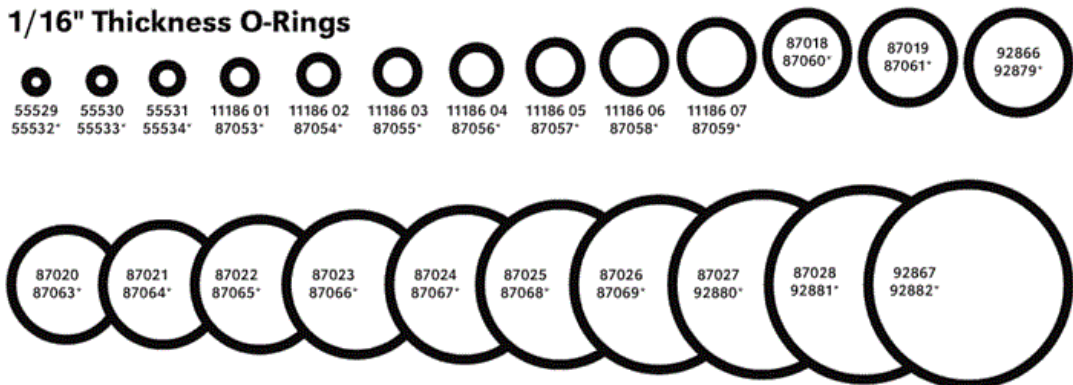
O-RINGS

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1/8" Thickness O-Rings

Industry No.	I.D. (Inches)	O.D. (Inches)	Buna-N Part No.	Pkg. Qty.	Viton Part No.	Pkg. Qty.	Industry No.	I.D. (Inches)	O.D. (Inches)	Buna-N Part No.	Pkg. Qty.	Viton Part No.	Pkg. Qty.
201	3/16	7/16	52064	10	52276	5	238	3-1/2	3-3/4	52084	5	52296	5
202	1/4	1/2	52065	10	52277	5	239	3-5/8	3-7/8	52085	5	52297	5
203	5/16	9/16	52066	10	52278	5	240	3-3/4	4	52086	5	52298	5
204	3/8	5/8	52067	10	52279	5	241	3-7/8	4-1/8	52087	5	52299	5
205	7/16	11/16	52068	10	52280	5	242	4	4-1/4	52088	5	52300	5
206	1/2	3/4	52069	10	52281	5	243	4-1/8	4-3/8	52089	5	52301	5
207	9/16	13/16	52070	10	52282	5	244	4-1/4	4-1/2	52090	5	52302	5
208	5/8	7/8	52071	10	52283	5	245	4-3/8	4-5/8	52091	5	52303	5
209	11/16	15/16	52072	10	52284	5	246	4-1/2	4-3/4	57214	10	57333	2
210	3/4	1	11186 15	10	86929	5	247	4-5/8	4-7/8	57215	10	57334	2
211	13/16	1-1/16	11186 16	10	87077	5	248	4-3/4	5	57216	10	57335	2
212	7/8	1-1/8	11186 17	10	87078	5	249	4-7/8	5-1/8	57217	10	57336	2
213	15/16	1-3/16	11186 18	10	87079	5	250	5	5-1/4	57218	10	57337	2
214	1	1-1/4	11186 19	10	87080	5	251	5-1/8	5-3/8	57219	10	57338	2
215	1-1/16	1-5/16	11186 20	10	87081	5	252	5-1/4	5-1/2	57220	10	57339	2
216	1-1/8	1-3/8	11186 21	10	87082	5	253	5-3/8	5-5/8	57221	10	57340	2
217	1-3/16	1-7/16	11186 22	10	87083	5	254	5-1/2	5-3/4	57222	10	57341	2
218	1-1/4	1-1/2	11186 23	10	87084	5	255	5-5/8	5-7/8	57223	10	57342	2
219	1-5/16	1-9/16	11186 24	10	92925	5	256	5-3/4	6	57224	10	57343	2
220	1-3/8	1-5/8	11186 25	5	92926	5	257	5-7/8	6-1/8	57225	10	57344	2
221	1-7/16	1-11/16	11186 26	5	92927	5	258	6	6-1/4	57226	10	57345	2
222	1-1/2	1-3/4	11186 27	5	92928	5	259	6-1/4	6-1/2	57227	10	57346	2
223	1-5/8	1-7/8	92878	5	92929	5	260	6-1/2	6-3/4	57228	10	57347	2
224	1-3/4	2	87050	5	92930	5	261	6-3/4	7	57229	10	57348	2
225	1-7/8	2-1/8	87051	5	92931	5	262	7	7-1/4	57230	10	57349	2
226	2	2-1/4	87052	5	92932	5	263	7-1/4	7-1/2	57231	10	57350	2
227	2-1/8	2-3/8	52073	5	52285	5	264	7-1/2	7-3/4	57232	10	57351	2
228	2-1/4	2-1/2	52074	5	52286	5	265	7-3/4	8	57233	10	57352	2
229	2-3/8	2-5/8	52075	5	52287	5	266	8	8-1/4	57234	10	57353	2
230	2-1/2	2-3/4	52076	5	52288	5	267	8-1/4	8-1/2	57235	10	57354	2
231	2-5/8	2-7/8	52077	5	52289	5	268	8-1/2	8-3/4	57236	10	57355	2
232	2-3/4	3	52078	5	52290	5	269	8-3/4	9	57237	10	57356	2
233	2-7/8	3-1/8	52079	5	52291	5	270	9	9-1/4	57238	10	57357	2
234	3	3-1/4	52080	5	52292	5	271	9-1/4	9-1/2	57239	5	57358	2
235	3-1/8	3-3/8	52081	5	52293	5	272	9-1/2	9-3/4	57240	5	57359	2
236	3-1/4	3-1/2	52082	5	52294	5	273	9-3/4	10	57241	5	57360	2
237	3-3/8	3-5/8	52083	5	52295	5							

1/16" Thickness O-Rings



Available In Assortments

LP96 (24 items, 400 pieces)
LP156 (16 items, 80 pieces)
See page 6-79

LP383 (23 items, 370 pieces)
LP409 (20 items, 335 pieces)
LP410 (17 items, 215 pieces)
LP412 (15 items, 120 pieces)
See page 6-80

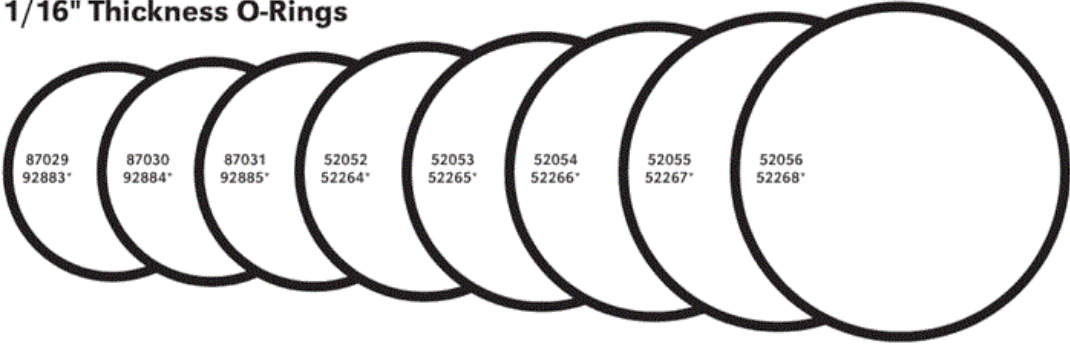
LP411 (13 items, 65 pieces)
LP458 (12 items, 220 pieces)
See page 6-81



3/16" Thickness O-Rings

Industry No.	I.D. (Inches)	O.D. (Inches)	Buna-N Part No.	Pkg. Qty.	Viton Part No.	Pkg. Qty.	Industry No.	I.D. (Inches)	O.D. (Inches)	Buna-N Part No.	Pkg. Qty.	Viton Part No.	Pkg. Qty.
311	9/16	15/16	58400	5	58414	5	344	3-7/8	4-1/4	57248	10	57367	2
312	5/8	1	58401	5	58415	5	345	4	4-3/8	57249	10	57368	2
313	11/16	1-1/16	58402	5	58416	5	346	4-1/8	4-1/2	57250	10	57369	2
314	3/4	1-1/8	58403	5	58417	5	347	4-1/4	4-5/8	57251	10	57370	2
315	13/16	1-3/16	58404	5	58418	5	348	4-3/8	4-3/4	57252	10	57371	2
316	7/8	1-1/4	58405	5	58419	5	349	4-1/2	4-7/8	57253	10	57372	2
317	15/16	1-5/16	58406	5	58420	5	350	4-5/8	5	57254	10	57373	2
318	1	1-3/8	58407	5	58421	5	351	4-3/4	5-1/8	57255	10	57374	2
319	1-1/16	1-7/16	58408	5	58422	5	352	4-7/8	5-1/4	57256	10	57375	2
320	1-1/8	1-1/2	58409	5	58423	5	353	5	5-3/8	57257	10	57376	2
321	1-3/16	1-9/16	58410	5	58424	5	354	5-1/8	5-1/2	57258	10	57377	2
322	1-1/4	1-5/8	58411	5	58425	5	355	5-1/4	5-5/8	57259	10	57378	2
323	1-5/16	1-11/16	58412	5	58426	5	356	5-3/8	5-3/4	57260	10	57379	2
324	1-3/8	1-3/4	58413	5	58427	5	357	5-1/2	5-7/8	57261	10	57380	2
325	1-1/2	1-7/8	11186 28	5	92933	5	358	5-5/8	6	57262	10	57381	2
326	1-5/8	2	11186 29	5	92934	5	359	5-3/4	6-1/8	57263	10	57382	2
327	1-3/4	2-1/8	11186 30	5	92935	5	360	5-7/8	6-1/4	57264	10	57383	2
328	1-7/8	2-1/4	11186 31	5	92936	5	361	6	6-3/8	57265	10	57384	2
329	2	2-3/8	11186 32	5	92937	5	362	6-1/4	6-5/8	57266	10	57385	2
330	2-1/8	2-1/2	82399	5	92938	5	363	6-1/2	6-7/8	57267	5	57386	2
331	2-1/4	2-5/8	82400	5	92939	5	364	6-3/4	7-1/8	57268	5	57387	2
332	2-3/8	2-3/4	82401	5	92940	5	365	7	7-3/8	57269	5	57388	2
333	2-1/2	2-7/8	82402	5	92941	5	366	7-1/4	7-5/8	57270	5	57389	2
334	2-5/8	3	82403	5	92942	5	367	7-1/2	7-7/8	57271	5	57390	2
335	2-3/4	3-1/8	82404	5	92943	5	368	7-3/4	8-1/8	57272	5	57391	2
336	2-7/8	3-1/4	82405	5	92944	5	369	8	8-3/8	57273	5	57392	2
337	3	3-3/8	82406	5	92945	5	370	8-1/4	8-5/8	57274	5	57393	2
338	3-1/8	3-1/2	57242	10	57361	2	371	8-1/2	8-7/8	57275	5	57394	2
339	3-1/4	3-5/8	57243	10	57362	2	372	8-3/4	9-1/8	57276	5	57395	2
340	3-3/8	3-3/4	57244	10	57363	2	373	9	9-3/8	57277	5	57396	2
341	3-1/2	3-7/8	57245	10	57364	2	374	9-1/4	9-5/8	57278	5	57397	2
342	3-5/8	4	57246	10	57365	2	375	9-1/2	9-7/8	57279	5	57398	2
343	3-3/4	4-1/8	57247	10	57366	2	376	9-3/4	10-1/8	57280	5	57399	2

1/16" Thickness O-Rings

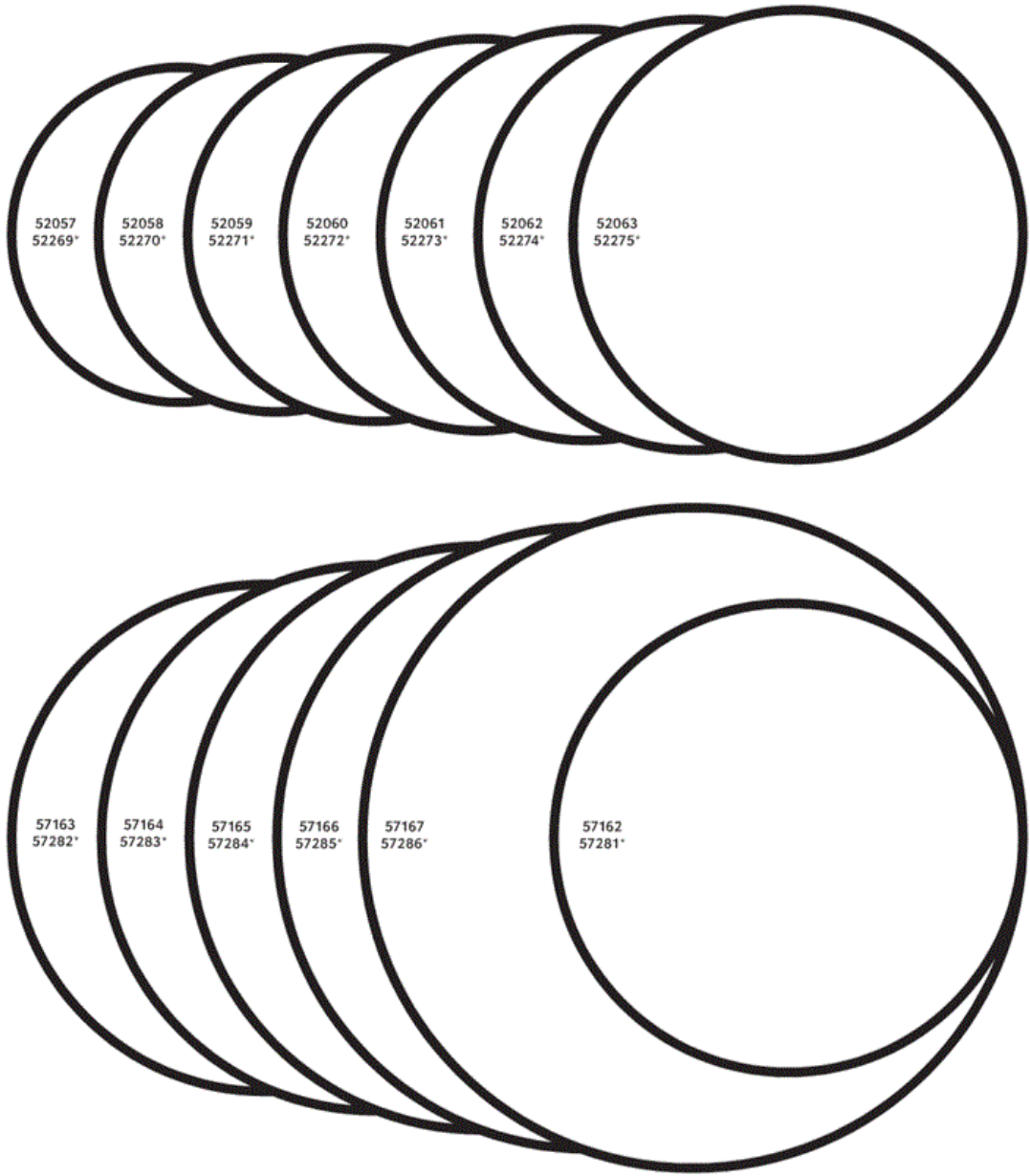




O-RINGS

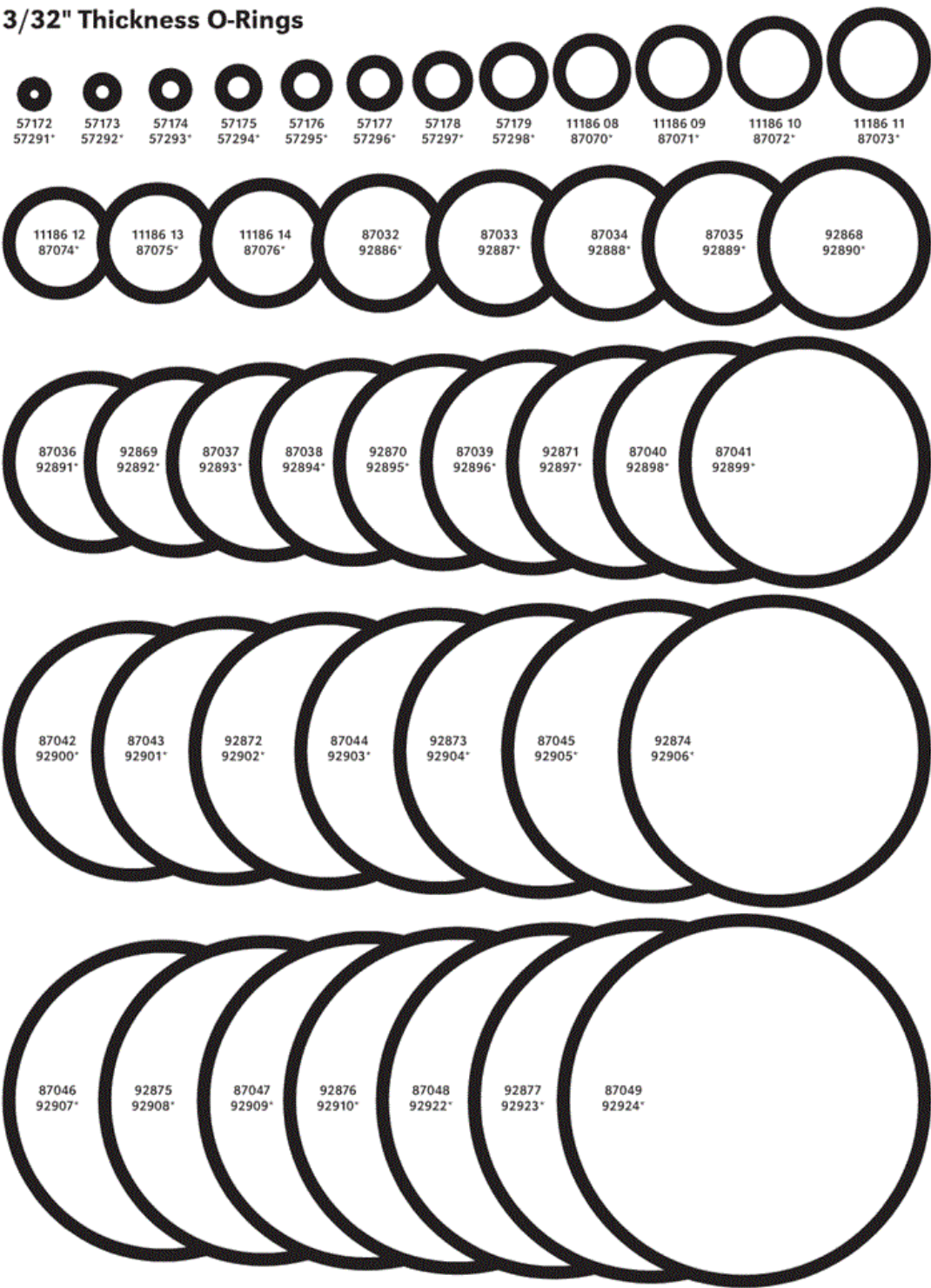
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1/16" Thickness O-Rings





3/32" Thickness O-Rings

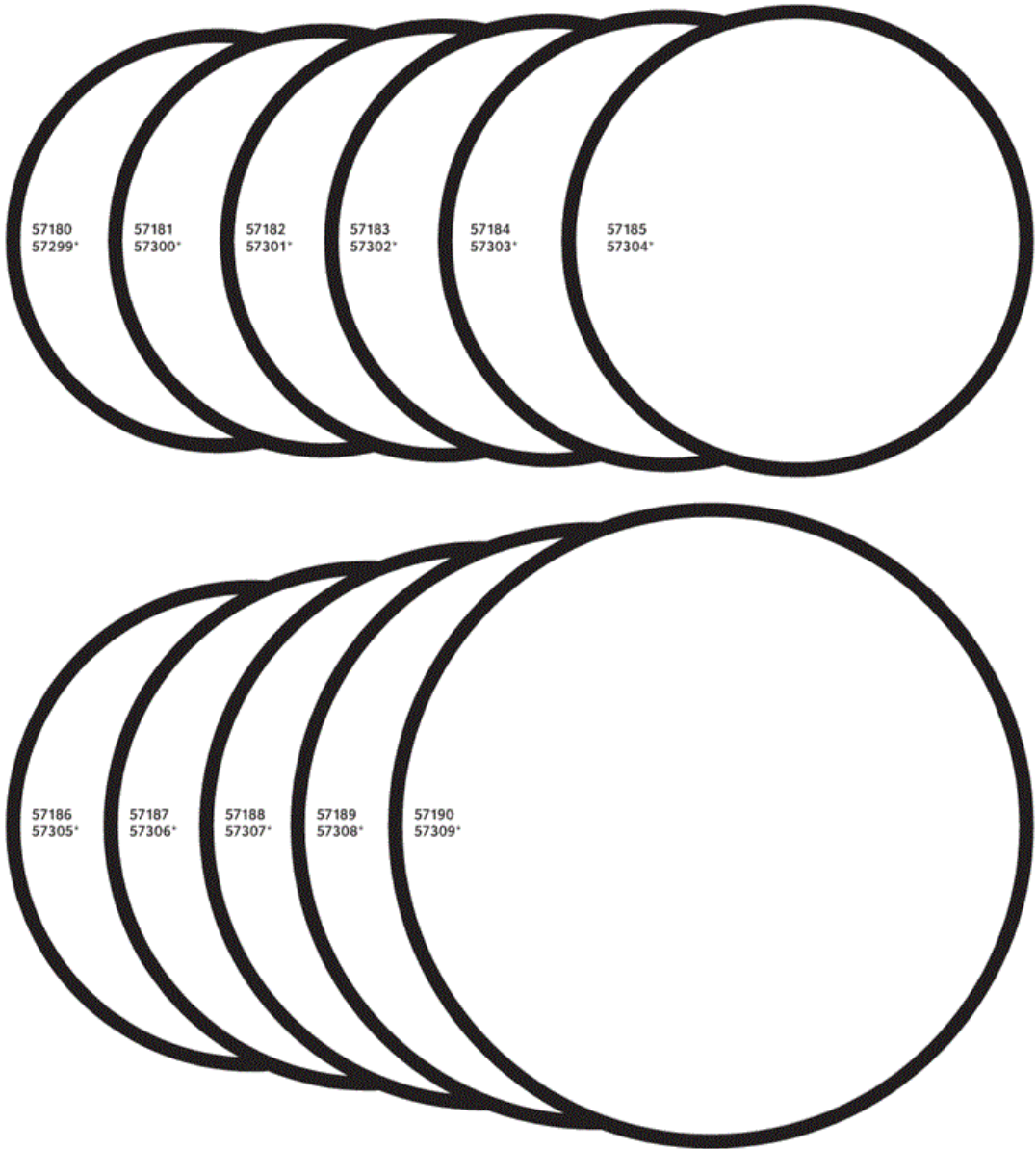




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3/32" Thickness O-Rings

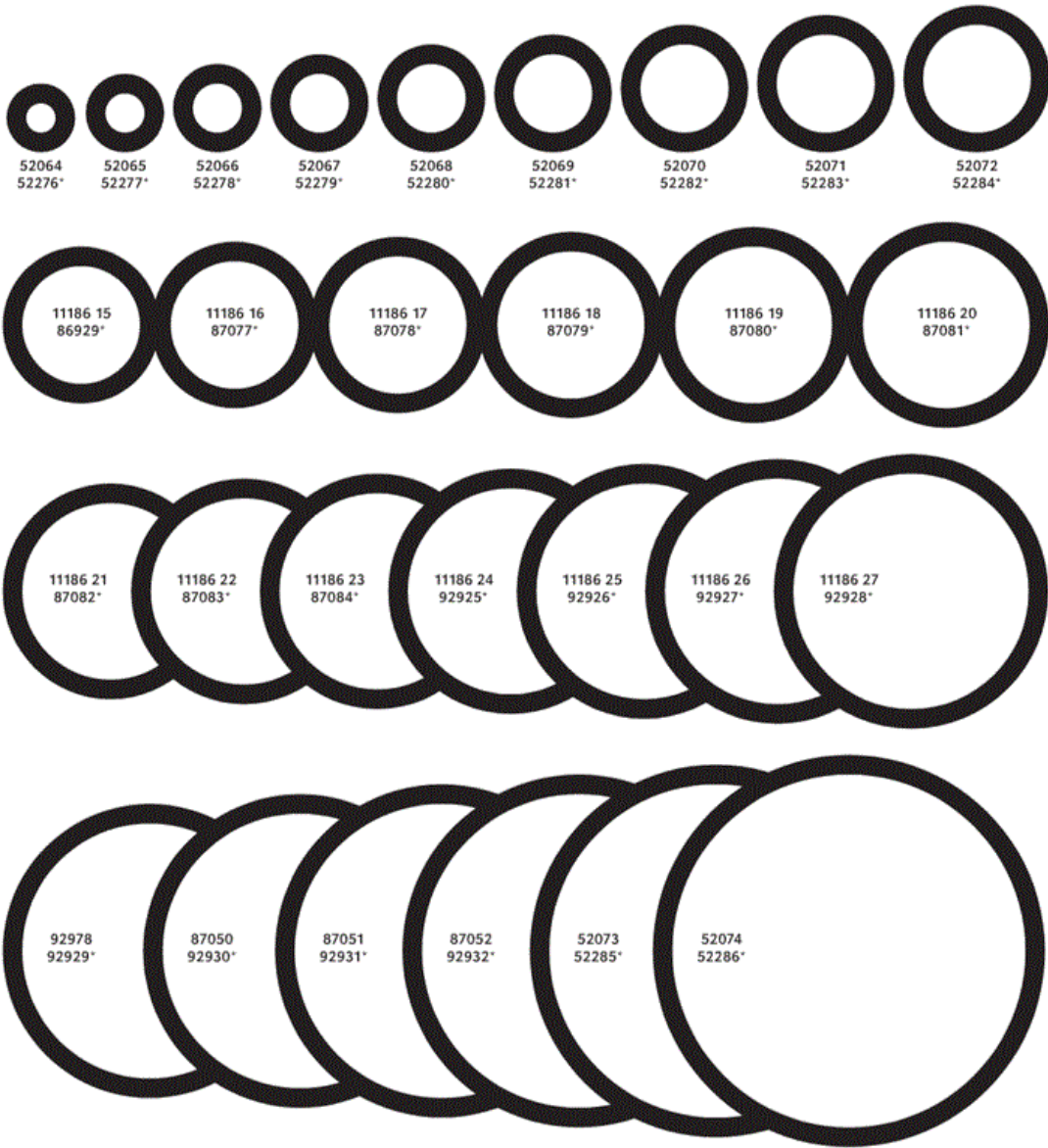


*Designates Viton Rings

Illustrations not shown for sizes larger than 4-3/16" O.D.



1/8" Thickness O-Rings



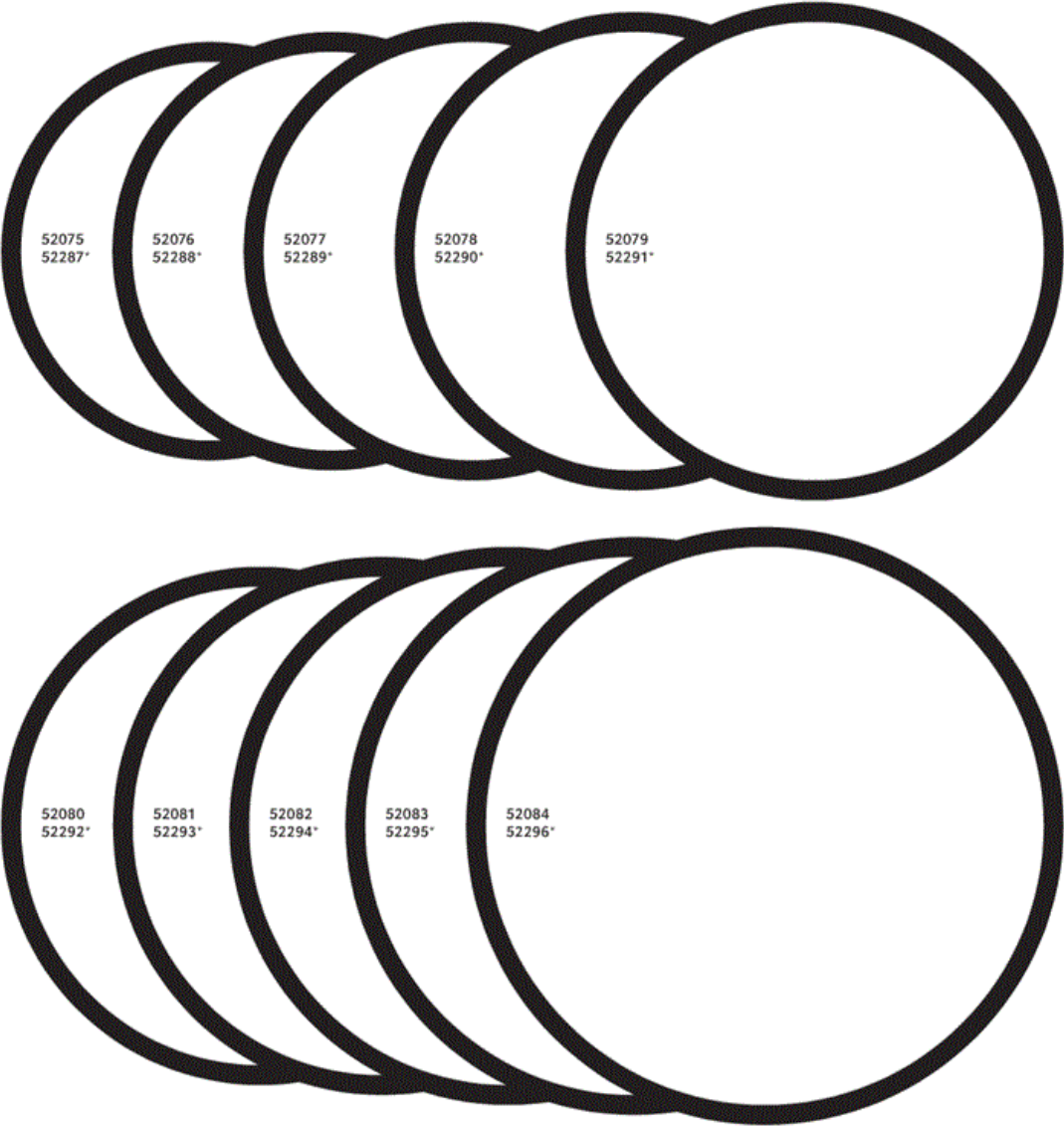
*Designates Viton Rings



O-RINGS

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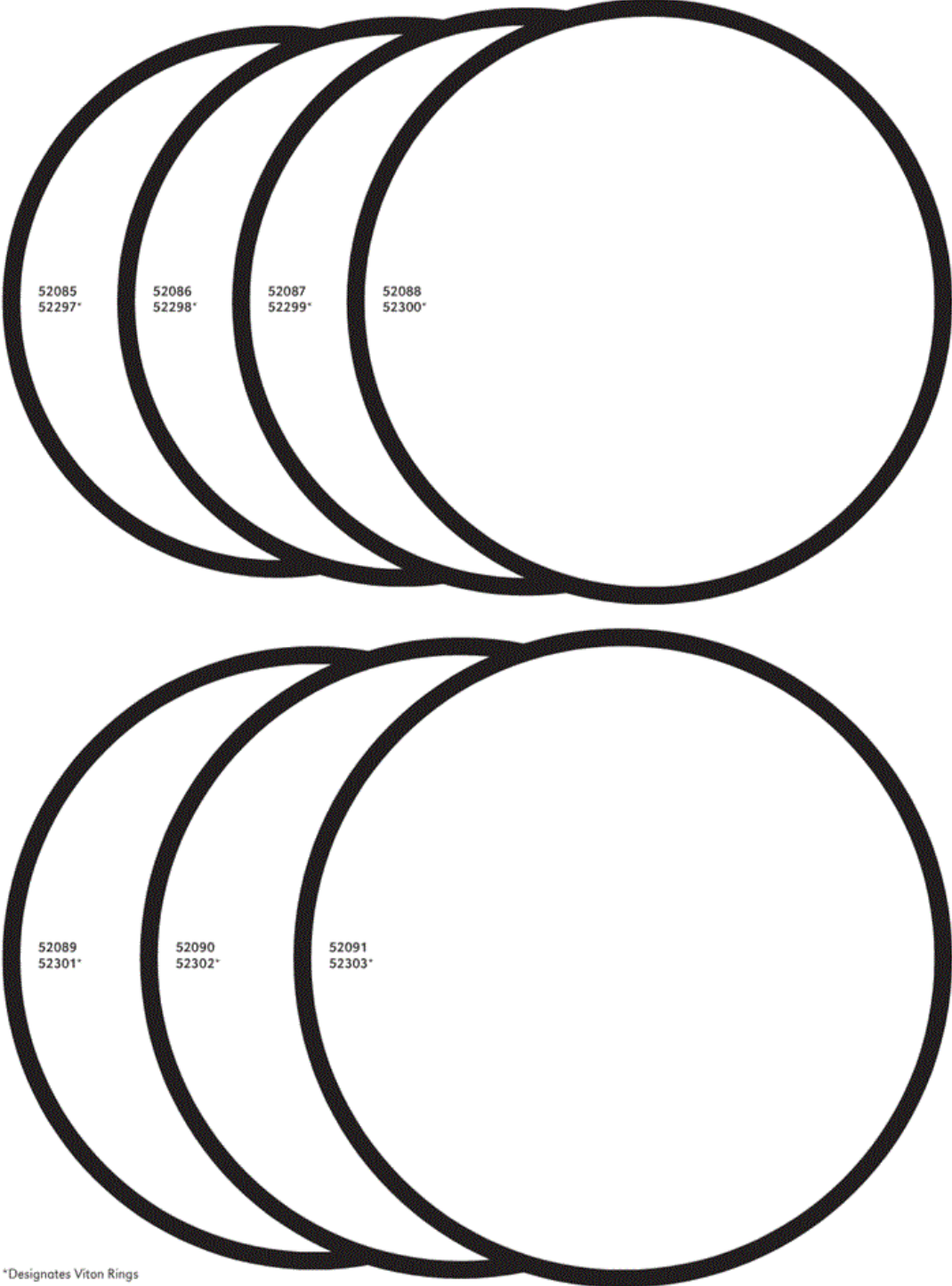
1/8" Thickness O-Rings



*Designates Viton Rings



1/8" Thickness O-Rings



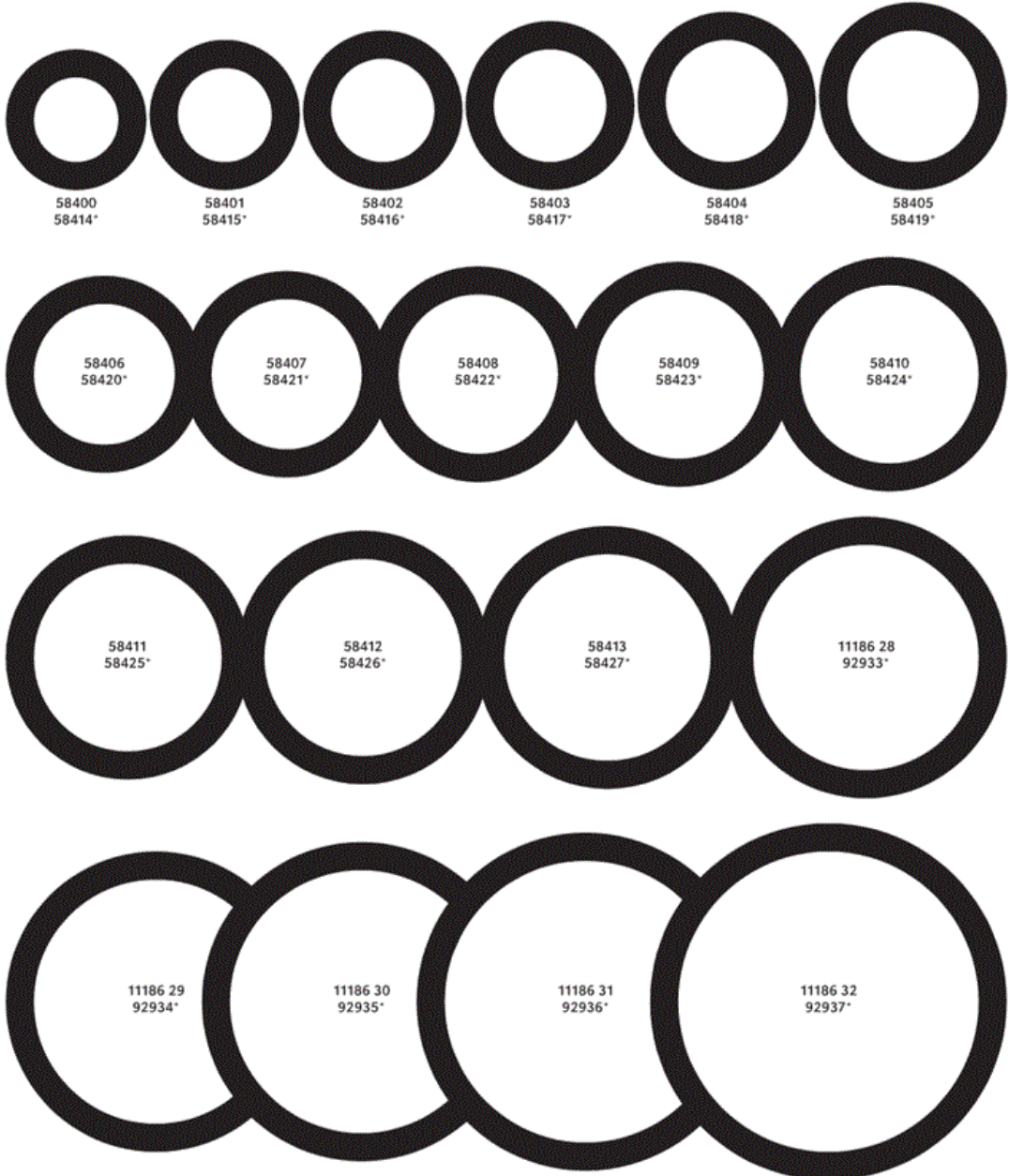
*Designates Viton Rings
Illustrations not shown for sizes larger than 4-5/8" O.D.



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3/16" Thickness O-Rings



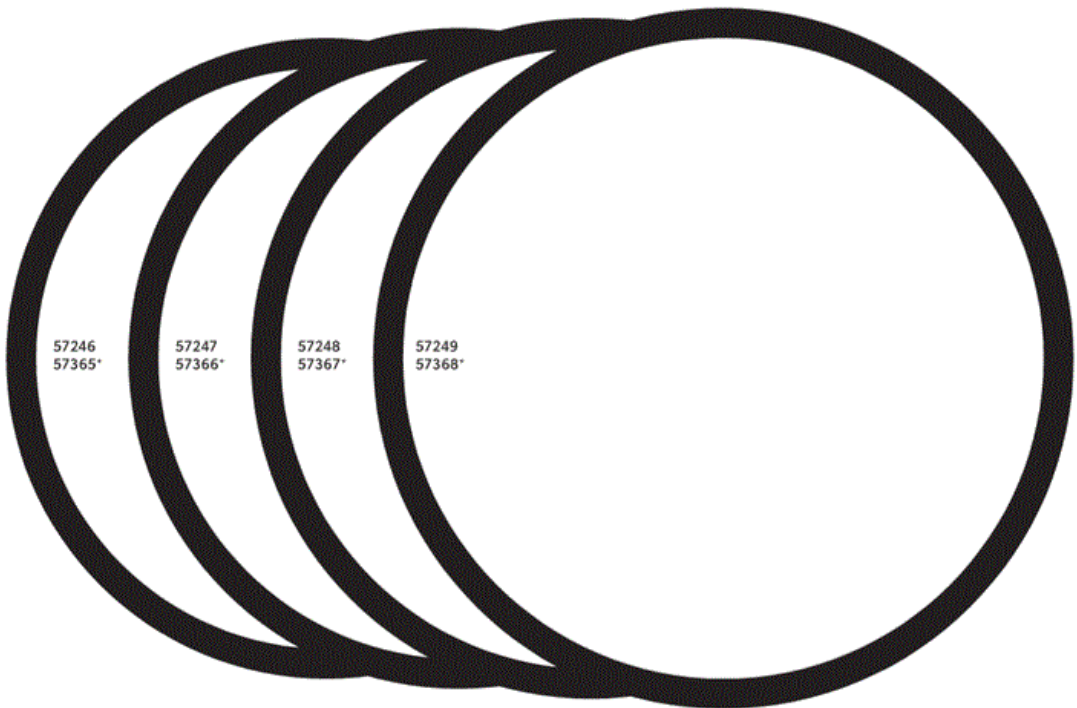
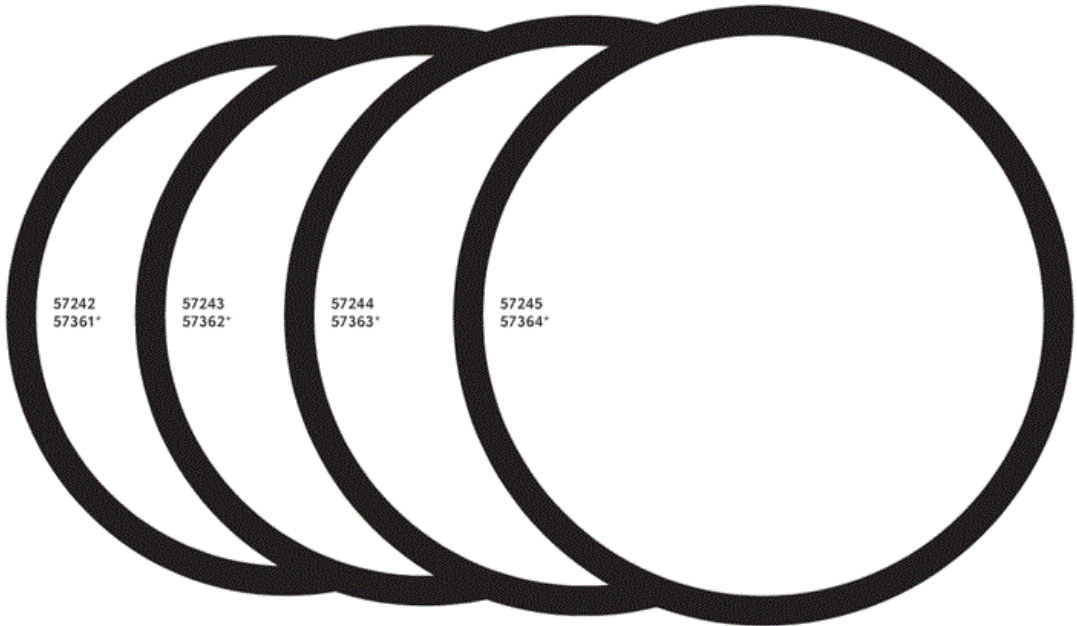
*Designates Viton Rings



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3/16" Thickness O-Rings





Metric Buna-N O-Rings

I.D. (mm)	O.D. (mm)	Thickness (mm)	Part No.	Pkg. Qty.
2.0	4.0	1.0	55241	10
3.0	5.0	1.0	55242	10
4.0	6.0	1.0	55243	10
5.0	7.0	1.0	55244	10
6.0	8.0	1.0	55245	10
10.0	12.0	1.0	55246	10
15.0	17.0	1.0	55247	10
5.0	8.0	1.5	55248	10
6.5	9.5	1.5	55249	10
9.0	12.0	1.5	55250	10
13.0	16.0	1.5	55251	10
14.0	17.0	1.5	55252	10
16.0	19.0	1.5	55253	10
25.0	28.0	1.5	55254	10
3.1	6.3	1.6	55255	10
4.1	7.3	1.6	55256	10
7.1	10.3	1.6	55257	10
9.1	12.3	1.6	55258	10
10.1	13.3	1.6	55259	10
13.1	16.3	1.6	55260	10
3.0	7.0	2.0	96352	10
4.0	8.0	2.0	96353	10
5.0	9.0	2.0	96354	10
6.0	10.0	2.0	96355	10
7.0	11.0	2.0	96356	10
8.0	12.0	2.0	96357	10
9.0	13.0	2.0	55261	10
10.0	14.0	2.0	96358	10
11.0	15.0	2.0	55262	10
12.0	16.0	2.0	55263	10
13.0	17.0	2.0	55264	10
14.0	18.0	2.0	55265	10
15.0	19.0	2.0	55266	10
16.0	20.0	2.0	55267	10
19.0	23.0	2.0	55268	10
20.0	24.0	2.0	55269	10
25.0	29.0	2.0	55270	10
28.0	32.0	2.0	55271	10

I.D. (mm)	O.D. (mm)	Thickness (mm)	Part No.	Pkg. Qty.
50.0	54.0	2.0	55272	10
4.3	9.1	2.4	55273	10
5.3	10.1	2.4	55274	10
7.6	12.4	2.4	55275	10
8.3	13.1	2.4	55276	10
8.0	13.0	2.5	55277	10
10.0	15.0	2.5	96359	10
11.0	16.0	2.5	96360	10
12.0	17.0	2.5	96361	10
13.0	18.0	2.5	55278	10
15.0	20.0	2.5	96362	10
16.0	21.0	2.5	96363	10
17.0	22.0	2.5	96364	10
18.0	23.0	2.5	55279	10
19.0	24.0	2.5	96365	10
20.0	25.0	2.5	55280	10
9.0	15.0	3.0	55281	10
10.0	16.0	3.0	55282	10
11.0	17.0	3.0	55283	10
19.0	25.0	3.0	96366	10
20.0	26.0	3.0	96367	10
22.0	28.0	3.0	96368	10
24.0	30.0	3.0	96369	10
25.0	31.0	3.0	96370	10
27.0	33.0	3.0	96371	10
28.0	34.0	3.0	96372	10
30.0	36.0	3.0	96373	10
32.0	38.0	3.0	96374	10
33.0	39.0	3.0	96375	10
35.0	41.0	3.0	96376	10
36.0	42.0	3.0	96377	10
38.0	44.0	3.0	96378	10
45.0	51.0	3.0	55284	10
28.0	35.0	3.5	58590	10
29.0	36.0	3.5	58591	10
30.0	37.0	3.5	58592	10
31.0	38.0	3.5	58593	10
32.0	39.0	3.5	58594	10

I.D. (mm)	O.D. (mm)	Thickness (mm)	Part No.	Pkg. Qty.
33.0	40.0	3.5	58595	10
34.0	41.0	3.5	58596	10
35.0	42.0	3.5	58597	10
36.0	43.0	3.5	58598	10
37.0	44.0	3.5	58599	10
38.0	45.0	3.5	58600	10
40.0	47.0	3.5	58601	10
42.0	49.0	3.5	58602	10
43.0	50.0	3.5	58603	10
44.0	51.0	3.5	58604	10
45.0	52.0	3.5	58605	10
27.0	35.0	4.0	55285	10
36.0	44.0	4.0	58606	10
37.0	45.0	4.0	58607	10
38.0	46.0	4.0	96379	10
39.0	47.0	4.0	55286	10
40.0	48.0	4.0	58608	10
41.0	49.0	4.0	96380	10
42.0	50.0	4.0	55287	10
44.0	52.0	4.0	96381	10
45.0	53.0	4.0	55288	10
46.0	54.0	4.0	58609	10
47.0	55.0	4.0	58610	10
48.0	56.0	4.0	55289	10
50.0	58.0	4.0	58611	10
52.0	60.0	4.0	58612	10
53.0	61.0	4.0	58613	10
54.0	62.0	4.0	58614	10
55.0	63.0	4.0	58615	10
56.0	64.0	4.0	58616	10
57.0	65.0	4.0	58617	10
58.0	66.0	4.0	58618	10
60.0	68.0	4.0	58619	10
40.0	50.0	5.0	58620	5
45.0	55.0	5.0	58621	5
50.0	60.0	5.0	58622	5
55.0	65.0	5.0	58623	5
60.0	70.0	5.0	58624	5



Available In Assortment

LP441
(30 items, 375 pieces)
See page 6-82

Metric Viton O-Rings

- Metric Viton O-rings are black with a brown dot for identification

I.D. (mm)	O.D. (mm)	Thickness (mm)	Part No.	Pkg. Qty.
3.0	7.0	2.0	58625	10
4.0	8.0	2.0	58626	10
5.0	9.0	2.0	58627	10
6.0	10.0	2.0	58628	10
7.0	11.0	2.0	58629	10
8.0	12.0	2.0	58630	10
10.0	14.0	2.0	58631	10
10.0	15.0	2.5	58632	10
11.0	16.0	2.5	58633	10
12.0	17.0	2.5	58634	10

I.D. (mm)	O.D. (mm)	Thickness (mm)	Part No.	Pkg. Qty.
14.0	19.0	2.5	58635	10
16.0	21.0	2.5	58636	10
17.0	22.0	2.5	58637	10
19.0	24.0	2.5	58638	10
19.0	25.0	3.0	58639	5
20.0	26.0	3.0	58640	5
22.0	28.0	3.0	58641	5
24.0	30.0	3.0	58642	5
25.0	31.0	3.0	58643	5
27.0	33.0	3.0	58644	5

I.D. (mm)	O.D. (mm)	Thickness (mm)	Part No.	Pkg. Qty.
28.0	34.0	3.0	58645	5
30.0	36.0	3.0	58646	5
32.0	38.0	3.0	58647	5
33.0	39.0	3.0	58648	5
35.0	41.0	3.0	58649	5
36.0	42.0	3.0	58650	5
38.0	44.0	3.0	58651	5
38.0	46.0	4.0	58652	5
41.0	49.0	4.0	58653	5
44.0	52.0	4.0	58654	5



Available In Assortment

LP641
(30 items, 220 pieces)
See page 6-82



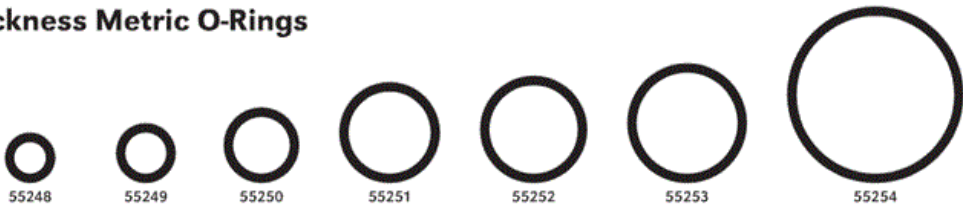
O-RINGS

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1.0 Thickness Metric O-Rings



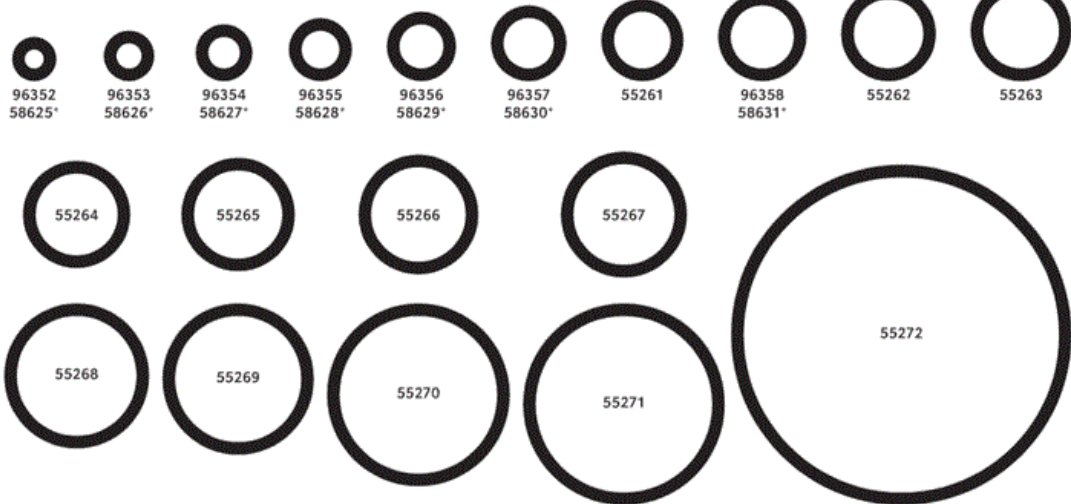
1.5 Thickness Metric O-Rings



1.6 Thickness Metric O-Rings



2.0 Thickness Metric O-Rings

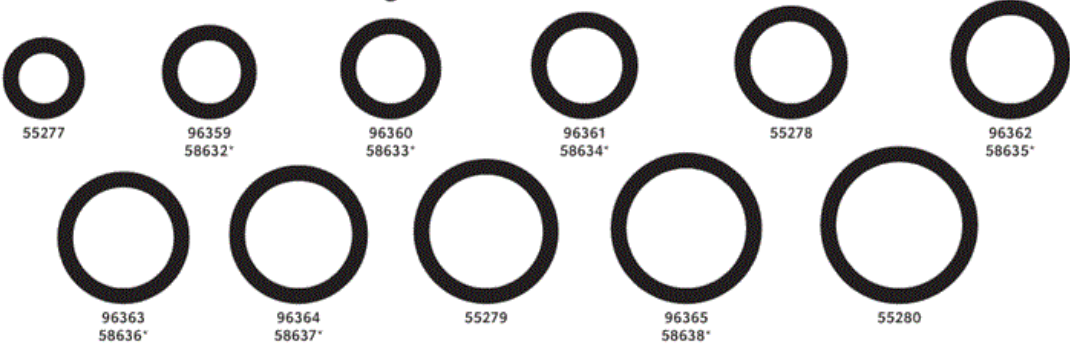


2.4 Thickness Metric O-Rings

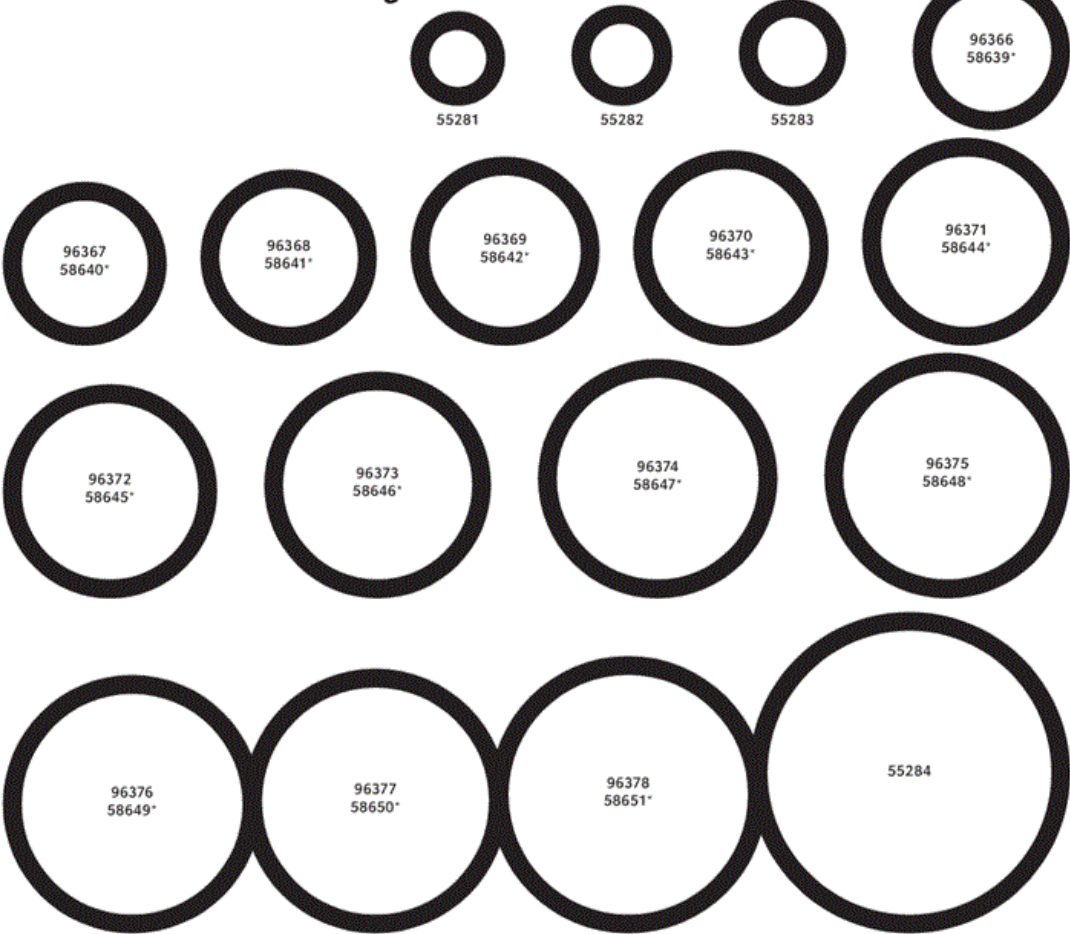




2.5 Thickness Metric O-Rings

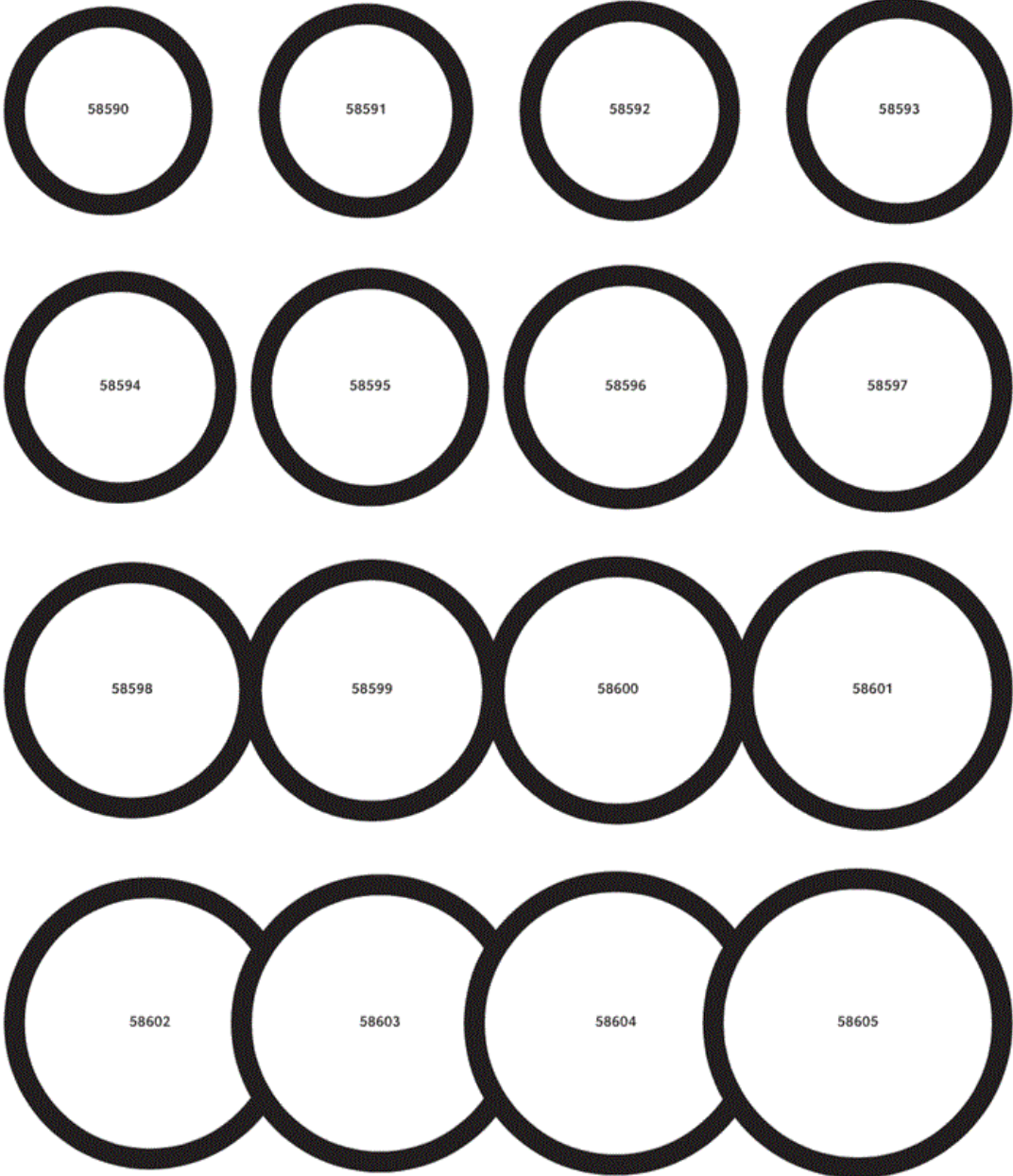


3.0 Thickness Metric O-Rings



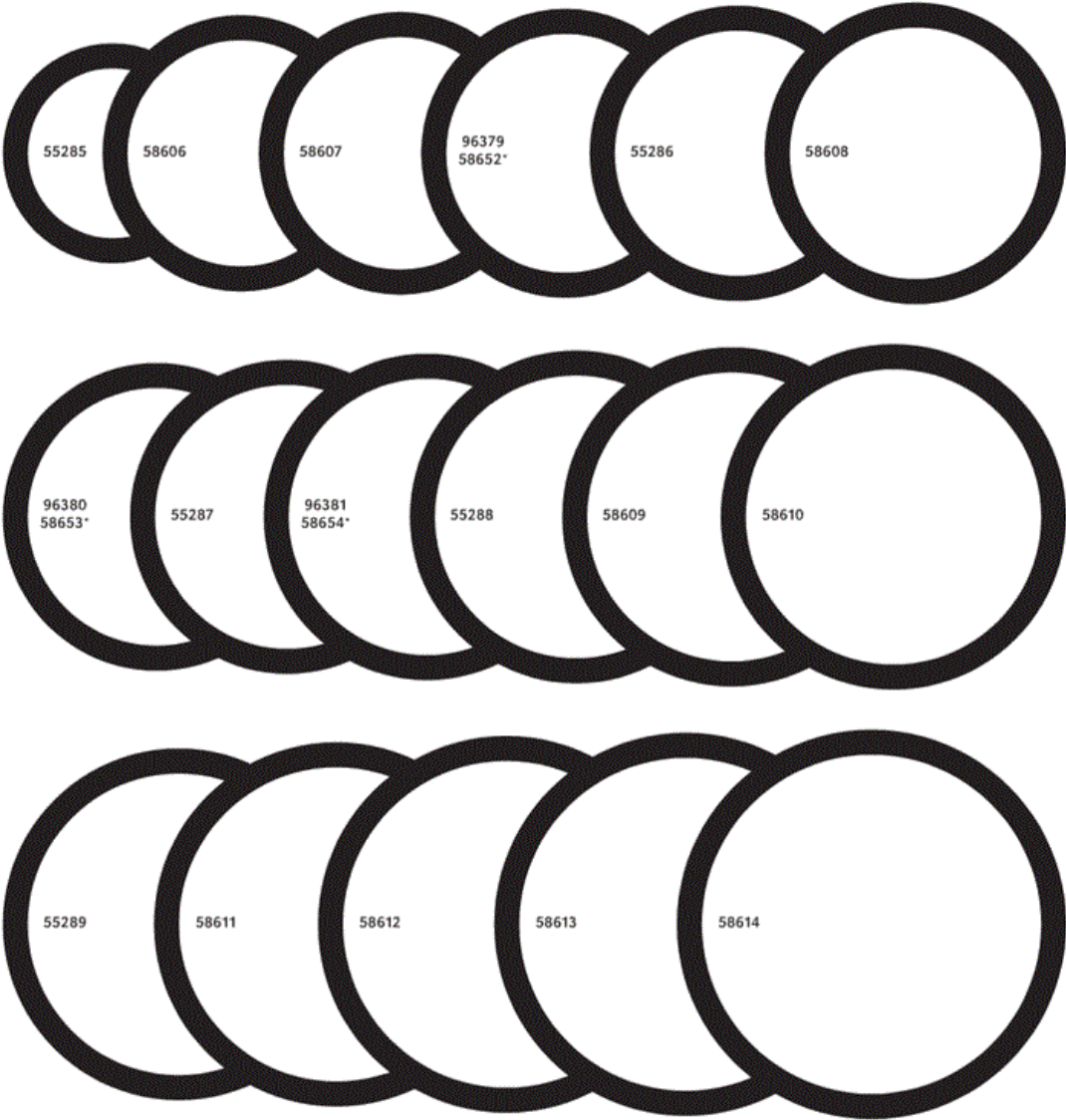


3.5 Thickness Metric O-Rings





4.0 Thickness Metric O-Rings

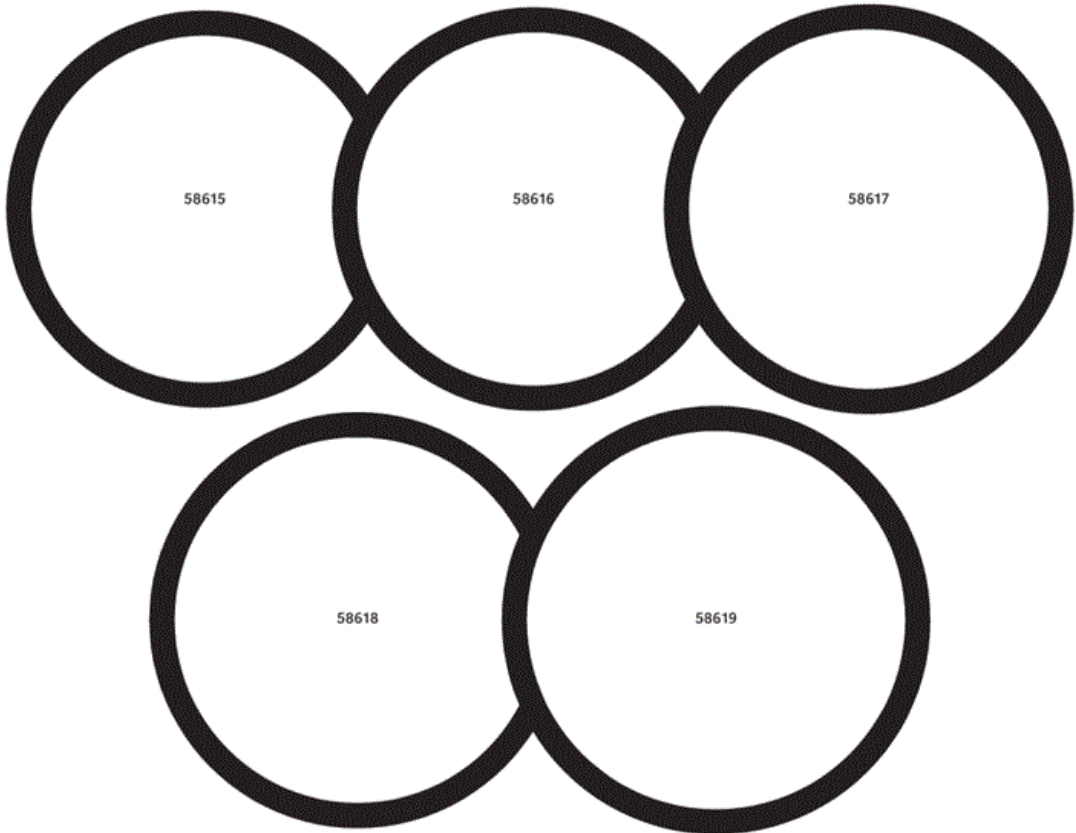




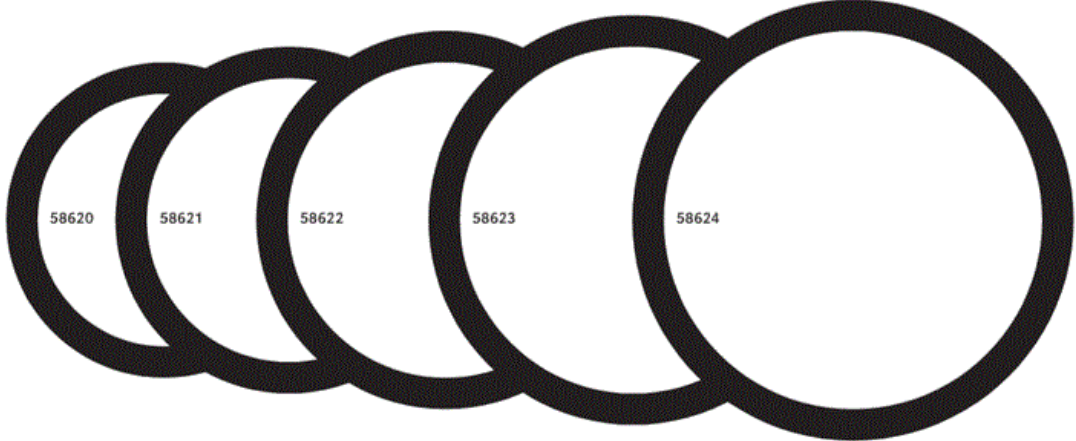
O-RINGS

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4.0 Thickness Metric O-Rings



5.0 Thickness Metric O-Rings





O-Ring Kits

Standard Kit Contents

Quantity	Part No.	Quantity	Part No.
16	11186 01	12	11186 16
16	11186 02	12	11186 17
16	11186 03	12	11186 18
16	11186 04	12	11186 19
16	11186 05	12	11186 20
16	11186 06	12	11186 21
16	11186 07	12	11186 22
16	11186 08	12	11186 23
16	11186 09	12	11186 24
16	11186 10	7	11186 25
16	11186 11	7	11186 26
16	11186 12	7	11186 27
16	11186 13	5	11186 28
16	11186 14	5	11186 29
12	11186 15	5	11186 30

Metric Kit Contents

Quantity	Part No.	Quantity	Part No.
16	96352	12	96367
16	96353	12	96368
16	96354	12	96369
16	96355	12	96370
16	96356	12	96371
16	96357	12	96372
16	96358	12	96373
13	96359	12	96374
13	96360	12	96375
13	96361	12	96376
13	96362	12	96377
13	96363	12	96378
13	96364	9	96379
13	96365	9	96380
12	96366	9	96381

Keep O-rings in stock, well organized and easy to find with Lawson O-ring kits.

- Buna-N compound
- Handy, sturdy plastic carrying case keeps O-rings organized and protected
- Kits are refillable



Description	Part No.	Pkg. Qty.
Standard Kit - 380 O-Rings in 30 Popular Sizes	86896	1
Metric Kit - 385 O-Rings in 30 Popular Sizes	96587	1
Replacement Carrying Case for Standard O-Ring Kit	A1X47	1
Replacement Carrying Case for Metric O-Ring Kit	A1X48	1

O-Ring Satellite Assortment Kits

Industrial Kit

- 100 Viton O-rings in twelve sizes (Part Nos. 87057 through 87059 and 87070 through 87078)
- Rust-colored for distinction
- Refillable from Standard Assortment LP458

Description	Part No.	Pkg. Qty.
Industrial Kit	97186	1

Industrial/Plumbing Kit

- 210 Buna-N O-rings in twelve sizes (Part Nos. 11186 05 through 11186 14, 11186 16 and 11186 17)
- Backplate lists compatible plumbing equipment
- Refillable from Standard Assortment LP96

Description	Part No.	Pkg. Qty.
Industrial/Plumbing Kit	97187	1

We've made it easy to have a full assortment of O-rings on hand wherever you go. O-Ring Satellite Assortment Kits give you everything you need in a compact, portable container.

- Portable kits fit easily in a standard tool box
- Dimensions: 8-1/4"W x 1-1/3"H x 4-1/2"D
- Keeps field work organized
- Each contains 12 popular O-ring sizes in an extremely durable box



O-Ring Splicing Kits

- Each kit is fully equipped with Buna-N rubber cord, a unique, patented O-ring splicing and cutting jig, a single-edge razor blade, Industrial Grade Rubber Bonder No. 90281 and a handy, sturdy plastic carrying case

Description	Part No.	Pkg. Qty.
Standard Kit - Four Sizes of Cord in 7-Foot Lengths: 3/32", 1/8", 3/16" and 1/4"	84784	1
Metric Kit - Nine sizes of Cord in 40-Inch Lengths: 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm, 4.0mm, 5.0mm, 5.7mm and 8.4mm	87062	1



O-Ring Cord Stock

Standard

- 70 Durometer

Dia. (Inches)	Part No.	Pkg. Qty.
1/16	95438	1 Roll
3/32	5490	1 Roll
1/8	5491	1 Roll
3/16	5492	1 Roll
1/4	5493	1 Roll
5/16	82724	1 Roll

Metric

- 75 Durometer

Dia. (mm)	Part No.	Pkg. Qty.
1.5	87125	1 Roll
2.0	87126	1 Roll
2.5	87127	1 Roll
3.0	87128	1 Roll
3.5	87129	1 Roll
4.0	87130	1 Roll
5.0	87131	1 Roll
5.7	87132	1 Roll
8.4	87133	1 Roll

Make O-rings on-the-spot in any size with O-Ring Cord Stock. Or create a more secure seal with extra O-ring material.

- Buna-N Rubber Cord - the same special grade of rubber used to manufacture conventional O-rings
- Comes in 25-foot rolls





O-RINGS

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Square O-Ring Cord Stock

Nominal Bore/Groove Width (Inches)	Actual Size (Inches)	Part No.	Pkg. Qty.
3/32	.103	52110	1 Roll
1/8	.139	52111	1 Roll
3/16	.210	52112	1 Roll
1/4	.275	52113	1 Roll
5/16	.313	52114	1 Roll
3/8	.375	52115	1 Roll
1/2	.500	52116*	1 Roll

*52116 comes in 10-foot roll.

This is ideal for situations where you need more sealing surface than is provided by traditional O-rings.

- 70 Durometer Buna-N
- Can be spliced using Industrial Grade Rubber Bonder No. 90281
- Comes in 25-foot rolls*



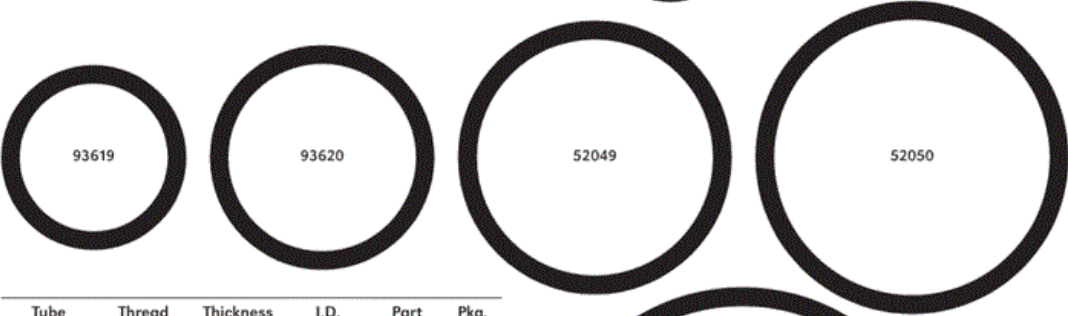
Replacement O-Rings for Hydraulic Tube Fittings

Nitrile composition O-rings are recommended for hydraulic applications, offering long-lasting resistance to alkaline and salt solutions, oils, gas and water. Not suitable for use with strong oxidizing agents.

- Temperature range: -40°F to +250°F (-40°C to +121°C)
- 90 Durometer Buna-N
- Conforms to SAE J514 and MS 16142 specifications

O-Ring Boss

- For use on O-ring Boss Fittings



Tube O.D.	Thread Size	Thickness (Inches)	I.D. (Inches)	Part No.	Pkg. Qty.
1/8 (-2)	5/16 -24	.070	.236	57527	10
1/4 (-4)	7/16 -20	.072	.351	93614	10
5/16 (-5)	1/2 -20	.072	.414	93615	10
3/8 (-6)	9/16 -18	.078	.468	93616	10
1/2 (-8)	3/4 -16	.087	.644	93617	10
5/8 (-10)	7/8 -14	.097	.755	93618	10
3/4 (-12)	1-1/16 -12	.116	.924	93619	10
1 (-16)	1-5/16 -12	.116	1.171	93620	10
1-1/4 (-20)	1-5/8 -12	.118	1.475	52049	10
1-1/2 (-24)	1-7/8 -12	.118	1.720	52050	10
2 (-32)	2-1/2 -12	.118	2.337	52051	10



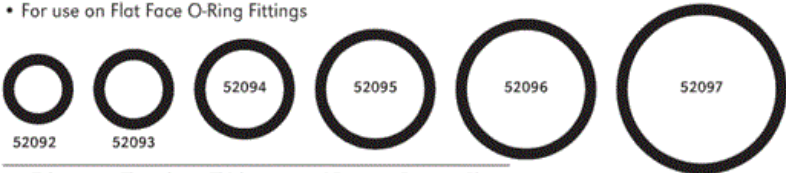
Replacement O-Rings for Hydraulic Tube Fittings

Nitrile composition O-rings are recommended for hydraulic applications, offering long-lasting resistance to alkaline and salt solutions, oils, gas and water. Not suitable for use with strong oxidizing agents.

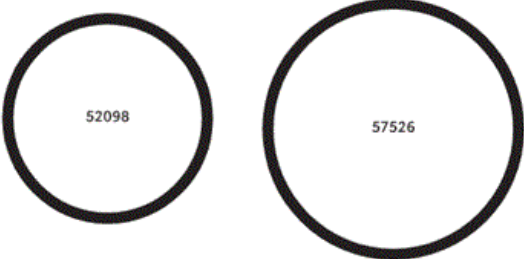
- Temperature range: -40°F to +250°F (-40°C to +121°C)
- 90 Durometer Buna-N
- Conforms to SAE J514 and MS 16142 specifications

Flat Face

- For use on Flat Face O-Ring Fittings

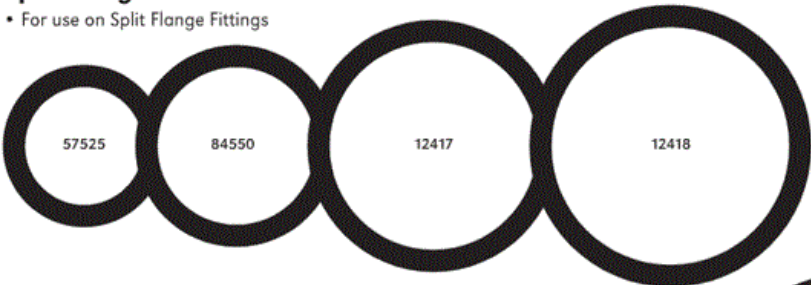


Tube O.D.	Thread Size	Thickness (Inches)	I.D. (Inches)	Part No.	Pkg. Qty.
1/4 (-4)	9/16-18	.070	.301	52092	10
3/8 (-6)	11/16-16	.070	.364	52093	10
1/2 (-8)	13/16-16	.070	.489	52094	10
5/8 (-10)	1-14	.070	.614	52095	10
3/4 (-12)	1-3/16-12	.070	.739	52096	10
1 (-16)	1-7/16-12	.070	.926	52097	10
1-1/4 (-20)	1-11/16-12	.070	1.176	52098	10
1-1/2 (-24)	2-12	.070	1.495	57526	10



Split Flange

- For use on Split Flange Fittings



Port Size (Inches)	Thickness (Inches)	I.D. (Inches)	Part No.	Pkg. Qty.
1/2	.139	.737	57525	10
3/4	.139	.984	84550	10
1	.139	1.296	12417	10
1-1/4	.139	1.484	12418	10
1-1/2	.139	1.859	12419	10
2	.139	2.234	12420	10

