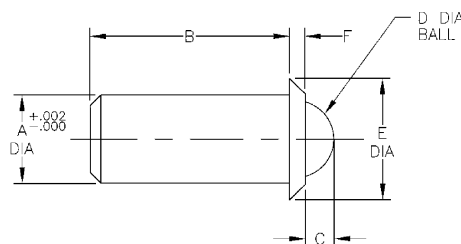


SPRING LOADED DEVICES



Press Fit Ball Plungers

- Material:
 - Steel Body: 12L14 Steel
 - Stainless Steel Body: 303 Stainless Steel
 - Ball: 440 Stainless Steel
- Black Oxide Finish – Steel Only
- Ideal for installation in softer materials, such as aluminum, wood or plastic
- Sturdy shoulder provides a fixed seating position and positively resists detent force (installation hole can be counterbored to recess the shoulder)
- Use when a threaded hole would be impractical



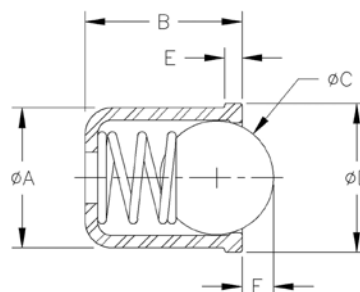
STEEL BODY		STAINLESS BODY		A	End Force (lbs)		B	C	Dia. D	Dia. E	F
Stainless Steel Ball Part No.	Nylon Ball Part No.	Stainless Steel Ball Part No.	Nylon Ball Part No.		Initial	Final					
53754	53762	53755	53780	.125	.4	1.3	.252	.035	.094	.187	.032
53756	53763	53757	53781	.125	.75	2.5	.252	.035	.094	.187	.032
53792	53794	53796	53798	.188	1.0	2.5	.39	.058	.156	.250	.040
53701	53764	53709	53782	.188	1.0	2.5	.410	.058	.156	.250	.035
53702	53766	53710	53784	.250	1.5	3.5	.480	.070	.188	.312	.044
53758	53768	53759	53786	.312	2.0	5.0	.643	.090	.250	.375	.045
53760	53769	53761	53787	.312	4.0	10.0	.643	.090	.250	.375	.045
53703	53770	53711	53788	.375	2.5	7.0	.790	.110	.312	.500	.078
53704	53772	53712	53790	.500	4.0	9.0	1.13	.161	.438	.688	.088
53793	53795	53797	53799	.188	2.0	5.0	.39	.058	.156	.250	.040
53705	53765	53713	53783	.188	2.0	5.0	.410	.058	.156	.250	.035
53706	53767	53714	53785	.250	3.0	7.0	.480	.070	.188	.312	.044
53707	53771	53715	53789	.375	5.0	14.0	.790	.110	.312	.500	.078
53708	53773	53716	53791	.500	8.0	18.0	1.13	.161	.438	.688	.088

Press Fit Ball Plungers – No Flange

- For sensitive and light duty applications
- Black thermoplastic or stainless steel body
- Ball available in plastic, steel and stainless steel



Small and lightweight!



Stainless Steel Body & Ball – Metric

Stainless Steel Part No.	End Force (Newtons)		A	B	Ball Dia. C	D	E	F
	Initial	Final						
53670	3	7	4	5	3	4,6	1	0,8
53671	4	7	5	6	4	5,6	1	1
53672	6	12	6	7	5	6,5	1	1,5
53673	6	12	8	9	6,5	8,5	1	1,8
53674	10	20	10	13,5	8	12	2,5	2,7
53675	15	25	12	16	10	14	2,5	3,5

Plastic Body, Stainless Steel Ball – Metric

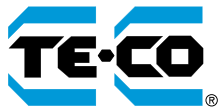
Plastic Body Part No.	End Force (Newtons)		A	B	Ball Dia. C	D	E	F
	Initial	Final						
53620	3	7	4	5	3	4,6	1	0,7
53621	4	7	5	6	4	5,6	1	1
53622	6	12	6	7	5	6,5	1	1,5
53623	6	12	8	9	6,5	8,5	1	1,8
53624	10	20	10	13,5	8	12	2,5	2,7
53625	15	25	12	16	10	14	2,5	3,5

Stainless Steel Body, Plastic Ball – Metric

Stainless Steel Part No.	End Force (Newtons)		A	B	Ball Dia. C	D	E	F
	Initial	Final						
53610	3	7	4	5	3	4,6	1	0,5
53611	4	7	5	6	4	5,6	1	0,6
53612	6	12	6	7	5	6,5	1	1,1
53613	6	12	8	9	6,5	8,5	1	1,5
53614	10	20	10	13,5	8	12	2,5	2,3
53615	15	25	12	16	10	14	2,5	3,1

Plastic Body & Ball – Metric

Plastic Body Part No.	End Force (Newtons)		A	B	Ball Dia. C	D	E	F
	Initial	Final						
53616	3	7	4	5	3	4,6	1	0,9
53617	4	7	5	6	4	5,6	1	1,2
53618	6	12	6	7	5	6,5	1	1,5
53619	6	12	8	9	6,5	8,5	1	2
53628	10	20	10	13,5	8	12	2,5	2,7
53629	15	25	12	16	10	14	2,5	3,5



SPRING LOADED DEVICES

Installation Information for TE-CO Spring Loaded Devices

Most TE-CO Spring & Ball Plungers can be installed using a screwdriver, hex key wrench, or spring/ball plunger wrench (see page 100). Also, many Hand Retractable Spring Plungers can be installed without using any tools by simply using its knob to engage the threads. Because spring loaded devices have hollow bodies, the maximum installation torques they can withstand are significantly less than bolts or screws. The table below should be used as a guideline for installing spring loaded devices.

Unified Thread Size	Metric Thread Size	Max Installation Torque (inch pounds)
No. 4	M2.5 x 0.45	.60
No. 5	M3 x 0.5	1.25
No. 6	M3.5 x 0.6-6g	1.65
No. 8	M4 x 0.7-6g	2.15
No. 10	M5 x 0.8-6g	3.15
1/4	M6 x 1-6g	6.0
5/16	M8 x 1.25	11.0
3/8	M10 x 1.5	16.0
7/16	M11 x 1.5	22.0
1/2	M12 x 1.75	28.0
9/16	M14 x 2.0	36.0
5/8	M16 x 2.0	55.0
3/4	M20 x 2.5	70.0
7/8	M22 x 2.5	95.0
1	M24 x 3.0	130.0
1-1/8	M30 x 3.5	160.0
1-1/4	M33 x 3.5	190.0

Most TE-CO Spring Loaded Devices can be ordered with or without a nylon thread locking element (see each product group for details). The nylon-locking element forces the threads on the opposite side of a spring loaded device to compress against the mating threads of a tapped hole, providing the thread locking property. The nylon-locking element can cause installation problems when installing into softer metals or aluminum. This can be prevented by either using a larger tap drill when tapping, by ordering a spring plunger without a locking element, or by requesting a quote for a special plunger that will fit your needs.

When installing spring loaded devices with a nylon thread locking element pellet (thread sizes 5/16" and larger or M8 and larger), TE-CO recommends that the tapped installation hole be countersunk 90 degrees by 1/32 larger than major thread diameter to prevent damage to the locking element.

For more detailed information you may contact any of our knowledgeable TE-CO Customer Service Representatives at 800-543-4071.

Inch Tap Drill Sizes Table for Spring Plungers

Tap	Tap Drill	Decimal Equiv. of Tap Drill	Probable Hole Size	Percent Of Thread %
4-48	42	0.0935	0.0955	61
	3/32	0.0938	0.0958	60
	41	0.0960	0.0980	52
5-40	40	0.098	0.1003	76
	39	0.0995	0.1018	71
	38	0.1015	0.1038	65
	37	0.1040	0.1063	58
	37	0.1040	0.1063	78
6-32	36	0.1065	0.1091	71
	7/64	0.1094	0.1120	64
	35	0.1100	0.1126	63
	34	0.1110	0.1136	60
	33	0.1130	0.1156	55
6-40	34	0.1110	0.1136	75
	33	0.1130	0.1156	69
	32	0.1160	0.1186	60
8-32	29	0.1360	0.1389	62
	28	0.1405	0.1434	51
8-36	29	0.1360	0.1389	70
	28	0.1405	0.1434	57
	9/64	0.1406	0.1435	57
10-32	5/32	0.1563	0.1595	75
	22	0.1570	0.1602	73
	21	0.1590	0.1622	68
	20	0.1610	0.1642	64
	19	0.1660	0.1692	51
1/4-20	9	0.1960	0.1998	77
	8	0.1990	0.2028	73
	7	0.2010	0.2048	70
	13/64	0.2031	0.2069	66
	6	0.2040	0.2078	65
	5	0.2055	0.2093	63
	4	0.2090	0.2128	57
1/4-28	3	0.2130	0.2168	72
	7/32	0.2188	0.2226	59
	2	0.2210	0.2248	55
5/16-18	F	0.257	0.2608	72
	G	0.261	0.2651	66
	17/64	0.2656	0.2697	59
	H	0.2660	0.2701	59
3/8-16	5/16	0.3125	0.3169	72
	O	0.3160	0.3204	68
	P	0.3230	0.3274	59
1/2-13	27/64	0.4219	0.4266	73
	7/16	0.4375	0.4422	58
5/8-11	17/32	0.5313	0.5362	75
	36/64	0.5469	0.5518	62
3/4-10	41/64	0.6406	0.6456	80
	21/32	0.6563	0.6613	68
1-8	55/64	0.8594	0.8653	83
	7/8	0.8750	0.8809	73
	57/64	0.8906	0.8965	64
	29/32	0.9063	0.9122	54