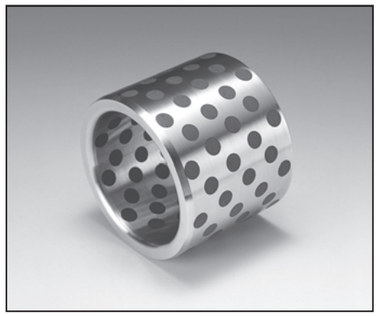
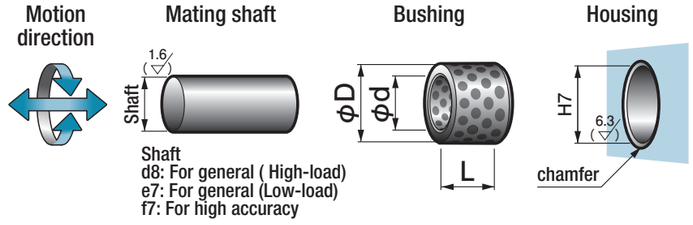
SPB Oiles 500SP1 SL1 Bushings (I.D. ϕ6~ϕ45)

RoHS2 ELV

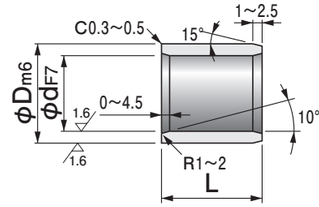


Specify Part No. by required I.D., O.D. and Length.
(e.g.) I.D. is 25mm, O.D. is 33mm, and length is 20mm.

SPB - 253320
Part No.

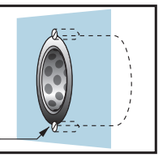


Shaft
d8: For general (High-load)
e7: For general (Low-load)
f7: For high accuracy

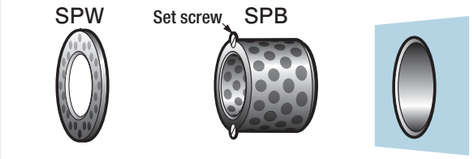


- Applicable to rotation, oscillation, and reciprocating motion.
- Do not use this under water.
- 31.5mm I.D bushing can be used as an intermediate trunnion bushing for hydraulic cylinders.

It is recommended to use a set screw to prevent dislocation.



Use this product together with the Oiles #500SP washer (SPW shown on page 197) in a position where thrust loads are applied.



※Be sure to determine the position with a countersunk head screw and fix when the SPW with ★ shown in the table below is used, since the inner diameter is larger than the shaft diameter.

All SPB bushings have engraved OILES mark.

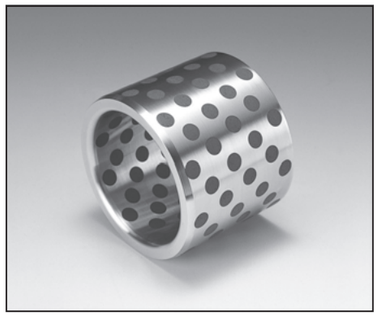
I.D.		O.D.		Length L Tolerance $^{-0.1}_{-0.3}$							
ϕd	Tolerance	ϕD	Tolerance	8	10	12	15	16	19	20	25
6	+0.022 +0.010	10	+0.015 +0.006	061008	061010	061012					
8	+0.028 +0.013	12	+0.018 +0.007	081208	081210	081212	081215				
10	+0.028 +0.013	14	+0.018 +0.007	101408	101410	101412	101415			101420	
12	+0.034 +0.016	18	+0.018 +0.007	121808	121810	121812	121815	121816	121819	121820	121825
13	+0.034 +0.016	19	+0.021 +0.008		131910	131912	131915			131920	131925
14	+0.034 +0.016	20	+0.021 +0.008		142010	142012	142015			142020	142025
15	+0.034 +0.016	21	+0.021 +0.008		152110	152112	152115	152116		152120	152125
16	+0.034 +0.016	22	+0.021 +0.008		162210	162212	162215	162216	162219	162220	162225
17	+0.034 +0.016	23	+0.021 +0.008				172315				
18	+0.034 +0.016	24	+0.021 +0.008		182410	182412	182415	182416		182420	182425
19	+0.041 +0.020	26	+0.021 +0.008				192615			192620	
20	+0.041 +0.020	28	+0.021 +0.008		202810	202812	202815	202816	202819	202820	202825
20	+0.041 +0.020	30	+0.021 +0.008		203010	203012	203015	203016		203020	203025
22	+0.041 +0.020	32	+0.025 +0.009			223212	223215			223220	223225
25	+0.041 +0.020	33	+0.025 +0.009			253312	253315	253316		253320	253325
25	+0.041 +0.020	35	+0.025 +0.009			253512	253515	253516		253520	253525
28	+0.041 +0.020	38	+0.025 +0.009							283820	283825
30	+0.041 +0.020	38	+0.025 +0.009			303812	303815			303820	303825
30	+0.041 +0.020	40	+0.025 +0.009			304012	304015			304020	304025
31.5	+0.050 +0.025	40	+0.025 +0.009								
32	+0.050 +0.025	42	+0.025 +0.009							324220	
35	+0.050 +0.025	44	+0.025 +0.009							354420	354425
35	+0.050 +0.025	45	+0.025 +0.009							354520	354525
38	+0.050 +0.025	48	+0.025 +0.009								
40	+0.050 +0.025	50	+0.025 +0.009				405015			405020	405025
40	+0.050 +0.025	55	+0.030 +0.011				405515				
45	+0.050 +0.025	55	+0.030 +0.011								
45	+0.050 +0.025	56	+0.030 +0.011								
45	+0.050 +0.025	60	+0.030 +0.011								

Length L Tolerance $^{-0.1}_{-0.3}$							I.D. tolerance after press fitting (reference)	Washer	I.D.
30	35	40	50	60	70	80		SPW	ϕd
							+0.019 +0.007	0603	6
							+0.025 +0.010	0803	8
							+0.025 +0.010	1003	10
121830							+0.031 +0.013	1203	12
131930							+0.030 +0.012	1303	13
142030							+0.030 +0.012	1403	14
152130	152135	152140					+0.030 +0.012	1503	15
162230	162235	162240					+0.030 +0.012	1603	16
							+0.030 +0.012	1803★	17
182430	182435	182440					+0.030 +0.012	1803	18
							+0.037 +0.016	2005★	19
202830	202835	202840	202850				+0.037 +0.016	2005	20
203030	203035	203040	203050				+0.037 +0.016	2505★	20
							+0.037 +0.016	2505	22
253330	253335	253340	253350	253360			+0.037 +0.016	2505	25
253530	253535	253540	253550	253560			+0.037 +0.016	3005★	25
283830		283840					+0.037 +0.016	3005	28
303830	303835	303840	303850	303860			+0.037 +0.016	3005	30
304030	304035	304040	304050	304060			+0.037 +0.016	3505★	30
314030		314040					+0.046 +0.021	3505	31.5
324230		324240					+0.046 +0.021	3505	32
354430	354435	354440	354450	354460			+0.046 +0.021	3505	35
354530	354535	354540	354550	354560			+0.046 +0.021	4007★	35
		384840					+0.046 +0.021	4007	38
405030	405035	405040	405050	405060	405070	405080	+0.046 +0.021	4007	40
405530	405535	405540	405550	405560			+0.045 +0.020	4507★	40
455530	455535	455540	455550	455560			+0.045 +0.020	4507	45
455630	455635	455640	455650	455660			+0.045 +0.020	4507	45
456030	456035	456040	456050	456060	456070	456080	+0.045 +0.020	4507	45

※The I.D. tolerance after press fitting is for reference only.
※I.D. ϕ50~ϕ200 are shown on pages 189 to 190.

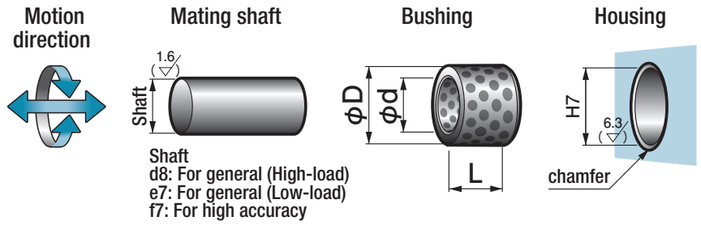
SPB Oiles 500SP1 SL1 Bushings (I.D. ϕ50~ϕ200)

RoHS2 ELV

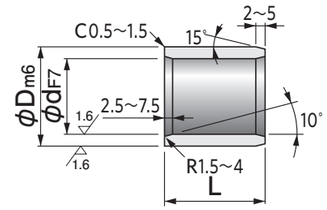


Specify Part No. by required I.D., O.D. and Length.
(e.g.) I.D. is 80mm, O.D. is 96mm, and length is 70mm.

SPB - 809670
Part No.

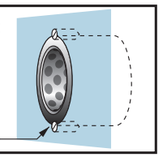


Shaft
d8: For general (High-load)
e7: For general (Low-load)
f7: For high accuracy

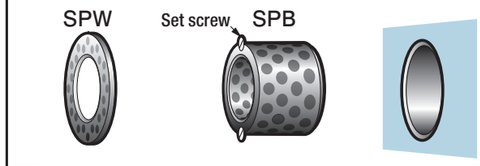


- Applicable to rotation, oscillation, and reciprocating motion.
- Do not use this under water.
- 63mm I.D bushing can be used as an intermediate trunnion bushing for hydraulic cylinders.

It is recommended to use a set screw to prevent dislocation.



Use this product together with the Oiles #500SP washer (SPW shown on page 197) in a position where thrust loads are applied.



※Be sure to determine the position with a countersunk head screw and fix when the SPW with ★ shown in the table below is used, since the inner diameter is larger than the shaft diameter.

All SPB bushings have engraved OILES mark.

I.D.		O.D.		Length L Tolerance $^{-0.1}_{-0.3}$								Length L Tolerance $^{-0.1}_{-0.3}$							I.D. tolerance after press fitting (reference)	Washer	I.D.
ϕd	Tolerance	ϕD	Tolerance	20	30	35	40	50	60	70	80	90	100	120	130	140	150	200		SPW	ϕd
50	+0.050 +0.025	60	+0.030 +0.011	506020	506030	506035	506040	506050	506060	506070	506080								+0.045 +0.020	5008	50
50	+0.050 +0.025	62	+0.030 +0.011		506230	506235	506240	506250	506260	506270	506280								+0.045 +0.020	5008	50
50	+0.050 +0.025	65	+0.030 +0.011		506530		506540	506550	506560	506570	506580		5065100						+0.045 +0.020	5008	50
55	+0.060 +0.030	70	+0.030 +0.011		557030	557035	557040	557050	557060	557070									+0.055 +0.025	5508	55
60	+0.060 +0.030	74	+0.030 +0.011		607430	607435	607440	607450	607460	607470	607480								+0.055 +0.025	6008	60
60	+0.060 +0.030	75	+0.030 +0.011		607530	607535	607540	607550	607560	607570	607580		6075100						+0.055 +0.025	6008	60
63	+0.060 +0.030	75	+0.030 +0.011						637560	637570	637580								+0.055 +0.025	6508★	63
65	+0.060 +0.030	80	+0.030 +0.011				658040	658050	658060	658070	658080								+0.055 +0.025	6508	65
70	+0.060 +0.030	85	+0.035 +0.013		708530	708535	708540	708550	708560	708570	708580		7085100						+0.054 +0.024	7010	70
70	+0.060 +0.030	90	+0.035 +0.013					709050	709060	709070	709080								+0.054 +0.024	7010	70
75	+0.060 +0.030	90	+0.035 +0.013					759050	759060	759070	759080		7590100						+0.054 +0.024	7510	75
75	+0.060 +0.030	95	+0.035 +0.013						759560	759570	759580		7595100						+0.054 +0.024	7510	75
80	+0.060 +0.030	96	+0.035 +0.013				809640	809650	809660	809670	809680		8096100	8096120					+0.054 +0.024	8010	80
80	+0.060 +0.030	100	+0.035 +0.013				8010040	8010050	8010060	8010070	8010080		80100100	80100120		80100140			+0.054 +0.024	8010	80
85	+0.071 +0.036	100	+0.035 +0.013						8510060		8510080								+0.065 +0.030	9010★	85
90	+0.071 +0.036	110	+0.035 +0.013					9011050	9011060		9011080	9011090	90110100	90110120					+0.065 +0.030	9010	90
100	+0.071 +0.036	120	+0.035 +0.013					10012050	10012060	10012070	10012080	10012090	100120100	100120120		100120140			+0.065 +0.030	10010	100
110	+0.071 +0.036	130	+0.040 +0.015					11013050		11013070	11013080		110130100	110130120					+0.064 +0.029	12010★	110
120	+0.071 +0.036	140	+0.040 +0.015							12014070	12014080	12014090	120140100	120140120		120140140			+0.064 +0.029	12010	120
125	+0.083 +0.043	145	+0.040 +0.015										125145100	125145120					+0.076 +0.036	—	125
130	+0.083 +0.043	150	+0.040 +0.015								13015080		130150100		130150130				+0.076 +0.036	—	130
140	+0.083 +0.043	160	+0.040 +0.015										140160100			140160140			+0.076 +0.036	—	140
150	+0.083 +0.043	170	+0.040 +0.015								15017080		150170100				150170150		+0.076 +0.036	—	150
160	+0.083 +0.043	180	+0.040 +0.015								16018080		160180100				160180150		+0.076 +0.036	—	160
170	+0.083 +0.043	190	+0.046 +0.017										∗170190100				∗170190150		+0.076 +0.036	—	170
180	+0.083 +0.043	200	+0.046 +0.017										∗180200100				∗180200150		+0.076 +0.036	—	180
190	+0.096 +0.050	210	+0.046 +0.017										∗190210100				∗190210150		+0.088 +0.042	—	190
200	+0.096 +0.050	230	+0.046 +0.017														∗200230150	∗200230200	+0.088 +0.042	—	200

※Part No. with ∗ are custom-made.
※The I.D. tolerance after press fitting is for reference only.
※I.D. ϕ6~ϕ45 are shown on pages 187 to 188.