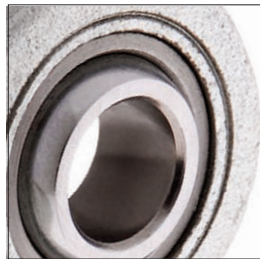


CYLINDER PARTS

ISSUE 2



INTRODUCTION

Established in 1984 FPE Seals specializes in the supply of hydraulic and pneumatic seals, replacement seal kits, cylinder parts and associated products.

A combination of technical expertise, competitive pricing and investment in stock means FPE Seals retains its place as one of the largest stockists in the market place with a reputation for a prompt and reliable service.

Our Cylinder parts range has been a direct result of customer requests. Our standard parts now include heavy duty, large components, weldable fittings and a bespoke service to help you design your cylinder.

We hope you find what you are looking for in this Catalogue. If you discover an item that is not covered in the following pages please contact our Sales Team and they will be happy to assist.

INFORMATION

FPE Seals Ltd - Main Office

7 Barrington Way
Darlington
Co. Durham
DL1 4WF
Tel. +44 (0) 1325 282732
Fax. +44 (0) 1325 381815
Email. sales@fpeseals.co.uk
Website. www.fpeseals.co.uk

FPE Seals Ltd - Kent Office

Unit 26, Riverside Phase 1,
Sir Thomas Longley Road,
The Medway City Estate
Chatham, Kent
ME2 4DP
Tel. +44 (0) 1634 724394
Fax. +44 (0) 1634 715821
Email. kent@fpeseals.co.uk

FPE Seals Ltd - Doncaster Office

18/19 Hutton Business Park
Bentley Moor Lane
Adwick-le-Street
Doncaster
South Yorkshire
DN6 7BD
Tel. +44 (0) 1302 727252
Fax. +44 (0) 1302 330794
Email. doncaster@fpeseals.co.uk

FPE Seals - Breda Office

Elftweg 38
Raamsdonksveer
4941 VP
Netherlands
Tel. +31(0)162 581 060
Fax. +31(0)162 522 858
Email. info@fpesealsbv.com

FPE are happy to supply seal kits for all makes of cylinder. Just give us a call.

Copyright © 2016 FPE SEALS LTD

This catalogue may not be altered in any way, copied or reproduced in any form without written permission.

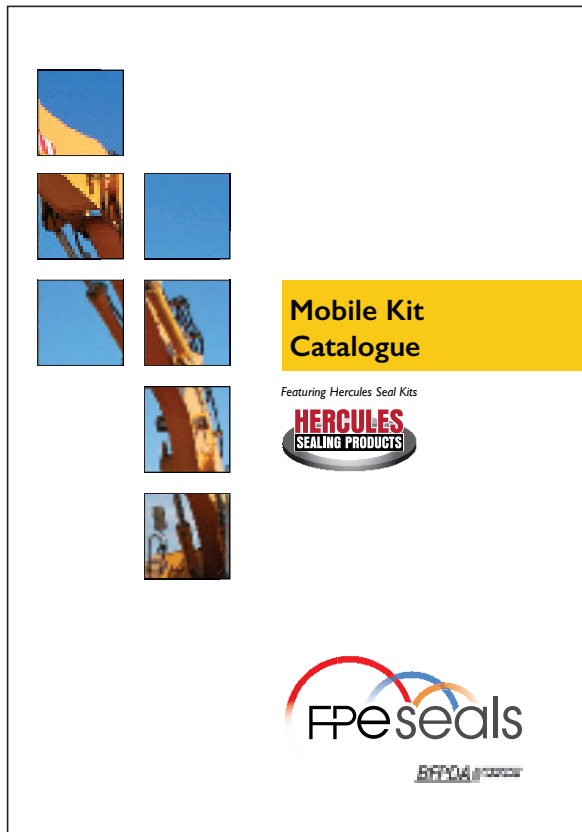
Photos by Euan Adamson Photographic.

INDEX

ii	Introduction	82-94	Burst Valves, Check Valves, Overcentre Valves & Associated Products
iii	Index	95	Needle Valves
iv	New Products	96-103	Hand Pumps Tank Mounted & Stand Alone.
v	Other Catalogues	104-112	DU & DX Bushes
vi-viii	Technical Tables	113	Hardened Steel Bushes
ix-x	Specified Tolerances	114-135	Ball Joint Ends
01-10	Cylinders in Kit Form	119-120	Imperial Ball Joint Ends
11-48	Standard Range	136-147	Radial Ball Joints
16-17	Threaded Chrome Rods	148-150	Lower & Top Link Ends
20	High Speed Pistons	151-158	Associated Products
21	Self Locking Pistons	159	Piston Composite Fitting Sleeves
22-23	Adhesives	160-164	Miscellaneous
46-48	Imperial Cylinder Components	165-166	Weldable Flange Adapters
49-50	Large Components	167	Cylinder Spec Sheet
51-54	Heavy Duty	168	Application for Credit
55-56	Stainless Steel	169	Terms of Business
57-64	Cushioning		
60-64	New Style Cushioning		
65-81	Weldable Attachments & Associated Products		



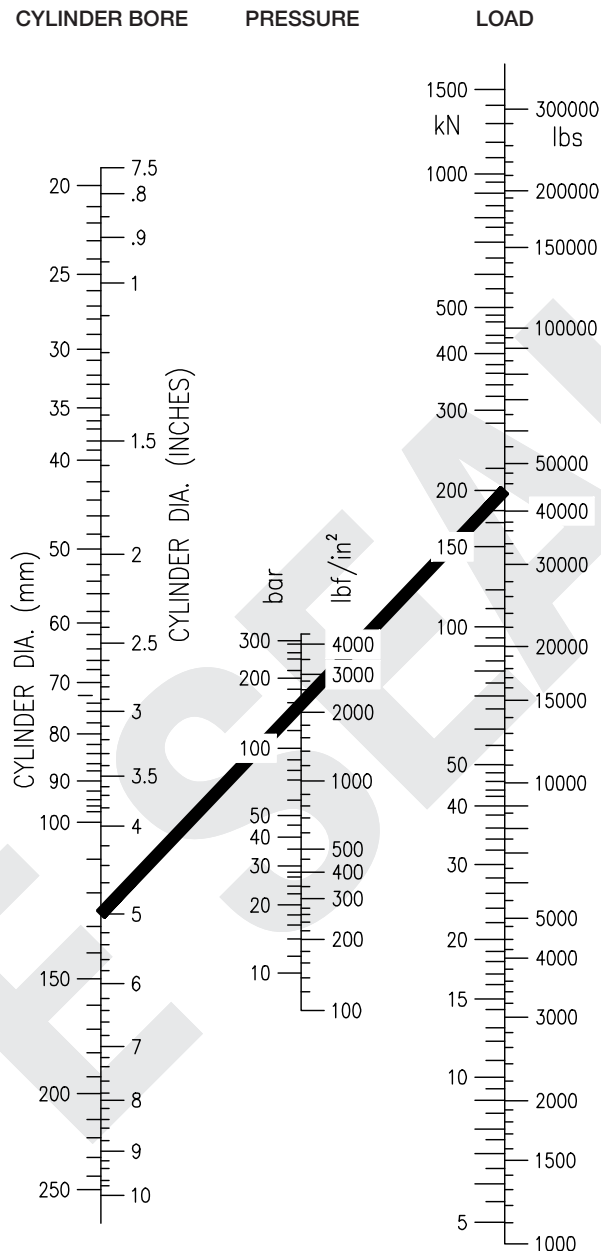
OTHER CATALOGUES AVAILABLE FROM FPE SEALS



TECHNICAL TABLES

To calculate the load on a cylinder, draw an extension line from your required cylinder bore through your working pressure, Where this line crosses the load scale. It will give you the loading in both LBS and KN.

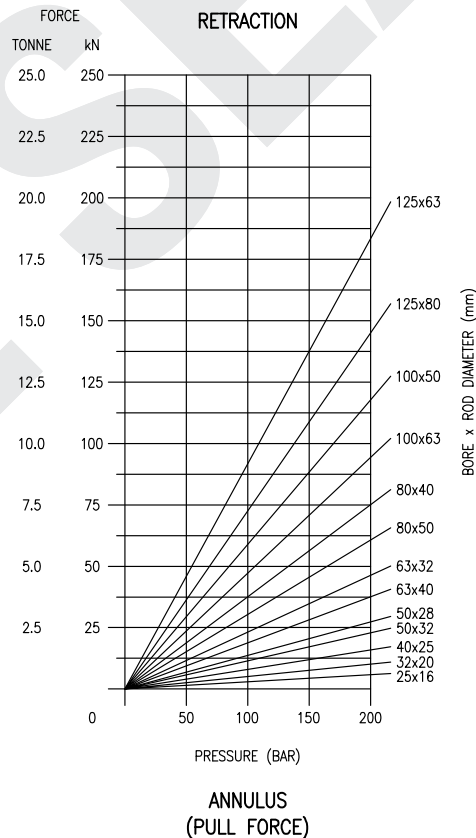
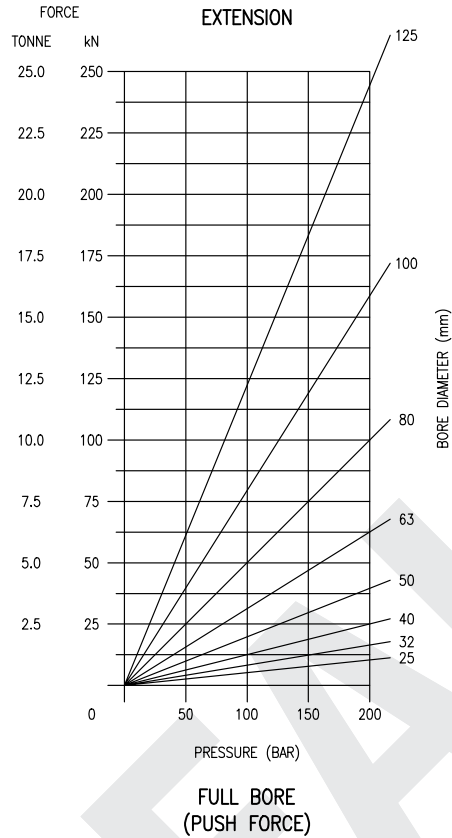
In the example shown the bore is 125mm, pressure 140bar,
The resulting load is 45,000 lbs ÷ 2.240 = 20 tons



All measurements are given as a guide and therefore should be checked.

TECHNICAL TABLES

The following graphs show the output forces given by the full bore & annular side of each cylinder according to the pressure available.



All measurements are given as a guide and therefore should be checked.

TECHNICAL INFORMATION

To calculate the volume of a cylinder you need to know the radius of the circular cross section of the cylinder – this is the measurement from the centre of the circle, to the outer-edge.

To calculate the volume of the full bore;

$$\text{Volume} = \pi \times \text{radius}^2 (\text{cm}) \times \text{stroke} (\text{cm})$$

Example ST63300

$$\text{Radius} = 6.3 \div 2 = 3.15 \text{ cm}$$

$$\text{Stroke} = 30.0 \text{ cm}$$

$$\text{Volume} = \pi \times (3.15)^2 \times 30$$

$$\text{Volume} = 3.142 \times 9.92 \times 30$$

$$= 935.05 \text{ cm}^3$$

Or 0.935 litre.

To calculate the volume of the annular side work out the volume of the rod and subtract from the volume of the cylinder;

$$\text{Radius} = 4.0 \div 2 = 2.0 \text{ cm}$$

$$\text{Stroke} = 30.0 \text{ cm}$$

$$\text{Volume} = \pi \times (2.0)^2 \times 30$$

$$= 3.142 \times 4.0 \times 30$$

$$= 377.04 \text{ cm}^3$$

Or 0.377 litre

$$\text{Volume on the Annular side} = 0.935 - 0.377$$

$$= 0.558 \text{ litre}$$

SPECIFIED TOLERANCES

NOMINAL SIZES mm		SHAFTS (OUTSIDE DIAMETER) UNITS 0.001mm								BORES (INSIDE DIAMETER) UNITS 0.001mm				
OVER	TO	f8	f9	h8	h9	h10	h11	js10	js11	H8	H9	H10	H11	js11
1.6	3	-6 -20	-6 -31	0 -14	0 -25	0 -40	0 -60	+20 -20	+30 -30	+14 0	+25 0	+40 0	+60 0	+30 -30
3	6	-10 -28	-10 -40	0 -18	0 -30	0 -48	0 -75	+24 -24	+37.5 -37.5	+18 0	+30 0	+48 0	+75 0	+37.5 -37.5
6	10	-13 -35	-13 -49	0 -22	0 -36	0 -58	0 -90	+29 -29	+45 -45	+22 0	+36 0	+58 0	+90 0	+45 -45
10	18	-16 -43	-16 -59	0 -27	0 -43	0 -70	0 -110	-35 -35	+55 -55	+27 0	+43 0	+70 0	+110 0	+55 -55
18	30	-20 -53	-20 -72	0 -33	0 -52	0 -84	0 -130	+42 -42	+65 -65	+33 0	+52 0	+84 0	+130 0	+65 -65
30	50	-25 -64	-25 -87	0 -39	0 -62	0 -100	0 -160	+50 -50	+80 -80	+39 0	+62 0	+100 0	+160 0	+80 -80
50	80	-30 -76	-30 -104	0 -46	0 -74	0 -120	0 -190	+60 -60	+95 -95	+46 0	+74 0	+120 0	+190 0	+95 -95
80	120	-36 -90	-36 -123	0 -54	0 -87	0 -140	0 -220	+70 -70	+110 -110	+54 0	+87 0	+140 0	+220 0	+110 -110
120	180	-43 -106	-43 -143	0 -63	0 -100	0 -160	0 -250	+80 -80	+125 -125	+63 0	+100 0	+160 0	+250 0	+125 -125
180	250	-50 -122	-50 -165	0 -72	0 -115	0 -185	0 -290	+92 -92	+145 -145	+72 0	+115 0	+185 0	+290 0	+145 -145
250	315	-56 -137	-56 -186	0 -81	0 -130	0 -210	0 -320	+105 -105	+160 -160	+81 0	+130 0	+210 0	+320 0	+160 -160
315	400	-62 -151	-62 -202	0 -89	0 -140	0 -230	0 -360	+115 -115	+180 -180	+89 0	+140 0	+230 0	+360 0	+180 -180
400	500	-68 -165	-68 -223	0 -97	0 -155	0 -250	0 -400	+125 -125	+200 -200	+97 0	+155 0	+250 0	+400 0	+200 -200
500	630	-76 -186	-76 -251	0 -110	0 -175	0 -280	0 -440	+140 -140	+220 -220	+110 0	+175 0	+280 0	+440 0	+220 -220
630	800	-80 -205	-80 -280	0 -125	0 -200	0 -320	0 -500	+160 160	+250 -250	+125 0	+200 0	+320 0	+500 0	+250 -250

SPECIFIED TOLERANCES

NOMINAL SIZES inch		SHAFTS (OUTSIDE DIAMETER) UNITS 0.001 INCH								BORES (INSIDE DIAMETER) UNITS 0.001 INCH				
OVER	TO	f8	f9	h8	h9	h10	h11	js10	js11	H8	H9	H10	H11	js11
0.04	0.12	-0.3	-0.3	0	0	0	0	+0.8	+1.3	+0.6	+1.0	+1.6	+2.5	+1.3
		-0.9	-1.2	-0.6	-1.0	-1.6	-2.5	-0.8	-1.3	0	0	0	0	-1.3
0.12	0.24	-0.4	-0.4	0	0	0	0	+0.9	+1.5	+0.7	+1.2	+1.8	+3.0	+1.5
		-1.1	-1.6	-0.7	-1.2	-1.8	-3.0	-0.9	-1.5	0	0	0	0	-1.5
0.24	0.40	-0.5	-0.5	0	0	0	0	+1.1	+1.8	+0.9	+1.4	+2.2	+3.5	+1.8
		-1.4	-1.9	-0.9	-1.4	-2.2	-3.5	-1.1	-1.8	0	0	0	0	-1.8
0.40	0.71	-0.6	-0.6	0	0	0	0	-1.4	+2.0	+1.0	+1.6	+2.8	+4.0	+2.0
		-1.6	-2.3	-1.0	-1.6	-2.8	-4.0	-1.4	-2.0	0	0	0	0	-2.0
0.71	1.19	-0.8	-0.8	0	0	0	0	+1.8	+2.5	+1.2	+2.0	+3.5	+5.0	+2.5
		-2.0	-2.8	-1.2	-2.0	-3.5	-5.0	-1.8	-2.5	0	0	0	0	-2.5
1.19	1.97	-1.0	-1.0	0	0	0	0	+2.0	+3.0	+1.6	+2.5	+4.0	+6.0	+3.0
		-2.6	-3.4	-1.6	-2.5	-4.0	-6.0	-2.0	-3.0	0	0	0	0	-3.0
1.97	3.15	-1.2	-1.2	0	0	0	0	+2.3	+3.5	+1.8	+3.0	+4.5	+7.0	+3.5
		-3.0	-4.1	-1.8	-3.0	-4.5	-7.0	-2.3	-3.5	0	0	0	0	-3.5
3.15	4.73	-1.4	-1.4	0	0	0	0	+2.5	+4.5	+2.2	+3.5	+5.0	+9.0	+4.5
		-3.6	-4.8	-2.2	-3.5	-5.0	-9.0	-2.5	-4.5	0	0	0	0	-4.5
4.73	7.09	-1.6	-1.6	0	0	0	0	+3.0	+5.0	+2.5	+4.0	+6.0	+10.0	+5.0
		-4.1	-5.6	-2.5	-4.0	-6.0	-10.0	-3.0	-5.0	0	0	0	0	-5.0
7.09	9.85	-2.0	-2.0	0	0	0	0	+3.5	+6.0	+2.8	+4.5	+7.0	+12.0	+6.0
		-4.8	-6.5	-2.8	-4.5	-7.0	-12.0	-3.5	-6.0	0	0	0	0	-6.0
9.85	12.41	-2.2	-2.2	0	0	0	0	+4.0	+6.0	+3.0	+5.0	+8.0	+13.0	+6.5
		-5.2	-7.3	-3.0	-5.0	-8.0	-12.0	-4.0	-6.0	0	0	0	0	-6.5
12.41	15.75	-2.5	-2.5	0	0	0	0	+4.5	+7.0	+3.5	+6.0	+9.0	+14.0	+7.0
		-6.0	-8.0	-3.5	-6.0	-9.0	-14.0	-4.5	-7.0	0	0	0	0	-7.0
15.75	19.69	-2.8	-2.8	0	0	0	0	+5.0	+8.0	+4.0	+6.0	+10.0	+16.0	+8.0
		-6.5	-8.8	-4.0	-6.0	-10.0	-16.0	-5.0	-8.0	0	0	0	0	-8.0
19.69	24.80	-3.0	-3.0	0	0	0	0	+5.5	+8.7	+4.3	+6.9	+11.0	+17.3	+8.7
		-7.0	-9.9	-4.3	-6.9	-11.0	-17.3	-5.5	-8.7	0	0	0	0	-8.7
24.80	31.49	-3.1	-3.1	0	0	0	0	+6.3	+9.8	+4.9	+7.9	+12.6	+19.7	+9.8
		-8.1	-11.0	-4.9	-7.9	-12.6	-19.7	-6.3	-9.8	0	0	0	0	-9.8

CYLINDER PARTS FROM FPE SEALS

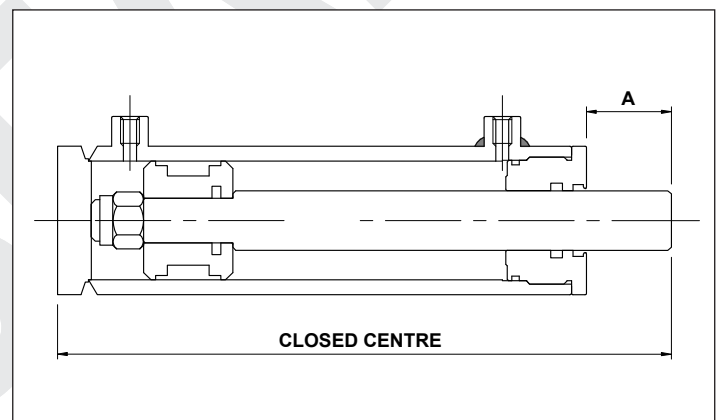
FPE Seals continues to provide the Hydraulic industry with a wider range of cylinder products that are adaptable in both new builds and repairs. This gives you the customer more flexibility and faster turn around. We have introduced many new products and redesigned numerous old ones. Our aim is to supply what the customer needs.

Our Cylinder Parts Department is continually working on new ideas and concepts so if you do not see what you want in the catalogue please ask as it may be a new stock item.

COMPLETE CYLINDERS IN KIT FORM

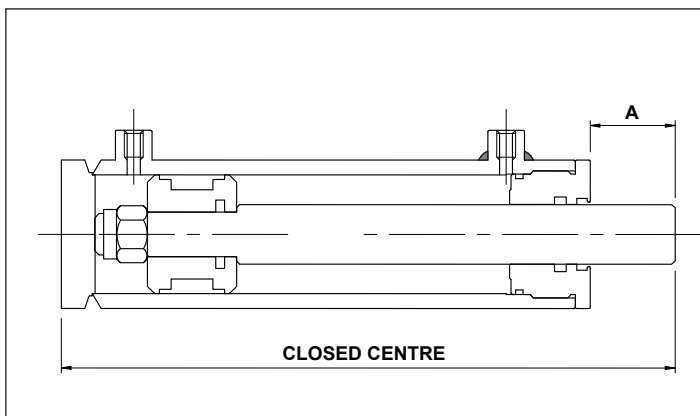
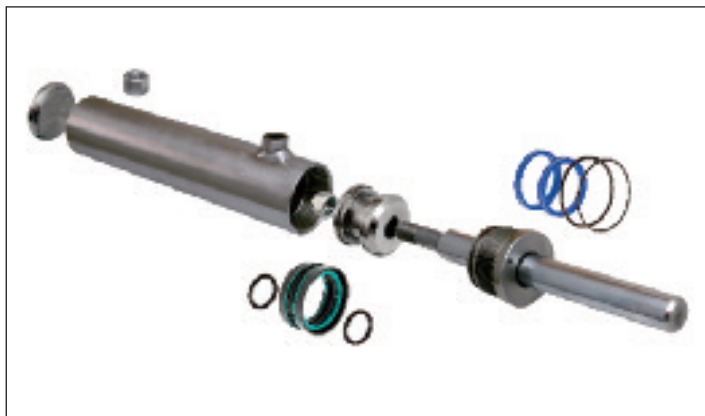
Cylinders in kit form are a concept developed by our Cylinder Parts Dept. For ease of use the tables below illustrate what can be achieved for various rod & bore combinations i.e. if you require a hydraulic cylinder of 30mm bore and a rod of 16mm with a stroke of 150mm then the part number will be CK3016150.

Our cylinder kits comprise all the items needed to construct a cylinder, including seals. However if you require rod eyes or weld able attachments please consult the relevant pages of this catalogue.



CYLINDER KIT		CYLINDER BORE		ROD SIZE		STROKE	
CK		25		16		90	
PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A	
CK251690	25	16	90	317	407	149	
CK2516100*	25	16	100	307	407	139	
CK2516190	25	16	190	317	507	49	
CK2516200*	25	16	200	307	507	39	
CK2516290	25	16	290	417	707	49	
CK2516300*	25	16	300	407	707	39	
CK2516490	25	16	490	617	1107	49	
CK2516500*	25	16	500	607	1107	39	
CK3016150	30	16	150	257	407	23	
CK3016300	30	16	300	407	707	23	
CK3016500	30	16	500	607	1107	23	
CK3016800	30	16	800	907	1707	23	
CK30161000	30	16	1000	1107	2107	23	

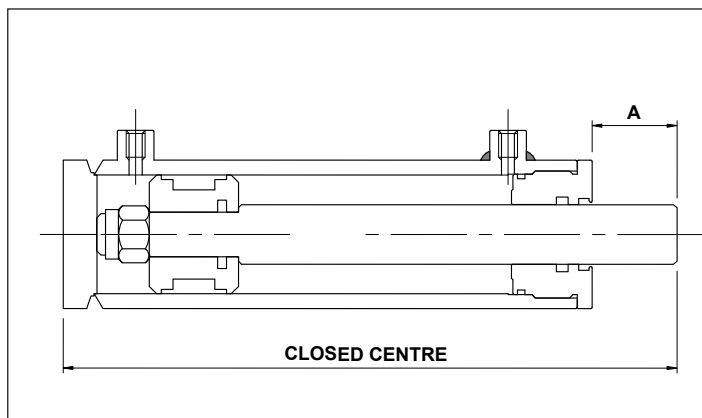
COMPLETE CYLINDERS IN KIT FORM



CYLINDER KIT	CYLINDER BORE	ROD SIZE	STROKE
CK	32	20	150

PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A
CK3220150	32	20	150	278	428	29
CK3220200	32	20	200	328	528	29
CK3220250	32	20	250	378	628	29
CK3220300	32	20	300	428	728	29
CK3220400	32	20	400	528	928	29
CK3220500	32	20	500	628	1128	29
CK3220600	32	20	600	728	1328	29
CK4020100	40	20	100	230	330	22
CK4020150	40	20	150	280	430	22
CK4020200	40	20	200	330	530	22
CK4020250	40	20	250	380	630	22
CK4020300	40	20	300	430	730	22
CK4020400	40	20	400	530	930	22
CK4020500	40	20	500	630	1130	22
CK4020600	40	20	600	730	1330	22
CK4020800	40	20	800	930	1730	22
CK40201000	40	20	1000	1130	2130	22
CK40201500	40	20	1500	1630	3130	22
CK4022200	40	22	200	361	561	53
CK4022300	40	22	300	461	761	53
CK4022500	40	22	500	661	1161	53
CK4022600	40	22	600	761	1361	53
CK4025150	40	25	150	280	430	22
CK4025200	40	25	200	330	530	22
CK4025250	40	25	250	380	630	22
CK4025300	40	25	300	430	730	22
CK4025400	40	25	400	530	930	22
CK4025500	40	25	500	630	1130	22
CK4025600	40	25	600	730	1330	22
CK4025800	40	25	800	930	1730	22
CK40251000	40	25	1000	1130	2130	22
CK40251500	40	25	1500	1630	3130	22
CK4028200	40	28	200	361	561	53
CK4028300	40	28	300	461	761	53
CK4028500	40	28	500	661	1161	53
CK4028600	40	28	600	761	1361	53
CK5020157	50	20	157	280	437	12
CK5020207	50	20	207	330	537	12
CK5020257	50	20	257	380	637	12
CK5020307	50	20	307	430	737	12

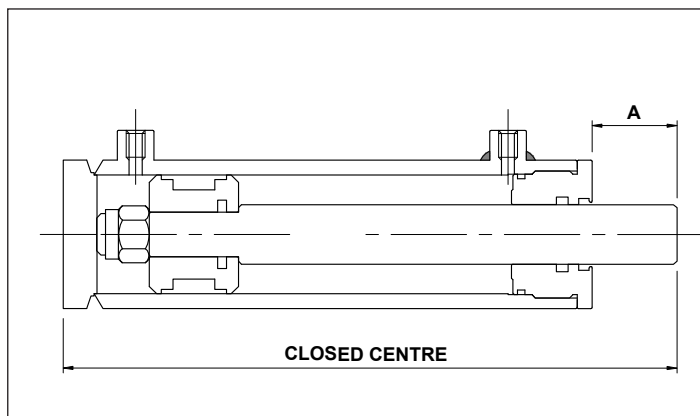
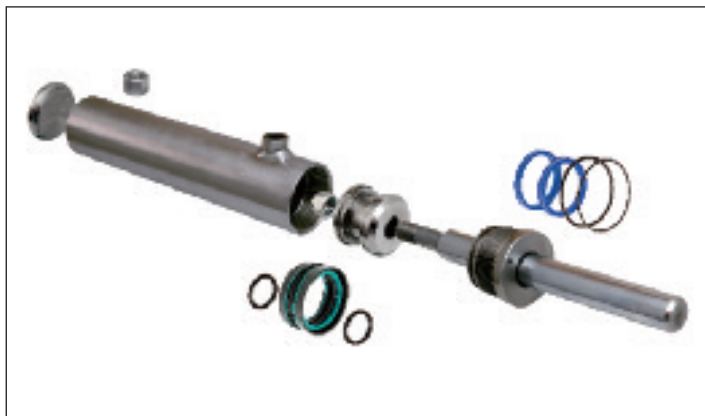
COMPLETE CYLINDERS IN KIT FORM



CYLINDER KIT	CYLINDER BORE	ROD SIZE	STROKE
CK	50	20	407

PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A
CK5020407	50	20	407	530	937	12
CK5020507	50	20	507	630	1137	12
CK5020607	50	20	607	730	1337	12
CK5020807	50	20	807	930	1737	12
CK50201007	50	20	1007	1130	2137	12
CK50201507	50	20	1507	1630	3137	12
CK5025150	50	25	150	290	440	22
CK5025200	50	25	200	340	540	22
CK5025250	50	25	250	390	640	22
CK5025300	50	25	300	440	740	22
CK5025400	50	25	400	540	940	22
CK5025500	50	25	500	640	1140	22
CK5025600	50	25	600	740	1340	22
CK5025800	50	25	800	940	1740	22
CK50251000	50	25	1000	1140	2140	22
CK50251500	50	25	1500	1640	3140	22
CK5028207	50	28	207	361	568	43
CK5028307	50	28	307	461	768	43
CK5028507	50	28	507	661	1168	43
CK5028607	50	28	607	761	1368	43
CK5030150	50	30	150	290	440	22
CK5030200	50	30	200	340	540	22
CK5030250	50	30	250	390	640	22
CK5030300	50	30	300	440	740	22
CK5030400	50	30	400	540	940	22
CK5030500	50	30	500	640	1140	22
CK5030600	50	30	600	740	1340	22
CK5030800	50	30	800	940	1740	22
CK50301000	50	30	1000	1140	2140	22
CK50301500	50	30	1500	1640	3140	22
CK5032200	50	32	200	375	575	57
CK5032300	50	32	300	475	775	57
CK5032500	50	32	500	675	1175	57
CK5032600	50	32	600	775	1375	57
CK5525260	50	25	260	392	652	12
CK5525310	50	25	310	442	752	12
CK5525510	50	25	510	642	1152	12
CK5525610	50	25	610	742	1352	12
CK5525810	50	25	810	942	1752	12
CK5530250	55	30	250	410	660	30

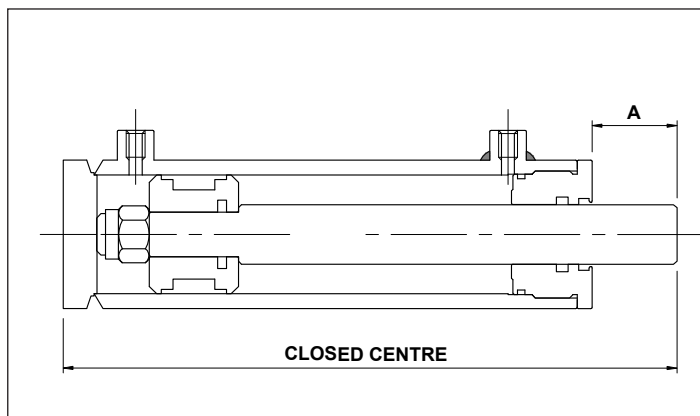
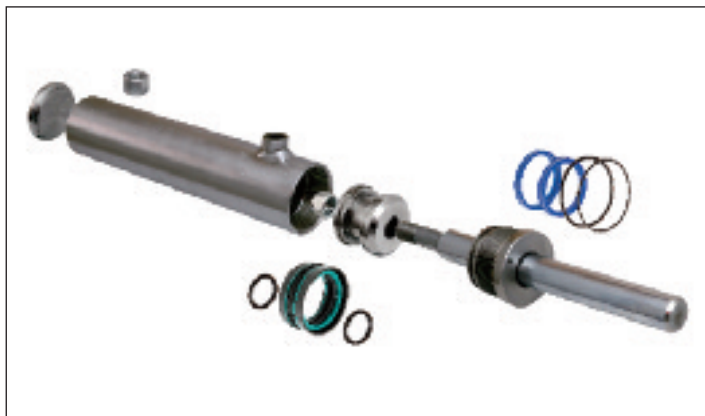
COMPLETE CYLINDERS IN KIT FORM



CYLINDER KIT CYLINDER BORE ROD SIZE STROKE
CK 55 30 300

PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A
CK5530300	55	30	300	460	760	30
CK5530500	55	30	500	660	1160	30
CK5530600	55	30	600	760	1360	30
CK5530800	55	30	800	960	1760	30
CK5535250	55	35	250	410	660	30
CK5535300	55	35	300	460	760	30
CK5535500	55	35	500	660	1160	30
CK5535600	55	35	600	760	1360	30
CK5535800	55	35	800	960	1760	30
CK6025160	60	25	160	292	452	5
CK6025210	60	25	210	342	552	5
CK6025260	60	25	260	392	652	5
CK6025310	60	25	310	442	752	5
CK6025410	60	25	410	542	952	5
CK6025510	60	25	510	642	1152	5
CK6025610	60	25	610	742	1352	5
CK6025810	60	25	810	942	1752	5
CK60251010	60	25	1010	1142	2152	5
CK60251510	60	25	1510	1642	3152	5
CK6030100	60	30	100	260	360	23
CK6030150	60	30	150	310	460	23
CK6030200	60	30	200	360	560	23
CK6030250	60	30	250	410	660	23
CK6030300	60	30	300	460	760	23
CK6030400	60	30	400	560	960	23
CK6030500	60	30	500	660	1160	23
CK6030600	60	30	600	760	1360	23
CK6030800	60	30	800	960	1760	23
CK60301000	60	30	1000	1160	2160	23
CK60301500	60	30	1500	1660	3160	23
CK6035200	60	35	200	360	560	23
CK6035250	60	35	250	410	660	23
CK6035300	60	35	300	460	760	23
CK6035400	60	35	400	560	960	23
CK6035500	60	35	500	660	1160	23
CK6035600	60	35	600	760	1360	23
CK6035800	60	35	800	960	1760	23
CK60351000	60	35	1000	1160	2160	23
CK60351500	60	35	1500	1660	3160	23
CK6040200	60	40	200	360	560	23

COMPLETE CYLINDERS IN KIT FORM



CYLINDER KIT
CK

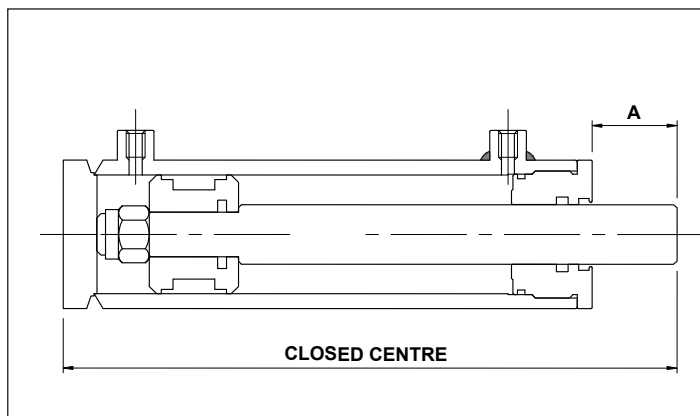
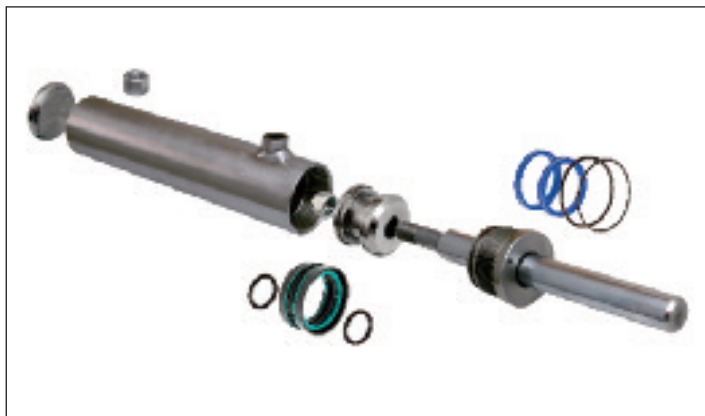
CYLINDER BORE
60

ROD SIZE
40

STROKE
250

PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A
CK6040250	60	40	250	410	660	23
CK6040300	60	40	300	460	760	23
CK6040400	60	40	400	560	960	23
CK6040500	60	40	500	660	1160	23
CK6040600	60	40	600	760	1360	23
CK6040800	60	40	800	960	1760	23
CK60401000	60	40	1000	1160	2160	23
CK60401500	60	40	1500	1660	3160	23
CK6330200	63	30	200	360	560	23
CK6330250	63	30	250	410	660	23
CK6330300	63	30	300	460	760	23
CK6330400	63	30	400	560	960	23
CK6330500	63	30	500	660	1160	23
CK6330600	63	30	600	760	1360	23
CK6330800	63	30	800	960	1760	23
CK63301000	63	30	1000	1160	2160	23
CK63301500	63	30	1500	1660	3160	23
CK6332200	63	32	200	400	600	63
CK6332300	63	32	300	500	800	63
CK6332500	63	32	500	700	1200	63
CK6332600	63	32	600	800	1400	63
CK6335200	63	35	200	360	560	23
CK6335250	63	35	250	410	660	23
CK6335300	63	35	300	460	760	23
CK6335400	63	35	400	560	960	23
CK6335500	63	35	500	660	1160	23
CK6335600	63	35	600	760	1360	23
CK6335800	63	35	800	960	1760	23
CK63351000	63	35	1000	1160	2160	23
CK63351500	63	35	1500	1660	3160	23
CK6336200	63	36	200	400	600	63
CK6336300	63	36	300	500	800	63
CK6336500	63	36	500	700	1200	63
CK6336600	63	36	600	800	1400	63
CK6340200	63	40	200	360	560	23
CK6340250	63	40	250	410	660	23
CK6340300	63	40	300	460	760	23
CK6340400	63	40	400	560	960	23
CK6340500	63	40	500	660	1160	23
CK6340600	63	40	600	760	1360	23

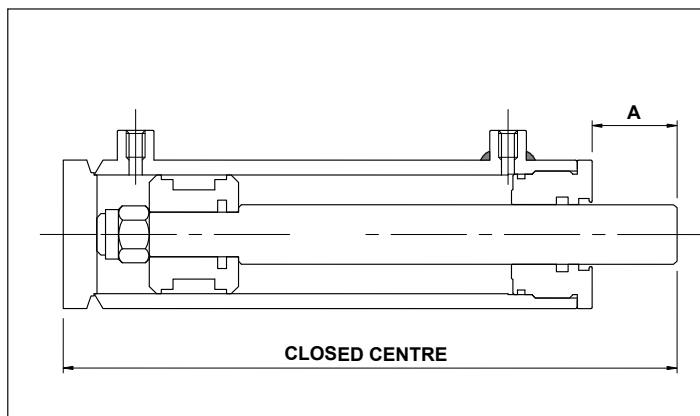
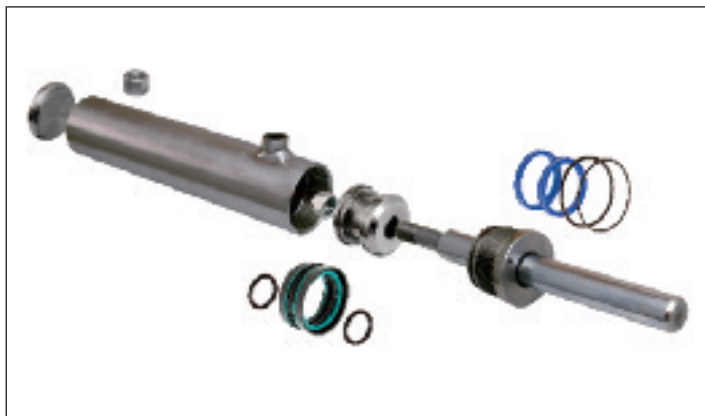
COMPLETE CYLINDERS IN KIT FORM



CYLINDER KIT	CYLINDER BORE	ROD SIZE	STROKE
CK	63	40	800

PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A
CK6340800	63	40	800	960	1760	23
CK63401000	63	40	1000	1160	2160	23
CK63401500	63	40	1500	1660	3160	23
CK7030200	70	30	200	360	560	23
CK7030250	70	30	250	410	660	23
CK7030300	70	30	300	460	760	23
CK7030400	70	30	400	560	960	23
CK7030500	70	30	500	660	1160	23
CK7030600	70	30	600	760	1360	23
CK7030800	70	30	800	960	1760	23
CK70301000	70	30	1000	1160	2160	23
CK70301500	70	30	1500	1660	3160	23
CK7035200	70	35	200	360	560	23
CK7035250	70	35	250	410	660	23
CK7035300	70	35	300	460	760	23
CK7035400	70	35	400	560	960	23
CK7035500	70	35	500	660	1160	23
CK7035600	70	35	600	760	1360	23
CK7035800	70	35	800	960	1760	23
CK70351000	70	35	1000	1160	2160	23
CK70351500	70	35	1500	1660	3160	23
CK7040200	70	40	200	360	560	23
CK7040250	70	40	250	410	660	23
CK7040300	70	40	300	460	760	23
CK7040400	70	40	400	560	960	23
CK7040500	70	40	500	660	1160	23
CK7040600	70	40	600	760	1360	23
CK7040800	70	40	800	960	1760	23
CK70401000	70	40	1000	1160	2160	23
CK70401500	70	40	1500	1660	3160	23
CK7045200	70	45	200	375	575	38
CK7045250	70	45	250	425	675	38
CK7045300	70	45	300	475	775	38
CK7045400	70	45	400	575	975	38
CK7045500	70	45	500	675	1175	38
CK7045600	70	45	600	775	1375	38
CK7045800	70	45	800	975	1775	38
CK70451000	70	45	1000	1175	2175	38
CK70451500	70	45	1500	1675	3175	38
CK7050200	70	50	200	375	575	38
CK7050250	70	50	250	425	675	38

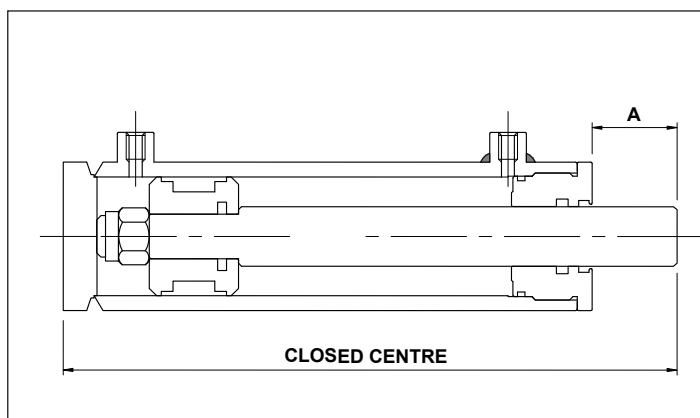
COMPLETE CYLINDERS IN KIT FORM



CYLINDER KIT	CYLINDER BORE	ROD SIZE	STROKE
CK	70	50	300

PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A
CK7050300	70	50	300	475	775	38
CK7050400	70	50	400	575	975	38
CK7050500	70	50	500	675	1175	38
CK7050600	70	50	600	775	1375	38
CK7050800	70	50	800	975	1775	38
CK70501000	70	50	1000	1175	2175	38
CK70501500	70	50	1500	1675	3175	38
CK7530308	70	30	308	500	808	45
CK7530508	70	30	508	700	1208	45
CK7535308	75	35	308	460	768	5
CK7535508	75	35	508	660	1168	5
CK7535808	75	35	808	960	1768	5
CK75351008	75	35	1008	1160	2168	5
CK75351508	75	35	1508	1660	3168	5
CK7540308	75	40	308	460	768	5
CK7540508	75	40	508	660	1168	5
CK7540808	75	40	808	960	1768	5
CK75401008	75	40	1008	1160	2168	5
CK75401508	75	40	1508	1660	3168	5
CK7545308	75	45	308	475	783	20
CK7545508	75	45	508	675	1183	20
CK7545808	75	45	808	975	1783	20
CK75451008	75	45	1008	1175	2183	20
CK75451508	75	45	1508	1675	3183	20
CK7550308	75	50	308	475	783	20
CK7550508	75	50	508	675	1183	20
CK7550808	75	50	808	975	1783	20
CK75501008	75	50	1008	1175	2183	20
CK75501508	75	50	1508	1675	3183	20
CK8030203	80	30	203	400	603	50
CK8030303	80	30	303	500	803	50
CK8030503	80	30	503	700	1203	50
CK8030603	80	30	603	800	1403	50
CK8035203	80	35	203	360	563	10
CK8035253	80	35	253	410	663	10
CK8035303	80	35	303	460	763	10
CK8035403	80	35	403	560	963	10
CK8035503	80	35	503	660	1163	10
CK8035603	80	35	603	760	1363	10
CK8035803	80	35	803	960	1763	10

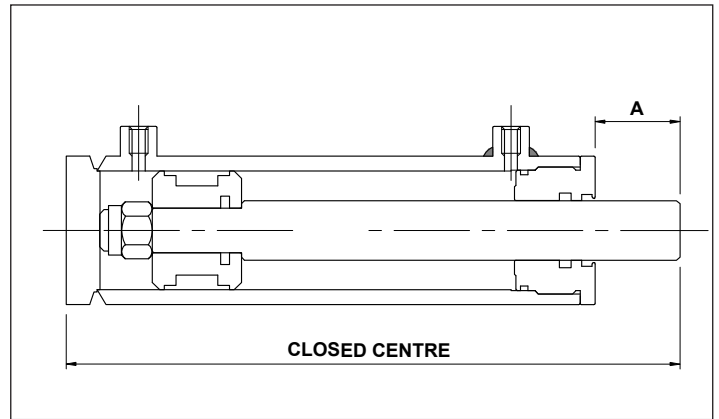
COMPLETE CYLINDERS IN KIT FORM



CYLINDER KIT	CYLINDER BORE	ROD SIZE	STROKE
CK	80	35	1003

PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A
CK80351003	80	35	1003	1160	2163	10
CK80351503	80	35	1503	1660	3163	10
CK8036203	80	36	203	400	603	50
CK8036303	80	36	303	500	803	50
CK8036503	80	36	503	700	1203	50
CK8036603	80	36	603	800	1403	50
CK8040200	80	40	200	375	575	25
CK8040250	80	40	250	425	675	25
CK8040300	80	40	300	475	775	25
CK8040400	80	40	400	575	975	25
CK8040500	80	40	500	675	1175	25
CK8040600	80	40	600	775	1375	25
CK8040800	80	40	800	975	1775	25
CK80401000	80	40	1000	1175	2175	25
CK80401500	80	40	1500	1675	3175	25
CK8045203	80	45	203	375	578	25
CK8045253	80	45	253	425	678	25
CK8045303	80	45	303	475	778	25
CK8045403	80	45	403	575	978	25
CK8045503	80	45	503	675	1178	25
CK8045603	80	45	603	775	1378	25
CK8045803	80	45	803	975	1778	25
CK80451003	80	45	1003	1175	2178	25
CK80451503	80	45	1503	1675	3178	25
CK8050200	80	50	200	375	575	25
CK8050250	80	50	250	425	675	25
CK8050300	80	50	300	475	775	25
CK8050400	80	50	400	575	975	25
CK8050500	80	50	500	675	1175	25
CK8050600	80	50	600	775	1375	25
CK8050800	80	50	800	975	1775	25
CK80501000	80	50	1000	1175	2175	25
CK80501500	80	50	1500	1675	3175	25
CK9040200	90	40	200	378	578	25
CK9040250	90	40	250	428	678	25
CK9040300	90	40	300	478	778	25
CK9040400	90	40	400	578	978	25
CK9040500	90	40	500	678	1178	25
CK9040600	90	40	600	778	1378	25
CK9040800	90	40	800	978	1778	25

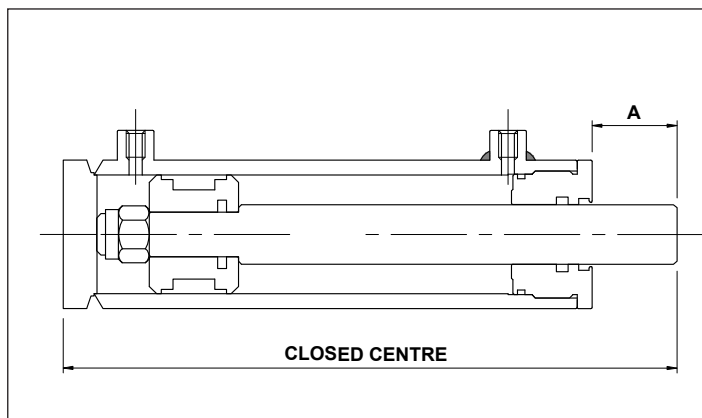
COMPLETE CYLINDERS IN KIT FORM



CYLINDER KIT	CYLINDER BORE	ROD SIZE	STROKE
CK	90	40	1000

PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A
CK90401000	90	40	1000	1178	2178	25
CK90401500	90	40	1500	1678	3178	25
CK9045203	90	45	203	378	581	25
CK9045253	90	45	253	428	681	25
CK9045303	90	45	303	478	781	25
CK9045403	90	45	403	578	981	25
CK9045503	90	45	503	678	1181	25
CK9045603	90	45	603	778	1381	25
CK9045803	90	45	803	978	1781	25
CK90451003	90	45	1003	1178	2181	25
CK90451503	90	45	1503	1678	3181	25
CK9050200	90	50	200	378	578	25
CK9050250	90	50	250	428	678	25
CK9050300	90	50	300	478	778	25
CK9050400	90	50	400	578	978	25
CK9050500	90	50	500	678	1178	25
CK9050600	90	50	600	778	1378	25
CK9050800	90	50	800	978	1778	25
CK90501000	90	50	1000	1178	2178	25
CK90501500	90	50	1500	1678	3178	25
CK9060240	90	60	240	460	700	57
CK9060290	90	60	290	490	780	57
CK9060390	90	60	390	610	1000	57
CK9060490	90	60	490	710	1200	57
CK9060590	90	60	590	810	1400	57
CK9060790	90	60	790	1010	1800	57
CK9060990	90	60	990	1210	2200	57
CK90601490	90	60	1490	1710	3200	57
CK90601000XL	90	60	1000	1210	2210	47
CK90601500XL	90	60	1500	1710	3210	47
CK10050200	100	50	200	390	590	27
CK10050250	100	50	250	440	690	27
CK10050300	100	50	300	490	790	27
CK10050400	100	50	400	590	990	27
CK10050500	100	50	500	690	1190	27
CK10050600	100	50	600	790	1390	27
CK10050800	100	50	800	990	1790	27
CK100501000	100	50	1000	1190	2190	27
CK100501500	100	50	1500	1690	3190	27
CK10050200L	100	50	200	410	610	47

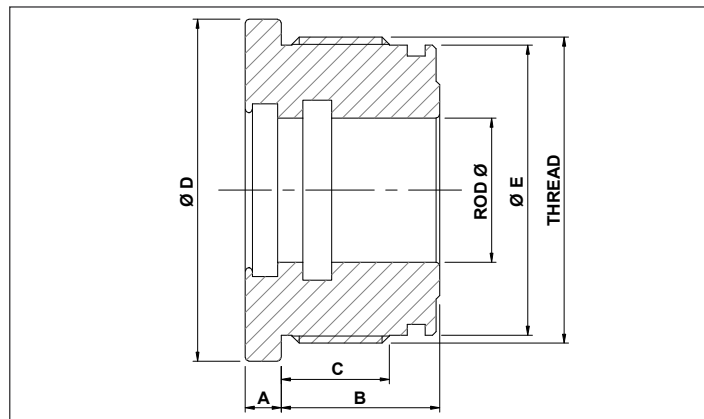
COMPLETE CYLINDERS IN KIT FORM



CYLINDER KIT	CYLINDER BORE	ROD SIZE	STROKE
CK	100	50	250L

PART NUMBER	CYLINDER BORE	ROD DIAMETER	STROKE	CLOSED CENTRES	OPEN CENTRES	A
CK10050250L	100	50	250	460	710	47
CK10050300L	100	50	300	510	810	47
CK10050400L	100	50	400	610	1010	47
CK10050500L	100	50	500	710	1210	47
CK10050600L	100	50	600	810	1410	47
CK10050800L	100	50	800	1010	1810	47
CK100501000L	100	50	1000	1210	2210	47
CK100501500L	100	50	1500	1710	3210	47
CK10050300XL	100	50	300	510	810	25
CK10050500XL	100	50	500	710	1210	25
CK10050800XL	100	50	800	1010	1810	25
CK100501000XL	100	50	1000	1210	2210	25
CK100501500XL	100	50	1500	1710	3210	25
CK100502000XL	100	50	2000	2210	4210	25
CK10060250	100	60	250	440	690	27
CK10060300	100	60	300	490	790	27
CK10060400	100	60	400	610	1010	47
CK10060500	100	60	500	710	1210	47
CK10060600	100	60	600	810	1410	47
CK10060800	100	60	800	1010	1810	47
CK100601000	100	60	1000	1210	2210	47
CK100601500	100	60	1500	1710	3210	47
CK10060250XL	100	60	250	460	710	25
CK10060400XL	100	60	400	610	1010	25
CK10060500XL	100	60	500	710	1210	25
CK10060600XL	100	60	600	810	1410	25
CK10060800XL	100	60	800	1010	1810	25
CK100601000XL	100	60	1000	1210	2210	25
CK100601500XL	100	60	1500	1710	3210	25
CK12560503	125	60	503	713	1216	12
CK12560803	125	60	803	1013	1816	12
CK125601003	125	60	1003	1213	2216	12
CK125601503	125	60	1503	1713	3216	12
CK12570300	125	70	300	535	835	29
CK12570500	125	70	500	735	1235	29
CK12570800	125	70	800	1035	1835	29
CK125701000	125	70	1000	1235	2235	29
CK125701500	125	70	1500	1735	3235	29

STANDARD GLANDS



STANDARD GLAND	CYLINDER BORE	ROD DIAMETER	LENGTH OF B	ALUMINIUM
SG	25	16	12	AL

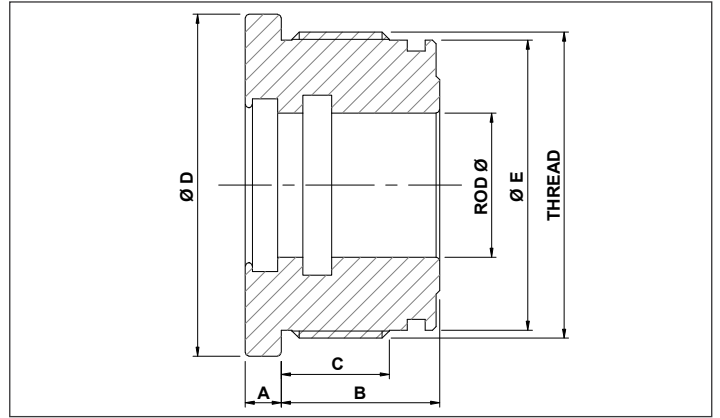
PART NUMBER	CYLINDER BORE	ROD Ø	A	B	C	Ø D	Ø E	THREAD	SEAL KIT
SG251612-AL*	25	16	18	12	12	35	25.5	28 x 1.5	GK16-25
SG301627-AL*	30	16	6	27	13.5	40	30.5	34 x 1.5	GK16-30
SG302027	30	20	6	27	14	40	30.5	34 x 1.5	GK20-30
SG321627	32	16	6	27	15	42	32.5	36 x 1.5	GK16-32
SG322027	32	20	6	27	15	42	32.5	36 x 1.5	GK20-32
SG352032	35	20	8	32	18	45	35.6	39 x 1.5	GK20-35
SG352232	35	22	8	32	19	45	35.6	39 x 1.5	GK22-35
SG401632	40	16	8	32	19	50	40.6	44 x 1.5	GK16-40
SG402032	40	20	8	32	19	50	40.6	44 x 1.5	GK20-40
SG402232	40	22	8	32	19	50	40.6	44 x 1.5	GK22-40
SG402532	40	25	8	32	19	50	40.6	44 x 1.5	GK25-40
SG402832	40	28	8	32	19	50	40.6	44 x 1.5	GK28-40
SG452232	45	22	8	32	19	55	45.6	49 x 1.5	GK22-45
SG452532	45	25	8	32	19	55	45.6	49 x 1.5	GK25-45
SG502035	50	20	8	35	22	60	50.6	54 x 1.5	GK20-50
SG502535	50	25	8	35	22	60	50.6	54 x 1.5	GK25-50
SG502835	50	28	8	35	22	60	50.6	54 x 1.5	GK28-50
SG503035	50	30	8	35	22	60	50.6	54 x 1.5	GK30-50
SG503235	50	32	8	35	22	60	50.6	54 x 1.5	GK32-50
SG503535	50	35	8	35	22	60	50.6	54 x 1.5	GK35-50
SG503635	50	36	8	35	22	60	50.6	54 x 1.5	GK36-50
SG552535	55	25	8	35	20	65	55.6	60 x 1.5	GK25-55
SG553035	55	30	8	35	20	65	55.6	60 x 1.5	GK30-55
SG553535	55	35	8	35	20	65	55.6	60 x 1.5	GK35-55
SG602540	60	25	10	40	26	70	60.6	64 x 1.5	GK25-60
SG603040	60	30	10	40	26	70	60.6	64 x 1.5	GK30-60
SG603540	60	35	10	40	26	70	60.6	64 x 1.5	GK35-60
SG604040	60	40	10	40	26	70	60.6	64 x 1.5	GK40-60
SG633040	63	30	10	40	26	73	63.6	68 x 1.5	GK30-63
SG633240	63	32	10	40	26	73	63.6	68 x 1.5	GK32-63
SG633540	63	35	10	40	26	73	63.6	68 x 1.5	GK35-63
SG633640	63	36	10	40	26	73	63.6	68 x 1.5	GK36-63
SG634040	63	40	10	40	26	73	63.6	68 x 1.5	GK40-63
SG634540	63	45	10	40	26	73	63.6	68 x 1.5	GK45-63
SG653040	65	30	10	40	26	75	65.6	69 x 1.5	GK30-65
SG653540	65	35	10	40	25	75	65.6	69 x 1.5	GK35-65
SG654040	65	40	10	40	25	75	65.6	69 x 1.5	GK40-65
SG654540	65	45	10	40	25	75	65.6	69 x 1.5	GK45-65
SG702540	70	25	10	40	26	80	70.6	74 x 1.5	GK25-70
SG703040	70	30	10	40	26	80	70.6	74 x 1.5	GK30-70
SG703540	70	35	10	40	26	80	70.6	74 x 1.5	GK35-70
SG704040	70	40	10	40	26	80	70.6	74 x 1.5	GK40-70
SG704540	70	45	10	40	26	80	70.6	74 x 1.5	GK45-70
SG705040	70	50	10	40	26	80	70.6	74 x 1.5	GK50-70
SG753050	75	30	10	50	33	90	75.6	80 x 2	GK30-75
SG753550	75	35	10	50	33	90	75.6	80 x 2	GK35-75
SG754050	75	40	10	50	33	90	75.6	80 x 2	GK40-75
SG754550	75	45	10	50	33	90	75.6	80 x 2	GK45-75
SG755050	75	50	10	50	33	90	75.6	80 x 2	GK50-75

MATERIAL: HYDRAULIC CAST IRON GRADE G25

* MATERIAL : ALUMINIUM UNI 2011-11S

MAXIMUM WORKING PRESSURE 250 BAR

STANDARD GLANDS

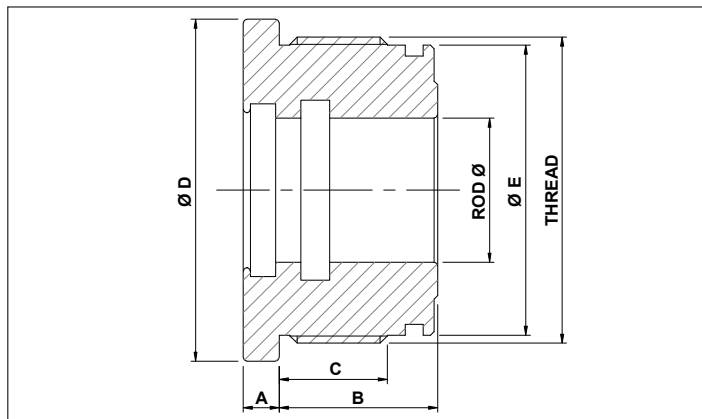


STANDARD GLAND SG	CYLINDER BORE 80	ROD DIAMETER 30	LENGTH OF B 50	EXTRA LONG XL
----------------------	---------------------	--------------------	-------------------	------------------

PART NUMBER	CYLINDER BORE	ROD Ø	A	B	C	Ø D	Ø E	THREAD	SEAL KIT
SG803050	80	30	10	50	32	95	80.6	85 x 2	GK30-80
SG803550	80	35	10	50	32	95	80.6	85 x 2	GK35-80
SG803650	80	36	10	50	32	95	80.6	85 x 2	GK36-80
SG804050	80	40	10	50	32	95	80.6	85 x 2	GK40-80
SG804550	80	45	10	50	32	95	80.6	85 x 2	GK45-80
SG805050	80	50	10	50	32	95	80.6	85 x 2	GK50-80
SG805550	80	55	10	50	32	95	80.6	85 x 2	GK55-80
SG805650	80	56	10	50	32	95	80.6	85 x 2	GK56-80
SG806050	80	60	10	50	32	95	80.6	85 x 2	GK60-80
SG853550	85	35	10	50	30	100	85.6	90 x 2	GK35-85
SG854050	85	40	10	50	30	100	85.6	90 x 2	GK40-85
SG854550	85	45	10	50	30	100	85.6	90 x 2	GK45-85
SG855050	85	50	10	50	30	100	85.6	90 x 2	GK50-85
SG904050	90	40	10	50	32	105	90.6	95 x 2	GK40-90
SG904550	90	45	10	50	32	105	90.6	95 x 2	GK45-90
SG905050	90	50	10	50	32	105	90.6	95 x 2	GK50-90
SG906050	90	60	10	50	32	105	90.6	95 x 2	GK60-90
SG1005050	100	50	10	50	32	115	100.6	105 x 2	GK50-100
SG1006050	100	60	10	50	32	115	100.6	105 x 2	GK60-100
SG1004070XL	100	40	12	70	51	115	100.6	105 x 2	GK40-100XL
SG1004570XL	100	45	12	70	51	115	100.6	105 x 2	GK45-100XL
SG1005070XL	100	50	12	70	51	115	100.6	105 x 2	GK50-100XL
SG1005670XL	100	56	12	70	51	115	100.6	105 x 2	GK56-100XL
SG1006070XL	100	60	12	70	51	115	100.6	105 x 2	GK60-100XL
SG1006370XL	100	63	12	70	51	115	100.6	105 x 2	GK63-100XL
SG1007070XL	100	70	12	70	51	115	100.6	105 x 2	GK70-100XL
SG1104560	110	45	12	60	45	125	110.6	115 x 2	GK45-110
SG1105060	110	50	12	60	45	125	110.6	115 x 2	GK50-110
SG1106070	110	60	12	70	51	125	110.6	115 x 2	GK60-110
SG1107070	110	70	12	70	51	125	110.6	115 x 2	GK70-110
SG1108070	110	80	12	70	51	125	110.6	115 x 2	GK80-110
SG1205070	120	50	12	70	49	140	120.6	125 x 2	GK50-120
SG1206070	120	60	12	70	49	140	120.6	125 x 2	GK60-120
SG1207070	120	70	12	70	49	140	120.6	125 x 2	GK70-120
SG1208070	120	80	12	70	49	140	120.6	125 x 2	GK80-120
SG1209070	120	90	12	70	49	140	120.6	125 x 2	GK90-120
SG1256080	125	60	12	80	59	145	125.6	130 x 2	GK60-125
SG1256380	125	63	12	80	59	145	125.6	130 x 2	GK63-125
SG1257080	125	70	12	80	59	145	125.6	130 x 2	GK70-125
SG1258080	125	80	12	80	59	145	125.6	130 x 2	GK80-125
SG1259080	125	90	12	80	59	145	125.6	130 x 2	GK90-125
SG1406080	140	60	12	80	59	160	140.6	145 x 2	GK60-140

XL : DENOTES EXTRA LONG
MATERIAL: HYDRAULIC CAST IRON GRADE G25
MAXIMUM WORKING PRESSURE 250 BAR

STANDARD GLANDS



STANDARD GLAND
SG

CYLINDER BORE
140

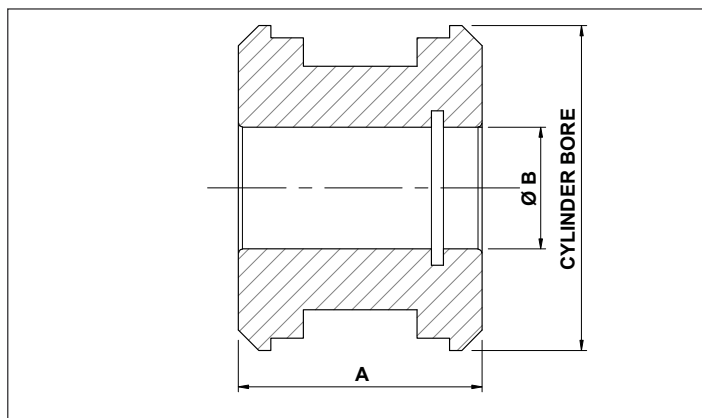
ROD DIAMETER
70

LENGTH OF B
80

PART NUMBER	CYLINDER BORE	ROD Ø	A	B	C	Ø D	Ø E	THREAD	SEAL KIT
SG1407080	140	70	12	80	59	160	140.6	145 x 2	GK70-140
SG1408080	140	80	12	80	59	160	140.6	145 x 2	GK80-140
SG1505090	150	50	12	90	69	170	150.6	155 x 2	GK50-150
SG1507090	150	70	12	90	69	170	150.6	155 x 2	GK70-150
SG1508090	150	80	12	90	69	170	150.6	155 x 2	GK80-150
SG1509090	150	90	12	90	69	170	150.6	155 x 2	GK90-150
SG15010090	150	100	12	90	69	170	150.6	155 x 2	GK100-150
SG16000090	160	PILOT 30mm	12	90	69	180	160.6	165 x 2	
SG1608090	160	80	12	90	69	180	160.6	165 x 2	GK80-160
SG1609090	160	90	12	90	69	180	160.6	165 x 2	GK90-160
SG18000092	180	PILOT 50mm	18	92	58	210	180.6	188 x 2.5	
SG1808092	180	80	18	92	58	210	180.6	188 x 2.5	GK80-180
SG1809092	180	90	18	92	58	210	180.6	188 x 2.5	GK90-180
SG18010092	180	100	18	92	58	210	180.6	188 x 2.5	GK100-180
SG18012092	180	120	18	92	58	210	180.6	188 x 2.5	GK120-180
SG20000092	200	PILOT 50mm	18	92	58	218	200.6	208 x 2.5	
SG2009092	200	90	18	92	58	218	200.6	208 x 2.5	GK90-200
SG20010092	200	100	18	92	58	218	200.6	208 x 2.5	GK100-200
SG20012092	200	120	18	92	58	218	200.6	208 x 2.5	GK120-200
SG220000117	220	PILOT 50mm	18	117	80	240	220.6	228 x 2.5	
SG220100104	220	100	18	104	70	249	220.6	228 x 2.5	GK100-220
SG220110104	220	110	18	104	70	249	220.6	228 x 2.5	GK110-220
SG220120104	220	120	18	104	70	249	220.6	228 x 2.5	GK120-220
SG220150104	220	150	18	104	70	249	220.6	228 x 2.5	GK150-220
SG220160104	220	160	18	104	70	249	220.6	228 x 2.5	GK160-220
SG250000117	250	PILOT 50mm	18	117	80	268	250.6	258 x 2.5	
SG250120117	250	120	18	117	80	268	250.6	258 x 2.5	GK120-250
SG250150117	250	150	18	117	80	268	250.6	258 x 2.5	GK150-250

MATERIAL: HYDRAULIC CAST IRON GRADE G25
MAXIMUM WORKING PRESSURE 250 BAR

STANDARD PISTONS

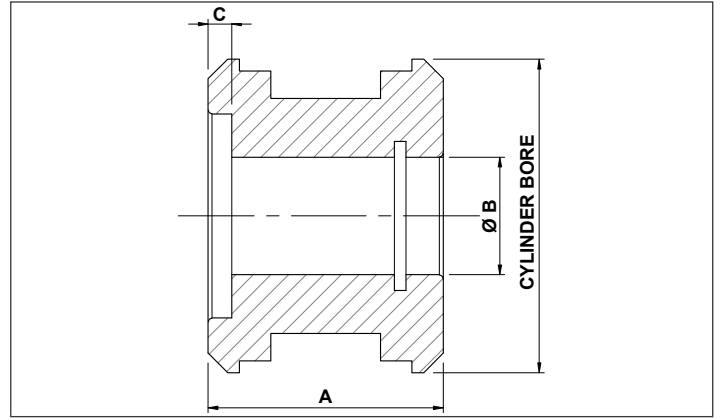


METAL PISTON	CYLINDER BORE	INTERNAL DIAMETER Ø B	TOTAL LENGTH A	THREADED	ALUMINIUM
MP	25	10	25	TH	AL

PART NUMBER	CYLINDER BORE	A	Ø B	ROD	SEAL KIT
MP251025TH-AL *	25	25	10x1.5	16TH	SUPPLIED
MP301324.7-AL*	30	24.7	13	16	PK30
MP321330	32	30	13	16	PK32
MP321530	32	30	15	NIL	PK32
MP321540	32	40	15	20,25	PK32
MP351540	35	40	15	20,25	PK35
MP401540	40	40	15	20,25	PK40
MP402040	40	40	20	25,30	PK40
MP451540	45	40	15	20,25	PK45
MP501540	50	40	15	20,25	PK50
MP502040	50	40	20	25,30	PK50
MP502050	50	50	20	30,35	PK50
MP552040	55	40	20	30,35	PK55
MP552040	55	50	20	30,35	PK55
MP602045	60	45	20	30,35	PK60
MP602050	60	50	20	30,35	PK60
MP602445	60	45	24	40	PK60
MP602750	60	50	27	35,40	PK60
MP632050	63	50	20	30,35	PK63
MP632445	63	45	24	40	PK63
MP632750	63	50	27	35,40	PK63
MP633050	63	50	30	40	PK63
MP652050	65	50	20	30,35	PK65
MP652445	65	45	24	40	PK65
MP702050	70	50	20	30,35	PK70
MP702445	70	45	24	40	PK70
MP702750	70	50	27	35,40,45,50	PK70
MP752445	75	45	24	40	PK75
MP752750	75	50	27	35,40,45,50	PK75
MP802445	80	45	24	40	PK80
MP802750	80	50	27	35,40,45,50	PK80
MP803050	80	50	30	40,50	PK80
MP852445	85	45	24	40	PK85
MP852750	85	50	27	35,40,45,50	PK85
MP902750	90	50	27	35,40,45,50	PK90
MP903050	90	50	30	40,50	PK90
MP903350	90	50	33	50,60	PK90
MP1002750	100	50	27	35,40,45,50	PK100
MP1003050	100	50	30	40,50	PK100
MP1003350	100	50	33	50,60	PK100
MP1004050	100	50	40	70	PK100
MP1103350	110	50	33	50,60	PK110
MP1104050	110	50	40	70	PK110
MP1204050	120	50	40	70	PK120
MP1253350	125	50	33	50,60	PK125
MP1254050	125	50	40	70	PK125
MP1304050	130	50	40	70	PK130
MP1404058	140	58	40	70	PK140
MP1504058	150	58	40	70	PK150
MP1605158	160	58	51	NIL	PK160

MATERIAL : STEEL 11SMn30 - 080M46
 * MATERIAL : ALUMINIUM UNI 2011-11S
 MAXIMUM WORKING PRESSURE 250 BAR

STANDARD SHORT PISTONS



METAL PISTON
MP

CYLINDER BORE
40

INTERNAL DIAMETER Ø B
15

TOTAL LENGTH A
27

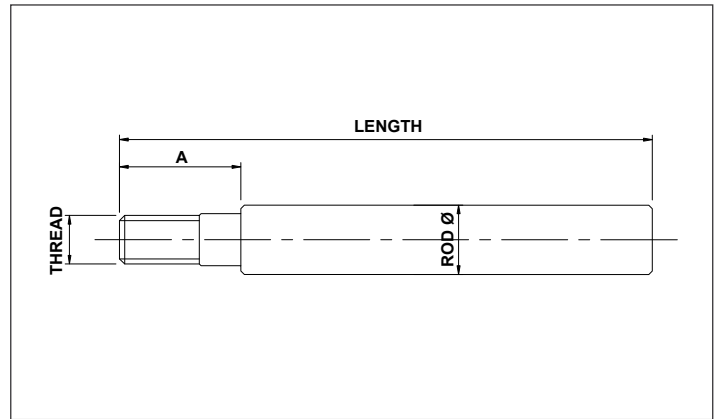
SHORT PISTON
SP

PART NUMBER	CYLINDER BORE	A	Ø B	C
MP401527SP	40	27	15	5
MP501625SP	50	25	16	NIL
MP502025SP	50	25	20	NIL
MP502130SP	50	30	21	5
MP602535SP	60	35	25	5
MP632535SP	63	35	25	5
MP652535SP	65	35	25	5
MP702535SP	70	35	25	5
MP802840SP	80	40	28	6
MP903540SP	90	40	35	6
MP1003540SP	100	40	35	6

SHORT PISTONS COME COMPLETE WITH SEALS

MATERIAL : STEEL 11SMn30 - 080M46
MAXIMUM WORKING PRESSURE 200 BAR

THREADED CHROMED RODS



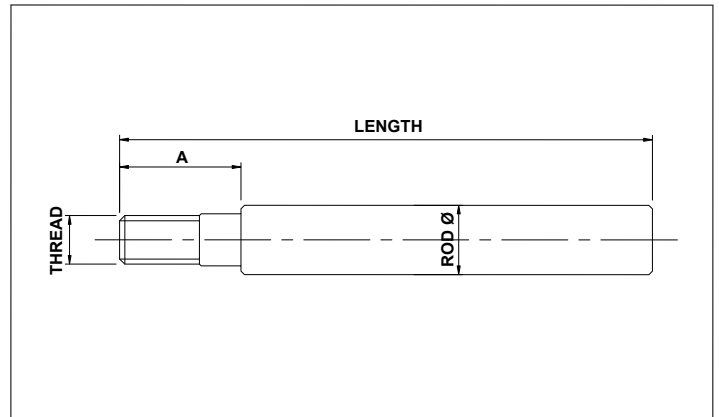
STANDARD ROD	ROD DIAMETER	STROKE	THREAD	THREADED
SR	16	200	10	TH

PART NUMBER	ROD Ø	STROKE	LENGTH	A	THREAD	CHROMED LENGTH
SR16200-10TH	16	200	310	41	10 x 1.5	269
SR16300-10TH	16	300	410	41	10 x 1.5	369
SR16500-10TH	16	500	610	41	10 x 1.5	569
SR16600-10TH	16	600	710	41	10 x 1.5	669
SR16200-12TH	16	200	313	41	12 x 1.5	272
SR16300-12TH	16	300	413	41	12 x 1.5	372
SR16500-12TH	16	500	613	41	12 x 1.5	572
SR16600-12TH	16	600	713	41	12 x 1.5	672
SR20200-16TH	20	200	351	58	16 x 1.5	293
SR20300-16TH	20	300	451	58	16 x 1.5	393
SR20500-16TH	20	500	651	58	16 x 1.5	593
SR20600-16TH	20	600	751	58	16 x 1.5	693
SR22200-16TH	22	200	351	58	16 x 1.5	293
SR22300-16TH	22	300	451	58	16 x 1.5	393
SR22500-16TH	22	500	651	58	16 x 1.5	593
SR22600-16TH	22	600	751	58	16 x 1.5	693
SR25200-16TH	25	200	351	58	16 x 1.5	293
SR25300-16TH	25	300	451	58	16 x 1.5	393
SR25500-16TH	25	500	651	58	16 x 1.5	593
SR25600-16TH	25	600	751	58	16 x 1.5	693
SR25200-20TH	25	200	365	65	20 x 1.5	300
SR25300-20TH	25	300	465	65	20 x 1.5	400
SR25500-20TH	25	500	665	65	20 x 1.5	600
SR25600-20TH	25	600	765	65	20 x 1.5	700
SR28200-16TH	28	200	351	58	16 x 1.5	293
SR28300-16TH	28	300	451	58	16 x 1.5	393
SR28500-16TH	28	500	651	58	16 x 1.5	593
SR28600-16TH	28	600	751	58	16 x 1.5	693
SR28200-20TH	28	200	365	65	20 x 1.5	300
SR28300-20TH	28	300	465	65	20 x 1.5	400
SR28500-20TH	28	500	665	65	20 x 1.5	600
SR28600-20TH	28	600	765	65	20 x 1.5	700
SR30200-20TH	30	200	365	65	20 x 1.5	300
SR30300-20TH	30	300	465	65	20 x 1.5	400
SR30500-20TH	30	500	665	65	20 x 1.5	600
SR30600-20TH	30	600	765	65	20 x 1.5	700

THESE RODS ARE DESIGNED TO FIT ALL OUR RANGE OF THREADED PISTONS

MATERIAL : STEEL CK45 - CHROME 25 µm

THREADED CHROMED RODS



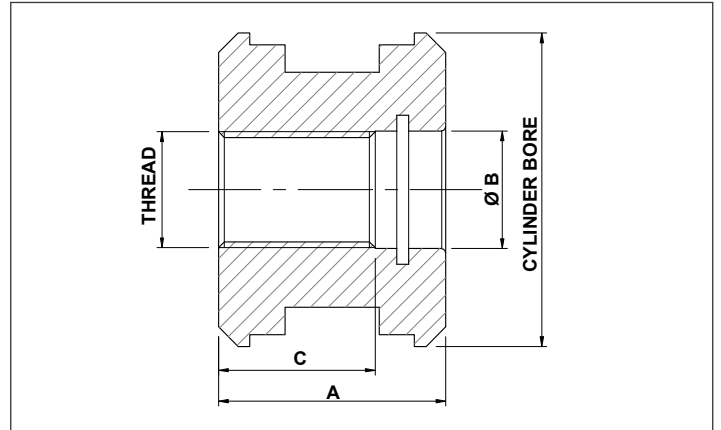
STANDARD ROD	ROD DIAMETER	STROKE	THREAD	THREADED
SR	30	200	24	TH

PART NUMBER	ROD Ø	STROKE	LENGTH	A	THREAD	CHROMED LENGTH
SR30200-24TH	30	200	388	75	24 x 2	313
SR30300-24TH	30	300	488	75	24 x 2	413
SR30500-24TH	30	500	688	75	24 x 2	613
SR30600-24TH	30	600	788	75	24 x 2	713
SR32200-20TH	32	200	365	65	20 x 1.5	300
SR32300-20TH	32	300	465	65	20 x 1.5	400
SR32500-20TH	32	500	665	65	20 x 1.5	600
SR32600-20TH	32	600	765	65	20 x 1.5	700
SR32200-24TH	32	200	388	75	24 x 2	313
SR32300-24TH	32	300	488	75	24 x 2	413
SR32500-24TH	32	500	688	75	24 x 2	613
SR32600-24TH	32	600	788	75	24 x 2	713
SR35200-20TH	35	200	365	65	20 x 1.5	300
SR35300-20TH	35	300	465	65	20 x 1.5	400
SR35500-20TH	35	500	665	65	20 x 1.5	600
SR35600-20TH	35	600	765	65	20 x 1.5	700
SR35200-24TH	35	200	388	75	24 x 2	313
SR35300-24TH	35	300	488	75	24 x 2	413
SR35500-24TH	35	500	688	75	24 x 2	613
SR35600-24TH	35	600	788	75	24 x 2	713
SR36200-24TH	36	200	388	75	24 x 2	313
SR36300-24TH	36	300	488	75	24 x 2	413
SR36500-24TH	36	500	688	75	24 x 2	613
SR36600-24TH	36	600	788	75	24 x 2	713
SR40200-24TH	40	200	388	75	24 x 2	313
SR40300-24TH	40	300	488	75	24 x 2	413
SR40500-24TH	40	500	688	75	24 x 2	613
SR40600-24TH	40	600	788	75	24 x 2	713
SR50200-24TH	50	200	403	75	24 x 2	328
SR50300-24TH	50	300	503	75	24 x 2	428
SR50500-24TH	50	500	703	75	24 x 2	628
SR50600-24TH	50	600	803	75	24 x 2	728

THESE RODS ARE DESIGNED TO FIT ALL OUR RANGE OF THREADED PISTONS

MATERIAL : STEEL CK45 - CHROME 25 µm

STANDARD THREADED PISTONS



METAL PISTON	CYLINDER BORE	INTERNAL THREAD	TOTAL LENGTH A	THREADED	ALUMINUM
MP	25	10	25	TH	AL

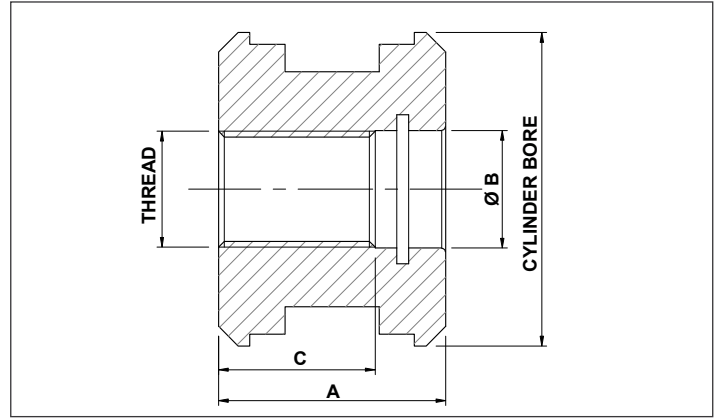
PART NUMBER	CYLINDER BORE	A	Ø B	C	THREAD
MP251025TH-AL*	25	25	11.1	17.5	10 x 1.5
MP301225TH	30	25	13.1	17.5	12 x 1.5
MP321640TH	32	40	17.1	28	16 x 1.5
MP401640TH	40	40	17.1	30	16 x 1.5
MP502040TH	50	40	21.1	28	20 x 1.5
MP552240TH	55	40	21.1	30	22 x 1.5
MP602045TH	60	45	21.1	30	20 x 1.5
MP602445TH	60	45	25.1	30	24 x 2
MP632445TH	63	45	25.1	30	24 x 2
MP652445TH	65	45	25.1	30	24 x 2
MP702445TH	70	45	25.1	30	24 x 2
MP752445TH	75	45	25.1	30	24 x 2
MP802445TH	80	45	25.1	30	24 x 2
MP802745TH	80	45	28.1	30	27 x 2
MP902750TH	90	50	28.1	35	27 x 2
MP903350TH	90	50	35.1	35	33 x 2
MP1003350TH	100	50	35.1	35	33 x 2
MP1004050TH	100	50	42.1	35	40 x 2
MP1103950TH	110	50	42.1	35	39 x 3
MP1204250TH	120	50	45.1	35	42 x 3
MP1254250TH	125	50	45.1	35	42 x 3
MP1304250TH	130	50	45.1	35	42 x 3
MP1404858TH	140	58	51.1	40	48 x 3
MP1504858TH	150	58	51.1	40	48 x 3
MP1605258TH	160	58	54.1	40	52 x 3

THREADED PISTONS COME COMPLETE WITH SEALS

STANDARD THREADED PISTONS ARE DESIGNED TO FIT OUR RANGE OF THREADED RODS

MATERIAL : STEEL 11SMn30 - 080M46
 * MATERIAL : ALUMINIUM UNI 2011-11S
 MAXIMUM WORKING PRESSURE 250 BAR

SHORT THREADED PISTONS



METAL PISTON	CYLINDER BORE	INTERNAL THREAD	TOTAL LENGTH A	THREADED	ALUMINIUM	SHORT PISTON
MP	25	10	25	TH	AL	SP

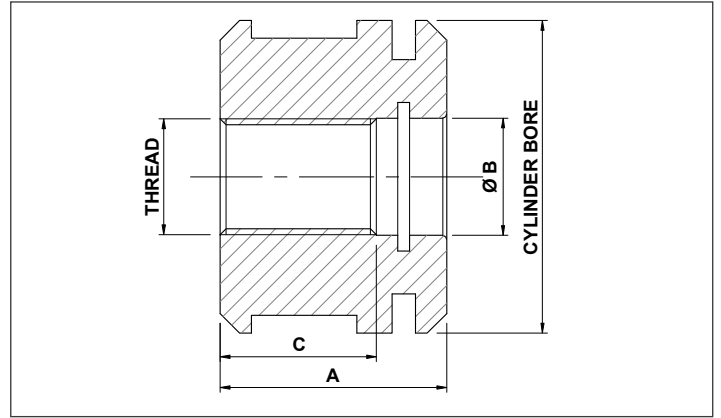
PART NUMBER	CYLINDER BORE	A	Ø B	C	THREAD
MP251025TH-AL*	25	25	11.1	17.5	10 x 1.5
MP301225TH	30	25	13.1	17.5	12 x 1.5
MP321233TH-SP	32	33	13.1	25.5	12 x 1.5
MP401427TH-SP	40	27	17.1	19	14 x 1.5
MP401627TH-SP	40	27	17.1	19	16 x 1.5
MP502030TH-SP	50	30	21.1	21	20 x 1.5
MP602035TH-SP	60	35	21.1	24	20 x 1.5
MP602435TH-SP	60	35	25.1	24	24 x 2
MP632435TH-SP	63	35	25.1	24	24 x 2
MP652435TH-SP	65	35	25.1	24	24 x 2
MP702435TH-SP	70	35	25.1	24	24 x 2
MP752435TH-SP	75	35	25.1	24	24 x 2
MP802740TH-SP	80	40	28.1	26	27 x 2
MP903340TH-SP	90	40	35.1	26	33 x 2
MP1003340TH-SP	100	40	35.1	26	33 x 2

THREADED PISTONS COME COMPLETE WITH SEALS

SHORT THREADED PISTONS ARE DESIGNED TO FIT OUR RANGE OF THREADED RODS

MATERIAL : STEEL 11SMn30 - 080M46
 * MATERIAL : ALUMINIUM UNI 2011-11S
 MAXIMUM WORKING PRESSURE 200 BAR

HIGH SPEED PISTONS



METAL PISTON MP	CYLINDER BORE 32	INTERNAL THREAD 12	TOTAL LENGTH A 30	THREADED TH	HIGH SPEED PISTON HS
--------------------	---------------------	-----------------------	----------------------	----------------	-------------------------

PART NUMBER	CYLINDER BORE	A	Ø B	C	THREAD
MP321230TH-HS	32	30	13.1	20	12 x 1.5
MP351630TH-HS	35	30	17.1	20	16 x 1.5
MP401630TH-HS	40	30	17.1	20	16 x 1.5
MP501630TH-HS	50	30	17.1	20	16 x 1.5
MP602435TH-HS	60	35	25.1	23	24 x 2
MP632435TH-HS	63	35	25.1	23	24 x 2
MP652435TH-HS	65	35	25.1	23	24 x 2
MP702435TH-HS	70	35	25.1	23	24 x 2
MP802740TH-HS	80	40	28.1	28	27 x 2
MP903345TH-HS	90	45	35.1	30	33 x 2
MP1003345TH-HS	100	45	35.1	30	33 x 2

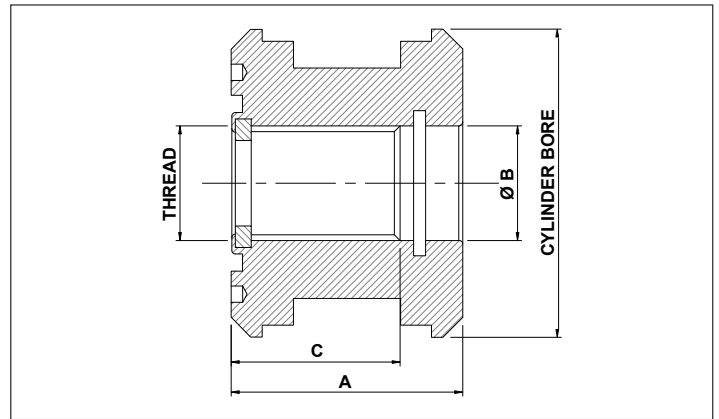
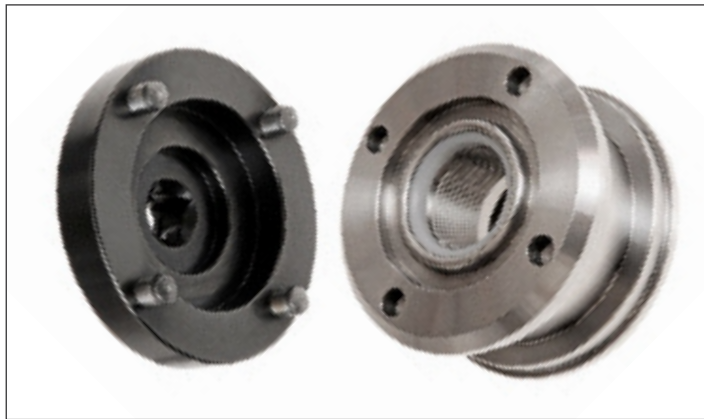
HIGH SPEED THREADED PISTONS COME COMPLETE WITH SEALS

HIGH SPEED PISTONS ARE DESIGNED TO FIT OUR RANGE OF THREADED RODS

HIGH SPEED PISTONS CAN BE USED IN A SINGLE ACTING APPLICATION
PLEASE ASK FOR A SINGLE ACTING SEAL WHEN ORDERING

MATERIAL : STEEL 11SMn30 - 080M46
MAXIMUM WORKING PRESSURE 400 BAR

SELF LOCKING PISTONS



METAL PISTON MP	CYLINDER BORE 35	INTERNAL THREAD 14	TOTAL LENGTH A 33	THREADED TH	SELF LOCKING PISTON SL
--------------------	---------------------	-----------------------	----------------------	----------------	---------------------------

PART NUMBER	CYLINDER BORE	A	Ø B	C	THREAD	PIN SOCKET
MP351433TH-SL	35	33	17.1	23	14 x 1.5	PSOCK 14
MP401640TH-SL	40	40	17.1	30	16 x 1.5	PSOCK 16
MP502040TH-SL	50	40	21.1	28	20 x 1.5	PSOCK 20
MP602445TH-SL	60	45	25.1	30	24 x 2	PSOCK 24
MP632445TH-SL	63	45	25.1	30	24 x 2	PSOCK 24
MP652445TH-SL	65	45	25.1	30	24 x 2	PSOCK 24
MP702445TH-SL	70	45	25.1	30	24 x 2	PSOCK 24
MP752745TH-SL	75	45	28.1	30	27 x 2	PSOCK 27
MP802745TH-SL	80	45	28.1	30	27 x 2	PSOCK 27
MP803045TH-SL	80	45	33.1	30	30 x 2	PSOCK 30
MP903350TH-SL	90	50	35.1	35	33 x 2	PSOCK 33
MP1003350TH-SL	100	50	35.1	35	33 x 2	PSOCK 33

SELF LOCKING PISTONS COME COMPLETE WITH SEALS

SELF LOCKING PISTONS ARE DESIGNED TO FIT OUR RANGE OF THREADED RODS

MATERIAL : STEEL 11SMn30 - 080M46
MAXIMUM WORKING PRESSURE 250 BAR

SELF LOCKING PISTON TORQUE SETTINGS

PART NUMBER	Nm	kgm	Lbf-ft	PIN SOCKET
MP351433TH-SL	35-45	3.5 - 4.5	26 - 34	PSOCK 14
MP401640TH-SL	40-50	4.0 - 5.0	30 - 38	PSOCK 16
MP502040TH-SL	50-60	5.0 - 6.0	36 - 44	PSOCK 20
MP602445TH-SL	60-75	6.0 - 7.5	44 - 55	PSOCK 24
MP632445TH-SL	60-75	6.0 - 7.5	44 - 55	PSOCK 24
MP652445TH-SL	60-75	6.0 - 7.5	44 - 55	PSOCK 24
MP702445TH-SL	60-75	6.0 - 7.5	44 - 55	PSOCK 24
MP752745TH-SL	80-100	8.0 - 10	60 - 75	PSOCK 27
MP802745TH-SL	80-100	8.0 - 10	60 - 75	PSOCK 27
MP803045TH-SL	100-140	10 - 14	80 - 100	PSOCK 30
MP903350TH-SL	130-170	13 - 17	95 - 125	PSOCK 33
MP1003350TH-SL	130-170	13 - 17	95 - 125	PSOCK 33

ADHESIVE RANGE



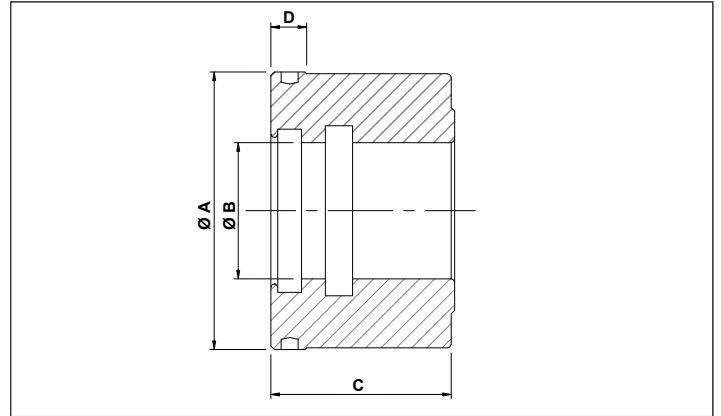
PRODUCT	DESCRIPTION	SUITABLE FOR	SIZES AVAILABLE
ND12199-FISHBOWL ND12150	Medium, Removable Strength Threadlocker Seals nuts and bolts allowing disassembly using standard tools. Typical uses include locking nuts or bolts from 1/4" to 3/4" in diameter. Compare to Loctite 242	Fasteners that are 1/4 to 3/4 in diameter (Removable Grade)	Plastic bowl dispenser 50ml bottle
ND12250	Medium Strength Threadlocker. Greater oil tolerance. Typical uses include locking nuts or bolts ranging from 1/4" to 3/4" in diameter. Compare to Loctite 243	Fasteners that are 1/4 to 3/4 in diameter (Removable Grade)	50ml bottle
ND12535-GEL	Medium Strength Gel - Anaerobic Thread locker – Stops fasteners loosening from shock and vibration. Alleviates rust-lock and prevents leakage	Fasteners that are 1/4 to 3/4 in diameter (Removable Grade)	35ml pump
ND13199-FISHBOWL ND13150	High Strength Permanent Thread locker. For maximum security suitable for most applications where disassembly is not required. Designed to withstand extreme environmental conditions and chemical exposure. Ideal for the prevention of rust and corrosion. Typical uses include permanently locking nuts or bolts up to 3/4" in diameter. Heat and hand tools are needed for disassembly. Compare to Loctite 262	Lock Nuts and bolts up to 1" in diameter	Plastic bowl dispenser 50ml bottle
ND14050	High Strength Threadlocker. For maximum security suitable for most applications where disassembly is not required. ~Typical uses include permanently locking nuts or bolts up to 1" in diameter. Heat and hand tools are needed for disassembly. Compare to Loctite 271	Lock Nuts and bolts up to 1" in diameter	50ml bottle
ND14600-2 ND14650	High Strength Threadlocker. Typical uses include permanently locking nuts or bolts up to 1 1/2" in diameter. Heat and hand tools are needed for disassembly. Compare to Loctite 277	Lock Nuts and bolts up to 1 1/2" in diameter	2ml tube 50ml bottle
ND42050	Industrial Grade Sealant. Cures rapidly with controlled lubricity preventing galling while protecting from corrosion and rust. Parts may be repositioned up to 24 hours after assembly. Typical uses include stainless steel and all other metal fittings. Gasoline resistant. Compare to Loctite 565/592	Industrial Grade, controlled locking strength, metal fittings, high temp and high performance and is gasoline resistant	50ml tube
ND44050	Hydraulic & Pneumatic High Pressure Sealant. With excellent solvent resistance. It locks hydraulic and pneumatic connections producing a high strength, high pressure seal, while allowing easy disassembly with standard tools. Typical uses include pneumatic fittings, small pipe threads and hydraulic fittings up to 2" in diameter. Compare to Loctite 545	Pneumatic and hydraulic sealant for fluid, power and gas system connections	50ml bottle
ND44450	High Pressure Sealant. A general purpose pipe sealant that creates an instant seal on threaded joints with a high resistance to solvents and withstands temperature to 300° F. Typical uses; small pipe threads and hydraulic fittings. Compare to Loctite 569	Hydraulic sealant, non-shrink, high vibration and shock resistant	50ml bottle

ADHESIVE RANGE



PRODUCT	DESCRIPTION	SUITABLE FOR	SIZES AVAILABLE
ND46050	PTFE Instant Pipe Sealant. Prevents galling and provides an instant low pressure seal on coarse fitting threads which is further strengthened as the product cures. Assembled parts can withstand temperatures up to 400°F and may be repositioned up to 24 hours after assembly. Typical uses include stainless steel, aluminium, galvanised metal and other inert metal threaded pipe fittings. Gasoline resistant. Compare to Loctite 567	General purpose. Suitable for stainless steel and other inert metal threaded pipes and fittings. Also gasoline resistant	50ml tube
ND53050	General Purpose Retaining Compound. Bonds metal assemblies. A low viscosity retaining compound recommended for diametral gap distances up to 0.005" to augment press fits. Withstands temperatures of up to 300° F providing a shear strength of 3,000 psi after 24 hours with a fixture time of 10 minutes. Typical uses: Rotors, shafts, bushing, bearings, and pulleys. Compare to Loctite 609/675	General purpose for rotors, augment press fits, shafts, bushing, bearings and pulleys	50ml bottle
ND54100-2 ND54150	High Strength Retaining Compound. Cures at room temperatures filling diametral gaps up to 0.015". Typical uses include fitted cylindrical parts replacing set screws, clamp rings, and snap rings. It provides a shear strength greater than 3'000 psi after 24 hours with a fixture time of 10 minutes. Compare to Loctite 680	High strength gap filling. Permanently retains slip fit and is suitable for rotors, shafts, impellers and splines.	2ml tube 50ml bottle
ND73025	Flexible Gasket Maker that is solvent resistant - Anaerobic liquid gasketing. Benefits include: remains liquid when exposed to air, cures when confined between mating flanges, can fill gaps as large as 0.050. alleviates the need for preformed gaskets	Suitable for aluminium and rigid machined flanges	250ml tube 50ml tube
ND90712 ND90716	Cooper Anti Seize Compound - specially formulated to prevents seizing, galling, pitting, excessive wear and corrosion.	Ideal for use on softer metal parts such as copper and brass. Protects from rust and corrosion.	2ml tube 16oz jar with a brush
NDDRIVE-GRIP	Anti Cam-Out Fluid. Increases the grip- strength between the fastener head and tool by as much as 700%	Unlimited shelf life, odourless, non-toxic, non-corrosive, works instantly, wont irritate skin	0.5 oz. tube
Vibra-Tite VC-3 Original	Vibra-Tite VC3 Original. Is a powerful locking and sealing coating for threaded fasteners that work on the principle of "friction through viscosity". VC3 Original utilizes a special blend of acrylic resins to prevent fasteners from loosening even under the stress of prolonged and extreme shock and vibration.	Stops fasteners from loosening from extreme shock and vibration. Works with metal, wood, plastic and more. Works with internal or external threads.	1 oz. bottle 250cc can

UNFINISHED GLANDS



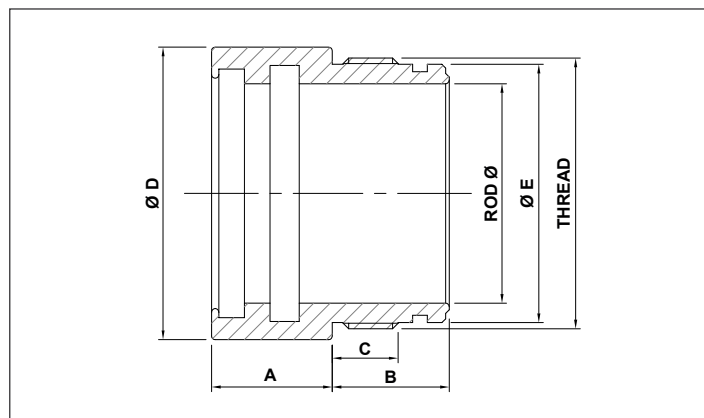
STANDARD GLAND SG	OUTSIDE DIAMETER Ø A 54	ROD DIAMETER Ø B 20	PARTIAL LENGTH 57	UNFINISHED GLAND UF
----------------------	----------------------------	------------------------	----------------------	------------------------

PART NUMBER	Ø A	Ø B	C	D
SG542057UF	54	20	65	8
SG542257UF	54	22	65	8
SG542557UF	54	25	65	8
SG542857UF	54	28	65	8
SG742565UF	74	25	75	10
SG742865UF	74	28	75	10
SG743065UF	74	30	75	10
SG743265UF	74	32	75	10
SG743565UF	74	35	75	10
SG744065UF	74	40	75	10
SG943075UF	94	30	85	10
SG943575UF	94	35	85	10
SG944075UF	94	40	85	10
SG944575UF	94	45	85	10
SG945075UF	94	50	85	10
SG1144095UF	114	40	107	12
SG1144595UF	114	45	107	12
SG1145095UF	114	50	107	12
SG1146095UF	114	60	107	12

UNFINISHED GLANDS COME COMPLETE WITH SEALS FOR THE ROD

MATERIAL : HYDRAULIC CAST IRON GRADE G25
MAXIMUM WORKING PRESSURE 250 BAR

DISPLACEMENT GLANDS

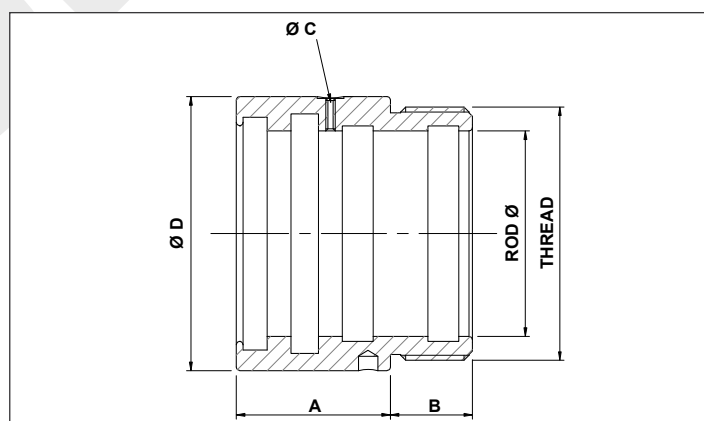


DISPLACEMENT GLAND DG	CYLINDER BORE 30	ROD DIAMETER 20	LENGTH OF B 27
--------------------------	---------------------	--------------------	-------------------

PART NUMBER	CYLINDER BORE	ROD Ø	A	B	C	Ø D	Ø E	THREAD	SEAL KIT
DG302027	30	20	30	27	15	40	30.6	34 x 1.5	DG20
DG352532	35	25	33	32	18	45	35.6	39 x 1.5	DG25
DG403032	40	30	33	32	18	50	40.6	44 x 1.5	DG30
DG453532	45	35	33	32	18	55	45.6	49 x 1.5	DG35
DG504035	50	40	35	35	22	60	50.6	54 x 1.5	DG40
DG554535	55	45	35	35	22	65	55.6	60 x 1.5	DG45
DG605040	60	50	35	40	26	70	60.6	64 x 1.5	DG50
DG706040	70	60	35	40	26	80	70.6	74 x 1.5	DG60

MATERIAL : HYDRAULIC CAST IRON GRADE G25
MAXIMUM WORKING PRESSURE 250 BAR

LARGE DISPLACEMENT GLANDS

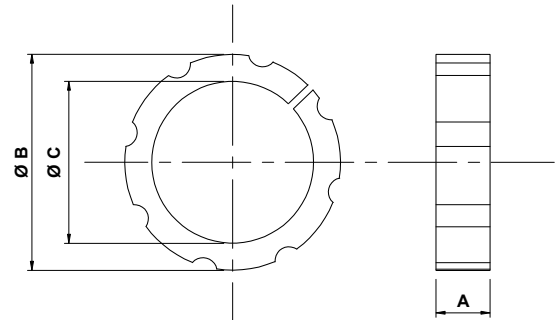


DISPLACEMENT GLAND DG	CYLINDER BORE 85	ROD DIAMETER 70	LENGTH OF B 30
--------------------------	---------------------	--------------------	-------------------

PART NUMBER	CYLINDER BORE	ROD Ø	A	B	C	Ø D	THREAD	SEAL KIT
DG857030	85	70	60	30	M5 x 0.8	100	90 x 2	DG70
DG908040	90	80	55	40	M5 x 0.8	107	96 x 2	DG80
DG12010042	120	100	115	42	M5 x 0.8	139	124 x 2	DG100

MATERIAL : STEEL S355JR :
VENT HOLE IN SIDE DRILLED AND TAPPED, PLUG SUPPLIED
MAXIMUM WORKING PRESSURE 250 BAR

BEARING RINGS FOR DISPLACEMENT CYLINDERS



BEARING RING DISPLACEMENT
BRD

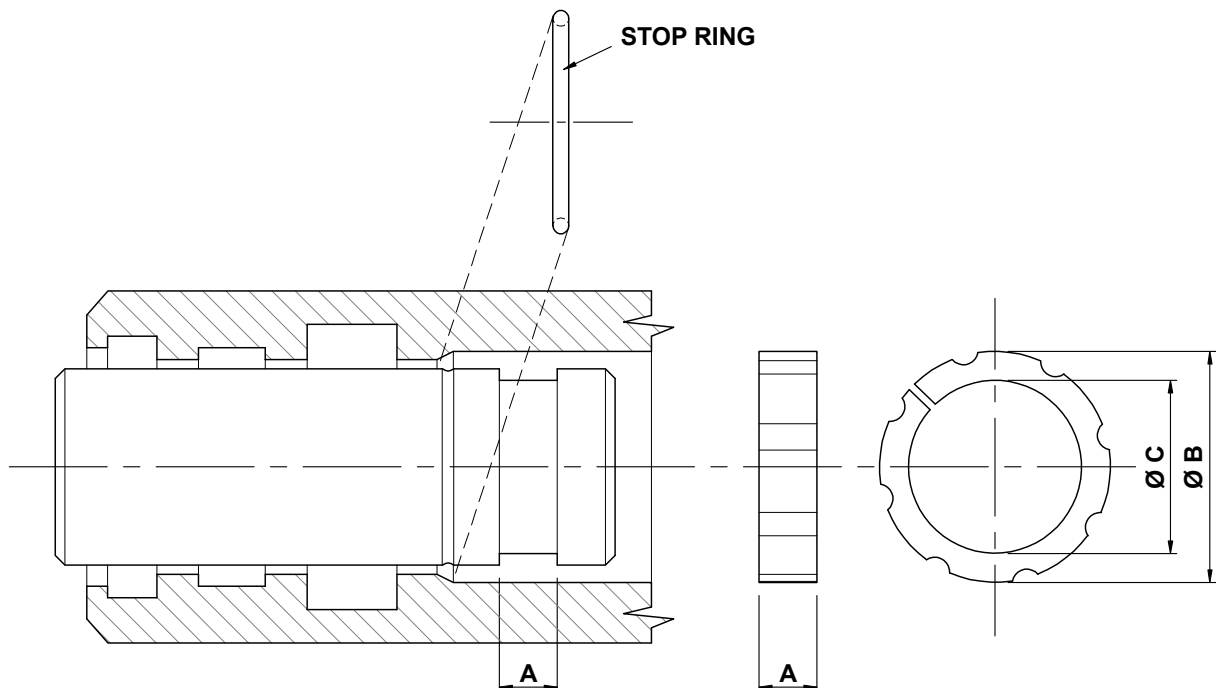
OUTSIDE DIAMETER Ø B
30

INSIDE DIAMETER Ø C
15

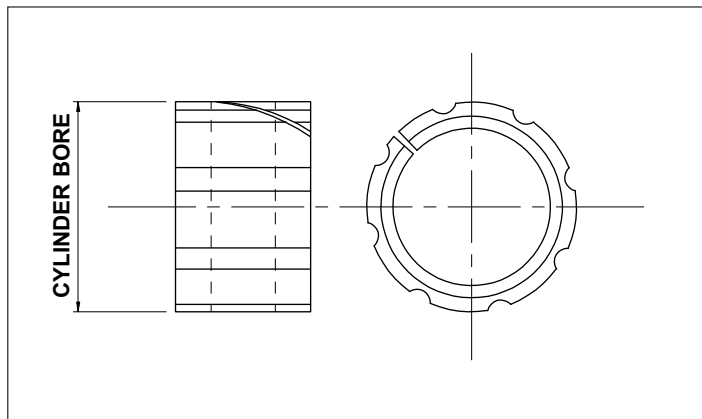
TOTAL LENGTH A
15

PART NUMBER	ROD / CYLINDER	A	Ø B	Ø C
BRD301515	20/30	15	30	15
BRD352015	25/35	15	35	20
BRD402515	30/40	15	40	25
BRD453015	35/45	15	45	30
BRD503515	40/50	15	50	35
BRD504015	45/50	15	50	40
BRD554015	45/55	15	55	40
BRD604515	50/60	15	60	45
BRD655515	60/65	15	65	55
BRD705515	60/70	15	70	55
BRD807110	75/80	10	80	71
BRD856515	70/85	15	85	65
BRD1009015	95/100	15	100	90
BRD12011015	115/120	15	120	110

MATERIAL : GLASS FILLED ACETAL / POLYACETAL



DISPLACEMENT BEARING RINGS

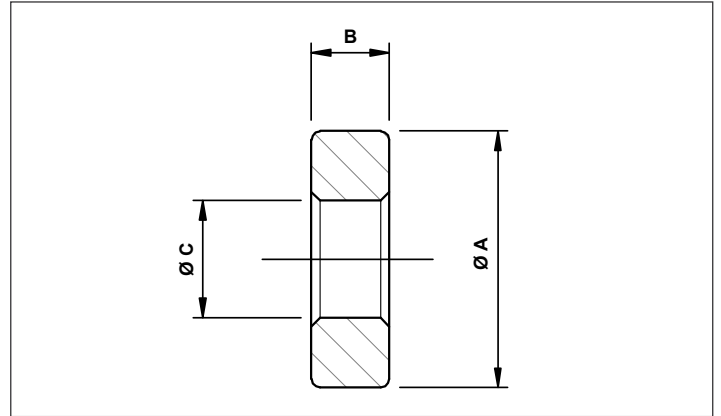


BEARING RING DISPLACEMENT
BRD 25
CYLINDER BORE

PART NUMBER	STANDARD PISTON	STANDARD THREADED PISTON	SHORT THREADED PISTON
BRD25	MP251025TH-AL	MP251025TH-AL	
BRD30	MP301324.7AL	MP301225TH	
BRD32	MP321530	MP321540	MP321640TH
BRD32SP		MP321233TH-SP	
BRD35	MP351540		
BRD40	MP401540 MP402040	MP401640TH	
BRD40SP			MP401627TH-SP
BRD45	MP451540		
BRD50	MP501540 MP502040 MP502050	MP502040TH	
BRD50SP			MP502030TH-SP
BRD55	MP552040 MP552050	MP552240TH	
BRD60	MP602045 MP602050 MP602445 MP602750	MP602445TH	
BRD60SP			MP602435TH-SP
BRD63	MP632050 MP632445 MP632750 MP633050	MP632445TH	
BRD63SP			MP632435TH-SP
BRD65	MP652050 MP652445	MP652445TH	
BRD65SP			MP652435TH-SP
BRD70	MP702050 MP702445 MP702750	MP702445TH	
BRD70SP			MP702435TH-SP
BRD75	MP752445 MP752750	MP752445TH	
BRD75SP			MP752435TH
BRD80	MP802445 MP802750 MP803050	MP802445TH MP802750TH	
BRD80SP			MP802740TH-SP
BRD85	MP852445 MP852750		
BRD90	MP902750 MP903050 MP903350	MP902750TH MP903350TH	
BRD90SP			MP903340TH-SP
BRD100	MP1002750 MP1003050 MP1003350 MP1004050	MP1003350TH MP1004050TH	
BRD100SP			MP1003340TH-SP
BRD110	MP1103350 MP1104050	MP1103950TH	
BRD120	MP1204050	MP1204250TH	
BRD125	MP1253350 MP1254050	MP1254250TH	

MATERIAL : GLASS FILLED ACETAL / POLYACETAL

DISPLACEMENT PISTONS



DISPLACEMENT PISTONS	CYLINDER BORE	INTERNAL DIAMETER Ø C	TOTAL LENGTH B
DP	30	15	10

PART NUMBER	CYLINDER BORE	Ø A	B	Ø C	TO FIT ROD
DP301510	30	28	10	15	20
DP351510	35	33	10	15	25
DP402015	40	38	15	20	30
DP452015	45	43	15	20	35
DP502720	50	48	20	27	40
DP552720	55	53	20	27	45
DP602720	60	58	20	27	50
DP703320	70	68	20	33	60
DP854020	85	83	20	40	70

MATERIAL: STEEL 11SMn30 - 080M46

EXTERNAL HEAVY DUTY CIRCLIPS FOR DISPLACEMENT CYLINDERS

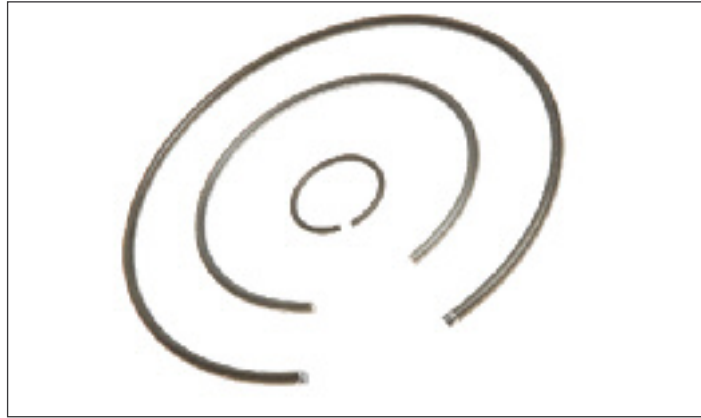


CIRCLIPS EXTERNAL	SHAFT SIZE	HEAVY DUTY
CE	15	HD

PART NUMBER	SHAFT SIZE	WIDTH	ROD Ø
CE15-HD	15	1.5	20/25
CE19-HD	19	1.5	20/30
CE20-HD	20	1.75	25/30/35
CE27-HD	27	2	35/40/45/50
CE30-HD	30	2	40/50
CE40-HD	40	2.5	70

MATERIAL : CARBON SPRING STEEL,
STANDARD FINISH - PHOSPHATE AND OIL.

SNAP RINGS FOR DISPLACEMENT CYLINDERS

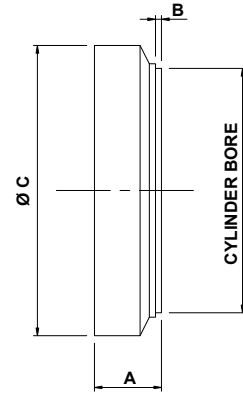


SNAP RING
DISPLACEMENT
SRD
 ROD
DIAMETER
20
 OUTSIDE
DIAMETER
22
 INSIDE
DIAMETER
16

PART NUMBER	ROD Ø	OUTSIDE DIAMETER	INSIDE DIAMETER	WIRE DIAMETER	CYLINDER BORE
SRD202216	20	22	16	3	30
SRD252822	25	28	22	3	35
SRD303327	30	33	27	3	40
SRD323529	32	35	29	3	42
SRD353831	35	38.5	31.5	3.5	45
SRD404436	40	44	36	4	50
SRD454941	45	49	41	4	55
SRD505445	50	54.5	45.5	4.5	60
SRD505446	50	54	46	4	60
SRD606456	60	64	56	4	70
SRD606554	60	65.5	54.5	5.5	70
SRD656961	65	69	61	4	75
SRD707664	70	76	64	6	80
SRD757971	75	79	71	4	85
SRD808476	80	84	76	4	90
SRD959991	95	99	91	4	105
SRD10010496	100	104	96	4	110
SRD115119111	115	119	111	4	125
SRD120124116	120	124	116	4	130

MATERIAL: BS 5216 1991 GRADE HS 3

STANDARD END CAPS

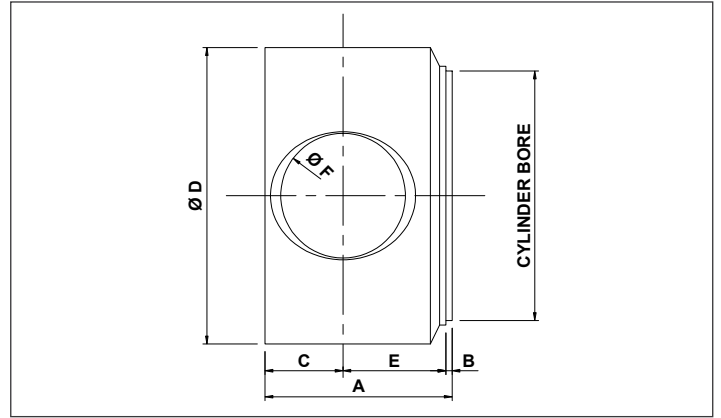


END CAP CYLINDER BORE TOTAL LENGTH A
EC 25 7

PART NUMBER	CYLINDER BORE	A	B	Ø C
EC2507	25	7	2	35
EC3010	30	10	2	40
EC3208	32	8	2	42
EC3510	35	10	2	45
EC3514	35	14	4	45
EC4010	40	10	2	50
EC4014	40	14	4	50
EC4510	45	10	2	55
EC4514	45	14	4	55
EC5010	50	10	2	60
EC5015	50	15	4	60
EC5512	55	12	2	65
EC6012	60	12	2	70
EC6018	60	18	5	70
EC6312	63	12	2	73
EC6318	63	18	5	73
EC6512	65	12	2	75
EC6518	65	18	5	75
EC7012	70	12	2	80
EC7018	70	18	5	80
EC7512	75	12	2	90
EC7520	75	20	6	90
EC8012	80	12	2	95
EC8015	80	15	2	95
EC8020	80	20	6	95
EC8515	85	15	2	100
EC9015	90	15	2	105
EC9020	90	20	6	105
EC10015	100	15	2	115
EC10022	100	22	7	115
EC11022	110	22	7	130
EC12018	120	18	2	140
EC12025	120	25	8	140
EC12518	125	18	2	145
EC12525	125	25	8	145
EC14018	140	18	2	160
EC14028	140	28	10	160
EC15020	150	20	2	170
EC15028	150	28	10	170
EC16020	160	20	2	180
EC16030	160	30	12	180

MATERIAL: STEEL S355JR - ASTM A105

END CAPS BORED



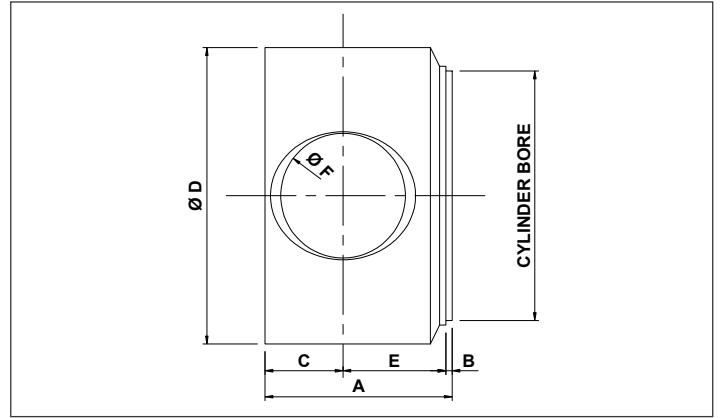
END CAP CYLINDER BORE TOTAL LENGTH A HOLE SIZE BORED
EC 25 30 12 B

PART NUMBER	CYLINDER BORE	A	B	C	Ø D	E	Ø F
EC2530-12B *	25	30	2	12	35	16	12.1
EC3042-12B	30	42	2	17	40	23	12.1
EC3042-16B	30	42	2	17	40	23	16.2
EC3042-BLA	30	42	2		40		BLANK
EC3240-16B *	32	40	2	17	40	21	16.2
EC3240-BLA	32	40	2		40		BLANK
EC4035-16B	40	35	2	15	50	18	16.2
EC4038-20B	40	38	2	18	50	18	20.25
EC4040-20B	40	40	2	18	50	20	20.5
EC4049-20B *	40	49	2	19	50	28	20.25
EC4038-BLA	40	38	2		50		BLANK
EC5045-20B	50	45	2	20	60	23	20.25
EC5048-25B	50	48	2	23	60	23	25.25
EC5070-25B *	50	70	2	25	60	43	25.5
EC5070-25B-SP	50	70	2	25	60	43	25.25
EC5070-30B-SP	50	70	2	25	60	43	30.25
EC5048-BLA	50	48	2		60		BLANK
EC5570-30B-SP	55	70	2	25	65	43	30.25
EC6050-25B	60	50	2	22.5	70	25.5	25.25
EC6052-25B *	60	52	2	25	70	25	25.25
EC6053-30B	60	53	2	25.5	70	25.5	30.25
EC6053-BLA	60	53	2		70		BLANK
EC6350-25B	63	50	2	22.5	73	25.5	25.25
EC6353-30B	63	53	2	25.5	73	25.5	30.25
EC6360-35B	63	60	2	29.5	73	28.5	35.25
EC6364-40B	63	64	2	32	73	30	40.25
EC6364-BLA	63	64	2		73		BLANK
EC7050-25B	70	50	2	22.5	80	25.5	25.25
EC7053-30B	70	53	2	25.5	80	25.5	30.25
EC7062-30B *	70	62	2	25	80	35	30.5
EC7060-35B	70	60	2	29.5	80	28.5	35.25
EC7060-BLA	70	60	2		80		BLANK
EC7550-25B	75	50	2	22.5	90	25.5	25.25
EC7553-30B	75	53	2	25.5	90	25.5	30.25
EC7560-35B	75	60	2	29.5	90	28.5	35.25
EC7560-BLA	75	60	2		90		BLANK
EC8060-30B	80	60	2	25	95	33	30.25
EC8062-30B *	80	62	2	25	95	35	30.5
EC8063-35B	80	63	2	28	95	33	35.25
EC8070-40B	80	70	2	32	95	36	40.25
EC8070-BLA	80	70	2		95		BLANK

* DENOTES MAY BE DRILLED AND TAPPED FOR GREASE NIPPLE

MATERIAL: STEEL S355JR ASTM A105
SP : DENOTES, MILLED TO 45mm WIDE
BLA : DENOTES, BLANK NOT DRILLED

END CAPS BORED



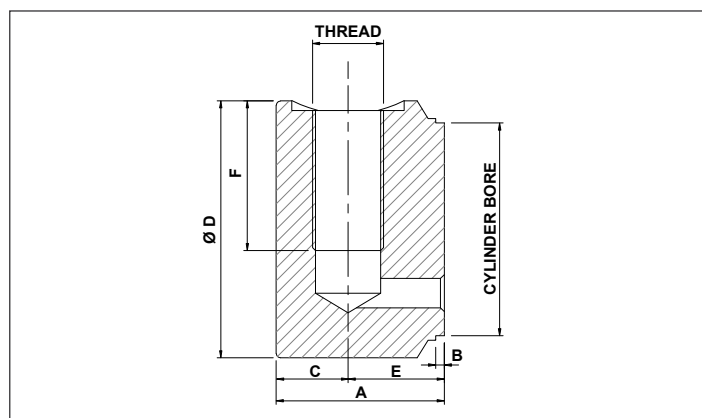
END CAP EC CYLINDER BORE 90 TOTAL LENGTH A 60 HOLE SIZE 30 BORED B

PART NUMBER	CYLINDER BORE	A	B	C	Ø D	E	Ø F
EC9060-30B *	90	60	2	25	105	33	30.25
EC9063-35B	90	63	2	28	105	33	35.25
EC9070-40B	90	70	2	32	105	36	40.25
EC9070-BLA	90	70	2		105		BLANK
EC10070-30B *	100	70	2	34	115	34	30.5
EC10070-35B	100	70	2	30	115	38	35.25
EC10073-40B	100	73	2	33	115	38	40.25
EC10088-50B	100	88	2	40	115	46	50.25
EC10088-BLA	100	88	2		115		BLANK
EC12590-40B	125	90	2	38	145	50	40.25
EC12597-50B	125	97	2	45	145	50	50.25
EC12597-BLA	125	97	2		145		BLANK

* DENOTES MAY BE DRILLED AND TAPPED FOR GREASE NIPPLE

MATERIAL: STEEL S355JR ASTM A105
 BLA : DENOTES, BLANK NOT DRILLED

END CAPS PORTED

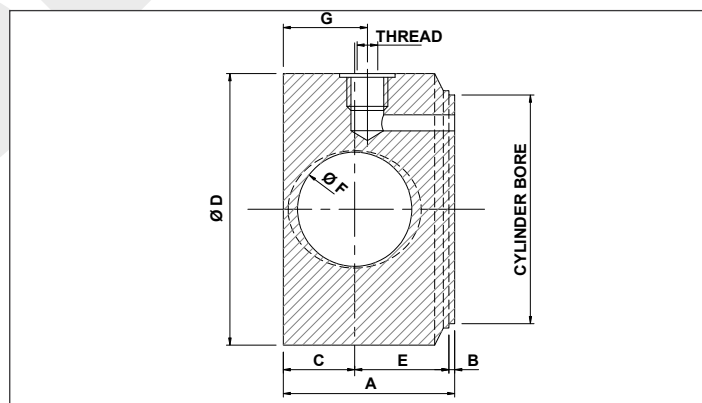


END CAP EC		CYLINDER BORE 40		TOTAL LENGTH A 45		PORTED P			
PART NUMBER	CYLINDER BORE	A	B	C	Ø D	E	F	BSP THREAD	
EC4045P	40	45	2	19	50	26	30	1/4"	
EC5046P	50	46	2	19	60	27	35	3/8"	
EC6046P	60	46	2	19	70	27	35	3/8"	
EC6346P	63	46	2	19	73	27	35	3/8"	
EC7046P	70	46	2	19	80	27	35	3/8"	
EC7555P	75	55	2	22	90	33	45	1/2"	
EC8055P	80	55	2	22	95	33	45	1/2"	
EC9055P	90	55	2	22	105	33	45	1/2"	
EC10055P	100	55	2	22	115	33	45	1/2"	
EC12555P	125	55	2	22	145	33	45	1/2"	

DESIGNED TO TAKE OUR RANGE OF BURST VALVES

MATERIAL: STEEL S355JR ASTM A105

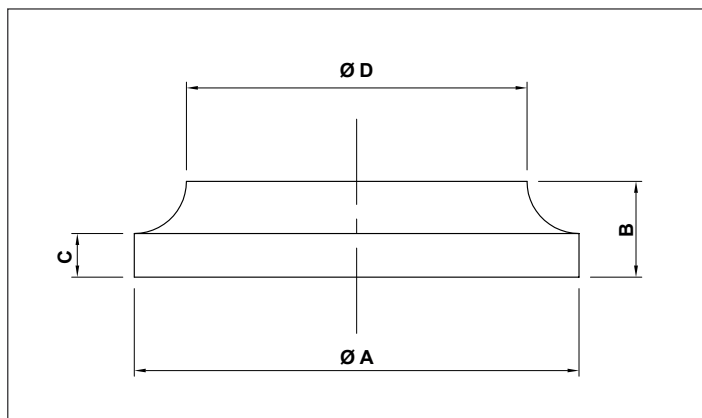
END CAPS CROSS BORED AND PORTED



END CAP EC		CYLINDER BORE 40		TOTAL LENGTH A 50		HOLE SIZE 16		PORTED P	
PART NUMBER	CYLINDER BORE	A	B	C	Ø D	E	Ø F	G	BSP THREAD
EC4050-16P	40	50	2	15	50	33	16.2	30	1/4"
EC4060-16P	40	60	2	15	50	43	16.2	38	1/4"
EC5060-20P	50	60	2	20	60	38	20.25	38	3/8"
EC6060-25P	60	60	2	23	70	35	25.25	38	3/8"
EC6360-25P	63	60	2	23	73	35	25.25	38	3/8"
EC6360-30P	63	60	2	23	73	35	30.25	38	3/8"
EC7060-25P	70	60	2	23	80	35	25.25	38	3/8"
EC8075-30P	80	75	2	25	95	48	30.25	47	1/2"
EC9075-30P	90	75	2	25	105	48	30.25	47	1/2"
EC10075-35P	100	75	2	30	115	43	35.25	47	1/2"

MATERIAL: STEEL S355JR ASTM A105

END CAP INTERNAL PLUG



END CAP
EC

CYLINDER BORE
30

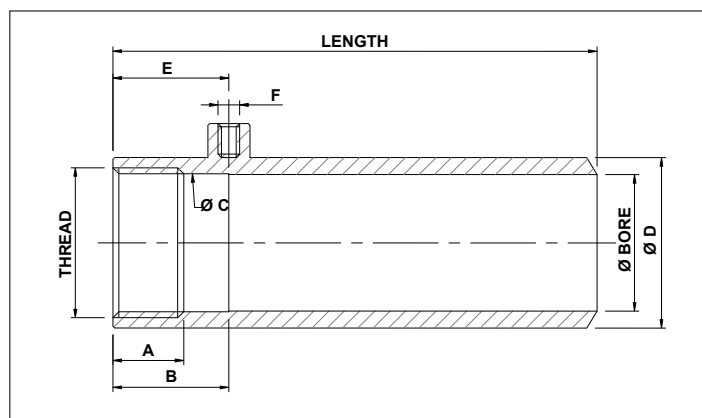
TOTAL LENGTH B
12

INTERNAL PLUG
IP

PART NUMBER	CYLINDER BORE	Ø A	B	C	Ø D
EC3012IP	30	31	12	5	16
EC4012IP	40	41	12	5	27
EC5012IP	50	51	12	5	37
EC6015IP	60	61	15	7	46
EC6315IP	63	64	15	7	48
EC7015IP	70	71	15	7.5	56
EC7515IP	75	76	15	7.5	57
EC8017IP	80	81	17	9	65
EC9017IP	90	91	17	9	72
EC10020IP	100	101	20	10	79
EC12525IP	125	126	25	10	100

MATERIAL: STEEL S355JR ASTM A105

STANDARD THREADED CYLINDER TUBES



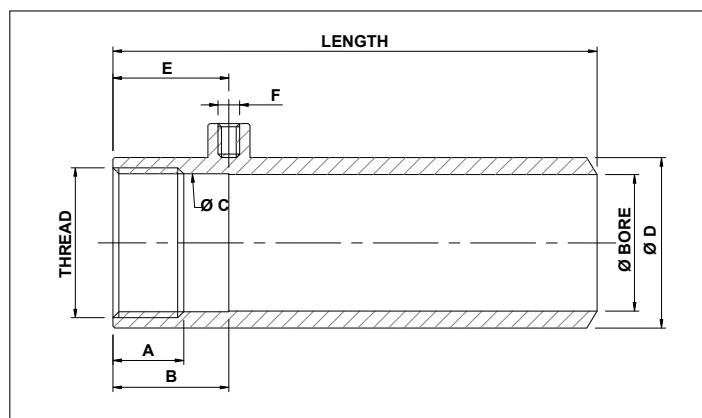
STANDARD TUBE CYLINDER BORE STROKE
ST 25 100

PART NUMBER	CYLINDER BORE	STROKE	LENGTH	A	B	Ø C	Ø D	E	F	THREAD
ST25100	25	100	145	12	20	25.6	35	12	1/4"BSP	28 x 1.5
ST25200	25	200	245	12	20	25.6	35	12	1/4"BSP	28 x 1.5
ST25300	25	300	345	12	20	25.6	35	12	1/4"BSP	28 x 1.5
ST25500	25	500	545	12	20	25.6	35	12	1/4"BSP	28 x 1.5
ST25800	25	800	845	12	20	25.6	35	12	1/4"BSP	28 x 1.5
ST30150	30	150	220	14	30	30.6	40	28	1/4"BSP	34 x 1.5
ST30300	30	300	370	14	30	30.6	40	28	1/4"BSP	34 x 1.5
ST30500	30	500	570	14	30	30.6	40	28	1/4"BSP	34 x 1.5
ST30800	30	800	870	14	30	30.6	40	28	1/4"BSP	34 x 1.5
ST30850-025 MALE	30	850	920	14	30	30.6	40	28	1/4"BSP MALE	34 x 1.5
ST301000	30	1000	1070	14	30	30.6	40	28	1/4"BSP	34 x 1.5
ST32150	32	150	237	16	27	32.6	42	27	1/4"BSP	36 x 1.5
ST32200	32	200	287	16	27	32.6	42	27	1/4"BSP	36 x 1.5
ST32250	32	250	337	16	27	32.6	42	27	1/4"BSP	36 x 1.5
ST32300	32	300	387	16	27	32.6	42	27	1/4"BSP	36 x 1.5
ST32400	32	400	487	16	27	32.6	42	27	1/4"BSP	36 x 1.5
ST32500	32	500	587	16	27	32.6	42	27	1/4"BSP	36 x 1.5
ST40100	40	100	192	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST40150	40	150	242	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST40200	40	200	292	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST40250	40	250	342	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST40300	40	300	392	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST40350-025 MALE	40	350	442	21	34	40.6	50	34	1/4"BSP MALE	44 x 1.5
ST40400	40	400	492	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST40500	40	500	592	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST40600	40	600	692	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST40800	40	800	892	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST401000	40	1000	1092	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST401500	40	1500	1592	21	34	40.6	50	34	1/4"BSP	44 x 1.5
ST50150	50	150	252	24	37	50.6	60	37	3/8"BSP	54 x 1.5

SMOOTH/HONED TUBE AVAILABLE IN UNMACHINED LENGTHS, CUT TO YOUR REQUIREMENTS

MATERIAL: STEEL E3555 (EN10305-2/ DIN 2393-St52.3)-ISO H8-H9 DOM & COLD DRAWN SEAMLESS TUBE
MAXIMUM WORKING PRESSURE 250 BAR

STANDARD THREADED CYLINDER TUBES



STANDARD TUBE CYLINDER BORE STROKE
ST 50 200

PART NUMBER	CYLINDER BORE	STROKE	LENGTH	A	B	Ø C	Ø D	E	F	THREAD
ST50200	50	200	302	24	37	50.6	60	37	3/8"BSP	54 x 1.5
ST50250	50	250	352	24	37	50.6	60	37	3/8"BSP	54 x 1.5
ST50300	50	300	402	24	37	50.6	60	37	3/8"BSP	54 x 1.5
ST50400	50	400	502	24	37	50.6	60	37	3/8"BSP	54 x 1.5
ST50500	50	500	602	24	37	50.6	60	37	3/8"BSP	54 x 1.5
ST50600	50	600	702	24	37	50.6	60	37	3/8"BSP	54 x 1.5
ST50800	50	800	902	24	37	50.6	60	37	3/8"BSP	54 x 1.5
ST501000	50	1000	1102	24	37	50.6	60	37	3/8"BSP	54 x 1.5
ST501500	50	1500	1602	24	37	50.6	60	37	3/8"BSP	54 x 1.5
ST55250	55	250	362	24	37	55.6	65	37	3/8"BSP	60 x 1.5
ST55300	55	300	412	24	37	55.6	65	37	3/8"BSP	60 x 1.5
ST55500	55	500	612	24	37	55.6	65	37	3/8"BSP	60 x 1.5
ST55600	55	600	712	24	37	55.6	65	37	3/8"BSP	60 x 1.5
ST55800	55	800	912	24	37	55.6	65	37	3/8"BSP	60 x 1.5
ST60100	60	100	217	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST60150	60	150	267	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST60200	60	200	317	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST60250	60	250	367	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST60300	60	300	417	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST60400	60	400	517	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST60500	60	500	617	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST60600	60	600	717	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST60800	60	800	917	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST601000	60	1000	1117	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST601500	60	1500	1617	29	42	60.6	70	45	3/8"BSP	64 x 1.5
ST63200	63	200	317	29	42	63.6	73	45	3/8"BSP	68 x 1.5
ST63250	63	250	367	29	42	63.6	73	45	3/8"BSP	68 x 1.5
ST63300	63	300	417	29	42	63.6	73	45	3/8"BSP	68 x 1.5
ST63300-HD	63	300	417	29	42	63.6	78	45	3/8"BSP	68 x 1.5
ST63400	63	400	517	29	42	63.6	73	45	3/8"BSP	68 x 1.5

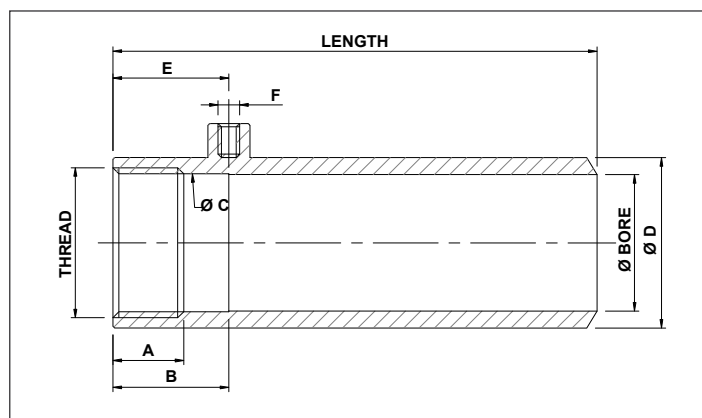
SMOOTH/HONED TUBE AVAILABLE IN UNMACHINED LENGTHS, CUT TO YOUR REQUIREMENTS

MATERIAL: STEEL E3555 (EN10305-2/ DIN 2393-St52.3)-ISO H8-H9 DOM & COLD DRAWN SEAMLESS TUBE

MAXIMUM WORKING PRESSURE 250 BAR

HD : DENOTES. THICKER WALL TUBE

STANDARD THREADED CYLINDER TUBES



STANDARD TUBE CYLINDER BORE STROKE
ST 63 500

PART NUMBER	CYLINDER BORE	STROKE	LENGTH	A	B	Ø C	Ø D	E	F	THREAD
ST63500	63	500	617	29	42	63.6	73	45	3/8"BSP	68 x 1.5
ST63500-HD	63	500	617	29	42	63.6	78	45	3/8"BSP	68 x 1.5
ST63600	63	600	717	29	42	63.6	73	45	3/8"BSP	68 x 1.5
ST63800	63	800	917	29	42	63.6	73	45	3/8"BSP	68 x 1.5
ST631000	63	1000	1117	29	42	63.6	73	45	3/8"BSP	68 x 1.5
ST631500	63	1500	1617	29	42	63.6	73	45	3/8"BSP	68 x 1.5
ST70200	70	200	317	29	42	70.6	80	45	3/8"BSP	74 x 1.5
ST70250	70	250	367	29	42	70.6	80	45	3/8"BSP	74 x 1.5
ST70300	70	300	417	29	42	70.6	80	45	3/8"BSP	74 x 1.5
ST70400	70	400	517	29	42	70.6	80	45	3/8"BSP	74 x 1.5
ST70500	70	500	617	29	42	70.6	80	45	3/8"BSP	74 x 1.5
ST70600	70	600	717	29	42	70.6	80	45	3/8"BSP	74 x 1.5
ST70800	70	800	917	29	42	70.6	80	45	3/8"BSP	74 x 1.5
ST701000	70	1000	1117	29	42	70.6	80	45	3/8"BSP	74 x 1.5
ST701500	70	1500	1617	29	42	70.6	80	45	3/8"BSP	74 x 1.5
ST75200-037 PORT	75	200	335	35	54	75.6	90	56	3/8" BSP	80 x 2
ST75300	75	300	435	35	54	75.6	90	56	1/2"BSP	80 x 2
ST75500-037 PORT	75	500	635	35	54	75.6	90	56	3/8"BSP	80 x 2
ST75500	75	500	635	35	54	75.6	90	56	1/2"BSP	80 x 2
ST75800	75	800	935	35	54	75.6	90	56	1/2"BSP	80 x 2
ST751000	75	1000	1135	35	54	75.6	90	56	1/2"BSP	80 x 2
ST751500	75	1500	1635	35	54	75.6	90	56	1/2"BSP	80 x 2
ST80200	80	200	330	35	52	80.6	95	56	1/2"BSP	85 x 2
ST80250	80	250	380	35	52	80.6	95	56	1/2"BSP	85 x 2
ST80300-037 PORT	80	300	430	35	52	80.6	95	56	3/8"BSP	85 x 2
ST80300	80	300	430	35	52	80.6	95	56	1/2"BSP	85 x 2
ST80400	80	400	530	35	52	80.6	95	56	1/2"BSP	85 x 2
ST80500	80	500	630	35	52	80.6	95	56	1/2"BSP	85 x 2
ST80600	80	600	730	35	52	80.6	95	56	1/2"BSP	85 x 2
ST80800	80	800	930	35	52	80.6	95	56	1/2"BSP	85 x 2
ST801000	80	1000	1130	35	52	80.6	95	56	1/2"BSP	85 x 2

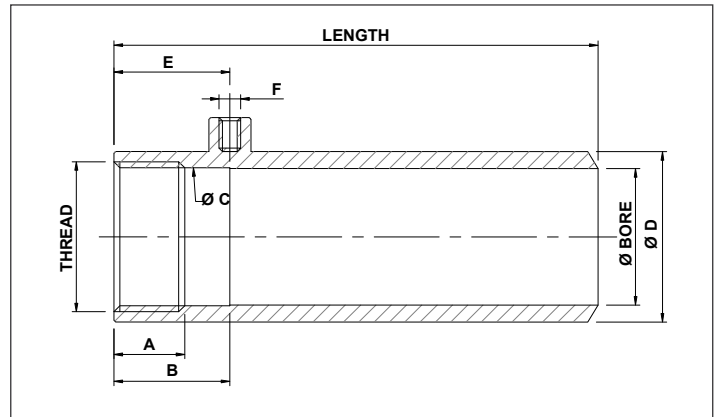
SMOOTH/HONED TUBE AVAILABLE IN UNMACHINED LENGTHS, CUT TO YOUR REQUIREMENTS

MATERIAL: STEEL E3555 (EN10305-2/ DIN 2393-St52.3)-ISO H8-H9 DOM & COLD DRAWN SEAMLESS TUBE

MAXIMUM WORKING PRESSURE 250 BAR

HD : DENOTES. THICKER WALL TUBE

STANDARD THREADED CYLINDER TUBES



STANDARD TUBE CYLINDER BORE STROKE
ST 80 1500

PART NUMBER	CYLINDER BORE	STROKE	LENGTH	A	B	Ø C	Ø D	E	F	THREAD
ST801500	80	1500	1630	35	52	80.6	95	56	1/2"BSP	85 x 2
ST90150	90	150	280	35	52	90.6	105	56	1/2"BSP	95 x 2
ST90200	90	200	330	35	52	90.6	105	56	1/2"BSP	95 x 2
ST90250	90	250	380	35	52	90.6	105	56	1/2"BSP	95 x 2
ST90300-037 PORT	90	300	430	35	52	90.6	105	56	3/8"BSP	95 x 2
ST90300	90	300	430	35	52	90.6	105	56	1/2"BSP	95 x 2
ST90400	90	400	530	35	52	90.6	105	56	1/2"BSP	95 x 2
ST90500	90	500	630	35	52	90.6	105	56	1/2"BSP	95 x 2
ST90600	90	600	730	35	52	90.6	105	56	1/2"BSP	95 x 2
ST90800	90	800	930	35	52	90.6	105	56	1/2"BSP	95 x 2
ST901000	90	1000	1130	35	52	90.6	105	56	1/2"BSP	95 x 2
ST901000L	90	1000	1140	35	52	90.6	105	56	1/2"BSP	95 x 2
ST901500	90	1500	1630	35	52	90.6	105	56	1/2"BSP	95 x 2
ST901500L	90	1500	1640	35	52	90.6	105	56	1/2"BSP	95 x 2
ST100200	100	200	340	35	52	100.6	115	56	1/2"BSP	105 x 2
ST100250	100	250	390	35	52	100.6	115	56	1/2"BSP	105 x 2
ST100300	100	300	440	35	52	100.6	115	56	1/2"BSP	105 x 2
ST100400	100	400	540	35	52	100.6	115	56	1/2"BSP	105 x 2
ST100500	100	500	640	35	52	100.6	115	56	1/2"BSP	105 x 2
ST100600	100	600	740	35	52	100.6	115	56	1/2"BSP	105 x 2
ST100800	100	800	940	35	52	100.6	115	56	1/2"BSP	105 x 2
ST1001000	100	1000	1140	35	52	100.6	115	56	1/2"BSP	105 x 2
ST1001500	100	1500	1640	35	52	100.6	115	56	1/2"BSP	105 x 2
ST100200XL	100	200	360	53	72	100.6	115	76	1/2"BSP	105 x 2
ST100250XL	100	250	410	53	72	100.6	115	76	1/2"BSP	105 x 2
ST100300XL	100	300	460	53	72	100.6	115	76	1/2"BSP	105 x 2
ST100400XL	100	400	560	53	72	100.6	115	76	1/2"BSP	105 x 2
ST100500XL	100	500	660	53	72	100.6	115	76	1/2"BSP	105 x 2
ST100600XL-037 PORT	100	600	760	53	72	100.6	115	76	3/8"BSP	105 x 2
ST100600XL	100	600	760	53	72	100.6	115	76	1/2"BSP	105 x 2
ST100800XL	100	800	960	53	72	100.6	115	76	1/2"BSP	105 x 2

SMOOTH/HONED TUBE AVAILABLE IN UNMACHINED LENGTHS, CUT TO YOUR REQUIREMENTS

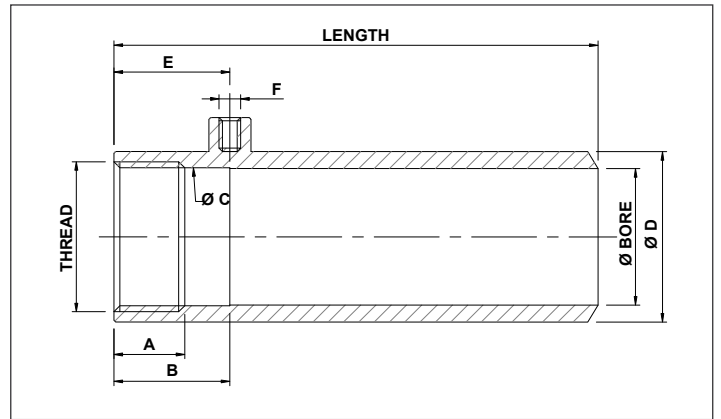
MATERIAL: STEEL E3555 (EN10305-2/ DIN 2393-St52.3)-ISO H8-H9 DOM & COLD DRAWN SEAMLESS TUBE

MAXIMUM WORKING PRESSURE 250 BAR

L : DENOTES LONG

XL : DENOTES EXTRA LONG

STANDARD THREADED CYLINDER TUBES



STANDARD TUBE	CYLINDER BORE	STROKE	EXTRA LONG
ST	100	1000	XL

PART NUMBER	CYLINDER BORE	STROKE	LENGTH	A	B	Ø C	Ø D	E	F	THREAD
ST1001000XL	100	1000	1160	53	72	100.6	115	76	1/2"BSP	105 x 2
ST1001500XL	100	1500	1660	53	72	100.6	115	76	1/2"BSP	105 x 2
ST125300	125	300	478	58	82	125.6	145	86	1/2"BSP	130 x 2
ST125500	125	500	678	58	82	125.6	145	86	1/2"BSP	130 x 2
ST125800	125	800	978	58	82	125.6	145	86	1/2"BSP	130 x 2
ST1251000	125	1000	1178	58	82	125.6	145	86	1/2"BSP	130 x 2
ST1251500	125	1500	1678	58	82	125.6	145	86	1/2"BSP	130 x 2

SMOOTH/HONED TUBE AVAILABLE IN UNMACHINED LENGTHS, CUT TO YOUR REQUIREMENTS

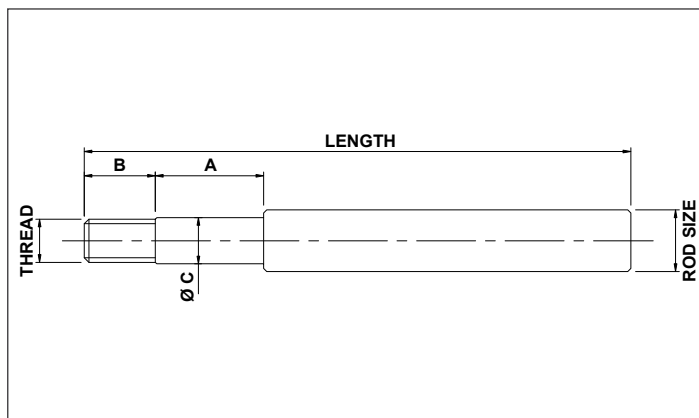
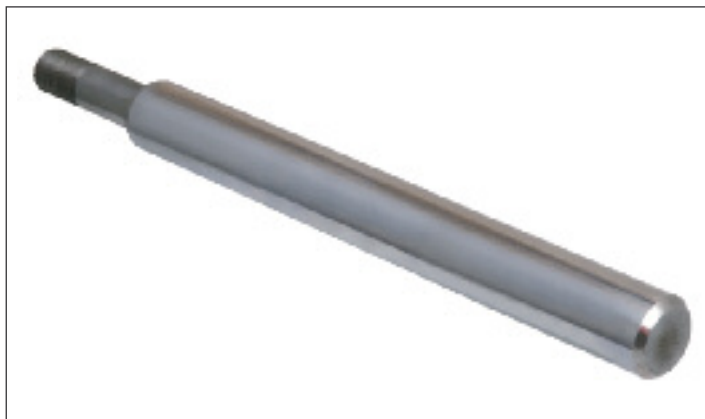
MATERIAL: STEEL E3555 (EN10305-2/ DIN 2393-St52.3)-ISO H8-H9 DOM & COLD DRAWN SEAMLESS TUBE

MAXIMUM WORKING PRESSURE 250 BAR

L : DENOTES LONG

XL : DENOTES EXTRA LONG

STANDARD CHROMED RODS



STANDARD ROD
SR

ROD DIAMETER
16

STROKE
150

THREAD
12

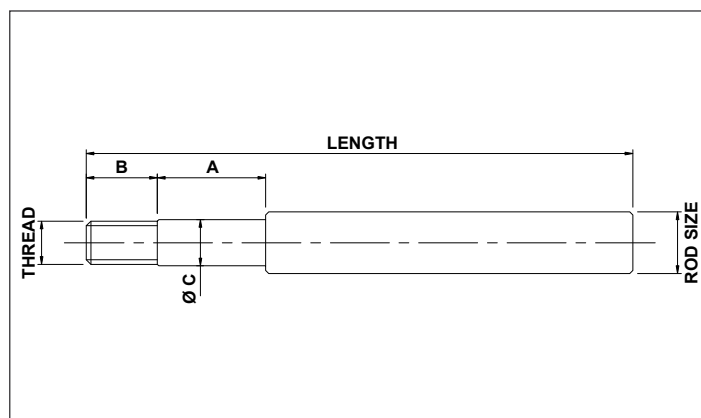
PART NUMBER	ROD Ø	STROKE	LENGTH	A	B	Ø C	THREAD	CHROMED LENGTH
SR16150-12	16	150	247	20	21	13	12 x 1.5	206
SR16300-12	16	300	397	20	21	13	12 x 1.5	356
SR16500-12	16	500	597	20	21	13	12 x 1.5	556
SR16800-12	16	800	897	20	21	13	12 x 1.5	856
SR161000-12	16	1000	1097	20	21	13	12 x 1.5	1056
SR20150-14	20	150	270	35	23	15	14 x 1.5	212
SR20200-14	20	200	320	35	23	15	14 x 1.5	262
SR20250-14	20	250	370	35	23	15	14 x 1.5	312
SR20300-14	20	300	420	35	23	15	14 x 1.5	362
SR20400-14	20	400	520	35	23	15	14 x 1.5	462
SR20500-14	20	500	620	35	23	15	14 x 1.5	562
SR20600-14	20	600	720	35	23	15	14 x 1.5	662
SR20800-14	20	800	920	35	23	15	14 x 1.5	862
SR201000-14	20	1000	1120	35	23	15	14 x 1.5	1062
SR201500-14	20	1500	1620	35	23	15	14 x 1.5	1562
SR25150-14	25	150	270	35	23	15	14 x 1.5	212
SR25200-14	25	200	320	35	23	15	14 x 1.5	262
SR25250-14	25	250	370	35	23	15	14 x 1.5	312
SR25300-14	25	300	420	35	23	15	14 x 1.5	362
SR25400-14	25	400	520	35	23	15	14 x 1.5	462
SR25500-14	25	500	620	35	23	15	14 x 1.5	562
SR25600-14	25	600	720	35	23	15	14 x 1.5	662
SR25800-14	25	800	920	35	23	15	14 x 1.5	862
SR251000-14	25	1000	1120	35	23	15	14 x 1.5	1062
SR251500-14	25	1500	1620	35	23	15	14 x 1.5	1562
SR25150L-20	25	150	280	35	30	20	20 x 1.5	215
SR25200L-20	25	200	330	35	30	20	20 x 1.5	265
SR25250L-20	25	250	380	35	30	20	20 x 1.5	315
SR25300L-20	25	300	430	35	30	20	20 x 1.5	365
SR25400L-20	25	400	530	35	30	20	20 x 1.5	465
SR25500L-20	25	500	630	35	30	20	20 x 1.5	565
SR25600L-20	25	600	730	35	30	20	20 x 1.5	665
SR25800L-20	25	800	930	35	30	20	20 x 1.5	865
SR251000L-20	25	1000	1130	35	30	20	20 x 1.5	1065
SR251500L-20	25	1500	1630	35	30	20	20 x 1.5	1565

BOTH METRIC & IMPERIAL CHROMED ROD AVAILABLE IN UNMACHINED LENGTHS, CUT TO YOUR REQUIREMENTS

MATERIAL: STEEL CK45 - CHROME 25 µm

L : DENOTES LONG

STANDARD CHROMED RODS



STANDARD ROD SR ROD DIAMETER 30 STROKE 150 THREAD 20

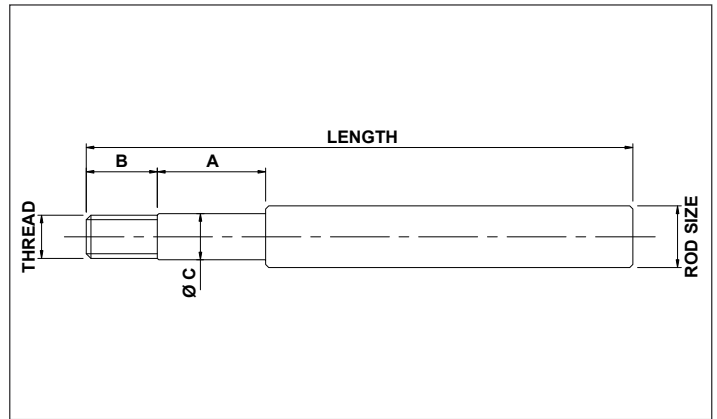
PART NUMBER	ROD Ø	STROKE	LENGTH	A	B	Ø C	THREAD	CHROMED LENGTH
SR30150-20	30	150	280	35	30	20	20 x 1.5	215
SR30200-20	30	200	330	35	30	20	20 x 1.5	265
SR30250-20	30	250	380	35	30	20	20 x 1.5	315
SR30300-20	30	300	430	35	30	20	20 x 1.5	365
SR30400-20	30	400	530	35	30	20	20 x 1.5	465
SR30500-20	30	500	630	35	30	20	20 x 1.5	565
SR30600-20	30	600	730	35	30	20	20 x 1.5	665
SR30800-20	30	800	930	35	30	20	20 x 1.5	865
SR301000-20	30	1000	1130	35	30	20	20 x 1.5	1065
SR301500-20	30	1500	1630	35	30	20	20 x 1.5	1565
SR30100L-20	30	100	248	45	30	20	20 x 1.5	173
SR30150L-20	30	150	298	45	30	20	20 x 1.5	223
SR30200L-20	30	200	348	45	30	20	20 x 1.5	273
SR30250L-20	30	250	398	45	30	20	20 x 1.5	323
SR30300L-20	30	300	448	45	30	20	20 x 1.5	373
SR30400L-20	30	400	548	45	30	20	20 x 1.5	473
SR30500L-20	30	500	648	45	30	20	20 x 1.5	573
SR30600L-20	30	600	748	45	30	20	20 x 1.5	673
SR30800L-20	30	800	948	45	30	20	20 x 1.5	873
SR301000L-20	30	1000	1148	45	30	20	20 x 1.5	1073
SR301500L-20	30	1500	1648	45	30	20	20 x 1.5	1573
SR35200-20	35	200	348	45	30	20	20 x 1.5	273
SR35250-20	35	250	398	45	30	20	20 x 1.5	323
SR35300-20	35	300	448	45	30	20	20 x 1.5	373
SR35400-20	35	400	548	45	30	20	20 x 1.5	473
SR35500-20	35	500	648	45	30	20	20 x 1.5	573
SR35600-20	35	600	748	45	30	20	20 x 1.5	673
SR35800-20	35	800	948	45	30	20	20 x 1.5	873
SR351000-20	35	1000	1148	45	30	20	20 x 1.5	1073
SR351500-20	35	1500	1648	45	30	20	20 x 1.5	1573
SR35200L-27	35	200	348	45	30	27	27 x 2	273
SR35250L-27	35	250	398	45	30	27	27 x 2	323
SR35300L-27	35	300	448	45	30	27	27 x 2	373
SR35400L-27	35	400	548	45	30	27	27 x 2	473
SR35500L-27	35	500	648	45	30	27	27 x 2	573
SR35600L-27	35	600	748	45	30	27	27 x 2	673
SR35800L-27	35	800	948	45	30	27	27 x 2	873
SR351000L-27	35	1000	1148	45	30	27	27 x 2	1073
SR351500L-27	35	1500	1648	45	30	27	27 x 2	1573

BOTH METRIC & IMPERIAL CHROMED ROD AVAILABLE IN UNMACHINED LENGTHS,CUT TO YOUR REQUIREMENTS

MATERIAL: STEEL CK45 - CHROME 25 µm

L : DENOTES LONG

STANDARD CHROMED RODS



STANDARD ROD
SR

ROD DIAMETER
40

STROKE
200

THREAD
24

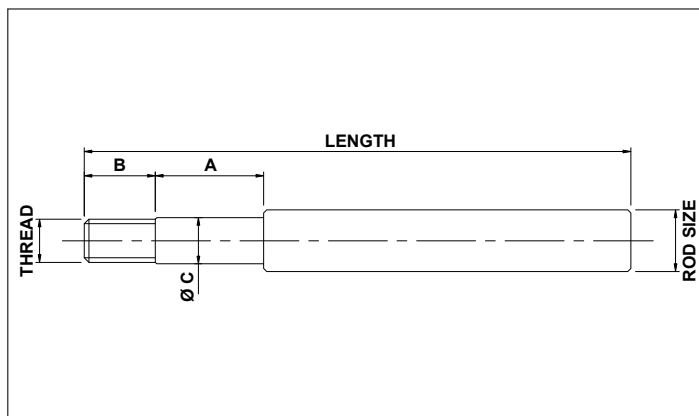
PART NUMBER	ROD Ø	STROKE	LENGTH	A	B	Ø C	THREAD	CHROMED LENGTH
SR40200-24	40	200	348	40	35	24	24 x 2	273
SR40250-24	40	250	398	40	35	24	24 x 2	323
SR40300-24	40	300	448	40	35	24	24 x 2	373
SR40400-24	40	400	548	40	35	24	24 x 2	473
SR40500-24	40	500	648	40	35	24	24 x 2	573
SR40600-24	40	600	748	40	35	24	24 x 2	673
SR40800-24	40	800	948	40	35	24	24 x 2	873
SR401000-24	40	1000	1148	40	35	24	24 x 2	1073
SR401500-24	40	1500	1648	40	35	24	24 x 2	1573
SR40200-27	40	200	348	45	30	27	27 x 2	273
SR40250-27	40	250	398	45	30	27	27 x 2	323
SR40300-27	40	300	448	45	30	27	27 x 2	373
SR40400-27	40	400	548	45	30	27	27 x 2	473
SR40500-27	40	500	648	45	30	27	27 x 2	573
SR40550-27	40	550	698	45	30	27	27 x 2	623
SR40600-27	40	600	748	45	30	27	27 x 2	673
SR40800-27	40	800	948	45	30	27	27 x 2	873
SR401000-27	40	1000	1148	45	30	27	27 x 2	1073
SR401500-27	40	1500	1648	45	30	27	27 x 2	1573
SR40200L-30	40	200	363	45	33	30	30 x 2	285
SR40250L-30	40	250	413	45	33	30	30 x 2	335
SR40300L-30	40	300	463	45	33	30	30 x 2	385
SR40400L-30	40	400	563	45	33	30	30 x 2	485
SR40500L-30	40	500	663	45	33	30	30 x 2	585
SR40600L-30	40	600	763	45	33	30	30 x 2	685
SR40800L-30	40	800	963	45	33	30	30 x 2	885
SR401000L-30	40	1000	1163	45	33	30	30 x 2	1085
SR401500L-30	40	1500	1663	45	33	30	30 x 2	1585
SR45200-27	45	200	363	45	30	27	27 x 2	288
SR45250-27	45	250	413	45	30	27	27 x 2	338
SR45300-27	45	300	463	45	30	27	27 x 2	388
SR45400-27	45	400	563	45	30	27	27 x 2	488
SR45500-27	45	500	663	45	30	27	27 x 2	588
SR45600-27	45	600	763	45	30	27	27 x 2	688
SR45800-27	45	800	963	45	30	27	27 x 2	888
SR451000-27	45	1000	1163	45	30	27	27 x 2	1088
SR451500-27	45	1500	1663	45	30	27	27 x 2	1588

BOTH METRIC & IMPERIAL CHROMED ROD AVAILABLE IN UNMACHINED LENGTHS, CUT TO YOUR REQUIREMENTS

MATERIAL: STEEL CK45 - CHROME 25 µm

L : DENOTES LONG

STANDARD CHROMED RODS



STANDARD ROD
SR

ROD DIAMETER
50

STROKE
200

THREAD
27

PART NUMBER	ROD Ø	STROKE	LENGTH	A	B	Ø C	THREAD	CHROMED LENGTH
SR50200-27	50	200	363	45	30	27	27 x 2	288
SR50250-27	50	250	413	45	30	27	27 x 2	338
SR50300-27	50	300	463	45	30	27	27 x 2	388
SR50400-27	50	400	563	45	30	27	27 x 2	488
SR50500-27	50	500	663	45	30	27	27 x 2	588
SR50600-27	50	600	763	45	30	27	27 x 2	688
SR50800-27	50	800	963	45	30	27	27 x 2	888
SR501000-27	50	1000	1163	45	30	27	27 x 2	1088
SR501500-27	50	1500	1663	45	30	27	27 x 2	1588
SR50200-30	50	200	363	45	33	30	30 x 2	285
SR50250-30	50	250	413	45	33	30	30 x 2	335
SR50300-30	50	300	463	45	33	30	30 x 2	385
SR50400-30	50	400	563	45	33	30	30 x 2	485
SR50500-30	50	500	663	45	33	30	30 x 2	585
SR50600-30	50	600	763	45	33	30	30 x 2	685
SR50800-30	50	800	963	45	33	30	30 x 2	885
SR501000-30	50	1000	1163	45	33	30	30 x 2	1085
SR501500-30	50	1500	1663	45	33	30	30 x 2	1585
SR50200L-33	50	200	375	45	43	33	33 x 2	287
SR50250L-33	50	250	425	45	43	33	33 x 2	337
SR50300L-33	50	300	475	45	43	33	33 x 2	387
SR50400L-33	50	400	575	45	43	33	33 x 2	487
SR50500L-33	50	500	675	45	43	33	33 x 2	587
SR50600L-33	50	600	775	45	43	33	33 x 2	687
SR50800L-33	50	800	975	45	43	33	33 x 2	887
SR501000L-33	50	1000	1175	45	43	33	33 x 2	1087
SR501500L-33	50	1500	1675	45	43	33	33 x 2	1587
SR50200XL-33	50	200	395	45	43	33	33 x 2	307
SR50250XL-33	50	250	445	45	43	33	33 x 2	357
SR50300XL-33	50	300	495	45	43	33	33 x 2	407
SR50400XL-33	50	400	595	45	43	33	33 x 2	507
SR50500XL-33	50	500	695	45	43	33	33 x 2	607
SR50600XL-33	50	600	795	45	43	33	33 x 2	707
SR50800XL-33	50	800	995	45	43	33	33 x 2	907
SR501000XL-33	50	1000	1195	45	43	33	33 x 2	1107
SR501500XL-33	50	1500	1695	45	43	33	33 x 2	1607

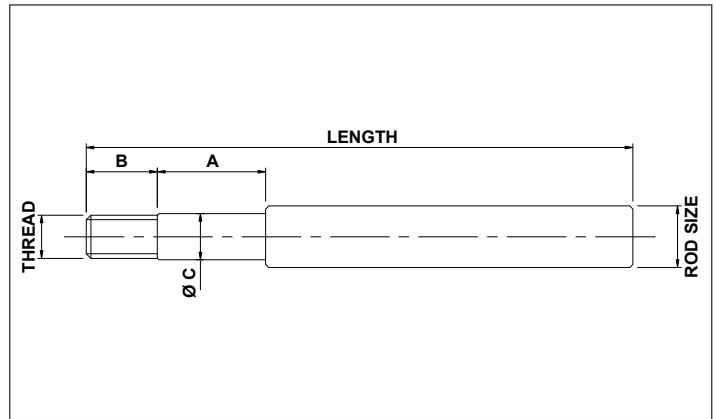
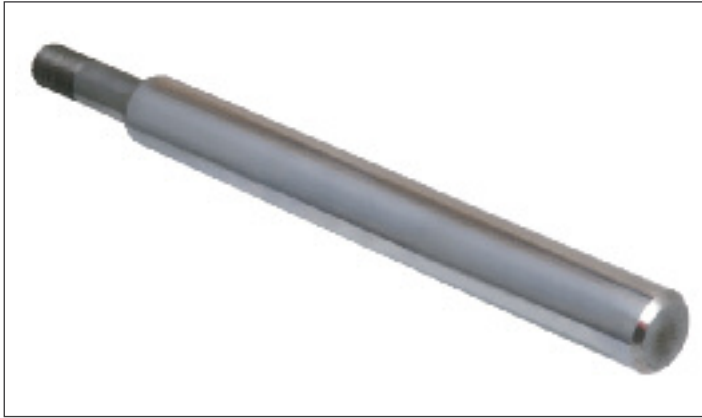
BOTH METRIC & IMPERIAL CHROMED ROD AVAILABLE IN UNMACHINED LENGTHS, CUT TO YOUR REQUIREMENTS

MATERIAL: STEEL CK45 - CHROME 25 µm

L : DENOTES LONG

XL : DENOTES EXTRA LONG

STANDARD CHROMED RODS



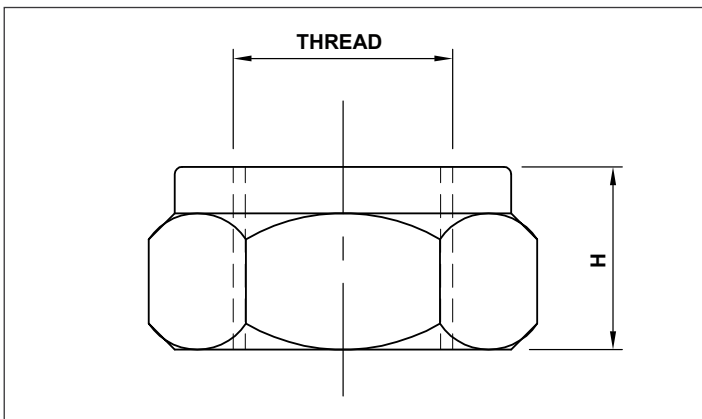
STANDARD ROD	ROD DIAMETER	STROKE	THREAD
SR	60	250	33

PART NUMBER	ROD Ø	STROKE	LENGTH	A	B	Ø C	THREAD	CHROMED LENGTH
SR60250-33	60	250	445	45	43	33	33 x 2	337
SR60300-33	60	300	475	45	43	33	33 x 2	387
SR60400-33	60	400	595	45	43	33	33 x 2	507
SR60500-33	60	500	695	45	43	33	33 x 2	607
SR60600-33	60	600	795	45	43	33	33 x 2	707
SR60800-33	60	800	995	45	43	33	33 x 2	907
SR601000-33	60	1000	1195	45	43	33	33 x 2	1107
SR601500-33	60	1500	1695	45	43	33	33 x 2	1607
SR70500-39	70	500	717	45	51	40	39 x 3	621
SR70800-39	70	800	1017	45	51	40	39 x 3	921
SR701000-39	70	1000	1217	45	51	40	39 x 3	1121
SR701500-39	70	1500	1717	45	51	40	39 x 3	1621

BOTH METRIC & IMPERIAL CHROMED ROD AVAILABLE IN UNMACHINED LENGTHS, CUT TO YOUR REQUIREMENTS

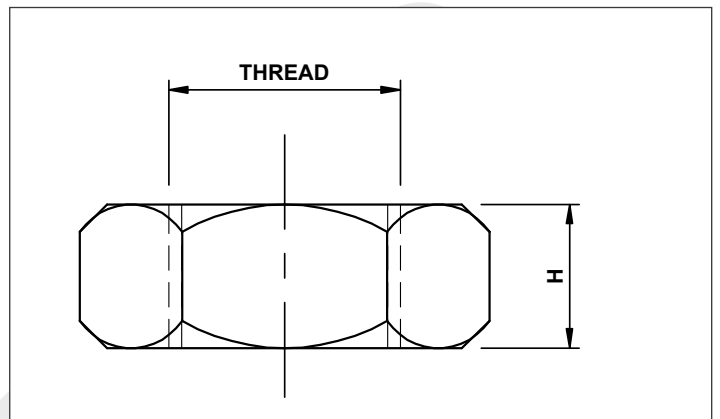
MATERIAL: STEEL CK45 - CHROME 25 µm
L : DENOTES LONG

NYLOCK NUTS



NYLOCK NUT	THREAD SIZE	HEIGHT H
NN	10	11

HEXAGON HALF / LOCK NUTS



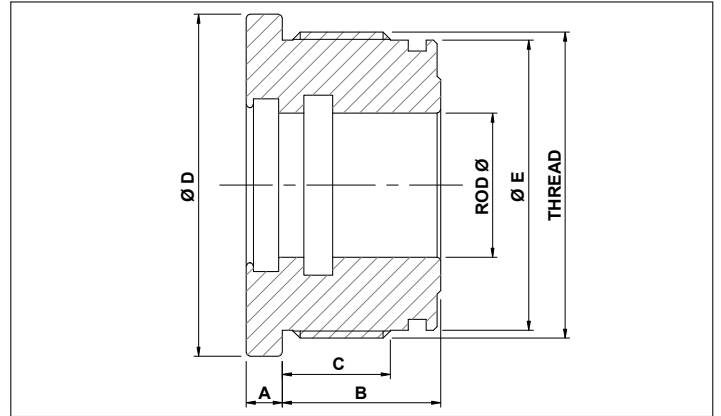
LOCK NUT	THREAD SIZE	HEIGHT H
LN	5	3

PART NUMBER	THREAD	HEIGHT
NN1011	10 x 1.25	11.5
NN1011-1.5	10 x 1.5	11.5
NN1214	12 x 1.5	14
NN1414	14 x 1.5	14
NN1416	14 x 1.5	16
NN1618	16 x 1.5	18
NN1820	18 x 1.5	20
NN2017	20 x 1.5	17
NN2023	20 x 1.5	23
NN2225	22 x 1.5	25
NN2424	24 x 2	24
NN2427	24 x 2	27
NN2723	27 x 2	23
NN2727	27 x 2	27
NN2730	27 x 2	30
NN3025	30 x 2	25
NN3030	30 x 2	30
NN3335	33 x 2	35
NN3942	39 x 3	42
NN4852	48 x 3	52

PART NUMBER	THREAD	HEIGHT
LN0503	5 x 0.8	3
LN0603	6 x 1	3
LN0804	8 x 1.25	4
LN1005	10 x 1.5	5
LN1206-1.5	12 x 1.5	6
LN1206	12 x 1.75	6
LN1408	14 x 2	8
LN1608-1.5	16 x 1.5	8
LN1608	16 x 2	8
LN1809	18 x 1.5	9
LN2008	20 x 1.5	8
LN2211	22 x 1.5	11
LN2410	24 x 2	10
LN2712	27 x 2	12
LN3012	30 x 2	12
LN3314	33 x 2	14
LN3614	36 x 3	14
LN3629	36 x 2	29
LN3916	39 x 3	16
LN4216	42 x 3	16
LN4518	45 x 3	18
LN5220	52 x 3	20
LN5622	56 x 4	22

SPECIFICATION: ISO METRIC COARSE AND FINE THREAD. DIN489 & UNI 5589-65

IMPERIAL STANDARD GLANDS

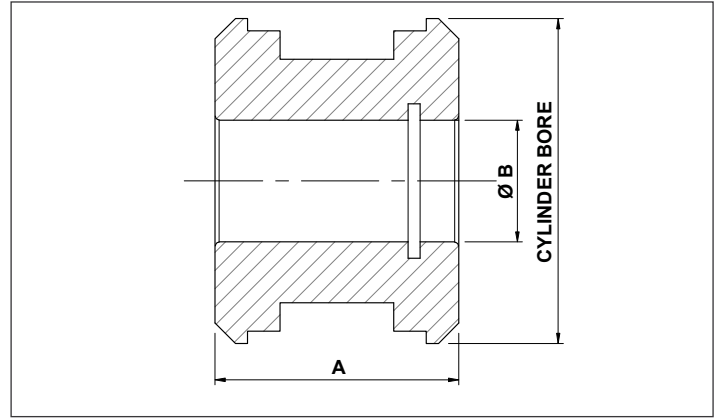


STANDARD GLAND SG	CYLINDER BORE (INCHES) 1.50	ROD DIAMETER (INCHES) 0.75	LENGTH OF B (INCHES) 1.50	IMPERIAL I
----------------------	--------------------------------	-------------------------------	------------------------------	---------------

PART NUMBER	CYLINDER BORE (INCHES)	ROD Ø (INCHES)	A (INCHES)	B (INCHES)	C (INCHES)	Ø D (INCHES)	THREAD (INCHES)	SEAL KIT (INCHES)
SG150075150-I	1.50	0.75	0.311	1.50	0.874	1.874	1.75-12UNF	GK0.75-1.50-I
SG200112150-I	2.00	1.12	0.374	1.50	0.826	2.510	2.25-16UNF	GK1.12-2.00-I
SG250112187-I	2.50	1.12	0.365	1.87	0.905	2.993	2.75-16UNF	GK1.12-2.50-I
SG250125187-I	2.50	1.25	0.365	1.87	0.905	2.993	2.75-16UNF	GK1.25-2.00-I
SG250150187-I	2.50	1.50	0.365	1.87	0.905	2.993	2.75-16UNF	GK1.50-2.50-I
SG300150192-I	3.00	1.50	0.374	1.92	1.181	3.530	3.25-16UNF	GK1.50-3.00-I
SG300175192-I	3.00	1.75	0.374	1.92	1.181	3.503	3.25-16UNF	GK1.75-3.00-I
SG350175200-I	3.50	1.75	0.374	2.00	1.250	4.015	3.75-12UNF	GK1.75-3.50-I
SG350200200-I	3.50	2.00	0.374	2.00	1.250	4.015	3.75-12UNF	GK.200-3.50-I
SG400200275-I	4.00	2.00	0.498	2.75	1.771	4.487	4.25-12UNF	GK2.00-4.00-I
SG400250275-I	4.00	2.50	0.498	2.75	1.771	4.487	4.25-12UNF	GK2.50-4.00-I
SG500250287-I	5.00	2.50	0.500	2.87	1.968	5.668	5.25-12UNF	GK2.50-5.00-I
SG500275287-I	5.00	2.75	0.500	2.87	1.968	5.668	5.25-12UNF	GK2.75-5.00-I
SG500300287-I	5.00	3.00	0.500	2.87	1.968	5.668	5.25-12UNF	GK3.00-5.00-I
SG600300312-I	6.00	3.00	0.563	3.12	2.164	6.692	6.25-12UNF	GK3.00-6.00-I
SG600350312-I	6.00	3.50	0.563	3.12	2.164	6.692	6.25-12UNF	GK3.50-6.00-I

MATERIAL: HYDRAULIC CAST IRON GRADE G25
MAXIMUM WORKING PRESSURE 250 BAR

IMPERIAL STANDARD PISTONS

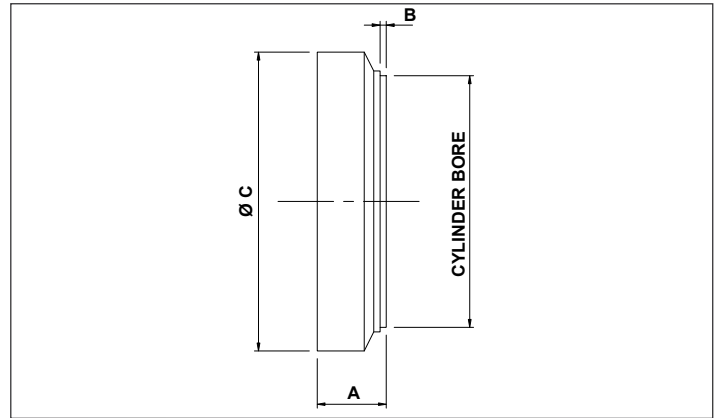


METAL PISTON MP	CYLINDER BORE (INCHES) 1.50	INTERNAL DIAMETER Ø B (INCHES) .63	LENGTH OF A (INCHES) 1.00	IMPERIAL I
--------------------	--------------------------------	---------------------------------------	------------------------------	---------------

PART NUMBER	CYLINDER BORE (INCHES)	A (INCHES)	Ø B (INCHES)	SEAL KIT (INCHES)
MP150063100-I	1.50	1.000	0.630	PK1.50-I
MP200078150-I	2.00	1.500	0.787	PK2.00-I
MP250078150-I	2.50	1.500	0.787	PK2.50-I
MP250090150-I	2.50	1.500	0.906	PK2.50-I
MP300118175-I	3.00	1.750	1.181	PK3.00-I
MP350129175-I	3.50	1.750	1.299	PK3.50-I
MP400129175-I	4.00	1.750	1.299	PK4.00-I
MP500157218-I	5.00	2.188	1.575	PK5.00-I
MP600204237-I	6.00	2.375	2.047	PK6.00-I

MATERIAL: STEEL 11SMn30-080M46
MAXIMUM WORKING PRESSURE 250BAR

IMPERIAL STANDARD END CAPS

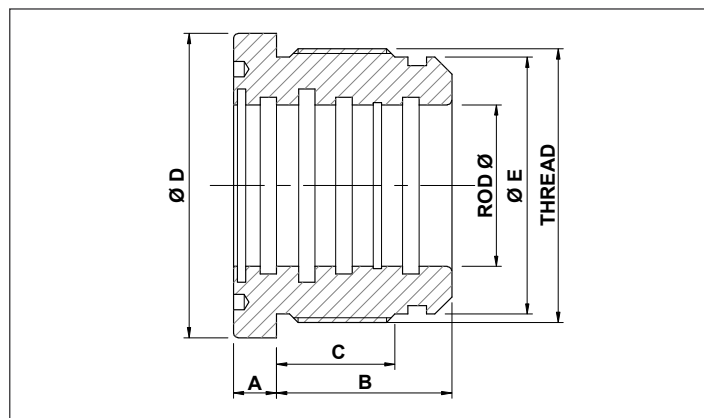


END CAP EC	CYLINDER BORE (INCHES) 1.50	TOTAL LENGTH A (INCHES) 0.50	IMPERIAL I
---------------	--------------------------------	---------------------------------	---------------

PART NUMBER	CYLINDER BORE (INCHES)	A (INCHES)	B (INCHES)	Ø C (INCHES)
EC150050-I	1.50	0.50	0.093	1.875
EC200050-I	2.00	0.50	0.125	2.500
EC250050-I	2.50	0.50	0.125	2.963
EC300059-I	3.00	0.59	0.125	3.543
EC350069-I	3.50	0.69	0.125	3.937
EC400075-I	4.00	0.75	0.125	4.500
EC500088-I	5.00	0.88	0.125	5.709
EC600100-I	6.00	1.00	0.125	6.750

MATERIAL: STEEL S355JR - ASTM A105

LARGE GLANDS

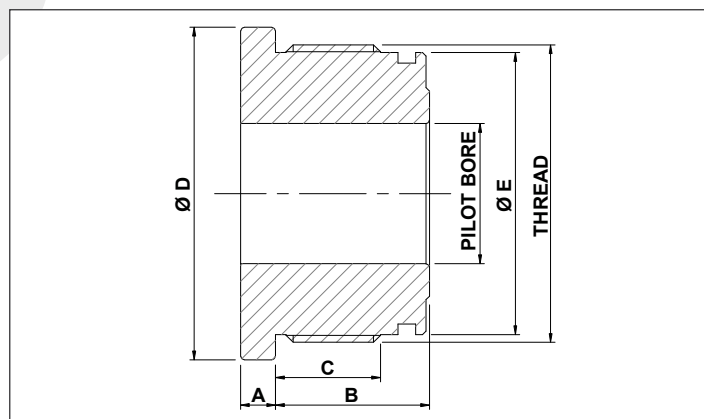


STANDARD GLAND	CYLINDER BORE	ROD DIAMETER	LENGTH OF B
SG	180	80	92

PART NUMBER	CYLINDER BORE	ROD Ø	A	B	C	Ø D	Ø E	THREAD	SEAL KIT
SG1808092	180	80	18	92	58	209	180.6	188 x 2.5	GK80-180
SG1809092	180	90	18	92	58	209	180.6	188 x 2.5	GK90-180
SG18010092	180	100	18	92	58	209	180.6	188 x 2.5	GK100-180
SG18012092	180	120	18	92	58	209	180.6	188 x 2.5	GK120-180
SG2009092	200	90	18	92	58	219	200.6	208 x 2.5	GK90-200
SG20010092	200	100	18	92	58	219	200.6	208 x 2.5	GK100-200
SG20012092	200	120	18	92	58	219	200.6	208 x 2.5	GK120-200
SG20014092	200	140	18	92	58	219	200.6	208 x 2.5	GK140-200
SG220100104	220	100	18	104	70	249	220.6	228 x 2.5	GK100-220
SG220110104	220	110	18	104	70	249	220.6	228 x 2.5	GK110-220
SG220120104	220	120	18	104	70	249	220.6	228 x 2.5	GK120-220
SG220150104	220	150	18	104	70	249	220.6	228 x 2.5	GK150-220
SG220160104	220	160	18	104	70	249	220.6	228 x 2.5	GK160-220
SG250120117	250	120	18	117	80	268	250.6	258 x 2.5	GK120-250
SG250150117	250	150	18	117	80	268	250.6	258 x 2.5	GK150-250

MATERIAL: HYDRAULIC CAST IRON GRADE G25
MAXIMUM WORKING PRESSURE 300 BAR

PILOT BORE GLANDS

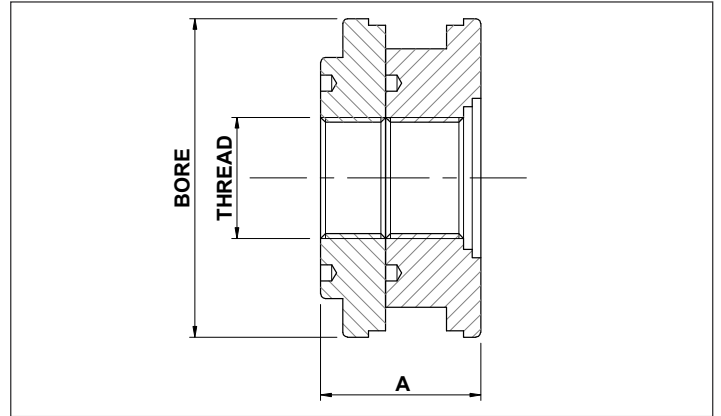


STANDARD GLAND	CYLINDER BORE	PILOT BORE	LENGTH OF B
SG	160	000	90

PART NUMBER	CYLINDER BORE	PILOT BORE	A	B	C	Ø D	Ø E	THREAD
SG16000090-PILOT	160	PILOT 30mm	12	90	69	180	160	165 x 2
SG18000092-PILOT	180	PILOT 50mm	18	92	58	210	180	188 x 2.5
SG20000092-PILOT	200	PILOT 50mm	18	92	58	218	200	208 x 2.5
SG220000117-PILOT	220	PILOT 50mm	18	117	80	237	220	228 x 2.5
SG250000117-PILOT	250	PILOT 50mm	18	117	80	268	250	258 x 2.5

MATERIAL: HYDRAULIC CAST IRON GRADE G25
MAXIMUM WORKING PRESSURE 300 BAR

LARGE PISTONS



METAL PISTON
MP

CYLINDER BORE
180

INTERNAL THREAD
80

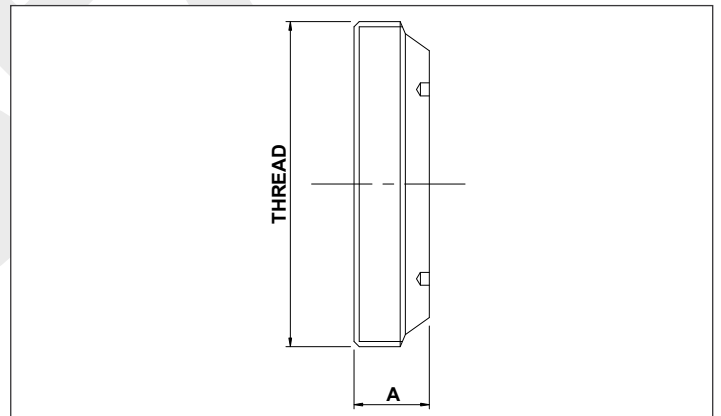
TOTAL LENGTH A
82

THREADED
TH

PART NUMBER	CYLINDER BORE	A	THREAD	SEALKIT
MP1808082TH	180	82	80 x 2	PK180
MP2008082TH	200	82	80 x 2	PK200
MP2209082TH	220	82	90 x 2	PK220
MP2509882TH	250	82	98 x 2	PK250

MATERIAL: STEEL 11SMn30- 080M46
MAXIMUM WORKING PRESSURE 300 BAR

LARGE THREADED END CAPS



END CAP
EC

CYLINDER BORE
180

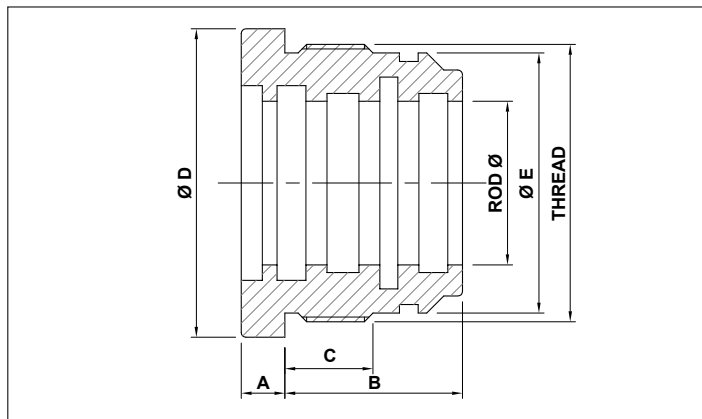
TOTAL LENGTH A
35

THREADED
TH

PART NUMBER	CYLINDER BORE	A	THREAD
EC18035TH	180	35	185 x 2.5
EC20048TH	200	48	205 x 2.5
EC22048TH	220	48	225 x 2.5
EC25048TH	250	48	255 x 2.5

MATERIAL: STEEL S355JR - ASTM A105

HEAVY DUTY GLANDS



STANDARD GLAND	CYLINDER BORE	ROD DIAMETER	LENGTH OF B	HEAVY DUTY
SG	50	25	45	HD

PART NUMBER	CYLINDER BORE	ROD Ø	A	B	C	Ø D	Ø E	THREAD	SEAL KIT
SG502545HD	50	25	10	45	22	64	50.6	54 x 1.5	GK25-50HD
SG503045HD	50	30	10	45	22	64	50.6	54 x 1.5	GK30-50HD
SG503545HD	50	35	10	45	22	64	50.6	54 x 1.5	GK35-50HD
SG603048HD	60	30	12	48	22	74	60.6	64 x 1.5	GK30-60HD
SG603548HD	60	35	12	48	22	74	60.6	64 x 1.5	GK35-60HD
SG604048HD	60	40	12	48	22	74	60.6	64 x 1.5	GK40-60HD
SG633550HD	63	35	12	50	22	78	63.6	68 x 1.5	GK35-63HD
SG634050HD	63	40	12	50	22	78	63.6	68 x 1.5	GK40-63HD
SG634550HD	63	45	12	50	22	78	63.6	68 x 1.5	GK45-63HD
SG704050HD	70	40	12	50	22	84	70.6	74 x 1.5	GK40-70HD
SG705050HD	70	50	12	50	22	84	70.6	74 x 1.5	GK50-70HD
SG804060HD	80	40	15	60	25	94	80.6	85 x 2	GK40-80HD
SG804560HD	80	45	15	60	25	94	80.6	85 x 2	GK45-80HD
SG805060HD	80	50	15	60	25	95	80.6	85 x 2	GK50-80HD
SG904060HD	90	40	15	60	25	109	90.6	95 x 2	GK40-90HD
SG904560HD	90	45	15	60	25	109	90.6	95 x 2	GK45-90HD
SG905060HD	90	50	15	60	25	109	90.6	95 x 2	GK50-90HD
SG906060HD	90	60	15	60	25	109	90.6	95 x 2	GK60-90HD
SG1004560HD	100	45	15	60	25	119	100.6	105 x 2	GK45-100HD
SG1005060HD	100	50	15	60	25	119	100.6	105 x 2	GK50-100HD
SG1005660HD	100	56	15	60	25	119	100.6	105 x 2	GK56-100HD
SG1006060HD	100	60	15	60	25	119	100.6	105 x 2	GK60-100HD
SG1006360HD	100	63	15	60	25	119	100.6	105 x 2	GK63-100HD
SG1105070HD	110	50	15	70	30	129	110.6	115 x 2	GK50-110HD
SG1105670HD	110	56	15	70	30	129	110.6	115 x 2	GK56-110HD
SG1106070HD	110	60	15	70	30	129	110.6	115 x 2	GK60-110HD
SG1106370HD	110	63	15	70	30	129	110.6	115 x 2	GK63-110HD
SG1206070HD	120	60	15	70	31	139	120.6	125 x 2	GK60-120HD
SG1207070HD	120	70	15	70	31	139	120.6	125 x 2	GK70-120HD
SG1208070HD	120	80	15	70	31	139	120.6	125 x 2	GK80-120HD

MATERIAL: STEEL 080M46

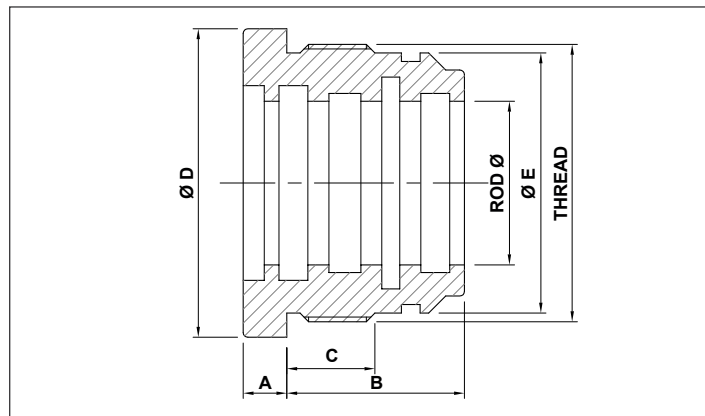
MAXIMUM WORKING PRESSURE 350 BAR

THESE NECK GLANDS ARE NOT DESIGNED TO FIT OUR STANDARD RANGE OF CYLINDERS.

WITH SPECIAL CARE AND ATTENTION SOME OF THE GLANDS WILL FIT.

FPE SEALS CANNOT BE HELD RESPONSIBLE FOR ANY CONSEQUENTIAL LOSS THAT ARISES FROM USING THESE GLANDS WITH OUR STANDARD CYLINDERS.

HEAVY DUTY GLANDS



STANDARD GLAND	CYLINDER BORE	ROD DIAMETER	LENGTH OF B	HEAVY DUTY
SG	125	50	75	HD

PART NUMBER	CYLINDER BORE	ROD Ø	A	B	C	Ø D	Ø E	THREAD	SEAL KIT
SG1255075HD	125	50	15	75	39	144	125.6	130 x 2	GK50-125HD
SG1256075HD	125	60	15	75	39	144	125.6	130 x 2	GK60-125HD
SG1257075HD	125	70	15	75	39	144	125.6	130 x 2	GK70-125HD
SG1258075HD	125	80	15	75	39	144	125.6	130 x 2	GK80-125HD
SG1259075HD	125	90	15	75	39	144	125.6	130 x 2	GK90-125HD
SG1408075HD	140	80	15	75	40	159	140.6	145 x 2	GK80-140HD
SG1409075HD	140	90	15	75	40	159	140.6	145 x 2	GK90-140HD
SG14010075HD	140	100	15	75	40	159	140.6	145 x 2	GK100-140HD
SG1508085HD	150	80	15	85	46	169	150.6	155 x 2	GK80-150HD
SG1509085HD	150	90	15	85	46	169	150.6	155 x 2	GK90-150HD
SG15010085HD	150	100	15	85	46	169	150.6	155 x 2	GK100-150HD
SG1609085HD	160	90	15	85	46	179	160.6	165 x 2	GK90-160HD
SG16010085HD	160	100	15	85	46	179	160.6	165 x 2	GK100-160HD
SG16012085HD	160	120	15	85	46	179	160.6	165 x 2	GK120-160HD
SG180100107HD	180	100	18	107	60	215	180.6	188 x 2.5	GK100-180HD
SG180120107HD	180	120	18	107	60	215	180.6	188 x 2.5	GK120-180HD
SG200100107HD	200	100	18	107	60	225	200.6	208 x 2.5	GK100-200HD
SG200120107HD	200	120	18	107	60	225	200.6	208 x 2.5	GK120-200HD
SG200140107HD	200	140	18	107	60	225	200.6	208 x 2.5	GK140-200HD
SG220120112HD	220	120	18	112	65	245	220.6	228 x 2.5	GK120-220HD
SG220140112HD	220	140	18	112	65	245	220.6	228 x 2.5	GK140-220HD
SG250150130HD	250	150	20	130	80	275	250.6	258 x 2.5	GK150-250HD
SG250180130HD	250	180	20	130	80	275	250.6	258 x 2.5	GK180-250HD

MATERIAL: STEEL 080M46

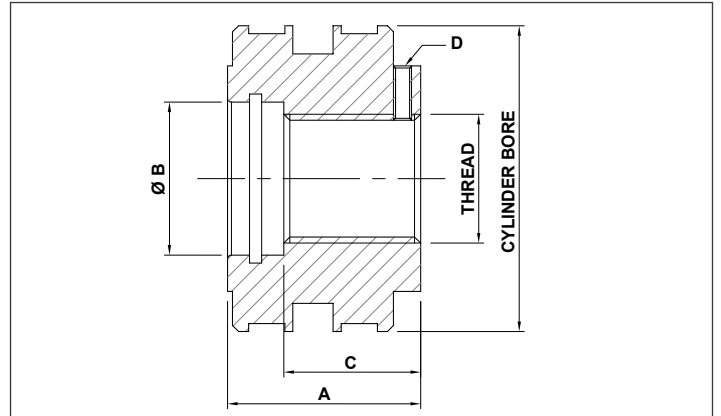
MAXIMUM WORKING PRESSURE 350 BAR

THESE NECK GLANDS ARE NOT DESIGNED TO FIT OUR STANDARD RANGE OF CYLINDERS.

WITH SPECIAL CARE AND ATTENTION SOME OF THE GLANDS WILL FIT.

FPE SEALS CANNOT BE HELD RESPONSIBLE FOR ANY CONSEQUENTIAL LOSS THAT ARISES FROM USING THESE GLANDS WITH OUR STANDARD CYLINDERS.

HEAVY DUTY THREADED PISTONS

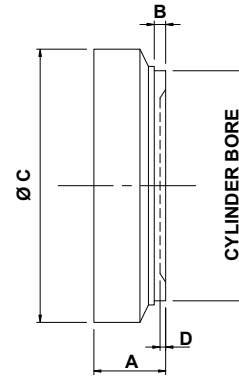


METAL PISTON MP	CYLINDER BORE 50	INTERNAL THREAD 20	TOTAL LENGTH A 40	THREADED TH	HEAVY DUTY HD
--------------------	---------------------	-----------------------	----------------------	----------------	------------------

PART NUMBER	CYLINDER BORE	A	Ø B	C	Ø D	THREAD	SEAL KIT
MP502040TH-HD	50	40	21	28	6 x 12	20 x 1.5	PK50HD
MP602745TH-HD	60	45	30	30	6 x 12	27 x 2	PK60HD
MP632745TH-HD	63	45	30	30	6 x 12	27 x 2	PK63HD
MP703056TH-HD	70	56	40	41	6 x 12	30 x 2	PK70HD
MP803056TH-HD	80	56	40	41	6 x 12	30 x 2	PK80HD
MP903655TH-HD	90	55	38	40	6 x 12	36 x 3	PK90HD
MP903656TH-HD-40	90	56	40	41	6 x 12	36 x 3	PK90HD
MP1004256TH-HD	100	56	45	41	6 x 12	42 x 2	PK100HD
MP1104870TH-HD	110	70	50	55	8 x 16	48 x 3	PK110HD
MP1204870TH-HD	120	70	50	55	8 x 16	48 x 3	PK120HD
MP1254870TH-HD	125	70	51	55	8 x 16	48 X 3	PK125HD
MP1404875TH-HD	140	75	50	57	8 x 16	48 x 3	PK140HD
MP1505280TH-HD	150	80	56	60	8 x 16	52 X 3	PK150HD
MP1605280TH-HD	160	80	56	60	8 x 16	52 x 3	PK160HD
MP18080115TH-HD	180	115	90	85	10 x 16	80 x 2	PK180HD
MP20090115TH-HD	200	115	100	85	10 x 16	80 x 2	PK200HD
MP220100120TH-HD	220	120	110	90	10 x 16	80 x 2	PK220HD
MP250115130TH-HD	250	130	125	100	10 x 16	98 x 3	PK250HD

MATERIAL: STEEL 080M46
MAXIMUM WORKING PRESSURE 350 BAR

HEAVY DUTY END CAPS



END CAP
EC

CYLINDER BORE
50

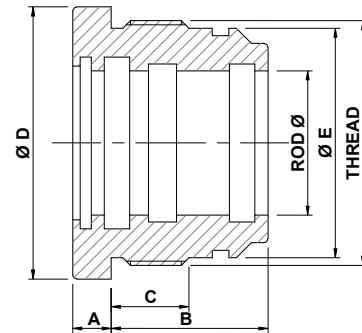
TOTAL LENGTH A
18

HEAVY DUTY
HD

PART NUMBER	CYLINDER BORE	A	B	Ø C	D
EC5018-HD	50	18	4	65	0
EC6019-HD	60	19	4	75	0
EC6322-HD	63	22	4	78	0
EC7022-HD-CS	70	22	4	85	2
EC7022-HD	70	22	4	85	0
EC7522-HD	75	22	4	90	0
EC8025 HD-CS	80	25	4	95	2
EC8025-HD	80	25	4	95	0
EC9026-HD	90	26	4	110	0
EC10030-HD-CS	100	30	4	120	2
EC10030-HD	100	30	4	120	0
EC11031-HD	110	31	7	130	0
EC12034-HD	120	34	7	140	0
EC12535-HD	125	35	7	145	0
EC13035-HD	130	35	7	150	0
EC14040-HD	140	40	7	160	0
EC15042-HD	150	42	7	170	0
EC16045-HD	160	45	7	180	0

MATERIAL : STEEL S355JR - ASTM A105
CS ; DENOTES COUNTERSUNK

STAINLESS STEEL COMPONENTS



STANDARD GLAND
SG

CYLINDER BORE
40

ROD DIAMETER
20

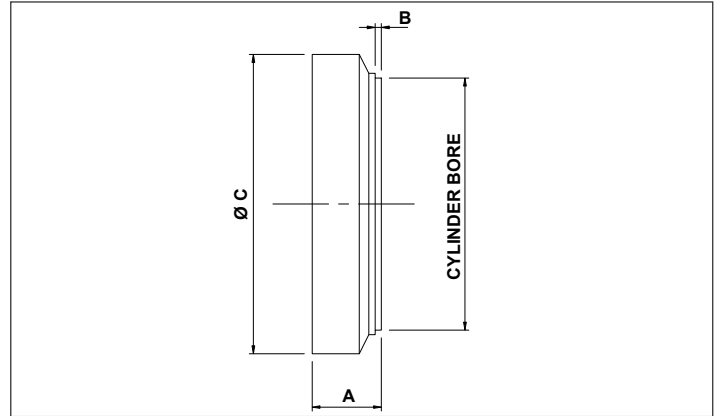
LENGTH OF B
32

STAINLESS STEEL
SS

PART NUMBER	CYLINDER BORE	ROD Ø	A	B	C	Ø D	Ø E	THREAD	SEAL KIT
SG402032-SS	40	20	8	32	19	49	40.6	44 x 1.5	GK20-40-SS
SG402532-SS	40	25	8	32	19	49	40.6	44 x 1.5	GK25-40-SS
SG502535-SS	50	25	8	35	22	59	50.6	54 x 1.5	GK25-50-SS
SG503035-SS	50	30	8	35	22	59	50.6	54 x 1.5	GK30-50-SS
SG603040-SS	60	30	10	40	27	69	60.6	64 x 1.5	GK30-60-SS
SG603540-SS	60	35	10	40	27	69	60.6	64 x 1.5	GK35-60-SS
SG604040-SS	60	40	10	40	27	69	60.6	64 x 1.5	GK40-60-SS
SG703540-SS	70	35	10	40	27	79	70.6	74 x 1.5	GK35-70-SS
SG704040-SS	70	40	10	40	27	79	70.6	74 x 1.5	GK40-70-SS
SG804050-SS	80	40	10	50	33	94	80.6	85 x 2	GK40-80-SS
SG805050-SS	80	50	10	50	33	94	80.6	85 x 2	GK50-80-SS
SG904050-SS	90	40	10	50	33	104	90.6	95 x 2	GK40-90-SS
SG905050-SS	90	50	10	50	33	104	90.6	95 x 2	GK50-90-SS
SG1004053-SS	100	40	12	53	35	114	100.6	105 x 2	GK40-100-SS
SG1005053-SS	100	50	12	53	35	114	100.6	105 x 2	GK50-100-SS
SG1006053-SS	100	60	12	53	35	114	100.6	105 x 2	GK60-100-SS

MATERIAL : AISI 316L - TYPE STAINLESS STEEL
MAXIMUM WORKING PRESSURE 250 BAR

STAINLESS STEEL END CAPS

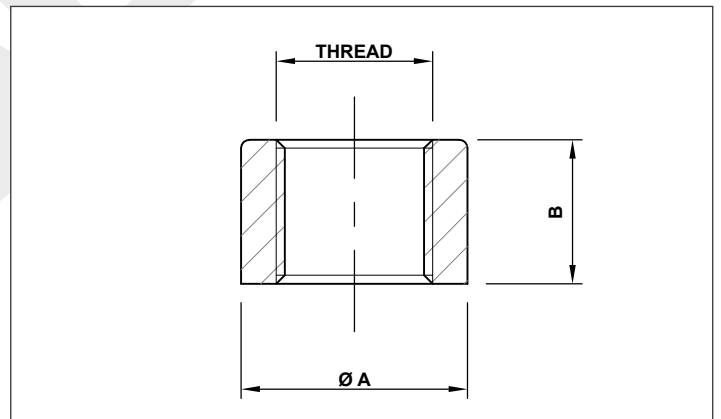


END CAP EC CYLINDER BORE 40 TOTAL LENGTH A 10 STAINLESS STEEL SS

PART NUMBER	CYLINDER BORE	A	B	Ø C
EC4010-SS	40	10	2	50
EC5010-SS	50	10	2	60
EC6012-SS	60	12	2	70
EC7012-SS	70	12	2	80
EC8012-SS	80	12	2	95

MATERIAL: AISI 316L - TYPE STAINLESS STEEL

STAINLESS STEEL THREADED PORTS

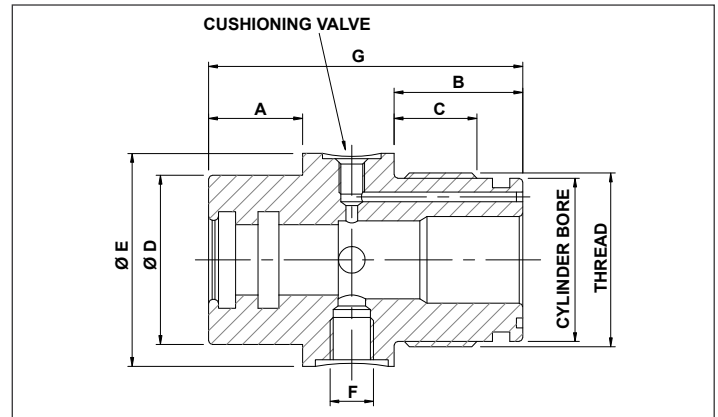


THREADED PORT TP BSP SIZE 025 STAINLESS STEEL SS

PART NUMBER	Ø A	B	THREADED BSP
TP025-SS	22	17	1/4"
TP037-SS	26	17	3/8"
TP050-SS	30	18	1/2"

MATERIAL: AISI 316L TYPE STAINLESS STEEL

GLANDS WITH ADJUSTABLE CUSHIONING

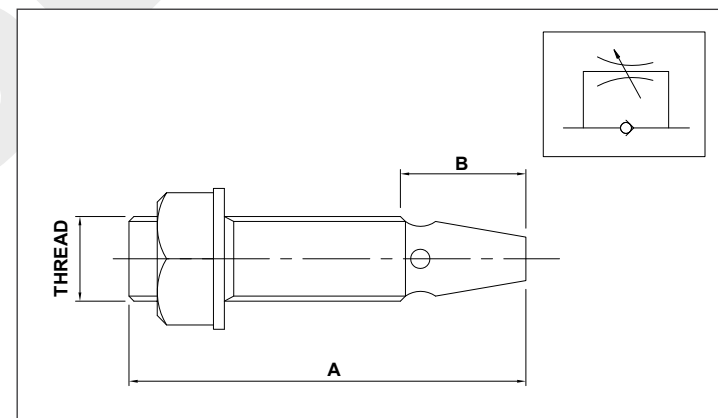


SPECIAL GLAND SG	CYLINDER BORE 40	ROD SIZE 20	LENGTH 90	CUSHIONING CUSHION
---------------------	---------------------	----------------	--------------	-----------------------

PART NUMBER	CYLINDER BORE	ROD	A	B	C	Ø D	Ø E	BSP PORT F	G	CUSHION VALVE	THREAD	SEAL KIT
SG402090-CUSHION	40	20	28	35	30	50	63	1/4"	90	8 x 1	45 x 1.5	GK20-CUSH
SG5025100-CUSHION	50	25	32	40	25	60	66	1/4"	100	8 x 1	54 x 1.75	GK25-CUSH
SG6535110-CUSHION	65	35	35	45	28	75	88	3/8"	110	10 x 1	69 x 1.75	GK35-CUSH
SG8040125-CUSHION	80	40	36	55	34	90	99	1/2"	125	12 x 1.5	85 x 2	GK40-CUSH
SG10050145-CUSHION	100	50	49	60	38	100	115	1/2"	145	12 x 1.5	105 x 2	GK50-CUSH
SG12570140-CUSHION	125	70	30	70	42	125	145	3/4"	140	14 x 1.5	130 x 2	GK70-CUSH
SG14080150-CUSHION	140	80	33	75	45	140	160	3/4"	150	14 x 1.5	145 x 2	GK80-CUSH
SG16090160-CUSHION	160	90	38	80	51	160	180	3/4"	160	14 x 1.5	165 x 2	GK90-CUSH

MATERIAL : HYDRAULIC CAST IRON GRADE G25
MAXIMUM WORKING PRESSURE 200 BAR

FLOW CONTROL VALVE (CUSHIONING)

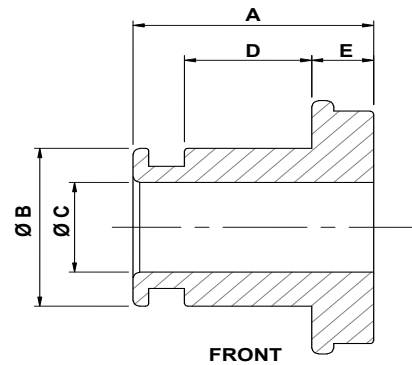


FLOW CONTROL VALVE FCV	VALVE SIZE QR2	THREAD SIZE M8x1
---------------------------	-------------------	---------------------

PART NUMBER	A	B	THREAD
FCV-QR2-M8 x 1	28	8.70	8 x 1
FCV-QR3-M10 x 1	36	11.31	10 x 1
FCV-QR4-M12 x 1.5	40	12.28	12 x 1.5
FCV-QR5-M14 x 1.5	44	15.36	14 x 1.5

MATERIAL : STEEL SURFACE PHOSPHATED HEAT TREATED FOR HARDNESS
DIN 51524 & 51252
OPENING PRESSURE 0.5 BAR
MAXIMUM PRESSURE 300 BAR

FRONT PISTON FOR ADJUSTABLE CUSHIONING



METAL PISTON
MP

CYLINDER BORE
40

INTERNAL DIAMETER C
14

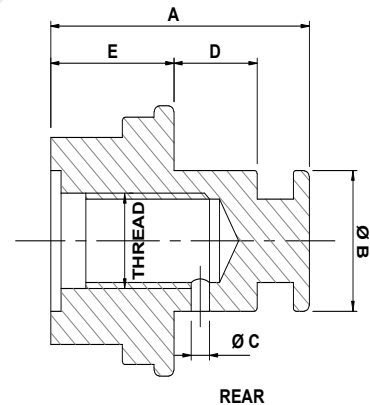
LENGTH OF PISTON
36

FRONT SECTION
FRONT

PART NUMBER	CYLINDER BORE	A	Ø B	Ø C	D	E	SEAL KIT
MP401436-FRONT	40	35	24	14	25	10	PK40-CUSH
MP501640-FRONT	50	40	30	16	29	11	PK50-CUSH
MP652242-FRONT	65	47	40	22	35	12	PK65-CUSH
MP802750-FRONT	80	55	45	27	40	15	PK80-CUSH
MP1003355-FRONT	100	60	55	33	45	15	PK100-CUSH
MP1255072-FRONT	125	70	75	50	49	21	PK125-CUSH
MP1405574-FRONT	140	75	85	55	53	22	PK140-CUSH
MP1606076-FRONT	160	78	95	60	53	25	PK160-CUSH

MATERIAL : C25 UNI17845-78
MAXIMUM WORKING PRESSURE 200 BAR

REAR PISTON FOR ADJUSTABLE CUSHIONING



METAL PISTON
MP

CYLINDER BORE
40

INTERNAL DIAMETER
14

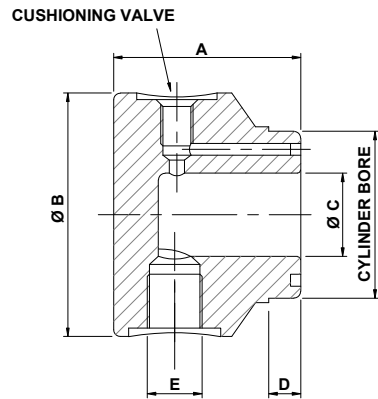
LENGTH OF PISTON
36

REAR SECTION
REAR

PART NUMBER	CYLINDER BORE	A	Ø B	Ø C	D	E	THREAD	SEAL KIT
MP401436-REAR	40	51	20	M5	25	26	14 x 1.5	PK40-CUSH
MP501640-REAR	50	58	24	M5	29	29	16 x 1.5	PK50-CUSH
MP652242-REAR	65	65	30	M6	35	30	22 x 1.5	PK65-CUSH
MP802750-REAR	80	75	38	M6	40	35	27 x 2	PK80-CUSH
MP1003355-REAR	100	85	48	M6	45	40	33 x 2	PK100-CUSH
MP1255072-REAR	125	100	65	M8	49	51	50 x 2	PK125-CUSH
MP1405574-REAR	140	105	75	M8	53	52	55 x 2	PK140-CUSH
MP1606076-REAR	160	105	80	M8	54	51	60 x 2	PK160-CUSH

MATERIAL : C25 UNI17845-78
MAXIMUM WORKING PRESSURE 200 BAR

END CAPS FOR ADJUSTABLE CUSHIONING



END CAP
EC

CYLINDER BORE
40 44

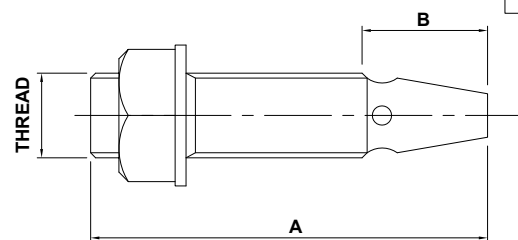
LENGTH A

CUSHIONING
CUSHION

PART NUMBER	CYLINDER BORE	A	Ø B	Ø C	D	BSP PORT E	CUSHIONING VALVE
EC4044-CUSHION	40	44	58	20	7	1/4"	8 x 1
EC5048-CUSHION	50	48	65	24	8	1/4"	8 x 1
EC6560-CUSHION	65	60	80	30	10	3/8"	10 x 1
EC8068-CUSHION	80	68	95	38	10	1/2"	12 x 1.5
EC10077-CUSHION	100	77	115	48	10	1/2"	12 x 1.5
EC12590-CUSHION	125	90	145	65	10	3/4"	14 x 1.5
EC140100-CUSHION	140	100	160	75	10	3/4"	14 x 1.5
EC160100-CUSHION	160	100	180	80	10	3/4"	14 x 1.5

MATERIAL : STEEL S355JR-ASTM A105

FLOW CONTROL VALVE (CUSHIONING)



FLOW CONTROL VALVE
FCV

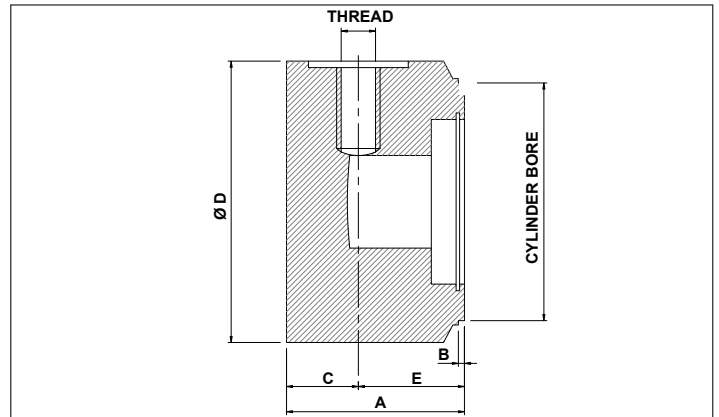
VALVE SIZE
QR2

THREAD SIZE
M8x1

PART NUMBER	A	B	THREAD
FCV-QR2-M8 x 1	28	8.70	8 x 1
FCV-QR3-M10 x 1	36	11.31	10 x 1
FCV-QR4-M12 x 1.5	40	12.28	12 x 1.5
FCV-QR5-M14 x 1.5	44	15.36	14 x 1.5

MATERIAL : STEEL SURFACE PHOSPHATED HEAT TREATED FOR HARDNESS
DIN 51524 & 51525
OPENING PRESSURE 0.5 BAR
MAXIMUM PRESSURE 300 BAR

END CAPS FOR CUSHIONING



END CAP
EC

CYLINDER BORE
50

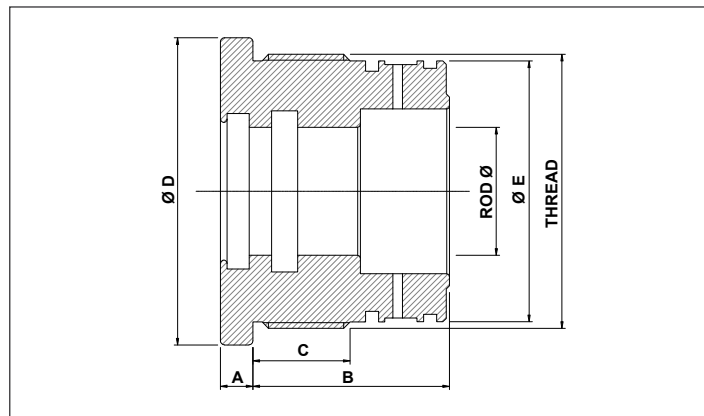
LENGTH A
50

CUSHIONING
CUSH

PART NUMBER	CYLINDER BORE	A	B	C	Ø D	E	BSP THREAD
EC5050-CUSH	50	50	2	20	60	28	3/8"
EC6050-CUSH	60	50	2	20	70	28	3/8"
EC6350-CUSH	63	50	2	20	73	28	3/8"
EC7050-CUSH	70	50	2	20	80	28	3/8"
EC8050-CUSH	80	50	2	20	95	28	1/2"
EC10050-CUSH	100	50	2	20	115	28	1/2"

MATERIAL : STEEL 11SMn30

GLANDS WITH CUSHIONING



SPECIAL GLAND
SG

CYLINDER BORE
50

ROD DIAMETER
25

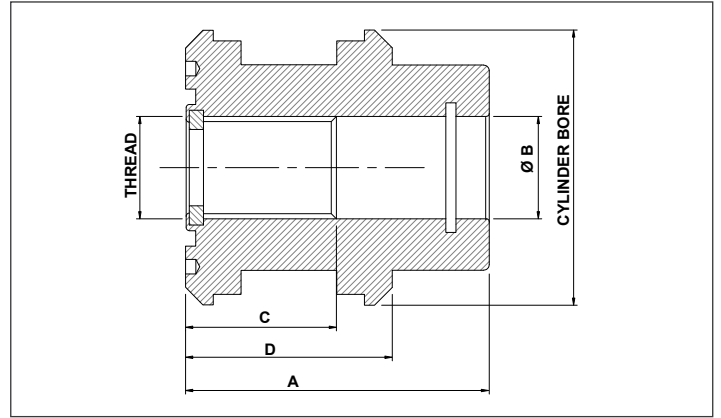
LENGTH OF B
48

CUSHIONING
CUSH

PART NUMBER	CYLINDER BORE	ROD	A	B	C	Ø D	Ø E (+0.5)	THREAD	SEAL KIT
SG502548-CUSH	50	25	8	48	22	59	50	54 x 1.5	GK25-50-CUSH
SG503048-CUSH	50	30	8	48	22	59	50	54 x 1.5	GK30-50-CUSH
SG603053-CUSH	60	30	10	53	27	69	60	64 x 1.5	GK30-60-CUSH
SG603553-CUSH	60	35	10	53	27	69	60	64 x 1.5	GK35-60-CUSH
SG604053-CUSH	60	40	10	53	27	69	60	64 x 1.5	GK40-60-CUSH
SG633053-CUSH	63	30	10	53	25	73	63	68 x 1.5	GK30-63-CUSH
SG633553-CUSH	63	35	10	53	25	73	63	68 x 1.5	GK35-63-CUSH
SG634053-CUSH	63	40	10	53	25	73	63	68 x 1.5	GK40-63-CUSH
SG703053-CUSH	70	30	10	53	27	79	70	74 x 1.5	GK30-70-CUSH
SG703553-CUSH	70	35	10	53	27	79	70	74 x 1.5	GK35-70-CUSH
SG704053-CUSH	70	40	10	53	27	79	70	74 x 1.5	GK40-70-CUSH
SG704553-CUSH	70	45	10	53	27	79	70	74 x 1.5	GK45-70-CUSH
SG803563-CUSH	80	35	10	63	33	92	80	85 x 2	GK35-80-CUSH
SG804063-CUSH	80	40	10	63	33	92	80	85 x 2	GK40-80-CUSH
SG804563-CUSH	80	45	10	63	33	92	80	85 x 2	GK45-80-CUSH
SG805063-CUSH	80	50	10	63	33	92	80	85 x 2	GK50-80-CUSH
SG1004083-CUSH	100	40	12	83	51	114	100	105 x 2	GK40-100-CUSH
SG1004583-CUSH	100	45	12	83	51	114	100	105 x 2	GK45-100-CUSH
SG1005083-CUSH	100	50	12	83	51	114	100	105 x 2	GK50-100-CUSH
SG1006083-CUSH	100	60	12	83	51	114	100	105 x 2	GK60-100-CUSH

MATERIAL : HYDRAULIC CAST IRON GRADE G25
MAXIMUM WORKING PRESSURE 250 BAR

PISTON FOR CUSHIONING



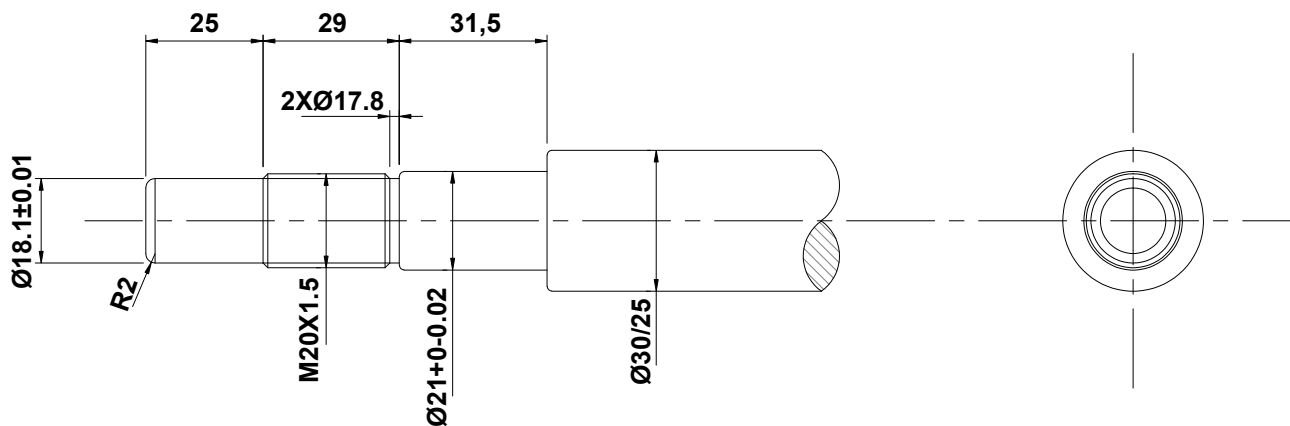
METAL PISTON MP	CYLINDER BORE 50	INTERNAL DIAMETER B 20	LENGTH OF PISTON 60	CUSHIONING CUSH
--------------------	---------------------	---------------------------	------------------------	--------------------

PART NUMBER	CYLINDER BORE	A	Ø B	C	D	THREAD	SEAL KIT
MP502060-CUSH	50	60	21	28	40	20 x 1.5	PK50-CUSH
MP602465-CUSH	60	65	25	30	45	24 x 2	PK60-CUSH
MP632465-CUSH	63	65	25	30	45	24 x 2	PK63-CUSH
MP702465-CUSH	70	65	25	30	45	24 x 2	PK70-CUSH
MP803065-CUSH	80	65	33	30	45	30 x 2	PK80-CUSH
MP1003375-CUSH	100	75	35	35	50	33 x 2	PK100-CUSH

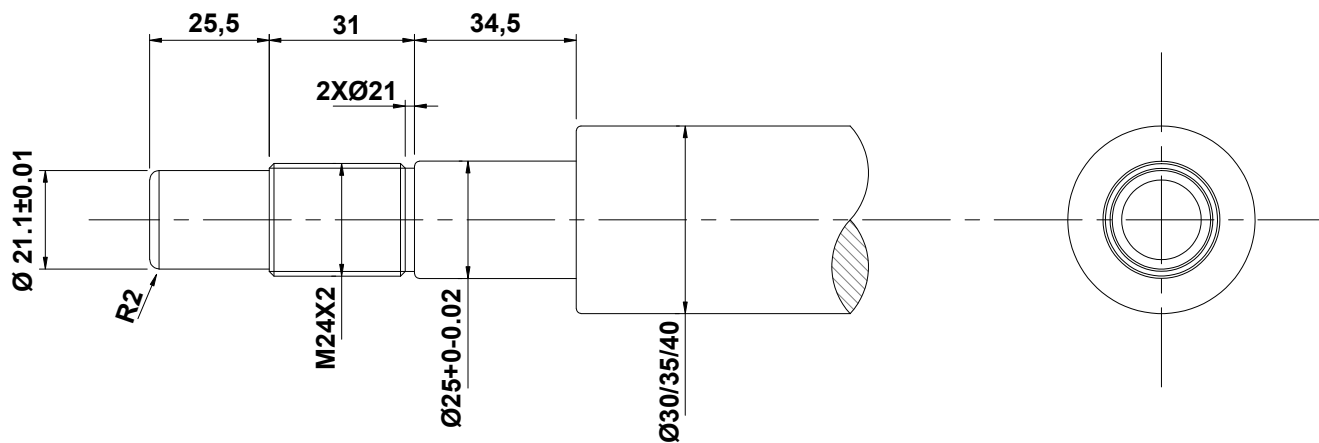
MATERIAL : STEEL 11SMn30
MAXIMUM WORKING PRESSURE 250 BAR

MACHINING DETAIL FOR CUSHIONING PISTONS

MACHINING DETAIL FOR MP502040-CUSH

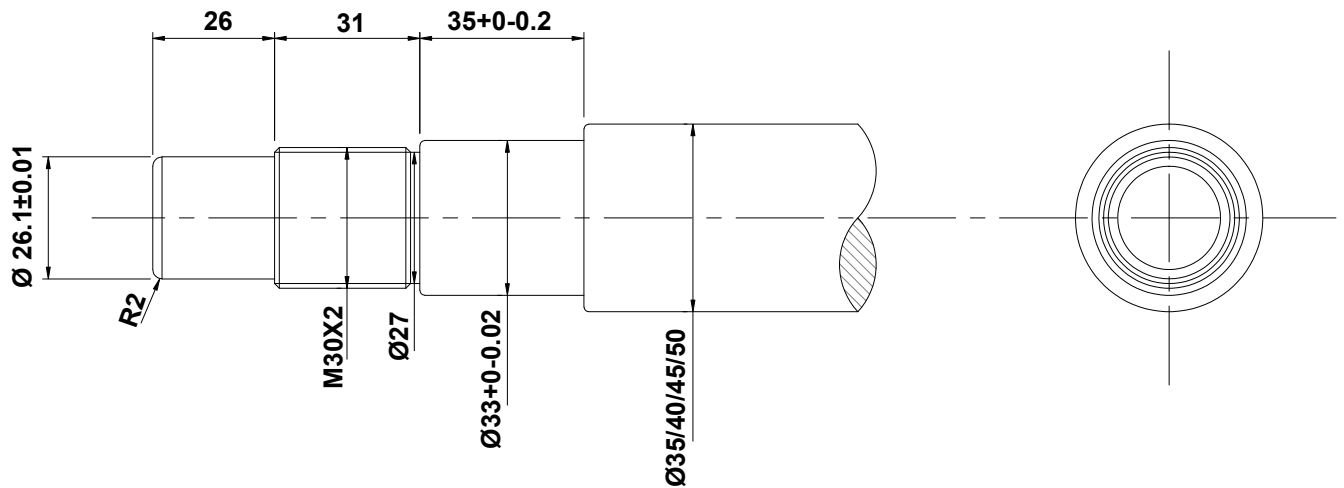


MACHINING DETAIL FOR MP602445-CUSH MP632445-CUSH MP702445-CUSH

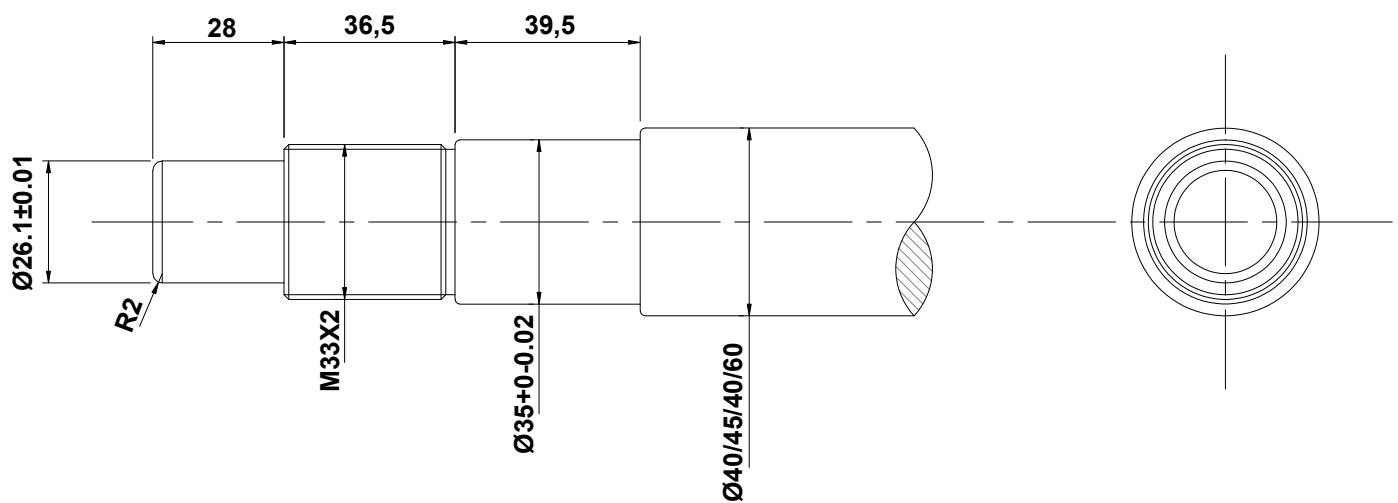


MACHINING DETAIL FOR CUSHIONING PISTONS

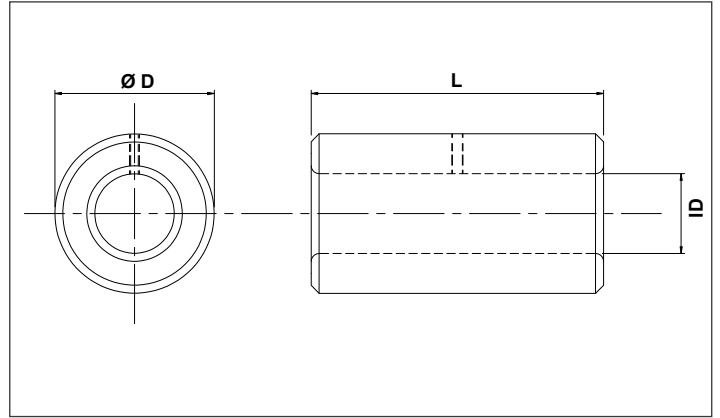
**MACHINING DETAIL FOR
MP803045-CUSH**



**MACHINING DETAIL FOR
MP1003350-CUSH**



WELDABLE BOSSES



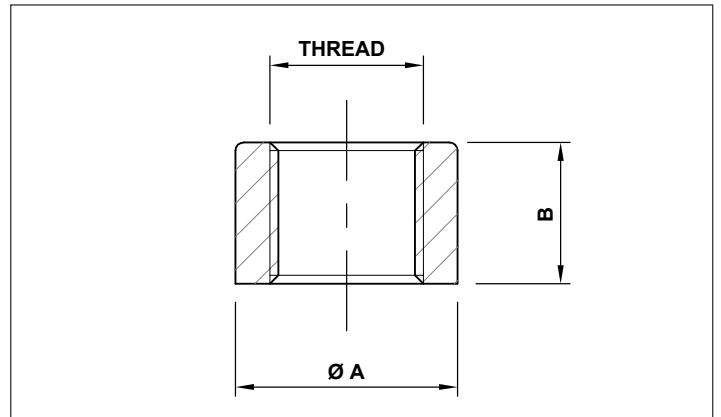
WELDABLE BOSS WB	OUTSIDE DIAMETER 25	INTERNAL DIAMETER 12	LENGTH 25	TAPPED T
---------------------	------------------------	-------------------------	--------------	-------------

PART NUMBER	Ø D	ID	L	TAPPED
WB251225T	25	12	25	M6
WB301530	30	15	30	
WB301635T	30	16	35	M6
WB351630	35	16	30	
WB351660	35	16	60	
WB352040T	35	20	40	M8
WB402040	40	20	40	
WB402040T	40	20	40	M8
WB402070	40	20	70	
WB402545T	40	25	45	M8
WB502545T	50	25	45	M8
WB502550	50	25	50	
WB502580	50	25	80	
WB502590	50	25	90	
WB503045T*	50	30	45	M6
WB503055T	50	30	55	M8
WB603060	60	30	60	
WB603070T	60	30	70	M8
WB6030110	60	30	110	
WB603560	60	35	60	
WB603570T	60	35	70	M8
WB6035110	60	35	110	
WB653070T	65	30	70	M8
WB704040	70	40	40	
WB704070	70	40	70	
WB7040130	70	40	130	
WB805050	80	50	50	
WB8050145	80	50	145	

*THIS PRODUCT HAS TWO DRILLED HOLES, ONE TO SUIT A 6mm DOWELL
THE SECOND TAPPED M6 FOR A GREASE NIPPLE

MATERIAL : STEEL S355JR

FEMALE THREADED PORTS BSP



THREADED PORT
TP

BSP THREAD
012

PART NUMBER	Ø A	B	BSP THREAD
TP012	18	16	1/8"
TP025	22	16	1/4"
TP037	26	17	3/8"
TP050	30	18	1/2"
TP075	38	20	3/4"
TP100	45	25	1"
TP125	55	25	1 1/4"
TP150	62	30	1 1/2"

MATERIAL : STEEL S235JR

FEMALE THREADED PORTS METRIC

THREADED PORT
TP

METRIC THREAD
14

PART NUMBER	Ø A	B	METRIC THREAD
TP14	22	16	14 x 1.5
TP16	24	18	16 x 1.5
TP18	28	18	18 x 1.5
TP20	30	18	20 x 1.5
TP22	30	18	22 x 1.5

MATERIAL : STEEL S235JR

FEMALE THREADED PORTS NPT

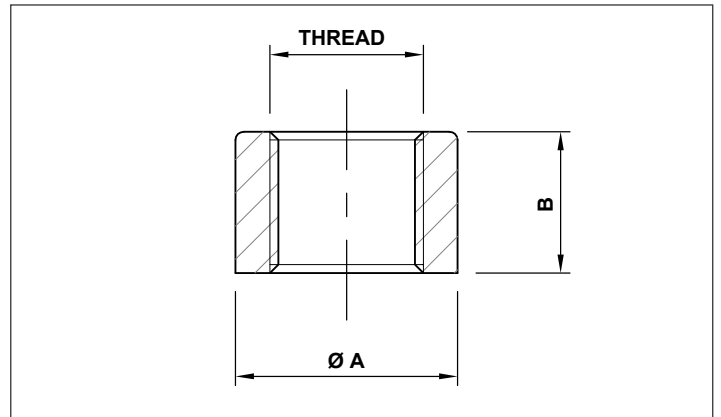
THREADED PORT
TP025

NPT THREAD
NPT

PART NUMBER	Ø A	B	NPT THREAD
TP025-NPT	22	27	1/4"
TP037-NPT	25	25	3/8"
TP050-NPT	32	27	1/2"
TP075-NPT	38	32	3/4"
TP100-NPT	45	32	1"

MATERIAL : STEEL ST.37

FEMALE THREADED PORTS JIC / UNF



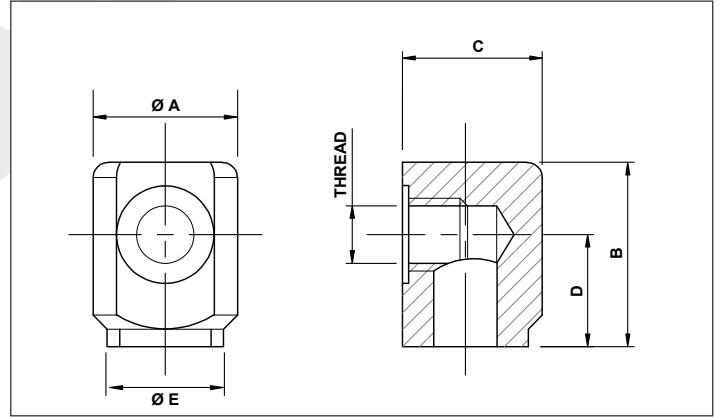
THREADED PORT
TP

UNF THREAD
043 UNF

PART NUMBER	Ø A	B	UNF THREAD
TP043UNF	22	25	7/16"
TP056UNF	25	25	9/16"
TP075UNF	31	27	3/4"
TP087UNF	35	27	7/8"
TP106UNF	38	32	1 1/16"

MATERIAL : STEEL ST.37

90° THREADED PORTS JIC / UNF



THREADED PORT
TP

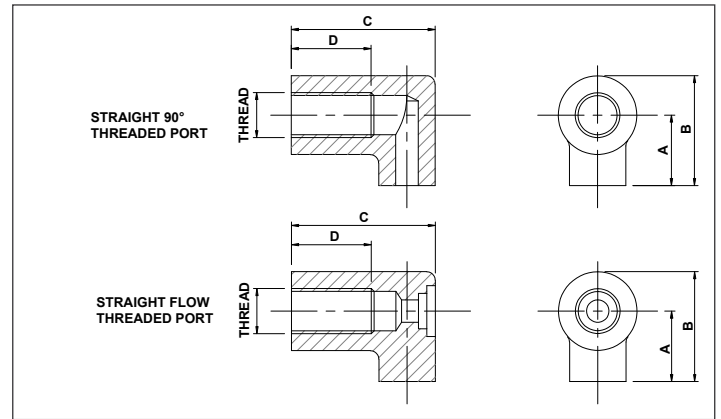
UNF THREAD
043 UNF

ANGLE
90

PART NUMBER	Ø A	B	C	D	Ø E	UNF THREAD
TP043UNF-90	28	28	24	19	19	7/16"
TP056UNF-90	32	32	29	21	22	9/16"
TP075UNF-90	41	41	36	26	31	3/4"
TP087UNF-90	44	48	40	28	31	7/8"
TP106UNF-90	54	51	48	30	38	1 1/16"

MATERIAL : STEEL ST37.

90° THREADED PORTS FOR CYLINDERS



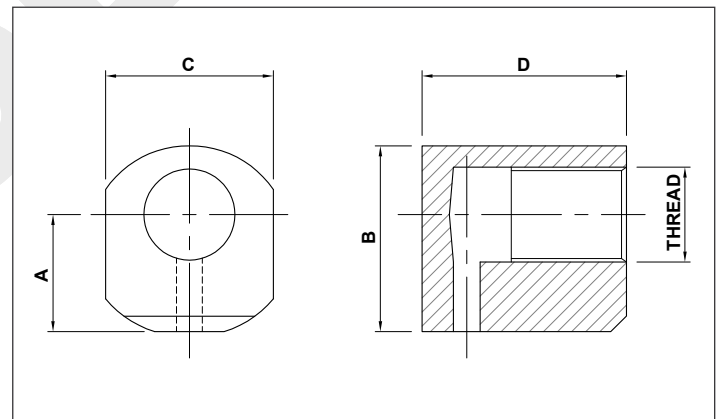
THREADED PORT TP	BSP THREAD 025	ANGLE 90	FEMALE FM	STRAIGHT FLOW STF
---------------------	-------------------	-------------	--------------	----------------------

PART NUMBER	A	B	C	D	BSP THREAD
TP025-90-FM	25	39	51	30	1/4"
TP025-90-FM-STF	24	38	52	30	1/4"
TP037-90-FM	25	39	51	30	3/8"
TP037-90-FM-STF	24	38	52	30	3/8"
TP050-90-FM	25	39	51	33	1/2"
TP050-90-FM-STF	24	38	52	33	1/2"

DESIGNED TO TAKE OUR RANGE OF BURST VALVES

MATERIAL : STEEL ST52.3

90° THREADED PORTS SQUARE



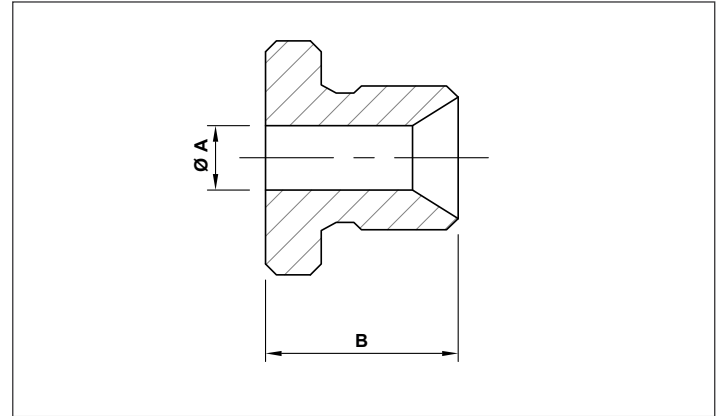
THREADED PORT TP	BSP THREAD 025	90 DEGREE 90	SQUARE SQ
---------------------	-------------------	-----------------	--------------

PART NUMBER	A	B	C	D	BSP THREAD
TP025-90-SQ	15	28	25	35	1/4"
TP037-90-SQ	19	33	30	38	3/8"
TP050-90-SQ	23	38	35	48	1/2"

DESIGNED TO TAKE OUR RANGE OF BURST VALVES

MATERIAL : STEEL 9SMN28

MALE THREADED PORTS WITH SPANNER FLATS



THREADED PORT
TP

BSP THREAD
025

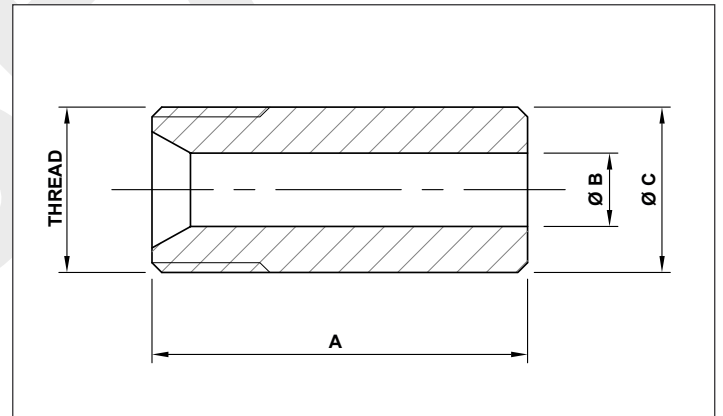
SPANNER FLATS
SF

MALE THREAD
MALE

PART NUMBER	Ø A	B	BSP THREAD
TP025-SF-MALE	6	18	1/4"
TP037-SF-MALE	8	20	3/8"
TP050-SF-MALE	12	23	1/2"
TP075-SF-MALE	16	26	3/4"
TP100-SF-MALE	22	30	1"

MATERIAL : STEEL 9SMN28

MALE THREADED PORTS BSP



THREADED PORT
TP

BSP THREAD
025

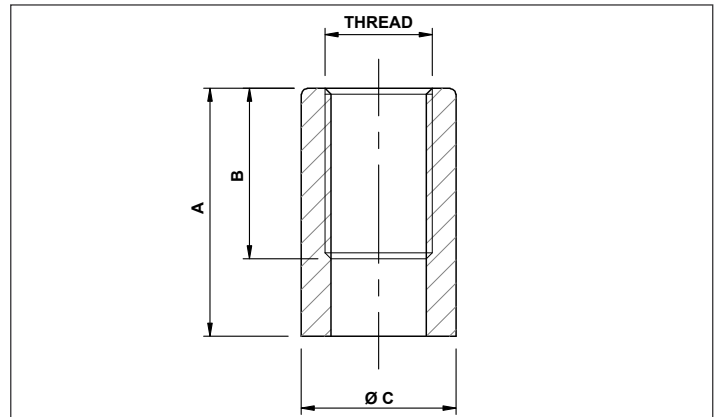
MALE THREAD
MALE

PART NUMBER	A	Ø B	Ø C	BSP THREAD
TP025-MALE	25	7	13	1/4"
TP037-MALE	35	9	17	3/8"
TP050-MALE	35	12	21	1/2"
TP075-MALE	41	15	28	3/4"
TP100-MALE	41	22	35	1"

DESIGNED TO TAKE OUR RANGE OF BURST VALVES

MATERIAL : STEEL 9SMN28

THREADED PORT LONG



THREADED PORT
TP

BSP THREAD
025

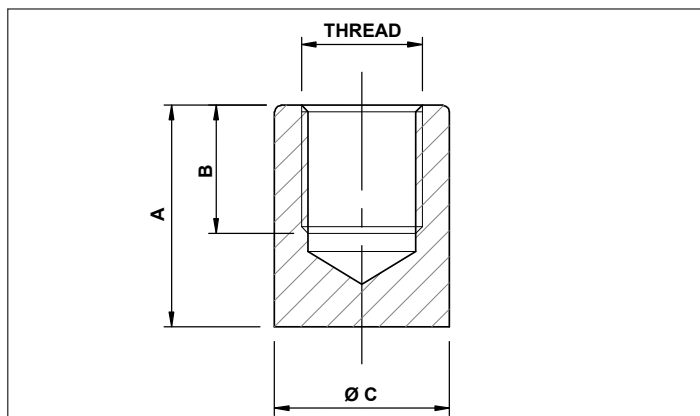
LONG SERIES
LONG

PART NUMBER	A	B	Ø C	BSP THREAD
TP025-LONG	40	27	22	1/4"
TP037-LONG	42	28	25	3/8"
TP050-LONG	48	33	30	1/2"
TP075-LONG	60	40	36	3/4"

DESIGNED TO TAKE OUR RANGE OF BURST VALVES

MATERIAL : STEEL 9SMN28

THREADED PORT BLANK STANDARD



THREADED PORT
TP

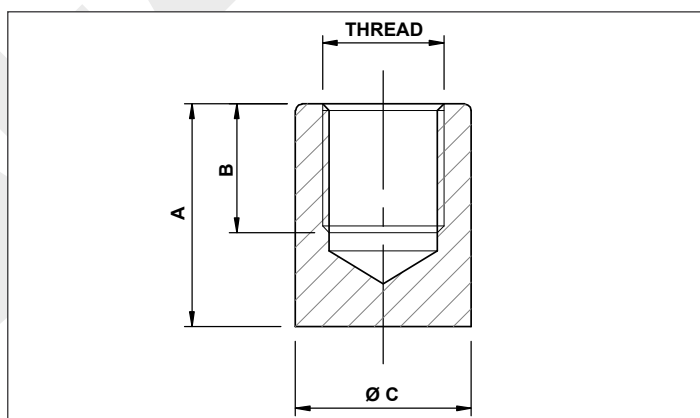
BSP THREAD
025

BLANK END
BLANK

PART NUMBER	A	B	Ø C	BSP THREAD
TP025-BLANK	30	13	22	1/4"
TP037-BLANK	35	20	25	3/8"
TP050-BLANK	35	22	30	1/2"

MATERIAL : STEEL 9SMN28

THREADED PORT BLANK LONG



THREADED PORT
TP

BSP THREAD
025

BLANK END
B

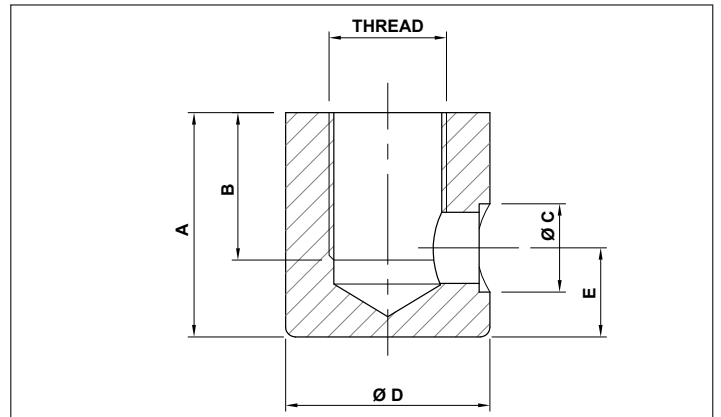
LONG SERIES
LONG

PART NUMBER	A	B	Ø C	BSP THREAD
TP025B-LONG	45	27	22	1/4"
TP037B-LONG	45	28	25	3/8"
TP050B-LONG	60	33	30	1/2"
TP075B-LONG	70	40	36	3/4"

DESIGNED TO TAKE OUR RANGE OF BURST VALVES

MATERIAL : STEEL 9SMN28

SIDE PORTS

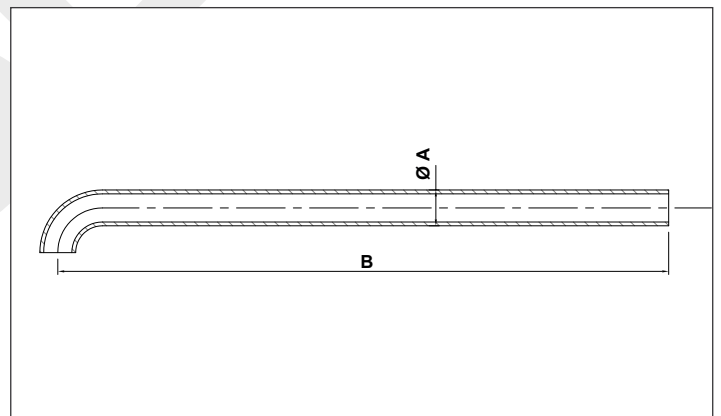


SIDE PORT SP BSP THREAD 025 SUITABLE TUBE SIZE 10

PART NUMBER	A	B	Ø C = TUBE SIZE mm	Ø D	E	BSP THREAD
SP02510	25	16	8 & 10	22	10	1/4"
SP03710	30	17	8 & 10	25	12	3/8"
SP03712	30	17	12	25	12	3/8"
SP03714	30	17	14	25	12	3/8"
SP05012	46	18	12	30	12	1/2"
SP05014	46	18	14	30	12	1/2"
SP05014-SP	45	27	14.2	30	20	1/2"

MATERIAL : STEEL 9SMN28
SP : DENOTES. SPECIAL

STEEL CONNECTION PIPES

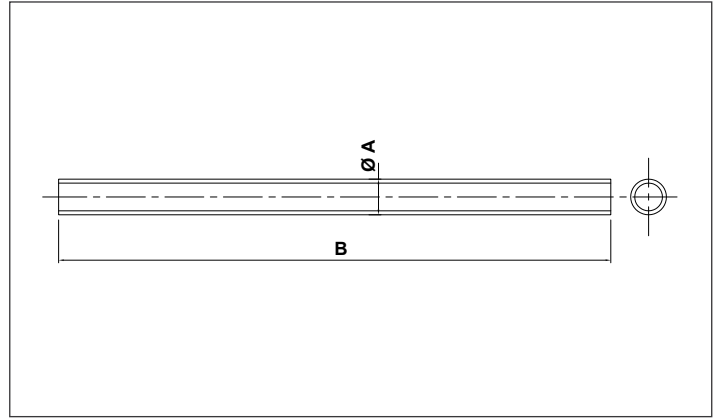


STEEL CONNECTION PIPES SCP PIPE SIZE 10 LENGTH (mm) 300

PART NUMBER	Ø A	B
SCP10300	10 x 1.5	300
SCP10600	10 x 1.5	600
SCP101000	10 x 1.5	1000
SCP12300	12 x 1.5	300
SCP12600	12 x 1.5	600
SCP121000	12 x 1.5	1000
SCP14300	14 x 1.5	300
SCP14600	14 x 1.5	600
SCP141000	14 x 1.5	1000

MATERIAL : STEEL 9SMN 28

STEEL TUBES



STEEL CONNECTION TUBE
SCT

PIPE SIZE A
10

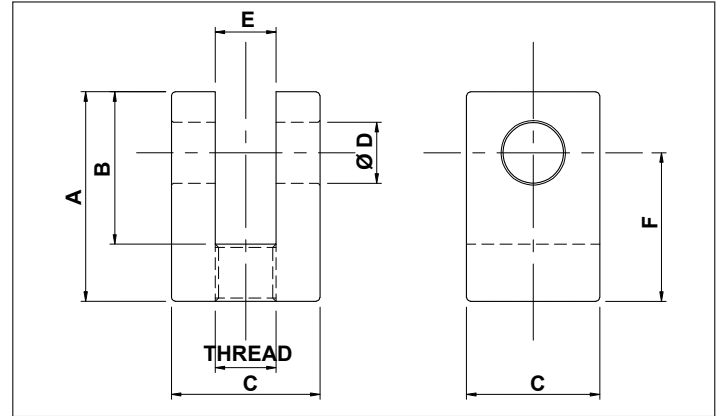
LENGTH B
1000

WALL THICKNESS
2

PART NUMBER	Ø A	B
SCT101000-2	10 x 2	1000
SCT102000-2	10 x 2	2000
SCT103000-2	10 x 2	3000
SCT121000-2	12 x 2	1000
SCT122000-2	12 x 2	2000
SCT123000-2	12 x 2	3000
SCT151000-2	15 x 2	1000
SCT152000-2	15 x 2	2000
SCT153000-2	15 x 2	3000
SCT151000-3	15 x 3	1000
SCT152000-3	15 x 3	2000
SCT153000-3	15 x 3	3000
SCT161000-2	16 x 2	1000
SCT162000-2	16 x 2	2000
SCT163000-2	16 x 2	3000
SCT161000-3	16 x 3	1000
SCT162000-3	16 x 3	2000
SCT163000-3	16 x 3	3000
SCT201000-2	20 x 2	1000
SCT202000-2	20 x 2	2000
SCT203000-2	20 x 2	3000
SCT201000-3	20 x 3	1000
SCT202000-3	20 x 3	2000
SCT203000-3	20 x 3	3000
SCT221000-3	22 x 3	1000
SCT222000-3	22 x 3	2000
SCT223000-3	22 x 3	3000

MATERIAL : STEEL 9SMN28

THREADED FORKS



FORK
FK

PIN SIZE Ø D
16

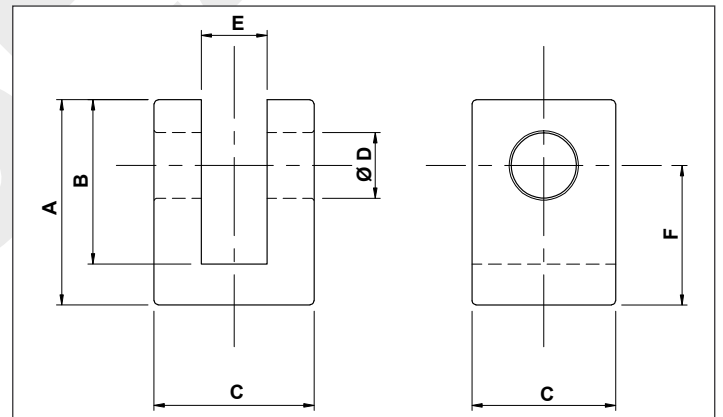
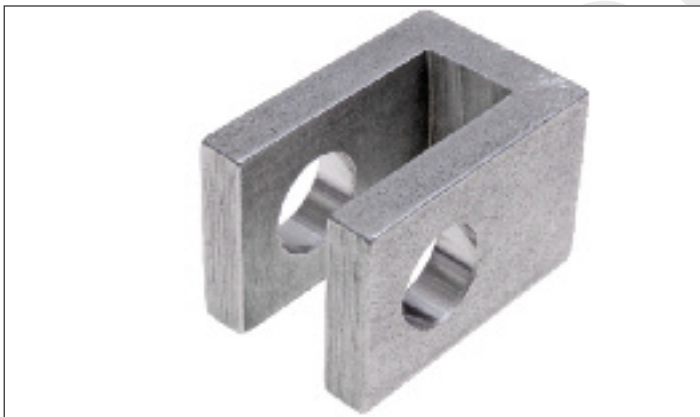
CENTRE HEIGHT F
39

THREADED
TH

PART NUMBER	A	B	C	Ø D	E	F	THREAD
FK1639TH	55	40	35	16	16	39	16 x 1.5
FK2045TH	65	50	40	20	20	45	20 x 1.5
FK2550TH	70	50	50	25	25	50	24 x 2
FK3065TH	90	60	60	30	30	65	30 x 2
FK3575TH	105	70	70	35	35	75	33 x 2

MATERIAL : STEEL S235JR - S355JR

WELDABLE FORKS



FORK
FK

PIN SIZE Ø D
16

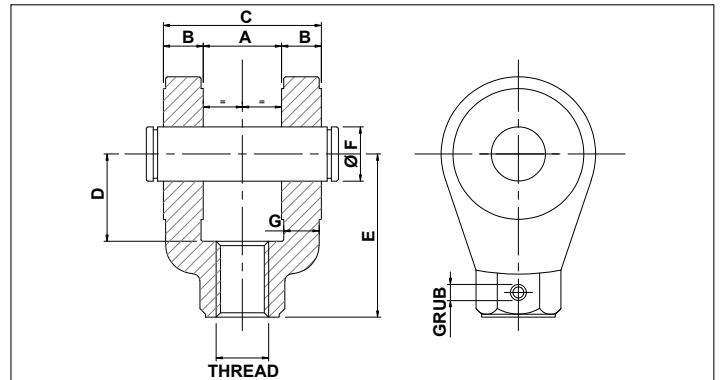
CENTRE HEIGHT F
34

WELDABLE
W

PART NUMBER	A	B	C	Ø D	E	F
FK1634W	50	40	35	16	16	34
FK2040W	60	50	40	20	20	40
FK2545W	65	50	50	25	25	45
FK3050W	75	60	60	30	30	50
FK3555W	85	70	70	35	35	55

MATERIAL : STEEL S235JR - S355JR

LARGE THREADED FORKS INCLUDING PINS

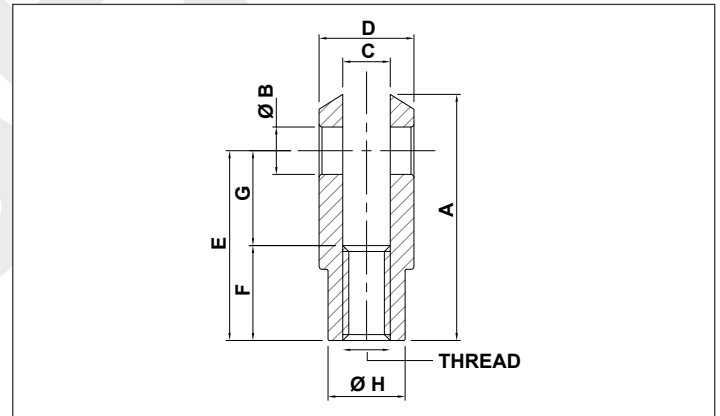


	FORK FK	PIN SIZE Ø F 10 32	CENTRE HEIGHT E	THREADED WITH PIN THP
--	------------	--------------------------	-----------------	--------------------------

PART NUMBER	A	B	C	D	E	Ø F	G	THREAD	GRUB
FK1032-THP	12	6	24	13	32	10	5	10 x 1.25	5 x 5
FK1236-THP	16	8	32	19	36	12	7	12 x 1.25	5 x 5
FK1438-THP	20	10	40	19	38	14	8	14 x 1.5	5 x 5
FK2054-THP	30	15	60	32	54	20	13	16 x 1.5	6 x 6
FK2060-THP	30	15	60	32	60	20	13	20 x 1.5	6 x 6
FK2875-THP	40	20	80	39	75	28	17	27 x 2	6 x 6
FK3699-THP	50	25	100	54	99	36	22	33 x 2	8 x 8
FK70168-THP	80	40	160	83	168	70	37	64 x 3	12 x 12

MATERIAL: STEEL ST52.3

LIGHT DUTY THREADED FORKS

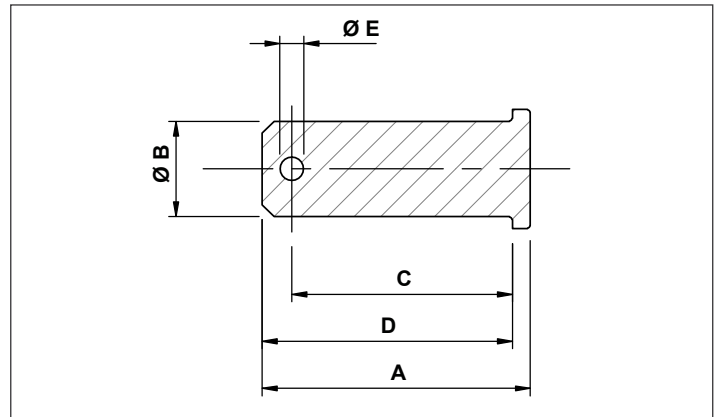


	FORK FK	PIN SIZE Ø B 12	CENTRE HEIGHT E 48	THREADED TH	THREAD PITCH 1.25
--	------------	--------------------	-----------------------	----------------	----------------------

PART NUMBER	A	Ø B	C	D	E	F	G	Ø H	THREAD
FK0416TH	21	4	4	8	16	8	8	8	4 x 0.7
FK0624TH	31	6	6	12	24	12	12	10	6 x 1
FK0832TH	42	8	8	16	32	16	16	14	8 x 1.25
FK1040TH	52	10	10	20	40	20	20	18	10 x 1.50
FK1248TH - 1.25	62	12	12	24	48	24	24	20	12 x 1.25
FK1248TH - 1.75	62	12	12	24	48	24	24	20	12 x 1.75
FK1456TH	72	14	14	27	56	28	28	24	14 x 2
FK1664TH - 1.5	83	16	16	32	64	32	32	26	16 x 1.5
FK1664TH	83	16	16	32	64	32	32	26	16 x 2
FK2080TH - 1.5	105	20	20	40	80	40	40	34	20 x 1.5
FK2080TH - 2.5	105	20	20	40	80	40	40	34	20 x 2.5
FK25100TH - 2	132	25	25	50	100	50	50	42	24 x 2
FK25100TH - 3	132	25	25	50	100	50	50	42	24 x 3
FK30110TH	148	30	30	55	110	56	54	48	27 x 2
FK35144TH	188	30	35	70	144	72	72	60	36 x 2

MATERIAL : STEEL 9SMnPb28 GALVANISED.

FORK PINS



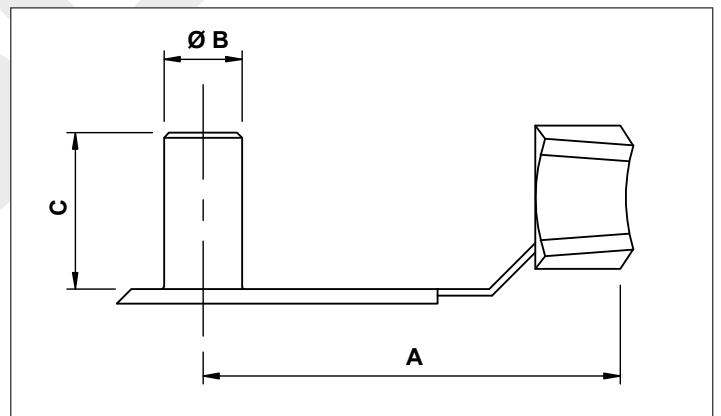
FORK PIN
FP

PIN SIZE Ø B
6

PART NUMBER	A	Ø B	C	D	Ø E
FP06	18	6	13	16	2
FP08	22	8	17	20	2
FP10	27	10	21.5	25	3
FP12	33	12	26.5	30	3
FP14	38	14	31	35	4
FP16	43	16	36	40	4

MATERIAL : STEEL 9SMnPb28 GALVANISED
SPECIFICATION UNI 1710-DIN1434

SAFETY PIN CLIP



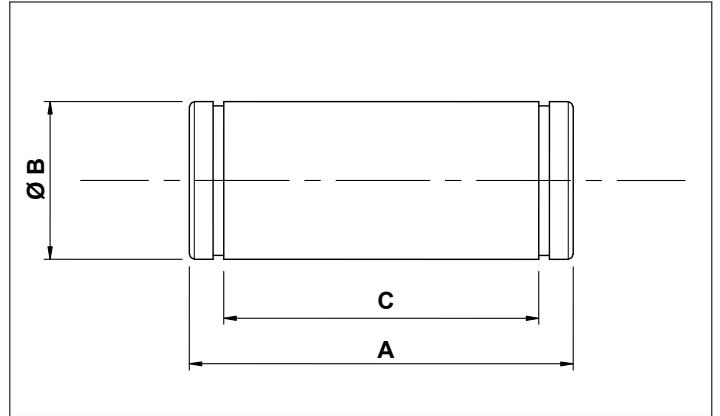
SAFETY PIN CLIP
SCP

PIN SIZE Ø B
4

PART NUMBER	A	Ø B	C
SPC04	15	4	9
SPC06	23	6	14
SPC08	31	8	19
SPC10	39	10	23
SPC12	47	12	28
SPC14	52	14	31
SPC16	62	16	36
SPC20	72	20	44

MATERIAL : STEEL 9SMnPb28 GALVANISED
SPECIFICATION UNI 1710-DIN1434

CLEVIS PINS

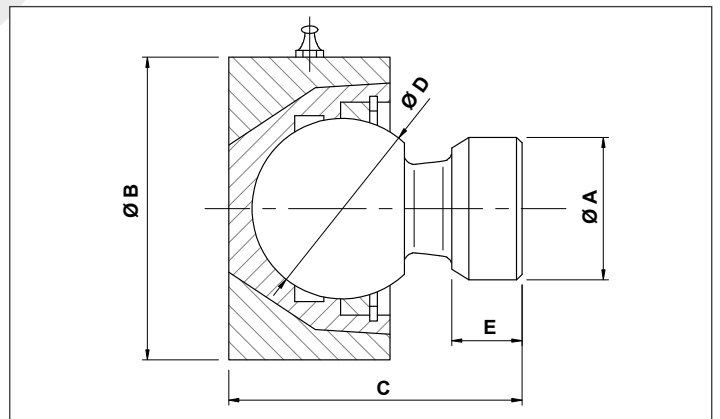


CLEVIS PIN CP DIAMETER Ø B 10 LENGTH A 25

PART NUMBER	A	Ø B	C	EXTERNAL CIRCLIP
CP1025	25	10	20	CE10
CP1034	34	10	20	CE10
CP1230	30	12	24	CE12
CP1243	43	12	24	CE12
CP1451	51	14	28	CE14
CP1639	39	16	32	CE16
CP1645	45	16	35	CE16
CP2048	48	20	40	CE20
CP2073	73	20	65	CE20
CP2560	60	25	50	CE25
CP2895	95	28	87	CE28
CP3065	65	30	55	CE30
CP3070	70	30	60	CE30
CP3584	84	35	70	CE35

MATERIAL : STEEL 9SMnPb28 GALVANISED

WELDABLE BALL JOINT END



WELDABLE BALL JOINT END WBJE

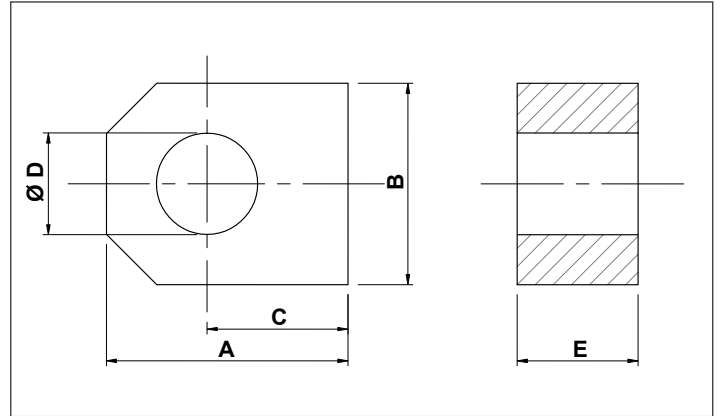
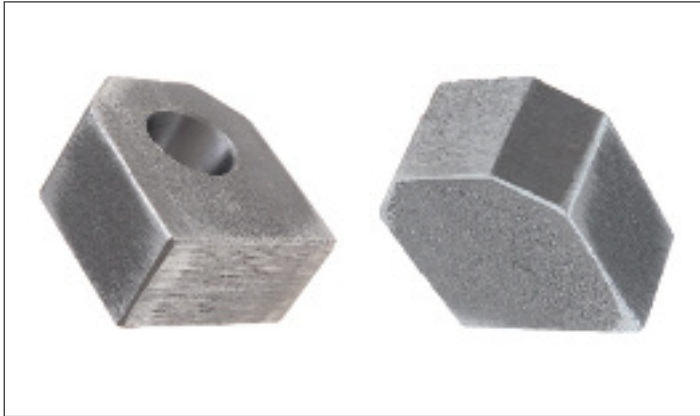
BALL DIAMETER Ø D 50

ROD DIAMETER Ø A 40

PART NUMBER	Ø A	Ø B	C	Ø D	E
WBJE5040	40	84	82	50	20
WBJE6050	50	98	100	60	25
WBJE7060	60	104	115	70	30

MATERIAL : FORGED STEEL C45

FIXED EYE



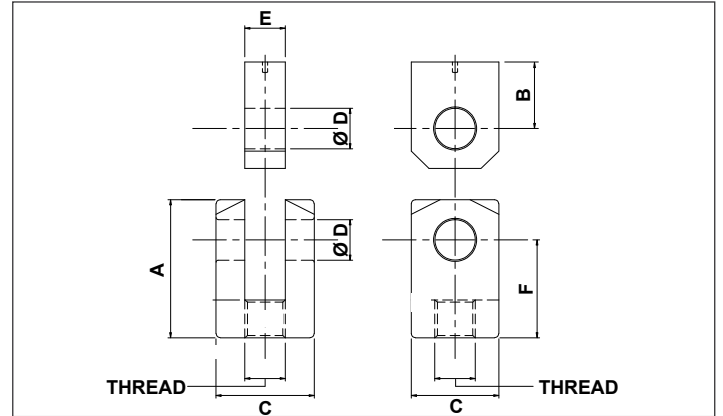
FIXED EYE LENGTH A HOLE SIZE Ø D
FE 42 16

PART NUMBER	A	B	C	Ø D	E
FE4216	42	35	25	16.2	20
FE4216-16	42	35	25	16.2	16
FE42BLA	42	35		BLANK	20
FE5020	50	45	30	20.2	25
FE5020-20	50	45	30	20.2	20
FE50BLA	50	45		BLANK	25
FE6025	60	50	35	25.2	30
FE6025-25	60	50	35	25.2	25
FE60BLA	60	50		BLANK	30
FE7530	75	60	45	30.2	35
FE7530-30	75	60	45	30	30
FE75BLA	75	60		BLANK	35
FE9035	90	70	55	35.2	40
FE9035-35	90	70	55	35	35
FE90BLA	90	70		BLANK	40
FE9540	95	70	60	40.2	40
FE9540-40	95	70	60	40	40
FE95BLA	95	70		BLANK	40

CLEVIS PINS TO SUIT

MATERIAL : STEEL S235JR

FORK & FIXED EYE ASSEMBLY THREADED



FORK ASSEMBLY
FA

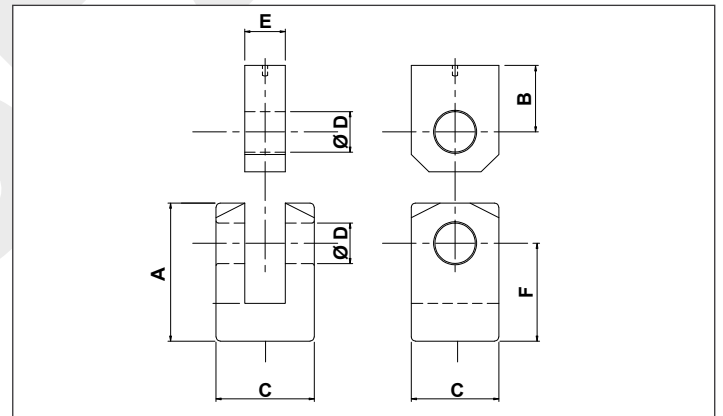
PIN SIZE Ø D
16

THREADED
TH

PART NUMBER	A	B	C	Ø D	E	F	THREAD
FA16TH	39	25	35	16	16	39	16 x 1.5
FA20TH	45	30	40	20	20	45	20 x 1.5
FA25TH	50	35	50	25	25	50	24 x 2
FA30TH	65	45	60	30	30	65	30 x 2
FA35TH	75	55	70	35	35	75	33 x 2

MATERIAL : STEEL S235JR - S355JR

FORK & FIXED EYE ASSEMBLY WELDABLE



FORK ASSEMBLY
FA

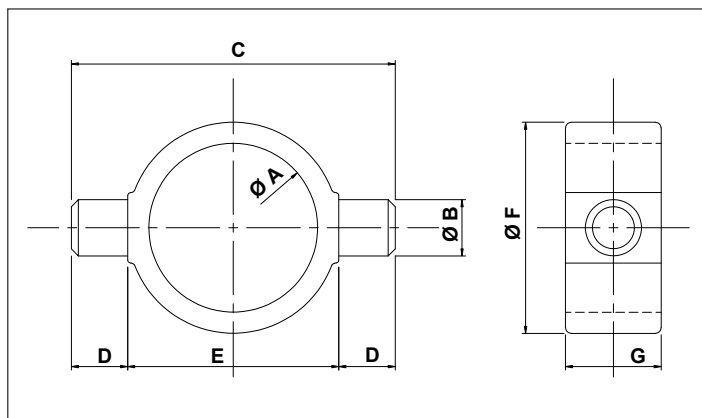
PIN SIZE Ø D
16

WELDABLE
W

PART NUMBER	A	B	C	Ø D	E	F
FA16W	34	25	35	16	16	34
FA20W	40	30	40	20	20	40
FA25W	45	35	50	25	25	45
FA30W	50	45	60	30	30	50
FA35W	55	55	70	35	35	55

MATERIAL : STEEL S235JR - S355JR

WELDABLE TRUNNIONS

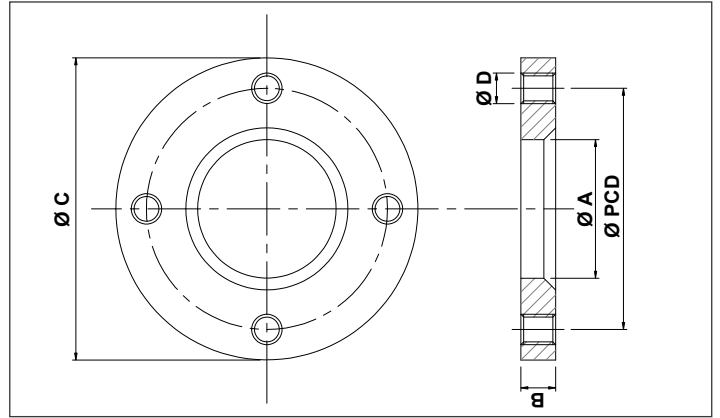


WELDABLE TRUNNION	CYLINDER OUTSIDE DIAMETER Ø A	SPIGOT DIAMETER Ø B	TOTAL LENGTH C
WT	30	20	110

PART NUMBER	Ø A	Ø B	C	D	E	Ø F	G
WT3020110	30	20	110	20	70	65	30
WT3525130	35	25	130	25	80	75	35
WT401595	40	15	95	17.5	60	52	25
WT452090	45	20	90	15	60	60	24
WT4530160	45	30	160	30	100	90	45
WT5020110	50	20	110	20	70	65	30
WT502595	50	25	95	15	65	65	29
WT5035180	50	35	180	35	110	100	50
WT5525100	55	25	100	15	70	70	29
WT6025130	60	25	130	25	80	75	35
WT6030115	60	30	115	20	75	75	34
WT6530120	65	30	120	20	80	80	34
WT7030130	70	30	130	20	90	90	34
WT7030160	70	30	160	30	100	90	45
WT7335145	73	35	145	25	95	95	44
WT7535150	75	35	150	25	100	100	44
WT8035150	80	35	150	25	100	100	44
WT8035180	80	35	180	35	110	100	50
WT8040165	80	40	165	30	105	105	54
WT8540165	85	40	165	30	105	105	54
WT9045190	90	45	190	35	120	120	58
WT9545190	95	45	190	35	120	120	58
WT10045200	100	45	200	35	130	130	58
WT10545200	105	45	200	35	130	130	58
WT11550225	115	50	225	40	145	145	68
WT12050225	120	50	225	40	145	145	68
WT12550235	125	50	235	40	155	155	68
WT13050235	130	50	235	40	155	155	68
WT14060290	140	60	290	60	170	170	80
WT14555265	145	55	265	45	175	175	78
WT16070305	160	70	305	55	195	187	88

MATERIAL : STEEL S355JR- FE 510

WELDABLE FLANGES



WELDABLE FLANGE
WF

CYLINDER O D Ø A
50

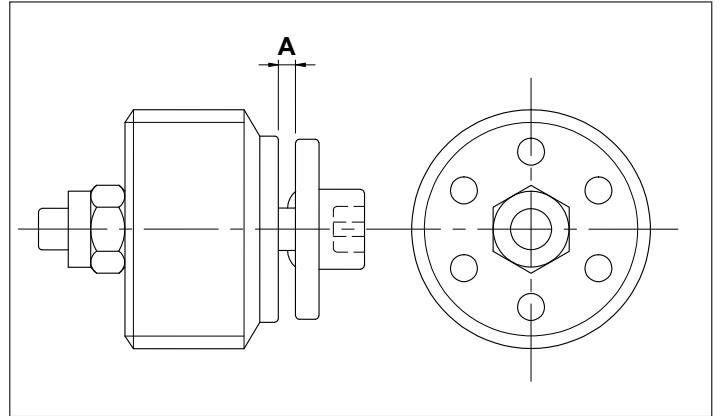
OUTSIDE DIAMETER C
109

PART NUMBER	Ø A	B	Ø C	Ø D	Ø PCD
WF50109	50	12.5	109	4 x Ø11	87
WF60128	60	14.5	128	4 x Ø13	105
WF70142	70	16.5	142	4 x Ø13	117
WF80162	80	16.5	162	4 x Ø15	127
WF95181 *	95	18.5	181	6 x Ø17	149
WF115194 *	115	24.5	194	6 x Ø17	162
WF145240 *	145	33	240	6 x Ø19	195

MATERIAL : STEEL S355JR- ASTM A105

* WF95181 & W115194 & WF145240 HAVE SIX HOLES

BURST VALVES



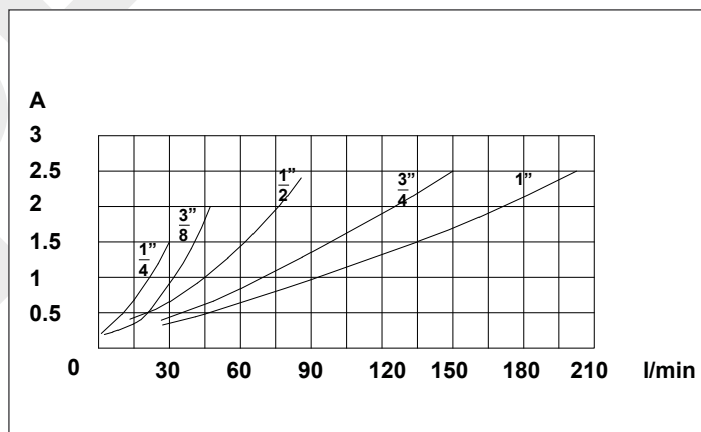
BURST VALVE
BV
BSP SIZE
025

PART NUMBER	L/MIN MAX	(BAR) PRESSURE RATED	BSP PORT SIZE
BV025	25	350	1/4"
BV025-CALB12LPM	12	350	1/4"
BV037	50	350	3/8"
BV037-CALB12LPM	12	350	3/8"
BV050	80	350	1/2"
BV050-CALB18LPM	18	350	1/2"
BV075	150	350	3/4"
BV100	180	350	1"

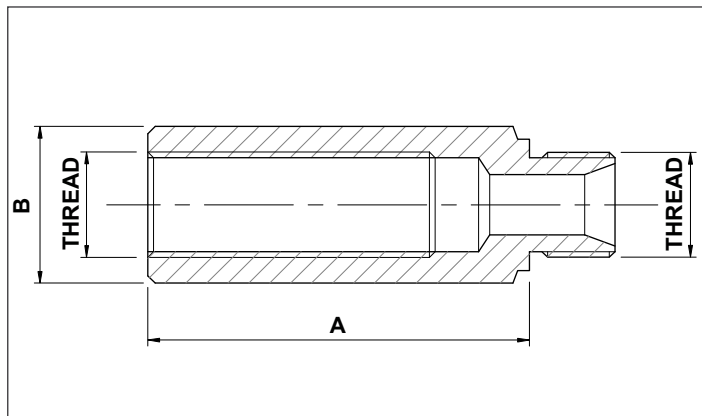
PART NUMBER	L/MIN MAX	(BAR) PRESSURE RATED	METRIC PORT SIZE
BV18-037 ADAPTER	50	315	M18 X 1.5

THE BURST VALVES ARE FACTORY SET AND WILL NEED TO BE ADJUSTED FROM THE CHART BELOW

BURST VALVE SETTING DETAIL



BURST VALVE BODIES



BURST VALVE
BV

BSP SIZE
025

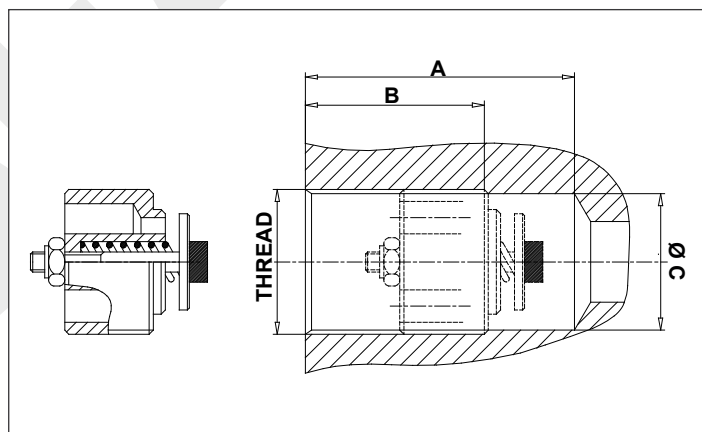
ADAPTER BODY
BODY

PART NUMBER	A	B	BSP THREAD
BV025-BODY	39	19	1/4"
BV037-BODY	45	22	3/8"
BV050-BODY	52	27	1/2"
BV075-BODY	61	32	3/4"

FITTING TOOLS



MACHINING DETAIL



BURST VALVE
BV

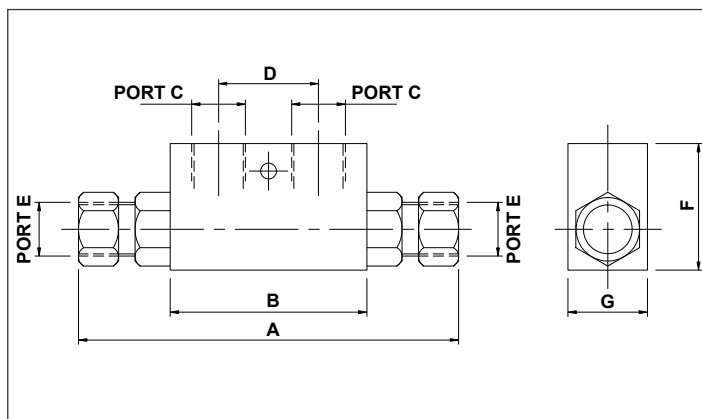
BSP SIZE
025

FITTING TOOL
FT

PART NUMBER	BURST VALVE SIZE
BV025-FT	1/4" BSP
BV037-FT	3/8" BSP
BV050-FT	1/2" BSP
BV075-FT	3/4" BSP

PART NUMBER	(BSP) THREAD	A	B	Ø C
BV025	1/4"	35	28	11.75
BV037	3/8"	40	31	15.2
BV050	1/2"	43	33	19
BV075	3/4"	53	40	24.5
BV100	1"	66	43	30.5

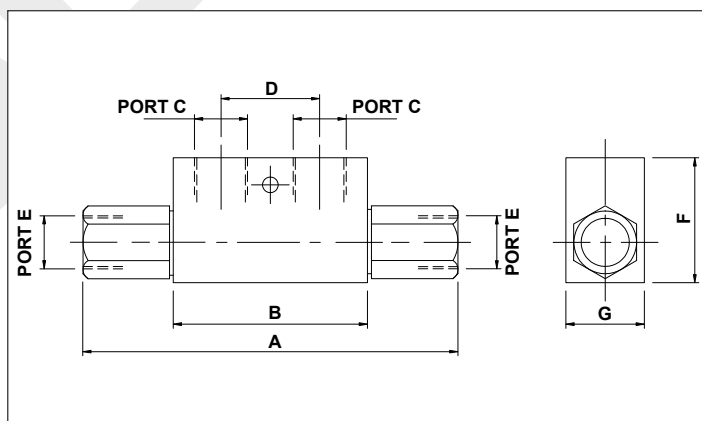
PILOT OPERATED CHECK VALVES BSP & METRIC DOUBLE & SINGLE ACTING



CHECK VALVE CV	PRIMARY THREAD SIZE 025	SECONDARY THREAD SIZE 12L	DOUBLE / SINGLE ACTING DA / SA
-------------------	----------------------------	------------------------------	-----------------------------------

PART NUMBER	L/MIN	MAX PRESSURE BAR	PILOT PRESSURE	A	B	(BSP) PORT C	D	(METRIC) PORT E	F	G
CV025-12L-DA	25	350	1:5,5	130	64	1/4"	36	12L / 18mm	40	30
CV025-12L-SA	25	350	1:5,5	130	64	1/4"	36	12L / 18mm	40	30
CV037-12L-DA	30	350	1:5,5	130	64	3/8"	36	12L / 18mm	40	30
CV037-12L-SA	30	350	1:5,5	130	64	3/8"	36	12L / 18mm	40	30
CV050-15L-DA	50	350	1:5,0	164	90	1/2"	45	15L / 22mm	45	35
CV050-15L-SA	50	350	1:5,0	164	90	1/2"	45	15L / 22mm	45	35

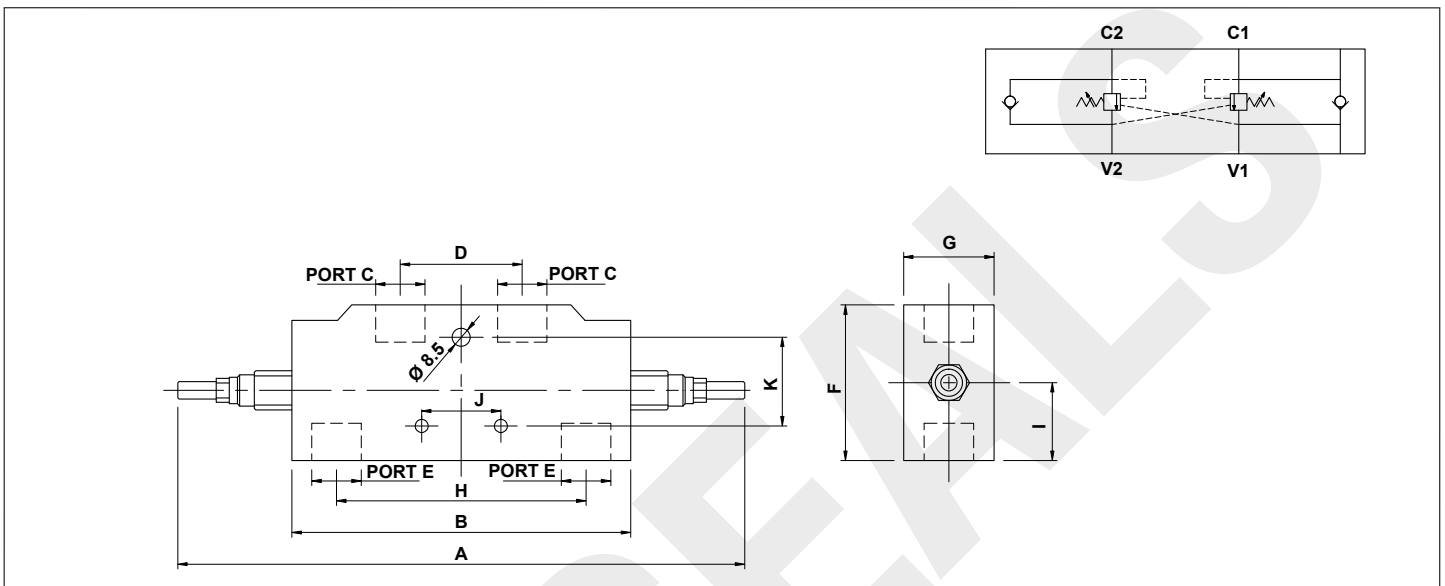
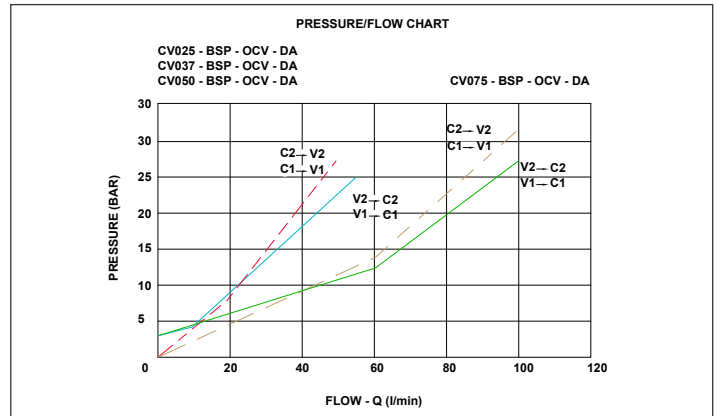
PILOT OPERATED CHECK VALVES BSP DOUBLE & SINGLE ACTING



CHECK VALVE CV	PRIMARY THREAD SIZE 025	SECONDARY THREAD SIZE BSP	DOUBLE / SINGLE ACTING DA / SA
-------------------	----------------------------	------------------------------	-----------------------------------

PART NUMBER	L/MIN	MAX PRESSURE BAR	PILOT PRESSURE	A	B	(BSP) PORT C	D	(BSP) PORT E	F	G
CV025-BSP-DA	20	350	1:5,5	113	64	1/4"	36	1/4"	40	30
CV025-BSP-SA	20	350	1:5,5	113	64	1/4"	36	1/4"	40	30
CV037-BSP-DA	35	350	1:5,5	128	80	3/8"	38	3/8"	40	30
CV037-BSP-SA	35	350	1:5,5	128	80	3/8"	38	3/8"	40	30
CV050-BSP-DA	50	350	1:5,0	142	90	1/2"	45	1/2"	45	35
CV050-BSP-SA	50	350	1:5,0	142	90	1/2"	45	1/2"	45	35
CV075-BSP-DA	100	300	1:4,0	192	100	3/4"	46	3/4"	60	40

DOUBLE ACTING OVERCENTRE VALVES



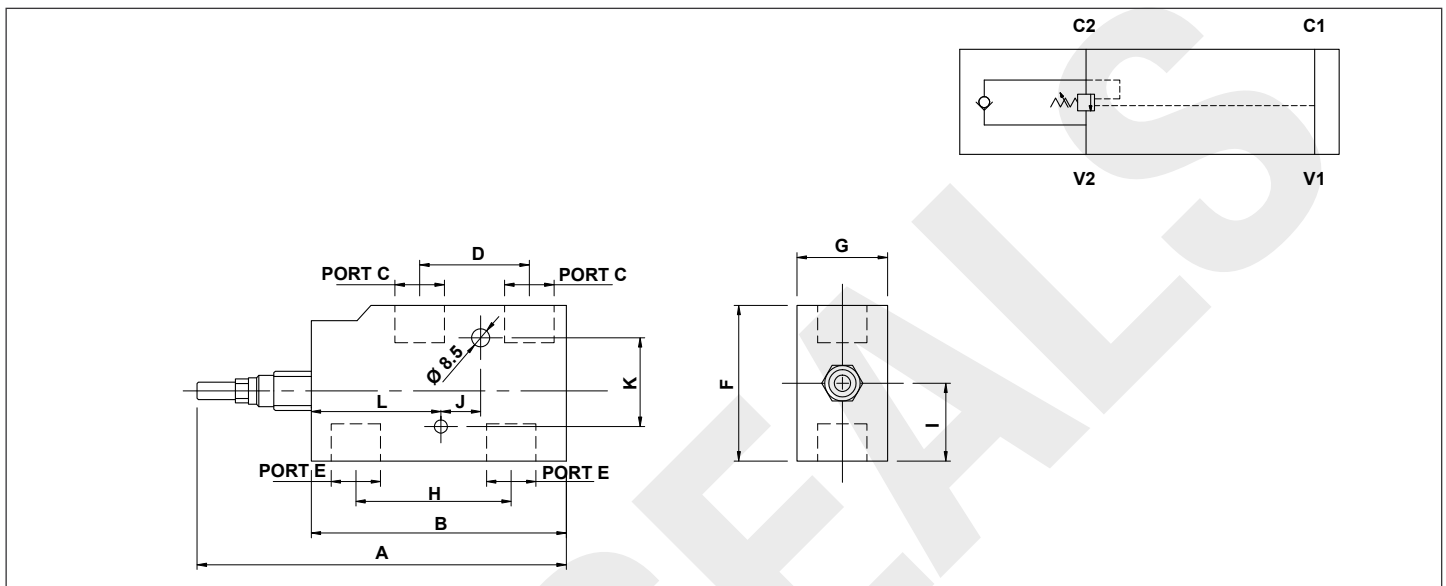
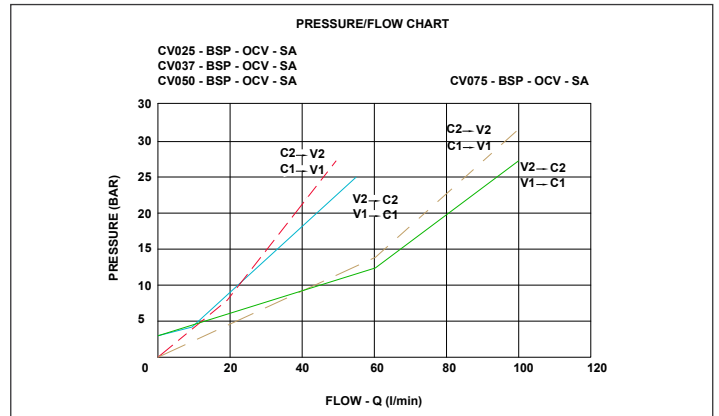
CHECK VALVE CV	PORT SIZE 025	THREAD BSP	OVERCENTRE VALVE OCV	DOUBLE ACTING DA
-------------------	------------------	---------------	-------------------------	---------------------

PART NUMBER	L/MIN	MAX PRESSURE BAR	PILOT RATIO	A	B	(BSP) PORT C	D	(BSP) PORT E	F	G	H	I	J	K
CV025-BSP-OCV-DA	20	350	1:4.5	248	150	1/4"	50	1/4"	60	30	110	32	30	44
CV037-BSP-OCV-DA	40	350	1:4.5	248	150	3/8"	50	3/8"	60	30	110	32	30	44
CV050-BSP-OCV-DA	60	350	1:4.5	248	150	1/2"	50	1/2"	60	30	110	32	30	44
CV075-BSP-OCV-DA	95	350	1:5.5	304	190	3/4"	65	3/4"	80	35	143	40	44	64

MATERIAL ; STEEL - ZINC PLATED STEEL

APPLICATION ; THESE VALVES ARE USED TO CONTROL THE ACTUATORS MOVEMENTS AND CONTROL THE DESCENT OF A LOAD
PORTS V1 & V2 ARE CONNECTED TO DIRECTIONAL CONTROL VALVE FEED AND RETURN.
PORTS C1 & C2 CONNECT TO THE CYLINDER PORTS TO BE CONTROLLED.

SINGLE ACTING OVERCENTRE VALVES



CHECK VALVE CV	PORT SIZE 025	THREAD BSP	OVERCENTRE VALVE OCV	SINGLE ACTING SA
-------------------	------------------	---------------	-------------------------	---------------------

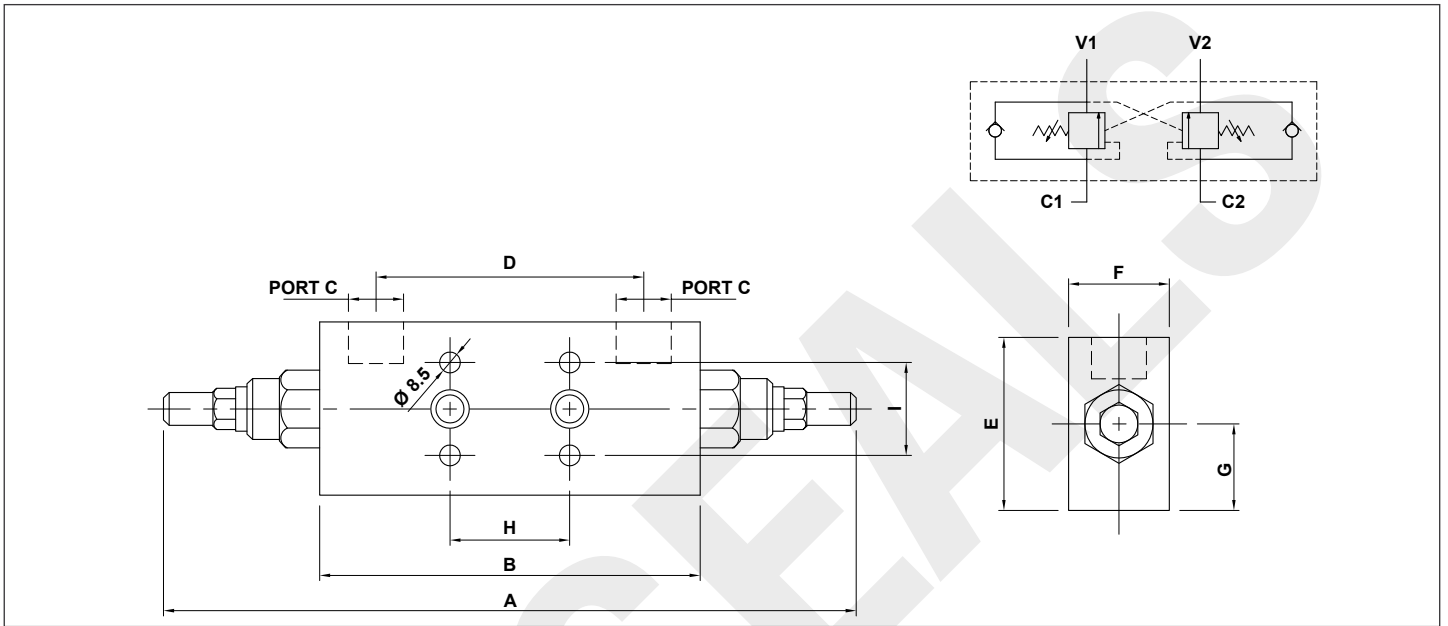
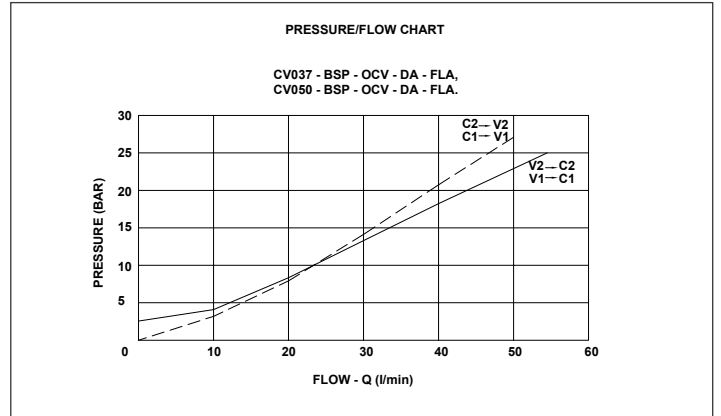
PART NUMBER	L/MIN	MAX PRESSURE BAR	PILOT RATIO	A	B	(BSP) PORT C	D	(BSP) PORT E	F	G	H	I	J	K	L
CV025-BSP-OCV-SA	20	350	1:4.5	149	100	1/4"	30	1/4"	60	30	60	30	10	44	55
CV037-BSP-OCV-SA	40	350	1:4.5	149	100	3/8"	30	3/8"	60	30	60	30	10	44	55
CV050-BSP-OCV-SA	60	350	1:4.5	149	100	1/2"	36	1/2"	60	30	65	30	10	44	57.5
CV075-BSP-OCV-SA	95	350	1:5.5	187	127	3/4"	46	3/4"	80	35	85	40	10	44	75

MATERIAL ; STEEL - ZINC PLATED STEEL

APPLICATION ; THESE VALVES ARE USED TO CONTROL THE ACTUATORS MOVEMENTS AND CONTROL THE DESCENT OF A LOAD
PORTS V1 & V2 ARE CONNECTED TO DIRECTIONAL CONTROL VALVE FEED AND RETURN.

PORTS C 1 CONNECTS TO THE FREE FLOW SIDE OF THE CYLINDER.
PORT C 2 CONNECTS TO THE SIDE THAT NEEDS TO BE CONTROLLED.

DOUBLE ACTING OVERCENTRE VALVES FLANGE MOUNTED



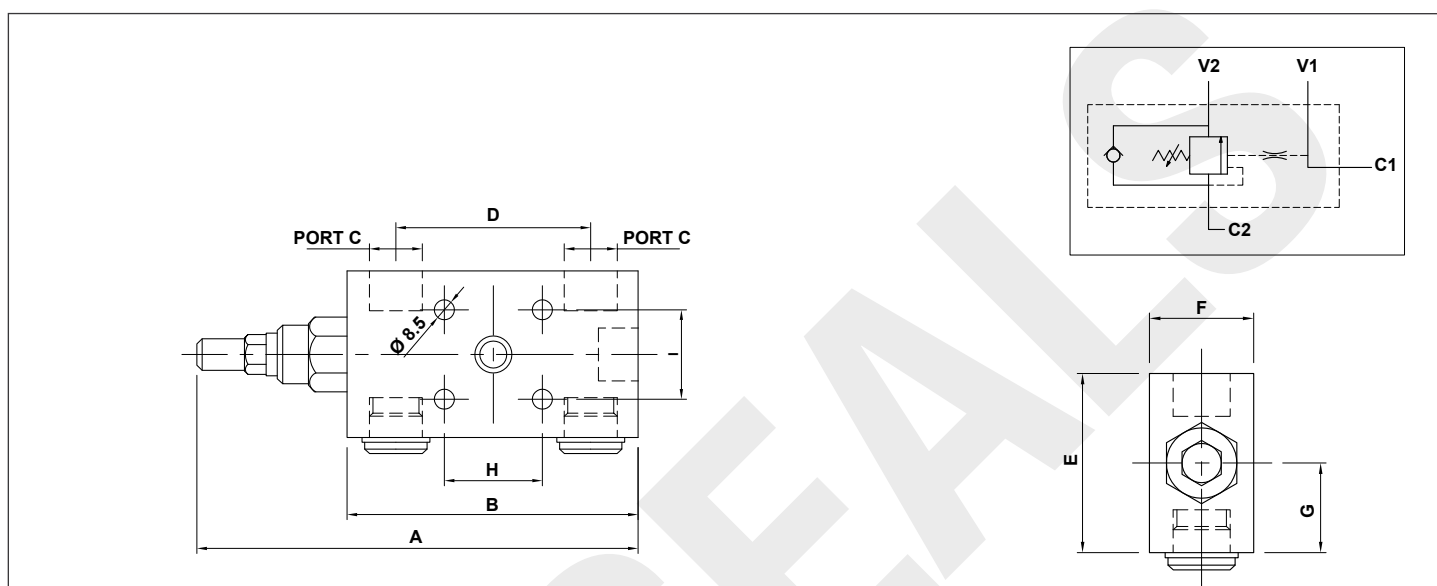
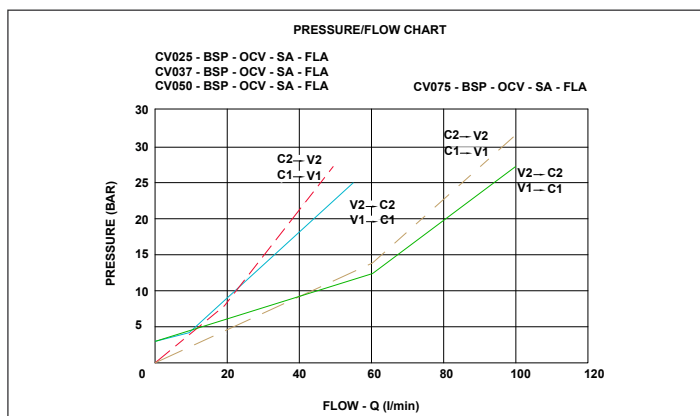
CHECK VALVE CV	PORT SIZE 025	THREAD BSP	OVERCENTRE VALVE OCV	DOUBLE ACTING DA	FLANGE MOUNTED FLA
-------------------	------------------	---------------	-------------------------	---------------------	-----------------------

PART NUMBER	L/MIN	MAX PRESSURE BAR	PILOT RATIO	A	B	(BSP) PORT C	D	E	F	G	H	I
CV037-BSP-OCV-DA-FLA	40	350	1:4.5	248	150	3/8"	110	60	30	30	48	40
CV050-BSP-OCV-DA-FLA	60	350	1:4.5	248	150	1/2"	110	60	30	30	48	40

MATERIAL; STEEL - ZINC PLATED STEEL

APPLICATION; THESE VALVES ARE USED TO CONTROL THE ACTUATORS MOVEMENTS AND CONTROL THE DESCENT OF A LOAD
PORTS C ARE CONNECTED TO DIRECTIONAL CONTROL VALVE FEED AND RETURN.

SINGLE ACTING OVERCENTRE VALVES FLANGE MOUNTED



CHECK VALVE	PORT SIZE	THREAD	OVERCENTRE VALVE	SINGLE ACTING	FLANGE MOUNTED
CV	037	BSP	OCV	SA	FLA

PART NUMBER	L/MIN	MAX PRESSURE BAR	PILOT RATIO	A	B	(BSP) PORT C	D	E	F	G	H	I
CV037-BSP-OCV-SA-FLA	40	350	1 : 4.5	149	100	3/8"	60	60	30	30	30	30
CV050-BSP-OCV-SA-FLA	60	350	1 : 4.5	149	100	1/2"	65	60	30	30	30	30

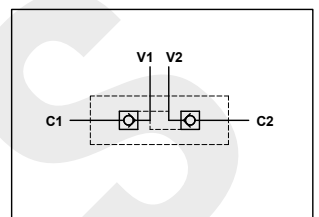
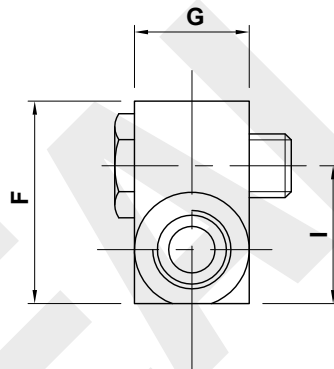
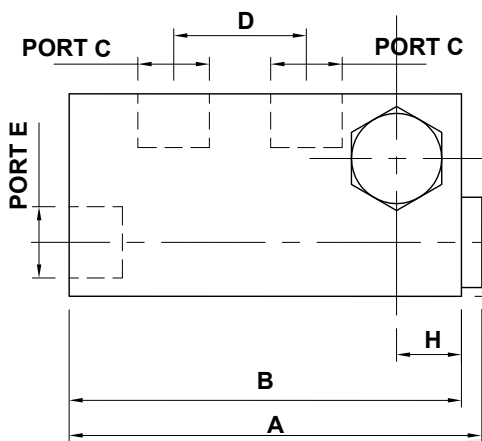
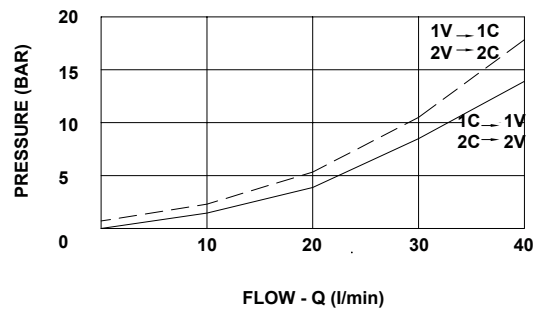
MATERIAL; STEEL - ZINC PLATED STEEL

APPLICATION; THESE VALVES ARE USED TO CONTROL THE ACTUATORS MOVEMENTS AND CONTROL THE DESCENT OF A LOAD
PORTS C ARE CONNECTED TO DIRECTIONAL CONTROL VALVE FEED AND RETURN.

BANJO MOUNTED PILOT OPERATED CHECK VALVES



PRESSURE/FLOW CHART



CHECK VALVE
CV

PORT SIZE
025

THREAD
BSP

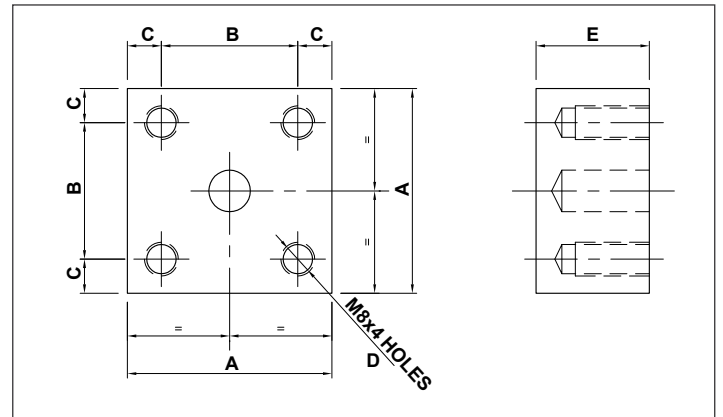
BANJO MOUNTED
BANJO

DOUBLE ACTING
DA

PART NUMBER	L/MIN	MAX PRESSURE BAR	PILOT PRESSURE	A	B	(BSP) PORT C	D	(BSP) PORT E	F	G	H	I	J
CV025-BSP-BANJO-DA	20	300	1 : 4,9	89	84	1/4"	24	1/4"	40	20	16	27	10
CV037-BSP-BANJO-SA	20	300	1 : 4,9	91	86.5	3/8"	29	3/8"	45	25	14	30	12
CV037-BSP-BANJO-DA	20	300	1 : 4,9	91	86.5	3/8"	29	3/8"	45	25	14	30	12

MATERIAL : STEEL - ZINC PLATED

WELDABLE SUB PLATES FOR OVERCENTRE VALVES



CHECK VALVE
CV

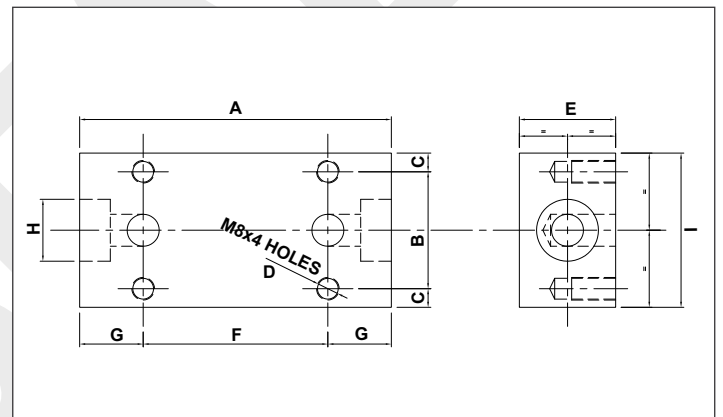
PORT SIZE
037

WELDABLE SUB PLATE
WSP

SINGLE ACTING
SA

PART NUMBER	A	B	C	D	E
CV037-WSP-SA	45	30	7.5	M8	25
CV050-WSP-SA	45	30	7.5	M8	25

MATERIAL : STEEL



CHECK VALVE
CV

PORT SIZE
037

WELDABLE SUB PLATE
WSP

DOUBLE ACTING
DA

PART NUMBER	A	B	C	D	E	F	G	H	I
CV037-WSP-DA	100	40	7.5	M8	25	48	26	14.5	55
CV050-WSP-DA	100	40	7.5	M8	25	48	26	14.5	55

MATERIAL : STEEL

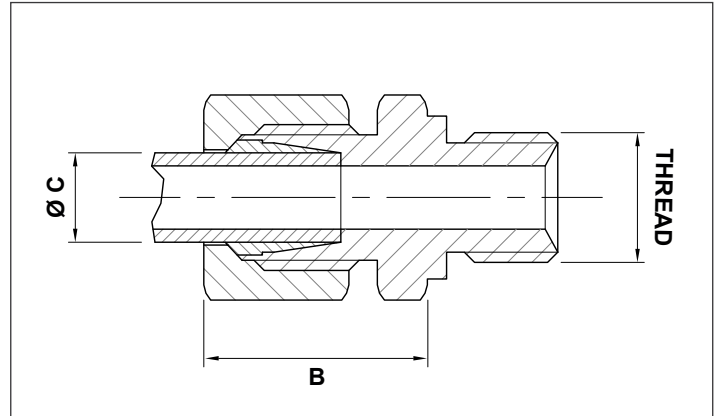
CHECK VALVE KITS FOR STANDARD CYLINDER PARTS



CYLINDER KIT CHECK VALVE CKCV		BSP SIZE 025		LENGTH OF PIPE DOUBLE / SINGLE ACTING 38DA	
PART NUMBER	PORT SIZE	PIPE LENGTH A	PIPE LENGTH B	MIN CENTRE	MAX CENTRES
CKCV025-38DA	1/4"	38	38	160	160
CKCV025-38SA	1/4"	38	38	160	160
CKCV025-100DA	1/4"	38	100	160	235
CKCV025-100SA	1/4"	38	100	160	235
CKCV025-200DA	1/4"	38	200	160	325
CKCV025-200SA	1/4"	38	200	160	325
CKCV025-300DA	1/4"	38	300	160	420
CKCV025-300SA	1/4"	38	300	160	420
CKCV025-400DA	1/4"	38	400	160	525
CKCV025-400SA	1/4"	38	400	160	525
CKCV025-600DA	1/4"	38	600	160	720
CKCV025-600SA	1/4"	38	600	160	720
CKCV025-850DA	1/4"	38	850	160	970
CKCV025-850SA	1/4"	38	850	160	970
CKCV025-1000DA	1/4"	38	1000	160	1120
CKCV025-1000SA	1/4"	38	1000	160	1120
CKCV037-38DA	3/8"	38	38	160	160
CKCV037-38SA	3/8"	38	38	160	160
CKCV037-100DA	3/8"	38	100	160	225
CKCV037-100SA	3/8"	38	100	160	225
CKCV037-200DA	3/8"	38	200	160	320
CKCV037-200SA	3/8"	38	200	160	320
CKCV037-300DA	3/8"	38	300	160	420
CKCV037-300SA	3/8"	38	300	160	420
CKCV037-400DA	3/8"	38	400	160	520
CKCV037-400SA	3/8"	38	400	160	520
CKCV037-500DA	3/8"	38	500	160	620
CKCV037-500SA	3/8"	38	500	160	620
CKCV037-600DA	3/8"	38	600	160	720
CKCV037-600SA	3/8"	38	600	160	720
CKCV037-850DA	3/8"	38	850	160	970
CKCV037-850SA	3/8"	38	850	160	970
CKCV037-1000DA	3/8"	38	1000	160	1120
CKCV037-1000SA	3/8"	38	1000	160	1120
CKCV050-44DA	1/2"	44	38	195	195
CKCV050-44SA	1/2"	44	38	195	195
CKCV050-100DA	1/2"	44	100	195	250
CKCV050-100SA	1/2"	44	100	195	250
CKCV050-200DA	1/2"	44	200	195	350
CKCV050-200SA	1/2"	44	200	195	350
CKCV050-300DA	1/2"	44	300	195	450
CKCV050-300SA	1/2"	44	300	195	450
CKCV050-400DA	1/2"	44	400	195	550
CKCV050-400SA	1/2"	44	400	195	550
CKCV050-500DA	1/2"	44	500	195	650
CKCV050-500SA	1/2"	44	500	195	650
CKCV050-600DA	1/2"	44	600	195	750
CKCV050-600SA	1/2"	44	600	195	750
CKCV050-850DA	1/2"	44	850	195	1000
CKCV050-850SA	1/2"	44	850	195	1000
CKCV050-1000DA	1/2"	44	1000	195	1150
CKCV050-1000SA	1/2"	44	1000	195	1150

STANDARD KITS CONSIST OF; TWO BANJO BOLTS COMPLETE WITH COPPER WASHERS, TWO STEEL PIPES, ONE PILOT OPERATED CHECK VALVE EITHER DOUBLE OR SINGLE ACTING

MALE STUD COUPLINGS AND ANCILARY PRODUCTS



CHECK VALVE
CV

BSP SIZE
025

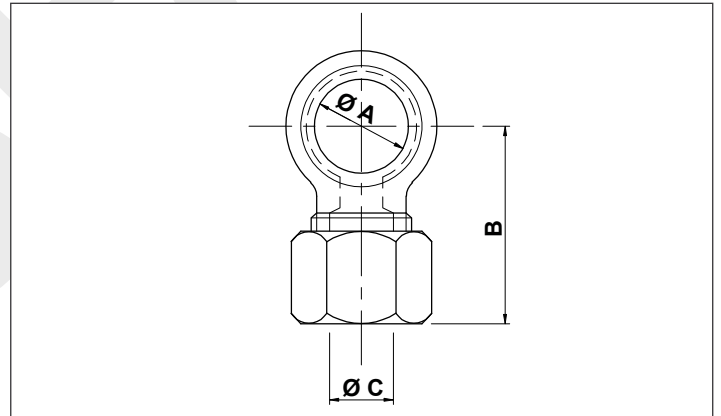
COMPRESSION SIZE
10L

MALE STUD COUPLING
MSC

PART NUMBER	(BSP) THREAD	B (mm)	Ø C (mm)
CV025-10L-MSC	1/4"	28	10
CV025-12L-MSC	1/4"	30	12
CV037-12L-MSC	3/8"	30	12
CV050-15L-MSC	1/2"	32	15

MATERIAL : STEEL - ZINC PLATED

BANJO ADAPTER



CHECK VALVE
CV

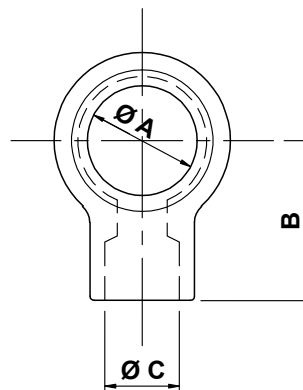
BSP SIZE
025

BANJO COMPRESSION ADAPTER
BANJO ADAPTER

PART NUMBER	Ø A (BSP)	B (mm)	Ø C (mm)
CV025-BANJO ADAPTER	1/4"	42	12
CV037-BANJO ADAPTER	3/8"	38	12
CV050-BANJO ADAPTER	1/2"	43	15

MATERIAL : STEEL - ZINC PLATED

BANJO END



CHECK VALVE
CV

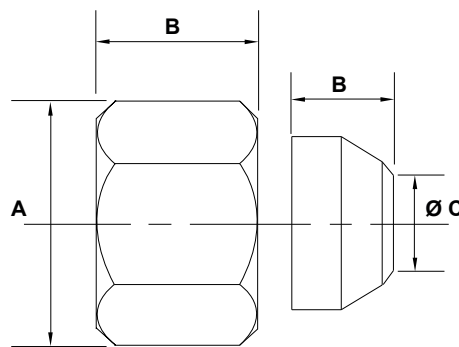
BSP SIZE
025

BANJO END WELDABLE
BANJO END

PART NUMBER	Ø A (BSP)	B (mm)	Ø C (mm)
CV025 - BANJO END	1/4"	23	12
CV037 - BANJO END	3/8"	22	12
CV050 - BANJO END	1/2"	25	15

MATERIAL : STEEL - ZINC PLATED

NUT AND OLIVE



CHECK VALVE
CV

BSP SIZE
025

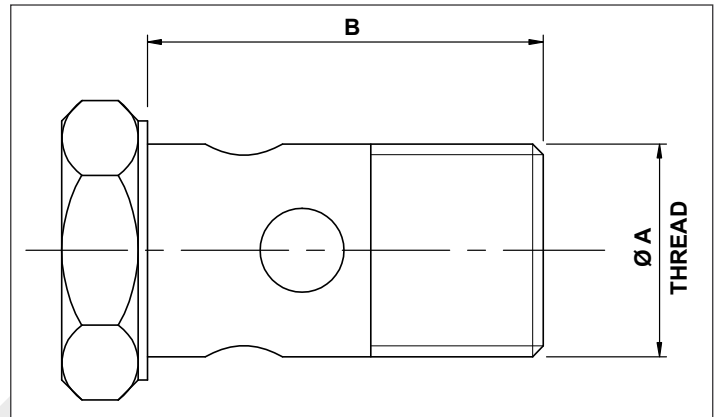
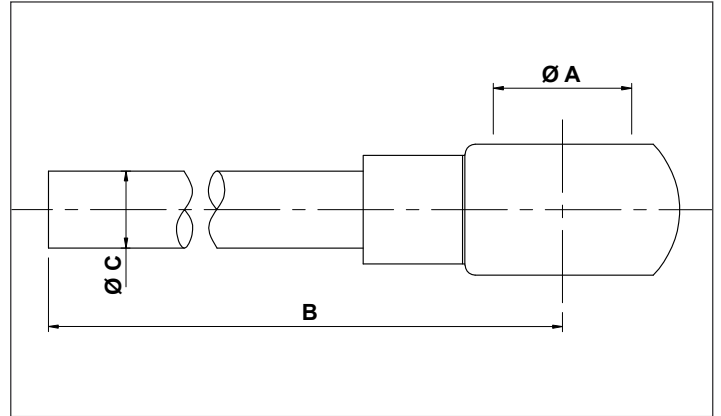
COMPRESSION SIZE
10L

COMPRESSION NUT OR OLIVE
NUT

PART NUMBER	A (AF)	B (mm)	Ø C (mm)
CV025-10L-NUT	19	16	10
CV025-10L-OLIVE		10	10
CV025-12L-NUT	22	15	12
CV025-12L-OLIVE		10	12
CV037-12L-NUT	22	15	12
CV037-12L-OLIVE		10	12
CV050-15L-NUT	27	17	15
CV050-15L-OLIVE		10	15

MATERIAL : STEEL - ZINC PLATED

FEED PIPES AND BANJO BOLTS

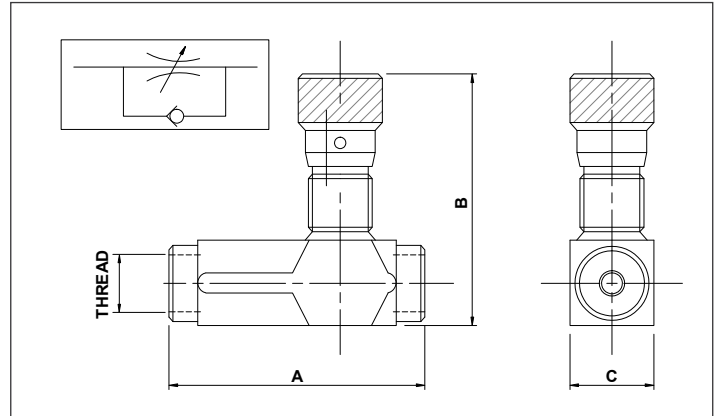


CHECK VALVE CV BSP SIZE 025 LENGTH OF PIPE 38mm

PART NUMBER	THREAD A (BSP)	B (mm)	Ø C (mm)
CV025-BANJO BOLT	1/4"	27	
CV025-38mm	1/4"	38	12
CV025-100mm	1/4"	100	12
CV025-200mm	1/4"	200	12
CV025-300mm	1/4"	300	12
CV025-400mm	1/4"	400	12
CV025-600mm	1/4"	600	12
CV025-850mm	1/4"	850	12
CV025-1000mm	1/4"	1000	12
CV037-BANJO BOLT	3/8"	31	
CV037-38mm	3/8"	38	12
CV037-50mm	3/8"	50	12
CV037-100mm	3/8"	100	12
CV037-200mm	3/8"	200	12
CV037-300mm	3/8"	300	12
CV037-400mm	3/8"	400	12
CV037-500mm	3/8"	500	12
CV037-600mm	3/8"	600	12
CV037-850mm	3/8"	850	12
CV037-1000mm	3/8"	1000	12
CV050-BANJO BOLT	1/2"	38	
CV050-44mm	1/2"	44	15
CV050-100mm	1/2"	100	15
CV050-200mm	1/2"	200	15
CV050-300mm	1/2"	300	15
CV050-400mm	1/2"	400	15
CV050-500mm	1/2"	500	15
CV050-600mm	1/2"	600	15
CV050-850mm	1/2"	850	15
CV050-1000mm	1/2"	1000	15

MATERIAL : STEEL - ZINC PLATED

NEEDLE VALVES WITH BYPASS



NEEDLE VALVE
FCV

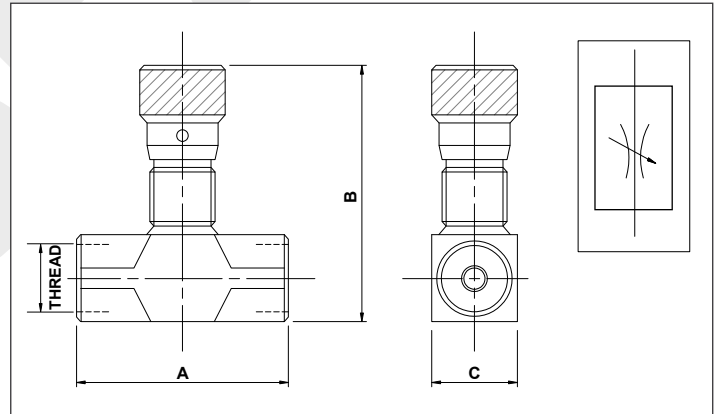
THREAD
025

SINGLE ACTING
SA

PART NUMBER	L/MIN	MAX PRESSURE BAR	FLOW CONTROL BOTH WAYS	WITH INTEGRAL CHECK	CRACKING PRESSURE BAR	A	B	C	(BSP) THREAD
FCV-025-SA	15	350	NO	YES	0.5	73	82	25	1/4"
FCV-037-SA	30	350	NO	YES	0.5	83	82	25	3/8"
FCV-050-SA	50	350	NO	YES	0.5	94	87	30	1/2"

THESE VALVES ARE USED TO ADJUST THE FLOW / SPEED OF AN ACTUATOR IN ONE DIRECTION ; FREE FLOW IS IN THE REVERSE DIRECTION

NEEDLE VALVES WITHOUT BYPASS



NEEDLE VALVE
FCV

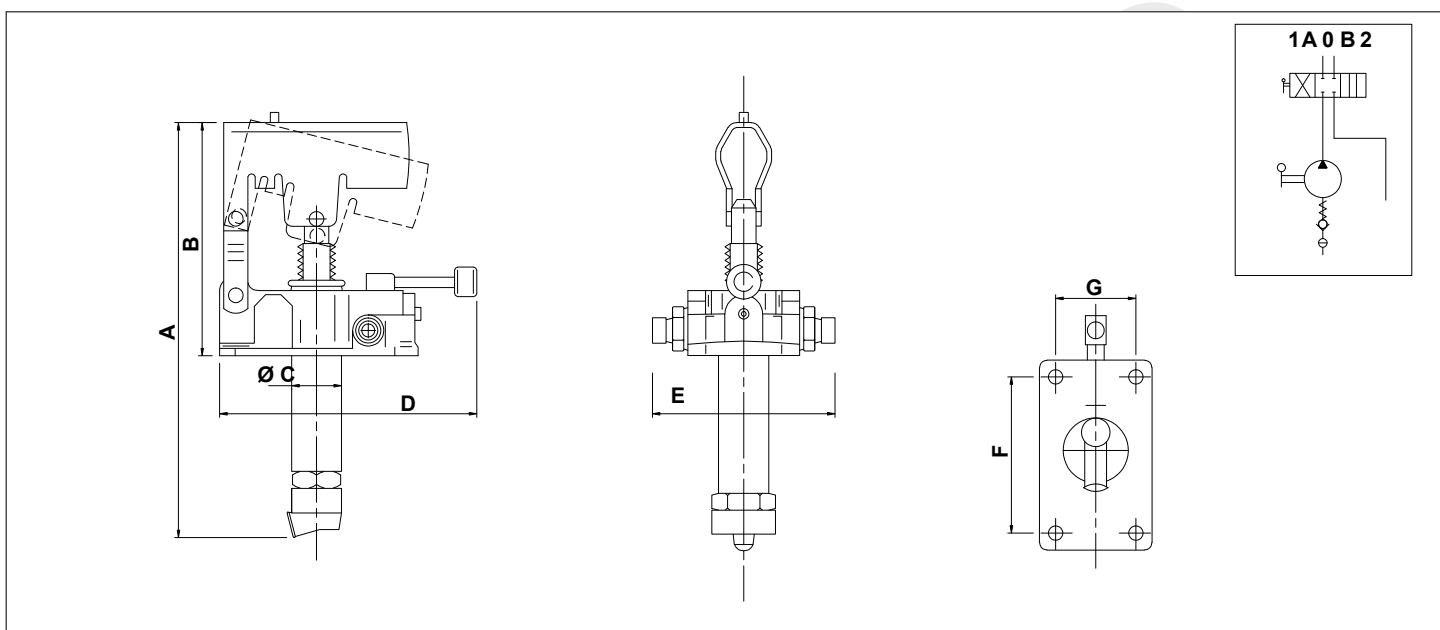
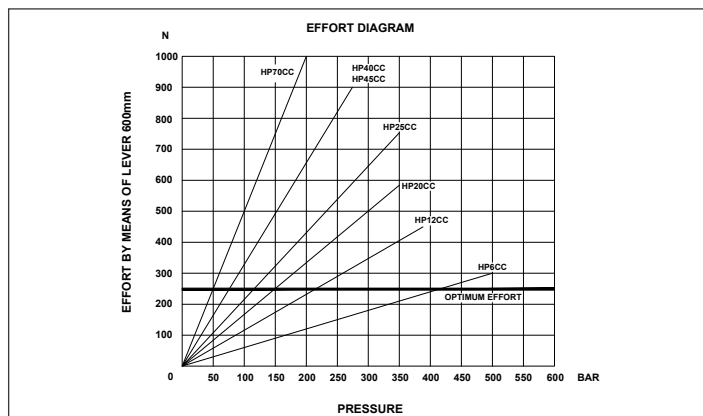
THREAD
025

DOUBLE ACTING
DA

PART NUMBER	L/MIN	MAX PRESSURE BAR	FLOW CONTROL BOTH WAYS	A	B	C	(BSP) THREAD
FCV-025-DA	15	350	YES	60	82	25	1/4"
FCV-037-DA	30	350	YES	61	82	25	3/8"
FCV-050-DA	50	350	YES	70	87	30	1/2"

THESE VALVES ARE USED TO ADJUST THE FLOW / SPEED OF AN ACTUATOR IN BOTH DIRECTIONS

TANK MOUNTED DOUBLE ACTING HAND PUMPS



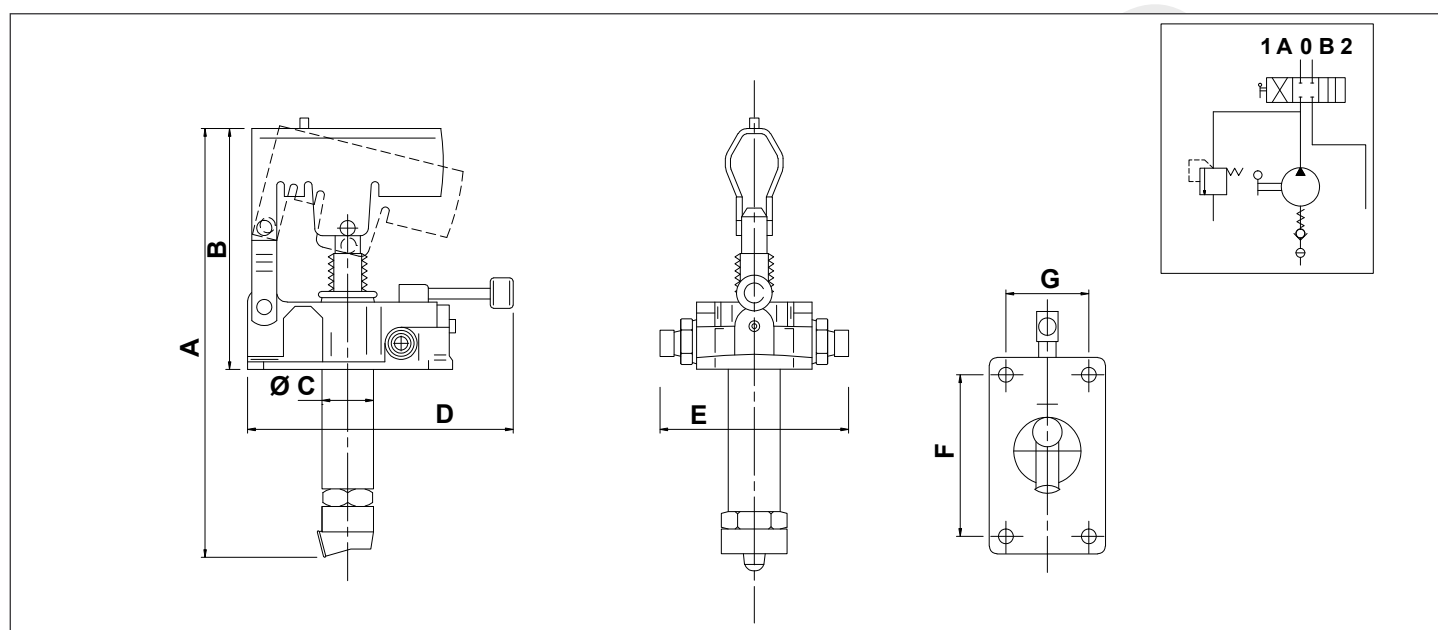
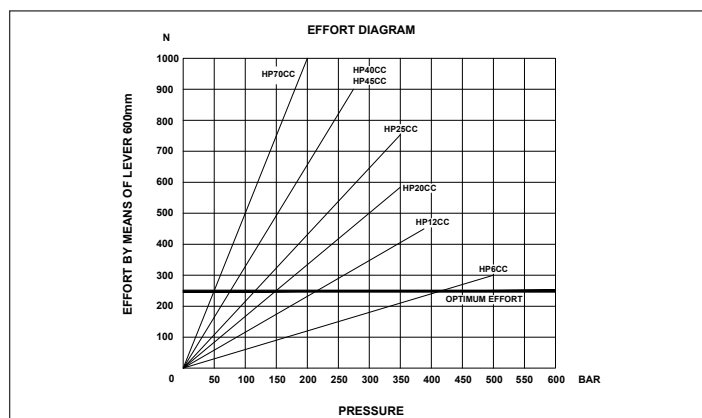
HAND PUMP HP	CUBIC CAPACITY 6CC	DOUBLE ACTING DA	CRANKED HANDLE CRHA
-----------------	-----------------------	---------------------	------------------------

PART NUMBER	CAPACITY (CC)	ACTUAL DISPLACEMENT (CC)	PRESSURE (BAR) OPTIMAL	MAX	BSP OUTLET PORT	A	B	Ø C	D	E	F	G
HP 6CC-DA	6	6,970	420	500	3/8"	253	166	34	169	123	95	50
HP 6CC-DA-CRHA	6	6,970	420	500	3/8"	253	166	34	169	123	95	50
HP12CC-DA	12	12,095	220	380	3/8"	253	166	34	169	123	95	50
HP12CC-DA-CRHA	12	12,095	220	380	3/8"	253	166	34	169	123	95	50
HP25CC-DA	25	25,280	120	350	3/8"	273	172	34	169	123	95	50
HP25CC-DA-CRHA	25	25,280	120	350	3/8"	273	172	34	169	123	95	50
HP45CC-DA	45	44,532	80	280	3/8"	283	172	40	169	123	95	50
HP45CC-DA-CRHA	45	44,532	80	280	3/8"	283	172	40	169	123	95	50

PART NUMBER	DESCRIPTION	LENGTH
HP HANDLE	REPLACEMENT HANDLE	27 Ø x 600
HP CRANKED HANDLE	REPLACEMENT HANDLE	27 Ø x 600

HAND PUMPS ARE SUPPLIED WITH HANDLES
PRESSURE RELIEF VALVES ARE FACTORY SET AT 100BAR
OIL TANK MOUNTING KIT INCLUDED

TANK MOUNTED DOUBLE ACTING HAND PUMPS WITH RELIEF VALVES



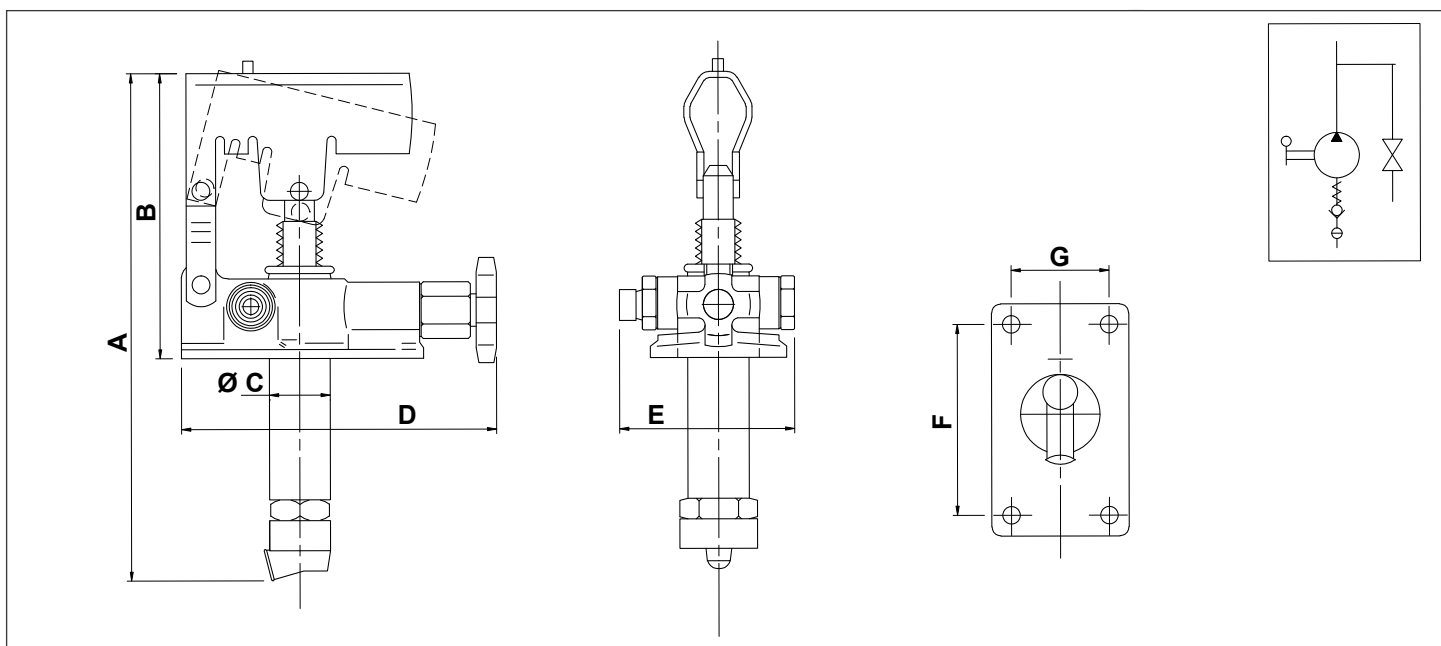
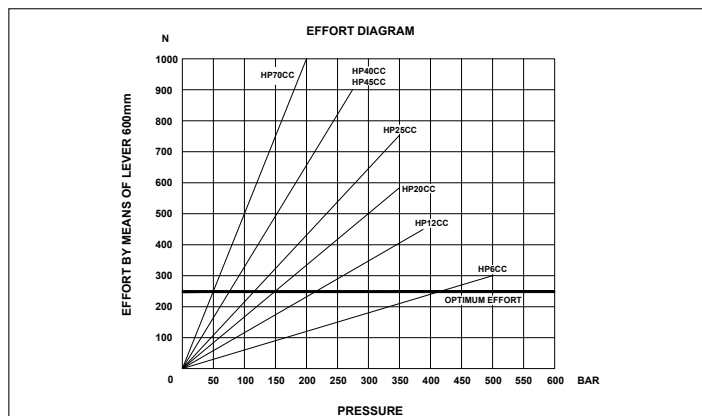
HAND PUMP HP	CUBIC CAPACITY 6CC	DOUBLE ACTING DA	RELIEF VALVE RV	CRANKED HANDLE CRHA
-----------------	-----------------------	---------------------	--------------------	------------------------

PART NUMBER	CAPACITY (CC)	ACTUAL DISPLACEMENT (CC)	PRESSURE (BAR) OPTIMAL	MAX	BSP OUTLET PORT	A	B	Ø C	D	E	F	G
HP6CC-DA-RV	6	6,970	420	500	3/8"	253	166	34	169	123	95	50
HP6CC-DA-RV-CRHA	6	6,970	420	500	3/8"	253	166	34	169	123	95	50
HP12CC-DA-RV	12	12,095	220	380	3/8"	253	166	34	169	123	95	50
HP12CC-DA-RV-CRHA	12	12,095	220	380	3/8"	253	166	34	169	123	95	50
HP25CC-DA-RV	25	25,280	120	350	3/8"	273	172	34	169	123	95	50
HP25CC-DA -RV-CRHA	25	25,280	120	350	3/8"	273	172	34	169	123	95	50
HP45CC-DA-RV	45	44,532	80	280	3/8"	283	172	40	169	123	95	50
HP45CC-DA-RV-CRHA	45	44,532	80	280	3/8"	283	172	40	169	123	95	50

PART NUMBER	DESCRIPTION	LENGTH
HP HANDLE	REPLACEMENT HANDLE	27 Ø x 600
HP CRANKED HANDLE	REPLACEMENT HANDLE	27 Ø x 600

HAND PUMPS ARE SUPPLIED WITH HANDLES
PRESSURE RELIEF VALVES ARE FACTORY SET AT 100BAR
OIL TANK MOUNTING KIT INCLUDED

TANK MOUNTED SINGLE ACTING HAND PUMPS



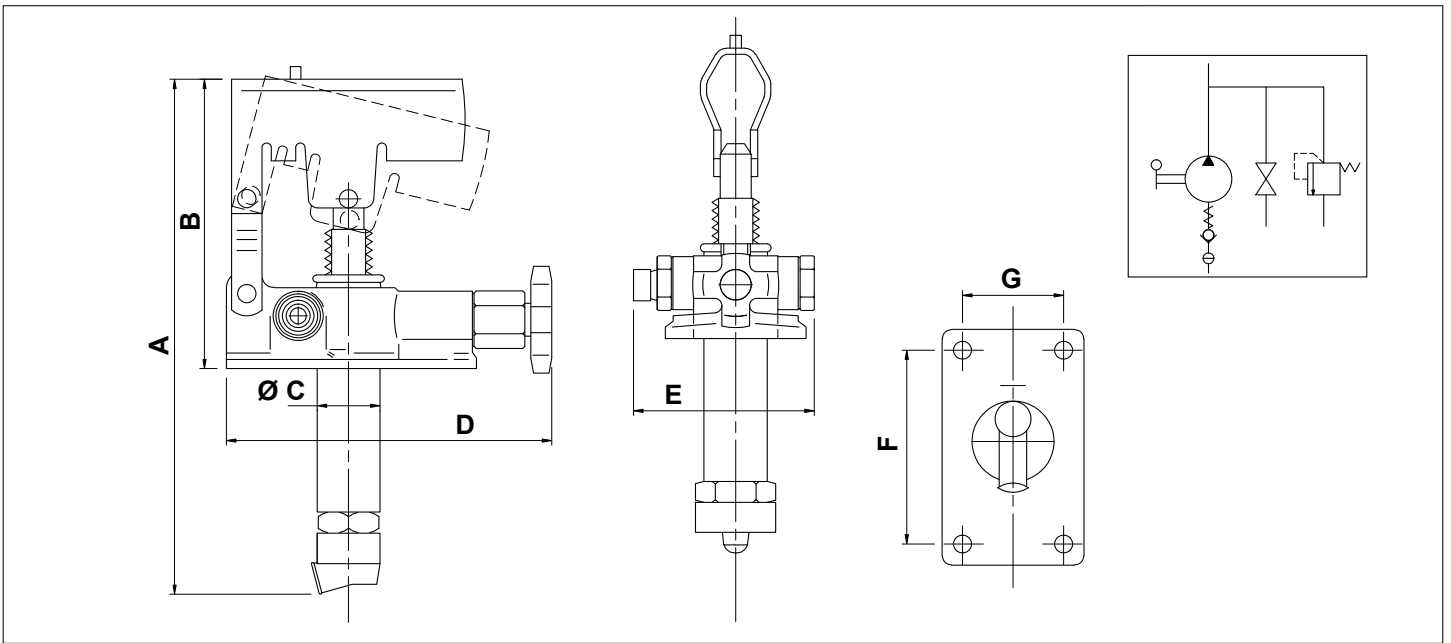
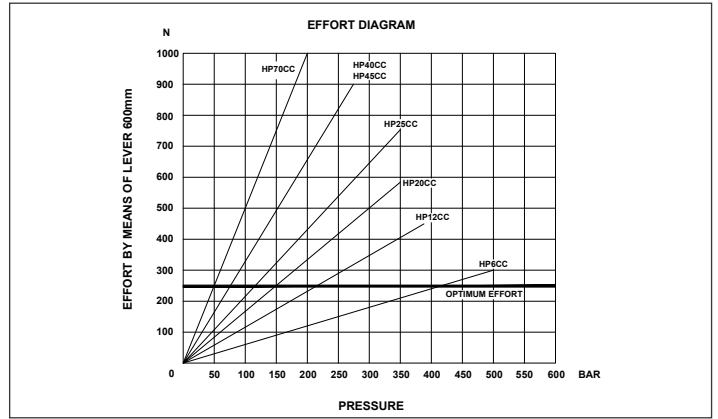
HAND PUMP HP		CUBIC CAPACITY 6CC	SINGLE ACTING SA		CRANKED HANDLE CRHA	
-----------------	--	-----------------------	---------------------	--	------------------------	--

PART NUMBER	CAPACITY (CC)	ACTUAL DISPLACEMENT (CC)	PRESSURE (BAR) OPTIMAL MAX		BSP OUTLET PORT	A	B	Ø C	D	E	F	G
HP 6CC-SA	6	6,970	420	500	3/8"	253	166	34	156	107	95	50
HP 6CC-SA-CRHA	6	6,970	420	500	3/8"	253	166	34	156	107	95	50
HP12CC-SA	12	12,095	220	380	3/8"	253	166	34	156	107	95	50
HP12CC-SA-CRHA	12	12,095	220	380	3/8"	253	166	34	156	107	95	50
HP25CC-SA	25	25,280	120	350	3/8"	273	172	34	156	107	95	50
HP25CC-SA-CRHA	25	25,280	120	350	3/8"	273	172	34	156	107	95	50
HP45CC-SA	45	44,532	80	280	3/8"	283	172	34	156	107	95	50
HP45CC-SA-CRHA	45	44,532	80	280	3/8"	283	172	40	156	107	95	50

PART NUMBER	DESCRIPTION	LENGTH
HP HANDLE	REPLACEMENT HANDLE	27 Ø x 600
HP CRANKED HANDLE	REPLACEMENT HANDLE	27 Ø x 600

HAND PUMPS ARE SUPPLIED WITH HANDLES
PRESSURE RELIEF VALVES ARE FACTORY SET AT 100BAR
OIL TANK MOUNTING KIT INCLUDED

TANK MOUNTED SINGLE ACTING HAND PUMPS WITH RELIEF VALVES



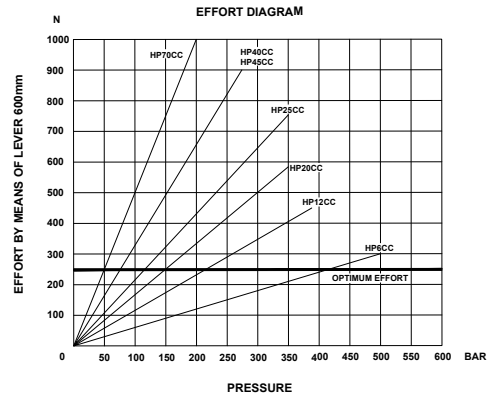
HAND PUMP	CUBIC CAPACITY	SINGLE ACTING	RELIEF VALVE	CRANKED HANDLE
HP	6CC	SA	RV	CRHA

PART NUMBER	CAPACITY (CC)	ACTUAL DISPLACEMENT (CC)	PRESSURE (BAR) OPTIMAL	MAX	BSP OUTLET PORT	A	B	Ø C	D	E	F	G
HP6CC-SA-RV	6	6,970	420	500	3/8"	253	166	34	156	114	95	50
HP6CC-SA-RV-CRHA	6	6,970	420	500	3/8"	253	166	34	156	114	95	50
HP12CC-SA-RV	12	12,095	220	380	3/8"	253	166	34	156	114	95	50
HP12CC-SA-RV-CRHA	12	12,095	220	380	3/8"	253	166	34	156	114	95	50
HP25CC-SA-RV	25	25,280	120	350	3/8"	273	172	34	156	114	95	50
HP25CC-SA -RV-CRHA	25	25,280	120	350	3/8"	273	172	34	156	114	95	50
HP45CC-SA-RV	45	44,532	80	280	3/8"	283	172	40	156	114	95	50
HP45CC-SA-RV-CRHA	45	44,532	80	280	3/8"	283	172	40	156	114	95	50

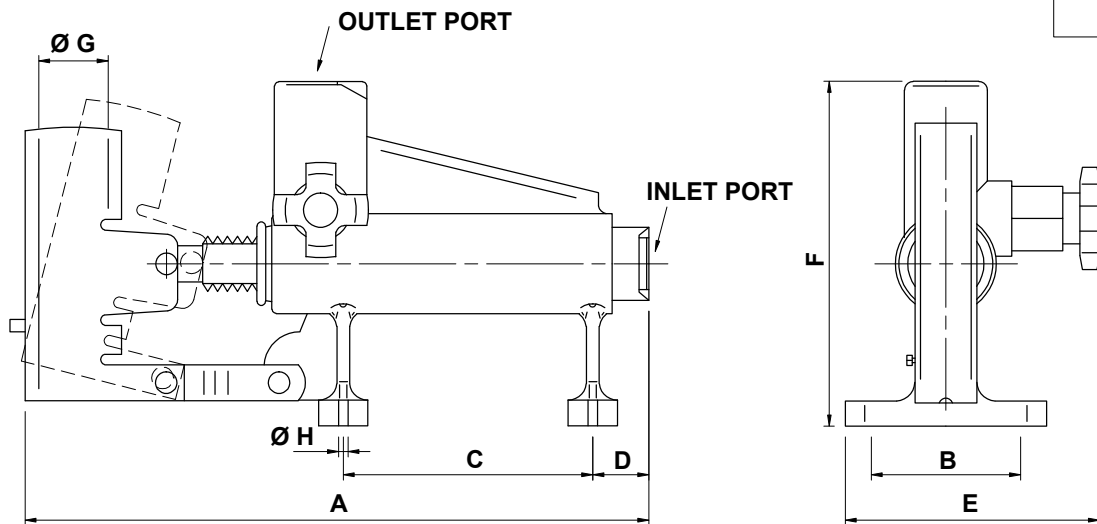
PART NUMBER	DESCRIPTION	LENGTH
HP HANDLE	REPLACEMENT HANDLE	27 Ø x 600
HP CRANKED HANDLE	REPLACEMENT HANDLE	27 Ø x 600

HAND PUMPS ARE SUPPLIED WITH HANDLES
PRESSURE RELIEF VALVES ARE FACTORY SET AT 100BAR
OIL TANK MOUNTING KIT INCLUDED

STAND ALONE SINGLE ACTING HAND PUMPS



**HP 40CC-SA-RK
HP 70CC-SA-RK**



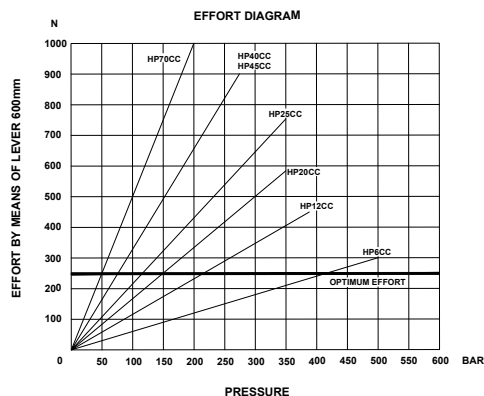
HAND PUMP HP	CUBIC CAPACITY 20cc	SINGLE ACTING SA	WITHOUT RELEASE KNOB WRK
-----------------	------------------------	---------------------	-----------------------------

PART NUMBER	CAPACITY (CC)	BSP INLET PORT	BSP OUTLET PORT	ACTUAL DISPLACEMENT (CC)	PRESSURE (BAR) OPTIMAL	MAX	A	B	C	D	E	F	ØG	ØH
HP20CC-SA-RK	20	1/2"	3/8"	20,090	150	350	257	76	75	37	84	102	27	9
HP20CC-SA-WRK	20	1/2"	3/8"	20,090	150	350	257	76	75	37	48	102	27	9
HP40CC-SA-RK	40	1/2"	1/2"	40,180	80	280	275	60	87	39	101	116	27	9
HP70CC-SA-RK	70	1/2"	1/2"	70,233	50	200	298	80	95	35	106	131	27	11

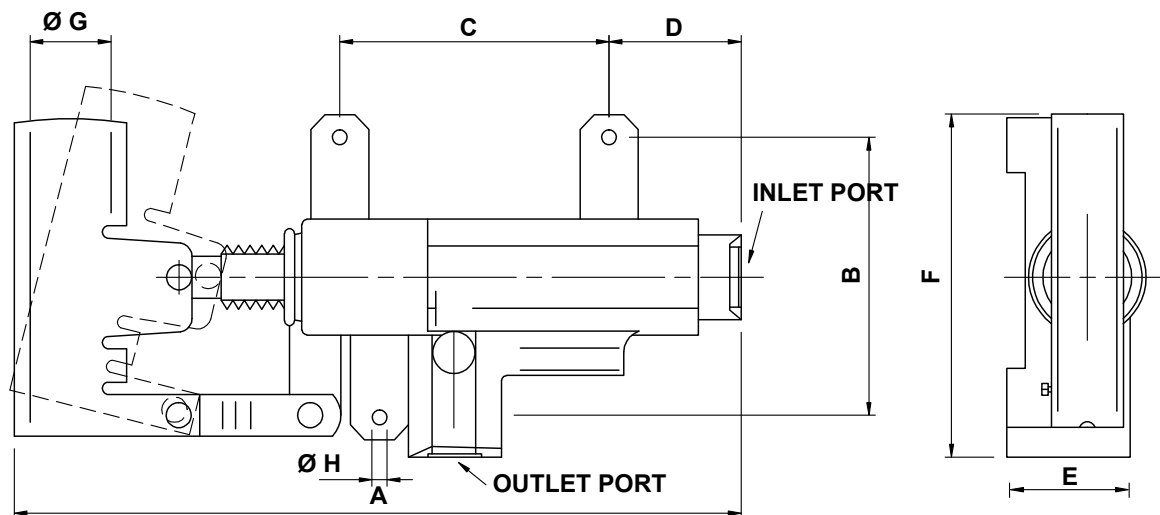
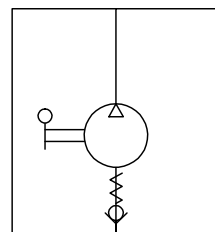
PART NUMBER	DESCRIPTION	LENGTH
HP HANDLE	REPLACEMENT HANDLE	27 Ø x 600

HAND PUMPS ARE SUPPLIED WITH HANDLES

STAND ALONE SINGLE ACTING HAND PUMPS



HP20CC-SA-WRK



HAND PUMP
HP

CUBIC CAPACITY
20cc

SINGLE ACTING
SA

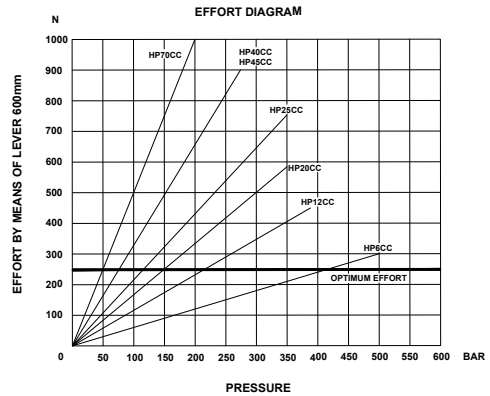
WITHOUT RELEASE KNOB
WRK

PART NUMBER	CAPACITY (CC)	BSP INLET PORT	BSP OUTLET PORT	ACTUAL DISPLACEMENT (CC)	PRESSURE (BAR)		A	B	C	D	E	F	ØG	ØH
					OPTIMAL	MAX								
HP20CC-SA-RK	20	1/2"	3/8"	20,090	150	350	257	76	75	37	84	102	27	9
HP20CC-SA-WRK	20	1/2"	3/8"	20,090	150	350	257	76	75	37	48	102	27	9
HP40CC-SA-RK	40	1/2"	1/2"	40,180	80	280	275	60	87	39	101	116	27	9
HP70CC-SA-RK	70	1/2"	1/2"	70,233	50	200	298	80	95	35	106	131	27	11

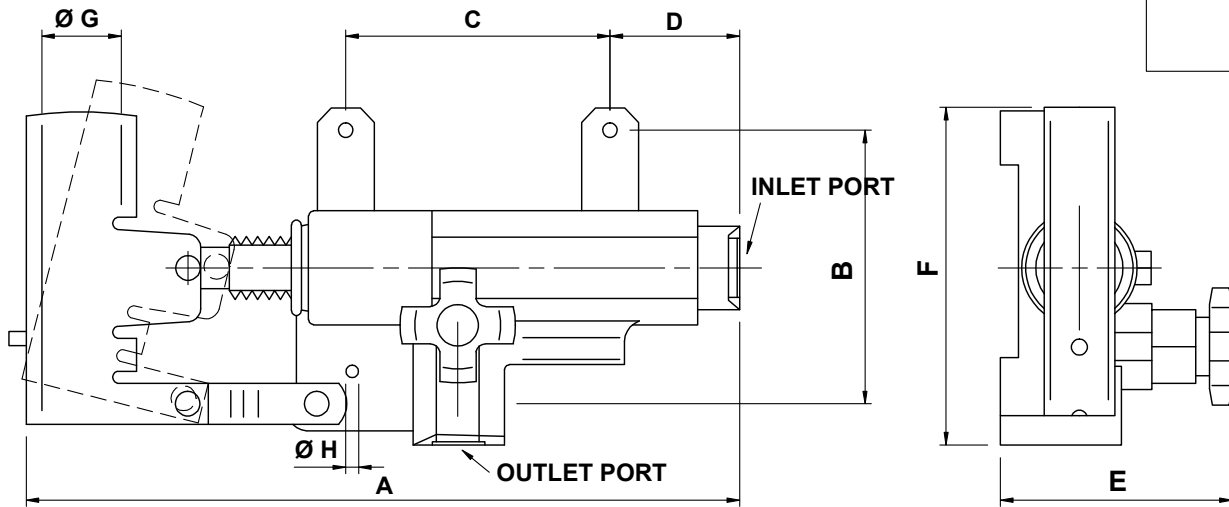
PART NUMBER	DESCRIPTION	LENGTH
HP HANDLE	REPLACEMENT HANDLE	27 Ø x 600

HAND PUMPS ARE SUPPLIED WITH HANDLES

STAND ALONE SINGLE ACTING HAND PUMPS



HP 20CC-SA-RK

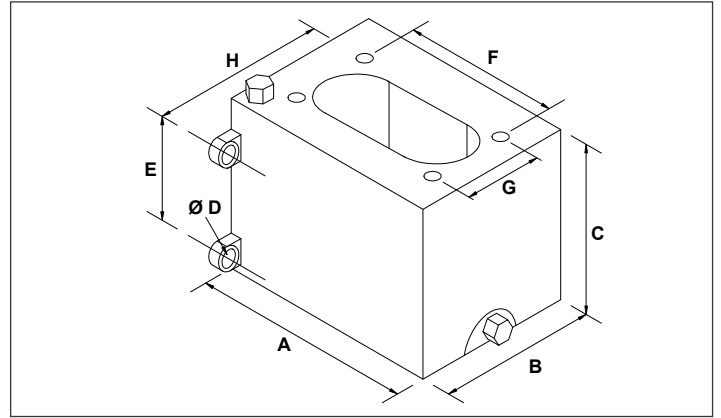


HAND PUMP HP		CUBIC CAPACITY 20cc		SINGLE ACTING SA		RELEASE KNOB RK							
PART NUMBER	CAPACITY (CC)	BSP INLET PORT	BSP OUTLET PORT	ACTUAL DISPLACEMENT (CC)	PRESSURE (BAR) OPTIMAL	MAX	A	B	C	D	E	F	ØG ØH
HP20CC-SA-RK	20	1/2"	3/8"	20,090	150	350	257	76	75	37	84	102	27 9
HP20CC-SA-WRK	20	1/2"	3/8"	20,090	150	350	257	76	75	37	48	102	27 9
HP40CC-SA-RK	40	1/2"	1/2"	40,180	80	280	275	60	87	39	101	116	27 9
HP70CC-SA-RK	70	1/2"	1/2"	70,233	50	200	298	80	95	35	106	131	27 11

PART NUMBER	DESCRIPTION	LENGTH
HP HANDLE	REPLACEMENT HANDLE	27 Ø x 600

HAND PUMPS ARE SUPPLIED WITH HANDLES

HYDRAULIC TANKS FOR TANK MOUNTED HAND PUMPS



HANDPUMP
HP

TANK
TK

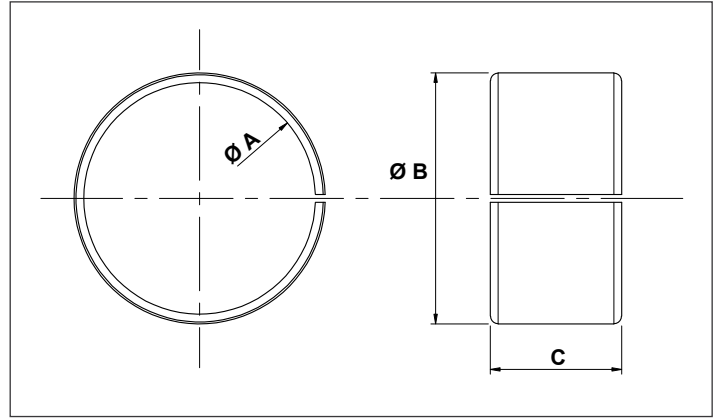
CAPACITY
1

LITRE
LTR

PART NUMBER	CAPACITY LTR	A	B	C	Ø D	E	F	G	H
HPTK-1LTR	1	150	100	120	9	90	95	50	120
HPTK-2LTR	2	150	100	180	9	90	95	50	120
HPTK-3LTR	3	150	100	247	9	90	95	50	120
HPTK-5LTR	5	175	175	200	9	90	95	50	195
HPTK-7LTR	7	175	175	270	9	90	95	50	195
HPTK-10LTR	10	175	175	375	9	90	95	50	195

MATERIAL : STEEL
SUITABLE FOR ALL OUR TANK MOUNTED HAND PUMPS

DU STYLE BUSHES METRIC



METAL BUSH
MB

INSIDE DIAMETER Ø A
4

OUTSIDE DIAMETER Ø B
5.5

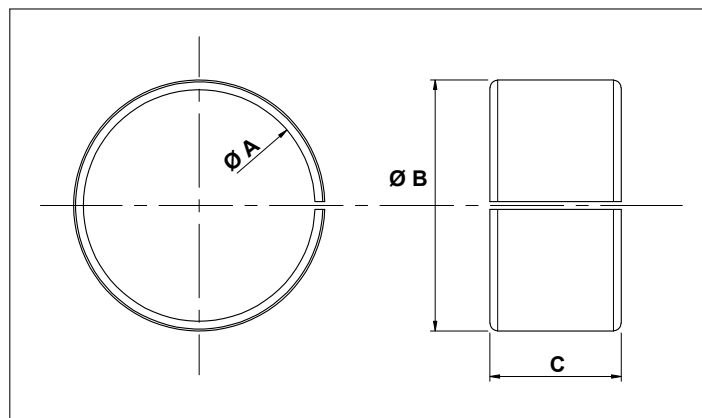
LENGTH C
4

PTFE LINED
U

PART NUMBER	Ø A	Ø B	C
MB4-5.5-4-U	4	5.5	4
MB4-5.5-6-U	4	5.5	6
MB4-5.5-10-U	4	5.5	10
MB5-7-5-U	5	7	5
MB5-7-6-U	5	7	6
MB5-7-8-U	5	7	8
MB5-7-10-U	5	7	10
MB6-8-6-U	6	8	6
MB6-8-10-U	6	8	10
MB8-10-8-U	8	10	8
MB8-10-12-U	8	10	12
MB10-12-8-U	10	12	8
MB10-12-10-U	10	12	10
MB10-12-12-U	10	12	12
MB12-14-10-U	12	14	10
MB12-14-20-U	12	14	20
MB14-16-12-U	14	16	12
MB14-16-15-U	14	16	15
MB16-18-15-U	16	18	15
MB16-18-20-U	16	18	20
MB16-18-25-U	16	18	25
MB18-20-20-U	18	20	20
MB20-23-15-U	20	23	15
MB20-23-20-U	20	23	20
MB20-23-25-U	20	23	25
MB20-23-30-U	20	23	30
MB20-23-40-U	20	23	40
MB22-25-20-U	22	25	20
MB25-28-15-U	25	28	15
MB25-28-20-U	25	28	20
MB25-28-25-U	25	28	25
MB25-28-30-U	25	28	30
MB25-28-35-U	25	28	35
MB25-28-40-U	25	28	40
MB28-32-20-U	28	32	20
MB28-32-25-U	28	32	25
MB30-34-20-U	30	34	20
MB30-34-25-U	30	34	25
MB30-34-30-U	30	34	30
MB30-34-35-U	30	34	35
MB30-34-40-U	30	34	40
MB32-36-30-U	32	36	30
MB32-36-40-U	32	36	40

THESE BUSHES HAVE A STEEL OUTER AND ARE LINED WITH A PTFE COATING ON THE INSIDE

DU STYLE BUSHES METRIC



METAL BUSH
MB

INSIDE DIAMETER Ø A
35

OUTSIDE DIAMETER Ø B
39

LENGTH C
12

PTFE LINED
U

PART
NUMBER

Ø A

Ø B

C

MB35-39-12-U	35	39	12
MB35-39-25-U	35	39	25
MB35-39-30-U	35	39	30
MB35-39-40-U	35	39	40
MB35-39-50-U	35	39	50

MB38-42-32-U	38	42	32
MB40-44-12-U	40	44	12
MB40-44-20-U	40	44	20
MB40-44-25-U	40	44	25
MB40-44-30-U	40	44	30

MB40-44-40-U	40	44	40
MB40-44-50-U	40	44	50
MB45-50-12-U	45	50	12
MB45-50-20-U	45	50	20
MB45-50-25-U	45	50	25

MB45-50-30-U	45	50	30
MB45-50-40-U	45	50	40
MB45-50-50-U	45	50	50
MB50-55-12-U	50	55	12
MB50-55-20-U	50	55	20

MB50-55-25-U	50	55	25
MB50-55-30-U	50	55	30
MB50-55-35-U	50	55	35
MB50-55-40-U	50	55	40
MB50-55-50-U	50	55	50

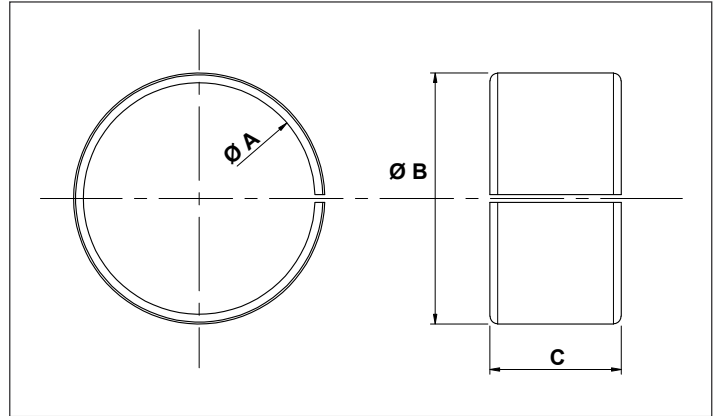
MB50-55-60-U	50	55	60
MB55-60-12-U	55	60	12
MB55-60-25-U	55	60	25
MB55-60-30-U	55	60	30
MB55-60-35-U	55	60	35

MB55-60-40-U	55	60	40
MB55-60-50-U	55	60	50
MB55-60-60-U	55	60	60
MB60-65-15-U	60	65	15
MB60-65-30-U	60	65	30

MB60-65-35-U	60	65	35
MB60-65-40-U	60	65	40
MB60-65-50-U	60	65	50
MB60-65-60-U	60	65	60
MB60-65-70-U	60	65	70

THESE BUSHES HAVE A STEEL OUTER AND ARE LINED WITH A PTFE COATING ON THE INSIDE

DU STYLE BUSHES METRIC



METAL BUSH
MB

INSIDE DIAMETER Ø A
65

OUTSIDE DIAMETER Ø B
70

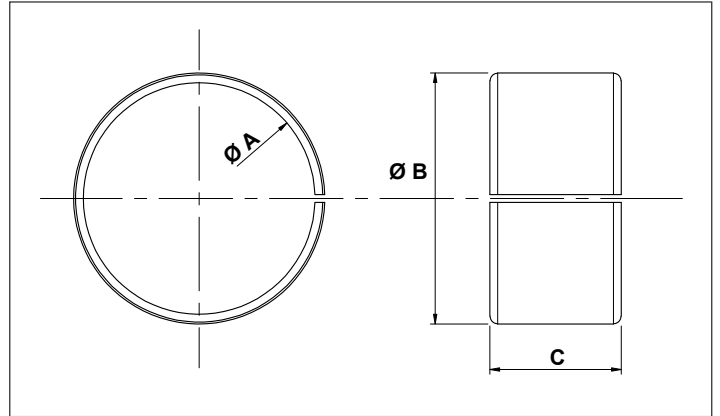
LENGTH C
15

PTFE LINED
U

PART NUMBER	Ø A	Ø B	C
MB65-70-15-U	65	70	15
MB65-70-30-U	65	70	30
MB65-70-35-U	65	70	35
MB65-70-40-U	65	70	40
MB65-70-50-U	65	70	50
MB65-70-60-U	65	70	60
MB70-75-15-U	70	75	15
MB70-75-20-U	70	75	20
MB70-75-30-U	70	75	30
MB70-75-35-U	70	75	35
MB70-75-40-U	70	75	40
MB70-75-50-U	70	75	50
MB70-75-60-U	70	75	60
MB75-80-15-U	75	80	15
MB75-80-30-U	75	80	30
MB75-80-35-U	75	80	35
MB75-80-40-U	75	80	40
MB75-80-50-U	75	80	50
MB75-80-60-U	75	80	60
MB80-85-15-U	80	85	15
MB80-85-30-U	80	85	30
MB80-85-40-U	80	85	40
MB80-85-50-U	80	85	50
MB80-85-60-U	80	85	60
MB80-85-80-U	80	85	80
MB85-90-30-U	85	90	30
MB85-90-40-U	85	90	40
MB85-90-50-U	85	90	50
MB85-90-60-U	85	90	60
MB85-90-70-U	85	90	70
MB85-90-100-U	85	90	100
MB90-95-20-U	90	95	20
MB90-95-30-U	90	95	30
MB90-95-35-U	90	95	35
MB90-95-40-U	90	95	40
MB90-95-45-U	90	95	45
MB90-95-50-U	90	95	50
MB90-95-60-U	90	95	60
MB95-100-30-U	95	100	30
MB95-100-35-U	95	100	35
MB95-100-40-U	95	100	40
MB95-100-45-U	95	100	45
MB95-100-50-U	95	100	50
MB95-100-60-U	95	100	60
MB95-100-100-U	95	100	100

THESE BUSHES HAVE A STEEL OUTER AND ARE LINED WITH A PTFE COATING ON THE INSIDE

DU STYLE BUSHES METRIC



METAL BUSH
MB

INSIDE DIAMETER Ø A
100

OUTSIDE DIAMETER Ø B
105

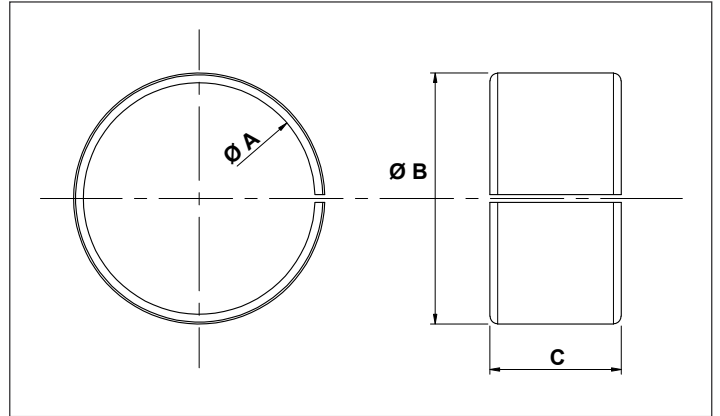
LENGTH C
20

PTFE LINED
U

PART NUMBER	Ø A	Ø B	C
MB100-105-20-U	100	105	20
MB100-105-30-U	100	105	30
MB100-105-35-U	100	105	35
MB100-105-40-U	100	105	40
MB100-105-50-U	100	105	50
MB100-105-60-U	100	105	60
MB105-110-35-U	105	110	35
MB105-110-40-U	105	110	40
MB105-110-50-U	105	110	50
MB105-110-60-U	105	110	60
MB110-115-35-U	110	115	35
MB110-115-40-U	110	115	40
MB110-115-45-U	110	115	45
MB110-115-50-U	110	115	50
MB110-115-55-U	110	115	55
MB110-115-60-U	110	115	60
MB110-115-70-U	110	115	70
MB115-120-35-U	115	120	35
MB115-120-45-U	115	120	45
MB115-120-50-U	115	120	50
MB115-120-60-U	115	120	60
MB115-120-70-U	115	120	70
MB120-125-20-U	120	125	20
MB120-125-35-U	120	125	35
MB120-125-40-U	120	125	40
MB120-125-50-U	120	125	50
MB120-125-60-U	120	125	60
MB120-125-70-U	120	125	70
MB120-125-100-U	120	125	100
MB125-130-35-U	125	130	35
MB125-130-50-U	125	130	50
MB125-130-70-U	125	130	70
MB130-135-35-U	130	135	35
MB130-135-40-U	130	135	40
MB130-135-50-U	130	135	50
MB130-135-60-U	130	135	60
MB130-135-65-U	130	135	65
MB130-135-80-U	130	135	80
MB135-140-60-U	135	140	60
MB135-140-80-U	135	140	80

THESE BUSHES HAVE A STEEL OUTER AND ARE LINED WITH A PTFE COATING ON THE INSIDE

DU STYLE BUSHES METRIC



METAL BUSH
MB

INSIDE DIAMETER Ø A
140

OUTSIDE DIAMETER Ø B
145

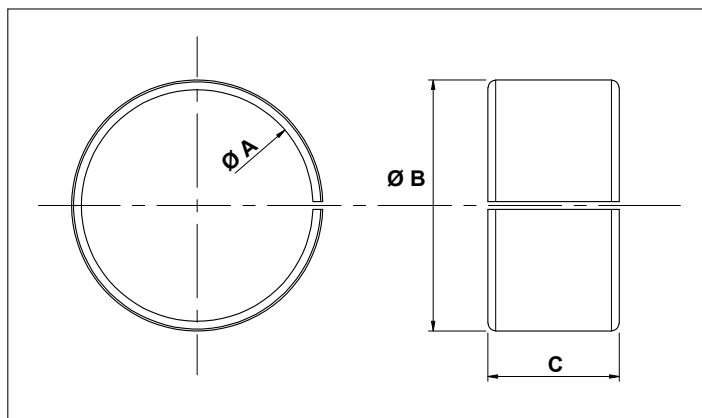
LENGTH C
35

PTFE LINED
U

PART NUMBER	Ø A	Ø B	C
MB140-145-35-U	140	145	35
MB140-145-40-U	140	145	40
MB140-145-50-U	140	145	50
MB140-145-55-U	140	145	55
MB140-145-60-U	140	145	60
MB140-145-70-U	140	145	70
MB140-145-80-U	140	145	80
MB150-155-40-U	150	155	40
MB150-155-60-U	150	155	60
MB150-155-100-U	150	155	100
MB160-165-40-U	160	165	40
MB160-165-50-U	160	165	50
MB160-165-65-U	160	165	65
MB160-165-80-U	160	165	80
MB160-165-95-U	160	165	95
MB160-165-96-U	160	165	96
MB160-165-100-U	160	165	100
MB180-185-50-U	180	185	50
MB180-185-80-U	180	185	80
MB180-185-90-U	180	185	90
MB180-185-100-U	180	185	100

THESE BUSHES HAVE A STEEL OUTER AND ARE LINED WITH A PTFE COATING ON THE INSIDE

DU STYLE BUSHES IMPERIAL



METAL BUSH
MB

INSIDE DIAMETER Ø A
068

OUTSIDE DIAMETER Ø B
087

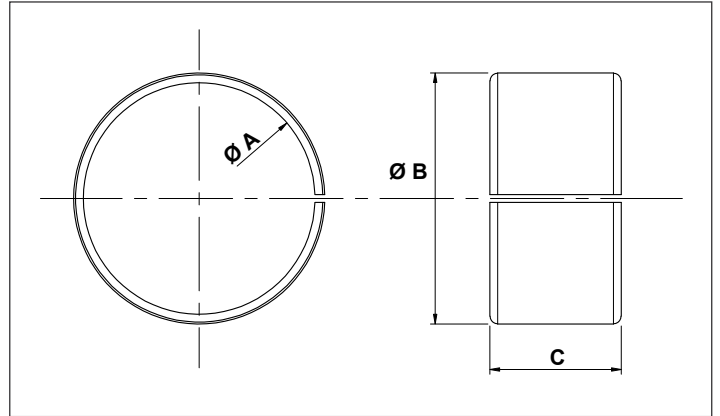
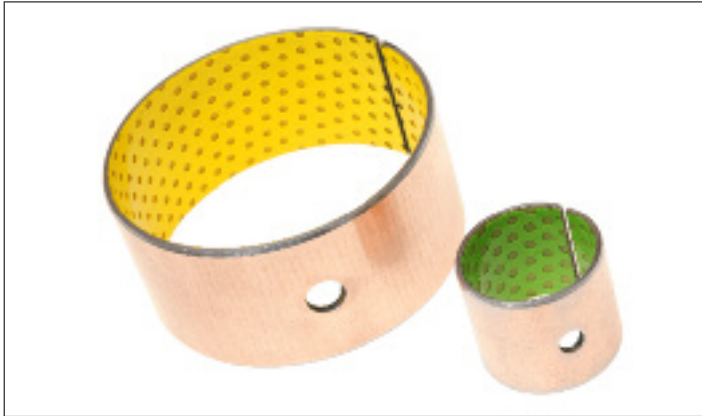
LENGTH C
062

PTFE LINED
U

PART NUMBER	Ø A	Ø B	C
MB068087-062-U	0.68"	0.87"	0.62"
MB075087-075-U	0.75"	0.87"	0.75"
MB075087-100-U	0.75"	0.87"	1.00"
MB100112-075-U	1.00"	1.12"	0.75"
MB100112-100-U	1.00"	1.12"	1.00"
MB100125-075-U	1.00"	1.25"	0.75"
MB150166-100-U	1.50"	1.67"	1.00"
MB150166-150-U	1.50"	1.67"	1.50"

THESE BUSHES HAVE A STEEL OUTER AND ARE LINED WITH A PTFE COATING ON THE INSIDE

DX STYLE BUSHES

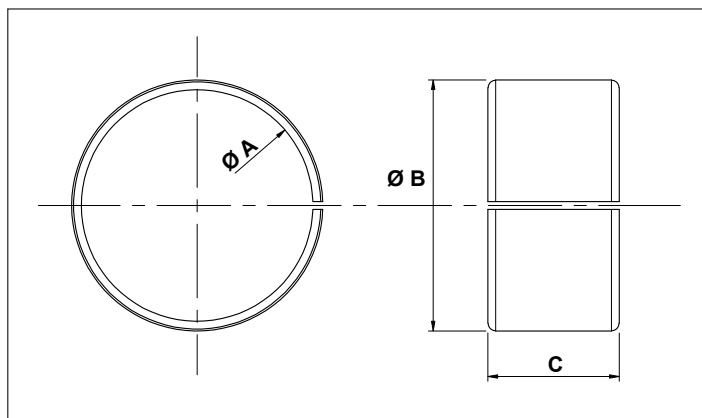
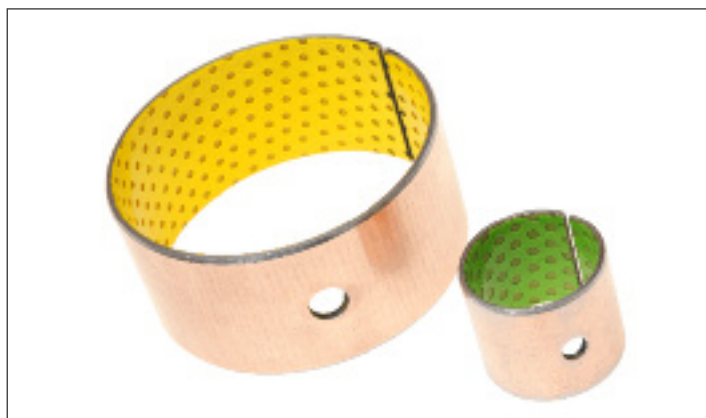


METAL BUSH MB	INSIDE DIAMETER Ø A 10	OUTSIDE DIAMETER Ø B 12	LENGTH C 10	DX STYLE X
------------------	---------------------------	----------------------------	----------------	---------------

PART NUMBER	Ø A	Ø B	C
MB10-12-10-X	10	12	10
MB10-12-15-X	10	12	15
MB10-12-20-X	10	12	20
MB12-14-6-X	12	14	6
MB12-14-15-X	12	14	15
MB12-14-25-X	12	14	25
MB14-16-10-X	14	16	10
MB14-16-20-X	14	16	20
MB15-17-10-X	15	17	10
MB15-17-25-X	15	17	25
MB16-18-15-X	16	18	15
MB16-18-20-X	16	18	20
MB16-18-25-X	16	18	25
MB18-20-20-X	18	20	20
MB20-23-10-X	20	23	10
MB20-23-15-X	20	23	15
MB20-23-25-X	20	23	25
MB20-23-30-X	20	23	30
MB22-25-15-X	22	25	15
MB22-25-25-X	22	25	25
MB22-25-30-X	22	25	30
MB24-27-15-X	24	27	15
MB24-27-20-X	24	27	20
MB24-27-30-X	24	27	30
MB25-28-10-X	25	28	10
MB25-28-15-X	25	28	15
MB25-28-20-X	25	28	20
MB25-28-25-X	25	28	25
MB25-28-30-X	25	28	30
MB25-28-40-X	25	28	40
MB25-28-50-X	25	28	50
MB28-32-20-X	28	32	20
MB30-34-15-X	30	34	15
MB30-34-20-X	30	34	20
MB30-34-25-X	30	34	25
MB30-34-30-X	30	34	30
MB30-34-35-X	30	34	35
MB30-34-40-X	30	34	40
MB30-34-50-X	30	34	50

THESE BUSHES HAVE A STEEL OUTER WHICH IS COPPER COATED AND ARE LINED WITH A POLYMER COATING ON THE INSIDE

DX STYLE BUSHES



METAL BUSH
MB

INSIDE DIAMETER Ø A
32

OUTSIDE DIAMETER Ø B
36

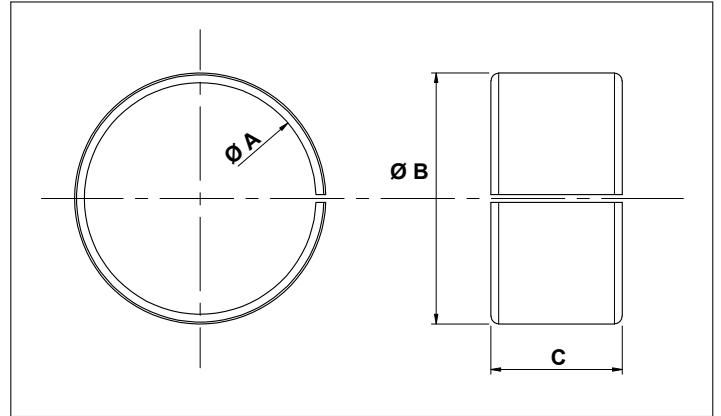
LENGTH C
20

DX STYLE
X

PART NUMBER	Ø A	Ø B	C
MB32-36-20-X	32	36	20
MB32-36-30-X	32	36	30
MB32-36-40-X	32	36	40
MB35-39-12-X	35	39	12
MB35-39-20-X	35	39	20
MB35-39-25-X	35	39	25
MB35-39-30-X	35	39	30
MB35-39-35-X	35	39	35
MB35-39-40-X	35	39	40
MB35-39-50-X	35	39	50
MB40-44-20-X	40	44	20
MB40-44-30-X	40	44	30
MB40-44-40-X	40	44	40
MB40-44-50-X	40	44	50
MB45-50-25-X	45	50	25
MB45-50-30-X	45	50	30
MB45-50-40-X	45	50	40
MB45-50-45-X	45	50	45
MB45-50-50-X	45	50	50
MB50-55-20-X	50	55	20
MB50-55-25-X	50	55	25
MB50-55-30-X	50	55	30
MB50-55-40-X	50	55	40
MB50-55-50-X	50	55	50
MB50-55-60-X	50	55	60
MB55-60-30-X	55	60	30
MB55-60-40-X	55	60	40
MB55-60-55-X	55	60	55
MB55-60-60-X	55	60	60
MB60-65-30-X	60	65	30
MB60-65-35-X	60	65	35
MB60-65-40-X	60	65	40
MB60-65-50-X	60	65	50
MB60-65-60-X	60	65	60

THESE BUSHES HAVE A STEEL OUTER WHICH IS COPPER COATED AND ARE LINED WITH A POLYMER COATING ON THE INSIDE

DU BUSHES COPPER COATED



METAL BUSH
MB

INSIDE DIAMETER
45

OUTSIDE DIAMETER
50

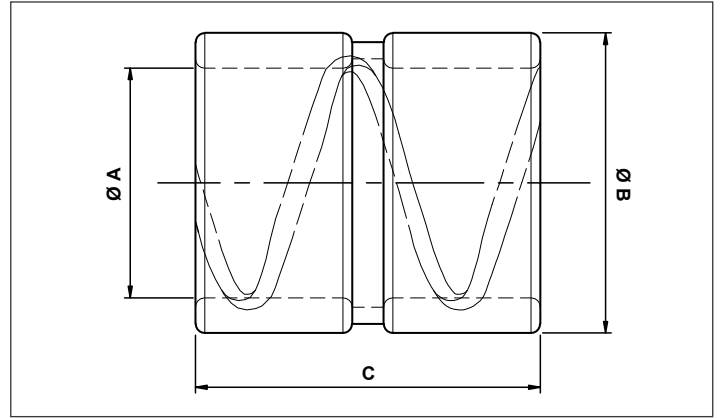
LENGTH
30

COPPER COATED
C

PART NUMBER	Ø A	Ø B	C
MB45-50-30-C	45	50	30
MB50-55-30-C	50	55	30
MB55-60-30-C	55	60	30
MB60-65-30-C	60	65	30
MB60-65-35-C	60	65	35
MB70-75-30-C	70	75	30
MB70-75-35-C	70	75	35
MB75-80-30-C	75	80	30
MB80-85-30-C	80	85	30
MB80-85-40-C	80	85	40
MB85-90-40-C	85	90	40
MB90-95-40-C	90	95	40
MB95-100-40-C	95	100	40
MB95-100-50-C	95	100	50
MB100-105-35-C	100	105	35
MB100-105-50-C	100	105	50
MB105-110-35-C	105	110	35
MB110-115-30-C	110	115	30
MB110-115-35-C	110	115	35
MB110-115-50-C	110	115	50
MB110-115-55-C	110	115	55
MB120-125-45-C	120	125	45
MB120-125-60-C	120	125	60
MB130-135-50-C	130	135	50
MB140-145-70-C	140	145	70
MB160-165-80-C	160	165	80

THESE BUSHES ARE COPPER COATED ON THE OUTSIDE AND HAVE A PTFE COATING ON THE INSIDE

HARDENED STEEL BUSHES



STEEL BUSH SB	INSIDE DIAMETER Ø A 25 33	OUTSIDE DIAMETER Ø B	LENGTH REQUIRED **
------------------	------------------------------	----------------------	-----------------------

PART NUMBER	Ø A	Ø B	C = LENGTH											
			20	25	30	35	40	50	60	65	68	70	80	100
SB25-33-**-	25	33	20	25	30									
SB25-38-**-	25	38		25	30	35								
SB30-38-**-	30	38	20	25	30	35	40	50						
SB30-40-**-	30	40	20	25	30	35	40	50						
SB32-42-**-	32	42			30		40	50						
SB35-45-**-	35	45		25	30	35	40	50	60					
SB38-48-**-	38	48			30		40							
SB40-50-**-	40	50		25	30	35	40	50	60			70		
SB45-55-**-	45	55			30	35	40	50	60					
SB45-60-**-	45	60			30	35	40	50	60			70		
SB50-60-**-	50	60			30	35	40	50	60			70	80	
SB50-62-**-	50	62			30		40	50	60			70		
SB50-65-**-	50	65			30		40	50	60					
SB55-70-**-	55	70			30	35	40	50	60			70		
SB60-70-**-	60	70						50	60					
SB60-75-**-	60	75			30	35	40	50	60	65		70	80	100
SB65-80-**-	65	80					40	50	60			70	80	100
SB70-85-**-	70	85			30	35	40	50	60			70	80	100
SB75-90-**-	75	90						50	60			70	80	100
SB75-95-**-	75	95							60			70	80	100
SB80-95-**-	80	95					40	50	60			70	80	100
SB80-100-**-	80	100					40	50	60			70	80	100
SB85-100-**-	85	100							60				80	
SB90-110-**-	90	110					40	50	60		68		80	100
SB100-120-**-	100	120					40	50	60			70	80	100

** DENOTES LENGTH REQUIRED

MATERIAL : STEEL - E410 (EN10305) - 16MnCr5(EN10305)
 THE BUSHES ARE CASE HARDENED & TEMPERED
 HARDNESS DEPTH : 0.8 - 1mm HARDNESS OF HRC 58 - 62.



PART
NUMBER
EC.....BC

NOMINAL
RANGE
20mm-60mm

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED



PART
NUMBER
OTSTA..N

NOMINAL
RANGE
20mm-120mm

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED



PART
NUMBER
OTS... AR

NOMINAL
RANGE
10mm-80mm
3/4"-3"

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED



PART
NUMBER
OTSTA..U

NOMINAL
RANGE
20mm-120mm

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED



PART
NUMBER
OTS..PR

NOMINAL
RANGE
15mm-120mm
3/4"-3"

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED



PART
NUMBER
OTSTA..CE

NOMINAL
RANGE
12mm-125mm

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED



PART
NUMBER
OTS...PR-CE

NOMINAL
RANGE
20mm-125mm

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED



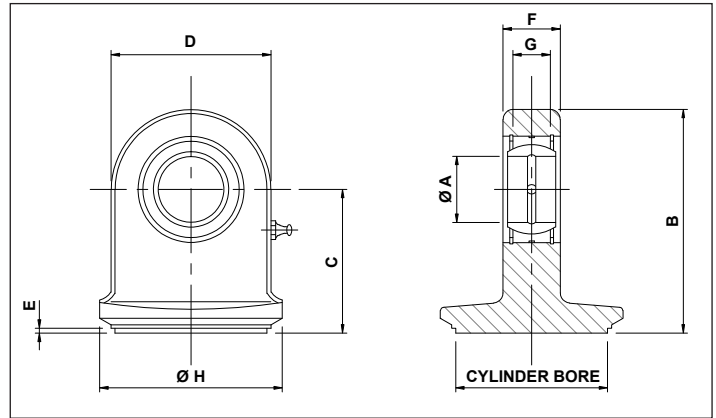
PART
NUMBER
OTSTA..S

NOMINAL
RANGE
12mm-100mm

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED

WELDABLE END CAP AND BALL JOINT COMPLETE

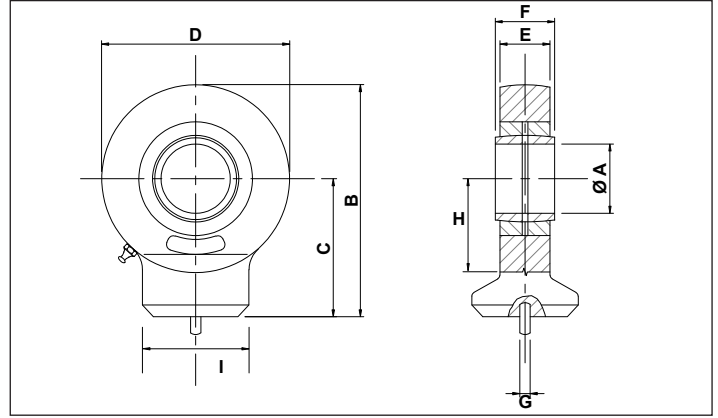


END CAP EC	CYLINDER BORE 40	BALL JOINT SIZE Ø A 20	CENTRE HEIGHT C 46	BALL JOINT COMPLETE BC
---------------	---------------------	---------------------------	-----------------------	---------------------------

PART NUMBER	CYLINDER BORE	Ø A	B	C	D	E	F	G	Ø H	BEARING FITTED	OUTSIDE DIAMETER OF BEARING	INTERNAL CIRCLIP	LOAD FACTOR (KN)	
													STATIC	DYNAMIC
EC402046BC	40	20	73	46	50	2	19	16	50	OGE020DO	35	CI35	67	30
EC402553BC	40	25	82.5	53	55	2	23	20	50	OGE025DO	42	CI42	69.5	48
EC502046BC	50	20	73	46	50	2	19	16	60	OGE020DO	35	CI35	67	30
EC502553BC	50	25	82.5	53	55	2	23	20	60	OGE025DO	42	CI42	69.5	48
EC503059BC	50	30	93.5	59	65	2	28	22	60	OGE030DO	47	CI47	118	62
EC603061BC	60	30	95.5	61	65	2	28	22	70	OGE030DO	47	CI47	118	62
EC633061BC	63	30	95.5	61	65	2	28	22	73	OGE030DO	47	CI47	118	62
EC633571BC	63	35	114.5	71	83	2	30	25	73	OGE035DO	55	CI55	196	80
EC703571BC	70	35	114.5	71	83	2	30	25	80	OGE035DO	55	CI55	196	80
EC753571BC	75	35	114.5	71	83	2	30	25	90	OGE035DO	55	CI55	196	80
EC803571BC	80	35	114.5	71	83	2	30	25	95	OGE035DO	55	CI55	196	80
EC804079BC	80	40	131	79	100	2	35	28	90	OGE040DO	62	CI62	300	100
EC904082BC	90	40	134	82	100	2	35	28	105	OGE040DO	62	CI62	300	100
EC1004082BC	100	40	134	82	100	2	35	28	115	OGE040DO	62	CI62	300	100
EC11050101BC	110	50	164.5	101	123	2	40	35	130	OGE050DO	75	CI75	440	156
EC12050104BC	120	50	167.5	104	123	2	40	35	140	OGE050DO	75	CI75	440	156
EC12550104BC	125	50	167.5	104	123	2	40	35	145	OGE050DO	75	CI75	440	156
EC13060116BC	130	60	188	116	140	2	50	44	150	OGE060DO	90	CI90	570	245
EC14060116BC	140	60	188	116	140	2	50	44	160	OGE060DO	90	CI90	570	245
EC15060118BC	150	60	190	118	140	2	50	44	170	OGE060DO	90	CI90	570	245

MATERIAL : STEEL - ST.52.3

BALL JOINT ENDS OTS ** AR

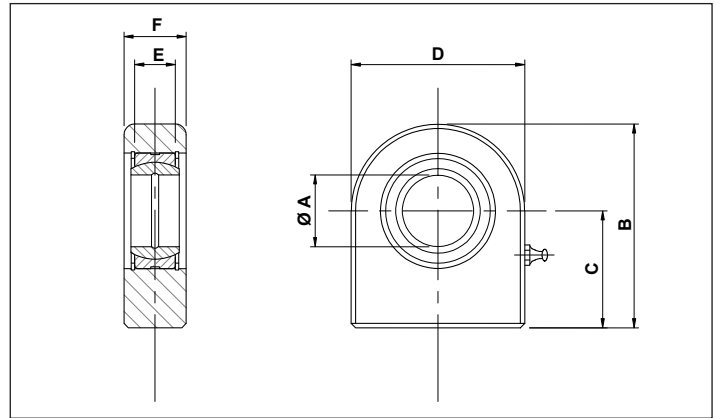


PART NUMBER	Ø A	B	C	D	E	F	G	H	I	BEARING FITTED	OUTSIDE DIAMETER OF BEARING	LOAD FACTOR (KN)	
												STATIC	DYNAMIC
OTS10AR*	10	38.5	24	29	6.5	9	3	14	15	OGE010DO	19	15.6	8.15
OTS12AR	12	44	27	36	8	10	3	18	17.5	OGE012DO	22	21.6	10.8
OTS15AR	15	51	31	40	10	12	4	20	21	OGE015DO	26	32	17
OTS16AR	16	58	35	47	11	14	4	23	24	OGE016DO	30	40	21.2
OTS17AR	17	58	35	47	11	14	4	23	24	OGE017DO	30	40	21.2
OTS20AR	20	64.5	38	53	13	16	4	27.5	27.5	OGE020DO	35	54	30
OTS25AR	25	77	45	64	17	20	4	33	33.5	OGE025DO	42	72	48
OTS30AR	30	87.5	51	73	19	22	4	37.5	40	OGE030DO	47	95	62
OTS35AR	35	102	61	82	21	25	4	43	47	OGE035DO	55	125	80
OTS40AR	40	115	69	92	23	28	4	48	52	OGE040DO	62	156	100
OTS45AR	45	128	77	102	27	32	6	52	58	OGE045DO	68	208	127
OTS50AR	50	144	88	112	30	35	6	59	62	OGE050DO	75	250	156
OTS60AR	60	168	100	137	38	44	6	72.5	70	OGE060DO	90	390	245
OTS70AR	70	195	115	161	42	49	6	86	80	OGE070DO	105	510	315
OTS80AR	80	231	141	180	47	55	6	98	95	OGE080DO	120	620	400

* WITHOUT GREASE NIPPLE

ISO 12240-1-SERIES E TYPE S : COUPLING : STEEL / STEEL : BALL JOINT MADE IN FORGED STEEL. 52.3

BALL JOINT ENDS OTS ** PR

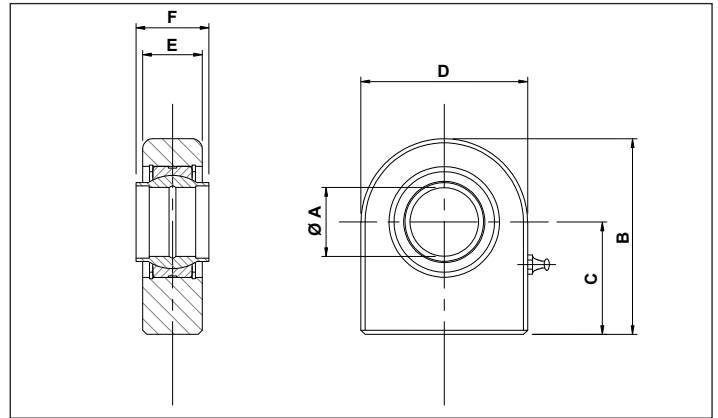


PART NUMBER	Ø A	B	C	D	E	F	BEARING FITTED	OUTSIDE DIAMETER OF BEARING	INTERNAL CLIP	LOAD FACTOR (KN)	
										STATIC	DYNAMIC
OTS15PR *	15	53.5	31	45	12	15	OGE015DO	26	CI26	53	17
OTS16PR *	16	59	35	48	14	17	OGE016DO	30	CI30	59	21.2
OTS17PR *	17	59	35	48	14	17.5	OGE017DO	30	CI30	65	17
OTS20PR	20	63	38	50	16	19	OGE020DO	35	CI35	67	30
OTS25PR	25	72.05	45	55	20	23	OGE025DO	42	CI42	69.5	48
OTS30PR	30	83.5	51	65	22	28	OGE030DO	47	CI47	118	62
OTS35PR	35	102.5	61	83	25	30	OGE035DO	55	CI55	196	80
OTS40PR	40	119	69	100	28	35	OGE040DO	62	CI62	300	100
OTS45PR	45	132	77	110	32	40	OGE045DO	68	CI68	380	127
OTS50PR	50	149.5	88	123	35	40	OGE050DO	75	CI75	440	156
OTS60PR	60	170	100	140	44	50	OGE060DO	90	CI90	570	245
OTS70PR	70	197	115	164	49	55	OGE070DO	105	CI105	695	315
OTS80PR	80	231	141	180	55	60	OGE080DO	120	CI120	780	400
OTS90PR	90	263	150	226	60	65	OGE090DO	130	CI130	1340	490
OTS100PR	100	295	170	250	70	70	OGE100DO	150	CI150	1500	610
OTS110PR	110	332.5	185	295	70	80	OGE110DO	160	CI160	2160	655
OTS120PR	120	390	210	360	85	90	OGE120DO	180	CI180	3250	950

* WITHOUT GREASE NIPPLE

ISO 12240-1-SERIES E COUPLING : STEEL/STEEL - BALLJOINT MADE IN FORGED STEEL ST.52.3

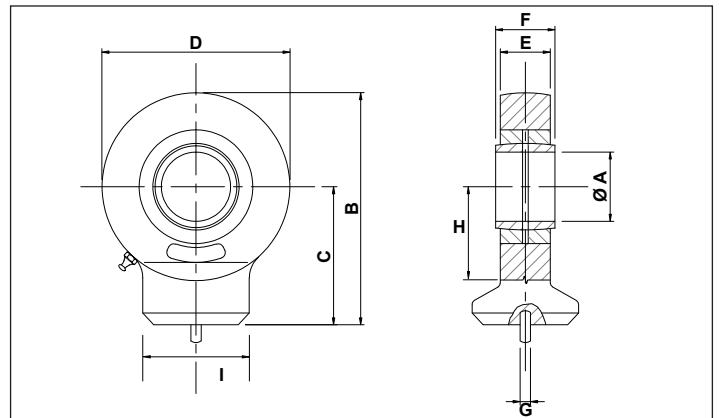
BALL JOINT ENDS OTS ** PR-CE



PART NUMBER	Ø A	B	C	D	E	F	OUTSIDE		INTERNAL CIRCLIP	LOAD FACTOR (KN)	
							BEARING FITTED	DIAMETER OF BEARING		STATIC	DYNAMIC
OTS20PR-CE	20	63	38	50	19	20	OGE020LO	35	CI35	74	30
OTS25PR-CE	25	72.5	45	55	23	25	OGE025LO	42	CI42	95	48
OTS32PR-CE	32	103	65	70	27	32	OGE032LO	52	CI52	168	62.5
OTS40PR-CE	40	119	69	101	35	40	OGE040LO	62	CI62	268	100
OTS50PR-CE	50	149.5	88	123	40	50	OGE050LO	75	CI75	362	156
OTS63PR-CE	63	178	107	132	50	63	OGE063LO	95	CI95	570	248
OTS70PR-CE	70	197	115	164	55	70	OGE070LO	105	CI105	800	315
OTS80PR-CE	80	231	141	180	60	80	OGE080LO	120	CI120	874	400
OTS90PR-CE	90	263	150	226	65	90	OGE090LO	130	CI130	1045	490
OTS100PR-CE	100	295	170	250	70	100	OGE100LO	150	CI150	1330	610
OTS110PR-CE	110	332.5	185	295	80	110	OGE110LO	160	CI160	1490	655
OTS125PR-CE	125	390	210	360	90	125	OGE125LO	180	CI180	3250	950

ISO 12240-1-SERIES W : COUPLING : STEEL/STEEL : BALL JOINT MADE IN FORGED STEEL ST.52.3

BALL JOINT ENDS OTS ** AR-I (IMPERIAL)

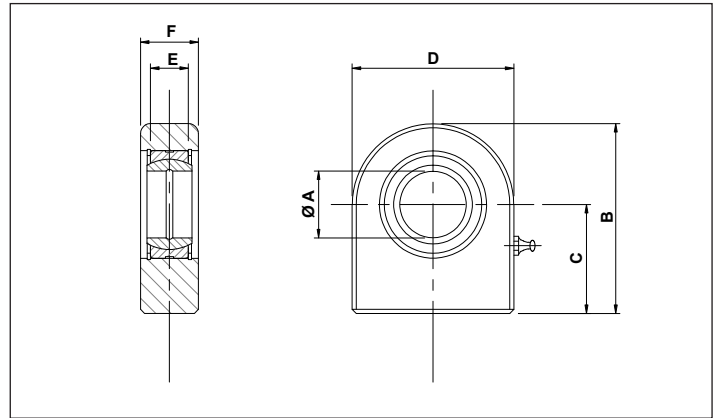


PART NUMBER	Ø A	B	C	D	E	F	G	H	I	BEARING FITTED	OUTSIDE DIAMETER OF BEARING	LOAD FACTOR (KN)	
												STATIC	DYNAMIC
OTS075AR-I (0.75)	0.75	65	35	53	13	16.662	4	27.5	27.5	OGE075DO-I	1.250	54	30
OTS087AR-I (0.87)	0.87	77	45	64	17	19.431	4	33	33.5	OGE087DO-I	1.437	72	48
OTS100AR-I (1.00)	1.00	77	45	64	17	22.225	4	33	33.5	OGE100DO-I	1.625	72	48
OTS125AR-I (1.25)	1.25	102	61	82	21	27.762	4	43	47	OGE125DO-I	2.000	125	80
OTS137AR-I (1.37)	1.37	102	61	82	21	30.15	4	43	47	OGE137DO-I	2.187	125	80
OTS150AR-I (1.50)	1.50	115	69	92	23	33.325	4	48	52	OGE150DO-I	2.438	156	100
OTS175AR-I (1.75)	1.75	128	77	102	27	38.887	6	52	58	OGE175DO-I	2.812	208	127
OTS200AR-I (2.00)	2.00	168	100	137	38	44.45	6	72.5	70	OGE200DO-I	3.187	390	245
OTS225AR-I (2.25)	2.25	195	115	161	42	50.013	6	86	80	OGE225DO-I	3.562	510	315
OTS250AR-I (2.50)	2.50	195	115	161	42	55.55	6	86	80	OGE250DO-I	3.937	510	315
OTS275AR-I (2.75)	2.75	231	141	180	47	61.112	6	98	95	OGE275DO-I	4.375	620	400
OTS300AR-I (3.00)	3.00	231	141	180	47	66.675	6	98	95	OGE300DO-I	4.750	620	400

* WITHOUT GREASE NIPPLE

ISO 12240-1-SERIES E TYPE S : COUPLING : STEEL / STEEL : BALL JOINT MADE IN FORGED STEEL. 52.3

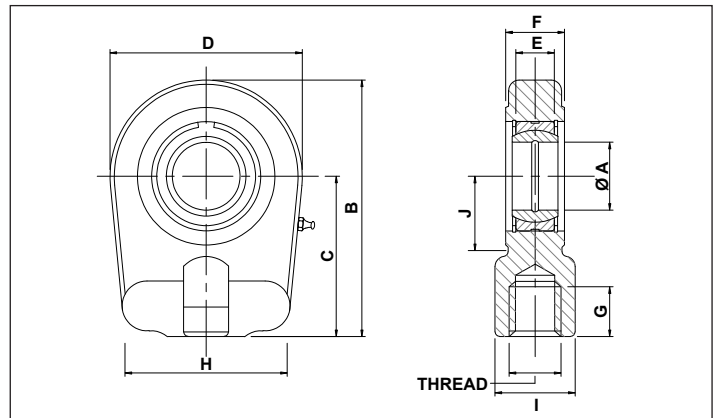
BALL JOINT ENDS OTS ** PR-I (IMPERIAL)



PART NUMBER	Ø A	B	C	D	E	F	BEARING FITTED	OUTSIDE DIAMETER OF BEARING	INTERNAL CIRCLIP	LOAD FACTOR (KN)	
										STATIC	DYNAMIC
OTS075PR-I (0.75)	0.75	63	38	50	16.662	19	OGE075DO-I	1.250	CI125 (1.25)	67	30
OTS087PR-I (0.87)	0.87	73	45	55	19.431	23	OGE087DO-I	1.437	CI143 (1.43)	70	48
OTS100PR-I (1.00)	1.00	73	45	55	22.225	23	OGE100DO-I	1.625	CI162 (1.62)	70	48
OTS125PR-I (1.25)	1.25	103	61	83	27.762	30	OGE125DO-I	2.000	CI125 (2.00)	196	80
OTS137PR-I (1.37)	1.37	103	61	83	30.15	30	OGE137DO-I	2.187	CI218 (2.18)	196	80
OTS150PR-I (1.50)	1.5	119	69	101	33.325	35	OGE150DO-I	2.438	CI249 (2.43)	300	100
OTS175PR-I (1.75)	1.75	132	77	111	38.887	40	OGE175DO-I	2.812	CI280 (2.81)	380	127
OTS200PR-I (2.00)	2.00	170	100	140	44.45	50	OGE200DO-I	3.187	CI315 (3.15)	570	245
OTS225PR-I (2.25)	2.25	197	115	164	50.013	55	OGE225DO-I	3.562	CI354 (3.54)	695	315
OTS250PR-I (2.50)	2.5	197	115	164	55.55	55	OGE250DO-I	3.937	CI393 (3.93)	695	315
OTS275PR-I (2.75)	2.75	231	141	180	61.112	60	OGE275DO-I	4.375	CI437 (4.37)	780	400
OTS300PR-I (3.00)	3.00	231	141	180	66.675	60	OGE300DO-I	4.750	CI475 (4.75)	780	400

ISO 12240-1-SERIES E TYPE S : COUPLING : STEEL/STEEL : BALL JONT MADE IN FORGED STEEL. 52.3

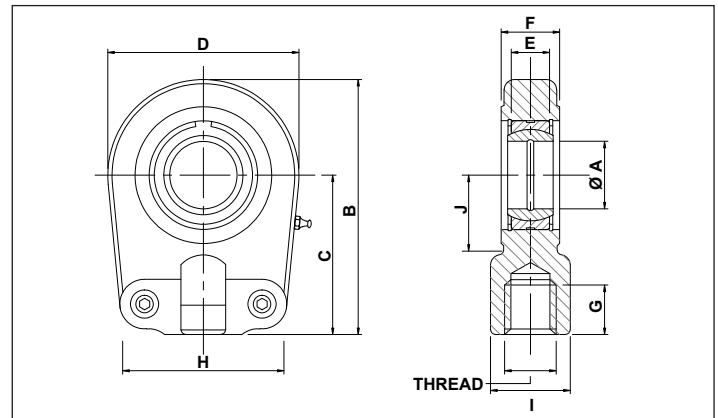
BALL JOINT ENDS OTSTA ** N



PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	BEARING FITTED	OUTSIDE DIAMETER OF BEARING	INTERNAL CIRCLIP	LOAD FACTOR (KN)	
															STATIC	DYNAMIC
OTSTA20N	20	80	50	56	16	19	17	46	25	28	16 X 1.5	OGE020DO	35	CI35	72	30
OTSTA25N	25	80	50	56	20	23	17	46	25	28	16 X 1.5	OGE025DO	42	CI42	72	48
OTSTA30N	30	94	60	64	22	28	23	50	32	30	22 X 1.5	OGE030DO	47	CI47	106	62
OTSTA35N	35	112	70	78	25	30	29	66	40	38	28 X 1.5	OGE035DO	55	CI55	153	80
OTSTA40N	40	135	85	94	28	35	36	76	49	45	35 X 1.5	OGE040DO	62	CI62	250	100
OTSTA50N	50	168	105	116	35	40	46	90	61	55	45 X 1.5	OGE050DO	75	CI75	365	156
OTSTA60N	60	200	130	130	44	50	59	120	75	65	58 X 1.5	OGE060DO	90	CI90	400	245
OTSTA70N	70	232	150	157	49	55	66	130	86	75	65 X 1.5	OGE070DO	105	CI105	540	315
OTSTA80N	80	265	170	178	55	60	81	160	102	80	80 X 2	OGE080DO	120	CI120	670	400
OTSTA90N	90	323	210	210	60	65	101	180	124	90	100 X 2	OGE090DO	130	CI130	980	490
OTSTA100N	100	360	235	234	70	70	111	200	138	105	110 X 2	OGE100DO	150	CI150	1120	610
OTSTA110N	110	408	265	270	70	80	125	220	152	115	120 X 3	OGE110DO	160	CI160	1700	655
OTSTA120N	120	490	310	342	85	90	135	300	172	140	130 X 3	OGE120DO	180	CI180	2900	950

ISO 12240-1-SERIES E : COUPLING : STEEL /STEEL : BALL JOINT MADE IN FORGED STEEL C 45

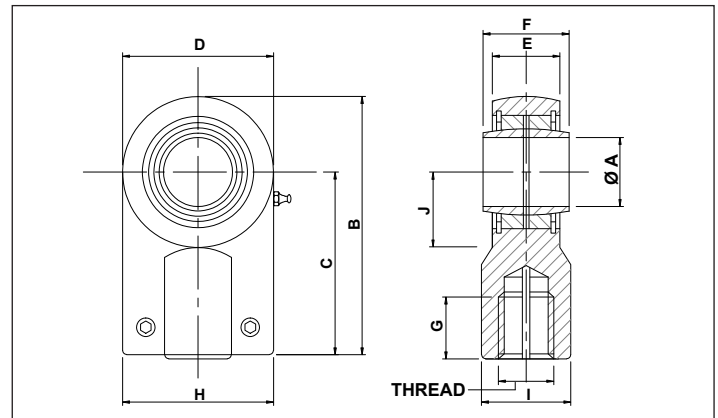
BALL JOINT ENDS OTSTA ** U



PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	BEARING FITTED	OUTSIDE DIAMETER OF BEARING	INTERNAL CIRCLIP	LOAD FACTOR (KN)	
															STATIC	DYNAMIC
OTSTA20U	20	80	50	56	16	19	17	46	25	25	16 X 1.5	OGE020DO	35	CI35	72	30
OTSTA25U	25	80	50	56	20	23	17	46	25	28	16 X 1.5	OGE025DO	42	CI42	72	48
OTSTA30U	30	94	60	64	22	28	23	50	32	30	22 X 1.5	OGE030DO	47	CI47	106	62
OTSTA35U	35	112	70	78	25	30	29	66	40	38	28 X 1.5	OGE035DO	55	CI55	153	80
OTSTA40U	40	135	85	94	28	35	36	76	49	45	35 X 1.5	OGE040DO	62	CI62	250	100
OTSTA50U	50	168	105	116	35	40	46	90	61	55	45 X 1.5	OGE050DO	75	CI75	365	156
OTSTA60U	60	200	130	130	44	50	59	120	75	65	58 X 1.5	OGE060DO	90	CI90	400	245
OTSTA70U	70	232	150	157	49	55	66	130	86	75	65 X 1.5	OGE070DO	105	CI105	540	315
OTSTA80U	80	265	170	178	55	60	81	160	105	80	80 X 2	OGE080DO	120	CI120	670	400
OTSTA90U	90	323	210	210	60	65	101	180	124	90	100 X 2	OGE090DO	130	CI130	980	490
OTSTA100U	100	360	235	234	70	70	111	200	138	105	110 X 2	OGE100DO	150	CI150	1120	610
OTSTA110U	110	408	265	270	70	80	125	220	152	115	120 X 3	OGE110DO	160	CI160	1700	655
OTSTA120U	120	490	310	340	85	90	135	300	172	140	130 X 3	OGE120DO	180	CI180	2900	950

ISO 12240-1-SERIES E : COUPLING : STEEL / STEEL : BALLJOINT MADE IN FORGED STEEL C 45

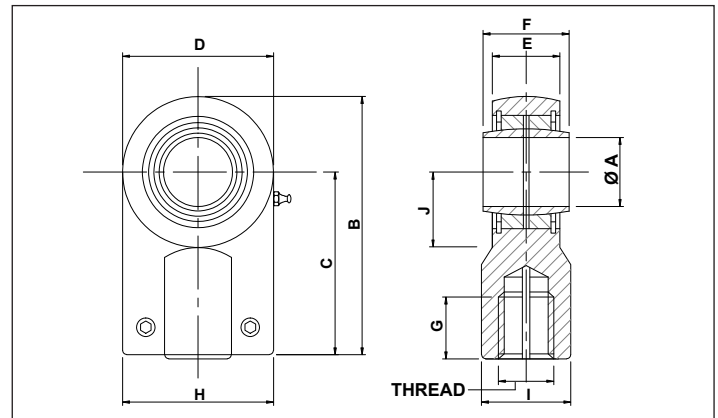
BALL JOINT ENDS OTSTA ** CE



PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	BEARING FITTED	OUTSIDE DIAMETER OF BEARING	INTERNAL CIRCLIP	LOAD FACTOR (KN)	
															STATIC	DYNAMIC
OTSTA12CE	12	54	38	32	11	12	17	32	16	14	12 X 1.25	OGE012LO	22	CI22	24.5	10.8
OTSTA16CE	16	64	44	40	14	16	19	40	21	20	14 X 1.5	OGE016LO	28	CI28	36.5	17.6
OTSTA20CE	20	75	52	47	18	20	23	47	25	22	16 X 1.5	OGE020LO	35	CI35	48	30
OTSTA25CE	25	96	65	59	22	25	29	54	30	27	20 X 1.5	OGE025LO	42	CI42	78	48
OTSTA32CE	32	118	80	71	27	32	37	66	38	32	27 X 2	OGE032LO	52	CI52	114	67
OTSTA40CE	40	146	97	90	33	40	46	80	47	41	33 X 2	OGE040LO	62	CI62	204	100
OTSTA40CE-LH	40	146	97	90	33	40	46	80	47	41	33 X 2 LH	OGE040LO	62	CI62	204	100
OTSTA50CE	50	179	120	109	41	50	57	96	58	50	42 X 2	OGE050LO	75	CI75	310	156
OTSTA63CE	63	211	140	132	53	63	64	114	70	62	48 X 2	OGE063LO	95	CI95	430	255
OTSTA70CE	70	245	160	157	57	70	81	135	80	70	56 X 2	OGE070LO	105	CI105	540	315
OTSTA80CE	80	270	180	169	67	80	86	148	90	78	64 X 3	OGE080LO	120	CI120	695	400
OTSTA90CE	90	296	195	185	72	90	91	160	100	85	72 X 3	OGE090LO	130	CI130	750	490
OTSTA100CE	100	322	210	211	86	100	96	178	110	98	80 X 3	OGE100LO	150	CI150	1060	610
OTSTA125CE	125	405.7	260	269	105	125	113	200	135	120	100 X 3	OGE125LO	160	CI160	1430	950

ISO 12240-1-SERIES W DIN 24388 ISO 6982 : ISO 8132 SERIES W : COUPLING : STEEL / STEEL : BALL JOINT MADE IN FORGED STEEL C 45
LH : DENOTES LEFT HAND THREAD

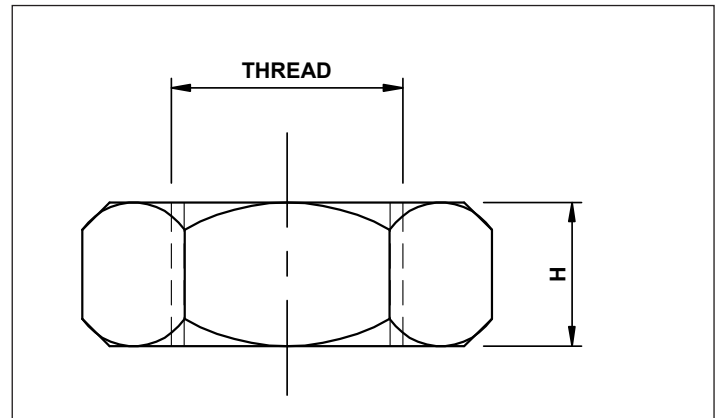
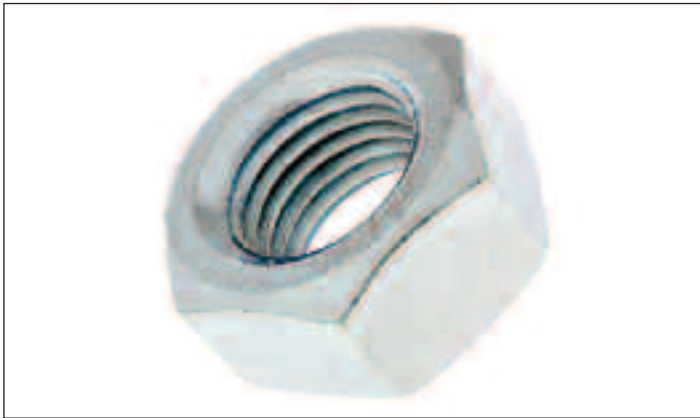
BALL JOINT ENDS OTSTA ** S



PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	BEARING FITTED	OUTSIDE DIAMETER OF BEARING	INTERNAL CIRCLIP	LOAD FACTOR (KN)	
															STATIC	DYNAMIC
OTSTA12S	12	60	42	40	8	10	15	35	17	16	10 X 1.25	OGE012DO	22	CI22	17	10.8
OTSTA16S	16	71	48	45	11	14	17	45	21	20	12 X 1.25	OGE016DO	30	CI30	28.5	21.2
OTSTA20S	20	86	58	55	13	16	19	55	25	25	14 X 1.5	OGE020DO	35	CI35	42.5	30
OTSTA25S	25	101	68	65	17	20	23	62	30	31	16 X 1.5	OGE025DO	42	CI42	67	48
OTSTA30S	30	125	85	80	19	22	29	77	36	35	20 X 1.5	OGE030DO	47	CI47	108	62
OTSTA40S	40	155	105	100	23	28	37	90	45	45	27 X 2	OGE040DO	62	CI62	156	100
OTSTA50S	50	190	130	122	30	35	46	105	55	58	33 X 2	OGE050DO	75	CI75	245	156
OTSTA60S	60	230	150	160	38	44	57	134	68	68	42 X 2	OGE060DO	90	CI90	380	245
OTSTA80S	80	288	185	195	47	55	64	156	90	82	48 X 2	OGE080DO	120	CI120	585	400
OTSTA100S	100	360	240	235	57	70	86	190	110	116	64 X 3	OGE100DO	150	CI150	865	610

DIN 24555 : WITH GREASE NIPPLE : COUPLING : STEEL / STEEL : BALL JOINT END MADE IN MOULDED STEEL C45

HEXAGON HALF / LOCK NUTS



LOCK NUT
LN

THREAD SIZE
5

HEIGHT H
3

PART NUMBER	THREAD	HEIGHT
LN0503	5 x 0.8	2.7
LN0603	6 x 1	3.2
LN0804	8 x 1.25	4
LN1005	10 x 1.5	5
LN1206-1.5	12 x 1.5	6
LN1206	12 x 1.75	6
LN1408	14 x 2	7
LN1608-1.5	16 x 1.5	8
LN1608	16 x 2	8
LN1809	18 x 1.5	9
LN2008	20 x 1.5	10
LN2211	22 x 1.5	11
LN2410	24 x 2	10
LN2712	27 x 2	12
LN3012	30 x 2	12
LN3314	33 x 2	14
LN3629	36 x 2	29
LN3614	36 x 3	14
LN3916	39 x 3	16
LN4216	42 x 3	16
LN4518	45 x 3	18
LN5220	52 x 3	20
LN5622	56 x 4	22

SPECIFICATION: ISO METRIC COARSE AND FINE THREAD. DIN489 & UNI 5589-65



PART
NUMBER
OEEDO..

NOMINAL
RANGE
6mm-80mm

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED



PART
NUMBER
OEMDO..

NOMINAL
RANGE
6mm-80mm

COUPLING
SURFACES
STEEL /STEEL

LUBRICATION
REQUIRED



PART
NUMBER
OEFUK..

NOMINAL
RANGE
6mm-80mm

COUPLING
SURFACES
**CHROMED
STEEL / PTFE**

LUBRICATION
NOT
REQUIRED



PART
NUMBER
OEMUK..

NOMINAL
RANGE
6mm-80mm

COUPLING
SURFACES
**CHROMED
STEEL / PTFE**

LUBRICATION
NOT
REQUIRED



PART
NUMBER
OEFPB..

NOMINAL
RANGE
5mm-30mm

COUPLING
SURFACES
**CHROMED
STEEL /
BRONZE**

LUBRICATION
NOT
REQUIRED



PART
NUMBER
OEMPB..

NOMINAL
RANGE
5mm-30mm

COUPLING
SURFACES
**CHROMED
STEEL /
BRONZE**

LUBRICATION
NOT
REQUIRED



PART
NUMBER
OEFPW..

NOMINAL
RANGE
5mm-30mm

COUPLING
SURFACES
**CHROMED
STEEL / PTFE**

LUBRICATION
NOT
REQUIRED



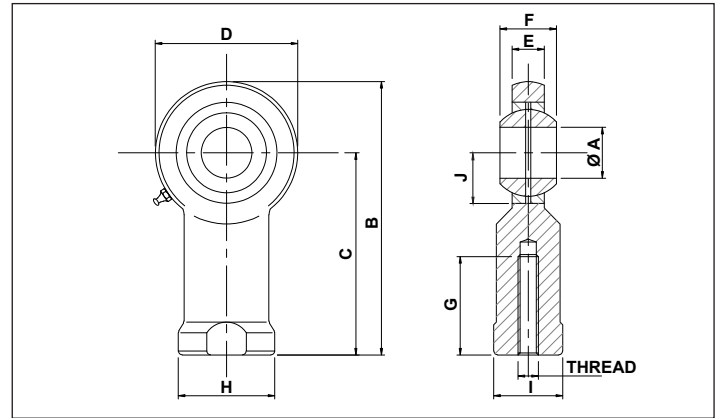
PART
NUMBER
OEMPW..

NOMINAL
RANGE
5mm-30mm

COUPLING
SURFACES
**CHROMED
STEEL / PTFE**

LUBRICATION
NOT
REQUIRED

BALL JOINT ENDS OEFDO WITHOUT SEALS



PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
													STATIC	DYNAMIC
OEFDO06 *	6	40.5	30	21	4.4	6	11	13	11	10.5	6 x 1	LN0603	8.15	3.4
OEFDO08 *	8	48	36	24	6	8	15	16	14	12	8 x 1.25	LN0804	12.9	5.5
OEFDO10 *	10	57.5	43	29	7	9	20	19	17	14	10 x 1.5	LN1005	17.6	8.15
OEFDO12 *	12	67	50	34	8	10	24	22	19	17.5	12 x 1.75	LN1206	24.5	10.8
OEFDO15 *	15	81	61	40	10	12	30	26	22	20	14 x 2	LN1408	36	17
OEFDO17	17	90	67	46	11	14	34	30	27	23	16 x 2	LN1608	45	21.1
OEFDO20	20	103.5	77	53	13	16	40	35	32	27.5	20 x 1.5	LN2008	60	30
OEFDO20-LH	20	103.5	77	53	13	16	40	35	32	27.5	20 x 1.5 LH		60	30
OEFDO25	25	126	94	64	17	20	48	42	36	32	24 x 2	LN2410	83	48
OEFDO30	30	146.5	110	73	19	22	56	50	41	37	30 x 2	LN3012	110	62

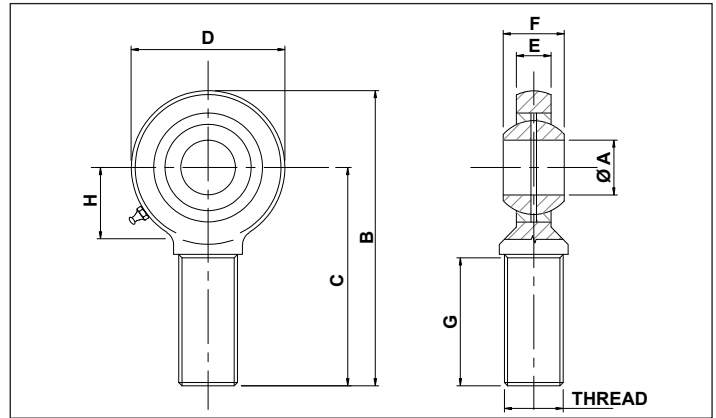
* WITHOUT GREASE NIPPLE
LH : DENOTES LEFT HAND THREAD

BALL JOINT ENDS OEFDO ** 2RS WITH SEALS

PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
													STATIC	DYNAMIC
OEFDO352RS	35	166	125	82	21	25	60	58	50	42	36 x 3	LN3614	146	80
OEFDO402RS	40	188	142	94	23	28	65	65	56	48	39 x 3	LN3916	180	100
OEFDO452RS	45	196	145	102	27	32	65	70	62	52	42 x 3	LN4216	240	127
OEFDO502RS	50	216	160	112	30	35	68	75	68	59	45 x 3	LN4518	290	156
OEFDO602RS	60	242	175	135	37	44	70	88	78	75	52 x 3	LN5220	450	245
OEFDO702RS	70	280	200	162	42	49	80	98	85	87	56 x 4	LN5622	610	315
OEFDO802RS	80	320	230	180	48	55	85	110	102	100	64 x 4	LN6426	750	400

ISO12240-4- SERIES E TYPE F : COUPLING : STEEL / STEEL : BALL JOINT MADE IN GALVANISED FORGED STEEL C 45

BALL JOINT ENDS OEMDO WITHOUT SEALS



PART NUMBER	Ø A	B	C	D	E	F	G	H	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
											STATIC	DYNAMIC
OEMDO06 *	6	46.5	36	21	4.4	6	18	12	6 x 1	LN0603	8.1	3.4
OEMDO08 *	8	54	42	24	6	8	22	14	8 x 1.25	LN0804	12.9	5.5
OEMDO10 *	10	62.5	48	29	7	9	27	15	10 x 1.5	LN1005	17.6	8.1
OEMDO12 *	12	71	54	34	8	10	30	18	12 x 1.75	LN1206	24.5	10.8
OEMDO15	15	83	63	40	10	12	34	20	14 x 2	LN1408	36	16
OEMDO17	17	92	69	46	11	14	36	23	16 x 2	LN1608	45	21.2
OEMDO20	20	106	78	53	13	16	43	27	20 x 1.5	LN2008	60	30
OEMDO25	25	126	94	64	17	20	53	33	24 x 2	LN2410	83	48
OEMDO30	30	146.5	110	73	19	22	65	37	30 x 2	LN3012	110	62

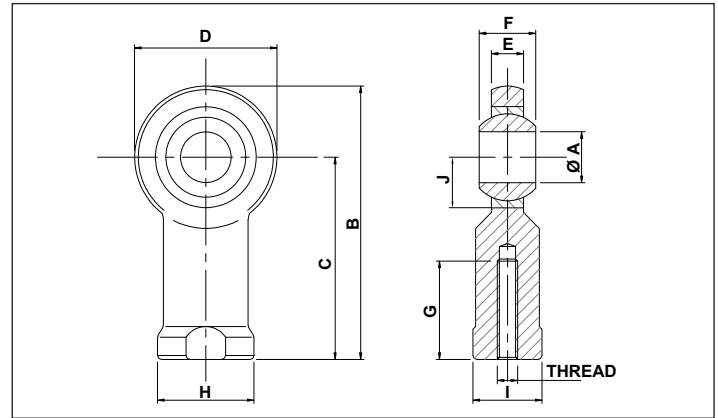
* WITHOUT GREASE NIPPLE

BALL JOINT ENDS OEMDO ** 2RS WITH SEALS

PART NUMBER	Ø A	B	C	D	E	F	G	H	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
											STATIC	DYNAMIC
OEMDO352RS	35	181	140	82	21	25	82	42	36 x 3	LN3614	146	80
OEMDO402RS	40	196	150	92	23	28	86	48	39 x 3	LN3916	180	100
OEMDO452RS	45	214	163	102	27	32	94	52	42 x 3	LN4216	240	127
OEMDO502RS	50	241	185	112	30	35	106	60	45 x 3	LN4518	290	156
OEMDO602RS	60	277.5	210	135	38	44	115	75	52 x 3	LN5220	450	245
OEMDO702RS	70	315	235	160	42	49	125	87	56 x 4	LN5622	610	315
OEMDO802RS	80	360	270	180	48	55	140	100	64 x 4	LN6426	750	400

ISO 12240-4-SERIES E TYPE M : COUPLING : STEEL / STEEL : BALL JOINT MADE IN GALVANISED FORGED STEEL C 45

BALL JOINT ENDS OEFUK WITHOUT SEALS



PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN) STATIC	DYNAMIC
OEFUK06	6	40.5	30	21	4.4	6	11	13	11	10.5	6 x 1	LN0603	8.1	3.6
OEFUK08	8	48	36	24	6	8	15	16	14	12	8 x 1.25	LN0804	12.9	5.8
OEFUK10	10	57.5	43	29	7	9	20	19	17	14	10 x 1.5	LN1005	17.6	8.6
OEFUK12	12	67	50	34	8	10	24	22	19	17.5	12 x 1.75	LN1206	24.5	11.4
OEFUK12-LH	12	67	50	34	8	10	24	22	19	17.5	12 x 1.75 LH		24.5	11.4
OEFUK15	15	81	61	40	10	12	30	26	22	20	14 x 2	LN1408	36	17.6
OEFUK17	17	90	67	46	11	14	34	30	27	23	16 x 2	LN1608	45	22.4
OEFUK20	20	104	77	53	13	16	40	35	32	27.5	20 x 1.5	LN2008	60	31.5
OEFUK25	25	126	94	64	17	20	48	42	36	32	24 x 2	LN2410	83	51
OEFUK30	30	147	110	73	19	22	56	50	41	37	30 x 2	LN3012	110	66.5

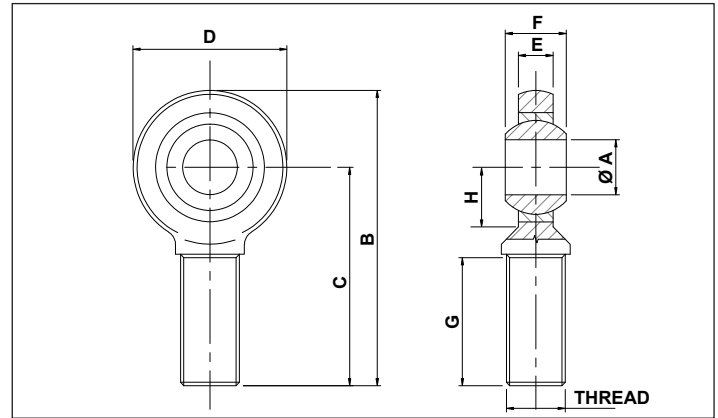
LH : DENOTES LEFT HAND THREAD

BALL JOINT ENDS OEFUK ** 2RS WITH SEALS

PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN) STATIC	DYNAMIC
OEFUK352RS	35	166	125	82	21	25	60	58	50	42	36 x 3	LN3614	146	112
OEFUK402RS	40	188	142	94	23	28	65	65	56	48	39 x 3	LN3916	180	140
OEFUK452RS	45	196	145	102	27	32	65	70	62	52	42 x 3	LN4216	240	180
OEFUK502RS	50	216	160	112	30	35	68	75	68	59	45 x 3	LN4518	290	220
OEFUK602RS	60	242	175	135	37	44	70	88	78	75	52 x 3	LN5220	450	345
OEFUK702RS	70	280	200	162	42	49	80	98	85	87	56 x 4	LN5622	610	440
OEFUK802RS	80	320	230	180	48	55	85	110	102	100	64 x 4	LN6426	750	570

ISO 12240-4-SERIES E TYPE F MAINTANCE FREE : COUPLING : CHROMED STEEL
/ PTFE FABRIC : BALL JOINT MADE IN GALVANISED FORGED STEEL C 45

BALL JOINT ENDS OEMUK WITHOUT SEALS



PART NUMBER	Ø A	B	C	D	E	F	G	H	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
											STATIC	DYNAMIC
OEMUK06	6	46.5	36	21	4.4	6	18	12	6 x 1	LN0603	8.1	3.5
OEMUK08	8	54	42	24	6	8	22	14	8 x 1.25	LN0804	12.9	5.8
OEMUK10	10	62.5	48	29	7	9	27	15	10 x 1.5	LN1005	17.6	8.6
OEMUK12	12	71	54	34	8	10	30	18	12 x 1.75	LN1206	24.5	11.4
OEMUK15	15	83	63	40	10	12	34	20	14 x 2	LN1408	36	17.6
OEMUK15-LH	15	83	63	40	10	12	34	20	14 x 2 LH		36	17.6
OEMUK17	17	92	69	46	11	14	36	23	16 x 2	LN1608	45	22.4
OEMUK20	20	104.5	78	53	13	16	43	27	20 x 1.5	LN2008	60	31.5
OEMUK25	25	126	94	64	17	20	53	32	24 x 2	LN2410	83	51
OEMUK30	30	146.5	110	73	19	22	65	37	30 x 2	LN3012	110	65.6

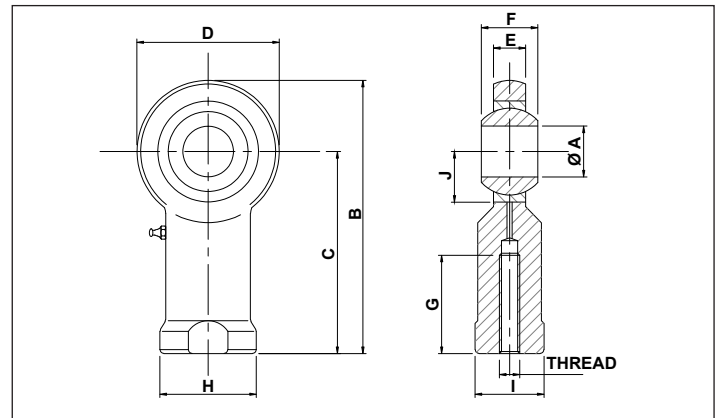
LH : DENOTES LEFT HAND THREAD

BALL JOINT ENDS OEMUK ** 2RS WITH SEALS

PART NUMBER	Ø A	B	C	D	E	F	G	H	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
											STATIC	DYNAMIC
OEMUK352RS	35	181	140	82	21	25	82	42	36 x 3	LN3614	146	112
OEMUK402RS-39	40	196	150	93	23	28	86	48	39 x 3	LN3916	180	140
OEMUK402RS-42	40	196	150	93	23	28	86	48	42 x 3	LN4216	180	140
OEMUK452RS	45	214	163	102	27	32	94	52	42 x 3	LN4216	240	180
OEMUK502RS	50	241	185	112	30	35	106	60	45 x 3	LN4518	290	220
OEMUK602RS	60	277.5	210	135	38	44	115	75	52 x 3	LN5220	450	345
OEMUK702RS	70	315	235	160	42	49	125	87	56 x 4	LN5622	610	440
OEMUK802RS	80	360	270	180	48	55	140	100	64 x 4	LN6426	750	570

ISO12240-4-SERIES E TYPE M : SERVICE FREE : COUPLING : CHROMED STEEL / PTFE FABRIC :
BALL JOINT MADE IN GALVANISED FORGED STEEL C 45

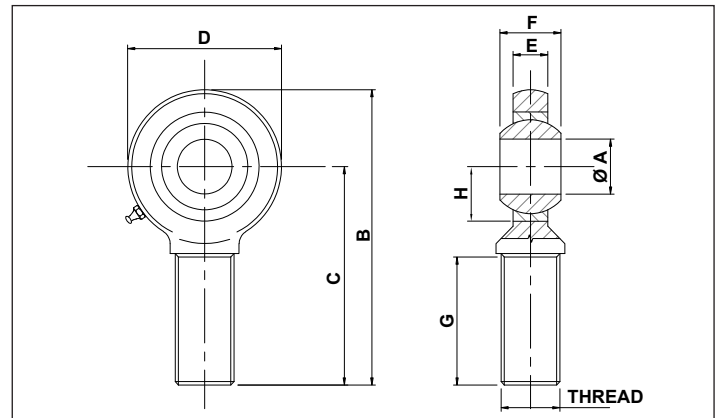
BALL JOINT ENDS OEFPB WITHOUT SEALS



PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
													STATIC	DYNAMIC
OEFPB05	5	35	27	16	7	8	8	12	9	8	5 x 0.8	LN0503	4.1	3.3
OEFPB06	6	39	30	18	7	9	9	13	11	9	6 x 1	LN0603	5.3	4.3
OEFPB08	8	47	36	22	9	12	12	16	14	11	8 x 1.25	LN0804	9.2	6.8
OEFPB10	10	56	43	26	11	14	15	19	17	13	10 x 1.5	LN1005	12	10
OEFPB12	12	65	50	30	12	16	18	22	19	15	12 x 1.75	LN1206	17	13
OEFPB14	14	74	57	34	14	19	21	25	22	17	14 x 2	LN1408	22	17
OEFPB16	16	83	64	38	15	21	24	27	22	19	16 x 2	LN1608	28	21
OEFPB16-LH	16	83	64	38	15	21	24	27	22	19	16 x 2 LH		28	21
OEFPB18	18	92	71	42	17	23	27	31	27	21	18 x 1.5	LN1809	34	26
OEFPB20	20	100	77	46	18	25	30	37	30	23	20 x 1.5	LN2008	40	31
OEFPB22	22	109	84	50	20	28	33	37	32	25	22 x 1.5	LN2210	50	38
OEFPB25	25	124	94	56	22	31	36	42	36	28	24 x 2	LN2410	63	47
OEFPB28	28	136	103	66	25	35	41	46	41	33	27 x 2	LN2712	81	59
OEFPB30	30	145	110	67	26	37	45	50	41	34	30 x 2	LN3012	86	63

ISO12240-4-SERIES K ISO6126 : COUPLING : STEEL / BRONZE : BALL JOINT END MADE IN GALVANISED FORGED STEEL C 45
LH : DENOTES LEFT HAND THREAD

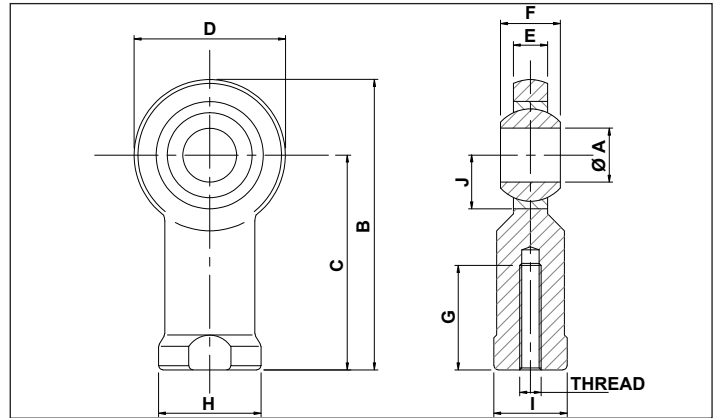
BALL JOINT ENDS OEMPB WITHOUT SEALS



PART NUMBER	Ø A	B	C	D	E	F	G	H	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
											STATIC	DYNAMIC
OEMPB05	5	41	33	16	7	8	20	8	5 x 0.8	LN0503	4.1	3.3
OEMPB06	6	46	36	18	7	9	22	9	6 x 1	LN0603	5.3	4.3
OEMPB08	8	53	42	22	9	12	25	11	8 x 1.25	LN0804	9.2	6.8
OEMPB10	10	61	48	26	11	14	29	26	10 x 1.5	LN1005	12	10
OEMPB10-LH	10	61	48	26	11	14	29	26	10 x 1.5 LH		12	10
OEMPB12	12	69	54	30	12	16	33	15	12 x 1.75	LN1206	17	13
OEMPB14	14	77	60	34	14	19	36	17	14 x 2	LN1408	22	17
OEMPB16	16	86	66	38	15	21	40	19	16 x 2	LN1608	28	21
OEMPB16-LH	16	86	66	38	15	21	40	19	16 x 2 LH		28	21
OEMPB18	18	94	72	42	17	23	44	21	18 x 1.5	LN1809	34	26
OEMPB20	20	103	78	46	18	25	47	23	20 x 1.5	LN2008	40	31
OEMPB20-LH	20	103	78	46	18	25	47	23	20 x 1.5 LH		40	31
OEMPB22	22	111	84	50	20	28	51	25	22 x 1.5	LN2210	50	38
OEMPB25	25	124	94	56	22	31	57	30	24 x 2	LN2410	63	47
OEMPB28	28	137	103	66	25	35	62	33	27 x 2	LN2712	81	59
OEMPB30	30	145	110	67	25	37	66	35	30 x 2	LN3012	86	63

ISO12240-4- K-SERIES - ISO6126 : COUPLING :STEEL / BRONZE : BALL JOINT MADE IN GALVANISED FORGED STEEL C45
LH : DENOTES LEFT HAND THREAD

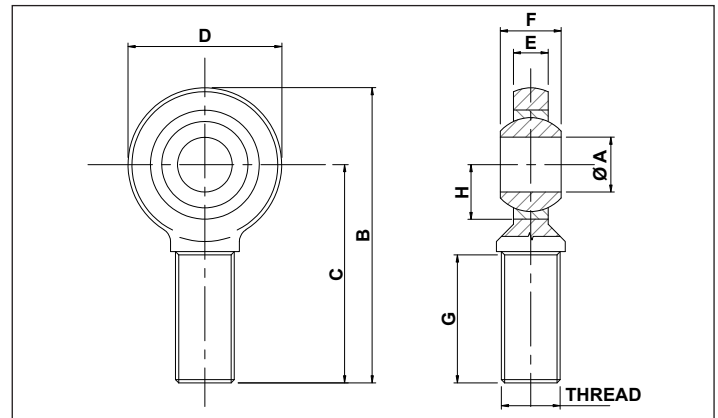
BALL JOINT ENDS OEFPW WITHOUT SEALS



PART NUMBER	Ø A	B	C	D	E	F	G	H	I	J	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
													STATIC	DYNAMIC
OEFPW05	5	35	27	16	7	8	8	12	9	9	5 x 0.8	LN0503	7	3.2
OEFPW06	6	39	30	18	7	9	9	13	11	10	6 x 1	LN0603	8	3.5
OEFPW08	8	47	36	22	9	12	12	16	14	12	8 x 1.25	LN0804	13	5.8
OEFPW10	10	56	43	26	10.5	14	15	19	17	14	10 x 1.5	LN1005	18	8.6
OEFPW10-LH	10	56	43	26	10.5	14	15	19	17	14	10 x 1.5 LH		18	8.6
OEFPW12	12	65	50	30	12	16	18	22	19	16	12 x 1.75	LN1206	24	11.5
OEFPW14	14	74	57	34	13.5	19	21	25	22	18	14 x 2	LN1408	36	17.5
OEFPW14-LH	14	74	57	34	13.5	19	21	25	22	18	14 x 2 LH		36	17.5
OEFPW16	16	83	64	38	15	21	24	27	22	21	16 x 2	LN1608	40	20
OEFPW18	18	92	71	42	16.5	23	27	31	27	23	18 x 1.5	LN1809	27	50
OEFPW20	20	100	77	46	18	25	30	37	30	25	20 x 1.5	LN2008	60	31
OEFPW22	22	109	84	50	20	28	33	37	32	27	22 x 1.5	LN2210	43	72
OEFPW25	25	124	94	56	22	31	36	42	36	30	24 x 2	LN2410	50	85
OEFPW25-LH	25	124	94	56	22	31	36	42	36	30	24 x 2 LH		50	85
OEFPW28	28	136	103	66	25	35	41	46	41	33	27 x 2	LN2712	60	90
OEFPW30	30	145	110	67	26	37	45	50	41	35	30 x 2	LN3012	66	110

ISO 12240-4-SERIES K ISO6126 MAINTENANCE FREE : COUPLING : CHROMED STEEL /
PTFE FABRIC BALL JOINT MADE IN GALVANISED FORGED STEEL C45
LH : DENOTES LEFT HAND THREAD

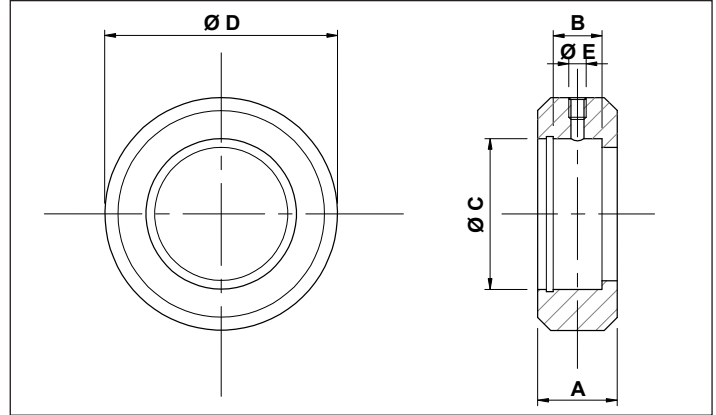
BALL JOINT ENDS OEMPW WITHOUT SEALS



PART NUMBER	Ø A	B	C	D	E	F	G	H	THREAD	LOCK NUT SIZE	LOAD FACTOR (KN)	
											STATIC	DYNAMIC
OEMPW05	5	41	33	16	7	8	20	9	5 x 0.8	LN0503	7	3.2
OEMPW06	6	46	36	18	7	9	22	10	6 x 1	LN0603	8	3.5
OEMPW08	8	53	42	22	9	12	25	12	8 x 1.25	LN0804	13	5.8
OEMPW10	10	61	48	26	11	14	29	14	10 x 1.5	LN1005	18	8.6
OEMPW12	12	69	54	30	12	16	33	16	12 x 1.75	LN1206	24	11.5
OEMPW14	14	77	60	34	14	19	36	18	14 x 2	LN1408	36	17.2
OEMPW14-LH	14	77	60	34	14	19	36	18	14 x 2 LH		36	17.2
OEMPW16	16	86	66	38	15	21	40	21	16 x 2	LN1608	40	20
OEMPW18	18	94	72	42	17	23	44	22	18 x 1.5	LN1809	50	27
OEMPW20	20	103	78	46	18	25	47	25	20 x 1.5	LN2008	60	31
OEMPW22	22	111	84	50	20	28	51	27	22 x 1.5	LN2210	72	43
OEMPW25	25	124	94	56	22	31	57	30	24 x 2	LN2410	85	50
OEMPW28	28	137	103	66	25	35	62	33	27 x 2	LN2712	90	60
OEMPW30	30	145	110	67	25	37	66	35	30 x 2	LN3012	110	66

ISO 12240-4- SERIES K ISO : MAINTENANCE : COUPLING CHROMED STEEL /
PTFE FABRIC : BALL JOINT MADE IN GALVANISED FORGED STEEL C45
LH : DENOTES LEFT HAND THREAD

WELDABLE HOUSING



WELDABLE HOUSING WBH	SIZE OF BEARING 15	OUTSIDE DIAMETER Ø D 40	WIDTH A 15
-------------------------	-----------------------	----------------------------	---------------

PART NUMBER	A	B	Ø C	Ø D	Ø E	INTERNAL CLIP	SUITABLE FOR BALL JOINT
WBH154015	15	9	26	40	M6	CI26	OGE015DO
WBH205020	20	12	35	50	M6	CI35	OGE020DO-LO
WBH257024	24	16	42	70	M6	CI42	OGE025DO-LO
WBH307528	28	18	47	75	M6	CI47	OGE030DO-UK
WBH328028	28	18	52	80	M6	CI52	OGE032LO
WBH358033	33	20	55	80	M6	CI55	OGE035DO-UK2
WBH409535	35	22	62	95	M8	CI62	OGE040DO-LO
WBH4510038	38	25	68	100	M8	CI68	OGE045DO-UK2
WBH4511040	40	25	68	110	M6	CI68	OGE045DO-UK2
WBH5011040	40	28	75	110	M8	CI75	OGE050DO-LO
WBH6013850	50	36	90	138	M8	CI90	OGE060DO-UK2

MATERIAL : STEEL - FE 510 / S355JR
COMES COMPLETE WITH CIRCLIP

IMPERIAL WELDABLE HOUSING

WELDABLE HOUSING WBH	SIZE OF BEARING 1.00	OUTSIDE DIAMETER Ø D 2.75	WIDTH A 1.10	IMPERIAL I	IMPERIAL SIZE (1.00)
-------------------------	-------------------------	------------------------------	-----------------	---------------	-------------------------

PART NUMBER	A (mm)	B	Ø C	Ø D (mm)	Ø E	INTERNAL CIRCLIP	SUITABLE FOR BALL JOINT
WBH100275110-I (1.00)	28	0.75"	1.625"	70	M6	CI162 (1.62)	OGE100DO-I (1.00)
WBH125322129-I (1.25)	33	0.937"	2.00"	82	M6	CI200 (2.00)	OGE125DO-I (1.25)
WBH150374157-I (1.50)	40	1.125"	2.438"	95	M6	CI243 (2.43)	OGE150DO-I (1.50)
WBH175393181-I (1.75)	46	1.312"	2.813"	100	M6	CI281 (2.81)	OGE175DO-I (1.75)
WBH200452196-I (2.00)	50	1.50"	3.187"	115	M6	CI318 (3.18)	OGE200DO-I (2.00)

MATERIAL : STEEL - FE 510 / S355JR
COMES COMPLETE WITH CIRCLIP



TYPE	BORE DIAMETER	WORKING SURFACES	LUBRICATION REQUIRED	CONSTRUCTION CHARACTERISTICS
OGE..DO	10-180MM 1/2"-2 1/4"	STEEL /STEEL	YES	Radial ball joint. Hardened inner and outer rings. The outer ring has an axial groove for ease of greasing



TYPE	BORE DIAMETER	WORKING SURFACES	LUBRICATION REQUIRED	CONSTRUCTION CHARACTERISTICS
OGE..DO-Z	20-160MM	STEEL /STEEL	YES	Having the same characteristics as OGE..DO from which they differ in the double lip dust guard on both side



TYPE	BORE DIAMETER	WORKING SURFACES	LUBRICATION REQUIRED	CONSTRUCTION CHARACTERISTICS
OGE..DO-2RS	20-160MM	STEEL /STEEL	YES	Having the same characteristics as GE..DO from which they differ in the double lip dust guard on both side



TYPE	BORE DIAMETER	WORKING SURFACES	LUBRICATION REQUIRED	CONSTRUCTION CHARACTERISTICS
OGE..LO	12-200MM	STEEL /STEEL	YES	Radial ball joint.Hardened inner and outer rings. The outer ring has an axial groove for ease of greasing. Differ from GE..DO in their height.



TYPE	BORE DIAMETER	WORKING SURFACES	LUBRICATION REQUIRED	CONSTRUCTION CHARACTERISTICS
OGE..HO-2RS	20-80MM	STEEL /STEEL	YES	Having the same characteristics as OGE..LO from which they differ in the double lip dust guard on both sides



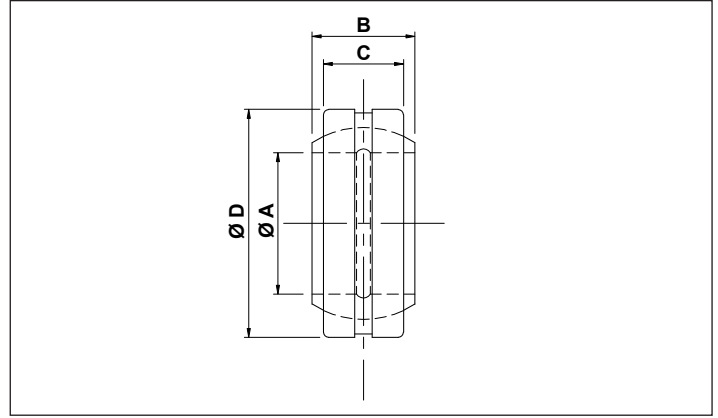
TYPE	BORE DIAMETER	WORKING SURFACES	LUBRICATION REQUIRED	CONSTRUCTION CHARACTERISTICS
OGE..FO-2RS	20-160MM	STEEL /STEEL	YES	Radial ball joint having the same characteristics as theGE..DO-2RS type with the exception that the inner ring is wider and the outer diameter is larger. This allows a greater angle of rotation



TYPE	BORE DIAMETER	WORKING SURFACES	LUBRICATION REQUIRED	CONSTRUCTION CHARACTERISTICS
OGE..UK/ OGE..UK-2RS	20-30MM 20-200MM	HARD CHROMED ON PTFE FABRIC	NO	Maintenance free radial ball joint, outer ring hardened and working surface of PTFE fabric. Inner ring hardened with working surface hard chromed with dust guard seals.

TYPE	BORE DIAMETER	WORKING SURFACES	LUBRICATION REQUIRED	CONSTRUCTION CHARACTERISTICS
OGE..UK-STAINLESS	15-100MM	STAINLESS STEEL ON PTFE FABRIC	NO	Maintenance free radial ball joint outer ring hardened and working surface of PTFE fabric. Inner ring hardened Aisi 420.

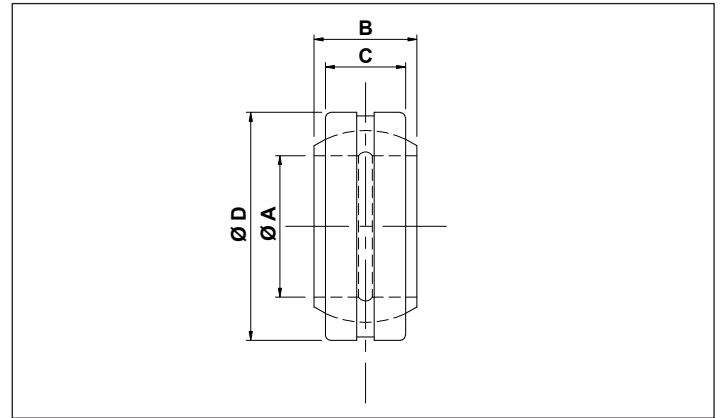
RADIAL BALL JOINTS OGE *** DO WITHOUT SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KN)	
							STATIC	DYNAMIC
OGE010DO	10	9	6	19	CI19	CE10	40.5	8.15
OGE012DO	12	10	7	22	CI22	CE12	54	10.8
OGE015DO	15	12	9	26	CI26	CE15	85	17
OGE016DO	16	14	10	30	CI30	CE16	106	21.2
OGE017DO	17	14	10	30	CI30	CE17	106	21.2
OGE020DO	20	16	12	35	CI35	CE20	146	30
OGE025DO	25	20	16	42	CI42	CE25	240	48
OGE030DO	30	22	18	47	CI47	CE30	310	62
OGE035DO	35	25	20	55	CI55	CE35	400	80
OGE040DO	40	28	22	62	CI62	CE40	500	100
OGE045DO	45	32	25	68	CI68	CE45	640	127
OGE050DO	50	35	28	75	CI75	CE50	780	156
OGE060DO	60	44	36	90	CI90	CE60	1220	245
OGE070DO	70	49	40	105	CI105	CE70	1560	315
OGE080DO	80	55	45	120	CI120	CE80	2000	400
OGE090DO	90	60	50	130	CI130	CE90	2450	490
OGE100DO	100	70	55	150	CI150	CE100	3050	610
OGE110DO	110	70	55	160	CI160	CE110	3250	655
OGE120DO	120	85	70	180	CI180	CE120	4750	950
OGE140DO	140	90	70	210	CI210	CE140	5400	1080
OGE180DO	180	105	80	260	CI260	CE180	6800	1370

ISO 12240-1-SERIES E - PARTS REQUIRE SERVICING : COUPLING : STEEL / STEEL
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

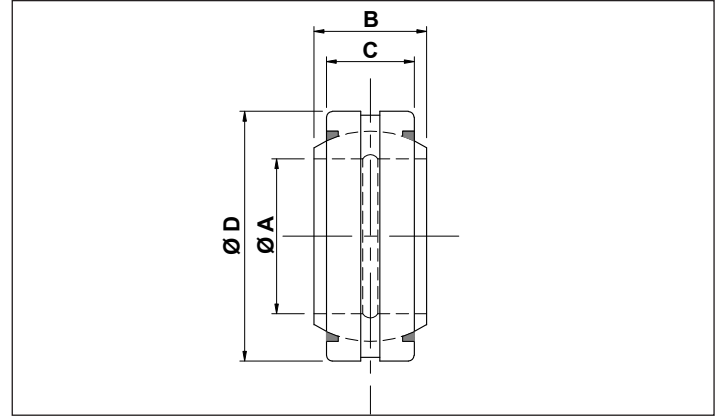
RADIAL BALL JOINTS OGE *** DO-I IMPERIAL SIZES WITHOUT SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KN)	
							STATIC	DYNAMIC
OGE050DO-I (0.50)	0.500	0.437	0.375	0.875	CI087 (0.87)	CE050 (0.50)	41.5	13.7
OGE062DO-I (0.62)	0.625	0.547	0.469	1.062	CI106 (1.06)	CE062 (0.62)	65.5	22
OGE075DO-I (0.75)	0.750	0.656	0.562	1.250	CI125 (1.25)	CE075 (0.75)	95	31.5
OGE100DO-I (1.00)	1.000	0.875	0.750	1.625	CI162 (1.62)	CE100 (1.00)	166	56
OGE125DO-I (1.25)	1.250	1.093	0.937	2.000	CI200 (2.00)	CE125 (1.25)	260	86.5
OGE137DO-I (1.37)	1.375	1.187	1.031	2.187	CI218 (2.18)	CE137 (1.37)	310	102
OGE150DO-I (1.50)	1.500	1.312	1.125	2.438	CI243 (2.43)	CE150 (1.50)	375	125
OGE175DO-I (1.75)	1.750	1.531	1.312	2.811	CI281 (2.81)	CE175 (1.75)	510	170
OGE200DO-I (2.00)	2.000	1.750	1.500	3.187	CI315 (3.15)	CE200 (2.00)	670	224
OGE225DO-I (2.25)	2.250	1.969	1.687	3.562	CI354 (3.54)	CE225 (2.25)	850	280
OGE250DO-I (2.50)	2.500	2.187	1.875	3.937	CI393 (3.93)	CE250 (2.50)	1060	355

ISO 12240-1-SERIES E: PARTS REQUIRE SERVICING: COUPLING :STEEL / STEEL
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

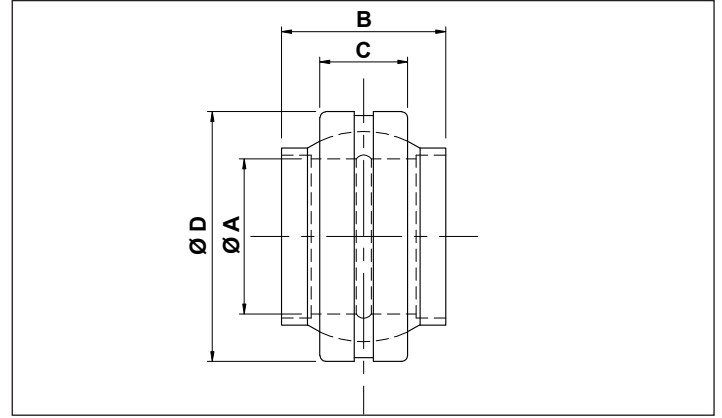
RADIAL BALL JOINTS OGE *** DO2 WITH SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KN)	
							STATIC	DYNAMIC
OGE020DO2	20	16	12	35	CI35	CE20	146	30
OGE025DO2	25	20	16	42	CI42	CE25	240	48
OGE030DO2	30	22	18	47	CI47	CE30	310	62
OGE035DO2	35	25	20	55	CI55	CE35	400	80
OGE040DO2	40	28	22	62	CI62	CE40	500	100
OGE045DO2	45	32	25	68	CI68	CE45	640	127
OGE050DO2	50	35	28	75	CI75	CE50	780	156
OGE060DO2	60	44	36	90	CI90	CE60	1220	245
OGE070DO2	70	49	40	105	CI105	CE70	1560	315
OGE080DO2	80	55	45	120	CI120	CE80	2000	400
OGE090DO2	90	60	50	130	CI130	CE90	2450	490
OGE100DO2	100	70	55	150	CI150	CE100	3050	610
OGE110DO2	110	70	55	160	CI160	CE110	3250	655
OGE120DO2	120	85	70	180	CI180	CE120	4750	950
OGE140DO2	140	90	70	210	CI210	CE140	5400	1080
OGE160DO2	160	105	80	230	CI230	CE160	6800	1370

ISO 12240-1-SERIES E : PARTS REQUIRE SERVICING : COUPLING : STEEL / STEEL
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

RADIAL BALL JOINTS OGE *** LO WITHOUT SEALS



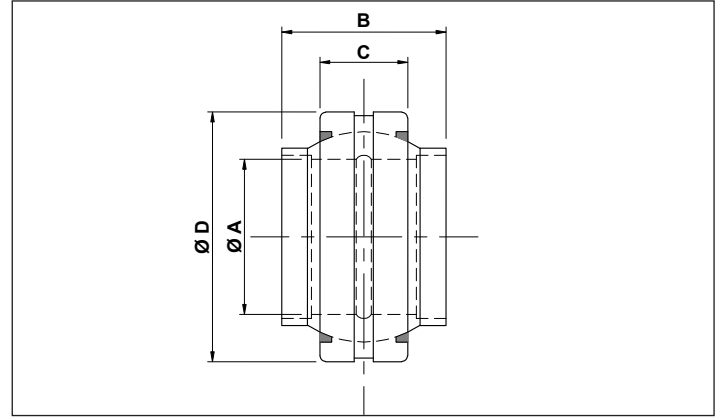
PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KN)	
							STATIC	DYNAMIC
OGE012LO *	12	12	7	22	CI22	CE12	54	10.8
OGE016LO	16	16	9	28	CI28	CE16	88	17.6
OGE020LO	20	20	12	35	CI35	CE20	146	30
OGE025LO	25	25	16	42	CI42	CE25	240	48
OGE030LO	30	30	18	47	CI47	CE30	310	62
OGE032LO	32	32	18	52	CI52	CE32	335	67
OGE040LO	40	40	22	62	CI62	CE40	500	100
OGE050LO	50	50	28	75	CI75	CE50	780	156
OGE063LO	63	63	36	95	CI95	CE63	1270	255
OGE070LO	70	70	40	105	CI105	CE70	1560	315
OGE080LO	80	80	45	120	CI120	CE80	2000	400
OGE090LO	90	90	50	130	CI130	CE90	2450	490
OGE100LO	100	100	55	150	CI150	CE100	3050	610
OGE110LO	110	110	55	160	CI160	CE110	3250	655
OGE125LO	125	125	70	180	CI180	CE125	4750	950
OGE160LO	160	160	80	230	CI230	CE160	6800	1370
OGE200LO	200	200	100	290	CI290	CE200	10600	2120

ISO12240-1-SERIES E : PARTS REQUIRE SERVICING : COUPLING : STEEL / STEEL

* NOT POSSIBLE TO LUBRICATE

CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

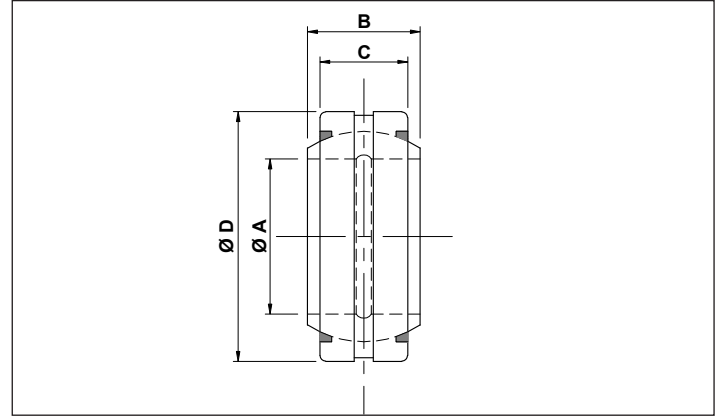
RADIAL BALL JOINTS OGE *** HO2 WITH SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KM)	
							STATIC	DYNAMIC
OGE020HO2	20	24	12	35	CI35	CE20	146	30
OGE025HO2	25	29	16	42	CI42	CE25	240	48
OGE030HO2	30	30	18	47	CI47	CE30	310	62
OGE035HO2	35	35	20	55	CI55	CE35	400	80
OGE040HO2	40	38	22	62	CI62	CE40	500	100
OGE045HO2	45	40	25	68	CI68	CE45	640	127
OGE050HO2	50	43	28	75	CI75	CE50	780	156
OGE060HO2	60	54	36	90	CI90	CE60	1220	245
OGE070HO2	70	65	40	105	CI105	CE70	1560	315
OGE080HO2	80	74	45	120	CI120	CE80	2000	400

ISO 12240-1-SERIES W : PARTS REQUIRE SERVICING : COUPLING : STEEL / STEEL
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

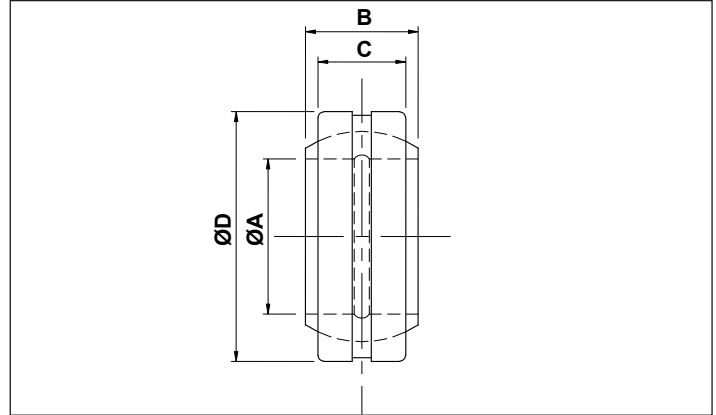
RADIAL BALL JOINTS OGE *** FO2 WITH SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KM)	
							STATIC	DYNAMIC
OGE020FO2	20	25	16	42	CI42	CE20	240	48
OGE025FO2	25	28	18	47	CI47	CE25	310	62
OGE030FO2	30	32	20	55	CI55	CE30	400	80
OGE035FO2	35	35	22	62	CI62	CE35	500	100
OGE040FO2	40	40	25	68	CI68	CE40	640	127
OGE045FO2	45	43	28	75	CI75	CE45	780	156
OGE050FO2	50	56	36	90	CI90	CE50	1220	245
OGE060FO2	60	63	40	105	CI105	CE60	1560	315
OGE070FO2	70	70	45	120	CI120	CE70	2000	400
OGE080FO2	80	75	50	130	CI130	CE80	2450	490
OGE090FO2	90	85	55	150	CI150	CE90	3050	610
OGE100FO2	100	85	55	160	CI160	CE100	3250	655
OGE110FO2	110	100	70	180	CI180	CE110	4750	950
OGE160FO2	160	135	80	260	CI260	CE160	5400	1080

ISO 12240-1-SERIES G: PARTS REQUIRE SERVICING : COUPLING: STEEL / STEEL
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

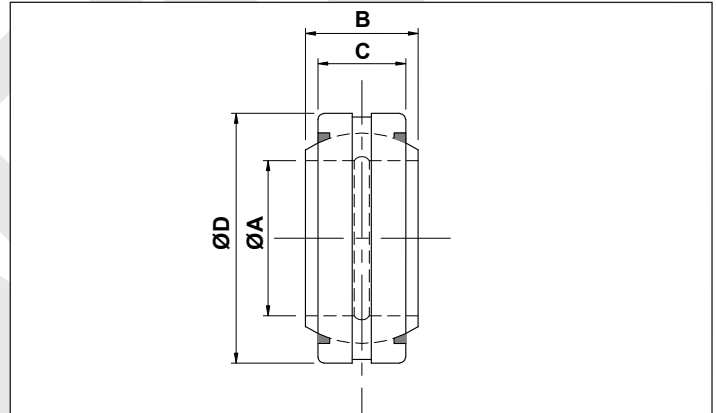
RADIAL BALL JOINTS OGE *** UK WITHOUT SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KN)	
							STATIC	DYNAMIC
OGE015UK	15	12	9	26	CI26	CE15	44	17.6
OGE025UK	25	20	16	42	CI42	CE25	127	51
OGE030UK	30	22	18	47	CI47	CE30	166	65.5

ISO 12240-1-SERIES E NO SERVICING REQUIRED : COUPLING : HARD CHROMED STEEL / ON PTFE FABRIC
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

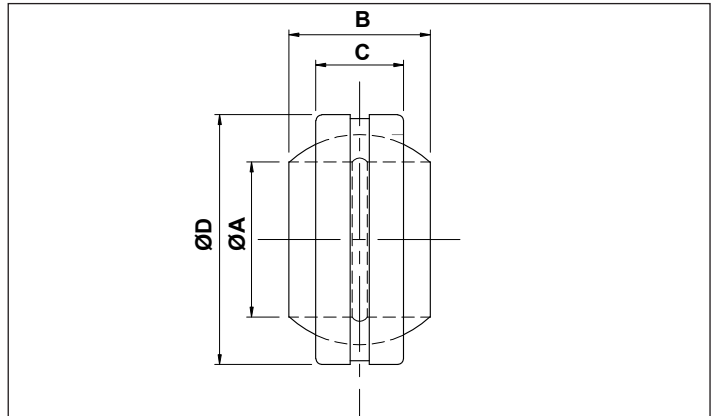
RADIAL BALL JOINTS OGE *** UK2 WITH SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KN)	
							STATIC	DYNAMIC
OGE020UK2	20	16	12	35	CI35	CE20	83	41.5
OGE025UK2	25	20	16	42	CI42	CE25	137	68
OGE030UK2	30	22	18	47	CI47	CE30	176	88
OGE035UK2	35	25	20	55	CI55	CE35	224	112
OGE040UK2	40	28	22	62	CI62	CE40	280	140
OGE045UK2	45	32	25	68	CI68	CE45	360	180
OGE050UK2	50	35	28	75	CI75	CE50	440	220
OGE060UK2	60	44	36	90	CI90	CE60	695	345
OGE070UK2	70	49	40	105	CI105	CE70	880	440
OGE080UK2	80	55	45	120	CI120	CE80	1140	570
OGE090UK2	90	60	50	130	CI130	CE90	1370	695
OGE100UK2	100	70	55	150	CI150	CE100	1730	865
OGE110UK2	110	70	55	160	CI160	CE110	1860	930
OGE120UK2	120	85	70	180	CI180	CE120	2700	1340
OGE140UK2	140	90	70	210	CI210	CE140	3000	1500
OGE160UK2	160	105	80	230	CI230	CE160	3800	1930
OGE180UK2	180	105	80	260	CI260	CE180	4300	2160
OGE200UK2	200	130	100	290	CI290	CE200	6000	3000

ISO 12240-1-SERIES E : NO SERVICING REQUIRED : COUPLING : HARD CHROME ON STEEL / PTFE FABRIC
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

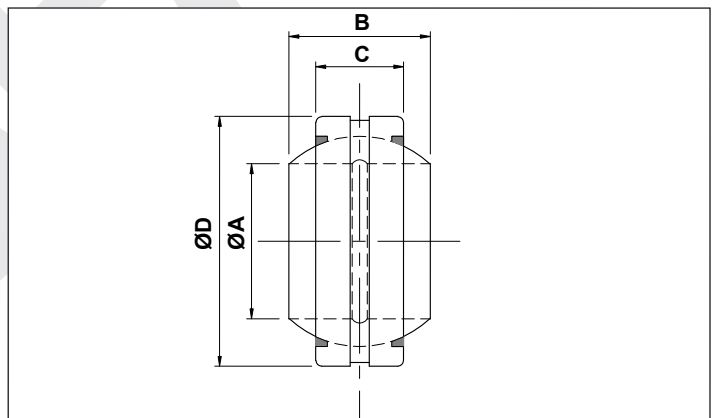
RADIAL BALL JOINTS OGE *** FW WITHOUT SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	EXTERNAL CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KN)	
							STATIC	DYNAMIC
OGE06FW	6	9	5	16	CI16	CE6	14.6	5.85
OGE08FW	8	11	6	19	CI19	CE8	21.6	8.65
OGE10FW	10	12	7	22	CI22	CE10	28.5	11.4
OGE12FW	12	15	9	26	CI26	CE12	44	17.6
OGE15FW	15	16	10	30	CI30	CE15	56	22.4
OGE17FW	17	20	12	35	CI35	CE17	78	31.5
OGE20FW	20	25	16	42	CI42	CE20	127	51
OGE25FW	25	28	18	47	CI47	CE25	166	65.5
OGE30FW	30	32	20	55	CI55	CE30	224	112

ISO 12240-1-SERIES E NO SERVICING REQUIRED : COUPLING : HARD CHROMED STEEL / ON PTFE FABRIC
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

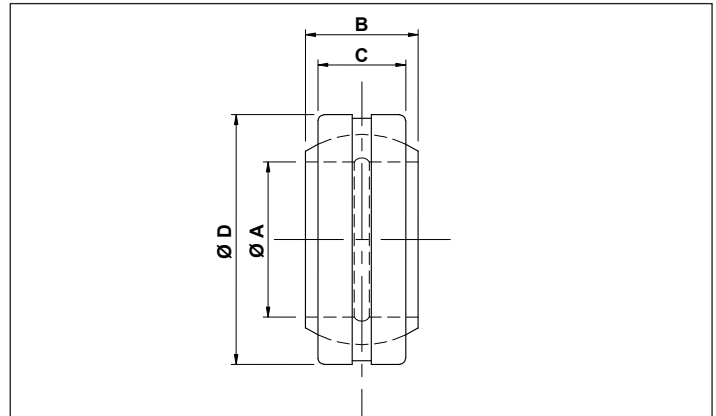
RADIAL BALL JOINTS OGE *** FW2 WITH SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	EXTERNAL CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KN)	
							STATIC	DYNAMIC
OGE030FW2	30	32	20	55	CI55	CE30	224	112
OGE035FW2	35	35	22	62	CI62	CE35	280	140
OGE040FW2	40	40	25	68	CI68	CE40	360	180
OGE045FW2	45	43	28	75	CI75	CE45	440	220
OGE050FW2	50	56	36	90	CI90	CE50	695	345
OGE060FW2	60	63	40	105	CI105	CE60	880	440
OGE070FW2	70	70	45	120	CI120	CE70	1140	570
OGE080FW2	80	75	50	130	CI130	CE80	1370	695
OGE090FW2	90	85	55	150	CI150	CE90	1730	865
OGE100FW2	100	85	55	160	CI160	CE100	1860	930
OGE110FW2	110	100	70	180	CI180	CE110	2700	1340
OGE120FW2	120	115	70	210	CI210	CE120	3000	1500
OGE140FW2	140	130	80	230	CI230	CE140	3800	1930
OGE160FW2	160	135	80	260	CI260	CE160	4300	2160
OGE180FW2	180	155	100	290	CI290	CE180	6000	3000

ISO 12240-1-NO SERVICING REQUIRED : CHROMED STEEL /PTFE FABRIC
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

RADIAL BALL JOINTS OGE *** UK - STAINLESS STEEL WITHOUT SEALS



PART NUMBER	Ø A	B	C	Ø D	INTERNAL CIRCLIP REQUIRED	CIRCLIP REQUIRED FOR PIN	LOAD FACTOR (KN)	
							STATIC	DYNAMIC
OGE015UK-STAINLESS	15	12	9	26	CI26	CE15	50	25
OGE020UK-STAINLESS	20	16	12	35	CI35	CE20	90	45
OGE025UK-STAINLESS	25	20	16	42	CI42	CE25	170	85
OGE030UK-STAINLESS	30	22	18	47	CI47	CE30	220	110
OGE035UK-STAINLESS	35	25	20	55	CI55	CE35	280	140
OGE040UK-STAINLESS	40	28	22	62	CI62	CE40	350	175
OGE045UK-STAINLESS	45	32	25	68	CI68	CE45	450	225
OGE050UK-STAINLESS	50	35	28	75	CI75	CE50	550	275
OGE070UK-STAINLESS	70	49	40	105	CI105	CE70	1100	550
OGE100UK-STAINLESS	100	70	55	150	CI150	CE100	2140	1070

ISO 12240-1-SERIES G : NO SERVICING REQUIRED : COUPLING: STAINLESS STEEL AISI 420 + PTFE FABRIC
CIRCLIPS ARE NOT PROVIDED WITH RADIAL BALL JOINTS

EXTERNAL CIRCLIPS FOR THE INTERNAL BORE OF SPHERICAL BEARINGS



CIRCLIP EXTERNAL SIZE
CE 04

PART NUMBER	TO SUIT SHAFT SIZE (mm)	THICKNESS	PART NUMBER	TO SUIT SHAFT SIZE (mm)	THICKNESS
CE04	4	1	CE68	68	2
CE10	10	1	CE70	70	2.5
CE12	12	1	CE75	75	2.5
CE13	13	1	CE80	80	2.5
CE14	14	1	CE88	88	2.5
CE15-HD	15	1.5	CE90	90	3
CE16	16	1	CE100	100	3
CE17	17	1	CE105	105	3
CE18	18	1.5	CE110	110	3
CE20	20	1.2	CE120	120	4
CE22	22	1.2	CE130	130	4
CE25	25	1.2	CE140	140	4
CE28	28	1.2	CE150	150	4
CE30	30	1.5	CE160	160	4
CE32	32	1.5	CE180	180	4
CE35	35	1.5	CE200	200	4
CE38	38	1.5			
CE40-HD	40	2.5			
CE42	42	1.75			
CE44	44	1.75			
CE45	45	1.75			
CE46	46	1.75			
CE47	47	1.75			
CE50	50	2			
CE60	60	2			
CE63	63	2			
CE65	65	2			

MATERIAL : CARBON SPRING STEEL STANDARD FINISH - PHOSPHATE AND OIL.

INTERNAL CIRCLIPS FOR THE OUTSIDE OF SPHERICAL BEARINGS

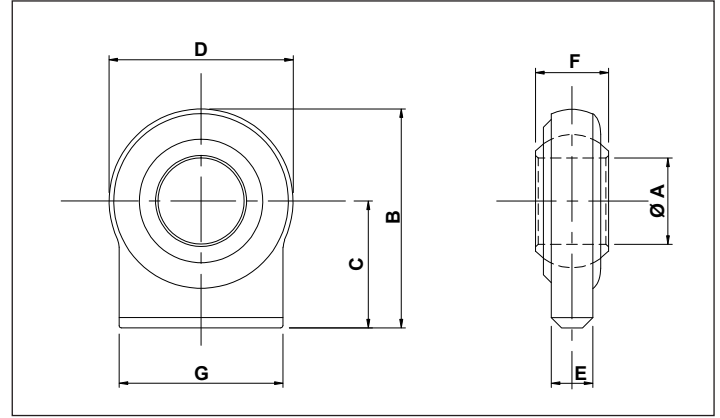


CIRCLIP INTERNAL SIZE
CI 12

PART NUMBER	TO SUIT SHAFT SIZE (mm)	THICKNESS	PART NUMBER	TO SUIT SHAFT SIZE (mm)	THICKNESS
CI12	12	1	CI75	75	2.5
CI15	15	1	CI76	76	2.5
CI17	17	1	CI80	80	2.5
CI19	19	1	CI82	82	2.5
CI20	20	1	CI85	85	3
CI22	22	1	CI88	88	3
CI24	24	1.2	CI90	90	3
CI26	26	1.2	CI95	95	3
CI28	28	1.2	CI98	98	3
CI30	30	1.2	CI100	100	3
CI32	32	1.2	CI102	102	4
CI35	35	1.5	CI105	105	4
CI36	36	1.5	CI107	107	4
CI38	38	1.5	CI110	110	4
CI40	40	1.75	CI112	112	4
CI41	41	1.75	CI115	115	4
CI42	42	1.75	CI120	120	4
CI45	45	1.75	CI125	125	4
CI47	47	1.75	CI130	130	4
CI48	48	1.75	CI150	150	4
CI50	50	2	CI160	160	4
CI52	52	2	CI180	180	4
CI55	55	2	CI210	210	5
CI57	57	2	CI230	230	5
CI60	60	2	CI260	260	5
CI62	62	2	CI290	290	5
CI65	65	2.5	CI325	325	5
CI68	68	2.5			
CI70	70	2.5			
CI72	72	2.5			

MATERIAL : CARBON SPRING STEEL STANDARD FINISH - PHOSPHATE AND OIL.

LOWER LINK BALL ENDS STYLE A

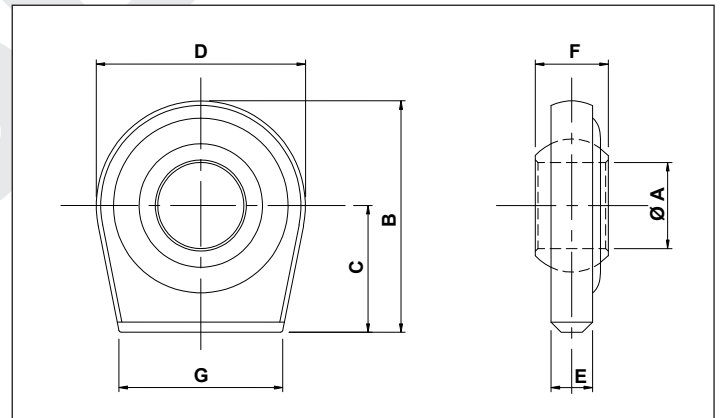


LOWER LINK LL	PIN SIZE Ø A 14	CENTRE HEIGHT C 60	TOTAL WIDTH F 32
------------------	--------------------	-----------------------	---------------------

PART NUMBER	CATEGORY	Ø A	B	C	D	E	F	G
LL14-6032		14	83	60	46	11	32	30
LL16-6020		16	83	60	46	11	20	30
LL19-4535	1	19	73	45	65	15	35	50
LL22-4535	1	22	73	45	65	15	35	50
LL22-5035-76	1	22	88	50	76	18	35	70
LL25-5035	2	25.4	88	50	76	18	35	70
LL25-8038	2	25.4	120	80	80	22	38	70
LL28-5535	2	28.4	97	55	83	18	35	70

MATERIAL : STEEL - ST52.3

LOWER LINK BALL ENDS STYLE B

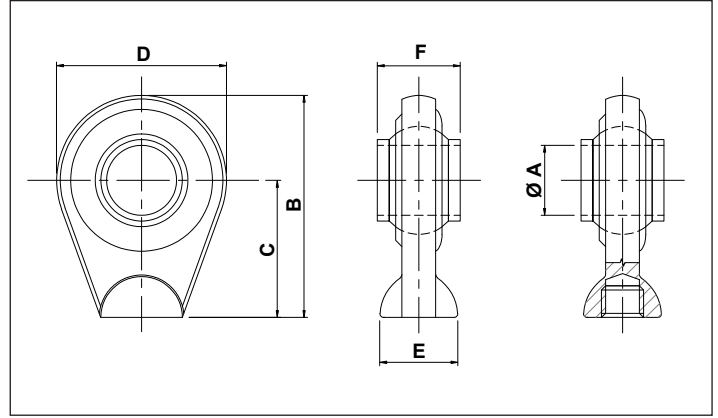


LOWER LINK LL	PIN DIAMETER Ø A 19	CENTRE HEIGHT C 50	TOTAL WIDTH F 35
------------------	------------------------	-----------------------	---------------------

PART NUMBER	CATEGORY	Ø A	B	C	D	E	F	G
LL19-5035	1	19	84	50	67	18	35	56
LL22-5035-67	2	22	84	50	67	18	35	56
LL22-7535	1	22	109	75	67	18	35	56
LL28-8035	2	28.4	120	80	85	18	35	70
LL28-8045	2	28.4	120	80	85	18	45	70

MATERIAL : STEEL - ST52.3

TOP LINK BALL ENDS



TOP LINK
TL

PIN DIAMETER Ø A
19

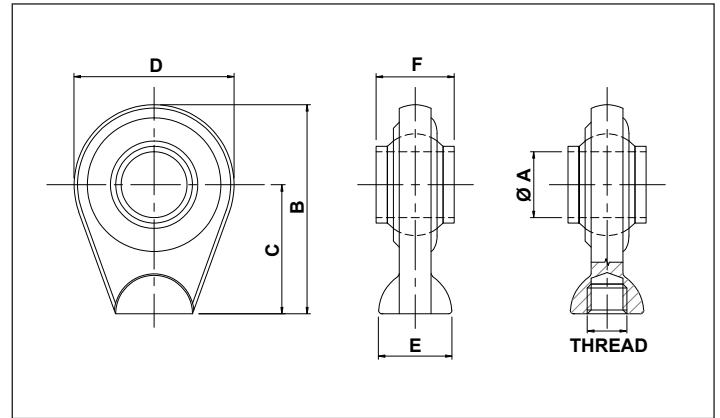
CENTRE HEIGHT C
50

TOTAL WIDTH F
30

PART NUMBER	CATEGORY	Ø A	B	C	D	E	F
TL19-5030	1	19	77	50	53	25	30
TL19-5044	1	19	75	50	53	25	44
TL19-3444*	1	19	67	34	58	30 X 14	44
TL19-5551	1	19	82	55	75	35	51
TL19-6044	1	19	91	60	62	34	44
TL20-5844		20	91	58	62	34	44
TL20-6044		20	91	60	62	34	44
TL22-5035	1	22	80	50	62	26	35
TL22-6551	1	22	103	65	75	38	51
TL25-6551-75	2	25.4	103	65	75	38	51
TL25-6551-83	2	25.4	107	65	83	50	51
TL25-7051	2	25.4	104	70	85	50	51
TL30-7051		30	113	70	85	50	51
TL32-6551	3	32	107	65	83	50	51
TL32-6551-92	3	32	111	65	92	50	51
TL32-8551	3	32	130	85	90	38	51
TL35-6535		35	107	65	83	50	35
TL40-8575		40	139	85	108	60	75

* THIS ITEM HAS A RECTANGLE BASE
MATERIAL : STEEL - ST52.3
PLEASE NOTE THAT SIZES ARE EITHER METRIC OR IMPERIAL
OTHER SIZES ARE AVAILABLE ON REQUEST

TOP LINK BALL ENDS INTERNALLY THREADED



TOP LINK TL	PIN DIAMETER Ø A 25	CENTRE HEIGHT C 70	TOTAL WIDTH F 51	INTERNAL THREAD TH
----------------	------------------------	-----------------------	---------------------	-----------------------

PART NUMBER	CATEGORY	Ø A	B	C	D	E	F	THREAD
TL25-7051TH	2	25.4	110	70	85	50	51	27 X 2
TL30-7051TH		30	110	70	85	50	51	27 X 2
TL32-8551TH	3	32	130	85	90	38	51	27 X 2
TL40-8575TH		40	139	85	108	60	75	38 X 2
TL45-8575TH		45	139	85	108	60	75	38 X 2
TL50-8575TH		50	139	85	108	60	75	38 X 2

MATERIAL : STEEL - ST52.3
PLEASE NOTE THAT SIZES ARE EITHER METRIC OR IMPERIAL

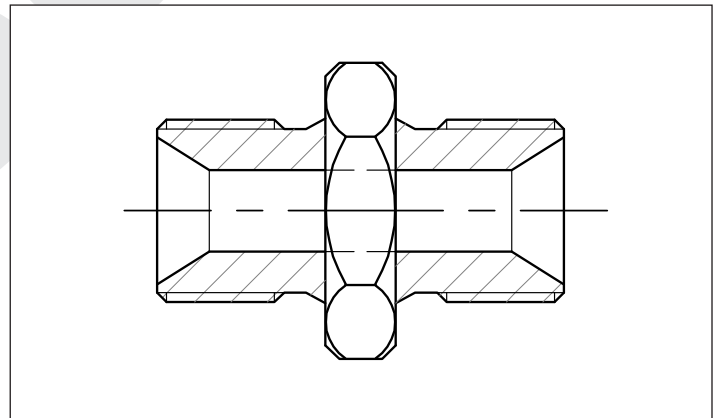
SNAP RINGS



PART NUMBER	TO SUIT CYLINDER BORE (mm)	WIDTH
SN25X2	25	2
SN26X2	26	2
SN52X2.3	52	2.3
SN56X2.3	56	2.3
SN62X2.3	62	2.3
SN66X2.3	66	2.3
SN75X3.2	75	3.2
SN78X2.3	78	2.3
SN105X4	105	4

MATERIAL : CARBON SPRING STEEL
STANDARD FINISH - PHOSPHATE AND OIL

BSP ADAPTERS



MALE MALE ADAPTER
MMA

SIZE
025

THREAD
BSP

PART NUMBER	BSP THREAD
MMA025BSP	1/4"
MMA037BSP	3/8"
MMA050BSP	1/2"

BREATHER PLUGS



BREATHER PLUG BSP SIZE
BP 025

PART NUMBER	BSP THREAD
BP012	1/8"
BP025	1/4"
BP037	3/8"
BP050	1/2"
BP075	3/4"

MATERIAL : SINTERED BRONZE

SAE 3000 FLANGE PROTECTORS



FLANGE PROTECTORS SIZE SOCIETY OF AUTOMOTIVE ENGINEERS PRESSURE RATING
FP 050 SAE 3000

PART NUMBER	NOMINAL DIAMETER
FP050-SAE-3000	1/2"
FP075-SAE-3000	3/4"
FP100-SAE-3000	1"
FP125-SAE-3000	1-1/4"
FP150-SAE-3000	1-1/2"
FP200-SAE-3000	2"
FP250-SAE-3000	2-1/2"

SAE 6000 FLANGE PROTECTORS



FLANGE PROTECTORS FP	SIZE 075	SOCIETY OF AUTOMOTIVE ENGINEERS SAE	PRESSURE RATING 6000
-------------------------	-------------	--	-------------------------

PART NUMBER	NOMINAL DIAMETER
FP075-SAE-6000	3/4"
FP100-SAE-6000	1"
FP125-SAE-6000	1-1/4"
FP150-SAE-6000	1-1/2"
FP200-SAE-6000	2"

NYLON PLUGS



NYLON PLUG NP	SIZE 025	MALE M
------------------	-------------	-----------

PART NUMBER	SUITABLE FOR THREADS
NP025-M	1/4"
NP037-M	3/8"
NP050-M	1/2"
NP075-M	3/4"
NP100-M	1"
NP16-M	16mm
NP18-M	18mm
NP20-M	20mm
NP22-M	22mm

BSP THREAD PROTECTION CAPS



CAP CAP	THREAD SIZE 025	BRITISH STANDARD PIPE BSP	MALE M
------------	--------------------	------------------------------	-----------

PART NUMBER	BSP THREAD
CAP025BSP-M	1/4"
CAP037BSP-M	3/8"
CAP050BSP-M	1/2"
CAP075BSP-M	3/4"
CAP100BSP-M	1"

SUPPLIED WITH O-RING UNDER CAP



CAP CAP	THREAD SIZE 025	BRITISH STANDARD PIPE BSP	FEMALE FM
------------	--------------------	------------------------------	--------------

PART NUMBER	BSP THREAD
CAP025BSP-FM	1/4"
CAP037BSP-FM	3/8"
CAP050BSP-FM	1/2"
CAP075BSP-FM	3/4"
CAP100BSP-FM	1"

METRIC THREADED PROTECTION CAPS



CAP CAP	METRIC THREAD SIZE 20 X 1.5	MALE M
------------	--------------------------------	-----------

PART NUMBER	METRIC THREAD
CAP20 x 1.5-M	20 x 1.5
CAP22 x 1.5-M	22 x 1.5
CAP24 x 1.5-M	24 x 1.5
CAP26 x 1.5-M	26 x 1.5
CAP30 x 2.0-M	30 x 2.0



CAP CAP	METRIC THREAD SIZE 20 X 1.5	FEMALE FM
------------	--------------------------------	--------------

PART NUMBER	METRIC THREAD
CAP20 x 1.5-FM	20 x 1.5
CAP22 x 1.5-FM	22 x 1.5
CAP24 x 1.5-FM	24 x 1.5
CAP26 x 1.5-FM	26 x 1.5
CAP30 x 2.0-FM	30 x 2.0

BSP THREADED PROTECTION CAPS



CAP CAP	THREAD SIZE 025	BRITISH STANDARD PIPE BSP	MALE M	SCREW DRIVER SLOT SL	O RING SEAL OR
------------	--------------------	------------------------------	-----------	-------------------------	-------------------

PART NUMBER	BSP THREAD
CAP025BSP-M-SL-OR	1/4"
CAP037BSP-M-SL-OR	3/8"
CAP050BSP-M-SL-OR	1/2"
CAP075BSP-M-SL-OR	3/4"
CAP100BSP-M-SL-OR	1"
CAP125BSP-M-SL-OR	1 1/4"

SUPPLIED WITH O-RING UNDER CAP



CAP CAP	THREAD SIZE 025	NATIONAL PIPE TAPER NPT	MALE M
------------	--------------------	----------------------------	-----------

PART NUMBER	NPT THREAD
CAP025NPT-M	1/4"
CAP037NPT-M	3/8"
CAP050NPT-M	1/2"
CAP075NPT-M	3/4"

JIC THREAD PROTECTION CAPS



CAP
CAP

THREAD SIZE
043

JOINT INDUSTRY COUNCIL
JIC

MALE
M

PART
NUMBER

UNF
THREAD

CAP043JIC-M	7/16" x 20
CAP050JIC-M	1/2" x 20
CAP056JIC-M	9/16" x 18
CAP075JIC-M	3/4" x 16
CAP087JIC-M	7/8" x 14
CAP106JIC-M	1-1/16" x 12
CAP118JIC-M	1-3/16" x 12
CAP131JIC-M	1-5/16" x 12



CAP
CAP

THREAD SIZE
043

JOINT INDUSTRY COUNCIL
JIC

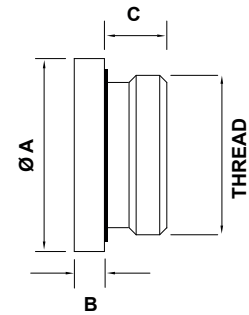
FEMALE
FM

PART
NUMBER

UNF
THREAD

CAP043JIC-FM	7/16" x 20
CAP050JIC-FM	1/2" x 20
CAP056JIC-FM	9/16" x 18
CAP075JIC-FM	3/4" x 16
CAP087JIC-FM	7/8" x 14
CAP106JIC-FM	1-1/16" x 12
CAP118JIC-FM	1-3/16" x 12
CAP131JIC-FM	1-5/16" x 12

SOCKET CAP HEAD BLANKING PLUG



WITH RUBBER WASHER

BLANKING PLUG
BPL

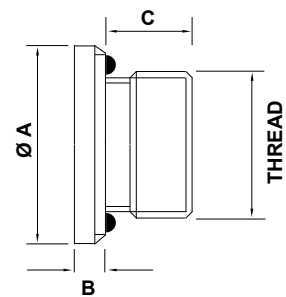
BSP THREAD
025

SOCKET CAP SCREW
SCS

PART NUMBER	ØA	B	C	BSP THREAD
BPL025-SCS	19	5	12	1/4"
BPL037-SCS	22	5	12	3/8"
BPL050-SCS	27	5	14	1/2"
BPL075-SCS	32	5	16	3/4"
BPL100-SCS	40	6.5	16	1"

PART NUMBER	ØA	B	C	METRIC THREAD
BPL12 x 1.5-SCS	17	5	12	12 x 1.5

MATERIAL : STEEL-9SMN28



WITH RUBBER O-RING

PART NUMBER	ØA	B	C	UNF THREAD
BPL075-16-SCS	22	3.5	11	3/4" x 16 SAE

PISTON COMPOSITE FITTING SLEEVE



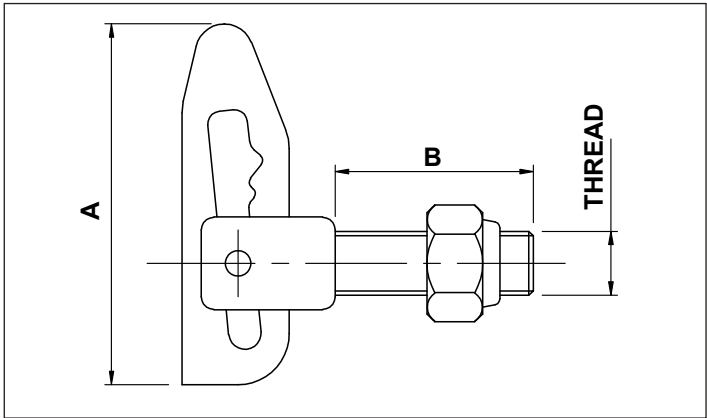
PISTON COMPOSITE FITTING SLEEVE
PCF

CYLINDER BORE
20

PART NUMBER	CYLINDER BORE SIZE (mm)	LENGTH OF SLEEVE (mm)
PCF 20	20	28
PCF 25	25	28
PCF 30	30	28
PCF 32	32	28
PCF 35	35	28
PCF 40	40	45
PCF 45	45	45
PCF 50	50	45
PCF 55	55	45
PCF 60	60	45
PCF 63	63	45
PCF 65	65	45
PCF 70	70	45
PCF 80	80	45
PCF 90	90	45
PCF 100	100	45
PCF 110	110	45
PCF 120	120	45
PCF 125	125	45
PCF 140	140	45
PCF 150	150	45
PCF 160	160	45
PCF 180	180	45
PCF 200	200	45
PCF 220	220	45
PCF 250	250	45

MATERIAL ; POLYACETAL

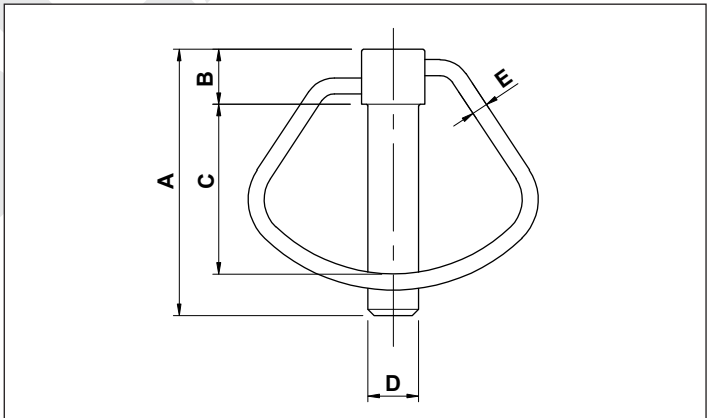
ANTILUCE FASTENER



ANTILUCE FASTENER
AF
THREAD (mm)
12

PART NUMBER	A	B	THREAD
AF12	70mm	39mm	12 x 1.5

LINCH PINS



LINCH PIN
LINCH PIN
SIZE
025

PART NUMBER	A	B	C	Ø D	E
LINCH PIN 025	54	7.5	36	6	3
LINCH PIN 031	56	10	40	8	3.5
LINCH PIN 043	58	12	37	11	3.5

PEG SPANNERS



PEG SPANNER PIN SIZE
PSPAN 3

PART NUMBER	PIN SIZE (mm)	LENGTH (mm)	JAW OPENING (mm)
PSPAN-3	3	145	11-60
PSPAN-3-SPARE PIN	3		
PSPAN-4	4	145	11-60
PSPAN-4-SPARE PIN	4		
PSPAN-6	6	195	14-100
PSPAN-6-SPARE PIN	6		
PSPAN-8	8	235	14-100
PSPAN-8-SPARE PIN	8		
PSPAN-10	10	235	22-125
PSPAN-10-SPARE PIN	10		

C SPANNERS



C SPANNERS PIN SIZE
CSPAN 3

PART NUMBER	PIN SIZE (mm)	LENGTH (mm)	JAW OPENING (mm)
CSPAN-3	3	145	15-35
CSPAN-3-SPARE PIN	3		
CSPAN-4	4	180	35-50
CSPAN-4-SPARE PIN	4		
CSPAN-5	5	240	50-80
CSPAN-5-SPARE PIN	5		
CSPAN-6	6	280	80-120
CSPAN-6-SPARE PIN	6		
CSPAN-8	8	390	120-180
CSPAN-8-SPARE PIN	8		

QUICK RELEASE COUPLINGS



QUICK RELEASE COUPLING QRC	SIZE AND THREAD 037 BSP	MALE MALE
-------------------------------	----------------------------	--------------

PART NUMBER	SIZE	DESCRIPTION	BSP THREAD
QRC037BSP-MALE	3/8"	ISO A MALE	3/8"
QRC037BSP-FEMALE	3/8"	ISO A FEMALE	3/8"
QRC050BSP-MALE	1/2"	ISO A MALE	1/2"
QRC050BSP-FEMALE	1/2"	ISO A FEMALE	1/2"

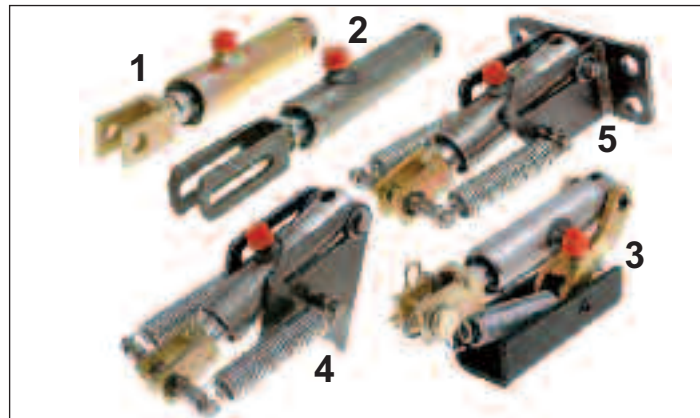
FLAT FACE COUPLINGS



FLAT FACE COUPLING FFC	SIZE AND THREAD 037 BSP	MALE MALE
---------------------------	----------------------------	--------------

PART NUMBER	SIZE	DESCRIPTION	BSP THREAD
FFC037BSP-MALE	3/8"	FLAT FACE MALE	3/8"
FFC037BSP-FEMALE	3/8"	FLAT FACE FEMALE	3/8"
FFC050BSP-MALE	1/2"	FLAT FACE MALE	1/2"
FFC050BSP-FEMALE	1/2"	FLAT FACE FEMALE	1/2"
FFC075BSP-MALE	3/4"	FLAT FACE MALE	3/4"
FFC075BSP-FEMALE	3/4"	FLAT FACE FEMALE	3/4"

TRAILER BRAKE RAMS



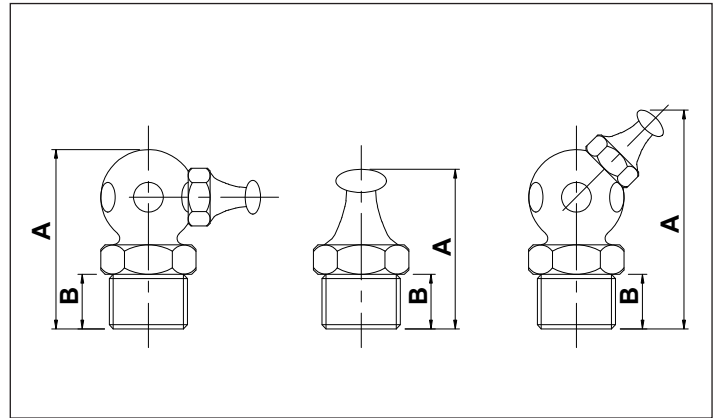
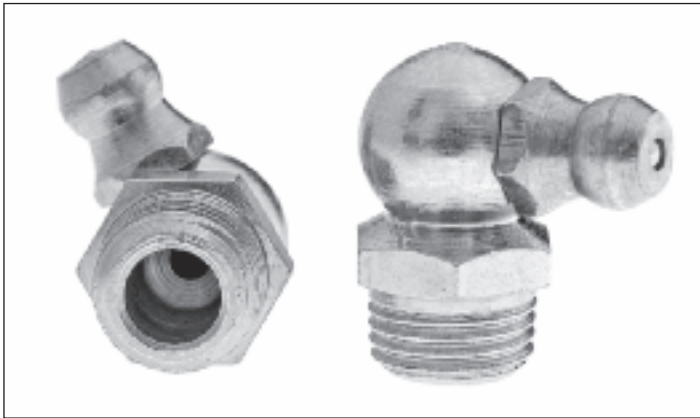
TRAILER BRAKE TB		ROD SIZE 20		DESCRIPTION SLOTTED			
NUMBER	PART NUMBER	CLOSED CENTRES	OPEN CENTRES	STROKE	ROD SIZE	BSP PORT	THRUST @ 100 BAR
1	TB20-STANDARD	252	327	75	20	3/8"	3,142N
1	TB25-STANDARD	252	327	75	25	3/8"	3,142N
2	TB20-SLOTTED	231	304	73	20	3/8"	3,142N
3	TB20-SQUARE AXLE	190	265	75	20	3/8"	3,142N
	TB20-SQUARE AXLE -CYL ONLY	190	265	75	20	3/8"	3,142N
4	TB25-ROUND AXLE	190	265	75	25	3/8"	4,909N
	TB25-ROUND AXLE-CYL ONLY	190	265	75	25	3/8"	4,909N
5	TB25-AIR-TO-HYDRAULIC	190	265	75	25	3/8"	4,909N

TRAILER BRAKE FEMALES



TRAILER BRAKE COUPLING TBC		SIZE AND THREAD 037 BSP		FEMALE FEMALE	
PART NUMBER	SIZE	DESCRIPTION		BSP THREAD	
TBC037BSP-FEMALE	3/8"	TRAILER BRAKE FEMALE		3/8"	

GREASE NIPPLES



GREASE NIPPLE
GN

SIZE
012

THREAD
BSP

PART NUMBER	A	B	BSP THREAD
-------------	---	---	------------

GN012BSP	15	5.5	1/8"
GN012BSP-45	25	5.5	1/8"
GN012BSP-90	20	5.5	1/8"
GN025BSP	17.5	6.5	1/4"
GN025BSP-45	24	5.5	1/4"
GN025BSP-90	19	5.5	1/4"

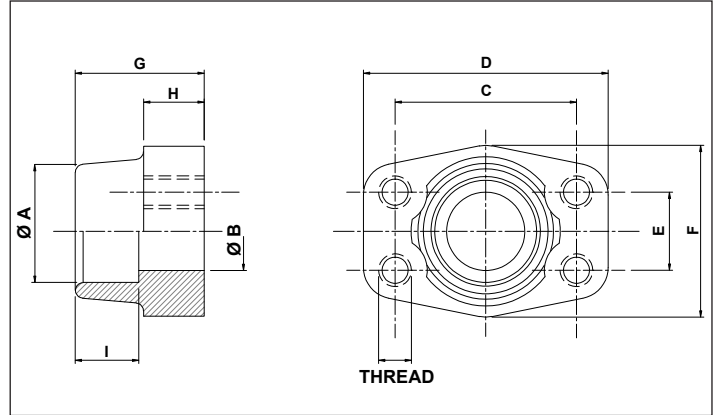
PART NUMBER	A	B	UNF THREAD
-------------	---	---	------------

GN025UNF	15	5.5	1/4"
----------	----	-----	------

PART NUMBER	A	B	METRIC THREAD
-------------	---	---	---------------

GN6 x 1	15	5.5	6 x 1
GN6 x 1-45	23	5.5	6 x 1
GN6 x 1-90	18	5.5	6 x 1
GN8 x 1	15	5.5	8 x 1
GN8 x 1-45	22	5.5	8 x 1
GN8 x 1-90	18	5.5	8 x 1
GN8 x 1.25	15	5.5	8 x 1.25
GN10 x 1	15	5.5	10 x 1
GN10 x 1-45	23	5.5	10 x 1
GN10 x 1-90	20	5.5	10 x 1

WELDABLE FLANGE ADAPTERS



FLANGE ADAPTER FLA	SIZE 050	PRESSURE RATING (PSI) 3000	FEMALE FM	SOCKET WELD ADAPTER SWA
-----------------------	-------------	-------------------------------	--------------	----------------------------

PART NUMBER	SIZE	Ø A	Ø B	C	D	E	F	G	H	I	THREAD
FLA050-3000-FM-SWA	1/2"	21.6	13	38.1	54	17.48	46	36	16	19	M8
FLA075-3000-FM-SWA	3/4"	27.2	19	47.63	65	22.23	50	36	18	19	M10
FLA100-3000-FM-SWA	1"	34	25	52.37	70	26.19	55	38	18	19	M10
FLA125-3000-FM-SWA	1.1/4"	42.8	32	58.72	79	30.18	68	41	21	22	M10
FLA150-3000-FM-SWA	1.1/2"	48.6	38	69.85	93	35.71	78	45	25	24	M12
FLA200-3000-FM-SWA	2"	61	51	77.77	102	42.8	90	45	25	26	M12
FLA250-3000-FM-SWA	2.1/2"	76.6	63	88.9	114	50.8	105	50	25	30	M12

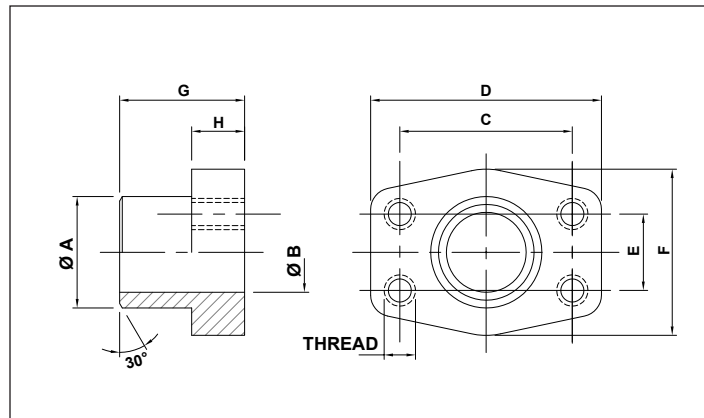
MATERIAL : STEEL-S355JO

FLANGE ADAPTER FLA	SIZE 050	PRESSURE RATING (PSI) 6000	FEMALE FM	SOCKET WELD ADAPTER SWA
-----------------------	-------------	-------------------------------	--------------	----------------------------

PART NUMBER	SIZE	Ø A	Ø B	C	D	E	F	G	H	I	THREAD
FLA050-6000-FM-SWA	1/2"	21.6	13	40.49	54	18.24	46	36	16	19	M8
FLA075-6000-FM-SWA	3/4"	27.2	19	50.8	71	23.8	55	35	21	22	M10
FLA100-6000-FM-SWA	1"	34	25	57.15	81	27.76	65	42	25	22	M12
FLA125-6000-FM-SWA	1.1/4"	42.8	32	66.68	95	31.75	78	45	27	25	M14
FLA150-6000-FM-SWA	1.1/2"	48.6	38	79.38	112	36.5	94	50	30	28	M16
FLA200-6000-FM-SWA	2"	61	51	96.82	134	44.45	114	65	37	24	M20

MATERIAL : STEEL-S355JO

WELDABLE FLANGE ADAPTERS



FLANGE ADAPTER FLA	SIZE 050	PRESSURE RATING (PSI) 3000	MALE M	BUTT WELD WELD
-----------------------	-------------	-------------------------------	-----------	-------------------

PART NUMBER	SIZE	Ø A	Ø B	C	D	E	F	G	H	THREAD
FLA050-3000-M-WELD	1/2"	21	13	38.1	54	17.48	46	36	16	M8
FLA075-3000-M-WELD	3/4"	28	19	47.63	65	22.23	50	36	18	M10
FLA100-3000-M-WELD	1"	34	25	52.37	70	26.19	55	38	18	M10
FLA125-3000-M-WELD	1.1/4"	42.8	32	58.72	79	30.18	68	41	21	M10
FLA150-3000-M-WELD	1.1/2"	48.6	38	69.85	93	35.71	78	45	25	M12
FLA200-3000-M-WELD	2"	61	51	77.77	102	42.8	90	45	25	M12
FLA250-3000-M-WELD	2.1/2"	77	63	88.9	114	50.8	105	50	25	M12

MATERIAL : STEEL-S355JO

FLANGE ADAPTER FLA	SIZE 050	PRESSURE RATING (PSI) 6000	MALE M	BUTT WELD WELD
-----------------------	-------------	-------------------------------	-----------	-------------------

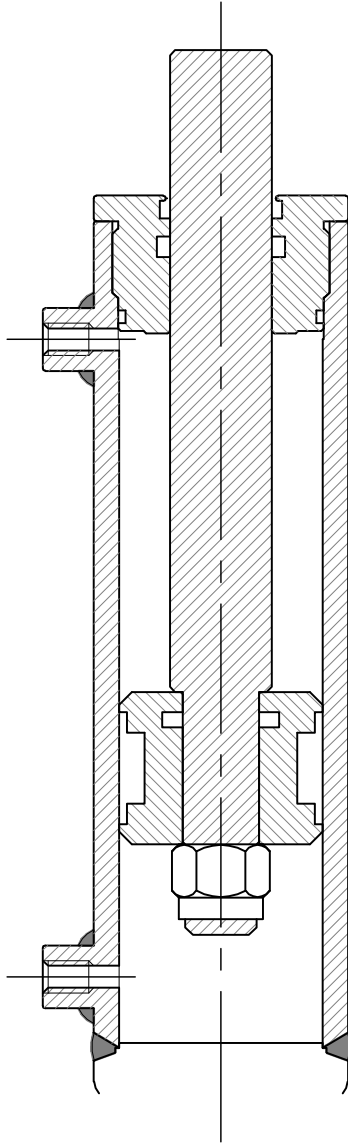
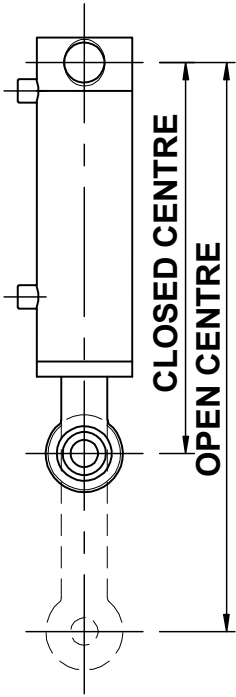
PART NUMBER	SIZE	Ø A	Ø B	C	D	E	F	G	H	THREAD
FLA050-6000-M-WELD	1/2"	21.5	13	40.49	54	18.24	46	36	16	M8
FLA075-6000-M-WELD	3/4"	28	19	50.8	71	23.8	55	35	21	M10
FLA100-6000-M-WELD	1"	34	25	57.15	79	27.76	68	41	21	M12
FLA125-6000-M-WELD	1.1/4"	42.8	32	66.68	93	31.75	78	44	25	M14
FLA150-6000-M-WELD	1.1/2"	48.6	38	79.38	112	36.5	94	55	30	M16
FLA200-6000-M-WELD	2"	61	51	96.82	134	44.45	114	65	37	M20

MATERIAL : STEEL-S355JO

ENQUIRY FORM

COMPANY NAME:.....

CLOSED CENTRES		<u>PIN SIZE</u>	
		ROD EYE, TYPE	
OPEN CENTRES			
		DA/SA - BORE - ANNULAR	
STROKE			
		PORTINGS	
ROD SIZE			
		QUANTITY	
CYLINDER BORE SIZE			
		SIGNATURE	
<u>PIN SIZE</u>			
CYLINDER EYE TYPE			



APPLICATION FOR A CREDIT ACCOUNT

1. Contact Details

Company Name: Date:

Delivery Address: Invoice Address (if different)

.....

.....

.....

Post Code.....

Tel:..... Fax:

Please note: a monthly account statement will be automatically faxed to the above fax number,
if you would prefer the statement to be posted please tick here

Purchasing E-Mail Address:

Purchasers Name:

Registration No.(Ltd Co. Only):

(If Solely Owned, please supply name and home address of owner.
If Partnership, please supply names and home addresses of all partners.)

2. Business type: End-User Repairer Plant Distributor OEM (please circle one)

3. Preferred Despatch Method: FCP RMSD Collect Carrier Other (please circle one)

4. Trade Ref. 1:

E-mail Address: Fax No.:

5. Trade Ref. 2:

E-mail Address: Fax No.:

6. Applicant's Name:

Please submit the completed form to Head Office. Referee's phone numbers are essential.

Please Fax back to: 01325 381815

AC007LH-MPCAT

TERMS OF BUSINESS

1. All quotations are given and all orders are accepted by FPE Seals Limited (co. number 3725829) ("FPE Seals") subject to these Terms and all orders hereafter placed by the Customer shall be subject to these Terms and which together with the terms agreed by FPE Seals by telephone with or confirmed by FPE Seals by fax to the Customer constitute the entire agreement between the parties relating to its subject matter and (except to the extent repeated in these Terms) supersede and extinguish any prior agreement, understanding or representation (excluding a fraudulent representation), any terms, descriptions or illustrations contained in FPE Seals brochure, catalogues, price lists or elsewhere and any terms stipulated or referred to by the Customer and any course of dealing established between the parties.
2. A quotation shall be deemed withdrawn 28 days after its date unless the parties enter into a contract for the sale and purchase of the relevant products. FPE Seals may correct any clerical errors made in quotations or estimates given.
3. The price is ex works and (except where the Customer collects the products) a despatch charge will be made. All sums payable by the Customer are exclusive of VAT and FPE Seals also reserves the right to charge for any special tooling used to produce any of the products (quoted separately).
4. FPE Seals invoices are payable in full by the end of the month after the month of invoice for a 30 day account and if the Customer fails to make payment in full of what is due from it to FPE Seals under any other contract entered into with FPE Seals within seven days of the due date for payment FPE Seals shall not be bound to give up possession of the products and/or (without incurring any liability therefor) may suspend performance of any other of its then outstanding contractual obligations to the Customer until it receives payment in full.
5. The date for despatch or collection of the products is an estimate only and time shall not be of the essence. If FPE Seals is late in despatch or having ready for collection any of the products the Customer may by notice therefor cancel the order in respect of those products but FPE Seals shall in no circumstances be liable to compensate the Customer in damages or otherwise for non- or late despatch or readiness for collection of any of the products for whatever reason. FPE Seals also reserves the right to deliver plus or minus 10 per cent of the order quantity.
6. Where the Customer is responsible for collecting the products it shall do so from the works of FPE Seals within seven days of receipt of notice from FPE Seals that they are ready for collection.
7. Risk of loss of or damage to the products shall pass to the Customer on (as the case may be) despatch or FPE Seals notifying the Customer that the products are ready for collection.
8. Until payment in full has been received by FPE Seals for the products and for all other products previously supplied by FPE Seals to the Customer, FPE Seals shall remain the sole and absolute legal and beneficial owner of the products and the Customer shall hold them in law and in equity as agent and bailee for FPE Seal. Without prejudice to any other right or remedy of FPE Seal, if the Customer defaults in the punctual payment of any sum owing to FPE Seals (whether hereunder or under any other contract entered into with FPE Seal) then FPE Seals shall be entitled to the immediate return of the products and all other products supplied by FPE Seal, in each case where the property thereto has not passed to the Customer, and the Customer authorises FPE Seal, its employees or agents to recover such products and to enter the works of the Customer for that purpose.
9. The Customer shall inspect the products immediately on taking possession of them and may within seven days from doing so give notice and provide evidence satisfactory to FPE Seals of any matter or thing by reason whereof the Customer alleges that the products are not in accordance with the order. In the case of shortages of delivery, FPE Seals may at its absolute discretion make a further delivery to make up for such shortages or give the Customer a credit note in respect thereof.
10. FPE Seals warrants that the products will comply with any description given to them and shall remedy any breach of such warranty by replacing the relevant products as soon as reasonably possible after being given notice of such breach by the Customer under paragraph 9 above. FPE Seals also shall (subject to receipt of the Customer's request therefor) use all reasonable endeavours to procure for the Customer the benefit of any written warranties (including any certificate of conformity) given to it in relation to the products.
11. SUBJECT TO PARAGRAPH 10 AND TO THE FULLEST EXTENT PERMITTED BY LAW, ALL WARRANTIES, REPRESENTATIONS, TERMS AND UNDERTAKINGS, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, WHETHER AS TO FITNESS FOR PURPOSE, BEING OF SATISFACTORY QUALITY, COMPLIANCE WITH SAMPLE, SUITABILITY OF PACKAGING OR OTHERWISE HOWSOEVER IN RESPECT OF THE PRODUCTS ARE HEREBY EXCLUDED.
12. This paragraph 12 sets out FPE Seals entire liability (including liability for the acts and omissions of its employees, agents and sub contractors) to the Customer in respect of any breach of its obligations under or in connection with the order or any representation (unless fraudulent) statement, act or omission (including without limitation negligence) of FPE Seals arising under or in connection with the order (together an "Event of Default"). FPE Seals liability to the Customer for death or personal injury resulting from its own or that of its employees, agents or sub contractors' negligence shall not be limited. Subject to this, FPE Seals entire liability in respect of any other Event of Default shall be limited to the price of the products which are the subject of the Event of Default and FPE Seals shall not be liable for loss of profits, goodwill or any type of special, indirect or consequential loss.
13. Any sum payable by the Customer which is not paid on the due date shall bear interest (as well before as after any judgement therefor) at the rate of two per cent per annum above the base rate from time to time of Barclays Bank PLC for the period from and excluding such date up to and including the date of payment in full.
14. The Customer may not assign (either at law or in equity) any right or benefit under the order. There shall be no waiver of any term of the order by FPE Seals unless such waiver is evidenced in writing and signed by it.
15. If at any time any one or more of the provisions hereof is or becomes invalid, illegal or unenforceable in any respect under any law the validity, legality and enforceability of the remaining provisions shall not be in any way affected or impaired thereby.
16. The order shall be governed by and construed in accordance with English Law to whose non exclusive jurisdiction the parties hereby submit.
17. Notwithstanding any other provision hereof, nothing herein contained shall or shall be deemed either to affect the statutory rights of a consumer pursuant to a consumer transaction or to exclude or restrict any liability which FPE Seals may have by virtue of the Consumer Protection Act 1987.

NOTES

FPE SEALS

NOTES

A series of horizontal dotted lines for taking notes.



FPE Seals Ltd Darlington
T: 01325 282732 | F: 01325 381815
E: sales@fpeseals.co.uk

FPE Seals Ltd Medway
T: 01634 724394 | F: 01634 71582
E: kent@fpeseals.co.uk

FPE Seals Ltd Doncaster
T: 01302 727252 | F: 01302 330794
E: doncaster@fpeseals.co.uk

FPE Seals B.V. Breda
T: +31(0)162 581 060 | F: +31(0)162 522 858
E: info@fpesealsbv.com