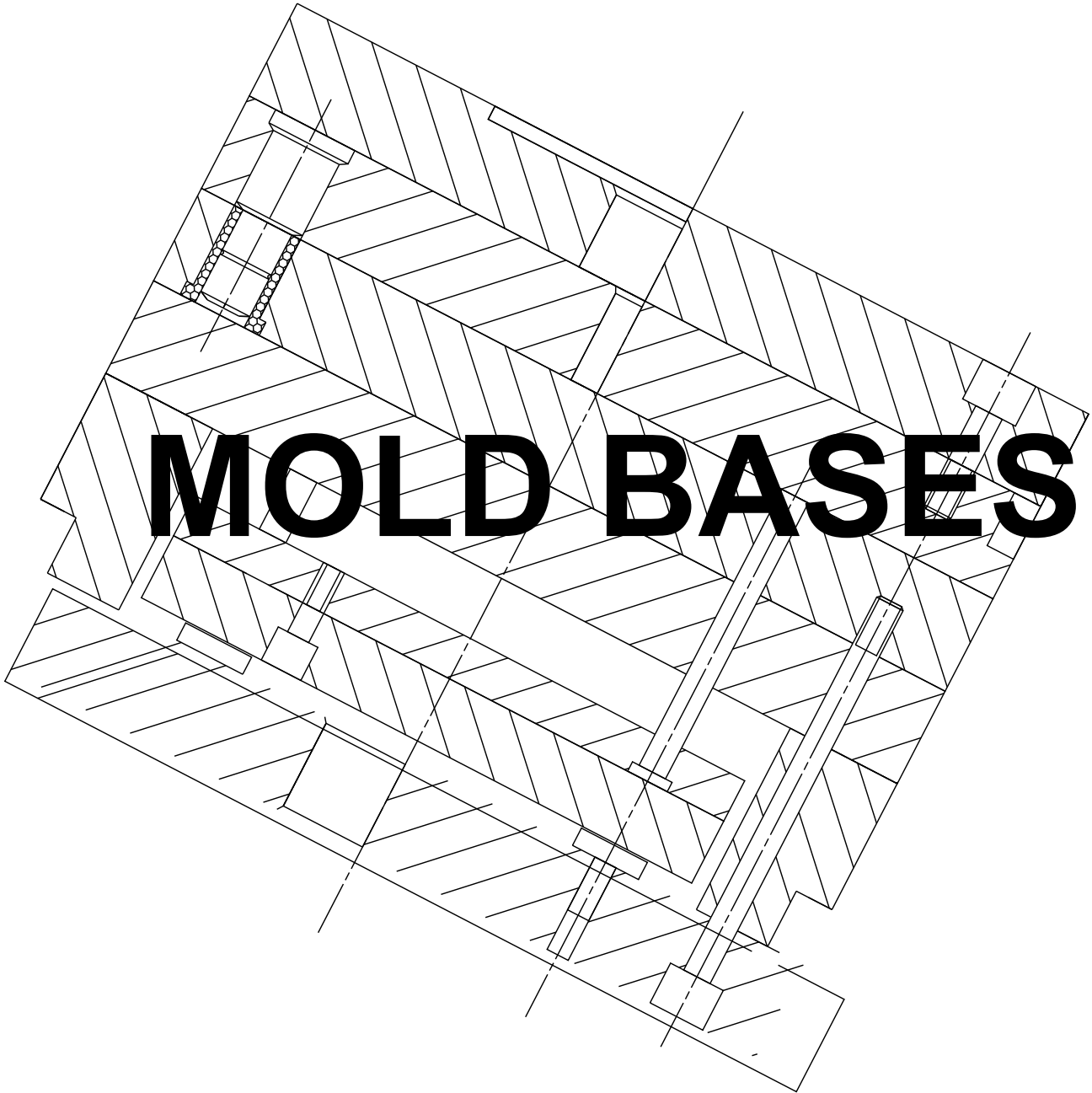




TORBELAR
MOLDBASES

M O L D B A S E S
S E T D I E S
C O M P O N E N T S



Standard Mold Bases



Torbelar Molbases are delivered in fully assembled and include bushings, lead pins, screws, stop pins and return pins. They can be handed in un assembled by request. Components are produced according to ISO 9001 regulations version 2000.

The perfect centering of bushings and leader pins holes with respect to any of the working sides plates, allow machining to be started from any position.

Plates being totally interchangeable, give our costumers the possibility of purchasing diferent standard plates and putting together their own mold base.

For custom order see page 24

Tolerances:

Center between pins : ± 0.01 mm.

Flatness: 0.005 mm cada 100 mm.

Squared: 0.01 mm cada 100 mm.

Distance between pins holes: ± 0.005 mm.

Table of standard sizes (inches)

A	6.14	7.71	9.68	11.65	13.62	15.59	17.55	19.52	21.49	23.46
6.14	●	●	●							
7.71		●	●	●	●					
9.68			●	●	●	●				
11.65				●	●	●	●			
13.62					●	●	●	●		
15.59						●	●	●	●	
17.55							●	●	●	●



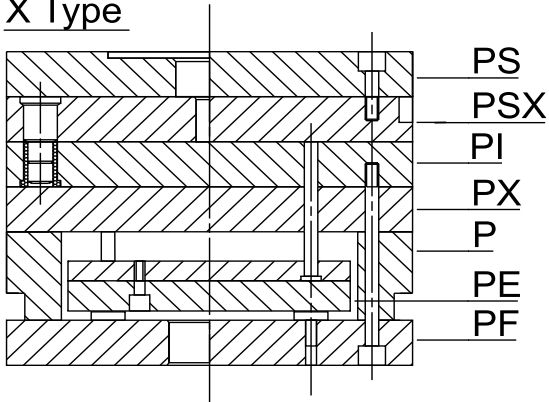
Ejection stroke and maximum useful



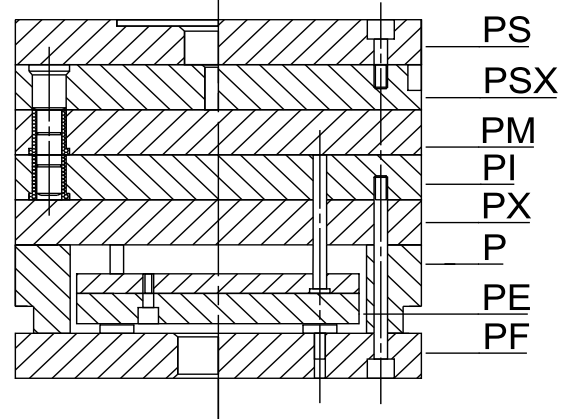
Series	Length	Parallels	Ejection	Useful surface	Series	Length	Parallels	Ejection	Useful surface	
156	156	57	22	96x156	346	346	77	34	246x346	
		77	42				97	54		
	196	57	22	96x196			117	74		
		77	42				396	77		34
	246	57	22	96x246				97		54
		77	42				117	74		
196	196	57	22	116x196		396	446	77	34	246x446
		77	42					97	54	
	246	57	22	116x246			117	74		
		77	42				496	77	34	246x496
	296	57	22	116x296				97	54	
		77	42				117	74		
346	57	22	116x346	396	396	77	34	296x396		
	77	42				97	54			
246	246	57	22		156x246	396	446	117	74	296x446
		77	42					77	34	
	296	57	22		156x296		97	54		
		77	42				496	117	74	296x496
	346	57	22	156x346	77			34		
		77	42		97		54			
396	57	22	156x396	117	74	546	77	34	296x546	
	77	42		97	54					
296	296	57	22	196x296	446	446	97	49	346x446	
		77	42				117	69		
		97	62				147	99		
	346	57	22	196x346		496	97	49	346x496	
		77	42				117	69		
		97	62				147	99		
	396	57	22	196x396		546	97	49	346x546	
		77	42				117	69		
		97	62				147	99		
	446	57	22	196x446		596	97	49	346x596	
		77	42				117	69		
		97	62				147	99		

Plates combinations

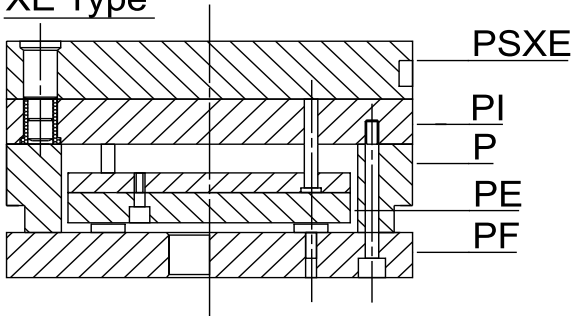
X Type



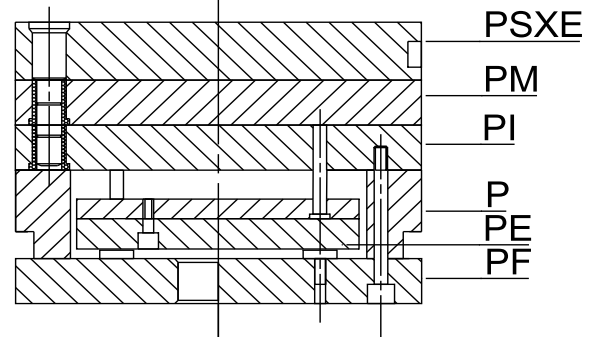
X+M Type



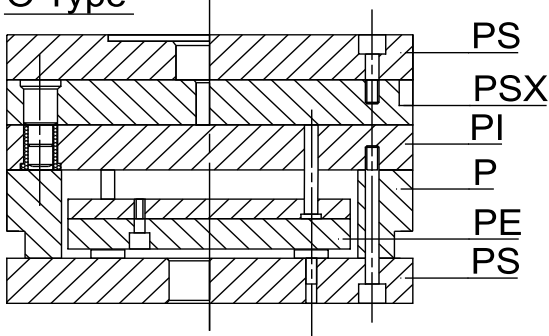
XE Type



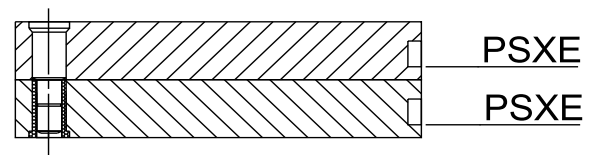
XE+M Type



O Type



XP Type

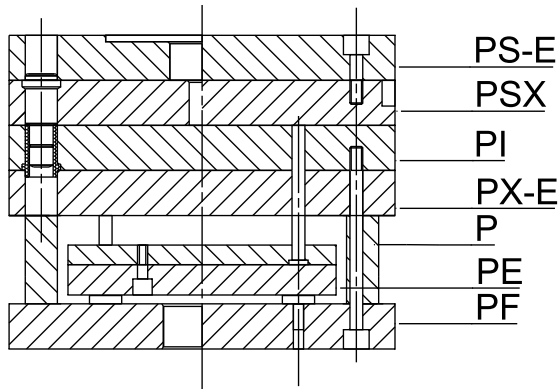


S Types (types X-S y XM-S)

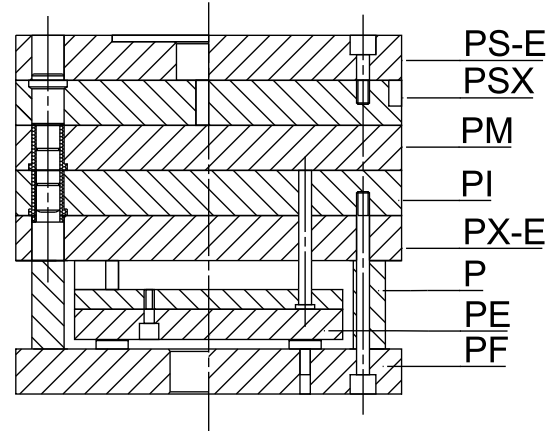


The S-Type are assembled and include bushings Type EBU-1S & pins ECO-1S for for a perfect center plates.

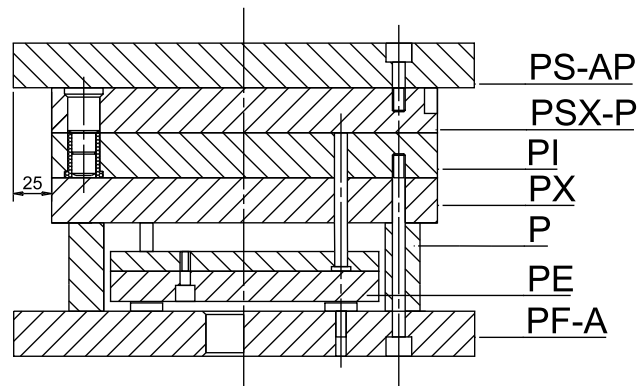
X-S Type



XM-S Type

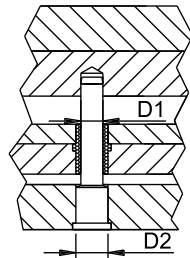


X Type with ears

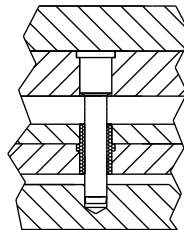


Types of guides

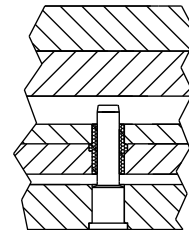
XF Type



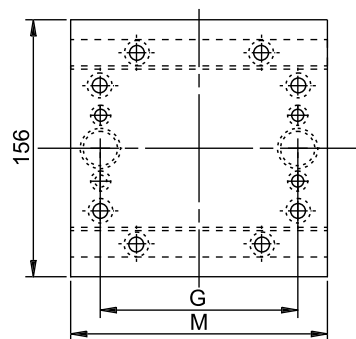
XG Type



ST Type

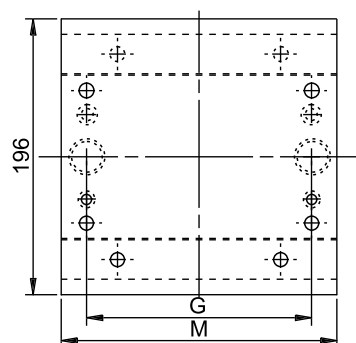


Serie 156



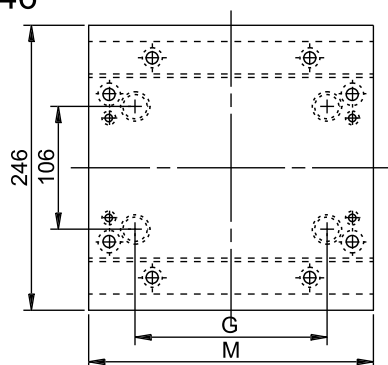
L X M	G	D 1	D 2
156 x 156	120	16	22
156 x 196	160	16	22
156 x 246	210	16	22

Serie 196



L X M	G	D 1	D 2
196 x 196	160	16	22
196 x 246	210	16	22
196 x 296	260	16	22
196 x 346	310	16	22

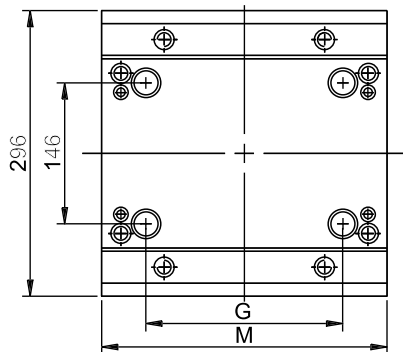
Serie 246



L X M	G	D 1	D 2
246 x 246	166	16	22
246 x 296	216	16	22
246 x 346	266	16	22
246 x 396	316	16	22

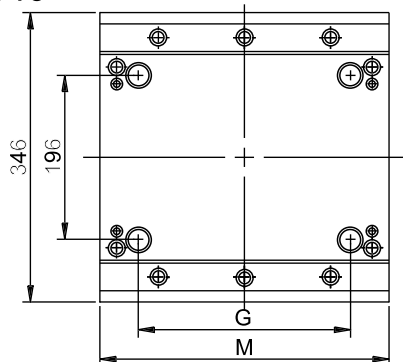
Type of guides

Serie 296



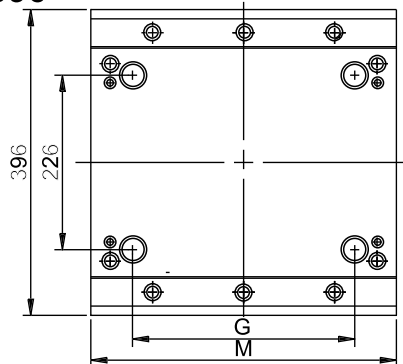
L X M	G	D 1	D 2
296 x 296	204	20	28
296 x 346	254	20	28
296 x 396	304	20	28
296 x 446	354	20	28

Serie 346



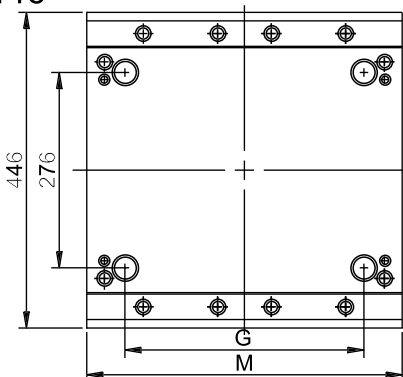
L X M	G	D 1	D 2
346 x 346	254	20	28
346 x 396	304	20	28
346 x 446	354	20	28
346 x 496	404	20	28

Serie 396



L X M	G	D 1	D 2
396 x 396	288	25	34
396 x 446	338	25	34
396 x 496	388	25	34
396 x 546	438	25	34

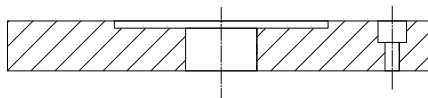
Serie 446



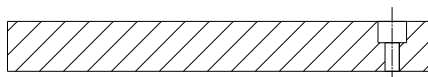
L X M	G	D 1	D 2
446 x 446	338	25	34
446 x 496	388	25	34
446 x 546	438	25	34
446 x 596	488	25	34

Interchangeable plates denomination

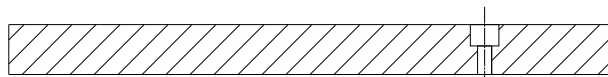
PS



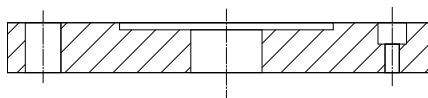
PS-P



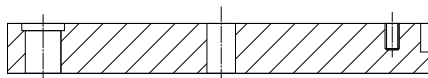
PS-AP



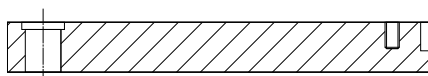
PS-E



PSX



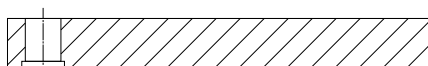
PSX-P



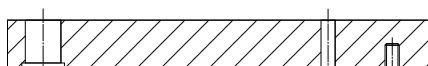
PSXE



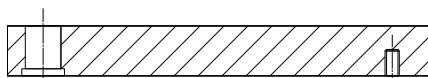
PM



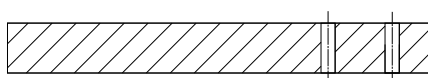
PI



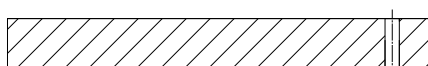
PI-P



PX



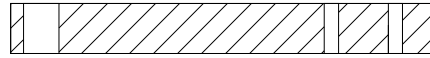
PX-P



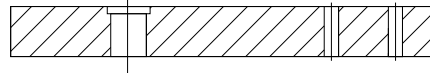
Interchangeable plates denomination



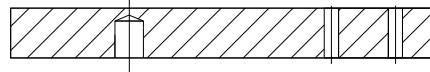
PX-E



PX-G



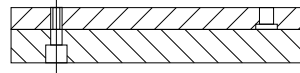
PX-C



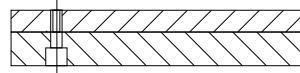
P



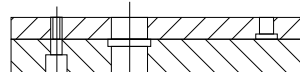
PE



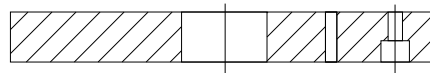
PE-P



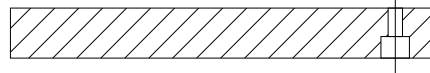
PE-G



PF



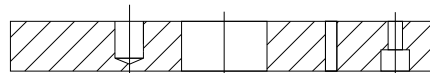
PF-P



PF-A



PF-C



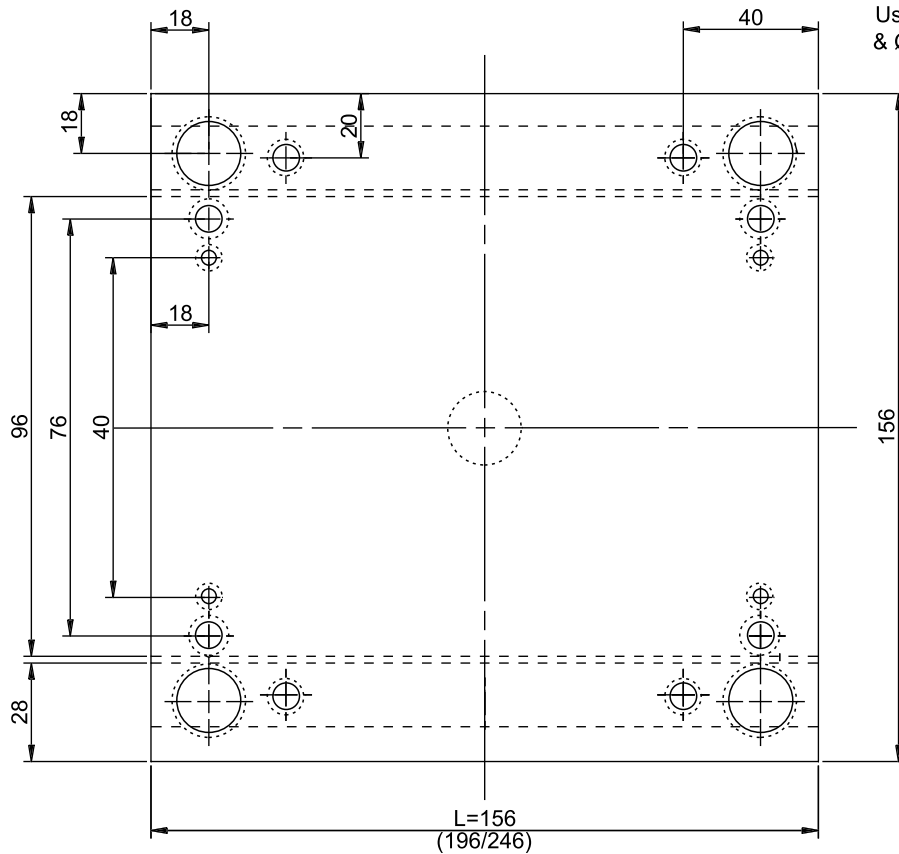
PF-G



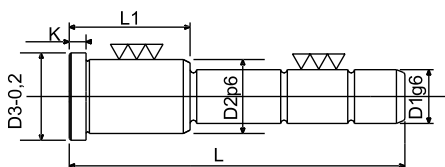
Series 156



In this series we
Use M10 screws
& Ø 10 ejectors

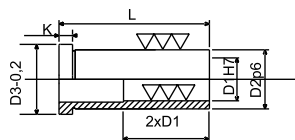


Pins CO-1



D1	D2	D3	K	L1	L											
					40	45	50	60	70	80	90	100	120	140	160	
				22	●	●	●	●	●	●						
				26		●	●		●	●	●	●				
16	22	26	5	36			●	●	●	●	●	●	●			
				46				●	●	●	●	●	●	●		
				56					●	●	●	●	●	●		
				66								●	●	●	●	

Bushings BU-1



D1	D2	D3	K	L					
				22	26	36	46	56	66
16	22	26	5	●	●	●	●	●	●



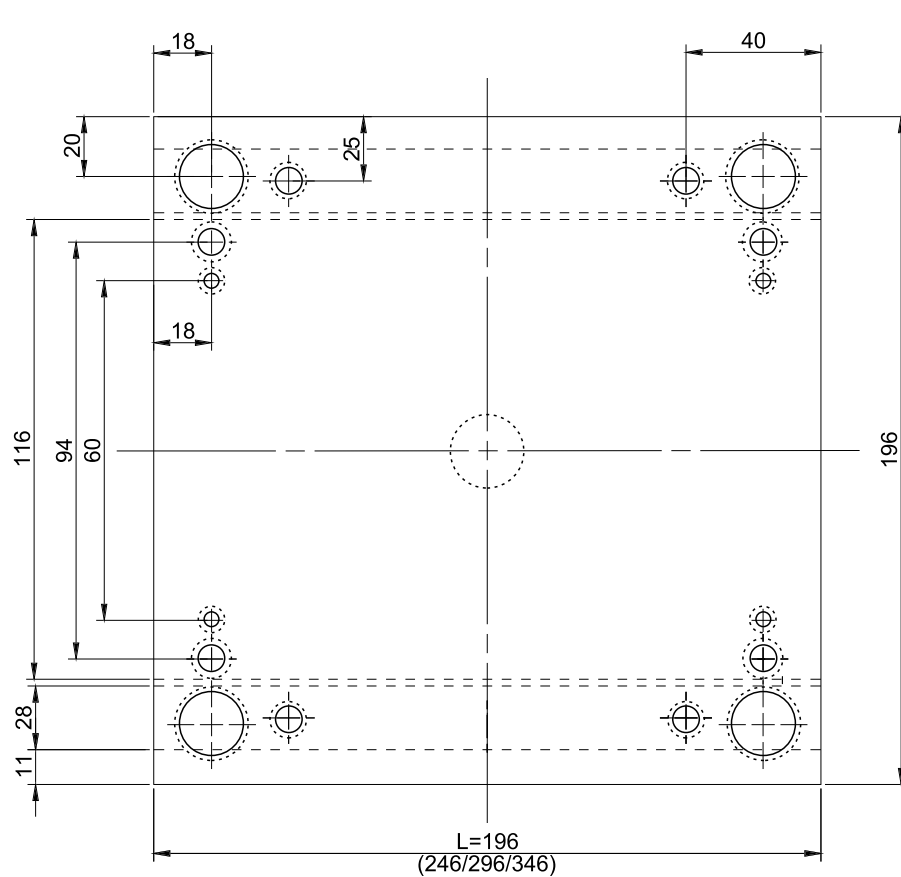
Series 156



PS			<table border="1"> <thead> <tr> <th>L \ S</th> <th>22</th> <th>26</th> <th>36</th> <th>46</th> <th>56</th> <th>66</th> <th>76</th> </tr> </thead> <tbody> <tr> <td>156</td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>196</td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>246</td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	L \ S	22	26	36	46	56	66	76	156	●							196	●							246	●						
L \ S	22	26	36	46	56	66	76																												
156	●																																		
196	●																																		
246	●																																		
PSE-P			<table border="1"> <thead> <tr> <th>L \ S</th> <th>22</th> <th>26</th> <th>36</th> <th>46</th> <th>56</th> <th>66</th> <th>76</th> </tr> </thead> <tbody> <tr> <td>156</td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>196</td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>246</td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	L \ S	22	26	36	46	56	66	76	156	●							196	●							246	●						
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196	●	●	●																																
246	●	●	●																																
PSXE			<table border="1"> <thead> <tr> <th>L \ S</th> <th>22</th> <th>26</th> <th>36</th> <th>46</th> <th>56</th> <th>66</th> <th>76</th> </tr> </thead> <tbody> <tr> <td>156</td> <td></td> <td></td> <td></td> <td>●</td> <td>●</td> <td>●</td> <td></td> </tr> <tr> <td>196</td> <td></td> <td></td> <td></td> <td>●</td> <td>●</td> <td>●</td> <td></td> </tr> <tr> <td>246</td> <td></td> <td></td> <td></td> <td>●</td> <td>●</td> <td>●</td> <td></td> </tr> </tbody> </table>	L \ S	22	26	36	46	56	66	76	156				●	●	●		196				●	●	●		246				●	●	●	
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196				●	●	●																													
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156	●	●	●																																
196	●	●	●																																
246	●	●	●																																
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156	●	●	●	●	●	●																													
196	●	●	●	●	●	●																													
246	●	●	●	●	●	●																													
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196		●																																	
246		●																																	
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P			<table border="1"> <thead> <tr> <th>L \ S</th> <th>57</th> <th>77</th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>156</td> <td>●</td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>196</td> <td>●</td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>246</td> <td>●</td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	L \ S	57	77						156	●	●						196	●	●						246	●	●					
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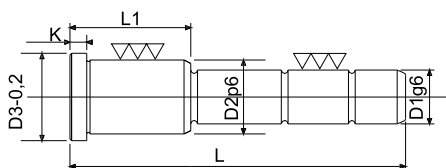


Series 196



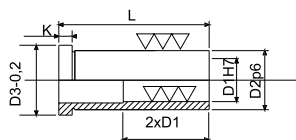
In this series we
Use M10 screws
& Ø10 ejectors

Pins CO-1



D1	D2	D3	K	L1	L											
					45	50	60	70	80	90	100	120	140	160	180	
				22	●	●	●	●	●							
				26	●	●		●	●	●	●					
				36			●	●	●	●	●	●				
16	22	26	5	46				●	●	●	●	●	●			
				56					●	●	●	●	●			
				66								●	●	●		
				76									●	●	●	●

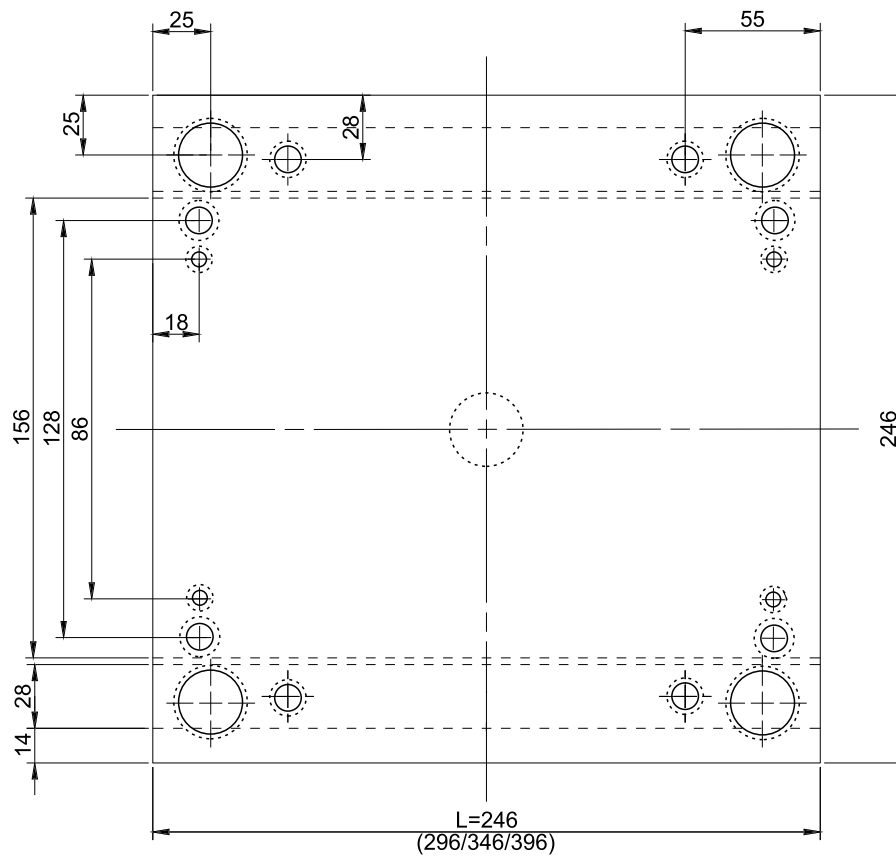
Bushings BU-1



D1	D2	D3	K	L						
				22	26	36	46	56	66	76
16	22	26	5	●	●	●	●	●	●	●

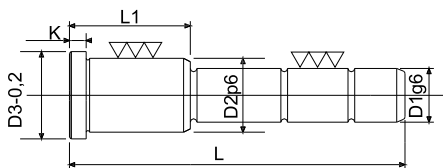


Series 246



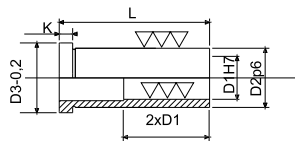
In this series we
Use M14 screws
& Ø 14 ejectors

Pins CO-1



D1	D2	D3	K	L1	L											
					50	60	70	80	90	100	120	140	160	180	200	
				26	●	●	●	●	●	●	●	●				
				36		●										
20	28	32	6	46			●	●	●	●	●	●	●	●		
				56				●	●	●	●	●	●	●	●	●
				66						●	●	●	●	●	●	●
				76							●	●	●	●	●	●

Bushings BU-1



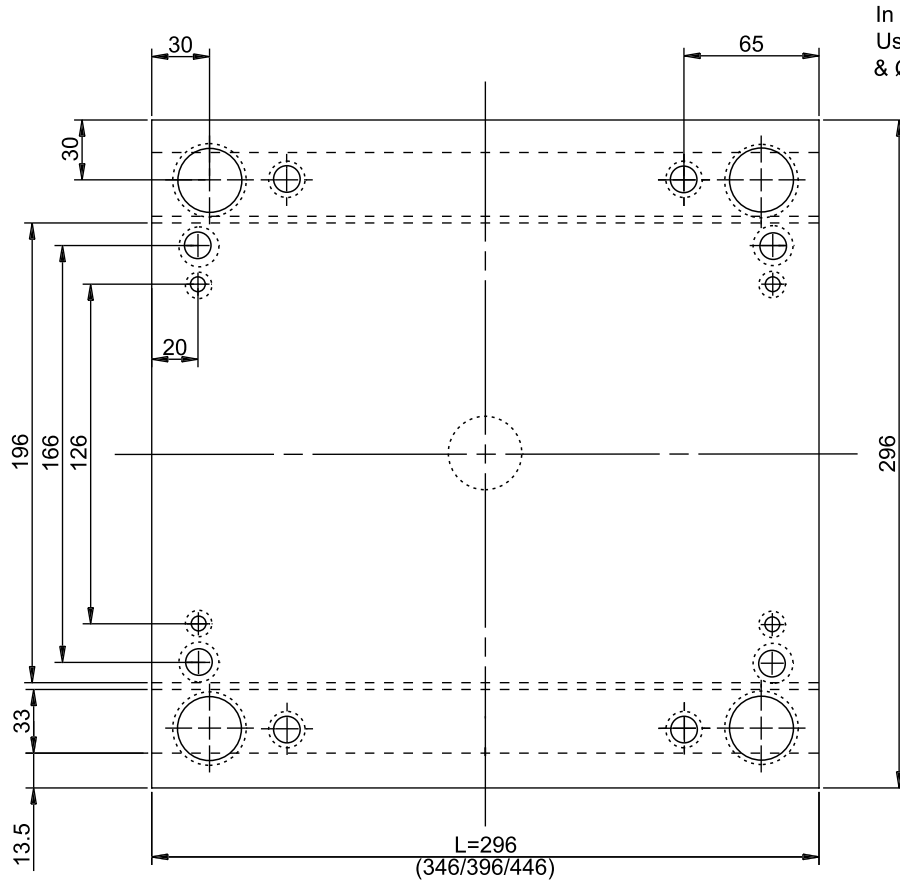
D1	D2	D3	K	L						
				26	36	46	56	66	76	96
20	28	32	6	●	●	●	●	●	●	



Series 246

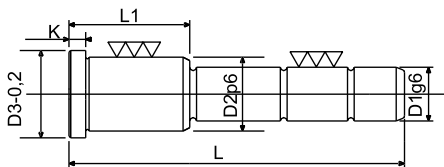
PS 		<table border="1"> <tr><td>L</td><td>S</td><td>22</td><td>26</td><td>36</td><td>46</td><td>56</td><td>66</td><td>76</td></tr> <tr><td>246</td><td></td><td></td><td>●</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>296</td><td></td><td></td><td>●</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>346</td><td></td><td></td><td>●</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>396</td><td></td><td></td><td>●</td><td></td><td></td><td></td><td></td><td></td></tr> </table>	L	S	22	26	36	46	56	66	76	246			●						296			●						346			●						396			●					
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L	S	22	26	36	46	56	66	76																																							
246			●	●	●	●	●	●																																							
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Serie 296



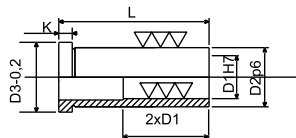
In this series we
Use M14 screws
& Ø 14 ejectors

Pins CO-1



		L															
D1	D2	D3	K	L1	70	80	90	100	120	140	160	180	200	220	240	260	280
				26		●	●	●									
				36	●	●	●	●	●	●	●	●					
				46		●	●	●	●	●	●	●	●				
25	34	38	7	56			●	●	●	●	●	●	●	●			
				66				●	●	●	●	●	●	●	●		
				76					●	●	●	●	●	●	●	●	
				86						●	●	●	●	●	●	●	●
				96					●	●	●	●	●	●	●	●	●

Bushings BU-1



				L						
D1	D2	D3	K	26	36	46	56	66	76	96
25	34	38	7	●	●	●	●	●	●	●



Series 296



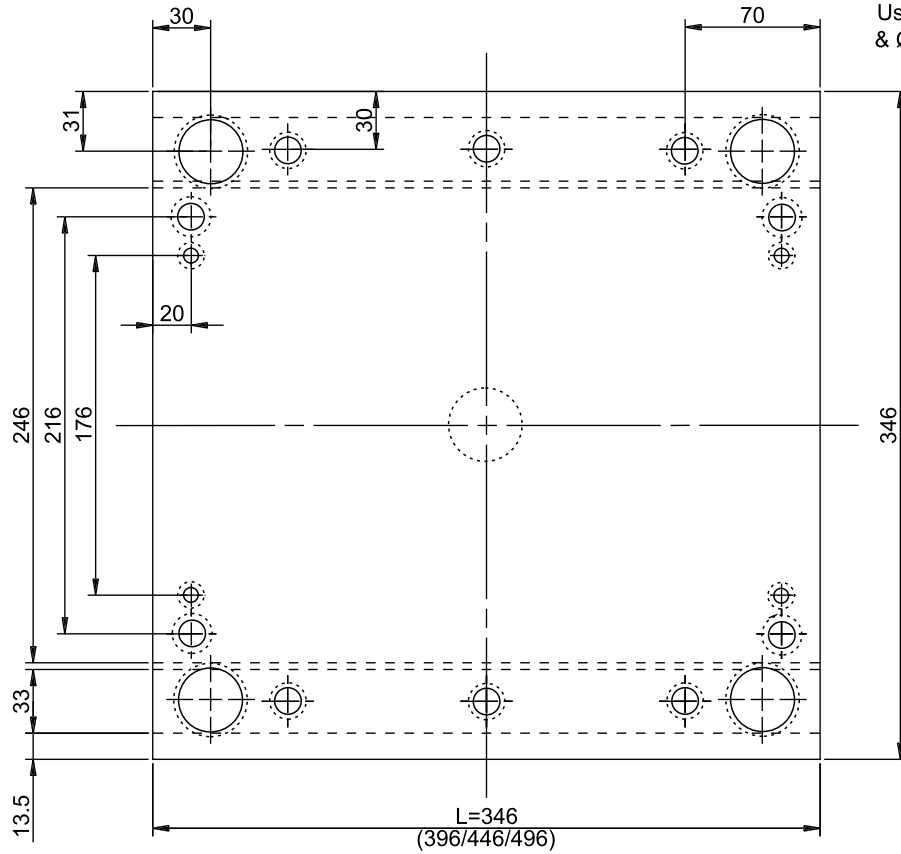
PS			L \ S	22	26	36	46	56	66	76
			296		●					
			346		●					
			396		●					
			446		●					
PSE-P			L \ S	22	26	36	46	56	66	76
			296		●					
			346		●					
			396		●					
			446		●					
PSX			L \ S	26	36	46	56	66	76	96
			296	●	●	●	●	●	●	●
			346	●	●	●	●	●	●	●
			396	●	●	●	●	●	●	●
			446	●	●	●	●	●	●	●
PSXE			L \ S	26	36	46	56	66	76	96
			296		●	●	●	●	●	
			346		●	●	●	●	●	
			396		●	●	●	●	●	●
			446		●	●	●	●	●	●
PM			L \ S	26	36	46	56	66	76	96
			296	●	●	●	●			
			346	●	●	●	●			
			396	●	●	●	●			
			446	●	●	●	●			
PI			L \ S	26	36	46	56	66	76	96
			296		●	●	●	●	●	
			346		●	●	●	●	●	
			396		●	●	●	●	●	
			446		●	●	●	●	●	●
PX			L \ S	22	26	36	46	56	66	76
			296			●				
			346			●				
			396			●				
			446			●				
PXE			L \ S	22	26	36	46	56	66	76
			296			●				
			346			●				
			396			●				
			446			●				
P			L \ S	57	77	97				
			296	●	●					
			346	●	●					
			396	●	●					
			446	●	●					
PE			L \ S	18/12						
			296	●						
			346	●						
			396	●						
			446	●						
PF			L \ S	22	26	36	46	56	66	76
			296		●					
			346		●					
			396		●					
			446		●					



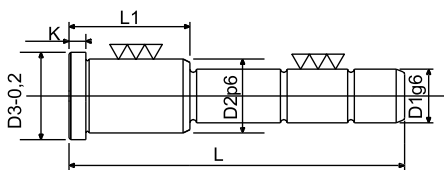
Series 346



In this series we
Use M14 screws
& Ø 14 ejectors

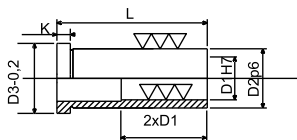


Pins CO-1



D1	D2	D3	K	L1	L																			
					70	80	90	100	120	140	160	180	200	220	240	260	280							
				26		●	●	●	●															
				36	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
				46		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
25	34	38	7	56			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
				66				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
				76					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
				86						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
				96							●	●	●	●	●	●	●	●	●	●	●	●	●	●

Bushings BU-1



D1	D2	D3	K	L								
				26	36	46	56	66	76	96		
25	34	38	7	●	●	●	●	●	●	●	●	●



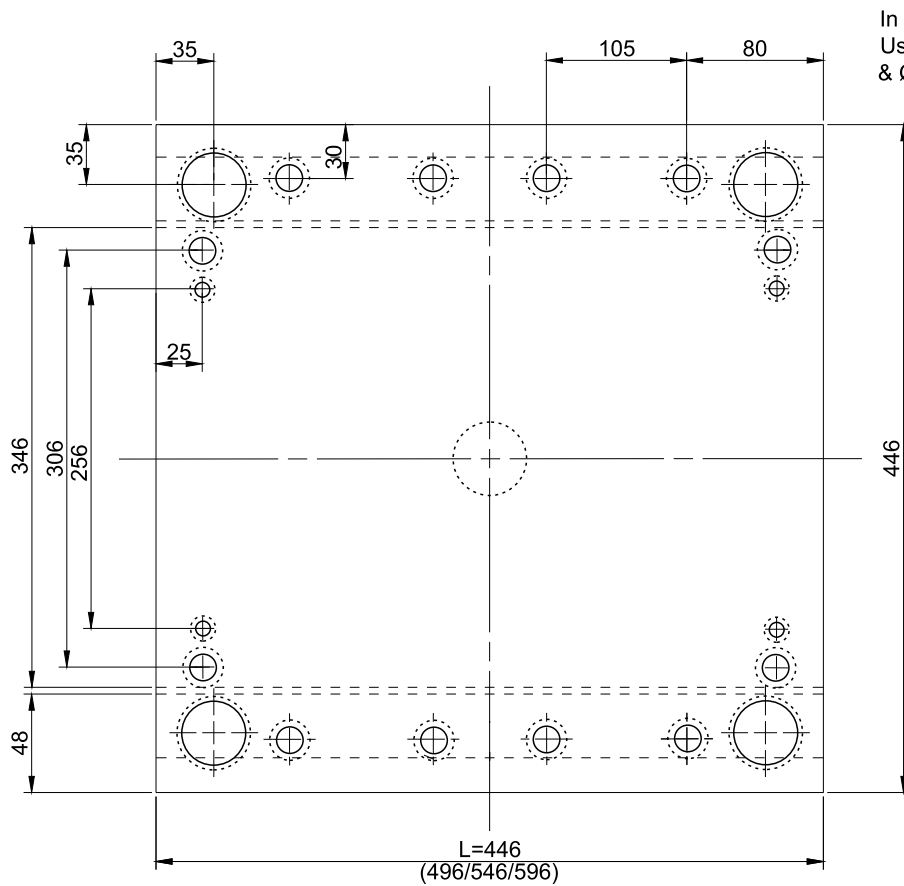
Series 346

<p>PS</p>		<table border="1"> <thead> <tr> <th>L \ S</th> <th>22</th> <th>26</th> <th>36</th> <th>46</th> <th>56</th> <th>66</th> <th>76</th> </tr> </thead> <tbody> <tr> <td>346</td> <td></td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>396</td> <td></td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>446</td> <td></td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>496</td> <td></td> <td>●</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	L \ S	22	26	36	46	56	66	76	346		●						396		●						446		●						496		●					
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L \ S	26	36	46	56	66	76	96																																			
346			●	●	●	●	●																																			
396			●	●	●	●	●																																			
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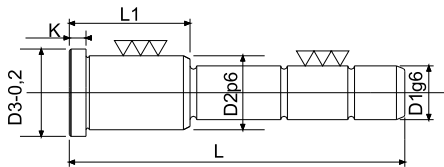
Series 396

PS			L \ S	22	26	36	46	56	66	76	
			396		●						
			446		●						
			496		●						
			546		●						
PSE-P			L \ S	22	26	36	46	56	66	76	
			396		●						
			446		●						
			496		●						
			546		●						
PSX			L \ S	36	46	56	66	76	96	106	
			396		●	●	●	●	●	●	●
			446		●	●	●	●	●	●	●
			496		●	●	●	●	●	●	●
			546		●	●	●	●	●	●	●
PSXE			L \ S	36	46	56	66	76	96	106	
			396			●	●	●	●	●	●
			446			●	●	●	●	●	●
			496			●	●	●	●	●	●
			546			●	●	●	●	●	●
PM			L \ S	36	46	56	66	76	96	106	
			396	●	●	●	●	●	●	●	●
			446	●	●	●	●	●	●	●	●
			496	●	●	●	●	●	●	●	●
			546	●	●	●	●	●	●	●	●
PI			L \ S	36	46	56	66	76	96	106	
			396		●	●	●	●	●	●	●
			446		●	●	●	●	●	●	●
			496		●	●	●	●	●	●	●
			546		●	●	●	●	●	●	●
PX			L \ S	22	26	36	46	56	66	76	
			396				●				
			446				●				
			496				●				
			546				●				
PXE			L \ S	22	26	36	46	56	66	76	
			396				●				
			446				●				
			496				●				
			546				●				
P			L \ S	77	97	117					
			396	●	●	●					
			446	●	●	●					
			496	●	●	●					
			546	●	●	●					
PE			L \ S	22/16							
			396	●							
			446	●							
			496	●							
			546	●							
PF			L \ S	22	26	36	46	56	66	76	
			396		●						
			446		●						
			496		●						
			546		●						

Series 446

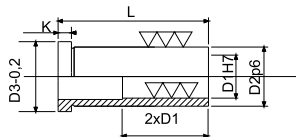


Pins CO-1



D1	D2	D3	K	L1	L												
					90	100	120	140	160	180	200	220	240	260	280		
				36		●											
				46	●	●	●	●	●								
				56	●	●	●	●	●	●	●	●	●	●			
				66			●	●	●	●	●	●	●	●	●	●	●
32	40	45	7	76			●	●	●	●	●	●	●	●	●	●	●
				86				●	●	●	●	●	●	●	●	●	●
				96				●	●	●	●	●	●	●	●	●	●
				106				●	●	●	●	●	●	●	●	●	●
				116				●	●	●	●	●	●	●	●	●	●

Bushings BU-1



D1	D2	D3	K	L								
				36	46	56	66	76	86	96	106	116
32	40	45	7	●	●	●	●	●	●	●	●	●

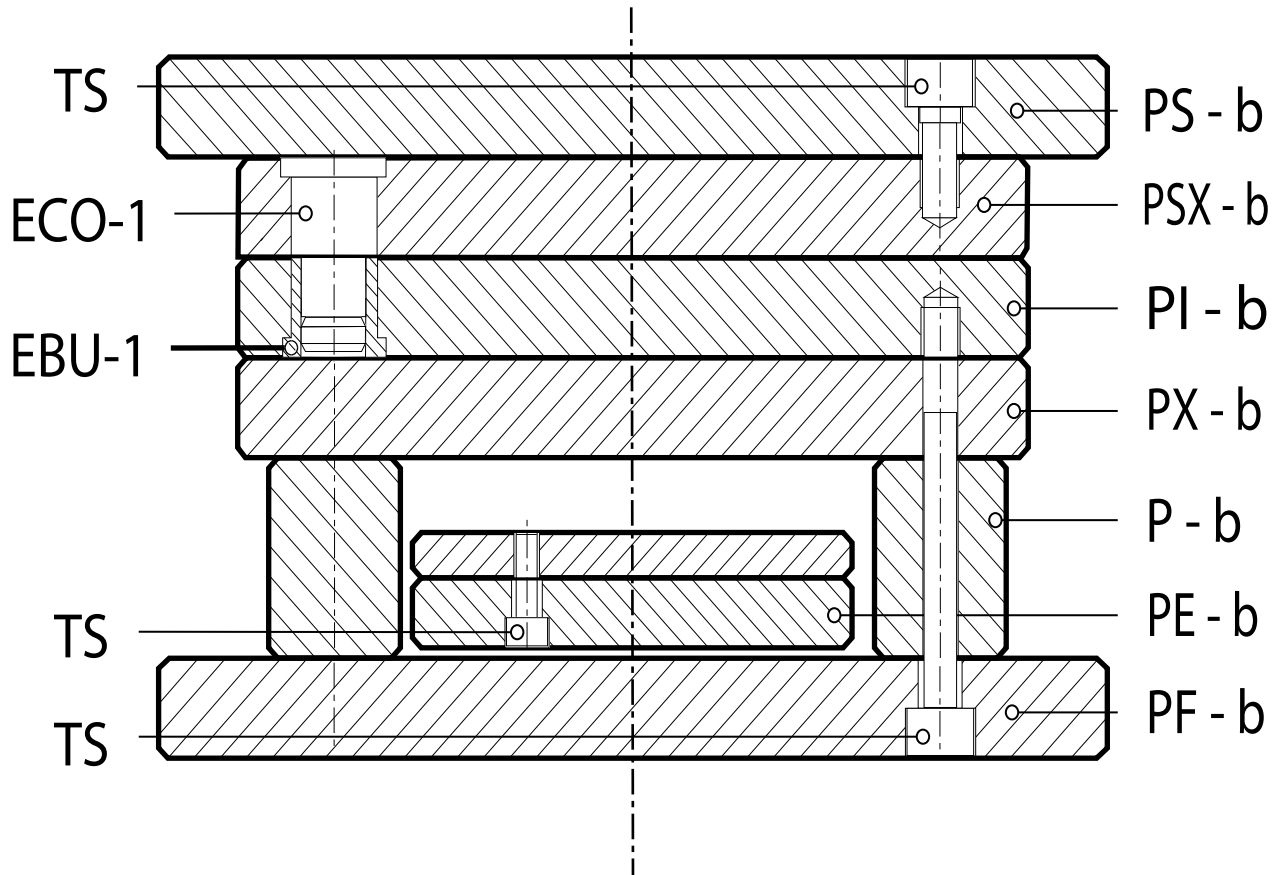


Series 446

<p>PS</p>		<table border="1"> <tr><td>L \ S</td><td>22</td><td>26</td><td>36</td><td>46</td><td>56</td><td>66</td><td>76</td></tr> <tr><td>446</td><td></td><td>●</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>496</td><td></td><td>●</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>546</td><td></td><td>●</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>596</td><td></td><td>●</td><td></td><td></td><td></td><td></td><td></td></tr> </table>	L \ S	22	26	36	46	56	66	76	446		●						496		●						546		●						596		●										
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496	●	●	●																																												
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596	●	●	●																																												
<p>PE</p>		<table border="1"> <tr><td>L \ S</td><td>27/16</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>446</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>496</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>546</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>596</td><td>●</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	L \ S	27/16							446	●							496	●							546	●							596	●											
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446		●																																													
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LINEA BASICA

A+B	TIPO	PS-b/PF-b	PSX-B/PI-b	PX-b	P-b	PE-b	ECO-1	EBU-1	TS	TS
156x156	B1	22	26	26	57	18/12	16X26X50	16X26	10x25	10x110
156x156	B2	22	36	26	57	18/12	16X36X70	16X36	10x25	10x110
156x196	B3	22	26	26	57	18/12	16X26X50	16X26	10x25	10x110
156x196	B4	22	36	26	57	18/12	16X36X70	16X36	10x25	10x110
196x196	B5	22	26	26	57	18/12	16X26X50	16X26	10x25	10x110
196x196	B6	22	36	26	57	18/12	16X36X70	16X36	10x25	10x110
196x246	B7	22	26	26	57	18/12	16X26X50	16X26	10x25	10x110
196x246	B8	22	36	26	57	18/12	16X36X70	16X36	10x25	10x110
196x296	B9	22	36	26	57	18/12	16X36X70	16X36	10x25	10x110
196x296	B10	22	46	26	57	18/12	16X46X90	16X46	10x25	10x110
246x246	B11	26	26	36	57	18/12	20X26X50	20X26	12x30	12x130
246x246	B12	26	36	36	57	18/12	20X36X70	20X36	12x30	12x130
246x296	B13	26	36	36	57	18/12	20X36X70	20X36	12x30	12x130
246x296	B14	26	46	36	57	18/12	20X46X90	20X46	12x30	12x130
246x346	B15	26	36	36	57	18/12	20X36X90	20X36	12x30	12x130
246x346	B16	26	46	36	57	18/12	20X46X90	20X46	12x30	12x130



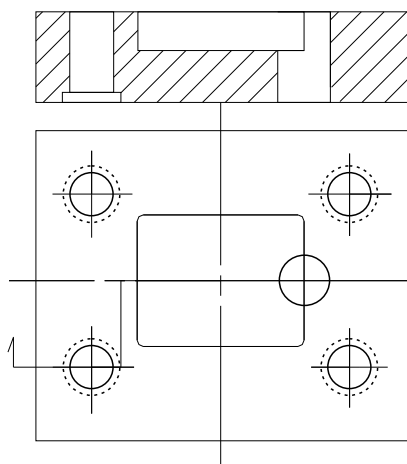
Torbelar Moldbases offer custom order by request

The **C**ustomer **T**echnical **A**ssistance **D**epartment can help you solve this kind of problem and find the most suitable solution for your mold base. Given the availability of materials in stock and the precision of the newest generation machinery, any request can be promptly satisfied.

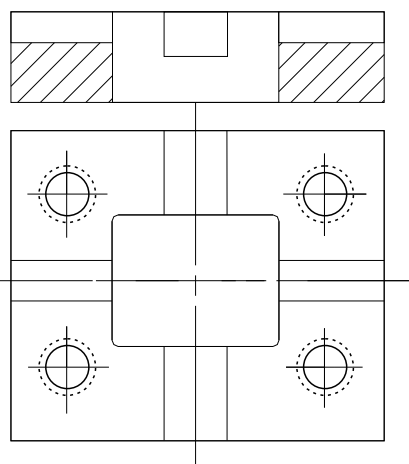
Final and accurate layout are of utmost importance for the quotation and manufacturing of custom design mold bases

See the following examples :

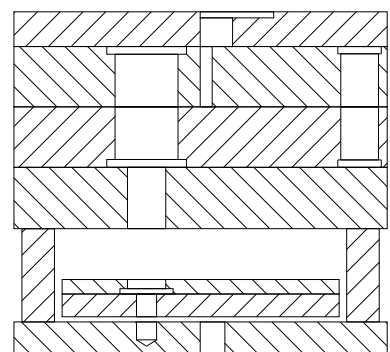
Example 1



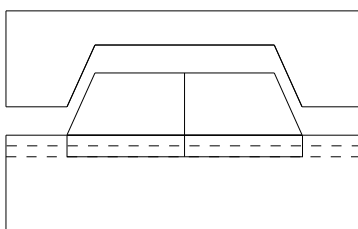
Example 2



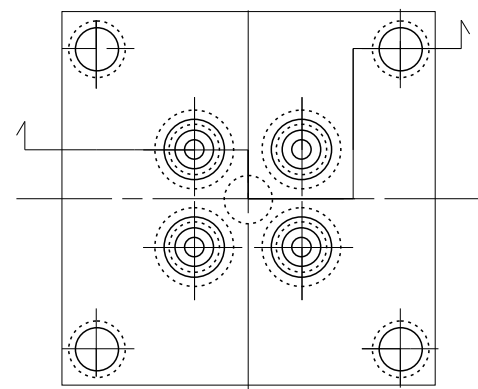
Example 3



Example 4

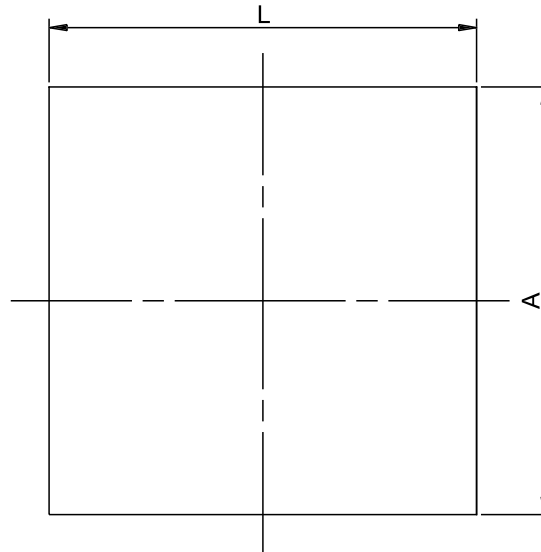


Indicate
Diameters,
Heads heights,
Tolerance.



AX Plates and Special Plates

AX plates are blind, squared, ground and with chafers.
Material: in SAE 1045, 4140, 4140 B and P20.



Manufacturate tolerances

Wide : -0 // + 0,8
Length : -0 // + 0,8
Squared : +/- 0° 30'
Thickness : -0 // + 0,02

How to order

Quantity AX Thickness x wide x length - Material

Example: 4 AX 76 x 346 x 346 - AISI P20

In the following table you can see the diferent sizes of AX plates

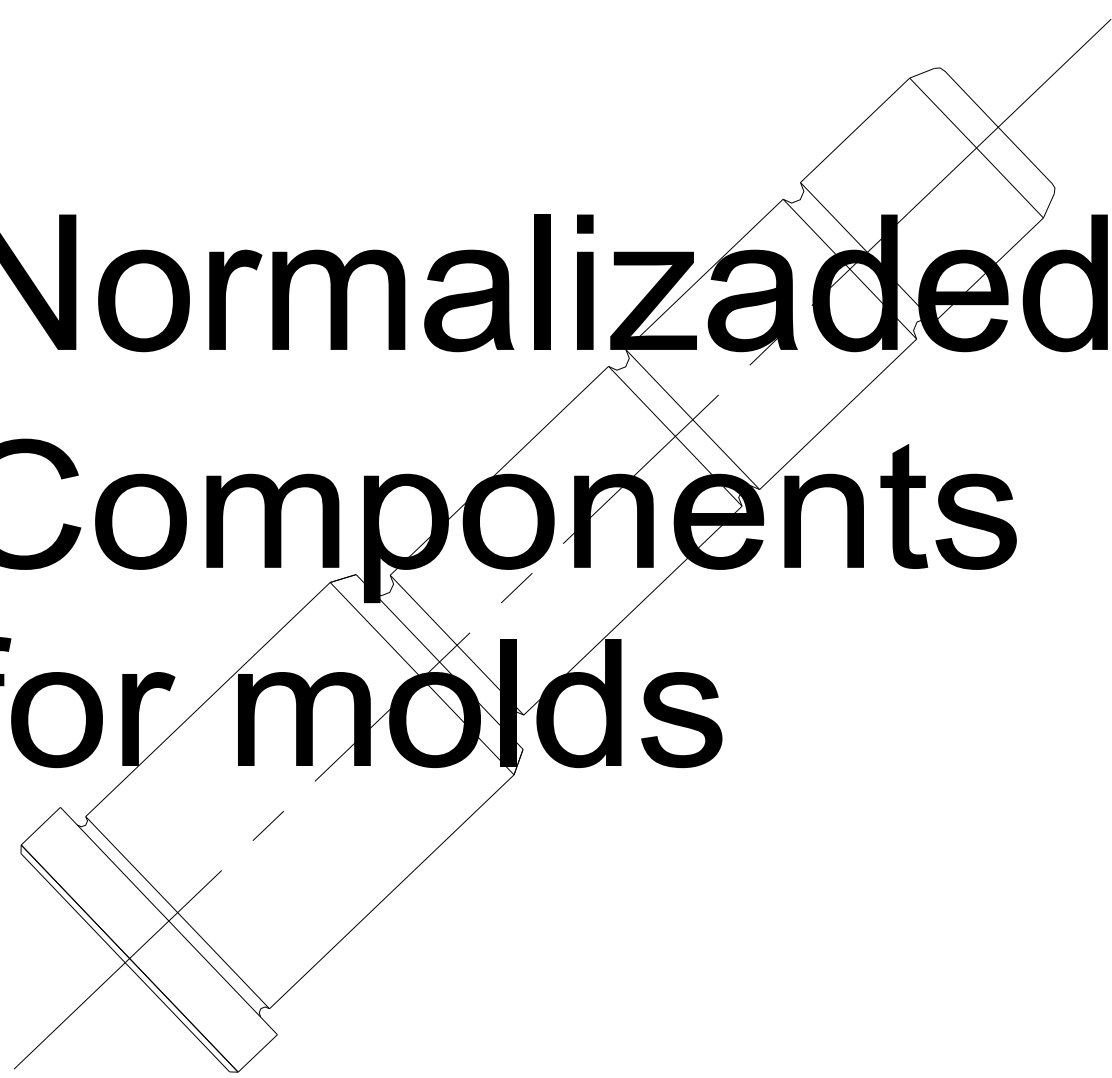
AX Plates and Special Plates



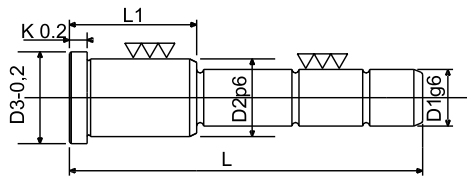
	S									
	22	26	36	46	56	66	76	96	106	116
156x156	●	●	●	●	●	●				
156x196	●	●	●	●	●	●				
156x246	●	●	●	●	●	●				
196x196	●	●	●	●	●	●	●			
196x246	●	●	●	●	●	●	●			
196x296	●	●	●	●	●	●	●			
196x346	●	●	●	●	●	●	●			
246x246	●	●	●	●	●	●	●			
246x296	●	●	●	●	●	●	●			
246x346	●	●	●	●	●	●	●			
246x396	●	●	●	●	●	●	●			
296x296		●	●	●	●	●	●	●		
296x346		●	●	●	●	●	●	●		
296x396		●	●	●	●	●	●	●		
296x446		●	●	●	●	●	●	●		
346x346		●	●	●	●	●	●	●		
346x396		●	●	●	●	●	●	●		
346x446		●	●	●	●	●	●	●		
346x496		●	●	●	●	●	●	●		
396x396		●	●	●	●	●	●	●	●	
396x446		●	●	●	●	●	●	●	●	
396x496		●	●	●	●	●	●	●	●	
396x546		●	●	●	●	●	●	●	●	
446x446		●	●	●	●	●	●	●	●	●
446x496		●	●	●	●	●	●	●	●	●
446x546		●	●	●	●	●	●	●	●	●
446x596		●	●	●	●	●	●	●	●	●



Normalized Components for molds

A technical drawing of a mold component, possibly a cavity insert, shown in a perspective view. The drawing is a wireframe model, highlighting the geometric features of the part. It appears to be a rectangular block with a central channel or groove, and some chamfered edges. The drawing is positioned diagonally across the page, behind the main title text.

Shoulder leader pin CO-1

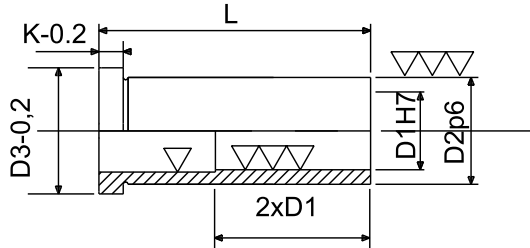


Steel: SAE 8620
 Hardness: HRC 60-62
 Execution: Carburized, Hardened and tapped
 Finishing: Grinded
 How to order: Q CO-1 D1 x L1 x L
 Example: 4 CO-1 16 x 36 x 70

D 1	D 2	D 3	K	L1	L (mm)																	
					40	45	50	60	70	80	90	100	120	140	160	180	200	220	240	260	280	
12	18	22	5	22			●	●	●	●												
				26			●	●	●	●												
				36			●	●	●	●	●	●										
				46					●	●	●	●	●	●								
14	20	24	5	22			●	●	●	●	●	●										
				26				●	●	●	●	●	●	●								
				36					●	●	●	●	●	●	●							
				46						●	●	●	●	●	●	●						
16	22	26	5	56	●	●	●	●	●	●	●	●	●									
				22				●	●	●	●	●	●	●	●							
				26				●	●	●	●	●	●	●	●	●						
				36					●	●	●	●	●	●	●	●	●					
				46						●	●	●	●	●	●	●	●	●				
				56								●	●	●	●	●	●	●	●			
18	26	30	5	66							●	●	●	●								
				26				●	●	●	●	●	●	●	●	●						
				36				●	●	●	●	●	●	●	●	●	●					
				46					●	●	●	●	●	●	●	●	●	●				
				56						●	●	●	●	●	●	●	●	●	●			
				66								●	●	●	●	●	●	●	●	●		
20	28	32	6	76							●	●	●	●	●	●						
				26			●	●	●	●	●	●	●	●	●	●	●					
				36				●	●	●	●	●	●	●	●	●	●	●				
				46					●	●	●	●	●	●	●	●	●	●	●			
				56						●	●	●	●	●	●	●	●	●	●	●		
				66								●	●	●	●	●	●	●	●	●	●	
25	34	38	7	76							●	●	●	●	●	●	●					
				26					●	●	●	●	●	●	●	●	●	●	●			
				36					●	●	●	●	●	●	●	●	●	●	●	●		
				46						●	●	●	●	●	●	●	●	●	●	●	●	
				56							●	●	●	●	●	●	●	●	●	●	●	
				66								●	●	●	●	●	●	●	●	●	●	●
32	40	45	7	76							●	●	●	●	●	●	●					
				26							●	●	●	●	●	●	●	●	●	●		
				36								●	●	●	●	●	●	●	●	●	●	
				46									●	●	●	●	●	●	●	●	●	●
				56										●	●	●	●	●	●	●	●	●
				66											●	●	●	●	●	●	●	●
				76												●	●	●	●	●	●	●
				86													●	●	●	●	●	●
40	48	52	7	96								●	●	●	●	●	●					
				26																		
				36																		
				46																		
				56																		
				66																		
				76																		
				86																		



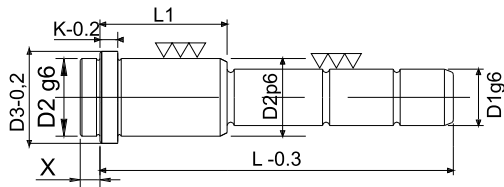
Shoulder bushing BU-1



Steel: SAE 8620
 Hardness: HRC 60-62
 Execution: Carburized, Hardened and tapped
 Finishing: Grinded
 How to order: Q BU-1 D 1 x L
 Example: 4 BU-1 40 x 106

				L (mm)											
D 1	D 2	D 3	K	22	26	36	46	56	66	76	86	96	106	116	126
12	18	22	5	●	●	●	●	●							
14	20	24	5	●	●	●	●	●							
16	22	26	5	●	●	●	●	●	●	●	●	●			
18	26	30	5	●	●	●	●	●	●	●	●	●			
20	28	32	6	●	●	●	●	●	●	●	●	●	●	●	●
25	34	38	7			●	●	●	●	●	●	●	●	●	●
32	40	45	7			●	●	●	●	●	●	●	●	●	●
40	48	52	8			●	●	●	●	●	●	●	●	●	●

Shoulder leader pin with head CO-1S

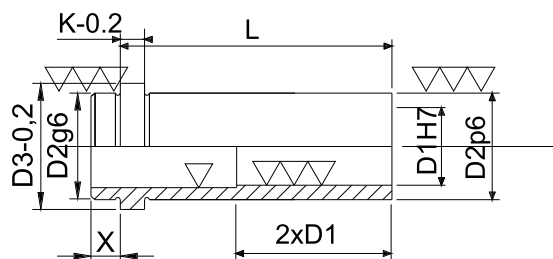


Steel: SAE 8620
 Hardness:: HRC 60-62
 Execution: Carburized, Hardened and Lapped
 Finishing: Grinded
 How to order: Q CO-1s D 1 x L1 x L
 Example: 8 CO-1S 32 x 66 x 140

					L (mm)											
D 1	D 2	D 3	K	X	L 1	70	80	90	100	120	140	160	180	200	220	
16	22	26	5	10	26	●	●	●	●	●						
					36		●	●	●	●						
					46		●	●	●	●	●	●				
					56				●	●	●	●				
					66								●	●	●	●
					76									●	●	●
20	28	32	6	10	36	●	●	●	●	●						
					46		●	●	●	●	●					
					56			●	●	●	●	●				
					66				●	●	●	●				
					76						●	●	●	●	●	
					96									●	●	●
25	34	38	7	10	36		●	●	●	●						
					46		●	●	●	●	●					
					56			●	●	●	●	●				
					66				●	●	●	●				
					76						●	●	●	●	●	
					96									●	●	●
32	40	45	7	10	46		●	●	●	●	●					
					56				●	●	●	●				
					66				●	●	●	●	●			
					76						●	●	●	●	●	●
					96								●	●	●	●
40	48	52	8	10	56					●	●	●				
					66					●	●	●	●			
					76					●	●	●	●	●		
					96							●	●	●	●	●



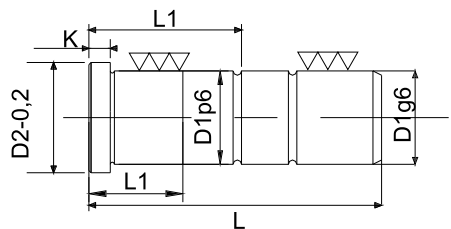
Shoulder bushing with collar BU-1S



Steel : SAE 8620
 Hardness : HRC 60-62
 Execution: Carburized, Hardened and Lapped
 Finishing: Grinded
 How to Order : Q BU-1S D₁ x L
 Example : 4 BU-1S 25 x 56

					L (mm)							
D 1	D 2	D 3	K	X	26	36	46	56	66	76	86	96
16	22	26	5	10	●	●	●	●	●	●		
20	28	32	6	10	●	●	●	●	●	●	●	●
25	34	38	7	10		●	●	●	●	●	●	●
32	40	45	7	10			●	●	●	●	●	●
40	48	52	8	10			●	●	●	●	●	●

Straight leader pin CO-2

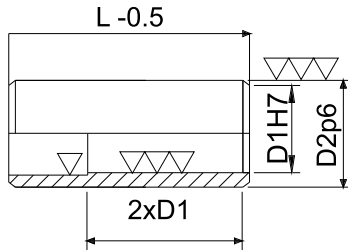


Steel: SAE 8620
 Hardness: HRC 60-62
 Execution: Carburized, Hardened and Lapped
 Finishing: Grinded
 How to order: Q CO-2 D1 x L
 Example: 4 CO-2 20 x 200

			L	50	60	70	80	90	100	120	140	160	180	200	220	240	260	280
			L1	20	20	20	20	20	25	25	25	30	30	30	30	40	40	40
D 1	D 2	K																
12	16	5		●	●	●	●	●	●	●	●							
14	18	5		●	●	●	●	●	●	●	●	●						
16	20	5		●	●	●	●	●	●	●	●	●	●	●				
18	22	5		●	●	●	●	●	●	●	●	●	●	●				
20	24	6			●	●	●	●	●	●	●	●	●	●	●	●		
25	30	7					●	●	●	●	●	●	●	●	●	●	●	●
32	37	7								●	●	●	●	●	●	●	●	●
40	45	8								●	●	●	●	●	●	●	●	●



Straight bushing BU-2

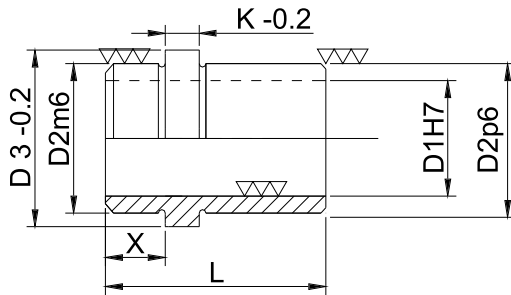


Steel: SAE 8620
 Hardness: HRC 60-62
 Execution: Carburized, Hardened and Lapped
 Finishing: Grinded
 How to order: Q BU-2 D₁ x L
 Example: 4 BU-2 40 x 76

		L (mm)									
D 1	D2	22	26	36	46	56	66	76	86	96	106
12	18	●	●	●	●						
14	20	●	●	●	●						
16	22	●	●	●	●	●	●	●			
18	26	●	●	●	●	●	●	●			
20	28		●	●	●	●	●	●	●	●	
25	34		●	●	●	●	●	●	●	●	
32	40			●	●	●	●	●	●	●	●
40	48				●	●	●	●	●	●	●



Bushing guide **BU-3**



Steel: SAE 8620

Steel: HRC 60-62

Execution: Carburized, Hardened and Lapped

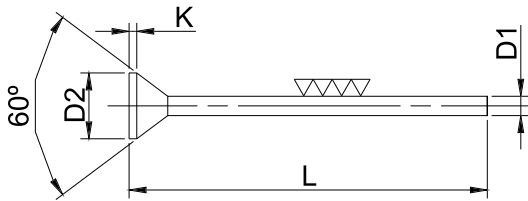
Finishing: Grinded

How to order: Q BU-3 D 1 x L

Example: 4 BU-3 16 x 40

					L (mm)				
D 1	D 2	D 3	K	X	32	40	50	65	80
14	20	24	5	16	●	●			
16	22	26	5	16	●	●			
18	26	30	5	16	●	●			
20	28	32	6	16	●	●			
25	34	38	7	16	●	●			
32	40	45	7	25			●	●	
40	48	52	8	32				●	●

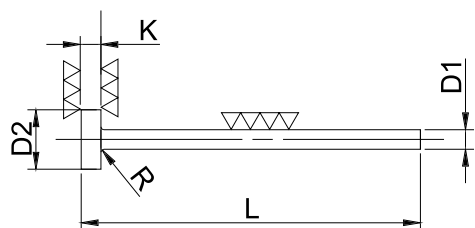
Conic head ejector pin (Hardened) ES-1



Steel: DIN 1.2842 SAE-01
 Hardness: Body HRC 61 ± 1.
 Head: HRC 45 ± 5.
 Execution: Grinded and lapped
 How to order:
 Q ES-1 D1 x L
 Example: 50 ES-1 4 x 150

D 1 (g6)	D 2 (-0,12)	K	L(mm)			
			100	125	160	200
1,0	1,8	0,5	●	●	●	
1,25	2,0	0,5	●	●	●	
1,5	2,2	0,5	●	●	●	
1,75	2,8	0,5	●	●	●	
2,0	3,0	0,5	●	●	●	●
2,1	3,2	0,5	●	●	●	●
2,25	3,5	0,5	●	●	●	●
2,5	3,5	0,5	●	●	●	●
2,75	4,0	0,5	●	●	●	●
3,0	4,5	0,5	●	●	●	●
3,1	4,5	0,5	●	●	●	●
3,25	4,5	0,5	●	●	●	●
3,5	5,0	0,5	●	●	●	●
3,75	5,0	0,5	●	●	●	●
4,0	5,5	0,5	●	●	●	●
4,1	5,5	0,5	●	●	●	●
4,2	5,5	0,5	●	●	●	●
4,5	6,0	0,5	●	●	●	●
5,0	6,5	0,5	●	●	●	●
5,1	6,5	0,5	●	●	●	●
5,25	6,5	0,5	●	●	●	●
5,5	7,0	0,5	●	●	●	●
6,0	8,0	0,5	●	●	●	●
6,5	9,0	1,0	●	●	●	●
7,0	9,0	1,0	●	●	●	●
7,5	10,0	1,0	●	●	●	●
8,0	10,0	1,0	●	●	●	●
8,5	11,0	1,0	●	●	●	●
9,0	11,0	1,0	●	●	●	●
9,5	12,0	1,0	●	●	●	●
10,0	12,0	1,0	●	●	●	●
10,5	13,0	1,0	●	●	●	●
11,0	13,0	1,0	●	●	●	●
12,0	14,0	1,0	●	●	●	●
13,0	15,0	1,0	●	●	●	●
14,0	16,0	1,5	●	●	●	●
15,0	17,0	1,5	●	●	●	●
16,0	18,0	1,5	●	●	●	●
17,0	19,0	1,5	●	●	●	●
18,0	20,0	1,5	●	●	●	●
20,0	22,0	1,5	●	●	●	●

Nitrated cylindrical head ejector pin ES-2C

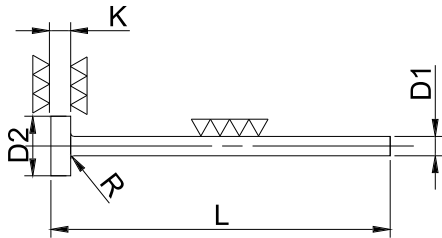


Steel: DIN 1.2343 SAE H13
 Hardness: Surface 950 Vickers 68-70 HRC
 Head: 390-450 vickers HRC 45+/-5
 Resistance to tensil stress: 140-150Kg-mm²
 Resistance to tempering: 500°C-550°C
 Execution: Grinded and lapped
 How to order: Q ES-2C D1 x L
 Example: 20 ES-2C 8 x 400

D 1 (g6)	D 2 (-0,2)	DIN K (-0,05)	L(mm)										
			100	125	160	200	250	300	400	500	630	800	1000
2,0	4	2	●	●	●	●	●	●					
2,5	5	2	●	●	●	●	●	●					
3,0	6	3	●	●	●	●	●	●	●				
3,5	6	3	●	●	●	●	●	●	●				
4,0	8	3	●	●	●	●	●	●	●				
4,5	8	3	●	●	●	●	●	●	●				
5,0	10	3	●	●	●	●	●	●	●	●	●		
5,5	10	3	●	●	●	●	●	●	●	●	●		
6,0	12	5	●	●	●	●	●	●	●	●	●		
6,5	12	5	●	●	●	●	●	●	●	●	●		
7,0	12	5	●	●	●	●	●	●	●	●	●		
7,5	12	5	●	●	●	●	●	●	●	●	●		
8,0	14	5	●	●	●	●	●	●	●	●	●		
8,5	14	5	●	●	●	●	●	●	●	●	●		
9,0	14	5	●	●	●	●	●	●	●	●	●		
10,0	16	5	●	●	●	●	●	●	●	●	●	●	●
11,0	16	5	●	●	●	●	●	●	●	●	●	●	
12,0	18	7	●	●	●	●	●	●	●	●	●	●	●
14,0	22	7	●	●	●	●	●	●	●	●	●	●	●
16,0	22	7	●	●	●	●	●	●	●	●	●	●	●
18,0	26	7	●	●	●	●	●	●	●	●	●	●	●
20,0	26	8	●	●	●	●	●	●	●	●	●	●	●
25,0	32	10			●	●	●	●	●	●	●	●	●
32,0	40	10				●	●	●	●	●	●	●	●



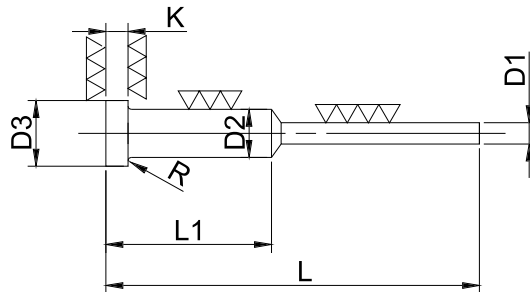
Hardened cylindrical head ejector pin ES-2T



Steel: DIN 1.2843 SAE 01
 Hardness: Body 61 ± 2 HRC
 Head: 45 ± 5 HRC
 Execution: Grinded, lapped
 How to order: Q ES-2T D1 x L
 Example: 25 ES-2T 4 x 125

D 1 (g6)	D 2 (-0,2)	K (-0,05)	L(mm)					
			100	125	160	200	250	315
2,0	4	2	●	●	●	●		
2,5	5	2	●	●	●	●	●	
3,0	6	3	●	●	●	●	●	●
3,5	7	3	●	●	●	●	●	●
4,0	8	3	●	●	●	●	●	●
4,5	8	3	●	●	●	●	●	●
5,0	10	3	●	●	●	●	●	●
6,0	12	5	●	●	●	●	●	●
7,0	12	5	●	●	●	●	●	●
8,0	14	5	●	●	●	●	●	●
9,0	14	5	●	●	●	●	●	●
10,0	16	5	●	●	●	●	●	●
12,0	18	7	●	●	●	●	●	●
14,0	22	7	●	●	●	●	●	●
16,0	22	7	●	●	●	●	●	●
20,0	26	8	●	●	●	●	●	●

Cylindrical head step ejector pin ES-3/ES-3T



EES-3T (Hardened)

Steel: DIN 1.2842 SAE 01
 Hardness: Body 61 ± 2 HRC
 Head: 45 ± 5 HRC
 Execution: Grinded, lapped
 How to order: Q ES-3T D1 x L
 Example: 12 ES-3T 2 x 150

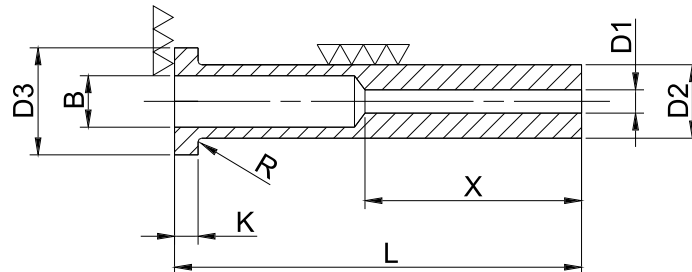
EES-3 (nitrided)

Steel: DIN 1.2343 SAE H 13
 Hardness: Surface 950 vickers 68-70 HRC
 Head: 390-450 Vickers 45 ± 5 HRC
 Resistance to tensile stress: 140-150 Kg/mm
 Resistance to tempering: 500°C - 550°C .
 Execution: Grinded, lapped
 How to order: Q ES-3 D1 x L
 Example: 12 ES-3 2 x 150

D 1 (g6)	D 2 (g6)	D 3 (-0,2)	K	L	L1
1,5	3	6	3	150	50
1,5	3	6	3	200	75
2,0	3	6	3	150	50
2,0	3	6	3	200	75
2,5	3	6	3	150	50
2,5	3	6	3	200	75



Ejector sleeve(nitrited & hardened) ES-4/ES-4T



ES-4T (hardened)

Steel: DIN 1.2842 SAE 01
 Hardness: Body 61 ±2 HRC
 Head: 45 ± 5 HRC
 Execution: Grinded, lapped
 How to order: Q ES-4T D1 x L
 Example: 12 ES-4T 6 x 75

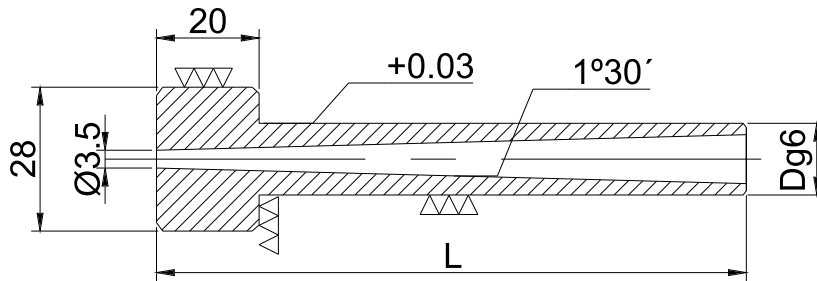
ES-4 (hardened)

Steel: DIN 1.2343 SAE H 13
 Hardness: Surface 950 vickers 68-70 HRC
 Head: 390-450 Vickers 45 ± 5 HRC
 Resistance to tensile: 140-150 Kg/mm²
 Resistance to tempering: 500°C-550°C.
 Execution: Grinded, lapped
 How to orderr: Q ES-4 D1 x L
 Example: 12 ES-4 6 x 75

D1 H6	D2 g6	D3 -0.2	K -0.05	B	R	X	L(mm)							
							75	100	125	150	160	175	200	250
2,0	4	8	3	2,3	0,3	29	●	●	●					
2,5	5	10	3	2,8	0,3	29	●	●	●	●				
3,0	5	10	3	3,3	0,3	39	●	●	●	●	●	●	●	
3,5	6	12	5	3,8	0,3	37	●	●	●	●	●	●	●	
4,0	6	12	5	4,3	0,5	41	●	●	●	●	●	●	●	●
4,5	8	14	5	4,8	0,5	45	●	●	●	●	●	●	●	●
5,0	8	14	5	5,3	0,5	48	●	●	●	●	●	●	●	●
6,0	10	16	5	6,3	0,5	48	●	●	●	●	●	●	●	●
8,0	12	20	7	8,3	0,7	48	●	●	●	●	●	●	●	●
10,0	14	22	7	10,3	0,7	48	●	●	●	●	●	●	●	●
12,0	16	22	7	12,3	0,7	48	●	●	●	●	●	●	●	●



Sprue bushing UG-1/1T



UG-1

Injection bush not hardened in SAE 8640

How to order: Q UG-1 $\text{Ø} D \times L$

Example: 1UG-1 $\text{Ø} 14 \times 115$

UG-1T

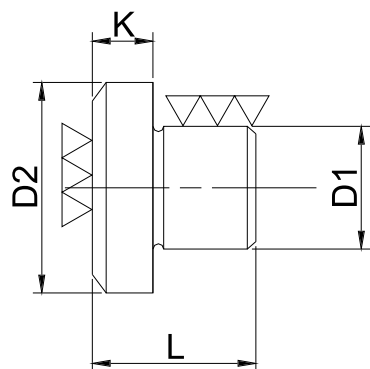
Injection bush hardened in SAE 4140 55/58 HRC

How to order: Q UG-1T $\text{Ø} D \times L$

Example: 1 UG-1T $\text{Ø} 14 \times 85$

D	L(mm)						
	50	65	75	85	95	105	115
14	●	●	●	●	●	●	●
18	●	●	●	●	●	●	●

Stop pin EA-1

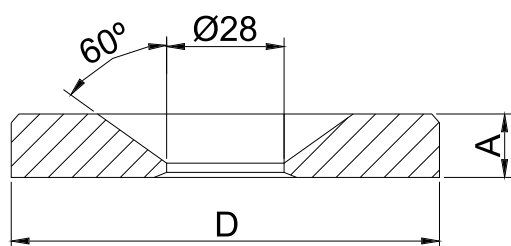


Steel: SAE 8620
 Execution: Carburized, hardened and grinde
 How to order: Q EA-1 D1 x L
 Example: 4 EA-1 8 x 21

D1 m6	D 2	K	L
8	18	5	21
14	24	6	21

Locating ring

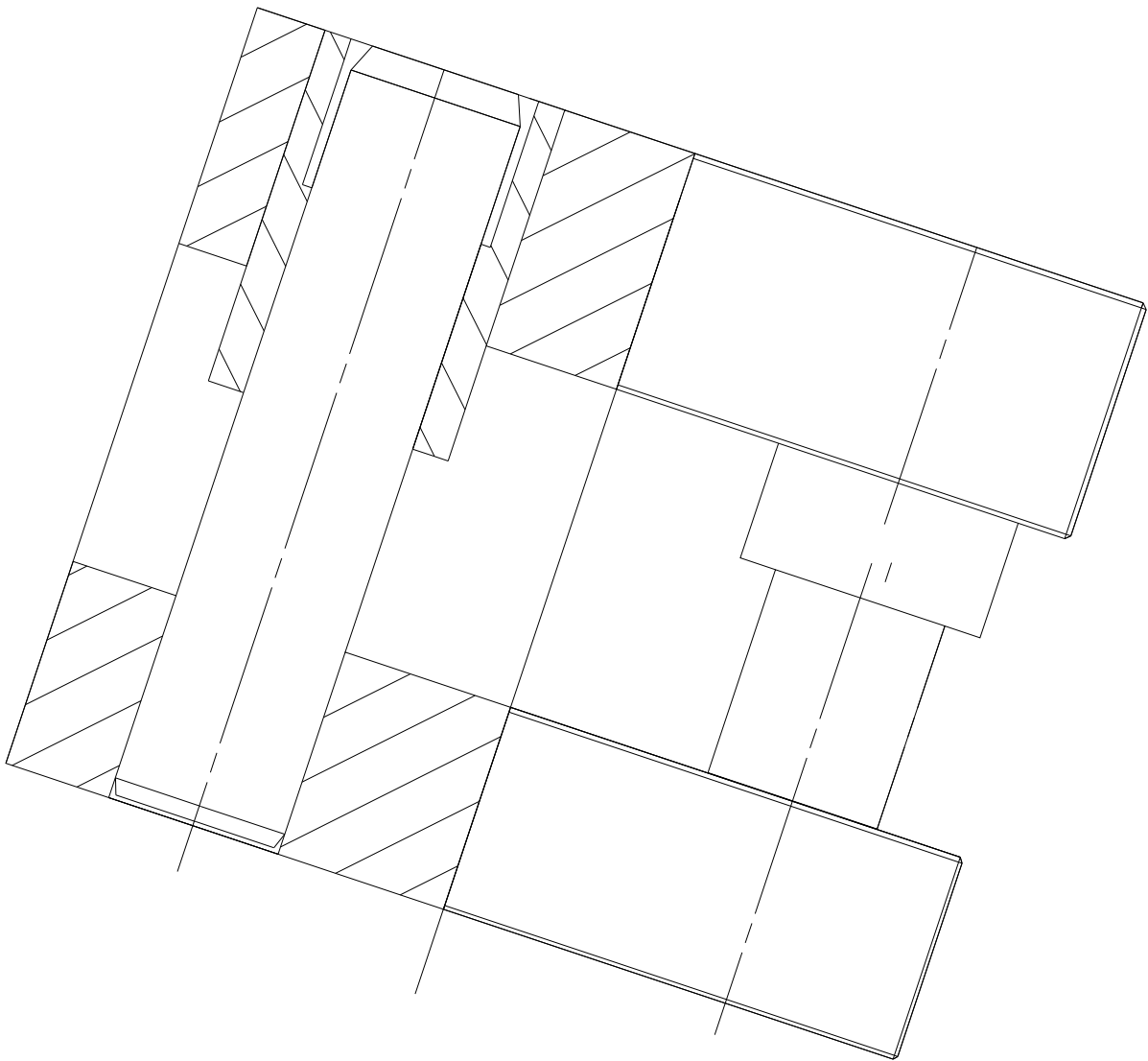
AC-1



Steel: SAE 4140
 How to order: Q AC-1 ØD
 Example : 1 AC-1 Ø 90

D	A
Ø60	10
Ø70	10
Ø80	10
Ø90	10
Ø100	12
Ø125	12
Ø150	12
Ø175	20

Die Sets



Die Sets Torbelar Moldbases are provided with steel plates SAE 1045 and components CO-4/BU-4.

If required by customer, the die sets could be provided with CO-7/BU-7 or ECBB-4/ECBB-7.

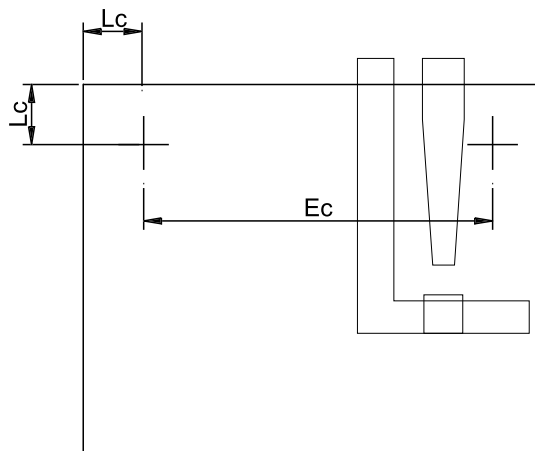
Depending on the customer's necessities, the lengths of the bushes and pin could be changed to the dimensions detailed on pages 12 to 16.

We can also manufacture die sets with additional plates, which would have to be specified in advance.

Die Sets Torbelar Moldbases are delivered assembled.

How to calculate the location of the bushes and pins in the die set:

Lc Dimension: the distance from the border of the plate to the center of the bushes



Different types of die sets **Torbelar Moldbases**

The four types of standard die sets that we offer are as follows:

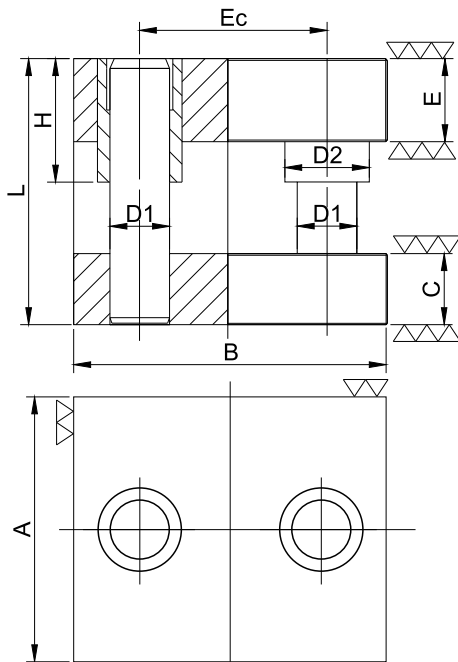
TYPE F: two bushes in the center

TYPE L: two diagonal bushes

TYPE Z: two bushes in front or in the back

TYPE D: four bushes

Standard Die Set **F Type**



Materials:

Plates: SAE 1045 Steel
Shoulder Bushings and Pins, SAE 8620.

Execution:

Bushings and pins: Carburized, hardened, grinded, lapped.

hardness 60 : 62 RC.

How to order :

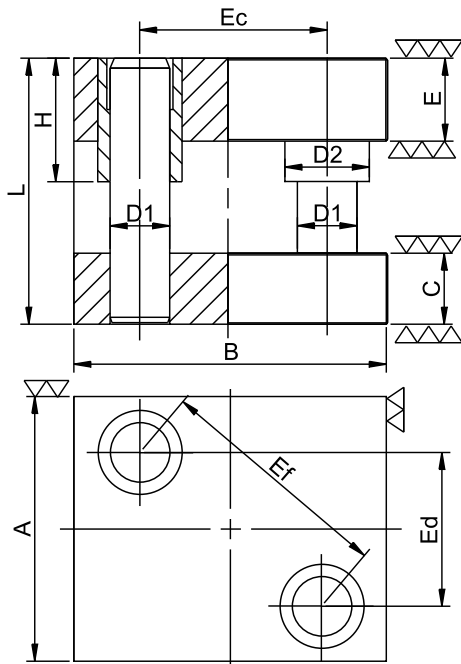
Quantity & type: heavy or Light

Example : 1 X F 20 Heavy

Type	Thickness				Dimension		In between centers Ec	Pins		Bushing	
	Light		Heavy		A	B		D 1	L	D 2	H
	C	E	C	E							
F 1	26	26	36	36	156	156	108	20	145	30	60
F 2	26	26	36	36	156	196	138	25	145	36	70
F 3	36	36	46	46	196	196	138	25	170	36	70
F 4	36	36	46	46	196	246	178	30	170	45	80
F 5	36	36	46	46	196	296	228	30	170	45	80
F 6	36	36	46	46	196	346	278	30	170	45	80
F 7	36	36	46	46	246	246	176	30	170	45	80
F 8	36	36	46	46	246	296	218	34	185	50	80
F 9	36	36	46	46	246	346	268	34	185	50	80
F 10	36	36	46	46	246	396	318	34	185	50	80
F 11	36	36	46	46	296	296	218	34	185	50	80
F 12	36	36	46	46	296	346	256	40	185	55	100
F 13	46	46	56	56	296	396	306	40	185	55	100
F 14	46	46	56	56	296	446	356	40	185	55	100
F 15	46	46	56	56	346	346	256	40	185	55	100
F 16	46	46	56	56	346	396	286	50	200	70	100
F 17	46	46	56	56	346	446	336	50	200	70	100
F 18	46	46	56	56	346	496	386	50	200	70	100
F 19	46	46	56	56	396	396	286	50	200	70	100
F 20	46	46	56	56	396	446	336	50	200	70	100
F 21	46	46	56	56	396	496	386	50	200	70	100
F 22	46	46	56	56	396	546	436	50	200	70	100
F 23	56	56	66	66	446	446	336	50	225	70	100
F 24	56	56	66	66	446	496	386	50	225	70	100
F 25	56	56	66	66	446	546	436	50	225	70	100
F 26	56	56	66	66	446	596	486	50	225	70	100



Standard Die Set Type L



Materials:

Plates: SAE 1045 Steel

Shoulder Bushings and Pins, SAE 8620.

Execution:

Bushings and pins: Carburized, hardened, Grinded, lapped.

hardness 60 : 62 RC.

How to order

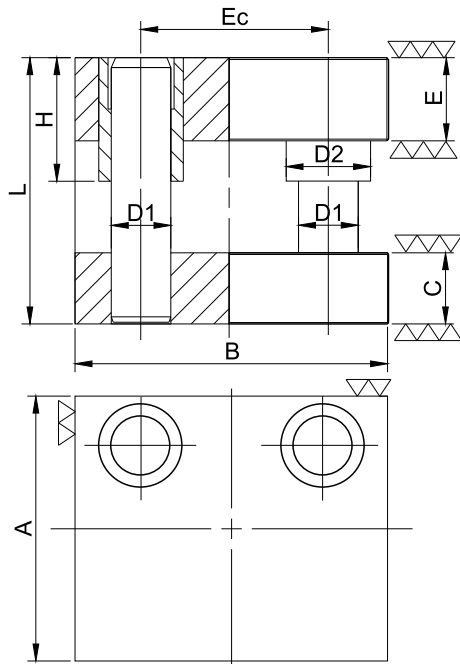
Quantity & Type: heavy or light

Example : 1 X L 18 Heavy

Type	Thickness				Dimension		In between center			Pins		Bushings	
	Light		Heavy		A	B	Ec	Ed	Ef	D 1	L	D 2	H
	C	E	C	E									
L 1	26	26	36	36	156	156	108	106	152.7	20	145	30	60
L 2	26	26	36	36	156	196	138	96	169.3	25	145	36	70
L 3	36	36	46	46	196	196	138	136	196.2	25	170	36	70
L 4	36	36	46	46	196	246	176	126	216.5	30	170	45	80
L 5	36	36	46	46	196	296	226	126	258.8	30	170	45	80
L 6	36	36	46	46	196	346	276	126	303.4	30	170	45	80
L 7	36	36	46	46	246	246	176	176	248.9	30	170	45	80
L 8	36	36	46	46	246	296	218	166	275.2	34	185	50	80
L 9	36	36	46	46	246	346	268	166	316.3	34	185	50	80
L 10	36	36	46	46	246	396	318	166	359.6	34	185	50	80
L 11	36	36	46	46	296	296	218	216	308.3	34	185	50	80
L 12	36	36	46	46	296	346	256	206	328.6	40	185	55	100
L 13	46	46	56	56	296	396	306	206	368.9	40	185	55	100
L 14	46	46	56	56	296	446	356	206	411.3	40	185	55	100
L 15	46	46	56	56	346	346	256	256	362.0	40	185	55	100
L 16	46	46	56	56	346	396	286	236	370.8	50	200	70	100
L 17	46	46	56	56	346	446	336	236	410.6	50	200	70	100
L 18	46	46	56	56	346	496	386	236	452.4	50	200	70	100
L 19	46	46	56	56	396	396	286	286	404.5	50	200	70	100
L 20	46	46	56	56	396	446	336	286	441.2	50	200	70	100
L 21	46	46	56	56	396	496	386	286	480.4	50	200	70	100
L 22	46	46	56	56	396	546	436	286	521.4	50	200	70	100
L 23	56	56	66	66	446	446	336	336	475.2	50	225	70	100
L 24	56	56	66	66	446	496	386	336	511.8	50	225	70	100
L 25	56	56	66	66	446	546	436	336	550.4	50	225	70	100
L 26	56	56	66	66	446	596	486	336	590.8	50	225	70	100



Standard Die Set **Type Z**



Materials:

Plates: SAE 1045 Steel
Shoulder Bushings and Pins, SAE 8620.

Execution:

Bushings and pins: Carburized, hardened,
Grinded, lapped.

Hardness: 60 : 62 RC.

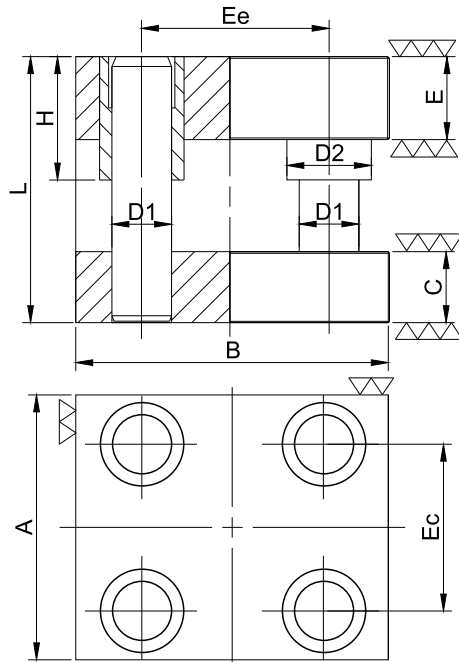
How to order:

Quantity & Type” heavy or light
Example: 1 X Z 9 Light.

Type	Thickness				Dimensión		In between centers	Pins		Bushings	
	Light		Heavy		A	B		Ec	D 1	L	D 2
	C	E	C	E							
Z 1	26	26	36	36	156	156	108	20	145	30	60
Z 2	26	26	36	36	156	196	138	25	145	36	70
Z 3	36	36	46	46	196	196	138	25	170	36	70
Z 4	36	36	46	46	196	246	176	30	170	45	80
Z 5	36	36	46	46	196	296	226	30	170	45	80
Z 6	36	36	46	46	196	346	276	30	170	45	80
Z 7	36	36	46	46	246	246	176	30	170	45	80
Z 8	36	36	46	46	246	296	218	34	185	50	80
Z 9	36	36	46	46	246	346	268	34	185	50	80
Z 10	36	36	46	46	246	396	318	34	185	50	80
Z 11	36	36	46	46	296	296	218	34	185	50	80
Z 12	36	36	46	46	296	346	256	40	185	55	100
Z 13	46	46	56	56	296	396	306	40	185	55	100
Z 14	46	46	56	56	296	446	356	40	185	55	100
Z 15	46	46	56	56	346	346	256	40	185	55	100
Z 16	46	46	56	56	346	396	286	50	200	70	100
Z 17	46	46	56	56	346	446	336	50	200	70	100
Z 18	46	46	56	56	346	496	386	50	200	70	100
Z 19	46	46	56	56	396	396	286	50	200	70	100
Z 20	46	46	56	56	396	446	336	50	200	70	100
Z 21	46	46	56	56	396	496	386	50	200	70	100
Z 22	46	46	56	56	396	546	436	50	200	70	100
Z 23	56	56	66	66	446	446	336	50	225	70	100
Z 24	56	56	66	66	446	496	386	50	225	70	100
Z 25	56	56	66	66	446	546	436	50	225	70	100
Z 26	56	56	66	66	446	596	486	50	225	70	100



Standar Die Set Type D



Material

Plates: SAE 1045 Steel
Bushings and pins, SAE 8620.

Execution:

Bushings and Pins: Carburized, hardened, grinded, lapped.

Hardness: 60 : 62 RC.

How to order:

Quantity & Type: heavy or light

Example: 1 X D 14 Light

Type	Thickness				Dimensión		in between centers		Pins		Bushings	
	Light		Heavy		A	B	Ec	Ee	D 1	L	D 2	H
	C	E	C	E								
D 1	26	26	36	36	156	156	108	108	20	145	30	60
D 2	26	26	36	36	156	196	108	148	20	145	30	60
D 3	36	36	46	46	196	196	138	138	25	170	36	70
D 4	36	36	46	46	196	246	138	188	25	170	36	70
D 5	36	36	46	46	196	296	138	238	25	170	36	70
D 6	36	36	46	46	196	346	138	288	25	170	36	70
D 7	36	36	46	46	246	246	176	176	30	185	45	80
D 8	36	36	46	46	246	296	176	226	30	185	45	80
D 9	36	36	46	46	246	346	176	276	30	185	45	80
D 10	36	36	46	46	246	396	176	326	30	185	45	80
D 11	36	36	46	46	296	296	218	218	34	185	50	80
D 12	36	36	46	46	296	346	218	268	34	185	50	80
D 13	46	46	56	56	296	396	218	318	34	185	50	80
D 14	46	46	56	56	296	446	218	368	34	185	50	80
D 15	46	46	56	56	346	346	256	256	40	200	55	100
D 16	46	46	56	56	346	396	256	306	40	200	55	100
D 17	46	46	56	56	346	446	256	356	40	200	55	100
D 18	46	46	56	56	346	496	256	406	40	200	55	100
D 19	46	46	56	56	396	396	306	306	40	200	55	100
D 20	46	46	56	56	396	446	306	356	40	200	55	100
D 21	46	46	56	56	396	496	306	406	40	200	55	100
D 22	56	56	66	66	396	546	306	456	40	200	55	100
D 23	56	56	66	66	446	446	356	356	40	200	55	100
D 24	56	56	66	66	446	496	356	406	40	200	55	100
D 25	56	56	66	66	446	546	356	456	40	200	55	100
D 26	56	56	66	66	446	596	356	506	40	200	55	100



If the standard Die Set that **Torbelar Moldbases** offer do not meet the customer's technical requirements, We can manufacture custom Die Set by request.

Our Technical Customer Service Department can help you find the most suitable solution for the Die Set.

Due to the vast volume of materials in stock, our last generation machinery and great accuracy, **Torbelar Moldbases** can fulfill any order.

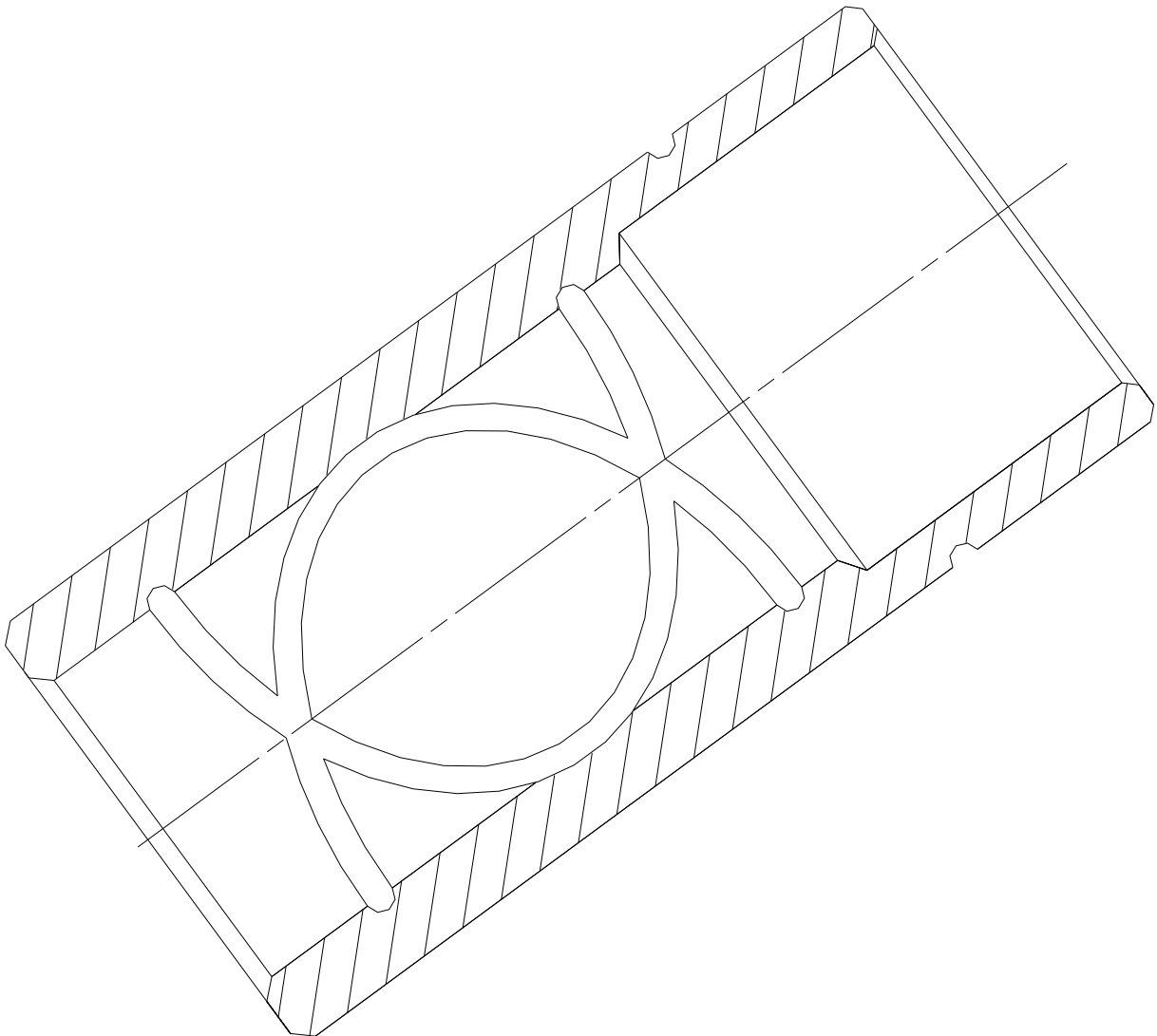
In order to provide the customer with a precise price quote and an accurate fabrication of the custom order, it is extremely important to have accurate and final draw.

The following custom Die Set can be manufactured:-

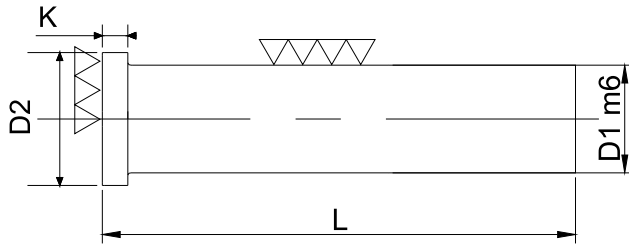
- * Die Sets whose plates measurements, column location, or column diameter differ from the standard ones; -
- * Die Sets with press plate;
- * Die Sets with CO-7; BU-7; CBB-4 and CBB-7;

For every custom order, **Torbelar Moldbases** requires the draw indicating all the pertaining measurements, and especially the required tolerance.

Normalized for Die Set



Forged cylindric head punches P-2C/P-2HSS



Steel:

P-2C : DIN 1.2080 SAE D.3

P-2HSS : DIN 1.3343 SAE M2

Hardness: Body HRC 62-64+/-1

Head: HRC45+/- 5

Execution: Grinded and lapped.

How to order:

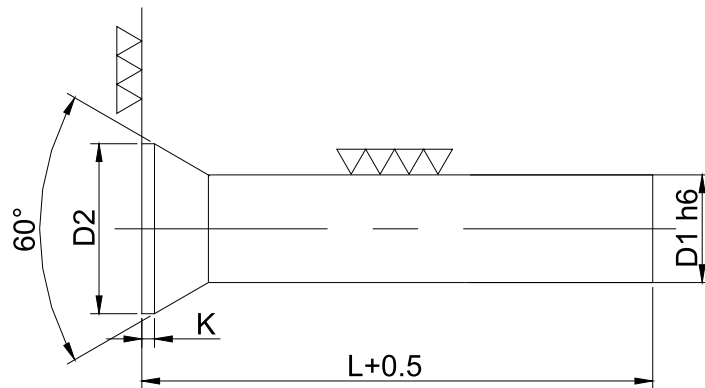
Q P-2C D1 x L.

Q P-2HSS D1 x L

			L(mm)	
D1 m6	D2-0.3	K+0.1	71	100
2	4	3	●	●
3	5	3	●	●
4	6	3	●	●
5	7	5	●	●
6	9	5	●	●
8	11	5	●	●
10	13	5	●	●
13	16	5	●	●
16	19	5	●	●
20	24	5	●	●
25	29	5	●	●



High quality Punch P-1



Material :

P-1

DIN 9861 form D

Acero: DIN 1.2842 SAE 01

P-1C

DIN 9861 form D

Steel: DIN 1.2080 SAE D.3

EP-1HSS(to Ø12)

DIN 9861 form D

Acero: HSS DIN 1.3343-1.3554

SAE M2

Hardness: Body HRC64+/-2

Head: HRC 45+/-5

P-1K190(to Ø12)

DIN 9861 form DK 190

Steel: K 190

Hardness: Body HRC 64+/-1

Head: HRC 45+/- 5

How to order:

P-1

Q P-1 D1 x L *Example* 100 P-1 1,1x 71

P-1C

Q P-1C D1 x L *Example* 100 P-1C 1,1 x 71

EP-1HSS

Q EP-1HSS D1 x L *Example* 50 EP-1HSS 5.0 x 100

P-1K190

Q P-1K190 D1 x L *Example* 70 EP-1K190 5.5 x 71

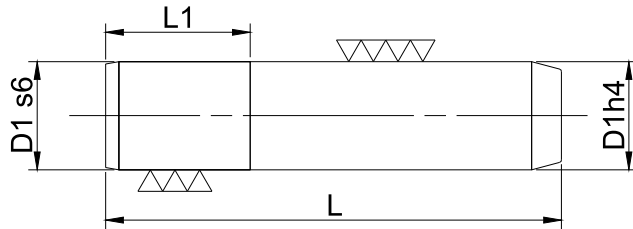
P-1/ P-1C/ P-1HSS/ P-1K190



D1	D2	K	L(mm)		D1	D2	K	L(mm)	
h6		+0,15	71	100	h6			71	100
1,0-1,1	1,8	0,5	●	●	6,5-7,4	9,0	1,0	●	●
1,2-1,3	2,0	0,5	●	●	7,5-8,4	10,0	1,0	●	●
1,4-1,5	2,2	0,5	●	●	8,5-9,4	11,0	1,0	●	●
1,6-1,7	2,5	0,5	●	●	9,5-10,4	12,0	1,0	●	●
1,75-1,8	2,8	0,5	●	●	10,5-11,4	13,0	1,0	●	●
1,9-2,0	3,0	0,5	●	●	11,5-12,4	14,0	1,0	●	●
2,1-2,2	3,2	0,5	●	●	12,5-13,4	15,0	1,0	●	●
2,3-2,5	3,5	0,5	●	●	13,5-14,4	16,0	1,0	●	●
2,6-2,9	4,0	0,5	●	●	14,5-15,0	17,0	1,5	●	●
3,0-3,4	4,5	0,5	●	●	15,0-16,0	18,0	1,5	●	●
3,5-3,9	5,0	0,5	●	●	16,1-16,9	19,0	1,5	●	●
4,0-4,4	5,5	0,5	●	●	17,0-17,9	20,0	1,5	●	●
4,5-4,9	6,0	0,5	●	●	18,0-18,9	21,0	1,5	●	●
5,0-5,4	6,5	0,5	●	●	19,0-20,0	22,0	1,5	●	●
5,5-5,9	7,0	0,5	●	●					
6,0-6,4	8,0	0,5	●	●					



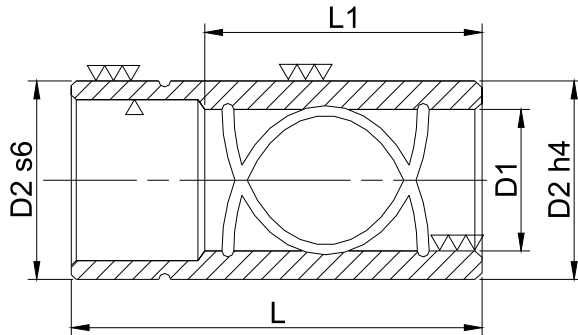
Shoulder Pins ECO-4



Steel: SAE 8620
 Hardness: HRC 60-62
 Executing: Carburized, hardened, grinded.
 Finishing: Lapped
 How to order:
 Q CO-4 D1x L
 Example: 2 CO-4 25 X 200

		L																	
D1	L1	85	95	105	115	125	135	145	155	170	185	200	225	250	275	300	325	350	400
16	26	●	●	●	●	●	●												
	36										●	●							
20	26	●	●	●	●	●	●	●	●	●	●	●							
	36										●	●							
25	26				●	●	●	●	●	●	●	●	●						
	36										●	●	●	●					
30	36				●	●	●	●	●	●	●	●	●	●	●	●			
	46											●	●	●	●				
34	36							●	●	●	●	●							
	46													●	●	●	●	●	
40	36							●	●	●									
	46										●	●	●	●	●	●	●	●	●
50	46									●	●	●	●	●					
	56														●	●	●	●	●

Shoulder Bushing BU-4



Steel: SAE 8620
 Hardness: HRC 60-62
 Executing: Carburized, hardened, grinded.

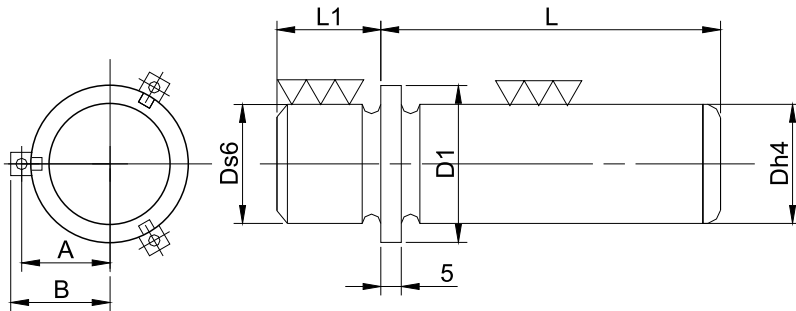
How to order:
 Q BU-4 D1x L
 Example: 2 BU-4 25 X 200

Serie normal	D1	L1	D2	Tolerancia D1
L(mm)			(h4-S6)	
60	20	38	30	+0.008/+0.012
70	25	38	36	+0.008/+0.012
80	30	48	45	+0.006/+0.010
80	34	48	50	+0.006/+0.010
100	40	70	55	+0.006/+0.010
100	50	70	70	+0.006/+0.010

Serie corta	D1	L1	D2	Tolerancia D1
L(mm)			(h4-S6)	
45	20	30	30	+0.008/+0.012
50	25	30	36	+0.008/+0.012
55	30	37	45	+0.006/+0.010
55	34	30	50	+0.006/+0.010
60	40	35	55	+0.006/+0.010
60	50	40	70	+0.006/+0.010



Removable pins CO-7



Steel: SAE 8620
 Hardness: HRC 60-62
 Executing: Carburized, hardened
 hardened.
 Pins provided with 3 clamps.

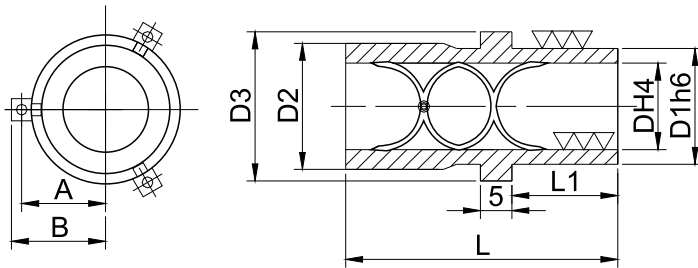
How to order:
 Q CO-7 D x L
 Example: 2 CO-7 32 X 220

D	D1	A	B	L1	L
25	32.4	20.8	28.3	24	70
					80
					90
					100
					110
					120
					130
					140
					150
					160
32	42.8	26.0	33.5	30	170
					180
					100
					110
					120
					130
					140
					150
					160
					170
40	51.8	30.5	38.0	37	180
					190
					200
					220
					240
					280
					100
					110
					120
					140
150					
160					

D	D1	A	B	L1	L
50	64.8	37.0	44.5	45	170
					180
					200
					220
					240
					280
					110
					120
					130
					140
63	76.8	43.0	50.5	49	150
					160
					180
					200
					220
					240
					280
					120
					160
					180
200					
220					
240					
320					
360					
400					



Removable bushings BU-7



Steel: SAE 8620
 Hardness: HRC 60-62
 Executing: Hardened, ginded, lapped

Bushing provided with 3 grams and screws.

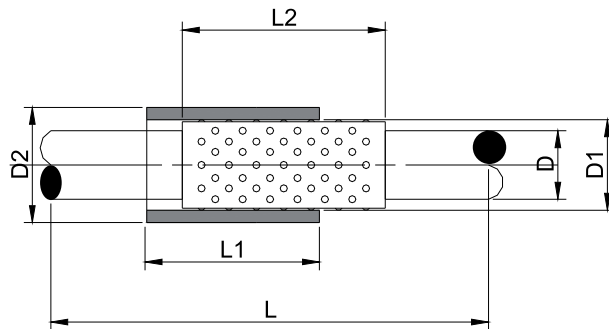
How to order:
 Q BU-7 D1x L
 Example: 2 BU-7 32 X 90

D	A	B
25	26.70	34.20
32	31.20	38.70
40	36.20	43.70
50	44.20	51.70
63	50.70	58.20

Tipo Corto					
D	L	L1	D1	D2	D3
25	37	23	38	38	44
32	44	30	45	45	53
40	52	38	54	55	63
50	62	48	65	70	79
63	75	61	81	87	92
Tipo Medio					
D	L	L1	D1	D2	D3
25	55	23	38	39	44
32	60	26	45	48	53
40	67	30	54	58	63
50	75	35	65	74	79
63	90	48	81	87	92
Tipo Largo					
D	L	L1	D1	D2	D3
25	80	23	38	39	44
32	90	26	45	48	53
40	100	30	54	58	63
50	110	35	65	74	79
63	130	48	81	87	92

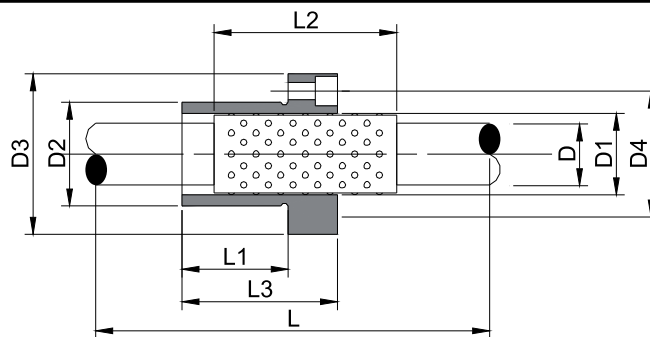


Ball bushings CBB-4



D	16	20	25	30	40	50
D1	22	26	31	38	48	58
D2	28	33	40	48	58	70
L1	37-47-53	47-53-67	47-67-77	53-77-86	63-86-96-116	80-90-116
L2	43-54-63	54-63-74	54-74-83	58-88-103	68-94-108-128	88-108-128
L	80 a 200	100 a 220	100 a 270	100 a 240	140 a 300	160 a 300

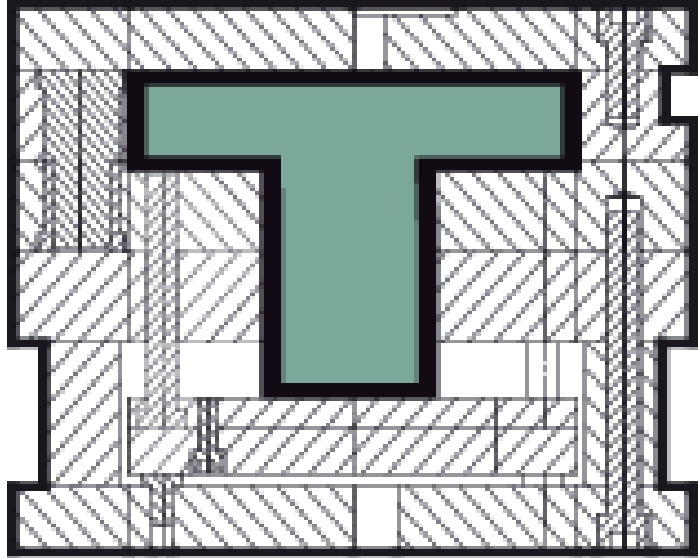
Ball bushings CBB-7



D	25	30	40	50
D1	31	38	48	58
D2	40	48	58	70
D3	65	72	85	104
D4	51	58	70	86
L1	43	48	52	59
L2	54-74-83	58-88-103	68-94-108-128	88-108-128
L3	63	72	80	100
L	100 a 270	100 a 240	140 a 300	180 a 300



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