



Standard Components for Moulds and Dies



PPD has been the result of decades of industry experience and skills of some of the brightest minds in the Indian tooling Industry. PPD has always been at the forefront at the attempt of standardization of mould and die components.

We are dedicated to providing standardized products and solutions for the mould and Die making industry.

We have been pioneers in the manufacturing of Ejector Pins, Ejector sleeves, Punches for plastic, Die Casting Moulds and Press Tools.

At PPD we constantly strive to ease the tool development process of our customers by learning and adapting from customer feedback and this has greatly helped us in building a good rapport with most of the top toolmakers across the country and overseas.

At PPD, Quality is always regarded as the highest virtue and that reflects in every process across the organization and more importantly in our products.

With our extensive range of products available off the shelf and with our flexibility to cater to custom demands, we appeal to a greater customer base.

PPD works in tandem with our sister concern Kalyani which specializes in manufacturing of Standard as well as custom mould bases for plastic and Die Casting Moulds thus making the whole tool making process effortless and less time consuming for our customers.

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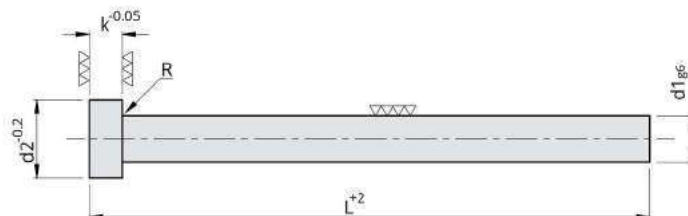


ROUND EJECTOR PIN

TYPE : REPA
DIN 1530

PPD®

Straight Cylindrical Head
DIN Type - Hot Die Steel (H13)
Nitrided - Anti-Seize Coated



Anti-Seize Coated Ejector pins possess excellent dry running performance and high corrosion resistance Ideal for hot working applications (die casting and high temperature plastic injection moulding).

Dimension in mm.

d1	d1 g6	d2	k	R	L																				Upto
					100	125	160	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1250
1					o	o	o																		
1.1		2.5	1.2		o	o	o																		
1.2				0.2	o	o	o																		
1.5	-0.002 -0.008	3	1.5		o	o	o	o	o																
2		4	2		o	o	o	o	o	o	o	o													
2.5		5			o	o	o	o	o	o	o	o	o	o											
3		6			o	o	o	o	o	o	o	o	o	o	o										
3.5		7		0.3	o	o	o	o	o	o	o	o	o	o	o										
4		8	3		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
4.5	-0.004 -0.012				o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
5		10			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
5.5					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6.5		12		0.5	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
7			5		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
8	-0.005 -0.014				o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
9		14			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
10		16			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
12		18		0.8	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
14	-0.006 -0.017				o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
16		22	7		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
18		24			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
20		26	8		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
25	-0.007 -0.020			1	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
32		32			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
40	-0.009 -0.025	40	10		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		50			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER

TYPE	: REPA
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade - Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Anti-Seize Coated, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

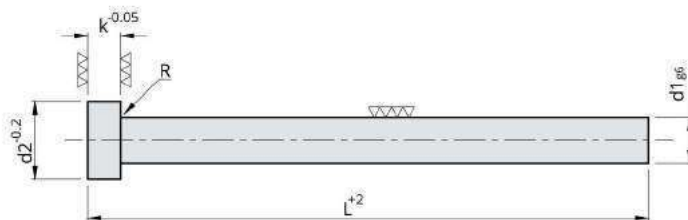
TYPE	d1	L	QTY
REPA x	2.5 x	200 x	15

ROUND EJECTOR PIN

TYPE : REPA-HSS
DIN 1530

PPD®

Straight Cylindrical Head
DIN Type - High Speed Steel



HSS M2/SKH-51 Offers wear resistance which is dramatically superior to conventional mould materials for processing resins, whether thermoplastic, thermosetting or glass-fiber. A larger number of shots can be assured compared to conventional products, and mould maintenance requirements are reduced especially for small parts

Dimension in mm.

d1	d1 g6	d2	k	R	L																				Upto
					100	125	160	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1250
1					o	o	o																		
1.1		2.5	1.2		o	o	o																		
1.2				0.2	o	o	o																		
1.5	+0.002 -0.008	3	1.5		o	o	o	o	o																
2		4			o	o	o	o	o	o	o	o													
2.5		5	2		o	o	o	o	o	o	o	o	o	o											
3		6			o	o	o	o	o	o	o	o	o	o	o										
3.5		7			o	o	o	o	o	o	o	o	o	o	o										
4		8	3	0.3	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
4.5	+0.004 -0.012				o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
5		10			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
5.5					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6.5		12			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
7			5	0.5	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
8	+0.005 -0.014	14			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
9					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
10		16			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
12		18			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
14	+0.006 -0.017	22	7	0.8	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
16					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
18		24			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
20	+0.007 -0.020	26	8		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
25		32			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
32		40	10	1	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
40	+0.009 -0.025	50			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o

TYPE	: REPA-HSS
MATERIAL	: HSS M2 / 1.3343 / SKH-51 High Speed Steel
HARDNESS	: Shank : 58-60 HRC Through Hardened Head : 50-55 HRC
FINISH	: Hardened, Ground, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE				
TYPE	d1	L	QTY	
REPA-HSS x	2.5 x	200 x	15	

ROUND EJECTOR PIN

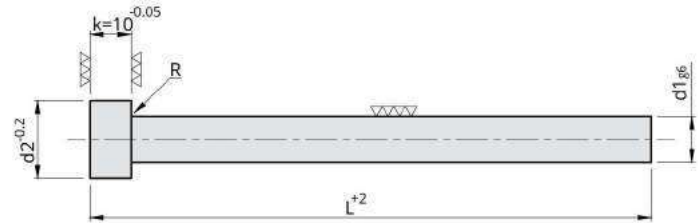
TYPE : REPADC
DIN 1530

PPD®

Stepped Cylindrical Head - 10mm Head Thickness
DIN Type - Hot Die Steel (H13)
Nitrided - Anti-Seize Coated



10mm Head Thickness is well suited
for Die Casting operations.



Anti-Seize Coated Ejector pins possess excellent dry running performance
and high corrosion resistance ideal for hot working applications (die
casting and high temperature plastic injection moulding).

Dimension in mm.

d1	d1g6	d2	R	L		
4	-0.004 -0.012	8	0.3	100 125 160 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250		
5		10				
6		12	0.5			
7	-0.005 -0.014				14	
8		16				
9						18
10		-0.006 -0.017	22			
12	24					
14					26	
16						
18						

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 KG.) DUE TO NITRIDED LAYER

TYPE	: REPADC
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade -Hot work tool steel heat resistant upto 550°c
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Anti-Seize Coated, Lapped
NOTE	: Custom drawing Requirements are supplied on request

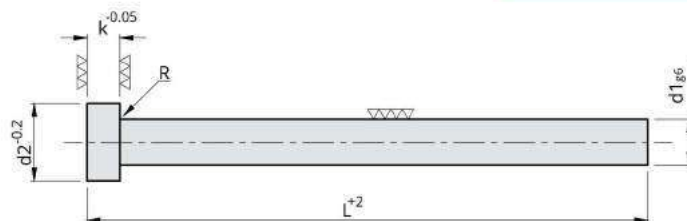
ORDERING EXAMPLE				
TYPE	d1	L	QTY	
REPADC x	2.5 x	200 x	15	

ROUND EJECTOR PIN

TYPE : REPJ
JIS Standard

PPD®

Straight Cylindrical Head
JIS Type - Hot Die Steel (H13)
Nitrided - Anti-Seize Coated



Anti-Seize Coated Ejector pins possess excellent dry running performance and high corrosion resistance. Ideal for hot working applications (die casting and high temperature plastic injection moulding).

Dimension in mm.

d1	d1g6	d2	k	R	L																			Upto
					100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1250
1					o	o																		
1.1					o	o																		
1.2			3		o	o																		
1.5	-0.002 -0.008				o	o	o	o																
2		4	4		o	o	o	o	o	o	o													
2.5		5			o	o	o	o	o	o	o	o	o											
3		6			o	o	o	o	o	o	o	o	o											
3.5		7			o	o	o	o	o	o	o	o	o											
4					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
		6	0.3		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		4			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
4.5	-0.004 -0.012	8			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		6			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
5		4			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		6			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
5.5		9			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		6			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6		4			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		6			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6.5		10			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		4			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
7	-0.005 -0.014	11	0.5		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		6			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		4			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
8		13			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
9		14	8		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
10		15			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		4			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
12	-0.006 -0.017	17			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		4			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
16		21	0.8		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
		4			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
20	-0.007 -0.020	25			o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
25		30	1		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER

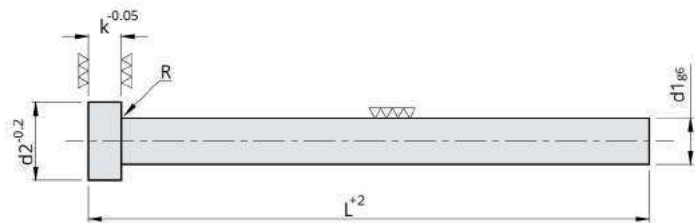
TYPE	: REPJ
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade -Hot work tool steel heat resistant upto 550°C
HA NESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer. Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Anti-Seize Coated, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE						
TYPE	d1	d2	k	L	QTY	
REPJ	x 4	x 7	x 4	x 200	x 15	

TYPE : REPJ-W
JIS Standard



**Straight Cylindrical Head
JIS Type - Hot Die Steel (H13)
Nitrided**



Dimension in mm.

[illegible]

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER.

TYPE	: REPJ-W
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade - Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

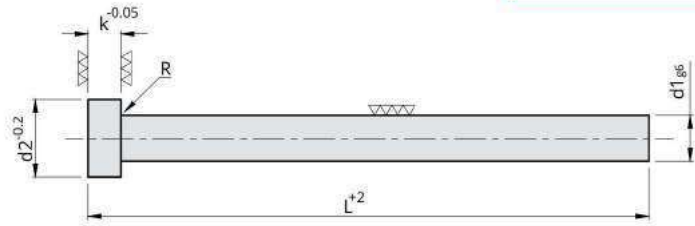
TYPE	d1	d2	k	L	QTY
REPJ-W	x 4	x 7	x 4	x 200	x 15

ROUND EJECTOR PIN

TYPE : REPJ-HSS
JIS Standard

PPD®

Straight Cylindrical Head
JIS Type - High Speed Steel



HSS M2/SKH-51 Offers wear resistance which is dramatically superior to conventional mould materials for processing resins, whether thermoplastic, thermosetting or glass-fiber. A larger number of shots can be assured compared to conventional products, and mould maintenance requirements are reduced especially for small parts

Dimension in mm.

d1	d1 g6	d2	k	R	L																	Upto		
					100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1250
1					o	o																		
1.1					o	o																		
1.2					o	o																		
1.5					o	o	o	o																
2					o	o	o	o	o	o	o													
2.5					o	o	o	o	o	o	o	o	o											
3					o	o	o	o	o	o	o	o	o											
3.5					o	o	o	o	o	o	o	o	o											
4					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
4.5					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
5					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
5.5					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6.5					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
7					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
8					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
9					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
10					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
11					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
12					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
16					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
20					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
25					o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o

TYPE	: REPJ-HSS
MATERIAL	: HSS M2 / 1.3343 / SKH-51 High Speed Steel
HARDNESS	: Shank : 58-60 HRC Through Hardened Head : 50-55 HRC
FINISH	: Hardened, Ground, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE					
TYPE	d1	d2	k	L	QTY
REPJ-HSS	4	7	4	200	15

ROUND EJECTOR PIN

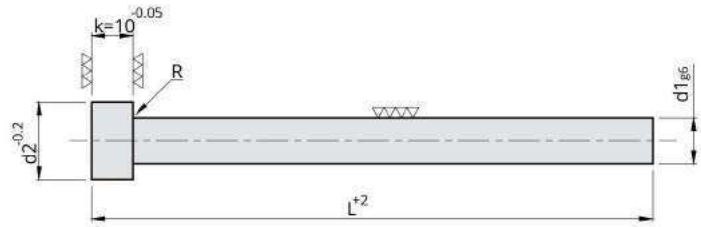
TYPE : REPJDC
JIS Standard

PPD®

Stepped Cylindrical Head - 10mm Head Thickness
DIN Type - Hot Die Steel (H13)
Nitrided - Anti-Seize Coated



10mm Head Thickness is well suited for Die Casting operations.



Anti-Seize Coated Ejector pins possess excellent dry running performance and high corrosion resistance ideal for hot working applications (die casting and high temperature plastic injection moulding).

Dimension in mm.

d1	d1g6	d2	R	L
4	-0.004 -0.012	8	0.3	100 125 160 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250
5		9		
6		10	0.5	
7	11			
8	13			
9	14			
10	15			
12	-0.006 -0.017	17	0.8	
16		20		
18		21		
20	-0.004 -0.012	25	1	

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 KG.) DUE TO NITRIDED LAYER

TYPE	: REPJDC
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade - Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Anti-Seize Coated, Lapped
NOTE	: Custom drawing Requirements are supplied on request

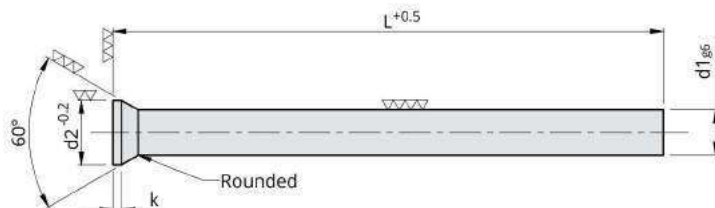
ORDERING EXAMPLE				
TYPE	d1	L	QTY	
REPJDC	2.5	200	15	

ROUND EJECTOR PIN

TYPE : REPD
DIN 1530

PPD®

Straight CSK Head
DIN Type - Hot Die Steel (H13)
Nitrided - Anti-Seize Coated



Anti-Seize Coated Ejector pins possess excellent dry running performance and high corrosion resistance Ideal for hot working applications(die casting and high temperature plastic injection moulding).

Dimension in mm.

d1	d1g6	d2	k	L																		Upto
				100	125	160	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	
1		1.8		o	o	o																
1.1				o	o	o																
1.2		2		o	o	o																
1.5	-0.002 -0.008	2.2		o	o	o	o	o														
2		3		o	o	o	o	o	o	o	o											
2.5		3.5	0.5	o	o	o	o	o	o	o	o	o	o									
3		4.5		o	o	o	o	o	o	o	o	o	o									
3.5		5		o	o	o	o	o	o	o	o	o	o									
4		5.5		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
4.5		6		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
5		6.5		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
5.5		7		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
6	-0.004 -0.012	8		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6.5		9		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
7		9	1	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
8		10		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
9		11		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
10		12		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
12		14		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
14	-0.006 -0.017	16	1.5	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
16		18		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER.

TYPE	: REPD
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade -Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Anti-Seize Coated, Lapped
NOTE	: Custom drawing Requirements are supplied on request

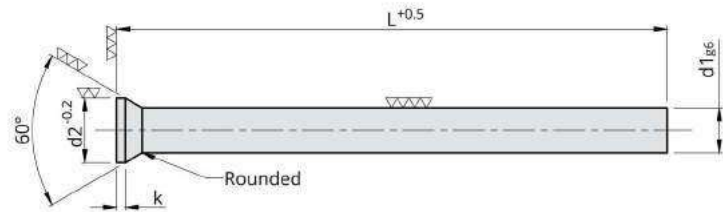
ORDERING EXAMPLE			
TYPE	d1	L	QTY
REPD x	2.5 x	250 x	20

ROUND EJECTOR PIN

TYPE : REPD-W
DIN 1530

PPD®

Straight CSK Head
DIN Type - Hot Die Steel (H13)
Nitrided



Dimension in mm.

d1	d1g6	d2	k	L																				Upto
				100	125	160	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1250
1		1.8		o	o	o																		
1.1				o	o	o																		
1.2		2		o	o	o																		
1.5	-0.002 -0.008	2.2		o	o	o	o	o																
2		3		o	o	o	o	o	o	o														
2.5		3.5		o	o	o	o	o	o	o	o	o												
3		4.5	0.5	o	o	o	o	o	o	o	o	o	o											
3.5		5		o	o	o	o	o	o	o	o	o	o											
4		5.5		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
4.5		6		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
5		6.5		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
5.5		7		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
6	-0.004 -0.012	8		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
6.5		9		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
7		9		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
8		10	1	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
9		11		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
10		12		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
12		14		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
14	-0.006 -0.017	16	1.5	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
16		18		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER

TYPE	: REPD-W
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade -Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 45 HRC ± 3 Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided,Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

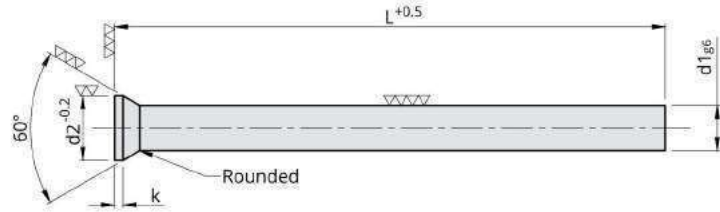
TYPE	d1	L	QTY
REPD-W x	4.0 x	250 x	20

ROUND EJECTOR PIN

TYPE : REPD-HSS
DIN 1530

PPD®

Straight CSK Head
DIN Type - High Speed Steel



HSS M2/SKH-51 Offers wear resistance which is dramatically superior to conventional mould materials for processing resins, whether thermoplastic, thermosetting or glass-fiber. A larger number of shots can be assured compared to conventional products, and mould maintenance requirements are reduced especially for small parts

Dimension in mm.

d1	d1g6	d2	k	L																				Upto
				100	125	160	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1250
1	-0.002 -0.008	1.8	0.5	o	o	o																		
1.1				o	o	o																		
1.2		2		o	o	o																		
1.5		2.2		o	o	o	o	o																
2		3		o	o	o	o	o	o	o														
2.5		3.5		o	o	o	o	o	o	o	o	o												
3		4.5		o	o	o	o	o	o	o	o	o	o											
3.5		5		o	o	o	o	o	o	o	o	o	o	o										
4		5.5		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
4.5		6		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
5	-0.004 -0.012	6.5	1	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
5.5		7		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	
6		8		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
6.5		9		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
7		9		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
8		10		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
9		11		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
10		12		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
12		14		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
14		16	1.5	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
16	-0.006 -0.017	18		o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o

TYPE	: REPD-HSS
MATERIAL	: HSS M2 / 1.3343 / SKH-51 High Speed Steel
HARDNESS	: Shank : 58-60 HRC Through Hardened Head : 50-55 HRC
FINISH	: Hardened, Ground, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

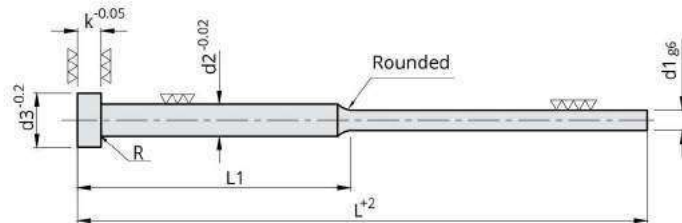
TYPE	d1	L	QTY
REPD-HSS x	4.0 x	250 x	20

ROUND EJECTOR PIN

TYPE : REPC
DIN 1530

PPD®

Stepped Cylindrical Head
DIN Type - Hot Die Steel (H13)
Nitrided - Anti-Seize Coated



Anti-Seize Coated Ejector pins possess excellent dry running performance and high corrosion resistance. Ideal for hot working applications (die casting and high temperature plastic injection moulding).

Dimension in mm.

d1 (0.1 mm Increments)	d2	d3	k	R	L1	L														Available upto1000 mm (increments of 50 mm)
						100	150	200	250	300	350	400	450	500	550	600	650	700		
0.8 - 1.40	1.5	3	1.5	0.2	To be Specified by user	o	o													
0.8 - 1.90	2	4	2			o	o													
1.00 - 2.40	2.5	5	0.3	o		o	o	o	o	o										
1.50 - 2.90	3	6		o		o	o	o	o	o										
1.50 - 3.90	4	8		3		o	o	o	o	o	o	o	o	o	o	o				
2.00 - 4.90	5	10		o		o	o	o	o	o	o	o	o	o	o					
3.00 - 5.90	6	12	5	0.5		o	o	o	o	o	o	o	o	o	o	o				
4.50 - 6.90	7					o	o	o	o	o	o	o	o	o	o	o				
5.50 - 7.90	8	14				o	o	o	o	o	o	o	o	o	o	o				
6.50 - 8.90	9					o	o	o	o	o	o	o	o	o	o					
7.50 - 9.90	10	16	7	0.8		o	o	o	o	o	o	o	o	o	o	o				
8.50 - 11.90	12	18				o	o	o	o	o	o	o	o	o	o	o				
11.50 - 13.90	14	22				o	o	o	o	o	o	o	o	o	o	o				
12.50 - 15.90	16					o	o	o	o	o	o	o	o	o	o	o				
14.50 - 17.90	18	24				o	o	o	o	o	o	o	o	o	o	o				
16.50 - 19.90	20	26	8	1		o	o	o	o	o	o	o	o	o	o	o				

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER.

TYPE	: REPC
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade -Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68HRC for the nitrided layer Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Anti-Seize Coated, Lapped
NOTE	: Custom drawing Requirements are supplied on request

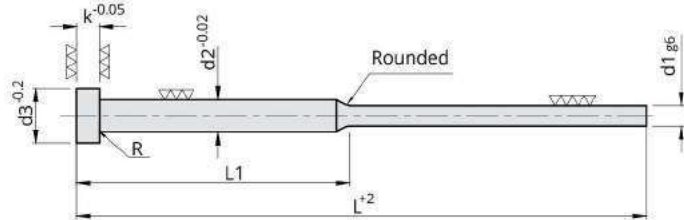
ORDERING EXAMPLE					
TYPE	d1	d2	L1	L	Qty
REPC	2.0	3.0	50	350	25

ROUND EJECTOR PIN

TYPE : REPC-W
DIN 1530

PPD®

Stepped Cylindrical Head
DIN Type - Hot Die Steel (H13)
Nitrided



Dimension in mm.

d1 (0.1 mm Increments)	d2	d3	k	R	L1	L													Available upto1000 mm (increments of 50 mm)	
						100	150	200	250	300	350	400	450	500	550	600	650	700		
0.8 - 1.40	1.5	3	1.5	0.2	To be Specified by user	0	0													
0.8 - 1.90	2	4	2			0	0													
1.00 - 2.40	2.5	5	0.3	0		0	0	0	0	0	0									
1.50 - 2.90	3	6		0		0	0	0	0	0										
1.50 - 3.90	4	8		3		0	0	0	0	0	0	0	0	0	0	0				
2.00 - 4.90	5	10		0		0	0	0	0	0	0	0	0	0	0					
3.00 - 5.90	6	12	5	0.5		0	0	0	0	0	0	0	0	0	0	0				
4.50 - 6.90	7					0	0	0	0	0	0	0	0	0	0	0				
5.50 - 7.90	8	14				0	0	0	0	0	0	0	0	0	0	0	0			
6.50 - 8.90	9					0	0	0	0	0	0	0	0	0	0	0				
7.50 - 9.90	10	16	7	0.8		0	0	0	0	0	0	0	0	0	0	0				
8.50 - 11.90	12	18				0	0	0	0	0	0	0	0	0	0	0				
11.50 - 13.90	14	22				0	0	0	0	0	0	0	0	0	0	0				
12.50 - 15.90	16					0	0	0	0	0	0	0	0	0	0	0				
14.50 - 17.90	18	24	8			0	0	0	0	0	0	0	0	0	0	0				
16.50 - 19.90	20	26				1	0	0	0	0	0	0	0	0	0	0	0			

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER

TYPE	: REPC-W
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade -Hot work tool steel heat resistant upto 550°c
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided,Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE d1 d2 L1 L QTY
REPC-W x 2.0 x 3.0 x 50 x 350 x 25

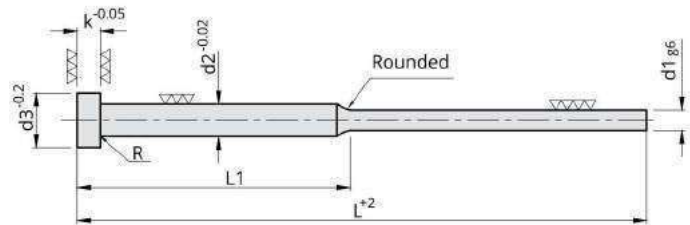
ROUND EJECTOR PINS

TYPE : REPC-HSS
DIN 1530

PPD®

Stepped Cylindrical Head
DIN Type - High Speed Steel

Excellent Wear Resistance,Toughness and Flexibility



SKH-51 Offers wear resistance which is dramatically superior to conventional mould materials for processing resins, whether thermoplastic, thermosetting or glass-fiber. A larger number of shots can be assured compared to conventional products, and mould maintenance requirements are reduced especially for small parts

Dimension in mm.

d1 (0.1 mm Increments)	d2	d3	k	R	L1	L														Available upto1000 mm (increments of 50 mm)
						100	150	200	250	300	350	400	450	500	550	600	650	700		
0.8 - 1.40	1.5	3	1.5	0.2	To be Specified by user	o	o													
0.8 - 1.90	2	4	2			o	o													
1.00 - 2.40	2.5	5		0.3		o	o	o	o	o	o									
1.50 - 2.90	3	6	o			o	o	o	o	o										
1.50 - 3.90	4	8	3	o		o	o	o	o	o	o	o	o	o	o	o				
2.00 - 4.90	5	10		o		o	o	o	o	o	o	o	o	o	o	o				
3.00 - 5.90	6	12	5	0.5		o	o	o	o	o	o	o	o	o	o	o				
4.50 - 6.90	7					o	o	o	o	o	o	o	o	o	o	o	o			
5.50 - 7.90	8	14	7	0.8		o	o	o	o	o	o	o	o	o	o	o				
6.50 - 8.90	9					o	o	o	o	o	o	o	o	o	o	o	o			
7.50 - 9.90	10	16	8	1		o	o	o	o	o	o	o	o	o	o	o				
8.50 - 11.90	12	18				o	o	o	o	o	o	o	o	o	o	o	o			
11.50 - 13.90	14	22	7	0.8		o	o	o	o	o	o	o	o	o	o	o				
12.50 - 15.90	16					o	o	o	o	o	o	o	o	o	o	o	o			
14.50 - 17.90	18	24	8	1		o	o	o	o	o	o	o	o	o	o	o				
16.50 - 19.90	20	26				o	o	o	o	o	o	o	o	o	o	o	o			

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER

TYPE	: REPC-HSS
MATERIAL	: HSS M2 / 1.3343 / SKH-51 High Speed Steel
HARDNESS	: Shank : 58-60 HRC Through Hardened Head : 50-55 HRC
FINISH	: Hardened, Ground, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE d1 d2 L1 L QTY
REPC-HSS x 2.0 x 3.0 x 50 x 150 x 25

ROUND EJECTOR PIN

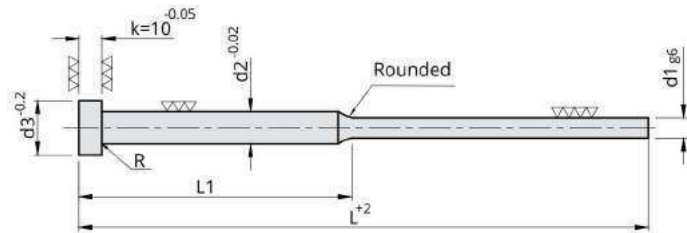
TYPE : REPCDC
DIN 1530

PPD®

Stepped Cylindrical Head - 10mm Head Thickness
DIN Type - Hot Die Steel (H13)
Nitrided - Anti-Seize Coated



10 mm Head Thickness is well suited for Die Casting operations



Anti-Seize Coated Ejector pins possess excellent dry running performance and high corrosion resistance Ideal for hot working applications (Die casting and high temperature plastic injection moulding).

Dimension in mm.

d1 (0.1 mm Increments)	d2	d3	L1	R	L												Available upto1000 mm (increments of 50 mm)
					100	150	200	250	300	350	400	450	500	550	600	650	
1.50 - 3.90	4	8	To be specified by user	0.3	o	o	o	o	o	o	o	o	o	o	o	o	o
2.00 - 4.90	5	10			o	o	o	o	o	o	o	o	o	o	o	o	o
3.00 - 5.90	6	12		0.5	o	o	o	o	o	o	o	o	o	o	o	o	o
4.50 - 6.90	7				o	o	o	o	o	o	o	o	o	o	o	o	o
5.50 - 7.90	8	14			o	o	o	o	o	o	o	o	o	o	o	o	o
6.50 - 8.90	9				o	o	o	o	o	o	o	o	o	o	o	o	o
7.50 - 9.90	10	16			o	o	o	o	o	o	o	o	o	o	o	o	o
8.50 - 11.90	12	18		0.8	o	o	o	o	o	o	o	o	o	o	o	o	o
11.50 - 13.90	14	22			o	o	o	o	o	o	o	o	o	o	o	o	o
12.50 - 15.90	16				o	o	o	o	o	o	o	o	o	o	o	o	o
14.50 - 17.90	18	24			o	o	o	o	o	o	o	o	o	o	o	o	o
16.50 - 19.90	20	26		1	o	o	o	o	o	o	o	o	o	o	o	o	o

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 KG.) DUE TO NITRIDED LAYER

TYPE	: REPCDC
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade - Hot work tool steel heat resistant upto 550° c
HARDNESS	: Shank : 900 / 950 HV, Approx 68HRC for the nitrided layer Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Anti-Seize Coated, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE d1 d2 L1 L Qty
REPCDC x 2.0 x 4 x 25 x 60 x 25

ROUND EJECTOR PIN

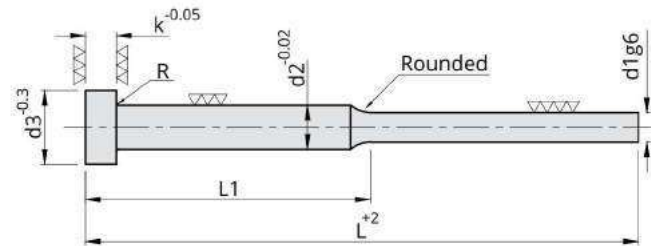
TYPE : ESS
JIS STANDARD

PPD®

Straight Cylindrical Head
JIS Type - High Speed Steel



Excellent Wear Resistance, Toughness and Flexibility



Dimension in mm.

SKH-51 Offers wear resistance which is dramatically superior to conventional mould materials for processing resins, whether thermoplastic, thermosetting or glass-fiber. A larger number of shots can be assured compared to conventional products, and mould maintenance requirements are reduced especially for small parts

d1 (0.1 mm Increments)	d2	d3	k	R	L1	L														Available upto1000 mm (increments of 50 mm)
						100	150	200	250	300	350	400	450	500	550	600	650	700		
0.8 - 1.00	1.5	3	4	0.2	To be specified by user	o	o	o	o	o	o	o								
0.8 - 1.50	2	4		o		o	o	o	o	o	o									
1.00 - 2.40	2.5	5		o		o	o	o	o	o	o									
1.50 - 2.90	3	6		o		o	o	o	o	o	o									
1.50 - 3.90	4	7	6	0.3		o	o	o	o	o	o	o	o	o	o	o	o	o		
		8		o		o	o	o	o	o	o	o	o	o	o	o	o			
2.00 - 4.90	5	9	4	6		o	o	o	o	o	o	o	o	o	o	o	o	o		
			6			o	o	o	o	o	o	o	o	o	o	o	o	o		
3.00 - 5.90	6	10	4	8		o	o	o	o	o	o	o	o	o	o	o	o	o		
			6			o	o	o	o	o	o	o	o	o	o	o	o	o		
4.50 - 6.90	7	11	4	8		o	o	o	o	o	o	o	o	o	o	o	o	o		
			6			o	o	o	o	o	o	o	o	o	o	o	o	o		
5.50 - 7.90	8	13	4	8		o	o	o	o	o	o	o	o	o	o	o	o	o		
			8			o	o	o	o	o	o	o	o	o	o	o	o	o		
6.50 - 8.90	9	14	4	8		o	o	o	o	o	o	o	o	o	o	o	o	o		
			4			o	o	o	o	o	o	o	o	o	o	o	o	o		
7.50 - 9.90	10	15	8	4		o	o	o	o	o	o	o	o	o	o	o	o	o		
			4			o	o	o	o	o	o	o	o	o	o	o	o	o		
8.50 - 11.90	12	17	8	0.8		o	o	o	o	o	o	o	o	o	o	o	o	o		
						o	o	o	o	o	o	o	o	o	o	o	o	o	o	
10.90 - 14.90	15	20	8	1		o	o	o	o	o	o	o	o	o	o	o	o	o		
11.50 - 15.90	16	21				o	o	o	o	o	o	o	o	o	o	o	o	o		
15.50 - 19.90	20	25				o	o	o	o	o	o	o	o	o	o	o	o	o		

TYPE : ESS

MATERIAL : HSS M2 / 1.3343 / SKH-51 High Speed Steel

HARDNESS : 58-60 HRC

FINISH : Hardened, Ground, Lapped

NOTE : Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE d1 d2 d3 k L1 L Qty
ESS x 1.0 x 2 x 4 x 4 x 50 x 150 x 25

ROUND EJECTOR PIN

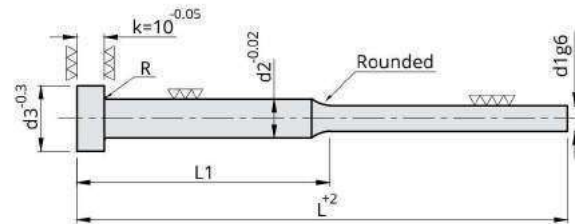
TYPE : ESADC
JIS STANDARD

PPD®

Stepped Cylindrical Head-10mm Head Thickness
JIS Type - Hot Die Steel (H13)
Nitrided - Anti-Seize Coated



10 mm Head Thickness is well suited for Die Casting operations



Ideal for hot working applications(Die casting and high temperature plastic injection moulding).

Anti-Seize Coated Ejector pins possess excellent dry running performance and high corrosion resistance

Dimension in mm.

d1 (0.1 mm Increments)	d2	d3	R	L1	L														Available upto1000 mm (increments of 50 mm)
					100	150	200	250	300	350	400	450	500	550	600	650	700		
0.8 - 1.00	1.5	3	0.2	To be specified by user	o	o	o	o	o	o	o								
0.8 - 1.50	2	4			o	o	o	o	o	o	o								
1.00 - 2.40	2.5	5	o		o	o	o	o	o	o									
1.50 - 2.90	3	6	o		o	o	o	o	o	o									
1.50 - 3.90	4	7	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
		8	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
2.00 - 4.90	5	9	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
		10	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
3.00 - 5.90	6	11	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
		13	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
4.50 - 6.90	7	14	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
		15	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
5.50 - 7.90	8	16	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
		17	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
6.50 - 8.90	9	18	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
		19	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
7.50 - 9.90	10	20	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
		21	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
8.50 - 11.90	12	22	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
		23	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
10.90 - 14.90	15	24	o		o	o	o	o	o	o	o	o	o	o	o	o	o		
		25	o	o	o	o	o	o	o	o	o	o	o	o	o	o			
11.50 - 15.90	16	26	o	o	o	o	o	o	o	o	o	o	o	o	o	o			
15.50 - 19.90	20	25	1	o	o	o	o	o	o	o	o	o	o	o	o	o			

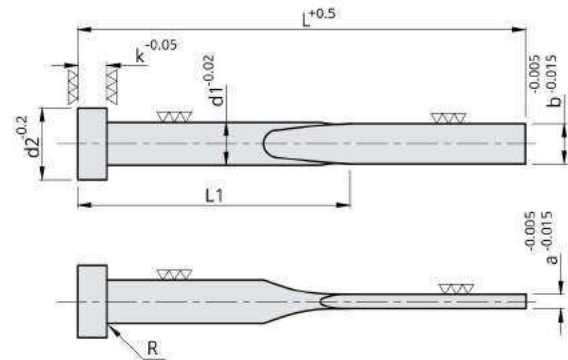
*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 KG.) DUE TO NITRIDED LAYER

TYPE	: ESADC
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade - Hot work tool steel heat resistant upto 550° c
HARDNESS	: Shank : 900/950 HV, Approx 68HRC for the nitrided layer. Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Anti-Seize Coated, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE d1 d2 d3 L1 L Qty
ESADC x 1.0 x 2 x 4 x 50 x 150 x 25

Cylindrical Head
DIN Type - Hot Die Steel (H13)
Nitrided - Anti-Seize Coated



Anti-seize coated Ejector pins possess excellent dry running performance and high corrosion resistance Ideal for hot working applications (die casting and high temperature plastic injection moulding).

Dimension in mm.

a	b	d1	d2	k	R	L	60	80	100	125	160	200	250	315	400	
						L1	30	40	50	63	80	100	125	160	200	
1.0	3.5	4	8	3	0.3		o	o	o							
1.0	3.8	4.2					o	o	o	o	o					
1.2								o	o	o	o					
1.0	4.5	5	10		5	0.5			o	o	o	o				
1.2									o	o	o	o				
1.5									o	o	o	o				
1.0	5.5	6	12					o	o	o	o					
1.2								o	o	o	o					
1.5								o	o	o	o					
2.0								o	o	o	o					
1.2	7.5	8	14						o	o	o	o				
1.5								o	o	o	o					
2.0									o	o	o	o	o			
1.5				9.5		16							o	o	o	o
2.0	11.5												o	o	o	o
2.0	11.5	12	20	7		0.8						o	o	o	o	
2.5												o	o	o	o	o
2.0	15.5	16	22									o	o	o	o	
2.5												o	o	o	o	

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER

TYPE	: FEP
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade - Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer. Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Anti-seize coated, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

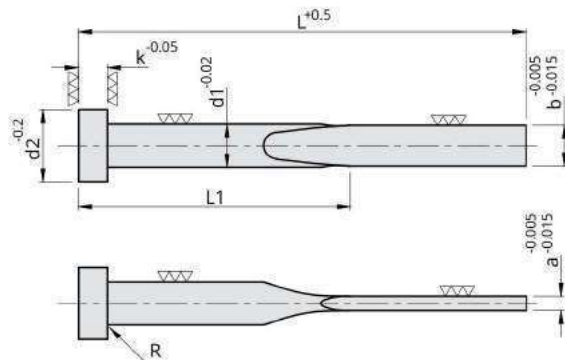
TYPE	FLAT 'a'	FLAT 'b'	L	L1	Qty
FEP x	1.2 x	3.8 x	100 x	50 x	20

FLAT EJECTOR PIN

TYPE : FEP-W
DIN 1530

PPD®

Cylindrical Head
DIN Type - Hot Die Steel (H13)
Nitrided



Dimension in mm.

a	b	d1	d2	k	R	L	60	80	100	125	160	200	250	315	400	
						L1	30	40	50	63	80	100	125	160	200	
1.0	3.5	4	8	3	0.3		o	o	o							
1.0	3.8	4.2					o	o	o	o	o					
1.2								o	o	o	o					
1.0	4.5	5				10			o	o	o	o				
1.2									o	o	o	o				
1.5									o	o	o	o				
1.0	5.5	6	12	5	0.5			o	o	o	o					
1.2								o	o	o	o					
1.5								o	o	o	o					
2.0									o	o	o	o				
1.2	7.5	8	14							o	o	o				
1.5									o	o	o	o				
2.0										o	o	o	o			
1.5	9.5	10	16								o	o	o	o		
2.0											o	o	o	o		
2.0												o	o	o	o	
2.0	11.5	12	20	7	0.8							o	o	o	o	
2.5												o	o	o	o	
2.0	15.5	16	22									o	o	o	o	
2.5													o	o	o	o

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER

TYPE	: FEP-W
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade -Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 45 ± 3 HRC Head : 42 ± 2 HRC
FINISH	: Hardened, Ground, Nitrided, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE	FLAT 'a'	FLAT 'b'	L	L1	QTY
FEP-W	x 1.2	x 3.8	x 100	x 50	x 20

CUSTOM ORDERING EXAMPLE

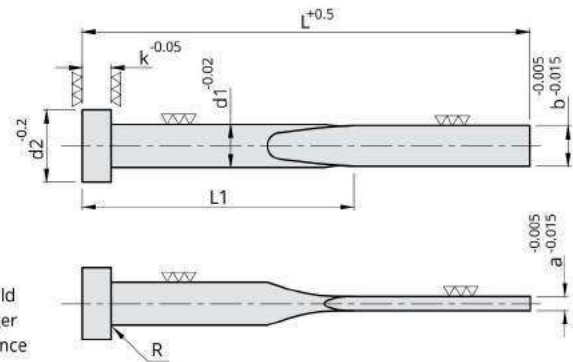
TYPE	FLAT 'a'	FLAT 'b'	d1	d2	L	L1	k	QTY
FEP-HSS	x 1.2	x 3.8	x 4.2	x 8	x 80	x 40	x 3	x 20

FLAT EJECTOR PIN

TYPE : FEP-HSS
DIN 1530

PPD®

Cylindrical Head
DIN Type - High Speed Steel



HSS M2/SKH-51 Offers wear resistance which is dramatically superior to conventional mould materials for processing resins, whether thermoplastic, thermosetting or glass-fiber. A larger number of shots can be assured compared to conventional products, and mould maintenance requirements are reduced especially for small parts

Dimension in mm.

a	b	d1	d2	k	R	L	60	80	100	125	160	200	250	315	400	
						L1	30	40	50	63	80	100	125	160	200	
1.0	3.5	4	8	3	0.3		o	o	o							
1.0	3.8	4.2					o	o	o	o	o					
1.2								o	o	o	o					
1.0	4.5	5	10						o	o	o	o				
1.2								o	o	o	o					
1.5								o	o	o	o					
1.0	5.5	6	12	5	0.5				o	o	o	o				
1.2								o	o	o	o					
1.5								o	o	o	o					
2.0									o	o	o	o				
1.2	7.5	8	14							o	o	o				
1.5									o	o	o	o				
2.0											o	o	o	o		
1.5	9.5	10	16									o	o	o	o	
2.0												o	o	o	o	
2.0													o	o	o	o
2.0	11.5	12	20	7	0.8							o	o	o	o	
2.5													o	o	o	o
2.0	15.5	16	22										o	o	o	o
2.5														o	o	o

TYPE	: FEP-HSS
MATERIAL	: HSS M2 / 1.3343 / SKH-51 High Speed Steel
HARDNESS	: Shank : 58-60 HRC Through Hardened Head : 50-55 HRC
FINISH	: Hardened, Ground, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

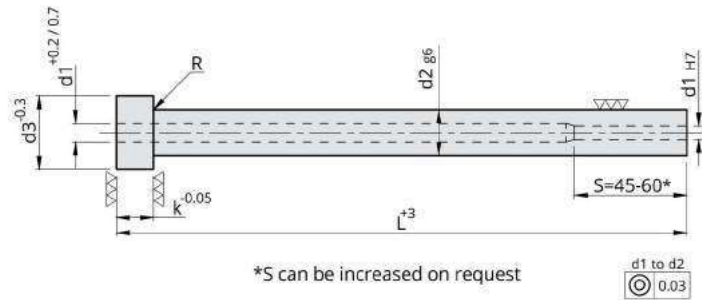
TYPE	FLAT 'a'	FLAT 'b'	L	L1	QTY
FEP-W	x 1.2	x 3.8	x 100	x 50	x 20

EJECTOR SLEEVE

TYPE : ESFA
JIS Standard

PPD®

Straight Cylindrical Head
JIS Type - Hot Die Steel (H13)
Nitrided



Dimension in mm.

d1	d2	d3	k	R	L															
					100	150	200	250	300	350	400	450	500	550	600	700	800	900	1000	
1.5	2.0	2.5	4	8	0	0														
2.0	2.5	3.0	4.5	8	0	0	0	0	0	0	0									
2.0	2.5	3.0	5	9	0	0	0	0	0	0	0	0	0							
3.5				9	0	0	0	0	0	0	0									
2.0	2.5	3.0		9	0	0	0	0	0	0	0	0	0	0	0					
3.5			5.5	9	0	0	0	0	0	0	0	0	0	0	0					
4.0				9	0	0	0	0	0	0	0									
2.0	2.5	3.0		6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.5	4.0		6	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.5				10	0	0	0	0	0	0	0									
2.0	2.5	3.0		11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.5	4.0	4.5	6.5	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.0				11	0	0	0	0	0	0	0									
2.5	3.0	3.5		11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.0	4.5	5.0	7	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5.5				11	0	0	0	0	0	0	0									
3.0	3.5	4.0	7.5	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	5.0			12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.0	3.5	4.0		13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	5.0	5.5	8	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6.0				13	0	0	0	0	0	0	0									
3.0	3.5	4.0		14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	5.0	5.5	9	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6.0	6.5	7.0		14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.0	3.5	4.0		15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	5.0	5.5	10	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6.0	6.5	7.0		15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.0	3.5	4.0		16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	5.0	5.5	11	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6.0	6.5	7.0		16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7.5	8.0			16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.0	3.5	4.0		17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	5.0	5.5	12	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6.0	6.5	7.0		17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7.5	8.0			17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.0	3.5	4.0		20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	5.0	5.5	15	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6.0	6.5	7.0		20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7.5	8.0	8.5		20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9.0	9.5	10.0		20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3.0	3.5	4.0		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4.5	5.0	5.5		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6.0	6.5	7.0		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7.5	8.0	8.5		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9.0	9.5	10.0		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10.5	11.0	11.5		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12.0	12.5	13.0		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
13.5	14.0	14.5		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15.0	15.5	16.0		25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg) DUE TO NITRIDED LAYER

TYPE	: ESFA
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade -Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 40 ± 3 HRC Head : 40 ± 3 HRC
FINISH	: Hardened, Ground, Nitrided, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE					
TYPE	d1	d2	L	S	Qty
ESFA	× 2.5	× 5.0	× 300	× 45	× 10

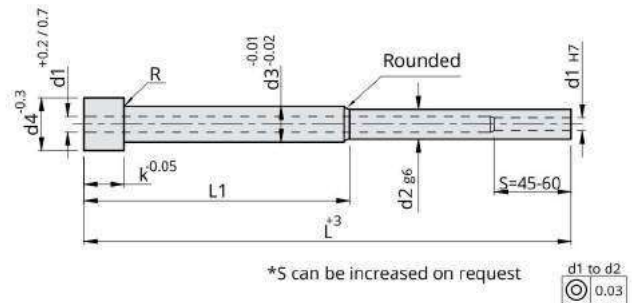
d1 dimensions are available in increments of 0.1mm

EJECTOR SLEEVE

TYPE : ESDB
DIN 1530

PPD®

Stepped Cylindrical Head
DIN Type - Hot Die Steel (H13)
Nitrided



Dimension in mm.

d1 (0.1 mm Increments) Ensure d2-d1 > 1.5mm	d2 (0.1 mm Increments)	d3	d4	k	R	L													L1
						100	150	200	250	300	350	400	450	500	550	600	700	800	
2.0 - 3.0	3.0 - 3.95	4	8	3	0.3	o	o	o	o	o	o	o	o	o	o	o	o	To be Specified by user	
2.0 - 3.0	3.5 - 4.45	4.5				o	o	o	o	o	o	o	o	o	o	o	o		o
2.0 - 3.5	3.5 - 4.95	5.0	10			o	o	o	o	o	o	o	o	o	o	o	o		
2.0 - 4.0	3.5 - 5.45	5.5				o	o	o	o	o	o	o	o	o	o	o	o		
2.0 - 4.5	3.5 - 5.95	6.0	12	5	0.5	o	o	o	o	o	o	o	o	o	o	o	o		
2.0 - 5.0	3.5 - 6.45	6.5				o	o	o	o	o	o	o	o	o	o	o	o		
2.0 - 5.5	3.5 - 6.95	7.0				o	o	o	o	o	o	o	o	o	o	o	o		
2.0 - 6.5	3.5 - 7.45	7.5				o	o	o	o	o	o	o	o	o	o	o	o		
2.0 - 3.0	4.0 - 7.95	8.0	14			o	o	o	o	o	o	o	o	o	o	o	o		
2.0 - 7.0	4.0 - 8.95	9.0				o	o	o	o	o	o	o	o	o	o	o	o		
2.0 - 8.0	4.0 - 9.95	10.0	16			7	0.8	o	o	o	o	o	o	o	o	o	o		o
2.0 - 10.0	6.0 - 11.95	12.0	18	o	o			o	o	o	o	o	o	o	o	o	o		
2.0 - 10.0	6.0 - 12.95	13.0		o	o			o	o	o	o	o	o	o	o	o	o		
2.0 - 12.0	8.0 - 14.95	15.0	22	o	o			o	o	o	o	o	o	o	o	o	o		
2.0 - 12.0	8.0 - 15.95	16.0		o	o			o	o	o	o	o	o	o	o	o	o		
2.0 - 15.0	10.00 - 19.95	20.0	26	8	1	o	o	o	o	o	o	o	o	o	o	o	o		

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 KG.) DUE TO NITRIDED LAYER

TYPE	: ESDB
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade - Hot work tool steel heat resistant upto 550° c
HARDNESS	: Shank : 900 / 950 HV, Approx 68HRC for the nitrided layer Core : 40 ± 3 HRC Head : 40 ± 3 HRC
FINISH	: Hardened, Ground, Nitrided, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

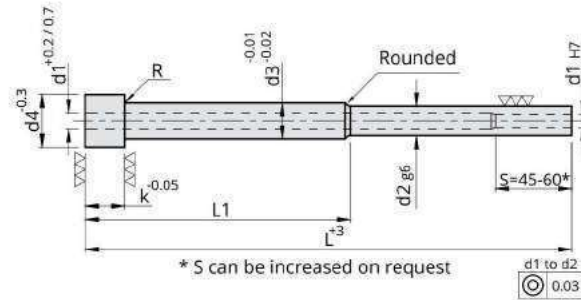
TYPE d1 d2 d3 L L1 S Qty
ESDB × 4.0 × 6.0 × 8.0 × 200 × 75 × 45 × 10

EJECTOR SLEEVE

TYPE : ESFB
JIS STANDARD

PPD®

Straight Cylindrical Head
JIS Type - Hot Die Steel (H13)
Nitrided



Dimension in mm.

d1 (0.5 mm increments) Ensure d2-d1 ≥1.5mm	d2 (0.1 mm increments)	d3	d4	k	R	L												L1
						100	150	200	250	300	350	400	450	500	550	600	700	
2.0 - 3.0	3 - 3.95	4	8	6	0.3	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	Length to be Specified by user
2.0 - 3.0	3.5 - 4.45	4.5				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 3.5	3.5 - 4.95	5.0	9			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 4.0	3.5 - 5.45	5.5				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 4.5	3.5 - 5.95	6.0	10			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 5.0	3.5 - 6.45	6.5				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 5.5	3.5 - 6.95	7.0	11		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
2.0 - 6.5	3.5 - 7.45	7.5			0.5	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 3.0	4.0 - 7.95	8.0	13			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 7.0	4.0 - 8.95	9.0				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 8.0	4.0 - 9.95	10.0				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 8.5	5.0 - 10.95	11.0	16			☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 10.0	6.0 - 11.95	12.0				17	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 10.0	8.0 - 14.95	15			20		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	
2.0 - 10.0	8.0 - 19.95	20	25				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

*HARDNESS TEST ACC. TO VICKERS HV.0.1 (TEST LOAD 0.1 kg.) DUE TO NITRIDED LAYER

TYPE	: ESFB
MATERIAL	: HDS H13 / 1.2344 / SKD 61 grade - Hot work tool steel heat resistant upto 550°C
HARDNESS	: Shank : 900 / 950 HV, Approx 68 HRC for the nitrided layer Core : 40 ± 3 HRC Head : 40 ± 3 HRC
FINISH	: Hardened, Ground, Nitrided, Lapped
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

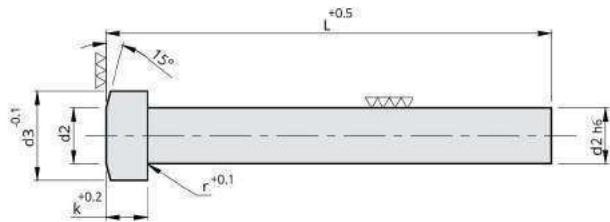
TYPE d1 d2 d3 L L1 S Qty
ESFB × 4.0 × 6.0 × 8.0 × 200 × 75 × 45 × 10



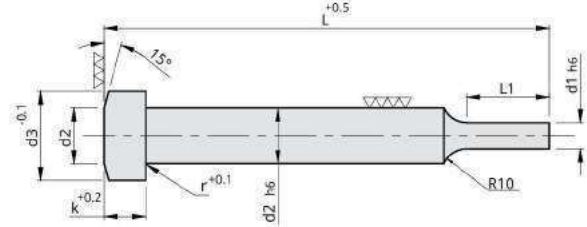
Straight & Stepped Cylindrical Head
Shape A, Shape B



Shape A



Shape B



Dimension in mm.

d2 (0.1 mm increments)	d3	k	r	L
2 - 2.2	3.6	4	0.2	Standard length 71, 90 & 112
2.3 - 2.5	4.0			
2.6 - 2.8	4.5			
2.9 - 3.2	5.0		0.3	
3.3 - 3.5	6.0			
3.6 - 4	7.0			
4.1 - 4.5	8.0		0.5	Custom length Available on Request
4.6 - 5	8.5			
5.1 - 5.4	9.0			
5.5 - 5.9	9.5			
6 - 6.4	10.0		0.7	
6.5 - 7	10.8			
7.5 - 8	12.0			
8.5 - 9	13.0			
9.5 - 10	14.5			
10.5 - 11	16.0		1.0	
11.5 - 12.5	19.0			
13 - 14.5	20.0			
15 - 16	22.0			

Dimension in mm.

d1 (0.1 mm increments)	d2	d3	k	r	L1	L
0.1 - 1.9	2	3.6	4	0.2	7	Standard length 71, 90 & 112
1.95 - 2.4	2.5	4				
2.5 - 3.1	3.2	5				
3.2 - 3.9	4	7				
4 - 4.9	5	8.5		0.5	16	Custom length Available on Request
5 - 6.2	6.3	10				
6.3 - 7.9	8	12				
8 - 9.9	10	14.5				
10 - 12.4	12.5	18				
12.5 - 15.9	16	22				

TYPE	: RPA
MATERIAL	: HSS M2 / 1.3343 / SKH51 High speed steel
HARDNESS	: Shank = 64 ± 2 HRC Head = 45 ± 5 HRC
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE	Shape	d2	L	Qty
RPA	x A	x 4	x 71	x 18

ORDERING EXAMPLE

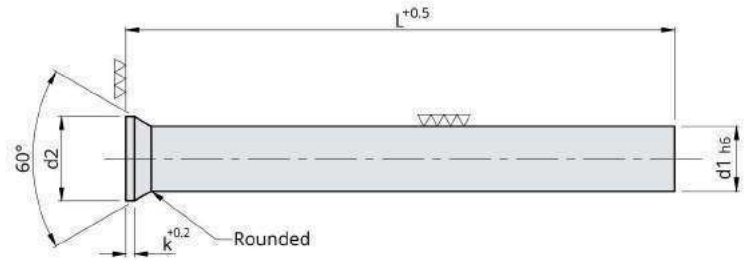
TYPE	Shape	d1	d2	L1	L	Qty
RPA	x B	x 4	x 5	x 7	x 71	x 24

ROUND PUNCH

TYPE : RPD
DIN 9861 / ISO 6752 / IS 4296(Part 1)

PPD®

Straight CSK Head
Shape D



Dimension in mm.

d1 (0.1 mm increments)	d2	k	L
0.5	0.9	0.2	Available length 50,71,80,100
0.55	1.0		
0.6	1.1		
0.65	1.2		
0.7 - 0.75	1.3		
0.8 - 0.85	1.4	0.4	
0.9 - 0.95	1.6		
1.0 - 1.1	1.8	0.5	
1.2 - 1.3	2.0		
1.4 - 1.5	2.2		
1.6 - 1.7	2.5		
1.8 - 1.9	2.8		
2.0	3.0		
2.1 - 2.2	3.2		
2.3 - 2.5	3.5		
2.6 - 2.9	4.0		
3.0	4.5		

d1 (0.1 mm increments)	d2	k	L
3.1 - 3.4	4.5	0.5	Available length 50,70,80,100
3.5 - 3.9	5.0		
4.0 - 4.4	5.5		
4.5 - 4.9	6.0		
5.0 - 5.4	6.5		
5.5 - 5.9	7.0		
6.0	8.0		
6.1 - 6.4	8.0	1.0	
6.5 - 7.0	9.0		
7.5- 8.0	10		
8.5 - 9.0	11		
9.5 - 10.0	12		
10.5 -11.0	13		
11.5 - 12.0	14		
12.5 - 13.0	15	1.5	
13.5 - 14.0	16		
14.5 - 15.0	17		
15.5 - 16.0	18		

TYPE : RPD

MATERIAL : HSS M2 / 1.3343 / SKH51 High speed tool steel

HARDNESS : Shank = 64 ± 2 HRC
Head = 45 ± 5 HRC

NOTE : Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE d1 L Qty
RPD x 4 x 70 x 25

ROUND PUNCH

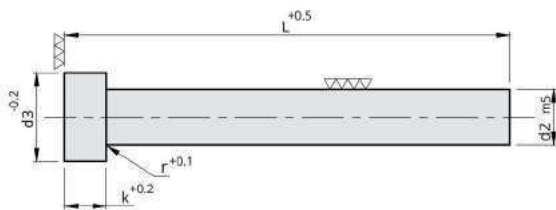
TYPE : RSA
ISO 8020 / IS 4296(Part 2)

PPD®

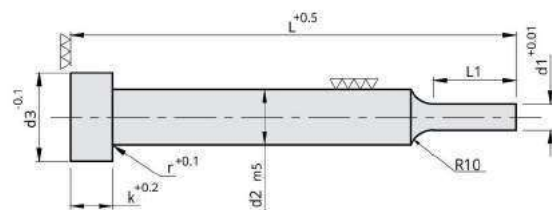
Straight & Stepped Cylindrical Head
Shape A, Shape B



Shape A



Shape B



Dimension in mm.

d2 (0.1 mm increments)	d3	k	r	L
2.1 - 3	5	3	0.2	Standard length 56, 63, 71, 80, 90 & 100
3.1 - 4	6			
4.1 - 5	8			
5.1 - 6	9			
6.1 - 8	11			
8.1 - 10	13	5	0.25	Standard length 56, 63, 71, 80, 90 & 100
10.1 - 13	16			
13.1 - 16	19			
16.1 - 20	23			
20.1 - 25	28			
25.1 - 32	35	5	0.4	Custom length Available on Request

d1 (0.1 mm increments)	d2	d3	k	r	L	L1
1 - 2.9	3	5	3	0.2	Standard length 56, 63, 71, 80, 90 & 100	As Per Customer Requirement
1 - 3.9	4	6				
1 - 4.9	5	8				
1.6 - 5.9	6	9				
2.5 - 7.9	8	11				
4 - 9.9	10	13	5	0.25	Standard length 56, 63, 71, 80, 90 & 100	As Per Customer Requirement
5 - 12.9	13	16				
8 - 15.9	16	19				
12 - 19.9	20	23				
16.5 - 24.9	25	28				
20 - 31.9	32	35	5	0.4	Custom length Available on Request	As Per Customer Requirement

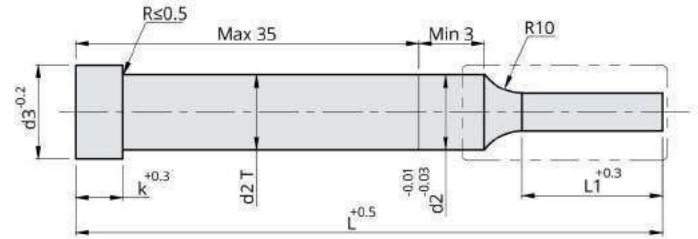
TYPE	: RSA
MATERIAL	: HSS M2 / 1.3343 / SKH51 High speed tool steel
HARDNESS	: Shank = 64 ± 2 HRC Head = 45 ± 5 HRC
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE	Shape	d2	L	Qty
RSA x	A x	4 x	71 x	25

ORDERING EXAMPLE

TYPE	Shape	d1	d2	L1	L	Qty
RSA x	B x	4 x	6 x	15 x	71 x	20

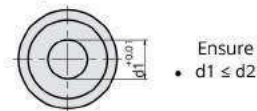


TiCN Coating applicable only to marked area.
Achievable Surface Hardness 2300HV

Dimension in mm.

d2	d2T (d2 Tolerance)	d3	k	L1	L
3	A →d2m5 or B →d2 +0.005	5	3	8 13 19	Available Lengths 56 , 63 , 71 , 80 , 90 , 100 mm Custom lengths Available on Request
4		6			
5		8	5	13 19 25	
6		9			
8		11			
10		13			
12		15			
13		16		19 25 30 40	
16		19			
20		23			
25		28			
32		35			

Shape-A



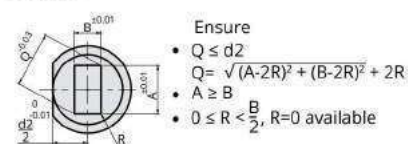
ORDERING EXAMPLE

TYPE	Shape		d1		d2		d2T		L1		L		Qty	
PSP	x	A	x	4	x	6	x	A	x	8	x	71	x	15

D Dimension Custom made as per User requirement

D^{+0.005} Dimensional Tolerance also available on Request

Shape-B



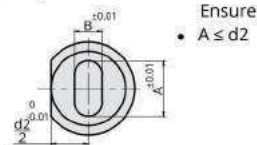
ORDERING EXAMPLE

TYPE	Shape	A	B	R	d2	d2T	L1	L	Qty
PSP	x B	x 4	x 3	x 0.5	x 6	x B	x 13	x 80	x 20

Q Dimension considered without included Radius R

Q, A, B Dimensions Custom made as per User requirement

Shape-C

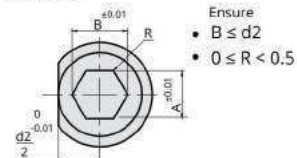


ORDERING EXAMPLE

TYPE	Shape		A		B		d2		d2T		L1		L		Qty	
PSP	x	C	x	8	x	4	x	10	x	A	x	19	x	100	x	18

A, B Dimensions Custom made as per User requirement

Shape-D



ORDERING EXAMPLE

TYPE	Shape		A		R		d2		d2T		L1		L		Qty	
PSP	x	D	x	6	x	0.3	x	8	x	B	x	13	x	80	x	15

A, B Dimensions Custom made as per User requirement

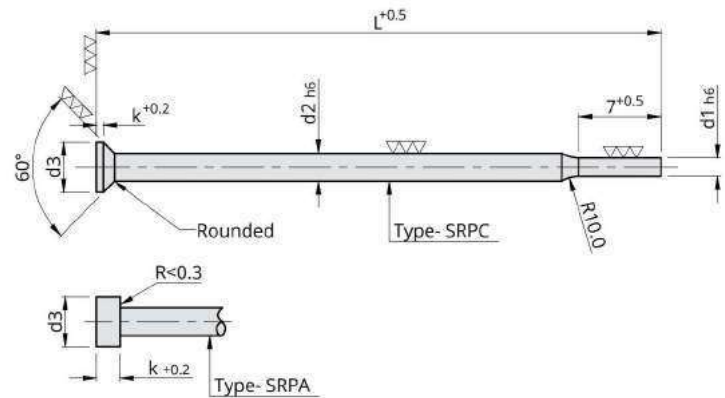
TYPE	: PSP-Standard type : PSP TiCN-TiCN coating type
MATERIAL	: HSS M2 /1.3343/ SKH-51 High Speed Steel
HARDNESS	: Shank = 64 ± 2 HRC, Head = 45 ± 5 HRC
NOTE	: Custom drawing Requirements are supplied on request

STEPPED ROUND PUNCH

TYPE : SRPC/SRPA
DIN 9861

PPD®

Straight Cylindrical/Straight CSK Head
Shape C



Dimension in mm.

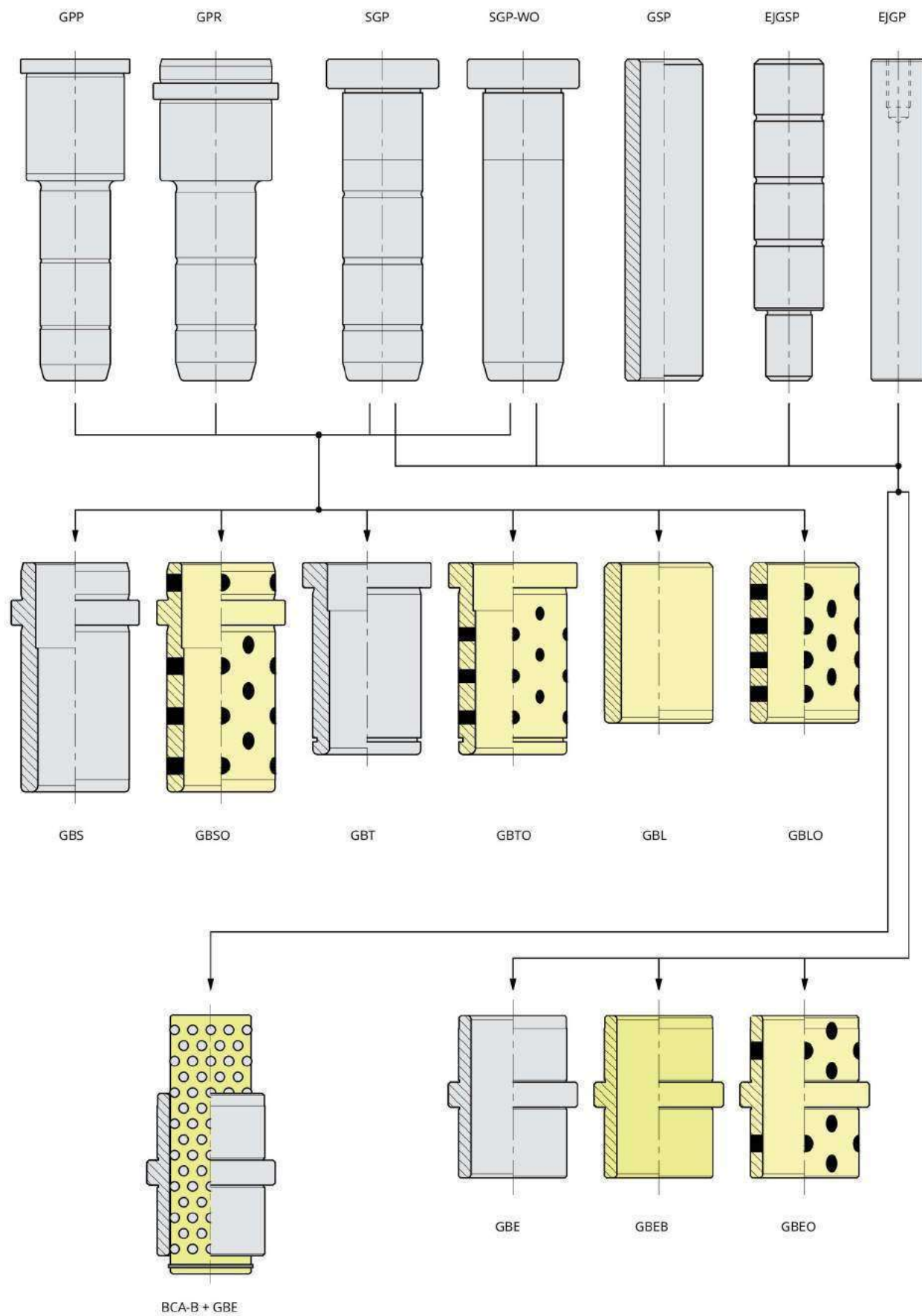
d1 (0.1 mm increments)	d2	d3	k	L
0.5 - 1.5	2.0	3.0	As per customer Requirement	50/70
1.55 - 2.0	3.0	4.5		

Available in both CSK Head or Cylindrical Head

TYPE	: SRPC:-Straight CSK Head Round Punch SRPA:-Straight Cylindrical Head Round Punch
MATERIAL	: HSS M2 /1.3343/ SKH-51 High Speed Steel
HARDNESS	: Shank = 64 ± 2 HRC Head = 45 ± 5 HRC
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE					
TYPE	d1	d2	k	L	Qty
SRPC	× 1.60	× 3.0	× 0.5	× 70	× 25

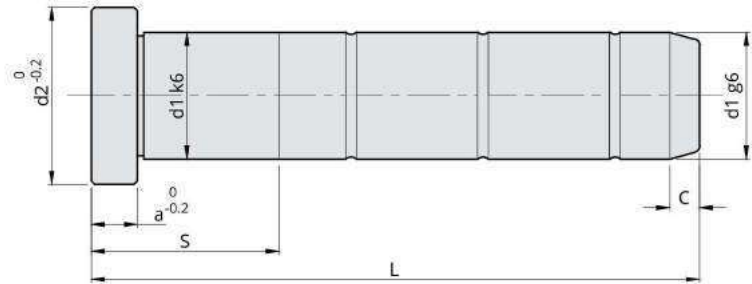




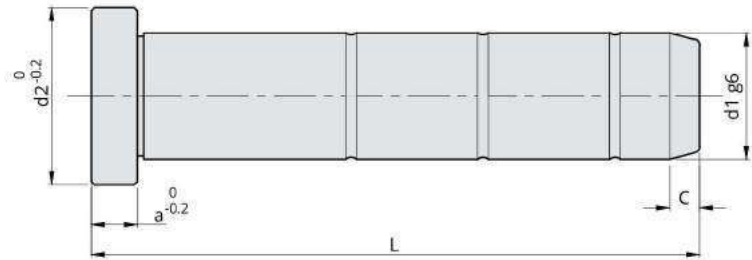
DIN Type



SGPK - Straight Guide Pillar with Press fit and sliding section



SGPG - Straight Guide Pillar with sliding section throughout



Dimension in mm

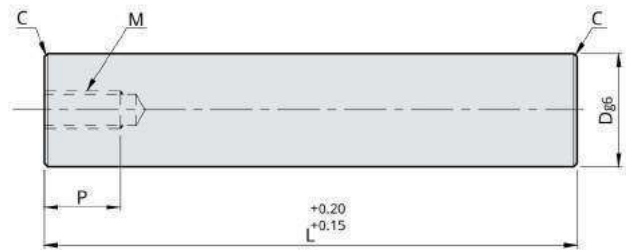
Dimension in mm							
d1	d1g6	d1k6	d2	a	C	S	L (Increment of 10mm)
14	-0.006 -0.017	+0.012 +0.001	18	8	7	12	60-180
						17	
						22	
						27	
						36	
12							
17							
22							
27							
36							
22							
16	20	27					
		36					
		46					
56							
27							
18	22	36					
		46					
		56					
20	-0.007 -0.020	+0.015 +0.002	24	15	27	80-240	
					36		
					46		
					56		
					36		
22			26		46		
					56		
					76		
36							
24					28		46
	56						
	76						
30	36	56					
		76					
		56					
32		48	76				
			56				
	76						
40	-0.009 -0.025		+0.018 +0.002	10	56	100-360	
					76		
		56					
76							
96							

TYPE	: SGPK / SGPG- Straight Guide pillar with oil groove : SGPK-WO / SGPG-WO- Straight Guide pillar without oil groove
MATERIAL	: 1.7131
HARDNESS	: 58-60 HRC
NOTE	: Custom drawing Requirements are supplied on request

Guide pillars can be provided without oil grooves on request.
Use Order Code SGPK-WO / SGPG-WO

ORDERING EXAMPLE

TYPE	d1	S	L	QTY
SGPK	22	x 46	x 140	x 8



Dimension in mm.

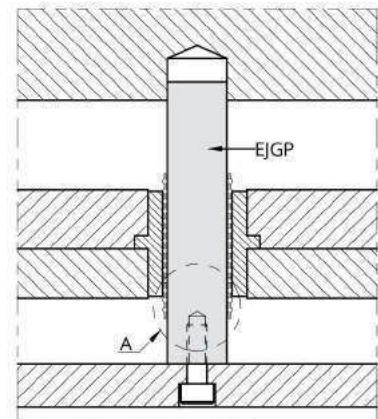
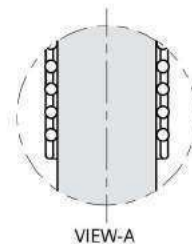
D	D g6	C	M	P	L 5mm Increments
6	-0.010 -0.015	0.5	M4	8	30-100
8	-0.015 -0.020		M5	10	30-200
10					30-200
12	-0.020 -0.025		M6	12	40-200
13					40-300
16					40-300
20	-0.025 -0.030	0.5	M8	16	40-250
24					50-250
30		1	M10	20	50-300
32					50-300
35					50-300
40					50-350
50				50-350	

EJGP can also be supplied with Grease grooves machined. Use Order Code EJGP-WO

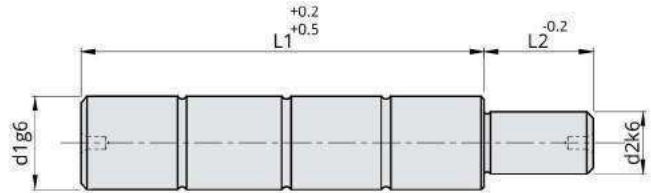
TYPE	: EJGP - Without Grease grooves EJGP-WO - With Grease grooves
MATERIAL	: 1.7131
HARDNESS	: 58-60 HRC
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE D L Qty
EJGP x 20 x 100 x 4



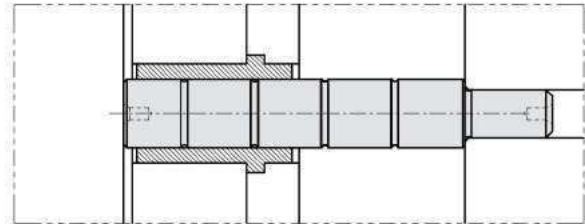
With Support Pillar Function



Dimension in mm:

d1	d2	L2	L1(Increments of 10 mm)
16	10	20	80 - 180
20	14	25	90 - 240
24	16	30	100 - 240
32	22	35	120 - 300

*Guide pillars can be provided without oil grooves on request.
Use Order Code EJGSP-WO



TYPE : EJGSP-Guide pillar with oil groove
EJGSP-WO-Guide pillar without oil groove

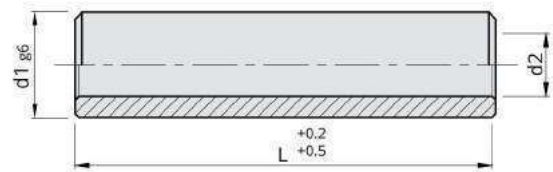
MATERIAL : 1.7131

HARDNESS : 58 - 60 HRC

NOTE : Custom drawing Requirements are supplied on request

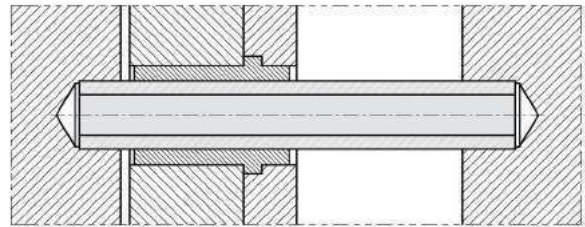
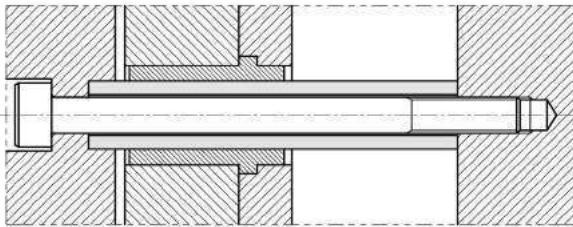
ORDERING EXAMPLE

TYPE d1 L Qty
EJGSP x 20 x 140 x 8



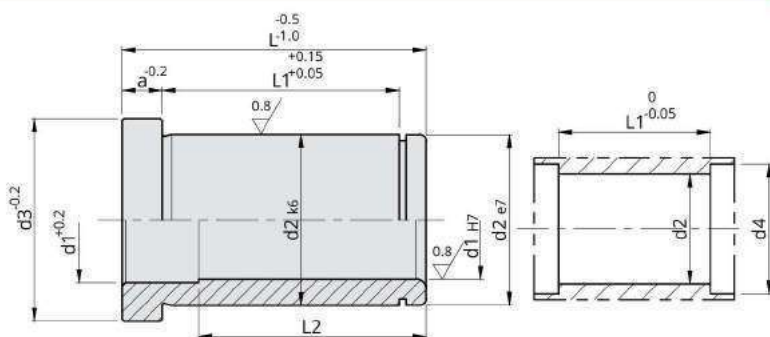
Dimension in mm.

d1	d2	L(Increments of 10 mm)
10	6.2	20 - 150
12	8.3	30 - 180
14	8.3	30 - 180
15	8.3	30 - 180
18	10.4	40 - 250
20	10.4	50 - 250
22	12.5	50 - 250
24	12.5	50 - 250
30	16.5	60 - 350
32	16.5	60 - 350

**TYPE** : GSP**MATERIAL** : 1.7131**HARDNESS** : 58 - 60 HRC**NOTE** : Custom drawing Requirements are supplied on request**ORDERING EXAMPLE**

TYPE	d1	L	Qty
GSP	x 20	x 140	x 8

DIN Type



d2	d4
14	22
18	26.8
20	29
22	30.8
26	35.5
30	40.5
42	55.7
54	69.2
66	82.4

Dimension in mm

d1	d2	d3	a	L1	L2	L
9 10	14	16	3	-	9	9
				-	12	12
				10.5	17	17
				15.5	22	22
				20.5	27	27
				29.5	36	36
				39.5		46
				49.5	36	56
				59.5		66
12	18	23		-	12	12
				7	17	17
				12	22	22
				17	27	27
				26	36	36
				36	36	46
				46		56
				-	12	12
14 15	20	25	6	7	17	17
				11	22	22
				17	27	27
				26	36	36
				36	46	46
				46		56
				56		66
				66	46	76
16	22	27		76		86
				86		96
				106		116
				7	17	17
				12	22	22
				17	27	27
				26	36	36
				36	46	46
				46		56
				56		66
				66	46	76
				76		86
				86		96
				106		116
				7	17	17
				12	22	22

d1	d2	d3	a	L1	L2	L
18 20	26	31		7	17	17
				12	22	22
				17	27	27
				26	36	36
				36	46	46
				46	56	56
				56		66
				66		76
22 24	30	35	6	76	56	86
				86		96
				106		116
				126		136
				6	17	17
				11	22	22
				16	27	27
				25	36	36
30 32	42	47		35	46	46
				45	56	56
				55	66	66
				65	76	76
				75		86
				85		96
				105	76	116
				125		136
				145		156
				9	22	22
				14	27	27
				23	36	36
				33	46	46
				43	56	56
				53	66	66
				63	76	76
				73	86	86
				83	96	96
				103		116
				123		136
				143	96	156
				163		176
				183		196

d1	d2	d3	a	L1	L2	L
40 42	54	60		18	36	36
				28	46	46
				38	56	56
				48	66	66
				58	76	76
				68	86	86
				78	96	96
				95	116	116
50 52	66	72	10	118		136
				138		156
				158		176
				178	116	196
				198		216
				218		236
				228		246
				38	56	56
60	80	86	20	48	66	66
				58	76	76
				68	86	86
				78	96	96
				98	116	116
				118		136
				138		156
				158		176
				178	116	196
				198		216
				218		236
				228		246
				-	96	96
				-	116	116
				-	136	136
				-	156	156
				-	176	176
				-	196	196
				-	216	216
				-	236	236
				-	256	256
				-	276	276
				-	296	296
				-	316	316

Guide Bushes can be provided with internal Grease grooves on request. Use Order Code GBT-WO

TYPE	: GBT- Guide bush without internal Grease grooves
	: GBT-WO- Guide bush with internal Grease grooves
MATERIAL	: 1.7131
HARDNESS	: 58-60 HRC
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE	d1	d2	L	QTY
GBT	32	x 42	x 86	x 8

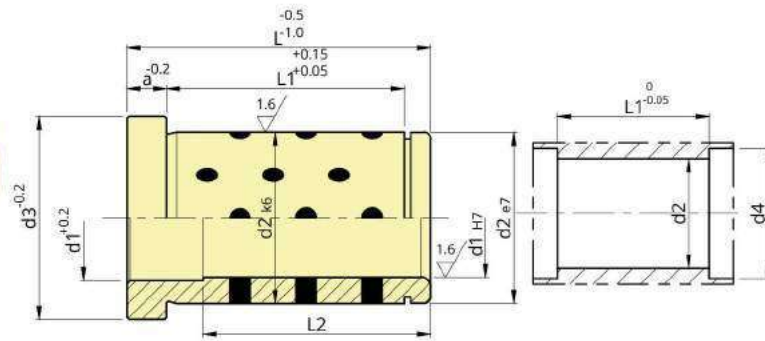
d1 H7	d2	d2 e7	d2 k6
9	+0.015	14	-0.032
10	0		+0.001
12		18	
14		20	
15	+0.018		
16	0	22	
18		26	-0.040
20			+0.015
22		30	-0.061
24	+0.021		
30	0	42	-0.050
32			+0.018
40	+0.025		
42	0	54	-0.075
50			+0.002
52	+0.030	66	-0.060
60	0	80	-0.090
			+0.021
			0.002

GUIDE BUSH

TYPE : GBTO

PPD®

DIN Type-Oiless



d2	d4
14	22
18	26.8
20	29
22	30.8
26	35.5
30	40.5
42	55.7
54	69.2
66	82.4

Dimension in mm

d1	d2	d3	a	L1	L2	L
9 10	14	16	3	-	9	9
				-	12	12
				10.5	17	17
				15.5	22	22
				20.5	27	27
				29.5	36	36
				39.5		46
				49.5	36	56
12	18	23	6	59.5		66
				-	12	12
				7	17	17
				12	22	22
				17	27	27
				26	36	36
				36	36	46
				46		56
14 15	20	25	6	-	12	12
				7	17	17
				11	22	22
				17	27	27
				26	36	36
				36	46	46
				46		56
				-	12	12
				7	17	17
				11	22	22
				17	27	27
				26	36	36
				36	46	46
				46		56
				56		66
				66	46	76
16	22	27	6	76		86
				86		96
				106		116
				7	17	17
				12	22	22
				17	27	27
				26	36	36
				36	46	46
				46		56
				56		66
				66	46	76
				76		86
				86		96
				106		116
				116		126
				126		136

d1	d2	d3	a	L1	L2	L
18 20	26	31	6	7	17	17
				12	22	22
				17	27	27
				26	36	36
				36	46	46
				46	56	56
				56		66
				66		76
				76	56	86
				86		96
				106		116
				126		136
				6	17	17
				11	22	22
				16	27	27
22 24	30	35	6	25	36	36
				35	46	46
				45	56	56
				55	66	66
				65	76	76
				75		86
				85		96
				105	76	116
				125		136
				145		156
				9	22	22
				14	27	27
				23	36	36
				33	46	46
				43	56	56
30 32	42	47	6	53	66	66
				63	76	76
				73	86	86
				83	96	96
				103		116
				123		136
				143	96	156
				163		176
				183		196

d1	d2	d3	a	L1	L2	L
40 42	54	60	10	18	36	36
				28	46	46
				38	56	56
				48	66	66
				58	76	76
				68	86	86
				78	96	96
				95	116	116
				118		136
				138		156
				158		176
				178	116	196
				198		216
				218		236
				228		246
50 52	66	72	10	38	56	56
				48	66	66
				58	76	76
				68	86	86
				78	96	96
				98	116	116
				118		136
				138		156
				158		176
				178	116	196
				198		216
				218		236
				228		246
60	80	86	20	-	96	96
				-	116	116
				-	136	136
				-		156
				-	136	196
				-		246

TYPE : GBTO

MATERIAL : CAC 304 + Gr - High strength brass with embedded graphite

HARDNESS : ~180 BHN

NOTE : Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE	d1	d2	L	QTY
GBTO	32	x 42	x 86	x 8

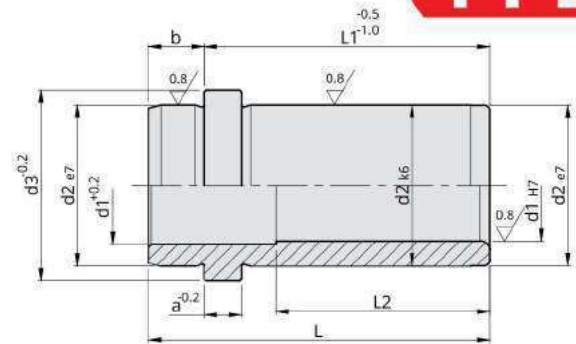
d1 H7		d2	d2 e7	d2 k6
9	+0.015	14	-0.032	+0.012
10	0		+0.050	+0.001
12		18		
14		20		
15	+0.018			
16	0	22		
18		26	-0.040	+0.015
20			-0.061	+0.002
22		30		
24	+0.021			
30	0	42	-0.050	+0.018
32			-0.075	+0.002
40	+0.025	54		
42	0			
50		66	-0.060	+0.021
52	+0.030		-0.090	0.002
60	0	80		

GUIDE BUSH

TYPE : GBS

PPD®

With Locating Head
DIN Type



Dimension in mm

d1	d2	d3	a	b	L2	L	L1	
9 10	14	16	3	3	12	12	9	
					15	15	12	
					20	20	17	
					25	25	22	
					30	30	27	
					39	39	36	
					46	49	46	
14 15	20	25	6	9	59	59	56	
					69	69	66	
					21	21	12	
					26	26	17	
					31	31	22	
					36	36	27	
					45	45	36	
					55	55	46	
					56	65	65	56
						75	75	66
						85	85	76
						95	95	86
						105	105	96
18 20	26	31	6	9	125	125	116	
					26	26	17	
					31	31	22	
					36	36	27	
					45	45	36	
					55	55	46	
					65	65	56	
					56	75	75	66
						85	85	76
						95	95	86
						105	105	96
						125	125	116
					22 24	30	35	6
165	165	156						
185	185	176						
205	205	196						
48	48	36						
58	58	46						
68	68	56						
78	78	66						
88	88	76						
98	98	86						
108	108	96						
116	128	128	116					
	148	148	136					
	168	168	156					
	188	188	176					
	208	208	196					
50 52	66	72	10	12	228	228	216	
					248	248	236	
					258	258	246	
					68	68	56	
					78	78	66	
					88	88	76	
					98	98	86	
					108	108	96	
					116	128	128	116
						145	145	136
						168	168	156
						188	188	176
						208	208	196
116	228	228	216					
	248	248	236					

Guide Bushes can be provided with internal Grease grooves on request. Use Order Code GBS-WO

TYPE	: GBS- Guide Bush without internal Grease grooves
	: GBS-WO- Guide Bush with internal Grease grooves
MATERIAL	: 1.7131
HARDNESS	: 58-60 HRC
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE				
TYPE	d1	d2	L1	QTY
GBS	32	x 42	x 86	x 8

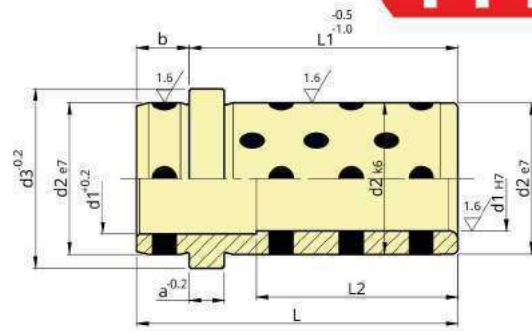
d1 H7	d2	d2 e7	d2 k6
9	+0.015	14	-0.032
10	0	18	-0.050
12	+0.018	20	-0.040
14		22	
15		26	
16	+0.021	30	-0.050
18		42	
20		54	
22	+0.025	66	-0.060
24		80	
30			
32	+0.030		-0.090
40			
42			
50	0		+0.021
52			
60			

GUIDE BUSH

TYPE : GBSO

PPD®

With Locating Head
DIN Type- Oilless



Dimension in mm

d1	d2	d3	a	b	L2	L	L1
9 10	14	16	3	3	12	12	9
					15	15	12
					20	20	17
					25	25	22
					30	30	27
					39	39	36
					49	49	46
14 15	20	25	6	9	59	59	56
					69	69	66
					21	21	12
					26	26	17
					31	31	22
					36	36	27
					45	45	36
					55	55	46
					65	65	56
					75	75	66
18 20	26	31	6	9	85	85	76
					95	95	86
					105	105	96
					125	125	116
					26	26	17
					31	31	22
					36	36	27
					45	45	36
					55	55	46
					65	65	56
22 24	30	35	6	9	75	75	66
					85	85	76
					95	95	86
					105	105	96
					125	125	116
					26	26	17
					31	31	22
					36	36	27
					45	45	36
					55	55	46

d1	d2	d3	a	b	L2	L	L1
22 24	30	35	6	9	76	125	116
					76	145	136
					76	165	156
					31	31	22
					36	36	27
					45	45	36
					55	55	46
30 32	42	47	6	9	65	65	56
					75	75	66
					85	85	76
					95	95	86
					105	105	96
					125	125	116
					145	145	136
					165	165	156
					185	185	176
					205	205	196
40 42	54	60	10	12	48	48	36
					58	58	46
					68	68	56
					78	78	66
					88	88	76
					98	98	86
					108	108	96
					128	128	116
					148	148	136
					168	168	156
50 52	66	72	10	12	188	188	176
					208	208	196
					228	228	216
					248	248	236
					258	258	246
					68	68	56
					78	78	66
					88	88	76
					98	98	86
					108	108	96
					128	128	116
					145	145	136
					168	168	156
					188	188	176
					208	208	196
					228	228	216
					248	248	236

TYPE : GBSO

MATERIAL : CAC 304 + Gr - High strength brass with embedded graphite

HARDNESS : ~180 BHN

NOTE : Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE	d1	d2	L1	QTY
GBSO	32	x 42	x .86	x 8

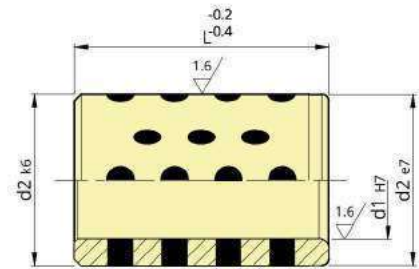
d1 H7	d2	d2 e7	d2 k6
9	+0.015	14	-0.032
10	0	18	-0.050
12			
14	+0.018	20	-0.040
15	0	22	-0.061
16			
18			
20			
22	+0.021	30	-0.050
24	0	42	-0.075
30			
32	+0.025	54	-0.060
40	0	66	-0.090
42			
50	+0.030	80	-0.060
52	0		
60			

STRAIGHT GUIDE BUSH

TYPE : GBLO

PPD®

Oilless



Ideal For Angular Lifter Rods

Dimension in mm

d1H7	d2k6	L
8	12	10, 12, 15, 16, 20
10	14	10, 12, 15, 16, 20, 25, 30
12	18	10, 12, 15, 16, 20, 25, 30, 35, 40
15	21	10, 12, 15, 16, 20, 25, 30, 35, 40, 50
16	22	10, 12, 15, 16, 20, 25, 30, 35, 40, 50
18	24	10, 12, 15, 16, 20, 25, 30, 35, 40, 50
20	28	12, 15, 16, 20, 25, 30, 35, 40, 50, 60
25	33	12, 15, 16, 20, 25, 30, 35, 40, 50, 60
30	38	12, 15, 16, 20, 25, 30, 35, 40, 50, 60, 70
35	44	20, 25, 30, 35, 40, 50, 60, 70, 80
40	50	20, 25, 30, 35, 40, 50, 60, 70, 80

TYPE : GBLO

MATERIAL : CAC304 + Gr - High strength Brass with embedded graphite

HARDNESS : ~180 BHN

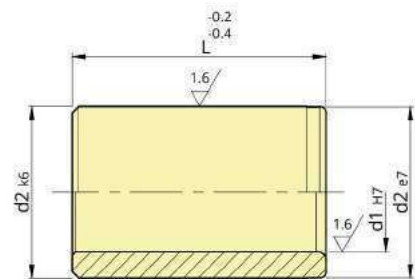
ORDERING EXAMPLE

TYPE	d1	d2	L	Qty
GBLO	16	x 22	x 76	x 8

STRAIGHT GUIDE BUSH

TYPE : GBL

High Strength Brass



Ideal For Angular Lifter Rods

Dimension in mm

d1H7	d2k6	L
8	12	10, 12, 15, 16, 20
10	14	10, 12, 15, 16, 20, 25, 30
12	18	10, 12, 15, 16, 20, 25, 30, 35, 40
15	21	10, 12, 15, 16, 20, 25, 30, 35, 40, 50
16	22	10, 12, 15, 16, 20, 25, 30, 35, 40, 50
18	24	10, 12, 15, 16, 20, 25, 30, 35, 40, 50
20	28	12, 15, 16, 20, 25, 30, 35, 40, 50, 60
25	33	12, 15, 16, 20, 25, 30, 35, 40, 50, 60
30	38	12, 15, 16, 20, 25, 30, 35, 40, 50, 60, 70
35	44	20, 25, 30, 35, 40, 50, 60, 70, 80
40	50	20, 25, 30, 35, 40, 50, 60, 70, 80

TYPE : GBL

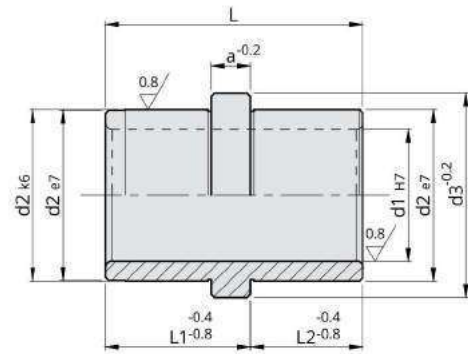
MATERIAL : CAC304 + Gr - High strength Brass

HARDNESS : ~180 BHN

ORDERING EXAMPLE

TYPE	d1	d2	L	Qty
GBL	16	x 22	x 76	x 8

DIN Type



Dimension in mm.

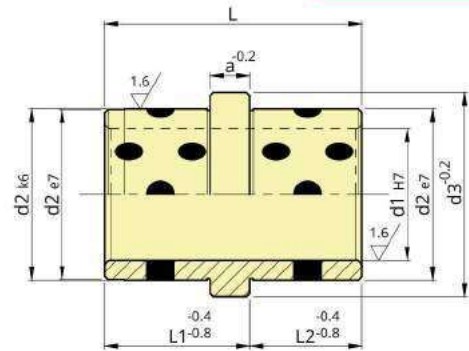
d1	d2	d3	a	L	L1	L2
10	14	16	6	21	12	9
12	18	23		26	17	
14	20	25		39	22	17
15				26	17	9
18	26	31		29		12
				39	22	17
				44	27	
20	30	35		39	22	
22				49	27	22
24				39	22	17
				49	27	22
	63	36		27		
30	42	47		49	27	22
				63	36	27
73				46		
63				36		
32			82	46	36	

TYPE	: GBE
MATERIAL	: 1.7131
HARDNESS	: 58-60 HRC
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE						
TYPE	d1	L	L1	Qty		
GBE	32	x 63	x 36	x 8		

d1 H7		d2 e7		d2 k6	
10	+0.015 0	14	-0.032 -0.050	14	+0.012 +0.001
12	+0.018 0	18	-0.040 -0.061	18	+0.015 +0.002
14		20		20	
15		26		26	
18	+0.021 0	30	-0.050 -0.075	30	+0.018 +0.002
20		42		42	
22		54		54	
24	+0.025 0				
30					
32					
40					

DIN Type-Oiless



Dimension in mm.

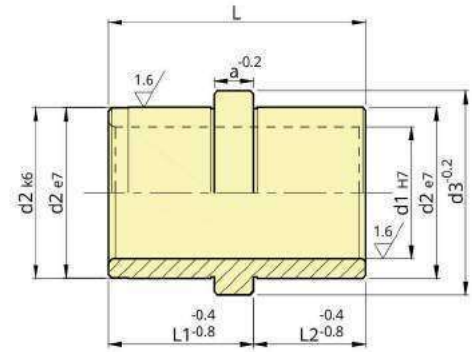
d1	d2	d3	a	L	L1	L2
10	14	16	6	21	12	9
12	18	23		26	17	
14	20	25		39	22	
15				26	17	9
18				29		12
20	26	31		39	22	17
22				44	27	
24				39	22	
30				49	27	22
32	30	35		39	22	17
40				49	27	22
				63	36	27
				49	27	22
	42	47		63	36	27
				73	46	
				63	36	
				82	46	36

TYPE : GBEO**MATERIAL** : CAC304 + Gr High strength Brass with embedded graphite**HARDNESS** : ~180 BHN**NOTE** : Custom drawing Requirements are supplied on request**ORDERING EXAMPLE**

TYPE	d1	L	L1	Qty
GBEO	32	x 63	x 36	x 8

d1 H7		d2 e7		d2 k6	
10	+0.015 0	14	-0.032 -0.050	14	+0.012 +0.001
12	+0.018 0	18	-0.040 -0.061	18	+0.015 +0.002
14		20		20	
15		26		26	
18	+0.021 0	30	-0.050 -0.075	30	+0.018 +0.002
20		42		42	
22		54		54	
24	+0.025 0				
30					
32					
40					

DIN Type-High Strength Brass



Dimension in mm.

d1	d2	d3	a	L	L1	L2
10	14	16	6	21	12	9
12	18	23		26	17	
14	20	25		39	22	17
15				26	17	9
18	26	31		29		
				39	22	17
20				44	27	
22				39	22	
24	30	35		49	27	22
				39	22	17
				49	27	22
				63	36	27
30	42	47		49	27	22
				63	36	27
				73	46	
				63	36	
40	54	60		82	46	36

TYPE : GBEB

MATERIAL : CAC304 High Strength brass

HARDNESS : ~180 BHN

NOTE : Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

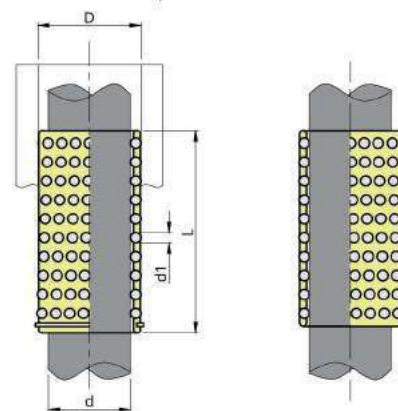
TYPE	d1		L		L1		Qty
GBEB	32	x	63	x	36	x	8

d1 H7		d2 e7		d2 k6					
10	+0.015 0	14	-0.032 -0.050	14	+0.012 +0.001				
12	+0.018 0	18	-0.040 -0.061	18	+0.015 +0.002				
14		20		20					
15		26		26					
18		30		30					
20	+0.021 0	42	-0.050 -0.075	42	+0.018 +0.002				
22									
24	+0.025 0								
30									
32	+0.025 0	54	-0.060 -0.090	54	+0.021 +0.002				
40									



BCA - With Circlip

BCB - Without Circlip



Dimension in mm.

d	D	d1	L																	
			24	28	31	40	45	50	56	63	71	80	95	105	120	140	160	180	200	240
11	15	2	o	o	o	o	o	o	o											
12	16		o	o	o	o	o	o	o											
15	21	3		o	o	o	o	o	o	o	o									
16	22			o	o	o	o	o	o	o	o									
19	25				o	o	o	o	o	o	o	o	o							
20	26				o	o	o	o	o	o	o	o	o							
24	30				o	o	o	o	o	o	o	o	o	o	o					
25	31				o	o	o	o	o	o	o	o	o	o	o					
30	38	4				o	o	o	o	o	o	o	o	o	o	o	o			
32	40					o	o	o	o	o	o	o	o	o	o	o	o			
38	46						o	o	o	o	o	o	o	o	o	o	o	o	o	o
40	48						o	o	o	o	o	o	o	o	o	o	o	o	o	o
48	56							o	o	o	o	o	o	o	o	o	o	o	o	o
50	58							o	o	o	o	o	o	o	o	o	o	o	o	o
60	68												o	o	o	o	o	o	o	o
63	71												o	o	o	o	o	o	o	o
80	92	6													o	o	o	o	o	o

TYPE : BCA-A- Aluminum ball cage with circlip

BCB-A- Aluminum ball cage without circlip

BCA-B- Brass ball cage with circlip

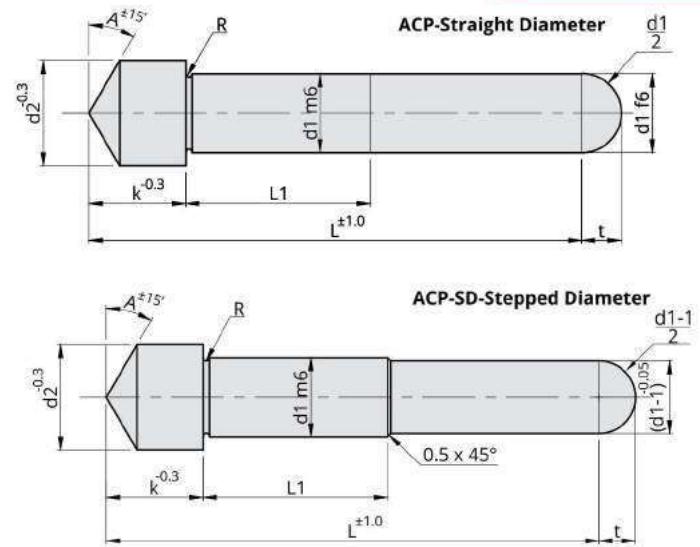
BCB-B- Brass ball cage without circlip

ORDERING EXAMPLE

TYPE	d	L	Qty
BCA-B	x 20	x 80	x 10

Circlip groove is made as per circlip standard

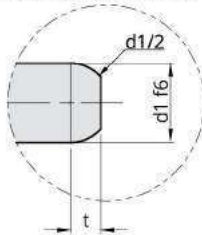
Ball cages can also be provided as per customer specifications



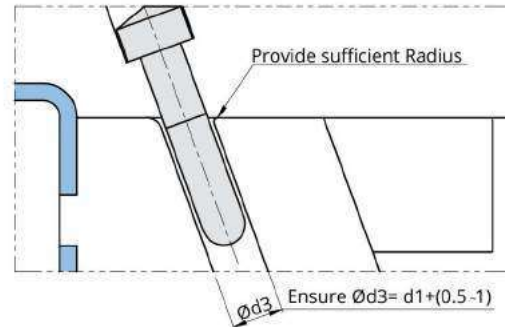
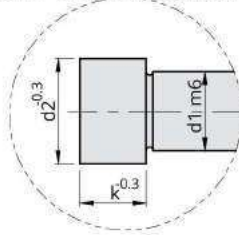
Dimension in mm.

d1	d1m6	d1f6	k	d2	t		R	A°	L1	L (Increment of 5 mm)		
					ACP	ACP-SD						
8	+0.015 +0.006	-0.013 -0.022	5	11	4	3.5	0.5	0-30°	L1 to be Specified by User	20 - 130		
10			10	13	5	4.5				20 - 200		
12	16	15		6	5.5	20 - 250						
13		13		16	6.5	6	20 - 250					
15	18			7.5	7	20 - 250						
16			19	8	7.5	20 - 250						
20	+0.021 +0.008	-0.020 -0.033	23	10	9.5	1.5	L1=0 for no press fit section		40 - 350			
25					28				10	10	1.5	40 - 400
30												35
35	15	40	100 - 500									
40		45	100 - 500									
50			20		55							200 - 500

Tip Shape when d1 ≥ 25



Add A=0 for Cylindrical head



TYPE : ACP - Straight CAM pin
: ACP - SD - Stepped Diameter CAM pin

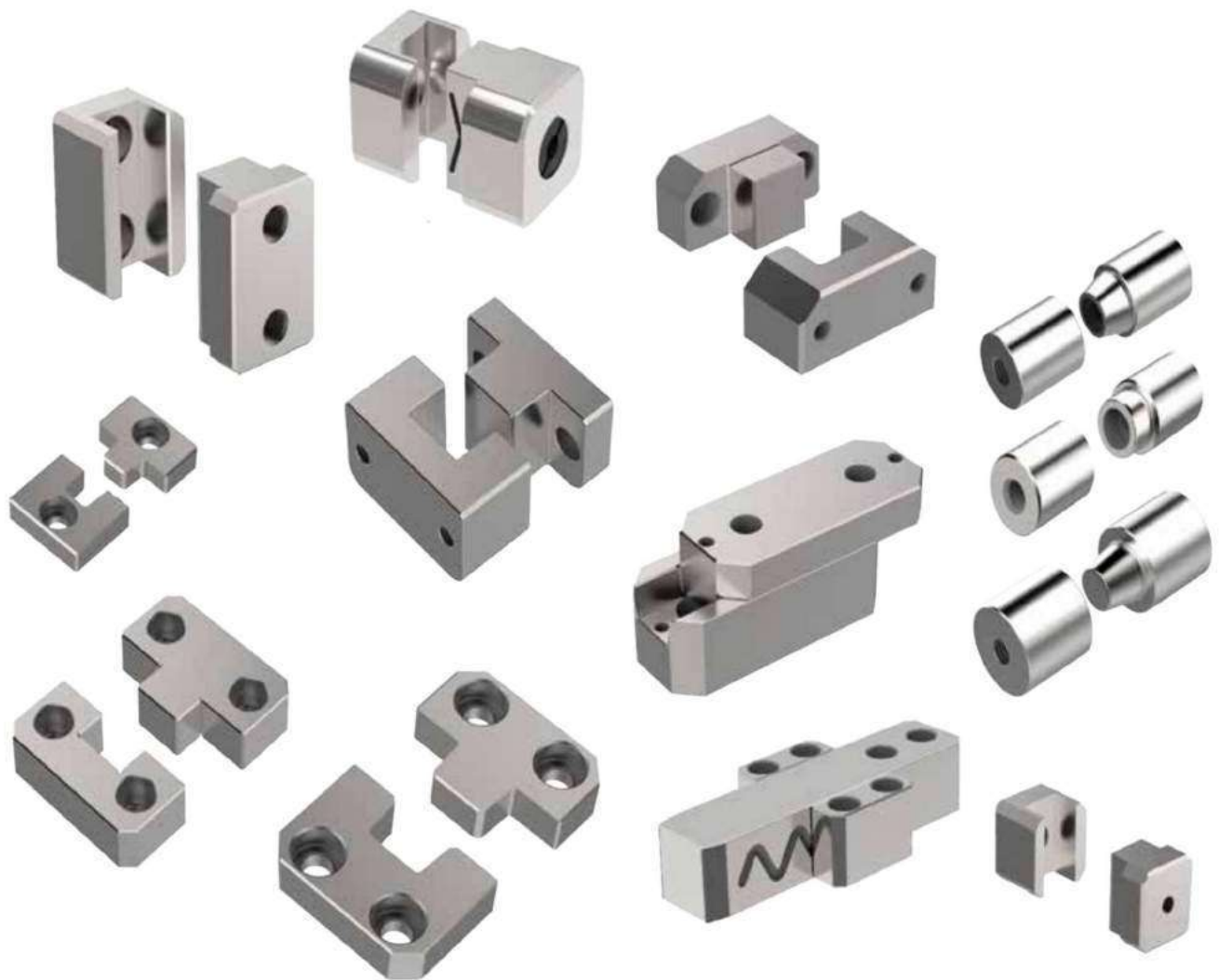
MATERIAL : 1.7131

HARDNESS : 56 HRC- Case Hardened

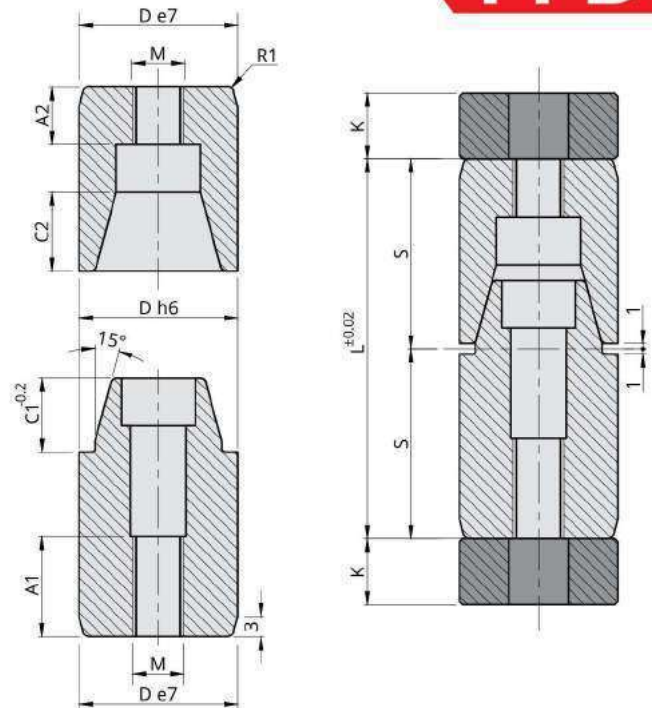
NOTE : Custom drawing Requirements are supplied on request

ORDERING EXAMPLE / CUSTOM ORDERING EXAMPLE

TYPE d1 A° L1 L QTY
ACP x 8 x 8 x 25 x 70 x 25



DIN Standard



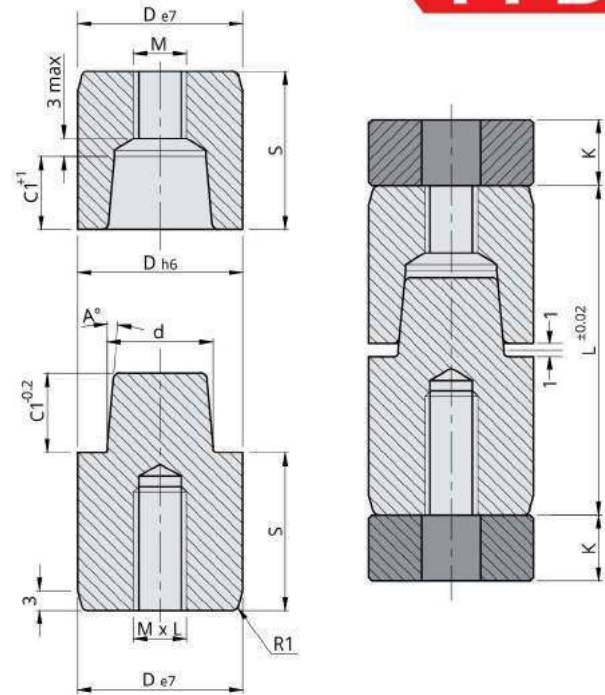
Dimension in mm.

TYPE	D	L	S	C1	C2	A1	A2	K	M
TL-12	12	34	17	4.5	5	9.6	8.5	5	M4
								10	
								19	
TL-16	16	34	17	6	7	12.4	5.8	9	M5
								10	
								20	
TL-20	20	54	27	9	10	19.7	10.6	9	M8
								10	
								20	
TL-25	25	54	27	10	11	19.7	9.2	10	
								20	
								30	
TL-26	26	54	27	10	11	19.7	9.2	10	
								20	
								30	
TL-30	30	72	36	14	16	25	12.2	10	M10
								20	
								30	
TL-32	32	72	36	14	16	25	12.2	10	
								20	
								30	
TL-42	42	92	46	18	20	27	16.8	10	
								20	
								30	

Spacer (K) is supplied on request.

TYPE	: TL
MATERIAL	: 1.7131
HARDNESS	: 56 ± 2 HRC
ORDERING EXAMPLE	
TYPE	K Qty
TL-20	x 10 x 8

JIS Standard

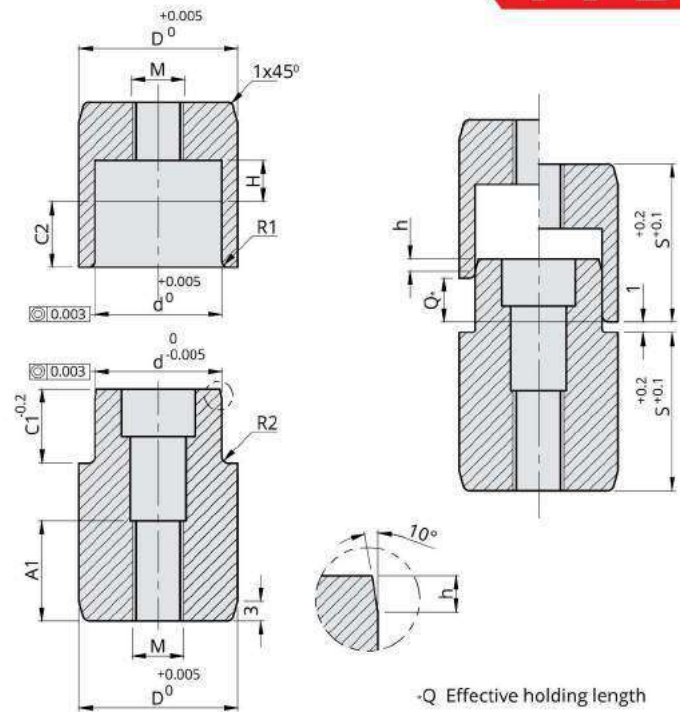


Dimension in mm.

TYPE	D	L	S	d	C1	K	M x L	A°						
TLJ-13	13	30	14	7	6	5	M4 x 10	3°						
						10								
						19								
TLJ-16	16			10		9	M5 x 10							
									10					
									20					
TLJ-20	20	40	19	13	9		9		M6 x 12	5°				
							10							
							20							
TLJ-25	25					50	24		16		12	10	M8 x 16	10°
												20		
												30		
TLJ-30	30	60	29	20	15			10				M10 x 20		
								20						
								30						
TLJ-32	32					29	30	24	18		10		M12 x 24	
											20			
											30			
TLJ-35	35	70	34	24	24					10	M12 x 24			
										20				
										30				
TLJ-42	42					39	30	30	30	10		M12 x 24		
										20				
										30				

Spacer (K) is supplied on request.

TYPE	: TLJ
MATERIAL	: 1.7131
HARDNESS	: 56 ± 2 HRC
ORDERING EXAMPLE	
TYPE	A° K Qty
TLJ-13	x 5 x 10 x 4



Dimension in mm.

CODE	D	C1	d	S	C2	H	h	R1	R2	Q	M	A1	B(Bolt Size)
SPP-13	13	7	10	14.5	6	4	1	0.5	0.8	4.5	M4	10	M3
		13		24.5	12					10.5			
		16			15								
SPP-16	16	7	10	14.5	6	4	1	0.5	0.8	4.5	M4	10	M3
		13		24.5	12					10.5			
		16			15								
SPP-20	20	8	13	14.5	7	6	2	0.5	0.8	5.5	M6	12	M5
		11		19.5	10					8.5			
		16		29	15					12.0			
		20		29.5	19								
SPP-25	25	11	16	19.5	10	6	1	0.5	0.8	8.5	M6	12	M5
		13		24.5	12					10.5			
		20		34	19					16.5			
		25		39	24								
SPP-30	30	25	20	39	24	8	2	1	1.5	21	M8	20	M6

TYPE : SPP

MATERIAL : 1.2379

HARDNESS : 58-62 HRC

ORDERING EXAMPLE

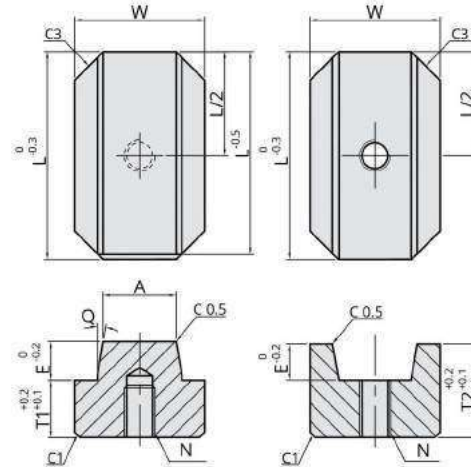
CODE C1 Qty
SPP-16 x 7 x 8

Ensure use of precision Guide pillars along since clearance is considerably small

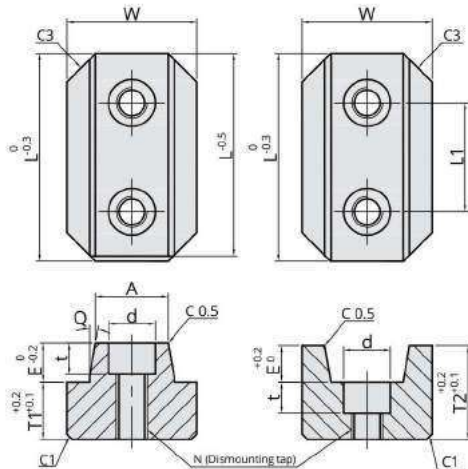
L and Q Specify Type



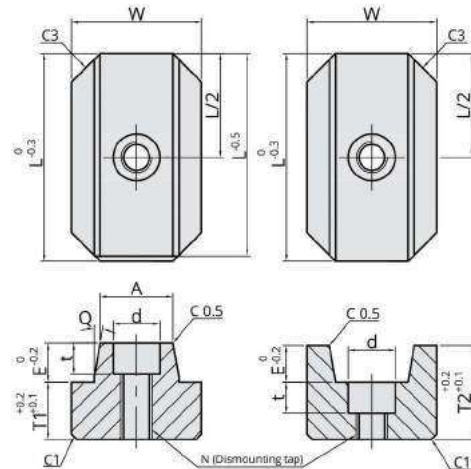
Applicable to W=12,16 only



Applicable to W=20-65, L=30-100



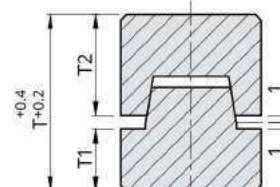
Applicable to W=20-65, L=20-25



Dimension in mm.

W	L	Q°	A	E	T	T1	T2	Bolt Holes			Installation Bolts	Tap N	No of bolt holes																		
								L1	d	t																					
12	15	1	7	5*	23	7	14				M3	M3 X 6	1																		
	20		M4	M4 X 6									(Tap hole)																		
16	20										9	7*							1												
	25		M3	M4															(Tap hole)												
20	20				12									1																	
	25		6.5	3.5										M3	M4	2															
	30																15	20													
	40																						8	5	M4	M5	1				
25	20		15	28	9	17								1																	
	25													15	8	5	M4	M5	2												
	30	20																													
	40																								9	6	M5	M6	1		
30	25	17		32	10	20																									
	30														15	9	6	M5	M6	2											
	40																				20										
	30																										11	7	M6	M8	2
35	40	20	10	35	11	22																									
	50														20	11	7	M6	M8	2											
	40																				30										
	50																										14	29			
45	75	25	15	45	14	29																									
	100														20	10	35	11	22												
	60																									30					
	90																														
65	120	35	20	60	19	39																									

*The height of the male block is E+1 for W=12 and W=16



TBS must be used in set combination and should not be interchanged

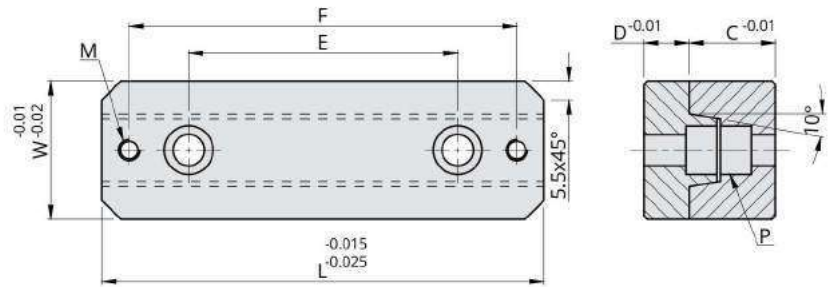
TYPE : TBS

MATERIAL : 1.2379 / SKD 11

HARDNESS : 58 - 62 HRC

ORDERING EXAMPLE

TYPE W L Q° Qty
TBS x 25 x 40 x 3 x 8



Dimension in mm.

TYPE	L	W	D	C	P Bolt Size	M	E	F
TBSL-50	50	25	10	18	M5	M5	*	36
TBSL-100	100	30	10	22	M6	M6	60	87
TBSL-150	150	40	13	25	M8	M8	100	131

*Single mounting hole provided at the center for TBSL-50

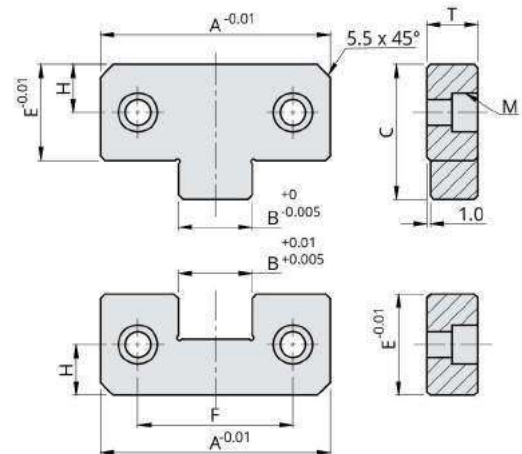
TYPE	: TBSL
MATERIAL	: 1.2379 / SKD 11
HARDNESS	: 58-60 HRC

ORDERING EXAMPLE	
CODE	Qty
TBSL-50 x	4

STRAIGHT BLOCK SETS

TYPE : SBS

Side Mounting Type

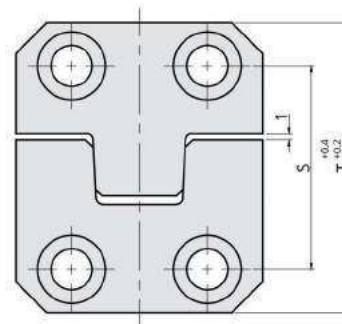


Dimension in mm.

CODE	A	B	C	E	F	H	T	M Bolt Size
SBS-50	50	17	30	21.5	34	10.75	16	M6
SBS-75	75	25	50	36	50	18	19	M10
SBS-100	100	35.4	65	45	70	22.5	19	M10
SBS-125	125	45	65	45	84	22.5	25	M10

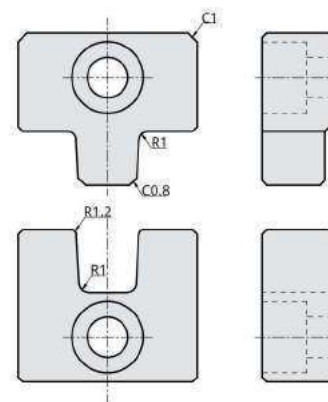
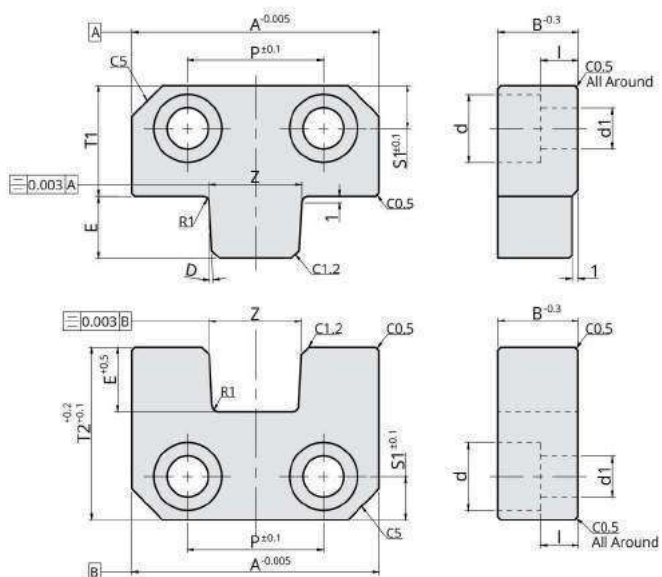
TYPE	: SBS
MATERIAL	: 1.2379 / SKD 11
HARDNESS	: 58-60 HRC

ORDERING EXAMPLE	
CODE	Qty
SBS-50 x	2



Applicable to A-30,40

Applicable to A-16,20,25



Dimension in mm.

A	E	D	Z	T1	T2	T	S	B	I	BOLT HOLE			
										P	S1	d	d1
16	6	1° 3°	7	11	17	29	19	8	3	-	5	8	4.5
20			8		19	31	21						
25	8		10	14	22	37	25	10	4	16	6	9.5	5.5
30			12	18	28	47	33	13	6	22	7	11	6.6
40	10		15										

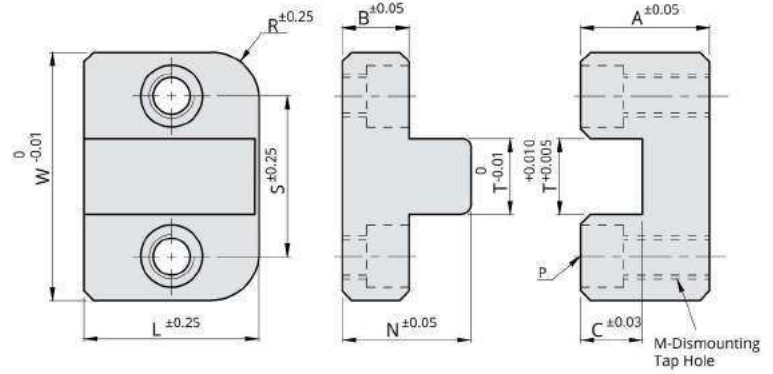
TYPE : PSST

MATERIAL : 1.2379 / SKD 11

HARDNESS : 58-62 HRC

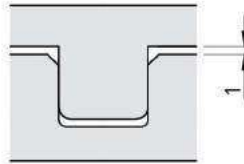
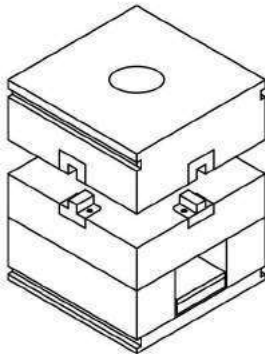
ORDERING EXAMPLE

TYPE A D Qty
PSST x 25 x 3° x 4

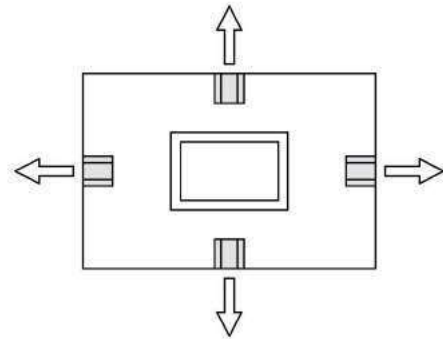


Dimension in mm.

CODE	W	L	A	B	C	N	T	S	R	P Bolt Size	M
SBSO-25	63.5	38.1	34.87	15.82	19.3	34.8	25.40	44.45	8.5	M6	M8
SBSO-35	88.9	50.8	44.4	19.0	25.5	44.2	36.58	63.5	10.5	M10	M12
SBSO-45	114.3	63.5	53.92	22.17	32.0	53.85	50.80	82.55	12.5	M12	M16



It is advisable to maintain a relief between the contact faces of the straight block sets



Straight block sets when installed in the correct orientation as shown in the figure, can maintain positioning accuracy even when thermal expansion of the plates occur during high temperature molding application

TYPE : SBSO

MATERIAL : 1.3505

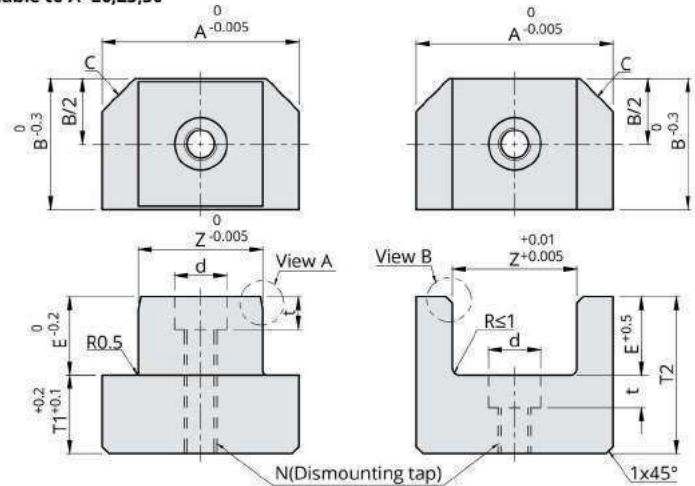
HARDNESS : 58-60 HRC

ORDERING EXAMPLE

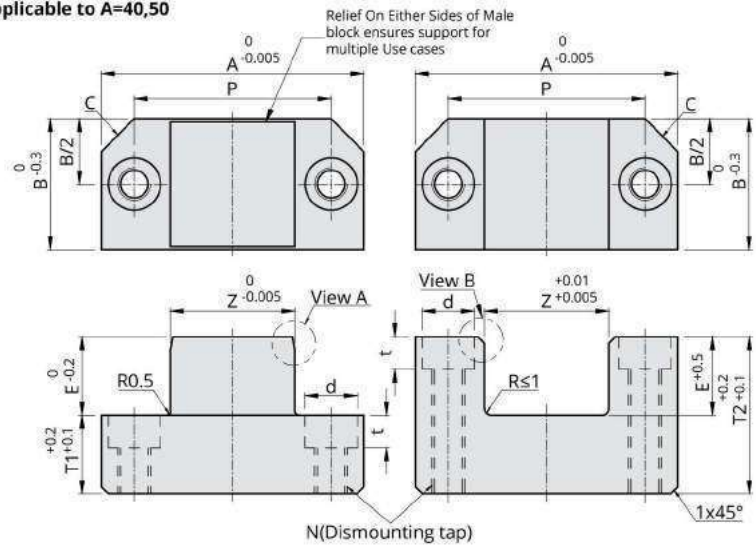
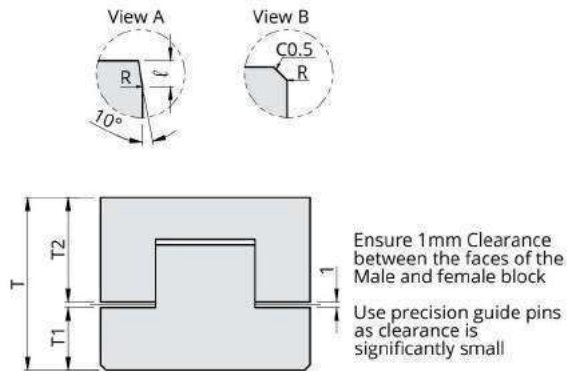
CODE Qty
SBSO-35 x 4

B Dimension Short Type

Applicable to A=20,25,30



Applicable to A=40,50



Dimension in mm:

A	B	E	T	T1	T2	Z	ℓ	C	P	Bolt Hole		Bolt	Tap N	
										d	t			
20	12	6	23	8	14	10	0.5	4		6.5	3.5	M3	M4	
25	15	8	28	10	17	12	1			6	28	8	4.5	M4
30														
40	20	10	32	12	19	15	2		35		9.5	5.5	M5	M6
		15	43		25									
50	25		46	17	28	20								

TYPE : PPSB

MATERIAL : 1.2379 / SKD 11

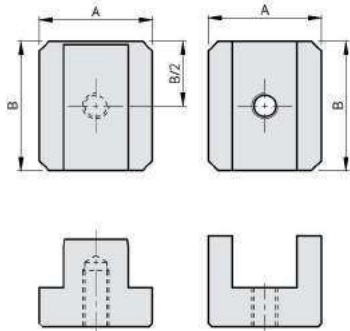
HARDNESS : 58-62 HRC

ORDERING EXAMPLE

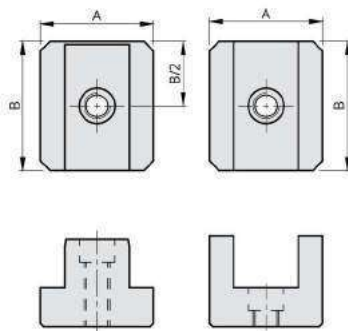
 TYPE A B E Qty
 PPSB × 25 × 15 × 8 × 8

PL Installation Type

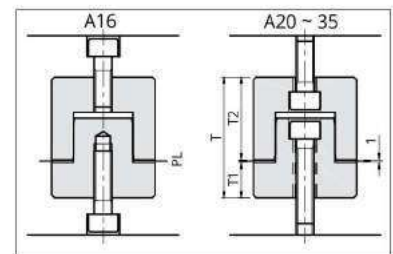
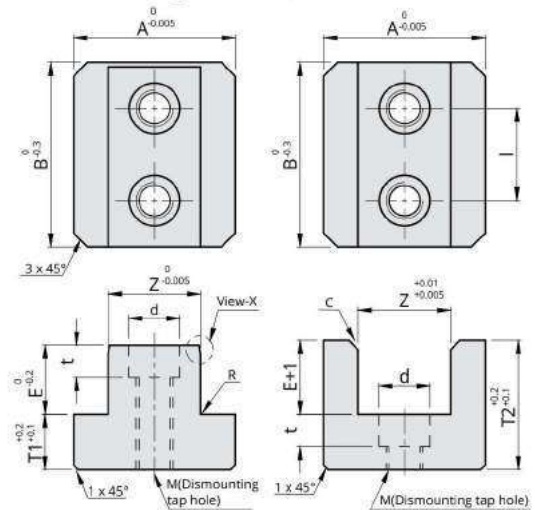
Mounting Bolt Hole: 1(B16 . 20)



Mounting Bolt Hole: 1(B25)



Mounting Bolt Hole: 1(B30 ~ 50)



Dimension in mm.

A	B	E	T	T1	T2	Z	R	C	S	Mounting Dimensions					
										l	d	t	Bolt Size	No. of bolt Holes	Tapping M
16	16	8	26	8	17	9	0.5	0.5	1	-	-	-	M4	1 (Tap Hole)	M4
		12	30		21										
	20	8	26		17										
		12	30		21										
20	25	8	26	10	17	12	0.5	0.5	1	-	6.5	3.5	M3	1	M4
		12	30		21										
	30	8	26		17										
		12	30		21						15			2	
25	25	10	32	10	21	15	0.5	0.5	1	-	8	5	M4	1	M5
		15	37		26		1	1	2						
	30	10	32		21		0.5	0.5	1						
		15	37		26		1	1	2						
30	30	12	36	12	23	17	0.5	0.5	1	15	9.5	6	M5	2	M6
		20	44		31		1	1	2						
	40	12	36		23		0.5	0.5	1						
		20	44		31		1	1	2						
35	40	15	41	12	28	20	1	1	2	20	11	7	M6	2	M8
		25	51		38										
	50	15	41		28										
		25	51		38						30				

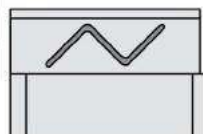
TYPE : PBSF - Standard Type
: PBSFO - Machined Oil Groove Type

MATERIAL : 1.2379 / SKD 11

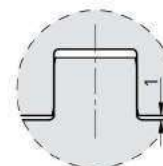
HARDNESS : 58-62 HRC

ORDERING EXAMPLE

TYPE A B E Qty
PBSF x 16 x 20 x 12 x 8

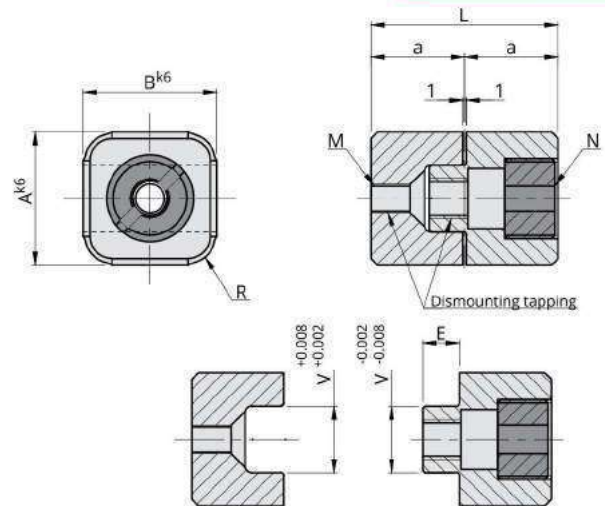


*Also Available
PBSFO- Oil Grooves on
Male block



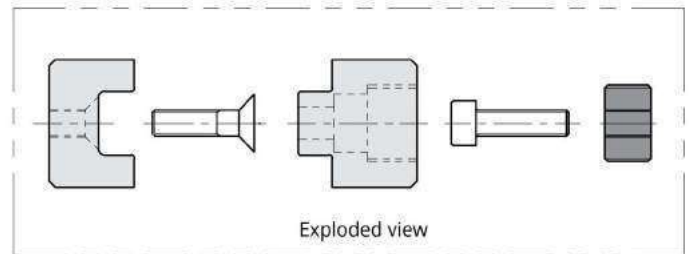
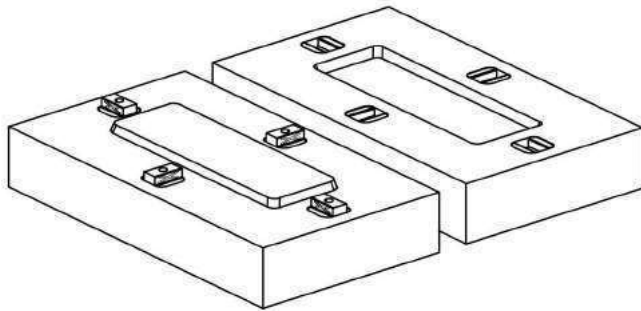
Maintain relief between the
contact surfaces as shown

Use precision guide pins as
clearance is significantly small

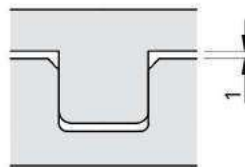


Dimension in mm.

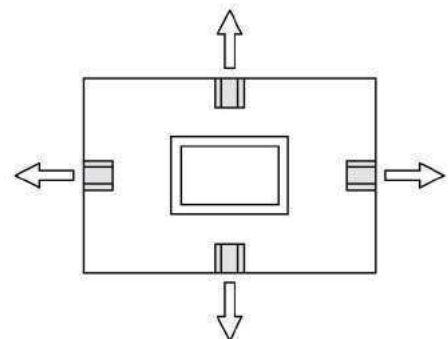
TYPE	A	B	L	a	V	E	M Bolt Size	N Bolt Size	R
SCU-20	20	20	28	14	10	5.5	M4	M5	4
SCU-25	25	25	32	16	12	7.5	M5	M6	5
SCU-32	32	32	36	18	16	9.5	M6	M8	6
SCU-40	40	40	45	22.5	20	11.5	M8	M10	



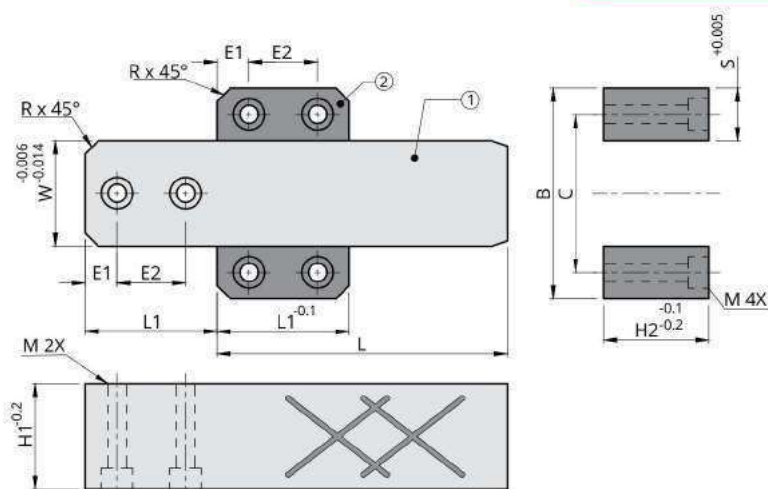
TYPE	: SCU
MATERIAL	: 1.2379 / SKD 11
HARDNESS	: 58-60 HRC
ORDERING EXAMPLE	
TYPE	Qty
SCU-20	× 4



It is advisable to maintain a relief between the contact faces of the straight block sets

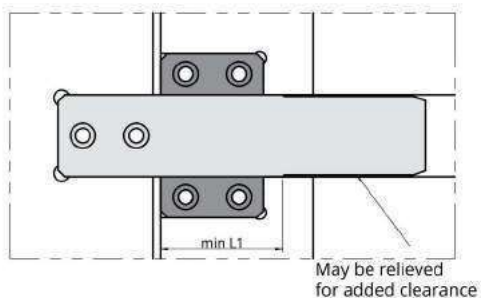
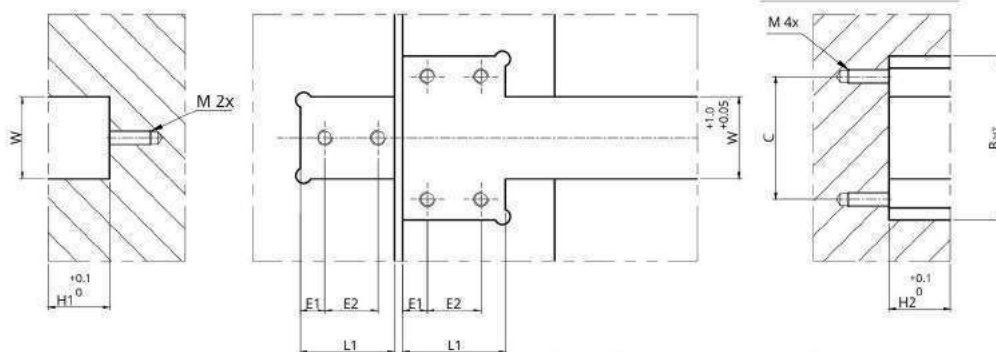


Square Centering units when installed in the correct orientation as shown in the figure, it can maintain positioning accuracy even when thermal expansion of the plates occur during high temperature molding application



Dimension in mm.

W	C	L1	E1	E2	H1	H2	M	B	S	R	L
16	26	26	6	14	14	14.2	M4	36	10	3	45,55,65,75
25	37	34	8	18	22	22.3	M5	49	12		55,75,95
34	50	44	8	28	30	30.5	M6	66	16	5	55,95,135,175
46	66	62	12	38	38	38.8	M8	86	20		75,115,155,195
60	85	80	16	48	50	51.2	M10	110	25	8	95,135,175,215,255
80	112	98	20	58	70	71.6	M12	144	32		115,155,175,195,235,315



No.	Description	Qty	Hardness	Material
1	Guide Post	1	58-60 HRC	1.3505
2	Guide Rail	2	60-62 HRC	1.2510

TYPE : GB

NOTE

: Custom drawing Requirements are supplied on request

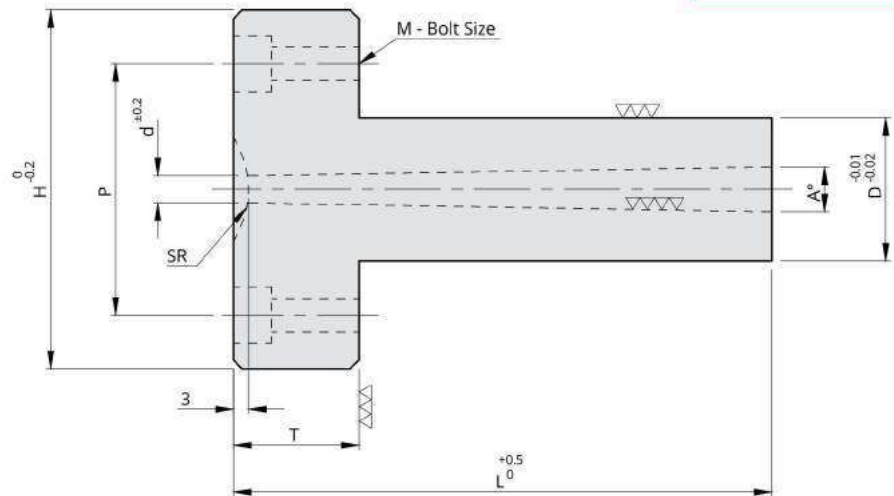
Guide Rails can also be provided in High Strength Brass as well as High Strength brass with Graphite impregnation.

ORDERING EXAMPLE

TYPE W L Qty
GB x 16 x 65 x 4



Type-A



Dimension in mm.

D	H	P	T	M	A°	d	SR	L(Increment of 10mm)
12	35	25	10	M5	2°	2.5	R0	40 - 100
16			15				R12	
16	50	36	10	M6	3°	3.5	R16	
20			15				R22	
25			20					

TYPE : SBA / SBA HH

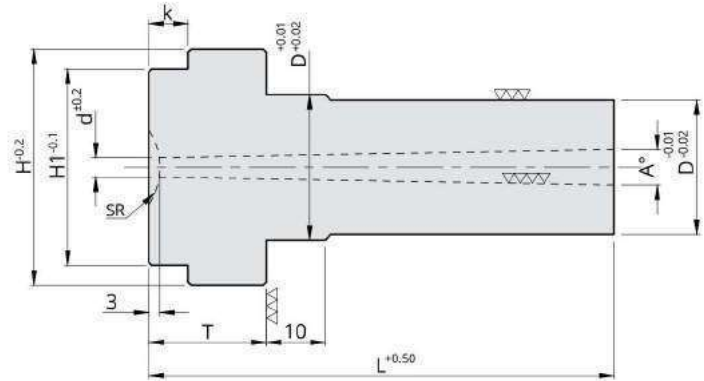
MATERIAL : SBA : 1.6511 High tensile steel
48 ± 3 HRC
SBA-HH : 1.2344 Hot Die Steel
52 ± 3 HRC

NOTE : Custom drawing Requirements are supplied on request

ORDERING EXAMPLE / CUSTOM ORDERING EXAMPLE

TYPE	D	H	P	T	M	A°	d	SR	L	Qty
SBA	x 16	x 35	x 25	x 10	x 5	x 3	x 2.5	x 12	x 100	x 10

Type-B



Dimension in mm.

D	H	H1	K	T	A°	d	SR	L(Increment of 10mm)
16	40	35	5	20	2°	2.5	R0	40 - 150
				25			R12	
				30				
20				20	3°	3.5	R16	
				25			R22	
				30				

TYPE : SBB / SBB HH

MATERIAL : SBB : 1.6511 High tensile steel
48 ± 3 HRC
SBB-HH : 1.2344 Hot Die Steel
52 ± 3 HRC

NOTE : Custom drawing Requirements are supplied on request

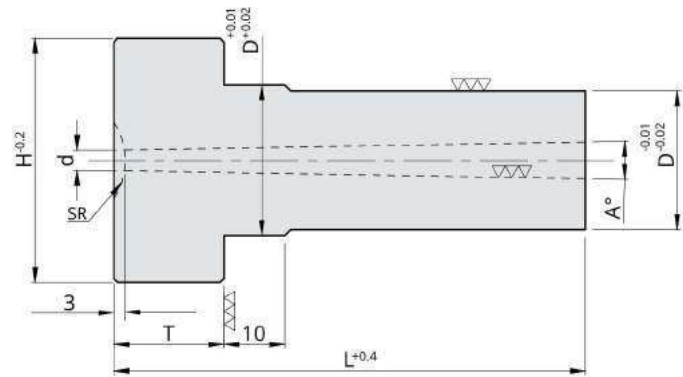
ORDERING EXAMPLE

TYPE	D	T	A°	d	SR	L	Qty
SBB	x 16	x 25	x 2	x 2.5	x 12	x 80	x 10

CUSTOM ORDERING EXAMPLE

TYPE	D	H	H1	k	T	A°	d	SR	L	Qty
SBB	x 15	x 35	x 30	x 6	x 32	x 3	x 3	x 11	x 100	x 10

Type-C



Dimension in mm.

TYPE	D	H	T	A°	d	SR	L(Increment of 10mm)
SBC-1	12	25	15	2°	2.5	R0	50 - 120
SBC-2	16	30				R12	
SBC-3	16	35		3°	3.5	R16	
SBC-4	20	35				R22	

TYPE : SBC / SBC HH

MATERIAL : SBC : 1.6511 High tensile steel
48 ± 3 HRC
SBC-HH : 1.2344 Hot Die Steel
52 ± 3 HRC

NOTE : Custom drawing Requirements are supplied on request

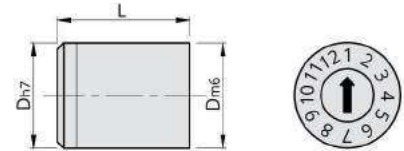
ORDERING EXAMPLE

TYPE A° d SR L Qty
SBC-3 x 2° x 3.5 x 12 x 90 x 10

CUSTOM ORDERING EXAMPLE

TYPE D H T A° d SR L Qty
SBC x 14 x 40 x 20 x 3° x 3 x 11 x 80 x 10





TYPE	: MDI
MATERIAL	: SUS 420
HARDNESS	: 50-52HRC

Installation:- Maintain a close tolerance press fit. Loose fit could lead to insert moving out of bore

ORDERING EXAMPLE

CODE	INSCRIPTION	D	L	Qty
MDI x	MONTH	x 6	x 8	x 8

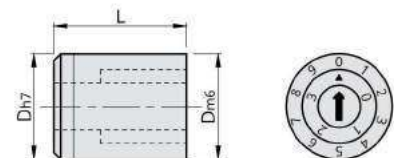
Dimension in mm.

YEAR / MONTH	YEAR	MONTH
DAY(0-3)	DAY(0-9)	ABC
A-L	1-31	BLANK

D	m6	h7	L
3	+0.012 +0.004	0 -0.012	6
4			6,8,10
5			8
6	+0.015 +0.006	0 -0.015	8,10
8			10
10			10,12
12	+0.018 +0.007	0 -0.018	12
16			14
20	+0.021 +0.008	0 -0.021	14

Custom Inscriptions as per customer drawings can be done on request

Three Lay Type



TYPE	: MDDI
MATERIAL	: SUS 420
HARDNESS	: 50-52HRC

Installation:- Maintain a close tolerance press fit. Loose fit could lead to insert moving out of bore

ORDERING EXAMPLE

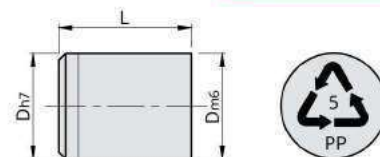
CODE	INSCRIPTION	D	L	Qty
MDDI x	DAYS	x 6	x 8	x 8

Dimension in mm.

BLANK	DAYS
YEAR / MONTH	DAYS/MONTH/YEAR

D	m6	h7	L
6	+0.012 +0.004	0 -0.012	8
8	+0.015 +0.006	0 -0.015	10
10			
12	+0.018 +0.007	0 -0.018	12
16			14

Custom Inscriptions as per customer drawings can be done on request



TYPE : MDIR
MATERIAL : SUS 420
HARDNESS : 50-52HRC

Installation:- Maintain a close tolerance press fit.
 Loose fit could lead to insert moving out of bore

ORDERING EXAMPLE

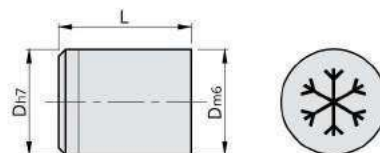
CODE	INSCRIPTION	D	L	Qty
MDIR x	PP-a	x 6	x 8	x 8

Dimension in mm.

PET-a 	PET-b 	PET-c 	PP-a 	PP-b
HDPE-a 	HDPE-b 	HDPE-c 	PS-a 	PS-b
PVC-a 	PVC-b 	PVC-c 	OTHER-a 	OTHER-b
LDPE-a 	LDPE-b 	LDPE-c 	ARROW 	

D	m6	h7	L
6	0.012 +0.004	0 -0.012	8
8	0.015 +0.006	0 -0.015	10
10			
12	0.018 +0.007	0 -0.018	12
16			
20	0.021 +0.008	0 -0.021	14

Custom Inscriptions as per customer drawings can be done on request



TYPE : MFCI
MATERIAL : SUS 420
HARDNESS : 50-52HRC

Installation:- Maintain a close tolerance press fit.
 Loose fit could lead to insert moving out of bore

ORDERING EXAMPLE

CODE	INSCRIPTION	D	L	Qty
MFCI x	FREEZER SAFE	x 6	x 8	x 8

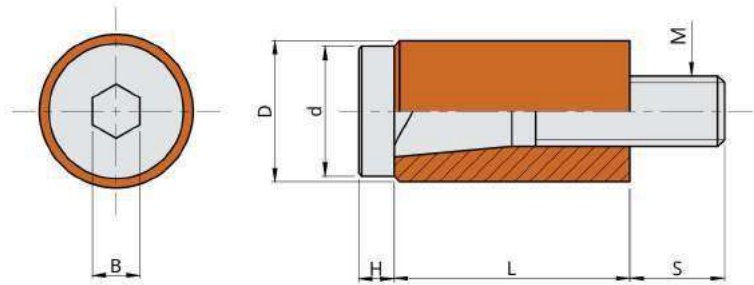
Dimension in mm.

	FREEZER SAFE
	FOOD SAFE
	DISHWASHER SAFE ON TOP RACK
	DISHWASHER SAFE
	MICROWAVE OVEN SAFE

D	m6	h7	L
6	0.012 +0.004	0 -0.012	8
8	0.015 +0.006	0 -0.015	10
10			
12	0.018 +0.007	0 -0.018	12
16			
20	0.021 +0.008	0 -0.021	14

Custom Inscriptions as per customer drawings can be done on request





Dimension in mm.

CODE	D	d	M	B	H	L	S
PO-12	12	11	M6	5	3	20	8
PO-13	13	11	M6	5	3	20	8
PO-16	16	14	M8	6	4	25	10
PO-20	20	14	M10	6	4	30	10

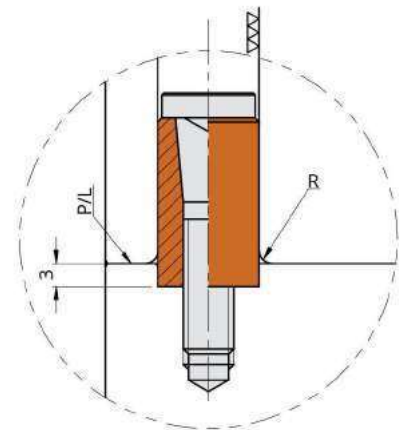
- Gently adjust the screw to expand the polyurethane bush body
- Radius R is preferred over chamfer at the receiving bore to ensure durability of polyurethane body
- Install the parting lock in a 3mm pocket on the moving side of the mould

TYPE : PO

MATERIAL : High Tensile Steel (Screw)
: Bush Body (Polyurethane)

ORDERING EXAMPLE

TYPE Qty
PO-16 x 12

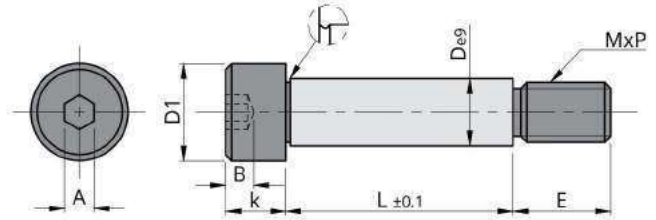


SHOULDER BOLT

TYPE : MSB

PPD®

ISO 7379



Dimension in mm.

CODE	D	M	A	B	C	E	f	L												
MSB-6	6	M5	10	3	2.4	4.5	9.5	8	10	12	16	20	25	30	40	50	60			
MSB-8	8	M6	13	4	3.3	5.5	11	8	10	12	16	20	25	30	40	50	60	70	80	
MSB-10	10	M8	16	5	4.1	7	13	10	12	16	20	25	30	40	50	60	70	80	90	100
MSB-12	12	M10	18	6	4.9	9	16	12	16	20	25	30	40	50	60	70	80	90	100	
MSB-16	16	M12	24	8	6.2	11	18	20	25	30	40	50	60	70	80	90	100	120		
MSB-20	20	M16	30	10	8.8	14	22	30	40	50	60	70	80	90	100	120	140			
MSB-24	24	M20	36	12	10	16	27	50	60	70	80	90	100	120	140					

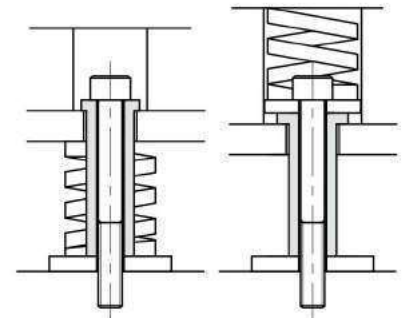
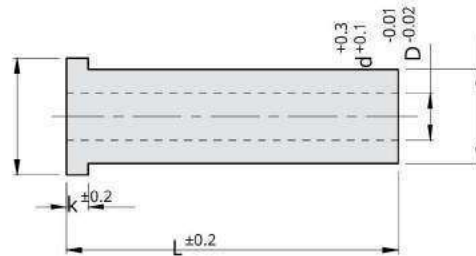
TYPE	: MSB
MATERIAL	: 1.7225
HARDNESS	: 40 ± 2HRC
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

TYPE D L Qty
MSB × 10 × 65 × 12

SPOOL RETAINER

TYPE : CSR



Dimension in mm.

CODE	H	d	D	k	L									
					25	30	35	40	45	50	55	60	65	70
CSR-9	13	6	9	3	0	0	0	0	0	0	0	0	0	0
CSR-11	16	8	11		0	0	0	0	0	0	0	0	0	0
CSR-13	18	10	13		0	0	0	0	0	0	0	0	0	0

TYPE	: CSR
MATERIAL	: 1.7225
HARDNESS	: 45 HRC
NOTE	: Custom drawing Requirements are supplied on request

ORDERING EXAMPLE

CODE L Qty
CSR-9 × 55 × 20

CUSTOM ORDERING EXAMPLE

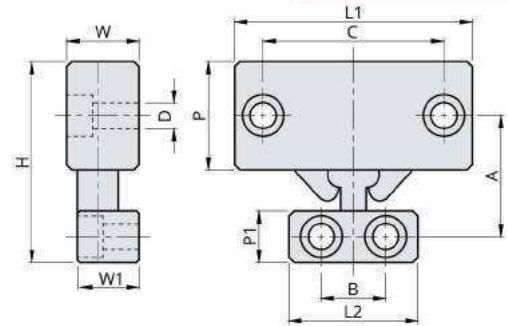
TYPE d D H k L Qty
CSR × 10 × 14 × 18 × 10 × 55 × 20

LATCH

TYPE : LA

PPD®

For Three Plate Moulds



Dimension in mm.

Configuration	A		B	C	D	L1	L2	W	W1	H	P	P1	Force (kgf)
	TYPE-S	TYPE-E											
Light Duty	27.5	49.5	16	42	M6	55	30	22	17	44	25	13	45
Medium Duty	40	70	20	61	M8	80	40	28	22	70	38	18	110
Heavy Duty	60	96	30	95	M12	120	60	48	38	106	57	27	225

Note : **Type S (Standard)** to be used between Cavity and Core Plates.
Type E (Extended) to be used for Stripper Plate type moulds.
 Dimension A can be made as per customer requirement in **Type E**

TYPE	: LA
MATERIAL	: 1.3505
HARDNESS	: ~56 HRC

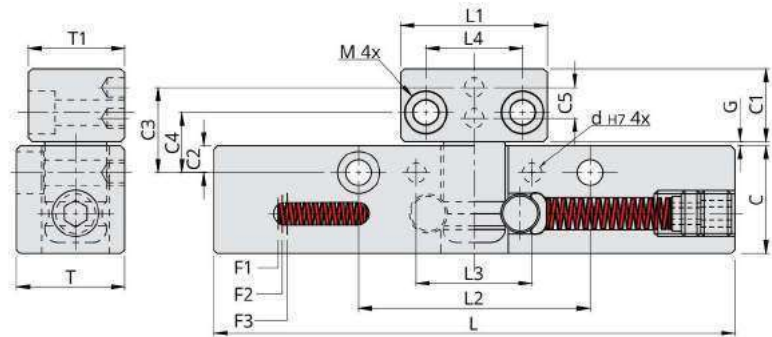
ORDERING EXAMPLE

TYPE	Configuration	Type	Qty
LA	x Medium Duty	x S	x 10

ADJUSTABLE LATCH LOCK

TYPE : ALL

For Three Plate Moulds



Dimension in mm.

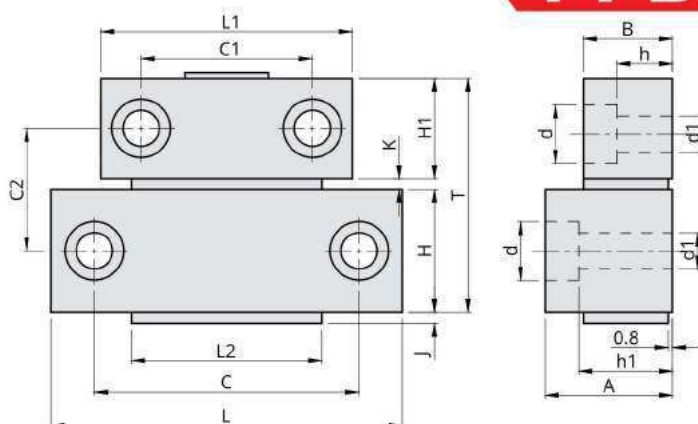
L	G	T	T1	C	C1	C2	L1	L2	d	L3	C3	C4	L4	C5	M	F1(N)	F2(N)	F3(N)
135	1	25	25	28	19	7	38	60	5	30	22.1	15.6	25	8	M6	450 (45kgF)	750 (75kgF)	1000 (100kgF)
	40										61.1	54.6						
140	2	32		32	22	10	64	70	6	100	28.1	23.1	35		M10	450 (45kgF)	1000 (100kgF)	1500 (150kgF)
	38.2										64.3	59.3						

Ensure easy flexibility in load adjustment
 Always ensure equal adjustment of load on either sides

TYPE	: ALL
MATERIAL	: Body :- C50 Roller and Puller Pin:- 1.3505
HARDNESS	: Roller and Puller pin =58-60HRC

ORDERING EXAMPLE

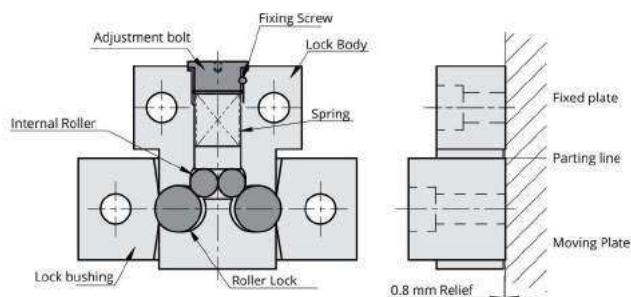
TYPE	L	G	Qty
ALL	x 135	x 1	x 4



Dimension in mm.

Model No.	L	L1	L2	T	H	H1	J	K	C	C1	C2	A	B	h	h1	d	d1	Maximum usable load (2 sets under normal temperature)
10	48	36	25	42	22	18	2	2	36	24	22	24	16	9.5	18	10.5	6.5	981 N (100kgF)
20	54	42							40	28				9	16			1961 N (200kgF)
30	65	46	35	48.5	25	20	3.5	3.5	50	31	26	27	19	9.5	17	14	9	2942 N (300kgF)
60											34							5884 N (600kgF)
60L				79.5					52	33	57							
80S	73	50		56.5					11.5		34							
80				87.5					42.5		65							7845 N (800kgF)
100			48	58	30	24	4	35	76	42	31	34	25	13	19	17	11	9807 N (1000kgF)
100L	103	65		89							62							

Model No. 60L, 80 and 100L belong to long type with extended C2 and T dimensions



Roller Lock Set Advantages:

- Ensures balanced mold operation and even distribution of load due to roller construction
- A worn lock bushing can be installed in reverse thus extending the service period of the assembly

Mounting Instructions:

Very Important: Always ensure loosening of fixing screw before making any adjustments to the adjustment bolt and also subsequently tighten the fixing screw after adjustment of load. Failure to do so will damage the thread and thus lead to failure of assembly

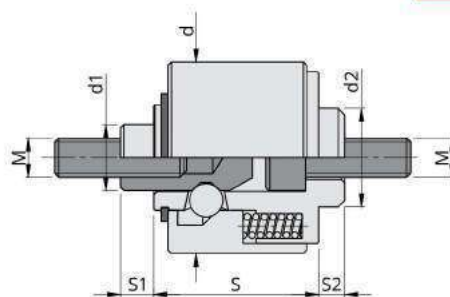
- The load is maximum when the adjustment bolt is fully tightened.
- Ensure symmetric adjustment of bolts for both right and left units for balanced operation
- Ensure Installation of the assembly parallel to the parting line

TYPE : PMPLK - Standard (Black Oxide Coated)

MATERIAL : Lock Housing C50
Lock Bushing YK 30 Equivalent - induction hardened
Rollers - 1.3505-induction hardened

ORDERING EXAMPLE

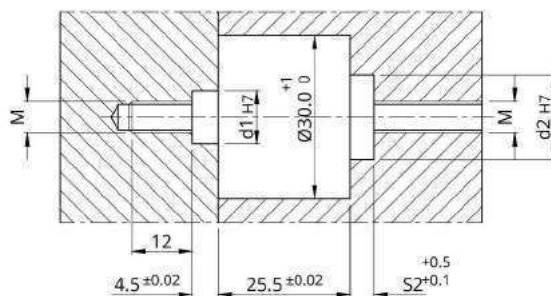
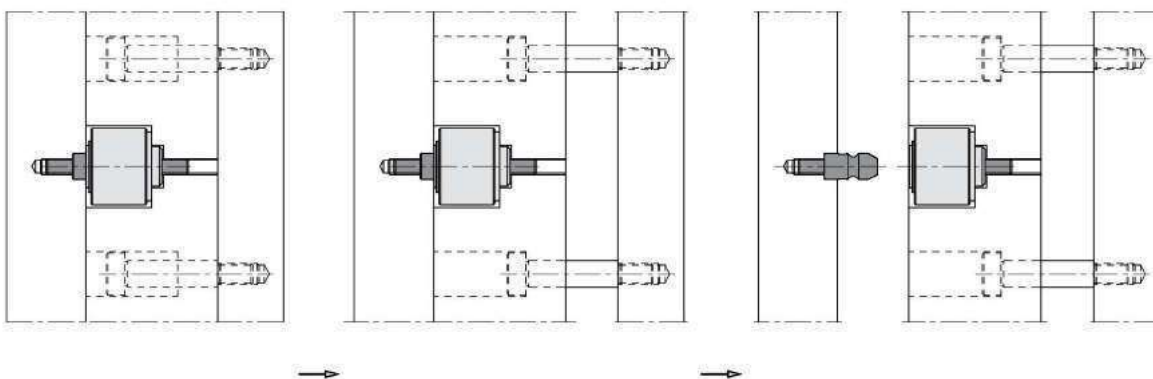
TYPE Model No. Qty
PMPLK x 30 x 2



Dimension in mm

d	d1	d2	S	S1	S2	M	n	F (N)
29	10	15	25	5	4	M6	6	200 (20kgf)
							9	300 (30kgf)
							12	400 (40kgf)

n: No of springs

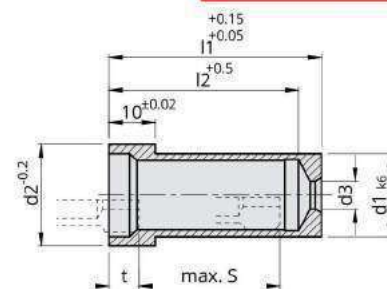


TYPE : PRL

MATERIAL : BODY:-1.3505
: PULLER:- HSS-M2

ORDERING EXAMPLE

TYPE Qty
PRL × 2



Dimension in mm.

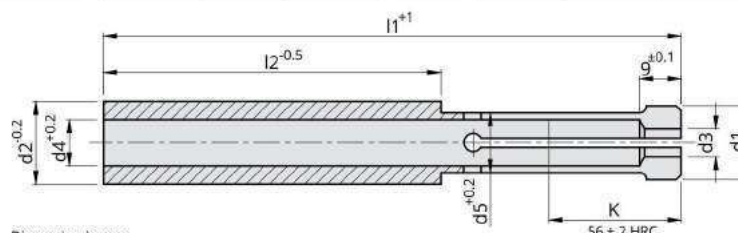
Max-S	t	l2	d2	d1	d3	l1
24	6.7	31	22	18	6	36
34		41				46
44		51				56
23		30	29	24	10	36
33		40				46
43		50				56
63		70				76

TYPE : PERTS-B
MATERIAL : 1.3505
HARDNESS : 58 ± 2 HRC

ORDERING EXAMPLE
 TYPE d3 l1 Qty
 PERTS-B x 6 x 46 x 4

TYPE : PERTS-S
MATERIAL : HDS - 1.2344
HARDNESS : 48-52 HRC

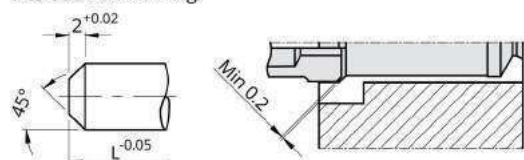
ORDERING EXAMPLE
 TYPE d3 l1 Qty
 PERTS-S x 6 x 125 x 4



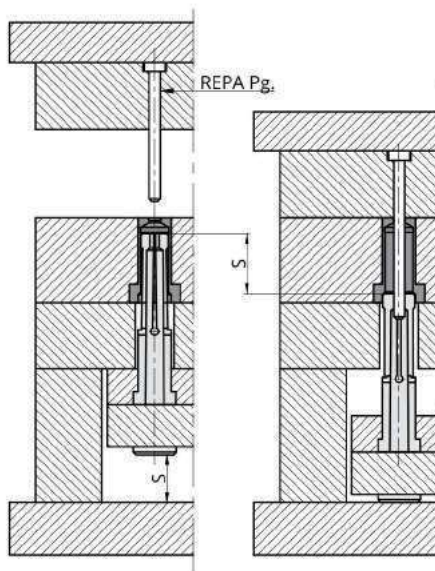
Dimension in mm.

K	l2	d5	d4	d2	d1	d3	l1	max. F(N)
20	73	13	10	18	16	6	125	12000(1200 kgF)
25	100	17	12.2	24	20	100	160	20000(2000kgF)

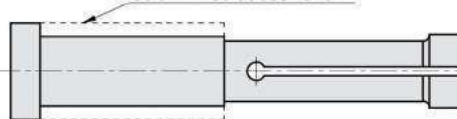
Alteration on REPA Pg.



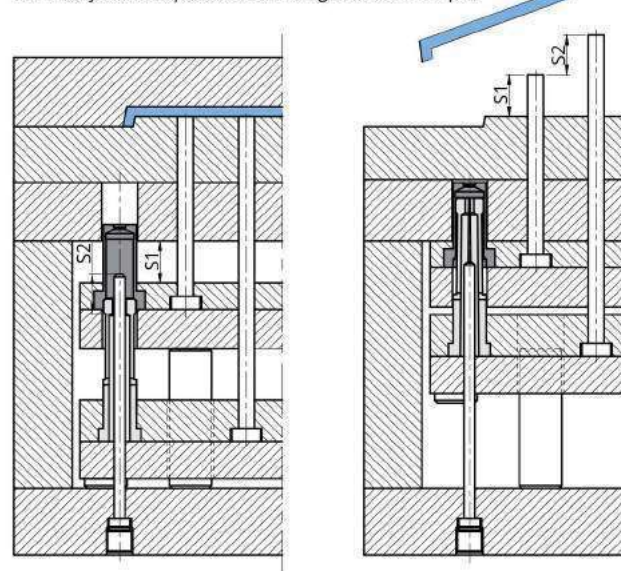
Application 1: Early return unit
 For moulds with slide cores, Ensures Early Retraction
 S of Ejector plates before slides start moving in.



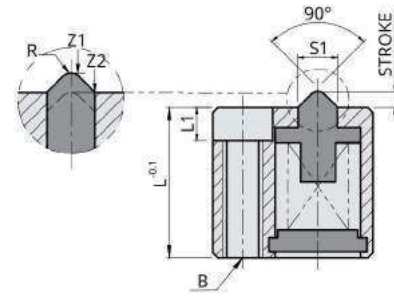
Fitting length and collar to
 be trimmed at user end



Application 2: Two Staged Ejection
 Ensures possibility of subdividing
 ejection Stroke H into 2 Equidirectional ejection strokes S1 and S2.
 Second ejection depends on the length of the limit pin

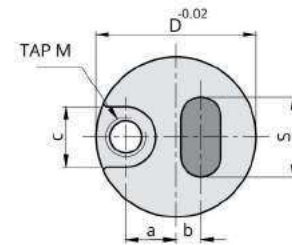






Dimension in mm.

TYPE	Load (N)		D	L	L1	a	b	c	d	Bolt Size B	Tap M	S	S1	R	STROKE
	Z1(min)	Z2(max)													
A	22.5	28.6	16	15	3.3	5	2.5	6	3.2	M3	M4	8	4	1	1.6
B	62.0	78.8													
A	36.7	62.9	20	20	4.5	6	3.5	7.5	4.3	M4	M5	10	5	1.1	2
B	64.1	110													

**TYPE** : SL**MATERIAL** : 1.2344 Hot Die Steel**HARDNESS** : 50-52HRC**ORDERING EXAMPLE**

CODE D Load Type Qty
 SL × 16 × A × 10

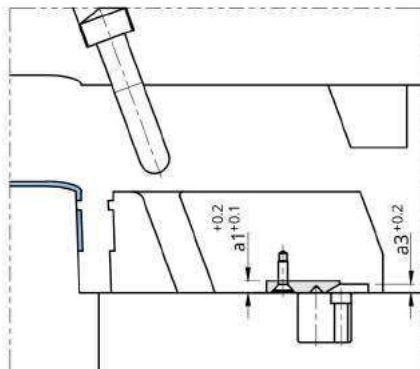
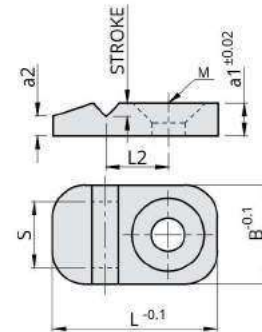
Slide Locks provide superior performance for heavy slide cores since face contact type plunger is used.

For unhardened plates, snap plate for slide lock is recommended.

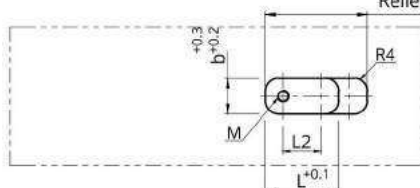
SNAP PLATE

TYPE : SP SL

For Slide lock



Relief as per stroke

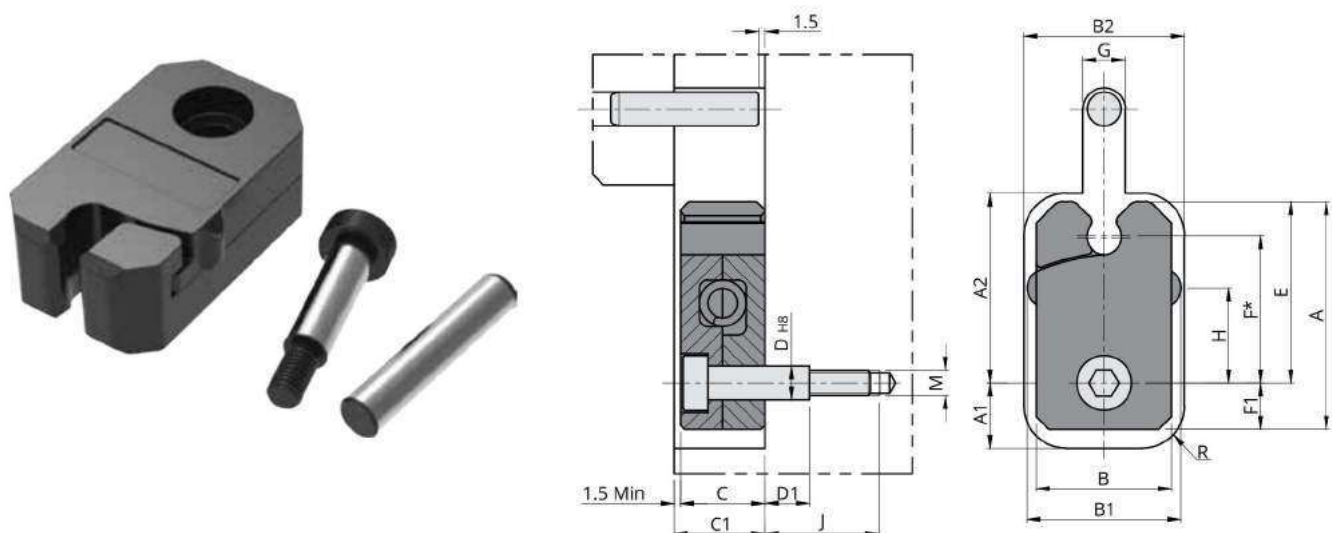


Dimension in mm.

S	a1	a2	a3	L2	L	B	STROKE
8	5	3	2	9.5	25	15	1.6
10			2.4				2

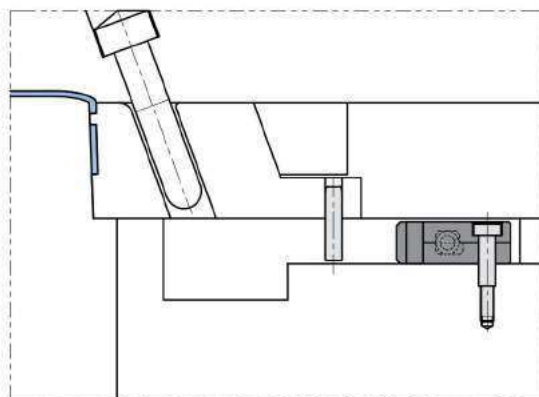
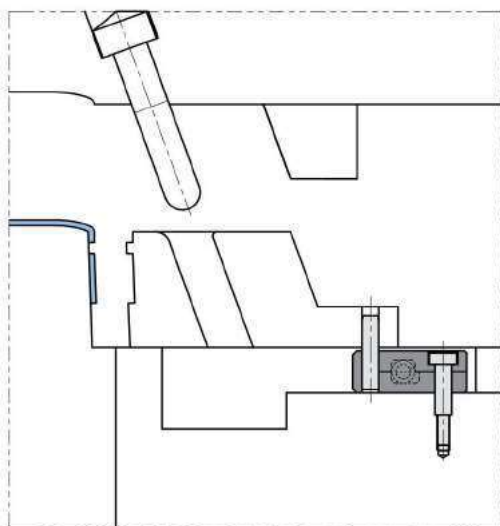
TYPE : SP SL**MATERIAL** : SKS3/O1**HARDNESS** : 55-58 HRC**ORDERING EXAMPLE**

CODE STROKE Qty
 SP SL × 1.6 × 10



Dimension in mm.

Type	A	B	C	E	F*	F1	G	H	I	J	C1	A1	A2	B1	B2	R	M	D	Max Slide Weight (kg)
PSR01	38	19	16	31.5	24.89	7	8	15.5	8.5	17.5	20	10	34.5	24	25.5	8	M5	6	10
PSR02	54	32	20	43	34.93	11	10	22.5	10.5	21.5	25	14.5	46	36.5	38	10	M6	8	20
PSR03	86	45	30	67	53.98	19	12	40	17	31.5	35	22.5	70	49.5	51	12	M8	10	40



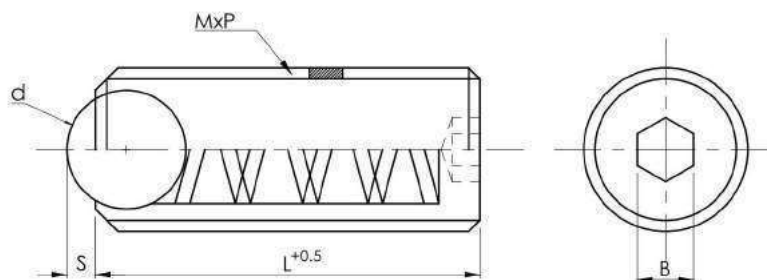
TYPE : PSR

MATERIAL : 1.7243

HARDNESS : 55-60HRC

ORDERING EXAMPLE

 TYPE Qty
 PSR02 x 4



Dimension in mm.

CODE	MxP	d	S	B	L
MBP-4	4x0.7	2.5	1.0	2	9
MBP-5	5x0.8	3.0	1.0	2.5	12
MBP-6	6x1.0	3.5	1.2	3	14
MBP-8	8x1.25	5.0	1.8	4	16
MBP-10	10x1.5	6.0	2.0	5	19
MBP-12	12x1.75	8.0	3.0	6	22
MBP-16	16x2.5	10.0	3.0	8	25

TYPE : MBP

MATERIAL : HIGH TENSILE STEEL

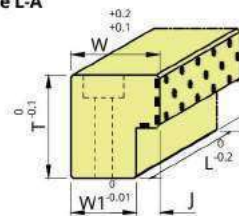
ORDERING EXAMPLE

 TYPE Qty
 MBP-8 x 50

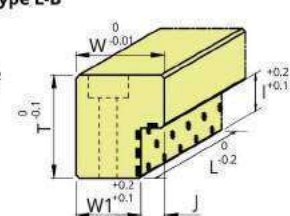
High Strength Brass



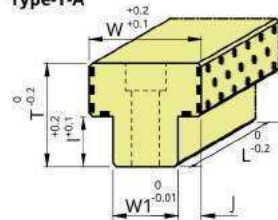
Type L-A



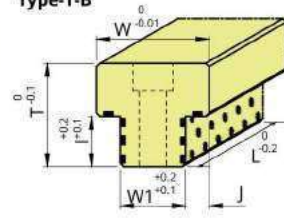
Type L-B



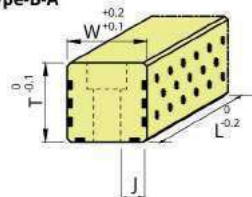
Type T-A



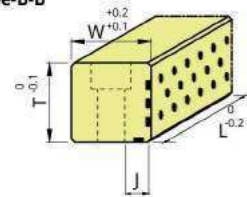
Type T-B



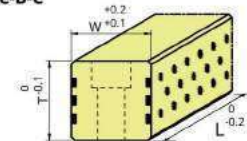
Type B-A



Type B-B



Type B-C



Dimension in mm.

W	T	J	I	L
12	12 15 20	3.5 4.5 5.5 7.5	5 8 10 15	40 - 200 (Increments of 5 mm)
15	15 20 25			
20	20 25 30			
25	25 30 35			
30	30 35			
35	35 40			

Use of grease during initial running is recommended

TYPE : OGR-B

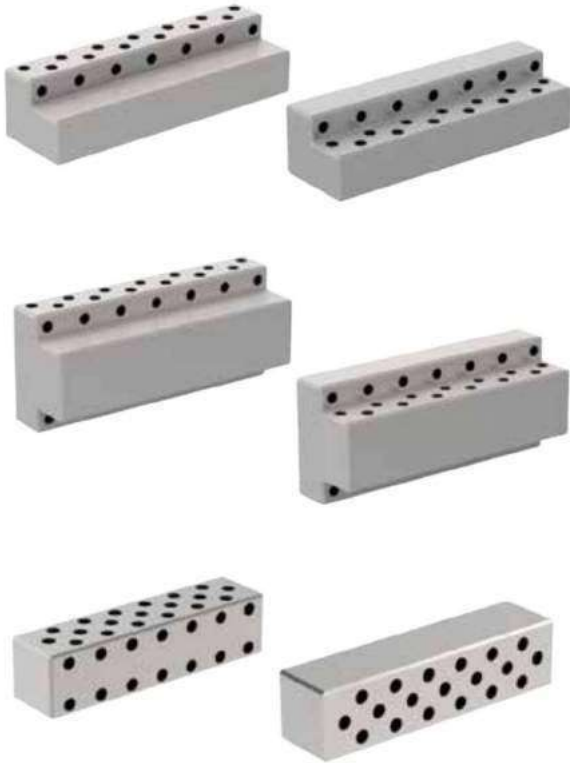
MATERIAL : CAC304 + Gr (High strength brass with embedded graphite)

HARDNESS : ~180 BHN

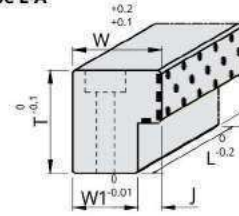
NOTE : Counter bores are shown only for representation.
Counter Bores and Dowel Holes are to be machined by Customer.
Parts can be also be provided as per customer drawing.

ORDERING EXAMPLE(For Type B-A, B-B, B-C, Add J=0 and I=0)

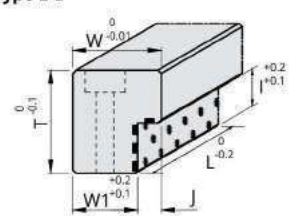
CODE	TYPE	L	W	T	J	I
OGR-B	TYPE-L-A	x 100	x 25	x 25	x 4.5	x 10



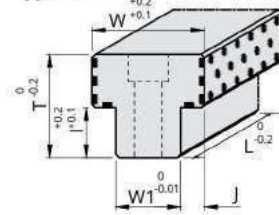
Type L-A



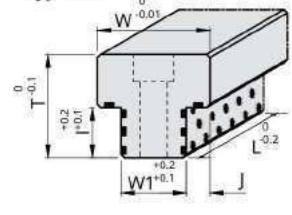
Type L-B



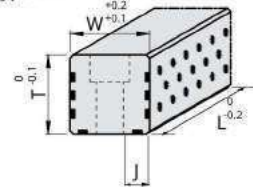
Type T-A



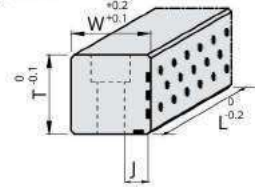
Type T-B



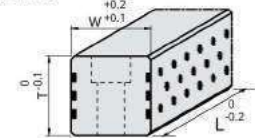
Type B-A



Type B-B



Type B-C



Dimension in mm.

W	T	J	I	L
12	12 15 20	3.5 4.5 5.5 7.5	5 8 10 15	40 - 200 (Increments of 5 mm)
15	15 20 25			
20	20 25 30			
25	25 30 35			
30	30 35			
35	35 40			

Use of grease during initial running is recommended

TYPE : OGR-S

MATERIAL : SKS3/01 + Gr (With embedded graphite)

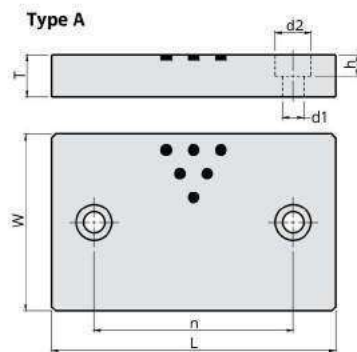
HARDNESS : 55-58 HRC

NOTE : Counter bores are shown only for representation.
Counter Bores and Dowel Holes are to be machined by Customer
Parts can be also be provided as per customer drawing

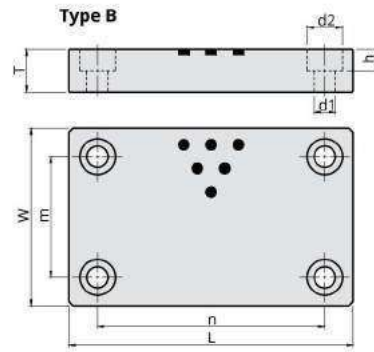
ORDERING EXAMPLE(For Type B-A, B-B, B-C, Add J=0 and I=0)

CODE	TYPE	L	W	T	J	I
OGR-S	TYPE-L-A	x 100	x 25	x 25	x 4.5	x 10

SKS3



Sliding direction



Dimension in mm.

TYPE	T	W	L	m	n	Mounting Bolts	d1	d2	h
A	8	38	75	-	45	For T=8 use thin head M6 allen bolt	For T=8; d1=6.5	For T=8; d2=11	For T=8; h=5
			100		50				
			150		100				
		48	75	-	45				
			100		50				
			125		75				
			150		100				
			200		150				
			250		200				
		75	75	-	25				
			100		50				
			125		75				
	150		100						
	200		150						
	250		200						
	20	100	100	50	50				
			125		75				
			150		100				
200			150						
250			200						
B		125	125	50	75				
	150		100						
	200		150						
	250		200						
	150	150	100	100					
		200		150					
		250		200					

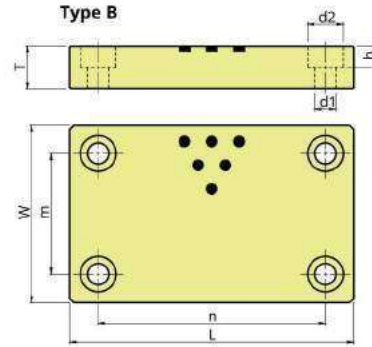
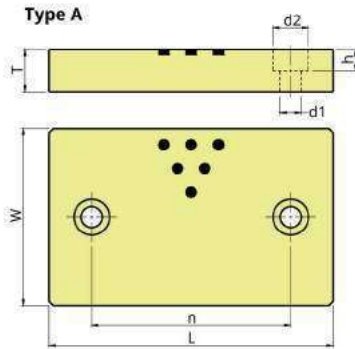
It is recommended to use grease during initial running phase

TYPE	: OSP-S
MATERIAL	: SKS3/01 + Gr (With embedded graphite)
HARDNESS	: 55-58HRC
NOTE	: CSK Mounting holes can be provided on Request Non standard slide plates can also be provided

ORDERING EXAMPLE:

CODE	TYPE	T	W	L	m	n
OSP-S	x A	x 8	x 48	x 100	x -	x 50

High Strength Brass



Sliding direction

Dimension in mm.

TYPE	T	W	L	m	n	Mounting Bolts	d1	d2	h
A	8	38	75	-	45	For T=8 use thin head M6 allen bolt	For T=8; d1=6.5	For T=8; d2=11	For T=8; h=5
			100		50				
			150		100				
		48	75	-	45				
			100		50				
			125		75				
	150		100						
	10	200	150						
		250	200						
		75	75	-	25				
			100		50				
			125		75				
150			100						
200	150								
250	200								
B	20	100	100	50	50	For T=10 use thin head M10 allen bolt	For T=10; d1=11	For T=10; d2=17	For T=10; h=6
			125		75				
			150		100				
			200		150				
			250		200				
		125	125	50	75				
	150		100						
	200		150						
	250		200						
	150	150	100	100					
		200		150					
		250		200					

It is recommended to use grease during initial running phase

TYPE : OSP-B

MATERIAL : CAC304+Gr (High strength brass with embedded graphite)

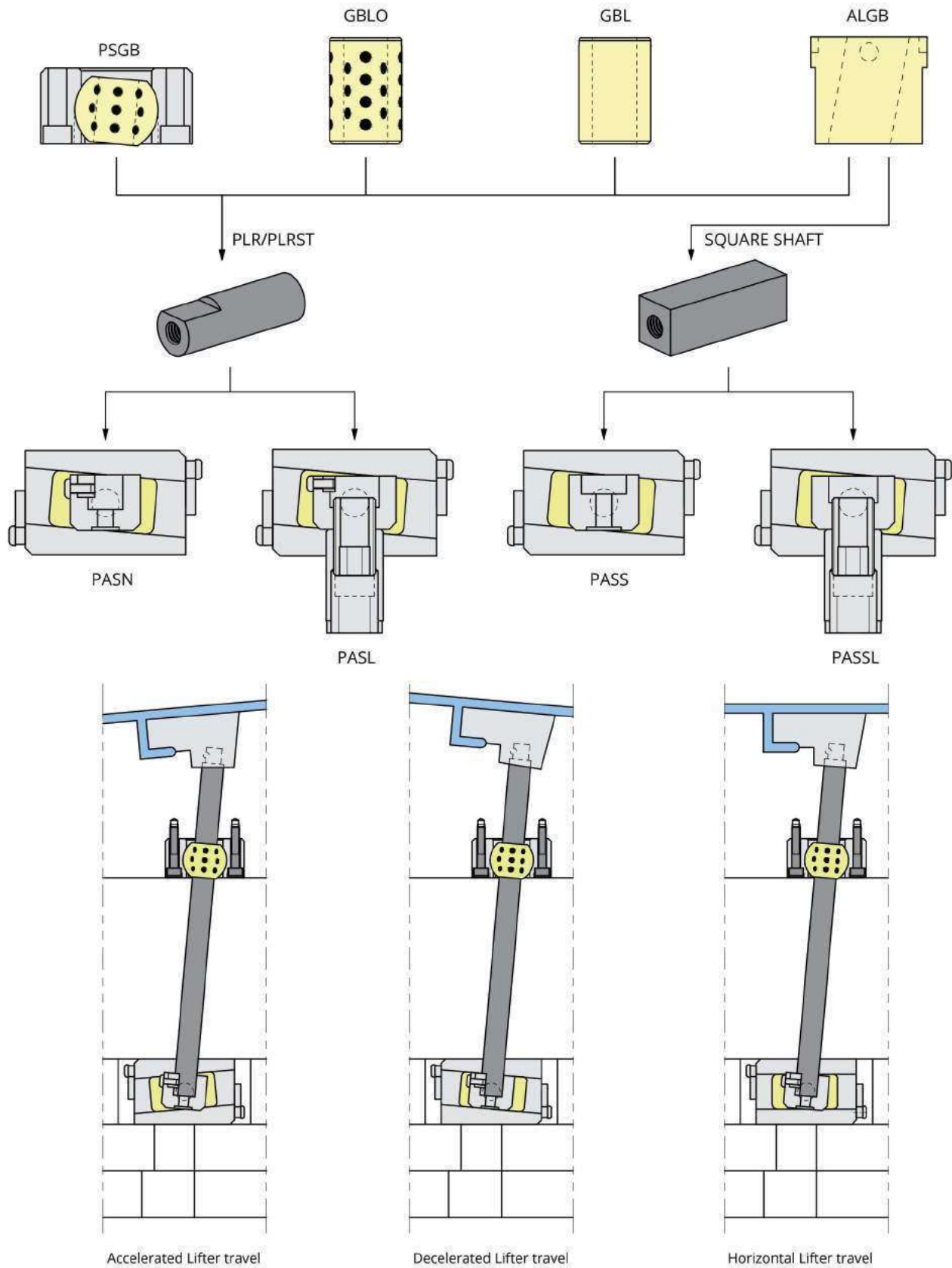
HARDNESS : ~180 BHN

NOTE : CSK Mounting holes can be provided on Request
Non standard slide plates can also be provided

ORDERING EXAMPLE:

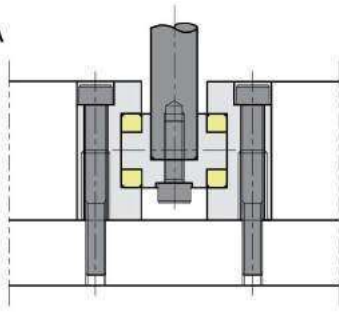
CODE	TYPE	T	W	L	m	n
OSP-B	x A	x 8	x 48	x 100	x -	x 50



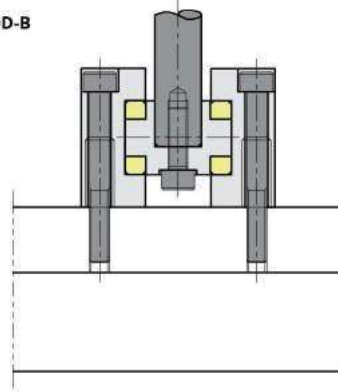


For PASN, PASL, PASS, PASSL

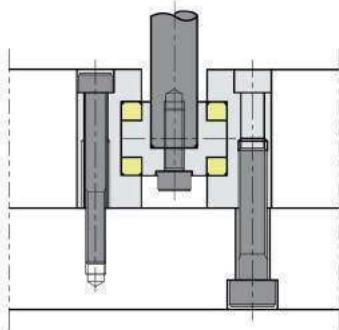
METHOD-A



METHOD-B

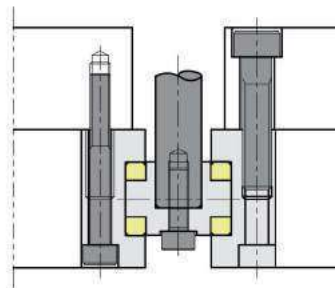


METHOD-C



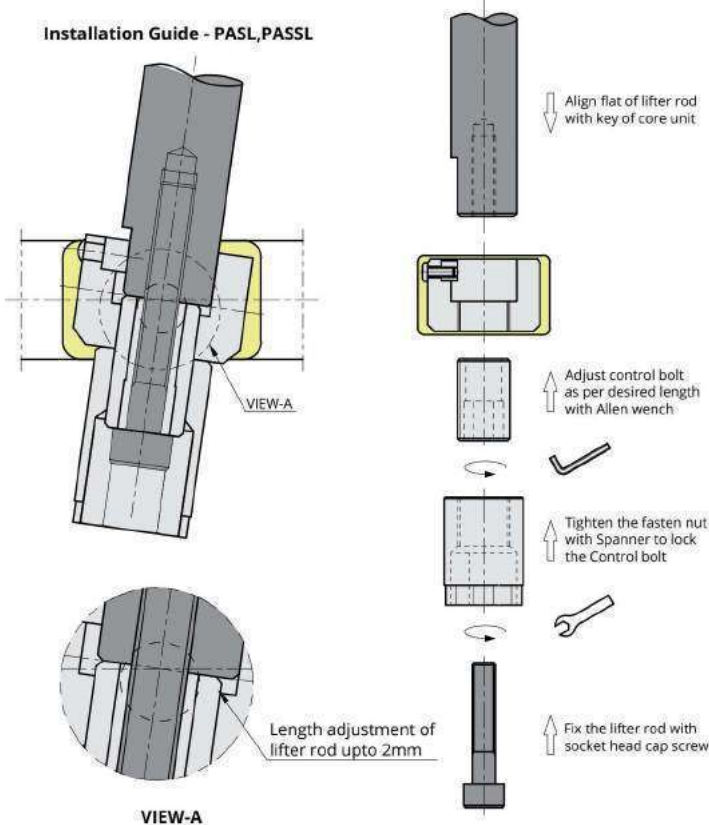
Stopper plate can be removed when installing the assembly in a pocket

METHOD-D

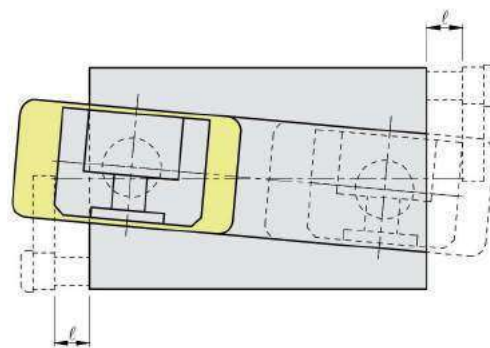


By reversing the core unit, the assembly can be installed upside down

Installation Guide - PASL, PASSL



Maximization of Stroke- PASN, PASL, PASS, PASSL



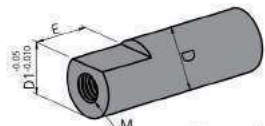
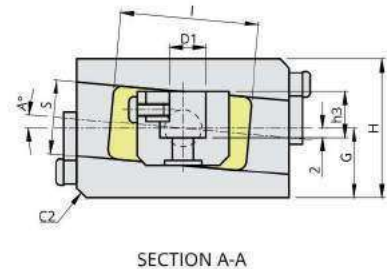
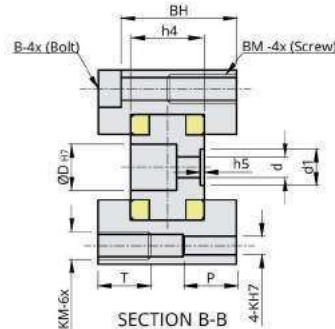
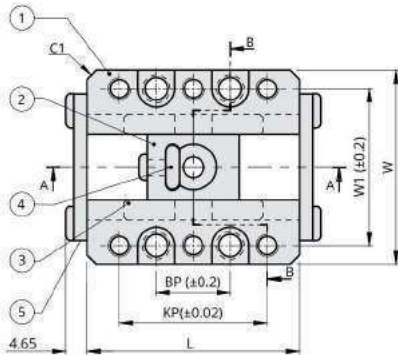
Ensure not to exceed the permitted $l = 5\text{mm}$ extension in Stroke

For Round Shaft Block

**Slide Core Unit set -Advantage**

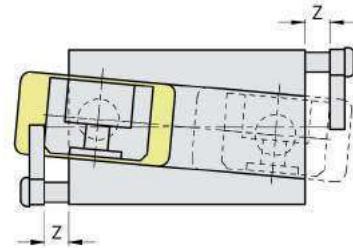
- The slide core unit set ensures the Lifter Rod moves a guided path while releasing the undercut
- The unit adjusts the center by itself thus preventing any wear or ceasing of the guide and the slide plate.
- Guide plates possess self lubrication properties

No.	Description	Qty.	Material
1	Slide Blocks	2	C50
2	Core Shaft Block	1	C50
3	Guide Plate	2	CAC304 + Gr
4	Key	1	C50
5	Stopper Plate	2	C50



Lifter Rod PLR

PASN-E
Maximum Z extension of
5mm can be provided



Dimension in mm.

D	W	L	A	H	BH	W1	BP	KP	G	h3	h4	I	S	B	BM	P	T	KM	K	D1	d	d1	h5	C1	C2
8	42	46	0-10°	30	24.5	34	16	32	15			30	16	M4	M6			M6	4	7				-	-
10										10	16					15	15			9	5.5				
12	56	55		35	28.5	45	21	42	17.5			35		M6	M8			M8	6	11					
16	60	65		36	29.5	48		46	18	11	18		20							15	9	16	3		
20	68	70		43	34.5	55	25	50	21.5	13	22		24							18					
25	75	80		45	36.5	62	36	60	22.5	15	26	45	26	M8	M10			M10	8	22	11	20	3.5	6	5
30	81	95		54	45.5	68	50	75	27	17	30	55	30			20	20			27.5					
35	98	110		60	49.5	81		85	30	20	36	70	34	M10	M12			M12	10	32.5					
40	105	120		64	53.5	88	60	95	32	22	40	80	38							37.5	13	26	4		

TYPE : PASN

PASN-E for extended stroke type.

NOTE : Inclination A Range 11°-20° & 21°-30° available on request. For 11°-20° ; H=H+10 and For 21°-30° ; H=H+20**ORDERING EXAMPLE**

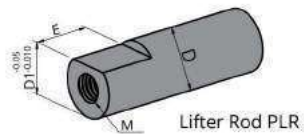
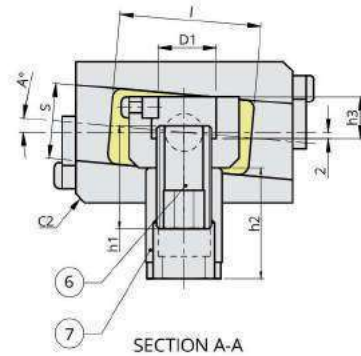
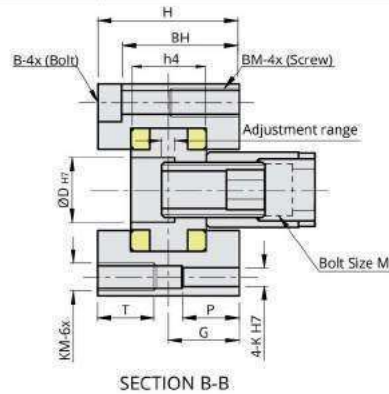
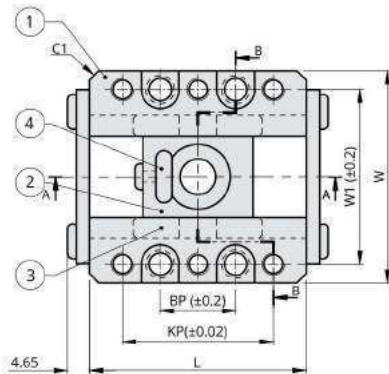
TYPE D A° QTY
PASN x 16 x 8° x 4

For Round Shaft Block
Controllable length Type

Slide Core Unit set -Advantage

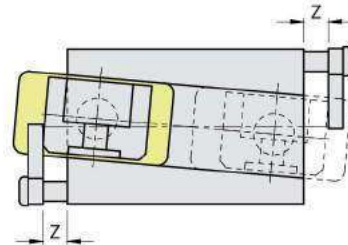
- The slide core unit ensures the Lifter Rod moves a guided path while releasing the undercut
- The unit adjusts the center by itself thus preventing any wear or ceasing of the guide and the slide plate.
- Length variation in the lifter rod can be accommodated in the controllable length type
- Guide plates possess self lubrication properties

No.	Description	Qty	Material
1	Slide Blocks	2	C50
2	Core Shaft Block	1	C50
3	Guide Plate	2	CAC304 + Gr
4	Key	1	C50
5	Stopper Plate	2	C50
6	Length Control Bolt	1	C50
7	Fasten Nut	1	C50



Lifter Rod PLR

PASL-E
Maximum Z extension of
5mm can be provided



Dimension in mm.

D	W	L	A	H	BH	W1	BP	KP	G	h1	h2	h3	h4	I	S	B	BM	P	T	KM	K	D1	M	C1	C2
12	56	55	0-10°	35	28.5	45	21	42	17.5	20	20	10	16	35	20	M6	M8	15	15	M8	6	11	M5	6	5
16	60	65		36	29.5	48	25	46	18	22	22	11	18	40	24	M8	M10	20	20	M10	8	15	M8		
20	68	70		43	34.5	55	35	50	21.5	25	25	13	22	45	26	M8	M10	20	20	M10	8	18	M10		
25	75	80		45	36.5	62	35	60	22.5	28	28	15	26	55	30	M10	M12	20	20	M12	10	22	M12		
30	81	95		54	45.5	68	50	75	27	32	32	17	30	70	34	M10	M12	20	20	M12	10	27.5	M12		
35	98	110		60	49.5	81	60	85	30	32	32	20	36	80	38	M10	M12	20	20	M12	10	32.5	M12		
40	105	120		64	53.5	88	60	95	32	32	32	22	40	80	38	M10	M12	20	20	M12	10	37.5	M12		

TYPE : PASL

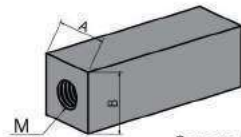
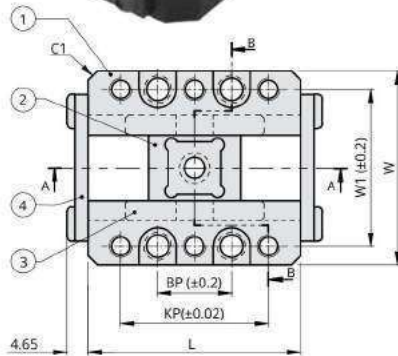
PASL-E for extended stroke type.

NOTE : Inclination A Range 11°-20° & 21°-30° available on request. For 11°-20° ; H=H+10 and For 21°-30° ; H=H+20

ORDERING EXAMPLE

TYPE	D	A°	QTY
PASL	x 16	x 8°	x 4

For Square Shaft Block

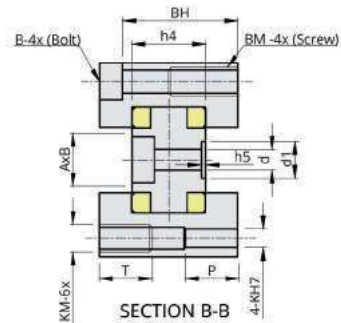


Square Lifter Rod

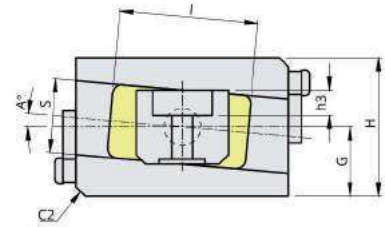
Slide Core Unit set -Advantage

- The slide core unit set ensures the Lifter Rod moves a guided path while releasing the undercut
- The unit adjusts the center by itself thus preventing any wear or ceasing of the guide and the slide plate.
- Guide plates possess self lubrication properties

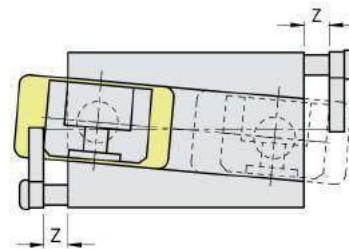
No.	Description	Qty.	Material
1	Slide Blocks	2	C50
2	Core Shaft Block	1	C50
3	Guide Plate	2	CAC304 + Gr
4	Stopper Plate	2	C50



SECTION B-B



SECTION A-A

PASS-E
Maximum Z extension of
5mm can be provided

Dimension in mm.

AxB	W	L	A	H	BH	W1	BP	KP	G	h3	h4	I	S	B	BM	P	T	KM	K	d	d1	h5	C1	C2	
8x8	42	46	0-10°	30	24.5	34	16	32	15	4	16	30	16	M4	M6	15	15	M6	4	5.5	-	-	-	-	
10x10																									
12x12	56	55		35	28.5	45	21	42	17.5			35		M6	M8			M8	6						
16x16	60	65		36	29.5	48		46	18	5	18		20									9	16	3	
20x20	68	70		43	34.5	55		50	21.5		22		24		M8	M10	20	20	M10	8	11	20	3.5	6	5
25x25	75	80		45	36.5	62	36	60	22.5	6	26	45	26												
30x30	81	95		54	45.5	68		75	27		30	55	30				20	20	M12	10	13	26	4		
35x35	98	110		60	49.5	81		85	30	8	36	70	34		M10	M12									
40x40	105	120		64	53.5	88	60	95	32		40	80	38												

TYPE : PASS

PASS-E for extended stroke type.

NOTE : Inclination A Range 11°-20° & 21°-30° available on request. For 11°-20° ; H=H+10 and For 21°-30° ; H=H+20**ORDERING EXAMPLE**

TYPE AxB A° QTY
 PASS x 16x16 x 8° x 4

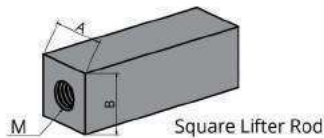
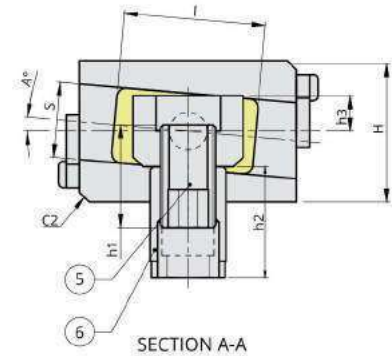
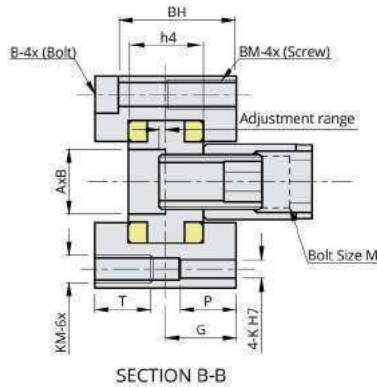
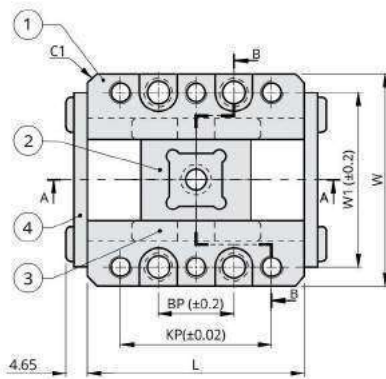
For Square Shaft Block



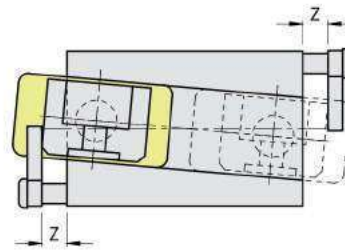
Slide Core Unit Set -Advantage

- The slide core unit set ensures the Lifter Rod moves a guided path while releasing the undercut
- The unit adjusts the center by itself thus preventing any wear or ceasing of the guide and the slide plate.
- Guide plates possess self lubrication properties

No.	Description	Qty	Material
1	Slide Blocks	2	C50
2	Core Shaft Block	1	C50
3	Guide Plate	2	CAC304 + Gr
4	Stopper Plate	2	C50
5	Length Control Bolt	1	C50
6	Fasten Nut	1	C50



PASSL-E
Maximum Z extension of
5mm can be provided



Dimension in mm.

AxB	W	L	A	H	BH	W1	BP	KP	G	h3	h4	I	S	B	BM	P	T	KM	K	h1	h2	M	C1	C2	
12x12	56	55	0-10°	35	28.5	45	21	42	17.5	8	16	35	20	M6	M8	15	15	M8	6	20	20	M5	6	5	
16x16	60	65		36	29.5	48	25	46	18	9	18	40								24	22	22			M8
20x20	68	70		43	34.5	55		50	21.5	11	22		M8								M10	25			25
25x25	75	80		45	36.5	62	36	60	22.5	13	26	45		26	20	20	M10	8	28			28			M10
30x30	81	95		54	45.5	68	50	75	27	15	30	55		30					M10	M12		32			32
35x35	98	110		60	49.5	81		85	30	18	36	70	34	M10	M12	M12					10				
40x40	105	120		64	53.5	88	60	95	32	20	40	80	38												

TYPE : PASSL
PASSL-E for extended stroke type

NOTE : Inclination A Range 11°-20° & 21°-30° available on request. For 11°-20° ; H=H+10 and For 21°-30° ; H=H+20

ORDERING EXAMPLE

TYPE AxB A° QTY
PASSL x 16x16 x 8° x 4

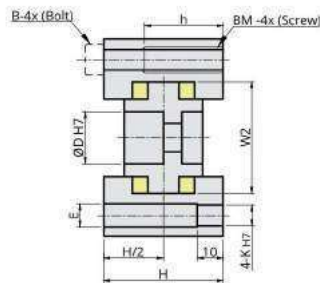
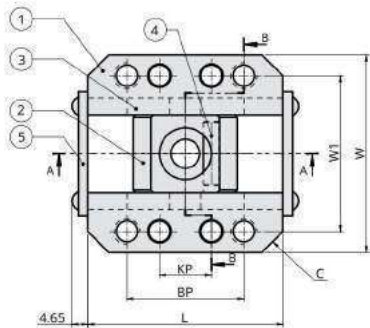
Compact - Fixed Type



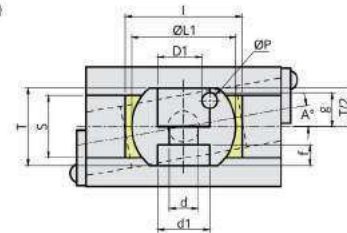
Slide Core Unit set -Advantage

- The slide core unit set ensures the Lifter Rod moves a guided path while releasing the undercut
- The unit adjusts the center by itself thus preventing any wear or ceasing of the guide and the slide plate.
- Guide plates possess self lubrication properties

No.	Description	Qty.	Material
1	Slide Blocks	2	C50
2	Core Shaft Block	1	C50
3	Guide Plate	2	CAC304 + Gr
4	Locking Dowel	1	C50
5	Stopper Plate	2	C50

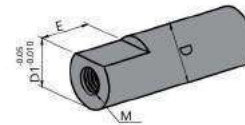


SECTION B-B



SECTION A-A

Lifter Rod



Dimension in mm.

D	W	W1	L	KP	BP	W2	C	B	BM	h	K	E	A°	H	T	S	I	L1	P	D1	d	d1	f
10	45	36	50	16	30	26	3	M3	M5	14	5	6	0-5°	28	16	17	28	20	3	8.5	6	10	3
													11-15°	-									
													16-20°	-									
12	51	40	60	20	40	29	4	M6	M8	20	6	6.6	0-5°	35	20	20	35	25	4	10	7	12	5
													11-15°	-									
													16-20°	-									
16	54	44	65	18	38	33	8						0-10°	35	24	20	40	30	6	13	9	16	6
													11-15°	41									
													16-20°	48									
20	64	51	70	18	42	38	8						0-10°	40	30	24	40	40	6	17	11	20	7
													11-15°	47									
													16-20°	55									
25	70	58	80	20	45	45	10	M8	M10	25	8	9	0-10°	44	35	26	45	45	6	22			9.5
													11-15°	52									
													16-20°	61									
30	78	64	100	40	70	51	8						0-10°	54	38	30	55	50	8	27	14	25	9.5
													11-15°	62									
													16-20°	72									
35	92	75	115	50	85	58	8	M10	M12	30	10	11	0-10°	60	40	34	55	55	8	31			10
													11-15°	70									
													16-20°	82									
40	100	82	125			66							0-10°	65	43	38	70	60	8	36	18	32	11.5
													11-15°	78									
													16-20°	90									

TYPE : PCSN

ORDERING EXAMPLE

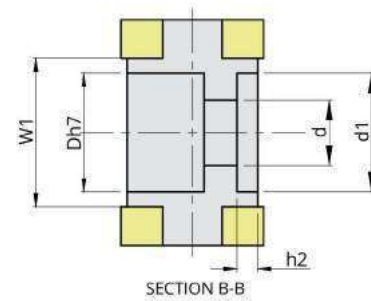
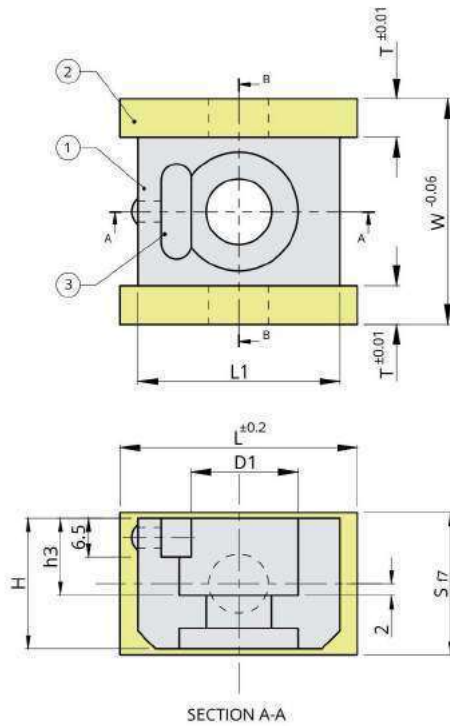
TYPE	D	A°	QTY
PCSN	x 16	x 8°	x 4

Round Shaft Block - Compatible with PASN
Fixed Type

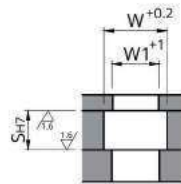


Core units can be directly installed on the mould body thus reducing the space required on the Ejector Plates

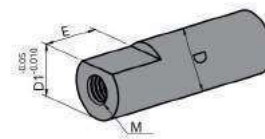
No.	Description	Qty	Material
1	Core Shaft Block	1	C-50
2	Guide Plate	2	CAC304 + Gr
3	Key	1	C-50



Fitting (Description)



Lifter Rod PLR



Dimension in mm.

D	W	W1	T	L	L1	S	H	h2	h3	D1	d	d1
8	23	14	4.5	30	20	16	16	-	10	7	5.5	-
10										9		
12	30	17	6.5	35	25	20	18	3	11	11	9	16
16										15		
20	38	25	7	40	29	24	22	3.5	13	18	11	20
25										22		
30	51	36	7.5	55	43	30	30	4	17	27.5	13	26
35										32.5		
40	67	47	10	80	53	38	40		22	37.5		

TYPE : PNP

ORDERING EXAMPLE

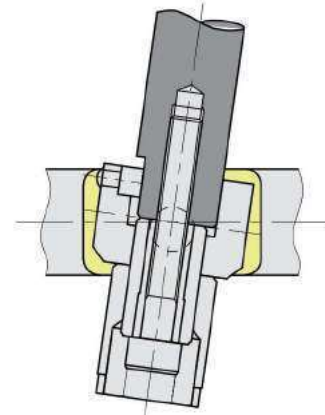
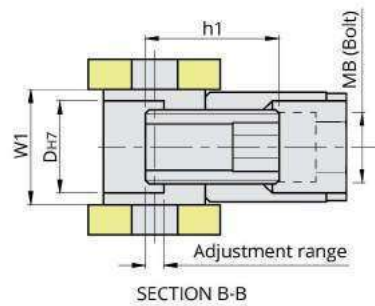
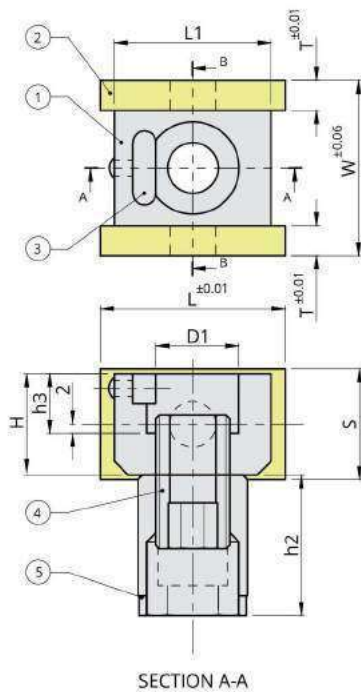
TYPE D QTY
PNP x 16 x 4

Round Shaft Block - Compatible with PASL
Controllable Length Type

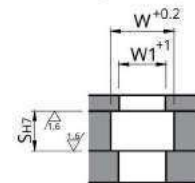


Core units can be directly installed on the mould body thus reducing the space required on the Ejector Plates
Length variations in the lifter rod can be accommodated in the controllable length type

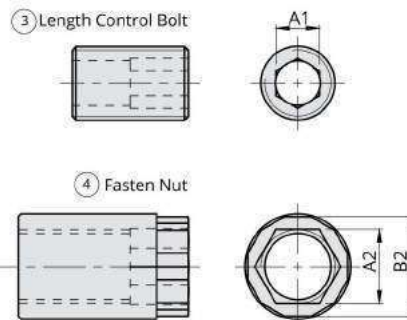
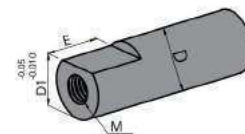
No.	Description	Qty	Material
1	Core Shaft Block	1	C50
2	Guide Plate	2	CAC304 + Gr
3	Key	1	C50
4	Length Control Bolt	1	C50
5	Fasten Nut	1	C50



Fitting (Description)



Lifter Rod PLR



Dimension in mm.

D	W	W1	T	L	L1	S	H	h1	h2	h3	D1	MB	A2	A1	B2
12	30	17	6.5	35	25	20	16	20	20	10	11	M5	10	5	15
16	33	20		40	29		18	22	22	11	15	M8	14	8	
20	38	25				34	24	22	25	25	13	18	M10	16	10
25	45	31	7	45	38	26	26	28	28	15	22	19		27	
30	51	36	7.5	55	43	30	30	32	32	17	27.5		M12		
35	60	42	9	70	48	34	34			20	32.5				
40	67	47	10	80	53	38	38			22	37.5				

TYPE : PNPL

ORDERING EXAMPLE

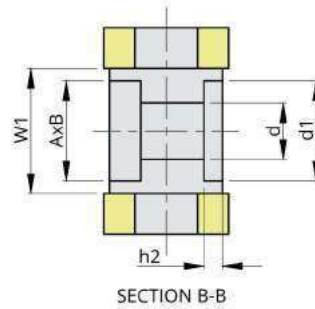
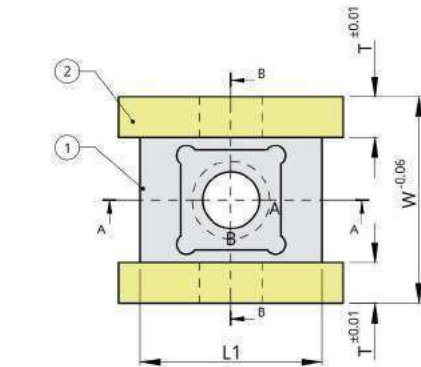
TYPE D QTY
PNPL x 16 x 4

Square Shaft Block - Compatible with PASS
Fixed Type

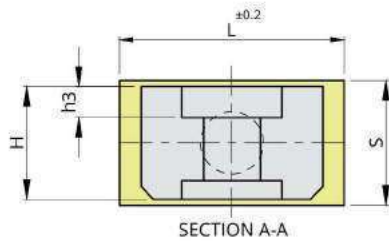


Core units can be directly installed on the mould body thus reducing the space required on the Ejector Plates.

No.	Description	Qty	Material
1	Core Shaft Block	1	C-50
2	Guide Plate	2	CAC304 + Gr



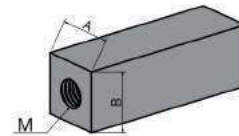
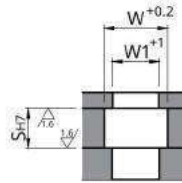
SECTION B-B



SECTION A-A

Fitting (Description)

Square Lifter Rod PLR



Dimension in mm.

AxB	W	W1	T	L	L1	S	H	h2	h3	D1	d	d1
8x8	23	14	4.5	30	20	16	16	-	4	7	5.5	-
10x10										9		
12x12	30	17	6.5	35	25	20	18	3	5	11	9	16
16x16	33	20		40	29					15		
20x20	38	25			34	24	22		18	20		
25x25	45	31	7	45	38	26	26		6	22	11	20
30x30	51	36	7.5	55	43	30	30	3.5		27.5		
35x35	60	42	9	70	48	34	36	4	8	32.5	13	26
40x40	67	47	10	80	53	38	40			37.5		

TYPE : PNPS

ORDERING EXAMPLE

TYPE A x B QTY
PNPS x 16 x 16 x 4

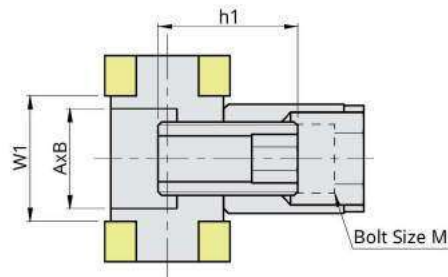
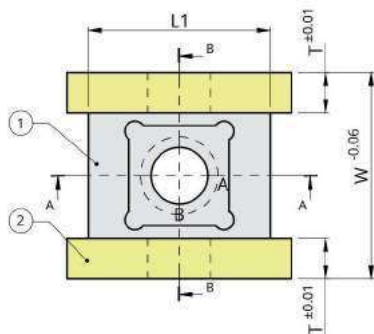
Square Shaft block - Compatible with PASSL
Controllable length Type



Core units can be directly installed on the mould body thus reducing the space required on the Ejector Plates

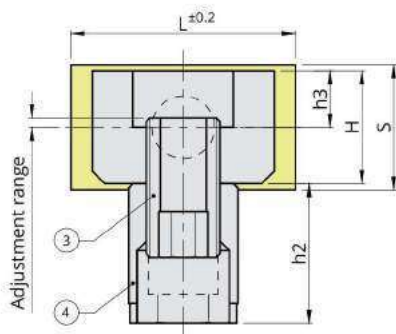
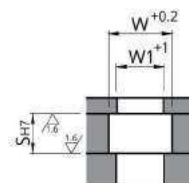
Length variations in the lifter rod can be accommodated in the controllable length type

No.	Description	Qty.	Material
1	Core Shaft Block	1	C50
2	Guide Plate	2	CAC304 + Gr
3	Length Control Bolt	1	C50
4	Fasten Nut	1	C50



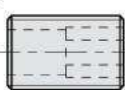
SECTION B-B

Fitting (Description)

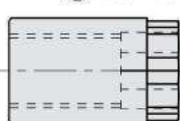


SECTION A-A

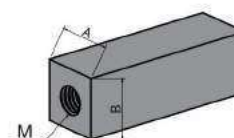
③ Length Control Bolt



④ Fasten Nut



Square Lifter Rod



Dimension in mm.

AxB	W	W1	T	L	L1	S	H	h1	h2	h3	D1	M	A2	A1	B2		
12x12	30	17	6.5	35	25	20	16	20	20	8	11	M5	10	5	15		
16x16	33	20		40	29		18	22	22	9	15	M8	14	8			
20x20	38	25			34		22	25	25	11	18	M10	16	10		23	
25x25	45	31	7	45	38	26	26	28	28	13	22		19		27		
30x30	51	36	7.5	55	43	30	30	32	32	15	27.5	M12			32	12	32
35x35	60	42	9	70	48	34	36			18	32.5		20	37.5			36
40x40	67	47	10	80	53	38	40										

TYPE : PNSL

ORDERING EXAMPLE

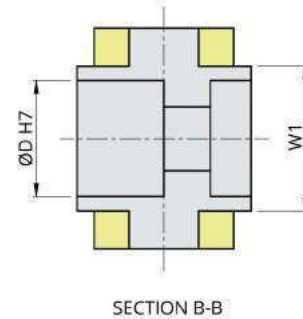
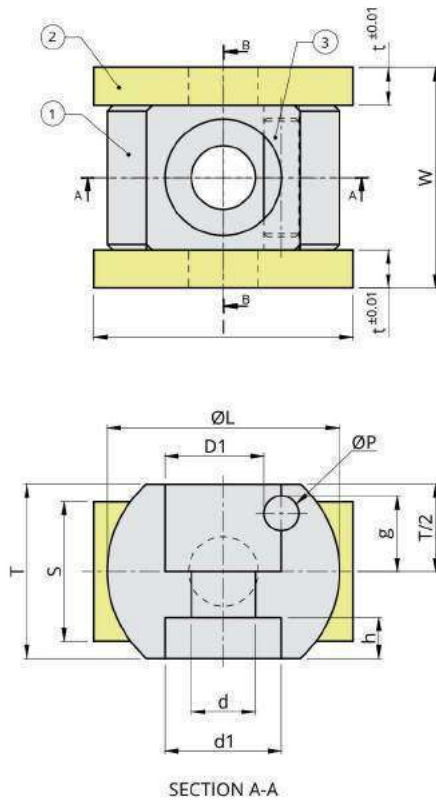
TYPE A x B Qty
PNSL x 16 x16 x 4

Round Shaft Block - Compatible with PCSL
Fixed Type - Compact Housing

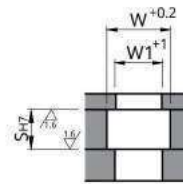


Core units can be directly installed on the mould body thus reducing the space required on the Ejector Plates

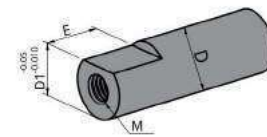
No.	Description	Qty	Material
1	Core Shaft Block	1	C-50
2	Guide Plate	2	CAC304 + Gr
3	Locking Dowel	1	C50



Fitting (Description)



Lifter Rod



Dimension in mm.

D	W	W1	L	t	S	L	D1	T	g	P	d	d1	h	
10	26	14	28	6	17	20	8.5	16	6.5	3	6	10	3	
12	29	16	35	6.5	20	25	10	20	8	4	7	12	5	
16	33	20	40			30	13	24	10	6	9	16	6	
20	38	25				24	40	17	30		13	11	20	7
25	45	31	45		7	26	45	22	35		14	14	25	9.5
30	51	36	55		7.5	30	50	27	38		15			9
35	58	40	70	9	34	55	31	40	8					10
40	66	48			38	60	36	43		16	18	32	11.5	

TYPE : PCC

ORDERING EXAMPLE

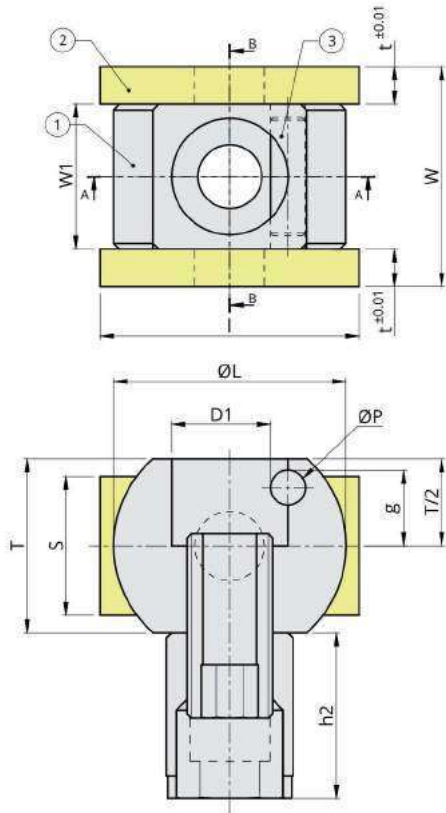
TYPE D QTY
PCC x 16 x 4

Round Shaft Block - Compatible with PCSL
Controllable length Type - Compact Housing

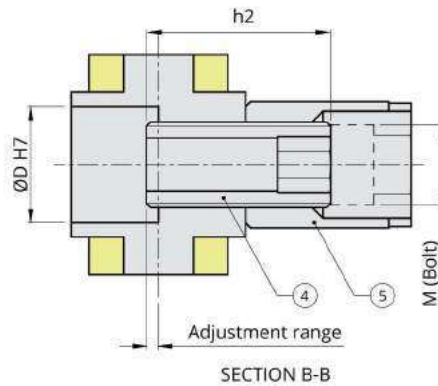


Core units can be directly installed on the mould body thus reducing the space required on the Ejector Plates
Length variations in the lifter rod can be accommodated in the controllable length type

No.	Description	Qty	Material
1	Core Shaft Block	1	C50
2	Guide Plate	2	CAC304 + Gr
3	Key	1	C50
4	Length Control Bolt	1	C50
5	Fasten Nut	1	C50

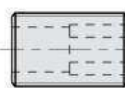


SECTION A-A

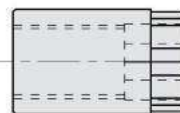


SECTION B-B

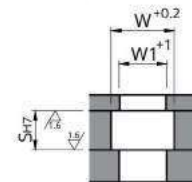
④ Length Control Bolt



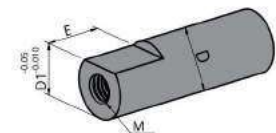
⑤ Fasten Nut



Fitting (Description)



Lifter Rod PLR



Dimension in mm.

D	W	W1	I	t	S	L	D1	T	g	P	h1	h2	MB	A	A1	B
12	29	16	35	6.5	20	25	10	20	8	4	20	20	M5	10	5	15
16	33	20	40			30	13	24	10	6	22	22	M6	14	8	
20	38	25			24	40	17	30	13		25	25	M8	16	10	23
25	45	31	45	7	26	45	22	35	14		28	28	M10	19		27
30	51	36	55	7.5	30	50	27	38	15	8	32	32	M12	32	12	32
35	58	40	70	9	34	55	31	40								36
40	66	48			38	60	36	43	16							

TYPE : PCCL

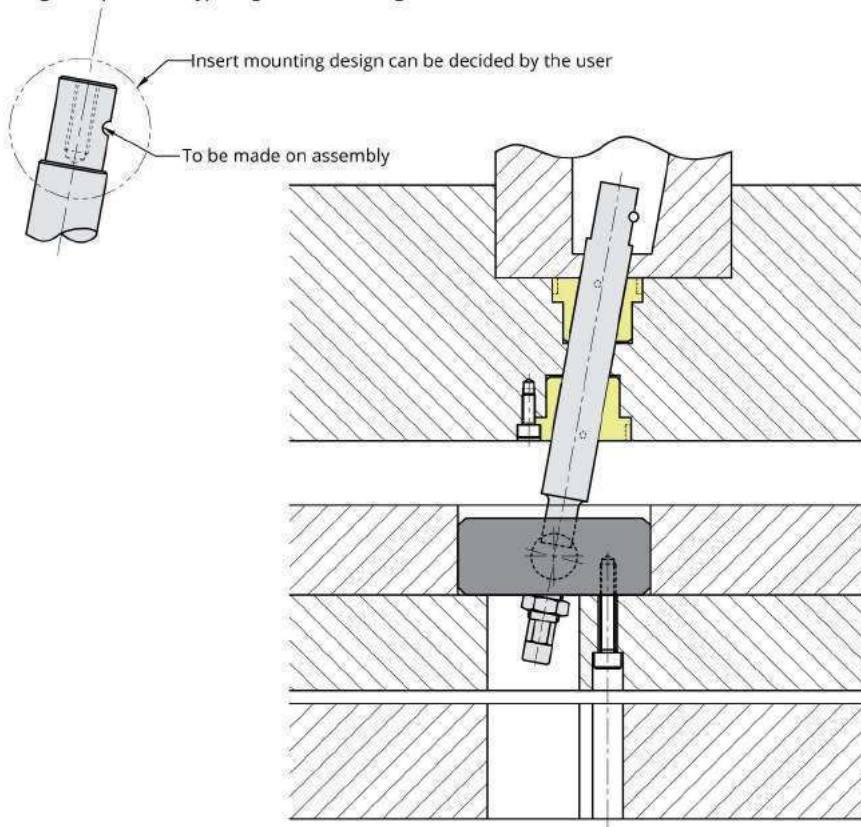
ORDERING EXAMPLE

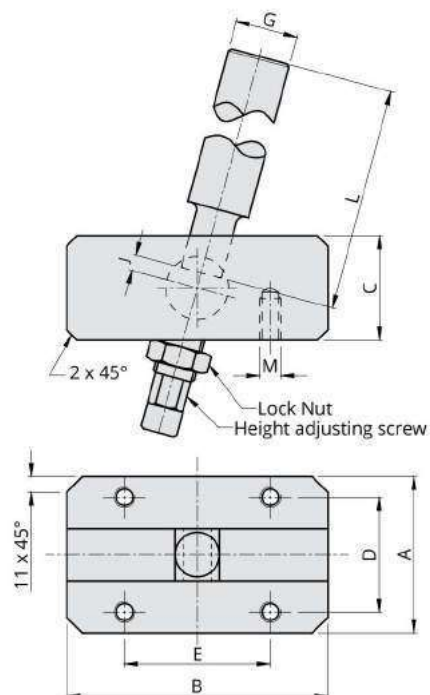
TYPE	D	QTY
PCCL	x 16	x 4

Mounting example for compact type angular lifters with guide bush



Fitting example of box type angular lifters with guide bush





Dimension in mm.

Dimension in mm.

A	B	C	D	E	M	G	J	L	
50	60	25.4	41	24	M6 15 deep	16	4.5	Length to be specified by user	
	70			29					
	80			34					
	90			39					
	100			44					
70	80	40	56	34	M8 20 deep	20	7		
	90			39					
	100			44					
	110			49					
	120			54					
75	80		61		34	M8 20 deep			25
	90				39				
	100				44				
	110				39				
	120				54				
100	80	62	82	34	M10 26 deep	40	9		
	90			39					
	100			44					
	110			49					
	120			54					
	140			59					

TYPE : ALB

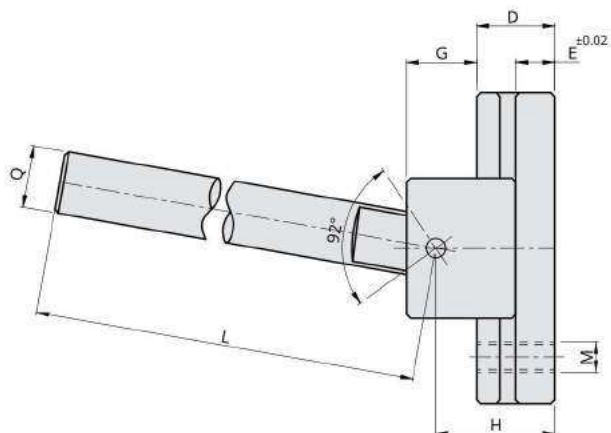
ORDERING EXAMPLE

TYPE	A	B	G	L	QTY
ALB	50	x 90	x 16	x 150	x 5

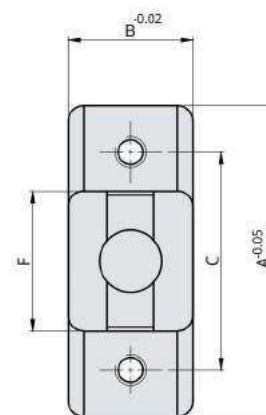
No.	Description	Qty	Material
1	Lifter Rod	1	1.3505
2	Body	1	C50
3	Core unit	1	C50
4	Guide Plate	2	CAC304



Angular Lifter Compact

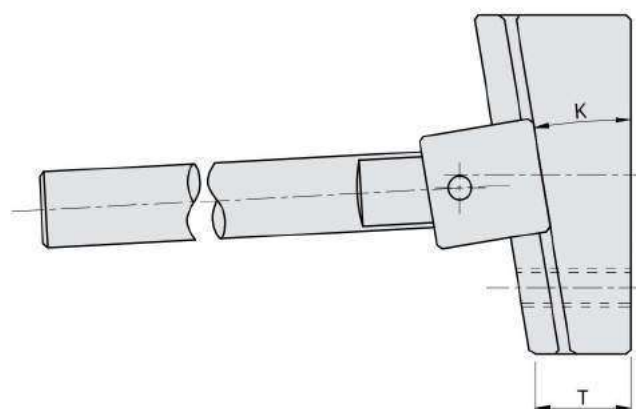


Type : ALC



Angular Lifter Compact Degree

Type : ALCD



Dimension in mm.

Model	A	B	C	D	E	F	G	H	M	Q	L			K	T				
Light	57	22	38	13	6	30	17.5	23.5	6	16, 20	300	350	400	Angle to be Specified by user	15				
	77.5																		
Medium	82.5	32	57	20	7	45	27	36.5	8	20, 25					22				
	102																		
Heavy	134	44	76	26	10	60	35	47	12	25, 32					28				
	140																		

TYPE : ALCD

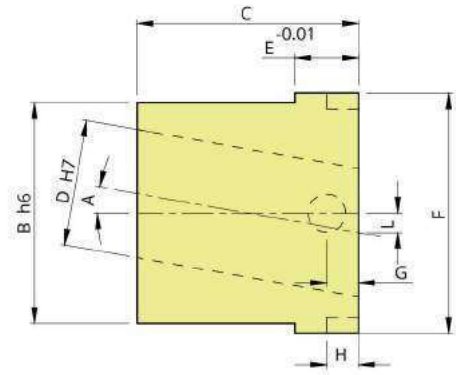
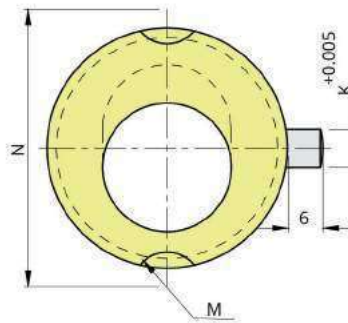
MATERIAL : 1.3505 (Body and Rod)

HARDNESS : ~56 HRC

ORDERING EXAMPLE

TYPE	Model	A	Q	K	L	QTY
ALCD	Light	77.5	x 16	x 10°	x 400	x 5

For Angular Lifters Rods



Dimension in mm.

Model Type	A	B	C	D	E	F	G	H	K	L	M	N
Light	4	32	30	16	10	36	5	5.5	6	0.95	7.5	45
	5									1.19		
	6									1.08		
	7									1.67		
	8									1.61		
	9									2.16		
	10									2.14		
	11									2.65		
	12									2.69		
	13									3.14		
	14									3.39		
	15									3.65		
Medium	4	42	45	16	12	48	6	6.5	6	1.6	7.5	55
	5									2.0		
	6									2.50		
	7									3.00		
	8									3.30		
	9									3.80		
	10									4.20		
	11									4.60		
	12									5.20		
	13									5.60		
	14									6.00		
	15									6.60		
Large	4	54	52	20	15	60	7.5	8.5	8	1.60	8	69
	5									2.00		
	6									2.50		
	7									3.00		
	8									3.30		
	9									3.80		
	10									4.20		
	11									4.60		
	12									5.20		
	13									5.60		
	14									6.00		
	15									6.60		

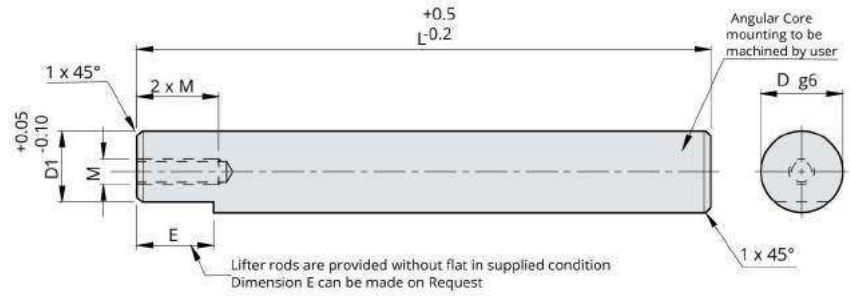
TYPE : ALGB

MATERIAL : ALGB-B - CAC 304 High Strength Brass
Hardness: ~180 BHN
: ALGB-S - 1.3505- Bearing steel
Hardness: 58-60 HRC

ORDERING EXAMPLE

TYPE	Model	G	C	D	QTY			
ALGB-B	MEDIUM	A	x	30	x	16	x	6

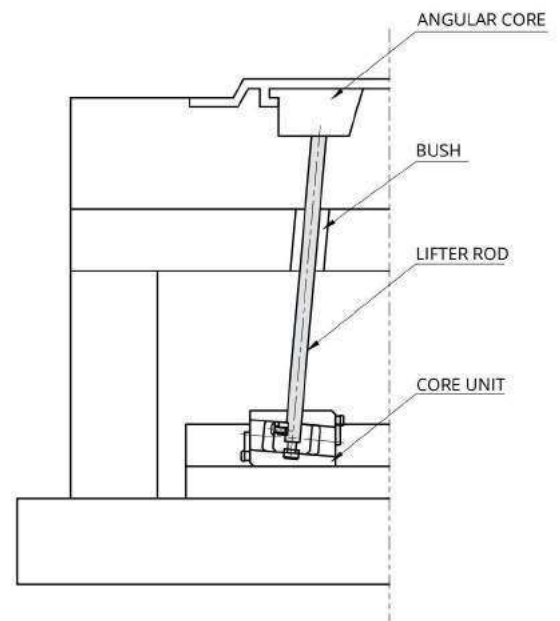
One end tapped - Machined Flat



Dimension in mm.

D	Dg6	D1	M	E	L
8	0.00 -0.009	7	M4	13	Length available upto 1250 mm
10		9	M5		
12	0.00 -0.01	11			
16		15			
20	0.00 -0.013	18	M10	16	
25		22		18	
30		27.5		20	
35	0.00 -0.015	32.5	M12	25	
40		37.5			

TYPE	: PLR without machined Flat PLR-F with machined Flat			
MATERIAL	: 1.3505			
HARDNESS	: 58-60HRC			
ORDERING EXAMPLE				
Lifer Rods without machined Flat				
TYPE	D	L	QTY	
PLR x	20	x 250	x	4
Lifter Rods with machined Flat				
TYPE	D	L	QTY	
PLR-F x	20	x 250	x	4



LIFTER ROD

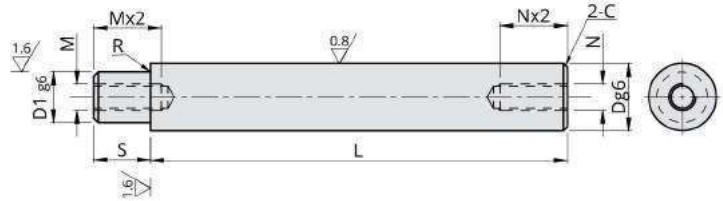
TYPE : PLRST

PPD®

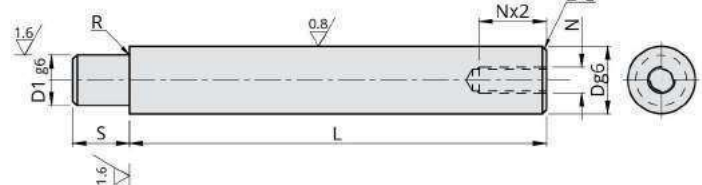
One end Stepped other end tapped /
One end Stepped, both ends tapped



One end Stepped,both ends tapped



One end Stepped,other end tapped



Dimension in mm.

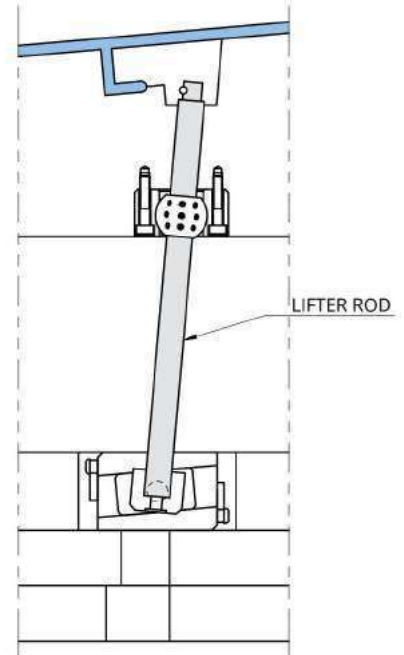
D	1mm Increments			M	N	R	C
	L	S	D1				
8	25 ~ 1000	≤ D1x4	6	3	3 4 5	≤ 0.3	≤ 0.5
10			6 ~ 8	3 4 5	3 4 5 6		
12			6 ~ 10	3 4 5 6	4 5 6 8		
16	6 ~ 14		3 4 5 6 8 10	4 5 6 8 10			
20	8 ~ 18		4 5 6 8 10 12	4 5 6 8 10 12			
25	8 ~ 22		4 5 6 8 10 12 16	4 5 6 8 10 12 16			
30	9 ~ 28		5 6 8 10 12 16 20 24	6 8 10 12 16 20 24	≤ 0.5	≤ 1	
35	9 ~ 32		5 6 8 10 12 16 20 24	8 10 12 16 20 24			
40	11 ~ 38		6 8 10 12 16 20 24 30	10 12 16 20 24 30			

TYPE	: PLRST
MATERIAL	: 1.3505
HARDNESS	: 58-60HRC

ORDERING EXAMPLE

TYPE	D	D1	S	M	N	L	QTY
PLRST	x 20	x 16	x 20	x 8	x 10	x 900	x 8

Add M=0 for One end Stepped,other end Tapped

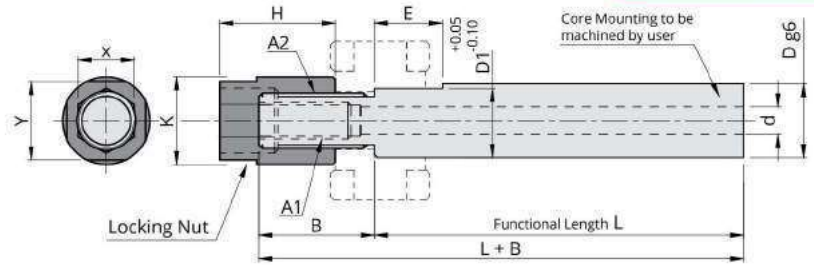


LIFTER ROD

TYPE : PLR-CP

PPD®

With Cooling Provision



Dimension in mm.

D	d	Internal Thread A1	External Thread A2	E	D1	B	H	K	X	Y	Functional Length L
16	6	M8	M12	14	15	25	25	19	12	17	As per User Requirement
20				16	18						
25	8	M10	M18	18	22	30	30	27	20	24	
30			M20	20	27.5						
35				25	32.5						
40					37.5						

TYPE : PLR-CP

MATERIAL : Rod - 1.3505
: Locking Nut - C50

HARDNESS : 58-60HRC

ORDERING EXAMPLE

TYPE D L QTY
PLR-CP x 16 x 250 x 10

PLR-CP is a sub-assembly of CLA Pg - 114

COOLING FEED UNIT

TYPE : CFU

For Lifter rod with cooling provision



Dimension in mm.

OD	ID	A	A1	L
4	3	12	M8	As per user Requirement
6	5	14	M10	

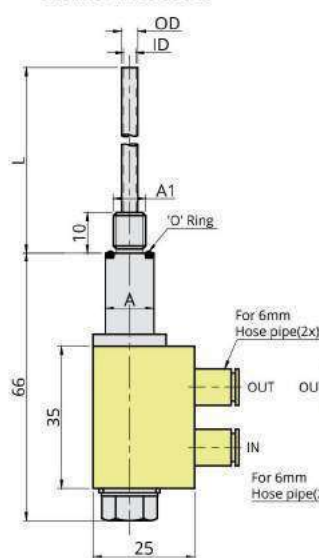
TYPE : CFU

MATERIAL : Body, Pipe - Stainless Steel
: Housing - High Strength Brass
: Fittings - Brass(Push Release)

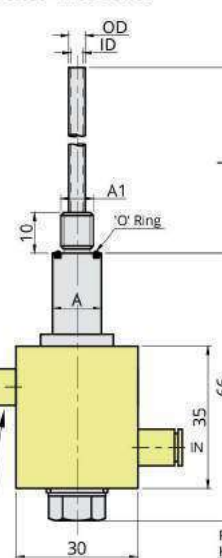
ORDERING EXAMPLE

TYPE Orientation A1 L QTY
CFU x Parallel x M8 x 270 x 10

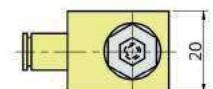
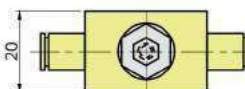
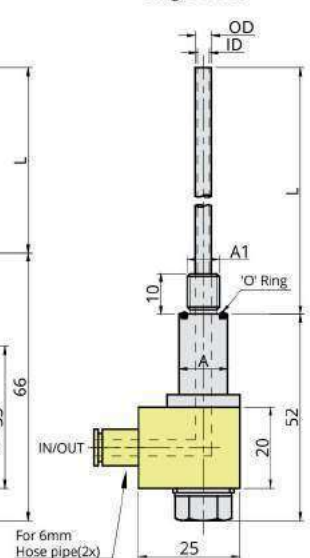
Orientation :
Parallel Inlet-Outlet



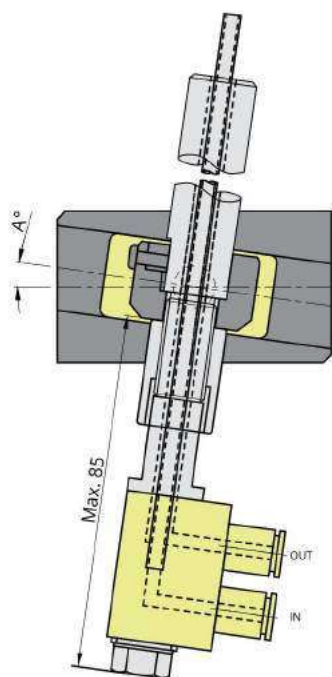
Orientation :
Series Inlet-Outlet



Orientation :
Single Inlet



CFU is a sub-assembly of CLA Pg - 114



Dimension in mm.

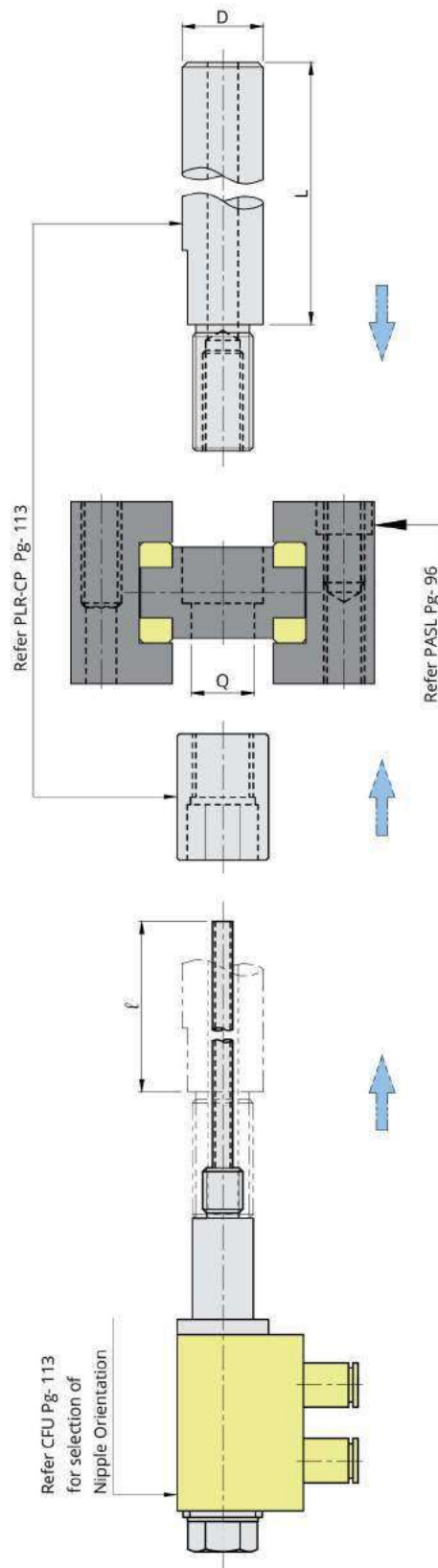
D	A°	Q	L	ℓ
16	0 - 30°	12.5	As per User Requirement	As per User Requirement
20				
25		18.5		
30		20.5		
35				
40				

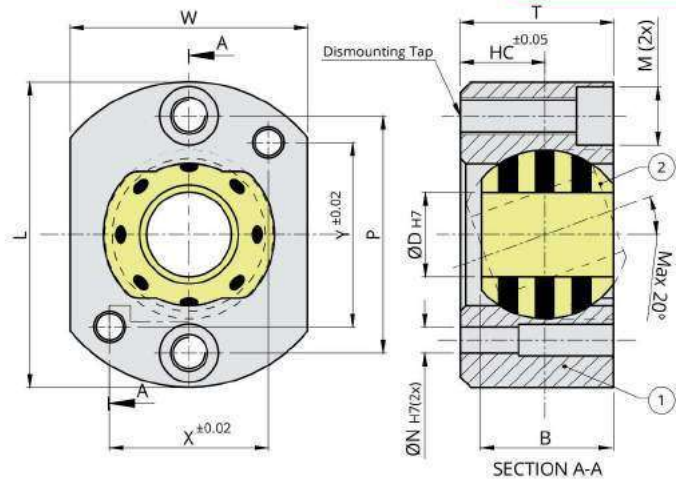
TYPE : CLA

ORDERING EXAMPLE

TYPE	D	A°	L	ℓ	Orientation	QTY
CLA	x 20	x 6	x 250	x 270	Parallel	x 10

Cooled lifter assembly is available for lifter rod sizes Ø16 - Ø40





Dimension in mm.

D	D H7	L	W	T	HC	B	Mounting Holes		Dowel Pin Hole		
							M	P	N	X	Y
8	+0.018	44	28	17	9	14	M5	32	5	20	28
10	+0.00	46	30	20	11	16	M5	34	5	22	28
12	+0.021	50	32	22	12	18	M6	36	6	22	30
16	+0.00	58	45	29	16	25	M6	45	6	30	35
20	+0.021	65	50	33	18	28	M6	52	6	35	40
25	+0.00	78	57	38	21	33	M8	62	8	40	50
30	+0.025 +0.00	86	65	43	24	37	M8	70	8	48	55
35		98	72	54	27	40	M10	78	8	52	60
40		106	77	58	29	44	M10	84	8	55	65
50		124	88	66	33	48	M12	102	10	65	78

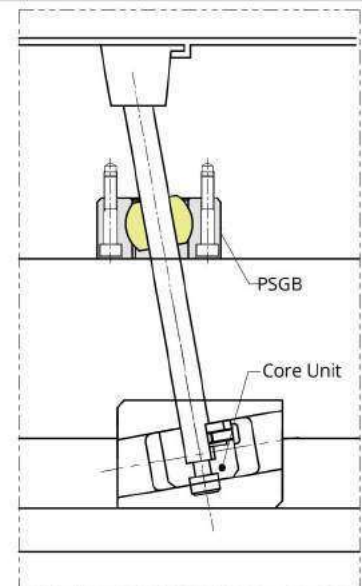
Spherical Guide Bush offers the flexibility to adjust the angle of the inclined pins

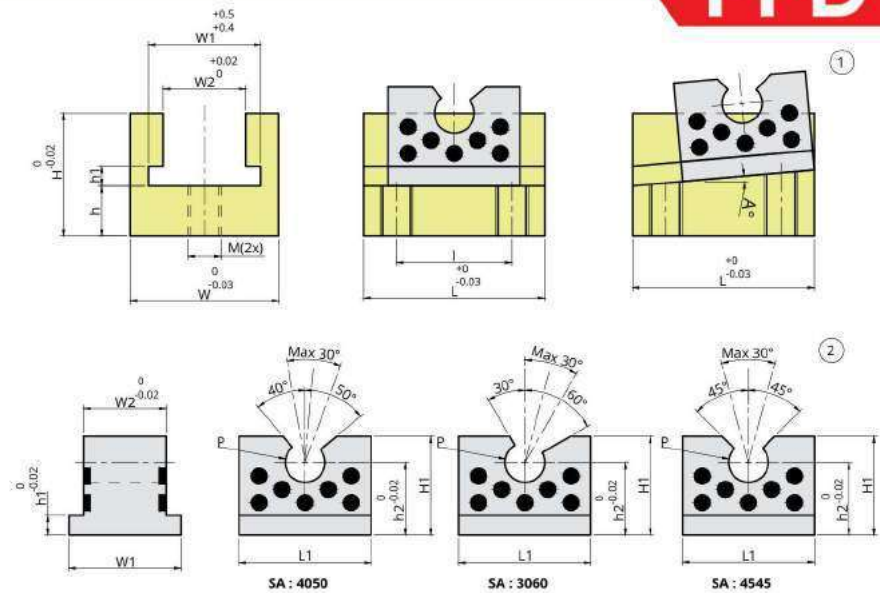
No.	Description	Qty.	Material
1	Guide Block	1	C50
2	Spherical Guide Bush	1	1.2344 / CAC304 + Gr

TYPE : PSGBB- High Tensile Brass with Embedded Graphite
: PSGBS- Hot Die Steel-1.2344

ORDERING EXAMPLE

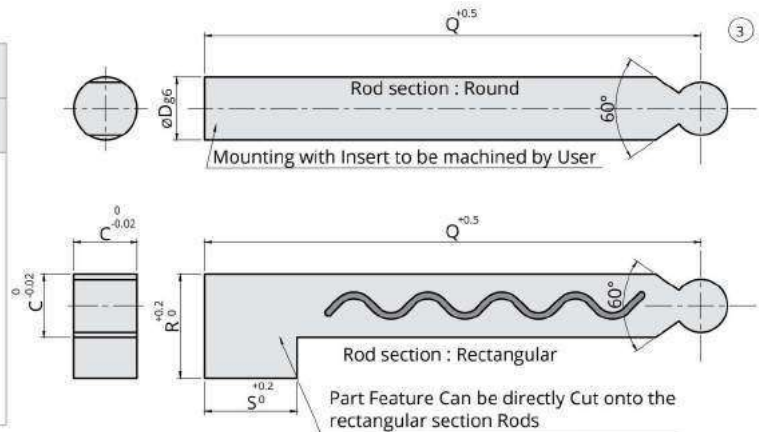
TYPE D QTY
PSGBS x 16 x 4





Swivel Angle option SA

Round Section	Rectangular Section		
D	C	R	S
10	10	To be Specified by user	To be Specified by user
12	12		
16	16		
20	20		
25	25		



Dimension in mm.

ØD	W	L	H	W1	W2	L1	H1	h	h1	h2	l	M	P	A	Q
10	26	35	26	16	10	20	16	14	3	12	12	M5	5, 6	0 - 10°	As per user requirement
12	28			18	12								6, 8		
16	32	45	32	21	15	25	20	18	4	14	25	M6	8, 10		
20	40	55	40	28	20	35	28	22	5	18	35	M8	10, 12		
25	45		48	34	25	40	30	26	6	22	35	M10	12, 16		

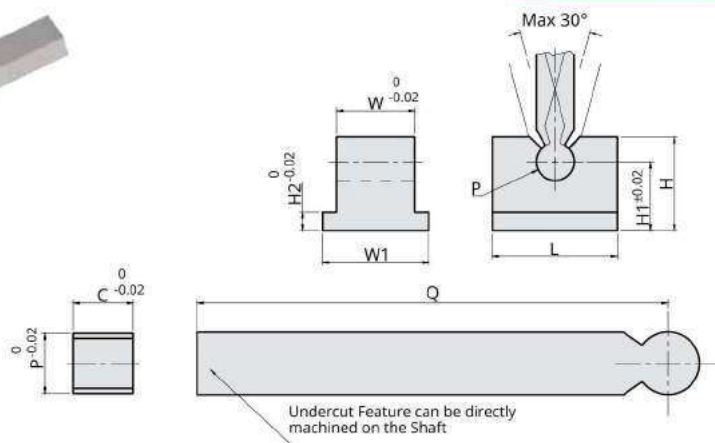
TYPE : CUS-RO Round Section Rod
CUS-RE Rectangular Section Rod

ORDERING EXAMPLE

TYPE ØD P A° SA Q QTY
CUS-RO x 16 x 8 x 5° x 4050 x 200 x 6

TYPE C R S P A° SA Q QTY
CUS-RE x 16 x 16 x 16 x 8 x 5° x 4050 x 150 x 6

No.	Description	Qty.	Material
1	Guide Block	1	CAC304
2	Core Shaft Block	1	1.2344 + Gr
3	Lifter Rod	1	1.2344



Dimension in mm.

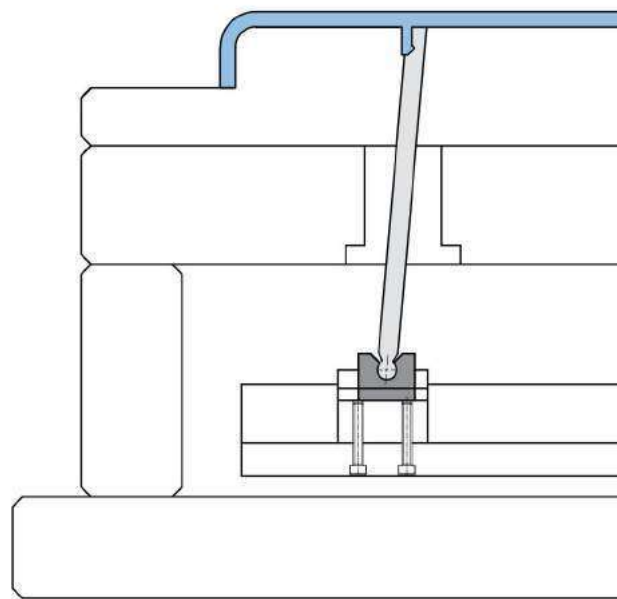
P	C	W	L	W1	H	H1	H2	Q
2	3	3.2	6	5.6	7	5.5	2	80
	4	4.2		6.6				100
	5	5.2		7.6				120
3	3	3.2	6	5.6	7	5	2	120
	4	4.2		6.6				150
	5	5.2		7.6				150
4	5	5.2	8 / 10	7.8	10	7.5	3	80
	6	6.2		8.8				100
	8	8.2		10.8				120
	10	10.2		12.8				150
5	5	5.2	8 / 10	7.8	10	7.5	3	150
	6	6.2		8.8				200
	8	8.2		10.8				200
	10	10.2		12.8				200
6	6	6.2	10 / 14	9.4	14	11	4	80
	8	8.2		11.4				100
	10	10.2		13.4				120
	12	12.2		15.4				150
	14	14.2		17.4				200
8	8	8.2	14	11.4	14	10	4	200
	10	10.2		13.4				250
	12	12.2		15.4				250
	14	14.2		17.4				250

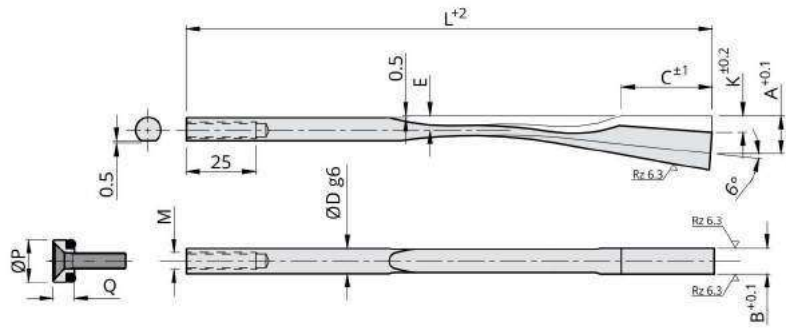
No	Item	Qty	Material
1	Core guide block	1	1.3505
2	Core Shaft	1	1.2344

TYPE : MCU

ORDERING EXAMPLE

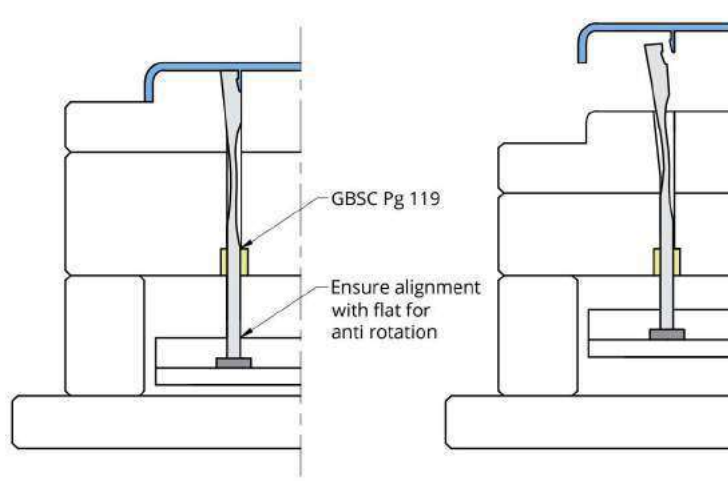
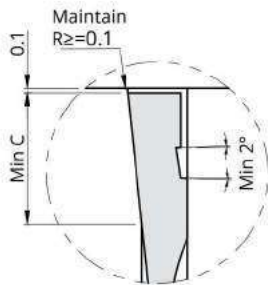
TYPE P C L Q QTY
MCU x 8 x 8 x 14 x 200 x 6





Dimension in mm.

TYPE	D	B	C	A	E	K	L	P	Q	M
PSC-0606	6	6.2	22	9	3.5	3.5	125	12	5	M4
PSC-0608		8.2								
PSC-0808	8	10.2	25	11.5	4.5	4.5	140	14	6	M5
PSC-0810		12.2								
PSC-0812		14.2								
PSC-1014	10	16.2	30	15	5.5	5.5	175	18	8	M6
PSC-1016		18.2								
PSC-1018		18.2								



TYPE : PSC

MATERIAL : 1.8159 Spring Steel / HSS M2 1.3343

HARDNESS : 56 ± 2 HRC

ORDERING EXAMPLE

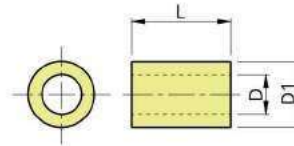
TYPE QTY
PSC-0608 x 8

GUIDE BUSH

TYPE : GBSC

PPD®

For Sprung Core



D	D1	L
6	12	15
8	12	
10	16	

TYPE	: GBSC
MATERIAL	: CAC304
HARDNESS	: ~180 BHN

ORDERING EXAMPLE

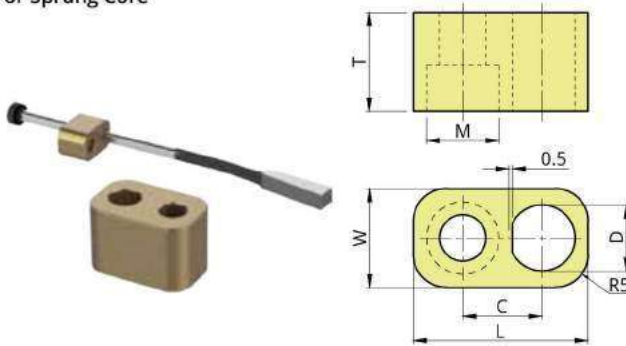
TYPE	D	QTY
GBSC	x 8	x 8

Sprung core PSC to be purchased separately

GUIDE BLOCK

TYPE : GBLSC

For Sprung Core



D	C	W	T	M	L
6	12	16	16	M6	25
8					
10					

TYPE	: GBLSC
MATERIAL	: CAC304
HARDNESS	: ~180 BHN

ORDERING EXAMPLE

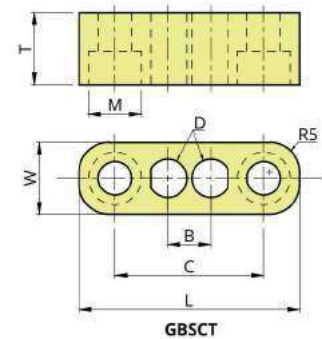
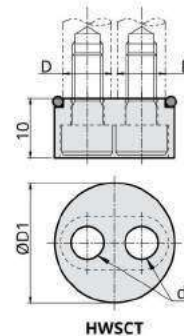
TYPE	D	QTY
GBLSC	x 8	x 8

Sprung core PSC to be purchased separately

GUIDE BLOCK & HEEL WASHER

TYPE : GBSCT & HWSCT

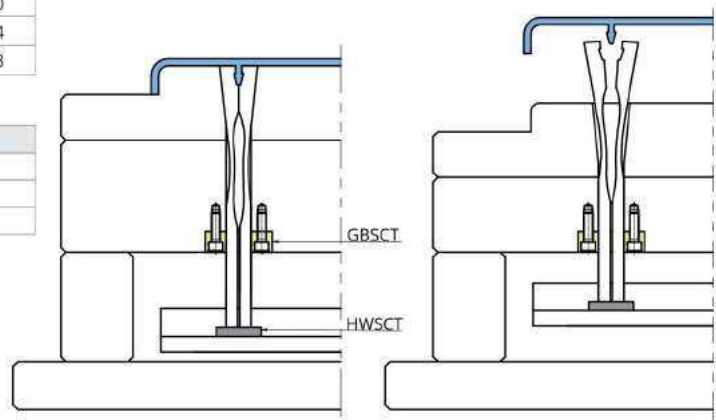
For Sprung Core(Twin Installation)



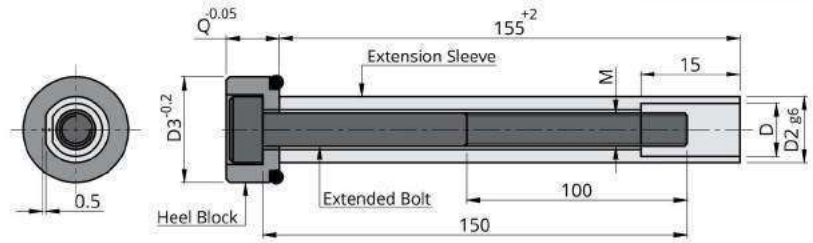
GBSCT	D	B	C	W	T	M	L
	6	7	26.5	16	15	M6	40
	8	9	30.5				44
	10	11	34.5				48

HWSCT	D	D1	d
	6	20	4.5
	8	22	5.5
	10	24	6.5

TYPE	: GBSCT & HWSCT
MATERIAL	: 1)GBSCT-CAC 304 Hardness ~180 BHN 2)HWSCT-1.6511 Hardness 48±3 HRC
ORDERING EXAMPLE	TYPE D QTY GBSCT x 8 x 4
ORDERING EXAMPLE	TYPE D QTY HWSCT x 8 x 4



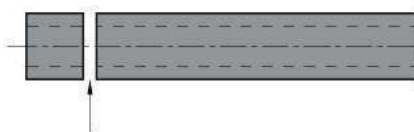
Sprung core PSC to be purchased separately



Provides an additional working length to standard sprung core

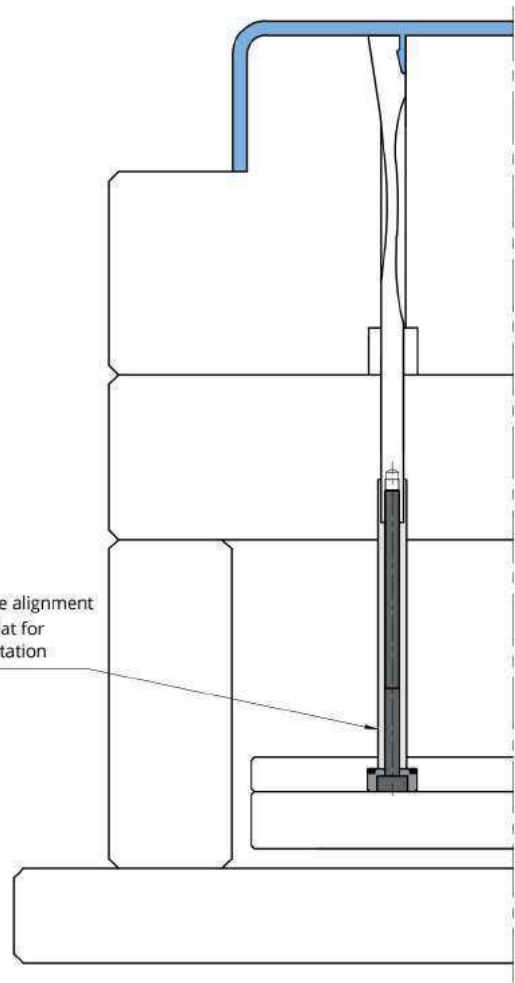
Dimension in mm:

D	D2	D3	Q	M
6	8	14	5	M4
8	10	16	6	M5
10	12	20	8	M6



Extension sleeve can be trimmed to required length

Ensure alignment with flat for antirotation

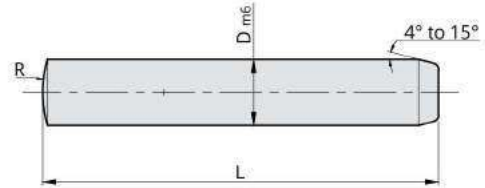


TYPE	: PSCEX
MATERIAL	: 1.2344
HARDNESS	: 44±2HRC
NOTE	: Non standard length variation available on request

ORDERING EXAMPLE

TYPE	D	QTY
PSCEX	x 8	x 8



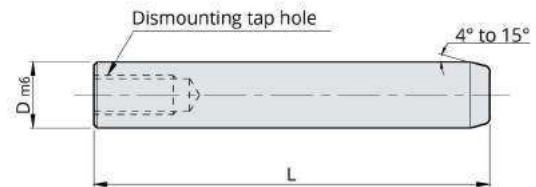


Dimension in mm.

D	L
3	8,10,12,16,20,25,30,40,45
4	10,12,14,16,20,25,30,35,40,45,50,55
5	12,14,16,20,25,30,35,40,45,50,55,60,65,70,75
6	14,16,20,25,30,35,40,45,50,55,60,65,70,75,80,90,100
8	16,20,25,30,35,40,45,50,55,60,65,70,75,80,90,100
10	20,25,30,35,40,45,50,55,60,65,70,75,80,90,100
12	25,30,35,40,45,50,55,60,65,70,75,80,90,100
16	30,35,40,45,50,55,60,65,70,75,80,90,100
20	40,45,50,55,60,65,70,75,80,90,100

TYPE : DP**MATERIAL** : Case Hardened Alloy Steel**HARDNESS** : Hardness 58-62 HRC**ORDERING EXAMPLE**

TYPE D L Qty
 DP x 10 x 55 x 55



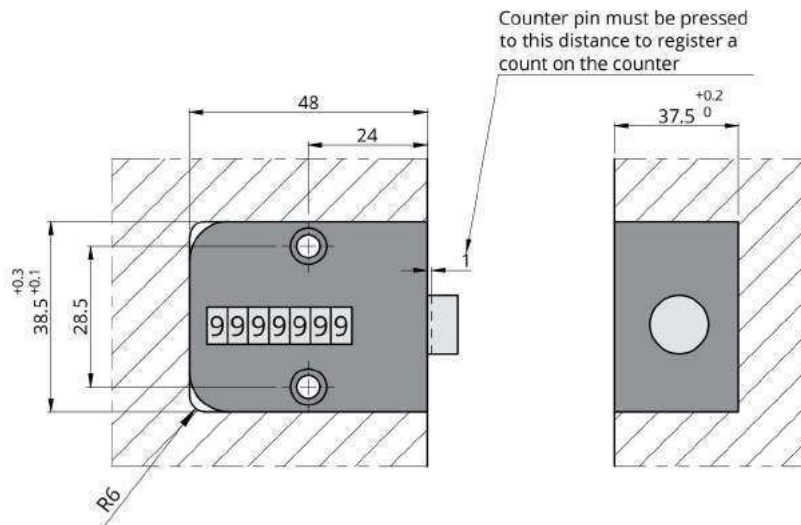
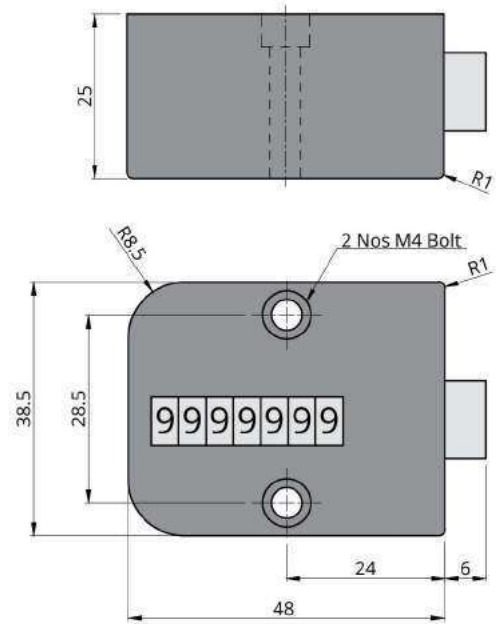
Dimension in mm.

D	L
4	10,12,14,16,20,25,30,35,40,45,50,55
5	12,14,16,20,25,30,35,40,45,50,55,60,65,70,75
6	14,16,20,25,30,35,40,45,50,55,60,65,70,75,80,90,100
8	16,20,25,30,35,40,45,50,55,60,65,70,75,80,90,100
10	20,25,30,35,40,45,50,55,60,65,70,75,80,90,100
12	25,30,35,40,45,50,55,60,65,70,75,80,90,100
16	30,35,40,45,50,55,60,65,70,75,80,90,100
20	40,45,50,55,60,65,70,75,80,90,100

TYPE : DPT**MATERIAL** : Case Hardened Alloy Steel**HARDNESS** : Hardness 58-62 HRC**ORDERING EXAMPLE**

TYPE D L Qty
 DPT x 10 x 55 x 55

High Temperature Type



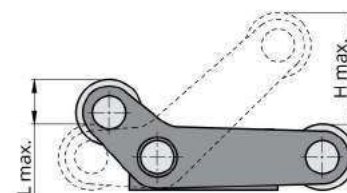
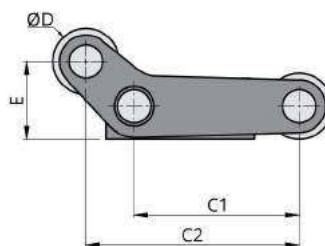
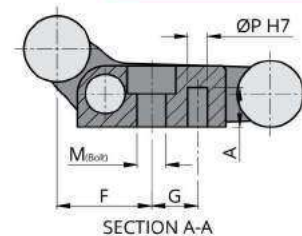
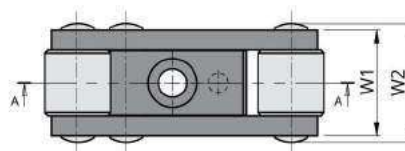
TYPE : MSC

MAXIMUM WORKING TEMPERATURE: 60°C

ORDERING EXAMPLE

TYPE Qty
MSC x 4

- The Counter is non resettable mechanical type
- In supplied condition, a value close to 9999850 is displayed for mold testing purposes and needs to be set to 0000000 before actual production



Dimension in mm.

TYPE	C1	C2	W1	W2	D	E	F	G	H max.	L max.	A	P	M (Bolt Size)	Max. Force (Kgf)
PAE-20	20	25.8	13.2	15	8	9.4	11.4	6	13.6	5.5	5	Ø2.5x10	M3x12	125
PAE-25	25	32.3	16	18	10	11.8	14.3	7	17	6.8	6	Ø3x12	M4x16	250
PAE-37	37.5	48.5	22	24.5	15	17.7	21.5	10.5	25.5	10.2	8	Ø4x16	M6x25	350
PAE-50	50	64.6	29.6	33.5	20	23.6	28.6	14	34	13.6	10	Ø5x20	M8x30	800

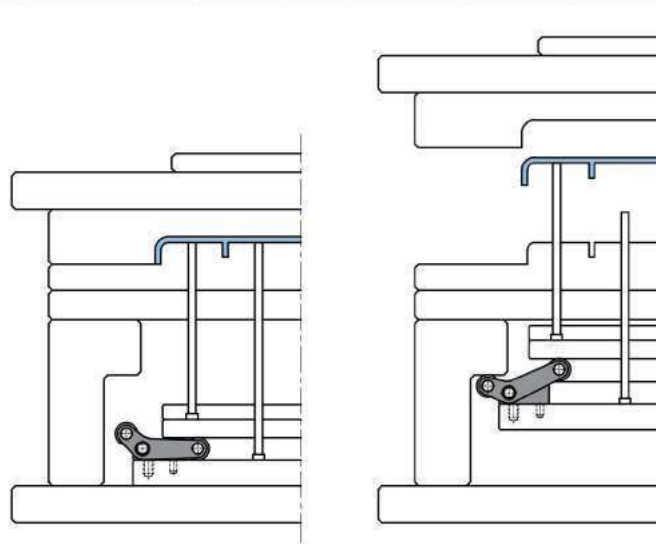
- Mechanical Double ejection System ensures the elimination of complex mechanisms
- Install on the lower ejector plates to obtain extra stroke and accelerated ejection on the ejectors installed on the upper plates

TYPE : PAE

MATERIAL : HIGH TENSILE STEEL

ORDERING EXAMPLE

TYPE Qty
PAE-25 x 4

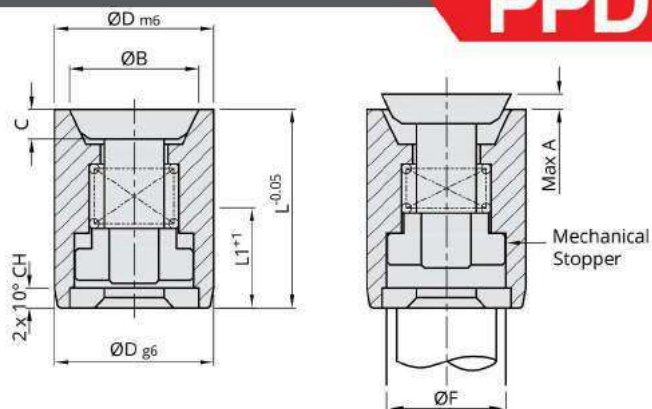


AIR VALVE

TYPE : PAVE

PPD®

Compact- European standard



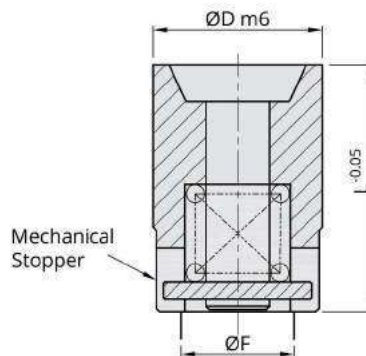
Dimension in mm.

TYPE	D	B	C	F	A	L1	L
PAVE - 5	5	3	1.5	4	2.5	7	12
PAVE - 6	6	5.2			0.95		
PAVE - 8	8	6.5					
PAVE - 10	10	8	2	8	1.55	12	20
PAVE - 12	12	10	2.5	10			
PAVE - 16	16	13	3	12			
PAVE - 20	20	17	3.5	16			

AIR VALVE

TYPE : PAVT

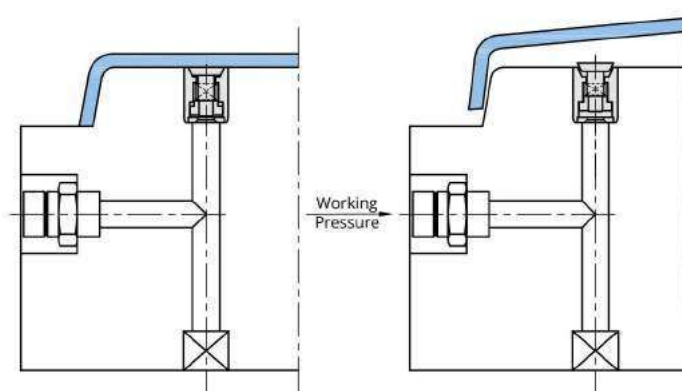
Long Type



Dimension in mm.

TYPE	D	L	F
PAVT - 8	8	15	6
PAVT - 10	10	20	8
PAVT - 12	12	25	10
PAVT - 16	16	30	14
PAVT - 20	20	30	18

TYPE	: PAVE-Compact-European Standard Type PAVT- Long Type
MATERIAL	: 1.4034
HARDNESS	: 51± 2 HRC
WORKING PRESSURE	: 1.5 - 6 Bar
SERVICE TEMPERATURE	: Max 250° C
ORDERING EXAMPLE	
TYPE	Qty
PAVE-8 x	8



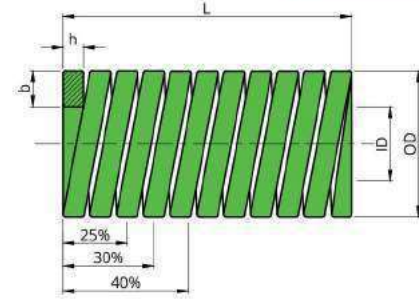


DIE SPRING

TYPE : PJL
ISO-10243

PPD®

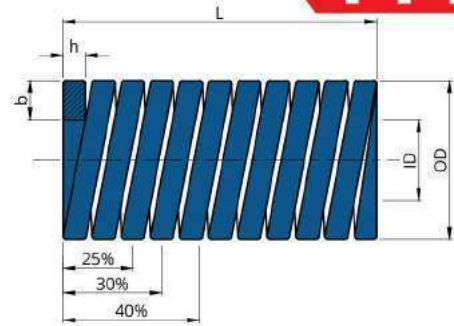
Light Load (Green)



Dimension in mm.

OD	ID	L	b x h	R	DEFLECTION						SOLID HEIGHT
					25%		30%		40%		
mm	mm	mm		N/mm	mm	N	mm	N	mm	N	mm
10	5	1.7 x 1.1	25	10.5	6.3	66	7.5	79	10.0	105	12.5
			32	8.9	8.0	71	9.6	85	12.8	114	17.0
			38	7.1	9.5	68	11.4	81	15.2	108	20.0
			44	6.3	11.0	69	13.2	83	17.6	111	22.8
			51	5.2	12.8	67	15.3	80	20.4	106	26.5
			64	4.5	16.0	72	19.2	86	25.6	115	33.3
			76	3.4	19.0	65	22.8	76	30.4	103	39.5
			89	3.0	22.3	67	26.7	80	35.6	107	46.3
			305	1.0	76.3	84	91.5	92	122.0	122	160.0
12.5	6.3	2.4 x 1.4	25	18.8	6.3	118	7.5	141	10.8	188	12.5
			32	17.2	8.0	138	9.6	165	12.8	220	16.0
			38	14.3	9.5	136	11.4	163	15.2	217	19.8
			44	12.7	11.0	140	13.2	168	17.6	224	23.0
			51	12.0	12.8	154	15.3	184	20.4	245	27.5
			64	9.8	16.0	157	19.2	188	25.6	251	34.5
			76	7.5	19.0	143	22.8	171	30.4	228	41.0
			89	5.7	22.3	127	26.7	152	35.6	203	48.0
			102	4.3	25.5	110	30.6	132	40.8	175	55.0
16	8	3.2 x 1.5	115	3.1	28.8	89	34.5	107	46.0	143	62.1
			305	1.5	76.3	107	91.5	137	122.0	183	165.0
			25	25.0	6.3	158	7.5	188	10.0	250	11.8
			32	23.0	8.0	184	9.6	221	12.8	294	16.0
			38	19.4	9.5	185	11.4	222	15.2	296	19.0
			44	17.0	11.1	187	13.2	224	17.6	299	22.0
			51	15.0	12.8	192	15.3	230	20.4	306	25.5
			64	11.0	16.0	176	19.2	211	25.6	282	32.0
			76	10.0	19.0	190	22.8	228	30.4	304	38.0
20	10	4 x 2.1	89	8.5	22.3	190	26.7	194	35.6	303	45.0
			102	7.6	25.5	194	30.6	233	40.8	310	52.0
			115	6.5	28.8	188	34.5	224	46.0	299	58.0
			127	5.9	31.8	188	38.1	225	50.8	300	64.0
			305	2.5	76.3	191	91.5	229	122.0	305	158.0
			25	56.2	6.3	354	7.5	422	10.0	562	12.0
			32	45.3	8.0	362	9.6	435	12.8	580	15.3
			38	33.8	9.5	321	11.4	385	15.2	514	18.6
			44	31.0	11.1	341	13.2	409	17.6	546	21.5
25	12.5	5.3 x 2.7	51	25.5	12.8	326	15.3	390	20.4	520	25.0
			64	21.0	16.0	336	19.2	403	25.6	538	31.3
			76	17.0	19.0	323	22.8	388	30.4	517	37.3
			89	15.0	22.3	335	26.7	401	35.6	534	43.6
			102	12.7	25.5	324	30.6	389	40.8	518	50.0
			115	11.5	28.8	331	34.5	397	46.0	529	57.5
			127	10.1	31.8	321	38.1	385	50.8	513	63.5
			139	9.0	35.0	315	42.0	378	56.0	504	71.0
			152	8.1	38.0	308	45.6	369	60.8	486	77.5
32	16	6.7 x 3.3	178	7.3	44.5	325	53.4	390	71.2	520	90.7
			305	4.1	76.3	313	91.5	375	122.0	500	158.0
			25	95.0	6.3	599	7.5	712	10.0	950	11.3
			32	75.0	8.0	600	9.6	720	12.8	960	15.5
			38	61.0	9.5	580	11.4	695	15.2	927	17.8
			44	52.2	11.0	574	13.2	689	17.6	919	21.0
			51	44.0	12.8	563	15.3	673	20.4	898	24.3
			64	35.2	16.3	574	19.2	676	25.6	901	31.0
			76	28.3	19.0	538	22.8	645	30.4	860	37.2
40	20	8.0 x 4	89	24.4	22.3	544	26.7	651	35.6	869	43.1
			102	21.5	25.5	548	30.6	658	40.8	877	51.0
			115	12.5	28.8	544	34.5	652	46.0	869	58.0
			127	16.8	31.8	534	38.1	640	50.8	853	63.8
			139	15.5	35.0	542	42.0	651	56.0	868	70.0
			152	14.1	38.0	536	45.6	643	60.8	857	76.2
			178	12.5	44.5	556	53.4	668	71.2	890	92.6
			203	10.5	50.5	533	60.9	639	81.2	853	101.5
			305	7.1	76.3	541	91.5	650	122.0	866	156.0
50	25	11.1 x 5.3	38	92.5	9.5	879	11.4	1055	15.2	1406	18.0
			44	79.5	11.0	875	13.2	1049	17.6	1399	21.1
			51	69.4	12.8	888	15.3	1062	20.4	1416	25.2
			64	53.2	16.0	851	19.2	1021	25.6	1362	31.5
			76	44.6	16.0	847	22.4	1017	30.4	1356	38.0
			89	37.5	12.3	836	26.7	1001	35.6	1335	46.0
			102	32.4	25.5	826	30.6	991	40.8	1322	53.0
			115	29.2	28.8	841	34.5	1007	46.0	1343	59.5
			127	25.3	31.8	805	38.1	964	50.8	1285	66.0
63	38	11.2 x 7.8	139	23.2	35.0	812	42.0	974	56.0	1299	71.0
			152	21.8	38.0	824	45.6	994	60.8	1325	78.0
			178	18.5	44.5	823	53.4	988	71.2	1317	94.0
			203	16.0	50.5	813	60.9	974	81.2	1299	106.1
			254	12.8	63.5	813	76.2	975	101.6	1300	135.0
			305	10.5	76.3	801	91.5	961	122.0	1281	159.0
			51	92.5	12.8	1184	15.3	1415	20.4	1887	25.0
			64	73.5	16.0	1176	19.2	1411	25.6	1882	31.4
			76	63.4	19.0	1205	22.8	1446	30.4	1927	38.0
63	38	11.2 x 7.8	89	51.5	22.3	1148	26.7	1375	35.6	1833	44.5
			102	43.6	25.5	1112	30.6	1334	40.8	1779	51.0
			115	40.1	28.8	1155	34.5	1338	46.0	1845	57.5
			127	37.6	31.8	1196	38.1	1433	50.8	1910	63.5
			139	32.5	35.0	1138	42.0	1365	56.0	1820	70.0
			152	28.4	38.0	1079	45.6	1295	60.8	1727	76.0
			178	25.6	44.5	1139	53.4	1367	71.2	1827	89.0
			203	23.1	50.8	1173	60.9	1407	81.2	1876	102.0
			254	17.5	63.5	1111	76.2	1334	101.2	1778	127.0
63	38	11.2 x 7.8	305	15.0	76.3	1145	91.5	1373	122.0	1830	154.0
			64	165.0	16.0	2480	19.2	2976	25.6	3968	31.0
			76	125.0	19.0	2375	22.8	2850	30.4	3800	37.2
			89	110.0	22.3	2453	26.7	2937	35.6	3916	43.6
			102	94.5	25.5	2410	30.6	2892	40.8	3837	50.5
			115	81.6	28.8	2351	34.5	2815	46.0	3754	57.5
			127	71.5	31.8	2274	38.1	2724	50.8	3632	63.5
			139	67.0	35.0	2345	42.0	2814	56.0	3752	69.0
			152	60.5	38.0	2299	45.6	2759	60.8	3678	76.0
63	38	11.2 x 7.8	178	52.5	44.5	2336	53.4	2804	71.2	3738	90.0
			203	44.5	50.6	2261	60.9	2710	81.2	3613	104.7
			254	35.5	63.5	2254	76.2	2705	101.2	3607	130.5
			305	29.0	76.3	2213	91.5	2654	122.0	3538	155.0
			76	190.0	19.0	3610	22.8	4332	30.4	5776	36.5
			89	161.0	22.3	3590	26.7	4299	35.6	5732	43.5
			102	132.0	25.5	3366	30.6	4039	40.8	5386	50.0
			115	117.0	28.8	3370	34.5	4037	46.0	5382	56.0
			127	104.0	31.8	3307	38.1	3962	50.8	5283	63.0
63	38	11.2 x 7.8	152	84.6	38.0	3215	45.6	3858	60.8	5144	77.0
			178	71.8	44.5	3195	53.4	3834	71.2	5112	91.5
			203	62.0	50.8	3150	60.9	3776	81.2	5034	103.5
			254	47.5	63.3	3016	76.2	3620	101.6	4826	130.0
			305	38.5	76.3	2938	91.2	3523	122.0	4697	156.0

Medium Load (Blue)



Dimension in mm.

OD	ID	L	b x h	R	DEFLECTION						SOLID HEIGHT			
					25%		30%		40%					
mm	mm	mm		N/mm	mm	N	mm	N	mm	N	mm			
10	5	1.8 x 1.3	25	16.1	6.3	101	7.5	121	9.4	151	10.2			
			32	13.2	8.0	106	9.6	127	12.0	158	14.0			
			38	11.9	9.5	113	11.4	136	14.3	170	16.4			
			44	10.3	11.0	113	13.2	136	16.5	170	19.1			
			51	8.9	12.8	114	15.3	136	19.1	170	23.0			
			64	7.4	16.0	118	19.2	142	24.0	178	28.0			
			76	5.4	19.0	103	22.8	123	28.5	154	34.0			
			89	4.7	22.3	105	26.7	131	33.4	164	37.1			
			305	1.6	76.6	122	91.5	146	114.4	183	133.0			
			12.5	6.3	2.5 x 1.5	25	30.2	6.3	198	7.5	227	9.4	284	11.6
32	24.8	8.0				198	9.6	238	12.0	298	16.0			
38	21.3	9.5				202	11.4	243	14.3	305	18.5			
44	18.4	11.0				202	13.2	243	16.5	304	21.0			
51	15.5	12.8				198	15.3	237	19.1	296	25.3			
64	12.2	16.0				195	19.2	234	24.0	293	32.1			
76	10.3	19.0				195	22.8	235	28.5	294	38.8			
89	8.5	22.3				190	26.7	227	33.4	284	45.4			
102	6.5	25.5				166	30.6	198	38.3	249	52.0			
305	2.1	76.3				160	91.5	192	114.4	240	150.0			
16	8	3.2 x 2	25	49.5	6.3	312	7.5	371	9.4	465	10.3			
			32	37.3	8.0	298	9.6	358	12.0	448	13.5			
			38	34.0	9.5	323	11.4	388	14.3	486	17.1			
			44	30.1	11.0	331	13.2	397	16.5	497	19.8			
			51	26.5	12.8	339	15.5	411	19.1	506	24.0			
			64	20.4	16.0	326	19.2	392	24.0	490	30.0			
			76	17.7	19.0	336	22.8	434	28.5	504	35.7			
			89	15.1	22.3	337	26.7	403	33.4	504	41.8			
			102	13.4	25.5	342	30.5	409	38.3	513	48.0			
			115	11.7	28.5	337	34.5	404	43.1	504	54.0			
20	10	4 x 2.4	305	4.7	76.3	359	91.5	430	114.4	537	143.3			
			25	95.0	6.3	598	7.5	712	9.4	893	10.3			
			32	72.0	8.0	576	9.6	691	12.0	864	13.6			
			38	59.8	9.5	568	11.4	682	14.3	867	16.4			
			44	47.6	11.0	524	13.2	628	16.5	785	19.0			
			51	41.7	12.8	534	15.3	838	19.1	796	22.5			
			64	32.5	16.0	520	19.2	824	24.0	780	28.0			
			76	25.3	19.0	481	22.8	577	28.5	721	34.0			
			89	22.2	22.3	495	26.7	593	33.4	741	40.0			
			102	20.0	25.5	510	30.6	612	38.3	766	46.0			
25	12.5	5.3 x 3.2	115	18.2	28.8	524	34.5	628	43.1	784	52.0			
			127	16.6	31.8	528	38.1	632	47.6	790	57.1			
			139	15.2	35.0	532	42.0	638	52.5	798	62.5			
			152	13.2	38.0	505	45.6	606	57.0	758	68.4			
			305	6.2	76.3	473	91.5	567	114.4	709	140.0			
			32	16	6.8 x 4	25	140.0	6.3	882	7.5	1050	9.4	1316	10.2
						32	115.0	8.0	920	9.6	1104	12.0	1380	13.4
						38	91.0	9.5	865	11.4	1037	14.3	1301	15.8
						44	80.0	11.0	880	13.2	1056	16.5	1320	18.5
						51	68.1	12.8	872	15.3	1042	19.1	1301	21.4
64	52.5	16.0				840	19.2	1008	24.0	1260	26.8			
76	42.8	19.0				813	22.8	976	28.5	1220	32.0			
89	37.9	22.5				845	26.7	1012	33.4	1266	37.5			
102	32.5	25.5				829	30.6	995	37.3	1245	43.0			
115	28.0	28.8				806	34.5	966	43.1	1207	48.3			
40	20	8.2 x 4.7	127	25.7	31.8	817	38.1	879	47.5	1223	53.4			
			139	23.1	35.0	809	42.0	970	52.5	1213	53.4			
			50	25	11.0 x 5.8	64								
						76								
						89								
						102								
						115								
						127								
						139								
						152								
178														
203														
63	38	11.5 x 9.1	229											
			254											
			305											
			76											
			89											
			102											
			115											
			127											
			152											
			203											
75	38	11.5 x 9.1	229											
			254											
			305											
			76											
			89											
			102											
			115											
			127											
			152											
			203											

ORDERING EXAMPLE

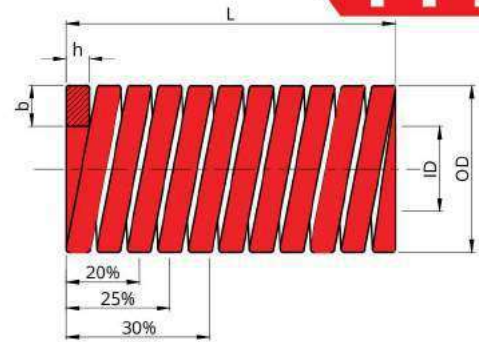
TYPE OD ID L QTY
PJM x 32 x 16 x 102 x 4

DIE SPRING

TYPE : PJH
ISO-10243

PPD®

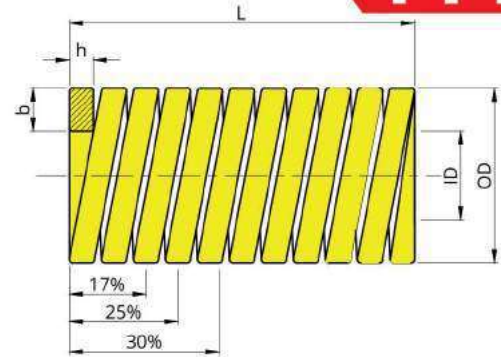
Heavy Load (Red)



Dimension in mm.

OD	ID	L	b x h	R	DEFLECTION						SOLID HEIGHT
					20%		25%		30%		
mm	mm	mm		N/mm	mm	N	mm	N	mm	N	mm
10	5	1.9 x 1.4	25	22.0	5.0	110	6.3	139	7.5	165	9.0
			32	19.4	6.4	124	8.0	155	9.6	186	11.5
			38	17.0	7.6	129	9.5	162	11.4	194	13.2
			44	14.9	8.8	131	11.0	164	13.2	197	15.5
			51	12.8	10.2	131	12.8	164	15.3	196	18.4
			64	10.6	12.8	136	16.0	170	19.2	204	23.0
			76	7.6	15.2	116	19.0	144	22.8	173	27.3
			89	6.8	17.8	121	22.3	152	26.7	182	32.0
			305	2.1	61.0	128	76.3	160	91.5	193	122.0
12.5	6.3	2.4 x 1.9	25	42.2	5.0	211	6.3	266	7.5	317	9.8
			32	33.3	6.4	213	8.0	266	9.6	320	13.2
			38	29.4	7.6	223	9.5	279	11.4	335	15.5
			44	24.5	8.8	216	11.0	270	13.2	323	18.3
			51	19.5	10.2	199	12.8	250	15.3	298	22.0
			64	15.2	12.8	195	16.0	243	19.2	292	27.0
			76	13.4	15.2	204	19.0	255	22.8	306	32.5
			89	11.5	17.8	205	22.3	256	26.7	307	38.2
			102	8.5	20.4	173	25.5	217	30.6	260	43.8
16	8	3.0 x 2.5	305	2.9	61.0	177	76.3	221	91.5	265	134.3
			25	76.1	5.0	381	6.3	479	7.5	571	8.4
			32	53.2	6.4	340	8.0	426	9.6	511	10.5
			38	48.9	7.6	372	9.5	465	11.4	557	13.3
			44	43.1	8.8	379	11.0	474	13.2	569	15.8
			51	37.3	10.2	380	12.8	477	15.3	571	18.4
			64	30.5	12.8	390	16.0	480	19.2	586	23.7
			76	26.0	15.2	395	19.0	494	22.8	593	28.1
			89	21.9	17.8	390	22.3	488	26.7	685	33.0
20	10	4.0 x 3.2	102	19.3	20.4	394	25.5	492	30.6	591	37.5
			115	15.8	23.0	363	28.8	455	34.5	545	42.6
			305	7.0	61.0	427	76.3	534	91.5	640	113.0
			25	205.0	5.0	1025	6.3	1292	7.5	1538	8.1
			32	160.0	6.4	1024	8.0	1280	9.6	1536	10.6
			38	122.0	7.6	927	9.5	1159	11.4	1391	12.5
			44	106.0	8.8	933	11.0	1166	13.2	1399	15.0
			51	90.0	10.2	918	12.8	1152	15.3	1377	17.8
			64	68.1	12.8	872	16.0	1090	19.2	1307	22.4
25	12.5	5.5 x 4.1	76	54.5	15.2	828	19.0	1036	22.8	1243	27.0
			89	47.6	17.8	847	22.3	1061	26.7	1271	31.2
			102	41.8	20.4	853	25.5	1066	30.6	1279	36.0
			115	36.5	23.0	840	28.8	1044	34.5	1259	41.0
			127	33.0	25.4	838	31.8	1049	38.1	1257	45.0
			139	29.8	28.0	834	35.0	1043	42.0	1252	49.4
			152	27.0	30.4	821	38.0	1026	45.6	1231	54.7
			305	14.1	61.0	860	76.3	1076	91.5	1290	113.0
			30	15	7.0 x 2.0	25	355.0	5.0	1775	6.3	2237
32	280.0	6.4				1792	8.0	2240	9.6	2688	10.6
38	204.0	7.6				1550	9.5	1938	11.4	2326	12.5
44	174.0	8.8				1531	11.0	1941	13.2	2297	14.9
51	145.0	10.2				1479	12.8	1856	15.3	2219	17.8
64	114.0	12.8				1459	16.0	1824	19.2	2189	22.7
76	93.1	15.2				1415	19.0	1769	22.8	2123	26.6
89	80.3	17.8				1429	22.3	1791	26.7	2144	31.1
102	70.9	20.4				1446	25.5	1808	30.6	2170	36.0
40	20	8.4 x 6.2	115	63.2	23.0	1454	28.8	1820	34.5	2180	41.4
			127	56.1	25.4	1425	31.8	1784	38.1	2137	45.7
			139	51.5	28.0	1442	35.0	1803	42.0	2163	50.0
			152	46.2	30.4	1404	38.0	1756	45.6	2107	54.7
			178	40.0	35.6	1424	44.5	1780	53.4	2136	64.1
			203	34.7	40.6	1409	50.8	1763	60.9	2113	73.0
			305	22.1	61.0	1348	76.3	1686	91.5	2022	110.0
			38	368.0	7.6	2796	9.5	3496	11.4	4195	12.5
			44	307.0	8.8	2702	11.0	3377	13.2	4052	14.9
50	25	11.1 x 7.6	51	257.8	10.2	2621	12.8	3290	15.3	3932	17.6
			64	200.0	12.8	2560	16.0	3200	19.2	3840	22.4
			76	163.0	15.2	2478	19.0	3097	22.8	3716	26.9
			89	134.0	17.8	2385	22.3	2888	26.7	3578	30.9
			102	117.0	20.4	2387	25.5	2984	30.6	3580	36.7
			115	103.0	23.0	2369	28.8	2966	34.5	3555	41.4
			127	91.0	25.4	2311	31.8	2814	38.1	3487	45.7
			139	84.5	28.0	2366	35.0	2958	42.0	3549	48.0
			152	77.1	30.4	2344	38.0	2930	45.6	3516	54.7
63	38	11.6 x 12.3	178	66.5	35.6	2367	44.5	2959	53.4	3551	64.0
			203	58.7	40.6	2383	50.8	2982	60.9	3575	73.0
			254	46.0	50.8	2337	63.5	2921	76.2	3505	91.5
			305	32.5	61.0	2288	76.3	2861	91.5	3431	110.0
			51	345.0	10.2	3519	12.8	4416	15.3	5279	17.0
			64	266.0	12.8	3405	16.0	4256	19.2	5107	21.7
			76	217.0	15.2	3298	19.0	4125	22.8	4978	26.6
			89	189.0	17.8	3384	22.3	4215	26.7	5046	32.0
			102	162.0	20.4	3305	25.5	4131	30.6	4957	36.7
80	40	8.4 x 6.2	115	141.0	23.0	3243	28.8	4061	34.5	4865	42.0
			127	127.5	25.4	3239	31.8	4055	38.1	4858	46.9
			139	115.0	28.0	3220	35.0	4025	42.0	4830	51.0
			152	104.5	30.4	3177	38.0	3971	45.6	4765	56.0
			178	88.5	35.6	3151	44.5	3938	53.4	4726	66.0
			203	77.5	40.6	3147	50.8	3937	60.9	4720	75.1
			254	61.3	50.8	3114	63.5	3893	76.2	4671	91.5
			305	51.4	61.0	3135	76.3	3922	91.5	4703	113.0
			64	410.0	12.8	5248	16.0	6560	19.2	7882	21.7
100	50	11.1 x 7.6	76	337.0	15.2	5122	19.0	6403	22.8	78684	27.4
			89	287.0	17.8	5109	22.3	6400	26.7	7663	31.1
			102	244.0	20.4	4978	25.5	6222	30.6	7466	36.7
			115	215.0	23.0	4945	28.8	6192	34.5	7418	41.4
			127	193.0	25.4	4902	31.8	6137	38.1	7353	45.5
			139	169.0	28.0	4732	35.0	5915	42.0	7098	50.0
			152	155.0	30.4	4712	38.0	5890	45.5	7088	55.0
			178	134.0	35.8	4770	44.5	5963	53.4	7156	64.1
			203	117.0	40.6	4750	50.8	5944	60.9	7125	73.1
125	63	11.6 x 12.3	254	90.0	50.8	4572	63.5	5715	76.2	6858	92.0
			305	74.0	61.0	4514	76.3	5646	91.5	6771	111.0
			76	618.0	15.2	9394	19.0	11742	22.8	14090	26.7
			89	515.0	17.8	9167	22.3	11485	26.7	13751	30.0
			102	438.0	20.4	8935	25.5	11169	30.6	13403	35.1
			115	370.0	23.0	8510	28.8	10656	34.5	12765	37.5
			127	333.0	25.4	8458	31.8	10589	38.1	12687	45.9
			152	269.0	30.4	8178	38.0	10222	45.6	12266	56.5
			178	226.0	35.5	8046	44.5	10057	53.4	12068	66.8
150	75	11.6 x 12.3	203	198.0	40.6	8039	50.8	10058	60.9	12058	78.8
			254	155.0	50.8	7874	63.5	9843	78.2	11811	101.7
			305	128.0	61.0	7808	76.3	9766	91.5	11712	122.4

Extra Heavy Load (Yellow)



Dimension in mm.

OD	ID	L	b x h	R	DEFLECTION						SOLID HEIGHT
				N/mm	17%		20%		25%		
mm	mm	mm			mm	N	mm	N	mm	N	mm
10	5	1.9 x 1.6	25	36.7	4.3	158	5.0	184	6.3	231	7.7
			32	28.0	5.4	151	6.4	179	8.0	224	10.
			38	23.8	6.5	154	7.6	181	9.5	226	12.1
			44	19.3	7.5	145	8.8	170	11.0	212	14.1
			51	16.5	8.7	144	10.2	169	12.8	212	16.3
			64	13.3	10.9	145	12.8	170	16.0	213	21.0
			76	11.0	12.9	142	15.2	167	19.0	209	25.0
			305	2.7	51.9	140	61.0	165	76.3	206	103.7
12.5	6.3	2.6 x 2	25	58.2	4.3	250	5.0	291	6.3	367	8.0
			32	43.7	5.4	236	6.4	280	8.0	349	10.0
			38	36.1	6.5	235	7.6	274	9.5	343	12.5
			44	30.2	7.5	227	8.8	266	11.0	332	14.1
			51	26.3	8.7	229	10.2	268	12.8	337	16.8
			64	21.4	1.9	233	12.8	274	16.0	342	21.1
			76	17.2	12.9	222	15.2	261	19.0	327	25.8
			89	14.6	15.1	220	17.8	260	22.3	326	30.3
16	8	3.2 x 2.7	102	12.6	17.3	218	20.4	257	25.5	321	35.0
			305	4.3	51.9	223	61.0	262	76.3	328	104.0
			25	118.0	4.3	507	5.0	590	6.3	743	8.2
			32	89.1	5.4	481	6.4	570	8.0	713	10.3
			38	72.2	6.5	469	7.6	549	9.5	686	12.5
			44	60.0	7.5	450	8.8	528	11.0	660	14.9
			51	52.4	8.7	458	10.2	534	12.8	671	17.4
			64	41.3	10.9	450	12.8	529	16.0	661	21.7
20	10	4.1 x 3.7	76	34.2	12.9	441	15.2	520	19.0	650	26.0
			89	29.6	15.1	447	17.6	527	22.3	660	30.2
			102	25.7	17.3	445	20.4	524	25.5	655	35.0
			112	22.5	19.6	441	23.0	518	28.8	648	39.1
			305	8.4	51.9	436	61.0	512	76.3	641	105.0
			25	280.0	4.3	1204	5.0	1400	6.3	1764	7.0
			32	211.0	5.4	1139	6.7	1350	8.0	1688	9.6
			38	166.0	6.5	1079	7.6	1262	9.0	1577	11.8
25	12.5	5.4 x 4.6	44	140.0	7.5	1050	8.8	1232	11.0	1540	13.8
			51	123.0	8.7	1070	10.2	1255	12.8	1574	16.3
			64	94.0	10.9	1025	12.8	1203	16.0	1504	21.1
			76	78.7	12.9	1015	15.2	1196	19.0	1495	24.7
			89	68.0	15.1	1027	17.8	1210	22.3	1516	29.0
			102	80.0	17.3	1038	20.4	1224	25.5	1530	34.0
			115	52.8	19.6	1035	23.0	1214	28.8	1521	38.5
			127	47.5	21.6	1026	25.4	1207	31.8	1511	42.5
32	16	7.2 x 5.6	139	43.0	23.8	1026	28.0	1204	35.0	1505	46.5
			152	38.7	25.8	998	30.4	1176	38.0	1471	50.9
			305	21.0	51.8	1090	61.0	1281	76.3	1602	103.7
			32	365.0	5.4	1971	6.4	2336	8.0	2920	9.6
			38	340.0	6.5	2210	7.6	2584	9.5	3230	11.4
			44	239.0	7.5	1793	8.8	2103	11.0	2629	13.6
			51	204.0	8.7	1775	10.2	2081	12.8	2611	16.3
			64	159.0	10.9	1733	12.8	2035	16.0	2544	20.5
40	20	8.4 x 7.5	76	129.5	12.9	1671	15.2	1968	19.0	2461	24.3
			89	110.0	15.1	1661	17.8	1958	22.3	2453	28.5
			102	95.9	17.3	1660	20.4	1956	25.5	2445	32.6
			115	85.4	19.6	1674	23.0	1964	28.8	2460	36.8
			127	76.3	21.6	1648	25.4	1838	31.8	2426	40.6
			139	69.0	23.8	1642	28.0	1932	35.0	2415	44.5
			152	63.6	25.8	1640	30.4	1933	38.0	2417	48.8
			178	54.0	30.3	1663	35.6	1922	44.5	2403	57.0
50	25	11.4 x 9	25	47.1	34.5	1625	40.6	1912	50.8	2393	65.0
			305	31.0	51.9	1609	61.0	1891	76.3	2365	97.6
			38	508.0	6.5	3302	7.6	3861	9.5	4826	11.4
			44	406.0	7.5	3045	8.8	3573	11.5	4466	13.5
			51	339.0	8.7	2949	10.2	3458	12.8	4339	15.8
			64	258.0	10.9	2812	12.8	3302	16.0	4128	20.0
			76	208.0	12.9	2683	15.2	3162	19.0	3952	24.3
			89	171.5	15.1	2590	17.8	3053	22.3	3824	28.5
63	38	11.6 x 4.3	102	150.0	17.3	2595	20.4	3060	25.5	3825	32.6
			115	137.2	19.5	2689	23.0	3156	28.8	3951	37.9
			127	122.0	21.6	2635	25.0	3099	31.8	3880	41.9
			139	111.5	23.8	2654	28.0	3122	35.0	3903	46.0
			152	102.1	25.8	2634	30.4	3104	38.0	3880	50.2
			178	88.0	30.3	2666	35.6	3133	44.5	3916	59.0
			203	78.9	34.5	2619	40.6	3082	50.8	3856	67.0
			254	60.5	43.2	2614	50.8	3073	63.5	3842	84.0
63	38	11.6 x 4.3	305	49.0	51.9	2543	61.0	2989	76.3	3739	101.0
			51	607.0	8.7	5281	10.2	6191	12.8	7770	14.5
			64	469.0	10.9	5112	12.8	6003	16.0	7504	19.2
			76	364.0	12.9	4696	15.2	5533	19.0	6916	22.8
			89	309.0	15.1	4666	17.8	5500	22.3	6891	27.0
			102	274.0	17.3	4742	20.4	5590	25.5	6987	32.0
			115	240.0	19.6	4704	23.0	5520	28.8	6912	35.6
			127	219.0	21.6	4730	25.4	5663	31.8	6964	39.4
63	38	11.6 x 4.3	139	188.0	23.8	4474	28.0	5264	35.0	6580	43.1
			152	167.0	25.8	4309	30.4	5077	38.0	6346	47.1
			178	145.0	30.3	4394	35.6	5162	44.5	6453	55.2
			203	131.0	34.5	4520	40.8	5319	50.8	6655	64.0
			254	106.0	43.2	4579	50.8	5389	63.5	6731	81.3
			305	87.0	51.5	4515	61.0	5307	76.3	6638	97.6
			76	694.0	10.9	7565	12.8	8883	16.0	11104	18.6
			89	560.0	12.9	7224	15.2	8512	19.0	10640	22.1
63	38	11.6 x 4.3	102	467.0	15.1	7052	17.8	8313	22.3	10414	26.7
			115	401.0	17.3	6837	20.4	8180	25.5	10226	31.6
			127	350.0	19.6	6860	23.0	8050	28.8	10080	35.6
			139	316.0	21.6	6826	25.4	8026	31.8	10049	39.4
			152	274.0	23.8	6521	28.0	7672	35.0	9590	43.1
			178	240.0	25.8	6192	30.4	7296	38.0	9120	48.0
			203	216.0	30.3	6545	35.6	7690	44.5	9612	57.0
			254	188.0	34.5	6486	40.6	7633	50.8	9550	65.0
63	38	11.6 x 4.3	305	154.0	43.2	6653	50.8	7823	63.5	9779	81.3
			76	128.0	51.9	6643	61.0	7808	76.3	9766	97.6
			89	800.0	12.9	10335	-	-	19.0	15198	-
			102	690.0	15.1	10435	-	-	22.3	15346	-
			115	623.0	17.3	10806	-	-	25.5	15892	-
			127	507.0	19.5	9918	-	-	28.8	15485	-
			152	456.0	21.6	9845	-	-	31.8	14478	-
			178	376.0	25.8	9721	-	-	38.0	14296	-
63	38	11.6 x 4.3	203	318.0	30.3	9630	-	-	44.5	14163	-
			254	282.0	34.5	9737	-	-	50.8	14319	-
			305	223.0	43.2	9640	-	-	63.5	14177	-
			76	184.0	51.9	9556	-	-	76.3	14053	-

ISO Tolerances for Holes / mm (ISO 286-2)

(micron / 0.001 mm)

>	3	6	10	18	30	40	50	65	80	100
(incl) <	6	10	18	30	40	50	65	80	100	120
E6	+28	+34	+43	+53	+66		+76		+94	
	+20	+25	+32	+40	+50		+60		+72	
E7	+32	+40	+50	+61	+75		+90		+107	
	+20	+25	+32	+40	+50		+60		+72	
E11	+95	+115	+142	+170	+210		+250		+292	
	+20	+25	+32	+40	+50		+60		+72	
E12	+140	+175	+212	+250	+300		+360		+422	
	+20	+25	+32	+40	+50		+60		+72	
E13	+200	+245	+302	+370	+440		+520		+612	
	+20	+25	+32	+40	+50		+60		+72	
F6	+18	+22	+27	+33	+41		+49		+58	
	+10	+13	+16	+20	+25		+30		+36	
F7	+22	+28	+34	+41	+50		+60		+71	
	+10	+13	+16	+20	+25		+30		+36	
F8	+28	+35	+43	+53	+64		+76		+90	
	+10	+13	+16	+20	+25		+30		+36	
G6	+12	+14	+17	+20	+25		+29		+32	
	+4	+5	+6	+7	+9		+10		+12	
G7	+16	+20	+24	+28	+34		+40		+47	
	+4	+5	+6	+7	+9		+10		+12	
G8	+22	+27	+33	+40	+48		+56		+66	
	+4	+5	+6	+7	+9		+10		+12	
H3	0	0	0	0	0		0		0	
	+2.5	+2.5	+3	+4	+4		+5		+6	
H6	+8	+9	+11	+13	+16		+19		+22	
	0	0	0	0	0		0		0	
H7	+12	+15	+18	+21	+25		+30		+35	
	0	0	0	0	0		0		0	
H8	+18	+22	+27	+33	+39		+46		+54	
	0	0	0	0	0		0		0	
H9	+30	+36	+43	+52	+62		+74		+87	
	0	0	0	0	0		0		0	
H10	+48	+58	+70	+84	+100		+120		+140	
	0	0	0	0	0		0		0	
H11	+75	+90	+110	+130	+160		+190		+220	
	0	0	0	0	0		0		0	
J6	+5	+5	+6	+8	+10		+13		+16	
	-3	-4	-5	-5	-6		-6		-6	
J7	+6	+8	+10	+12	+14		+18		+22	
	-6	-7	-8	-9	-11		-12		-13	
J8	+10	+12	+15	+20	+24		+28		+34	
	-8	-10	-12	-13	-15		-18		-20	
JS6	+4	+4.5	+5.5	+6.5	+8		+9.5		+11	
	-4	-4.5	-5.5	-6.5	-8		-9.5		-11	
JS7	+6	+7.5	+9	+10.5	+12.5		+15		+17.5	
	-6	-7.5	-9	-10.5	-12.5		-15		-17.5	
JS8	+9	+11	+13.5	+16.5	+19.5		+23		+27	
	-9	-11	-13.5	-16.5	-19.5		-23		-27	
K6	+2	+2	+2	+2	+3		+4		+4	
	-6	-7	-9	-11	-13		-15		-18	
K7	+3	+5	+6	+6	+7		+9		+10	
	-9	-10	-12	-15	-18		-21		-25	
K8	+5	+16	+8	+10	+12		+14		+16	
	-13	-16	-19	-23	-27		-32		-38	
M6	-1	-3	-4	-4	-4		-5		-6	
	-9	-12	-15	-17	-20		-24		-28	
M7	0	0	0	0	0		0		0	
	-12	-15	-18	-21	-25		-30		-35	
M8	+2	+1	+2	+4	+5		+5		+6	
	-16	-21	-25	-29	-34		-41		-48	
N6	-5	-7	-9	-11	-12		-14		-16	
	-13	-16	-20	-24	-28		-33		-38	
N7	-4	-4	-5	-7	-8		-9		-10	
	-16	-19	-23	-28	-33		-39		-45	
N8	-2	-3	-3	-3	-3		-4		-4	
	-20	-25	-30	-36	-42		-50		-58	
P6	-9	-12	-15	-18	-21		-26		-30	
	-17	-21	-26	-31	-37		-45		-52	
P7	-8	-9	-11	-14	-17		-21		-24	
	-20	-24	-29	-35	-42		-51		-59	
P8	-12	-15	-18	-22	-26		-32		-37	
	-30	-37	-45	-55	-65		-78		-91	
R6	-12	-16	-20	-24	-29		-35		-44	
	-20	-25	-31	-37	-45		-54		-66	
							-37		-44	
							-56		-66	
R7	-11	-13	-16	-20	-25		-30		-38	
	-23	-28	-34	-41	-50		-60		-73	
							-62		-76	

ISO Tolerances for Shafts / mm (ISO 286-2)

(micron / 0.001 mm)

>	3	6	10	18	30	40	50	65	80	100
(incl) <	6	10	18	30	40	50	65	80	100	120
a12	-270	-280	-290	-300	-310	-320	-340	-360	-380	-410
	-390	-430	-470	-510	-560	-570	-640	-660	-730	-760
d6	-30	-40	-50	-65	-80		-100		-120	
	-38	-49	-61	-78	-96		-119		-142	
e6	-20	-25	-32	-40	-50		-60		-72	
	-28	-34	-43	-53	-66		-79		-94	
e13	-220	-270	-334	-410	-50		-60		-72	
				-440	-520		-612		-72	
f5	-25	-32	-40	-49	-25		-30		-36	
				-36	-43		-49		-51	
f6	-10	-13	-16	-20	-25		-30		-36	
	-18	-22	-27	-33	-41		-49		-58	
f7	-10	-13	-16	-20	-25		-30		-36	
	-22	-28	-34	-41	-50		-60		-71	
g5	-4	-5	-6	-7	-9		-10		-12	
	-9	-11	-14	-16	-20		-23		-27	
g6	-4	-5	-6	-7	-9		-10		-12	
	-12	-14	-17	-20	-25		-29		-34	
g7	-4	-5	-6	-7	-9		-10		-12	
	-16	-20	-24	-28	-34		-40		-47	
h3	0	0	0	0	0		0		0	
	-2.5	-2.5	-3	-4	-4		-5		-6	
h4	0	0	0	0	0		0		0	
	-4	-4	-5	-6	-7		-8		-10	
h5	0	0	0	0	0		0		0	
	-5	-6	-8	-9	-11		-13		-15	
h6	0	0	0	0	0		0		0	
	-8	-9	-11	-13	-16		-19		-22	
h7	0	0	0	0	0		0		0	
	-12	-15	-18	-21	-25		-30		-35	
h8	0	0	0	0	0		0		0	
	-18	-22	-27	-33	-39		-46		-54	
h9	0	0	0	0	0		0		0	
	-30	-36	-43	-52	-62		-74		-87	
h10	0	0	0	0	0		0		0	
	-48	-58	-70	-84	-100		-120		-140	
h11	0	0	0	0	0		0		0	
	-75	-90	-110	-130	-160		-190		-220	
h12	0	0	0	0	0		0		0	
	-120	-150	-180	-210	-250		-300		-350	
j5	+3	+4	+5	+5	+6		+6		+6	
	-2	-2	-3	-4	-5		-7		-9	
j6	+6	+7	+8	+9	+11		+12		+13	
	-2	-2	-3	-4	-5		-7		-9	
j7	+8	+10	+12	+13	+15		+18		+20	
	-4	-5	-6	-8	-10		-12		-15	
js5	+2.5	+3	+4	+4.5	+5.5		+6.5		+7.5	
	-5	-3	-4	-4.5	-5.5		-6.5		-7.5	
js6	+4	+4.5	+5.5	+6.5	+8		+9.5		+11	
	-4	-4.5	-5.5	-6.5	-8		-9.5		-11	
js7	+6	+7.5	+9	+10.5	+12.5		+15		+17.5	
	-6	-7.5	-9	-10.5	-12.5		-15		-17.5	
k5	+6	+7	+9	+11	+13		+15		+18	
	+1	+1	+1	+2	+2		+2		+3	
k6	+9	+10	+12	+15	+18		+21		+25	
	+1	+1	+2	+2	+2		+2		+3	
k7	+13	+16	+19	+23	+27		+32		+38	
	+1	+1	+1	+2	+2		+2		+3	
m5	+9	+12	+15	+17	+20		+24		+28	
	+4	+6	+7	+8	+9		+11		+13	
m6	+12	+15	+18	+21	+25		+30		+35	
	+4	+6	+7	+8	+9		+11		+13	
m7	+16	+21	+25	+29	+34		+41		+48	
	+4	+6	+7	+8	+9		+11		+13	
n5	+13	+16	+20	+24	+28		+33		+38	
	+8	+10	+12	+15	+17		+20		+23	
n6	+16	+19	+23	+28	+33		+39		+45	
	+8	+10	+12	+15	+17		+20		+23	
n7	+20	+25	+30	+36	+42		+50		+58	
	+8	+10	+12	+15	+17		+20		+23	
p5	+17	+21	+26	+31	+37		+45		+52	
	+12	+15	+18	+22	+26		+32		+37	
p6	+20	+24	+29	+35	+42		+51		+59	
	+12	+15	+18	+22	+26		+32		+37	
r6	+23	+28	+34	+41	+50		+60		+73	
	+15	+19	+23	+28	+34		+41		+54	

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