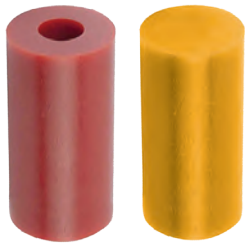
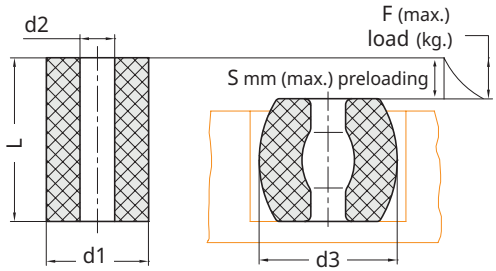




Polyurethane Compression Spring

90 SHORE / Red Springs Code: **PMK**

80 SHORE / Yellow Springs Code: **PMS**

Compression (Length)

Red 25% **Yellow 35%**

D = Solid **B =** Hollow

d1	L	d2	d3	25%		35%	
				Max. Force			
				S	F	S	F
16	12	6.5	21	3.6	171	4.3	104
	16			4.8	169	5.6	100
	20			6.0	165	7.0	97
	25			7.5	161	8.7	96
20	16	8.5	26	4.8	265	5.6	156
	20			6.0	260	7.0	154
	25			7.5	258	8.7	153
	32			9.6	255	10.6	152
25	20	10.5	32	6.0	439	7.0	265
	25			7.5	428	8.7	260
	32			9.6	423	10.6	257
	40			12.0	420	14.0	255
32	32	13.5	42	9.6	653	10.6	398
	40			12.0	648	14.0	393
	50			15.0	643	17.5	390
	63			18.9	638	22.0	388
40	32	13.5	52	9.6	1122	10.6	683
	40			12.0	1112	14.0	673
	50			15.0	1101	17.5	668
	63			18.9	1097	22.0	663
	80			24.0	1092	28.0	661
50	32	17	65	9.6	1775	10.6	1102
	40			12.0	1765	14.0	1061
	50			15.0	1734	17.5	1041
	63			18.9	1698	22.0	1020
	80			24.0	1683	28.0	1015
	100			30.0	1673	35.0	1010

d1	L	d2	d3	25%		35%	
				Max. Force			
				S	F	S	F
63	32	17	81	9.6	3070	11.2	1902
	40			12.0	3009	14.0	1836
	50			15.0	2947	17.5	1785
	63			18.9	2856	22.0	1734
	80			24.0	2805	28.0	1683
	100			30.0	2784	35.0	1652
	125			37.5	2733	43.7	1632
80	32	21	104	9.6	5406	11.2	3213
	40			12.0	5151	14.0	3070
	50			15.0	4896	17.5	3049
	63			18.9	4743	22.0	2937
	80			24.0	4641	28.0	2886
	100			30.0	4579	35.0	2866
	125			37.5	4488	43.7	286
100	32	21	130	9.6	9180	11.2	5712
	40			12.0	8649	14.0	5304
	50			15.0	8262	17.5	5100
	63			18.9	7956	22.0	4845
	80			24.0	7650	28.0	4590
	100			30.0	7446	35.0	4416
	125			37.5	7242	43.7	4233
125	32	27	160	9.6	15300	11.2	9384
	40			12.0	14535	14.0	8670
	50			15.0	13464	17.5	8160
	63			18.9	12750	22.0	7650
	80			24.0	12036	28.0	7242
	100			30.0	11730	35.0	7191
	125			37.5	11526	43.7	7140
	160			48.0	11352	56.0	6936

Order:
Code. D or **B** x d1 x L

Order Example:
PMS. B x 25 x 40

Plates - Cylinder - Discs - Pipes - Square - Formed Moulding

In special forms are produced as per request!

They do not create any problem at water / oil emulsions (resistance to thermal shock). They do not have any abrasion effects that can be distinguished with fixed and high load under normal temperature and environmental conditions at serial motion dies. Especially, they are efficient in ambient that do not require magnetization. Polyurethane springs can be machining with ordinary machine tools (such as lathe) as well as can be machining with traditional cutting tools (with sharp cutting edge). Polyurethane compression spring is incompressible material, spring load is obtained by extending outwards. Most of the expansion is reflected outwards. When desired higher flexion, selected spring is cut into two pieces from centre, then metal thick washer is inserted, thus flexion is increased two times. Pin diameter of polyurethane compression springs should be less than the inner diameter of spring.

90 SHORE Code: **PRPK**

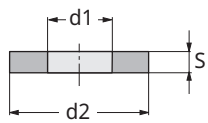
80 SHORE Code: **PRPS**

Polyurethane Shock Absorbing Washer

Compression (Length)

Red 25%

Yellow 35%

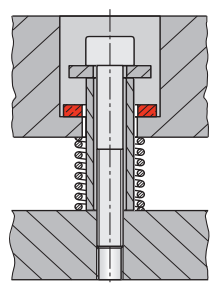


d2	d1	S mm
Ø16	6.5	3 4
	11	
Ø20	8.5	3 4 5
	11	
	13	
Ø25	10.5	3 4 5
	12	
	14	
Ø32	13.5	3 4 5 6 7
	18	
	21	
	23.5	
	25	

d2	d1	S mm
Ø40	13.5	5 6 7 8
	17	
	21	
	32	
Ø50	17	6 7 8 10
	26	
	32	
	37	
Ø63	17	6 10
	32	
Ø80	21	8 10
	42	
Ø100	21	10

Order:
Code. d1 x d2 x S

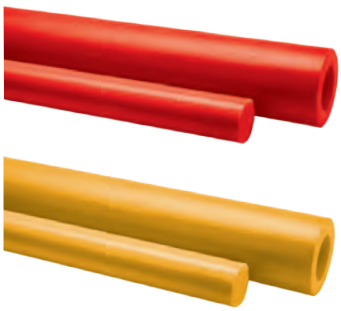
Order Example:
PRPS. 11 x 20 x 4



Mounting Example

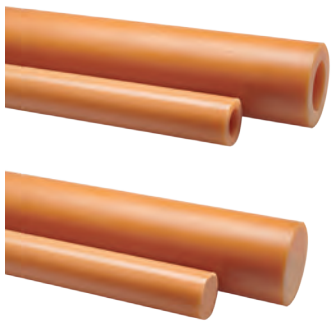
NEW

Vulkollan Springs



90 SHORE
Code: **PYK**

80 SHORE
Code: **PYS**



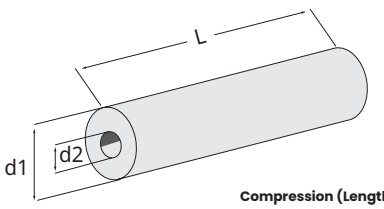
Hollow
Code: **PYBB**

Solid
Code: **PYBD**

Polyurethane Compression Spring

D = Solid

B = Hollow



Compression (Length)

Red 25%

Order Code		d1	d2 Hollow	L Length
Type / Solid	Type / Hollo w			
PYKD 16	PYKB 16	16	6.5	310 mm
PYKD 20	PYKB 20	20	8.5	310 mm
PYKD 25	PYKB 25	25	10.5	310 mm
PYKD 32	PYKB 32	32	13.5	310 mm
PYKD 40	PYKB 40	40	13.5	310 mm
PYKD 50	PYKB 50	50	17	310 mm
PYKD 63	PYKB 63	63	17	310 mm
PYKD 80	PYKB 80	80	21	310 mm
PYKD 100	PYKB 100	100	21	310 mm
PYKD 125	PYKB 125	125	27	310 mm

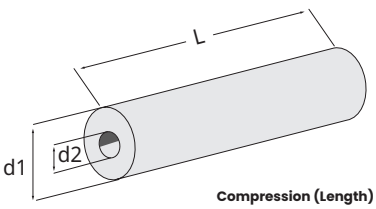
Yellow 35%

Order Code		d1	d2 Hollow	L Length
Type / Solid	Type / Hollo w			
PYSD 16	PYSB 16	16	6.5	310 mm
PYSD 20	PYSB 20	20	8.5	310 mm
PYSD 25	PYSB 25	25	10.5	310 mm
PYSD 32	PYSB 32	32	13.5	310 mm
PYSD 40	PYSB 40	40	13.5	310 mm
PYSD 50	PYSB 50	50	17	310 mm
PYSD 63	PYSB 63	63	17	310 mm
PYSD 80	PYSB 80	80	21	310 mm
PYSD 100	PYSB 100	100	21	310 mm
PYSD 125	PYSB 125	125	27	310 mm

Vulkollan Compression Spring

D = Solid

B = Hollow



Compression (Length)

92 SHORE / 30%

Order Code		d1	d2 Hollow	L Length
Type / Solid	Type / Hollo w			
PYBD 16	PYBB 16	16	6.5	310 mm
PYBD 20	PYBB 20	20	8.5	310 mm
PYBD 25	PYBB 25	25	10.5	310 mm
PYBD 32	PYBB 32	32	13.5	310 mm
PYBD 40	PYBB 40	40	13.5	310 mm
PYBD 50	PYBB 50	50	17	310 mm
PYBD 63	PYBB 63	63	17	310 mm
PYBD 80	PYBB 80	80	21	310 mm
PYBD 100	PYBB 100	100	21	310 mm
PYBD 125	PYBB 125	125	27	310 mm

- Sealing
- Abrasion resistance
- Tear resistance
- Shock and impact resistance
- Resistance to chemical products
- Bend restrictor
- Sound insulation

Advantages of **Vulkollan** Over Polyurethane

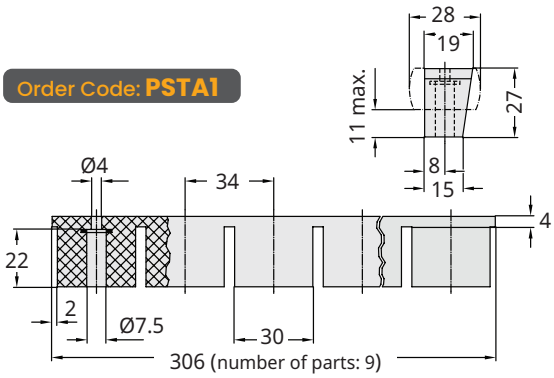
NEW

Stripper for Blanking Dies

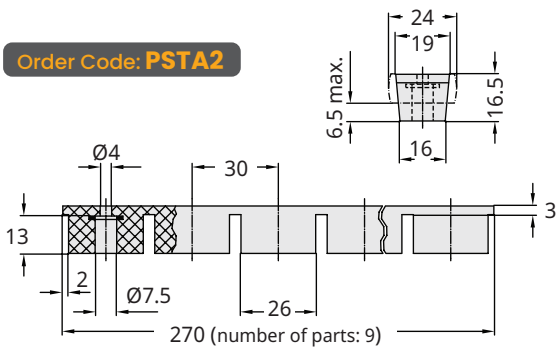
Code: **PSTA..**

Material: Polyurethane / 70 Shore

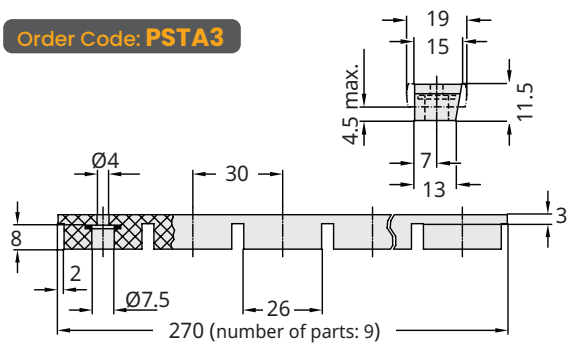
Order Code: **PSTA1**



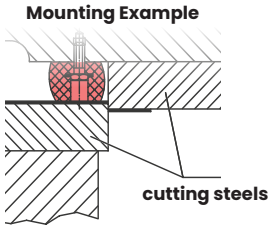
Order Code: **PSTA2**



Order Code: **PSTA3**



Mounting Example



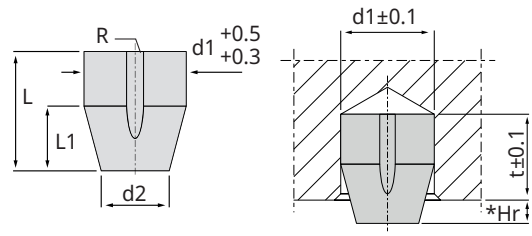
Reference: **VDI 3362**
Mercedes-Benz VW

NEW

Compression Piece

Code: **PDTA..**

Material: Polyurethane / 90 Shore

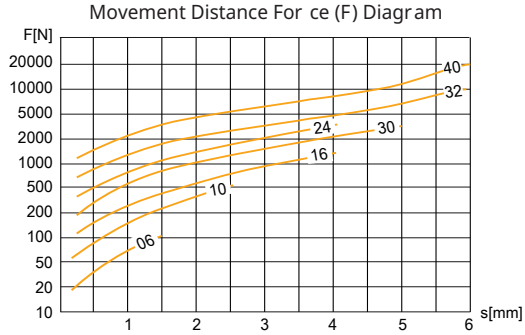


*Hr: Max. movement distance

1N = 0.1 daN = 0.102 kg.

Order Code	d1	L	d2	L1	t	R	*Hr	Max. Force
PDTA 06	6	9.5	3.6	4.5	8	-	1.5	100 N
PDTA 10	10	15.5	6	7.5	13	1	2.5	450 N
PDTA 16	16	25	9.5	12	21	1.5	4	1500 N
PDTA 24	24	25	18	10	21	2	4	3000 N
PDTA 30	30	35	20	19	30	2.5	5	3000 N
PDTA 32	32	32	24	14	26	3	6	12000 N
PDTA 40	39.5	40	30	16	34	3	6	25000 N

Movement Distance For ce (F) Diagram

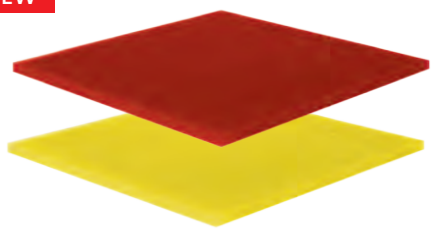


Compression Pieces are used for the removal and extraction of parts stamped in press/die tools. A blind hole is sufficient fo placing the product. The ventilation channel has been designed to facilitate pressing (assembly).

+ The use of the "PDTA" prevents damage to the surface of the stamped part.
+ It has a compact design, and the assembly process is quite simple.
+ It significantly contributes to the reduction of noise
+ It is highly resistant to wear and guarantees a long service life.

Hardness: 90 Shore

NEW

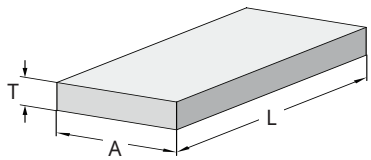


Polyurethane Plate

Note: Custom size orders are made upon request.

90 SHORE / Red Plate Code: **PPK**

80 SHORE / Yellow Plate Code: **PPS**



A	L	T
250	250	3
		4
		5
		6
		7
		8
		10
		12
		15
		20
		25
		30
		40
		50
		60
		70
		80

A	L	T
250	500	3
		4
		5
		6
		7
		8
		10
		12
		15
		20
		25
		30
		40
		50
		60
		70
		80

A	L	T
500	500	3
		4
		5
		6
		7
		8
		10
		12
		15
		20
		25
		30
		40
		50
		60
		70
		80

A	L	T
500	1000	3
		4
		5
		6
		7
		8
		10
		12

A	L	T
500	1000	15
		20
		25
		30
		40
		50
		60
		70
		80

A	L	T
1000	1000	10
		12
		15
		20
		25
		30
		40
		50

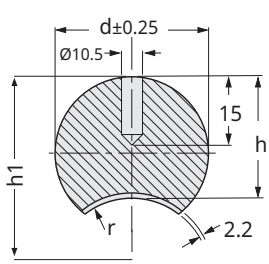
Order:
PP.. x A x L x T

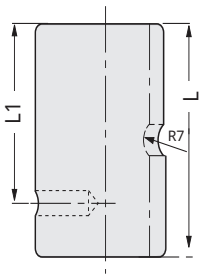
Order Example:
PPK x 250 x 250 x 5

Shock Absorber for Safety Pin

Code: **G57.2**

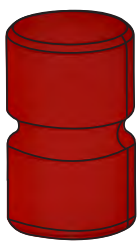
Material: Polyurethane 90 Shore

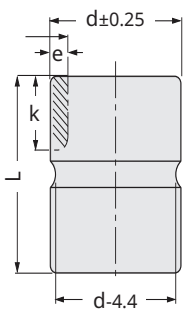




Order Code	d	L	L1	h	h1	r
G57.2 40	40	60	45	32	50	18
G57.2 50	50	80	60	40	63	23
G57.2 63	63	80	60	51	86	35

* It should be used with safety pins. **G57.2** product is compatible with the product code **G57.**
* It is an impact and speed retarder product.
* Hardness of polyurethane material is 90 shore.
* All dimensions without tolerance are in EN 22 768-1 mm standards.



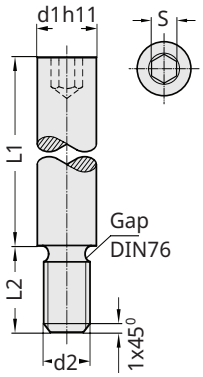


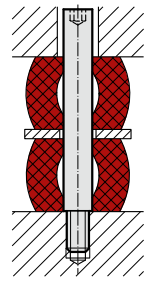
Shock Absorber for Safety Pin

Code: **G56.1**

Material: Polyurethane 90 Shore

Order Code	Pin Diameter	d	L	e	k	Max. Press
G56.1 50	40	50	70	8	25	16%
G56.1 63	50	63	80	8	30	12%





Polyurethane bolt mounting drawing

Code: **PYP**

Guide Bolt for Polyurethane Spring

During guiding of polyurethane springs, countersunk allen head metric thread connected guide bolts can be used as single spring as well as cluster by dividing springs.

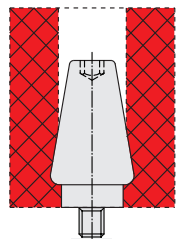
d	L1	d2	L2	S	Spring Ø
Ø 6 mm	20	M4	6 mm	3	Ø 16 x 6.5
	25				
	32				
Ø 8 mm	25	M6	9 mm	4	Ø 20 x 8.5
	32				
	40				
	50				
Ø 10 mm	25	M8	15 mm	5	Ø 25 x 10.5
	32				
	40				
	50				
	63				
Ø 13 mm	32	M10	15 mm	6	Ø 32 /40 x 13.5
	40				
	50				
	63				
	80				
	95				
Ø 16 mm	32	M12	18 mm	8	Ø 50 /63 x 17
	40				
	50				
	63				
	80				
	95				
	118				
	140				
Ø 20 mm	40	M16	25 mm	10	Ø 80 /100 x 21
	50				
	63				
	80				
	95				
	118				
	140				
	180				

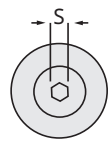
Order: **PYP.** d1 x L1

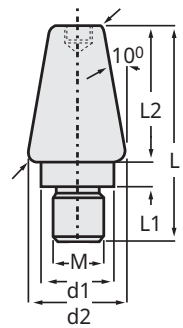
Material: CK45

Code: **PSP**

Locating Bolt for Polyurethane Spring







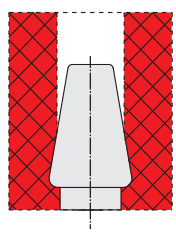
M	L	d1	d2	L1	L2	SW	Spring Ø
M12	56	19	28	8	30	6	63
M16	74	22	32	10	40	8	80 - 100
M20	100	28	38	15	55	10	125 - 140

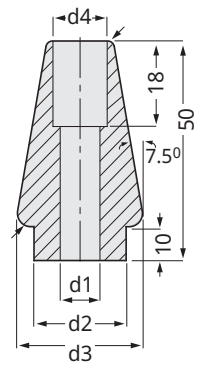
Order: **PSP.** M x L

Material: 1.7131 (16MnCr5)

Code: **PMV**

Locating Pin for Polyurethane Spring





M	d1	d2	d3	d4	Spring Ø
M10	11	18	28	17	63
M12	13.5	22	32	19	80 - 100
M16	17.5	28	38	25	125

Connection screws as per request:
M10 x 50
M12 x 50
M16 x 60

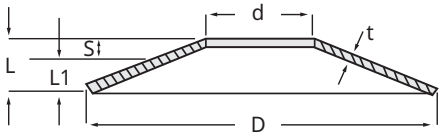
Order: **PMV.** M

Material: 1.7131 (16MnCr5)

Disc Springs

Code: **DCY**

DIN 2093



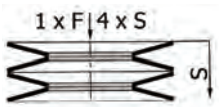
Disc Springs: It provides resistance to higher forces at very short working strokes.
The advantage of springs with very short spring is that when the pressure is applied, it produces high power with less motion.
Disc springs sometimes can be used alone and also as stacked array sets.

Tension Resistance N: 25 / + 200 50 CrV
Heat Resistance: -15 / +150°

Disc Spring Working Strokes: Applied forces (F / N) should be designed according to the working strokes. Specifying the working strokes should be according to the hole thickness (t) internal wall. L: 0.25 (1/4) or 0.50 (1/2) of free length. In addition, with motion up to 0.75 (3/4), different forces (F/N) per each stroke value may be applied. F=N / S = mm / stroke

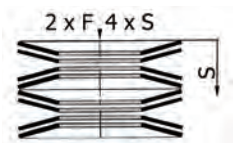
Disc Spring Array (load application)

Light Duty



1 F (force / N) in application
0.25 4 times S (stroke)

Heavy Duty



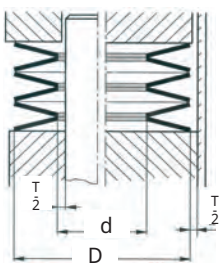
2 F (force / N) in application
0.50 4 times S (stroke)

Extra Heavy Duty

3 F (force / N) in application
0.75 4 times S (stroke)

Fixing Disc Spring with Shaft

T = working space



D	T
> 8 - 16	0.2
> 16 - 20	0.3
> 20 - 26	0.4
> 26 - 34	0.5
> 34 - 50	0.6
> 50 - 100	0.8

d: Inner hole diameter / **D:** Outer diameter / **t:** Thickness / **L:** Free length
L1: Loading length / **F max:** Flex force / **S:** Flex length stroke / motion

d	D	t	L	L1	F Nw
3.2	8	0.3	0.55	0.36	104
		0.5	0.70	0.55	357
4.2		0.4	0.60	0.45	209
3.2	10	0.3	0.65	0.39	98
		0.4	0.70	0.48	179
4.2		0.5	0.75	0.56	294
		0.6	0.85	0.66	502
5.2		0.4	0.70	0.48	209
		0.5	0.75	0.56	325
4.2	12	0.4	0.80	0.50	178
		0.5	0.85	0.59	284
5.2		0.5	0.90	0.60	349
		0.6	0.95	0.69	506
6.2		0.5	0.85	0.59	326
		0.6	0.95	0.69	551
6.2	12.5	0.5	0.85	0.59	293
		0.7	1.00	0.78	659
7.2	14	0.5	0.90	0.60	279
		0.8	1.10	0.87	796
5.2	15	0.4	0.95	0.54	175
		0.6	1.05	0.71	407
6.2		0.5	1.00	0.63	289
		0.7	1.10	0.80	577
8.2		0.7	1.10	0.80	665
		0.8	1.20	0.90	982
8.2	16	0.4	0.90	0.53	154
		0.6	1.05	0.71	410
		0.9	1.25	0.99	1012
6.2	18	0.5	1.10	0.65	245
		0.7	1.25	0.84	552
8.2		0.8	1.30	0.92	582
		1.0	1.40	1.10	1181
9.2		0.7	1.20	0.83	566
		1.0	1.40	1.10	1253
8.2	20	0.6	1.30	0.77	412
		0.8	1.40	0.95	751
		1.0	1.55	1.14	1294
10.2		0.8	1.35	1.94	748
		1.0	1.55	1.14	1414
8.2	23	0.8	1.55	0.99	718
		0.9	1.60	1.07	918
10.2		1.0	1.70	1.17	1315

d	D	t	L	L1	F Nw
12.2	25	0.7	1.60	0.92	599
		0.9	1.60	1.07	862
10.2	28	0.80	1.75	1.04	661
		1.00	1.90	1.23	1129
14.2		0.80	1.80	1.05	801
		1.00	1.80	1.20	1107
16.3	31.5	1.25	2.15	1.48	1912
		1.50	2.40	1.73	3228
12.3	34	1.25	2.35	1.53	1814
		1.50	2.50	1.75	2719
14.3		1.25	2.40	1.54	1988
		1.50	2.55	1.76	2982
16.3		1.50	2.55	1.76	3153
		2.00	2.85	2.21	5779
14.3	40	1.50	2.75	1.81	2544
		2.00	3.05	2.26	4766
16.3		1.50	2.80	1.83	2748
		2.00	3.10	2.28	5166
20.4		2.00	3.10	2.28	5698
		2.50	3.45	2.74	9384
22.4	45	1.75	3.05	2.08	3644
		2.50	3.50	2.75	7712
20.4	50	2.00	3.50	2.38	4685
		2.50	3.85	2.84	7915
25.4		2.00	3.40	2.35	4760
		2.50	3.90	2.85	9058
		3.00	4.10	3.28	11970
20.5	60	2.50	4.70	2.95	7293
		3.00	5.20	3.42	11563
30.5		3.00	4.70	3.42	13219
		3.50	5.00	3.88	18143
40.5	70	4.00	5.70	4.04	23338
		5.00	6.40	5.30	33653
31	80	4.00	6.10	4.50	19384
41		3.00	5.30	3.58	10512
		5.00	6.70	5.42	33541
41	100	5.00	7.75	5.69	32344
51		6.00	8.20	6.55	47995

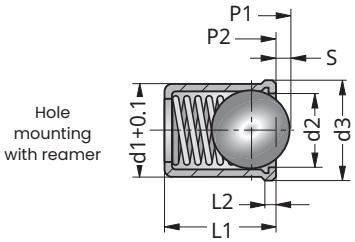
1 Newton : 0.102 Kg.

Order: **DCY.** d x D x t

Code: **KBS**

Spring Plunger with Bushing

For systems such as elevator and sliding etc.



d1	L1	d2	d3	L2	S	P1(N)	P2(N)
4	5	3	4.6	1	0.9	2	5
5	6	4	5.6	1	1.0	4	7
6	7	5	6.5	1	1.5	6	12
8	9	6.5	8.5	1	1.8	6	12

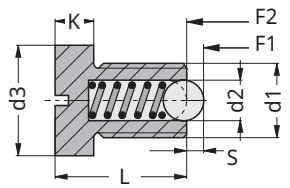
Order: **KBS.** d1

Material: 1.4303 INOX

Code: **SBS**

Spring Plunger with Slotted Head

Mounting: Fixing with screwdriver.



d1	L	S	d2	d3	K	F1(N)	F2(N)
M6	14	1	3.5	10	5	11	18
M8	16.5	1.5	4.5	13	5	18	31
M10	20	2	6	16	6	24	45
M12	22	2.5	8	18	7	24	49

It is for locking, compressing upwards and downwards. Fixable with screwdriver.
Heat Resistance Maximum: 250⁰C.

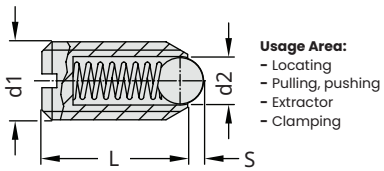
Order: **SBS.** d1

Material: Steel quality 5.8

Code: **BSM**

Spring Plunger

Mounting: Fixing with screwdriver.

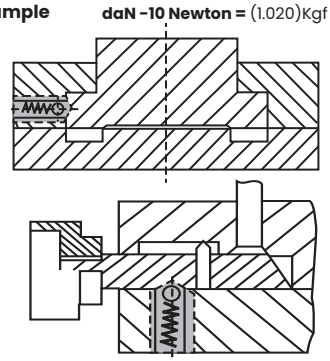


Usage Area:
- Locating
- Pulling, pushing
- Extractor
- Clamping

d1	L	S	d2	Initial Force	Final Force
M4	9	0.8	2.5	6 Nw	12 Nw
M5	12	0.9	3.0	7 Nw	13 Nw
M6	14	1.0	3.5	9 Nw	15 Nw
M8	16	1.5	5.0	20 Nw	35 Nw
M10	19	2.0	6.0	25 Nw	45 Nw
M12	22	2.5	8.0	35 Nw	60 Nw
M16	24	3.5	10	65 Nw	110 Nw

Mounting Example

N - Newton = (0.102)Kgf
daN -10 Newton = (1.020)Kgf

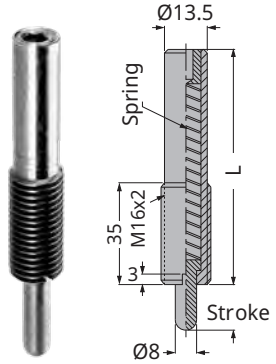


*** Please don't exceed the force values.**

Order: **BSM** x d1

Material: Steel quality 5.8

It is used as core / slide lock etc. in injection mould. As stamp extractor in die and also can be used for bushing of threaded shafts, limiting the torque tools and positioning of level adjuster. Material structure; machinable steel bushing - hardened bearing steel ball - winding steel spring.
Heat Resistance Maximum: 250 ⁰C.



Spring Plunger

Code: **PSK**

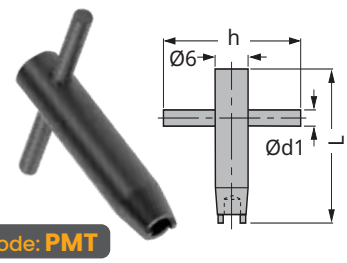
Mounting: Fixing with **"PMT"** mounting kit.

Stroke	L	Initial Force	Final Force
20	80	24 Nw	186 Nw
40	150	59 Nw	177 Nw
60	150	11 Nw	45 Nw
80	200	2 Nw	38 Nw

Material: Pin 1.1273 **/ Hardness:** 40 HRC

Order: **PSK.** Stroke

Protective plating that prevents oxidation on the part surface is available. The ball is from steel material and is hardened and polished.
* Please don 't exceed the for ce values.



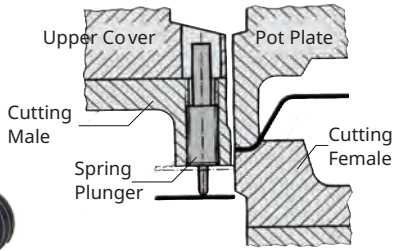
Code: **PMT**

Mounting Kit for Spring Plungers

Spring Plunger (M)	h	d	d1	L
M5 - M6	40	6	3	40
M8	45	8	4	45
M10	45	10	4	45
M12	80	12	5	50
M16	70	16	8	52
M24	80	24	12	62
M30	100	30	15	73

Material: Steel 5.8 **/ Hardness:** 36-40 HRC

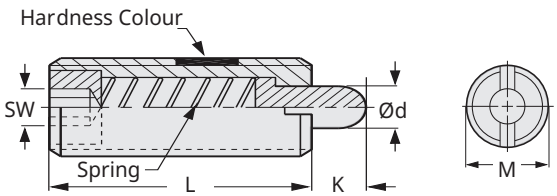
Order: **PMT.** d



Spring plunger can be used in many designs such as die and equipment production. Especially, it is operated as extractor - dampener - stabilizer and retaining pin.
* Please don 't exceed the for ce values.

Spring Plunger Code: PS1

Mounting: Fixing with "PMT" mounting kit.
It is for locking, compressing upwards and downwards. The lock prevents the reaching of liquids and oils to the pin.
Working T emper atur e: Between -30 C and +80 C
Pin: Polished steel + Protective coating

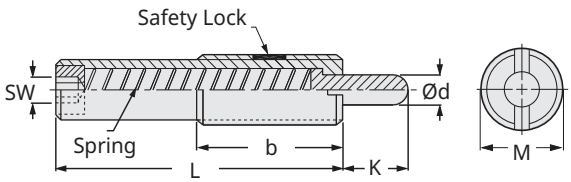


Series	M Thread	K	L	d	SW	Initial Force N (kgf)	Final Force N (kgf)
1	M3 x 0.5	1.5	10	1	0.8	0.4 (0.05)	2.9 (0.3)
2	M4 x 0.7	2	12	1.6	0.8	1.9 (0.2)	9.8 (1.0)
3	M5 x 0.8	3	20	2	1.5	3.9 (0.4)	19.6 (2.0)
4	M5 x 0.8	3	13	2	1.5	1.9 (0.2)	7.8 (0.8)
5	M5 x 0.8	3	20	2	1.5	1.9 (0.2)	9.8 (1.0)
6	M6 x 1.0	3	25	2.5	2	2.9 (0.3)	9.8 (1.0)
7	M6 x 1.0	3	25	2.5	2	7.8 (0.8)	29.4 (3.0)
8	M8 x 1.25	3	25	3.1	2.5	2.9 (0.3)	9.8 (1.0)
9	M8 x 1.25	3	25	3.1	2.5	7.8 (0.8)	29.4 (3.0)
10	M10 x 1.5	5	30	3.8	3	2.9 (0.3)	14.7 (1.5)
11	M10 x 1.5	5	30	3.8	3	9.8 (1.0)	49.0 (5.0)
12	M12 x 1.75	5	30	5.5	4	1.9 (0.2)	9.8 (1.0)
13	M12 x 1.75	5	30	5.5	4	9.8 (1.0)	49.0 (5.0)

* Red products are high for ce in the table.
* Blue products are medium for ce in the table.

Spring Plunger Code: PS2

Mounting: Fixing with "PMT" mounting kit.
It is for locking, compressing upwards and downwards. The lock prevents the reaching of liquids and oils to the pin.
Working T emper atur e: Between -30 C and +80 C
Pin: Polished steel + Protective coating



Series	M Thread	K	L	b	d	SW	Initial Force N (kgf)	Final Force N (kgf)
14	M12 x 1.75	10	43	35	5.5	4	3.9 (0.4)	19.6 (2)
15	M12 x 1.75	10	43	35	5.5	4	6.8 (0.7)	39.2 (4)
16	M16 x 2.0	10	50	35	8	5	9.8 (1)	49.0 (5)
17	M16 x 2.0	10	50	35	8	5	19.6 (2)	98.0 (10)
18	M16 x 2.0	10	60	35	8	5	12.7 (1.3)	39.2 (4)
19	M16 x 2.0	10	60	35	8	5	26.4 (2.7)	78.4 (8)
20	M16 x 2.0	15	60	35	8	5	9.8 (1)	39.2 (4)
21	M16 x 2.0	15	60	35	8	5	14.7 (1.5)	78.4 (8)
22	M16 x 2.0	20	60	35	8	5	12.7 (1.3)	39.2 (4)
23	M16 x 2.0	20	85	35	8	5	16.6 (1.7)	78.4 (8)
24	M16 x 2.0	30	125	35	8	5	17.6 (1.8)	39.2 (4)
25	M16 x 2.0	30	125	35	8	5	19.6 (2)	78.4 (8)
26	M16 x 2.0	50	155	35	8	8	19.6 (2)	49.0 (5)
27	M16 x 2.0	50	155	35	8	8	29.4 (3)	98.0 (10)
28	M24 x 3.0	15	60	45	10	8	19.6 (2)	98.0 (10)
29	M24 x 3.0	15	60	45	10	8	39.2 (4)	196.1 (20)
30	M30 x 3.5	20	70	45	15	12	29.4 (3)	147.0 (15)
31	M30 x 3.5	20	70	45	15	12	49.0 (5)	294.1 (30)

* Red products are high for ce in the table.
* Blue products are medium for ce in the table.

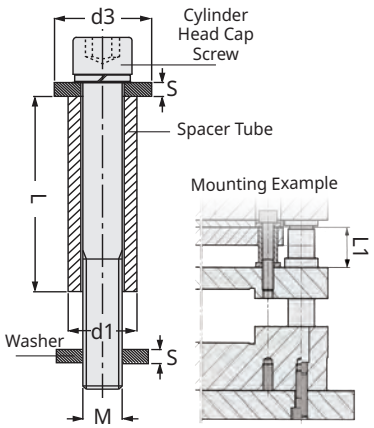
Order: **PS1.** Series

Material: Case 1.7220
Pin: 1.1273 / HRC 36 - 40

Order: **PS2.** Series

Code: **G71**

Spring and Spacer Unit

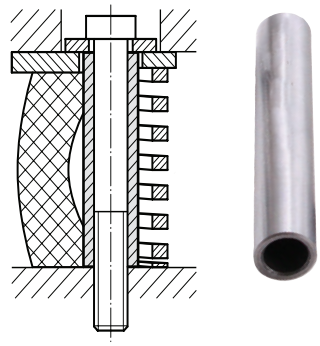


d1	L1	d3	L	S	M
13	33	18	29	4	M8 x 50
	43		39		M8 x 60
	53		49		M8 x 70
	63		59		M8 x 80
	73		69		M8 x 90
15	33	20	29	4	M10 x 60
	43		39		M10 x 70
	53		49		M10 x 80
	63		59		M10 x 90
	73		69		M10 x 100

Order:
G71. d1 x L1

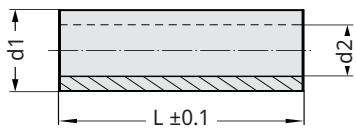
Material: 1.7131
Hardness: 58±2 HRC

Assembly of Spring and Spacer Unit:
Spring and Spacer Units are ground equally after mounted to punch retainer plate. When punches are ground due to abrasion, for loosing unit as 0.1 mm the length of junction should adjust.
Note: This product is with o-ring and o-ring should be removed before mounting.

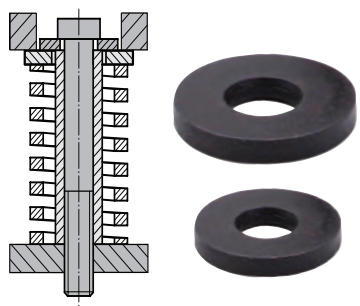


Spacer Tube

Code: **G71B**

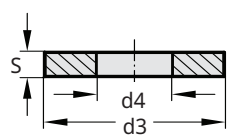


Order Code	d1	L	d2
G71B 1329	13	29	8.2
G71B 1339		39	8.2
G71B 1349		49	8.2
G71B 1359		59	8.2
G71B 1369		69	8.2
G71B 1529	15	29	10.2
G71B 1539		39	10.2
G71B 1549		49	10.2
G71B 1559		59	10.2
G71B 1569		69	10.2

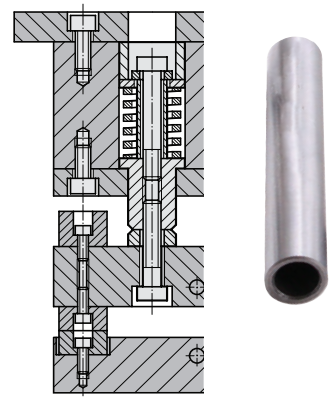


Washer

Code: **G71P**

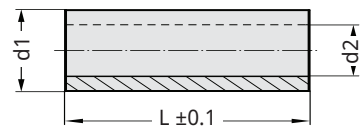


Order Code	d1	L	d2
G71P 18	18	8.4	4
G71P 20	20	10.5	4



Spacer Tube

Code: **G71Y**



d1	L	d2
10 Spring Ø 20	20	6.5
	25	
	30	
	32	
	40	
	50	
	63	
	80	
	100	
12 Spring Ø 25	20	8.5
	25	
	30	
	40	
	50	
	63	
	80	
	100	
	125	
	140	
16 Spring Ø 32	30	11
	40	
	50	
	63	
	80	
	100	
	125	
	140	
	160	

d1	L	d2
20 Spring Ø 40	30	13
	40	
	50	
	63	
	80	
	100	
	125	
	140	
	160	
	200	
25 Spring Ø 50	40	17
	50	
	63	
	80	
	100	
	125	
	140	
	160	
	200	
	250	
38 Spring Ø 63	63	25
	80	
	100	
	125	
	140	
	160	
	200	
	250	

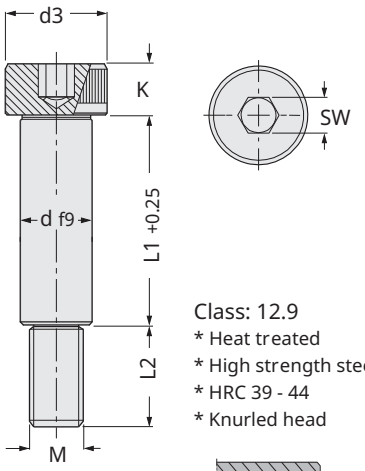
Order:
G71Y. d1 x L

Material: 1.7131
Hardness: 58±2 HRC

Shoulder Screw

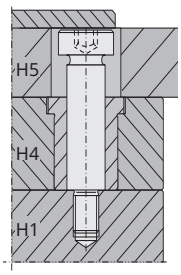
ISO 7379 / Class: 12.9

Code: **G39**

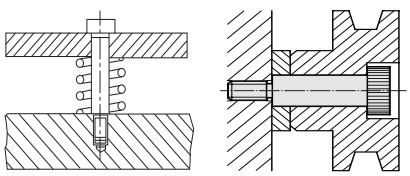


Class: 12.9
* Heat treated
* High strength steel
* HRC 39 - 44
* Knurled head

Impact test:
KCU 15 J Min.
Elasticity:
A = 8% Min.
Tensile str ess:
Rm= 1200 N / mm²



Mounting Example



Order:
G39. M x d x L1

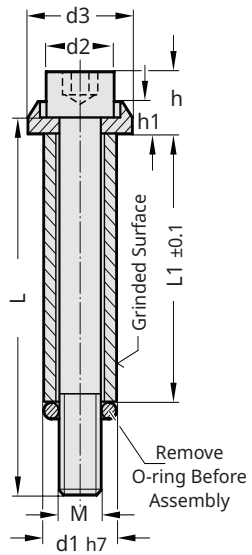
In Spring Use (steel / polyur ethane spring): For precise and secure placement in spring use, also suitable to setting position to injection mould plates.Our production is available in desired dimensions materials and lengths.
Spring working ar ea: h8
Yield str ess: Rp = 1080 N / mm²

d	L1	M	d3	L2	K	SW
6	10	M5	10	9.5	4.5	3
	12					
	16					
	20					
	25					
	30					
	35					
	40					
	45					
	50					
	55					
	60					
8	10	M6	13	11	5.5	4
	12					
	16					
	20					
	25					
	30					
	35					
	40					
	45					
	50					
	55					
	60					
	65					
	70					
	80					
	90					
	100					
10	16	M8	16	13	7	5
	20					
	25					
	30					
	35					
	40					
	45					
	50					
	55					
	60					
	65					
	70					
	80					
	90					
	100					

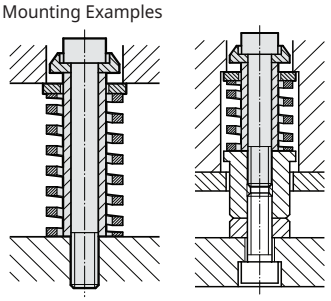
d	L1	M	d3	L2	K	SW
12	16	M10	18	16	9	6
	20					
	25					
	30					
	35					
	40					
	45					
	50					
	55					
	60					
	65					
	70					
	80					
	90					
	100					
	120					
16	30	M12	24	18	11	8
	35					
	40					
	45					
	50					
	55					
	60					
	65					
	70					
	80					
	90					
	100					
	120					
20	40	M16	30	22	14	10
	45					
	50					
	55					
	60					
	65					
	70					
	80					
	90					
	100					
	120					
24	50	M20	36	27	16	12
	55					
	60					
	65					
	70					
	80					
	90					
	100					
	120					

Code: **G146**

Spring and Spacer Unit



Mounting Examples



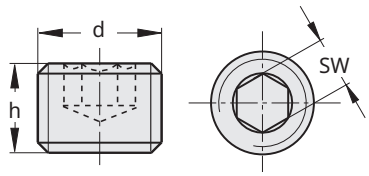
Order:
G146. M x d1 x L1

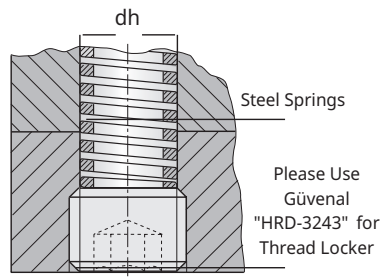
Spring and Spacer Unit: Since it is ground, it provides very precision length setting that can be adjusted. Diffe ent usage types can be created (reference: mounting examples). External diameter is ground at h7 tolerance. It is with cylinder head cap screw. O-ring should be removed before mounting.
Tensile For ce: 1200 -1300 n / mm²
Material: Cyl.Head Cap Screw / 12.9
Tube: 1.7131 (58 HRC)

d1	M	L1	L	d2	d3	h	h1
10	M6	20	35	10	15	10	5.5
		25	40				
		30	45				
		35	50				
		40	55				
		45	60				
		50	65				
		55	70				
		60	80				
		70	90				
		80	100				
		90	110				
12.5	M8	30	45	13	19	13	6.5
		35	50				
		40	55				
		45	60				
		50	65				
		55	70				
		60	80				
		70	90				
		80	100				
		90	110				
		100	120				
15	M10	30	50	16	23	15	7.5
		35	55				
		40	60				
		45	65				
		50	70				
		55	75				
		60	80				
		70	90				
		80	100				
		90	110				
		100	120				
		120	140				
17.5	M12	40	60	18	27	18	9
		45	65				
		50	70				
		55	80				
		60	90				
		70	100				
		80	110				
		90	120				
		100	130				
		110	140				
		120	150				
		140	180				
23	M16	50	80	24	34	24	11
		60	90				
		70	100				
		80	110				
		90	120				
		100	130				
		110	140				
		120	150				
		140	180				
		150	180				
		160	200				

Code: **G145**

Compression Spring Set Screw





d (thread)	Spring Dia.	dh (slot)	h	SW
M12 x 1.5	10	10.5	10	6
M14 x 1.5	12.5	12.5	10	6
M18 x 1.5	16	16.5	10	8
M22 x 1.5	20	20.5	10	8
M28 x 1.5	25	26.5	12	10
M35 x 1.5	32	33.5	12	10
M42 x 1.5	40	40.5	12	10

Order:
G145. d

Material: 1.0503 (C45)

These products can be used as adjustable spring stoppers. Spring tension can be adjusted from bottom plug (set screw) with allen without doing any dismantles process. Steel springs can be changed from bottom plug (set screw) slot without dismantling die / mould. Open hole should be created instead of blind hole to place spring.