

Spring Plungers • with ball and internal hexagon

EH 22030.



PRODUCT DESCRIPTION

Spring plungers can be used for locating or for applying pressure, as a detent or for ejection.

Material

- Body**
- Free cutting steel, blackened
 - Stainless steel 1.4305

Ball

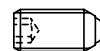
- Ball-bearing steel, hardened
- Stainless steel, hardened

Spring

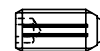
- Stainless steel

Characteristic

Heavy spring load statt Reinforced spring load



Standard spring load



Heavy spring load

MORE INFORMATION

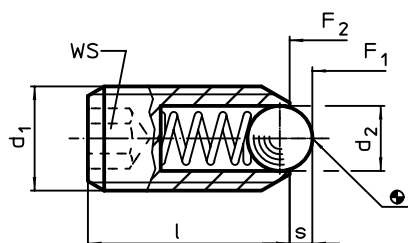
Notes

Special types on request.
Spring plungers are specially tested for spring range and forces.

References

Thread lock on request, please refer to appendix - Technical Data -
Calculation of indexing resistance, please refer to appendix - Technical Data -

DRAWING



ORDER INFORMATION

Dimensions			WS	Stroke s	Spring load ¹⁾				Art. No.
d ₁	d ₂	l			F ₁ ~	F ₂ ~	max.		
[mm]			[mm]	[mm]	[N]		[°C]	[g]	
free cutting steel, standard spring load									
M 3	1.5	8	1.5	0.4	3.0	4.5	250	0.2	22030.0003
M 4	2.5	12	2.0	0.8	8.5	14.0	250	0.6	22030.0004
M 5	3.0	14	2.5	0.9	8.0	14.0	250	1.2	22030.0005
M 6	3.5	15	3.0	1.0	11.0	18.0	250	1.7	22030.0006
M 8	4.5	18	4.0	1.5	18.0	31.0	250	3.9	22030.0008
M10	6.0	23	5.0	2.0	24.0	45.0	250	8.0	22030.0010
M12	8.0	26	6.0	2.5	26.0	49.0	250	13.0	22030.0012
M16	10.0	33	8.0	3.5	41.0	86.0	250	32.0	22030.0016
M20	12.0	43	10.0	4.5	56.0	111.0	250	67.0	22030.0020
M24	15.0	48	12.0	5.5	81.0	151.0	250	105.0	22030.0024
free cutting steel, heavy spring load									
M 3	1.5	8	1.5	0.4	5.0	9.0	250	0.3	22030.0043
M 4	2.5	12	2.0	0.8	12.0	18.0	250	0.6	22030.0044
M 5	3.0	14	2.5	0.9	15.0	22.0	250	1.2	22030.0045
M 6	3.5	15	3.0	1.0	19.0	28.0	250	1.7	22030.0046
M 8	4.5	18	4.0	1.5	36.0	62.0	250	4.0	22030.0048
M10	6.0	23	5.0	2.0	57.0	104.0	250	8.2	22030.0050
M12	8.0	26	6.0	2.5	61.0	110.0	250	13.0	22030.0052
M16	10.0	33	8.0	3.5	68.0	142.0	250	32.0	22030.0056
M20	12.0	43	10.0	4.5	84.0	166.0	250	67.0	22030.0060
M24	15.0	48	12.0	5.5	127.0	237.0	250	106.0	22030.0064

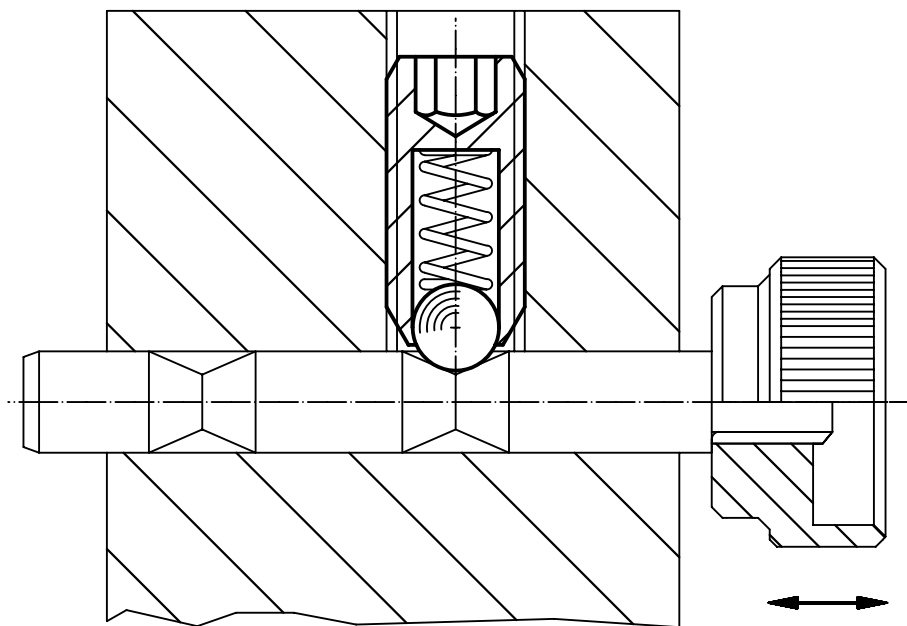
¹⁾ statistical average value



Dimensions			WS	Stroke s	Spring load ¹⁾		 max. [°C]	 [g]	Art. No.
d ₁	d ₂	l			F ₁ ~	F ₂ ~			
[mm]			[mm]	[mm]	[N]				
stainless steel, standard spring load									
M 3	1.5	8	1.5	0.4	3.0	4.5	250	0.2	22030.0203
M 4	2.5	12	2.0	0.8	8.5	14.0	250	0.6	22030.0204
M 5	3.0	14	2.5	0.9	8.0	14.0	250	1.2	22030.0205
M 6	3.5	15	3.0	1.0	11.0	18.0	250	1.7	22030.0206
M 8	4.5	18	4.0	1.5	18.0	31.0	250	4.0	22030.0208
M10	6.0	23	5.0	2.0	24.0	45.0	250	8.0	22030.0210
M12	8.0	26	6.0	2.5	26.0	49.0	250	12.0	22030.0212
M16	10.0	33	8.0	3.5	41.0	86.0	250	32.0	22030.0216
M20	12.0	43	10.0	4.5	56.0	111.0	250	67.0	22030.0220
M24	15.0	48	12.0	5.5	81.0	151.0	250	106.0	22030.0224
stainless steel, heavy spring load									
M 3	1.5	8	1.5	0.4	5.0	9.0	250	0.3	22030.0243
M 4	2.5	12	2.0	0.8	12.0	18.0	250	0.6	22030.0244
M 5	3.0	14	2.5	0.9	15.0	22.0	250	1.2	22030.0245
M 6	3.5	15	3.0	1.0	19.0	28.0	250	1.8	22030.0246
M 8	4.5	18	4.0	1.5	36.0	62.0	250	4.0	22030.0248
M10	6.0	23	5.0	2.0	57.0	104.0	250	8.2	22030.0250
M12	8.0	26	6.0	2.5	61.0	110.0	250	13.0	22030.0252
M16	10.0	33	8.0	3.5	68.0	142.0	250	32.0	22030.0256
M20	12.0	43	10.0	4.5	84.0	166.0	250	67.0	22030.0260
M24	15.0	48	12.0	5.5	127.0	237.0	250	106.0	22030.0264

¹⁾ statistical average value

APPLICATION EXAMPLE



Spring Plungers • with pin and internal hexagon

EH 22030.



PRODUCT DESCRIPTION

Spring plungers can be used for locating or for applying pressure, as a detent or for ejection.

Material

- Pin**
- Free cutting steel, hardened, blackened
 - Stainless Steel 1.4305, nitrided

Body

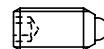
- Free cutting steel, blackened
- Stainless steel 1.4305

Spring

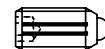
- Stainless steel

Characteristic

Heavy spring load statt Reinforced spring load



Standard spring load



Heavy spring load

MORE INFORMATION

Notes

Special types on request.
Spring plungers are specially tested for spring range and forces.

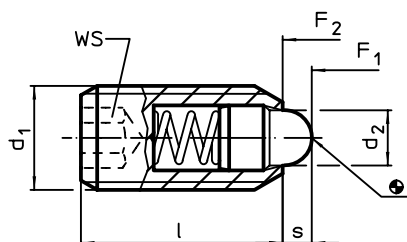
References

Thread lock on request, please refer to appendix - Technical Data -

Further products

Spring Plungers, with pin and internal hexagon - INCH. → p. 93

DRAWING



ORDER INFORMATION

Dimensions			WS	Stroke s	Spring load ¹⁾				Art. No.
d ₁	d ₂	l			F ₁ ~	F ₂ ~	max.		
[mm]			[mm]	[mm]	[N]		[°C]	[g]	
free cutting steel, standard spring load									
M 4	1.8	12	2.0	1.5	4.5	12.5	250	0.6	22030.0104
M 5	2.4	14	2.5	2.0	5.0	13.0	250	1.2	22030.0105
M 6	2.7	15	3.0	2.0	6.0	17.0	250	1.8	22030.0106
M 8	3.8	18	4.0	2.0	16.0	33.0	250	4.1	22030.0108
M10	4.5	23	5.0	2.5	19.0	42.0	250	8.4	22030.0110
M12	6.2	26	6.0	3.5	22.0	57.0	250	13.0	22030.0112
M16	8.5	33	8.0	4.5	38.0	78.0	250	32.0	22030.0116
M20	10.0	43	10.0	6.5	39.0	81.0	250	68.0	22030.0120
M24	13.0	48	12.0	8.0	72.0	155.0	250	106.0	22030.0124
free cutting steel, heavy spring load									
M 6	2.7	15	3.0	2.0	11.0	25.0	250	1.9	22030.0146
M 8	3.8	18	4.0	2.0	23.0	59.0	250	4.1	22030.0148
M10	4.5	23	5.0	2.5	20.0	54.0	250	8.4	22030.0150
M12	6.2	26	6.0	3.5	38.0	96.0	250	13.0	22030.0152
M16	8.5	33	8.0	4.5	50.0	100.0	250	32.0	22030.0156
M20	10.0	43	10.0	6.5	52.0	133.0	250	68.0	22030.0160
M24	13.0	48	12.0	8.0	91.0	223.0	250	106.0	22030.0164

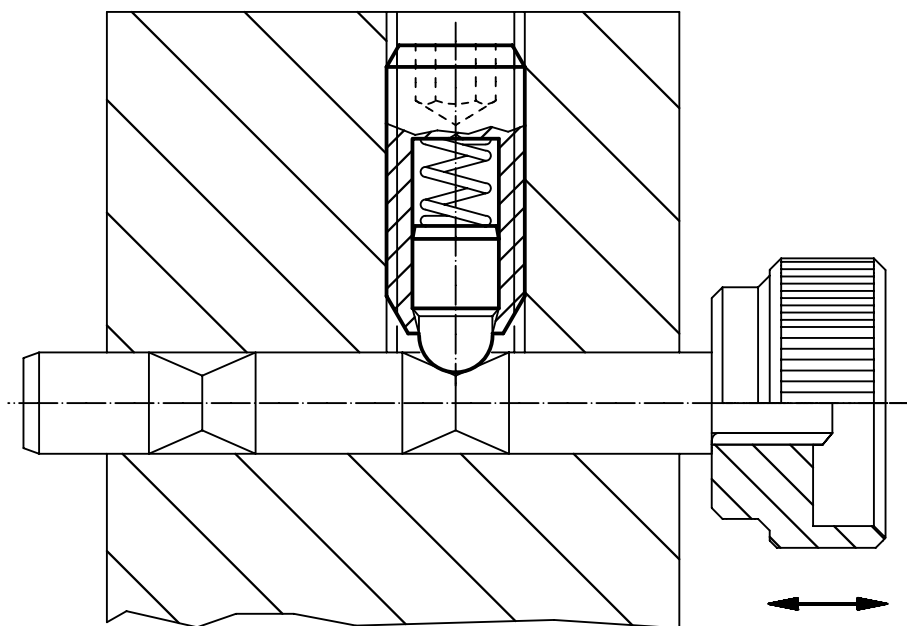
¹⁾ statistical average value



Dimensions			WS	Stroke s	Spring load ¹⁾		 max.	 [g]	Art. No.
d ₁	d ₂	l	[mm]	[mm]	F ₁ ~	F ₂ ~	[°C]		
stainless steel, standard spring load									
M 4	1.8	12	2.0	1.5	4.5	12.5	250	0.6	22030.0304
M 5	2.4	14	2.5	2.0	5.0	13.0	250	1.2	22030.0305
M 6	2.7	15	3.0	2.0	6.0	17.0	250	1.9	22030.0306
M 8	3.8	18	4.0	2.0	16.0	33.0	250	4.2	22030.0308
M10	4.5	23	5.0	2.5	19.0	42.0	250	8.4	22030.0310
M12	6.2	26	6.0	3.5	22.0	57.0	250	13.0	22030.0312
M16	8.5	33	8.0	4.5	38.0	78.0	250	32.0	22030.0316
M20	10.0	43	10.0	6.5	39.0	81.0	250	68.0	22030.0320
M24	13.0	48	12.0	8.0	72.0	155.0	250	104.0	22030.0324
stainless steel, heavy spring load									
M 6	2.7	15	3.0	2.0	11.0	25.0	250	1.9	22030.0346
M 8	3.8	18	4.0	2.0	23.0	59.0	250	4.2	22030.0348
M10	4.5	23	5.0	2.5	20.0	54.0	250	8.4	22030.0350
M12	6.2	26	6.0	3.5	38.0	96.0	250	13.0	22030.0352
M16	8.5	33	8.0	4.5	50.0	100.0	250	32.0	22030.0356
M20	10.0	43	10.0	6.5	52.0	133.0	250	68.0	22030.0360
M24	13.0	48	12.0	8.0	91.0	223.0	250	108.0	22030.0364

¹⁾ statistical average value

APPLICATION EXAMPLE



Spring Plungers • headed, with ball and internal hexagon

EH 22030.



PRODUCT DESCRIPTION

Spring plungers can be used for locating or for applying pressure, as a detent or for ejection. Precise screwing depth due to head.

Material

Body

- Free cutting steel, blackened
- Stainless steel 1.4305

Ball

- Ball-bearing steel, hardened
- Stainless steel, hardened

Spring

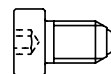
- Stainless steel

Assembly

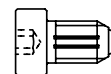
Respect dimension l_3 for M 4 / M 5.

Characteristic

Heavy spring load statt Reinforced spring load



Standard spring load



Heavy spring load

MORE INFORMATION

Notes

Special types on request.

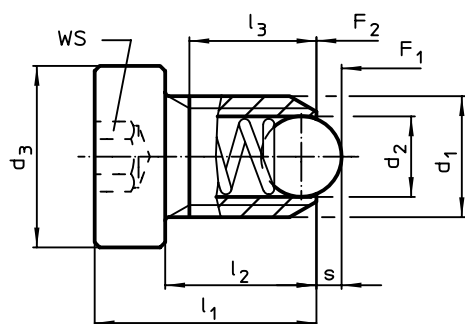
Spring plungers are specially tested for spring range and forces.

References

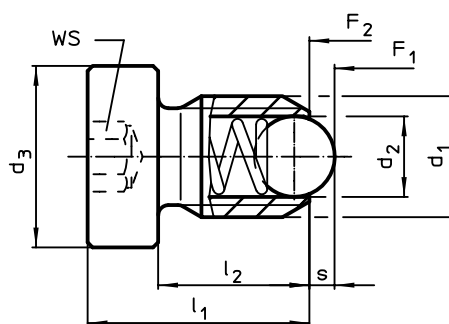
Thread lock on request, please refer to appendix - Technical Data -

Calculation of indexing resistance, please refer to appendix - Technical Data -

DRAWING



Size M4+M5



Size M6-M12

ORDER INFORMATION

Dimensions						WS	Stroke s	Spring load ¹⁾				Art. No.
d ₁	d ₂	d ₃	l ₁	l ₂	l ₃ min.			F ₁ ~	F ₂ ~	max.		
[mm]						[mm]	[mm]	[N]		[°C]	[g]	
free cutting steel, standard spring load												
M 4	2.5	6	12	9.0	7.5	2.0	0.8	8.0	14.0	250	1.0	22030.0930
M 5	3.0	8	14	10.0	8.2	2.5	0.9	8.0	14.0	250	2.3	22030.0931
M 6	3.5	10	15	10.0	–	3.0	1.0	11.0	18.0	250	3.9	22030.0932
M 8	4.5	13	18	12.5	–	4.0	1.5	18.0	31.0	250	7.8	22030.0933
M10	6.0	16	23	17.0	–	5.0	2.0	24.0	45.0	250	14.0	22030.0934
M12	8.0	18	26	19.0	–	6.0	2.5	26.0	49.0	250	21.0	22030.0935
free cutting steel, heavy spring load												
M 4	2.5	6	12	9.0	7.5	2.0	0.8	12.0	18.0	250	1.1	22030.1040
M 5	3.0	8	14	10.0	8.2	2.5	0.9	15.0	22.0	250	2.3	22030.1050
M 6	3.5	10	15	10.0	–	3.0	1.0	19.3	26.6	250	3.9	22030.1060
M 8	4.5	13	18	12.5	–	4.0	1.5	36.0	60.5	250	7.8	22030.1080
M10	6.0	16	23	17.0	–	5.0	2.0	57.0	103.5	250	14.0	22030.1100
M12	8.0	18	26	19.0	–	6.0	2.5	61.0	110.0	250	21.0	22030.1120

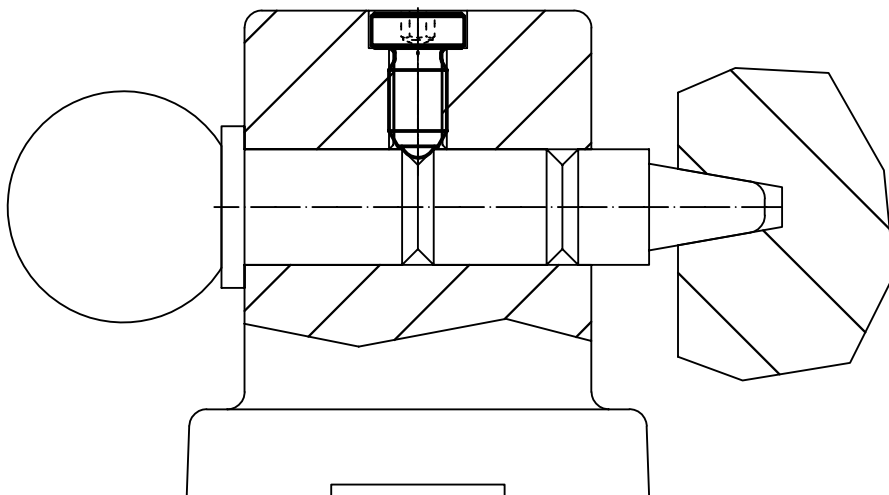
¹⁾ statistical average value



Dimensions						WS	Stroke s	Spring load ¹⁾		 max.		Art. No.
d ₁	d ₂	d ₃	l ₁	l ₂	l ₃ min.	[mm]	[mm]	F ₁ ~	F ₂ ~	[°C]	[g]	
[mm]												
stainless steel, standard spring load												
M 4	2.5	6	12	9.0	7.5	2.0	0.8	8.0	14.0	250	1.1	22030.0940
M 5	3.0	8	14	10.0	8.2	2.5	0.9	8.0	14.0	250	2.3	22030.0941
M 6	3.5	10	15	10.0	–	3.0	1.0	11.0	18.0	250	3.9	22030.0942
M 8	4.5	13	18	12.5	–	4.0	1.5	18.0	31.0	250	7.8	22030.0943
M10	6.0	16	23	17.0	–	5.0	2.0	24.0	45.0	250	14.0	22030.0944
M12	8.0	18	26	19.0	–	6.0	2.5	26.0	49.0	250	21.0	22030.0945
stainless steel, heavy spring load												
M 4	2.5	6	12	9.0	7.5	2.0	0.8	12.0	18.0	250	1.1	22030.2040
M 5	3.0	8	14	10.0	8.2	2.5	0.9	15.0	22.0	250	2.3	22030.2050
M 6	3.5	10	15	10.0	–	3.0	1.0	19.3	26.6	250	3.9	22030.2060
M 8	4.5	13	18	12.5	–	4.0	1.5	36.0	60.5	250	7.9	22030.2080
M10	6.0	16	23	17.0	–	5.0	2.0	57.0	103.5	250	14.0	22030.2100
M12	8.0	18	26	19.0	–	6.0	2.5	61.0	110.0	250	22.0	22030.2120

¹⁾ statistical average value

APPLICATION EXAMPLE



Spring Plungers • with moveable ball and internal hexagon

EH 22031.



PRODUCT DESCRIPTION

Spring plungers can be used for locating or for applying pressure, as a detent or for ejection. The running of the ball minimises wear on the counterpart, this also results in a positive locking behaviour depending on the counterpart.

Another advantage of the plastic ball is the electric insulation.

Material

Body

- Free cutting steel, blackened
- Stainless steel 1.4305

Bearing

- Plastic

Ball

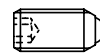
- Ball-bearing steel, hardened
- Stainless steel, hardened

Spring

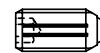
- Stainless steel

Characteristic

Heavy spring load statt Reinforced spring load



Standard spring load



Heavy spring load

MORE INFORMATION

Notes

Special types on request.

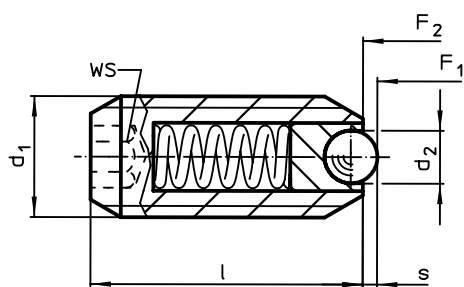
Spring plungers are specially tested for spring range and forces.

References

Thread lock on request, please refer to appendix - Technical Data -

Calculation of indexing resistance, please refer to appendix - Technical Data -

DRAWING



ORDER INFORMATION

Dimensions			WS	Stroke s	Spring load ¹⁾					Art. No.
d ₁	d ₂	l			F ₁ ~	F ₂ ~	min.	max.		
[mm]			[mm]	[mm]	[N]		[°C]		[g]	
free cutting steel, standard spring load										
M 5	2.0	14	2.5	0.50	4.8	6.8	-30	90	1.0	22031.0005
M 6	2.5	15	3.0	0.70	6.3	10.0	-30	90	1.6	22031.0006
M 8	3.5	18	4.0	0.95	16.0	24.0	-30	90	3.7	22031.0008
M10	4.5	23	5.0	1.40	18.8	31.7	-30	90	7.4	22031.0010
M12	6.5	26	6.0	2.50	24.0	49.0	-30	90	11.0	22031.0012
M16	8.5	33	8.0	3.10	38.0	68.0	-30	90	30.0	22031.0016
free cutting steel, heavy spring load										
M 5	2.0	14	2.5	0.50	10.0	14.0	-30	90	1.1	22031.0045
M 6	2.5	15	3.0	0.70	11.0	16.0	-30	90	1.6	22031.0046
M 8	3.5	18	4.0	0.95	23.0	40.0	-30	90	3.7	22031.0048
M10	4.5	23	5.0	1.40	28.0	54.3	-30	90	7.4	22031.0050
M12	6.5	26	6.0	2.50	36.5	77.3	-30	90	12.0	22031.0052
M16	8.5	33	8.0	3.10	50.0	88.7	-30	90	30.0	22031.0056

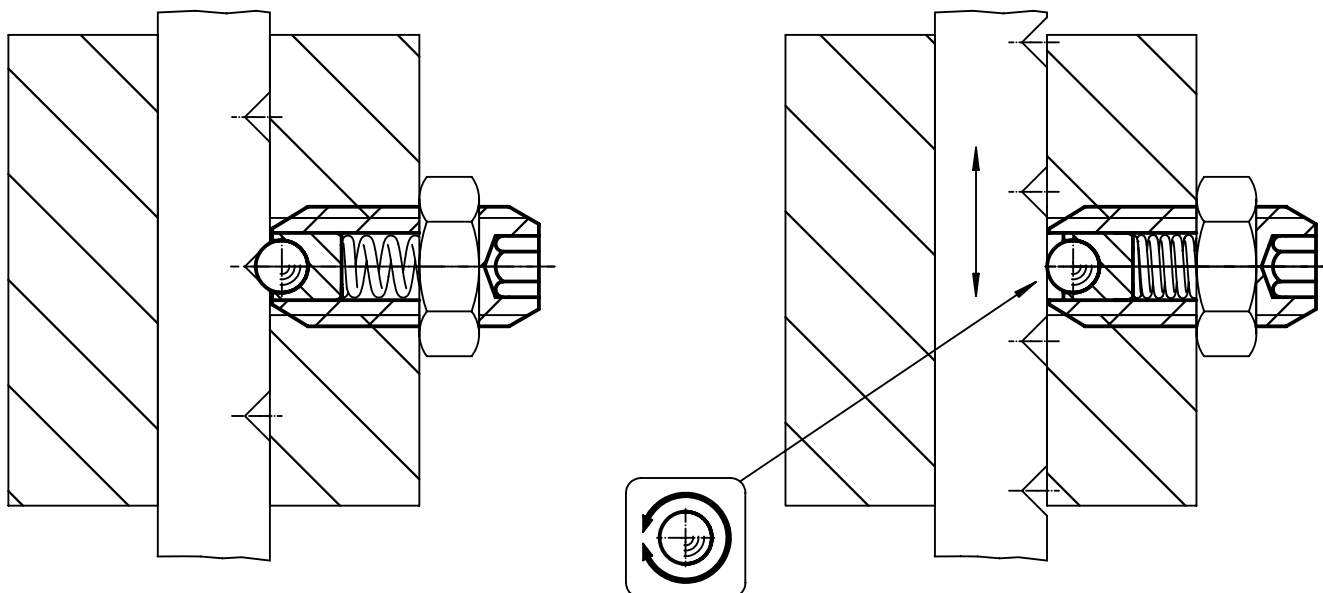
¹⁾ statistical average value



Dimensions			WS	Stroke s	Spring load ¹⁾		 min. max.	 [g]	Art. No.	
d ₁	d ₂	l			F ₁ ~	F ₂ ~				
[mm]			[mm]	[mm]	[N]		[°C]			
stainless steel, standard spring load										
M 5	2.0	14	2.5	0.50	4.8	6.8	-30	90	1.1	22031.0205
M 6	2.5	15	3.0	0.70	6.3	10.0	-30	90	1.6	22031.0206
M 8	3.5	18	4.0	0.95	16.0	24.0	-30	90	3.7	22031.0208
M10	4.5	23	5.0	1.40	18.8	31.7	-30	90	7.5	22031.0210
M12	6.5	26	6.0	2.50	24.0	49.0	-30	90	11.0	22031.0212
M16	8.5	33	8.0	3.10	38.0	68.0	-30	90	30.0	22031.0216
stainless steel, heavy spring load										
M 5	2.0	14	2.5	0.50	10.0	14.0	-30	90	1.1	22031.0245
M 6	2.5	15	3.0	0.70	11.0	16.0	-30	90	1.6	22031.0246
M 8	3.5	18	4.0	0.95	23.0	40.0	-30	90	3.7	22031.0248
M10	4.5	23	5.0	1.40	28.0	54.3	-30	90	7.4	22031.0250
M12	6.5	26	6.0	2.50	36.5	77.3	-30	90	11.0	22031.0252
M16	8.5	33	8.0	3.10	50.0	88.7	-30	90	31.0	22031.0256

¹⁾ statistical average value

APPLICATION EXAMPLE



Spring Plungers • plastic

EH 22040.



PRODUCT DESCRIPTION

Spring plungers can be used for locating or for applying pressure, as a detent or for ejection.

Material

Body

- Thermoplastic POM, blue

Ball

- Stainless steel, hardened
- Thermoplastic POM, white

Spring

- Stainless steel

MORE INFORMATION

Notes

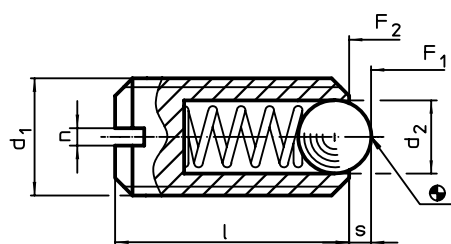
Special types on request.

Spring plungers are specially tested for spring range and forces.

References

Thread lock on request, please refer to appendix - Technical Data -
Calculation of indexing resistance, please refer to appendix - Technical Data -

DRAWING



ORDER INFORMATION

Dimensions				Stroke s	Spring load ¹⁾		 min. max.		 [g]	Art. No.
d ₁	d ₂	l	n		F ₁ ~	F ₂ ~	[°C]			
[mm]				[mm]	[N]					
ball from stainless steel										
M 6	3.5	14	1.0	0.9	12	17	-30	50	0.5	22040.0006
M 8	5.0	16	1.2	1.5	20	35	-30	50	1.3	22040.0008
M10	6.0	19	1.5	1.9	25	45	-30	50	2.5	22040.0010
ball from thermoplastic										
M 6	3.5	14	1.0	0.9	12	17	-30	50	0.4	22040.0406
M 8	5.0	16	1.2	1.5	20	35	-30	50	0.9	22040.0408
M10	6.0	19	1.5	1.9	25	45	-30	50	1.8	22040.0410

¹⁾ statistical average value

APPLICATION EXAMPLE

