

Spring Plungers • with ball and slot

EH 22050.



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

Standard spring load: no marking

Reinforced spring load: marked with two lines

MORE INFORMATION

Notes

Special types on request.

Spring plungers are specially tested for spring range and forces.

References

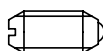
Thread lock on request, please refer to appendix - Technical Data -

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

Further products

Spring Plungers, with ball and slot -

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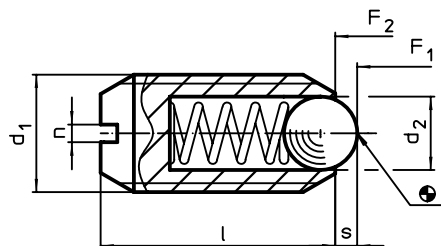


Standard spring load



Heavy spring load

DRAWING



ORDER INFORMATION

Dimensions				Stroke s	Spring load ¹⁾				Art. No.
d ₁	d ₂	l	n		F ₁ ~	F ₂ ~	max.		
[mm]				[mm]	[N]		[°C]	[g]	
free cutting steel, standard spring load									
M 2	1.0	4	0.25	0.3	0.8	1.5	250	0.1	22050.0002
M 3	1.5	7	0.40	0.4	3.0	4.5	250	0.2	22050.0003
M 4	2.5	9	0.60	0.8	8.5	14.0	250	0.4	22050.0004
M 5	3.0	12	0.80	0.9	8.0	14.0	250	1.0	22050.0005
M 6	3.5	14	1.00	1.0	11.0	18.0	250	1.7	22050.0006
M 8	4.5	16	1.20	1.5	18.0	31.0	250	3.5	22050.0008
M10	6.0	19	1.50	2.0	24.0	45.0	250	6.5	22050.0010
M12	8.0	22	2.00	2.5	26.0	49.0	250	11.0	22050.0012
M16	10.0	24	2.00	3.5	41.0	86.0	250	22.0	22050.0016
M20	12.0	30	2.50	4.5	56.0	111.0	250	45.0	22050.0020
M24	15.0	34	3.00	5.5	81.0	151.0	250	72.0	22050.0024
free cutting steel, heavy spring load									
M 2	1.0	4	0.25	0.3	1.6	2.0	250	0.1	22050.0202
M 3	1.5	7	0.40	0.4	6.4	9.5	250	0.3	22050.0203
M 4	2.5	9	0.60	0.8	12.0	18.0	250	0.4	22050.0204
M 5	3.0	12	0.80	0.9	15.0	22.0	250	1.0	22050.0205
M 6	3.5	14	1.00	1.0	19.0	28.0	250	1.7	22050.0206
M 8	4.5	16	1.20	1.5	36.0	62.0	250	3.6	22050.0208
M10	6.0	19	1.50	2.0	57.0	104.0	250	6.7	22050.0210
M12	8.0	22	2.00	2.5	61.0	110.0	250	11.0	22050.0212
M16	10.0	24	2.00	3.5	68.0	142.0	250	23.0	22050.0216
M20	12.0	30	2.50	4.5	84.0	166.0	250	45.0	22050.0220
M24	15.0	34	3.00	5.5	127.0	237.0	250	72.0	22050.0224

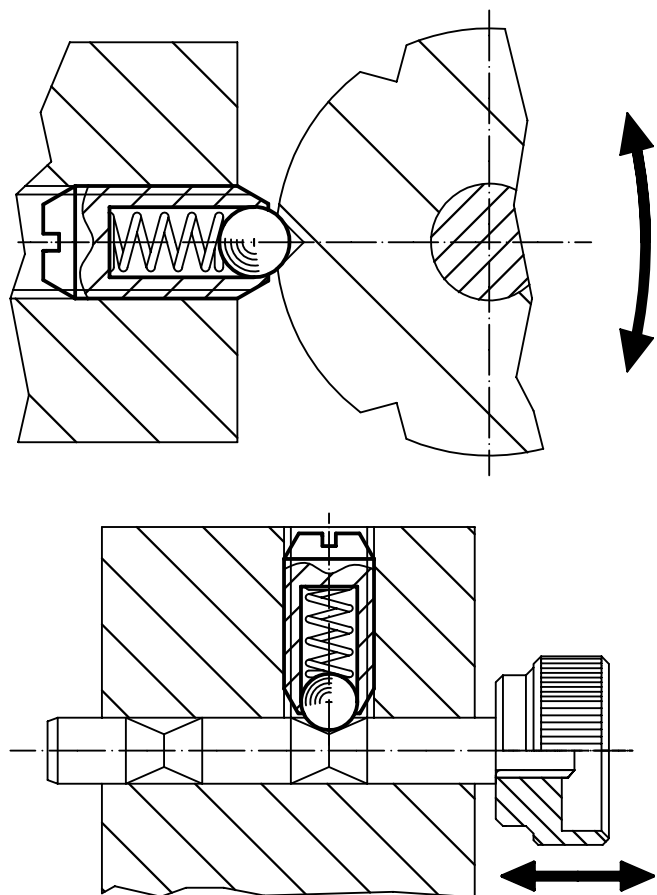
¹⁾ statistical average value



Dimensions				Stroke s	Spring load ¹⁾				Art. No.
d ₁	d ₂	l	n		F ₁ ~	F ₂ ~	max.		
[mm]				[mm]	[N]		[°C]	[g]	
stainless steel, standard spring load									
M 2	1.0	4	0.25	0.3	0.8	1.5	250	0.1	22050.0402
M 3	1.5	7	0.40	0.4	3.0	4.5	250	0.2	22050.0403
M 4	2.5	9	0.60	0.8	8.5	14.0	250	0.5	22050.0404
M 5	3.0	12	0.80	0.9	8.0	14.0	250	1.0	22050.0405
M 6	3.5	14	1.00	1.0	11.0	18.0	250	1.7	22050.0406
M 8	4.5	16	1.20	1.5	18.0	31.0	250	3.6	22050.0408
M10	6.0	19	1.50	2.0	24.0	45.0	250	6.6	22050.0410
M12	8.0	22	2.00	2.5	26.0	49.0	250	11.0	22050.0412
M16	10.0	24	2.00	3.5	41.0	86.0	250	22.0	22050.0416
M20	12.0	30	2.50	4.5	56.0	111.0	250	45.0	22050.0420
M24	15.0	34	3.00	5.5	81.0	151.0	250	73.0	22050.0424
stainless steel, heavy spring load									
M 2	1.0	4	0.25	0.3	1.6	2.0	250	0.1	22050.0602
M 3	1.5	7	0.40	0.4	6.4	9.5	250	0.3	22050.0603
M 4	2.5	9	0.60	0.8	12.0	18.0	250	0.5	22050.0604
M 5	3.0	12	0.80	0.9	15.0	22.0	250	1.0	22050.0605
M 6	3.5	14	1.00	1.0	19.0	28.0	250	1.7	22050.0606
M 8	4.5	16	1.20	1.5	36.0	62.0	250	3.7	22050.0608
M10	6.0	19	1.50	2.0	57.0	104.0	250	6.8	22050.0610
M12	8.0	22	2.00	2.5	61.0	110.0	250	11.0	22050.0612
M16	10.0	24	2.00	3.5	68.0	142.0	250	23.0	22050.0616
M20	12.0	30	2.50	4.5	84.0	166.0	250	45.0	22050.0620
M24	15.0	34	3.00	5.5	127.0	237.0	250	73.0	22050.0624

¹⁾ statistical average value

APPLICATION EXAMPLE



Spring Plungers • with ceramic ball and slot, stainless steel A4

EH 22050.



PRODUCT DESCRIPTION

Spring plungers can be used for locating or for applying pressure, as a detent or for ejection. The version from stainless steel A4 guarantees the highest corrosion protection.

Characteristics of the ceramic ball:

- Highly impact-resistant
- Abrasion resistant
- Antimagnetic
- Electrically isolating

Material

Body

- Stainless steel A4, passivated

Ball

- Ceramic

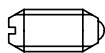
Spring

- Stainless steel A4, passivated

Characteristic

Standard spring load: no marking

Reinforced spring load: marked with two lines



Standard spring load



Heavy spring load

MORE INFORMATION

Notes

Special types on request.

Spring plungers are specially tested for spring range and forces.

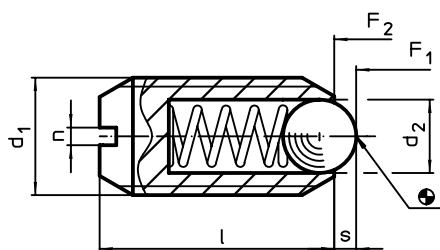
References

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

Further products

Spring Plungers, with moveable ceramic ball and slot, stainless steel A4 → p. 69

DRAWING



ORDER INFORMATION

Dimensions				Stroke s	Spring load ¹⁾				Art. No.
d ₁	d ₂	l	n		F ₁ ~	F ₂ ~	max.		
[mm]				[mm]	[N]		[°C]	[g]	
stainless steel A4, standard spring load									
M 4	2.5	9	0.6	0.8	8.5	14	250	0.4	22050.1404
M 5	3.0	12	0.8	0.9	8.0	14	250	0.9	22050.1405
M 6	3.5	14	1.0	1.0	11.0	18	250	1.6	22050.1406
M 8	4.5	16	1.2	1.5	18.0	31	250	3.4	22050.1408
M10	6.0	19	1.5	2.0	24.0	45	250	6.2	22050.1410
M12	8.0	22	2.0	2.5	26.0	49	250	9.6	22050.1412
M16	10.0	24	2.0	3.5	41.0	86	250	21.0	22050.1416
stainless steel A4, heavy spring load									
M 4	2.5	9	0.6	0.8	12.0	18	250	0.4	22050.1604
M 5	3.0	12	0.8	0.9	15.0	22	250	1.0	22050.1605
M 6	3.5	14	1.0	1.0	19.0	28	250	1.6	22050.1606
M 8	4.5	16	1.2	1.5	36.0	62	250	3.5	22050.1608
M10	6.0	19	1.5	2.0	57.0	104	250	6.3	22050.1610
M12	8.0	22	2.0	2.5	61.0	110	250	9.6	22050.1612
M16	10.0	24	2.0	3.5	68.0	142	250	21.0	22050.1616

¹⁾ statistical average value

Spring Plungers • with pin and slot

EH 22050.



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

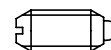
Spring

- Stainless steel

Characteristic

Standard spring load: no marking

Reinforced spring load: marked with two lines



Standard spring load



Heavy spring load

MORE INFORMATION

Notes

Special types on request.

Spring plungers are specially tested for spring range and forces.

References

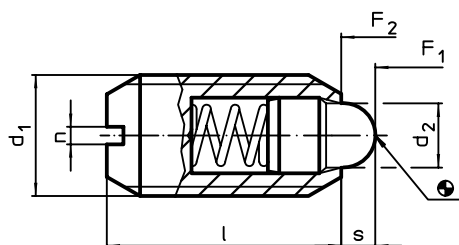
Thread lock on request, please refer to appendix - Technical Data -

Further products

Spring Plungers, with pin and slot -

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DRAWING



ORDER INFORMATION

Dimensions				Stroke s	Spring load ¹⁾				Art. No.
d ₁	d ₂	l	n		F ₁ ~	F ₂ ~	max.		
[mm]				[mm]	[N]		[°C]	[g]	
free cutting steel, standard spring load									
M 4	1.8	9	0.6	1.5	4.5	12.5	250	0.4	22050.0104
M 5	2.4	12	0.8	2.0	5.0	13.0	250	1.1	22050.0105
M 6	2.7	14	1.0	2.0	6.0	17.0	250	1.8	22050.0106
M 8	3.8	16	1.2	2.0	16.0	33.0	250	3.7	22050.0108
M10	4.5	19	1.5	2.5	19.0	42.0	250	7.0	22050.0110
M12	6.2	22	2.0	3.5	22.0	57.0	250	11.0	22050.0112
M16	8.5	24	2.0	4.5	38.0	78.0	250	22.0	22050.0116
M20	10.0	30	2.5	6.5	39.0	81.0	250	45.0	22050.0120
M24	13.0	34	3.0	8.0	72.0	155.0	250	72.0	22050.0124
free cutting steel, heavy spring load									
M 6	2.7	14	1.0	2.0	11.0	25.0	250	1.8	22050.0306
M 8	3.8	16	1.2	2.0	23.0	59.0	250	3.8	22050.0308
M10	4.5	19	1.5	2.5	20.0	54.0	250	7.0	22050.0310
M12	6.2	22	2.0	3.5	38.0	96.0	250	11.0	22050.0312
M16	8.5	24	2.0	4.5	50.0	100.0	250	22.0	22050.0316
M20	10.0	30	2.5	6.5	52.0	133.0	250	46.0	22050.0320
M24	13.0	34	3.0	8.0	91.0	223.0	250	73.0	22050.0324

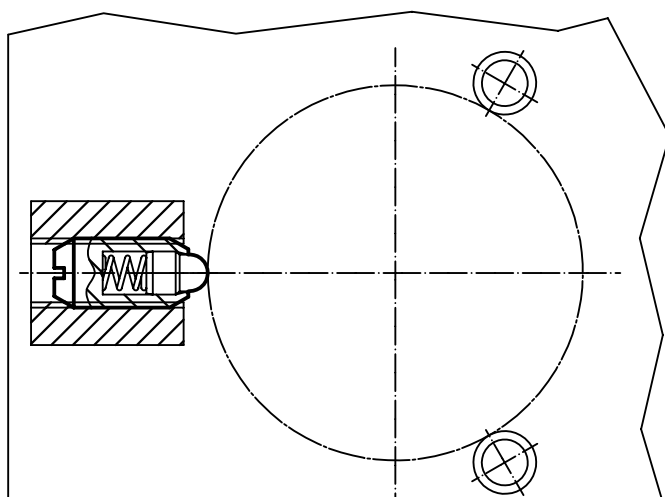
¹⁾ statistical average value



Dimensions				Stroke s	Spring load ¹⁾		 max. [°C]	 [g]	Art. No.
d ₁	d ₂	l	n		F ₁ ~	F ₂ ~			
[mm]				[mm]	[N]				
stainless steel, standard spring load									
M 4	1.8	9	0.6	1.5	4.5	12.5	250	0.4	22050.0504
M 5	2.4	12	0.8	2.0	5.0	13.0	250	1.1	22050.0505
M 6	2.7	14	1.0	2.0	6.0	17.0	250	1.8	22050.0506
M 8	3.8	16	1.2	2.0	16.0	33.0	250	3.8	22050.0508
M10	4.5	19	1.5	2.5	19.0	42.0	250	7.0	22050.0510
M12	6.2	22	2.0	3.5	22.0	57.0	250	11.0	22050.0512
M16	8.5	24	2.0	4.5	38.0	78.0	250	22.0	22050.0516
M20	10.0	30	2.5	6.5	39.0	81.0	250	46.0	22050.0520
M24	13.0	34	3.0	8.0	72.0	155.0	250	73.0	22050.0524
stainless steel, heavy spring load									
M 6	2.7	14	1.0	2.0	11.0	25.0	250	1.8	22050.0706
M 8	3.8	16	1.2	2.0	23.0	59.0	250	3.8	22050.0708
M10	4.5	19	1.5	2.5	20.0	54.0	250	7.0	22050.0710
M12	6.2	22	2.0	3.5	38.0	96.0	250	11.0	22050.0712
M16	8.5	24	2.0	4.5	50.0	100.0	250	23.0	22050.0716
M20	10.0	30	2.5	6.5	52.0	133.0	250	46.0	22050.0720
M24	13.0	34	3.0	8.0	91.0	223.0	250	74.0	22050.0724

¹⁾ statistical average value

APPLICATION EXAMPLE



Spring Plungers • headed, with ball and slot

EH 22050.



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

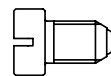
- Stainless steel

Assembly

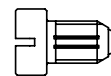
Respect dimension l_3 for M 4 / M 5.

Characteristic

Standard spring load: no marking
Reinforced spring load: marked with two lines



Standard spring load



Heavy spring load

MORE INFORMATION

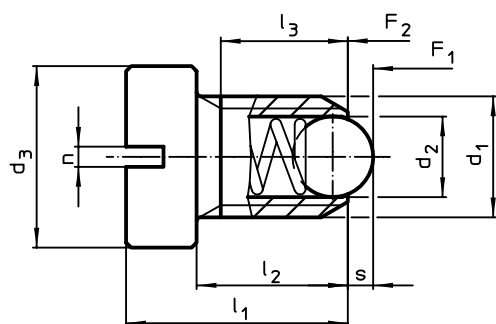
Notes

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

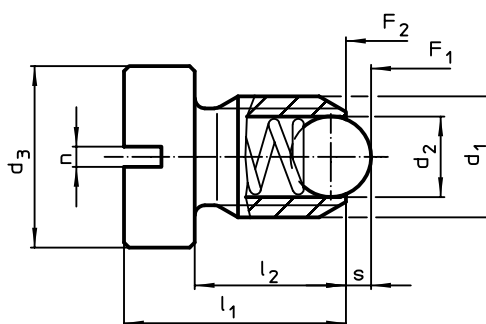
References

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							Stroke s [mm]	Spring load ¹⁾		max. [°C]	[g]	Art. No.
d_1	d_2	d_3	l_1	l_2	l_3 min.	n		F_1 ~ [N]	F_2 ~ [N]			
[mm]												
free cutting steel, standard spring load												
M 4	2.5	6	9.5	6.5	5.0	0.6	0.8	8.0	14.0	250	1.0	22050.0930
M 5	3.0	8	12.5	8.5	6.7	0.8	0.9	8.0	14.0	250	2.2	22050.0931
M 6	3.5	10	14.0	9.0	–	1.0	1.0	11.0	18.0	250	3.7	22050.0932
M 8	4.5	13	16.5	11.0	–	1.2	1.5	18.0	31.0	250	7.4	22050.0933
M10	6.0	16	20.0	14.0	–	1.5	2.0	24.0	45.0	250	13.0	22050.0934
M12	8.0	18	22.0	15.0	–	2.0	2.5	26.0	49.0	250	19.0	22050.0935
free cutting steel, heavy spring load												
M 4	2.5	6	9.5	6.5	5.0	0.6	0.8	12.0	18.0	250	0.9	22050.1040
M 5	3.0	8	12.5	8.5	6.7	0.8	0.9	15.0	22.0	250	2.2	22050.1050
M 6	3.5	10	14.0	9.0	–	1.0	1.0	19.3	26.6	250	3.8	22050.1060
M 8	4.5	13	16.5	11.0	–	1.2	1.5	36.0	60.5	250	7.5	22050.1080
M10	6.0	16	20.0	14.0	–	1.5	2.0	57.0	103.5	250	13.0	22050.1100
M12	8.0	18	22.0	15.0	–	2.0	2.5	61.0	110.0	250	19.0	22050.1120

¹⁾ statistical average value



Spring Plungers • with moveable ball and slot

EH 22051.



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

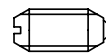
Spring

- Stainless steel

Characteristic

Standard spring load: no marking

Reinforced spring load: marked with two lines



Standard spring load



Heavy spring load

MORE INFORMATION

Notes

Special types on request.

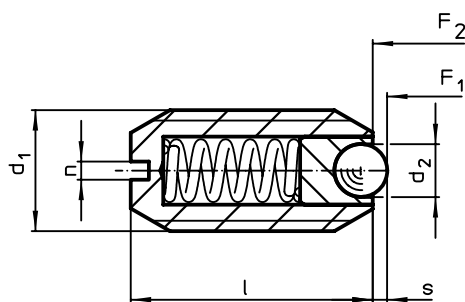
Spring plungers are specially tested for spring range and forces.

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				Stroke s	Spring load ¹⁾					Art. No.
d ₁	d ₂	l	n		F ₁ ~	F ₂ ~	min.	max.		
[mm]				[mm]	[N]		[°C]		[g]	
free cutting steel, standard spring load										
M 5	2.0	12	0.8	0.50	4.8	6.8	-30	90	0.8	22051.0005
M 6	2.5	14	1.0	0.70	6.3	10.0	-30	90	1.5	22051.0006
M 8	3.5	16	1.2	0.95	16.0	24.0	-30	90	3.3	22051.0008
M10	4.5	19	1.5	1.40	18.8	31.7	-30	90	5.9	22051.0010
M12	6.5	22	2.0	2.50	24.0	49.0	-30	90	9.3	22051.0012
M16	8.5	24	2.0	3.10	38.0	68.0	-30	90	20.0	22051.0016
free cutting steel, heavy spring load										
M 5	2.0	12	0.8	0.50	10.0	14.0	-30	90	0.9	22051.0205
M 6	2.5	14	1.0	0.70	11.0	16.0	-30	90	1.5	22051.0206
M 8	3.5	16	1.2	0.95	23.0	40.0	-30	90	3.3	22051.0208
M10	4.5	19	1.5	1.40	28.0	54.3	-30	90	6.0	22051.0210
M12	6.5	22	2.0	2.50	36.5	77.3	-30	90	9.4	22051.0212
M16	8.5	24	2.0	3.10	50.0	88.7	-30	90	20.0	22051.0216

¹⁾ statistical average value



Spring Plungers • with moveable ceramic ball and slot, stainless steel A4

EH 22051.



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 moveable ceramic ball is the electric insulation.

Characteristics of the ceramic ball:

- Highly impact-resistant
- Abrasion resistant
- Antimagnetic
- Electrically isolating

The stainless steel A4 version ensures maximum corrosion resistance.

Material

Body

- Stainless steel A4

Bearing

- Plastic

Ball

- Ceramic

Spring

- Stainless steel

Characteristic

Standard spring load: no marking

Reinforced spring load: marked with two lines



Standard spring load



Heavy spring load

MORE INFORMATION

Notes

Special types on request.

Spring plungers are specially tested for spring range and forces.

References

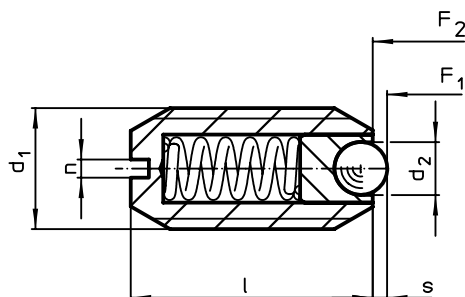
Thread lock on request, please refer to appendix - Technical Data -

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

Further products

Spring Plungers, with ceramic ball and slot, stainless steel A4. → p. 62

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]					
standard spring load										
M 5	2.0	12	0.8	0.50	4.8	6.8	-30	90	0.9	22051.0505
M 6	2.5	14	1.0	0.70	6.3	10.0	-30	90	1.5	22051.0506
M 8	3.5	16	1.2	0.95	16.1	24.0	-30	90	3.2	22051.0508
M10	4.5	19	1.5	1.40	18.8	31.7	-30	90	5.8	22051.0510
M12	6.5	22	2.0	2.50	24.0	49.0	-30	90	8.9	22051.0512
M16	8.5	24	2.0	3.10	38.0	68.0	-30	90	19.0	22051.0516
heavy spring load										
M 5	2.0	12	0.8	0.50	10.0	14.0	-30	90	0.9	22051.0705
M 6	2.5	14	1.0	0.70	11.0	16.0	-30	90	1.5	22051.0706
M 8	3.5	16	1.2	0.95	22.9	40.0	-30	90	3.3	22051.0708
M10	4.5	19	1.5	1.40	28.1	54.3	-30	90	5.8	22051.0710
M12	6.5	22	2.0	2.50	36.5	77.3	-30	90	9.0	22051.0712
M16	8.5	24	2.0	3.10	50.0	88.7	-30	90	19.0	22051.0716

¹⁾ statistical average value