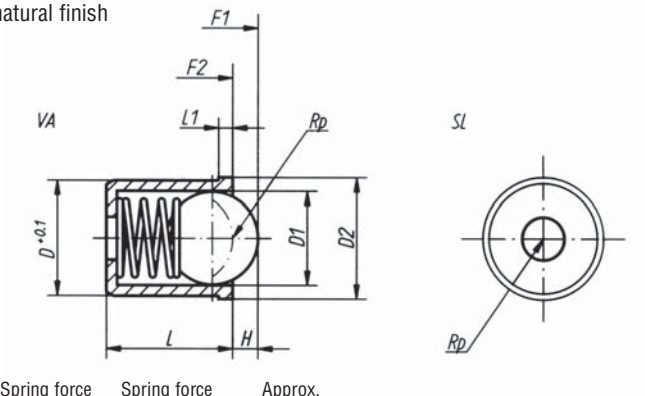


## Spring Plungers smooth surface plastic



**Material:**  
Sleeve in black thermoplastic,  
ball and spring in stainless steel

**Surface finish:**  
Ball hardened, natural finish



### Spring Plungers smooth surface plastic

Order No.	D <sup>+0,1</sup>	D1	D2	L	L1	H	Spring force initial press. F1 approx. N	Spring force final press. F2 approx. N	Approx. weight g
16 04010	4	3	4,6	5	1	0,7	3	7	0,17
16 05010	5	4	5,6	6	1	1	4	7	0,35
16 06010	6	5	6,5	7	1	1,5	6	12	0,66
16 08010	8	6,5	8,5	9	1	1,8	6	12	1,46

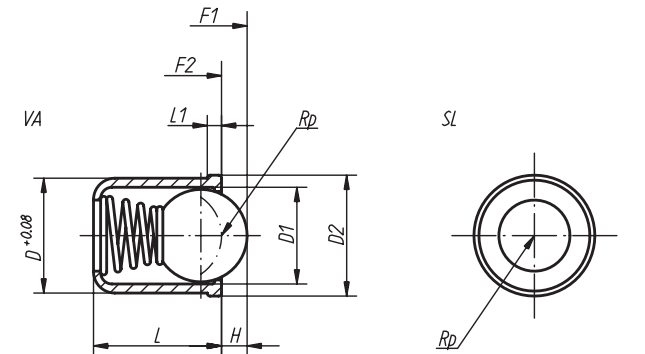
Sample order: Spring Plunger 16 05010

## Spring Plungers smooth surface, steel parts in stainless steel



**Material:**  
Stainless steel (also ball and spring)

**Surface finish:**  
natural finish



### Spring Plungers smooth surface, steel parts in stainless steel

Order No.	D <sup>+0,08</sup>	D1	D2	L	L1	H	Spring force initial press. F1 approx. N	Spring force final press. F2 approx. N	Approx. weight g
03070-04	4	3	4,6	5	1	0,8	3	7	0,3
03070-05	5	4	5,6	6	1	1	4	7	0,6
03070-06	6	5	6,5	7	1	1,5	6	12	1
03070-08	8	6,5	8,5	9	1	1,8	6	12	2

Sample order: Spring Plunger 03070-05

# Spring Plungers with recess and pressure pin



**Material:**

Sleeve in steel quality class 5.8, pressure pin in steel, spring in spring steel Kl. D

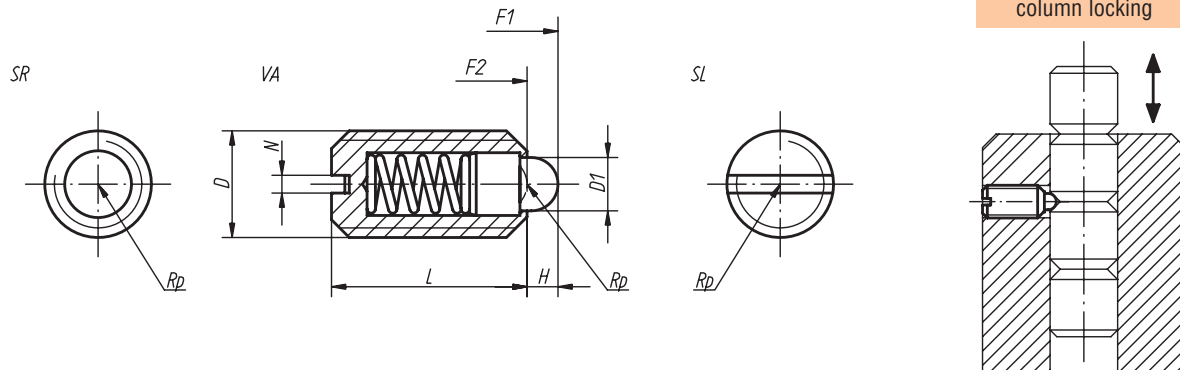
**Surface finish:**

Black oxide finish, pressure pin hardened

**Note:**

The following functional values of sizes M4 - M12 are tested optoelectronically:

- Spring force F1 and F2
- Spring travel H
- Thread D



**Spring Plungers with recess and pressure pin**

Order No.	D	D1	L	H	N	Spring force initial press. F1 approx. N	final press. F2 approx. N	Approx. weight g
16 04005	M 4	1,8	9	1,5	0,6	6	20	0,39
16 05005	M 5	2,4	12	2	0,8	6	20	1
16 06005	M 6	2,7	14	2	1	7	20	1,7
16 08005	M 8	4	16	2	1,2	15	30	4
16 10005	M 10	4,5	19	2,5	1,6	20	35	7
16 12005	M 12	6	22	3,5	2	30	55	13
16 16005	M 16	8,5	24	4,5	2,5	45	100	24
16 20005	M 20	10	30	6,5	2,5	60	120	46,3

Sample order: Spring Plunger 16 10005

# Spring Plungers with hexagon socket and pressure pin



**Material:**

Steel version:  
sleeve in steel quality class 5.8, pressure pin in steel or plastic,  
spring in spring steel Kl. D

Stainless steel version:  
sleeve 1.4305, pressure pin 1.4034, spring 1.4310

Stainless steel version with strong spring force:  
sleeve 1.4305, pressure pin 1.4034, spring 1.4568

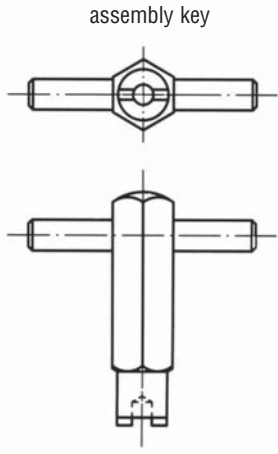
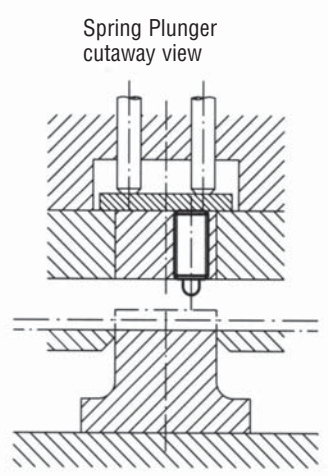
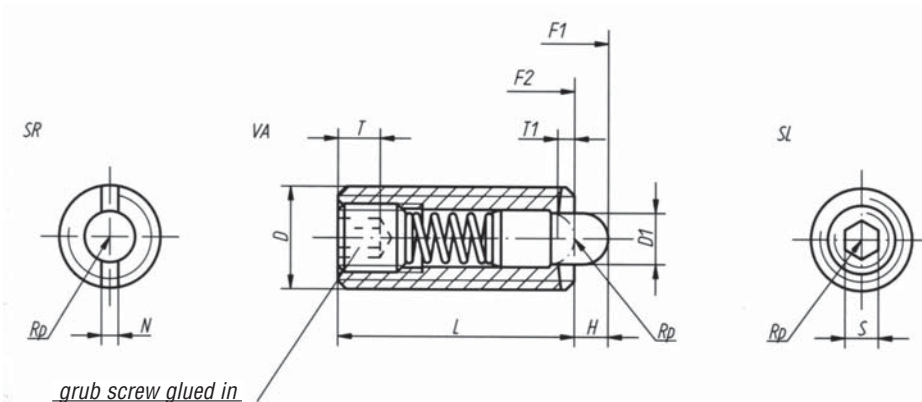
**Surface finish:**

Black oxide finish, pressure pin in hardened steel or hardened stainless steel,  
stainless steel natural finish

**Note:**

The following functional values of sizes M3 - M12 are tested optoelectronically:

- Spring force F1 and F2
- Spring travel H
- Thread D



# Spring Plungers with hexagon socket and pressure pin

## Spring Plungers with hexagon socket and pressure pin

Order No.				D	D1	L	H	T	T1	N	S	Spring force version pressure pin in steel and plastic		Spring force version stainless steel		Approx. weight g	Assembly key	
pressure pin in hardened steel	pressure pin in plastic	stainless steel	stainless steel pressure pin in plastic									initial press. F1 approx. N	final press. F2 approx. N	initial press. F1 approx. N	final press. F2 approx. N		Order No.	Approx. weight g
16 03001	-	-	-	M 3	1	10	1,5	1,5	1	0,4	0,7	0,5	3	-	-	0,35	16 03000	11
16 04001	16 04002	16 04011	16 04012	M 4	1,5	15	1,5	2	0,6	0,6	1,3	5	16	5	16	0,8	16 04000	14
16 05001	16 05002	16 05011	16 05012	M 5	2,4	18	2,3	2	0,8	0,8	1,5	6	20	5	17	1,3	16 05000	14
16 06001	16 06002	16 06011	16 06012	M 6	2,7	20	2,5	2,5	1	1	2	7	20	6	17	2,5	16 06000	14
16 08001	16 08002	16 08011	16 08012	M 8	3,5	22	3	3	1,4	1,2	2,5	9	35	7	29	6	16 08000	33
16 10001	16 10002	16 10011	16 10012	M 10	4	22	3	3,5	1,4	1,6	3	9	35	8	31	9	16 10000	50
16 12001	16 12002	16 12011	16 12012	M 12	6	28	4	5	2	2	4	10	55	10	47	16	16 12000	70
16 16001	16 16002	16 16011	16 16012	M 16	7,5	32	5	6	2,5	2,5	5	45	100	45	100	35	16 16000	100
16 20001	-	-	-	M 20	10	40	7	8	3	2,5	6	60	120	-	-	66,3	-	-
16 24001	-	-	-	M 24	12	52	10	10	3	2,5	8	80	160	-	-	122,2	-	-

## Spring Plungers with hexagon socket and pressure pin, light spring force

Order No.		D	D1	L	H	T	T1	N	S	Spring force		Approx. weight g	Assembly key	
pressure pin in hardened steel light spring force	pressure pin in plastic light spring force									initial press. F1 approx. N	final press. F2 approx. N		Order No.	Approx. weight g
16 04003	16 04004	M 4	1,5	15	1,5	2	0,6	0,6	1,3	2	7	0,8	16 04000	14
16 05003	16 05004	M 5	2,4	18	2,3	2	0,8	0,8	1,5	3	9	1,3	16 05000	14
16 06003	16 06004	M 6	2,7	20	2,5	2,5	1	1	2	3	9	2,5	16 06000	14
16 08003	16 08004	M 8	3,5	22	3	3	1,4	1,2	2,5	4	16	6	16 08000	33
16 10003	16 10004	M 10	4	22	3	3,5	1,4	1,6	3	4	16	9	16 10000	50
16 12003	16 12004	M 12	6	28	4	5	2	2	4	5	27	16	16 12000	70
16 16003	16 16004	M 16	7,5	32	5	6	2,5	2,5	5	20	45	35	16 16000	100

## Spring Plungers with hexagon socket and pressure pin, strong spring force

Order No.	D	D1	L	H	T	T1	N	S	Spring force		Approx. weight g	Assembly key	
pressure pin in hardened steel strong spring force									initial press. F1 approx. N	final press. F2 approx. N		Order No.	Approx. weight g
16 05021	M 5	2,4	18	2,3	2	0,8	0,8	1,5	11	29	1,3	16 05000	14
16 06021	M 6	2,7	20	2,5	2,5	1	1	2	14	37	2,5	16 06000	14
16 08021	M 8	3,5	22	3	3	1,4	1,2	2,5	22	70	6	16 08000	33
16 10021	M 10	4	22	3	3,5	1,4	1,6	3	19	70	9	16 10000	50
16 12021	M 12	6	28	4	5	2	2	4	25	85	16	16 12000	70
16 16021	M 16	7,5	32	5	6	2,5	2,5	5	60	150	35	16 16000	100
16 20021	M 20	10	40	7	8	3	2,5	6	75	190	66,3	-	-
16 24021	M 24	12	52	10	10	3	2,5	8	95	240	122,2	-	-

Sample order: Spring Plunger 16 16002  
Sample order: Assembly Key 16 12000

## Spring Plungers with hexagon socket and ball



### Material:

Steel version:  
sleeve in steel quality class 5.8, ball in steel,  
spring in spring steel Kl. D

Stainless steel version: sleeve 1.4305, ball 1.4034,  
spring 1.4310

Stainless steel version with strong spring force: sleeve  
1.4305,  
ball 1.4034, spring 1.4568

### Surface finish:

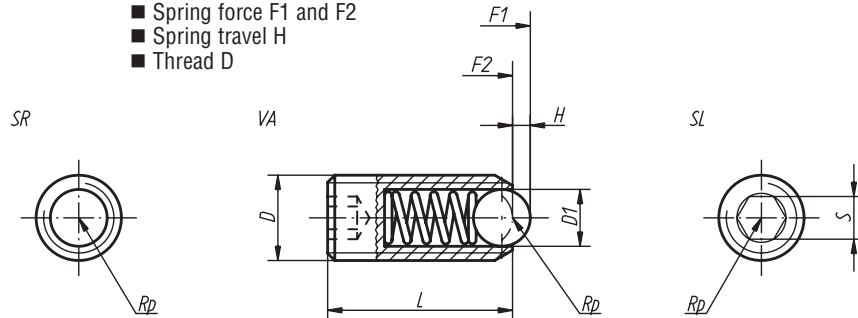
Black oxide finish, ball hardened natural finish, stainless steel version natural finish



### Note:

The following functional values of sizes  
M6 - M12 are tested optoelectronically:

- Spring force F1 and F2
- Spring travel H
- Thread D



### Spring Plungers with hexagon socket and ball

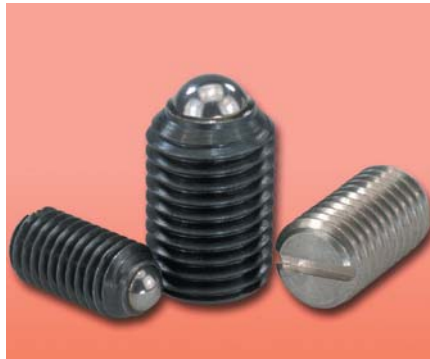
Order No. steel	Order No. stainless steel	D	D1	L	H	S	Spring force initial press. F1 approx. N	Spring force final press. F2 approx. N	Approx. weight g
K5120 0106	K5120 0506	M 6	3,5	15	1	3	9	13	2
K5120 0108	K5120 0508	M 8	4,5	18	1,5	4	15	30	4
K5120 0110	K5120 0510	M 10	6	23	2	5	20	35	8
K5120 0112	K5120 0512	M 12	8	26	2,5	6	30	55	12
K5120 0116	K5120 0516	M 16	10	33	3,5	8	65	125	31
K5120 0120	K5120 0520	M 20	12	43	4,5	10	80	160	64
K5120 0124	K5120 0524	M 24	15	48	5,5	12	90	180	100

### Spring Plungers with hexagon socket and ball, strong spring force

Order No. steel strong spring force	Order No. stainless steel strong spring force	D	D1	L	H	S	Spring force initial press. F1 approx. N	Spring force final press. F2 approx. N	Approx. weight g
K5120 2106	K5120 2506	M 6	3,5	15	1	3	28	40	2
K5120 2108	K5120 2508	M 8	4,5	18	1,5	4	47	73	4
K5120 2110	K5120 2510	M 10	6	23	2	5	66	100	8
K5120 2112	K5120 2512	M 12	8	26	2,5	6	66	120	12
K5120 2116	K5120 2516	M 16	10	33	3,5	8	90	180	31
K5120 2120	K5120 2520	M 20	12	43	4,5	10	115	240	64
K5120 2124	K5120 2524	M 24	15	48	5,5	12	130	270	100

Sample order: Spring Plunger K5120 2110

## Spring Plungers with recess and ball



### Material:

Steel version:

sleeve in steel quality class 5.8, ball in steel, spring in spring steel Kl. D

Stainless steel version:

sleeve 1.4305, ball 1.4034, spring 1.4310

Stainless steel version with strong spring force:

sleeve 1.4305, ball 1.4034, spring 1.4568

### Surface finish:

Black oxide finish, ball hardened natural finish, stainless steel version natural finish

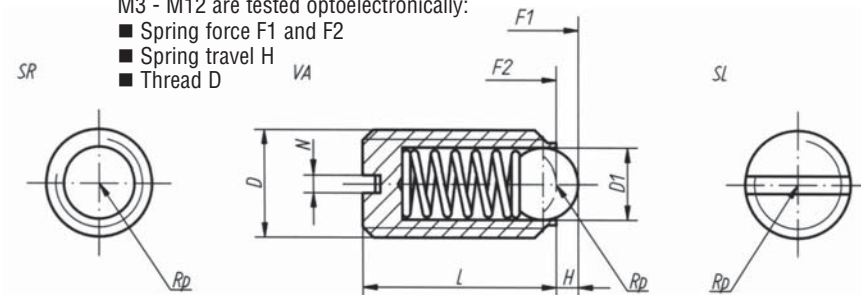
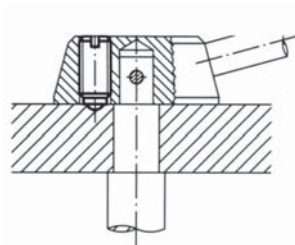


### Note:

The following functional values of sizes M3 - M12 are tested optoelectronically:

- Spring force F1 and F2
- Spring travel H
- Thread D

column locking



### Spring Plungers with recess and ball

Order No. steel	Order No. stainless steel	D	D1	L	H	N	Spring force initial press. F1 approx. N	Spring force final press. F2 approx. N	Approx. weight g
16 03008	16 03009	M 3	1,5	7	0,5	0,4	1,5	3	0,2
16 04008	16 04009	M 4	2,5	9	0,8	0,6	4	10	0,6
16 05008	16 05009	M 5	3	12	0,9	0,8	6	11	0,9
16 06008	16 06009	M 6	3,5	14	1	1	9	13	1,5
16 08008	16 08009	M 8	5	16	1,5	1,2	15	30	3,5
16 10008	16 10009	M 10	6	19	2	1,6	20	35	7
16 12008	16 12009	M 12	8	22	2,5	2	30	55	10
16 16008	16 16009	M 16	10	24	3,5	2,5	65	125	24
16 20008	16 20009	M 20	12	30	4,5	2,5	80	160	44,3

### Spring Plungers with recess and ball, strong spring force

Order No. steel strong spring force	Order No. stainless steel strong spring force	D	D1	L	H	N	Spring force initial press. F1 approx. N	Spring force final press. F2 approx. N	Approx. weight g
16 05028	16 05029	M 5	3	12	0,9	0,8	19	30	0,9
16 06028	16 06029	M 6	3,5	14	1	1	28	40	1,5
16 08028	16 08029	M 8	5	16	1,5	1,2	47	73	3,5
16 10028	16 10029	M 10	6	19	2	1,6	66	100	7
16 12028	16 12029	M 12	8	22	2,5	2	66	120	10
16 16028	16 16029	M 16	10	24	3,5	2,5	90	180	24
16 20028	16 20029	M 20	12	30	4,5	2,5	115	240	44,3

Sample order: Spring Plunger 16 16009



## Spring Plungers with LONG-LOK thread lock

**LONG-LOK,  
the most advanced  
locking thread  
mechanism**

### The following advantages are yours:

#### 1. Vibration Resistant

The integrated LONG-LOK thread lock secures Spring Plungers rationally and economically. No loosening or falling out after impacts, knocks or vibrations.

#### 2. Extremely High Loosening Torque

The resilient nylon insert is squeezed like a wedge between the thread of the Spring Plunger and the fastening component. By means of the nylon locking system, the thread backlash is shifted to one side, which in turn causes surface pressure at the thread flanks. The resulting loosening torque is higher than that achieved with most conventional, mechanical methods.

#### 3. Secure in Every Position

The LONG-LOK thread lock neither requires initial tension nor any defined position. This is ideal for the positioning of Spring Plungers.

#### 4. Save Assembly Time and Stocking Space

The LONG-LOK thread lock is integrated into Spring Plungers. There are no additional components. No circlips, no spring washers, no locking nuts. As a result, assembly and stocking costs are reduced considerably.

#### 5. For Repeated Use

When using the LONG-LOK thread lock for the first time, it requires a slightly higher tightening torque. After third or fourth use, the value reached last remains nearly constant for about 20 times.

#### 6. Problem Solver from M3 to M16

Light-weight or heavy-weight: name your requirements! We will supply you with the suitable Spring Plungers with integrated LONG-LOK thread lock.



## Spring Plungers with hexagon socket and ball



**LONG-LOK secured**

**Material:**

Steel version:  
sleeve in steel quality class 5.8, ball in steel, spring in spring steel K1. D

Stainless steel version:  
sleeve 1.4305, ball 1.4034, spring 1.4310,

Stainless steel version with strong spring force:  
sleeve 1.4305, ball 1.4034, spring 1.4568

**Surface finish:**

Black oxide finish, ball hardened natural finish, stainless steel version natural finish

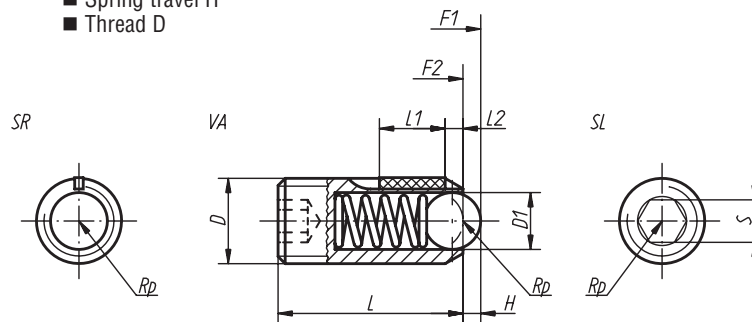


LONG-LOK thread lock in nylon

**Note:**

The following functional values of sizes M6 - M12 are tested optoelectronically:

- Spring force F1 and F2
- Spring travel H
- Thread D



### Spring Plungers with hexagon socket and ball, LONG-LOK secured

Order No. steel	Order No. stainless steel	D	D1	L	L1 ±0.5	L2	H	S	Spring force		Tightening torque M <sub>...</sub> approx. Nm	Loosening torque M <sub>...</sub> approx. Nm	Approx. weight g
									initial press. F1 approx. N	final press. F2 approx. N			
K5160 0106	K5160 0506	M 6	3,5	15	7	approx. two thread diats	1	3	9	13	0,25	0,45	2
K5160 0108	K5160 0508	M 8	4,5	18	8		1,5	4	15	30	0,4	0,6	4
K5160 0110	K5160 0510	M 10	6	23	9		2	5	20	35	0,7	0,8	8
K5160 0112	K5160 0512	M 12	8	26	10		2,5	6	30	55	1	1,2	12
K5160 0116	K5160 0516	M 16	10	33	14		3,5	8	65	125	4,2	4,3	31

### Spring Plungers with hexagon socket and ball, strong spring force, LONG-LOK secured

Order No. steel strong spring force	Order No. stainless steel strong spring force	D	D1	L	L1 ±0.5	L2	H	S	Spring force		Tightening torque M <sub>...</sub> approx. Nm	Loosening torque M <sub>...</sub> approx. Nm	Approx. weight g
									initial press. F1 approx. N	final press. F2 approx. N			
K5160 2106	K5160 2506	M 6	3,5	15	7	approx. two thread diats	1	3	28	40	0,25	0,45	2
K5160 2108	K5160 2508	M 8	4,5	18	8		1,5	4	47	73	0,4	0,6	4
K5160 2110	K5160 2510	M 10	6	23	9		2	5	66	100	0,7	0,8	8
K5160 2112	K5160 2512	M 12	8	26	10		2,5	6	66	120	1	1,2	12
K5160 2116	K5160 2516	M 16	10	33	14		3,5	8	90	180	4,2	4,3	31

Sample order: Spring Plunger LONG-LOK secured K5160 0108



# Spring Plungers with hexagon socket and pressure pin



**LONG-LOK secured**

**Material:**

Steel version:

sleeve in steel quality class 5.8, pressure pin in steel or plastic, spring in spring steel Kl. D

Stainless steel version:

sleeve 1.4305, pressure pin 1.4034, spring 1.4310

Stainless steel version with strong spring force:

sleeve 1.4305, pressure pin 1.4034, spring 1.4568

LONG-LOK thread lock in nylon



**Surface finish:**

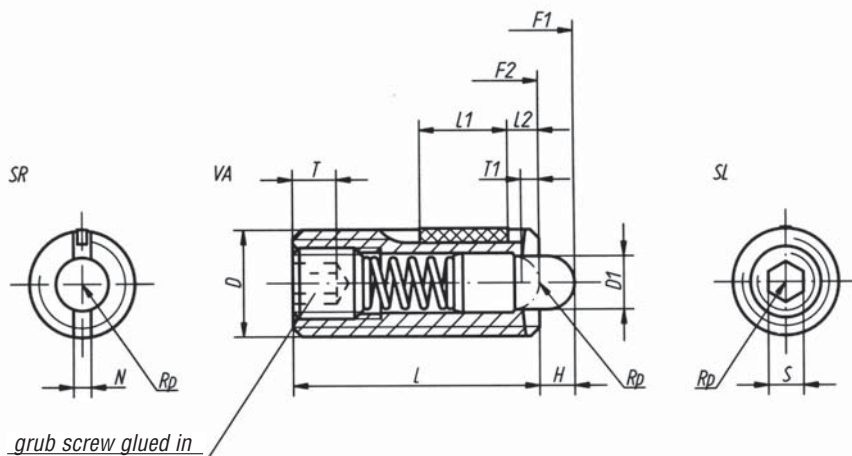
Black oxide finish, pressure pin in hardened steel or hardened stainless steel, stainless steel version natural finish

**Note:**

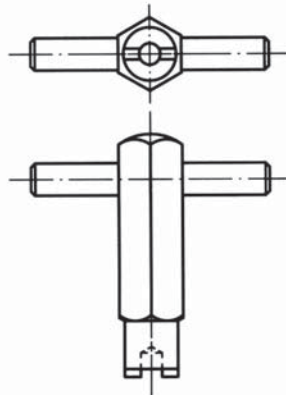
The following functional values of sizes

M5 - M12 are tested optoelectronically:

- Spring force F1 and F2
- Spring travel H
- Thread D



assembly key



# Spring Plungers with hexagon socket and pressure pin

## Spring Plungers with hexagon socket and pressure pin, LONG-LOK secured

Order No.		D	D1	L	L1 ±0.5	L2	H	T	T1	N	S	Spring force version pressure pin in steel and plastic		Spring force version stainless steel		Tightening torque M <sub>l</sub> approx. Nm	Loosening torque M <sub>l</sub> approx. Nm	Approx. weight g	Assembly key Order No.	Approx. weight g	
pressure pin in hardened steel	pressure pin in stainless steel											initial press. F1 approx. N	final press. F2 approx. N	initial press. F1 approx. N	final press. F2 approx. N						
16 05051	16 05052	16 050061	16 05062	M 5	2,4	18	7	2,3	2	0,8	0,8	1,5	6	20	5	17	0,1	0,25	1,3	16 05000	14
16 06051	16 06052	16 060061	16 06062	M 6	2,7	20	7	2,5	2,5	1	1	2	7	20	6	17	0,25	0,45	2,5	16 06000	14
16 08051	16 08052	16 080061	16 08062	M 8	3,5	22	8	3	3	1,4	1,2	2,5	9	35	7	29	0,4	0,6	6	16 08000	33
16 10051	16 10052	16 100061	16 10062	M 10	4	22	9	3	3,5	1,4	1,6	3	9	35	8	31	0,7	0,8	9	16 10000	50
16 12051	16 12052	16 120061	16 12062	M 12	6	28	10	4	5	2	2	4	10	55	10	47	1	1,2	16	16 12000	70
16 16051	16 16052	16 160061	16 16062	M 16	7,5	32	14	5	6	2,5	2,5	5	45	100	45	100	4,2	4,3	35	16 16000	100

## Spring Plungers with hexagon socket and pressure pin, light spring force, LONG-LOK secured

Order No.		D	D1	L	L1 ±0.5	L2	H	T	T1	N	S	Spring force		Tightening torque M <sub>l</sub> approx. Nm	Loosening torque M <sub>l</sub> approx. Nm	Approx. weight g	Assembly key Order No.	Approx. weight g
pressure pin in hardened steel light spring force	pressure pin in plastic light spring force											initial press. F1 approx. N	final press. F2 approx. N					
16 05053	16 05054	M 5	2,4	18	7	2,3	2	0,8	0,8	1,5		3	9	0,1	0,25	1,3	16 05000	14
16 06053	16 06054	M 6	2,7	20	7	2,5	2,5	1	1	2		3	9	0,25	0,45	2,5	16 06000	14
16 08053	16 08054	M 8	3,5	22	8	3	3	1,4	1,2	2,5		4	16	0,4	0,6	6	16 08000	33
16 10053	16 10054	M 10	4	22	9	3	3,5	1,4	1,6	3		4	16	0,7	0,8	9	16 10000	50
16 12053	16 12054	M 12	6	28	10	4	5	2	2	4		5	27	1	1,2	16	16 12000	70
16 16053	16 16054	M 16	7,5	32	14	5	6	2,5	2,5	5		20	45	4,2	4,3	35	16 16000	100

## Spring Plungers with hexagon socket and pressure pin, strong spring force, LONG-LOK secured

Order No.		D	D1	L	L1 ±0.5	L2	H	T	T1	N	S	Spring force		Tightening torque M <sub>l</sub> approx. Nm	Loosening torque M <sub>l</sub> approx. Nm	Approx. weight g	Assembly key Order No.	Approx. weight g
pressure pin in hardened steel strong spring force												initial press. F1 approx. N	final press. F2 approx. N					
16 05071		M 5	2,4	18	7	2,3	2	0,8	0,8	1,5		11	29	0,1	0,25	1,3	16 05000	14
16 06071		M 6	2,7	20	7	2,5	2,5	1	1	2		14	37	0,25	0,45	2,5	16 06000	14
16 08071		M 8	3,5	22	8	3	3	1,4	1,2	2,5		22	70	0,4	0,6	6	16 08000	33
16 10071		M 10	4	22	9	3	3,5	1,4	1,6	3		19	70	0,7	0,8	9	16 10000	50
16 12071		M 12	6	28	10	4	5	2	2	4		25	85	1	1,2	16	16 12000	70
16 16071		M 16	7,5	32	14	5	6	2,5	2,5	5		60	150	4,2	4,3	35	16 16000	100

Sample order: Spring Plunger LONG-LOK secured 16 12051  
Sample order: Assembly Key 16 12000

## Spring Plungers with recess and ball



**LONG-LOK secured**

**Material:**

Steel version:

sleeve in steel quality class 5.8, ball in steel, spring in spring steel Kl. D

Stainless steel version:

sleeve 1.4305, ball 1.4034, spring 1.4310

Stainless steel version with strong spring force:

sleeve 1.4305, ball 1.4034, spring 1.4568

LONG-LOK thread lock in nylon

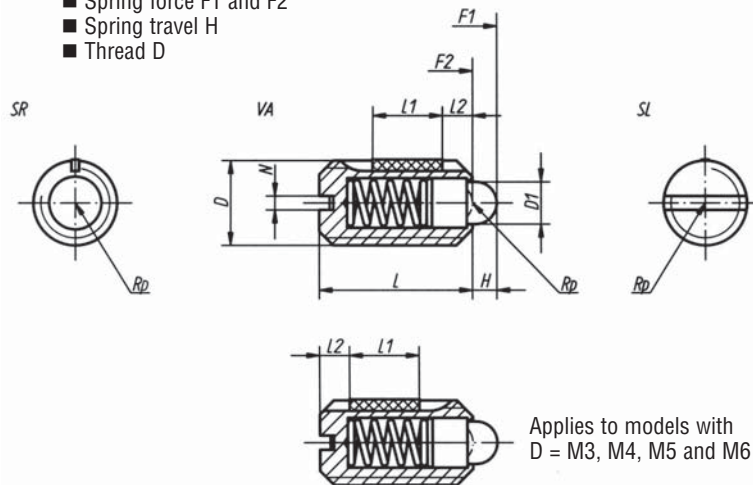
**Surface finish:**

Black oxide finish, ball hardened natural finish, stainless steel version natural finish

**Note:**

The following functional values of sizes M3 - M12 are tested optoelectronically:

- Spring force F1 and F2
- Spring travel H
- Thread D



### Spring Plungers with recess and ball, LONG-LOK secured

Order No. steel	Order No. stainless steel	D	D1	L	L1 ±0.5	L2	H	N	Spring force initial press. F1 approx. N	Spring force final press. F2 approx. N	Tightening torque M <sub>..</sub> approx. Nm	Loosening torque M <sub>..</sub> approx. Nm	Approx. weight g
16 03058	16 03059	M 3	1,5	7	4	thread dials	0,5	0,4	1,5	3	0,1	0,25	0,2
16 04058	16 04059	M 4	2,5	9	5	thread dials	0,8	0,6	4	10	0,1	0,25	0,6
16 05058	16 05059	M 5	3	12	6	thread dials	0,9	0,8	6	11	0,1	0,25	0,9
16 06058	16 06059	M 6	3,5	14	7	thread dials	1	1	9	13	0,25	0,45	1,5
16 08058	16 08059	M 8	5	16	8	thread dials	1,5	1,2	15	30	0,4	0,6	3,5
16 10058	16 10059	M 10	6	19	9	approx. two thread dials	2	1,6	20	35	0,7	0,8	7
16 12058	16 12059	M 12	8	22	10	approx. two thread dials	2,5	2	30	55	1	1,2	10
16 16058	16 16059	M 16	10	24	14	approx. two thread dials	3,5	2,5	65	125	4,2	4,3	24

### Spring Plungers with recess and ball, strong spring force, LONG-LOK secured

Order No. steel strong spring force	Order No. stainless steel strong spring force	D	D1	L	L1 ±0.5	L2	H	N	Spring force initial press. F1 approx. N	Spring force final press. F2 approx. N	Tightening torque M <sub>..</sub> approx. Nm	Loosening torque M <sub>..</sub> approx. Nm	Approx. weight g
16 05078	16 05079	M 5	3	12	6	thread dials	0,9	0,8	19	30	0,1	0,25	0,9
16 06078	16 06079	M 6	3,5	14	7	thread dials	1	1	28	40	0,25	0,45	1,5
16 08078	16 08079	M 8	5	16	8	thread dials	1,5	1,2	47	73	0,4	0,6	3,5
16 10078	16 10079	M 10	6	19	9	approx. two thread dials	2	1,6	66	100	0,7	0,8	7
16 12078	16 12079	M 12	8	22	10	approx. two thread dials	2,5	2	66	120	1	1,2	10
16 16078	16 16079	M 16	10	24	14	approx. two thread dials	3,5	2,5	90	180	4,2	4,3	24

Sample order: Spring Plunger LONG-LOK secured 16 12058