5 MACHINE ELEMENTS

	Product group	Page
	Initiator Elements	660
	Tapered Shaft Elements	663
	Set Collars	673
	Locking Nuts	677
	Quick Plug Couplings	679
	Levelling Feet	683
	Damping Elements	686
	Hinges	696

Sensing Elements • with sensor adapter

EH 25010.

PRODUCT DESCRIPTION

Spring plunger in robust and compact design with fine-pitch thread and integrated position sensing using standard proximity sensors. Suitable for multiple applications, e.g. for locking including position control and for proximity sensors with **flush contact.** Switching range adjustable via screwed position of sensor. Sensitivity of switching operations can be adjusted throughout the entire stroke.

Material

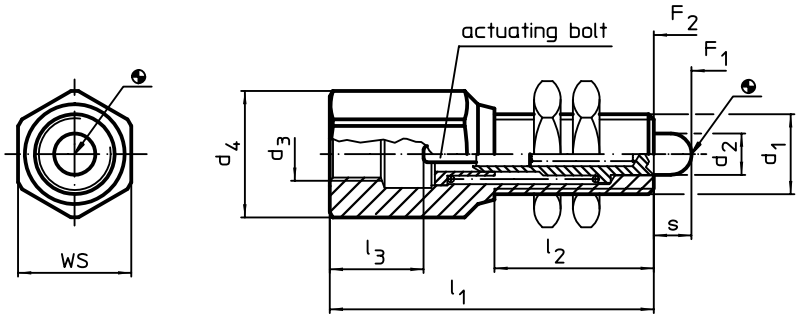
Pin
- Stainless steel 1.4305

Housing
- Stainless steel 1.4305

Nut
- Brass (ISO 4035), nickel-plated

Spring
- Stainless steel

DRAWING

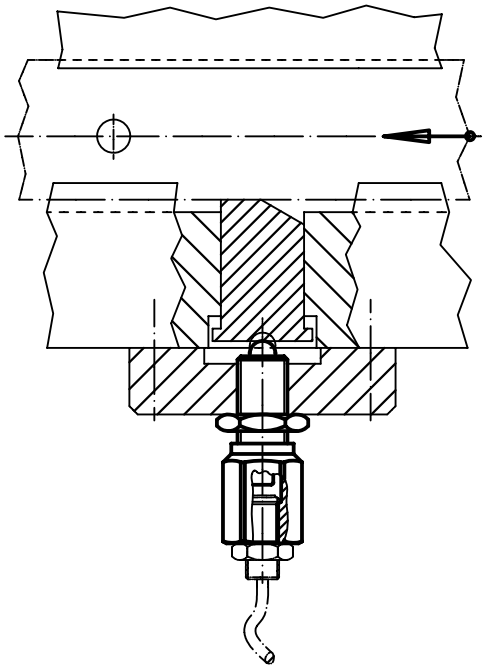


ORDER INFORMATION

Dimensions								WS	Spring load[1]			Art. No.
d_1	d_2	d_3	d_4	l_1	l_2	l_3 ~	s		F_1 ~	F_2 ~		
[mm]								[mm]	[N]		[g]	
M12 x 1	6,2	M 8 x 1	19,0	44	20	15,5	5,6	17	24,0	41,5	57	25010.0012
M16 x 1	8,5	M12 x 1	21,5	65	32	20,0	7,5	19	32,5	65,5	103	25010.0016

[1] statistical average value

APPLICATION EXAMPLE



Sensing Elements • with actuating bolt, protected against rotating

EH 25020.

PRODUCT DESCRIPTION

Spring plunger with position sensing by means of an actuating bolt which is protected against rotating. Suitable for multiple applications, e.g. as lift-off pin in tools with position control. Depending on the selected version, the tip is either round or pointed or fitted with a connection thread for all-purpose use. At the fastening thread of the actuating bolt, a switching element can be fitted which is secured against rotating and suitable for all commonly used switches.

Material

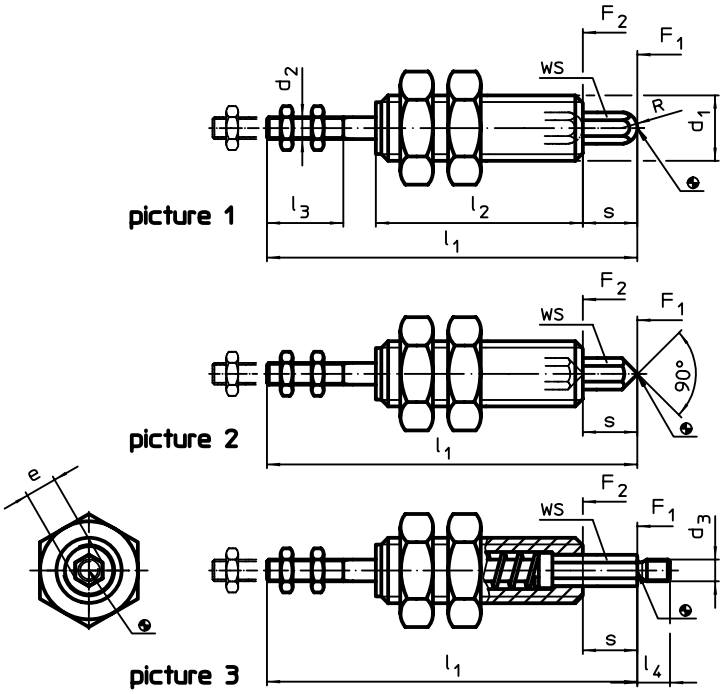
Body
- Free cutting steel, blackened

Nut
- Steel, black (ISO 4035)

Actuating bolt
- Steel, nitrided, black

Spring
- Stainless steel

DRAWING



ORDER INFORMATION

Dimensions										WS	Spring load[1]			Art. No.
d_1	s	d_2	d_3	e ~	l_1	l_2	l_3 min.	l_4	R		F_1 ~	F_2 ~		
[mm]										[mm]	[N]		[g]	
tip, round – picture 1														
M 8	6	M2,5	–	3,5	50	32	9	–	1,75	3	4,1	7,6	15	25020.0008
M10	8	M3	–	4,6	59	35	11	–	2,30	4	5,0	9,0	28	25020.0010
M12	10	M4	–	5,8	68	38	14	–	2,90	5	5,1	11,0	44	25020.0012
M16	12	M5	–	6,9	78	42	16	–	3,50	6	7,5	13,8	87	25020.0016
tip, pointed – picture 2														
M 8	6	M2,5	–	3,5	50	32	9	–	–	3	4,1	7,6	14	25020.0058
M10	8	M3	–	4,6	59	35	11	–	–	4	5,0	9,0	29	25020.0060
M12	10	M4	–	5,8	68	38	14	–	–	5	5,1	11,0	44	25020.0062
M16	12	M5	–	6,9	78	42	16	–	–	6	7,5	13,8	87	25020.0066
tip with connection thread – picture 3														
M 8	6	M2,5	M2,5	3,5	50	32	9	4	–	3	4,1	7,6	15	25020.0108
M10	8	M3	M3	4,6	59	35	11	5	–	4	5,0	9,0	29	25020.0110
M12	10	M4	M4	5,8	68	38	14	6	–	5	5,1	11,0	44	25020.0112
M16	12	M5	M5	6,9	78	42	16	7	–	6	7,5	13,8	89	25020.0116

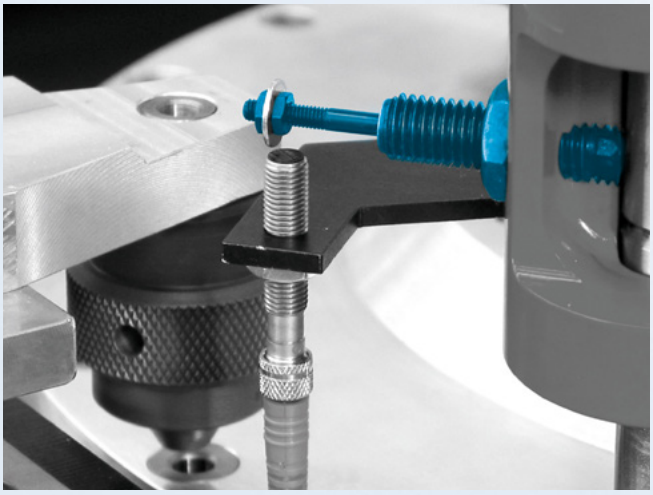
[1] statistical average value

Sensing Elements • with sensor adapter

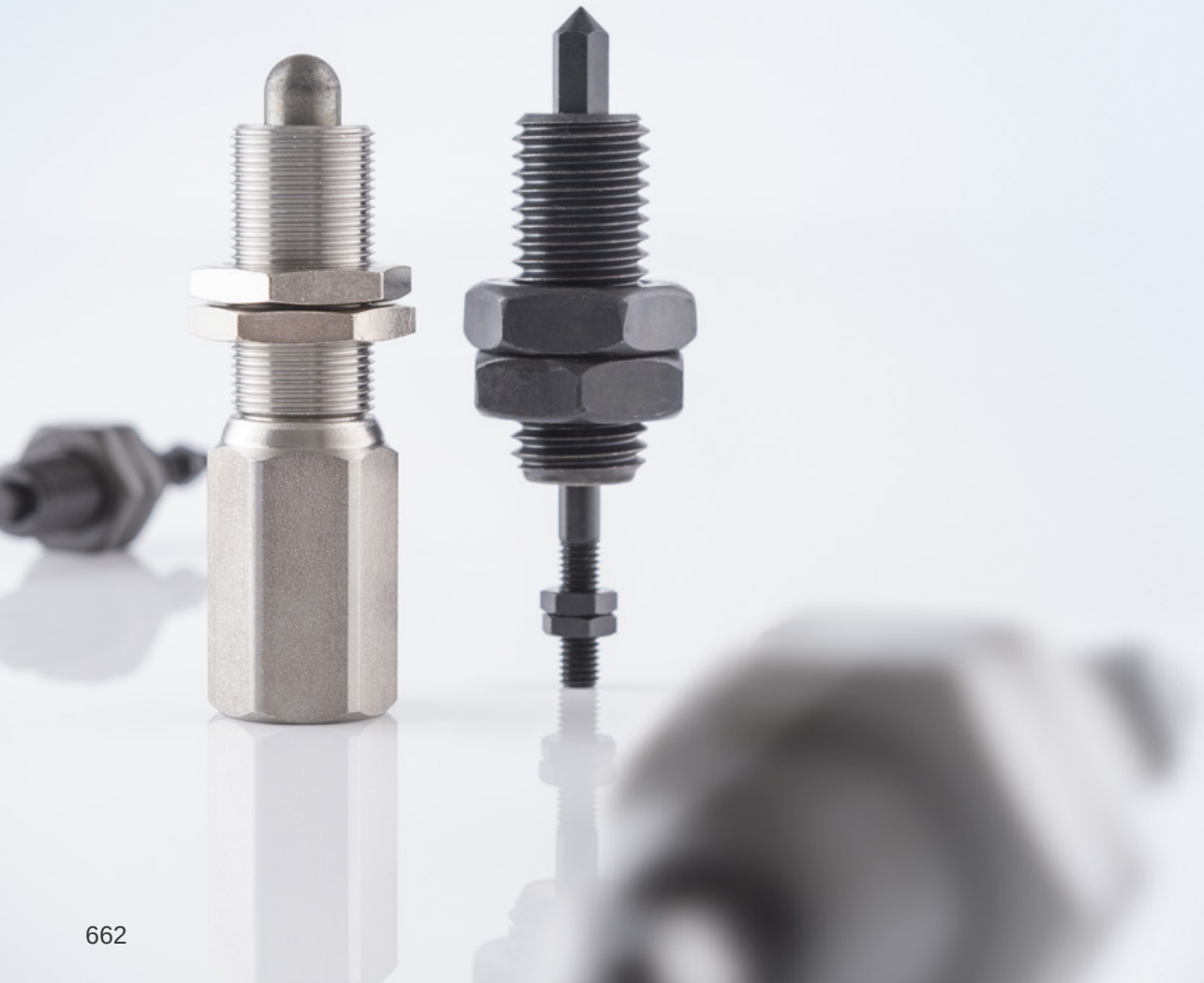
EH 25010./EH 25020.

INSTALLATION EXAMPLES

Sensing elements designed for position sensing using standard proximity sensors. The image shows the model with a compact design and fine-pitch thread.

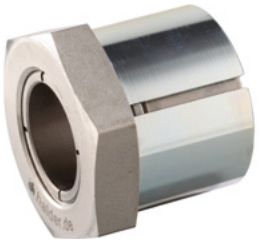


The tools are also available with an actuating bolt that is protected against rotating.



Tapered Shaft Hubs • no lock nut

EH 25050.



PRODUCT DESCRIPTION

By using tapered shaft hubs, all shaft-hub joints of machine elements such as sprocket wheels, gear wheels, belt pulleys, cams, levers etc. can be easily and efficiently established. It is a self-centering and non-floating tapered shaft hub in corrosion-protected design with a hexagon nut.
The rotational accuracy is 0,03 mm.

Material

External part
- Steel, zinc-plated by galvanization

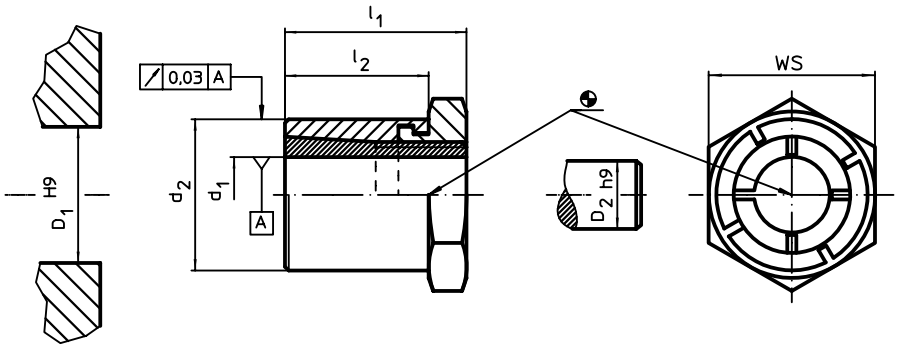
Inner part
- Steel, nickel-plated

Nut
- Steel, nickel-plated

MORE INFORMATION

References
Comply with mounting instructions, mounting examples, and technical data.

DRAWING



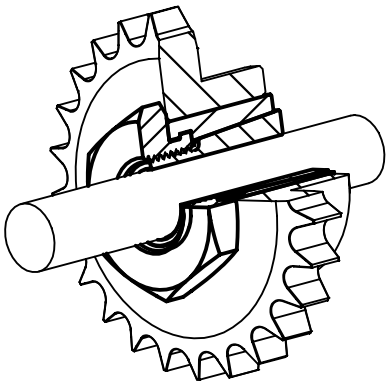
ORDER INFORMATION

Dimensions d_1	d_2	l_1	l_2 [mm]	WS [mm]	Tightening torque of the nut T_A max. [Nm]	Transferable torque M max. [Nm]	Transferable axial load F_a max. [kN]	Surface pressure of shaft p_W max. [N/mm²]	Surface pressure of hub p_N max. [N/mm²]	Hub bore D_1 H9 [mm]	Shaft diameter D_2 h9 [mm]	[g]	Art. No.
5	**14**	19	15	14	9,9	10,1	4,0	264	96	14	5	20	25050.0005
6	**14**	19	15	14	9,9	12,1	4,0	220	96	14	6	19	25050.0006
8	**16**	22	17	16	16,9	23,4	5,8	179	91	16	8	26	25050.0008
9	**20**	24	19	22	34,9	43,7	9,7	245	115	20	9	47	25050.0009
10	**20**	24	19	22	34,9	48,6	9,7	221	115	20	10	46	25050.0010
11	**22**	24	19	22	43,8	59,9	10,9	225	117	22	11	51	25050.0011
12	**22**	24	19	22	43,8	65,3	10,9	206	117	22	12	49	25050.0012
14	**26**	28	22	27	65,0	93,0	13,3	178	99	26	14	83	25050.0014
15	**26**	28	22	27	65,0	99,0	13,3	166	99	26	15	78	25050.0015
16	**26**	28	22	27	65,0	106,0	13,3	156	99	26	16	73	25050.0016
18	**35**	36	27	36	161,0	223,0	24,8	224	125	35	18	201	25050.0018
19	**35**	36	27	36	161,0	235,0	24,8	212	125	35	19	189	25050.0019
20	**35**	36	27	36	161,0	248,0	24,8	201	125	35	20	186	25050.0020
22	**42**	41	30	46	250,0	349,0	31,8	197	110	42	22	346	25050.0022
24	**42**	41	30	46	250,0	381,0	31,8	180	110	42	24	326	25050.0024
25	**42**	41	30	46	250,0	397,0	31,8	173	110	42	25	315	25050.0025
28	**47**	44	33	50	355,0	565,0	40,4	174	110	47	28	403	25050.0028
30	**47**	44	33	50	355,0	605,0	40,4	162	110	47	30	378	25050.0030
32	**55**	51	38	55	490,0	764,0	47,8	166	102	55	32	632	25050.0032
35	**55**	51	38	55	490,0	836,0	47,8	151	102	55	35	571	25050.0035
38	**62**	58	43	65	720,0	1179,0	62,1	159	111	62	38	897	25050.0038
40	**62**	58	43	65	720,0	1241,0	62,1	151	111	62	40	842	25050.0040

ACCESSORIES

	WS [mm]	[g]	Art. No.
special fork wrench			
	**14**	45	25050.0814
	16	51	25050.0816
	22	195	25050.0822
	27	195	25050.0827
	36	428	25050.0836
	46	612	25050.0846
	50	870	25050.0850
	55	1125	25050.0855
	65	1295	25050.0865

APPLICATION EXAMPLE



Tapered Shaft Hubs • without lock nut, stainless steel

EH 25050.

PRODUCT DESCRIPTION

By using tapered shaft hubs, all shaft-hub joints of machine elements such as sprocket wheels, gear wheels, belt pulleys, cams, levers etc. can be easily and efficiently established. It is a self-centering and non-floating tapered shaft hub in corrosion-protected design with a hexagon nut.
The rotational accuracy is 0,03 mm.

Material

External part
- Stainless steel, nickel-plated

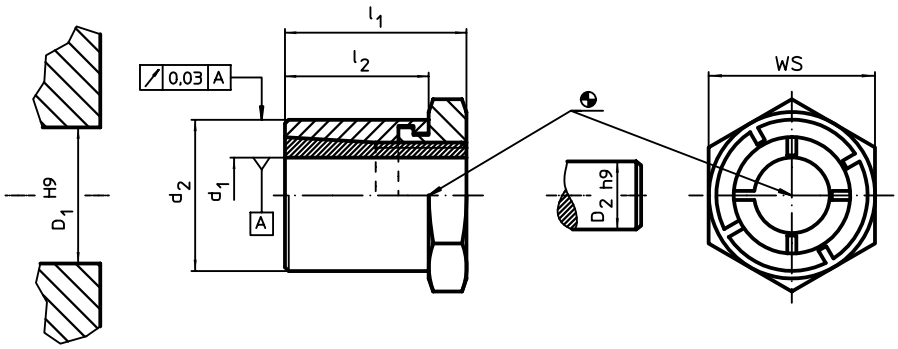
Inner part
- Stainless steel, nickel-plated

Nut
- Stainless steel, nickel-plated, hardened

MORE INFORMATION

References
Comply with mounting instructions, mounting examples, and technical data.

DRAWING



ORDER INFORMATION

Dimensions d_1	d_2	l_1	l_2 [mm]	WS [mm]	Tightening torque of the nut T_A max. [Nm]	Transferable torque M max. [Nm]	Transferable axial load F_a max. [kN]	Surface pressure of shaft p_W max. [N/mm²]	Surface pressure of hub p_N max. [N/mm²]	Hub bore D_1 H9 [mm]	Shaft diameter D_2 h9 [mm]	[g]	Art. No.
6	**14**	19	15	14	7	8,5	2,8	154	67	14	6	19	25050.0206
8	**16**	22	17	16	12	16,4	4,1	125	64	16	8	26	25050.0208
10	**20**	24	19	22	24	34,0	6,8	155	81	20	10	46	25050.0210
12	**22**	24	19	22	31	45,7	7,6	144	82	22	12	49	25050.0212
16	**26**	28	22	27	46	74,2	9,3	109	69	26	16	73	25050.0216
20	**35**	36	27	36	113	173,6	17,4	141	88	35	20	186	25050.0220
25	**42**	41	30	46	175	277,9	22,3	121	77	42	25	315	25050.0225
30	**47**	44	33	50	249	423,5	28,3	113	77	47	30	378	25050.0230

ACCESSORIES

	WS [mm]	[g]	Art. No.
special fork wrench			
	**14**	45	25050.0814
	16	51	25050.0816
	22	195	25050.0822
	27	195	25050.0827
	36	428	25050.0836
	46	612	25050.0846
	50	870	25050.0850

Tapered Shaft Hubs • with lock nut

EH 25050.

PRODUCT DESCRIPTION

It is a self-centering and non-floating tapered shaft hub in corrosion-protected design with a hexagon nut and a lock nut.
The rotational accuracy is 0,03 mm.
By using tapered shaft hubs, all shaft-hub joints of machine elements such as sprocket wheels, gear wheels, belt pulleys, cams, levers etc. can be easily and efficiently established.

Material

External part
- Steel, zinc-plated by galvanization

Inner part
- Steel, nickel-plated

Nut
- Steel, nickel-plated

Assembly

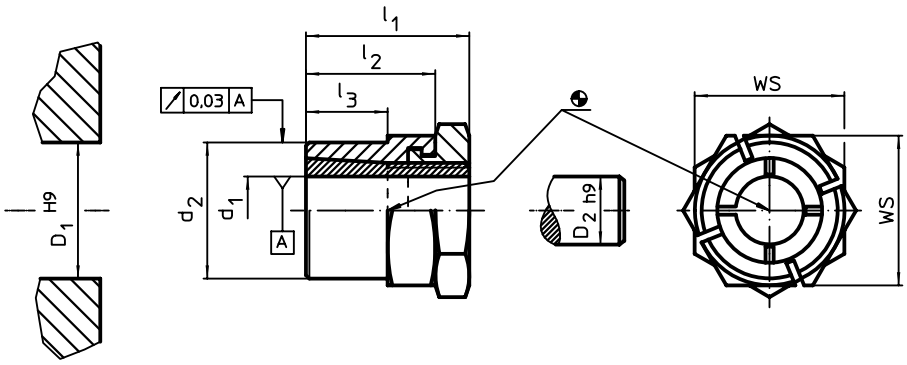
The lock nut at the outer part facilitates locking of the shaft-hub joint if freely rotating shafts are involved. For mounting, a cresent wrench (thickness max. l_2 - l_3) is used.

MORE INFORMATION

References

Comply with mounting instructions, mounting examples, and technical data.

DRAWING



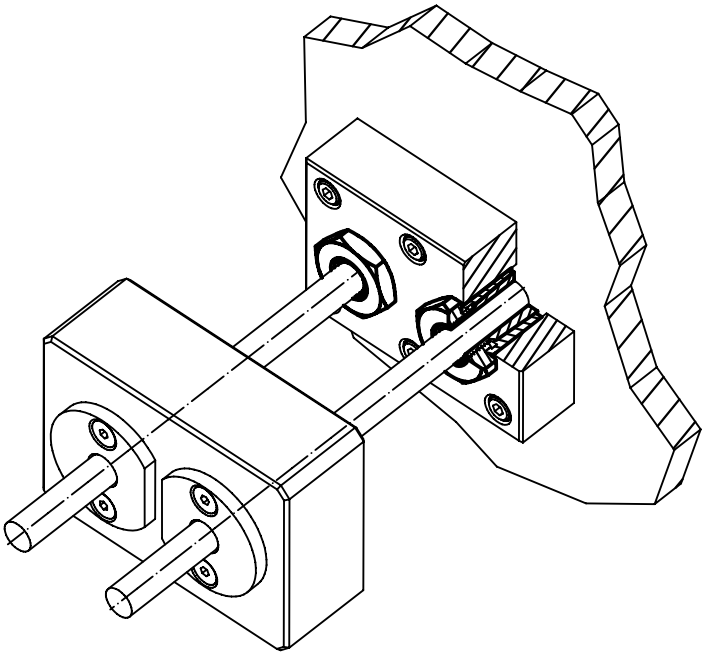
ORDER INFORMATION

Dimensions d_1	d_2	l_1	l_2	l_3 [mm]	WS [mm]	Tightening torque of the nut T_A max. [Nm]	Transferable torque M max. [Nm]	Transferable axial load F_a max. [kN]	Surface pressure of shaft p_W max. [N/mm²]	Surface pressure of hub p_N max. [N/mm²]	Hub bore D_1 H9 [mm]	Shaft diameter D_2 h9 [mm]	[g]	Art. No.
5	**12**	19	15	9	14	9,9	10,1	4,0	264	119	12	5	18	25050.0105
6	**12**	19	15	9	14	9,9	12,1	4,0	220	119	12	6	17	25050.0106
8	**14**	22	17	11	16	16,9	23,4	5,8	179	121	14	8	23	25050.0108
9	**18**	24	19	12	22	34,9	43,7	9,7	245	127	18	9	47	25050.0109
10	**18**	24	19	12	22	34,9	48,6	9,7	221	127	18	10	46	25050.0110
11	**20**	24	19	12	22	43,8	59,9	10,9	225	128	20	11	47	25050.0111
12	**20**	24	19	12	22	43,8	65,3	10,9	206	128	20	12	45	25050.0112
14	**24**	28	22	15	27	65,0	93,0	13,3	178	107	24	14	78	25050.0114
15	**24**	28	22	15	27	65,0	99,0	13,3	166	107	24	15	75	25050.0115
16	**24**	28	22	15	27	65,0	106,0	13,3	156	107	24	16	70	25050.0116
18	**30**	36	27	17	36	161,0	223,0	24,8	224	145	30	18	179	25050.0118
19	**30**	36	27	17	36	161,0	235,0	24,8	212	145	30	19	169	25050.0119
20	**30**	36	27	17	36	161,0	248,0	24,8	201	145	30	20	213	25050.0120
22	**38**	41	30	20	46	250,0	349,0	31,8	197	122	38	22	341	25050.0122
24	**38**	41	30	20	46	250,0	381,0	31,8	180	122	38	24	320	25050.0124
25	**38**	41	30	20	46	250,0	397,0	31,8	173	122	38	25	310	25050.0125
28	**42**	44	33	23	50	355,0	565,0	40,4	174	123	42	28	370	25050.0128
30	**42**	44	33	23	50	355,0	605,0	40,4	162	123	42	30	348	25050.0130
32	**50**	51	38	28	55	490,0	764,0	47,8	166	112	50	32	555	25050.0132
35	**50**	51	38	28	55	490,0	836,0	47,8	151	112	50	35	501	25050.0135

ACCESSORIES

	WS [mm]	[g]	Art. No.
special fork wrench			
	**14**	45	25050.0814
	16	51	25050.0816
	22	195	25050.0822
	27	195	25050.0827
	36	428	25050.0836
	46	612	25050.0846
	50	870	25050.0850
	55	1125	25050.0855

APPLICATION EXAMPLE



Tapered Shaft Hubs • with lock nut, stainless steel

EH 25050.

PRODUCT DESCRIPTION

It is a self-centering and non-floating tapered shaft hub in corrosion-protected design with a hexagon nut and a lock nut.
The rotational accuracy is 0,03 mm.
By using tapered shaft hubs, all shaft-hub joints of machine elements such as sprocket wheels, gear wheels, belt pulleys, cams, levers etc. can be easily and efficiently established.

Material

External part
- Stainless steel, nickel-plated

Inner part
- Stainless steel, nickel-plated

Nut
- Stainless steel, nickel-plated, hardened

Assembly

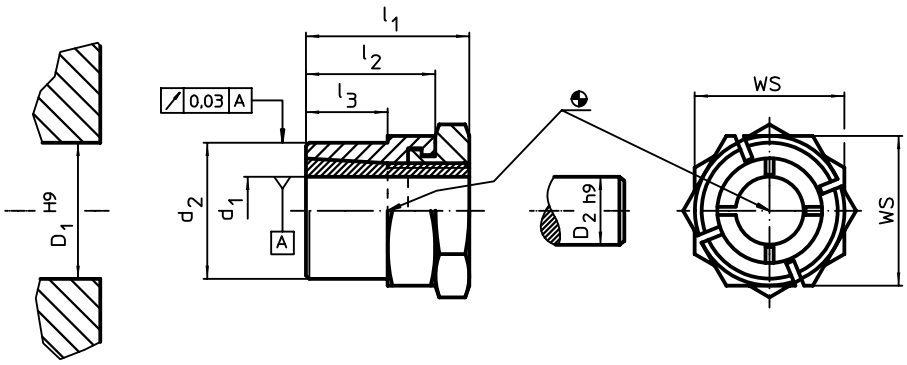
The lock nut at the outer part facilitates locking of the shaft-hub joint if freely rotating shafts are involved. For mounting, a cresent wrench (thickness max. l_2 - l_3) is used.

MORE INFORMATION

References

Comply with mounting instructions, mounting examples, and technical data.

DRAWING



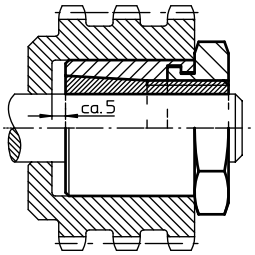
ORDER INFORMATION

Dimensions d_1	d_2	l_1	l_2	l_3 [mm]	WS [mm]	Tightening torque of the nut T_A max. [Nm]	Transferable torque M max. [Nm]	Transferable axial load F_a max. [kN]	Surface pressure of shaft p_W max. [N/mm²]	Surface pressure of hub p_N max. [N/mm²]	Hub bore D_1 H9 [mm]	Shaft diameter D_2 h9 [mm]	[g]	Art. No.
6	**12**	19	15	9	14	7	8,5	2,8	154	119	12	6	17	25050.0306
8	**14**	22	17	11	16	12	16,4	4,1	125	121	14	8	23	25050.0308
10	**18**	24	19	12	22	24	34,0	6,8	155	127	18	10	46	25050.0310
12	**20**	24	19	12	22	31	45,7	7,6	144	128	20	12	45	25050.0312
16	**24**	28	22	15	27	46	74,2	9,3	109	107	24	16	70	25050.0316
20	**30**	36	27	17	36	113	173,6	17,4	141	145	30	20	213	25050.0320
25	**38**	41	30	20	46	175	277,9	22,3	121	122	38	25	310	25050.0325
30	**42**	44	33	23	50	249	423,5	28,3	113	123	42	30	348	25050.0330

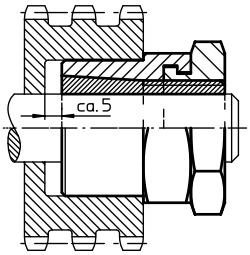
ACCESSORIES

	WS [mm]	[g]	Art. No.
special fork wrench			
	**14**	45	25050.0814
	16	51	25050.0816
	22	195	25050.0822
	27	195	25050.0827
	36	428	25050.0836
	46	612	25050.0846
	50	870	25050.0850

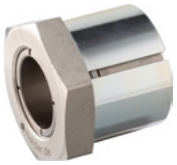
MOUNTING ARRANGEMENTS TAPERED SHAFT HUBS



Tapered shaft hub with hexagon nut



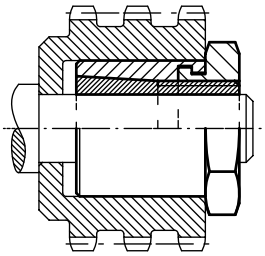
Tapered shaft hub with hexagon nut and lock nut

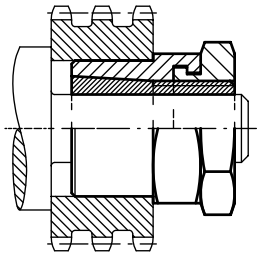


PRE-CENTERING

If longer hubs are used, additional support on the shaft can be achieved as shown in the accompanying drawings.

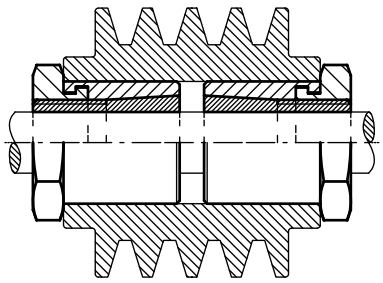
- Due to this support, forces acting outside the useful length of the tapered shaft hub can also be taken up.
- An increased rotational accuracy is achieved.





NO AXIAL SHIFT

If, on mounting, the hub sits close to a collar, an axial offset is not possible when tightening the tapered shaft hub.
In this case, only 60 % of the forces mentioned in the charts can be transmitted.

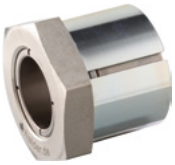


TWO TAPERED SHAFT HUBS IN ONE HUB

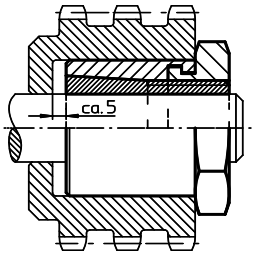
When using this version, the tapered shaft hub which is tightened first transmits 100 % of the forces mentioned in the charts.
When tightening the second tapered shaft hub, an axial offset of the hub is not possible. Therefore, this tapered shaft hub is able to transmit only 60 % of the forces.

Tapered Shaft Hubs

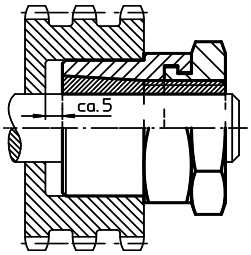
EH 25050.



ASSEMBLY INSTRUCTIONS TAPERED SHAFT HUBS



Tapered shaft hub with hexagon nut



Tapered shaft hub with hexagon nut and lock nut

By using tapered shaft hubs, all shaft hub joints of machine elements such as sprocket wheels, gear wheels, belt pulleys, cams, levers etc. can be easily and efficiently established. Tapered shaft hubs are available with or without lock nut.

ASSEMBLY

1. The contact surfaces of the shaft and the hub must be free from oil and dirt.
2. Rotate nut to the left until the inner part protrudes approximately 3-5 mm over the outer part.
3. Install tapered shaft hub in the hub hole.
4. Slightly tighten the nut when located in the desired position. Compensate the axial offset thus produced with a soft-face mallet. Tighten the tapered shaft hub.

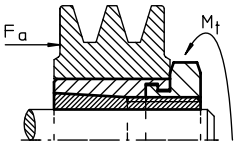
DISASSEMBLY

Release tapered shaft hub by turning the nut to the left until the inner part protrudes approximately 3-5 mm over the outer part.

Tapered Shaft Hubs
EH 25050.

TECHNICAL DATA

SIMULTANEOUS EXPOSURE TO DIFFERENT FORCES



If torques (M_t) and axial forces (F_a) are transmitted simultaneously, a resultant total torque (M_r) is obtained which must be less than or equal to the maximum torque (M_{max}) indicated in the charts. ($M_r \leq M_{max}$).

$$M_r = \sqrt{M_t^2 + \left(F_a \times \frac{d_1}{2 \times 1000}\right)^2} \times v \text{ [Nm]}$$

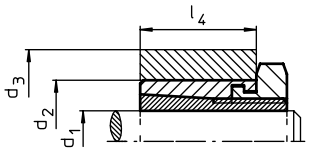
(M_r) = Resultant total torque
(M_t) = Torque
Fa = Axial force
d_1 = Shaft diameter
v = Safety factor

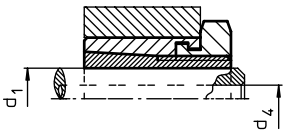
Example
Shaft hub 25050.0125
M_t = 150 Nm
F_a = 5 kN
d_1 = 25 mm
v = 2

$$M_r = \sqrt{150^2 \text{ Nm}^2 + \left(5000 \text{ N} \times \frac{25 \text{ mm}}{2 \times 1000 \text{ mm/m}}\right)^2} \times 2 = 325 \text{ Nm}$$

A maximum torque (M_{max}) of 397 Nm is transmitted by the tapered shaft hub 25050.0125.
The forces can be transmitted because M_r (325 Nm) is less than M_{max} .

OUTSIDE DIAMETER OF HUB AND INSIDE DIAMETER OF HOLLOW SHAFT





When fitting tapered shaft hubs, the outside diameter of the hub and the inside diameter of the hollow shaft have to be taken into account.

SMALLEST POSSIBLE OUTSIDE DIAMETER OF HUB

$$d_3 \geq d_2 \times \sqrt{\frac{R_e + P_N \times C_N}{R_e - P_N \times C_N}} \text{ [mm]}$$

d_1 = Shaft diameter
d_2 = Hub hole
d_3 = Outside diameter of hub
d_4 = Inside diameter of hollow shaft
R_e = Apparent yielding point
$Rp_{0,2}$, $Rp_{0,1}$ = Permanent elongation limit

$$d_3 \geq 42 \text{ mm} \times \sqrt{\frac{165 \text{ N/mm}^2 + 103 \text{ N/mm}^2 \times 1}{165 \text{ N/mm}^2 - 103 \text{ N/mm}^2 \times 1}} \geq 87{,}4 \text{ mm}$$

Example
Tapered shaft hub 25050.0025, hub material GG25;
$R_{p0,1}$ = 165 N/mm² C_N = 1

LARGEST POSSIBLE INSIDE DIAMETER OF HOLLOW SHAFT

$$d_4 \leq d_1 \times \sqrt{\frac{R_e + 2p_w}{R_e \ (R_e)}} \text{ [mm]}$$

p_N = Surface pressure hub
p_w = Surface pressure shaft
C_N = Factor [is “1”, if the hub length is ≥ the fitting length of the tapered shaft hub ($L_N \geq L_2$)]

$$d_4 \leq 25 \text{ mm} \times \sqrt{\frac{380 \text{ N/mm}^2 - 2 \times 174 \text{ N/mm}^2 \times 1}{380 \text{ N/mm}^2}} \leq 7{,}2 \text{ mm}$$

Example
Tapered shaft hub 25050.0025, shaft materialCk45;
R_e = 380 N/mm² C_N = 1

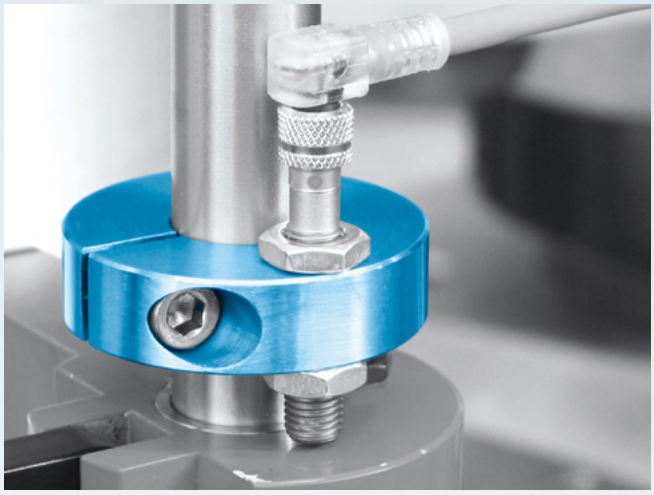
MATERIAL CHART

				Material							
	St 37-2 Ust 37-2	St 50-2	Ck 35	Ck 45	11 SMn 30 11 SMn Pb 30	GG 15	GG 20	GG 25	GGG-40	AlMg 3 F 25	
Diameter				**Minimum strength values in N/mm²**							
	R_e	R_e	R_e	R_e	R_e	R_e	R_p 0,1	R_p 0,1	R_p 0,1	R_p 0,2	Re
16 < d_1 ≤ 40	225	285	320	380	375	90	130	165	250	180	
40 < d_1 ≤100	205	265	260	300	245	90	130	165	250	180	

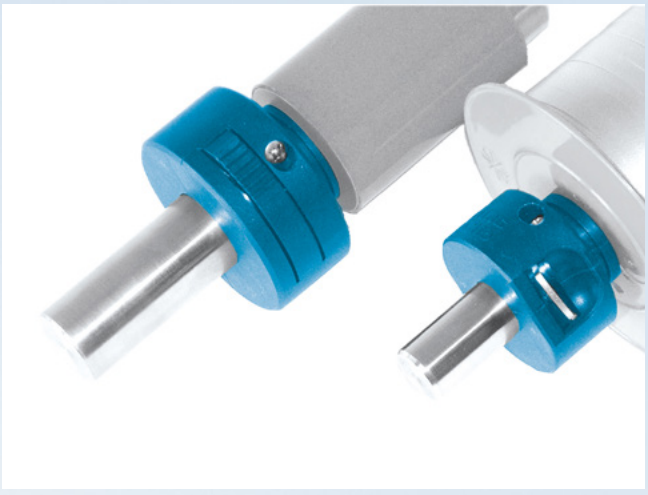
Set Collars

EH 25069. – EH 25071.

INSTALLATION EXAMPLES



Set collars offer universal applicability, e.g. as a fixed stop. The image shows the model with sensor adapter.



The tools are also available as quick-setting models.

Set Collars

EH 25069.

PRODUCT DESCRIPTION

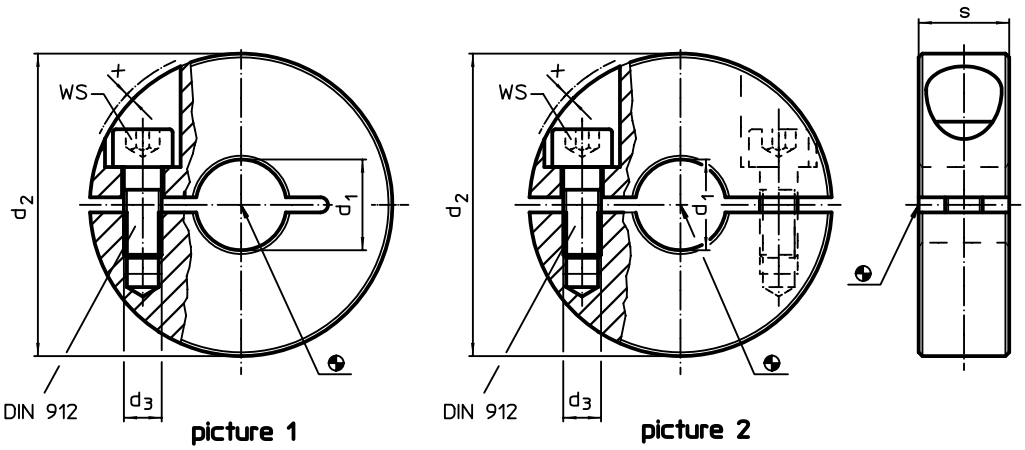
Set collars with universal applicability, e.g. as a fixed stop.
Set collars with strong clamping force.

Material

Screw
- Steel
- Stainless steel

Set collar
- Steel, black, steam oxidized
- Stainless steel 1.4404

DRAWING



ORDER INFORMATION

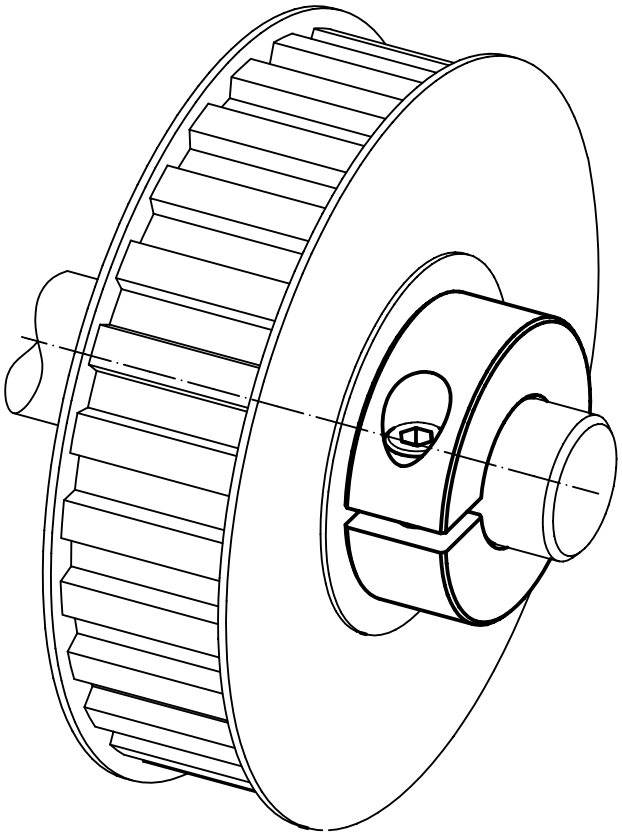
Dimensions					WS		Art. No.	
d_1 H10	d_2	d_3	s	x			steel	stainless steel
[mm]					[mm]	[g]		
slotted – picture 1								
6	20	M3	9	1,2	2,5	20	25069.0006	25069.0106
8	22	M3	9	1,0	2,5	18	25069.0008	25069.0108
10	26	M4	11	1,6	3,0	33	25069.0010	25069.0110
12	30	M4	11	0,7	3,0	42	25069.0012	25069.0112
14	32	M4	11	0,7	3,0	40	25069.0014	25069.0114
15	36	M5	13	1,4	4,0	73	25069.0015	25069.0115
16	36	M5	13	1,4	4,0	66	25069.0016	25069.0116
18	42	M5	15	0,6	4,0	120	25069.0018	25069.0118
20	42	M5	15	0,6	4,0	104	25069.0020	25069.0120
22	48	M5	15	0,0	4,0	139	25069.0022	25069.0122
25	48	M5	15	0,0	4,0	130	25069.0025	25069.0125
28	55	M6	15	0,5	5,0	171	25069.0028	25069.0128
30	55	M6	15	0,5	5,0	162	25069.0030	25069.0130
32	60	M6	15	0,4	5,0	196	25069.0032	25069.0132
35	60	M6	15	0,4	5,0	180	25069.0035	25069.0135
40	65	M6	15	0,5	5,0	183	25069.0040	25069.0140

→

Dimensions					WS		Art. No.	
d_1 H10	d_2	d_3	s	x			steel	stainless steel
[mm]					[mm]	[g]		
divided – picture 2								
6	20	M3	9	1,2	2,5	18	25069.0206	25069.0306
8	22	M3	9	1,0	2,5	20	25069.0208	25069.0308
10	26	M4	11	1,6	3,0	20	25069.0210	25069.0310
12	30	M4	11	0,7	3,0	39	25069.0212	25069.0312
14	32	M4	11	0,7	3,0	43	25069.0214	25069.0314
15	36	M5	13	1,4	4,0	65	25069.0215	25069.0315
16	36	M5	13	1,4	4,0	64	25069.0216	25069.0316
18	42	M5	15	0,6	4,0	103	25069.0218	25069.0318
20	42	M5	15	0,6	4,0	100	25069.0220	25069.0320
22	48	M5	15	0,0	4,0	135	25069.0222	25069.0322
25	48	M5	15	0,0	4,0	125	25069.0225	25069.0325
28	55	M6	15	0,5	5,0	165	25069.0228	25069.0328
30	55	M6	15	0,5	5,0	156	25069.0230	25069.0330
32	60	M6	15	0,4	5,0	187	25069.0232	25069.0332
35	60	M6	15	0,4	5,0	170	25069.0235	25069.0335
40	65	M6	15	0,5	5,0	189	25069.0240	25069.0340

5

APPLICATION EXAMPLE



Set Collars • with sensor adapter

EH 25070.

PRODUCT DESCRIPTION

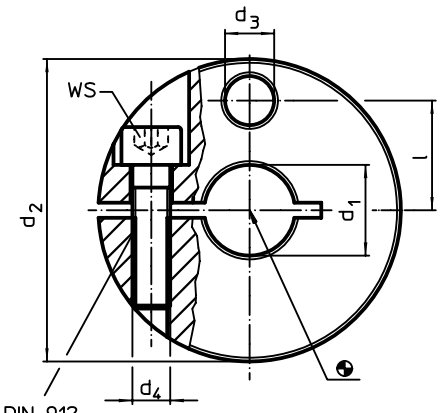
Clamping rings are provided with a fastening possibility for sensors, switches etc. Universal applicability, e.g. as a limit switch on a piston rod.
Clamping ring made of stainless steel with strong clamping force.

Material

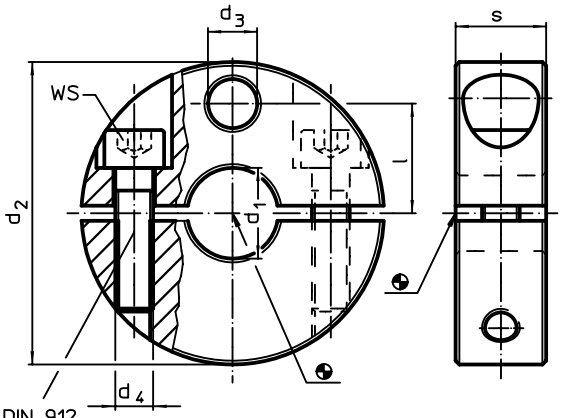
Screw
- Stainless steel

Set collar
- Stainless steel 1.4021

DRAWING



picture 1



picture 2

ORDER INFORMATION

Dimensions						WS		Art. No.
d_1 H8	d_2 -0,5	d_3	d_4	l	s			
[mm]						[mm]	[g]	
slotted – picture 1								
10	40	6,5	M5	14,5	12	4	99	25070.0010
12	40	6,5	M5	14,5	12	4	94	25070.0012
14	45	9,0	M6	16,5	13	5	125	25070.0014
15	45	9,0	M6	16,5	13	5	122	25070.0015
16	45	9,0	M6	16,5	13	5	120	25070.0016
18	50	9,0	M6	18,5	13	5	151	25070.0018
20	50	9,0	M6	18,5	13	5	144	25070.0020
22	65	13,0	M8	23,5	18	6	359	25070.0022
24	65	13,0	M8	23,5	18	6	349	25070.0024
25	65	13,0	M8	23,5	18	6	345	25070.0025
30	75	13,0	M8	27,0	20	6	507	25070.0030
32	80	13,0	M8	30,0	20	6	588	25070.0032
35	80	13,0	M8	30,0	20	6	566	25070.0035
divided – picture 2								
10	40	6,5	M5	14,5	12	4	94	25070.0110
12	40	6,5	M5	14,5	12	4	90	25070.0112
14	45	9,0	M6	16,5	13	5	114	25070.0114
15	45	9,0	M6	16,5	13	5	112	25070.0115
16	45	9,0	M6	16,5	13	5	110	25070.0116
18	50	9,0	M6	18,5	13	5	142	25070.0118
20	50	9,0	M6	18,5	13	5	139	25070.0120
22	65	13,0	M8	23,5	18	6	341	25070.0122
24	65	13,0	M8	23,5	18	6	330	25070.0124
25	65	13,0	M8	23,5	18	6	330	25070.0125
30	75	13,0	M8	27,0	20	6	488	25070.0130
32	80	13,0	M8	30,0	20	6	564	25070.0132
35	80	13,0	M8	30,0	20	6	542	25070.0135

Set Collars • for quick setting

EH 25071.

PRODUCT DESCRIPTION

To be used for positioning, gripping, clamping and as a quick adjustment element on shafts. Quick, self-clamping and vibration-free mounting by one-hand operation in pull-direction.

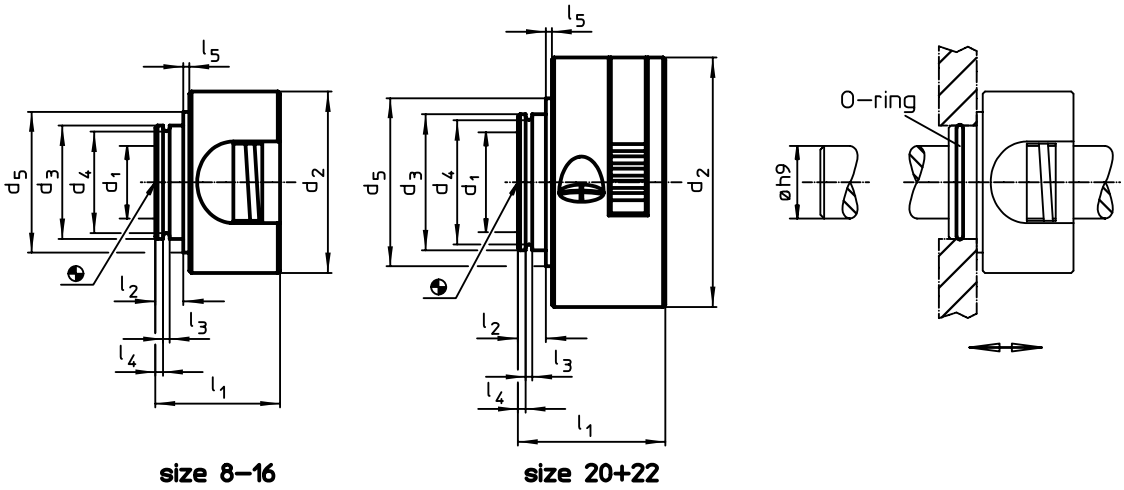
Material

Body
- Thermoplastic PA 6, black

Inner parts
- Stainless steel

O-ring
- NBR

DRAWING



ORDER INFORMATION

Dimensions										F			Art. No.
d_1 +0,1	d_2	d_3	d_4	d_5	l_1	l_2	l_3	l_4	l_5	Holding force axial, one-sided	max.		
[mm]										[N]	[°C]	[g]	
8	40	25	22,4	31	27,5	7	1,7	3,15	0,5	250	80	31	25071.0008
10	40	25	22,4	31	27,5	7	1,7	3,15	0,5	250	80	30	25071.0010
12	40	25	22,4	31	27,5	7	1,7	3,15	0,5	350	80	30	25071.0012
15	40	25	22,4	31	27,5	7	1,7	3,15	0,5	350	80	28	25071.0015
16	40	25	22,4	31	27,5	7	1,7	3,15	0,5	380	80	27	25071.0016
20	55	30	27,4	37	32,5	7	1,7	2,65	0,5	320	80	51	25071.0020
22	55	30	27,4	37	32,5	7	1,7	2,65	0,5	320	80	50	25071.0022

ACCESSORIES

	Dimensions d [mm]	Suitable for size [mm]	[g]	Art. No.
O-ring				
	**22 x 1,5**	8, 10, 12, 15, 16	0,17	25071.0052
	27 x 1,5	20, 22	0,20	25071.0054

Clamping Nuts • self-locking

EH 25030.

PRODUCT DESCRIPTION

Clamping nuts are used for rotating parts, especially for reversible shafts, for example for fixing the grinding wheel. The compact construction ensures a safe function and allows quick installation using a face wrench.
Compared with other backup methods, the clamping nut has the following advantages:

- Self-locking (even with changing direction of rotation of the shaft)
- Easy installation / dismantling
- Also for repetitive clamping operations

Material

- Heat-treated steel, blackened

Assembly

The clamping nut consists of an outer and inner ring, which form a unit.
The outer ring has a conical bore, the slotted inner ring has a conical outer surface and a female thread.

When tightening the clamping nut using a face pin wrench, the two conical surfaces move against each other. As a result, the slotted inner ring narrows like a collet. The nut clamps itself on the flanks of the thread so much, that they do not detach even with opposite axis rotation.

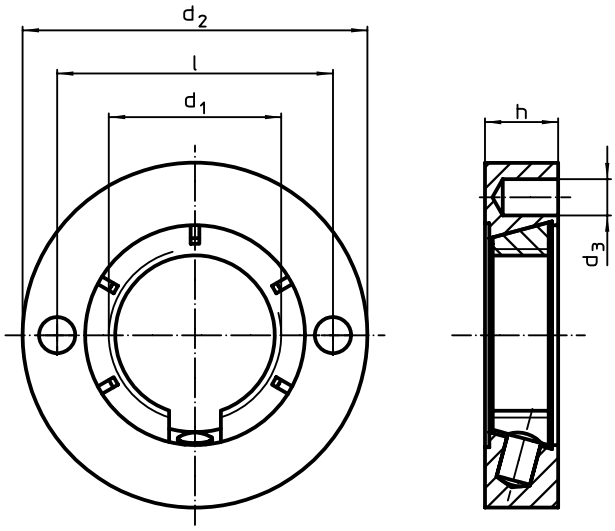
MORE INFORMATION

Notes

Further dimensions on request.

5

DRAWING



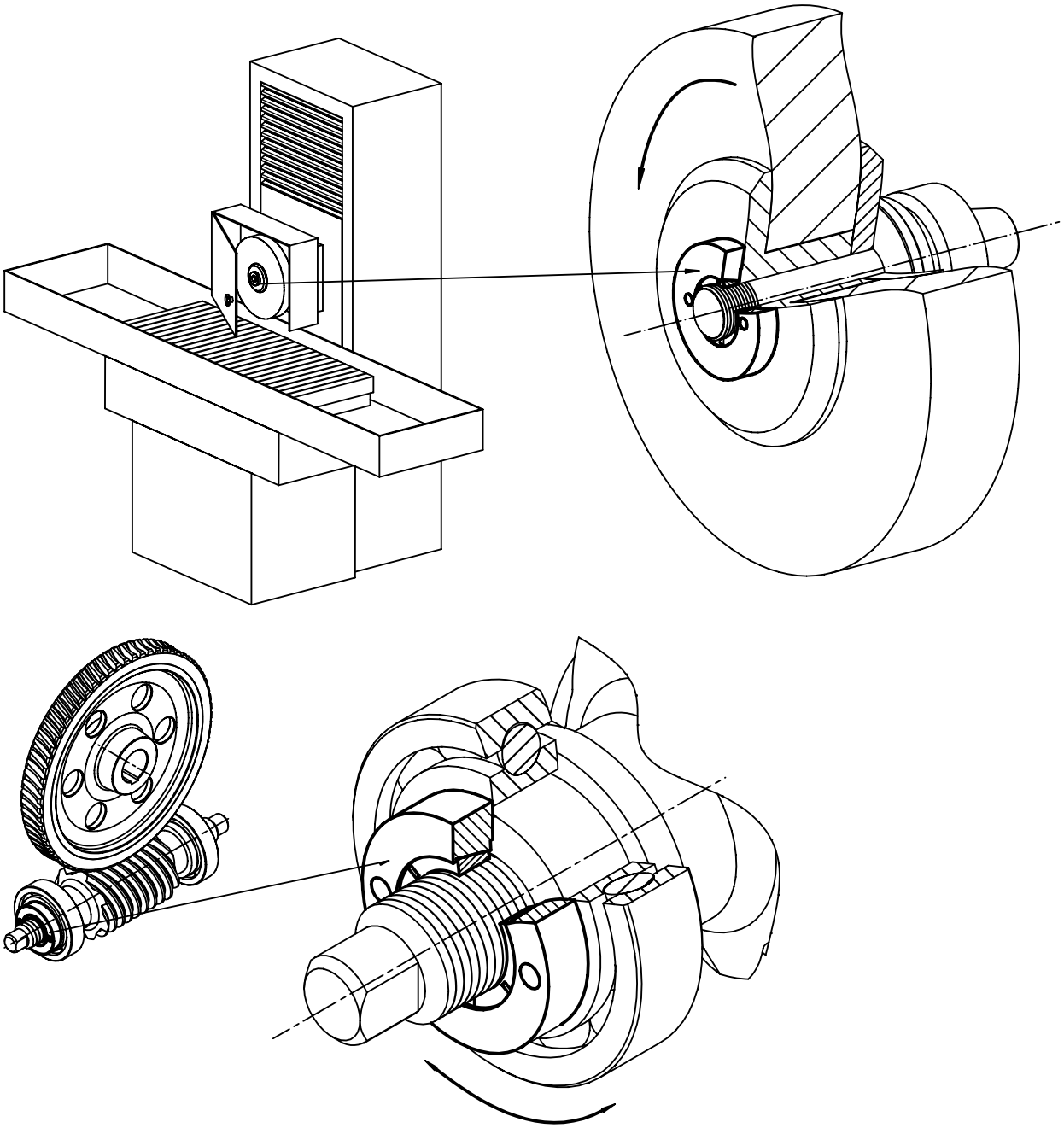
ORDER INFORMATION

Dimensions						Art. No.
d_1	d_2	d_3 [mm]	h	l	[g]	
M20 x 1,5	40	4,1	8,5	32	58	25030.0020
	50	4,1	8,5	32	104	25030.0021

ACCESSORIES

	[g]	Art. No.
adjustable face wrench, offset		
	120	25030.0022

APPLICATION EXAMPLE



Quick Plug Couplings • with radial offset compensation

EH 25100.

PRODUCT DESCRIPTION

Quick plug coupling with radial offset compensation for multiple applications, e.g. as a link between a piston rod and a linear movement unit.

Material

Claw
- Heat-treated steel, tempered, phosphated

Coupling part
- Heat-treated steel, tempered, phosphated

Lock nut
- Steel, black (ISO 4035/8675)

Assembly

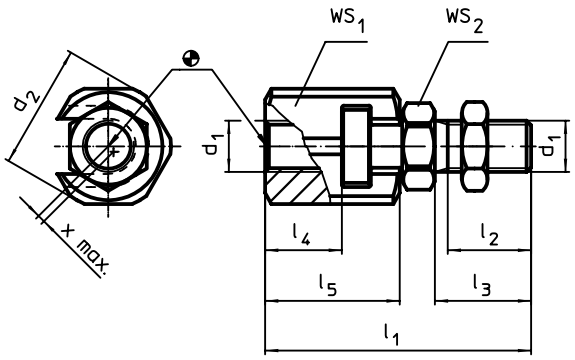
Assembly and disassembly of this simple, solid and two-part coupling is by means of a T-slot; a manual re-adjustment is not necessary.
The quick plug coupling can be linked to all commonly used pneumatic and hydraulic lifting cylinders via the connecting thread.

MORE INFORMATION

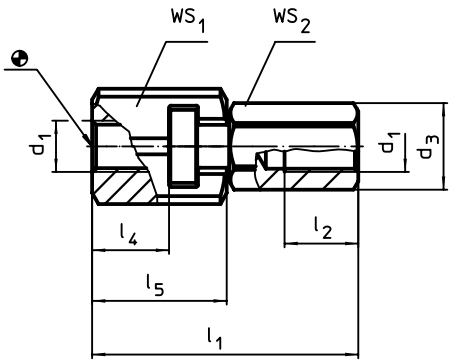
Notes

The quick plug coupling does not transmit any torque.

DRAWING



picture 1



picture 2

ORDER INFORMATION

Dimensions								WS		Axial offset x max.	Maximum tensile and compressive load max.		Art. No.
d_1	d_2	d_3	l_1 ~	l_2 min.	l_3	l_4 min.	l_5	WS_1	WS_2				
[mm]								[mm]		[mm]	[kN]	[g]	
with coupling screw – picture 1													
M 6	21,0	–	37,5	11,0	14	9,0	18,0	19	10	0,6	2,5	44	25100.0006
M 8	26,0	–	45,0	13,5	17	11,5	22,5	24	13	0,7	4,5	86	25100.0008
M10	30,0	–	56,2	16,0	20	16,0	29,0	27	17	0,7	6,5	147	25100.0010
M12	32,5	–	66,7	21,0	25	17,0	34,0	30	19	0,8	10,0	208	25100.0012
M16	39,0	–	83,0	25,0	30	23,0	42,0	36	24	1,0	18,0	383	25100.0016
M20	44,0	–	93,5	29,0	35	23,5	45,5	41	30	1,0	30,0	571	25100.0020
M10 x 1,25	30,0	–	56,2	16,0	20	16,0	29,0	27	17	0,7	6,5	147	25100.0030
M12 x 1,25	32,5	–	66,7	21,0	25	17,0	34,0	30	19	0,8	10,0	207	25100.0032
M16 x 1,5	39,0	–	83,0	25,0	30	23,0	42,0	36	24	1,0	18,0	384	25100.0036
M20 x 1,5	44,0	–	93,5	29,0	35	23,5	45,5	41	30	1,0	30,0	576	25100.0040
with coupling nut – picture 2													
M 6	21,0	11,0	37,5	11,0	–	9,0	18,0	19	10	0,6	2,5	47	25100.0056
M 8	26,0	14,4	45,0	13,5	–	11,5	22,5	24	13	0,7	4,5	91	25100.0058
M10	30,0	19,0	56,2	15,0	–	16,0	29,0	27	17	0,7	6,5	160	25100.0060
M12	32,5	21,2	66,7	17,5	–	17,0	34,0	30	19	0,8	10,0	223	25100.0062
M16	39,0	27,0	83,0	22,0	–	23,0	42,0	36	24	1,0	18,0	401	25100.0066
M20	44,0	34,0	93,5	25,0	–	23,5	45,5	41	30	1,0	30,0	606	25100.0070
M10 x 1,25	30,0	19,0	56,2	15,0	–	16,0	29,0	27	17	0,7	6,5	159	25100.0080
M12 x 1,25	32,5	21,2	66,7	17,5	–	17,0	34,0	30	19	0,8	10,0	222	25100.0082
M16 x 1,5	39,0	27,0	83,0	22,0	–	23,0	42,0	36	24	1,0	18,0	400	25100.0086
M20 x 1,5	44,0	34,0	93,5	25,0	–	23,5	45,5	41	30	1,0	30,0	601	25100.0090

Quick Plug Couplings • with radial offset compensation and screwed flange

EH 25100.

PRODUCT DESCRIPTION

Quick plug coupling with radial offset compensation requiring only little space. Suitable for multiple applications, e.g. as a link between a piston rod and a linear-movement unit.

Material

Flange
- Heat-treated steel, tempered, phosphated

Coupling part
- Heat-treated steel, tempered, phosphated

Lock nut
- Steel, black (ISO 4035/8675)

Assembly

Assembly and disassembly of this simple, solid and two-part coupling is by means of a T-slot; a manual re-adjustment is not necessary.
The quick plug coupling can be linked to all commonly used pneumatic and hydraulic lifting cylinders via the connecting thread.

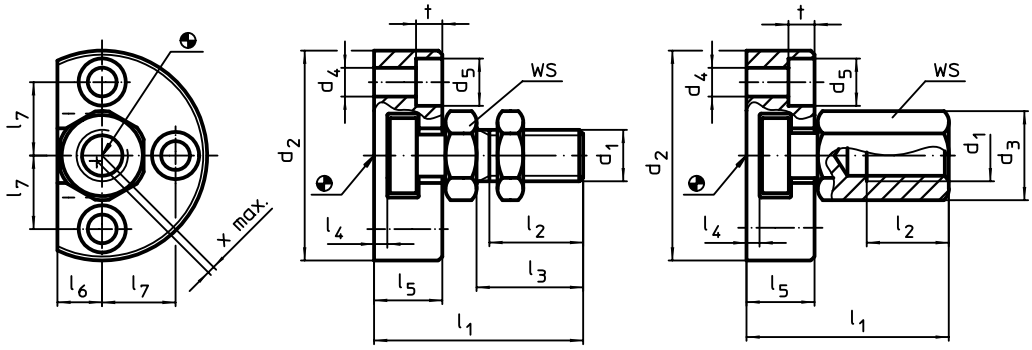
MORE INFORMATION

Notes

The quick plug coupling does not transmit any torque.

5

DRAWING



picture 1 picture 2

ORDER INFORMATION

Dimensions														WS	Axial offset x max.	Maximum tensile and compressive load max.		Art. No.
d_1	d_2	d_3	d_4	d_5	l_1 ~	l_2 min.	l_3	l_4	l_5	l_6	l_7	t						
[mm]														[mm]	[mm]	[kN]	[g]	
with coupling screw – picture 1																		
M 6	42	–	5,5	10	30,5	11,0	14	3,0	11,0	7,0	14,0	5,4		10	0,6	2,5	75	25100.0206
M 8	48	–	6,6	11	35,5	13,5	17	3,0	13,0	8,0	16,0	6,4		13	0,7	4,5	116	25100.0208
M10	50	–	6,6	11	43,2	16,0	20	4,2	16,0	9,0	17,0	6,4		17	0,7	6,5	175	25100.0210
M12	55	–	6,6	11	53,2	21,0	25	4,2	20,5	10,0	19,0	6,4		19	0,8	10,0	281	25100.0212
M16	65	–	9,0	15	64,0	25,0	30	5,0	23,0	12,5	22,5	8,5		24	1,0	18,0	458	25100.0216
M20	80	–	11,0	18	74,0	29,0	35	5,0	26,0	17,0	28,0	10,0		30	1,0	30,0	817	25100.0220
M10 x 1,25	50	–	6,6	11	43,2	16,0	20	4,2	16,0	9,0	17,0	6,4		17	0,7	6,5	176	25100.0230
M12 x 1,25	55	–	6,6	11	53,2	21,0	25	4,2	20,5	10,0	19,0	6,4		19	0,8	10,0	280	25100.0232
M16 x 1,5	65	–	9,0	15	64,0	25,0	30	5,0	23,0	12,5	22,5	8,5		24	1,0	18,0	454	25100.0236
M20 x 1,5	80	–	11,0	18	74,0	29,0	35	5,0	26,0	17,0	28,0	10,0		30	1,0	30,0	850	25100.0240
with coupling nut – picture 2																		
M 6	42	11,0	5,5	10	30,5	11,0	–	3,0	11,0	7,0	14,0	5,4		10	0,6	2,5	77	25100.0256
M 8	48	14,4	6,6	11	35,5	13,5	–	3,0	13,0	8,0	16,0	6,4		13	0,7	4,5	123	25100.0258
M10	50	19,0	6,6	11	43,2	15,0	–	4,2	16,0	9,0	17,0	6,4		17	0,7	6,5	187	25100.0260
M12	55	21,2	6,6	11	53,2	17,5	–	4,2	20,5	10,0	19,0	6,4		19	0,8	10,0	295	25100.0262
M16	65	27,0	9,0	15	64,0	22,0	–	5,0	23,0	12,5	22,5	8,5		24	1,0	18,0	472	25100.0266
M20	80	34,0	11,0	18	74,0	25,0	–	5,0	26,0	17,0	28,0	10,0		30	1,0	30,0	849	25100.0270
M10 x 1,25	50	19,0	6,6	11	43,2	15,0	–	4,2	16,0	9,0	17,0	6,4		17	0,7	6,5	187	25100.0280
M12 x 1,25	55	21,2	6,6	11	53,2	17,5	–	4,2	20,5	10,0	19,0	6,4		19	0,8	10,0	298	25100.0282
M16 x 1,5	65	27,0	9,0	15	64,0	22,0	–	5,0	23,0	12,5	22,5	8,5		24	1,0	18,0	477	25100.0286
M20 x 1,5	80	34,0	11,0	18	74,0	25,0	–	5,0	26,0	17,0	28,0	10,0		30	1,0	30,0	852	25100.0290

Quick Plug Couplings • with angular and radial offset compensation

EH 25100.

PRODUCT DESCRIPTION

Quick plug coupling, adjustable without axial play, including angular and radial offset compensation. Suitable for multiple applications, e.g. for non-aligned linear movements. Solid and compact design, no loose elements.

Material

Claw
- Heat-treated steel, tempered, phosphated

Seat
- Heat-treated steel, tempered, phosphated

Coupling part
- Heat-treated steel, nitrided, black

Nut
- Heat-treated steel, phosphated

Lock nut
- Steel, black (ISO 4035/8675)

Spring
- Stainless steel

Assembly

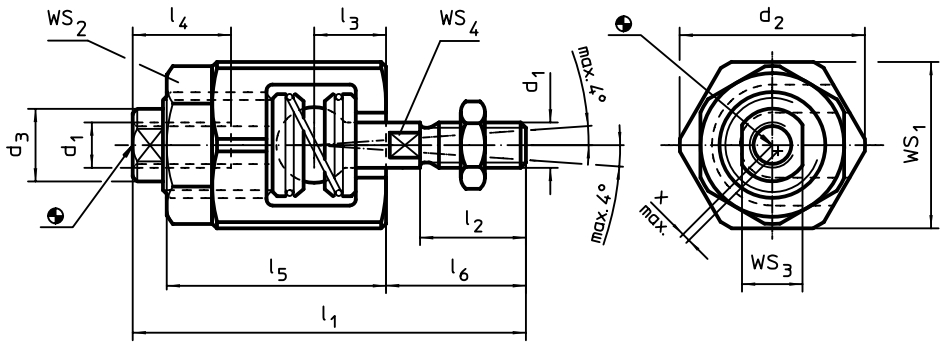
Assembly and disassembly is by means of a T-slot; a manual re-adjustment is not necessary.
The quick plug coupling can be linked to all commonly used pneumatic and hydraulic lifting cylinders via the connecting thread.

MORE INFORMATION

Notes

The quick plug coupling does not transmit any torque.

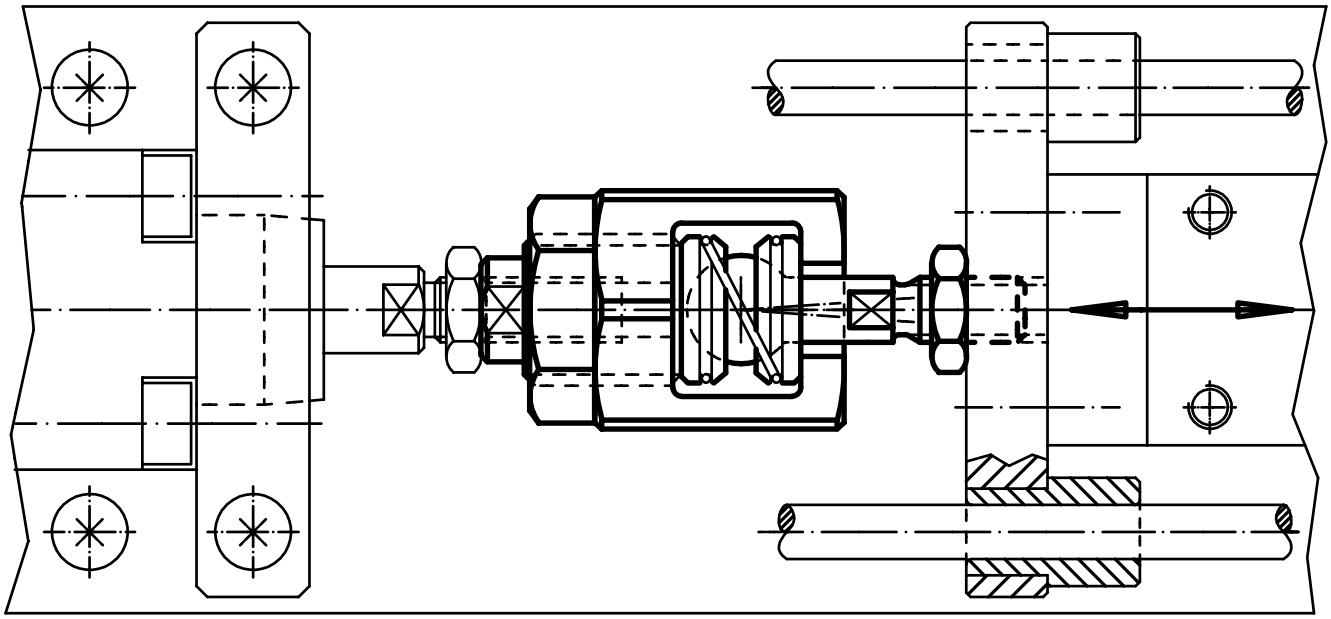
DRAWING



ORDER INFORMATION

Dimensions									WS				Radial offset compensation x max.	Maximum tensile and compressive load max.		Art. No.
d_1	d_2	d_3	l_1 ~	l_2	l_3	l_4 min.	l_5	l_6	WS_1	WS_2	WS_3	WS_4				
[mm]									[mm]				[mm]	[kN]	[g]	
M 6	24,5	9,6	52	14	9,5	13	29	18,5	22	19	8	5	0,6	2,5	74	25100.0406
M 8	30,0	15,0	63	18	11,5	16	33	23,5	27	24	13	7	0,6	4,5	137	25100.0408
M10	44,0	21,0	81	22	16,0	24	43	30,5	41	36	18	12	0,7	6,5	401	25100.0410
M12	44,0	21,0	85	26	16,0	24	43	34,5	41	36	18	12	0,7	10,0	405	25100.0412
M16	60,0	32,0	121	34	26,0	34	62	45,0	55	46	27	18	1,0	18,0	1127	25100.0416
M20	60,0	32,0	129	42	26,0	34	62	53,0	55	46	27	18	1,0	30,0	1152	25100.0420
M10 x 1,25	44,0	21,0	81	22	16,0	24	43	30,5	41	36	18	12	0,7	6,5	403	25100.0430
M12 x 1,25	44,0	21,0	85	26	16,0	24	43	34,5	41	36	18	12	0,7	10,0	406	25100.0432
M16 x 1,5	60,0	32,0	121	34	26,0	34	62	45,0	55	46	27	18	1,0	18,0	1128	25100.0436
M20 x 1,5	60,0	32,0	129	42	26,0	34	62	53,0	55	46	27	18	1,0	30,0	1155	25100.0440

APPLICATION EXAMPLE



Height Adjusting Elements

EH 25120.

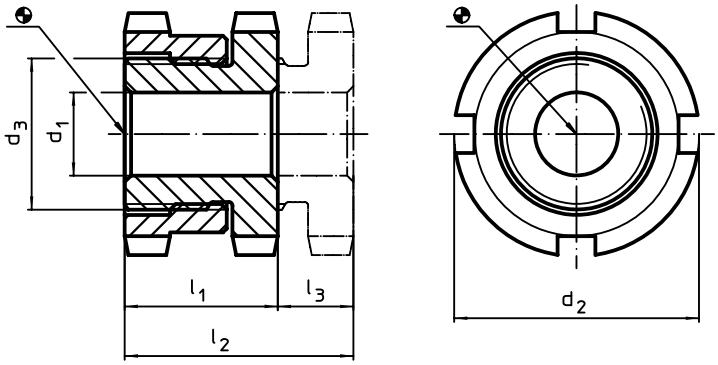
PRODUCT DESCRIPTION

For levelling of machines and installations.
For vertical adjustment, the self-locking height adjusting elements are fitted with a fine-pitch thread. All elements have a throughgoing bore for fastening purposes. A turn-out lock serves as height limit for the maximum adjustment height.

Material

- Heat-treated steel, zinc-plated by galvanization, chromalized

DRAWING



ORDER INFORMATION

Dimensions					Stroke	For screw	Load capacity for static load max.	Carrying force max.		Art. No.
d_1	d_2	d_3	l_1 ~	l_2 ~	l_3 ~					
[mm]					[mm]	[mm]	[kN]	[kN]	[g]	
6,6	25	M15 x 1	15	19	4	M 6	40	30,7	43	25120.0006
	32	M20 x 1	18	23	5	M 6	65	55,7	95	25120.0012
9,0	32	M20 x 1	18	23	5	M 8	65	48,0	86	25120.0014
11,0	32	M20 x 1	18	23	5	M10	65	37,9	79	25120.0016
	45	M30 x 1,5	22	29	7	M10	120	92,9	246	25120.0022
13,5	45	M30 x 1,5	22	29	7	M12	120	80,4	236	25120.0024
17,5	45	M30 x 1,5	22	29	7	M16	120	45,5	219	25120.0026
	58	M40 x 1,5	28	37	9	M16	210	136,0	450	25120.0032
22,0	58	M40 x 1,5	28	37	9	M20	210	90,0	434	25120.0034
26,0	58	M40 x 1,5	28	37	9	M24	210	37,0	364	25120.0036
22,0	70	M50 x 1,5	33	43	10	M20	330	210,0	773	25120.0042
26,0	70	M50 x 1,5	33	43	10	M24	330	157,0	748	25120.0044
33,0	70	M50 x 1,5	33	43	10	M30	330	53,0	640	25120.0046

ACCESSORIES

	For height adjusting element size d_2	Dimensions of sickle spanner DIN 1810, form A		Art. No.
	[mm]	[mm]	[g]	
sickle spanner for vertical adjustment				
	**25**	25 – 28	45	25120.0981
	32	30 – 32	46	25120.0982
	45	45 – 50	156	25120.0983
	58	58 – 62	250	25120.0984
	70	68 – 75	253	25120.0985

Height Adjusting Elements • high

EH 25120.

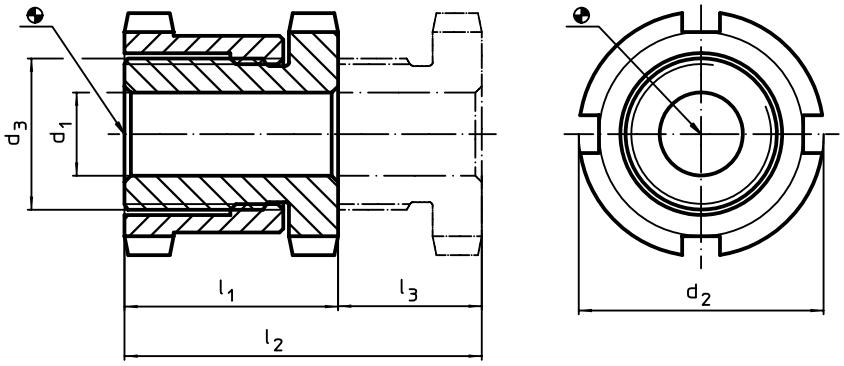
PRODUCT DESCRIPTION

For levelling of machines and installations.
For vertical adjustment, the self-locking height adjusting elements are fitted with a fine-pitch thread. All elements have a throughgoing bore for fastening purposes. A turn-out lock serves as height limit for the maximum adjustment height.

Material

- Heat-treated steel, zinc-plated by galvanization, chromalized

DRAWING



ORDER INFORMATION

Dimensions d_1	d_2	d_3	l_1 ~	l_2 ~	Stroke l_3 ~	For screw	Load capacity for static load max.	Carrying force max.		Art. No.
[mm]					[mm]	[mm]	[kN]	[kN]	[g]	
6,6	**25**	M15 x 1	28	43	15	M 6	40	30,7	68	25120.0106
	32	M20 x 1	35	55	20	M 6	65	55,7	161	25120.0112
9,0	**32**	M20 x 1	35	55	20	M 8	65	48,0	152	25120.0114
11,0	**32**	M20 x 1	35	55	20	M10	65	37,9	142	25120.0116
	45	M30 x 1,5	42	67	25	M10	120	92,9	371	25120.0122
13,5	**45**	M30 x 1,5	42	67	25	M12	120	80,4	357	25120.0124
17,5	**45**	M30 x 1,5	42	67	25	M16	120	45,5	321	25120.0126
	58	M40 x 1,5	54	86	32	M16	210	136,0	835	25120.0132
22,0	**58**	M40 x 1,5	54	86	32	M20	210	90,0	771	25120.0134
26,0	**58**	M40 x 1,5	54	86	32	M24	210	37,0	705	25120.0136
22,0	**70**	M50 x 1,5	66	106	40	M20	330	210,0	1421	25120.0142
26,0	**70**	M50 x 1,5	66	106	40	M24	330	157,0	1428	25120.0144
33,0	**70**	M50 x 1,5	66	106	40	M30	330	53,0	1167	25120.0146

ACCESSORIES

	For height adjusting element size d_2 [mm]	Dimensions of sickle spanner DIN 1810, form A [mm]	[g]	Art. No.
sickle spanner for vertical adjustment				
	**25**	25 – 28	45	25120.0981
	32	30 – 32	46	25120.0982
	45	45 – 50	156	25120.0983
	58	58 – 62	250	25120.0984
	70	68 – 75	253	25120.0985

Height Adjusting Elements • orienting

EH 25120.

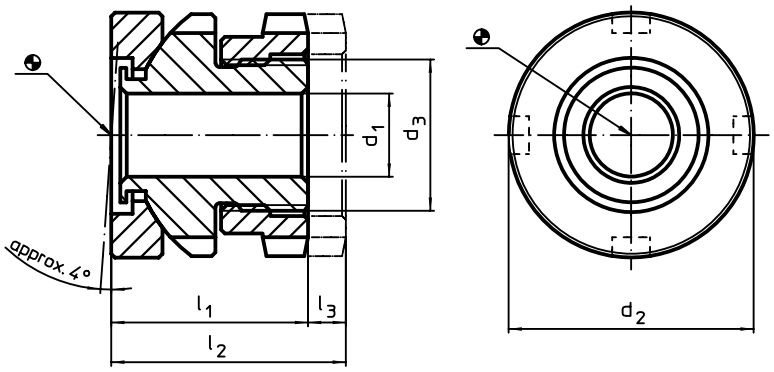
PRODUCT DESCRIPTION

For levelling of machines and installations when seating areas are not parallel.
For vertical adjustment, the self-locking height adjusting elements are fitted with a fine-pitch thread. All elements have a throughgoing bore for fastening purposes. A turn-out lock serves as height limit for the maximum adjustment height.

Material

- Heat-treated steel, zinc-plated by galvanization, chromalized

DRAWING



ORDER INFORMATION

Dimensions d_1	d_2	d_3	l_1 ~	l_2 ~	Stroke l_3 ~	For screw	Load capacity for static load max.	Carrying force max.		Art. No.
[mm]					[mm]	[mm]	[kN]	[kN]	[g]	
6,6	25	M15 x 1	22	26	4	M 6	40	30,7	66	25120.0206
	32	M20 x 1	26	31	5	M 6	65	55,7	133	25120.0212
9,0	32	M20 x 1	26	31	5	M 8	65	48,0	126	25120.0214
11,0	32	M20 x 1	26	31	5	M10	65	37,9	118	25120.0216
	45	M30 x 1,5	34	41	7	M10	120	92,9	340	25120.0222
13,5	45	M30 x 1,5	34	41	7	M12	120	80,4	316	25120.0224
17,5	45	M30 x 1,5	34	41	7	M16	120	45,5	324	25120.0226
	58	M40 x 1,5	44	53	9	M16	210	136,0	775	25120.0232
22,0	58	M40 x 1,5	44	53	9	M20	210	90,0	668	25120.0234
26,0	58	M40 x 1,5	44	53	9	M24	210	37,0	617	25120.0236
22,0	70	M50 x 1,5	50	60	10	M20	330	210,0	1157	25120.0242
26,0	70	M50 x 1,5	50	60	10	M24	330	157,0	1114	25120.0244
33,0	70	M50 x 1,5	50	60	10	M30	330	53,0	990	25120.0246

ACCESSORIES

	For height adjusting element size d_2 [mm]	Dimensions of sickle spanner DIN 1810, form A [mm]	[g]	Art. No.
sickle spanner for vertical adjustment				
	**25**	25 – 28	45	25120.0981
	32	30 – 32	46	25120.0982
	45	45 – 50	156	25120.0983
	58	58 – 62	250	25120.0984
	70	68 – 75	253	25120.0985

Rubber Metal Buffers

EH 25150.

PRODUCT DESCRIPTION

To be used for elastic bearing of motors, compressors, pumps etc.
The hardness is 55 ±5° shore A. Further shore hardnesses (40 ±5° shore A and 70 ±5° shore A) on request.

Material

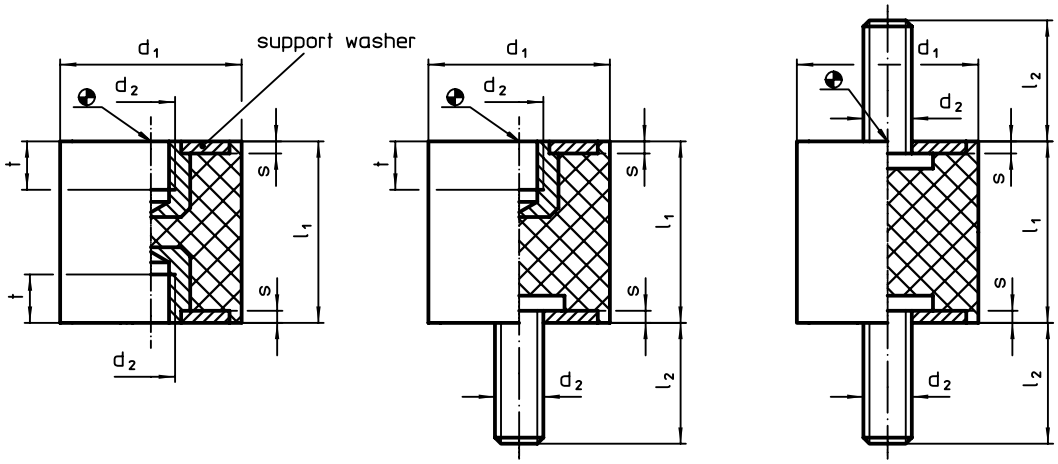
Support washer
- Steel, zinc-plated, blue chromated

Threaded bushing
- Steel, zinc-plated, blue chromated

Body
- Rubber natural caoutchouc (NR), black

Screw
- Steel, zinc-plated, blue chromated

DRAWING



picture 1 picture 2 picture 3

ORDER INFORMATION

Dimensions						Spring rate R ~	Load capacity max.	Spring range ~				Art. No.
d_1 ±1,5	l_1 ±1,5	d_2	l_2	s	t min.				min.	max.		
[mm]						[N/mm]	[N]	[mm]	[°C]		[g]	
with female thread, on both sides – picture 1												
8	**8**	M 3	–	1,0	3,0	38	75	2,00	-30	80	0,98	25150.0003
10	**10**	M 4	–	1,2	4,0	36	90	2,50	-30	80	1,77	25150.0006
	15	M 4	–	1,2	4,0	17	65	3,75	-30	80	2,26	25150.0007
15	**10**	M 4	–	1,4	4,0	80	200	2,50	-30	80	5,00	25150.0008
	15	M 4	–	1,4	4,0	36	135	3,75	-30	80	6,00	25150.0009
	20	M 4	–	1,4	4,0	30	152	5,00	-30	80	7,00	25150.0010
20	**15**	M 6	–	2,0	5,0	95	355	3,75	-30	80	10,00	25150.0021
	20	M 6	–	2,0	5,0	53	267	5,00	-30	80	20,00	25150.0022
	25	M 6	–	2,0	5,0	50	315	6,25	-30	80	20,00	25150.0023
25	**20**	M 6	–	2,0	5,0	121	605	5,00	-30	80	30,00	25150.0026
	25	M 6	–	2,0	5,0	85	530	6,25	-30	80	30,00	25150.0027
	30	M 6	–	2,0	5,0	77	575	7,50	-30	80	30,00	25150.0028
30	**30**	M 8	–	2,0	6,5	114	855	7,50	-30	80	50,00	25150.0031
	40	M 8	–	2,0	6,5	76	757	10,00	-30	80	50,00	25150.0032
40	**30**	M 8	–	2,0	6,5	205	1535	7,50	-30	80	80,00	25150.0041
	40	M 8	–	2,0	6,5	164	1635	10,00	-30	80	100,00	25150.0042
50	**30**	M10	–	2,0	7,0	343	2570	7,50	-30	80	130,00	25150.0051
	40	M10	–	2,0	7,0	245	2445	10,00	-30	80	150,00	25150.0052
	50	M10	–	2,0	7,0	178	2225	12,50	-30	80	130,00	25150.0053
60	**30**	M10	–	2,0	7,0	453	3400	7,50	-30	80	190,00	25150.0061
	40	M10	–	2,0	7,0	330	3300	10,00	-30	80	220,00	25150.0062
70	**45**	M10	–	3,0	7,0	356	4000	11,25	-30	80	340,00	25150.0071
75	**40**	M12	–	3,0	9,0	465	4650	10,00	-30	80	360,00	25150.0076
	55	M12	–	3,0	9,0	327	4500	13,75	-30	80	450,00	25150.0077

→

Dimensions						Spring rate R ~	Load capacity max.	Spring range ~				Art. No.
d_1 ±1,5	l_1 ±1,5	d_2	l_2	s	t min.				min.	max.		
[mm]						[N/mm]	[N]	[mm]	[°C]		[g]	
with female thread and screw – picture 2												
8	**8**	M 3	6	1,0	3,0	38	75	2,00	-30	80	1,11	25150.0103
10	**10**	M 4	10	1,2	4,0	36	90	2,50	-30	80	2,39	25150.0106
	15	M 4	10	1,2	4,0	17	65	3,75	-30	80	2,84	25150.0107
15	**10**	M 4	10	1,4	4,0	80	200	2,50	-30	80	6,00	25150.0108
	15	M 4	10	1,4	4,0	35	130	3,75	-30	80	7,00	25150.0109
	20	M 4	10	1,4	4,0	30	150	5,00	-30	80	8,00	25150.0110
20	**15**	M 6	18	2,0	5,0	95	355	3,75	-30	80	15,00	25150.0121
	20	M 6	18	2,0	5,0	53	265	5,00	-30	80	17,00	25150.0122
	25	M 6	18	2,0	5,0	50	315	6,25	-30	80	18,00	25150.0123
25	**15**	M 6	18	2,0	5,0	184	690	3,75	-30	80	26,00	25150.0126
	20	M 6	18	2,0	5,0	121	605	5,00	-30	80	28,00	25150.0127
	30	M 6	18	2,0	5,0	76	570	7,50	-30	80	36,00	25150.0128
30	**15**	M 8	20	2,0	6,5	143	535	3,75	-30	80	41,00	25150.0131
	30	M 8	20	2,0	6,5	113	850	7,50	-30	80	50,00	25150.0132
40	**20**	M 8	23	2,0	6,5	302	1510	5,00	-30	80	72,00	25150.0141
	30	M 8	23	2,0	6,5	204	1530	7,50	-30	80	85,00	25150.0142
	40	M 8	23	2,0	6,5	163	1630	10,00	-30	80	98,00	25150.0143
50	**20**	M10	28	2,0	7,0	720	3600	5,00	-30	80	115,00	25150.0151
	30	M10	28	2,0	7,0	343	2575	7,50	-30	80	135,00	25150.0152
	40	M10	28	2,0	7,0	244	2440	10,00	-30	80	160,00	25150.0153
	50	M10	28	2,0	7,0	176	2200	12,50	-30	80	185,00	25150.0154
60	**30**	M10	28	2,0	7,0	453	3400	7,50	-30	80	200,00	25150.0161
	40	M10	28	2,0	7,0	333	3330	10,00	-30	80	220,00	25150.0162
70	**45**	M10	27	3,0	7,0	356	4000	11,25	-30	80	372,00	25150.0171
75	**40**	M12	37	3,0	9,0	460	4600	10,00	-30	80	385,00	25150.0176
	55	M12	37	3,0	9,0	328	4510	13,75	-30	80	450,00	25150.0177
with screw, on both sides – picture 3												
8	**8**	M 3	6	1,0	–	35	70	2,00	-30	80	1,41	25150.0203
10	**10**	M 4	10	1,2	–	36	89	2,50	-30	80	2,99	25150.0206
	15	M 4	10	1,2	–	16	60	3,75	-30	80	3,50	25150.0207
15	**10**	M 4	10	1,4	–	79	198	2,50	-30	80	6,00	25150.0208
	15	M 4	10	1,4	–	33	125	3,75	-30	80	7,00	25150.0209
	20	M 4	10	1,4	–	29	145	5,00	-30	80	8,00	25150.0210
20	**15**	M 6	18	2,0	–	94	352	3,75	-30	80	18,00	25150.0221
	20	M 6	18	2,0	–	52	260	5,00	-30	80	25,00	25150.0222
	25	M 6	18	2,0	–	50	310	6,25	-30	80	20,00	25150.0223
25	**15**	M 6	18	2,0	–	183	687	3,75	-30	80	28,00	25150.0226
	20	M 6	18	2,0	–	120	602	5,00	-30	80	32,00	25150.0227
	30	M 6	18	2,0	–	75	562	7,50	-30	80	39,00	25150.0228
30	**15**	M 8	20	2,0	–	142	534	3,75	-30	80	45,00	25150.0231
	30	M 8	20	2,0	–	112	843	7,50	-30	80	58,00	25150.0232
40	**20**	M 8	23	2,0	–	300	1500	5,00	-30	80	80,00	25150.0241
	30	M 8	23	2,0	–	204	1527	7,50	-30	80	95,00	25150.0242
	40	M 8	23	2,0	–	162	1620	10,00	-30	80	100,00	25150.0243
50	**20**	M10	28	2,0	–	718	3589	5,00	-30	80	130,00	25150.0251
	30	M10	28	2,0	–	343	2570	7,50	-30	80	150,00	25150.0252
	40	M10	28	2,0	–	244	2436	10,00	-30	80	170,00	25150.0253
	50	M10	28	2,0	–	176	2198	12,50	-30	80	187,00	25150.0254
60	**30**	M10	28	2,0	–	453	3400	7,50	-30	80	210,00	25150.0261
	40	M10	28	2,0	–	330	3300	10,00	-30	80	236,00	25150.0262
70	**45**	M10	27	3,0	–	356	4000	11,25	-30	80	380,00	25150.0271
75	**40**	M12	37	3,0	–	450	4500	10,00	-30	80	410,00	25150.0276
	55	M12	37	3,0	–	320	4400	13,75	-30	80	515,00	25150.0277

Rubber Endstop Buffers • cylindrical

EH 25150.

PRODUCT DESCRIPTION

To be used as an elastic end-stop, bearing foot etc.
The hardness is 55 ±5° shore A. Further shore hardnesses (40 ±5° shore A and 70 ±5° shore A) on request.

Material

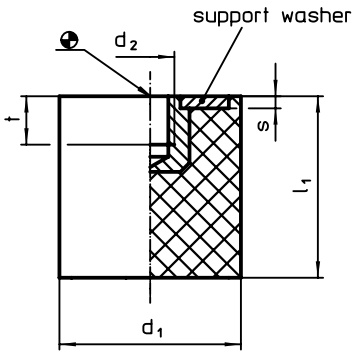
Support washer
- Steel, zinc-plated, blue chromated
- Stainless steel 1.4301

Threaded bushing
- Steel, zinc-plated, blue chromated
- Stainless steel 1.4301

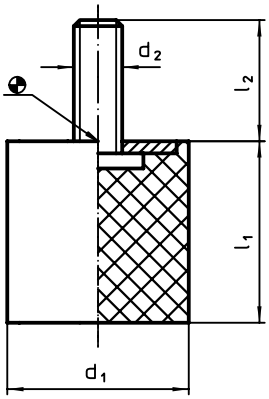
Body
- Rubber natural caoutchouc (NR), black

Screw
- Steel, zinc-plated, blue chromated
- Stainless steel 1.4301

DRAWING



picture 1



picture 2

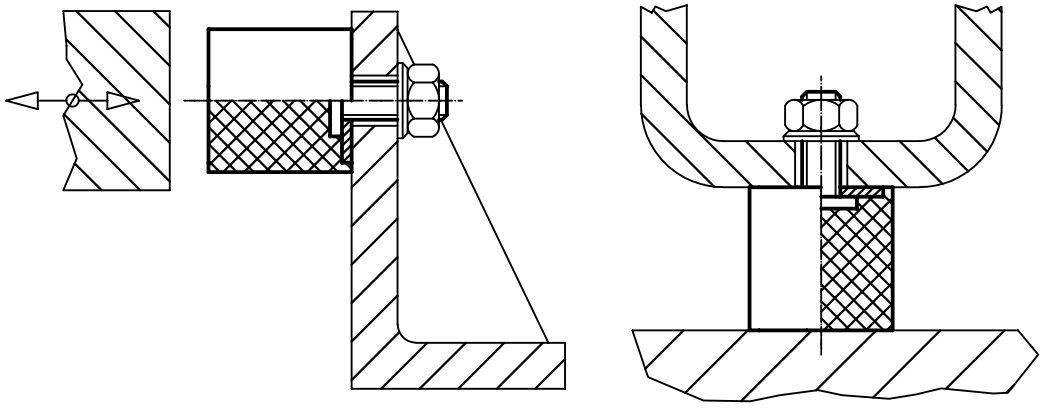
ORDER INFORMATION

Dimensions						Spring rate R ~	Load capacity max.	Spring range ~				Art. No.	
d_1	l_1	d_2	l_2	s	t				min.	max.		steel	stainless steel
[mm]						[N/mm]	[N]	[mm]	[°C]		[g]		
with female thread – picture 1													
10	10	M 4	–	1,2	4,0	24	59	2,50	-30	80	1,3	25150.0306	25150.1306
15	15	M 4	–	1,4	4,0	64	241	3,75	-30	80	4,6	25150.0309	25150.1309
	20	M 4	–	1,4	4,0	57	287	5,00	-30	80	6,0	25150.0310	25150.1310
20	15	M 6	–	2,0	5,0	77	289	3,75	-30	80	10,0	25150.0321	25150.1321
	20	M 6	–	2,0	5,0	60	302	5,00	-30	80	10,0	25150.0322	25150.1322
	25	M 6	–	2,0	5,0	48	297	6,25	-30	80	10,0	25150.0323	25150.1323
25	15	M 6	–	2,0	5,0	163	612	3,75	-30	80	20,0	25150.0326	25150.1326
	20	M 6	–	2,0	5,0	112	560	5,00	-30	80	20,0	25150.0327	25150.1327
	30	M 6	–	2,0	5,0	68	509	7,50	-30	80	20,0	25150.0328	25150.1328
30	15	M 8	–	2,0	6,5	294	934	3,75	-30	80	20,0	25150.0331	25150.1331
	20	M 8	–	2,0	6,5	185	924	5,00	-30	80	30,0	25150.0332	25150.1332
	30	M 8	–	2,0	6,5	117	876	7,50	-30	80	30,0	25150.0333	25150.1333
40	20	M 8	–	2,0	6,5	247	1235	5,00	-30	80	50,0	25150.0341	25150.1341
	30	M 8	–	2,0	6,5	213	1600	7,50	-30	80	70,0	25150.0342	25150.1342
	40	M 8	–	2,0	6,5	182	1820	10,00	-30	80	80,0	25150.0343	25150.1343
50	20	M10	–	2,0	7,0	517	2587	5,00	-30	80	80,0	25150.0351	25150.1351
	30	M10	–	2,0	7,0	327	2453	7,50	-30	80	100,0	25150.0352	25150.1352
	40	M10	–	2,0	7,0	247	2468	10,00	-30	80	120,0	25150.0353	25150.1353
60	30	M10	–	2,0	7,0	467	3500	7,50	-30	80	140,0	25150.0361	25150.1361
	50	M10	–	2,0	7,0	269	3367	12,50	-30	80	210,0	25150.0362	25150.1362
70	40	M10	–	3,0	7,0	410	4100	10,00	-30	80	260,0	25150.0371	25150.1371
	55	M10	–	3,0	7,0	327	4500	13,75	-30	80	340,0	25150.0372	25150.1372
75	30	M12	–	3,0	9,0	600	4500	7,50	-30	80	210,0	25150.0376	25150.1376
	40	M12	–	3,0	9,0	450	4500	10,00	-30	80	290,0	25150.0377	25150.1377
	50	M12	–	3,0	9,0	352	4400	12,50	-30	80	350,0	25150.0378	25150.1378
100	40	M16	–	3,0	16,0	810	8100	10,00	-30	80	514,0	25150.0382	25150.1382
	50	M16	–	3,0	16,0	640	8000	12,50	-30	80	607,0	25150.0384	25150.1384
	60	M16	–	3,0	16,0	520	7800	15,00	-30	80	698,0	25150.0386	25150.1386

→

Dimensions						Spring rate R ~	Load capacity max.	Spring range ~				Art. No.	
d_1	l_1	d_2	l_2	s	t				min.	max.		steel	stainless steel
[mm]						[N/mm]	[N]	[mm]	[°C]		[g]		
with screw – picture 2													
8	**8**	M 3	6	1,0	–	20	40	2,00	-30	80	1,0	25150.0403	25150.1403
10	**10**	M 4	10	1,2	–	24	59	2,50	-30	80	1,9	25150.0406	25150.1406
	15	M 4	10	1,2	–	21	78	3,75	-30	80	2,0	25150.0407	25150.1407
15	**10**	M 4	10	1,4	–	77	154	2,00	-30	80	4,0	25150.0408	25150.1408
	15	M 4	10	1,4	–	64	241	3,75	-30	80	5,0	25150.0409	25150.1409
	20	M 4	10	1,4	–	57	287	5,00	-30	80	6,0	25150.0410	25150.1410
	30	M 4	10	1,4	–	48	300	6,25	-30	80	8,0	25150.0411	25150.1411
20	**10**	M 6	18	2,0	–	126	315	2,50	-30	80	15,0	25150.0421	25150.1421
	15	M 6	18	2,0	–	77	289	3,75	-30	80	10,0	25150.0422	25150.1422
	20	M 6	18	2,0	–	60	302	5,00	-30	80	13,0	25150.0423	25150.1423
	30	M 6	18	2,0	–	38	285	7,50	-30	80	20,0	25150.0424	25150.1424
25	**15**	M 6	18	2,0	–	163	612	3,75	-30	80	18,0	25150.0426	25150.1426
	20	M 6	18	2,0	–	112	560	5,00	-30	80	20,0	25150.0427	25150.1427
	30	M 6	18	2,0	–	68	509	7,50	-30	80	25,0	25150.0428	25150.1428
30	**15**	M 8	20	2,0	–	294	934	3,75	-30	80	28,0	25150.0431	25150.1431
	20	M 8	20	2,0	–	185	924	5,00	-30	80	35,0	25150.0432	25150.1432
	25	M 8	20	2,0	–	130	815	6,25	-30	80	38,0	25150.0433	25150.1433
	30	M 8	20	2,0	–	117	876	7,50	-30	80	43,0	25150.0434	25150.1434
40	**20**	M 8	23	2,0	–	247	1235	5,00	-30	80	55,0	25150.0441	25150.1441
	25	M 8	23	2,0	–	247	1546	6,25	-30	80	60,0	25150.0442	25150.1442
	30	M 8	23	2,0	–	213	1600	7,50	-30	80	73,0	25150.0443	25150.1443
	40	M 8	23	2,0	–	182	1820	10,00	-30	80	83,0	25150.0444	25150.1444
50	**20**	M10	28	2,0	–	517	2587	5,00	-30	80	90,0	25150.0451	25150.1451
	30	M10	28	2,0	–	327	2453	7,50	-30	80	118,0	25150.0452	25150.1452
	40	M10	28	2,0	–	247	2468	10,00	-30	80	140,0	25150.0453	25150.1453
60	**20**	M10	28	2,0	–	726	3630	5,00	-30	80	117,0	25150.0461	25150.1461
	40	M10	28	2,0	–	340	3400	10,00	-30	80	195,0	25150.0462	25150.1462
70	**40**	M10	27	3,0	–	410	4100	10,00	-30	80	265,0	25150.0471	25150.1471
	55	M10	27	3,0	–	327	4500	13,75	-30	80	357,0	25150.0472	25150.1472
75	**25**	M12	37	3,0	–	752	4700	6,25	-30	80	223,0	25150.0476	25150.1476
	40	M12	37	3,0	–	450	4500	10,00	-30	80	310,0	25150.0477	25150.1477
	50	M12	37	3,0	–	352	4400	12,50	-30	80	340,0	25150.0478	25150.1478
100	**40**	M16	41	3,0	–	810	8100	10,00	-30	80	570,0	25150.0482	25150.1482
	50	M16	41	3,0	–	640	8000	12,50	-30	80	656,0	25150.0484	25150.1484
	60	M16	41	3,0	–	520	7800	15,00	-30	80	750,0	25150.0486	25150.1486

APPLICATION EXAMPLE



Rubber Endstop Buffers • parabolic

EH 25150.

PRODUCT DESCRIPTION

To be used as an elastic end-stop.
Due to the parabolic form the absorption is first soft and raises progressively.
The hardness is 55 ±5° shore A. Further shore hardnesses (40 ±5° shore A and 70 ±5° shore A) on request.

Material

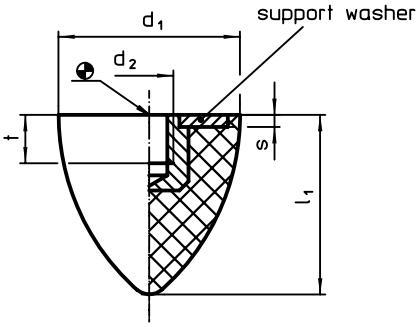
Support washer
- Steel, zinc-plated, blue chromated

Threaded bushing
- Steel, zinc-plated, blue chromated

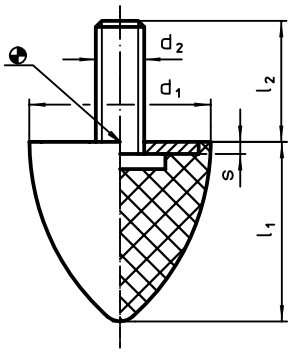
Body
- Rubber natural caoutchouc (NR), black

Screw
- Steel, zinc-plated, blue chromated

DRAWING



picture 1

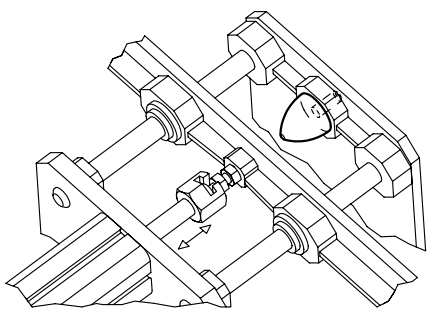


picture 2

ORDER INFORMATION

Dimensions						Average spring range ~	Load capacity max.	Spring range ~	min.	max.		Art. No.
d_1 ±1,5	l_1 ±1,5	d_2	l_2	s	t min.							
[mm]						[N/mm]	[N]	[mm]	[°C]		[g]	
with female thread – picture 1												
20	**24**	M 6	–	2	5,0	16,6	100	6,00	-30	80	10	25150.0522
30	**30**	M 8	–	2	6,5	24,0	150	6,25	-30	80	30	25150.0532
	36	M 8	–	2	6,5	26,6	200	7,50	-30	80	30	25150.0533
35	**40**	M 8	–	2	6,5	65,0	650	10,00	-30	80	40	25150.0537
50	**61**	M 8	–	2	6,5	50,0	750	15,00	-30	80	110	25150.0552
	68	M10	–	2	7,0	50,0	850	17,00	-30	80	120	25150.0553
with screw – picture 2												
20	**24**	M 6	18	2	–	16,6	100	6,00	-30	80	11	25150.0622
30	**30**	M 8	18	2	–	24,0	150	6,25	-30	80	20	25150.0632
	36	M 8	20	2	–	26,6	200	7,50	-30	80	39	25150.0633
35	**40**	M 8	23	2	–	65,0	650	10,00	-30	80	45	25150.0637
50	**61**	M 8	28	2	–	50,0	750	15,00	-30	80	114	25150.0652
	68	M10	28	2	–	50,0	850	17,00	-30	80	131	25150.0653

APPLICATION EXAMPLE



Rubber Endstop Buffers • truncated cone form

EH 25150.

PRODUCT DESCRIPTION

To be used as an elastic end-stop, bearing foot etc.
The hardness is 55 ±5° shore A. Further shore hardnesses (40 ±5° shore A and 70 ±5° shore A) on request.

Material

Support washer
- Steel, zinc-plated by galvanization, passivated
- Stainless steel 1.4301

Threaded bushing
- Steel, zinc-plated by galvanization, passivated
- Stainless steel 1.4301

Body
- NBR

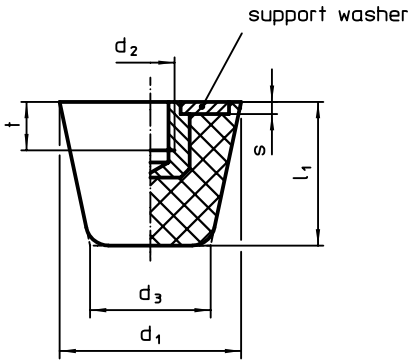
Screw
- Steel, zinc-plated by galvanization, passivated
- Stainless steel 1.4301

MORE INFORMATION

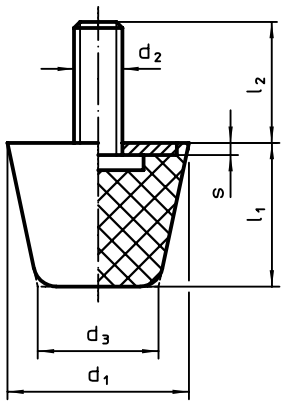
Further products

Silicone Endstop Buffers, truncated cone form. . . . . → p. 692

DRAWING



picture 1



picture 2

ORDER INFORMATION

Dimensions							Spring rate R ~	Load capacity max.	Spring range ~	min.	max.		Art. No.	
d_1	d_2	l_2	d_3	l_1	s	t							steel	stainless steel
[mm]							[N/mm]	[N]	[mm]	[°C]		[g]		
with female thread – picture 1														
19	**M 5**	–	12,0	16,0	2	5	28	110	4,00	-30	80	7	25150.0719	25150.0919
25	**M 6**	–	16,5	20,5	2	6	82	430	5,25	-30	80	13	25150.0725	25150.0925
32	**M 8**	–	21,0	26,0	2	8	140	910	6,50	-30	80	27	25150.0732	25150.0932
38	**M 8**	–	24,5	32,0	2	8	125	1200	9,50	-30	80	44	25150.0738	25150.0938
50	**M10**	–	32,0	43,0	2	10	155	1620	10,50	-30	80	95	25150.0750	25150.0950
with screw – picture 2														
19	**M 5**	**6**	12,0	16,0	2	–	28	110	4,00	-30	80	8	25150.0819	25150.1019
		10	12,0	16,0	2	–	28	110	4,00	-30	80	8	25150.0820	25150.1020
		20	12,0	16,0	2	–	28	110	4,00	-30	80	9	25150.0821	25150.1021
25	**M 6**	**8**	16,5	20,5	2	–	82	430	5,25	-30	80	16	25150.0825	25150.1025
		12	16,5	20,5	2	–	82	430	5,25	-30	80	17	25150.0826	25150.1026
		25	16,5	20,5	2	–	82	430	5,25	-30	80	19	25150.0827	25150.1027
32	**M 8**	**10**	21,0	26,0	2	–	140	910	6,50	-30	80	30	25150.0832	25150.1032
		16	21,0	26,0	2	–	140	910	6,50	-30	80	32	25150.0833	25150.1033
		30	21,0	26,0	2	–	140	910	6,50	-30	80	37	25150.0834	25150.1034
38	**M 8**	**10**	24,5	32,0	2	–	125	1200	9,50	-30	80	47	25150.0838	25150.1038
		16	24,5	32,0	2	–	125	1200	9,50	-30	80	49	25150.0839	25150.1039
		30	24,5	32,0	2	–	125	1200	9,50	-30	80	52	25150.0840	25150.1040
50	**M10**	**12**	32,0	43,0	2	–	155	1620	10,50	-30	80	100	25150.0850	25150.1050
		20	32,0	43,0	2	–	155	1620	10,50	-30	80	103	25150.0851	25150.1051
		40	32,0	43,0	2	–	155	1620	10,50	-30	80	114	25150.0852	25150.1052

Silicone Endstop Buffers • truncated cone form

EH 25151.

PRODUCT DESCRIPTION

Because of the high material purity, this version is suitable for all types of application which have demanding hygienic requirements (e.g. foodstuffs industry).
To be used as an elastic end-stop, bearing foot etc.
Endstop buffers made from silicone rubber have a wider temperature range for use than rubber endstop buffers.
The hardness is 55 ±5° shore A. Further shore hardnesses (40 ±5° shore A and 70 ±5° shore A) on request.

Material

Support washer
- Stainless steel 1.4301

Threaded bushing
- Stainless steel 1.4301

Body
- Silicone rubber

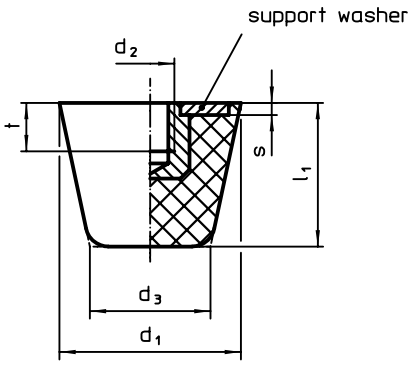
Screw
- Stainless steel 1.4301

MORE INFORMATION

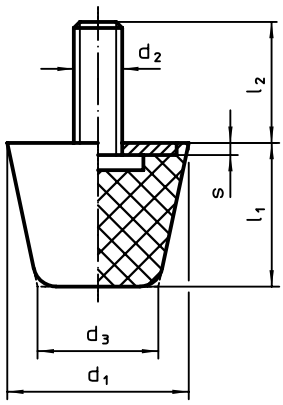
Further products

Rubber Endstop Buffers, truncated cone form. . . . . → p. 691

DRAWING



picture 1



picture 2

ORDER INFORMATION

Dimensions							Spring rate R ~	Load capacity max.	Spring range ~	min.	max.		Art. No.
d_1	d_2	l_2	d_3	l_1	s	t	[N/mm]	[N]	[mm]	[°C]		[g]	
with female thread – picture 1													
19	**M 5**	–	12,0	16,0	2	5	63	250	4,0	-30	200	7	25151.0019
25	**M 6**	–	16,5	20,5	2	6	90	460	5,1	-30	200	14	25151.0025
32	**M 8**	–	21,0	26,0	2	8	117	760	6,5	-30	200	20	25151.0032
38	**M 8**	–	24,5	32,0	2	8	113	900	8,0	-30	200	46	25151.0038
50	**M10**	–	32,0	43,0	2	10	148	1580	10,7	-30	200	96	25151.0050
with screw – picture 2													
19	**M 5**	**6**	12,0	16,0	2	–	63	250	4,0	-30	200	7	25151.0119
		10	12,0	16,0	2	–	63	250	4,0	-30	200	8	25151.0120
		20	12,0	16,0	2	–	63	250	4,0	-30	200	10	25151.0121
25	**M 6**	**8**	16,5	20,5	2	–	90	460	5,1	-30	200	15	25151.0125
		12	16,5	20,5	2	–	90	460	5,1	-30	200	16	25151.0126
		25	16,5	20,5	2	–	90	460	5,1	-30	200	19	25151.0127
32	**M 8**	**10**	21,0	26,0	2	–	117	760	6,5	-30	200	30	25151.0132
		16	21,0	26,0	2	–	117	760	6,5	-30	200	33	25151.0133
		30	21,0	26,0	2	–	117	760	6,5	-30	200	38	25151.0134
38	**M 8**	**10**	24,5	32,0	2	–	113	900	8,0	-30	200	47	25151.0138
		16	24,5	32,0	2	–	113	900	8,0	-30	200	50	25151.0139
		30	24,5	32,0	2	–	113	900	8,0	-30	200	56	25151.0140
50	**M10**	**12**	32,0	43,0	2	–	148	1580	10,7	-30	200	97	25151.0150
		20	32,0	43,0	2	–	148	1580	10,7	-30	200	100	25151.0151
		40	32,0	43,0	2	–	148	1580	10,7	-30	200	110	25151.0152

Rubber Endstop Buffers • low structure

EH 25150.

PRODUCT DESCRIPTION

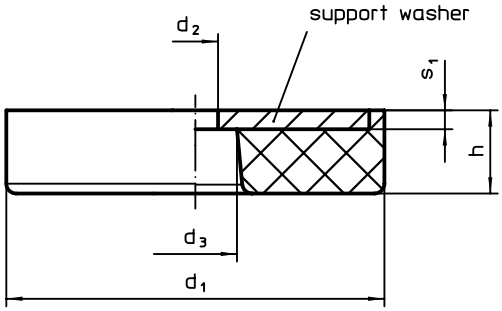
For elastic, damping, and noise-reducing bearings. They also protect the surfaces. The rubber endstop buffers can also be used as spacers and foot ends.
Hardness is 70 ±5° Shore A.

Material

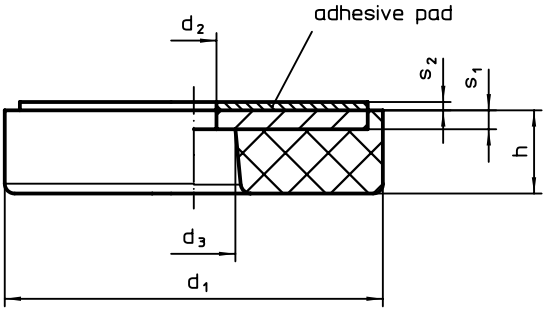
Support washer
- Steel, zinc-plated by galvanization, passivated

Body
- NBR

DRAWING



picture 1



picture 2

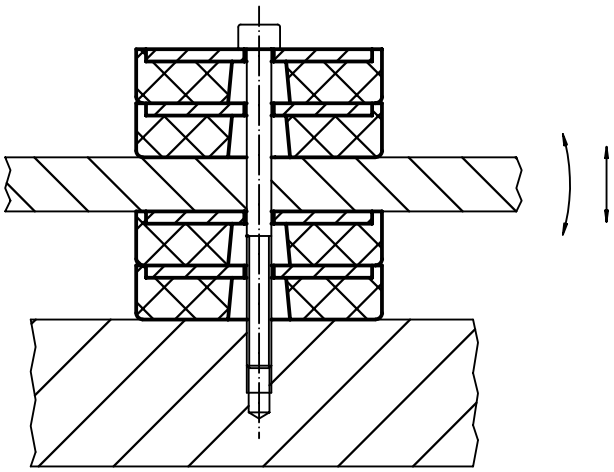
ORDER INFORMATION

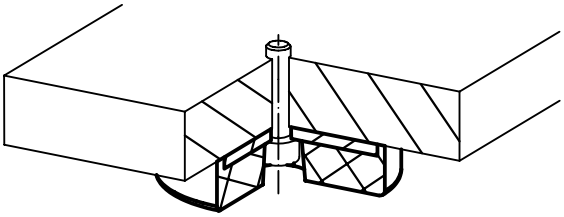
Dimensions						Spring rate R	Load capacity max.	Spring range				Art. No.
d_1	h	d_2 +0,5	d_3 +0,5	s_1	s_2				min.	max.		
[mm]						[N/mm]	[N]	[mm]	[°C]		[g]	
with through-bore – picture 1												
19	**3**	4	7,5	1,5	1,1	282	480	1,70	-30	120	3	25150.1119
	7	4	7,5	1,5	1,1	213	373	1,75	-30	120	4	25150.1120
	14	4	7,5	1,5	1,1	68	240	3,50	-30	120	6	25150.1121
25	**3**	4	7,5	1,5	1,1	1870	1870	1,00	-30	120	5	25150.1125
	8	4	7,5	1,5	1,1	349	698	2,00	-30	120	8	25150.1126
	16	4	7,5	1,5	1,1	135	540	4,00	-30	120	12	25150.1127
32	**4**	5	9,0	2,0	1,1	1680	1680	1,00	-30	120	12	25150.1132
	9	5	9,0	2,0	1,1	548	1233	2,25	-30	120	16	25150.1133
	18	5	9,0	2,0	1,1	212	850	4,00	-30	120	23	25150.1134
38	**4**	5	9,0	2,0	1,1	1500	1500	1,00	-30	120	17	25150.1138
	10	5	9,0	2,0	1,1	704	1760	2,50	-30	120	24	25150.1139
	20	5	9,0	2,0	1,1	230	920	4,00	-30	120	36	25150.1140
50	**5**	6	11,0	2,5	1,1	3600	3600	1,00	-30	120	40	25150.1150
	11	6	11,0	2,5	1,1	1223	3670	3,00	-30	120	56	25150.1151
	22	6	11,0	2,5	1,1	500	2500	5,00	-30	120	76	25150.1152
64	**5**	6	11,0	2,5	1,1	1460	1460	1,00	-30	120	66	25150.1164
	13	6	11,0	2,5	1,1	2016	6050	3,00	-30	120	94	25150.1165
	26	6	11,0	2,5	1,1	616	3700	6,00	-30	120	141	25150.1166

→

Dimensions						Spring rate R	Load capacity max.	Spring range				Art. No.
d_1	h	d_2 +0,5	d_3 +0,5	s_1	s_2				min.	max.		
[mm]						[N/mm]	[N]	[mm]	[°C]		[g]	
with through-bore and adhesive pad – picture 2												
19	**3**	4	7,5	1,5	1,1	282	480	1,70	-30	120	3	**25150.1219**
	7	4	7,5	1,5	1,1	213	373	1,75	-30	120	5	**25150.1220**
	14	4	7,5	1,5	1,1	68	240	3,50	-30	120	7	**25150.1221**
25	**3**	4	7,5	1,5	1,1	1870	1870	1,00	-30	120	7	**25150.1225**
	8	4	7,5	1,5	1,1	349	698	2,00	-30	120	9	**25150.1226**
	16	4	7,5	1,5	1,1	135	540	4,00	-30	120	13	**25150.1227**
32	**4**	5	9,0	2,0	1,1	1680	1680	1,00	-30	120	14	**25150.1232**
	9	5	9,0	2,0	1,1	548	1233	2,25	-30	120	18	**25150.1233**
	18	5	9,0	2,0	1,1	212	850	4,00	-30	120	25	**25150.1234**
38	**4**	5	9,0	2,0	1,1	1500	1500	1,00	-30	120	19	**25150.1238**
	10	5	9,0	2,0	1,1	704	1760	2,50	-30	120	26	**25150.1239**
	20	5	9,0	2,0	1,1	230	920	4,00	-30	120	38	**25150.1240**
50	**5**	6	11,0	2,5	1,1	3600	3600	1,00	-30	120	41	**25150.1250**
	11	6	11,0	2,5	1,1	1223	3670	3,00	-30	120	54	**25150.1251**
	22	6	11,0	2,5	1,1	500	2500	5,00	-30	120	77	**25150.1252**
64	**5**	6	11,0	2,5	1,1	1460	1460	1,00	-30	120	71	**25150.1264**
	13	6	11,0	2,5	1,1	2016	6050	3,00	-30	120	99	**25150.1265**
	26	6	11,0	2,5	1,1	616	3700	6,00	-30	120	141	**25150.1266**

APPLICATION EXAMPLE





Rubber Endstop Buffers • cylindrical, front mounting

EH 25150.

PRODUCT DESCRIPTION

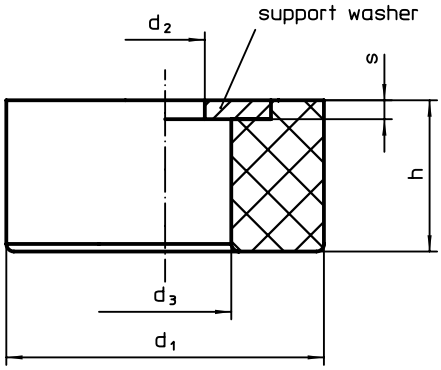
To be used as an elastic end-stop, bearing foot etc.
The hardness is 55 ±5° shore A. Further shore hardnesses (40 ±5° shore A and 70 ±5° shore A) on request.

Material

Body
- NBR

Support washer
- Stainless steel 1.4301

DRAWING



ORDER INFORMATION

Dimensions					Spring rate R ~	Load capacity max.	Spring range ~	Temperature		Weight	Art. No.
d_1	h	d_2	d_3	s				min.	max.		
[mm]					[N/mm]	[N]	[mm]	[°C]		[g]	
16	**8**	**4,3**	8,0	1,0	140	280	2,0	-30	120	2	**25150.1516**
20	**10**	**5,3**	9,5	1,2	148	370	2,5	-30	120	4	**25150.1520**
25	**12**	**6,4**	12,2	1,6	210	630	3,0	-30	120	8	**25150.1525**
35	**16**	**8,4**	14,0	2,0	345	1380	4,0	-30	120	20	**25150.1535**
42	**20**	**8,4**	17,5	2,0	360	1800	5,0	-30	120	30	**25150.1542**
		10,5	17,5	2,5	360	1800	5,0	-30	120	35	**25150.1543**
56	**24**	**8,4**	19,5	2,0	577	3460	6,0	-30	120	62	**25150.1556**
		13,0	19,5	3,0	577	3460	6,0	-30	120	76	**25150.1557**

Hinges

EH 25160.

PRODUCT DESCRIPTION

Hinges are characterised by their compact and stable construction.

Material

Body
- Zinc die-cast, chromed
- Zinc die-cast, plastic coated, silver, similar to RAL 9006, matt structure
- Zinc die-cast, plastic coated, black, similar to RAL 9005, matt structure
- Stainless steel 1.4308

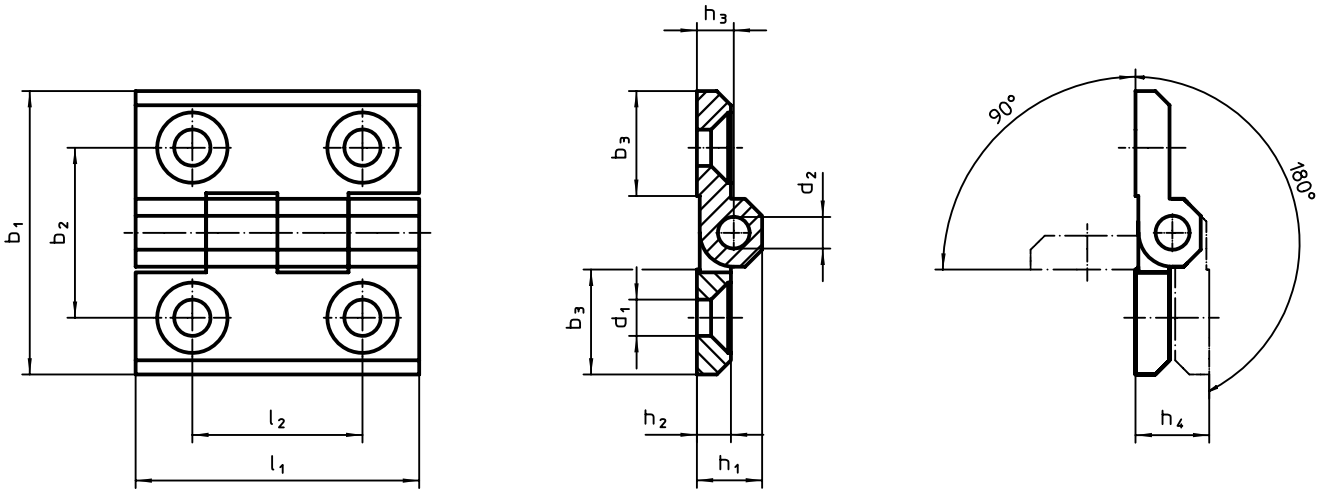
Axis
- Stainless steel

MORE INFORMATION

Further products

Spacer Plates, for hinges . . . . . → p. 699
Threaded Plates, for hinges . . . . . → p. 700
Stops, for hinges . . . . . → p. 701

DRAWING



ORDER INFORMATION

Dimensions												Art. No.			
b_1	b_2	b_3	d_1	d_2	h_1	h_2	h_3	h_4 +0,5	l_1	l_2		zinc die-cast, chromed	zinc die-cast, silver	zinc die-cast, black	stainless steel
[mm]											[g]				
30	18	10,7	4,3	3	7,5	4,5	4	8,5	30	18	25	25160.0005	25160.0105	25160.0205	25160.0305
40	25	14,0	5,3	4	9,0	5,5	5	11,0	40	25	60	25160.0010	25160.0110	25160.0210	25160.0310
50	30	18,5	6,4	6	11,5	6,5	6	13,0	50	30	107	25160.0015	25160.0115	25160.0215	25160.0315
60	36	21,5	8,3	8	15,0	8,5	8	17,0	60	36	200	25160.0020	25160.0120	25160.0220	25160.0320

Hinges • with mounting thread

EH 25160.

PRODUCT DESCRIPTION

Material

Threaded pin
- Stainless steel

Body
- Zinc die-cast, chromed
- Zinc die-cast, plastic coated, silver, similar to RAL 9006, matt structure
- Zinc die-cast, plastic coated, black, similar to RAL 9005, matt structure
- Stainless steel 1.4308

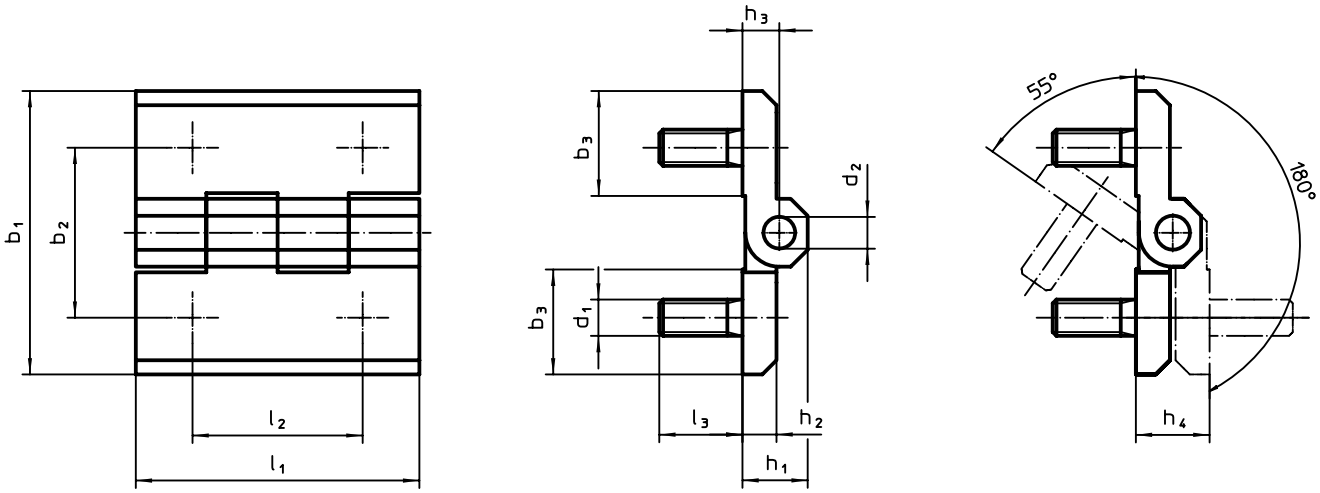
Axis
- Stainless steel

MORE INFORMATION

Further products

Spacer Plates, for hinges . . . . . → p. 699

DRAWING



ORDER INFORMATION

Dimensions													Art. No.			
b_1	b_2	b_3	d_1	d_2	h_1	h_2	h_3	h_4 +0,5	l_1	l_2	l_3	[g]	zinc die-cast, chromed	zinc die-cast, silver	zinc die-cast, black	stainless steel
[mm]																
40	25	14,0	M5	5,3	9,0	5,5	5	11	40	25	12	61	25160.0050	25160.0150	25160.0250	–
											11	69	–	–	–	25160.0350
50	30	18,5	M6	6,4	11,5	6,5	6	13	50	30	12	102	25160.0055	25160.0155	25160.0255	–
											13	128	–	–	–	25160.0355
60	36	21,5	M8	8,3	15,0	8,5	8	17	60	36	14	194	25160.0060	25160.0160	25160.0260	–
											17	240	–	–	–	25160.0360

Hinges • with adjustable friction resistance

EH 25160.

PRODUCT DESCRIPTION

Hinges are characterised by their compact and stable construction, and by the ability to set the friction.
The design ensures that the hinge has no play (either radially or axially).

Material

Friction cone
- Thermoplastic POM

Body
- Zinc die-cast, plastic coated, silver, similar to RAL 9006, matt structure
- Zinc die-cast, plastic coated, black, similar to RAL 9005, matt structure

Hinge pin
- Steel, zinc-plated by galvanization, passivated

Nut
- Steel, zinc-plated by galvanization, passivated

Assembly

Installation of the hinge of the component. The hinge's ease of pivoting can then be adjusted by tightening or loosening the hinge pin. This allows a constant braking torque to be applied throughout the pivot range.

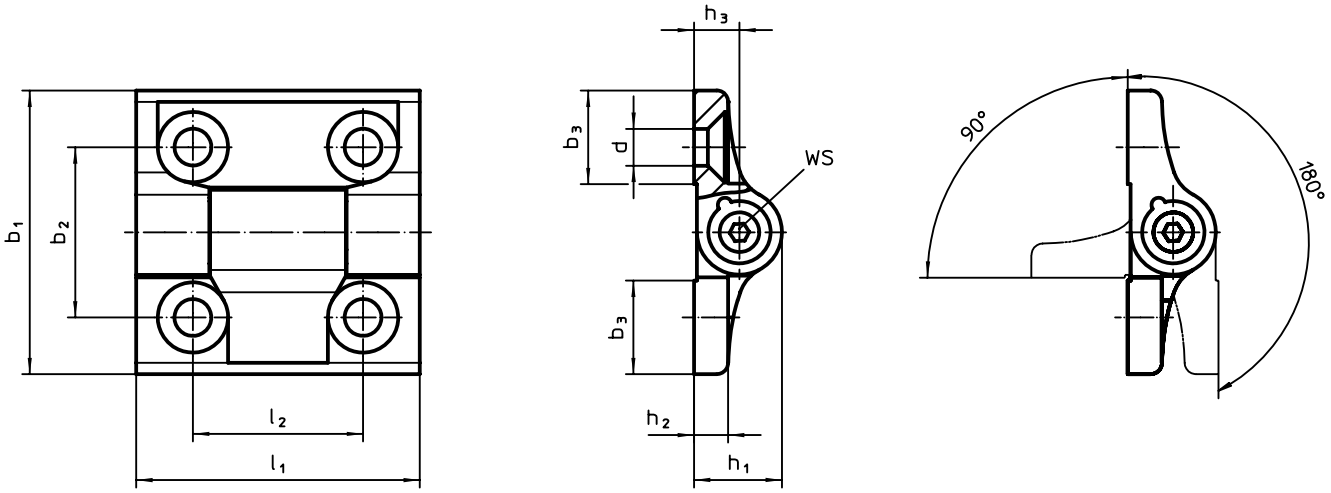
MORE INFORMATION

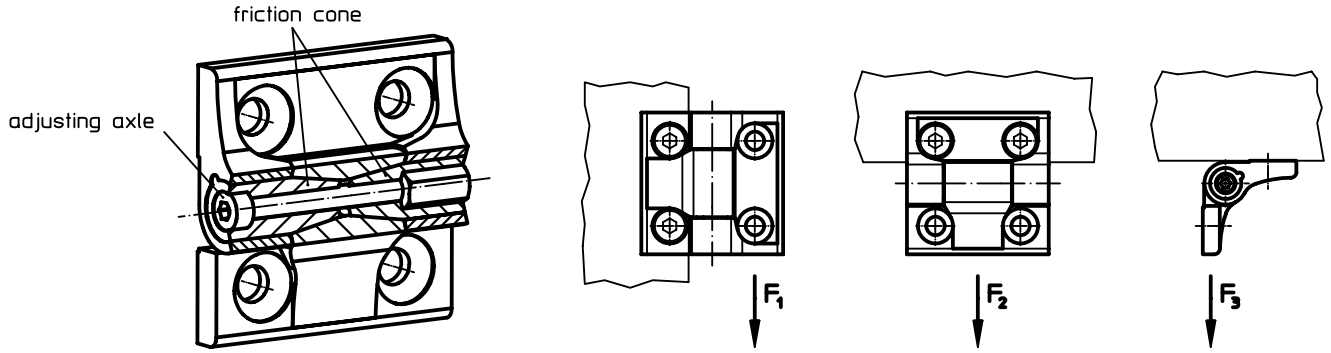
Further products

Spacer Plates, for hinges . . . . . → p. 699
Threaded Plates, for hinges . . . . . → p. 700
Stops, for hinges . . . . . → p. 701

5

DRAWING





ORDER INFORMATION

Dimensions									WS	Load capacity			Hinge pin				Art. No.	
b_1	b_2	b_3	d	h_1	h_2	h_3	l_1	l_2		Radial load bearing capacity F1 max.	Axial load bearing capacity F2 max.	Load capacity F3 max.	Tightening torque max.	Torque	max.		silver	black
[mm]									[mm]	[kN]			[Nm]		[°C]	[g]		
40	25	13,0	5,3	13,5	5,0	7,0	40	25	2,5	2,4	1,2	1,5	0,50	2,0	80	53	25160.0400	25160.0500
50	30	16,5	6,5	15,5	6,0	8,0	50	30	3,0	3,2	1,6	2,0	0,75	4,0	80	91	25160.0405	25160.0505
60	36	20,0	8,3	18,5	7,5	9,5	60	36	4,0	4,5	2,0	2,4	1,50	6,5	80	161	25160.0410	25160.0510

Spacer Plates • for hinges

EH 25160.

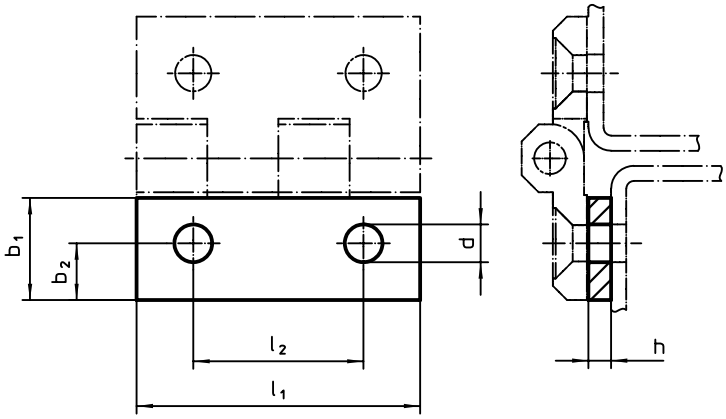
PRODUCT DESCRIPTION

Spacer plates are used for height compensation when installing hinges.

Material

- Stainless steel 1.4301, matt, vibratory ground

DRAWING



ORDER INFORMATION

Dimensions [mm]						[g]	Art. No.
l_1	b_1	h	b_2	d	l_2		
30	10,8	**1,0**	6,0	4	18	2	25160.0605
		1,5	6,0	4	18	3	25160.0610
		3,0	6,0	4	18	6	25160.0615
		5,0	6,0	4	18	10	25160.0620
40	14,5	**1,0**	7,5	5	25	4	25160.0625
		1,5	7,5	5	25	6	25160.0630
		3,0	7,5	5	25	12	25160.0635
		5,0	7,5	5	25	20	25160.0640
50	18,0	**1,0**	10,0	6	30	6	25160.0645
		1,5	10,0	6	30	15	25160.0650
		3,0	10,0	6	30	20	25160.0655
		5,0	10,0	6	30	31	25160.0660
60	21,5	**1,0**	12,5	8	36	9	25160.0665
		1,5	12,5	8	36	14	25160.0670
		3,0	12,5	8	36	27	25160.0675
		5,0	12,5	8	36	44	25160.0680

Threaded Plates • for hinges

EH 25160.

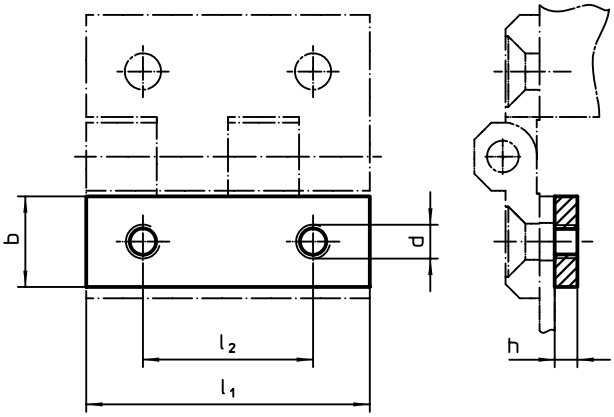
PRODUCT DESCRIPTION

Threaded plates simplify the installation of hinges, without requiring an additional nut or washer. Counter-holding while tightening is unnecessary.

Material

- Stainless steel 1.4301, matt, vibratory ground

DRAWING



ORDER INFORMATION

Dimensions [mm]					[g]	Art. No.
l_1	b	h	d	l_2		
30	**9**	**3**	M4	18	5	**25160.0705**
40	**12**	**3**	M5	25	10	**25160.0710**
50	**15**	**4**	M6	30	21	**25160.0715**
60	**18**	**4**	M8	36	29	**25160.0720**

Stops • for hinges

EH 25160.

PRODUCT DESCRIPTION

Stops are used in order to restrict the hinge's pivot angle. The component also acts as a damping stop element.

Material

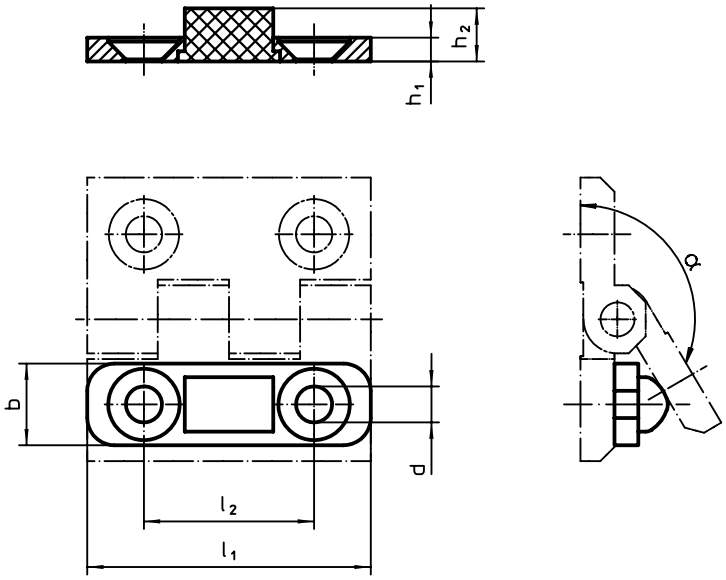
Holding plate
- Steel investment casting, galvanised, plastic coated, similar to RAL 9005, black, structural matt

Stop
- NBR

Assembly

The stop is screwed onto the hinge.

DRAWING



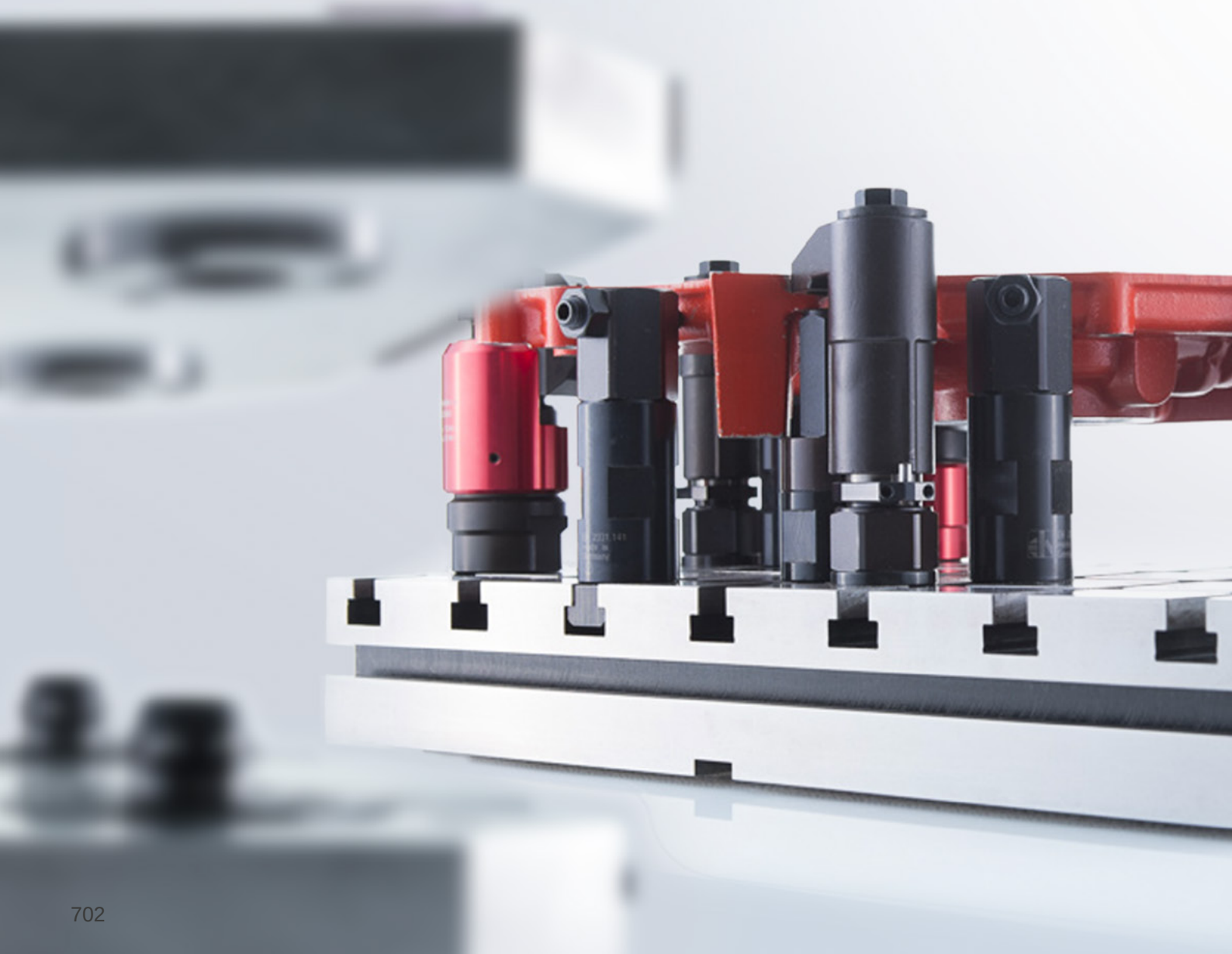
ORDER INFORMATION

Dimensions						α ~	max.		Art. No.
l_1	h_1	b	d	h_2	l_2				
[mm]							[°C]	[g]	
40	**3,5**	12	5,3	7,8	25	150°	120	10	25160.0805
50	**4,0**	15	6,3	9,2	30	150°	120	12	25160.0810
60	**5,0**	18	8,3	10,9	36	150°	120	21	25160.0815

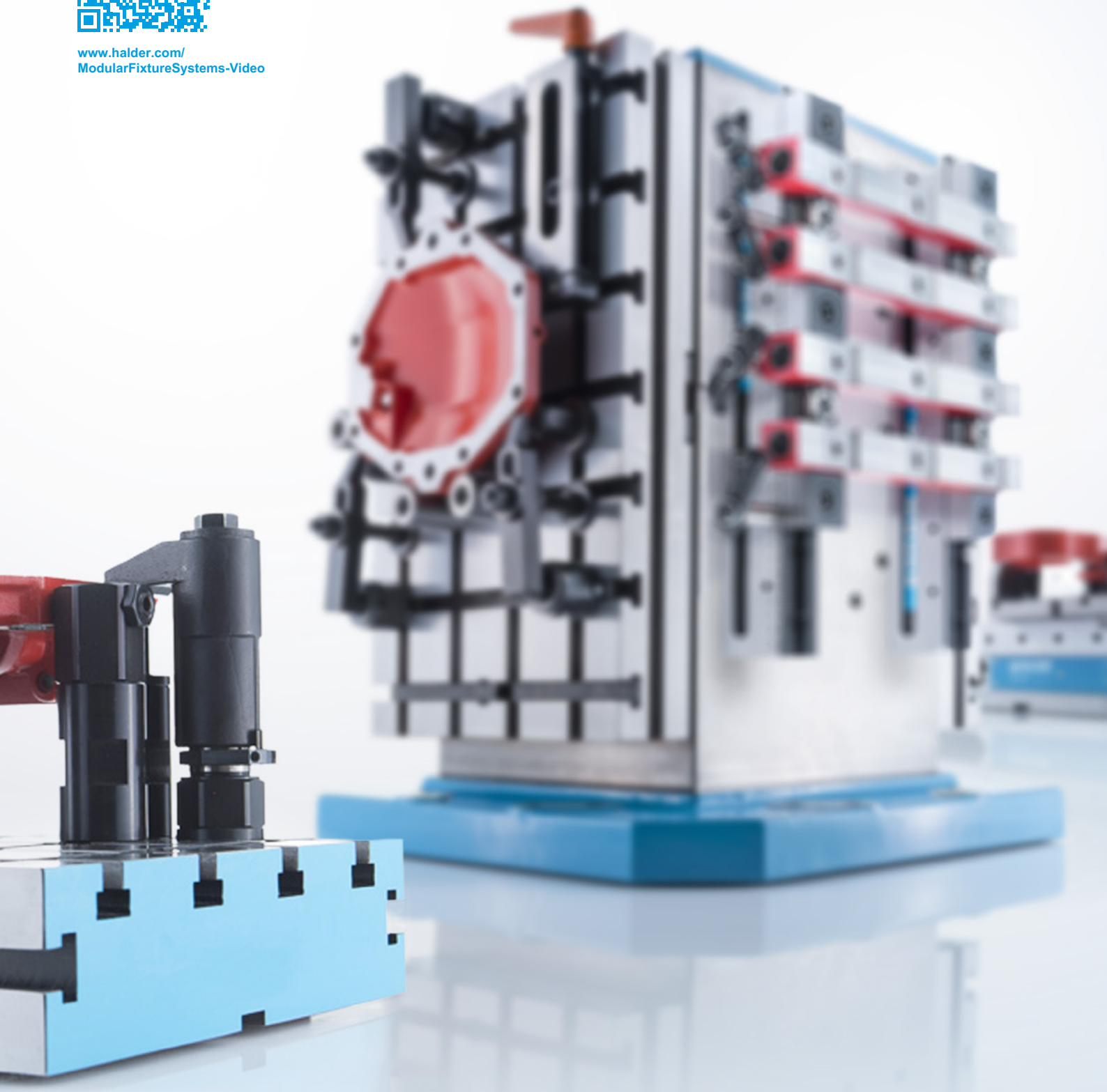
THE MOST EXCITING VARIETY IN THE REALM OF WORKPIECE CLAMPING

EVERYTHING FROM A SINGLE SOURCE

Finding the solution to a „clamping challenge“ is paramount to an optimised and efficient manufacturing process. Adapting to the constantly increasing demands in the marketplace for precision and flexibility ties up a great amount of resources, especially in the area of tool design and construction. All the more reason to team up with a partner who can help you succeed by affording you synergy effects that arise from long years of experience as well as an unsurpassed level of expertise and know-how. Offering a wide selection of products ranging from modular fixtures to basic elements to our innovative zero-point clamping system with individual combo elements, Erwin Halder KG is uniquely equipped to find the right solution to any requirement your customers can throw at you.



www.halder.com/
ModularFixtureSystems-Video



MODULAR FIXTURE SYSTEMS

THE RIGHT SOLUTION FOR ANY PURPOSE

Two systems that are effortlessly interchangeable allow you to perfectly adapt the fixture to the specific requirements at hand. The systems can be selected based on workpiece and production process and offer maximum flexibility thanks to their modular design.

T-SLOT SYSTEMS

Tempered base plates are fitted with a T-slot system. This feature makes it possible to fix system components in place and clamp them at the same time. A particularly good choice for machining complex workpieces.

HOLE AND DOWEL SYSTEMS

The base plates with hole and dowel system allow operators to quickly set up and precisely machine workpieces with simple geometries. Hole and dowel systems can achieve the flexibility of the T-slot sytstem through assembled combination parts.

PERSONALISED CUSTOMER SERVICE

In an effort to furnish you with the resources you need to perfectly plan and implement your projects - especially in the area of modular fixture systems - we are offering you the following services:

- Sample design of fixtures
- Mobile Showroom for on-site demonstrations
- Introductory seminars and user seminars.
- Training courses for customers at our training centre.