Series GPC

AVENTICS™

AVENTICS Series GPCGuide cylinders

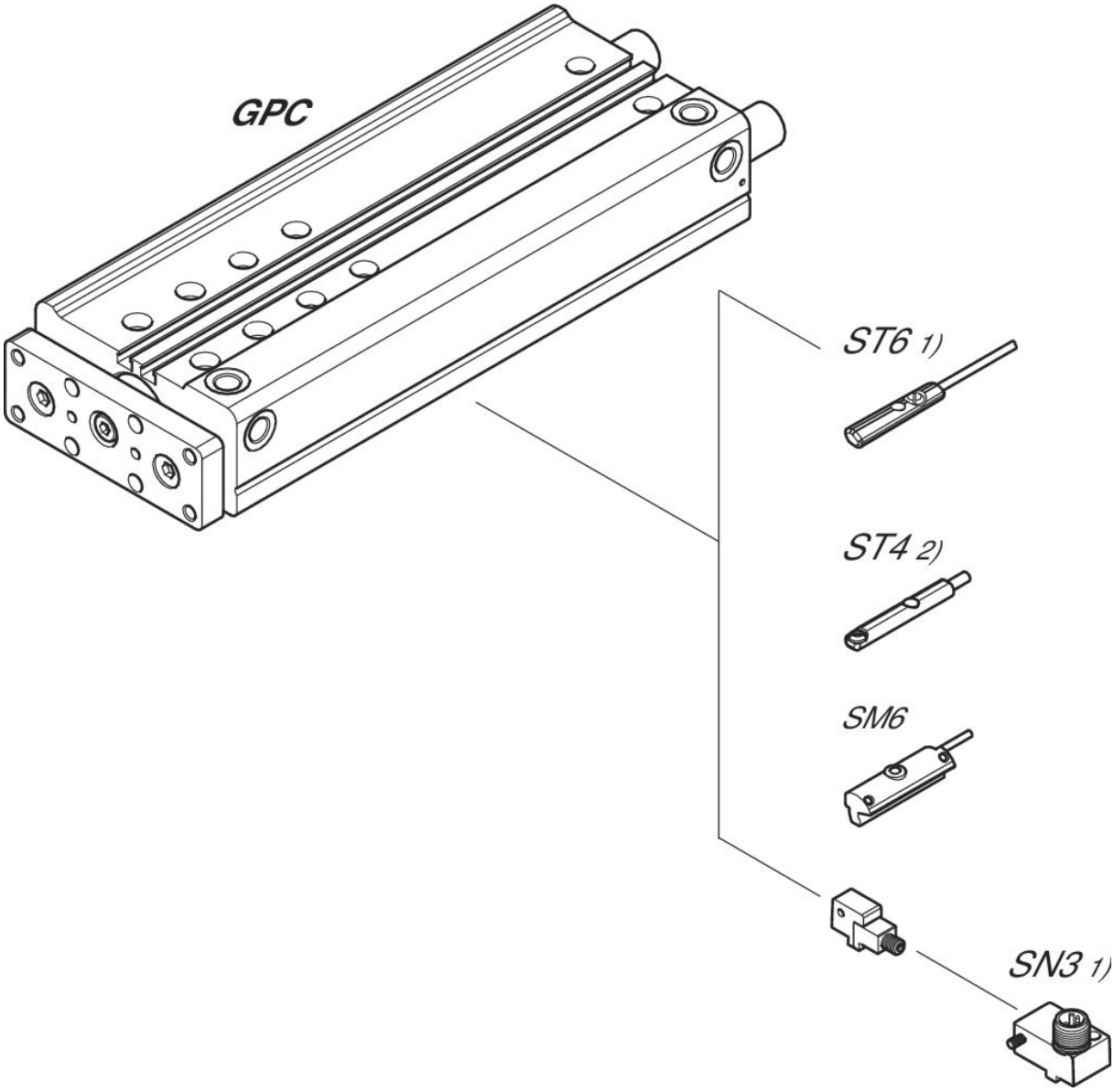
EMERSON™

Series GPC

The AVENTICS Series GPC is distinguished by high side load capacity and torsion protection. The drive and guide rods are robust and precise with high torque and transverse force absorption.

- Two guide rods with high side load capacity and high precision
- Anti-twist protection for more safety
- Stroke adjustment possible (GPC-E and GPC-ST)
- Compact design
- Cost-effective solution
- Direct combinations with Easy-2-Combine possible

Overview drawing



Product overview

Product overview

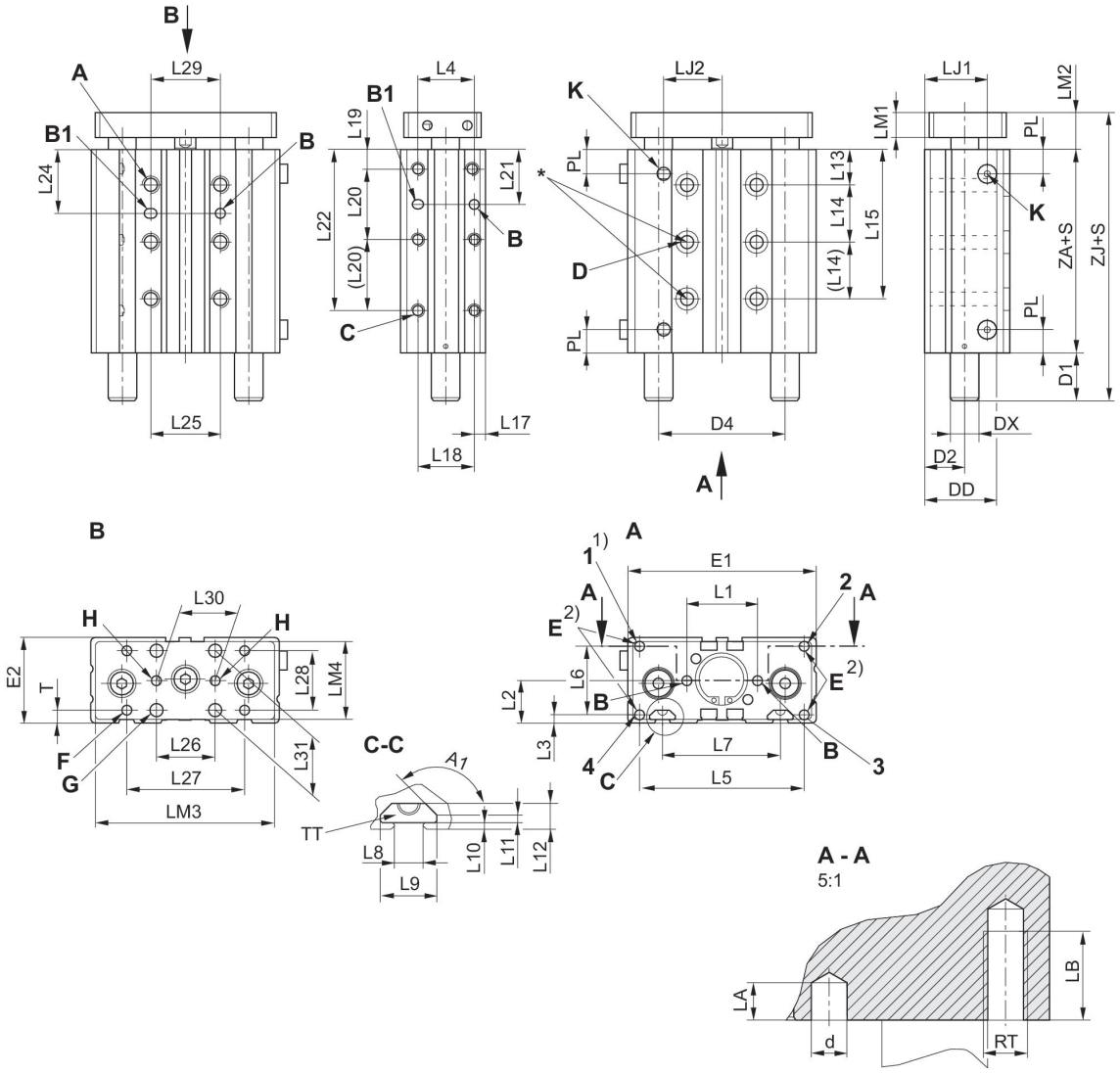
Guide cylinders, Series GPC-BV

: Plain bearing
Cushioning: elastic cushioning
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: -10 °C ... 70 °C

Piston Ø	10 mm	12 mm	16 mm	20 mm
Ports	M5	M5	M5	M5
Stroke 10	R402000294	0822060000	0822061000	0822062000
20	R402000296	0822060001	0822061001	0822062001
25	R402000297	0822060007	0822061007	0822062007
30	R402000298	0822060002	0822061002	0822062002
40	R402000300	0822060003	0822061003	0822062003
50	R402000302	0822060004	0822061004	0822062004
75	R402000307	0822060005	0822061005	0822062005
100	R402000312	0822060006	0822061006	0822062006
125	-	0822060024	0822061024	0822062024
150	-	0822060029	0822061029	0822062029

Piston Ø	10 mm	12 mm	16 mm	20 mm
Retracting piston force	42 N	53 N	95 N	148 N
Extracting piston force	49 N	71 N	127 N	198 N
Impact energy	0.04 J	0.1 J	0.11 J	0.15 J
Working pressure min./max.	2 bar ... 8 bar	2 bar ... 8 bar	2 bar ... 8 bar	2 bar ... 8 bar

Dimensions
Ø 10 ... 20



* Suitable for screws according to ISO 4762
1) Only Ø 20 threaded hole
2) M4 mounting hole for GPC-E accessories
1, 2, 3, 4: threaded holes
S = stroke
Note: Only the Ø10 variants fits to sensor series ST4. The sensor series ST6 and SN3 can be used for all other Ø variants.

Piston Ø	A RTxLB	A1	B ØdxLA	B1 ØdxDxLA	C RTxLB	D Ø	D1 S=10-30	D1 S=40-100	D1 S>100
10	M4x6	–	4H7x4	4H7x5x4	M4x6	3.2	13.5	13.5	13.5
12	M5x8	–	4H7x4	4H7x5x4	M5x8	4.2	0	17.6	32.6
16	M5x8	135°	4H7x4	4H7x5x4	M5x8	4.2	0	20	35
20	M6x10	135°	4H7x4	4H7x5x4	M6x10	5.2	0	20	35

Piston Ø	D2	D4	DD	DX	E RTxLB	E1	E2	F Ø 1)	G Ø 2)
10	7	–	17.4	8	M4x8	50	21	M4	–
12	14.5	40	20	10	M5x8	58	30.5	M4	4.5
16	15.8	47	28.5	12	M5x8	68	33	M4	5.5
20	16.5	54	30.5	12	M5x10	80	36	M5	5.5

Piston Ø	H Ø 2)	K	L1	L2	L3	L4	L5	L6	L7
10	–	M5	20 ±0,04	10.5	3	–	20	15	–
12	4H9	M5	23 ±0,04	15	4	22	50	22	–
16	4H9	M5	28 ±0,04	16.5	4	25	61	25	43
20	4H9	M5	30 ±0,04	18	3.5	24	70	29	50

Piston Ø	L8	L9	L10	L11	L12	L13	L14 S=10	L14 S=20	L14 S>20
10	–	–	–	–	–	15	–	20	20
12	–	–	–	–	–	14.5	–	18	22
16	6.15	12	1.5	1.5	5.5	14	18	25	25
20	6.15	12	1.5	1.5	5.5	15	16	24	24

Piston Ø	L15 S=40	L15 S>40	L17	L18	L19	L20 S=10	L20 S>10	L21 S=10	L21 S>10
10	55	55	15	–	8	20	20	13	13
12	–	58.5	4	22	8	20	20	18	18
16	–	64	4	25	8	18	25	20.5	20.5
20	–	63	4.5	24	8	20	30	18	23

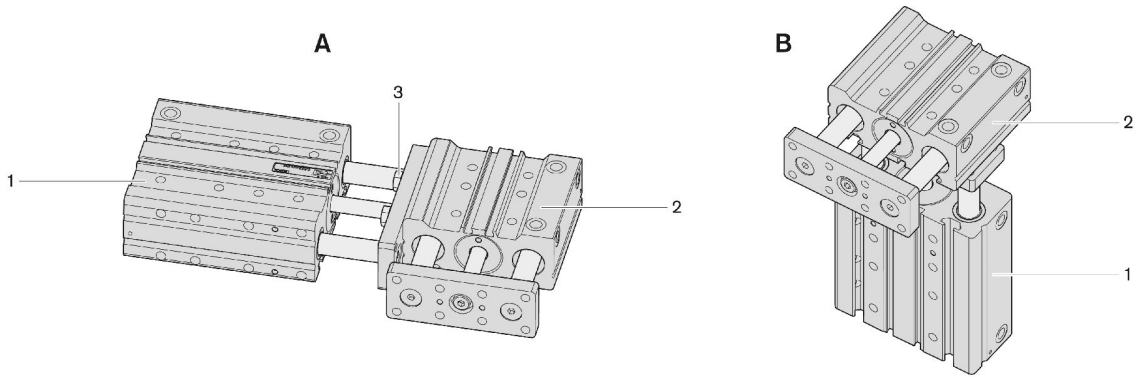
Piston Ø	L22 S≤40	L22 S>40	L24 S=10	L24 S>10	L25	L26	L27	L28	L29
10	48	48	25	25	20	–	20	10	20
12	–	48	25.5	25.5	20	–	40	20	20
16	–	58	26.5	26.5	25	20	40	20	25
20	–	68	23	27	30	25	50	25	30

Piston Ø	L30	L31	LJ1	LJ2	LM1	LM2	LM3	LM4	PL
10	–	–	15.5	15	5	13.5	48	19	8
12	–	–	24.8	17.5	8	12.7	55	27	8.5
16	20 ±0,04	22	27	21	8	13.5	65	30	8.8
20	25 ±0,04	25	26.5	25	10	15.5	77	33	10

Piston Ø	T	TT	ZA	ZJ S=10-30	ZJ S=40-100	ZJ S>100
10	5.5	–	36	63	63	63
12	5	–	34.4	47.1	64.7	79.7
16	6.5	N6	36	49.5	69.5	84.5
20	5.5	N6	36	51.5	71.5	86.5

S = stroke
To determine the cylinder length (ZA) for intermediate strokes (i.e. stroke 10 with dia. 40), the next available standard stroke size must be used
1) Through hole with thread
2) through-hole
Two holes C-C 10 mm.

GPC combinations



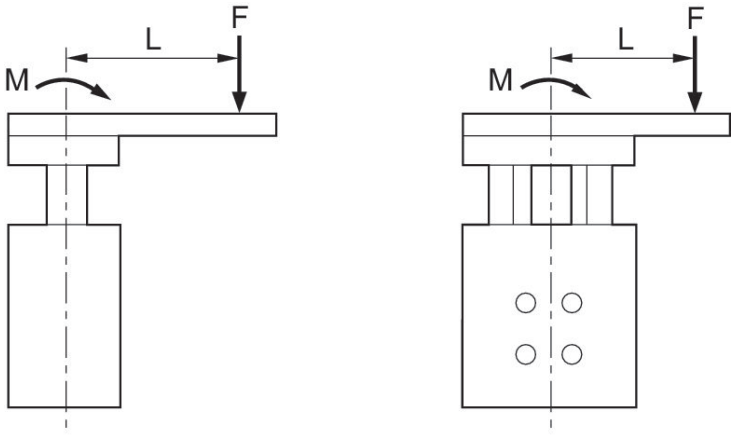
1) Cylinder 1
2) Cylinder 2
3) Screw

Minimum strokes for cylinder 2 when using 2 assembled guide cylinders

Piston Ø	Ø 2	A	B	3
10	12	–	–	M4x12
12	16	–	–	M5x15
16	20	–	–	M5x18
20	25	–	–	M6x20
25	32	25	15	M6x20
32	40	30	30	M8x25
40	50	30	30	M8x30
50	63	55	30	M10x30
63	80	55	55	M10x35
80	100	55	30	M12x40

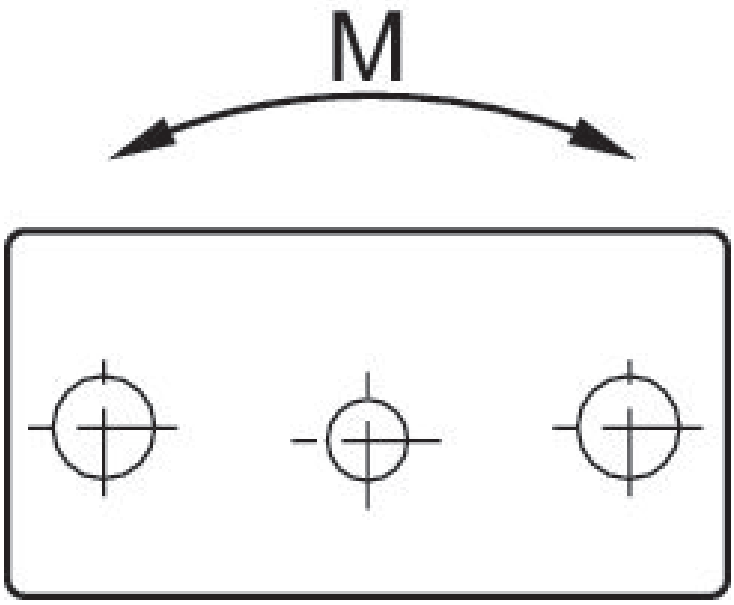
A = min.stroke: assembly A B = min.stroke: assembly B 3 = screw

Permissible static moment M [Nm]



M = FxL

Permissible static moment M [Nm]

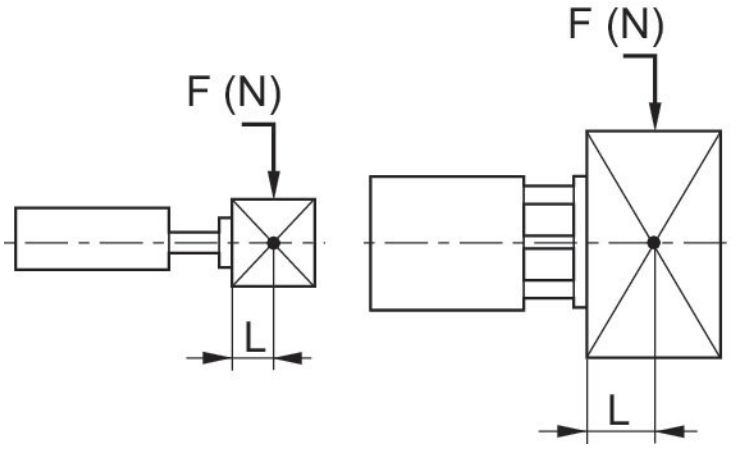


Piston Ø	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100	S=125
10	1.75	1.5	1.4	1.3	1.2	1.1	0.85	0.75	–
12	0.56	0.48	0.46	0.42	0.62	0.56	0.44	0.38	0.32
16	1.48	1.32	1.25	1.2	1.72	1.57	1.29	1.15	0.99
20	1.7	1.51	1.43	1.38	1.97	1.81	1.49	1.32	1.13
25	3.11	2.6	–	2.23	1.96	1.74	2.41	2.02	2.42
32	–	–	8.17	–	–	6.4	5.26	4.47	5.45
40	–	–	9.19	–	–	7.22	5.95	5.05	6.17
50	–	–	17	–	–	13.6	11.4	9.73	13.6
63	–	–	20.1	–	–	16.1	13.4	11.5	16.1
80	–	–	42.1	–	–	34.9	29.8	26	32.4
100	–	–	47.8	–	–	39.7	33.9	29.6	37

Piston Ø	S=160	S=200
10	–	–
12	0.26	–
16	0.82	–
20	0.95	–
25	2.05	1.75
32	4.67	4.01
40	5.29	4.55
50	11.8	10.3
63	14	12.2
80	28.5	24.9
100	32.5	28.5

S = stroke

Permissible static side load F [N] at distance L



Permissible static side load F [N] at distance L

Piston Ø	L	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100
10	25	12	11	11	10	10	9	8	7
12	25	28	24	23	21	31	28	22	19
16	50	63	56	53	51	73	67	55	49
20	50	63	56	53	51	73	67	55	49
25	50	53.2	48.4	–	44.4	41	38.1	59	51.9
32	50	–	–	139	–	–	118	103	90.8
40	50	–	–	138	–	–	118	102	90.4
50	50	–	–	218	–	–	187	164	146
63	50	–	–	217	–	–	186	163	145
80	50	–	–	392	–	–	342	304	273
100	50	–	–	390	–	–	341	302	272

Piston Ø	S=125	S=150	S=160	S=200
10	–	–	–	–
12	16	13	–	–
16	42	35	–	–
20	42	35	–	–
25	65.4	–	57.3	50.1
32	116	–	102	90.2
40	116	–	102	89.9
50	215	–	191	169
63	214	–	190	169
80	356	–	318	284
100	354	–	318	284

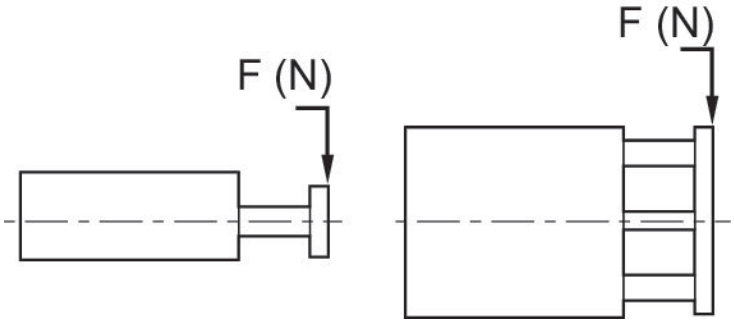
S = stroke

Piston Ø	L	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100
10	25	10	9	8	8	7	6	5	5
12	25	19	17	16	15	23	22	20	19
16	50	27	24	23	22	58	56	51	48
20	50	27	24	23	22	58	56	51	48
25	50	81.4	75	–	69.5	82.3	77.4	67.3	59.5
32	50	–	–	89.9	–	–	76.1	93.2	83
40	50	–	–	89.2	–	–	75.6	92.7	82.7
50	50	–	–	110	–	–	94	135	121
63	50	–	–	110	–	–	93.5	134	120

Piston Ø	S=125	S=150	S=160	S=200
10	–	–	–	–
12	19	17	–	–
16	44	40	–	–
20	44	40	–	–
25	73.2	–	64.5	56.8
32	94.9	–	84	74.3
40	94.5	–	83.7	74.1
50	136	–	121	108
63	135	–	121	107

S = stroke

Permissible static side force F [N]



Piston Ø		GPC 16, GPC-E 16	GPC 20, GPC-E 20	GPC 25
12	GPC-E 12	M5x15 1)	–	–
16	GPC-E 16	–	M5x15 1)	–
20	GPC-E 20	–	–	M6x15 1)

1) Screw according to ISO 4762 - M4x25

Piston Ø		GPC 16, GPC-E 16	GPC 20, GPC-E 20	GPC 25
12	GPC-E 12	M5x15 1)	–	–
16	GPC-E 16	–	M5x15 1)	–
20	GPC-E 20	–	–	M6x15 1)

1) Screw according to ISO 4762 - M4x25

Guide cylinders, Series GPC-BV

: Plain bearing
Cushioning: elastic cushioning
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: -10 °C ... 70 °C

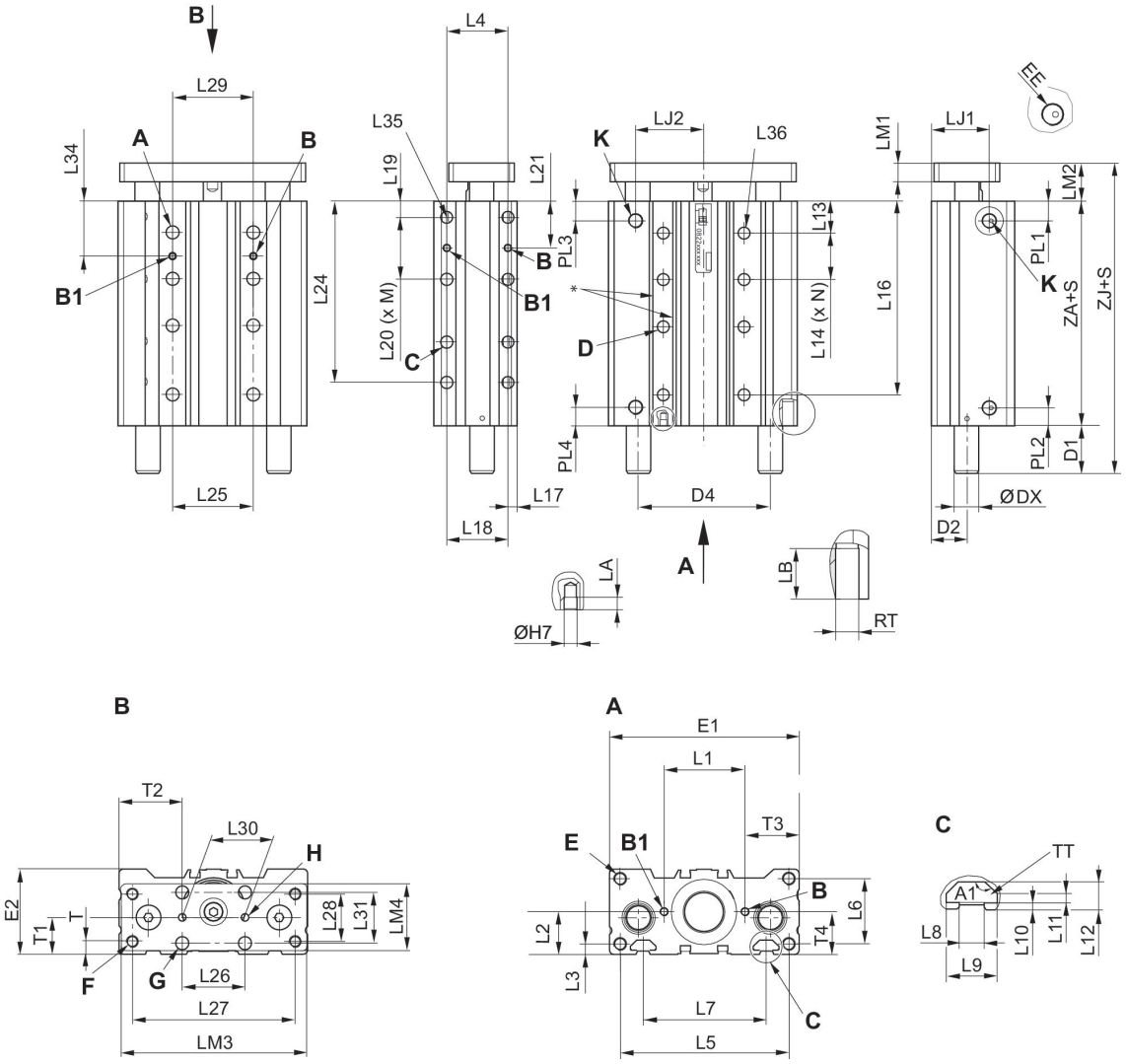
Piston Ø	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
Ports	G 1/8	G 1/8	G 1/8	G 1/4	G 1/4	G 1/4
Stroke 10	0822063000	-	-	-	-	-
20	0822063001	-	-	-	-	-
25	0822063007	0822064000	0822065000	0822066000	0822067000	R402000914
30	0822063002	-	-	-	-	-
40	0822063003	-	-	-	-	-
50	0822063004	0822064001	0822065001	0822066001	0822067001	R402000915
75	0822063005	0822064002	0822065002	0822066002	0822067002	R402000916
100	0822063006	0822064003	0822065003	0822066003	0822067003	R402000917
125	0822063024	0822064004	0822065004	0822066004	0822067004	R402000918
150	0822063029	-	-	-	-	-
160	0822063031	0822064005	0822065005	0822066005	0822067005	R402000919
200	0822063039	0822064006	0822065006	0822066006	0822067006	R402000920

Piston Ø	100 mm
Ports	G 3/8
Stroke 10	-
20	-
25	R402000928
30	-
40	-
50	R402000929
75	R402000930
100	R402000931
125	R402000932
150	-
160	R402000933
200	R402000934

Piston Ø	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
Retracting piston force	260 N	435 N	720 N	1110 N	1837 N	2969 N
Extracting piston force	309 N	507 N	792 N	1237 N	1964 N	3167 N
Impact energy	0.35 J	0.4 J	0.52 J	0.64 J	0.75 J	0.75 J
Working pressure min./max.	1.5 bar ... 8 bar	1.3 bar ... 8 bar	1 bar ... 8 bar	1 bar ... 8 bar	1 bar ... 8 bar	1 bar ... 8 bar

Piston Ø	100 mm
Retracting piston force	4639 N
Extracting piston force	4948 N
Impact energy	1 J
Working pressure min./max.	1 bar ... 8 bar

Dimensions
Ø 25 ... 100



* Suitable for screws according to ISO 4762
S = stroke
Note: Only the Ø10 variants fits to sensor series ST4. The sensor series ST6 and SN3 can be used for all other Ø variants.

Stroke-independent dimensions of piston Ø 25 ... 100 mm

Piston Ø	A RTxLB	A1	B ØdxLA	B1 ØdxD	C RTxLB	D Ø 1)	D2	D4	DX
25	M6x10	135°	4x4	4x5	M6x10	5.5	18	59	16
32	M8x14	135°	4x4	4x5	M8x14	7.4	23	75.6	20
40	M8x14	135°	4x4	4x5	M8x14	7.4	23	86	20
50	M10x20	135°	5x5	5x6	M10x20	9.3	27.5	104	25
63	M10x20	135°	5x5	5x6	M10x20	9.3	35	124	25
80	M12x24	135°	6x6	6x7	M12x25	11.2	39.5	152	32
100	M12x24	135°	6x6	6x7	M12x25	11.2	39.5	174	32

Piston Ø	E RTxLB	E1	E2	F Ø 1)	G Ø 2)	H Ø 2)	K EE	L1	L2
25	M6x12	95	43	M6	6.5	4H8	G 1/8	35 ±0,1	20.5
32	M6x12	114	48.5	M8	6.5	4H8	G 1/8	44 ±0,1	24
40	M8x16	124	54.5	M8	8.5	4H8	G 1/8	53 ±0,15	27
50	M8x16	148	64	M8	8.5	4H8	G 1/4	66 ±0,15	32
63	M10x20	162	78.5	M10	10.5	5H8	G 1/4	84 ±0,15	39
80	M12x25	202	91.5	M12	10.5	5H8	G 1/4	100 ±0,15	46
100	M12x25	226	111	M12	12.5	6H8	G 3/8	120 ±0,15	55.5

Piston Ø	L3	L4	L5	L6	L7	L8	L9	L10	L11
25	4.5	25 ±0,1	85	34	52	6.15	12	1.5	1.5
32	5	33 ±0,1	105	26	70	8.2	16.7	2.2	2.8
40	6	40 ±0,15	110	42	80	8.2	16.7	2.2	2.8
50	8	48 ±0,15	133	34.5	93	8.2	16.7	2.2	2.8
63	8	60 ±0,15	147	62	112	10.2	20.3	6	6
80	9	60 ±0,15	182	54.5	132	10.2	20.3	6	6
100	9	60 ±0,15	206	76	155	10.2	20.3	6	6

Piston Ø	L12	L13	L15	L17	L18	L19	L22	L25	L26
25	5.5	16.5	25	5.5	25	8	32	32	30
32	9	20.5	33	6.5	33	10	42	42	32
40	9	20	40	6	40	10	53	53	42
50	9	23	48	7.5	48	12	63	63	53
63	16	24	60	11	60	12	80	80	63
80	16	33.5	60	12	60	13	96	96	80
100	16	32.5	60	12	60	13	119	119	96

Piston Ø	L27	L28	L29	L30	L31	LJ1	LJ2	LM1	LM2
25	81	23	32 ±0,1	30 ±0,2	24	29.6	32	10	15.5
32	97	30	42 ±0,1	32 ±0,2	25	40	40.5	12	18.5
40	107	30	53 ±0,15	42 ±0,2	32.5	37.8	44	12	19.5
50	134	40	63 ±0,15	53 ±0,2	40	54.5	50.5	15	23.5
63	140	48	80 ±0,15	63 ±0,2	48	57	59	15	24
80	176	52	96 ±0,15	80 ±0,2	60	77.5	74.5	20	30
100	204	64	119 ±0,15	96 ±0,2	60	68.5	86.5	20	31

Piston Ø	LM3	LM4	PL1	PL2	PL3	PL4	T	T1	T2
25	93	33	11	11	11	11	6.5	18 ±0,4	32,5 ±0,4
32	112	43	13.5	13.5	13.5	13.5	8	23 ±0,4	41 ±0,4
40	122	43	12	12	12	12	8	23 ±0,4	41 ±0,4
50	146	52	13	13	13	13	7.5	27,5 ±0,4	47,5 ±0,4
63	160	67	13.7	13.7	13.7	13.7	11	35 ±0,4	49,5 ±0,5
80	200	76	23	23	23	23	13.5	39,5 ±0,45	61 ±0,5
100	224	84	21.5	21.5	21.5	21.5	18.5	50,5 ±0,45	65 ±0,5

Piston Ø	T3	T4	TT	ZA
25	30 ±0,05	20,5 ±0,05	N6	42 3)
32	35 ±0,05	24 ±0,05	N8	46.5
40	35,5 ±0,1	27 ±0,1	N8	44
50	41 ±0,1	32 ±0,1	N8	46
63	39 ±0,1	39 ±0,1	N10	51
80	51 ±0,2	46 ±0,2	N10	77
100	53 ±0,2	55,5 ±0,2	N10	77

S = stroke
To determine the cylinder length (ZA) for intermediate strokes (i.e. stroke 10 with dia. 40), the next available standard stroke size must be used
1) Through hole with thread
2) through-hole
3) For stroke 150, ZA = 52, for stroke 25, ZA = 47
Two holes C-C 10 mm.

Stroke-dependent dimensions

Piston Ø	S=10 D1	S=20 D1	S=25 D1	S=30 D1	S=40 D1	S=50 D1	S=75 D1	S=100 D1	S=125 D1
25	0	0	0	0	0	0	11	11	27
32	-	-	17	17	17	17	17	17	35
40	-	-	19	19	19	19	19	19	37
50	-	-	25	25	25	25	25	25	55
63	-	-	19	19	19	19	19	19	49
80	-	-	10.5	10.5	10.5	10.5	10.5	10.5	38.5
100	-	-	9.5	9.5	9.5	9.5	9.5	9.5	37.5

Piston Ø	S=150 D1	S=160 D1	S=200 D1	S=10 L14	S=20 L14	S=25 L14	S=30 L14	S=40 L14	S=50 L14
25	27	27	27	19	25	25	25	25	25
32	35	35	35	30	30	30	33	33	33
40	37	37	37	30	30	30	40	40	40
50	55	55	55	25	25	25	48	48	48
63	49	49	49	28	28	28	28	28	28
80	38.5	38.5	38.5	35	35	35	60	60	60
100	37.5	37.5	37.5	37	37	37	60	60	60

Piston Ø	S=75 L14	S=100 L14	S=125 L14	S=160 L14	S=200 L14
25	25	25	25	25	25
32	33	33	33	33	33
40	40	40	40	40	40
50	48	48	48	48	48
63	60	60	60	60	60
80	60	60	60	60	60
100	60	60	60	60	60

S = stroke

Stroke-dependent dimensions N ... L16

Piston Ø	S=10 N	S=20 N	S=25 N	S=30 N	S=40 N	S=50 N	S=75 N	S=100 N	S=125 N
25	1	1	1	1	1	2	3	3	3
32	-	-	1	1	1	1	2	3	3
40	-	-	1	1	1	1	2	2	3
50	-	-	1	1	1	1	1	2	2
63	-	-	1	1	1	1	1	1	2
80	-	-	1	1	1	1	1	1	2
100	-	-	1	1	1	1	1	1	2

Piston Ø	S=160 N	S=200 N	S=40 L16	S=50 L16	S=100 L16	S=125 L16	S=160 L16	S=200 L16
25	3	3	65.5	-	125.5	150.5	185.5	225.5
32	3	3	-	76	-	151	186	226
40	3	3	-	-	-	-	184	224
50	3	3	-	-	-	148	-	223
63	2	3	-	-	127	-	187	-
80	2	3	-	-	143.5	-	203.5	-
100	2	3	-	-	144.5	-	204.5	-

S = stroke

Stroke-dependent dimensions L20 ... L21

Piston Ø	S=20 L20	S=25 L20	S=30 L20	S=40 L20	S=50 L20	S=75 L20	S=100 L20	S=125 L20	S=160 L20
25	22	32	32	32	32	32	32	32	32
32	35	35	42	42	42	42	42	42	42
40	30	30	53	53	53	53	53	53	53
50	30	30	30	30	30	63	63	63	63
63	30	30	30	30	30	80	80	80	80
80	47	47	47	47	47	96	96	96	96
100	49	49	49	49	49	49	119	119	119

Piston Ø	S=200 L20	S=20 L21	S=25 L21	S=30 L21	S=40 L21	S=50 L21	S=75 L21	S=100 L21	S=125 L21
25	32	19	24	24	24	24	24	24	24
32	42	27.5	27.5	31	31	31	31	31	31
40	53	25	25	36.5	36.5	36.5	36.5	36.5	36.5
50	63	27	27	27	27	27	43.5	43.5	43.5
63	80	27	27	27	27	27	52	52	52
80	96	36.5	36.5	36.5	36.5	36.5	61	61	61
100	119	37.5	37.5	37.5	37.5	37.5	37.5	72.5	72.5

Piston Ø	S=160 L21	S=200 L21
25	24	24
32	31	31
40	36.5	36.5
50	43.5	43.5
63	52	52
80	61	61
100	72.5	72.5

S = stroke

Stroke-dependent dimensions M ... L24

Piston Ø	S10 M	S20 M	S25 M	S30 M	S40 M	S50 M	S75 M	S100 M	S125 M
25	1	1	1	1	1	1	2	3	3
32	-	-	1	1	1	1	2	2	3
40	-	-	1	1	1	1	1	2	2
50	-	-	1	1	1	1	1	1	2
63	-	-	1	1	1	1	1	1	1
80	-	-	1	1	1	1	1	1	1
100	-	-	1	1	1	1	1	1	1

Piston Ø	S160 M	S200 M	S40 L24	S50 L24	S75 L24	S100 L24	S125 L24	S160 L24	S200 L24
25	3	3	60	70	95	-	145	180	220
32	3	3	-	-	-	122.5	-	182.5	222.5
40	3	3	-	-	91	-	-	-	216
50	2	3	-	-	-	116	-	176	-
63	2	2	-	-	-	-	142	-	217
80	1	2	-	-	-	-	160	195	-
100	1	1	-	-	-	-	-	195	235

S = stroke

Stroke-dependent dimensions L34 ... L35

Piston Ø	S10 L34	S20 L34	S25 L34	S30 L34	S40 L34	S50 L34	S75 L34	S100 L34	S125 L34
25	26	29	29	29	29	29	29	29	29
32	35.5	35.5	35.5	37	37	37	37	37	37
40	35	35	35	40	40	40	40	40	40
50	35.5	35.5	35.5	47	47	47	47	47	47
63	38	38	38	38	38	38	54	54	54
80	51	51	51	51	51	63.5	63.5	63.5	63.5
100	51	51	51	51	51	62.5	62.5	62.5	62.5

Piston Ø	S160 L34	S200 L34	S10 L35	S20 L35	S25 L35	S30 L35	S40 L35	S50 L35	S75 L35
25	29	29	4	4	4	4	6	6	8
32	37	37	4	4	4	4	4	4	6
40	40	40	4	4	4	4	4	4	6
50	47	47	4	4	4	4	4	4	4
63	54	54	4	4	4	4	4	4	4
80	63.5	63.5	4	4	4	4	4	4	4
100	62.5	62.5	4	4	4	4	4	4	4

Piston Ø	S100 L35	S125 L35	S160 L35	S200 L35
25	8	10	10	10
32	8	8	10	10
40	6	6	8	10
50	6	6	8	8
63	4	6	6	8
80	4	6	6	6
100	4	4	6	6

S = stroke

Stroke-dependent dimensions

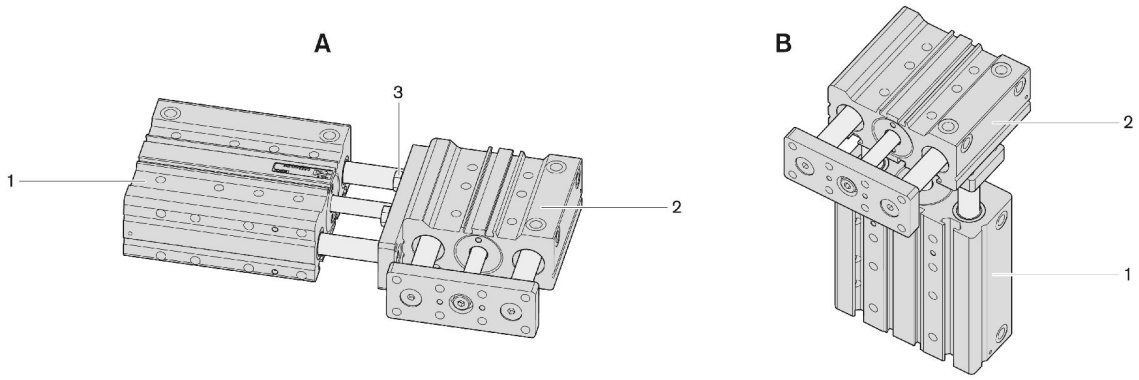
Piston Ø	S10 L36	S20 L36	S25 L36	S30 L36	S40 L36	S50 L36	S75 L36	S100 L36	S125 L36
25	4	4	4	4	6	6	8	10	10
32	4	4	4	4	4	6	6	8	10
40	4	4	4	4	4	4	6	6	8
50	4	4	4	4	4	4	4	6	8
63	4	4	4	4	4	4	4	6	6
80	4	4	4	4	4	4	4	6	6
100	4	4	4	4	4	4	4	6	6

Piston Ø	S160 L36	S200 L36	S10 ZJ	S20 ZJ	S25 ZJ	S30 ZJ	S40 ZJ	S50 ZJ	S75 ZJ
25	10	10	57.5	57.5	57.5	57.5	57.5	57.5	68.5
32	10	10	-	-	82	-	-	82	82
40	10	10	-	-	82.6	-	-	82.6	82.6
50	8	10	-	-	94.5	-	-	94.5	94.5
63	8	10	-	-	94.6	-	-	94.6	94.6
80	8	8	-	-	117.5	-	-	117.5	117.5
100	8	8	-	-	117.5	-	-	117.5	117.5

Piston Ø	S100 ZJ	S125 ZJ	S160 ZJ	S200 ZJ
25	68.5	84.5	84.5	84.5
32	82	100	100	100
40	82.6	124.5	124.5	124.5
50	94.5	124.6	124.6	124.6
63	94.6	145.5	145.5	145.5
80	117.5	145.5	145.5	145.5
100	117.5	145.5	145.5	145.5

S = stroke

GPC combinations



1) Cylinder 1
2) Cylinder 2
3) Screw

Minimum strokes for cylinder 1 when using 2 assembled guide cylinders

Piston Ø	S
32	25
40	25
50	30
63	30
80	35
100	40

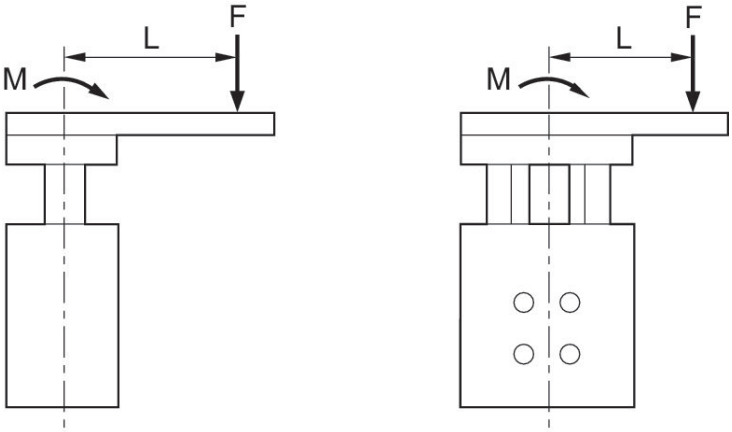
S = stroke

Minimum strokes for cylinder 2 when using 2 assembled guide cylinders

Piston Ø	Ø 2	A	B	3
10	12	–	–	M4x12
12	16	–	–	M5x15
16	20	–	–	M5x18
20	25	–	–	M6x20
25	32	25	15	M6x20
32	40	30	30	M8x25
40	50	30	30	M8x30
50	63	55	30	M10x30
63	80	55	55	M10x35
80	100	55	30	M12x40

A = min.stroke: assembly A B = min.stroke: assembly B 3 = screw

Permissible static moment M [Nm]

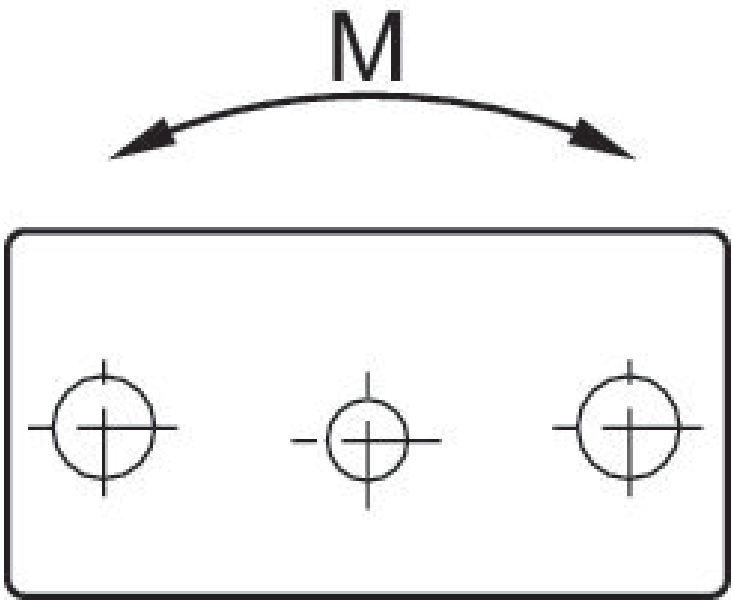


M = FxL

Piston Ø	S 5–30	S>30	S 35–50	S 55–100	S>100
10	1,5	1,5	–	–	–
12	2	3.5	–	–	–
16	4.5	14	–	–	–
20	4.5	14	–	–	–
25	4.6	–	4.9	9.4	14.5
32	15.2	–	16.5	17.2	26.4
40	15.3	–	15.3	17.2	26.4
50	26	–	26	28.9	51.6
63	26	–	26	28.9	51.6
80	52.1	–	52.1	57.9	90.3
100	52.3	–	52.3	57.9	90.4

S = stroke

Permissible static moment M [Nm]

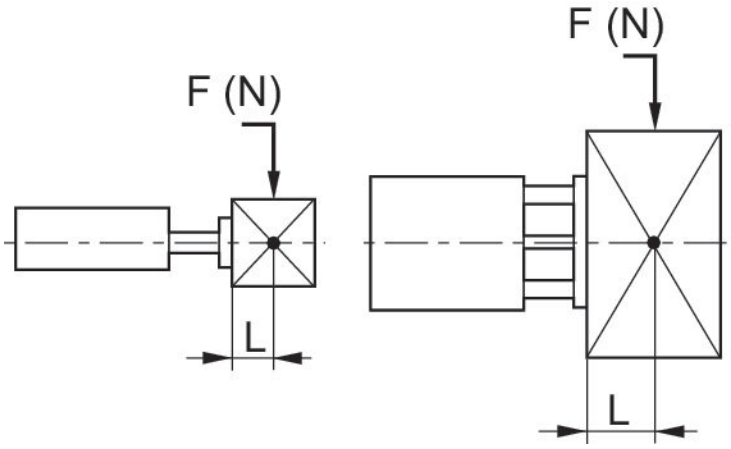


Piston Ø	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100	S=125
10	1.75	1.5	1.4	1.3	1.2	1.1	0.85	0.75	–
12	0.56	0.48	0.46	0.42	0.62	0.56	0.44	0.38	0.32
16	1.48	1.32	1.25	1.2	1.72	1.57	1.29	1.15	0.99
20	1.7	1.51	1.43	1.38	1.97	1.81	1.49	1.32	1.13
25	3.11	2.6	–	2.23	1.96	1.74	2.41	2.02	2.42
32	–	–	8.17	–	–	6.4	5.26	4.47	5.45
40	–	–	9.19	–	–	7.22	5.95	5.05	6.17
50	–	–	17	–	–	13.6	11.4	9.73	13.6
63	–	–	20.1	–	–	16.1	13.4	11.5	16.1
80	–	–	42.1	–	–	34.9	29.8	26	32.4
100	–	–	47.8	–	–	39.7	33.9	29.6	37

Piston Ø	S=160	S=200
10	–	–
12	0.26	–
16	0.82	–
20	0.95	–
25	2.05	1.75
32	4.67	4.01
40	5.29	4.55
50	11.8	10.3
63	14	12.2
80	28.5	24.9
100	32.5	28.5

S = stroke

Permissible static side load F [N] at distance L



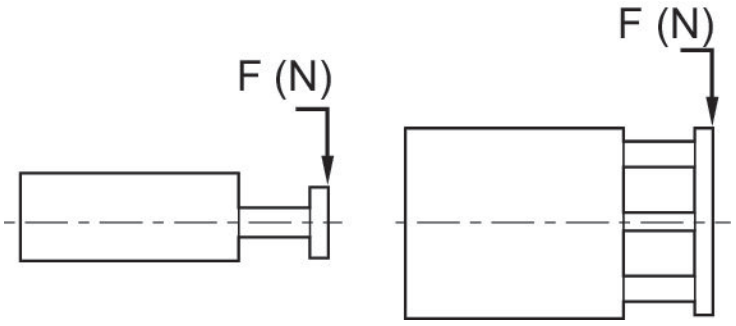
Permissible static side load F [N] at distance L

Piston Ø	L	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100
10	25	12	11	11	10	10	9	8	7
12	25	28	24	23	21	31	28	22	19
16	50	63	56	53	51	73	67	55	49
20	50	63	56	53	51	73	67	55	49
25	50	53.2	48.4	–	44.4	41	38.1	59	51.9
32	50	–	–	139	–	–	118	103	90.8
40	50	–	–	138	–	–	118	102	90.4
50	50	–	–	218	–	–	187	164	146
63	50	–	–	217	–	–	186	163	145
80	50	–	–	392	–	–	342	304	273
100	50	–	–	390	–	–	341	302	272

Piston Ø	S=125	S=150	S=160	S=200
10	–	–	–	–
12	16	13	–	–
16	42	35	–	–
20	42	35	–	–
25	65.4	–	57.3	50.1
32	116	–	102	90.2
40	116	–	102	89.9
50	215	–	191	169
63	214	–	190	169
80	356	–	318	284
100	354	–	318	284

S = stroke

Permissible static side force F [N]



Piston Ø	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100	S=125
25	106	88	–	76	66	59	82	69	82
32	–	–	216	–	–	169	139	118	144
40	–	–	214	–	–	168	138	118	144
50	–	–	327	–	–	262	218	187	261
63	–	–	324	–	–	260	217	186	260
80	–	–	554	–	–	459	392	342	427
100	–	–	549	–	–	456	390	341	425

Piston Ø	S=150	S=160	S=200
25	–	70	59
32	–	124	106
40	–	123	106
50	–	227	197
63	–	226	196
80	–	374	328
100	–	373	327

S = stroke

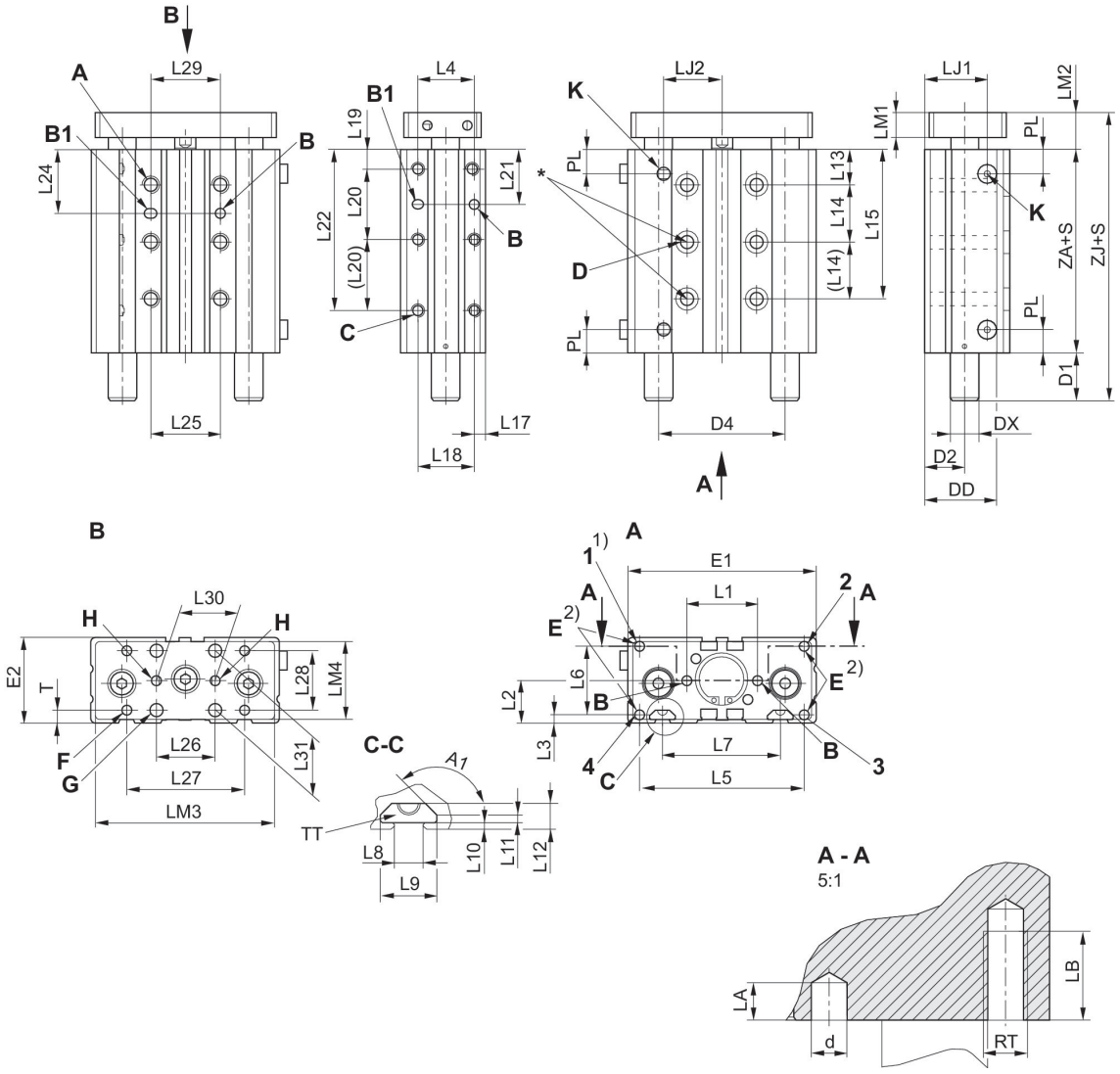
Guide cylinders, Series GPC-BV

: ball bearing
Cushioning: elastic cushioning
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: -10 °C ... 70 °C

Piston Ø	10 mm	12 mm	16 mm	20 mm
Ports	M5	M5	M5	M5
Stroke 10	R402000314	0822060100	0822061100	0822062100
20	R402000316	0822060101	0822061101	0822062101
25	R402000317	0822060107	0822061107	0822062107
30	R402000318	0822060102	0822061102	0822062102
40	R402000320	0822060103	0822061103	0822062103
50	R402000322	0822060104	0822061104	0822062104
75	R402000327	0822060105	0822061105	0822062105
100	R402000332	0822060106	0822061106	0822062106
125	-	0822060124	0822061124	0822062124
150	-	0822060129	0822061129	0822062129

Piston Ø	10 mm	12 mm	16 mm	20 mm
Retracting piston force	42 N	53 N	95 N	148 N
Extracting piston force	49 N	71 N	127 N	198 N
Impact energy	0.04 J	0.1 J	0.11 J	0.15 J
Working pressure min./max.	2 bar ... 8 bar	2 bar ... 8 bar	2 bar ... 10 bar	2 bar ... 10 bar

Dimensions
Ø 10 ... 20



* Suitable for screws according to ISO 4762
1) Only Ø 20 threaded hole
2) M4 mounting hole for GPC-E accessories
1, 2, 3, 4: threaded holes
S = stroke
Note: Only the Ø10 variants fits to sensor series ST4. The sensor series ST6 and SN3 can be used for all other Ø variants.

Piston Ø	A RTxLB	A1	B ØdxLA	B1 ØdxDxLA	C RTxLB	D Ø	D1 S=10-30	D1 S=40-100	D1 S>100
10	M4x6	–	4H7x4	4H7x5x4	M4x6	3.2	13.5	13.5	13.5
12	M5x8	–	4H7x4	4H7x5x4	M5x8	4.2	0	18.4	33.4
16	M5x8	135°	4H7x4	4H7x5x4	M5x8	4.2	0	20.8	35.8
20	M6x10	135°	4H7x4	4H7x5x4	M6x10	5.2	0	20.8	35.8

Piston Ø	D2	D4	DD	DX	E RTxLB	E1	E2	F Ø 1)	G Ø 2)
10	7	–	17.4	6	M4x8	50	21	M4	–
12	14.5	40	20	8	M5x8	58	30.5	M4	4.5
16	15.8	47	28.5	10	M5x8	68	33	M4	5.5
20	16.5	54	30.5	10	M5x10	80	36	M5	5.5

Piston Ø	H Ø 2)	K	L1	L2	L3	L4	L5	L6	L7
10	–	M5	20 ±0,04	10.5	3	–	20	15	–
12	4H9	M5	23 ±0,04	15	4	22	50	22	–
16	4H9	M5	28 ±0,04	16.5	4	25	61	25	43
20	4H9	M5	30 ±0,04	18	3.5	24	70	29	50

Piston Ø	L8	L9	L10	L11	L12	L13	L14 S=10	L14 S=20	L14 S>20
10	–	–	–	–	–	15	–	20	20
12	–	–	–	–	–	14.5	–	18	22
16	6.15	12	1.5	1.5	5.5	14	18	25	25
20	6.15	12	1.5	1.5	5.5	15	16	24	24

Piston Ø	L15 S=40	L15 S>40	L17	L18	L19	L20 S=10	L20 S>10	L21 S=10	L21 S>10
10	55	55	15	–	8	20	20	13 1)	13
12	–	58.5	4	22	8	20	20	18	18
16	–	64	4	25	8	18	25	20.5	20.5
20	–	63	4.5	24	8	20	30	18	23

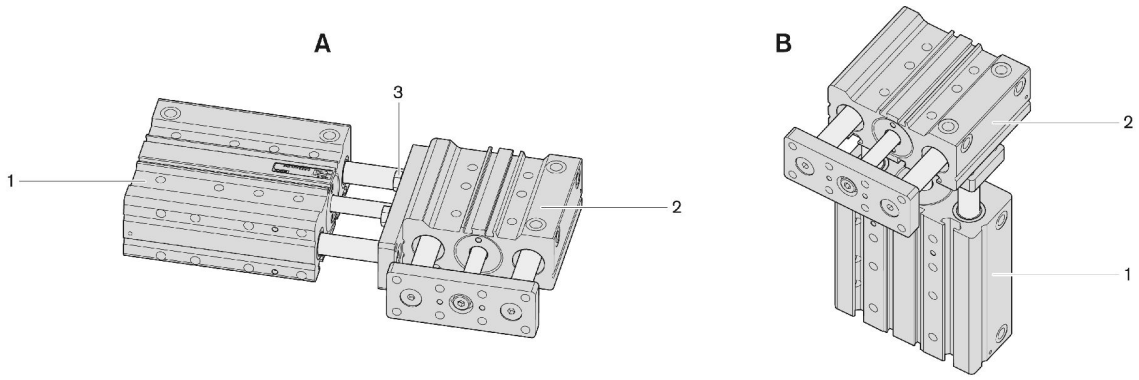
Piston Ø	L22 S≤40	L22 S>40	L24 S=10	L24 S>10	L25	L26	L27	L28	L29
10	48	48	25	25	20	–	20	10	20
12	–	48	25.5	25.5	20	–	40	20	20
16	–	58	26.5	26.5	25	20	40	20	25
20	–	68	23	27	30	25	50	25	30

Piston Ø	L30	L31	LJ1	LJ2	LM1	LM2	LM3	LM4	PL
10	–	–	15.5	15	5	13.5	48	19	8
12	–	–	24.8	17.5	8	12.7	55	27	8.5
16	20 ±0,04	22	27	21	8	13.5	65	30	8.8
20	25 ±0,04	25	26.5	25	10	15.5	77	33	10

Piston Ø	T	TT	ZA	ZJ S=10-30	ZJ S=40-100	ZJ S>100
10	5.5	–	36	63	63	63
12	5	–	34.4	47.1	65.5	80.5
16	6.5	N6	36	49.5	70.3	85.3
20	5.5	N6	36	51.5	72.3	87.3

S = stroke
To determine the cylinder length (ZA) for intermediate strokes (i.e. stroke 10 with dia. 40), the next available standard stroke size must be used
1) Through hole with thread
2) through-hole
Two holes C-C 10 mm.

GPC combinations



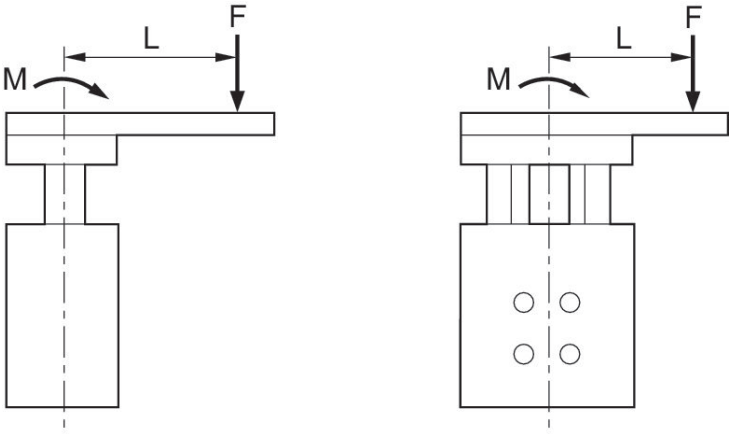
1) Cylinder 1
2) Cylinder 2
3) Screw

Minimum strokes for cylinder 2 when using 2 assembled guide cylinders

Piston Ø	Ø 2	A	B	3
10	12	–	–	M4x12
12	16	–	–	M5x15
16	20	–	–	M5x18
20	25	–	–	M6x20
25	32	25	15	M6x20
32	40	30	30	M8x25
40	50	30	30	M8x30
50	63	55	30	M10x30
63	80	55	55	M10x35
80	100	55	30	M12x40

A = min.stroke: assembly A B = min.stroke: assembly B 3 = screw

Permissible static moment M [Nm]

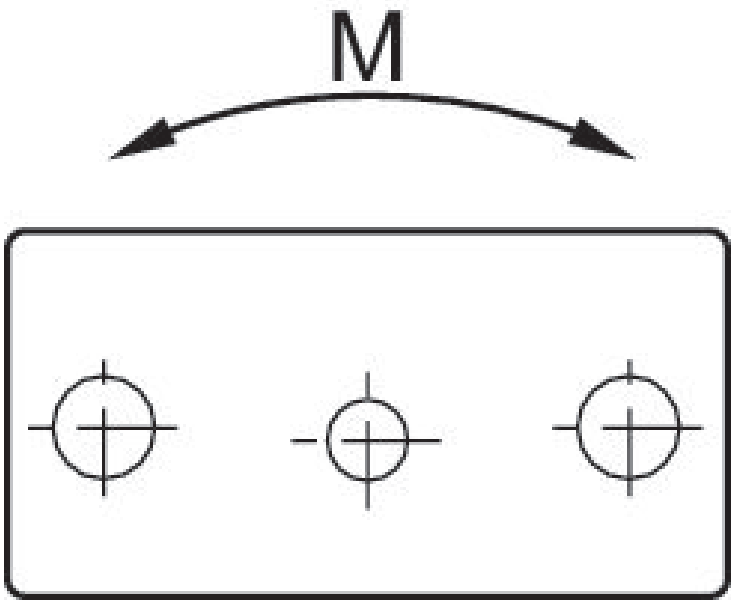


M = FxL

Piston Ø	S=5–30	S>30	S=35–50	S=55–100	S>100
10	0.8	0.8	–	–	–
12	1.5	2	–	–	–
16	2	5	–	–	–
20	2	5	–	–	–
25	7.5	–	10.6	10.8	16.5
32	9.9	–	10.6	16.2	22
40	9.9	9.9	9.9	16.2	22
50	12.8	12.8	12.8	24.6	32.9
63	12.8	12.8	12.8	24.6	32.9

S = stroke

Permissible static moment M [Nm]

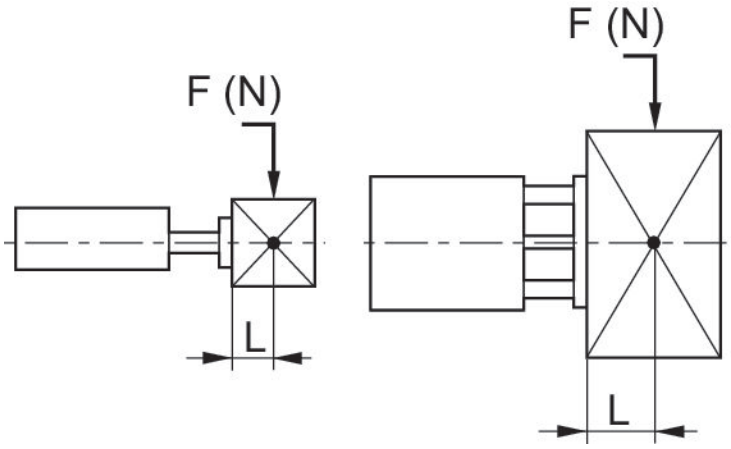


Piston Ø	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100	S=125
10	0.35	0.31	0.29	0.27	0.25	0.23	0.17	0.14	–
12	0.38	0.34	0.32	0.3	0.46	0.44	0.4	0.38	0.36
16	0.63	0.56	0.54	0.52	1.36	1.32	1.2	1.13	1.03
20	0.73	0.65	0.62	0.59	1.57	1.51	1.38	1.3	1.19
25	4.19	3.65	3.23	3.23	3.56	3.26	2.68	2.28	2.67
32	–	–	5.33	–	–	4.15	4.67	4.02	4.4
40	–	–	5.99	–	–	4.68	5.27	4.54	4.99
50	–	–	8.83	–	–	6.96	9.07	7.91	8.55
63	–	–	10.4	–	–	8.23	10.8	9.38	10.2

Piston Ø	S=160	S=200
10	–	–
12	0.34	–
16	0.94	–
20	1.08	–
25	2.29	1.97
32	3.8	3.28
40	4.3	3.72
50	7.45	6.5
63	8.85	7.72

S = stroke

Permissible static side load F [N] at distance L



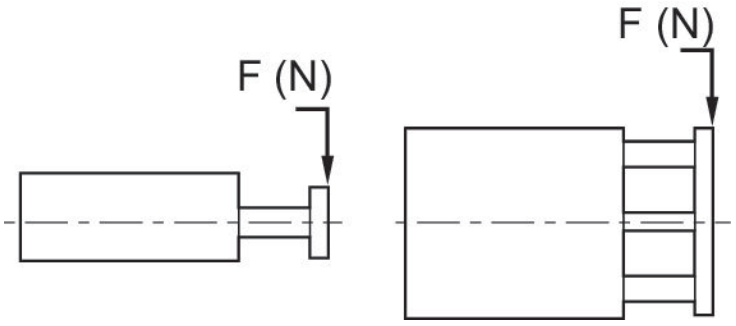
Permissible static side load F [N] at distance L

Piston Ø	L	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100
10	25	12	11	11	10	10	9	8	7
12	25	28	24	23	21	31	28	22	19
16	50	63	56	53	51	73	67	55	49
20	50	63	56	53	51	73	67	55	49
25	50	53.2	48.4	–	44.4	41	38.1	59	51.9
32	50	–	–	139	–	–	118	103	90.8
40	50	–	–	138	–	–	118	102	90.4
50	50	–	–	218	–	–	187	164	146
63	50	–	–	217	–	–	186	163	145
80	50	–	–	392	–	–	342	304	273
100	50	–	–	390	–	–	341	302	272

Piston Ø	S=125	S=150	S=160	S=200
10	–	–	–	–
12	16	13	–	–
16	42	35	–	–
20	42	35	–	–
25	65.4	–	57.3	50.1
32	116	–	102	90.2
40	116	–	102	89.9
50	215	–	191	169
63	214	–	190	169
80	356	–	318	284
100	354	–	318	284

S = stroke

Permissible static side force F [N]



Piston Ø	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100	S=125
25	142	124	–	109	121	110	91	77	90
32	–	–	141	–	–	110	123	106	116
40	–	–	139	–	–	109	123	106	116
50	–	–	170	–	–	134	175	152	164
63	–	–	168	–	–	133	173	151	164

Piston Ø	S=150	S=160	S=200
25	–	77	66
32	–	100	86
40	–	100	86
50	–	143	125
63	–	143	125

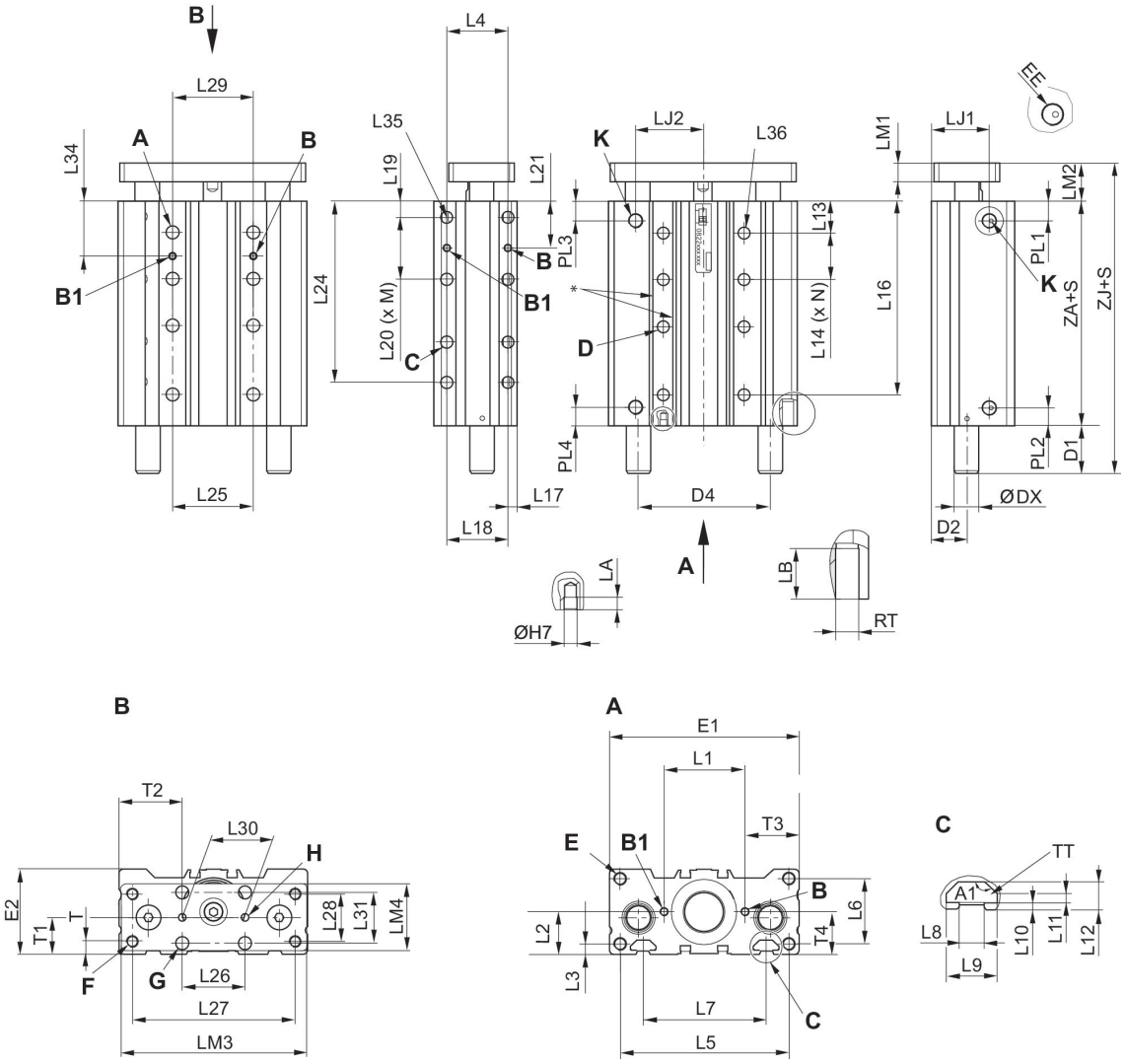
Guide cylinders, Series GPC-BV

: ball bearing
Cushioning: elastic cushioning
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: -10 °C ... 70 °C

Piston Ø	25 mm	32 mm	40 mm	50 mm	63 mm
Ports	G 1/8	G 1/8	G 1/8	G 1/4	G 1/4
Stroke 10	0822063100	-	-	-	-
20	0822063101	-	-	-	-
25	0822063107	0822064100	0822065100	0822066100	0822067100
30	0822063102	-	-	-	-
40	0822063103	-	-	-	-
50	0822063104	0822064101	0822065101	0822066101	0822067101
75	0822063105	0822064102	0822065102	0822066102	0822067102
100	0822063106	0822064103	0822065103	0822066103	0822067103
125	0822063124	0822064104	0822065104	0822066104	0822067104
150	0822063129	-	-	-	-
160	0822063131	0822064105	0822065105	0822066105	0822067105
200	0822063139	0822064106	0822065106	0822066106	0822067106

Piston Ø	25 mm	32 mm	40 mm	50 mm	63 mm
Retracting piston force	260 N	435 N	720 N	1110 N	1837 N
Extracting piston force	309 N	507 N	792 N	1237 N	1964 N
Impact energy	0.35 J	0.4 J	0.52 J	0.64 J	0.75 J
Working pressure min./max.	1.5 bar ... 10 bar	1.3 bar ... 10 bar	1 bar ... 10 bar	1 bar ... 10 bar	1 bar ... 10 bar

Dimensions
Ø 25 ... 100



* Suitable for screws according to ISO 4762
S = stroke
Note: Only the Ø10 variants fits to sensor series ST4. The sensor series ST6 and SN3 can be used for all other Ø variants.

Stroke-independent dimensions of piston Ø 25 ... 100 mm

Piston Ø	A RTxLB	A1	B ØdxLA	B1 ØdxD	C RTxLB	D Ø 1)	D2	D4	DX
25	M6x10	135°	4x4	4x5	M6x10	5.5	18	59	12
32	M8x14	135°	4x4	4x5	M8x14	7.4	23	75.6	16
40	M8x14	135°	4x4	4x5	M8x14	7.4	23	86	16
50	M10x20	135°	5x5	5x6	M10x20	9.3	27.5	104	20
63	M10x20	135°	5x5	5x6	M10x20	9.3	35	124	20

Piston Ø	E RTxLB	E1	E2	F Ø 1)	G Ø 2)	H Ø 2)	K EE	L1	L2
25	M6x12	95	43	M6	6.5	4H8	G 1/8	35 ±0,1	20.5
32	M6x12	114	48.5	M8	6.5	4H8	G 1/8	44 ±0,1	24
40	M8x16	124	54.5	M8	8.5	4H8	G 1/8	53 ±0,15	27
50	M8x16	148	64	M8	8.5	4H8	G 1/4	66 ±0,15	32
63	M10x20	162	78.5	M10	10.5	5H8	G 1/4	84 ±0,15	39

Piston Ø	L3	L4	L5	L6	L7	L8	L9	L10	L11
25	4.5	25 ±0,1	85	34	52	6.15	12	1.5	1.5
32	5	33 ±0,1	105	26	70	8.2	16.7	2.2	2.8
40	6	40 ±0,15	110	42	80	8.2	16.7	2.2	2.8
50	8	48 ±0,15	133	34.5	93	8.2	16.7	2.2	2.8
63	8	60 ±0,15	147	62	112	10.2	20.3	6	6

Piston Ø	L12	L13	L15	L17	L18	L19	L22	L25	L26
25	5.5	16.5	25	5.5	25	8	32	32	30
32	9	20.5	33	6.5	33	10	42	42	32
40	9	20	40	6	40	10	53	53	42
50	9	23	48	7.5	48	12	63	63	53
63	16	24	60	11	60	12	80	80	63

Piston Ø	L27	L28	L29	L30	L31	LJ1	LJ2	LM1	LM2
25	81	23	32 ±0,1	30 ±0,2	24	29.6	32	10	15.5
32	97	30	42 ±0,1	32 ±0,2	25	40	40.5	12	18.5
40	107	30	53 ±0,15	42 ±0,2	32.5	37.8	44	12	19.5
50	134	40	63 ±0,15	53 ±0,2	40	54.5	50.5	15	23.5
63	140	48	80 ±0,15	63 ±0,2	48	57	59	15	24

Piston Ø	LM3	LM4	PL1	PL2	PL3	PL4	T	T1	T2
25	93	33	11	11	11	11	6.5	18 ±0,4	32,5 ±0,4
32	112	43	13.5	13.5	13.5	13.5	8	23 ±0,4	41 ±0,4
40	122	43	12	12	12	12	8	23 ±0,4	41 ±0,4
50	146	52	13	13	13	13	7.5	27,5 ±0,4	47,5 ±0,4
63	160	67	13.7	13.7	13.7	13.7	11	35 ±0,4	49,5 ±0,5

Piston Ø	T3	T4	TT	ZA
25	30 ±0,05	20,5 ±0,05	N6	42 3)
32	35 ±0,05	24 ±0,05	N8	46.5
40	35,5 ±0,1	27 ±0,1	N8	44
50	41 ±0,1	32 ±0,1	N8	46
63	39 ±0,1	39 ±0,1	N10	51

S = stroke
To determine the cylinder length (ZA) for intermediate strokes (i.e. stroke 10 with dia. 40), the next available standard stroke size must be used
1) Through hole with thread
2) through-hole
3) For stroke 10/150, ZA = 52, for stroke 25, ZA = 47
Two holes C-C 10 mm.

Stroke-dependent dimensions

Piston Ø	S=10 D1	S=20 D1	S=25 D1	S=30 D1	S=40 D1	S=50 D1	S=75 D1	S=100 D1	S=125 D1
25	19	19	19	19	29	29	29	29	47
32	-	-	20	20	20	20	35	35	51
40	-	-	21.5	21.5	21.5	21.5	37	37	53
50	-	-	20	20	20	20	46	46	64
63	-	-	14	14	14	14	40	40	58

Piston Ø	S=150 D1	S=160 D1	S=200 D1	S=10 L14	S=20 L14	S=25 L14	S=30 L14	S=40 L14	S=50 L14
25	47	47	47	25	25	25	25	25	25
32	51	51	51	30	30	30	33	33	33
40	53	53	53	30	30	30	40	40	40
50	64	64	64	25	25	25	48	48	48
63	58	58	58	28	28	28	28	28	28

Piston Ø	S=75 L14	S=100 L14	S=125 L14	S=160 L14	S=200 L14
25	25	25	25	25	25
32	33	33	33	33	33
40	40	40	40	40	40
50	48	48	48	48	48
63	60	60	60	60	60

S = stroke

Stroke-dependent dimensions N ... L16

Piston Ø	S=10 N	S=20 N	S=25 N	S=30 N	S=40 N	S=50 N	S=75 N	S=100 N	S=125 N
25	1	1	1	1	1	2	3	3	3
32	-	-	1	1	1	1	2	3	3
40	-	-	1	1	1	1	2	2	3
50	-	-	1	1	1	1	1	2	2
63	-	-	1	1	1	1	1	1	2

Piston Ø	S=160 N	S=200 N	S=40 L16	S=50 L16	S=100 L16	S=125 L16	S=160 L16	S=200 L16
25	3	3	65.5	-	12.5	150.5	185.5	225.5
32	3	3	-	76	-	151	186	226
40	3	3	-	-	-	-	184	224
50	3	3	-	-	-	148	-	223
63	2	3	-	-	127	-	187	-

Stroke-dependent dimensions M ... L24

Piston Ø	S=10 M	S=20 M	S=25 M	S=30 M	S=40 M	S=50 M	S=75 M	S=100 M	S=125 M
25	1	1	1	1	1	1	2	3	3
32	-	-	1	1	1	1	2	2	3
40	-	-	1	1	1	1	1	2	2
50	-	-	1	1	1	1	1	1	2
63	-	-	1	1	1	1	1	1	1

Piston Ø	S=160 M	S=200 M	S=40 L24	S=50 L24	S=75 L24	S=100 L24	S=125 L24	S=160 L24	S=200 L24
25	3	3	60	70	95	-	145	180	220
32	3	3	-	-	-	122.5	-	182.5	222.5
40	3	3	-	-	91	-	-	-	216
50	2	3	-	-	-	116	-	176	-
63	2	2	-	-	-	-	140	-	217

S = stroke

Stroke-dependent dimensions L20 ... L21

Piston Ø	S=20 L20	S=25 L20	S=30 L20	S=40 L20	S=50 L20	S=75 L20	S=100 L20	S=125 L20	S=160 L20
25	22	32	32	32	32	32	32	32	32
32	35	35	42	42	42	42	42	42	42
40	30	30	53	53	53	53	53	53	53
50	30	30	30	30	30	63	63	63	63
63	30	30	30	30	30	30	30	30	30

Piston Ø	S=200 L20	S=20 L21	S=25 L21	S=30 L21	S=40 L21	S=50 L21	S=75 L21	S=100 L21	S=125 L21
25	32	19	24	24	24	24	24	24	24
32	42	27.5	27.5	31	31	31	31	31	31
40	53	25	25	36.5	36.5	36.5	36.5	36.5	36.5
50	63	27	27	27	27	27	43.5	43.5	43.5
63	30	27	27	27	27	27	52	52	52

Piston Ø	S=160 L21	S=200 L21
25	24	24
32	31	31
40	36.5	36.5
50	43.5	43.5
63	52	52

S = stroke

Stroke-dependent dimensions L34 ... L35

Piston Ø	S=10 L34	S=20 L34	S=25 L34	S=30 L34	S=40 L34	S=50 L34	S=75 L34	S=100 L34	S=125 L34
25	26	29	29	29	29	29	29	29	29
32	35.5	35.5	35.5	37	37	37	37	37	37
40	35	35	35	40	40	40	40	40	40
50	35.5	35.5	35.5	47	47	47	47	47	47
63	38	38	38	38	38	38	54	54	54

Piston Ø	S=160 L34	S=200 L34	S=10 L35	S=20 L35	S=25 L35	S=30 L35	S=40 L35	S=50 L35	S=75 L35
25	29	29	4	4	4	4	6	6	8
32	37	37	4	4	4	4	4	4	6
40	40	40	4	4	4	4	4	4	6
50	47	47	4	4	4	4	4	4	4
63	54	54	4	4	4	4	4	4	4

Piston Ø	S=100 L35	S=125 L35	S=160 L35	S=200 L35
25	8	10	10	10
32	8	8	10	10
40	6	6	8	10
50	6	6	8	8
63	4	6	6	8

S = stroke

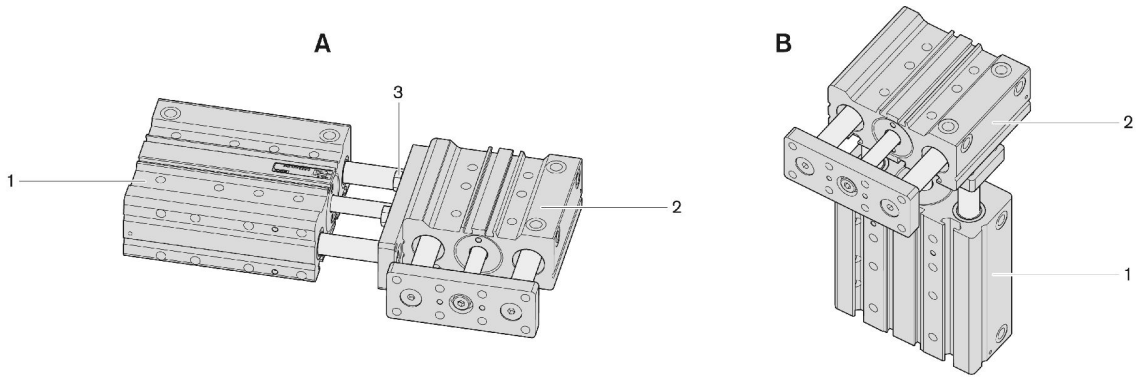
Stroke-dependent dimensions

Piston Ø	S=10 L36	S=20 L36	S=25 L36	S=30 L36	S=40 L36	S=50 L36	S=75 L36	S=100 L36	S=125 L36
25	4	4	4	4	6	6	8	10	10
32	4	4	4	4	4	6	6	8	10
40	4	4	4	4	4	4	6	6	8
50	4	4	4	4	4	4	4	6	8
63	4	4	4	4	4	4	4	6	6

Piston Ø	S=160 L36	S=200 L36	S=10 ZJ	S=20 ZJ	S=25 ZJ	S=30 ZJ	S=40 ZJ	S=50 ZJ	S=75 ZJ
25	10	10	76.5	76.5	76.5	76.5	86.5	86.5	86.5
32	10	10	-	-	85	-	-	85	100
40	10	10	-	-	85	-	-	85	100.5
50	8	10	-	-	89.5	-	-	89.5	115.5
63	8	10	-	-	89.5	-	-	89.5	115.5

Piston Ø	S=100 ZJ	S=125 ZJ	S=160 ZJ	S=200 ZJ
25	86.5	104.5	104.5	104.5
32	100	116	116	116
40	100.5	116.5	116.5	116.5
50	115.5	133.5	133.5	133.5
63	115.5	133.5	133.5	133.5

GPC combinations



1) Cylinder 1
2) Cylinder 2
3) Screw

Minimum strokes for cylinder 1 when using 2 assembled guide cylinders

Piston Ø	S
32	25
40	25
50	30
63	30
80	35
100	40

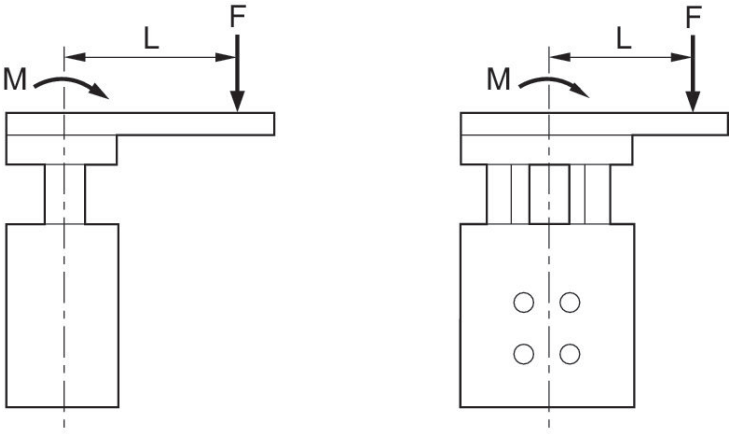
S = stroke

Minimum strokes for cylinder 2 when using 2 assembled guide cylinders

Piston Ø	Ø 2	A	B	3
10	12	–	–	M4x12
12	16	–	–	M5x15
16	20	–	–	M5x18
20	25	–	–	M6x20
25	32	25	15	M6x20
32	40	30	30	M8x25
40	50	30	30	M8x30
50	63	55	30	M10x30
63	80	55	55	M10x35
80	100	55	30	M12x40

A = min.stroke: assembly A B = min.stroke: assembly B 3 = screw

Permissible static moment M [Nm]

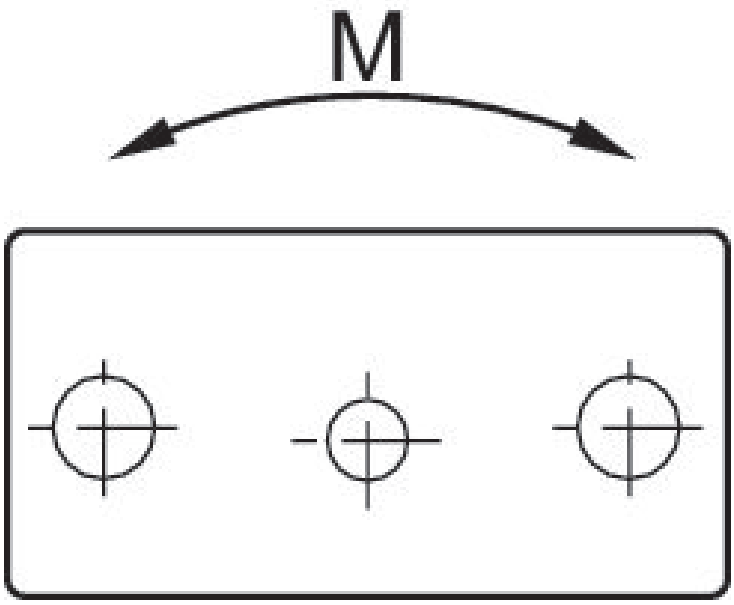


M = FxL

Piston Ø	S 5–30	S>30	S 35–50	S 55–100	S>100
10	1,5	1,5	–	–	–
12	2	3.5	–	–	–
16	4.5	14	–	–	–
20	4.5	14	–	–	–
25	4.6	–	4.9	9.4	14.5
32	15.2	–	16.5	17.2	26.4
40	15.3	–	15.3	17.2	26.4
50	26	–	26	28.9	51.6
63	26	–	26	28.9	51.6
80	52.1	–	52.1	57.9	90.3
100	52.3	–	52.3	57.9	90.4

S = stroke

Permissible static moment M [Nm]

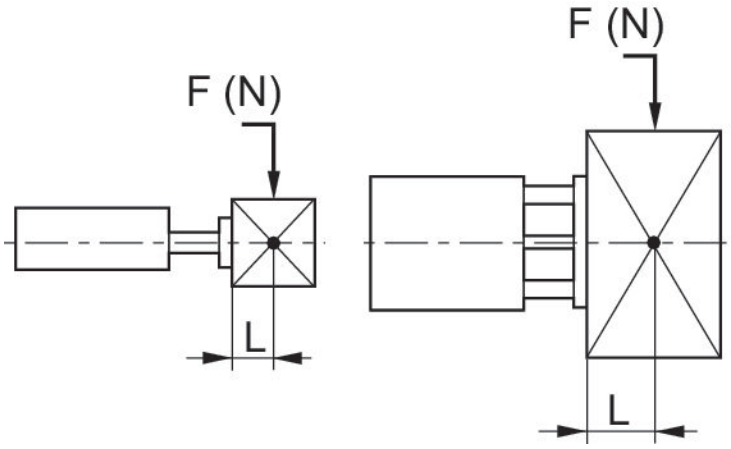


Piston Ø	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100	S=125
10	1.75	1.5	1.4	1.3	1.2	1.1	0.85	0.75	–
12	0.56	0.48	0.46	0.42	0.62	0.56	0.44	0.38	0.32
16	1.48	1.32	1.25	1.2	1.72	1.57	1.29	1.15	0.99
20	1.7	1.51	1.43	1.38	1.97	1.81	1.49	1.32	1.13
25	3.11	2.6	–	2.23	1.96	1.74	2.41	2.02	2.42
32	–	–	8.17	–	–	6.4	5.26	4.47	5.45
40	–	–	9.19	–	–	7.22	5.95	5.05	6.17
50	–	–	17	–	–	13.6	11.4	9.73	13.6
63	–	–	20.1	–	–	16.1	13.4	11.5	16.1
80	–	–	42.1	–	–	34.9	29.8	26	32.4
100	–	–	47.8	–	–	39.7	33.9	29.6	37

Piston Ø	S=160	S=200
10	–	–
12	0.26	–
16	0.82	–
20	0.95	–
25	2.05	1.75
32	4.67	4.01
40	5.29	4.55
50	11.8	10.3
63	14	12.2
80	28.5	24.9
100	32.5	28.5

S = stroke

Permissible static side load F [N] at distance L



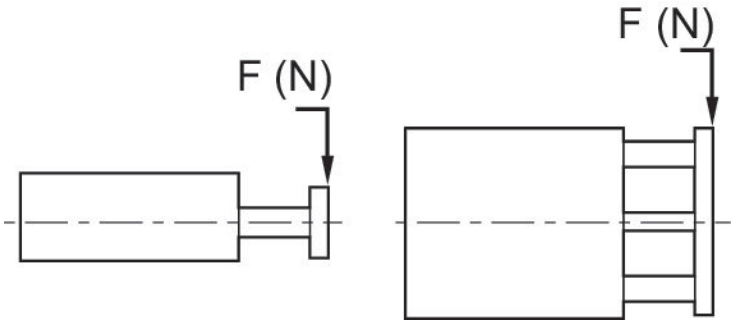
Permissible static side load F [N] at distance L

Piston Ø	L	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100
10	25	12	11	11	10	10	9	8	7
12	25	28	24	23	21	31	28	22	19
16	50	63	56	53	51	73	67	55	49
20	50	63	56	53	51	73	67	55	49
25	50	53.2	48.4	–	44.4	41	38.1	59	51.9
32	50	–	–	139	–	–	118	103	90.8
40	50	–	–	138	–	–	118	102	90.4
50	50	–	–	218	–	–	187	164	146
63	50	–	–	217	–	–	186	163	145
80	50	–	–	392	–	–	342	304	273
100	50	–	–	390	–	–	341	302	272

Piston Ø	S=125	S=150	S=160	S=200
10	–	–	–	–
12	16	13	–	–
16	42	35	–	–
20	42	35	–	–
25	65.4	–	57.3	50.1
32	116	–	102	90.2
40	116	–	102	89.9
50	215	–	191	169
63	214	–	190	169
80	356	–	318	284
100	354	–	318	284

S = stroke

Permissible static side force F [N]



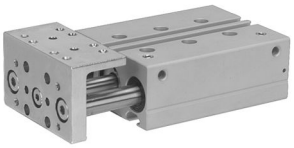
Piston Ø	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100	S=125
25	106	88	–	76	66	59	82	69	82
32	–	–	216	–	–	169	139	118	144
40	–	–	214	–	–	168	138	118	144
50	–	–	327	–	–	262	218	187	261
63	–	–	324	–	–	260	217	186	260
80	–	–	554	–	–	459	392	342	427
100	–	–	549	–	–	456	390	341	425

Piston Ø	S=150	S=160	S=200
25	–	70	59
32	–	124	106
40	–	123	106
50	–	227	197
63	–	226	196
80	–	374	328
100	–	373	327

S = stroke

Guide cylinders, Series GPC-TL

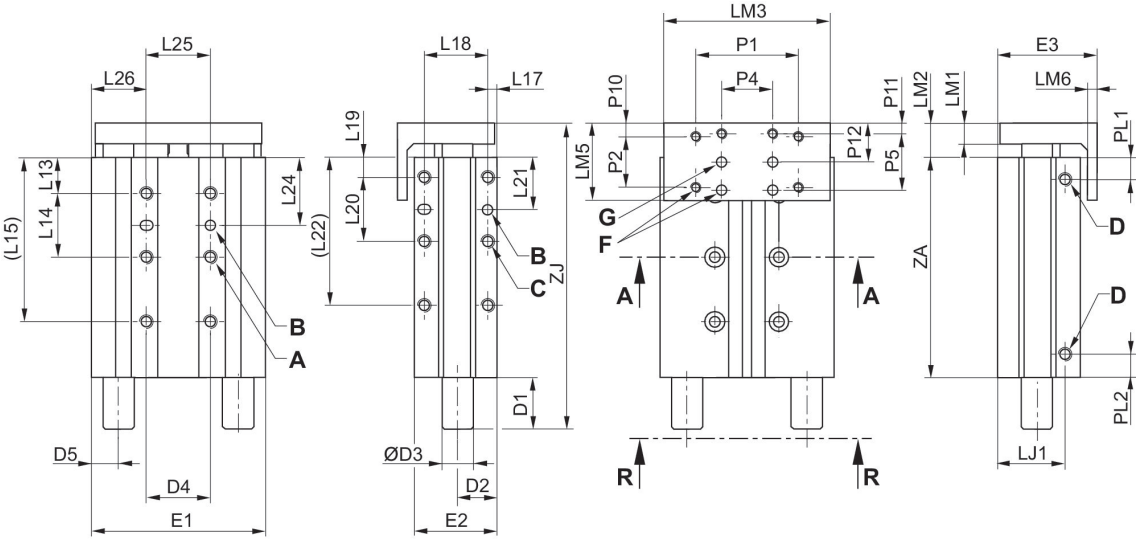
: Plain bearing
Cushioning: elastic
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: -10 °C ... 70 °C

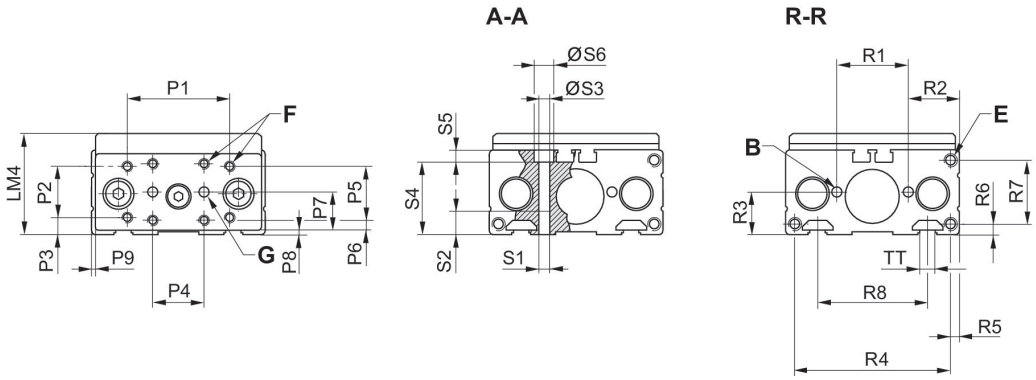


Piston Ø	12 mm	16 mm	20 mm
Ports	M5	M5	M5
Stroke 10	0822060600	0822061600	0822062600
20	0822060601	0822061601	0822062601
25	0822060607	0822061607	0822062607
30	0822060602	0822061602	0822062602
40	0822060603	0822061603	0822062603
50	0822060604	0822061604	0822062604
75	0822060605	0822061605	0822062605
100	0822060606	0822061606	0822062606

Piston Ø	12 mm	16 mm	20 mm
Retracting piston force	53 N	95 N	148 N
Extracting piston force	71 N	127 N	198 N
Impact energy	0.1 J	0.11 J	0.15 J
Working pressure min./max.	2 bar ... 8 bar	2 bar ... 10 bar	2 bar ... 10 bar

Dimensions





Piston Ø	A 1)	B 1)	C 1)	D	D1 S>30	D2	D3	D4	D5
12	M5x8	4 H7x4	M5x8	M5	17.6	14.5	10	40	9
16	M5x8	4 H7x4	M5x8	M5	20	15.8	12	47	10.5
20	M6x10	4 H7x4	M5x10	M5	20	16.5	12	54	13

Piston Ø	E 1)	E1	E2	E3	F	G	L13	L14 S=10	L14 S=20
12	M5x8	58	30.5	36.5	M4	4 H9	14.5	-	18
16	M5x8	68	33	39.5	M4	4 H9	14	18	25
20	M5x10	80	36	43.5	M5	4 H9	15	16	24

Piston Ø	L14 S>20	L15 S=50−150	L17	L18	L19	L20 S=10	L20 S=20-150	L21 S=10	L21 S>10
12	22	58.5	4	22	8	20	20	18	18
16	25	64	4	25	8	18	25	20.5	20.5
20	24	63	4.5	24	8	20	30	18	23

Piston Ø	L22 S=50−150	L24 S=10	L24 S>10	L25	L26	LJ1	LM1	LM2	LM3
12	48	25.5	25.5	20	19	24.8	8	12.7	55
16	58	26.5	26.5	25	21.5	27	8	13.5	65
20	68	23	27	30	25	26.5	10	15.5	77

Piston Ø	LM4	LM5	LM6	P1	P2	P3	P4	P5	P6
12	35	28	4	40	20	3.5	20	20	3.5
16	38	30	4	40	20	5	20	22	4
20	42	35	5	50	25	4	25	25	4

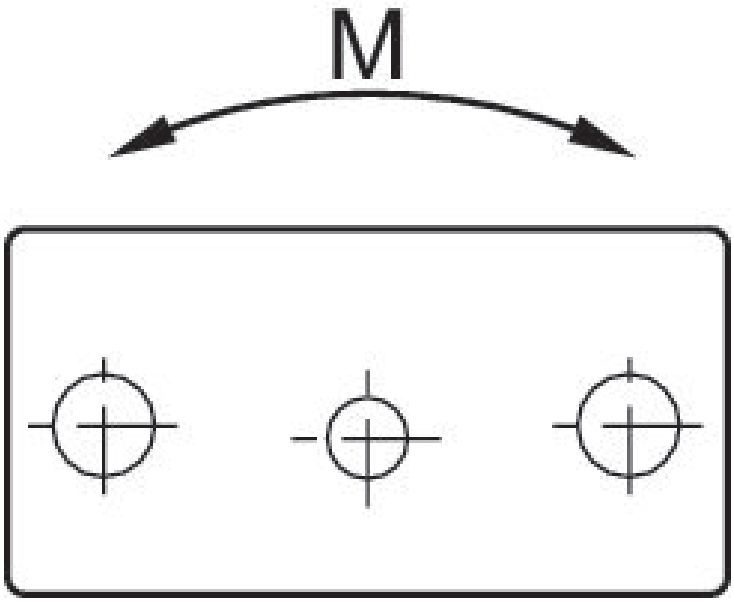
Piston Ø	P7	P8	P9	P10	P11	P12	PL1	PL2	R1±0,04
12	13.5	1.5	1.5	4	4	14	8.5	8.5	23
16	15	1.5	1.5	5	4	15	8.8	8.8	28
20	16.5	1.5	1.5	5	5	17.5	10	10	30

Piston Ø	R2	R3	R4	R5	R6	R7	R8	S1	S2
12	17.5	15	50	4	4	22	–	M5	8
16	20	16.5	61	3.5	4	25	43	M5	8
20	25	18	70	5	3.5	29	50	M6	10

Piston Ø	S3	S4	S5	S6	TT	ZA	ZJ S=10−30	ZJ S>30
12	4.2	20	10.2	7.6	–	34.4	47.1	64.7
16	4.2	28.5	4.6	7.6	N6	36	49.5	69.5
20	5.2	30.5	5.5	9.5	N6	36	51.5	71.5

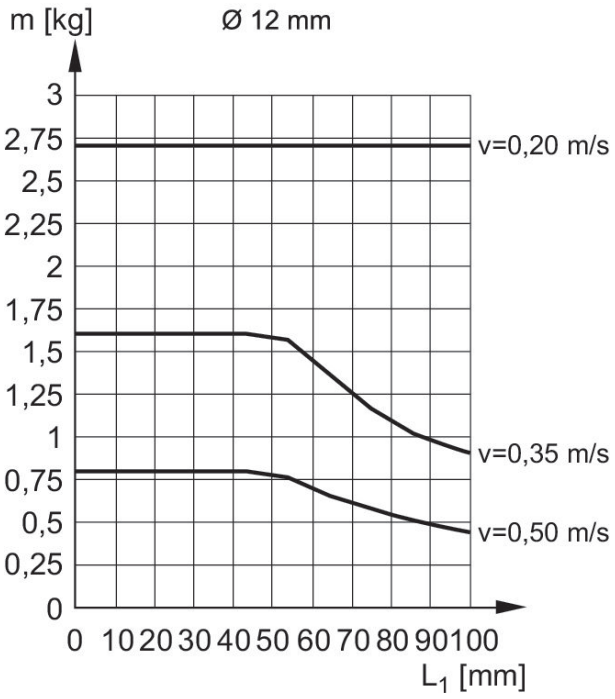
S = stroke
1) Dimension x depth

Permissible static moment M [Nm]



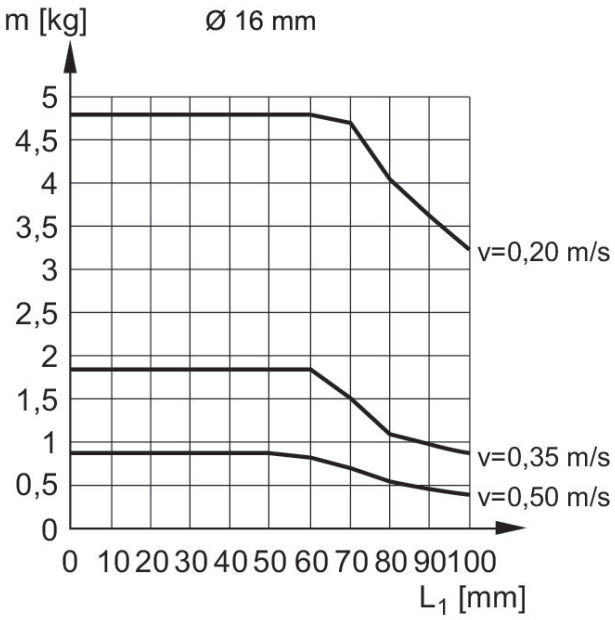
Permissible dynamic load m [kg]

Ø12 mm

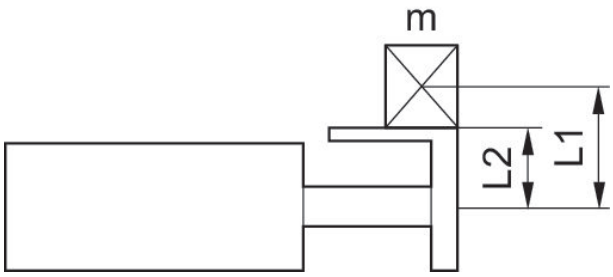


Permissible dynamic load m [kg]

Ø 16 mm

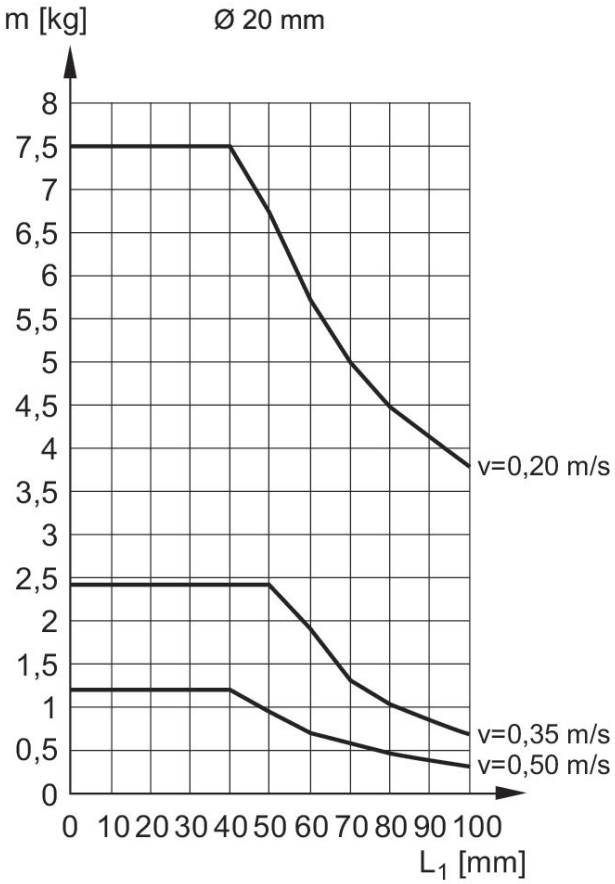


Permissible dynamic load m [kg]

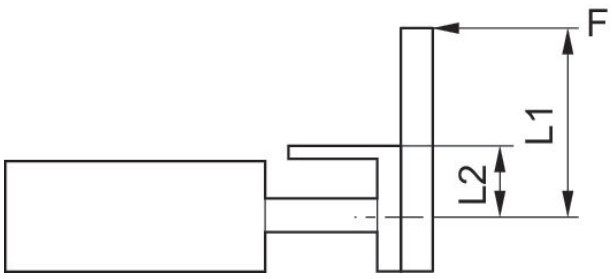


Permissible dynamic load m [kg]

Ø 20 mm

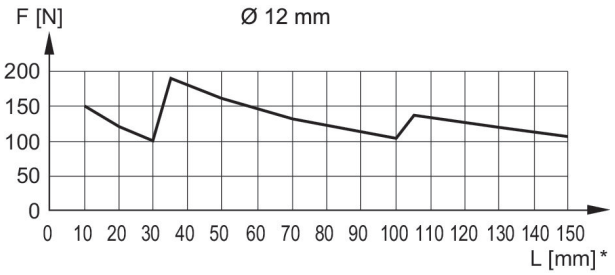


Permissible lever arm length L1 at 6 bar with static load



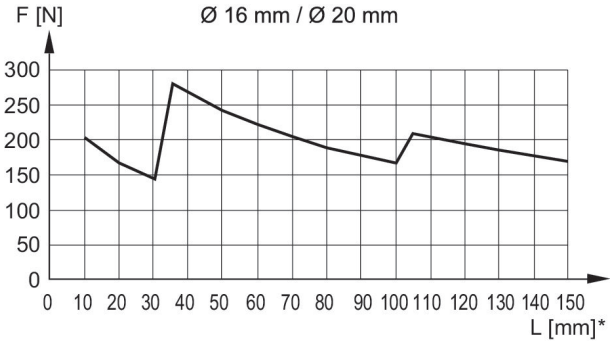
Permissible static side force F [N]

Ø12 mm

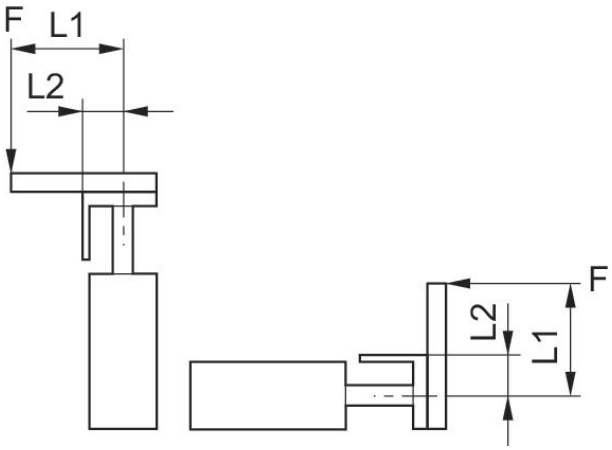


Permissible static side force F [N]

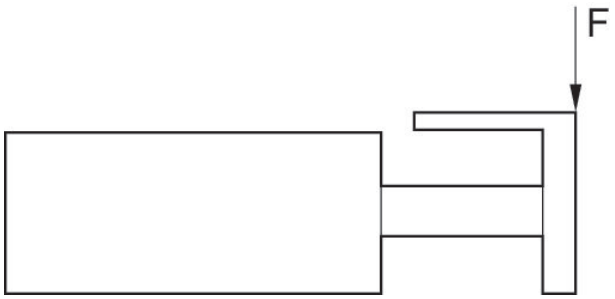
Ø [[16] mm] and [[20] mm]



Permissible lever arm length L1 at 6 bar with dynamic load

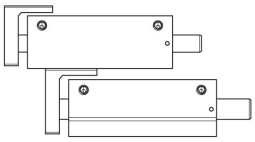


Permissible static side force F [N]

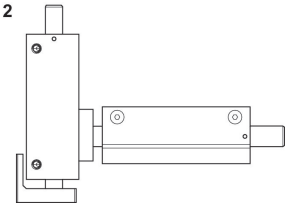


GPC combinations

1



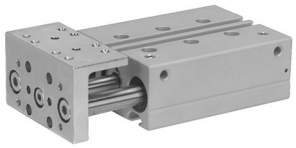
2



The GPC-TL can be directly mounted on the front plate of next bigger standard GPC in radial direction, and on next bigger GPC-TL in axial direction.

Guide cylinders, Series GPC-TL

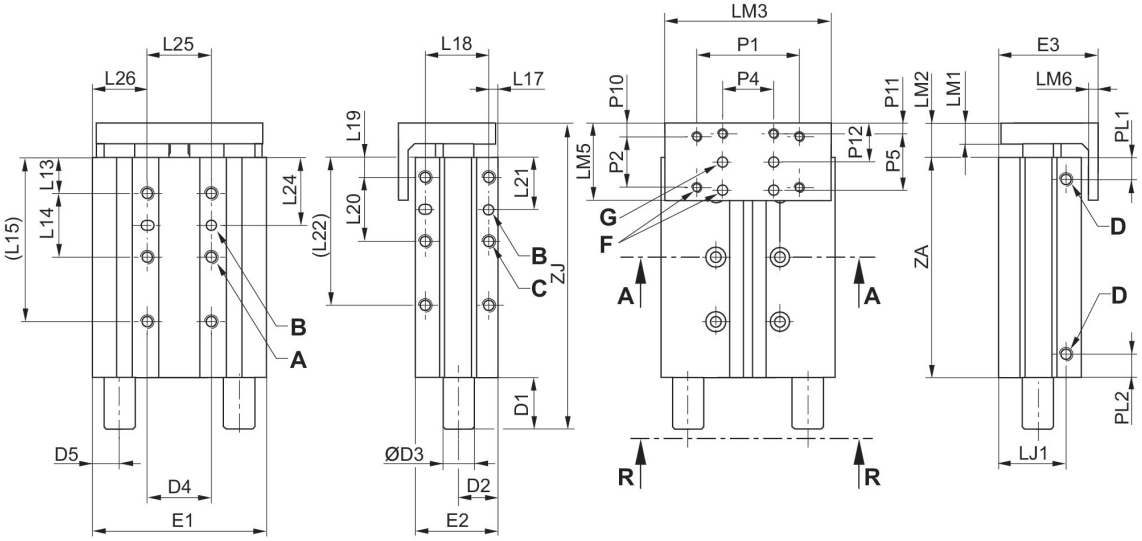
: ball bearing
Cushioning: elastic
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: -10 °C ... 70 °C

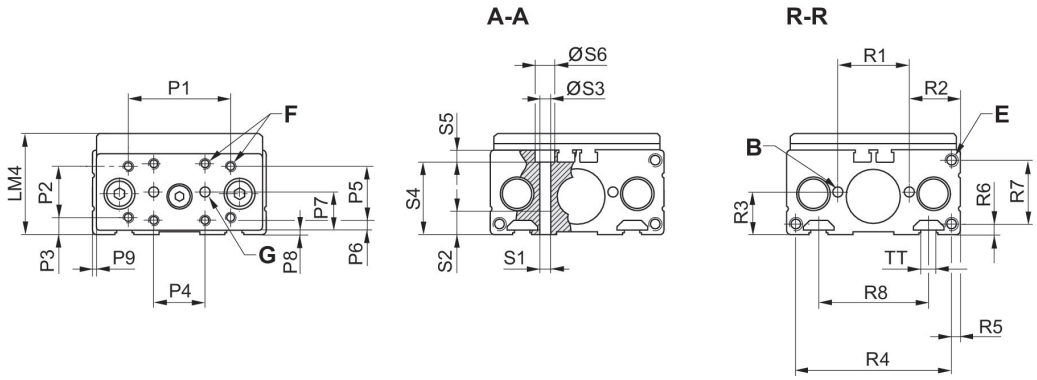


Piston Ø	12 mm	16 mm	20 mm
Ports	M5	M5	M5
Stroke 10	0822060700	0822061700	0822062700
20	0822060701	0822061701	0822062701
25	0822060707	0822061707	0822062707
30	0822060702	0822061702	0822062702
40	0822060703	0822061703	0822062703
50	0822060704	0822061704	0822062704
75	0822060705	0822061705	0822062705
100	0822060706	0822061706	0822062706

Piston Ø	12 mm	16 mm	20 mm
Retracting piston force	53 N	95 N	148 N
Extracting piston force	71 N	127 N	198 N
Impact energy	0.1 J	0.11 J	0.15 J
Working pressure min./max.	2 bar ... 8 bar	2 bar ... 10 bar	2 bar ... 10 bar

Dimensions





Piston Ø	A 1)	B 1)	C 1)	D	D1	D2	D3	D4	D5
12	M5x8	4 H7x4	M5x8	M5	19	14.5	8	40	9
16	M5x8	4 H7x4	M5x8	M5	21	15.8	10	47	10.5
20	M6x10	4 H7x4	M6x10	M5	21	16.5	10	54	13

Piston Ø	E 1)	E1	E2	E3	F	G	L13	L14 S=10	L14 S=20
12	M5x8	58	30.5	36.5	M4	4 H9	14.5	-	18
16	M5x8	68	33	39.5	M4	4 H9	14	18	25
20	M5x10	80	36	43.5	M5	4 H9	15	16	24

Piston Ø	L14 S>20	L15 S=50−150	L17	L18	L19	L20 S=10	L20 S=20-150	L21 S=10	L21 S>10
12	22	58.5	4	22	8	20	20	18	18
16	25	64	4	25	8	18	25	20.5	20.5
20	24	63	4.5	24	8	20	30	18	23

Piston Ø	L22 S=50−150	L24 S=10	L24 S>10	L25	L26	LJ1	LM1	LM2	LM3
12	48	25.5	25.5	20	19	24.8	8	12.7	55
16	58	26.5	26.5	25	21.5	27	8	13.5	65
20	68	23	27	30	25	26.5	10	15.5	77

Piston Ø	LM4	LM5	LM6	P1	P2	P3	P4	P5	P6
12	35	28	4	40	20	3.5	20	20	3.5
16	38	30	4	40	20	5	20	22	4
20	42	35	5	50	25	4	25	25	4

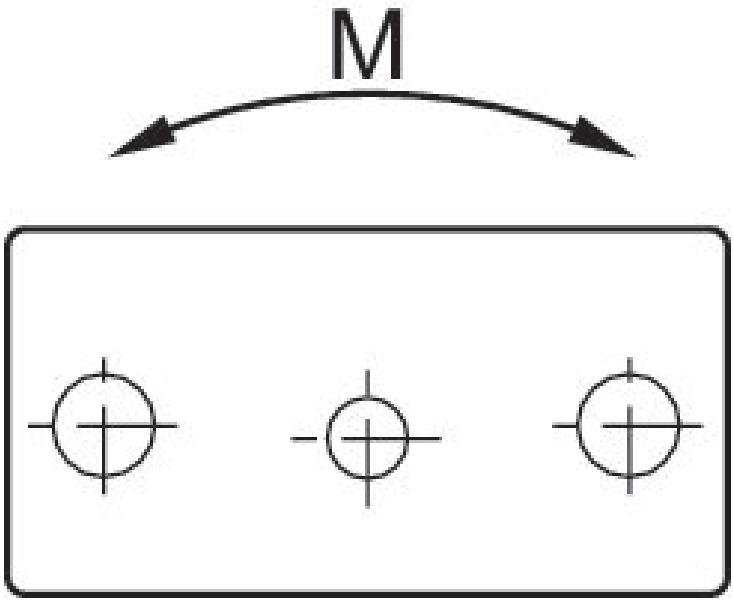
Piston Ø	P7	P8	P9	P10	P11	P12	PL1	PL2	R1±0,04
12	13.5	1.5	1.5	4	4	14	8.5	8.5	23
16	15	1.5	1.5	5	4	15	8.8	8.8	28
20	16.5	1.5	1.5	5	5	17.5	10	10	30

Piston Ø	R2	R3	R4	R5	R6	R7	R8	S1	S2
12	17.5	15	50	4	4	22	–	M5	8
16	20	16.5	61	3.5	4	25	43	M5	8
20	25	18	70	5	3.5	29	50	M6	10

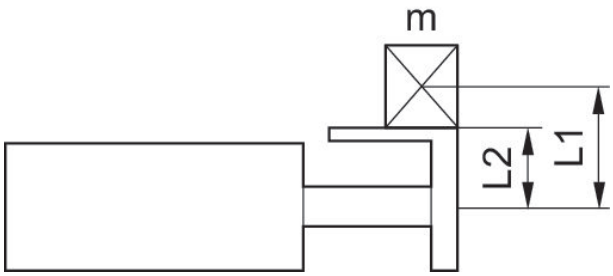
Piston Ø	S3	S4	S5	S6	TT	ZA	ZJ S=10−30	ZJ S>30
12	4.2	20	10.2	7.6	–	34.4	47.1	65.5
16	4.2	28.5	4.6	7.6	N6	36	49.5	70.3
20	5.2	30.5	5.5	9.5	N6	36	51.5	72.3

S = stroke
1) Dimension x depth

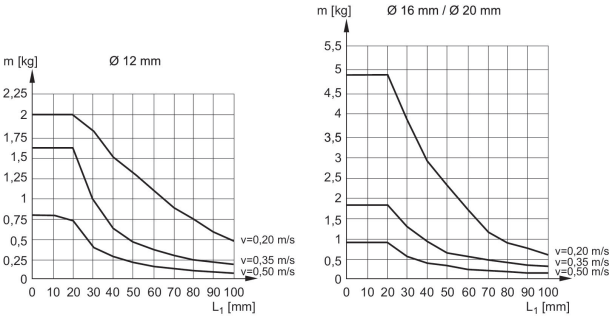
Permissible static moment M [Nm]



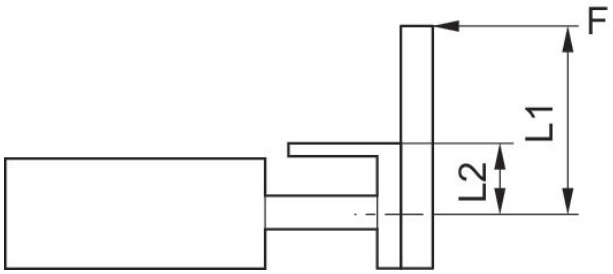
Permissible dynamic load m [kg]



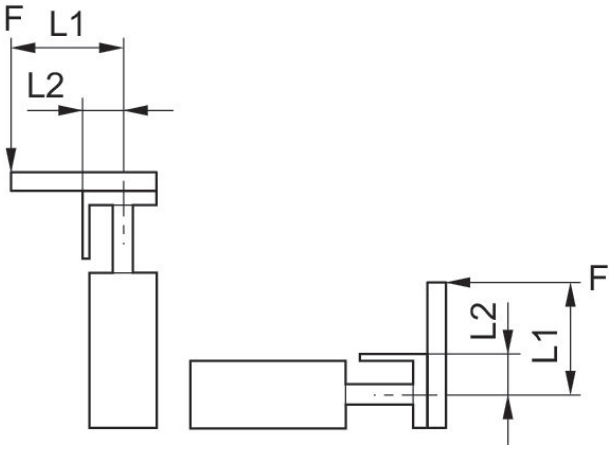
Permissible dynamic load m [kg]



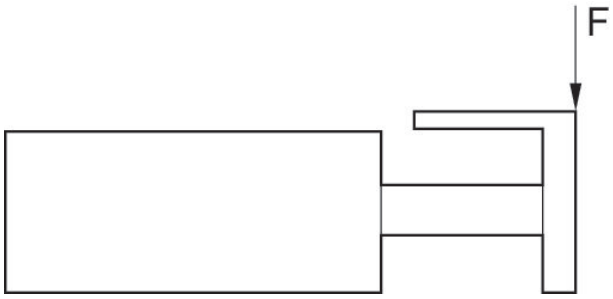
Permissible lever arm length L1 at 6 bar with static load



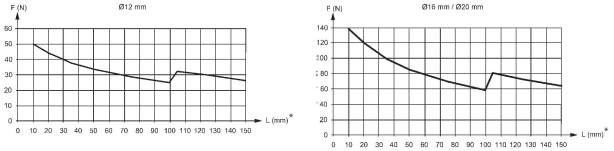
Permissible lever arm length L1 at 6 bar with dynamic load



Permissible static side force F [N]

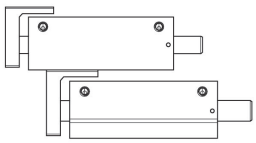


Permissible static side force F [N]

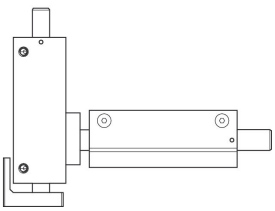


GPC combinations

1



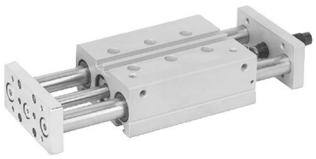
2



The GPC-TL can be directly mounted on the front plate of next bigger standard GPC in radial direction, and on next bigger GPC-TL in axial direction.

Guide cylinders, Series GPC-E

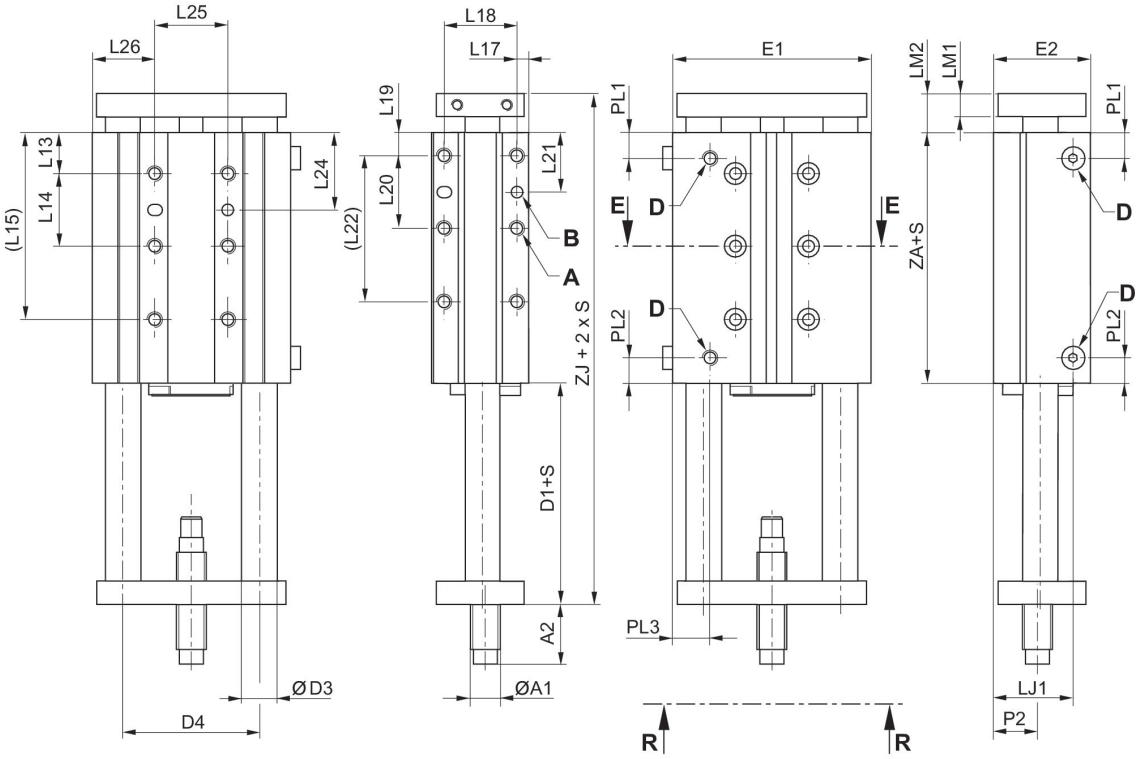
: Plain bearing
Cushioning: hydraulic
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: 0 °C ... 65 °C



Piston Ø	12 mm	16 mm	20 mm
Ports	M5	M5	M5
Stroke 25	0822060407	0822061407	0822062407
50	0822060404	0822061404	0822062404
75	0822060405	0822061405	0822062405
100	0822060406	0822061406	0822062406
125	0822060424	0822061424	0822062424
150	0822060429	0822061429	0822062429

Piston Ø	12 mm	16 mm	20 mm
Retracting piston force	53 N	95 N	148 N
Extracting piston force	71 N	127 N	198 N
Impact energy	0.1 J	0.11 J	0.15 J
Working pressure min./max.	2 bar ... 8 bar	2 bar ... 10 bar	2 bar ... 10 bar

Dimensions



S = stroke

Piston Ø	A 1)	Ø A1	A2 2)	A2 3)	A3	B 1)	D	D1	D3
12	M5x8	M8	5	19	13.5	4 H7x4	M5	19.2	10
16	M5x8	M10	5	29	14.8	4 H7x4	M5	25.8	12
20	M6x10	M10	5	28	18.5	4 H7x4	M5	26.8	12

Piston Ø	D4	E1	E2	F	G	H	L 4)	L13	L14
12	40	58	30.5	M4	4.5	M4	14	14.5	22
16	47	68	33	M4	5.5	M4	24	14	25
20	54	80	36	M5	5.5	M5	23	15	24

Piston Ø	L15 S=50−150	L17	L18	L19	L20	L21	L22 S=50−150	L24	L25
12	58.5	4	22	8	20	18	48	25.5	20
16	64	4	25	8	25	20.5	58	26.5	25
20	63	4.5	24	8	30	23	68	27	30

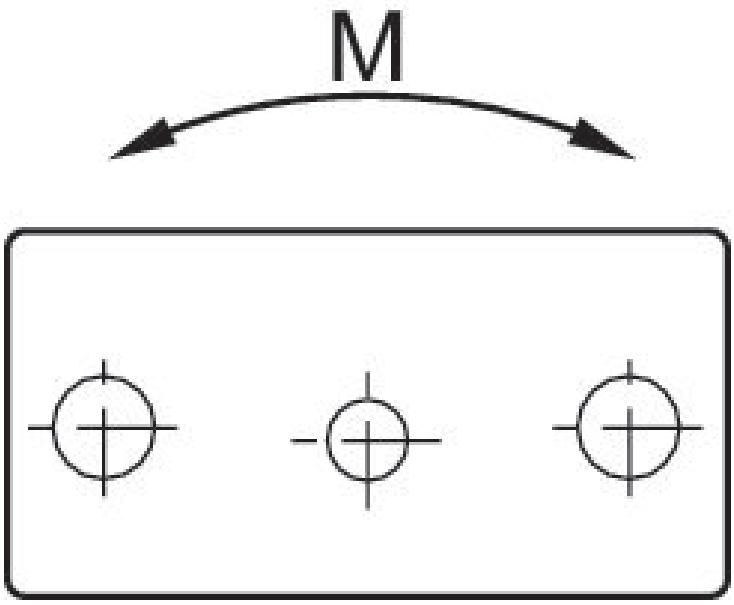
Piston Ø	L26	LJ1	LM1	LM2	LM3	LM4	P1	P2	P3
12	19	24.8	8	12.7	55	27	40	20	3.5
16	21.5	27	8	13.5	65	30	40	20	5
20	25	26.5	10	15.5	77	33	50	25	4

Piston Ø	P4	P5	P6	P7	P8	P9	PL1	PL2	PL3
12	–	–	–	–	1.5	1.5	8.5	8.5	11.5
16	20	22	4	15	1.5	1.5	8.8	8.8	13
20	25	25	4	16.5	1.5	1.5	10	10	15

Piston Ø	R8	S1 1)	S3	S4	S6	TT	ZJ	ZA
12	–	M5x8	4.2	20.3	7.6	–	66.3	34.4
16	43	M5x8	4.2	28.5	7.6	N6	75.3	36
20	50	M6x10	5.2	30.5	9.5	N6	78.3	36

S = stroke
1) Dimension x depth
2) Min.
3) Max.
4) Adjustment length L = A2 max. ... A2 min.

Permissible static moment M [Nm]



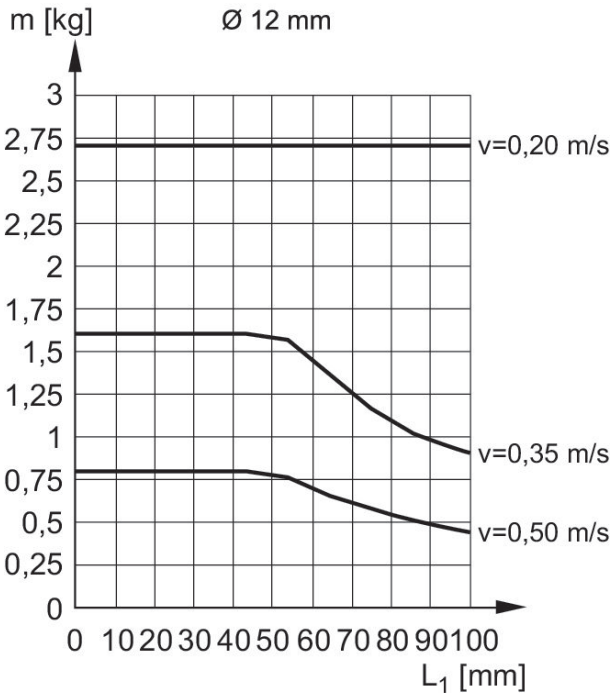
Piston Ø	S=10	S=20	S=25	S=30	S=40	S=50	S=75	S=100	S=125
10	1.75	1.5	1.4	1.3	1.2	1.1	0.85	0.75	–
12	0.56	0.48	0.46	0.42	0.62	0.56	0.44	0.38	0.32
16	1.48	1.32	1.25	1.2	1.72	1.57	1.29	1.15	0.99
20	1.7	1.51	1.43	1.38	1.97	1.81	1.49	1.32	1.13
25	3.11	2.6	–	2.23	1.96	1.74	2.41	2.02	2.42
32	–	–	8.17	–	–	6.4	5.26	4.47	5.45
40	–	–	9.19	–	–	7.22	5.95	5.05	6.17
50	–	–	17	–	–	13.6	11.4	9.73	13.6
63	–	–	20.1	–	–	16.1	13.4	11.5	16.1
80	–	–	42.1	–	–	34.9	29.8	26	32.4
100	–	–	47.8	–	–	39.7	33.9	29.6	37

Piston Ø	S=160	S=200
10	–	–
12	0.26	–
16	0.82	–
20	0.95	–
25	2.05	1.75
32	4.67	4.01
40	5.29	4.55
50	11.8	10.3
63	14	12.2
80	28.5	24.9
100	32.5	28.5

S = stroke

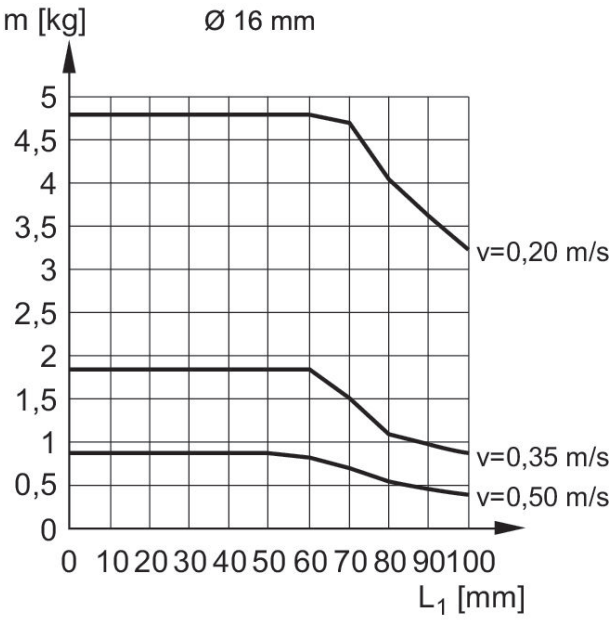
Permissible dynamic load m [kg]

Ø12 mm

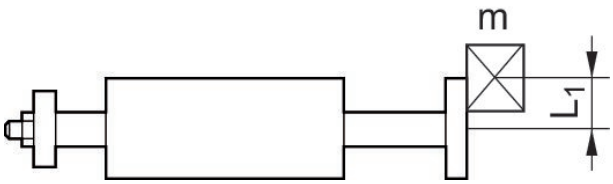


Permissible dynamic load m [kg]

Ø 16 mm

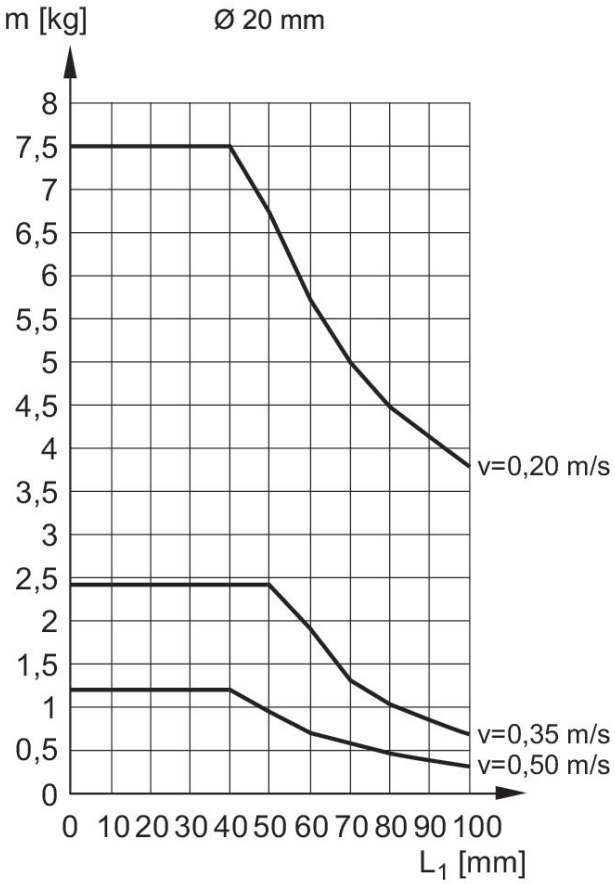


Permissible dynamic load m [kg]

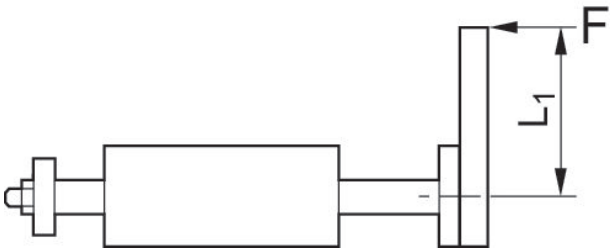


Permissible dynamic load m [kg]

Ø 20 mm

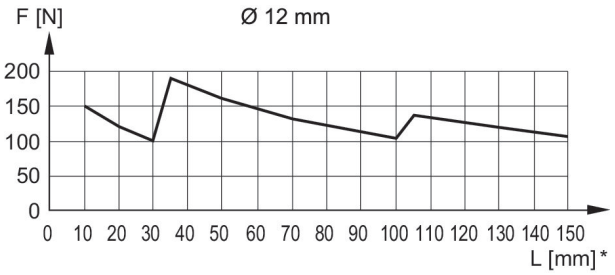


Permissible lever arm length L1 at 6 bar with static load

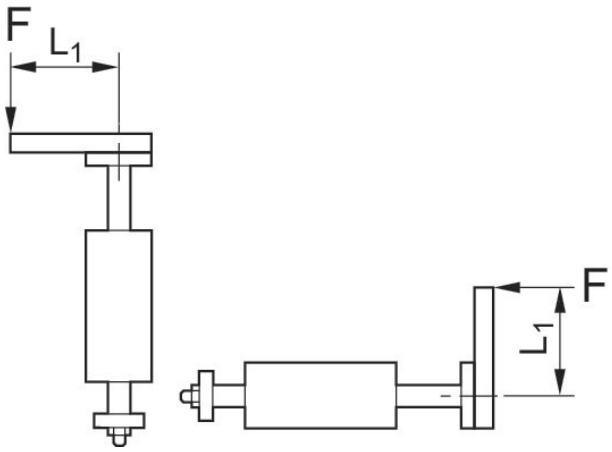


Permissible static side force F [N]

Ø12 mm

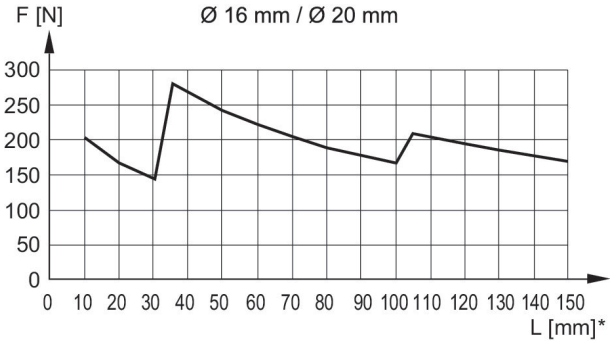


Permissible lever arm length L1 at 6 bar with dynamic load

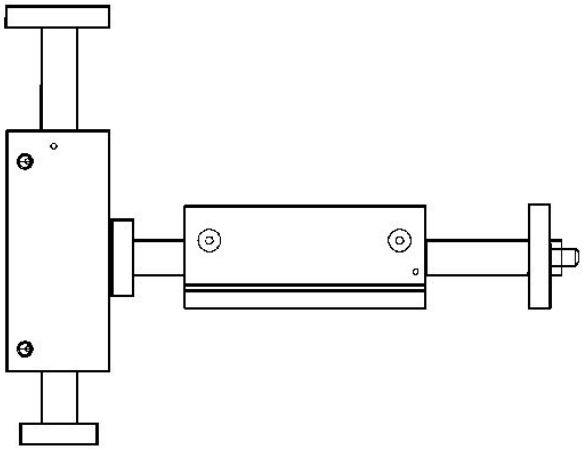


Permissible static side force F [N]

Ø [[16] mm] and [[20] mm]



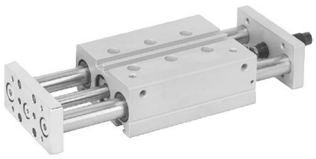
GPC combinations



The GPC-E can be directly mounted on the front plate of next bigger standard GPC or GPC-E in radial direction.

Guide cylinders, Series GPC-E

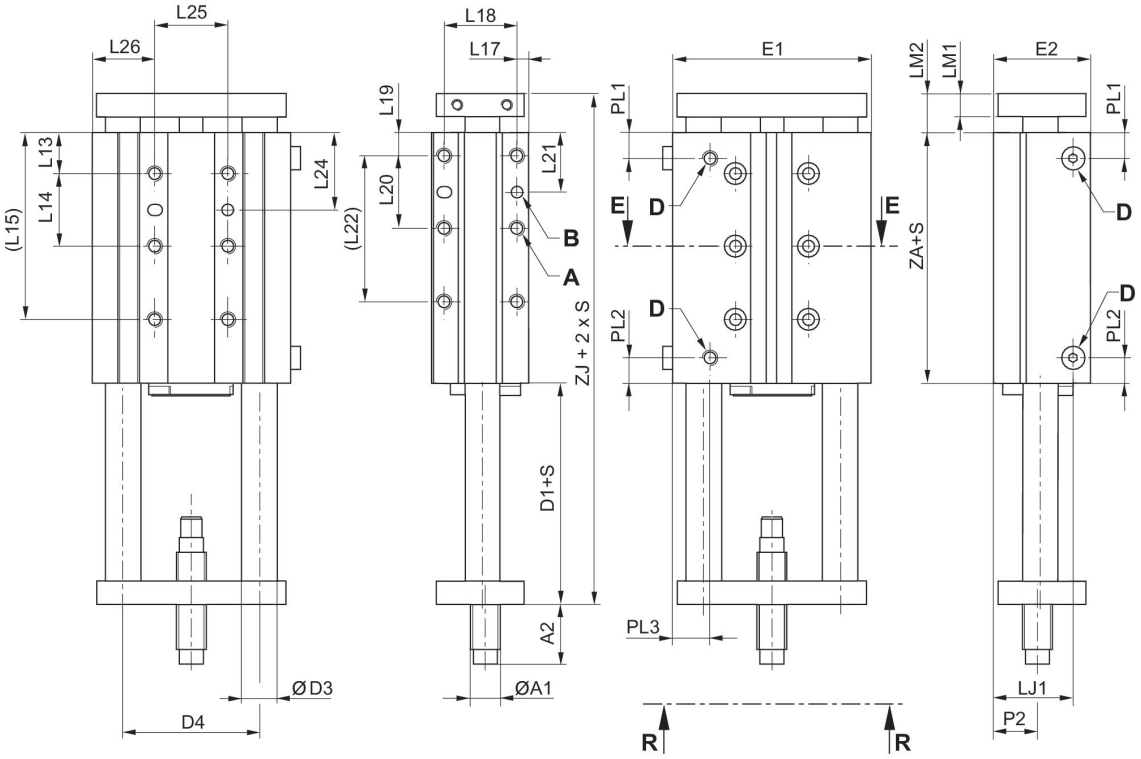
: ball bearing
Cushioning: hydraulic
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: 0 °C ... 65 °C

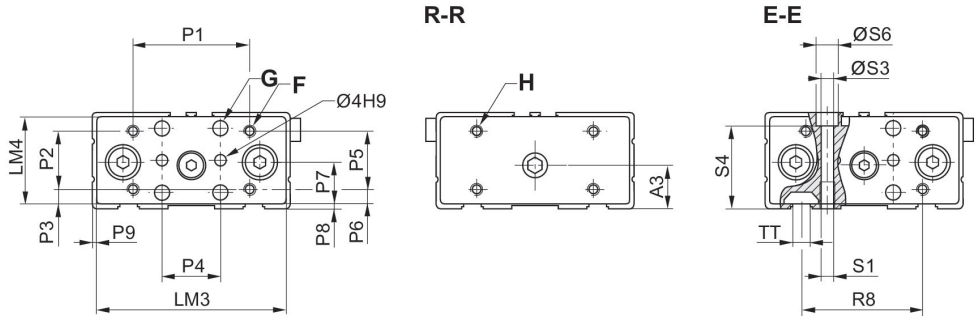


Piston Ø	12 mm	16 mm	20 mm
Ports	M5	M5	M5
Stroke 25	0822060507	0822061507	0822062507
50	0822060504	0822061504	0822062504
75	0822060505	0822061505	0822062505
100	0822060506	0822061506	0822062506
125	0822060524	0822061524	0822062524
150	0822060529	0822061529	0822062529

Piston Ø	12 mm	16 mm	20 mm
Retracting piston force	53 N	95 N	148 N
Extracting piston force	71 N	127 N	198 N
Impact energy	0.1 J	0.11 J	0.15 J
Working pressure min./max.	2 bar ... 8 bar	2 bar ... 10 bar	2 bar ... 10 bar

Dimensions





S = stroke

Piston Ø	A 1)	Ø A1	A2 2)	A2 3)	A3	B 1)	D	D1	D3
12	M5x8	M8	5	19	13.5	4 H7x4	M5	19.2	8
16	M5x8	M10	5	29	14.8	4 H7x4	M5	25.8	10
20	M6x10	M10	5	28	18.5	4 H7x4	M5	26.8	10

Piston Ø	D4	E1	E2	F	G	H	L 4)	L13	L14
12	40	58	30.5	M4	4.5	M4	14	14.5	22
16	47	68	33	M4	5.5	M4	24	14	25
20	54	80	36	M5	5.5	M5	23	15	24

Piston Ø	L15 S=50−150	L17	L18	L19	L20	L21	L22 S=50−150	L24	L25
12	58.5	4	22	8	20	18	48	25.5	20
16	64	4	25	8	25	20.5	58	26.5	25
20	63	4.5	24	8	30	23	68	27	30

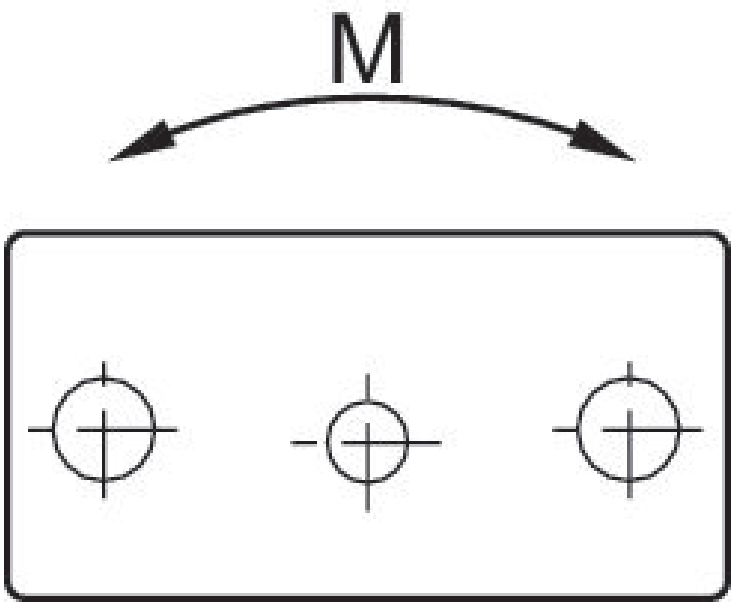
Piston Ø	L26	LJ1	LM1	LM2	LM3	LM4	P1	P2	P3
12	19	24.8	8	12.7	55	27	40	20	3.5
16	21.5	27	8	13.5	65	30	40	20	5
20	25	26.5	10	15.5	77	33	50	25	4

Piston Ø	P4	P5	P6	P7	P8	P9	PL1	PL2	PL3
12	–	–	–	–	1.5	1.5	8.5	8.5	11.5
16	20	22	4	15	1.5	1.5	8.8	8.8	13
20	25	25	4	16.5	1.5	1.5	10	10	15

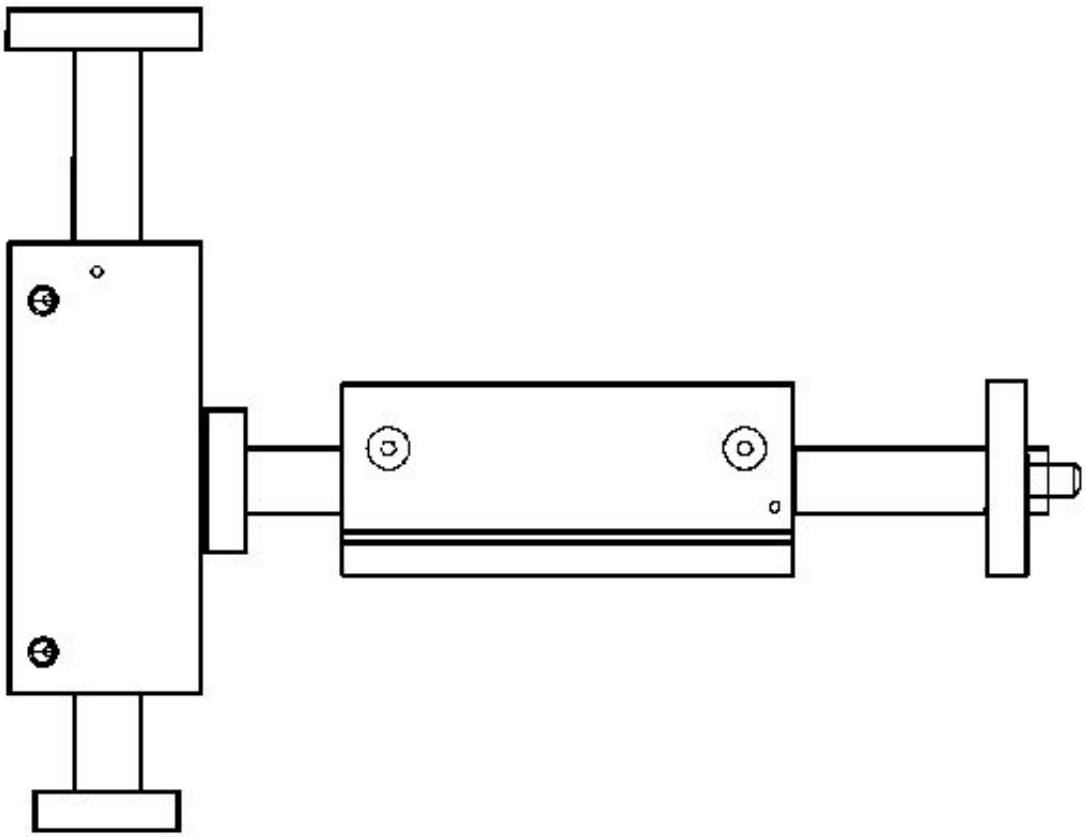
Piston Ø	R8	S1 1)	S3	S4	S6	TT	ZA	ZJ
12	–	M5x8	4.2	20.3	7.6	–	34.4	66.3
16	43	M5x8	4.2	28.5	7.6	N6	36	75.3
20	50	M6x10	5.2	30.5	9.5	N6	36	78.3

S = stroke
1) Dimension x depth
2) Min.
3) Max.
4) Adjustment length L = A2 max. ... A2 min.

Permissible static moment M [Nm]

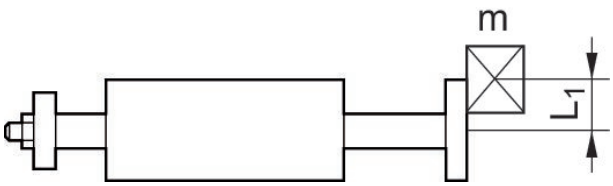


GPC combinations

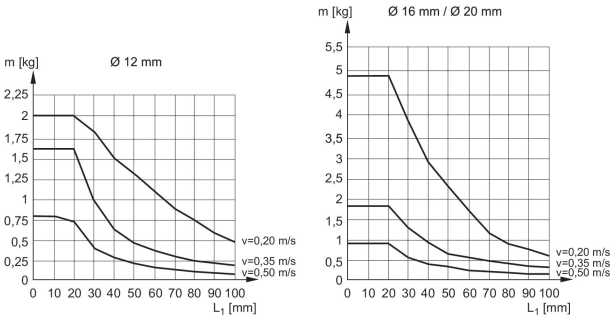


The GPC-E can be directly mounted on the front plate of next bigger standard GPC or GPC-E in radial direction.

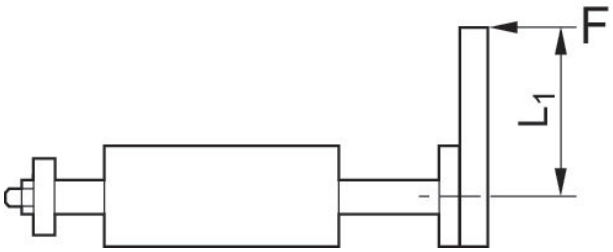
Permissible dynamic load m [kg]



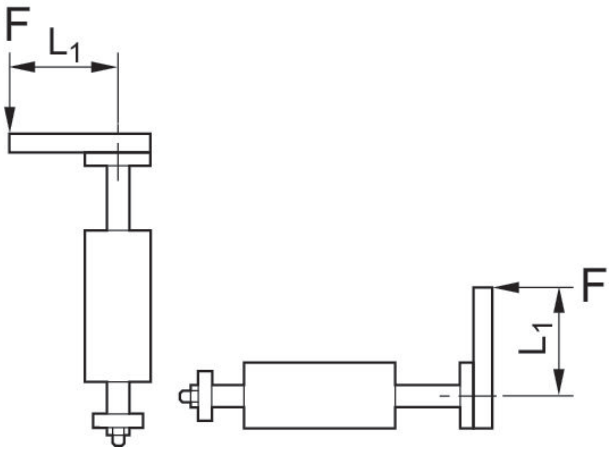
Permissible dynamic load m [kg]



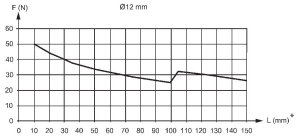
Permissible lever arm length L1 at 6 bar with static load

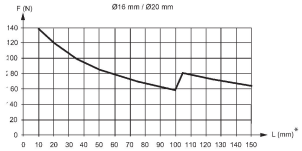


Permissible lever arm length L1 at 6 bar with dynamic load



Permissible static side force F [N]





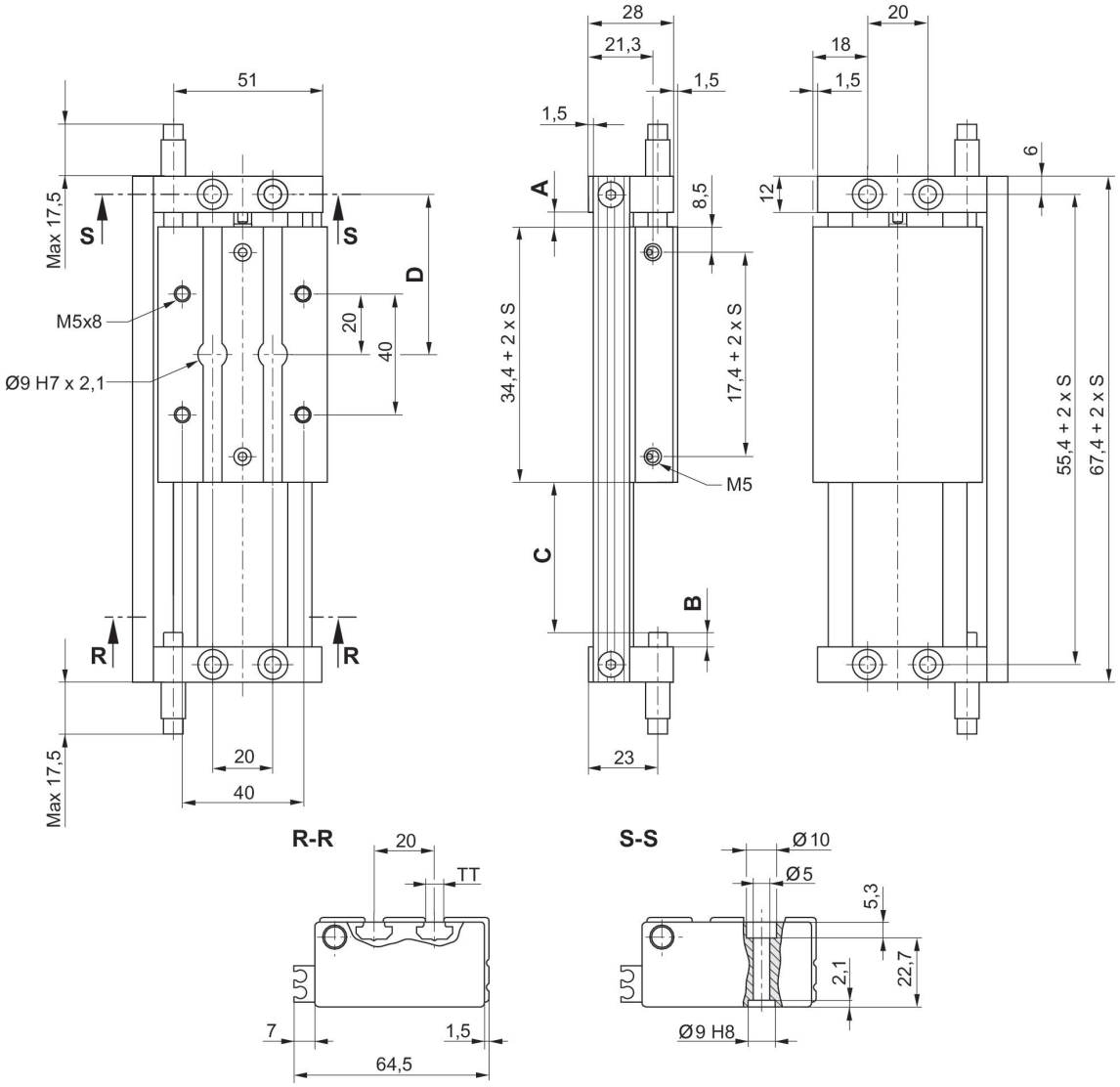
Guide cylinders, Series GPC-ST

: ball bearing
Cushioning: hydraulic
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: 0 °C ... 65 °C

Piston Ø	12 mm
Ports	M5
Stroke 35	R402000243
50	R402000244
75	R402000245
100	R402000246
125	R402000247

Piston Ø	12 mm
Retracting piston force	53 N
Extracting piston force	71 N
Impact energy	0.1 J
Working pressure min./max.	2 bar ... 8 bar

Dimensions

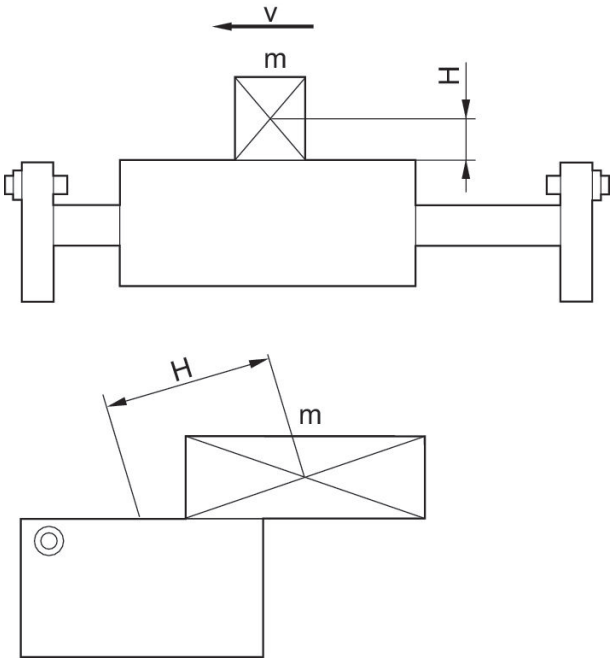


S = stroke

Piston Ø	A 1)	A 2)	B 1)	B 2)	C 1)	C 2)	D 1)	D 2)
12	4.7	24.7	4.2	24.2	S–40	S	25+0,5xS	48+0,5xS

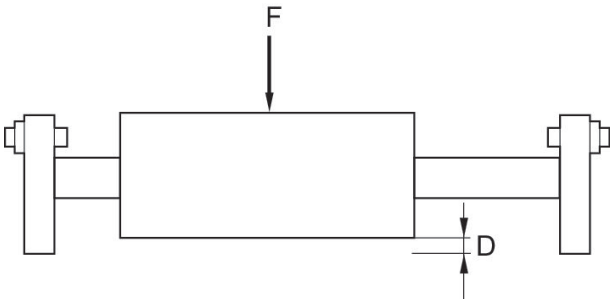
1) Min. 2) Max. S = stroke

Permissible dynamic load m [kg]



The load creates a high moment on the unit when reaching the end positions. It is therefore necessary not to exceed the limitations showed below. Following parameters must be considered: velocity, distance to center of mass and size of GPC-ST. When multiplying the mass m [kg] with the distance H [mm] the result must not exceed the values below. Example: A load of 2,3 kg shall be mounted with L 52 mm on a GPC-ST dia. 20 stroke 50. m x H, 2,3 x 52 = 120. From the table below we can see that this is allowed for a velocity of 0,3 m/s.

Maximum permissible force F and deflection D with static load



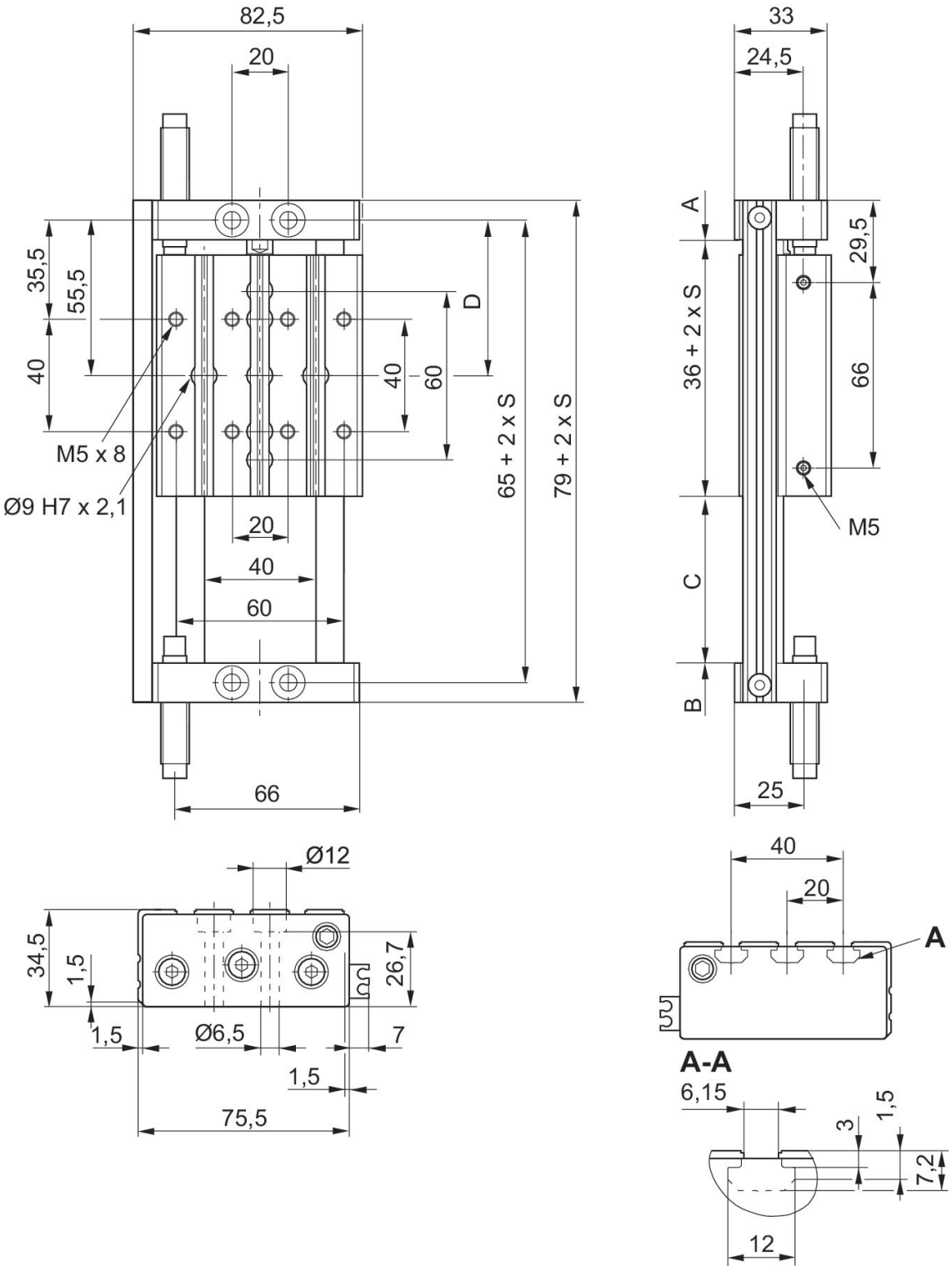
Guide cylinders, Series GPC-ST

: ball bearing
Cushioning: hydraulic
: with magnetic piston
Functional principle: Double-acting
Ambient temperature min./max.: 0 °C ... 65 °C

Piston Ø	20 mm
Ports	M5
Stroke 35	R402000249
50	R402000250
75	R402000251
100	R402000252
125	R402000253
150	R402000254

Piston Ø	20 mm
Retracting piston force	148 N
Extracting piston force	198 N
Impact energy	0.15 J
Working pressure min./max.	2 bar ... 10 bar

Dimensions

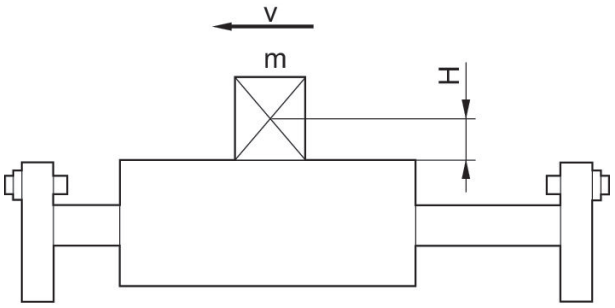


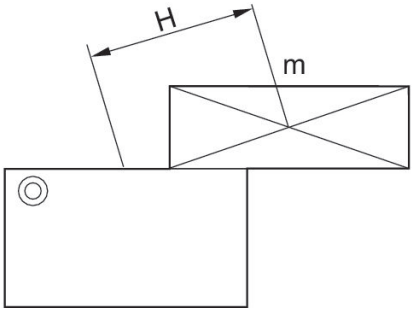
S = stroke

Piston Ø	A 1)	A 2)	B 1)	B 2)	C 1)	C 2)	D 1)	D 2)
20	5.5	35.5	9.5	35.5	S–56	S	30,5+0,5xS	60,5+0,5xS

1) Min. 2) Max. S = stroke

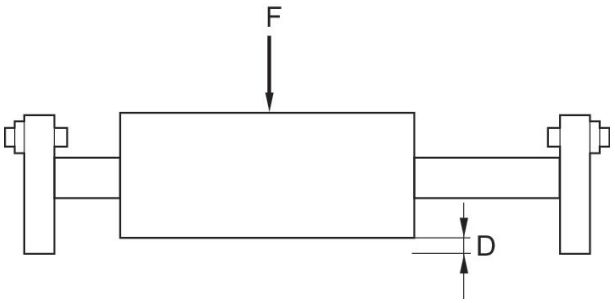
Permissible dynamic load m [kg]





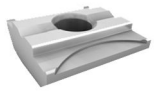
The load creates a high moment on the unit when reaching the end positions. It is therefore necessary not to exceed the limitations showed below. Following parameters must be considered: velocity, distance to center of mass and size of GPC-ST. When multiplying the mass m [kg] with the distance H [mm] the result must not exceed the values below. Example: A load of 2,3 kg shall be mounted with L 52 mm on a GPC-ST dia. 20 stroke 50. m x H, 2,3 x 52 = 120. From the table below we can see that this is allowed for a velocity of 0,3 m/s.

Maximum permissible force F and deflection D with static load



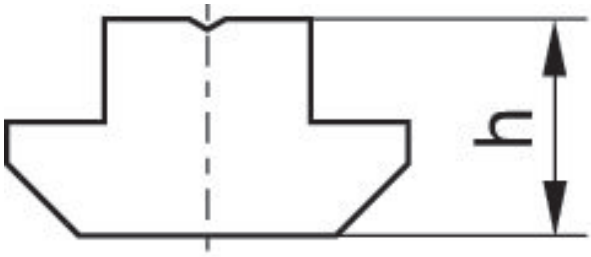
T-groove nut

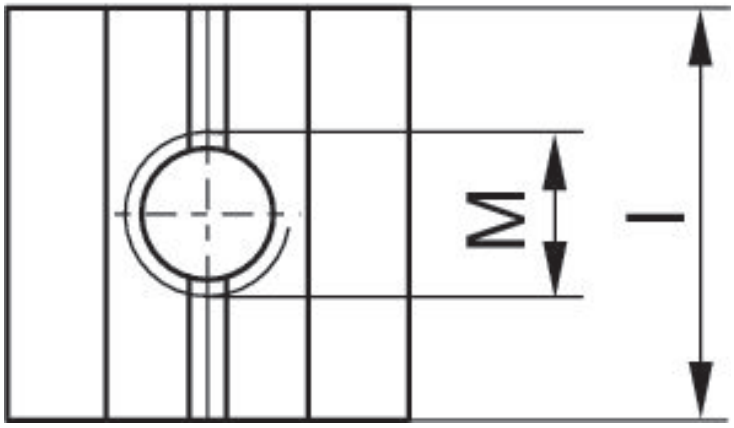
For series: CKP, GPC, RTC



Type	Scope of delivery [piece]	for series	Weight [kg]	Part No.
N6	10	CKP, GPC, RTC	0.003	3842523142
N8	100	CKP, GPC, RTC	0.007	3842514931

Dimensions



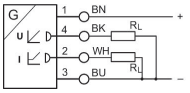


Part No.	Type	M	h	l
3842523142	N6	M5	4	20
3842514931	N8	M8	6	16

For N4 grooves on CKP 16 a square nut according to DIN 557 can be used.

Sensors, Series SM6, with cable, without wire end ferrule, tin-plated

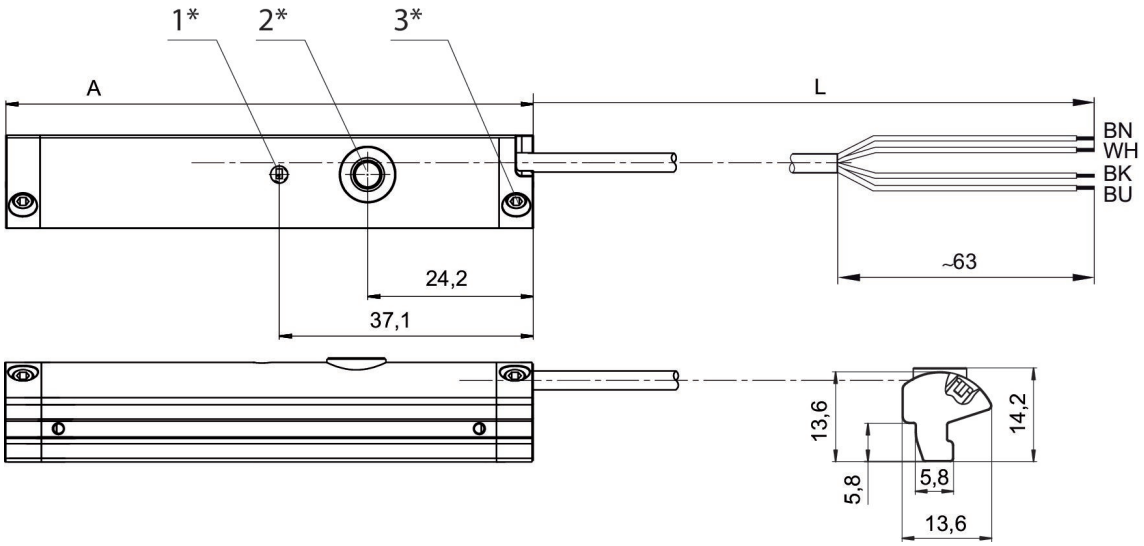
: with cable
Certificates: cULus
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI
Indirect mounting for series: TRB, ITS, 167, MNI, ICM, TRR
Ambient temperature min./max.: -20 °C ... 70 °C



Direct mounting for series	Switch descr.	Cable length L [m]	max. measuring range [mm]	Overall length Sensor [mm]	Version	Part No.
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2	32	45	short circuit resistant, Protected against polarity reversal, Overload protection	R412010141
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2	64	77	short circuit resistant, Protected against polarity reversal, Overload protection	R412010143
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2	96	109	short circuit resistant, Protected against polarity reversal, Overload protection	R412010262
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2	128	141	short circuit resistant, Protected against polarity reversal, Overload protection	R412010264
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2	160	173	short circuit resistant, Protected against polarity reversal, Overload protection	R412010411
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2	192	205	short circuit resistant, Protected against polarity reversal, Overload protection	R412010413
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2	224	237	short circuit resistant, Protected against polarity reversal, Overload protection	R412010415
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2	256	269	short circuit resistant, Protected against polarity rever-	R412010417

Direct mounting for series	Switch descr.	Cable length L [m]	max. measuring range [mm]	Overall length Sensor [mm]	Version	Part No.
					sal, Overload protection	

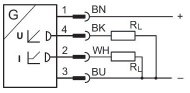
Dimensions



1* = LED 2* = teach button 3* = threaded pin M3x11
L = cable length
(2) WH=white
A = sensor length

Sensors, Series SM6, with cable, plug M8x1

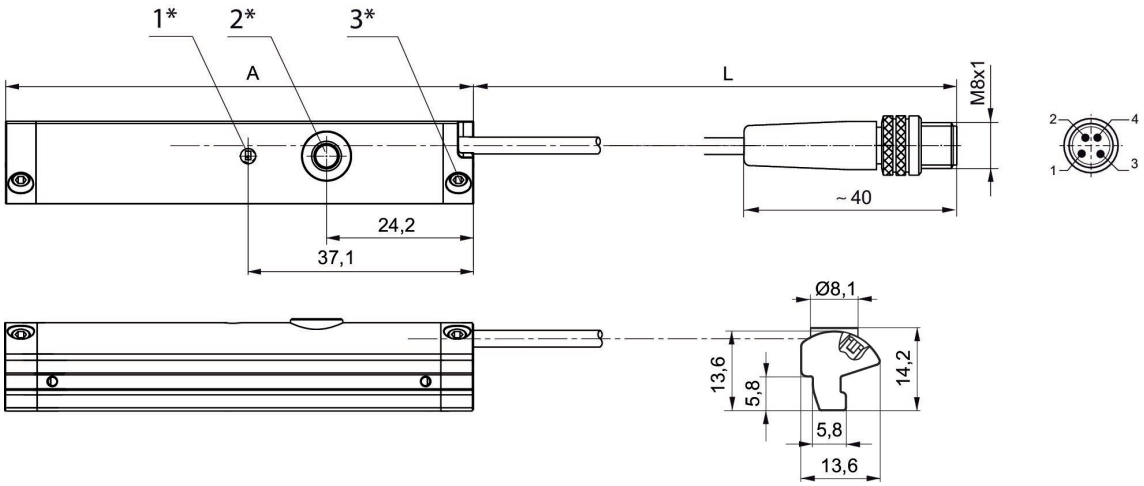
: with cable
Certificates: cULus
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI
Indirect mounting for series: TRB, ITS, 167, MNI, ICM, TRR
Ambient temperature min./max.: -20 °C ... 70 °C



Direct mounting for series	Switch descr.	Cable length L [m]	max. measuring range [mm]	Overall length Sensor [mm]	Version	Part No.
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3	32	45	short circuit resistant, Protected against polarity reversal, Overload protection	R412010142
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3	64	77	Protected against polarity reversal, Protected against polarity reversal, Overload protection	R412010144
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3	96	109	Protected against polarity reversal, Protected against polarity reversal, Overload protection	R412010263
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3	128	141	Protected against polarity reversal, Protected against polarity reversal, Overload protection	R412010265
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3	160	173	Protected against polarity reversal, Protected against polarity reversal, Overload protection	R412010410
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3	192	205	Protected against polarity reversal, Protected against polarity reversal, Overload protection	R412010412
PRA, PRE, CCI, KPZ,	Analog	0.3	224	237	Protected against po-	R412010414

Direct mounting for series	Switch descr.	Cable length L [m]	max. measuring range [mm]	Overall length Sensor [mm]	Version	Part No.
SSI, GPC, CVI					larity reversal, Protected against polarity reversal, Overload protection	
PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3	256	269	Protected against polarity reversal, Protected against polarity reversal, Overload protection	R412010416

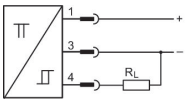
Dimensions



1* = LED 2* = teach button 3* = threaded pin M3x11
L = cable length
Pin assignment: 1 = (+), 2 = (OUT 1) 3 = (GND), 4 = (OUT 2), EN 60947-5-7
A = sensor length

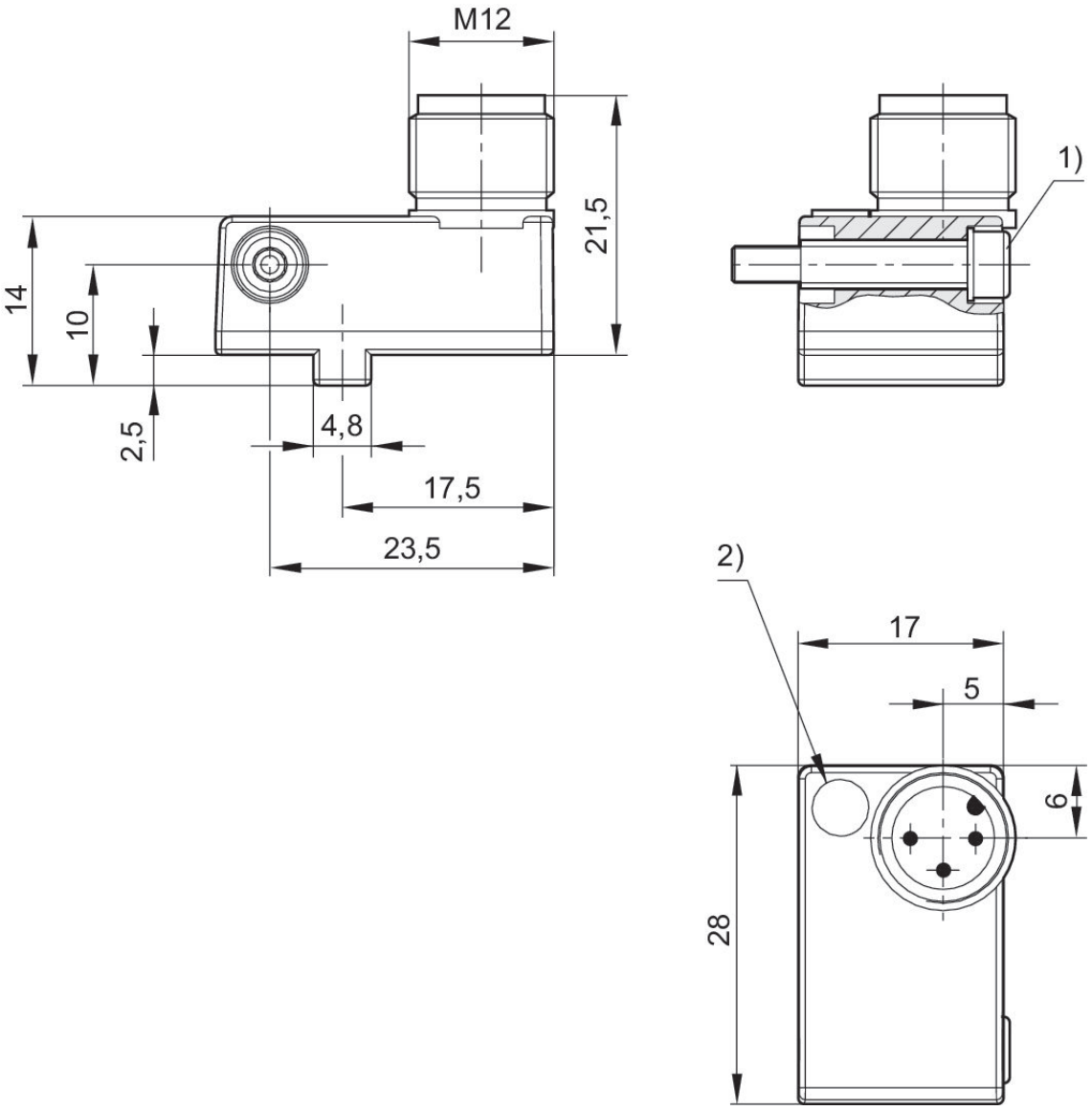
Sensor, Series SN3

Indirect mounting for series: PRA, PRE, CCI, KPZ, KHZ, FLT, GPC, CVI
Ambient temperature min./max.: -25 °C ... 70 °C



Switch descr.	Electrical connection number of poles	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Part No.
PNP	3-pin	10	30	short circuit resistant, Protected against polarity reversal	0830100438

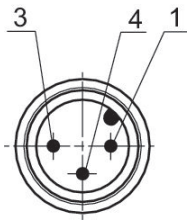
Dimensions



1) Clamping screw
2) LED
Pin assignments: 1 = (+), 3 = (-), 4 = (OUT), EN 60947-5-2:1998

0830100438

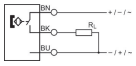
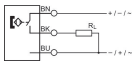
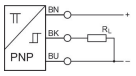
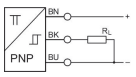
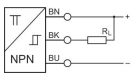
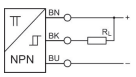
Pin assignments



Pin	Allocation
1	(+)
3	(-)
4	(OUT) EN 60947-5-2:1998

Sensors, Series ST4, open cable ends, Certificate UL (Underwriters Laboratories)

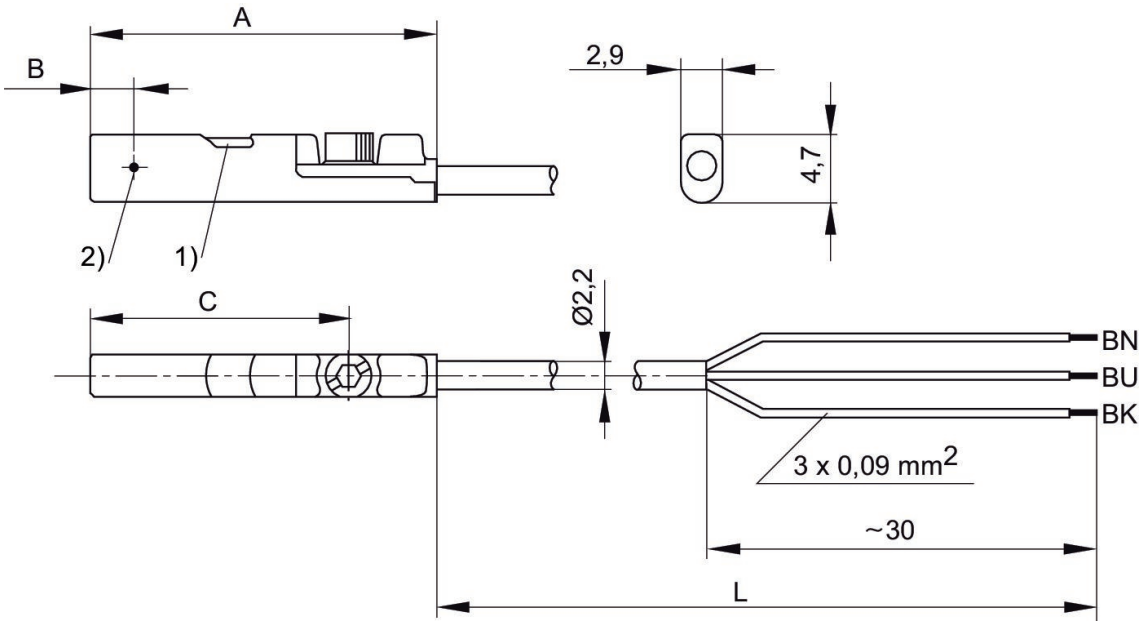
: 4 mm C-slot
: with cable
Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI
Indirect mounting for series: MNI, CSL-RD, ICM
Certificates: UL (Underwriters Laboratories), cULus, RoHS
Ambient temperature min./max.: -30 °C ... 80 °C

	Direct mounting for series	Switch descr.	Cable length L [m]	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Part No.
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	3	0.13	0.13	5	30	R412019488
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	5	0.13	0.13	5	30	R412019489
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	3	0.1		10	30	R412019680
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	5	0.1		10	30	R412019681
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	NPN	3	0.1		10	30	R412019684
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	NPN	5	0.1		10	30	R412019685

Version	Part No.
Protected against polarity reversal	R412019488
Protected against polarity reversal	R412019489
short circuit resistant, Protected against	R412019680

Version	Part No.
polarity reversal	
short circuit resistant, Protected against polarity reversal	R412019681
short circuit resistant, Protected against polarity reversal	R412019684
short circuit resistant, Protected against polarity reversal	R412019685

Dimensions

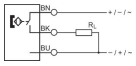
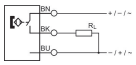
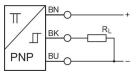
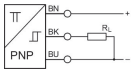


1) LED 2) Switching point
L = cable length BN = brown, BK = black, BU = blue

Part No.	A	B	C
R412019488	26.3	6.3	20.3
R412019489	26.3	6.3	20.3
R412019680	23.7	2.8	17.7
R412019681	23.7	2.8	17.7
R412019684	23.7	2.8	17.7
R412019685	23.7	2.8	17.7

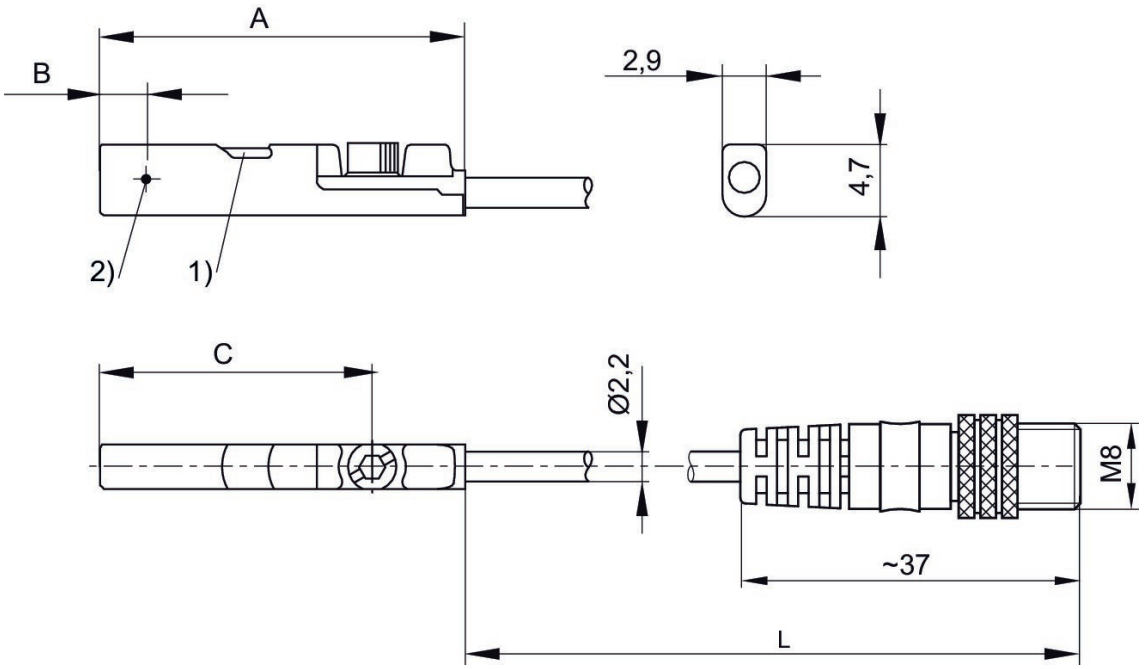
Sensors, Series ST4, plug M8, with knurled screw

: 4 mm C-slot
: with cable
Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI
Indirect mounting for series: MNI, CSL-RD, ICM
Certificates: UL (Underwriters Laboratories), cULus, RoHS
Ambient temperature min./max.: -30 °C ... 80 °C

	Direct mounting for series	Switch descr.	Cable length L [m]	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Part No.
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	0.3	0.13	0.13	5	30	R412019490
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	0.5	0.13	0.13	5	30	R412019686
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	0.3	0.1		10	30	R412019493
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	0.5	0.1		10	30	R412019687

Version	Part No.
Protected against polarity reversal	R412019490
Protected against polarity reversal	R412019686
short circuit resistant, Protected against polarity reversal	R412019493
short circuit resistant, Protected against polarity reversal	R412019687

Dimensions

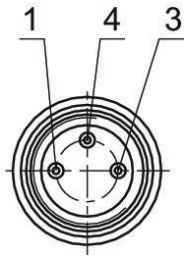


1) LED 2) Switching point
L = cable length

Part No.	A	B	C
R412019490	26.3	6.3	20.3
R412019686	26.3	6.3	20.3
R412019493	23.7	2.8	17.7
R412019687	23.7	2.8	17.7

R412019490, R412019686, R412019493, R412019687

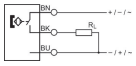
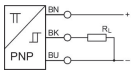
Pin assignment M8x1 (3-pin)



Pin	Allocation
1	(+)
3	(-)
4	(OUT)

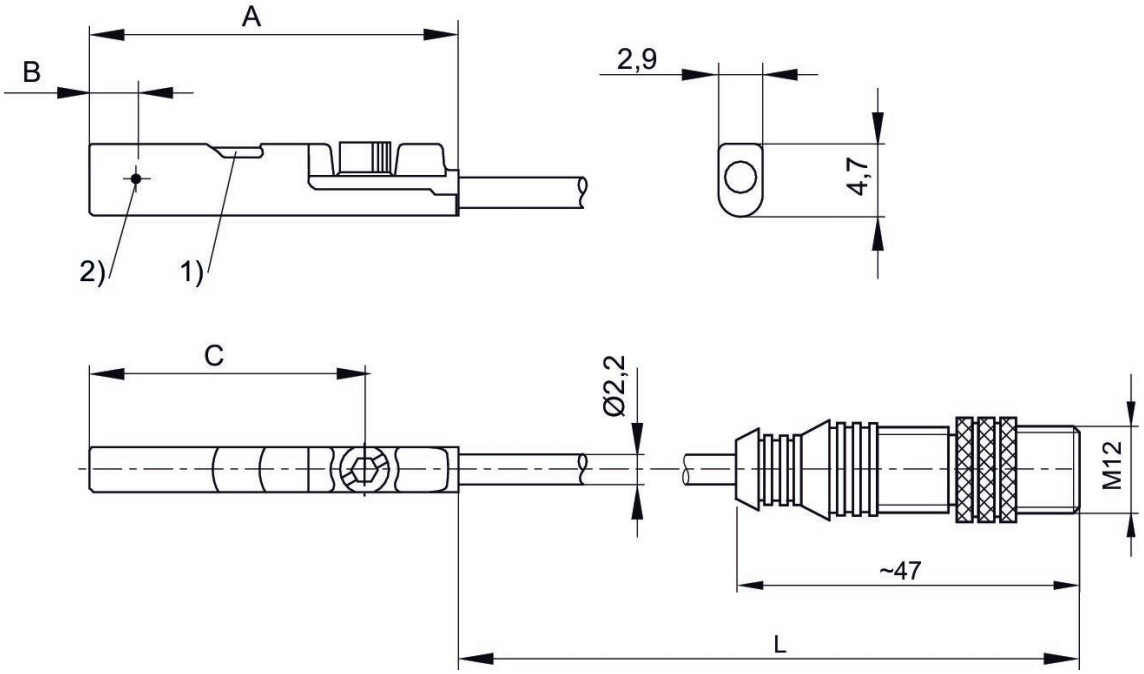
Sensors, Series ST4, plug M12, with knurled screw

: 4 mm C-slot
: with cable
Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI
Indirect mounting for series: MNI, CSL-RD, ICM
Certificates: UL (Underwriters Laboratories), cULus, RoHS
Ambient temperature min./max.: -30 °C ... 80 °C

	Direct mounting for series	Switch descr.	Cable length L [m]	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Part No.
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	0.3	0.13	0.13	5	30	R412019688
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	0.3	0.1		10	30	R412019689

Version	Part No.
Protected against polarity reversal	R412019688
short circuit resistant, Protected against polarity reversal	R412019689

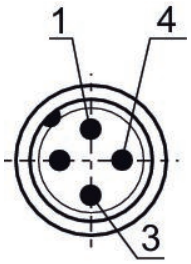
Dimensions



1) LED 2) Switching point
L = cable length

Part No.	A	B	C
R412019688	26.3	6.3	20.3
R412019689	23.7	2.8	17.7

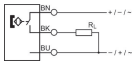
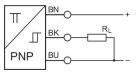
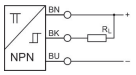
R412019688, R412019689



Pin	Allocation
1	(+)
3	(-)
4	(OUT)

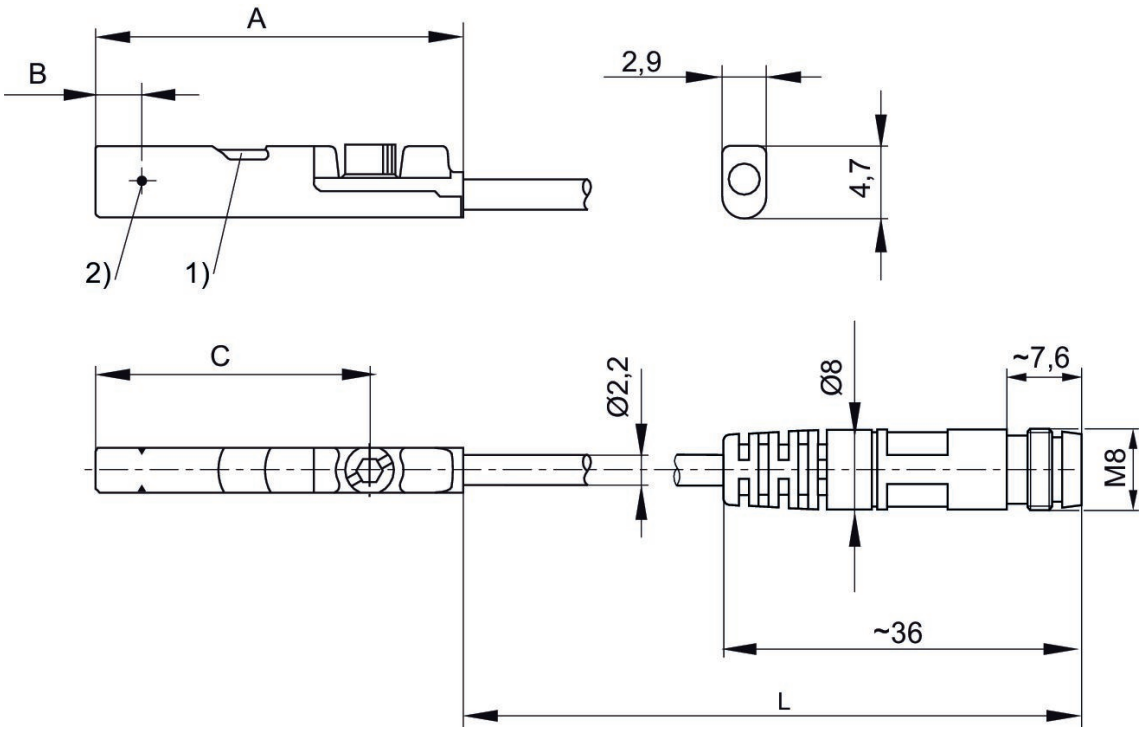
Sensors, Series ST4, plug M8

: 4 mm C-slot
: with cable
Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI
Indirect mounting for series: MNI, CSL-RD, ICM
Certificates: UL (Underwriters Laboratories), cULus, RoHS
Ambient temperature min./max.: -30 °C ... 80 °C

	Direct mounting for series	Switch descr.	Cable length L [m]	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Part No.
	PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI	Reed	0.3	0.13	0.13	5	30	R412019682
	PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI	electronic PNP	0.3	0.1		10	30	R412019683
	PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI	NPN	0.3	0.1		10	30	R412019694

Version	Part No.
Protected against polarity reversal	R412019682
short circuit resistant, Protected against polarity reversal	R412019683
short circuit resistant, Protected against polarity reversal	R412019694

Dimensions

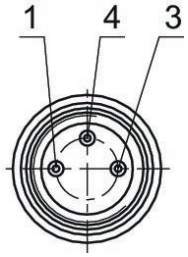


1) LED 2) Switching point
L = cable length

Part No.	A	B	C
R412019682	26.3	6.3	20.3
R412019683	23.7	2.8	17.7
R412019694	23.7	2.8	17.7

R412019682, R412019683, R412019694

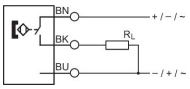
Pin assignment M8x1 (3-pin)

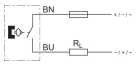
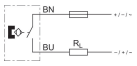
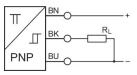
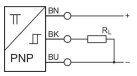
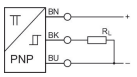
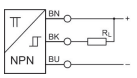
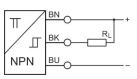


Pin	Allocation
1	(+)
3	(-)
4	(OUT)

Sensors, Series ST6, open cable ends, 3-pin, Reed

: 6 mm T-slot
: with cable
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI
Indirect mounting for series: TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR
Certificates: CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)
Ambient temperature min./max.: -30 °C ... 80 °C

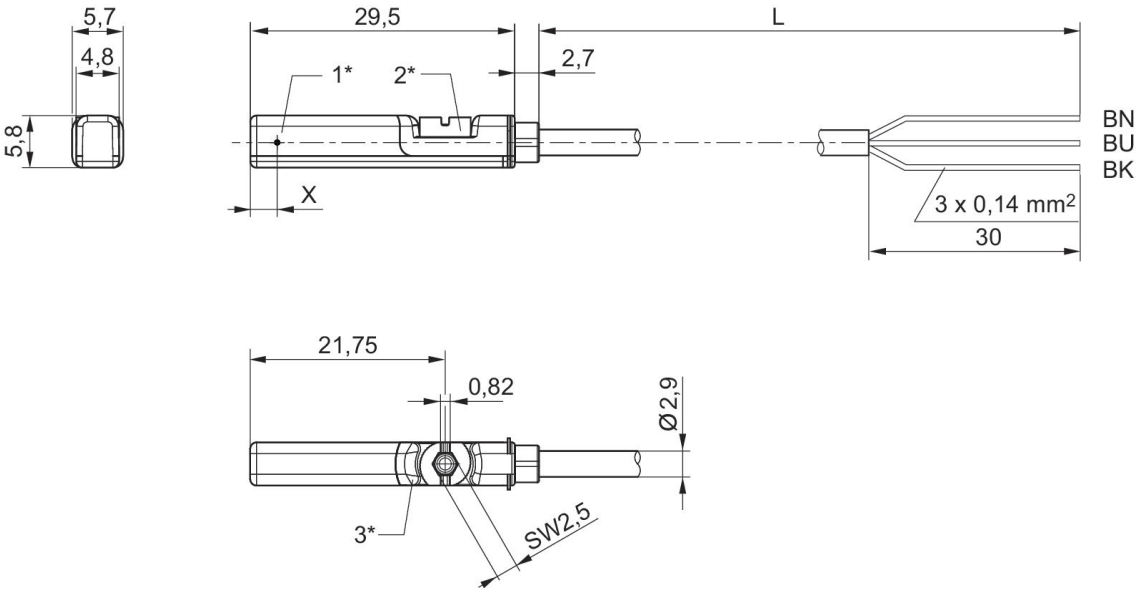


	Switch descr.	Cable sheath	Number of poles	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Part No.
	Reed	Polyurethane	2-pin	0.13	0.13	10	230	R412022866
	Reed	Polyurethane	2-pin	0.13	0.13	10	230	R412027170
	Reed	Polyurethane	3-pin	0.3	0.5	10	30	R412022869
	Reed	Polyurethane	3-pin	0.3	0.5	10	30	R412022870
	Reed	Polyurethane	3-pin	0.3	0.5	10	30	R412022871
	electronic PNP	Polyurethane	3-pin	0.13		10	30	R412022853
	electronic PNP	Polyurethane	3-pin	0.13		10	30	R412022855
	electronic PNP	Polyurethane	3-pin	0.13		10	30	R412022857
	NPN	Polyurethane	3-pin	0.13		10	30	R412022849
	NPN	Polyurethane	3-pin	0.13		10	30	R412022850

Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Version	Cable length L [m]	Part No.
10	230	Protected against polarity reversal	3	R412022866
10	230	Protected against polarity reversal	5	R412027170

Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Version	Cable length L [m]	Part No.
10	30	Protected against polarity reversal	3	R412022869
10	30	Protected against polarity reversal	5	R412022870
10	30	Protected against polarity reversal	10	R412022871
		short circuit resistant, Protected against polarity reversal	3	R412022853
		short circuit resistant, Protected against polarity reversal	5	R412022855
		short circuit resistant, Protected against polarity reversal	10	R412022857
		short circuit resistant, Protected against polarity reversal	3	R412022849
		short circuit resistant, Protected against polarity reversal	5	R412022850

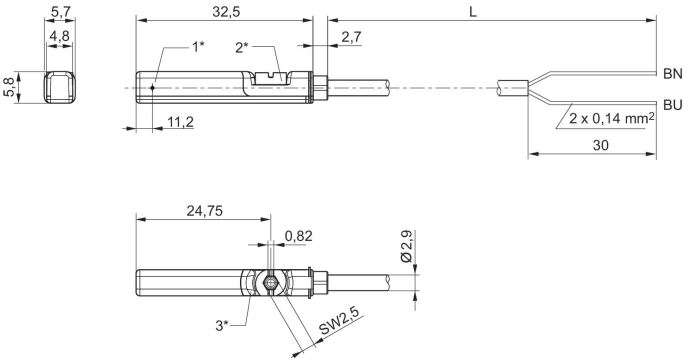
Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length BN = brown, BK = black, BU = blue
X = electronic: 11.6 mm

R412022866, R412027170

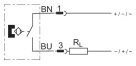
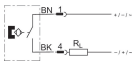
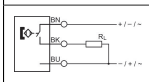
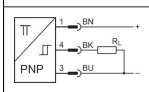
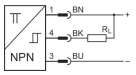
Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length BN=brown, BU=blue

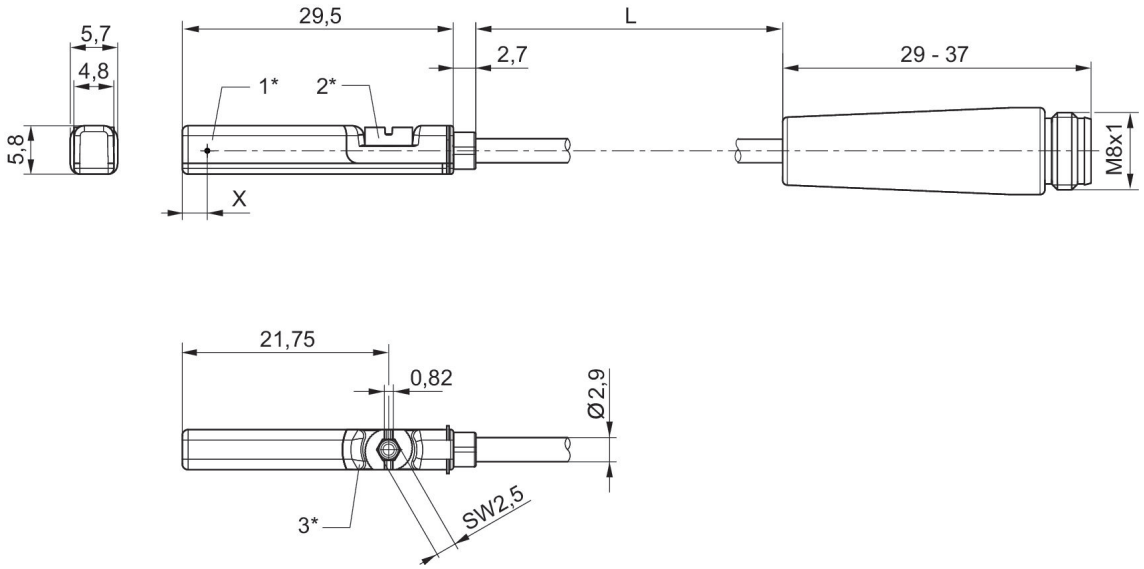
Sensors, Series ST6, plug M8

: 6 mm T-slot
: with cable
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI
Indirect mounting for series: TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR
Certificates: CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)
Ambient temperature min./max.: -30 °C ... 80 °C

	Switch descr.	Cable sheath	Electrical interface 2	Number of poles	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Part No.
	Reed	Polyurethane	M8x1	3-pin	0.13	0.13	10	R412022868
	Reed	Polyurethane	M8x1	2-pin	0.13	0.13	10	R412027172
	Reed	Polyurethane	M8x1	3-pin	0.3	0.5	10	R412022872
	electronic PNP	Polyurethane	M8x1	3-pin	0.13		10	R412022858
	NPN	Polyurethane	M8x1	3-pin	0.13		10	R412022851

Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Version	Cable length L [m]	Part No.
30	10	30	Protected against polarity reversal	0.3	R412022868
30	10	30	Protected against polarity reversal	0.3	R412027172
30	10	30	Protected against polarity reversal	0.3	R412022872
30			short circuit resistant, Protected against polarity reversal	0.3	R412022858
30			short circuit resistant, Protected against polarity reversal	0.3	R412022851

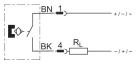
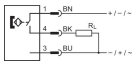
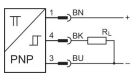
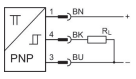
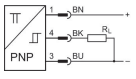
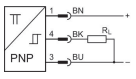
Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
X = electronic: 11,6 mm, Reed: 8,3 mm

Sensors, Series ST6, plug M12x1

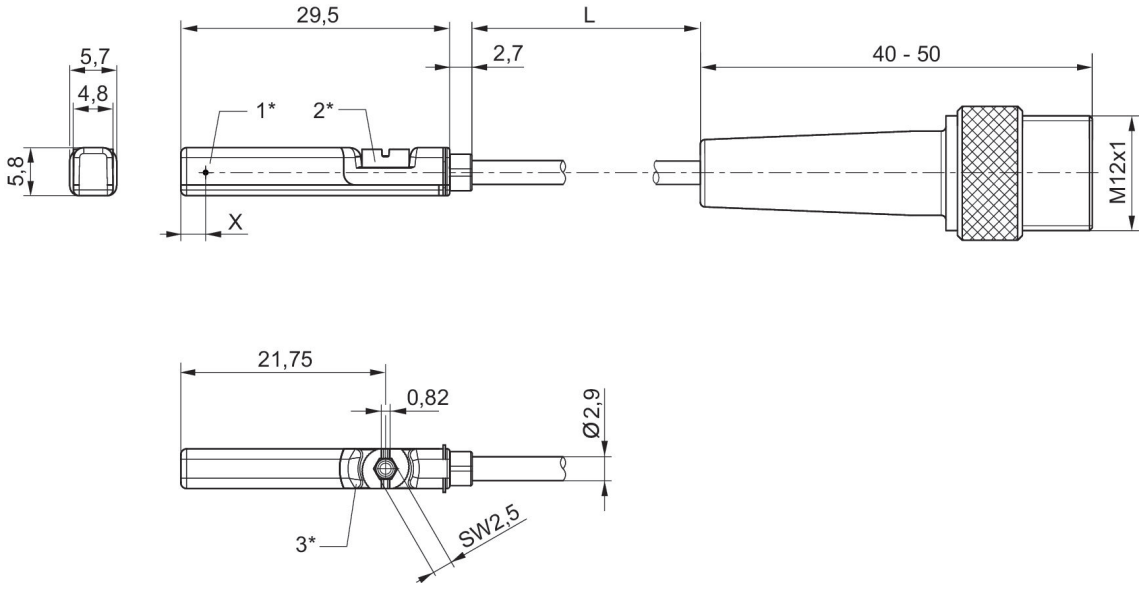
: 6 mm T-slot
: with cable
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI
Indirect mounting for series: TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR
Certificates: CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)
Ambient temperature min./max.: -30 °C ... 80 °C

	Switch descr.	Cable sheath	Electrical interface 2	Number of poles	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Part No.
	Reed	Polyurethane	M12x1	2-pin	0.13	0.13	10	R412027171
	Reed	Polyurethane	M12x1	3-pin	0.3	0.5	10	R412022876
	electronic PNP	Polyurethane	M12x1	3-pin	0.13		10	R412022879
	electronic PNP	Polyurethane	M12x1	3-pin	0.13		10	R412022863
	electronic PNP	Polyurethane	M12x1	3-pin	0.13		10	R412022877
	electronic PNP	Polyurethane	M12x1	3-pin	0.13		10	R412022878

Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Version	Cable length L [m]	Part No.
30	10	30	Protected against polarity reversal	0.3	R412027171
30	10	30	Protected against polarity reversal	0.3	R412022876
30			short circuit resistant, Protected against polarity reversal	0.1	R412022879
30			short circuit resistant, Protected against polarity reversal	0.3	R412022863
30			short circuit resistant, Protected against	3	R412022877

Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Version	Cable length L [m]	Part No.
			polarity reversal		
30			short circuit resistant, Protected against polarity reversal	5	R412022878

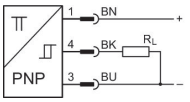
Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
X = PNP: 11,6 mm, reed: 8,3 mm

Sensors, Series ST6, plug M12x1, with knurled screw, ATEX

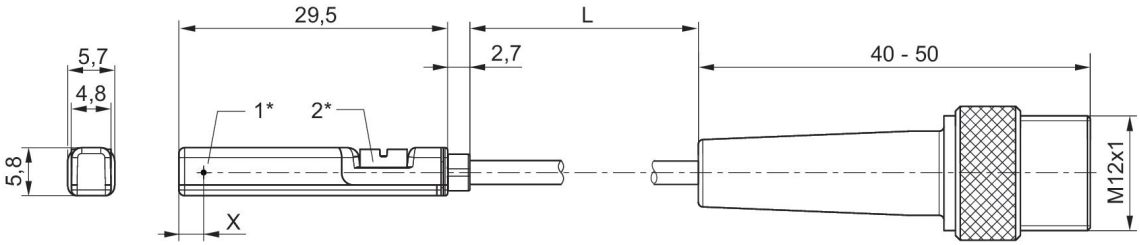
: 6 mm T-slot
: with cable
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI
Indirect mounting for series: TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR
Certificates: ATEX, CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)
Ambient temperature min./max.: -20 °C ... 50 °C

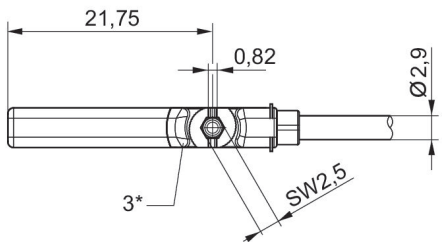


Switch descr.	Cable sheath	Electrical interface 2	Number of poles	Max. DC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Part No.
PNP	Polyurethane	M12x1	3-pin	0.1	10	30	short circuit resistant, Protected against polarity reversal	R412022864

Cable length L [m]	Part No.
0.3	R412022864

Dimensions

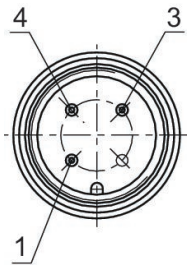




1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
X = PNP: 11,6 mm, reed: 8,3 mm

R412022864

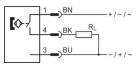
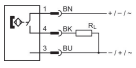
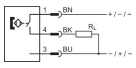
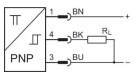
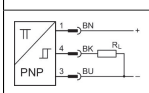
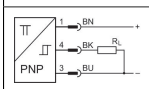
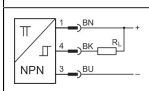
Pin assignments



Pin	Allocation
1	(+)
3	(-)
4	(OUT)

Sensors, Series ST6, plug M8x1, with knurled screw

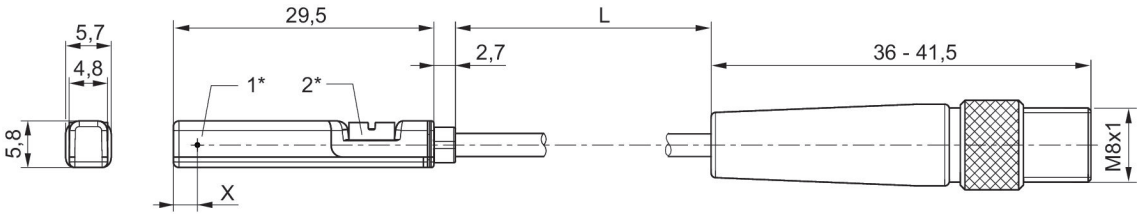
: 6 mm T-slot
: with cable
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI
Indirect mounting for series: TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR
Certificates: CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)
Ambient temperature min./max.: -30 °C ... 80 °C

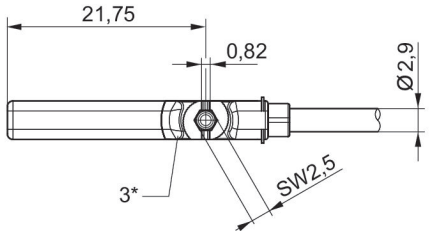
	Switch descr.	Cable sheath	Electrical interface 2	Number of poles	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Part No.
	Reed	Polyurethane	M8x1	3-pin	0.3	0.5	10	R412022873
	Reed	Polyvinyl chloride	M8x1	3-pin	0.3	0.5	10	R412022875
	Reed	Polyurethane	M8x1	3-pin	0.3	0.5	10	R412022874
	electronic PNP	Polyurethane	M8x1	3-pin	0.13		10	R412022859
	electronic PNP	Polyvinyl chloride	M8x1	3-pin	0.13		10	R412022862
	electronic PNP	Polyurethane	M8x1	3-pin	0.13		10	R412022861
	NPN	Polyurethane	M8x1	3-pin	0.13		10	R412022852

Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Version	Cable length L [m]	Part No.
30	10	30	Protected against polarity reversal	0.3	R412022873
30	10	30	Protected against polarity reversal	0.3	R412022875
30	10	30	Protected against polarity reversal	0.5	R412022874
30			short circuit resistant, Protected against polarity reversal	0.3	R412022859

Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Version	Cable length L [m]	Part No.
30			short circuit resistant, Protected against polarity reversal	0.3	R412022862
30			short circuit resistant, Protected against polarity reversal	0.5	R412022861
30			short circuit resistant, Protected against polarity reversal	0.3	R412022852

Dimensions

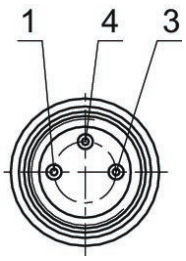




1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
X = electronic: 11,6 mm, Reed: 8,3 mm

R412022873, R412022875, R412022874, R412022859, R412022862, R412022861, R412022852

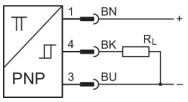
Pin assignment M8x1 (3-pin)



Pin	Allocation
1	(+)
3	(-)
4	(OUT)

Sensors, Series ST6, plug M8x1, ATEX

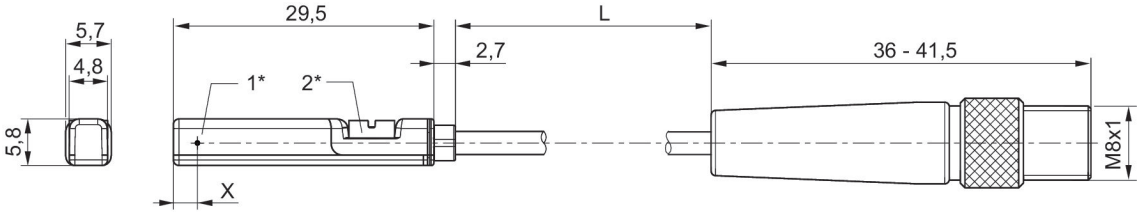
: 6 mm T-slot
: with cable
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI
Indirect mounting for series: TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR
Certificates: ATEX, CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)
Ambient temperature min./max.: -20 °C ... 50 °C

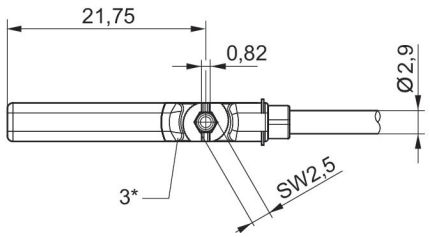


Switch descr.	Cable sheath	Electrical interface 2	Number of poles	Max. DC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Part No.
PNP	Polyurethane	M8x1	3-pin	0.1	10	30	short circuit resistant, Protected against polarity reversal	R412022860

Cable length L [m]	Part No.
0.3	R412022860

Dimensions

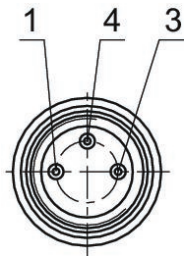




1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
X = electronic: 11,6 mm, Reed: 8,3 mm

R412022860

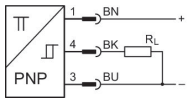
Pin assignment M8x1 (3-pin)



Pin	Allocation
1	(+)
3	(-)
4	(OUT)

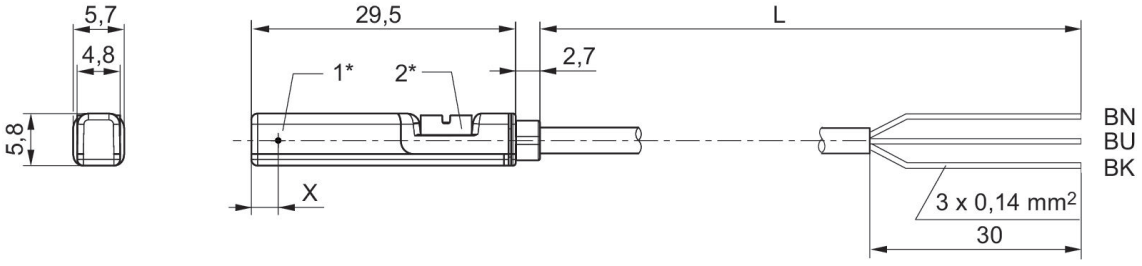
Sensors, Series ST6, open cable ends, 3-pin, PNP, ATEX

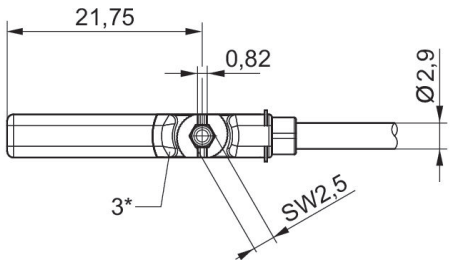
: 6 mm T-slot
: with cable
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI
Indirect mounting for series: TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR
Certificates: ATEX, CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)
Ambient temperature min./max.: -20 °C ... 50 °C



Switch descr.	Cable sheath	Number of poles	Max. DC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Cable length L [m]	Part No.
PNP	Polyurethane	3-pin	0.1	10	30	short circuit resistant, Protected against polarity reversal	3	R412022854
PNP	Polyurethane	3-pin	0.1	10	30	short circuit resistant, Protected against polarity reversal	5	R412022856

Dimensions





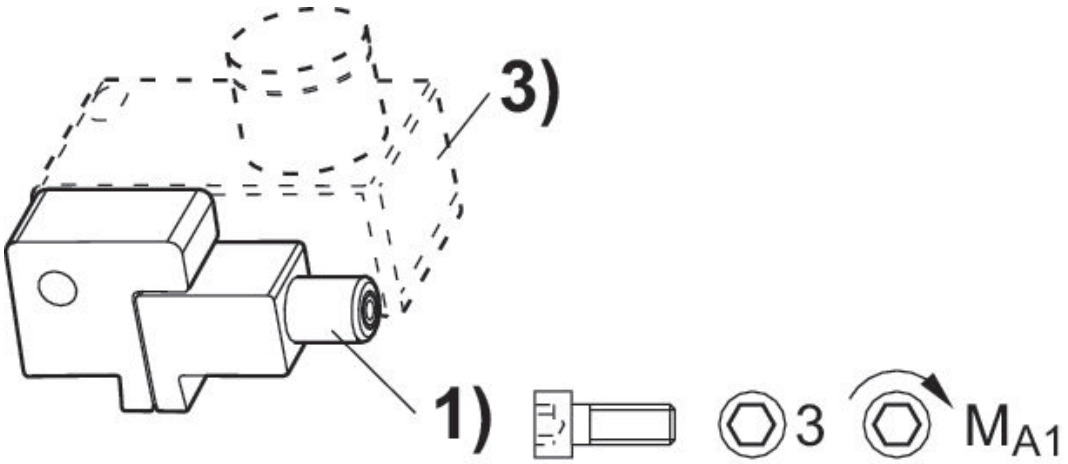
1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length BN = brown, BK = black, BU = blue
X = electronic: 11.6 mm

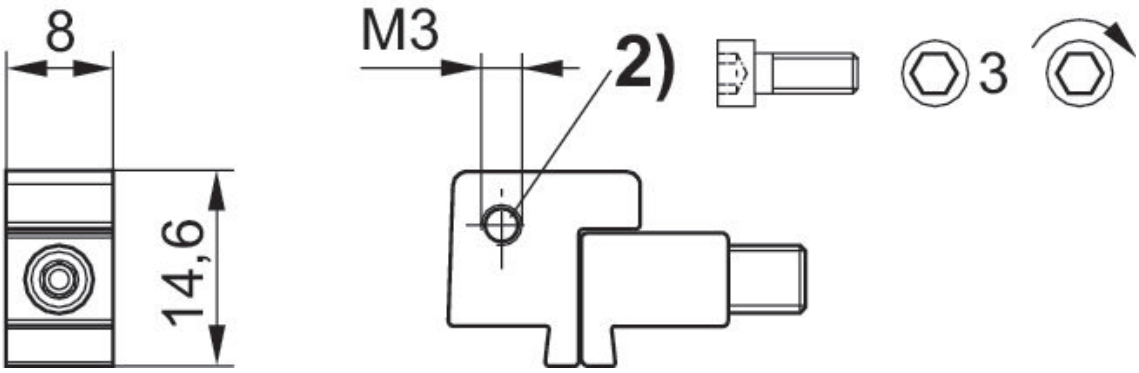
Sensor mounting, Series CB1

To mount on series: SN3
To mount on series: PRA, KPZ, GPC, CCI, KHZ

Material	Part No.
Aluminum	1827020386

Dimensions



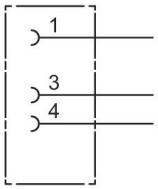


1) Clamping screw 2) Mounting screw for sensor 3) Sensor

Part No.	Clamping screw	MA1 [Nm]
1827020386	M3x25	1,8 +0,4

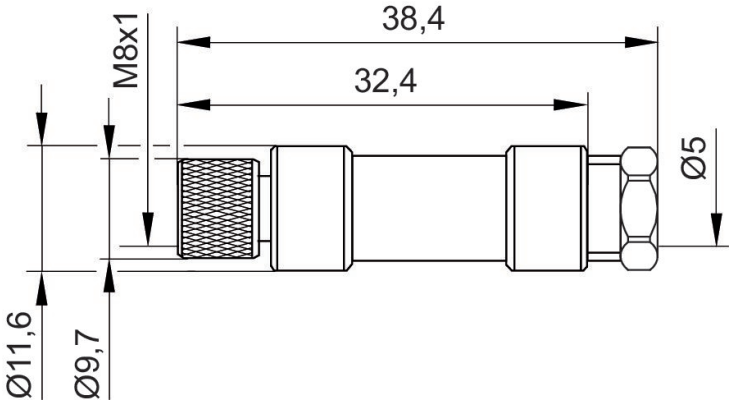
Round plug connector, Series CON-RD

Electrical connection 1: Socket ... M8x1 ... 3-pin ... straight
Connection type: Soldering
Ambient temperature min./max.: -25 °C ... 80 °C



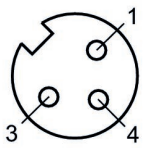
Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Soldering	4	3.5	5	1834484173

Dimensions



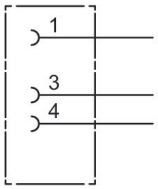
1834484173

Pin assignment, socket



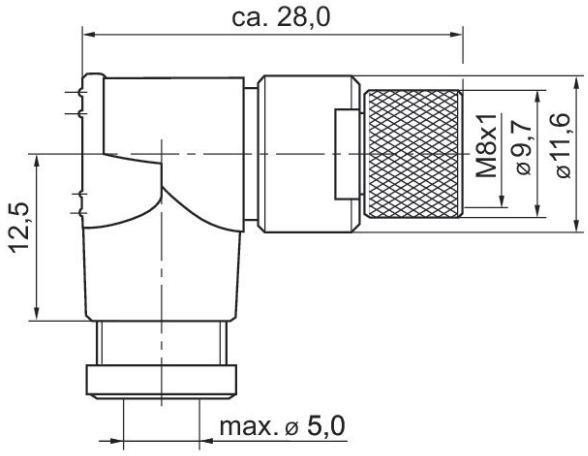
Round plug connector, Series CON-RD

Electrical connection 1: Socket ... M8x1 ... 3-pin ... angled
Connection type: Soldering
Ambient temperature min./max.: -25 °C ... 80 °C



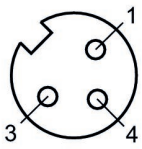
Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Soldering	4	3.5	5	1834484174

Dimensions in mm



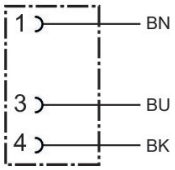
1834484174

Pin assignment, socket



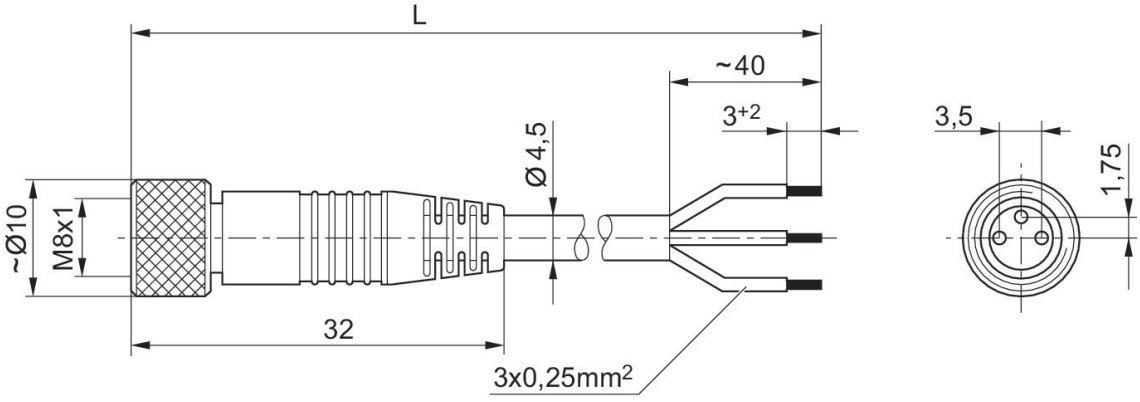
Round plug connector, Series CON-RD

Electrical connection 1: Socket ... M8x1 ... 3-pin ... straight
Electrical connection 2: open cable ends ... 3-pin
Certification: UL (Underwriters Laboratories)
Ambient temperature min./max.: -25 °C ... 85 °C



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Electrical connection 2, type	Electrical connection 2, number of poles	Cable length [m]	Part No.
48 V AC/DC	Socket	M8x1	3-pin	A-coded	open cable ends	3-pin	3	1834484166
48 V AC/DC	Socket	M8x1	3-pin	A-coded	open cable ends	3-pin	5	1834484168
48 V AC/DC	Socket	M8x1	3-pin	A-coded	open cable ends	3-pin	10	1834484247

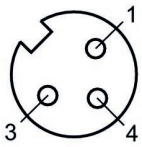
Dimensions



L = length

1834484166, 1834484168, 1834484247

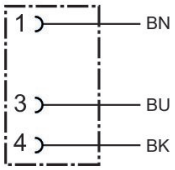
Pin assignment, socket



(1) BN=brown (3) BU=blue (4) BK=black

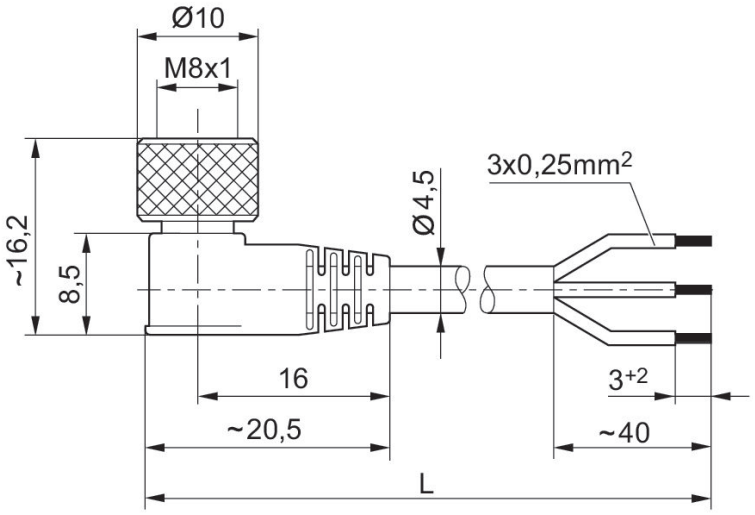
Round plug connector, Series CON-RD

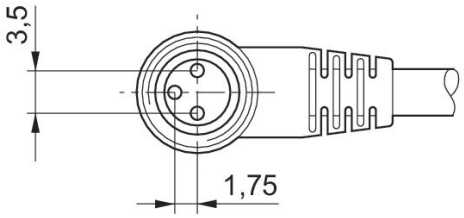
Electrical connection 1: Socket ... M8x1 ... 3-pin ... angled
Electrical connection 2: open cable ends ... 3-pin
Ambient temperature min./max.: -40 °C ... 85 °C



Operational voltage	Electrical connection 1, type	Electrical connection 1, thread size	Electrical connection 1, number of poles	Electrical connection 1, coding	Electrical connection 2, type	Electrical connection 2, number of poles	Cable length [m]	Part No.
48 V AC/DC	Socket	M8x1	3-pin	A-coded	open cable ends	3-pin	3	1834484167
48 V AC/DC	Socket	M8x1	3-pin	A-coded	open cable ends	3-pin	5	1834484169
48 V AC/DC	Socket	M8x1	3-pin	A-coded	open cable ends	3-pin	10	1834484248

Dimensions

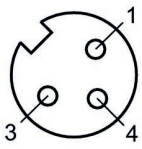




L = length

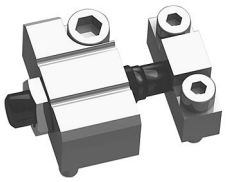
1834484167, 1834484169, 1834484248

Pin assignment, socket



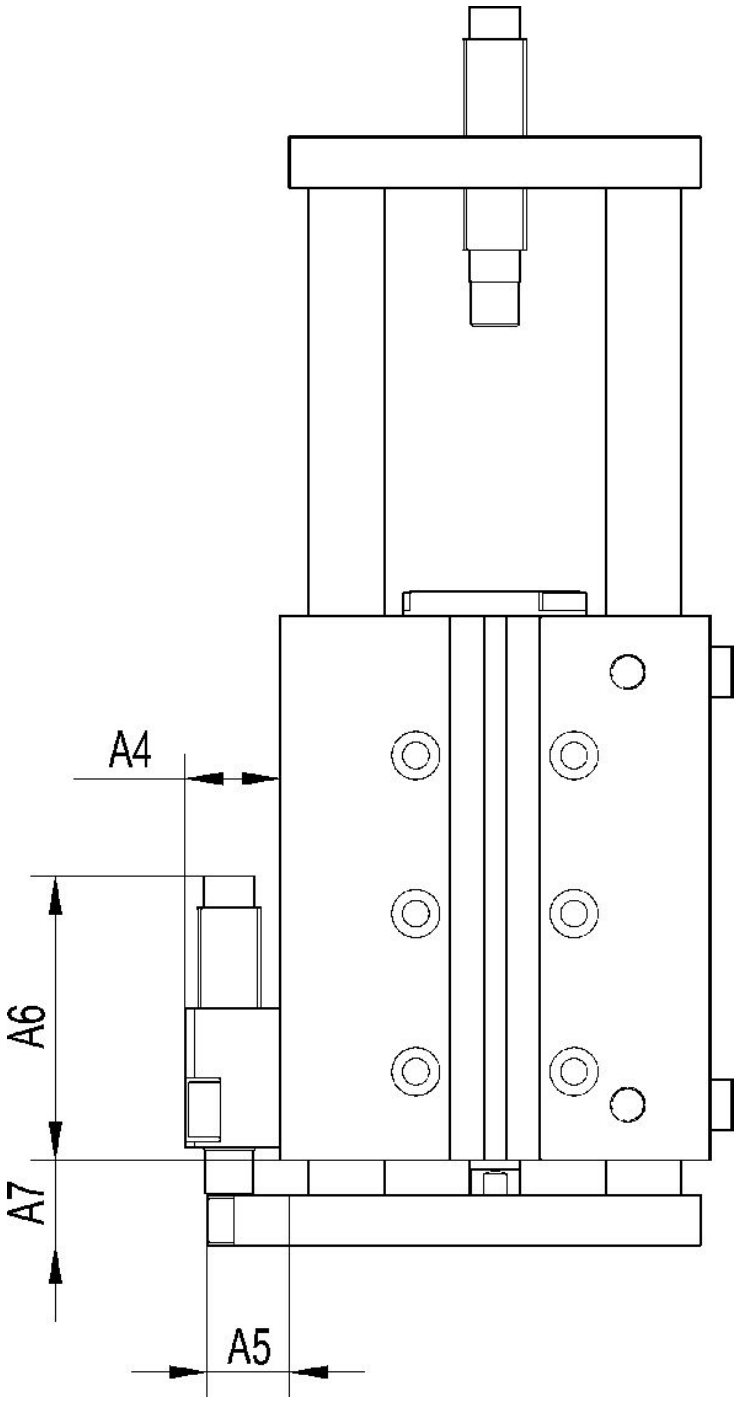
(1) BN=brown (3) BU=blue (4) BK=black

Kit for stroke length adjustment



Type	Part No.
Shock absorber 0821005002 included in scope of delivery	R402000134
Shock absorber 0821005013 included in scope of delivery	R402000135
Shock absorber 0821005013 included in scope of delivery	R402000136

Dimensions



Part No.	Ø	A4	A5	A6 min.	A6 max.	A7 min.	A7 max.	L 1)
R402000134	12	13	13	21	29	13	25	12
R402000135	16	15	13	24	45	13.5	43.5	30
R402000136	20	15	13	26	44	15.5	45.5	30

1) Adjustment length L = A7 max. ... A7 min.

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