

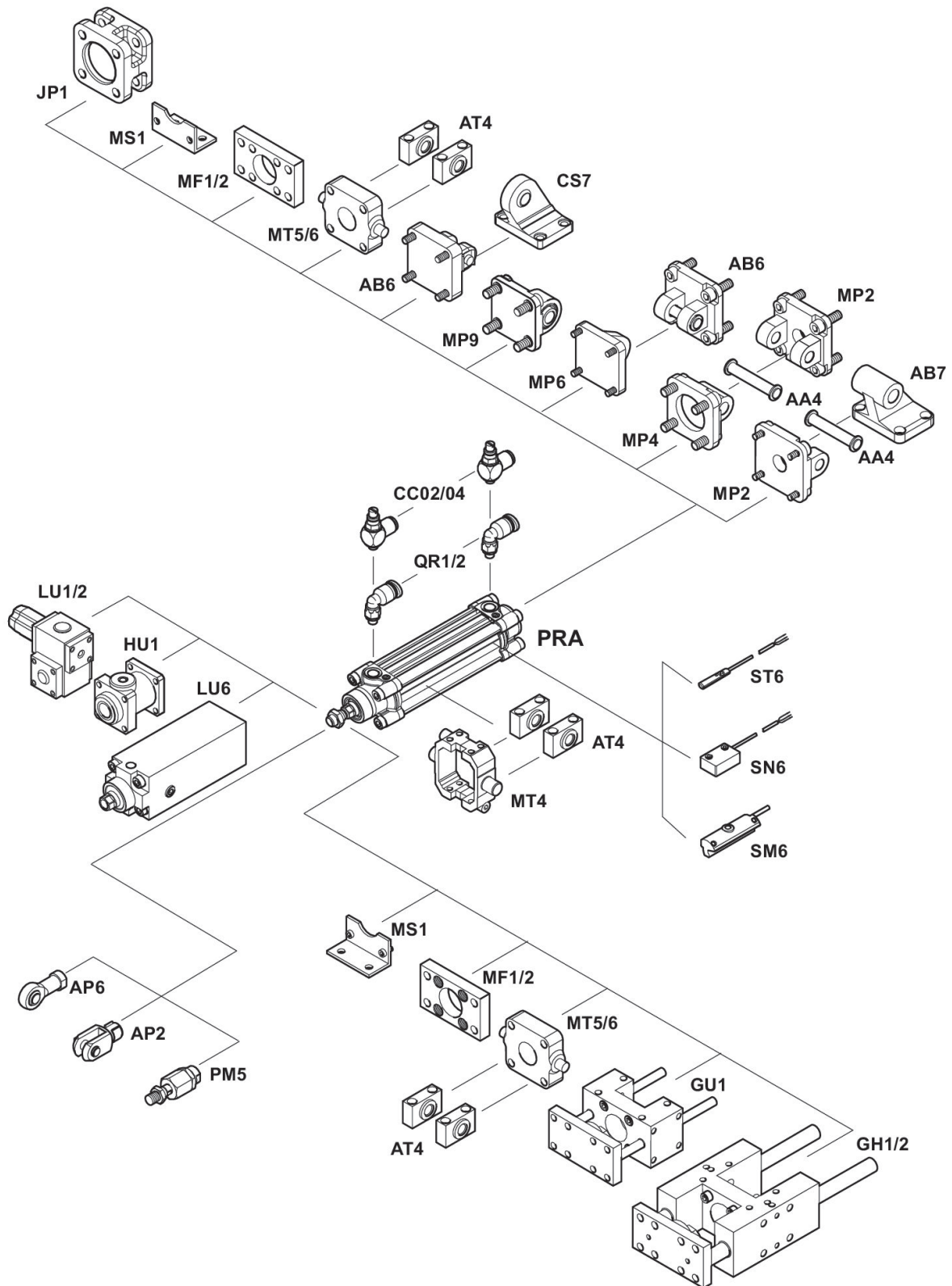


## series PRA

The AVENTICS Series PRA (ISO 15552) cylinders have a compact design profile with integrated sensor slots. The Series PRA (ISO 15552) cylinders can be used for all industries. This includes general automation technology, machine and systems construction, as well as specific industry applications.

- 6 mm T-slots and 4 mm C-slots allow for a large number of sensors to be mounted easily, quickly and compactly
- Available in piston diameters from 32 mm to 125 mm
- Modular sealing system allows for adaptability
- Advanced pneumatic end position cushioning
- Additional elastic damping elements
- Wide range of variants and accessories available in the configurator





## Product overview

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**Profile cylinder ISO 15552, PRA series**

Standards: ISO 15552

Functional principle: Double-acting

Piston: Piston with magnet

Cushioning: elastic cushioning

Piston rod: External thread

Piston rod: single

Compressed air connection: Internal thread

Ambient temperature min./max.: -20 °C ... 80 °C

Medium temperature min./max.: -20 °C ... 80 °C

Working pressure min./max.: 1.5 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
Ports	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2
Stroke 25	R480041555	R480041559	R480041563	R480041567	R480041573	R480041577
50	R480041556	R480041560	R480041564	R480041568	R480041574	R480041578
80	R480041557	R480041561	R480041565	R480041569	R480041575	R480041579
100	R480041558	R480041562	R480041566	R480041570	R480041576	R480041580
125	R480151537	R480051376	R480045537	R480054955	R480152097	R480150480
160	R480143129	R480044478	R480156862	R480152784	R480044479	R480051377
200	R480041250	R480151194	R480045822	R480148986	R480068280	R480163053
250	R480162928	R480068778	R480152659	R480069183	R480163037	R480163054
320	R480162929	R480160211	R480042163	R480148534	R480148937	R480155887
400	R480069508	R480162989	R480153304	R480148988	R480157647	R480163055
500	R480048725	R480044634	R480070399	R480154536	R480158439	R480152777

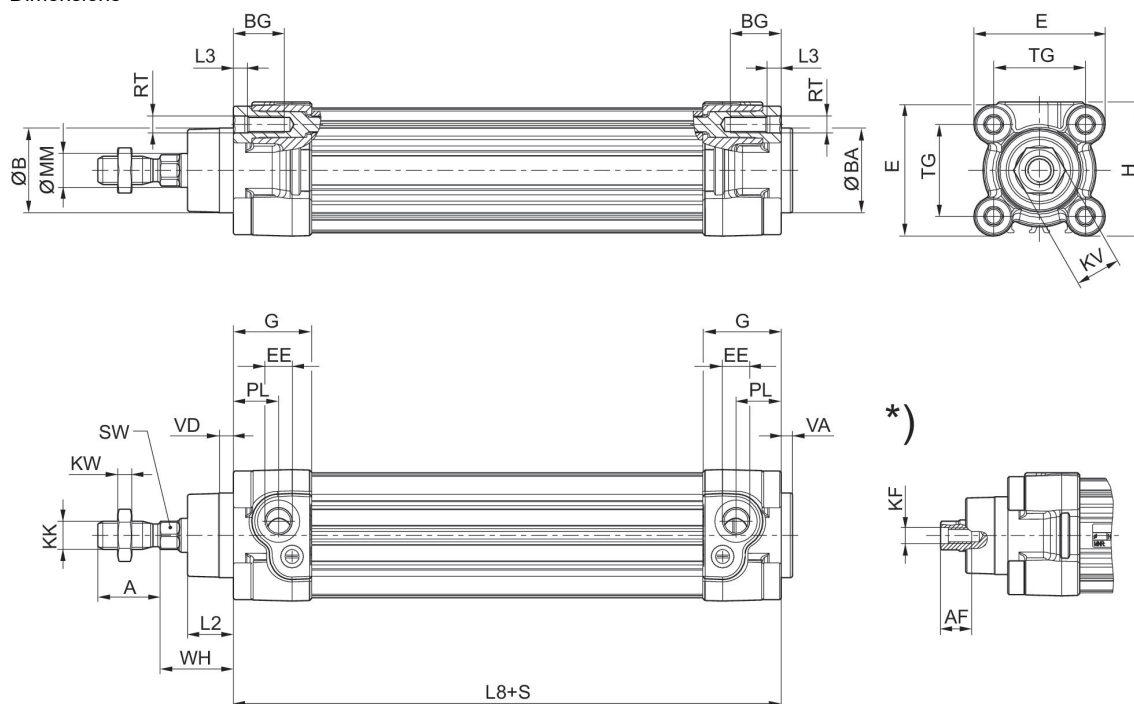
Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
Stroke 25	R480148022
50	R480141034
80	R480143254
100	R480170767
125	R480170768
160	R480144243
200	R480167296
250	R480170769
320	R480170770
400	R480170771

Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
500	R480170772

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N
Impact energy	0.4 J	0.65 J	1 J	1.6 J	2.5 J	3.9 J
Weight 10 mm stroke	0.022 kg	0.032 kg	0.047 kg	0.054 kg	0.085 kg	0.1 kg
Weight 0 mm stroke	0.5 kg	0.65 kg	1.06 kg	1.42 kg	2.37 kg	3.51 kg

Piston Ø	125 mm
Retracting piston force	7220 N
Extracting piston force	7725 N
Impact energy	6 J
Weight 10 mm stroke	0.15 kg
Weight 0 mm stroke	6.72 kg

Dimensions



S = stroke

\*) For cylinders with optional piston rod with internal thread

Piston $\varnothing$	A -2	AF+1	$\varnothing B$ d11	$\varnothing BA$ d11	BG min.	E	EE	G	H
32	22	12	30	30	16	46.5	G 1/8	27.75	47.5
40	24	13.5	35	35	16	53	G 1/4	33.25	53
50	32	17	40	40	16	65	G 1/4	31	65
63	32	17	45	45	16	75	G 3/8	38.25	75
80	40	21	45	45	17	95	G 3/8	38.25	95
100	40	21	55	55	17	115	G 1/2	42.25	115
125	54	28	60	60	20	140	G 1/2	53.85	140

Piston $\varnothing$	KF	KK	KV	KW	$\varnothing MM$ f8	PL	L2	L3 $\pm 0,5$	L8
32	M6	M10x1,25	16	5	12	16	16.25	4.5	94 $\pm 0,4$
40	M8	M12x1,25	18	6	16	20	18.25	4.5	105 $\pm 0,7$
50	M10	M16x1,5	24	8	20	19	25	4.5	106 $\pm 0,7$
63	M10	M16x1,5	24	8	20	24	25	4.5	121 $\pm 0,8$
80	M12	M20x1,5	30	10	25	23.5	33	0	128 $\pm 0,8$
100	M12	M20x1,5	30	10	25	25	36	0	138 $\pm 1$
125	M16	M27x2	41	13.5	32	33	45	0	160 $\pm 1$

Piston Ø	RT	SW	TG	VA -1	VD	WH
32	M6	10	32,5±0,5	4	5	26±1,4
40	M6	13	38±0,5	4	5	30±1,4
50	M8	17	46,5±0,6	4	5	37±1,4
63	M8	17	56,5±0,7	4	5	37±1,8
80	M10	22	72±0,7	4	5	46±1,8
100	M10	22	89±0,7	4	5	51±1,8
125	M12	27	110±1,1	6	7	65±2,2

**Profile cylinder ISO 15552, PRA series**

Standards: ISO 15552

Functional principle: Double-acting

Certificates: ATEX optional

Piston: Piston with magnet

Cushioning: Pneumatic adjustable cushioning

Piston rod: External thread

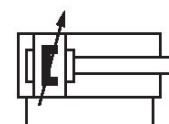
Piston rod: single

Compressed air connection: Internal thread

Ambient temperature min./max.: -20 °C ... 80 °C

Medium temperature min./max.: -20 °C ... 80 °C

Working pressure min./max.: 1.5 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
Ports	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2
Stroke 25	0822120001	0822121001	0822122001	0822123001	0822124001	0822125001
50	0822120002	0822121002	0822122002	0822123002	0822124002	0822125002
80	0822120003	0822121003	0822122003	0822123003	0822124003	0822125003
100	0822120004	0822121004	0822122004	0822123004	0822124004	0822125004
125	0822120005	0822121005	0822122005	0822123005	0822124005	0822125005
160	0822120006	0822121006	0822122006	0822123006	0822124006	0822125006
200	0822120007	0822121007	0822122007	0822123007	0822124007	0822125007
250	0822120008	0822121008	0822122008	0822123008	0822124008	0822125008
320	0822120009	0822121009	0822122009	0822123009	0822124009	0822125009
400	0822120010	0822121010	0822122010	0822123010	0822124010	0822125010
500	0822120011	0822121011	0822122011	0822123011	0822124011	0822125011

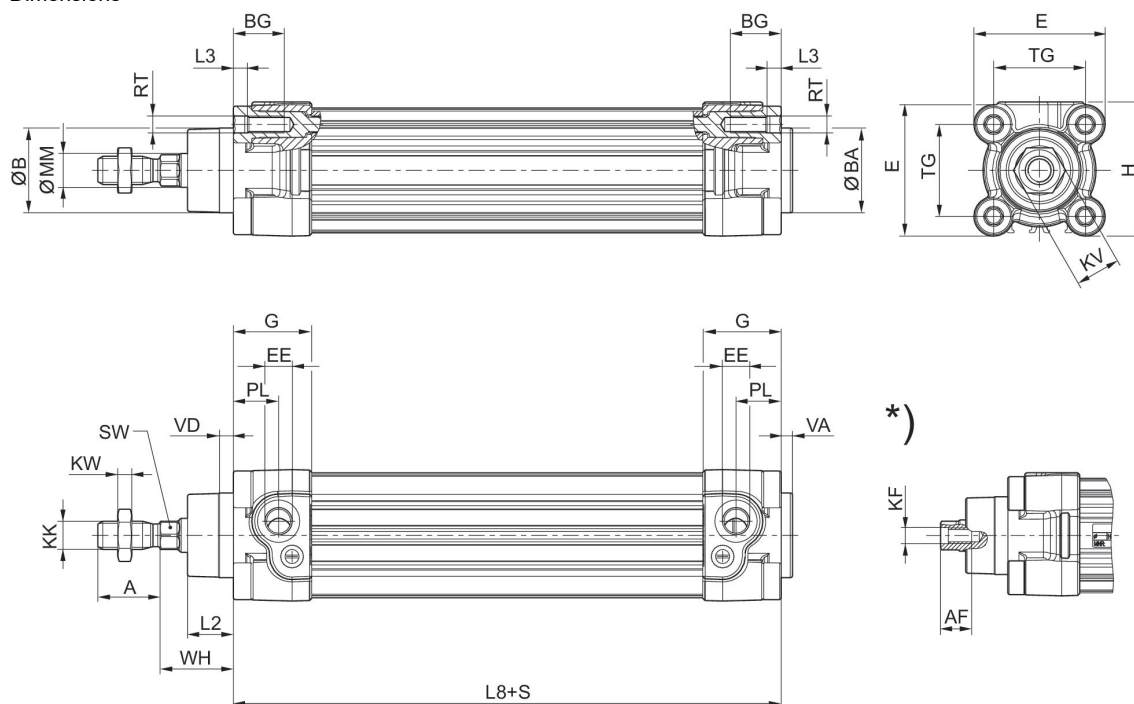
Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
Stroke 25	R480140491
50	R480140455
80	R480141371
100	R480079499
125	R480140083
160	R480079809
200	R480140833
250	R480141106
320	R480140759

<b>Piston Ø</b>	<b>125 mm</b>
<b>Piston rod thread</b>	<b>M27x2</b>
<b>Ports</b>	<b>G 1/2</b>
400	R480141373
500	R480141666

<b>Piston Ø</b>	<b>32 mm</b>	<b>40 mm</b>	<b>50 mm</b>	<b>63 mm</b>	<b>80 mm</b>	<b>100 mm</b>
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J
Cushioning length	16.5 mm	19 mm	17 mm	16.5 mm	19.5 mm	19.5 mm
Weight 10 mm stroke	0.022 kg	0.032 kg	0.047 kg	0.054 kg	0.085 kg	0.1 kg
Weight 0 mm stroke	0.5 kg	0.65 kg	1.06 kg	1.42 kg	2.37 kg	3.51 kg

<b>Piston Ø</b>	<b>125 mm</b>
Retracting piston force	7220 N
Extracting piston force	7725 N
Cushioning energy	140 J
Cushioning length	22 mm
Weight 10 mm stroke	0.15 kg
Weight 0 mm stroke	6.72 kg

Dimensions



S = stroke

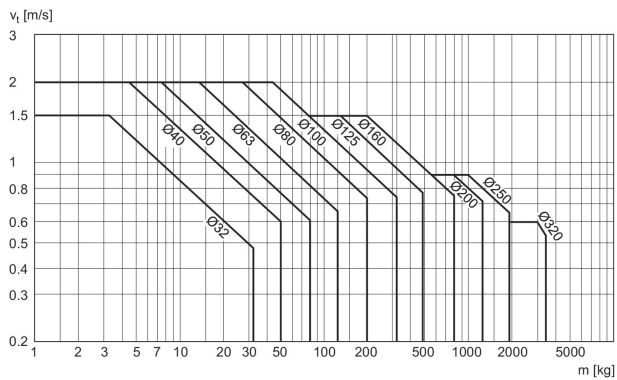
\*) For cylinders with optional piston rod with internal thread

Piston $\varnothing$	A -2	AF+1	$\varnothing B$ d11	$\varnothing BA$ d11	BG min.	E	EE	G	H
32	22	12	30	30	16	46.5	G 1/8	27.75	47.5
40	24	13.5	35	35	16	53	G 1/4	33.25	53
50	32	17	40	40	16	65	G 1/4	31	65
63	32	17	45	45	16	75	G 3/8	38.25	75
80	40	21	45	45	17	95	G 3/8	38.25	95
100	40	21	55	55	17	115	G 1/2	42.25	115
125	54	28	60	60	20	140	G 1/2	53.85	140

Piston $\varnothing$	KF	KK	KV	KW	$\varnothing MM$ f8	PL	L2	L3 $\pm 0,5$	L8
32	M6	M10x1,25	16	5	12	16	16.25	4.5	94 $\pm 0,4$
40	M8	M12x1,25	18	6	16	20	18.25	4.5	105 $\pm 0,7$
50	M10	M16x1,5	24	8	20	19	25	4.5	106 $\pm 0,7$
63	M10	M16x1,5	24	8	20	24	25	4.5	121 $\pm 0,8$
80	M12	M20x1,5	30	10	25	23.5	33	0	128 $\pm 0,8$
100	M12	M20x1,5	30	10	25	25	36	0	138 $\pm 1$
125	M16	M27x2	41	13.5	32	33	45	0	160 $\pm 1$

Piston Ø	RT	SW	TG	VA -1	VD	WH
32	M6	10	32,5±0,5	4	5	26±1,4
40	M6	13	38±0,5	4	5	30±1,4
50	M8	17	46,5±0,6	4	5	37±1,4
63	M8	17	56,5±0,7	4	5	37±1,8
80	M10	22	72±0,7	4	5	46±1,8
100	M10	22	89±0,7	4	5	51±1,8
125	M12	27	110±1,1	6	7	65±2,2

**Cushioning diagram**



$v_t$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Profile cylinder ISO 15552, PRA series**

Standards: ISO 15552

Functional principle: Double-acting

Piston: Piston without magnet

Cushioning: Pneumatic adjustable cushioning

Piston rod: External thread

Piston rod: single

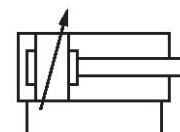
Compressed air connection: Internal thread

: Heat resistant

Ambient temperature min./max.: -10 °C ... 150 °C

Medium temperature min./max.: -10 °C ... 150 °C

Working pressure min./max.: 2 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
Ports	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2
Stroke 25	R480144202	R480041108	R480147979	R480147990	R480144198	R480148011
50	R480147959	R480147968	R480147980	R480147991	R480148001	R480148012
80	R480040989	R480147969	R480147981	R480147992	R480148002	R480148013
100	R480147960	R480147970	R480147982	R480147993	R480147611	R480148014
125	R480147961	R480147971	R480147983	R480147994	R480148003	R480148015
160	R480147962	R480147972	R480147984	R480147995	R480148004	R480148016
200	R480147963	R480147973	R480147985	R480144714	R480147052	R480148017
250	R480147964	R480147974	R480147986	R480147996	R480148005	R480148018
320	R480147965	R480147975	R480147987	R480147997	R480146313	R480148019
400	R480147966	R480147976	R480147988	R480147998	R480042946	R480148020
500	R480147967	R480147977	R480147989	R480147999	R480148009	R480147194

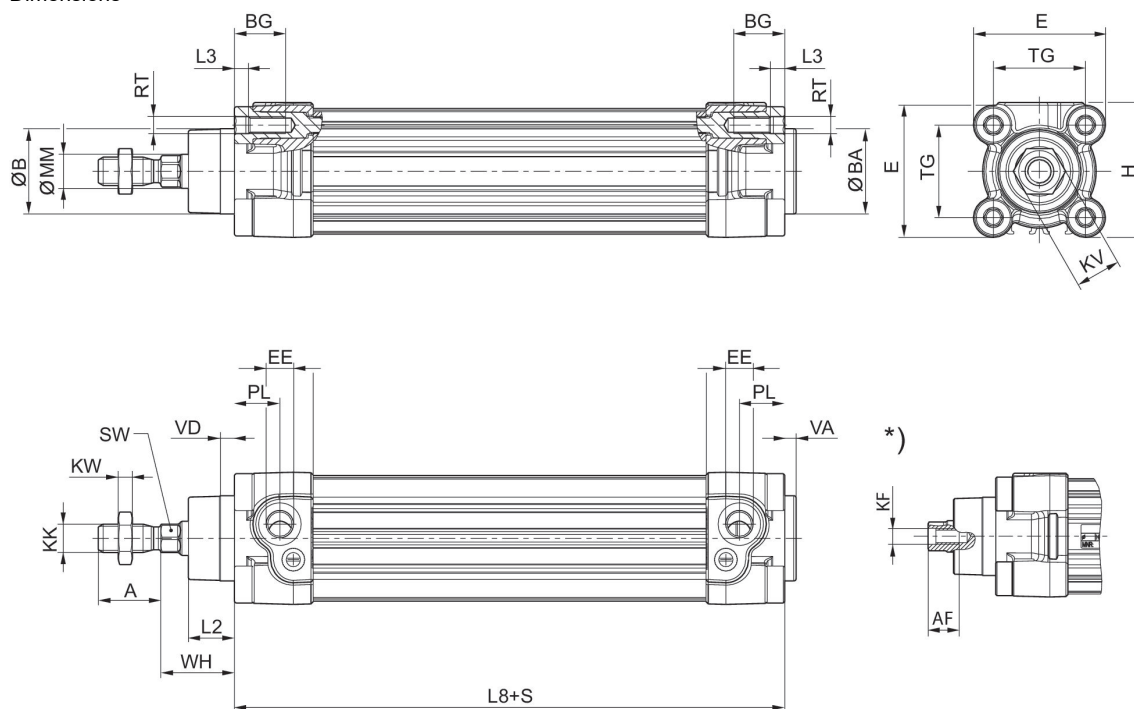
Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
Stroke 25	R480170695
50	R480157264
80	R480163258
100	R480153677
125	R480155595
160	R480170774
200	R480165969
250	R480158304
320	R480170775

<b>Piston Ø</b>	<b>125 mm</b>
<b>Piston rod thread</b>	<b>M27x2</b>
<b>Ports</b>	<b>G 1/2</b>
400	R480170776
500	R480149365

<b>Piston Ø</b>	<b>32 mm</b>	<b>40 mm</b>	<b>50 mm</b>	<b>63 mm</b>	<b>80 mm</b>	<b>100 mm</b>
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J
Cushioning length	11.5 mm	15 mm	17 mm	16.5 mm	19.5 mm	19.5 mm
Weight 10 mm stroke	0.022 kg	0.032 kg	0.047 kg	0.054 kg	0.085 kg	0.1 kg
Weight 0 mm stroke	0.5 kg	0.65 kg	1.06 kg	1.42 kg	2.37 kg	3.51 kg

<b>Piston Ø</b>	<b>125 mm</b>
Retracting piston force	7220 N
Extracting piston force	7725 N
Cushioning energy	140 J
Cushioning length	22 mm
Weight 10 mm stroke	0.15 kg
Weight 0 mm stroke	6.72 kg

Dimensions



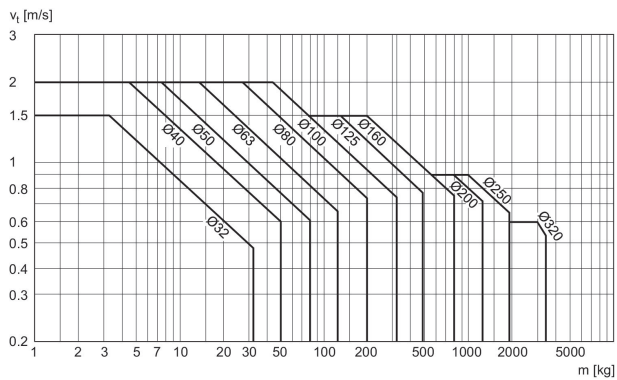
S = stroke  
\* Internal thread

Piston $\varnothing$	A -2	AF+1	$\varnothing B$ d11	$\varnothing BA$ d11	BG min.	E	EE	G	H
32	22	12	30	30	16	46.5	G 1/8	27.75	47.5
40	24	13.5	35	35	16	53	G 1/4	33.25	53
50	32	17	40	40	16	65	G 1/4	31	65
63	32	17	45	45	16	75	G 3/8	38.25	75
80	40	21	45	45	17	95	G 3/8	38.25	95
100	40	21	55	55	17	115	G 1/2	42.25	115
125	54	28	60	60	20	140	G 1/2	53.85	140

Piston $\varnothing$	KF	KK	KV	KW	$\varnothing MM$ f8	PL	L2	L3 $\pm 0,5$	L8
32	M6	M10x1,25	16	5	12	16	16.25	4.5	94 $\pm 0,4$
40	M8	M12x1,25	18	6	16	20	18.25	4.5	105 $\pm 0,7$
50	M10	M16x1,5	24	8	20	19	25	4.5	106 $\pm 0,7$
63	M10	M16x1,5	24	8	20	24	25	4.5	121 $\pm 0,8$
80	M12	M20x1,5	30	10	25	23.5	33	0	128 $\pm 0,8$
100	M12	M20x1,5	30	10	25	25	36	0	138 $\pm 1$
125	M16	M27x2	41	13.5	32	33	45	0	160 $\pm 1$

Piston Ø	RT	SW	TG	VA -1	VD	WH
32	M6	10	32,5±0,5	4	5	26±1,4
40	M6	13	38±0,5	4	5	30±1,4
50	M8	17	46,5±0,6	4	5	37±1,4
63	M8	17	56,5±0,7	4	5	37±1,8
80	M10	22	72±0,7	4	5	46±1,8
100	M10	22	89±0,7	4	5	51±1,8
125	M12	27	110±1,1	6	7	65±2,2

**Cushioning diagram**



$v_t$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Profile cylinder ISO 15552, PRA series**

Standards: ISO 15552

Functional principle: Double-acting

Piston: Piston with magnet

Cushioning: Pneumatic adjustable cushioning

Piston rod: External thread

Piston rod: single

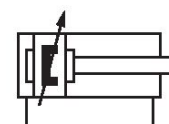
Compressed air connection: Internal thread

: Heat resistant

Ambient temperature min./max.: -10 °C ... 120 °C

Medium temperature min./max.: -10 °C ... 120 °C

Working pressure min./max.: 2 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
Ports	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2
Stroke 25	R412014229	R412014243	R412014257	R412014278	R412014304	R412014327
50	R412014230	R412014168	R412014258	R412014225	R412014305	R412014328
80	R412014231	R412014170	R412014162	R412014279	R412014306	R412014329
100	R412014232	R412014244	R412014259	R412014280	R412014307	R412014330
125	R412014182	R412014216	R412014260	R412014281	R412014308	R412014331
160	R412014233	R412014245	R412014261	R412014282	R412014309	R412014332
200	R412014234	R412014246	R412014262	R412014283	R412014210	R412014333
250	R412014235	R412014247	R412014263	R412014214	R412014219	R412013911
320	R412014236	R412014248	R412014183	R412014284	R412014310	R412014334
400	R412014237	R412013926	R412014264	R412014285	R412014206	R412014335
500	R412014238	R412014249	R412014265	R412014286	R412014311	R412014336

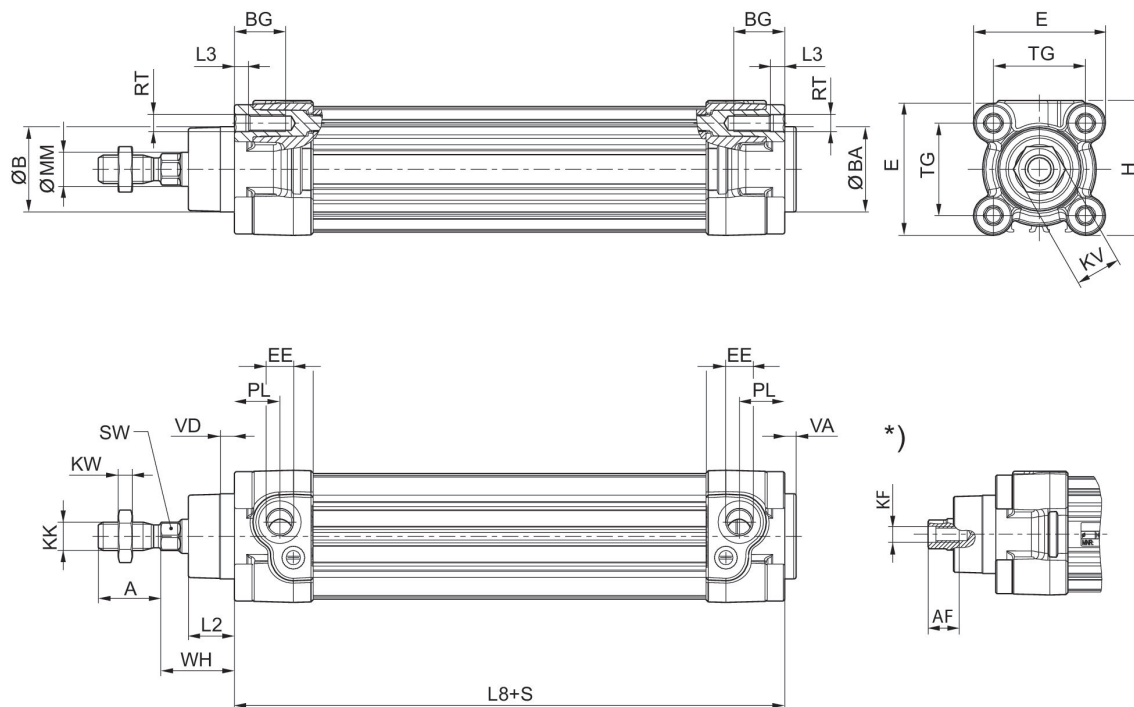
Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
Stroke 25	R480605337
50	R480605338
80	R480605339
100	R480605340
125	R480605341
160	R480605342
200	R480605343
250	R480605146
320	R480605344

<b>Piston Ø</b>	<b>125 mm</b>
<b>Piston rod thread</b>	<b>M27x2</b>
<b>Ports</b>	<b>G 1/2</b>
400	R480605345
500	R480605346

<b>Piston Ø</b>	<b>32 mm</b>	<b>40 mm</b>	<b>50 mm</b>	<b>63 mm</b>	<b>80 mm</b>	<b>100 mm</b>
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J
Cushioning length	11.5 mm	15 mm	17 mm	16.5 mm	19.5 mm	19.5 mm
Weight 10 mm stroke	0.022 kg	0.032 kg	0.047 kg	0.054 kg	0.085 kg	0.1 kg
Weight 0 mm stroke	0.5 kg	0.65 kg	1.06 kg	1.42 kg	2.37 kg	3.51 kg

<b>Piston Ø</b>	<b>125 mm</b>
Retracting piston force	7220 N
Extracting piston force	7725 N
Cushioning energy	140 J
Cushioning length	22 mm
Weight 10 mm stroke	0.15 kg
Weight 0 mm stroke	6.72 kg

Dimensions



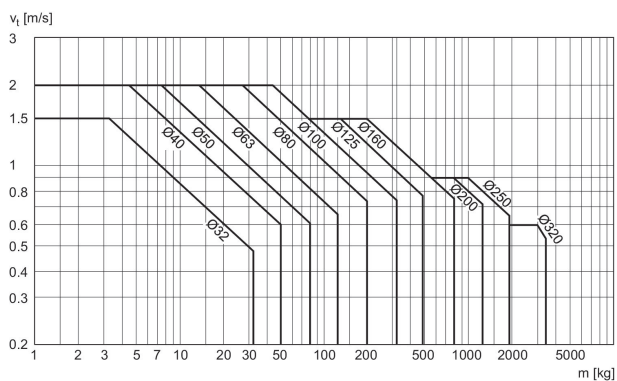
S = stroke  
\* Internal thread

Piston $\varnothing$	A -2	AF+1	$\varnothing B$ d11	$\varnothing BA$ d11	BG min.	E	EE	G	H
32	22	12	30	30	16	46.5	G 1/8	27.75	47.5
40	24	13.5	35	35	16	53	G 1/4	33.25	53
50	32	17	40	40	16	65	G 1/4	31	65
63	32	17	45	45	16	75	G 3/8	38.25	75
80	40	21	45	45	17	95	G 3/8	38.25	95
100	40	21	55	55	17	115	G 1/2	42.25	115
125	54	28	60	60	20	140	G 1/2	53.85	140

Piston $\varnothing$	KF	KK	KV	KW	$\varnothing MM$ f8	PL	L2	L3 $\pm 0,5$	L8
32	M6	M10x1,25	16	5	12	16	16.25	4.5	94 $\pm 0,4$
40	M8	M12x1,25	18	6	16	20	18.25	4.5	105 $\pm 0,7$
50	M10	M16x1,5	24	8	20	19	25	4.5	106 $\pm 0,7$
63	M10	M16x1,5	24	8	20	24	25	4.5	121 $\pm 0,8$
80	M12	M20x1,5	30	10	25	23.5	33	0	128 $\pm 0,8$
100	M12	M20x1,5	30	10	25	25	36	0	138 $\pm 1$
125	M16	M27x2	41	13.5	32	33	45	0	160 $\pm 1$

Piston Ø	RT	SW	TG	VA -1	VD	WH
32	M6	10	32,5±0,5	4	5	26±1,4
40	M6	13	38±0,5	4	5	30±1,4
50	M8	17	46,5±0,6	4	5	37±1,4
63	M8	17	56,5±0,7	4	5	37±1,8
80	M10	22	72±0,7	4	5	46±1,8
100	M10	22	89±0,7	4	5	51±1,8
125	M12	27	110±1,1	6	7	65±2,2

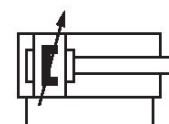
**Cushioning diagram**



$v_t$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Profile cylinder ISO 15552, PRA series**

Standards: ISO 15552  
 Functional principle: Double-acting  
 Piston: Piston with magnet  
 Cushioning: Pneumatic adjustable cushioning  
 Piston rod: External thread  
 Piston rod: single  
 Compressed air connection: Internal thread  
 : -40 °C cold-resistant  
 Ambient temperature min./max.: -40 °C ... 70 °C  
 Medium temperature min./max.: -40 °C ... 70 °C  
 Working pressure min./max.: 1.5 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
Ports	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2
Stroke 25	R480691821	R480691832	R480691843	R480691854	R480691865	R480691876
50	R480691822	R480691833	R480691844	R480691855	R480691866	R480691877
80	R480691823	R480691834	R480691845	R480691856	R480691867	R480691878
100	R480691824	R480691835	R480691846	R480691857	R480691868	R480691879
125	R480691825	R480691836	R480691847	R480691858	R480691869	R480691880
160	R480691826	R480691837	R480691848	R480691859	R480691870	R480691881
200	R480691827	R480691838	R480691849	R480691860	R480691871	R480691882
250	R480691828	R480691839	R480691850	R480691861	R480691872	R480691883
320	R480691829	R480691840	R480691851	R480691862	R480691873	R480691884
400	R480691830	R480691841	R480691852	R480691863	R480691874	R480691885
500	R480691831	R480691842	R480691853	R480691864	R480691875	R480691886

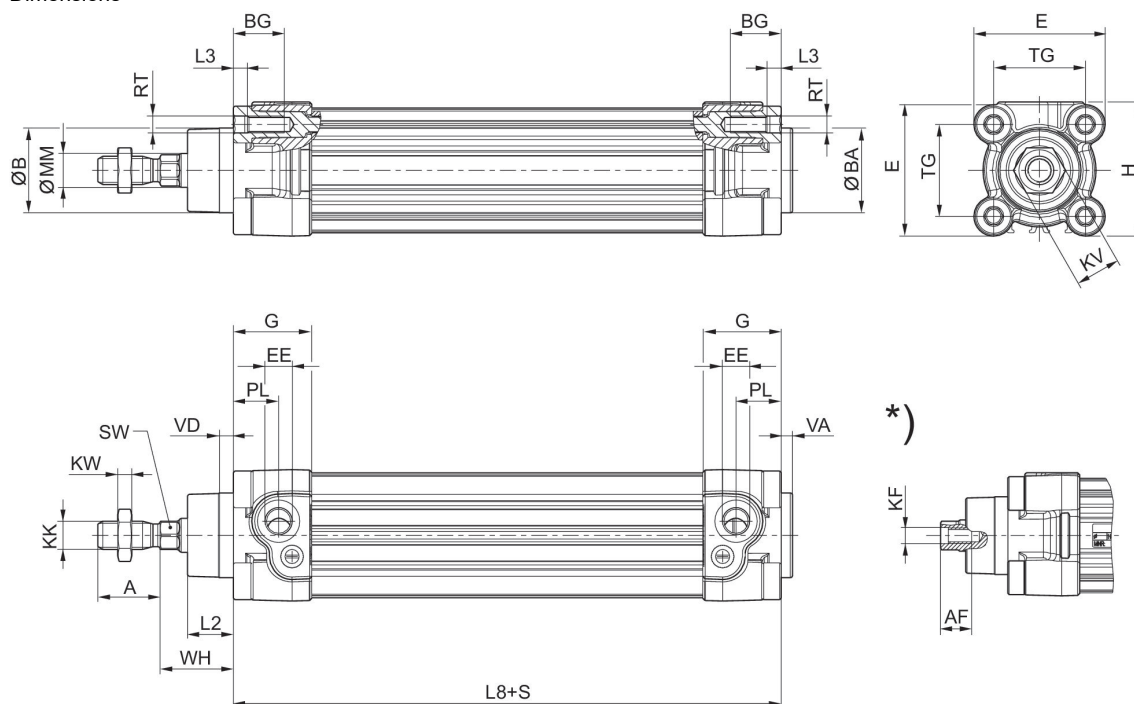
Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
Stroke 25	R480691887
50	R480691888
80	R480691889
100	R480691890
125	R480691891
160	R480691892
200	R480691893
250	R480691894
320	R480691895

<b>Piston Ø</b>	<b>125 mm</b>
<b>Piston rod thread</b>	<b>M27x2</b>
<b>Ports</b>	<b>G 1/2</b>
400	R480691896
500	R480691897

<b>Piston Ø</b>	<b>32 mm</b>	<b>40 mm</b>	<b>50 mm</b>	<b>63 mm</b>	<b>80 mm</b>	<b>100 mm</b>
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J
Cushioning length	11.5 mm	15 mm	17 mm	16.5 mm	19.5 mm	19.5 mm
Weight 10 mm stroke	0.022 kg	0.032 kg	0.047 kg	0.054 kg	0.085 kg	0.1 kg
Weight 0 mm stroke	0.5 kg	0.65 kg	1.06 kg	1.42 kg	2.37 kg	3.51 kg

<b>Piston Ø</b>	<b>125 mm</b>
Retracting piston force	7220 N
Extracting piston force	7725 N
Cushioning energy	140 J
Cushioning length	22 mm
Weight 10 mm stroke	0.15 kg
Weight 0 mm stroke	6.72 kg

Dimensions



S = stroke

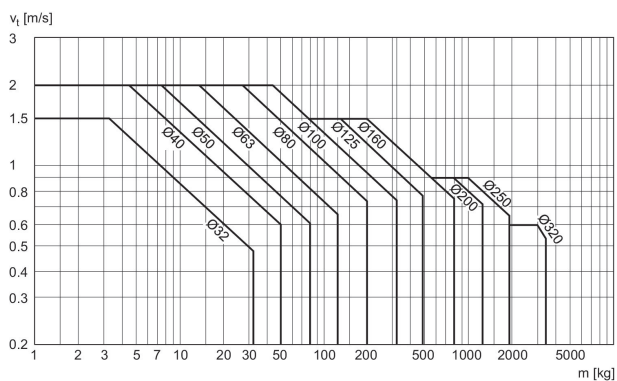
\*) For cylinders with optional piston rod with internal thread

Piston $\varnothing$	A -2	AF+1	$\varnothing B$ d11	$\varnothing BA$ d11	BG min.	E	EE	G	H
32	22	12	30	30	16	46.5	G 1/8	27.75	47.5
40	24	13.5	35	35	16	53	G 1/4	33.25	53
50	32	17	40	40	16	65	G 1/4	31	65
63	32	17	45	45	16	75	G 3/8	38.25	75
80	40	21	45	45	17	95	G 3/8	38.25	95
100	40	21	55	55	17	115	G 1/2	42.25	115
125	54	28	60	60	20	140	G 1/2	53.85	140

Piston $\varnothing$	KF	KK	KV	KW	$\varnothing MM$ f8	PL	L2	L3 $\pm 0,5$	L8
32	M6	M10x1,25	16	5	12	16	16.25	4.5	94 $\pm 0,4$
40	M8	M12x1,25	18	6	16	20	18.25	4.5	105 $\pm 0,7$
50	M10	M16x1,5	24	8	20	19	25	4.5	106 $\pm 0,7$
63	M10	M16x1,5	24	8	20	24	25	4.5	121 $\pm 0,8$
80	M12	M20x1,5	30	10	25	23.5	33	0	128 $\pm 0,8$
100	M12	M20x1,5	30	10	25	25	36	0	138 $\pm 1$
125	M16	M27x2	41	13.5	32	33	45	0	160 $\pm 1$

Piston Ø	RT	SW	TG	VA -1	VD	WH
32	M6	10	32,5±0,5	4	5	26±1,4
40	M6	13	38±0,5	4	5	30±1,4
50	M8	17	46,5±0,6	4	5	37±1,4
63	M8	17	56,5±0,7	4	5	37±1,8
80	M10	22	72±0,7	4	5	46±1,8
100	M10	22	89±0,7	4	5	51±1,8
125	M12	27	110±1,1	6	7	65±2,2

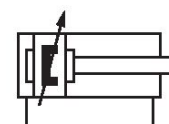
**Cushioning diagram**



$v_t$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Profile cylinder ISO 15552, PRA series**

Standards: ISO 15552  
 Functional principle: Double-acting  
 Piston: Piston with magnet  
 Cushioning: Pneumatic adjustable cushioning  
 Piston rod: External thread  
 Piston rod: single  
 Compressed air connection: Internal thread  
 : corrosion-resistant  
 Ambient temperature min./max.: -20 °C ... 80 °C  
 Medium temperature min./max.: -20 °C ... 80 °C  
 Working pressure min./max.: 1.5 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
Ports	G 1/8	G 1/4	G 1/4	G 3/8	G 1/8	G 1/2
Stroke 25	R480691975	R480691986	R480691997	R480692008	R480692019	R480692030
50	R480691976	R480691987	R480691998	R480692009	R480692020	R480692031
80	R480691977	R480691988	R480691999	R480692010	R480692021	R480692032
100	R480691978	R480691989	R480692000	R480692011	R480692022	R480692033
125	R480691979	R480691990	R480692001	R480692012	R480692023	R480692034
160	R480691980	R480691991	R480692002	R480692013	R480692024	R480692035
200	R480691981	R480691992	R480692003	R480692014	R480692025	R480692036
250	R480691982	R480691993	R480692004	R480692015	R480692026	R480692037
320	R480691983	R480691994	R480692005	R480692016	R480692027	R480692038
400	R480691984	R480691995	R480692006	R480692017	R480692028	R480692039
500	R480691985	R480691996	R480692007	R480692018	R480692029	R480692040

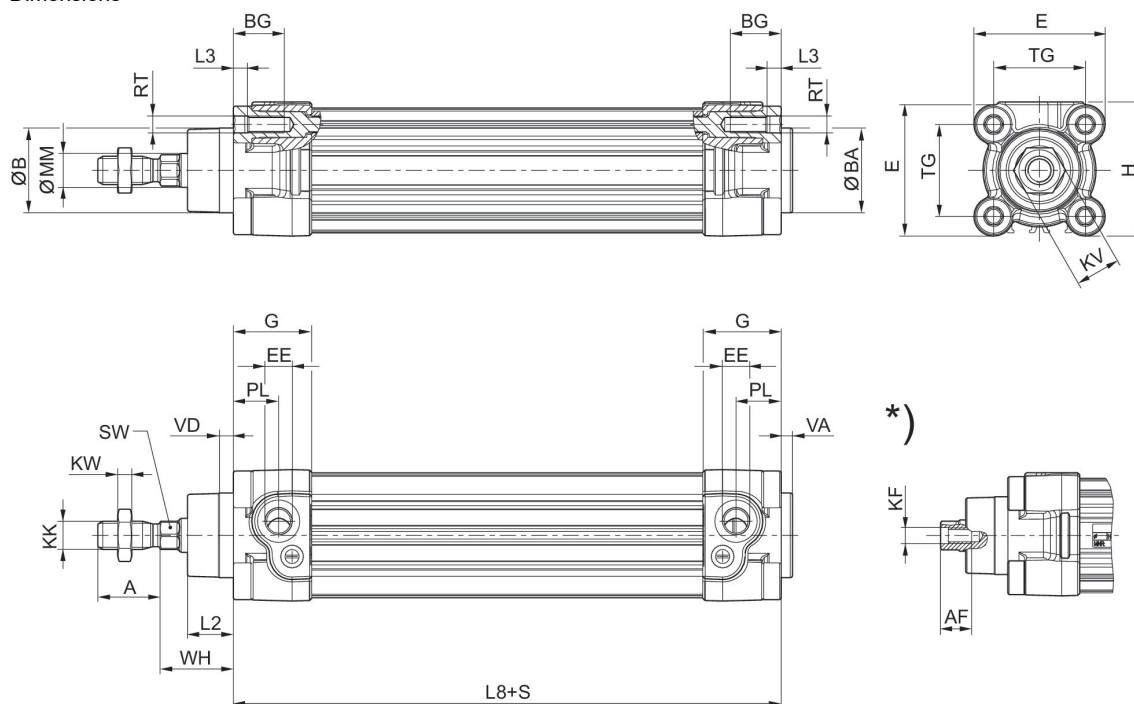
Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
Stroke 25	R480692041
50	R480692042
80	R480692043
100	R480692044
125	R480692045
160	R480692046
200	R480692047
250	R480692048
320	R480692049

<b>Piston Ø</b>	<b>125 mm</b>
<b>Piston rod thread</b>	<b>M27x2</b>
<b>Ports</b>	<b>G 1/2</b>
400	R480692050
500	R480692051

<b>Piston Ø</b>	<b>32 mm</b>	<b>40 mm</b>	<b>50 mm</b>	<b>63 mm</b>	<b>80 mm</b>	<b>100 mm</b>
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J
Cushioning length	16.5 mm	19 mm	17 mm	16.5 mm	19.5 mm	19.5 mm
Weight 10 mm stroke	0.022 kg	0.032 kg	0.047 kg	0.054 kg	0.085 kg	0.1 kg
Weight 0 mm stroke	0.5 kg	0.65 kg	1.06 kg	1.42 kg	2.37 kg	3.51 kg

<b>Piston Ø</b>	<b>125 mm</b>
Retracting piston force	7220 N
Extracting piston force	7725 N
Cushioning energy	140 J
Cushioning length	22 mm
Weight 10 mm stroke	0.15 kg
Weight 0 mm stroke	6.72 kg

Dimensions



S = stroke

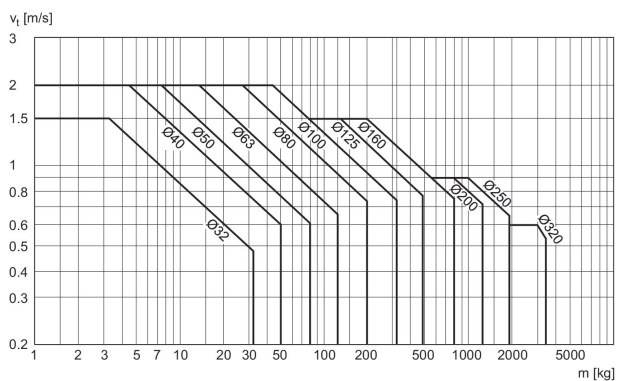
\*) For cylinders with optional piston rod with internal thread

Piston $\varnothing$	A -2	AF+1	$\varnothing B$ d11	$\varnothing BA$ d11	BG min.	E	EE	G	H
32	22	12	30	30	16	46.5	G 1/8	27.75	47.5
40	24	13.5	35	35	16	53	G 1/4	33.25	53
50	32	17	40	40	16	65	G 1/4	31	65
63	32	17	45	45	16	75	G 3/8	38.25	75
80	40	21	45	45	17	95	G 3/8	38.25	95
100	40	21	55	55	17	115	G 1/2	42.25	115
125	54	28	60	60	20	140	G 1/2	53.85	140

Piston $\varnothing$	KF	KK	KV	KW	$\varnothing MM$ f8	PL	L2	L3 $\pm 0,5$	L8
32	M6	M10x1,25	16	5	12	16	16.25	4.5	94 $\pm 0,4$
40	M8	M12x1,25	18	6	16	20	18.25	4.5	105 $\pm 0,7$
50	M10	M16x1,5	24	8	20	19	25	4.5	106 $\pm 0,7$
63	M10	M16x1,5	24	8	20	24	25	4.5	121 $\pm 0,8$
80	M12	M20x1,5	30	10	25	23.5	33	0	128 $\pm 0,8$
100	M12	M20x1,5	30	10	25	25	36	0	138 $\pm 1$
125	M16	M27x2	41	13.5	32	33	45	0	160 $\pm 1$

Piston Ø	RT	SW	TG	VA -1	VD	WH
32	M6	10	32,5±0,5	4	5	26±1,4
40	M6	13	38±0,5	4	5	30±1,4
50	M8	17	46,5±0,6	4	5	37±1,4
63	M8	17	56,5±0,7	4	5	37±1,8
80	M10	22	72±0,7	4	5	46±1,8
100	M10	22	89±0,7	4	5	51±1,8
125	M12	27	110±1,1	6	7	65±2,2

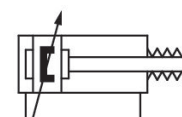
**Cushioning diagram**



$v_t$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Profile cylinder ISO 15552, PRA series**

Standards: ISO 15552  
 Functional principle: Double-acting  
 Piston: Piston with magnet  
 Cushioning: Pneumatic adjustable cushioning  
 Piston rod: External thread  
 Piston rod: single  
 Compressed air connection: Internal thread  
 Piston rod protection: Bellows  
 : Bellows  
 Ambient temperature min./max.: -20 °C ... 80 °C  
 Medium temperature min./max.: -20 °C ... 80 °C  
 Working pressure min./max.: 1.5 bar ... 10 bar



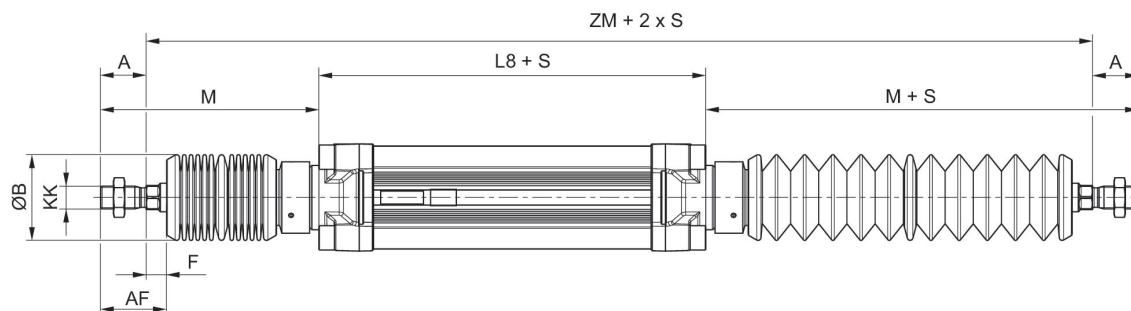
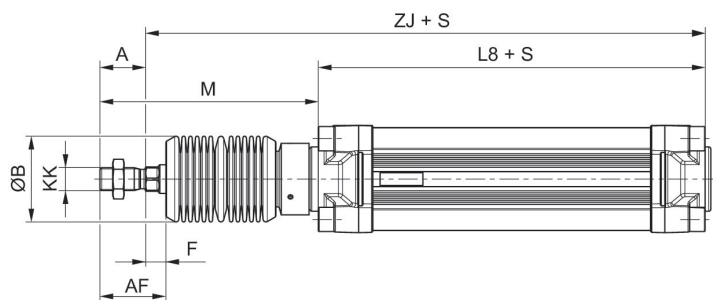
Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
Ports	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2
Stroke 25	R481602057	R481602065	R481602076	R481602087	R481602098	R481602109
50	R481602058	R481602066	R481602077	R481602088	R481602099	R481602110
80	R481602059	R481602067	R481602078	R481602089	R481602100	R481602111
100	R481602060	R481602068	R481602079	R481602090	R481602101	R481602112
125	R481602061	R481602069	R481602080	R481602091	R481602102	R481602113
160	R481602062	R481602070	R481602081	R481602092	R481602103	R481602114
200	R481602063	R481602071	R481602082	R481602093	R481602104	R481602115
250	R481602064	R481602072	R481602083	R481602094	R481602105	R481602116
320	-	R481602073	R481602084	R481602095	R481602106	R481602117
400	-	R481602074	R481602085	R481602096	R481602107	R481602118
500	-	R481602075	R481602086	R481602097	R481602108	R481602119

Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
Stroke 25	R481602120
50	R481602121
80	R481602122
100	R481602123
125	R481602124
160	R481602125
200	R481602126
250	R481602127
320	R481602128
400	R481602129

Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
500	R481602130

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J
Cushioning length	16.5 mm	19 mm	17 mm	16.5 mm	19.5 mm	19.5 mm
Max. speed	1 m/s	1 m/s	0.7 m/s	0.7 m/s	0.7 m/s	0.7 m/s

Piston Ø	125 mm
Retracting piston force	7220 N
Extracting piston force	7725 N
Cushioning energy	140 J
Cushioning length	22 mm
Max. speed	0.6 m/s



S = stroke

## Stroke-dependent dimensions

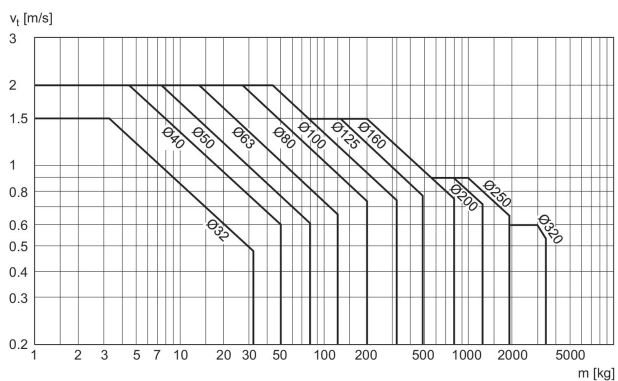
Piston Ø	S=0-75 M	S=0-75 ZJ	S=0-75 ZM	S=76-150 M	S=76-150 ZJ	S=76-150 ZM	S=151-250 M	S=151-250 ZJ	S=151-250 ZM
32	81	153	212	107	179	264	127	199	304
40	138	219	333	138	219	333	138	219	333
50	153	227	348	153	227	348	153	227	348
63	153	242	363	153	242	363	153	242	363
80	170	258	388	170	258	388	170	258	388
100	160	258	378	160	258	378	160	258	378
125	188	294	418	188	294	428	188	294	428

Piston Ø	S=251-5000 M	S=251-500 ZJ	S=251-500 ZM	S=501-750 M	S=501-750 ZJ	S=501-750 ZM	S=751-1000 M	S=751-1000 ZJ	S=751-1000 ZM
32	-	-	-	-	-	-	-	-	-
40	218	299	493	-	-	-	-	-	-
50	233	307	508	313	387	668	-	-	-
63	233	322	523	313	402	683	394	483	845
80	250	338	548	330	418	708	411	499	870
100	220	318	498	280	378	618	340	438	738
125	248	354	548	308	414	668	368	474	788

S = stroke

	A	Ø B	KK	L8	AF	F
R481602057	22	42	M10x1.25	94	34	12
R481602065	24	42	M12x1.25	105	39	15
R481602076	32	64	M16x1,5	106	47	15
R481602087	32	64	M16x1,5	121	47	15
R481602098	40	64	M20x1,5	128	57	17
R481602109	40	64	M20x1,5	138	57	17
R481602120	54	94	M27x2	160	71	17

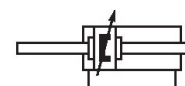
**Cushioning diagram**



$v_t$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Profile cylinder ISO 15552, PRA series**

Standards: ISO 15552  
 Functional principle: Double-acting  
 Piston: Piston with magnet  
 Cushioning: Pneumatic adjustable cushioning  
 Piston rod: External thread  
 Piston rod: through  
 Compressed air connection: Internal thread  
 Ambient temperature min./max.: -20 °C ... 80 °C  
 Medium temperature min./max.: -20 °C ... 80 °C  
 Working pressure min./max.: 1.5 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	M10x1,25	M12x1,25	M16x1,5	M16x1,5	M20x1,5	M20x1,5
Ports	G 1/8	G 1/4	G 1/4	G 3/8	G 3/8	G 1/2
Stroke 25	R480041413	R480041432	R480041443	R480041453	R480041484	R480148059
50	R480041419	R480041433	R480041444	R480041454	R480041485	R480069994
80	R480041420	R480041434	R480041445	R480041455	R480041487	R480148061
100	R480041421	R480041435	R480041446	R480041456	R480041488	R480059815
125	R480041422	R480041436	R480041074	R480041457	R480041490	R480146278
160	R480041423	R480041437	R480041447	R480041458	R480041491	R480148062
200	R480041425	R480041438	R480041448	R480041459	R480041492	R480148063
250	R480041426	R480041439	R480041449	R480041460	R480041493	R480077546
320	R480041427	R480041440	R480041450	R480041461	R480041494	R480148064
400	R480041428	R480041441	R480041451	R480041481	-	R480148065
500	R480041429	R480041442	R480041452	R480041482	R480041497	R480148060

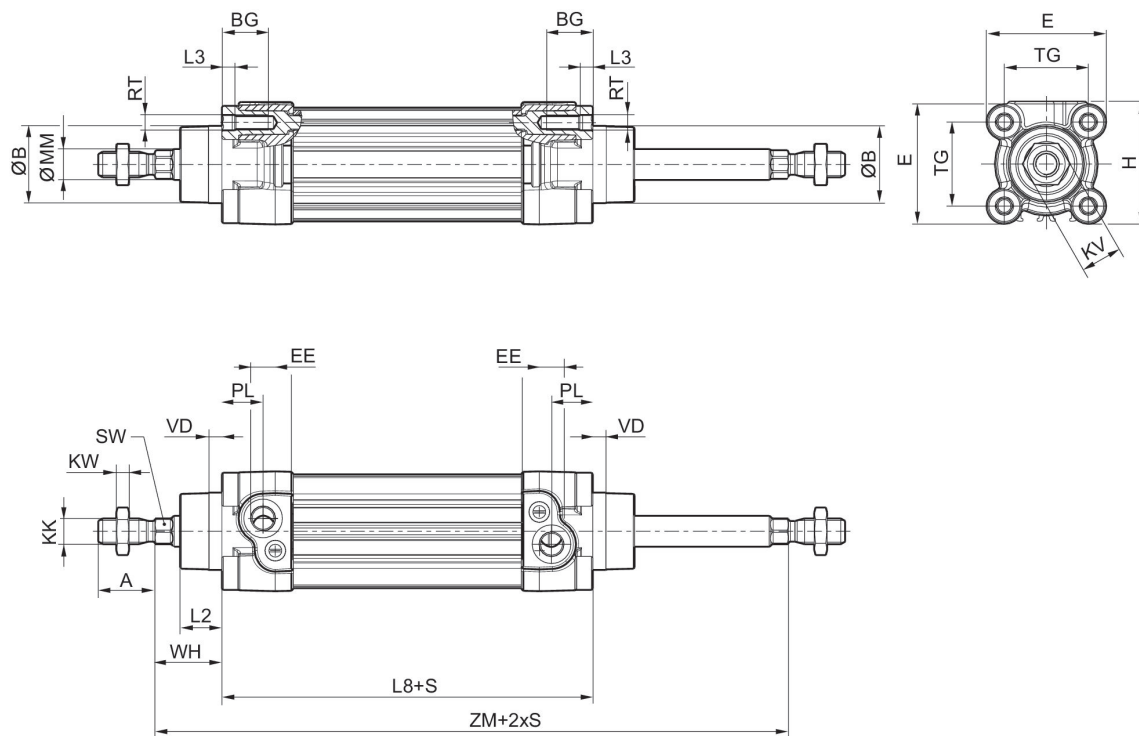
Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
Stroke 25	R480148066
50	R480148067
80	R480148068
100	R480142910
125	R480148069
160	R480148070
200	R480148071
250	R480148072
320	R480148073
400	R480148074

Piston Ø	125 mm
Piston rod thread	M27x2
Ports	G 1/2
500	R480148075

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J
Cushioning length	16.5 mm	19 mm	17 mm	16.5 mm	19.5 mm	19.5 mm
Weight 10 mm stroke	0.031 kg	0.048 kg	0.072 kg	0.079 kg	0.124 kg	0.139 kg
Weight 0 mm stroke	0.58 kg	0.8 kg	1.34 kg	1.72 kg	2.92 kg	4.08 kg

Piston Ø	125 mm
Retracting piston force	7220 N
Extracting piston force	7220 N
Cushioning energy	140 J
Cushioning length	22 mm
Weight 10 mm stroke	0.22 kg
Weight 0 mm stroke	8.92 kg

Dimensions



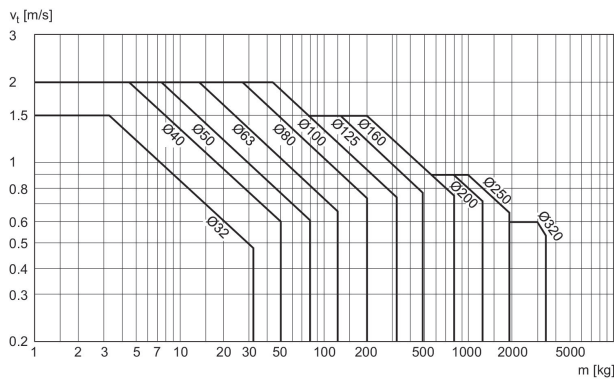
S = stroke

Piston Ø	A -2	ØB d11	BG min.	E	EE	G	H	KK	KV
32	22	30	16	46.5	G 1/8	27.75	47.5	M10x1,25	16
40	24	35	16	53	G 1/4	33.25	53	M12x1,25	18
50	32	40	16	65	G 1/4	31	65	M16x1,5	24
63	32	45	16	75	G 3/8	38.25	75	M16x1,5	24
80	40	45	17	95	G 3/8	38.25	95	M20x1,5	30
100	40	55	17	115	G 1/2	42.25	115	M20x1,5	30
125	54	60	20	140	G 1/2	53.85	140	M27x2	41

Piston Ø	KW	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG
32	5	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5
40	6	16	20	18.25	4.5	105±0,7	M6	13	38±0,5
50	8	20	19	25	4.5	106±0,7	M8	17	46,5±0,6
63	8	20	24	25	4.5	121±0,8	M8	17	56,5±0,7
80	10	25	23.5	33	0	128±0,8	M10	22	72±0,7
100	10	25	25	36	0	138±1	M10	22	89±0,7
125	13.5	32	33	45	0	160±1	M12	27	110±1,1

Piston Ø	VD	WH	ZM
32	5	26±1,4	146+3/-1,5
40	5	30±1,4	165+3/-1,5
50	5	37±1,4	180+3/-1,5
63	5	37±1,8	195+3/-1,5
80	5	46±1,8	220+3/-1,5
100	5	51±1,8	240+3,5/-2
125	7	65±2,2	290+3,5/-2

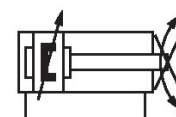
**Cushioning diagram**



$v_t$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Profile cylinder ISO 15552, PRA series**

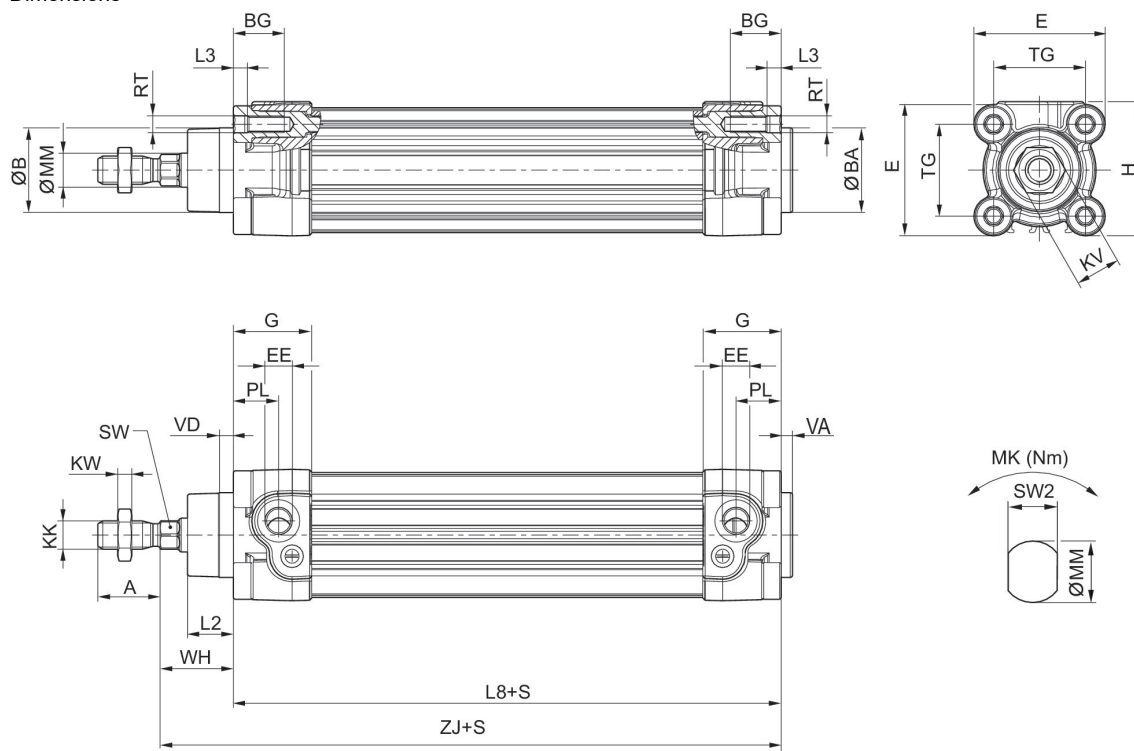
Standards: ISO 15552  
 Functional principle: Double-acting  
 Piston: Piston with magnet  
 Cushioning: Pneumatic adjustable cushioning  
 Piston rod: External thread  
 Piston rod: non-rotating  
 Compressed air connection: Internal thread  
 Ambient temperature min./max.: -20 °C ... 80 °C  
 Medium temperature min./max.: -20 °C ... 80 °C  
 Working pressure min./max.: 1.5 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm
Piston rod thread	M10x1,25	M12x1,25	M16x1,5	M16x1,5
Ports	G 1/8	G 1/4	G 1/4	G 3/8
Stroke 25	R481601969	R481601980	R481601991	R481602002
50	R481601970	R481601981	R481601992	R481602003
80	R481601971	R481601982	R481601993	R481602004
100	R481601972	R481601983	R481601994	R481602005
125	R481601973	R481601984	R481601995	R481602006
160	R481601974	R481601985	R481601996	R481602007
200	R481601975	R481601986	R481601997	R481602008
250	R481601976	R481601987	R481601998	R481602009
320	R481601977	R481601988	R481601999	R481602010
400	R481601978	R481601989	R481602000	R481602011
500	R481601979	R481601990	R481602001	R481602012

Piston Ø	32 mm	40 mm	50 mm	63 mm
Retracting piston force	435 N	660 N	1035 N	1765 N
Extracting piston force	505 N	790 N	1235 N	1960 N
Cushioning energy	4.8 J	9 J	15 J	27 J
Cushioning length	16.5 mm	19 mm	17 mm	16.5 mm
Max. torque for torsion protection	0.75 Nm	1.5 Nm	2 Nm	2 Nm
Rotation angle tolerance (±)	1.8 °	1.6 °	1.4 °	1.4 °
Weight 10 mm stroke	0.022 kg	0.032 kg	0.047 kg	0.054 kg
Weight 0 mm stroke	0.5 kg	0.65 kg	1.06 kg	1.42 kg

Dimensions



S = stroke

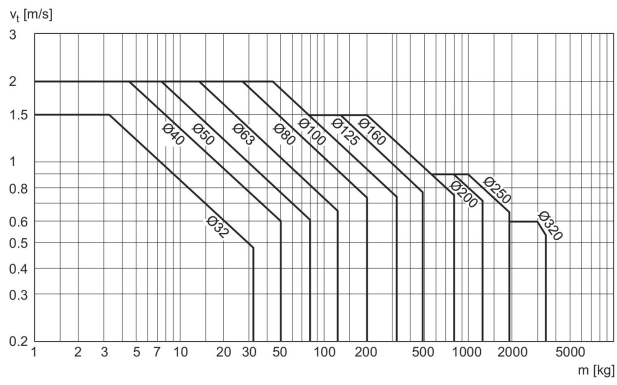
Piston Ø	A -2	ØB d11	ØBA d11	BG min.	E	EE	G	H	KK
32	22	30	30	16	46.5	G 1/8	27.75	47.5	M10x1,25
40	24	35	35	16	53	G 1/4	33.25	53	M12x1,25
50	32	40	40	16	65	G 1/4	31	65	M16x1,5
63	32	45	45	16	75	G 3/8	38.25	75	M16x1,5

Piston Ø	KV	KW	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW
32	16	5	12	16	16.25	4.5	94±0,4	M6	10
40	18	6	16	20	18.25	4.5	105±0,7	M6	13
50	24	8	20	19	25	4.5	106±0,7	M8	16*
63	24	8	20	24	25	4.5	121±0,8	M8	16*

Piston Ø	TG	VA -1	VD	WH	ZJ	MK	SW2
32	32,5±0,5	4	5	26±1,4	120	0,75	10
40	38±0,5	4	5	30±1,4	135	1,5	13
50	46,5±0,6	4	5	37±1,4	143	2	16
63	56,5±0,7	4	5	37±1,8	158	2	16

\* not according to ISO 15552

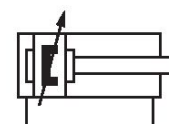
**Cushioning diagram**



$v_t$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Profile cylinder ISO 15552, Series PRA - inch**

Functional principle: Double-acting  
 Piston: Piston with magnet  
 Cushioning: Pneumatic adjustable cushioning  
 Piston rod: External thread  
 Piston rod: single  
 Compressed air connection: Internal thread  
 Ambient temperature min./max.: -20 °C ... 80 °C  
 Medium temperature min./max.: -20 °C ... 80 °C  
 Working pressure min./max.: 1.5 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	7/16-20 UNF	1/2-20 UNF	3/4-16 UNF	3/4-16 UNF	3/4-16 UNF	3/4-16 UNF
Ports	1/8 NPT	1/4 NPT	1/4 NPT	3/8 NPT	3/8 NPT	1/2 NPT
Stroke 25.4	R480176154	R480176238	R480176328	R480176417	R480176506	R480176593
50.8	R480176162	R480176251	R480176334	R480176427	R480176510	R480176601
76.2	R480176169	R480176257	R480176345	R480176437	R480176523	R480176609
101.6	R480176174	R480176263	R480176354	R480176441	R480176526	R480176614
127	R480176187	R480176275	R480176363	R480176452	R480176534	R480176626
152.4	R480176190	R480176280	R480176370	R480176459	R480176546	R480176633
177.8	R480176201	R480176293	R480176377	R480176464	R480176554	R480176641
203.2	R480176209	R480176298	R480176383	R480176472	R480176561	R480176646
228.6	R480176218	R480176304	R480176395	R480176480	R480176567	R480176660
254	R480176228	R480176316	R480176400	R480176490	R480176581	R480176665
304.8	R480176232	R480176321	R480176412	R480176500	R480176585	R480176676

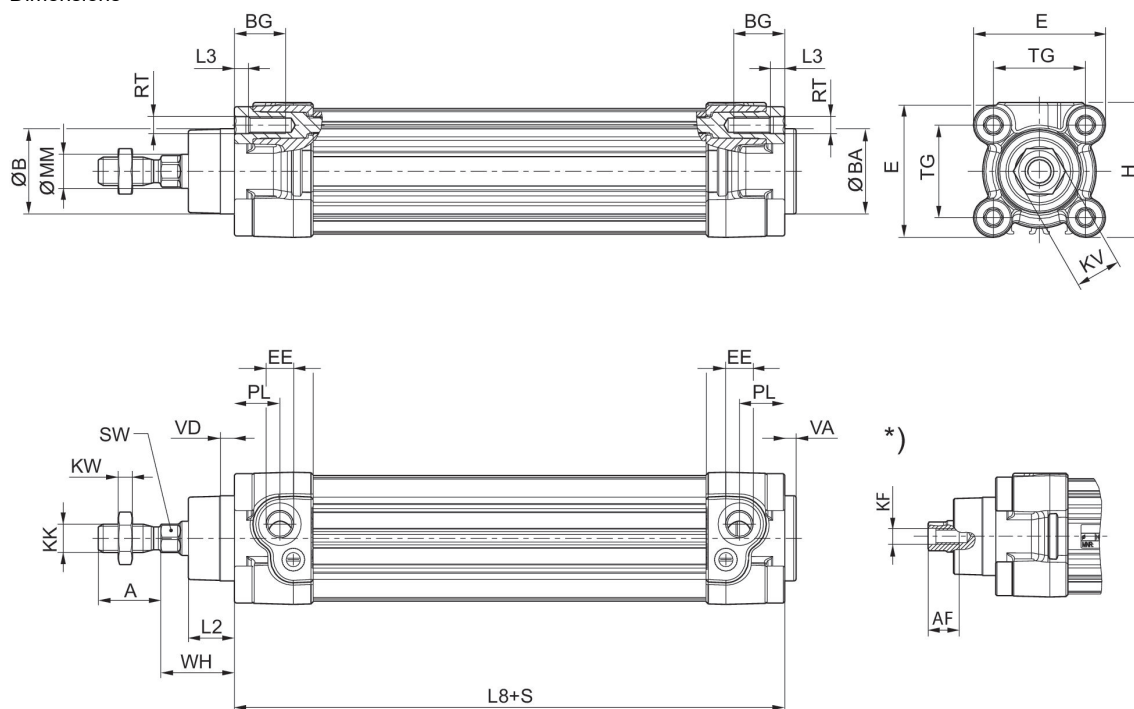
Piston Ø	125 mm
Piston rod thread	1-14 UNF
Ports	1/2 NPT
Stroke 25.4	R480176685
50.8	R480176689
76.2	R480176694
101.6	R480176707
127	R480176712
152.4	R480176721
177.8	R480176729
203.2	R480176736
228.6	R480176746

<b>Piston Ø</b>	<b>125 mm</b>
<b>Piston rod thread</b>	<b>1-14 UNF</b>
<b>Ports</b>	<b>1/2 NPT</b>
254	R480176754
304.8	R480176761

<b>Piston Ø</b>	<b>32 mm</b>	<b>40 mm</b>	<b>50 mm</b>	<b>63 mm</b>	<b>80 mm</b>	<b>100 mm</b>
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J
Cushioning length	16.5 mm	19 mm	17 mm	16.5 mm	19.5 mm	19.5 mm
Weight 10 mm stroke	0.022 kg	0.032 kg	0.047 kg	0.054 kg	0.085 kg	0.1 kg
Weight 0 mm stroke	0.5 kg	0.65 kg	1.06 kg	1.42 kg	2.37 kg	3.51 kg

<b>Piston Ø</b>	<b>125 mm</b>
Retracting piston force	7220 N
Extracting piston force	7725 N
Cushioning energy	140 J
Cushioning length	22 mm
Weight 10 mm stroke	0.15 kg
Weight 0 mm stroke	6.72 kg

Dimensions



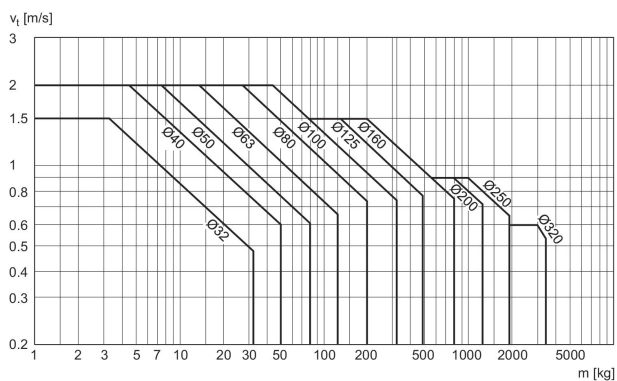
S = stroke  
\* Internal thread

Piston $\varnothing$	A -2	$\varnothing B$ d11	$\varnothing BA$ d11	BG min.	E	EE inch	EE	H	KK inch
32	22	30	30	16	46.5	1/8 NPT	G 1/8	47.5	7/16 - 20 UNF
40	24	35	35	16	53	1/4 NPT	G 1/4	53	1/2 - 20 UNF
50	32	40	40	16	65	1/4 NPT	G 1/4	65	3/4 - 16 UNF
63	32	45	45	16	75	3/8 NPT	G 3/8	75	3/4 - 16 UNF
80	40	45	45	17	95	3/8 NPT	G 3/8	95	3/4 - 16 UNF
100	40	55	55	17	115	1/2 NPT	G 1/2	115	3/4 - 16 UNF
125	54	60	60	20	140	1/2 NPT	G 1/2	140	1 - 14 UNF

Piston $\varnothing$	KK	KV	KW	$\varnothing MM$ f8	PL	L2	L3 $\pm 0,5$	L8	RT
32	M10x1,25	16	5	12	16	16.25	4.5	94 $\pm 0,4$	M6
40	M12x1,25	18	6	16	20	18.25	4.5	105 $\pm 0,7$	M6
50	M16x1,5	24	8	20	19	25	4.5	106 $\pm 0,7$	M8
63	M16x1,5	24	8	20	24	25	4.5	121 $\pm 0,8$	M8
80	M20x1,5	30	10	25	23.5	33	0	128 $\pm 0,8$	M10
100	M20x1,5	30	10	25	25	36	0	138 $\pm 1$	M10
125	M27x2	41	13.5	32	33	45	0	160 $\pm 1$	M12

Piston Ø	SW	TG	VA -1	VD	WH
32	10	32,5±0,5	4	5	26±1,4
40	13	38±0,5	4	5	30±1,4
50	17	46,5±0,6	4	5	37±1,4
63	17	56,5±0,7	4	5	37±1,8
80	22	72±0,7	4	5	46±1,8
100	22	89±0,7	4	5	51±1,8
125	27	110±1,1	6	7	65±2,2

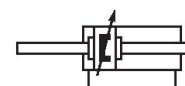
**Cushioning diagram**



$v_t$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Profile cylinder ISO 15552, Series PRA - inch**

Functional principle: Double-acting  
 Piston: Piston with magnet  
 Cushioning: Pneumatic adjustable cushioning  
 Piston rod: External thread  
 Piston rod: through  
 Compressed air connection: Internal thread  
 Ambient temperature min./max.: -20 °C ... 80 °C  
 Medium temperature min./max.: -20 °C ... 80 °C  
 Working pressure min./max.: 1.5 bar ... 10 bar



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Piston rod thread	7/16-20 UNF	1/2-20 UNF	3/4-16 UNF	3/4-16 UNF	3/4-16 UNF	3/4-16 UNF
Ports	1/8 NPT	1/4 NPT	1/4 NPT	3/8 NPT	3/8 NPT	1/2 NPT
Stroke 25.4	R480176152	R480176240	R480176332	R480176414	R480176507	R480176597
50.8	R480176160	R480176248	R480176341	R480176423	R480176517	R480176604
76.2	R480176173	R480176255	R480176348	R480176435	R480176519	R480176612
101.6	R480176175	R480176267	R480176356	R480176440	R480176533	R480176615
127	R480176182	R480176276	R480176359	R480176448	R480176535	R480176625
152.4	R480176191	R480176283	R480176366	R480176454	R480176542	R480176630
177.8	R480176204	R480176289	R480176378	R480176463	R480176555	R480176645
203.2	R480176212	R480176300	R480176389	R480176477	R480176559	R480176651
228.6	R480176214	R480176308	R480176391	R480176481	R480176573	R480176659
254	R480176226	R480176313	R480176404	R480176489	R480176577	R480176667
304.8	R480176236	R480176319	R480176408	R480176496	R480176582	R480176674

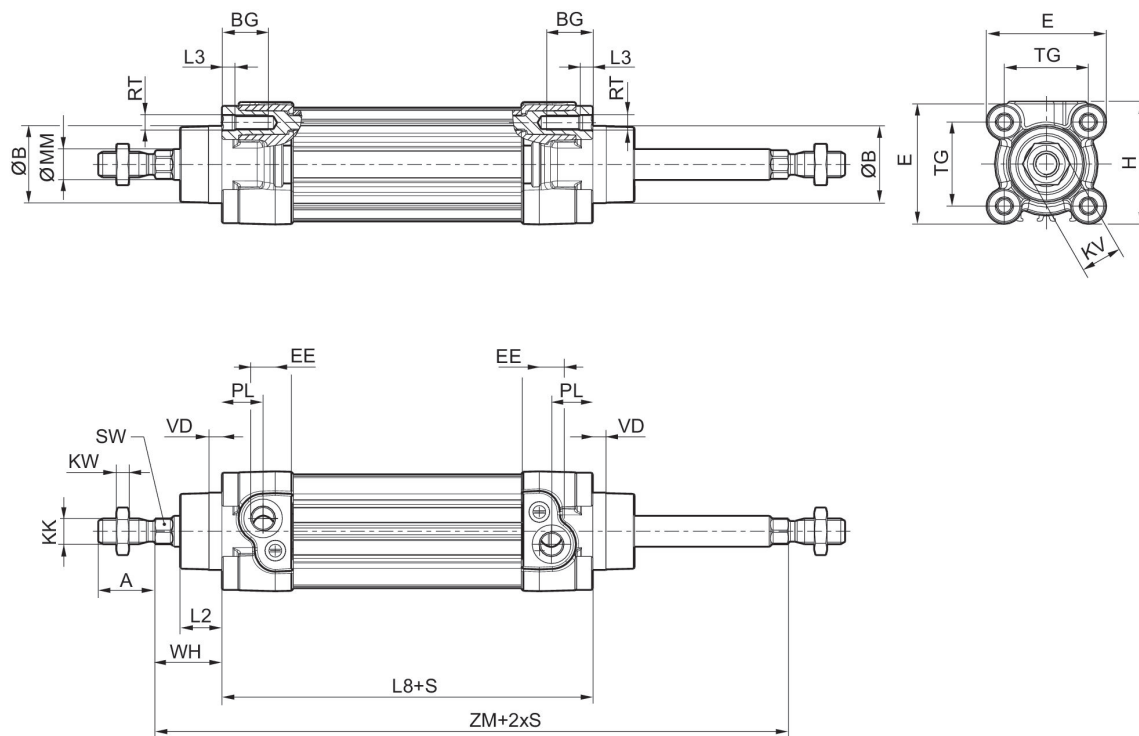
Piston Ø	125 mm
Piston rod thread	1-14 UNF
Ports	1/2 NPT
Stroke 25.4	R480176680
50.8	R480176693
76.2	R480176700
101.6	R480176706
127	R480176715
152.4	R480176724
177.8	R480176726
203.2	R480176740
228.6	R480176749
254	R480176750

Piston Ø	125 mm
Piston rod thread	1-14 UNF
Ports	1/2 NPT
304.8	R480176762

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Extracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J
Cushioning length	16.5 mm	19 mm	17 mm	16.5 mm	19.5 mm	19.5 mm
Weight 10 mm stroke	0.031 kg	0.048 kg	0.072 kg	0.079 kg	0.124 kg	0.139 kg
Weight 0 mm stroke	0.58 kg	0.8 kg	1.34 kg	1.72 kg	2.92 kg	4.08 kg

Piston Ø	125 mm
Retracting piston force	7220 N
Extracting piston force	7220 N
Cushioning energy	140 J
Cushioning length	22 mm
Weight 10 mm stroke	0.22 kg
Weight 0 mm stroke	8.92 kg

Dimensions



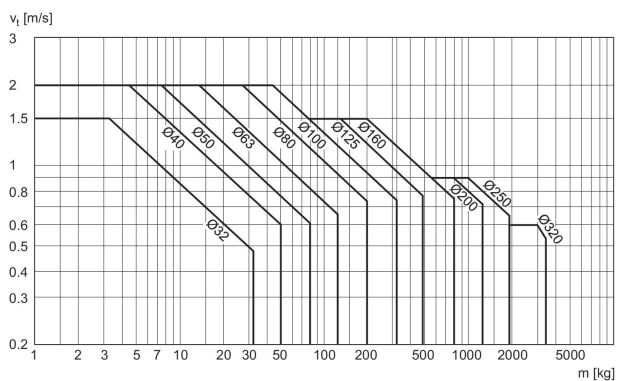
S = stroke

Piston Ø	A -2	ØB d11	BG min.	E	EE inch	EE	H	KK inch	KK
32	22	30	16	46.5	1/8 NPT	G 1/8	47.5	7/16 - 20 UNF	M10x1,25
40	24	35	16	53	1/4 NPT	G 1/4	53	1/2 - 20 UNF	M12x1,25
50	32	40	16	65	1/4 NPT	G 1/4	65	3/4 - 16 UNF	M16x1,5
63	32	45	16	75	3/8 NPT	G 3/8	75	3/4 - 16 UNF	M16x1,5
80	40	45	17	95	3/8 NPT	G 3/8	95	3/4 - 16 UNF	M20x1,5
100	40	55	17	115	1/2 NPT	G 1/2	115	3/4 - 16 UNF	M20x1,5
125	54	60	20	140	1/2 NPT	G 1/2	140	1 - 14 UNF	M27x2

Piston Ø	KV	KW	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW
32	16	5	12	16	16.25	4.5	94±0,4	M6	10
40	18	6	16	20	18.25	4.5	105±0,7	M6	13
50	24	8	20	19	25	4.5	106±0,7	M8	17
63	24	8	20	24	25	4.5	121±0,8	M8	17
80	30	10	25	23.5	33	0	128±0,8	M10	22
100	30	10	25	25	36	0	138±1	M10	22
125	41	13.5	32	33	45	0	160±1	M12	27

Piston Ø	TG	VD	WH	ZM
32	32,5±0,5	5	26±1,4	146+3/-1,5
40	38±0,5	5	30±1,4	165+3/-1,5
50	46,5±0,6	5	37±1,4	180+3/-1,5
63	56,5±0,7	5	37±1,8	195+3/-1,5
80	72±0,7	5	46±1,8	220+3/-1,5
100	89±0,7	5	51±1,8	240+3,5/-2
125	110±1,1	7	65±2,2	290+3,5/-2

**Cushioning diagram**



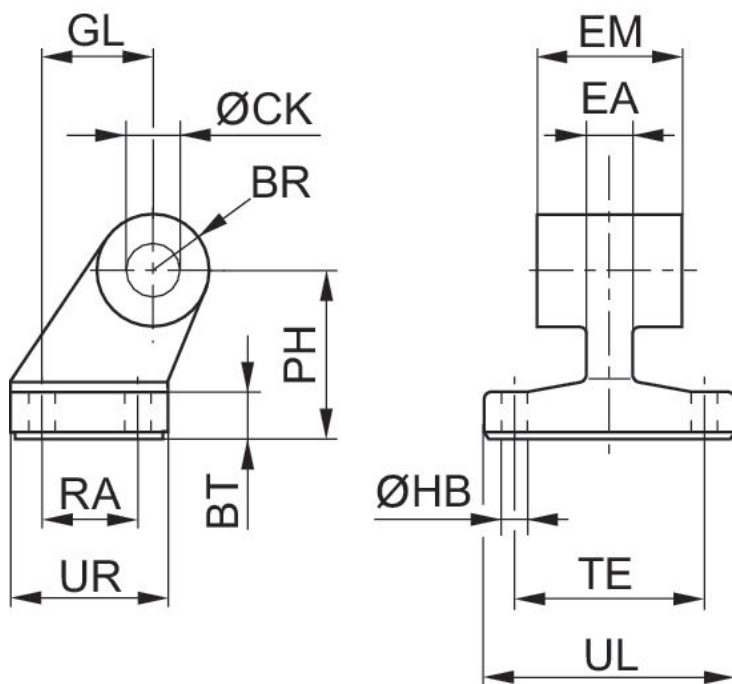
$v_1$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]

**Bearing block AB7-HD, Series CM1**



Piston diameter [mm]	Swivel bearing Ø [mm]	Standardization	Material	Part No.
32	10	ISO 15552	Nodular graphite iron	1825805275
40	12	ISO 15552	Nodular graphite iron	1825805276
50	12	ISO 15552	Nodular graphite iron	1825805277
63	16	ISO 15552	Nodular graphite iron	1825805278
80	16	ISO 15552	Nodular graphite iron	1825805279
100	20	ISO 15552	Nodular graphite iron	1825805280
125	25	ISO 15552	Nodular graphite iron	1825805281

Dimensions



Part No.	Piston Ø	BR	BT	Ø CK H9	Ø HB H13	EM	GL JS14	EA max.	PH JS15
1825805275	32	10	8	10	6.6	26 -0,2/-0,6	21	10	32
1825805276	40	11	10	12	6.6	28 -0,2/-0,6	24	12	36
1825805277	50	13	12	12	9	32 -0,2/-0,6	33	16	45
1825805278	63	15	12	16	9	40 -0,2/-0,6	37	16	50
1825805279	80	15	14	16	11	50 -0,2/-0,6	47	20	63
1825805280	100	19	15	20	11	60 -0,2/-0,6	55	20	71
1825805281	125	22,5	20	25	14	70 -0,5/-1,5	70	30	90
1825805282	160	31,5	25	30	14	90 -0,5/-1,5	97	36	115
1825805283	200	31,5	30	30	18	90 -0,5/-1,5	105	40	135
1825805284	250	40	35	40	22	110 -0,5/-1,5	128	45	165
5239013422	320	45	40	45	26	120 -0,5/-1,5	150	55	200

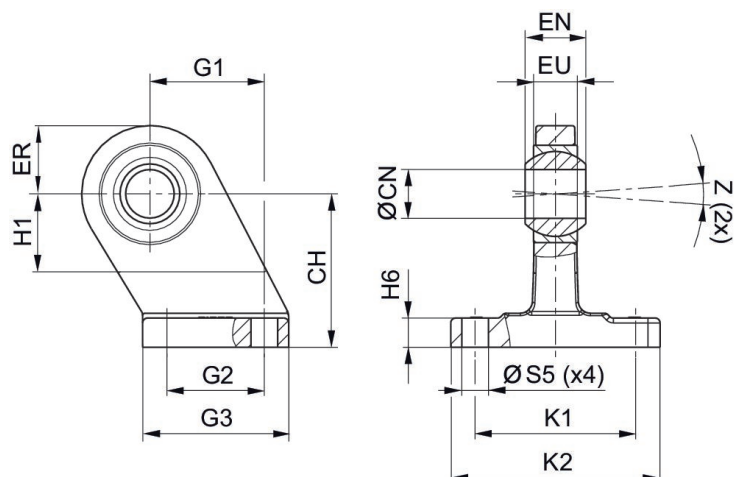
Part No.	RA JS14	TE JS14	UL max.	UR max.
1825805275	18	38	51	31
1825805276	22	41	54	35
1825805277	30	50	65	45
1825805278	35	52	67	50
1825805279	40	66	86	60
1825805280	50	76	96	70
1825805281	60	94	124	90
1825805282	88	118	156	126
1825805283	90	122	162	130
1825805284	110	150	200	160
5239013422	122	170	234	186

**Bearing block CS7, Series CM1**



Piston diameter [mm]	Swivel bearing Ø [mm]	Standardization	Material	Part No.
32	10	VDMA 24562 part 2	Nodular graphite iron	1827001784
40	12	VDMA 24562 part 2	Nodular graphite iron	1827001785
50	16	VDMA 24562 part 2	Nodular graphite iron	1827001786
63	16	VDMA 24562 part 2	Nodular graphite iron	1827001787
80	20	VDMA 24562 part 2	Nodular graphite iron	1827001788
100	20	VDMA 24562 part 2	Nodular graphite iron	1827001789
125	30	VDMA 24562 part 2	Nodular graphite iron	1827001790

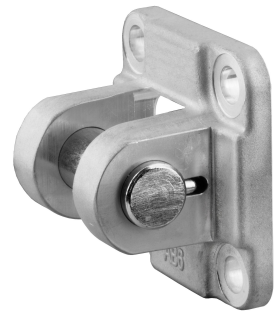
Dimensions



Piston Ø	Part No.	CH JS15	ØCN H7	EU max.	EN -1,0	ER max.	G1 JS14	G2 JS14	G3 max.
32	1827001784	32	10	10.5	14	16	21	18	31
40	1827001785	36	12	12	16	18	24	22	35
50	1827001786	45	16	15	21	21	33	30	45
63	1827001787	50	16	15	21	23	37	35	50
80	1827001788	63	20	18	25	28	47	40	60
100	1827001789	71	20	18	25	30	55	50	70
125	1827001790	90	30	25	37	40	70	60	90
160	1827001791	115	35	28	43	44	97	88	126
200	1827001792	135	35	28	43	47	105	90	130
250	1827001793	165	40	33	49	53	128	110	160
320	5239013442	200	50	45	60	63	150	122	186

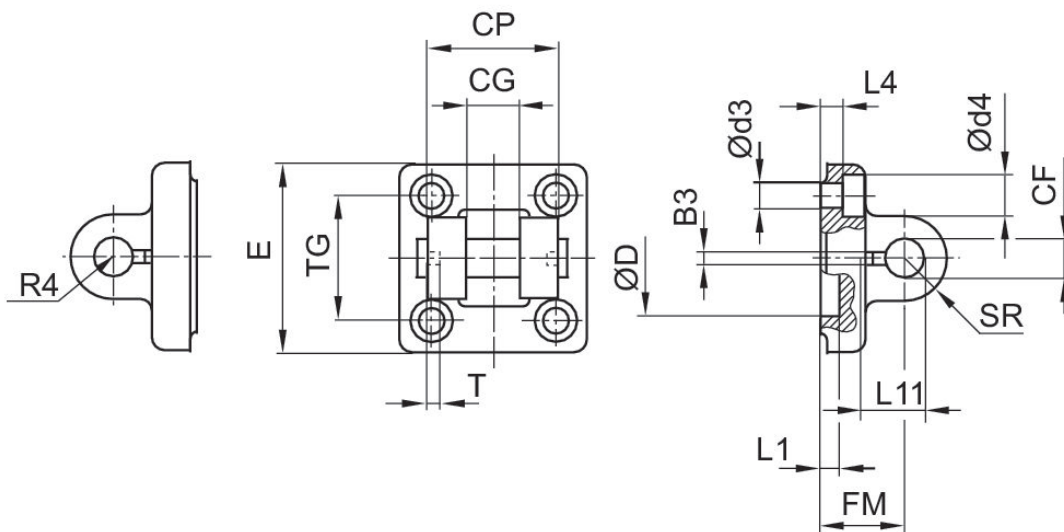
Piston Ø	H1 min.	H6	K1 JS14	K2 max.	ØS5 H13	Z min.
32	16	9 ±1	38	51	6.6	4°
40	20	9 ±1	41	54	6.6	4°
50	22	11 ±1	50	65	9	4°
63	27	11 ±1	52	67	9	4°
80	31	12 ±1,5	66	86	11	4°
100	38	13 ±1,5	76	96	11	4°
125	40	17 ±1,5	94	124	14	4°
160	45	22 ±1,5	118	156	14	4°
200	45	27 ±2	122	162	18	4°
250	50	31 ±2	150	200	22	4°
320	60	36 ±2	170	234	26	4°

**Clevis mounting AB6, Series CM1**



Piston diameter [mm]	Swivel bearing Ø [mm]	Standardization	Material	Part No.
32	10	ISO 15552	Aluminum	1827001593
40	12	ISO 15552	Aluminum	1827001594
50	16	ISO 15552	Aluminum	1827001595
63	16	ISO 15552	Aluminum	1827002024
80	20	ISO 15552	Aluminum	1827001597
100	20	ISO 15552	Aluminum	1827001598
125	30	ISO 15552	Aluminum	1827001599

Dimensions



Piston Ø	Part No.	B3 ±0,2	Ø CF F7	CG D10	CP d12	Ø d3	Ø d4	Ø D	E
32	1827001593	3.3	10	14	34	6.6	11	30	46
40	1827001594	4.3	12	16	40	6.6	11	35	52
50	1827001595	4.3	16	21	45	9	15	40	64
63	1827002024	4.3	16	21	51	9	15	45	74
80	1827001597	4.3	20	25	65	11	18	45	94
100	1827001598	4.3	20	25	75	11	18	55	113
125	1827001599	6.3	30	37	97	14	20	60	138
160	1827001600	6.3	35	43	122	18	26	65	180
200	1827001601	6.3	35	43	122	18	26	75	220
250	1827001602	8.3	40	49	125	22	33	90	280
320	5239013432	8.3	50	60	150	26	36	110	340

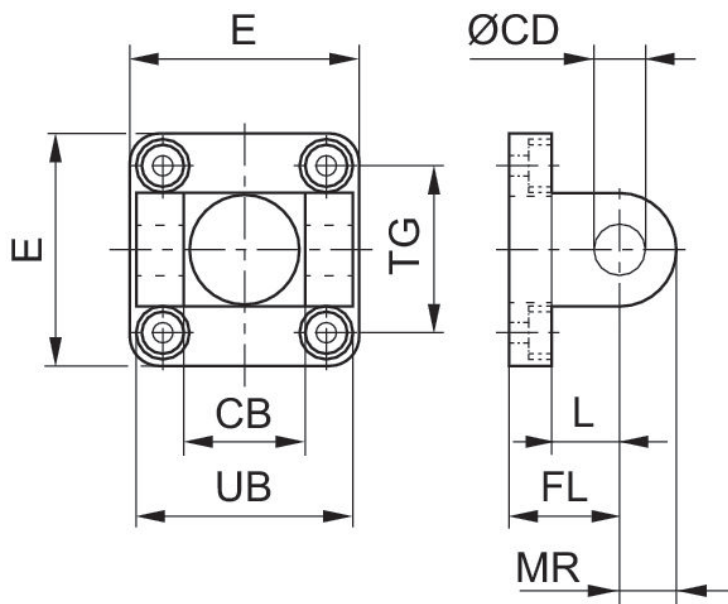
Piston Ø	FM ±0,2	L1 min.	L4 ±0,5	L11 -0,5	R4	SR	T ±0,2	TG
32	22	4.5	5.5	16.5	17	10	3	32,5 ±0,2
40	25	4.5	5.5	18	20	12	4	38 ±0,2
50	27	4.5	6.5	23	22	15	4	46,5 ±0,2
63	32	4.5	6.5	23	25	15	4	56,5 ±0,2
80	36	4.5	10	27	30	20	4	72 ±0,2
100	41	4.5	10	27	32	20	4	89 ±0,2
125	50	7	10	40	42	26	6	110 ±0,3
160	55	10	10	45	46	32.5	6	140 ±0,3
200	60	10	11	45	49	32.5	6	175 ±0,3
250	70	12	11	53	55	40	8	220 ±0,3
320	80	11	15	69	65	50	8	270 ±0,3

**Clevis mounting MP2-HD, Series CM1**



Piston diameter [mm]	Swivel bearing Ø [mm]	Standardization	Material	Part No.
32	10	ISO 15552	Aluminum	1827001289
40	12	ISO 15552	Aluminum	1827001290
50	12	ISO 15552	Aluminum	1827001291
63	16	ISO 15552	Aluminum	1827001500
80	16	ISO 15552	Aluminum	1827001293
100	20	ISO 15552	Aluminum	1827001294
125	25	ISO 15552	Aluminum	1827004862

Dimensions

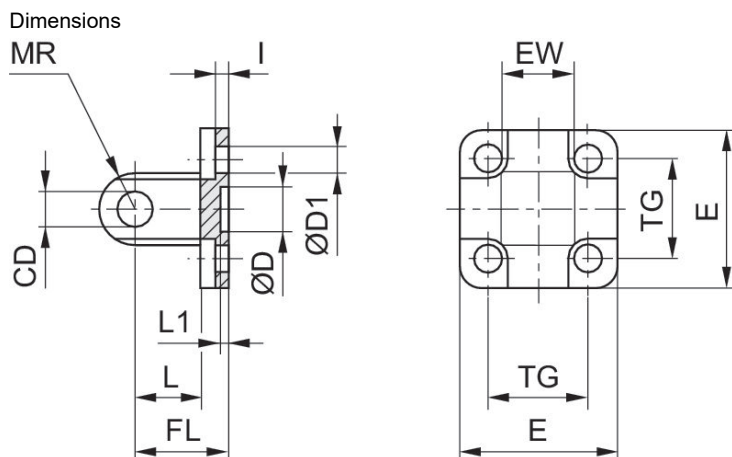


Piston Ø	Part No.	CB H14	Ø CD H9	E	FL ±0.2	L min.	MR max.	UB h13	TG
32	1827001289	26	10	47.5	22	12	10	45	32.5 ±0.2
40	1827001290	28	12	53.5	25	15	13	52	38 ±0.2
50	1827001291	32	12	64	27	15	13	60	46.5 ±0.2
63	1827001500	40	16	74	32	18	17	70	56.5 ±0.2
80	1827001293	50	16	94	36	20	17	90	72.0 ±0.2
100	1827001294	60	20	113.5	41	25	18	110	89.0 ±0.2
125	1827004862	70	25	138	50	30	26	130	110 ±0.3
160	1827004863	90	30	180	55	35	31	170	140 ±0.3
200	1827004864	90	30	220	60	35	31	170	175 ±0.3
250	1827004865	110	40	280	70	45	41	200	220 ±0.3
320	5239813402	120	45	350	80	50	45	220	270 ±0.3

**Rear eye MP4-HD, suitable for robust mechanical engineering applications**



Piston diameter [mm]	Swivel bearing Ø [mm]	Standardization	Material	Part No.
32	10	ISO 15552	Aluminum (forged)	1827001283
40	12	ISO 15552	Aluminum (forged)	1827001284
50	12	ISO 15552	Aluminum (forged)	1827001285
63	16	ISO 15552	Aluminum (forged)	1827020086
80	16	ISO 15552	Aluminum (forged)	1827001287
100	20	ISO 15552	Aluminum (forged)	1827001288
125	25	ISO 15552	Aluminum (forged)	1827004866



Piston Ø	Part No.	CD H9	Ø D	Ø D1	E	EW	FL ±0,2	I ±0,5	L min.
16	1825805368	6	10 H13	4.5	27	12 -0.2/-0.6	16	2.6	10
20	1827002300	8	12 H13	5.5	34	16 -0.2/-0.6	20	2.6	14
25	1827002301	8	12 H13	5.5	40	16 -0.2/-0.6	20	2.6	14
32	1827001283	10	30 H11	6.6	47.5	26 -0.2/-0.6	22	5.5	12
40	1827001284	12	35 H11	6.6	53.5	28 -0.2/-0.6	25	5.5	15
50	1827001285	12	40 H11	9	64	32 -0.2/-0.6	27	6.5	15
63	1827020086	16	45 H11	9	74	40 -0.2/-0.6	32	6.5	20
80	1827001287	16	45 H11	11	94	50 -0.2/-0.6	36	10	20
100	1827001288	20	55 H11	11	113.5	60 -0.2/-0.6	41	10	25
125	1827004866	25	60 H11	14	138	70 -0.5/-1.2	50	10	30
160	1827004867	30	65 H11	18	180	90 -0.5/-1.2	55	10	35
200	1827004868	30	75 H11	18	220	90 -0.5/-1.2	60	11	35
250	1827004869	40	90 H11	22	280	110 -0.5/-1.2	70	11	45
320	5239813412	45	110 H11	26	350	120 -0.5/-1.2	80	15	50

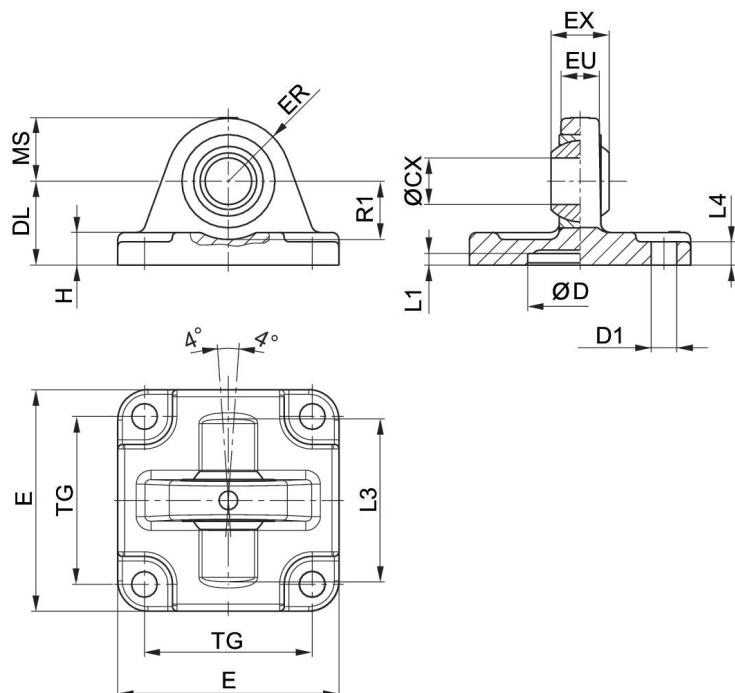
Piston Ø	L1 min.	MR max.	TG
16	3	6	18 ±0.2
20	3	8	22 ±0.4
25	3	8	26 ±0.4
32	4.5	10	32.5 ±0.2
40	4.5	12	38 ±0.2
50	4.5	12	46.5 ±0.2
63	4.5	16	56.5 ±0.2
80	4.5	16	72 ±0.2
100	4.5	20	89 ±0.2
125	7	26	110 ±0.3
160	7	31	140 ±0.3
200	7	31	175 ±0.3
250	11	41	220 ±0.3
320	11	45	270 ±0.3

**Rear eye MP6, with ball joint and foot, aluminum**



Piston diameter [mm]	Swivel bearing Ø [mm]	Standardization	Material	Part No.
32	10	ISO 15552	Aluminum (forged)	1827001619
40	12	ISO 15552	Aluminum (forged)	1827001620
50	16	ISO 15552	Aluminum (forged)	1827001621
63	16	ISO 15552	Aluminum (forged)	1827020087
80	20	ISO 15552	Aluminum (forged)	1827001623
100	20	ISO 15552	Aluminum (forged)	1827001624
125	30	ISO 15552	Aluminum (forged)	1827001625

Dimensions

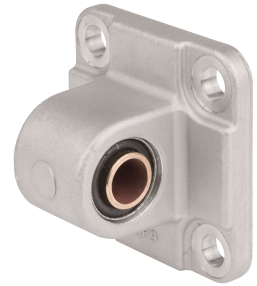


Scope of delivery: clevis incl. mounting screws

Piston Ø	Part No.	ØCX H7	ØD H11	ØD1 H13	DL ±0,2	E	EX -0,1	ER	EU
25	3663602000	10	18	5,5	20	40	9	14	8
32	3663603000	10	20	5,5	22	46	9	15	8
40	3663604000	12	30	6,6	28	55	12	17	9,5
52,5	3663605000	12	40	6,6	28	62	12	17	9,5
63	5220163442	10	-	7,5	29	45	14	15	10,5
75	3663606000	16	55	9	36	80	16	25	12,5
80	5220363442	12	-	10	26	65	16	18	12
80	3663608000	16	70	9	38	94	16	28	12,5
85, 95	5220463442	16	-	10	30	75	21	22	15
100	3663610000	20	90	11	43	114	20	35	16
115	5220563442	16	-	12	37,5	95	21	25	15

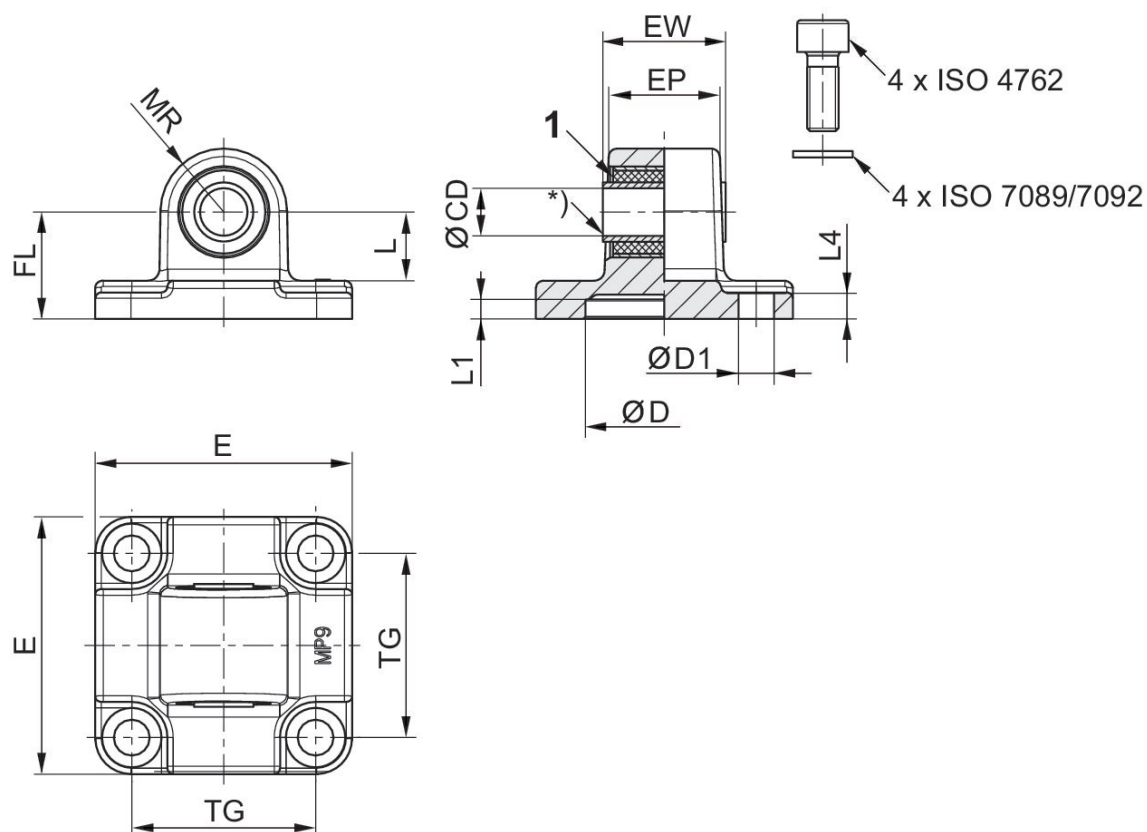
Piston Ø	H	L1 min.	L3	L4	MS -0,5	R1 min.	TG
25	6	3	-	3	14	-	26
32	6	0,5	42	6	15	16	32
40	8	0,5	48	8	17	16	32
52,5	9	0,5	55	9	17	18	46
63	8	-	-	-	-	-	33
75	11	0,5	70	11	25	21	59
80	10	-	-	-	-	-	49
80	12	0,5	80	12	28	21	73
85, 95	10	-	-	-	-	-	59
100	15	0,5	100	15	35	28	90
115	12	-	-	-	-	-	75

**Rear eye MP9, with rubber bushing**



Piston diameter [mm]	Swivel bearing Ø [mm]	Standardization	Material	Part No.
32	10	ISO 15552	Aluminum	3683203000
50	12	ISO 15552	Aluminum	3683205000
80	16	ISO 15552	Aluminum	3683208000
125	25	ISO 15552	Aluminum	R412015973

Dimensions

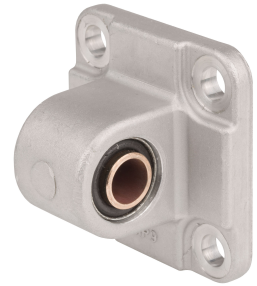


1) Rubber bushing

Piston Ø	Part No.	CD H11	CD H9	E	EW	EP	TG	TG1 ±0,2	FL ±0,2
32	3683203000	10	-	46	25.5	18,9	32.5	-	22
50	3683205000	-	12	65	31	28	46.5	-	27
50	3663205000	-	12	63	31		46		28
80	3663208000	-	16	95	49.5		73		38
80	3683208000	-	16	94.5	49.5	43	72	-	36
125	R412015973	-	25	138	69.5	60	110	-	50

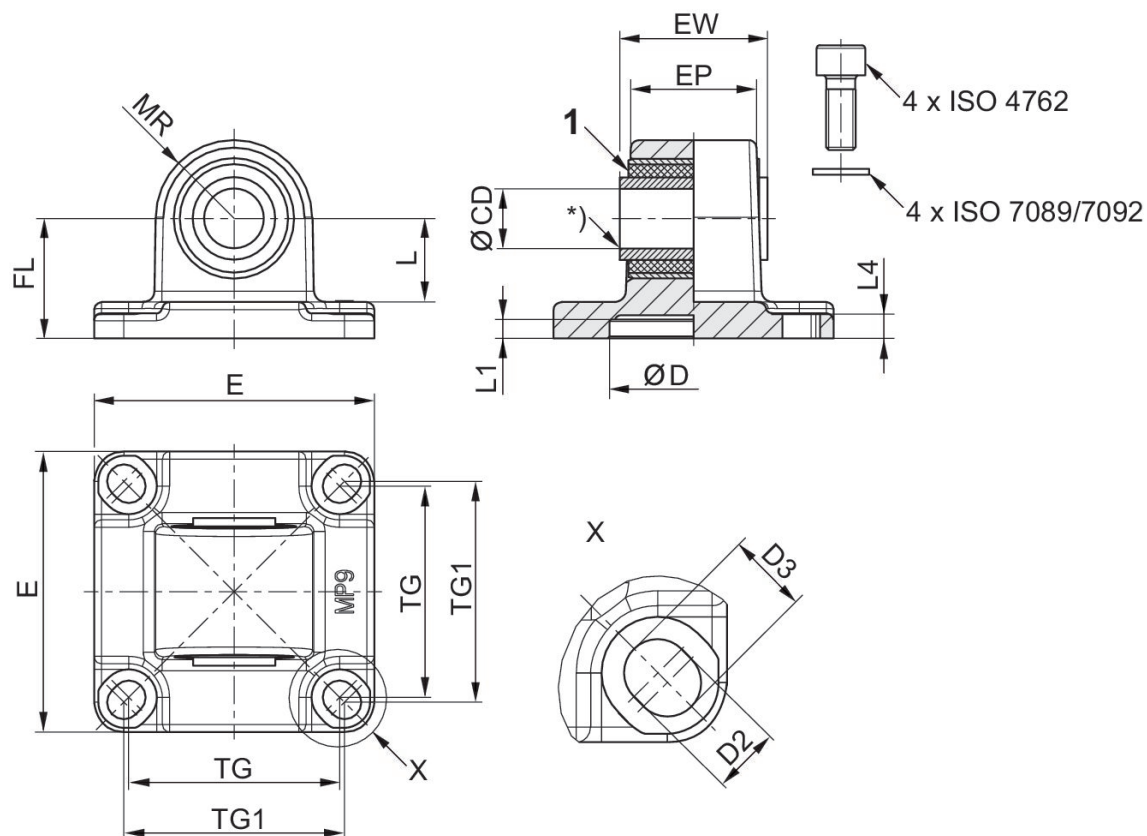
Piston Ø	L 1)	MR	L1	L4	D H11	D1 H13
32	13.8	12.5	5	5.5	30	6.6
50	17.3	16	5	6.5	40	9
50	15.5	18				
80	20.5	24				
80	21.8	22	5	10	45	11
125	33.8	34	7.5	10	60	13.5

**Rear eye MP9, with rubber bushing**



Piston diameter [mm]	Swivel bearing Ø [mm]	Standardization	Material	Part No.
40	12	ISO 15552	Aluminum	3683204000
63	16	ISO 15552	Aluminum	3683206000
100	20	ISO 15552	Aluminum	3683210000

Dimensions



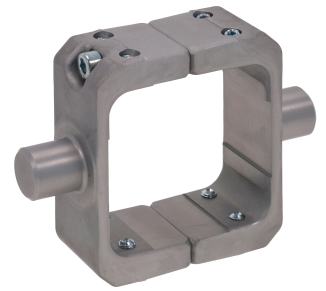
1) Rubber bushing

Piston Ø	Part No.	CD H11	CD H9	E	EW	EP	TG	TG1 ±0,2	FL ±0,2
25	3683202000	10	-	40	17.5	14,5	26	27	20
40	3683204000	-	12	53	27	23,5	38	40	25
63	3683206000	-	16	75	39.5	33.5	56.5	59	32
100	3683210000	-	20	114	59.5	54	89	90	41

Piston Ø	L 1)	MR	L1	L4	D H11	D2 -0,2	D3 -0,2
25	14.8	12,5	3	3	18	5,5	6,2
40	16.3	15	5	5.5	35	6.6	8
63	22.3	21	5	6.5	45	-	-
100	25.8	25	5	10	55	11	11.7

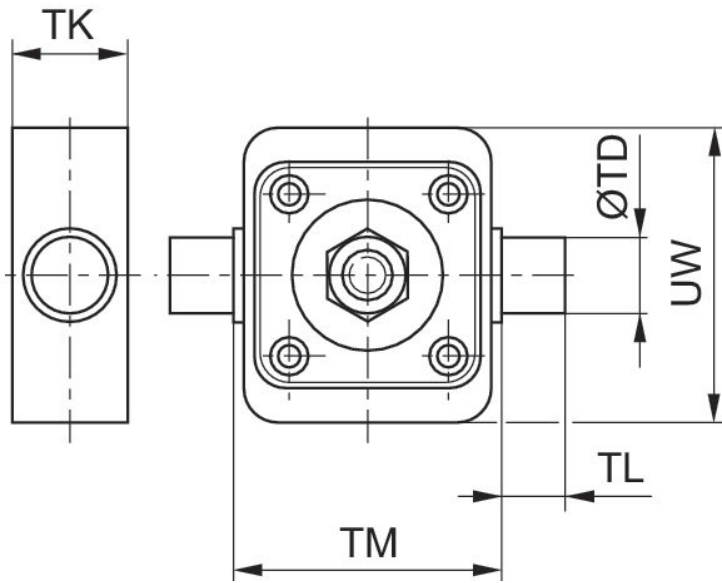
## Trunnion mounting MT4, Series CM1

For series: PRA



Piston diameter [mm]	Material	Part No.
32	Aluminum	1827003991
40	Aluminum	1827003992
50	Aluminum	1827003993
63	Aluminum	1827003994
80	Aluminum	1827003995
100	Aluminum	1827003996
125	Aluminum	1827003997

Dimensions



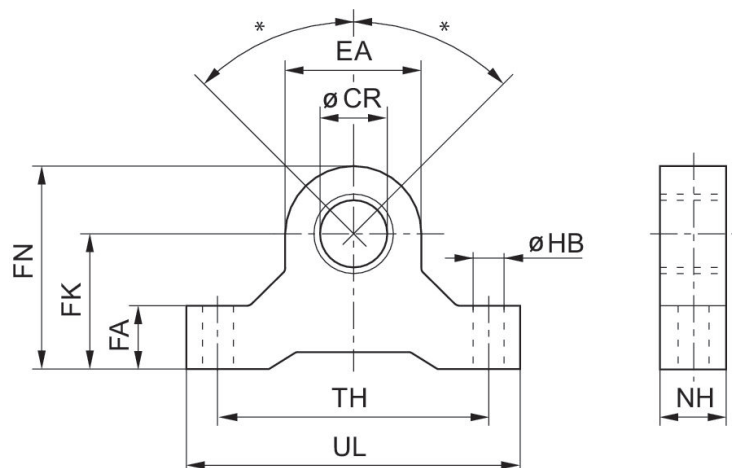
Piston Ø	Part No.	TD e9	TK max.	TL h14	TM h14	UW
32	1827003991	12	22	12	50	64
40	1827003992	16	27	16	63	72
50	1827003993	16	27	16	75	90
63	1827003994	20	35	20	90	102
80	1827003995	20	35	20	110	125
100	1827003996	25	46	25	132	147
125	1827003997	25	46	25	160	178

**Bearing, Series CM1**



Piston diameter [mm]	Swivel bearing Ø [mm]	Material	Part No.
32	12	Aluminum	3671203000
40, 50	16	Aluminum	3671204000
63, 80	20	Aluminum	3671206000
100, 125	25	Aluminum	3671210000

Dimensions



\* Max. pendulum movement for cylinders with rear eye MP6 with ball joint: ±45°

Piston Ø	Part No.	Ø CR H8	EA	FA	FK ±0,1	FN	HB	NH	TH
25	3671202000	10	16	10	21	29	5.5	10	27
32	3671203000	12	19	11	22	32	6.6	11	44
40, 50	3671204000	16	28	16	35	49	9	16	65
63, 80	3671206000	20	38	19	40	59	9	19	80
100, 125	3671210000	25	46	22	48	71	11	22	96
100	3671212000	30	56	28	57	88	13	28	114
160, 200	3671216000	32	66	32	70	103	17	32	140
250, 320	3671220000	35	66	32	70	103	17	32	140

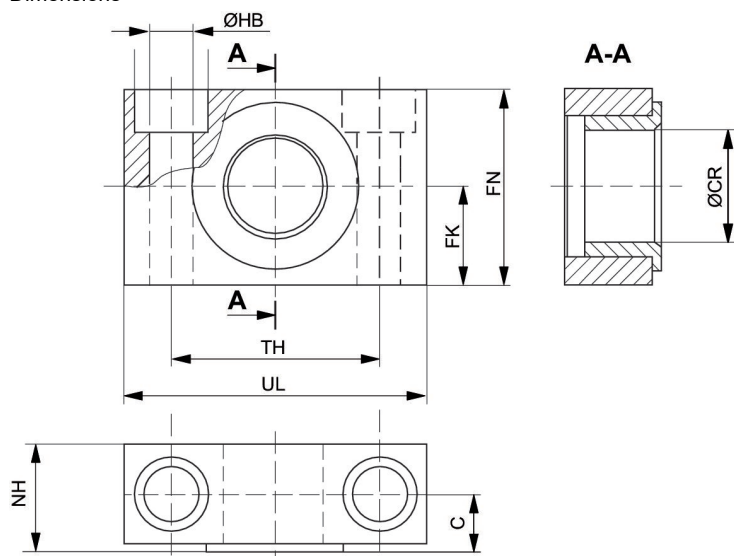
Piston Ø	UL
25	37
32	55
40, 50	82
63, 80	99
100, 125	118
100	142
160, 200	172
250, 320	172

**Bearing AT4, Series CM1**



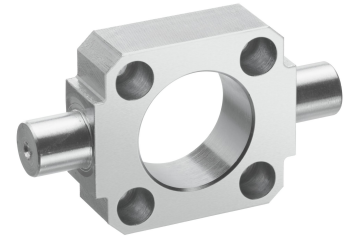
Piston diameter [mm]	Swivel bearing Ø [mm]	Standardization	Material	Part No.
20, 25, 32	12	ISO 15552	Steel, chrome-plated	1827001603
40, 50	16	ISO 15552	Steel, chrome-plated	1827001604
63, 80	20	ISO 15552	Steel, chrome-plated	1827001605
100, 125	25	ISO 15552	Steel, chrome-plated	1827001606

Dimensions



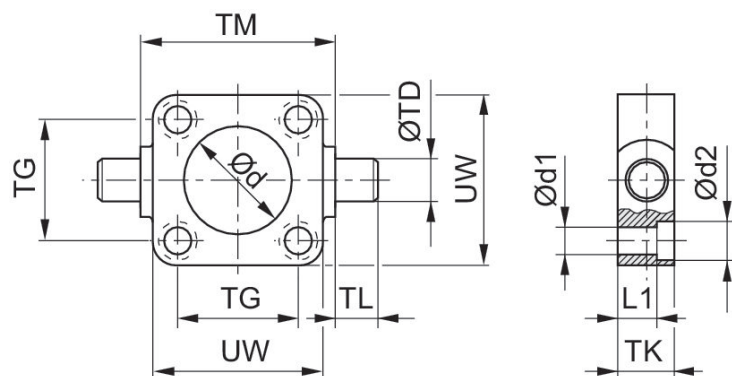
Piston Ø	Part No.	UL	NH	TH	C	CR H9	HB H13	FN	FK
20, 25, 32	1827001603	46	18	32 ±0,2	10.5	12	6.6	30	15 ±0,1
40, 50	1827001604	55	21	36 ±0,2	12	16	9	36	18 ±0,1
63, 80	1827001605	65	23	42 ±0,2	13	20	11	40	20 ±0,1
100, 125	1827001606	75	28.5	50 ±0,2	16	25	14	50	25 ±0,1
160, 200	1827001607	92	40	60 ±0,3	22.5	32	18	60	30 ±0,2
250	1827001608	140	50	90 ±0,3	27.5	40	22	70	35 ±0,2
320	R412018903	150	60	100	32.5	50	26	80	40

**Trunnion mounting MT5, MT6, Series CM1**



Piston diameter [mm]	Material	Part No.
32	Nodular graphite iron	1827001609
40	Nodular graphite iron	1827001610
50	Nodular graphite iron	1827001611
63	Nodular graphite iron	1827002046
80	Nodular graphite iron	1827001613
100	Nodular graphite iron	1827001614
125	Nodular graphite iron	1827001615

Dimensions



Piston Ø	Part No.	Ø d H11	Ø d1	Ø d2	L1	TD e9	TG ±0,2	TK	TL h14
20	1825805360	18	5.5	10	8	12	22	14	12
25	1825805361	22	5.5	10	8	12	26	14	12
25	R412026354	24	5.5	10	8	12	26	14	12
32	1825805362	32	6.6	10.5	7	12	32	14	12
32	1827001609	30	6.6	11	7.5	12	32.5	16	12
40	1825805363	46	6.6	11	12	16	42	19	16
40	1827001610	35	6.6	11	7.5	16	38	20	16
50	1825805364	53	9	14	10	16	50	19	16
50	1827001611	40	9	15	10	16	46.5	24	16
63	1825805365	69	9	15	15	20	62	24	20
63	1827002046	45	9	15	10	20	56.5	24	20
80	1825805366	87	11	18	13	20	82	24	20
80	1827001613	45	11	18	16	20	72	28	20
100	1825805367	55	11	18	18	25	103	29	25
100	1827001614	55	11	18	25.5	25	89	38	25
125	1827001615	60	14	20	34	25	110	46	25
160	1827001616	65	18	26	38	32	140	50	32
200	1827001617	75	18	26	40	32	175	60	32
250	1827001618	90	22	33	57	40	220	70	40

Piston Ø	TM h14	UW
20	38	35
25	42	39
25	42	39
32	52	46
32	50	48
40	63	59
40	63	56
50	75	69
50	75	65
63	90	84
63	90	75
80	110	102
80	110	100
100	132	125
100	132	120
125	160	145
160	200	184
200	250	224
250	320	286

**Flange mounting MF1, MF2, Series CM1**

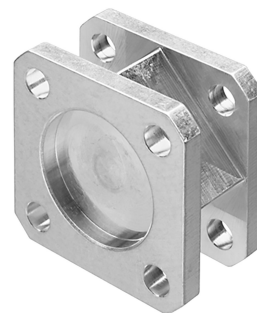


Piston diameter [mm]	Standardization	Material	Part No.
32	ISO 15552	Steel, chrome-plated	1827001277
40	ISO 15552	Steel, chrome-plated	1827001278
50	ISO 15552	Steel, chrome-plated	1827001279
63	ISO 15552	Steel, chrome-plated	1827001499
80	ISO 15552	Steel, chrome-plated	1827001281
100	ISO 15552	Steel, chrome-plated	1827001282
125	ISO 15552	Steel, chrome-plated	1827004861



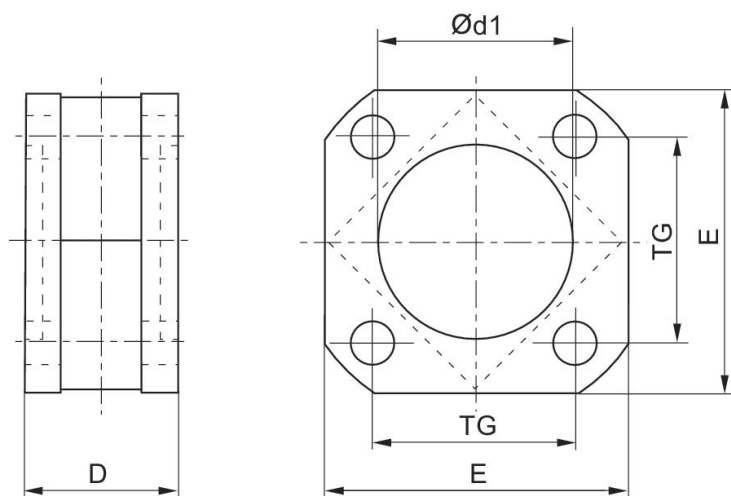
Piston Ø	TF	TG	UF
32	64	32,5 ±0,2	80
40	72	38 ±0,2	90
50	90	46,5 ±0,2	110
63	100	56,5 ±0,2	125
80	126	72 ±0,2	154
100	150	89 ±0,2	186
125	180	110 ±0,3	220
160	230	140 ±0,3	275
200	270	175 ±0,3	312
250	330	220 ±0,3	380
320	270	270 ±0,3	400

**Intermediate flange JP1, Series CM1**



Suitable piston Ø [mm]	Material	Part No.
32	Aluminum	1827020247
40	Aluminum	1827020248
50	Aluminum	1827020249
63	Aluminum	1827020250
80	Aluminum	1827020251
100	Aluminum	1827020252
125	Aluminum	1827020253

Dimensions



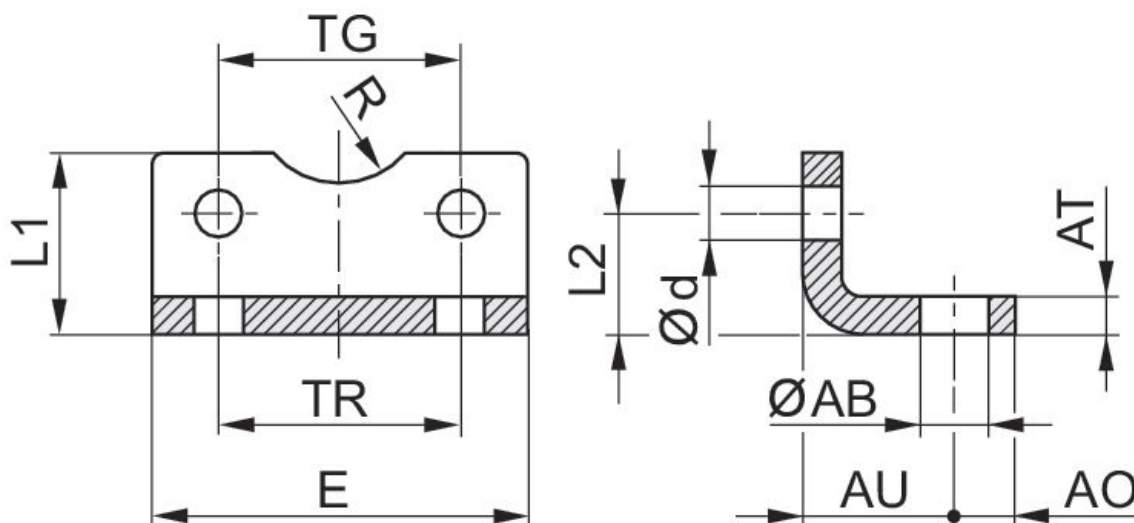
Piston Ø	Part No.	D	Ø d1 N7	E	TG
32	1827020247	27	30	47	32.5
40	1827020248	27	35	53	38
50	1827020249	32	40	65	46.5
63	1827020250	28	45	75	56.5
80	1827020251	38	45	95	72
100	1827020252	38	55	115	89
125	1827020253	44	60	140	110

**Foot mounting MS1, Series CM1**



Piston diameter [mm]	for series	Standardization	Material	Part No.
32	PRA/TRB, CCI, CVI	ISO 15552	Steel, chrome-plated	1827001271
40	PRA/TRB, CCI, CVI	ISO 15552	Steel, chrome-plated	1827001272
50	PRA/TRB, CCI, CVI	ISO 15552	Steel, chrome-plated	1827001273
63	PRA/TRB, CCI, CVI	ISO 15552	Steel, chrome-plated	1827001498
80	PRA/TRB, CCI, CVI	ISO 15552	Steel, chrome-plated	1827001275
100	CCI, PRA/TRB, CVI	ISO 15552	Steel, chrome-plated	1827001276
125	PRA/TRB, CVI	ISO 15552	Steel, chrome-plated	1827001310

Dimensions



Piston Ø	Part No.	ØAB H14	AO	AT	AU ±0,2	Ød H13	E	L1	L2
20	1827002284	6.6	6	4 ±0,5	16	5.4	36	22	16
25	1827002285	6.6	6	4 ±0,5	16	5.4	40	23	17
32	1827002286	6.6	8	5 ±0,5	18	6.6	50	24	16
32	1827001271	7	8	4 ±0,3	24	6.6	48	25	15,75
40	1827001272	10	10	4 ±0,3	28	6.6	56	26	17
50	1827001273	10	11	5 ±0,3	32	9	68	32	21.75
63	1827001498	10	13	5 ±0,3	32	9	78	34	21.75
80	1827001275	12	16	6 ±0,5	41	11	98	47	27
100	1827001276	14.5	19	6 ±0,5	41	11	117	52	26.5
125	1827001310	16.5	20	8 ±1,0	45	13.5	144	69	35
160	1827001457	18.5	23	10 ±1,0	60	17.5	185	100	45
200	1827001458	24	26	12 ±1,0	70	17.5	220	120	47.5
250	1827001459	28	33	20 ±1,0	75	22	280	135	55

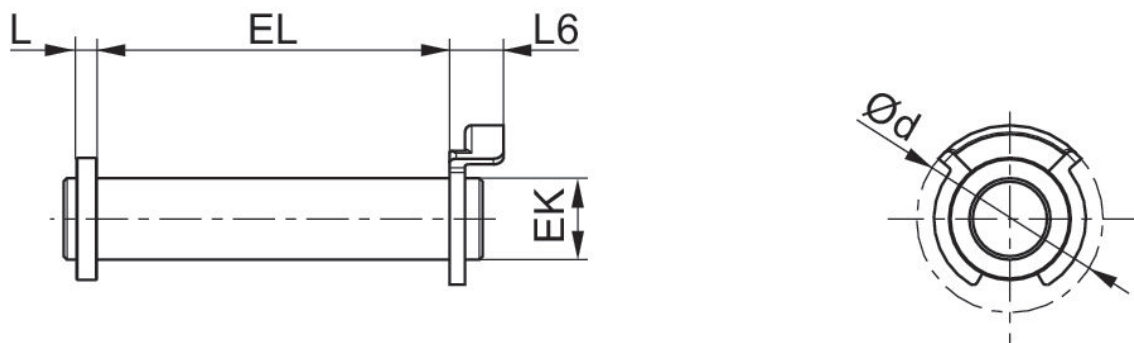
Piston Ø	R H15	TG	TR JS14
20	10	22 ±0,2	22
25	11	26 ±0,2	26
32	12	32 ±0,2	32
32	15	32,5 ±0,2	32
40	17.5	38 ±0,2	36
50	20	46.5 ±0,2	45
63	22.5	56.5 ±0,2	50
80	22.5	72 ±0,2	63
100	27.5	89 ±0,2	75
125	30	110 ±0,3	90
160	32.5	140 ±0,3	115
200	37.5	175 ±0,3	135
250	45	220 ±0,3	165

**Bolts AA4, Series CM1**



Piston diameter [mm]	Material	Surface	Part No.
32	Steel, chrome-plated	galvanized	1823120020
40	Steel, chrome-plated	galvanized	1823120021
50	Steel, chrome-plated	galvanized	1823120022
63	Steel, chrome-plated	galvanized	1823120023
80	Steel, chrome-plated	galvanized	1823120024
100	Steel, chrome-plated	galvanized	1823120025

Dimensions



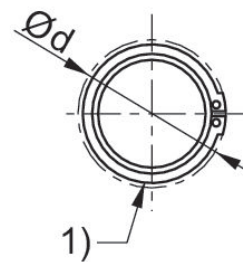
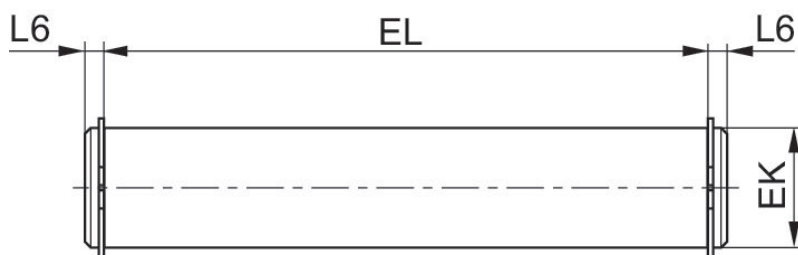
Piston Ø	Part No.	Ø d max.	EK e8	EL	L max.	L6 max.
32	1823120020	20	10	45.2 +0,3	3.5	9
40	1823120021	22	12	52.2 +0,3	4	9
50	1823120022	22	12	60.2 +0,3	4	9
63	1823120023	28	16	70.2 +0,3	4.5	11
80	1823120024	28	16	90.2 +0,3	4.5	11
100	1823120025	38	20	110.2 +0,3	5	11

**Bolts AA4, Series CM1**



Piston diameter [mm]	Standardization	Material	Surface	Part No.
125	ISO 15552	Steel, chrome-plated	galvanized	5236000092

Dimensions



1) circlip DIN 471

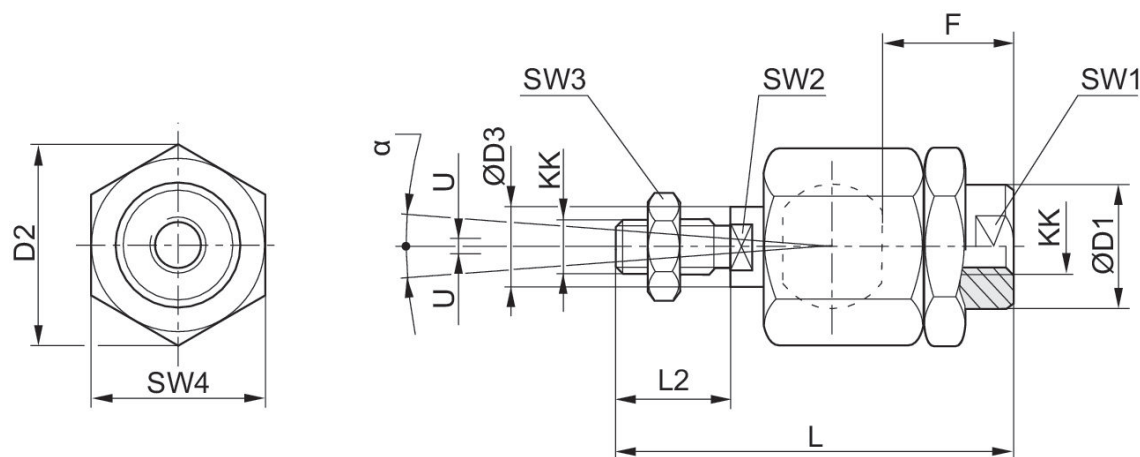
Piston Ø	Part No.	Ø d max.	EK e8	EL	L6 max.
25, 30	3661302000	19	10	29.2	2.4
40, 50	3661303000	21	12	34.4	2.8
63, 80	3661304000	28	16	48.4	2.8
100	3661306000	40	20	58.4	3.3
125	5236000092	34.2	25	132 +0,5	3.75
160, 200	5237000092	40.5	30	172 +0,5	4.25
250	5239000092	52.6	40	202 +0,5	6.75
320	5239010092	59.1	45	222 +0,5	7.25

**Flexible spherical coupling, Series PM5**



Suitable piston rod thread	for series	Weight [kg]	Part No.
M10x1,25	PRA/TRB, CCL-IC/-IS, CCI, SSI, KPZ, 167, CVI, RPC	0.21	R412026142
M12x1,25	PRA/TRB, CCL-IC/-IS, CCI, SSI, KPZ, 167, CVI, RPC	0.21	R412026143
M16x1,5	PRA/TRB, CCL-IC/-IS, CCI, KPZ, 167, CVI, RPC, RDC	0.65	R412026144
M20x1,5	PRA/TRB, CCL-IS, SSI, KPZ, 167, CVI	0.68	R412026145
M27x2	PRA/TRB, CCL-IS, CVI	1.7	1826409006

Dimensions



\* Radial joint

Part No.	KK	Ø D1	D2	Ø D3	F	L ±2	L2	SW1	SW2
1826409008	M4	12	13.5	4	13	33	8	12	3.2
R412007860	M5	8.5	14.8	6	12	38.5	13.5	7	5
R412026140	M6x1	8.5	14.5	6	11	36.5	11	7	5
R412026141	M8x1.25	12.5	19	8	21	58	21	11	7
R412026142	M10x1.25	22	32	14	23	74.5	23	19	12
R412026143	M12x1.25	22	32	14	24	75	24	19	12
R412026144	M16x1.5	32	45	22	30	103	30	30	20
R412026145	M20x1.5	32	45	22	40	119	40	30	20
1826409006	M27x2	62	62	28	48	147	54	32	24
1826409007	M36x2	80	80	38	86	241	72	50	32
R412007729	M42x2	64	98	42	96	271	82	60	36

Part No.	SW3	SW4	U	α [°]	1)
1826409008	7	11	0,5	8	0.05-0.2
R412007860	8	13	0,5	8	0.05-0.2
R412026140	10	13	0,7	6	0.05-0.5
R412026141	13	17	0,7	8	0.05-0.5
R412026142	17	30	1	8	0.05-0.5
R412026143	19	30	1	7	0.05-0.5
R412026144	24	41	1	6	0.05-0.5
R412026145	30	41	1	6	0.05-0.5
1826409006	41	55	1	8	0.05-0.2
1826409007	55	75	1	8	0.05-0.2
R412007729	65	85	1	8	0.05-0.2

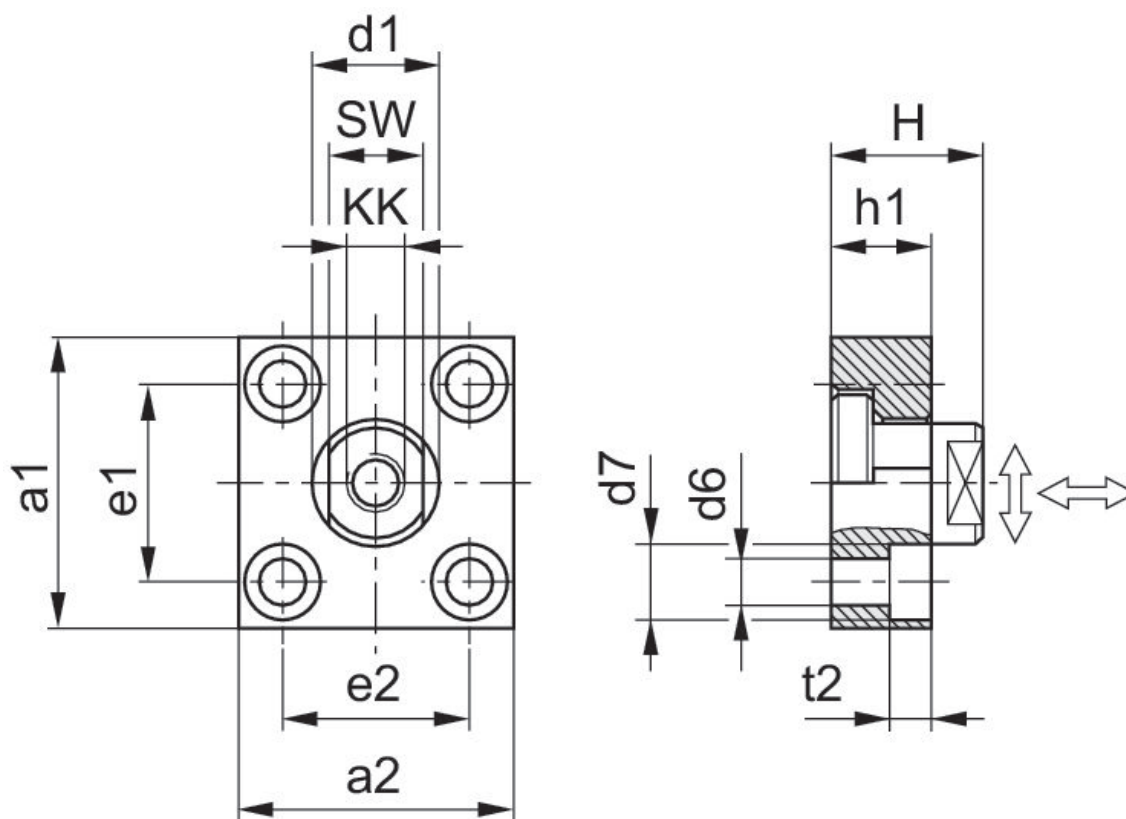
1) Axial play

**Flexible plate coupling, Series PM7**



Suitable piston rod thread	for series	Weight [kg]	Part No.
M10x1,25	PRA/TRB, CCL-IC/-IS, CCI, SSI, KPZ, 167, RPC	0.3	1827001629
M12x1,25	PRA/TRB, CCL-IC/-IS, CCI, SSI, KPZ, 167, RPC	0.4	1827001630
M16x1,5	PRA/TRB, CCL-IC/-IS, CCI, SSI, KPZ, 167, RPC	0.9	1827001631
M20x1,5	PRA/TRB, CCL-IS, SSI, KPZ, CVI, 167	1.15	1827001632
M27x2	PRA/TRB, CCL-IS, CVI	1.1	1827001633
M36x2	ITS	3.4	1827001634

Dimensions



Part No.	KK	a1	a2	d1 h11	d6 H13	d7 H13	e1 H13	e2	h1
1827001629	M10x1.25	60	37	20	6.6	11	36 ±0,15	23 ±0,15	15
1827001630	M12x1.25	60	56	25	9	15	42 ±0,2	38 ±0,2	20
1827001631	M16x1.5	80	80	30	11	18	58 ±0,2	58 ±0,2	20
1827001632	M20x1.5	90	90	40	14	20	65 ±0,3	65 ±0,3	20
1827001633	M27x2	90	90	40	14	20	65 ±0,3	65 ±0,3	20
1827001634	M36x2	125	125	60	18	26	90 ±0,3	90 ±0,3	30

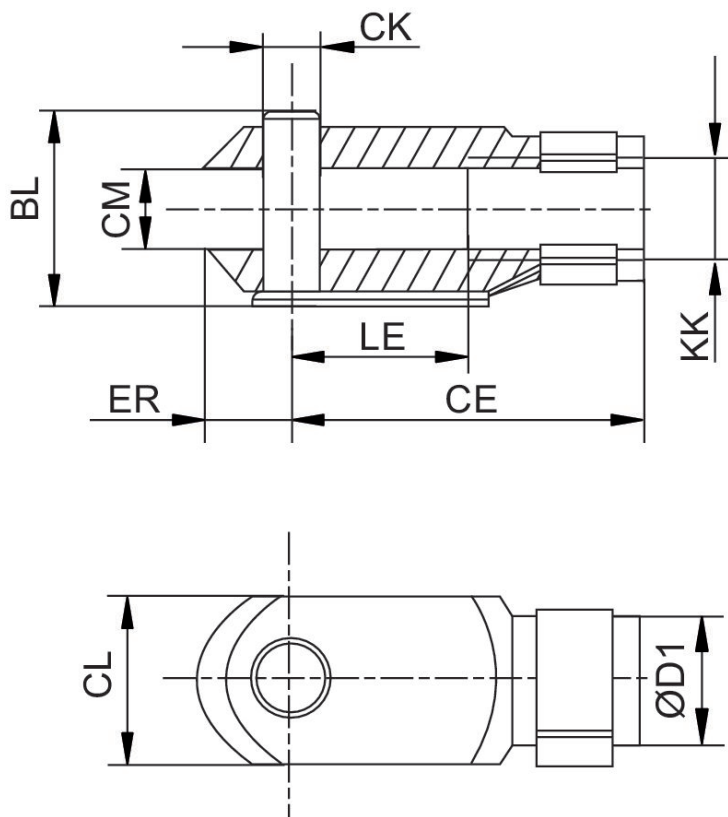
Part No.	t2	H	SW	Tightening torque for the coupling pin $M_a \pm 5\%$	Axial play min./max.	Radial play min./max.
1827001629	7	24	17	17 Nm	0,4 - 0,8 mm	1,9 - 2,3 mm
1827001630	9	30	19	29 Nm	0,4 - 0,8 mm	1,9 - 2,3 mm
1827001631	11	32	24	71 Nm	0,4 - 0,8 mm	1,9 - 2,3 mm
1827001632	13	35	36	138 Nm	0,4 - 0,8 mm	1,9 - 2,3 mm
1827001633	13	35	36	350 Nm	0,4 - 20,31 mm	1,9 - 2,3 mm
1827001634	17	55	50	1080 Nm	0,4 - 0,95 mm	2,8 - 3,4 mm

**Rod clevis with lock washer, Series AP2, Galvanized Steel**



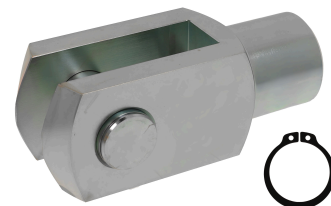
Suitable piston rod thread	for series	Weight [kg]	Part No.
M10x1,25	PRA, TRB, CCI, MNI, ICM, KPZ, 167, CVI, RPC, RDC	0.1	1822122024
M12x1,25	PRA, TRB, CCI, KPZ, 167, CVI, RPC, 102	0.16	1822122025
M16x1,5	PRA, TRB, CCI, KPZ, 167, CVI, RPC, RDC, 102	0.4	1822122005
M20x1,5	PRA, TRB, KPZ, 167, CVI, 102	0.7	1822122004

Dimensions



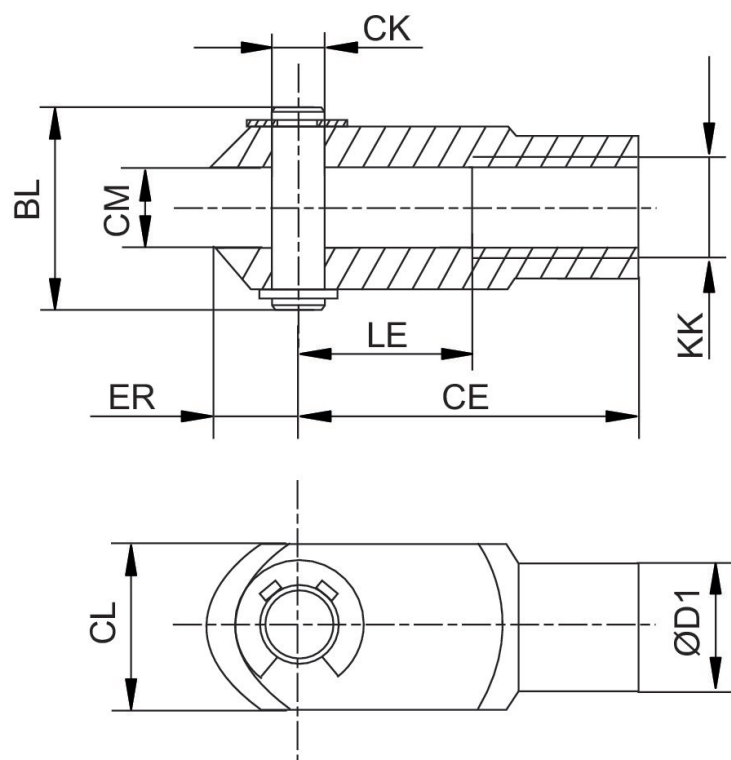
Part No.	BL	CE	ØCK h11	CL	CM	ØD1	ER	KK	LE
1822122028	11	16	4	8	4	8	5	M4	8
1822122008	13.5	20	5	10	5	9	6	M5	10
1822122009	16	24	6	12	6	10	7	M6	12
1822122010	21,5	32	8	16	8	14	10	M8	16
8958000122	26	40	10	20	10	18	12	M10	20
1822122024	26	40	10	20	10	18	12	M10x1,25	20
8958000132	31	48	12	24	12	20	14	M12	24
1822122025	31	48	12	24	12	20	14	M12x1,25	24
1822122005	39	64	16	32	16	26	19	M16x1,5	32
1822122004	50	80	20	40	20	34	20	M20x1,5	40

**Rod clevis with circlip, Series AP2**



Suitable piston rod thread	for series	Weight [kg]	Part No.
M27x2	PRA, TRB, CCL-IS, 167, CVI	2	1827001493

Dimensions



Part No.	BL	CE	ØCK	CL	CM	ØD1	ER	KK	LE
1827001493	68	110	30 *	55	30	48	38	M27x2	54
1827001471	80	144	35 *	70	35	60	44	M36x2	72
1827001472	98	168	40 **	85	40	70	64	M42x2	84

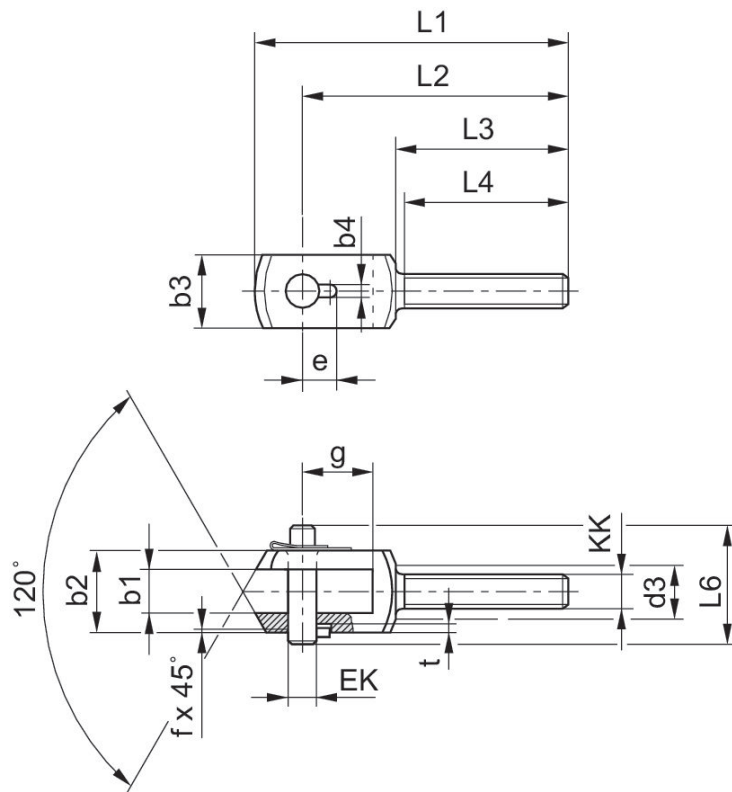
\* ØCK h11  
\*\* ØCK f8

**Rod clevis, Series PM6**



for series	Swivel bearing Ø [mm]	Part No.
AP6	14	1822122032
AP6	16	1822122033
AP6	21	1822122034
AP6	25	1822122035
AP6	30	1822122036

Dimensions



Part No.	b1 B12	b2 d12	b3	b4 +0,2	d3	e +0,3	EK	f	g
1822122032	14	28	20	3.3	17	11.5	10	0.7	20
1822122033	16	30	25	4.3	19	12	12	1	26
1822122034	21	40	35	4.3	24	14	16	1	31
1822122035	25	50	40	4.3	30	16	20	1	43
1822122036	37	67	60	6.3	38	24	30	1.5	54

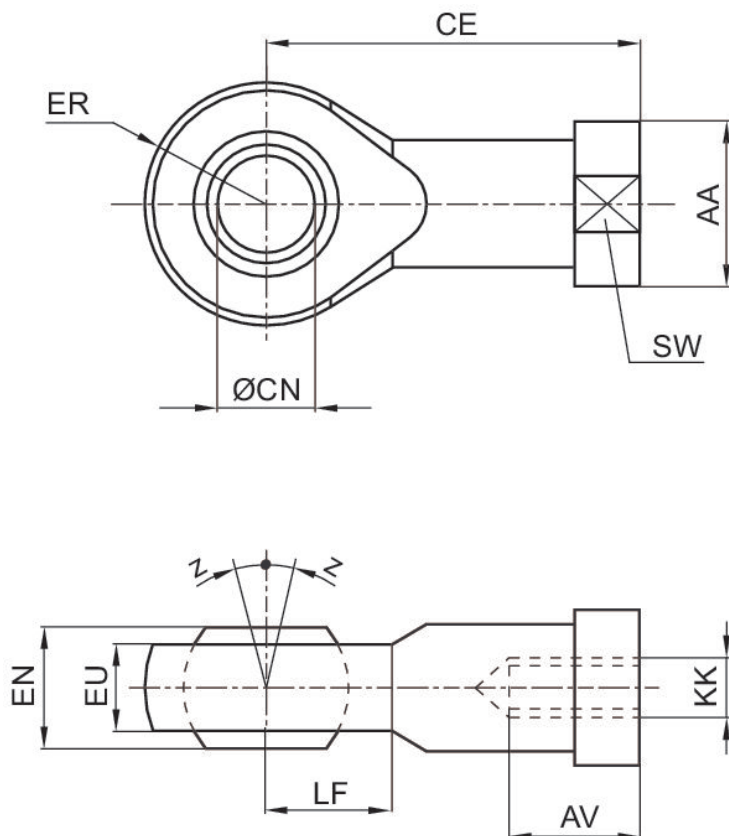
Part No.	L1	L2	L3	L4 +1	L6	KK	t +0,2
1822122032	90	78	53	50	35	14	3
1822122033	108	92	58	55	39	16	3
1822122034	129	108	65	62	50	21	3
1822122035	156	131	73	69	60	25	3
1822122036	200	168	98	92	77	30	5

**Ball eye rod end AP6, galvanized Steel**



Suitable piston rod thread	for series	Swivel bearing Ø [mm]	Weight [kg]	Part No.
M10x1,25	PRA, TRB, MNI, CCI, SSI, RPC, KPZ, 167, CVI, RDC	10	0.07	1822124003
M12x1,25	PRA, TRB, CCI, SSI, RPC, KPZ, 167, CVI, 102	12	0.12	1822124004
M16x1,5	PRA, TRB, CCI, SSI, RPC, KPZ, 167, CVI, RDC, 102	16	0.21	1822124005
M20x1,5	PRA, TRB, KPZ, 167, CVI, 102	20	0.38	1822124006
M27x2	PRA, TRB, 167, CVI	30	1.17	1822124013

Dimensions



KK	Part No.	AA	AV min.	CE	Ø CN H7	EN -0,1	ER	EU max.	LF
M4	1822124000	12	8	27	5	8	9	7.5	9
M6	1822124001	13	9	30	6	9	10	7.5	10
M8	1822124002	16	12	36	8	12	12	9.5	12
M10	8958206402	19	20	43	10	14	14	10.5	13
M12	8958208852	22	22	50	12	16	16	12	16
M10x1,25	1822124003	19	15	43	10	14	14	11.5	14
M12x1,25	1822124004	22	18	50	12	16	16	12.5	16
M16x1,5	1822124005	27	24	64	16	21	21	15.5	21
M20x1,5	1822124006	34	30	77	20	25	25	18.5	25
M24x2	8958208002	42	36	94	25	31	30	23	30
M27x2	1822124013	50	45	110	30	37	35	27	35
M36x2	1822124008	60	56	125	35	43	40	32	40
M42x2	1822124009	69	60	142	40	49	45.5	37	45
M48x2	8958208842	75	65	160	50	60	58	45	60

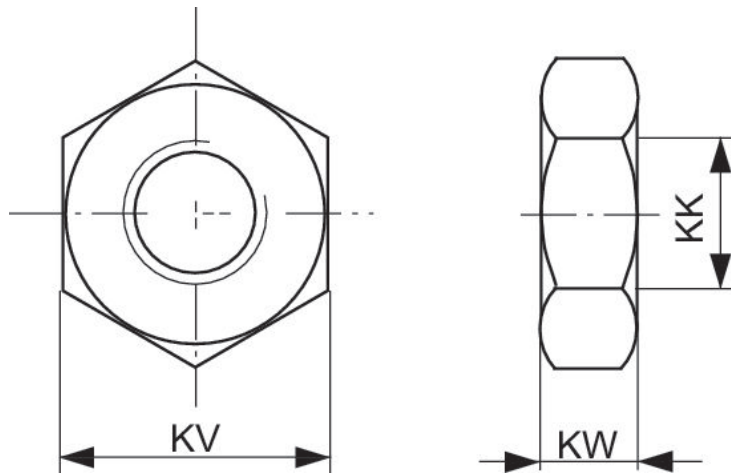
KK	SW	Z [°] max.
M4	9	4
M6	11	4
M8	14	4
M10	17	6
M12	19	13
M10x1,25	17	4
M12x1,25	19	4
M16x1,5	22	4
M20x1,5	30	4
M24x2	36	15
M27x2	41	4
M36x2	50	4
M42x2	55	4
M48x2	65	6

**Piston rod nut MR9**



Thread size	Material	Part No.
M10x1,25	Steel, chrome-plat- ed	1823A00020
M12x1,25	Steel, chrome-plat- ed	8103190344
M16x1,5	Steel, chrome-plat- ed	1823300030
M20x1,5	Steel, chrome-plat- ed	1823300031
M27x2	Steel, chrome-plat- ed	1823A00029
M36x2	Steel, chrome-plat- ed	8103190414
M42x2	Steel, chrome-plat- ed	8103190424

Dimensions

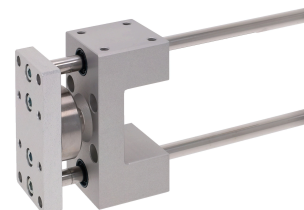


Part No.	KK	KV	KW
8103040114	M4		
1823300033	M6	10	3.2
1823300034	M8	13	4
8103040224	M10	17	8
1823A00020	M10x1,25		
8103060064	M12	19	10
1823A00021	M12x1,25	19	6
8103190344	M12x1,25	19	6
1823300030	M16x1,5	24	8
1823300031	M20x1,5	30	10
8103040344	M20x1,5	30	10
8103190394	M24x2	36	12
1823A00029	M27x2	41	13.5
8103190414	M36x2	50	16
8103190424	M42x2	60	21
8103190434	M48x2	65	25
3330310000	M4	7	2.2
8103190644	M6	10	3.2
3330316000	M6		
8103190164	M8	13	4
3330320000	M8		
8103190464	M10x1,25	17	5
3590302000	M10x1,25		
3590304000	M12x1,25	19	6
3590305000	M16x1,5	24	8
3590308000	M20x1,5	30	10
2990600303	M10x1,25	17	5
2990600304	M12x1,25	19	6
2990600305	M16x1,5	24	8
2990600308	M20x1,5	30	10
2990600312	M27x2	41	13.5
2990600316	M36x2	50	16
2990600325	M42x2	60	21

**Guide unit GU1, Series CG1**

Bearing type: Plain bearing

Ambient temperature min./max.: -20 °C ... 80 °C

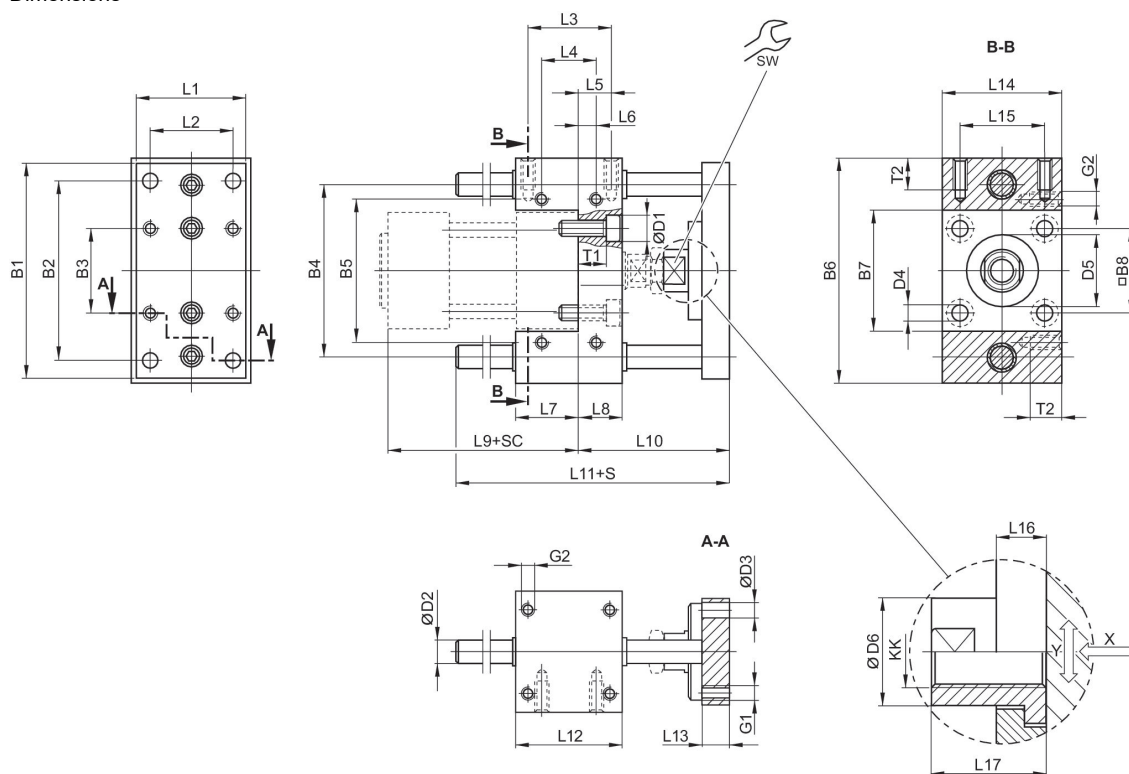


Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
32	50	0.63	0.0122	0821401010
32	100	0.63	0.0122	0821401011
32	160	0.63	0.0122	0821401012
32	200	0.63	0.0122	0821401013
32	250	0.63	0.0122	0821401014
32	320	0.63	0.0122	0821401015
32	400	0.63	0.0122	0821401016
32	500	0.63	0.0122	0821401017
32	600	0.63	0.0122	0821401018
32	800	0.63	0.0122	0821401019
32	1000	0.63	0.0122	0821401500
32	1200	0.63	0.0122	0821401501
40	50	0.946	0.0176	0821401020
40	100	0.946	0.0176	0821401021
40	160	0.946	0.0176	0821401022
40	200	0.946	0.0176	0821401023
40	250	0.946	0.0176	0821401024
40	320	0.946	0.0176	0821401025
40	400	0.946	0.0176	0821401026
40	500	0.946	0.0176	0821401027
40	600	0.946	0.0176	0821401028
40	800	0.946	0.0176	0821401029
40	1000	0.946	0.0176	0821401502
40	1200	0.946	0.0176	0821401503
50	50	1.36	0.0176	0821401030
50	100	1.36	0.0176	0821401031
50	160	1.36	0.0176	0821401032
50	200	1.36	0.0176	0821401033
50	250	1.36	0.0176	0821401034
50	320	1.36	0.0176	0821401035

Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
50	400	1.36	0.0176	0821401036
50	500	1.36	0.0176	0821401037
50	600	1.36	0.0176	0821401038
50	800	1.36	0.0176	0821401039
50	1000	1.36	0.0176	0821401504
50	1200	1.36	0.0176	0821401505
63	50	1.66	0.0176	0821401480
63	100	1.66	0.0176	0821401481
63	160	1.66	0.0176	0821401482
63	200	1.66	0.0176	0821401483
63	250	1.66	0.0176	0821401484
63	320	1.66	0.0176	0821401485
63	400	1.66	0.0176	0821401486
63	500	1.66	0.0176	0821401487
63	600	1.66	0.0176	0821401488
63	800	1.66	0.0176	0821401489
63	1000	1.66	0.0176	0821401490
63	1200	1.66	0.0176	0821401491
80	50	3.45	0.0222	0821401050
80	100	3.45	0.0222	0821401051
80	160	3.45	0.0222	0821401052
80	200	3.45	0.0222	0821401053
80	250	3.45	0.0222	0821401054
80	320	3.45	0.0222	0821401055
80	400	3.45	0.0222	0821401056
80	500	3.45	0.0222	0821401057
80	600	3.45	0.0222	0821401058
80	800	3.45	0.0222	0821401059
80	1000	3.45	0.0222	0821401508
80	1200	3.45	0.0222	0821401509
100	50	4.69	0.0222	0821401060
100	100	4.69	0.0222	0821401061
100	200	4.69	0.0222	0821401063
100	160	4.69	0.0222	0821401062
100	250	4.69	0.0222	0821401064
100	320	4.69	0.0222	0821401065
100	400	4.69	0.0222	0821401066
100	500	4.69	0.0222	0821401067
100	600	4.69	0.0222	0821401068
100	800	4.69	0.0222	0821401069
100	1000	4.69	0.0222	0821401510

Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
100	1200	4.69	0.0222	0821401511

Dimensions



S = stroke  
SC = cylinder stroke  
X = max. play (axial)  
Y = min. play (radial)

Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	D1
32	90	78	32.5	74	58	100	48	32.5	11
40	100	84	38	80	64	106	54	38	11
50	120	100	46.5	96	80	125	66	46.5	15
63	125	105	56.5	104	95	132	76	56.5	15
80	155	130	72	130	130	165	98	72	18
100	175	150	89	150	150	185	118	89	18

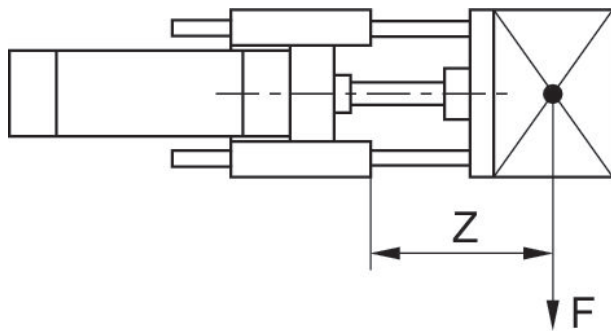
Piston Ø	D2	D3	D4	D5	D6	G1	G2	KK	L1
32	10	6.6	6.6	30 M8	18	M6	M6	M10x1,25	45
40	12	6.6	6.6	35 M8	18	M6	M6	M12x1,25	50
50	12	9	9	40 M8	24	M8	M8	M16x1,5	60
63	12	9	9	45 M8	24	M8	M8	M16x1,5	70
80	16	11	11	45 M8	30	M10	M10	M20x1,5	90
100	16	11	11	55 M8	30	M10	M10	M20x1,5	110

Piston Ø	L2	L3	L4	L5	L6	L7	L8	L9	L10
32	32.5	32.5	32.5	9.25	9.25	31	17	94	69
40	38	38	38	11	11	37	21	105	74
50	46.5	46.5	46.5	18.75	18.75	34	25	106	89
63	56.5	56.5	56.5	15.25	15.25	51	25	121	89
80	72	72	50	25	14	56	34	128	106
100	89	89	70	28.5	19	71	39	138	111

Piston Ø	L11	L12	L13	L14	L15	L16	L17	SW	T1
32	106	48	12	48	32.5	14	22	15	10
40	117	58	12	56	38	14	22	15	14
50	129	59	15	66	46.5	14	26	22	16
63	146	76	15	76	56.5	14	26	22	16
80	170	90	16	98	72	14	32	27	24
100	190	110	16	118	89	14	32	27	29

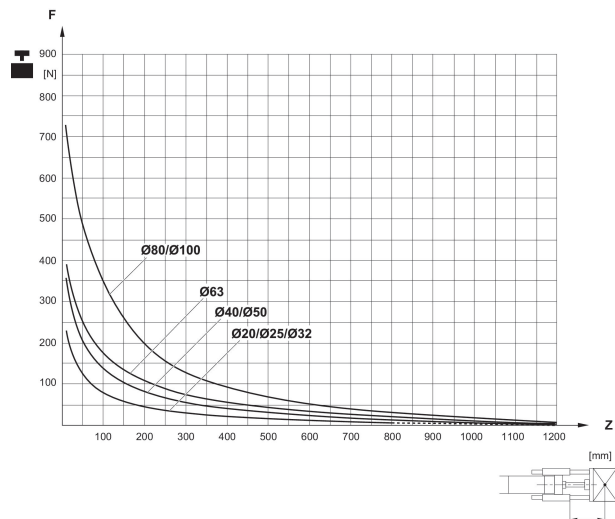
Piston Ø	T2
32	14
40	14
50	16
63	16
80	20
100	20

**Useful load**



F = Useful load, Z = Projection

**Useful load**

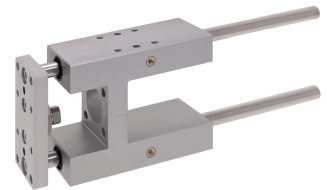


F = Useful load, Z = Projection

**Guide unit GH1, Series CG1**

Bearing type: Plain bearing

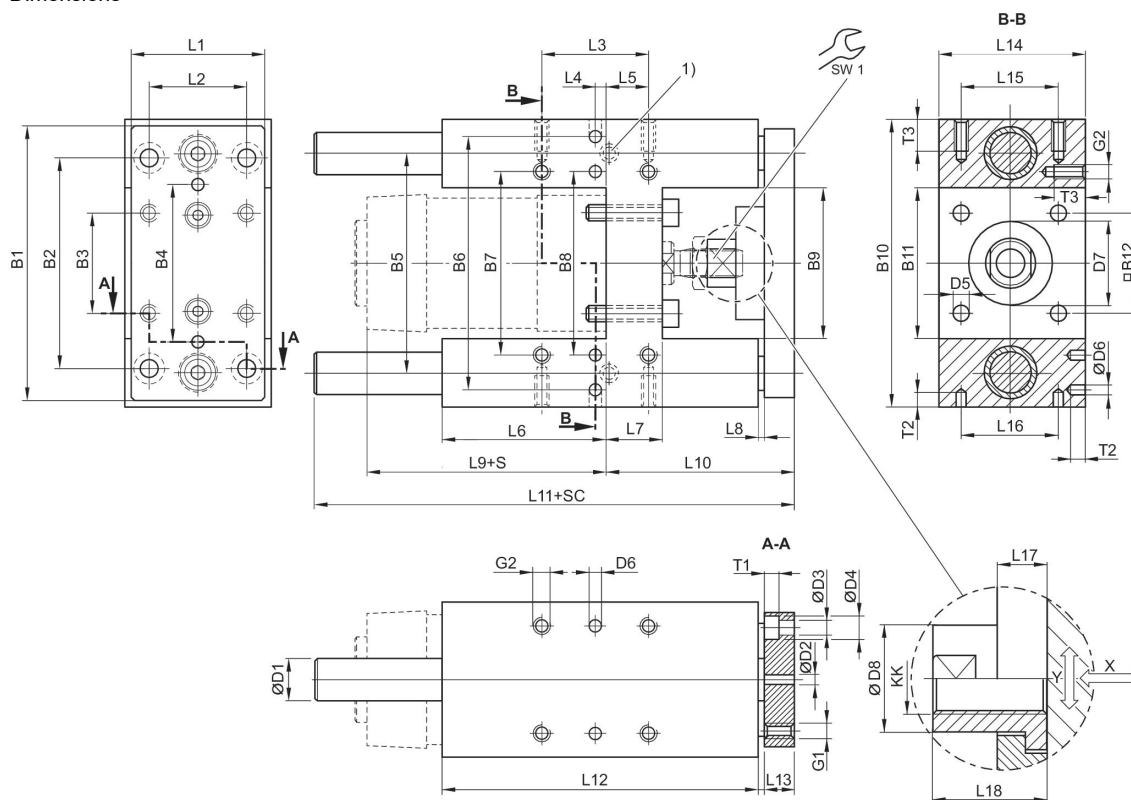
Ambient temperature min./max.: -20 °C ... 80 °C



Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
32	50	1.3	0.009	0821401220
32	100	1.3	0.009	0821401221
32	160	1.3	0.009	0821401222
32	200	1.3	0.009	0821401223
32	250	1.3	0.009	0821401224
32	320	1.3	0.009	0821401225
32	400	1.3	0.009	0821401226
32	500	1.3	0.009	0821401227
32	600	1.3	0.009	0821401228
32	800	1.3	0.009	0821401229
32	1000	1.3	0.009	0821401470
32	1200	1.3	0.009	0821401471
40	50	2.3	0.016	0821401230
40	100	2.3	0.016	0821401231
40	160	2.3	0.016	0821401232
40	200	2.3	0.016	0821401233
40	250	2.3	0.016	0821401234
40	320	2.3	0.016	0821401235
40	400	2.3	0.016	0821401236
40	500	2.3	0.016	0821401237
40	600	2.3	0.016	0821401238
40	800	2.3	0.016	0821401239
40	1000	2.3	0.016	0821401472
40	1200	2.3	0.016	0821401473
50	50	3.7	0.025	0821401240
50	100	3.7	0.025	0821401241
50	160	3.7	0.025	0821401242
50	200	3.7	0.025	0821401243
50	250	3.7	0.025	0821401244
50	320	3.7	0.025	0821401245

Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
50	400	3.7	0.025	0821401246
50	500	3.7	0.025	0821401247
50	600	3.7	0.025	0821401249
50	800	3.7	0.025	0821401474
50	1000	3.7	0.025	0821401475
50	1200	3.7	0.025	0821401476
63	50	4.7	0.025	0821401280
63	100	4.7	0.025	0821401281
63	160	4.7	0.025	0821401285
63	200	4.7	0.025	0821401282
63	250	4.7	0.025	0821401286
63	320	4.7	0.025	0821401283
63	400	4.7	0.025	0821401287
63	500	4.7	0.025	0821401284
63	600	4.7	0.025	0821401288
63	800	4.7	0.025	0821401289
63	1000	4.7	0.025	0821401290
63	1200	4.7	0.025	0821401291
80	100	8.8	0.039	0821401260
80	200	8.8	0.039	0821401261
80	320	8.8	0.039	0821401262
80	500	8.8	0.039	0821401263
80	600	8.8	0.039	0821401264
80	800	8.8	0.039	0821401265
80	1000	8.8	0.039	0821401266
80	1200	8.8	0.039	0821401267
100	100	11.1	0.039	0821401270
100	200	11.1	0.039	0821401271
100	320	11.1	0.039	0821401272
100	500	11.1	0.039	0821401273
100	600	11.1	0.039	0821401274
100	800	11.1	0.039	0821401275
100	1000	11.1	0.039	0821401276
100	1200	11.1	0.039	0821401277

Dimensions



1) Lube nipple  
S = stroke  
SC = cylinder stroke  
X = max. play (axial)  
Y = min. play (radial)

Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9
32	90	78	32.5	50	74	81	61	61	50.2
40	110	84	38	54	87	99	69	69	58.2
50	130	100	46.5	72	104	119	85	85	70.2
63	145	105	56.5	82	119	132	100	100	85.2
80	180	130	72	106	148	166	130	130	105.4
100	200	150	89	131	172	190	150	150	130.4

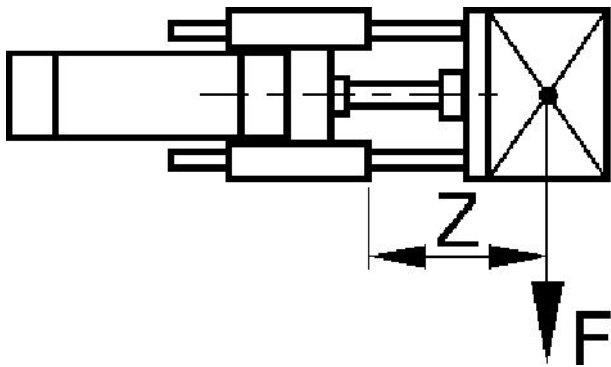
Piston Ø	B10	B11	B12	D1	D2 H7	D3	D4	D5	D6 H7
32	97	50.2	32.5	12	6	6.6	11	6.6	6
40	115	58.2	38	16	6	6.6	11	6.6	6
50	137	70.2	46.5	20	6	9	15	9	6
63	152	85.2	56.5	20	6	9	15	9	6
80	189	105.4	72	25	6	11	18	11	6
100	213	130.4	89	25	6	11	18	11	6

Piston Ø	D7 M8	D8	G1	G2	KK	L1	L2	L3	L4
32	30	14.5	M6	M6	M10x1,25	45	32.5	32.5	12
40	35	18	M6	M6	M12x1,25	54	38	38	8
50	40	24	M8	M8	M16x1,5	63	46.5	46.5	4.5
63	45	24	M8	M8	M16x1,5	80	56.5	56.5	13
80	45	30	M10	M10	M20x1,5	100	72	72	15
100	55	30	M10	M10	M20x1,5	120	89	89	20

Piston Ø	L5	L6	L7	L8	L9	L10	L11	L12	L13
32	4.25	76	17	3	94	64	177.5	125	12
40	11	81	21	3	105	74	192.5	140	12
50	18.75	79	26	3	106	89	205	150	15
63	15.25	111	26	3	121	89	237	182	15
80	21	128	34	3	128	110	280	215	20
100	24.5	128	39	3	138	115	280	220	20

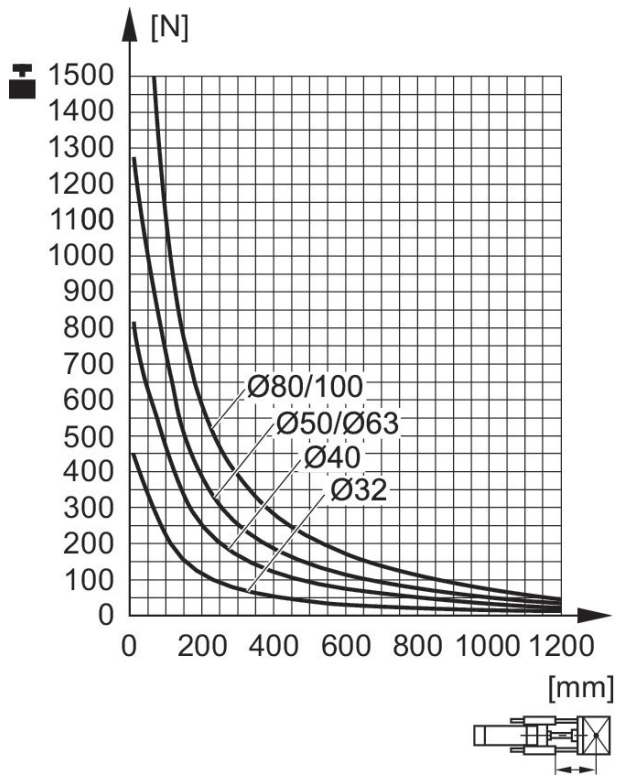
Piston Ø	L14	L15	L16	L17	L18	T1	T2	T3	SW1
32	50	32.5	32.5	6	17	6.5	10	15	13
40	58	38	38	14	22	6.5	10	15	15
50	70	46.5	46.5	14	26	9	10	16	22
63	85	56.5	56.5	14	26	9	10	16	22
80	105	72	72	14	32	11	10	20	27
100	130	89	89	14	32	11	10	20	27

**Useful load**



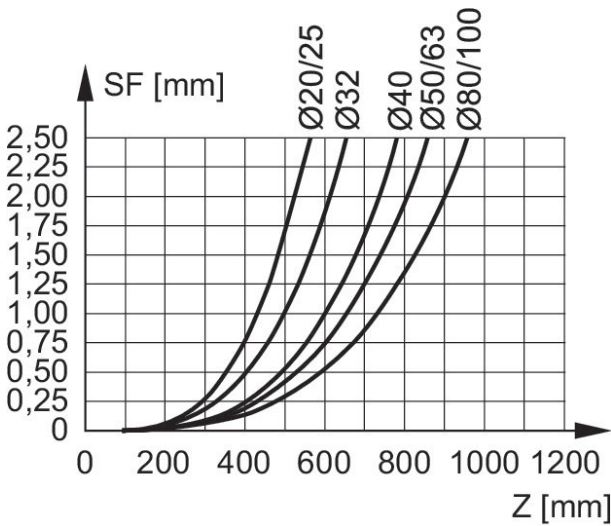
F = Useful load, Z = Projection

**Useful load**



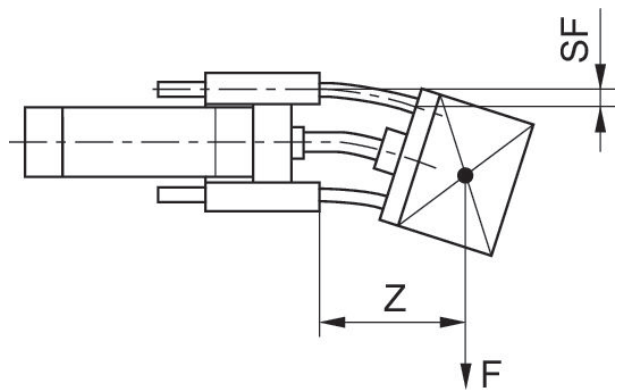
F = Useful load, Z = Projection

**Bending due to own load**



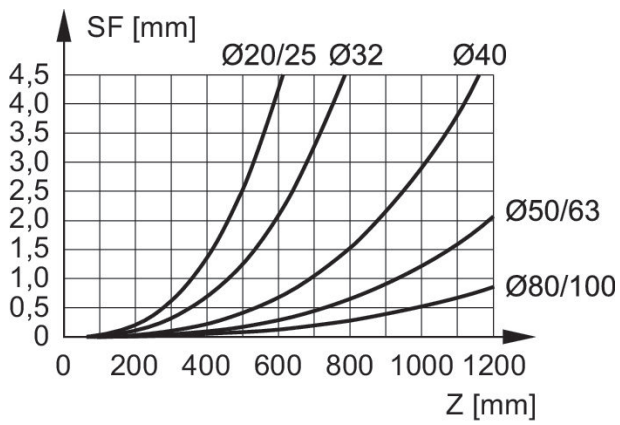
F = useful load (at the load center), SF = bending, Z = projection

**Bending due to 10 N load**



F = useful load (at the load center), SF = bending, Z = projection

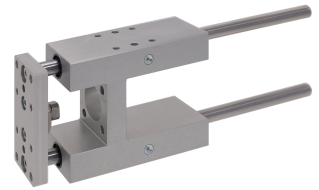
**Bending due to 10 N load**



F = useful load (at the load center), SF = bending, Z = projection

**Guide unit GH2, Series CG1**

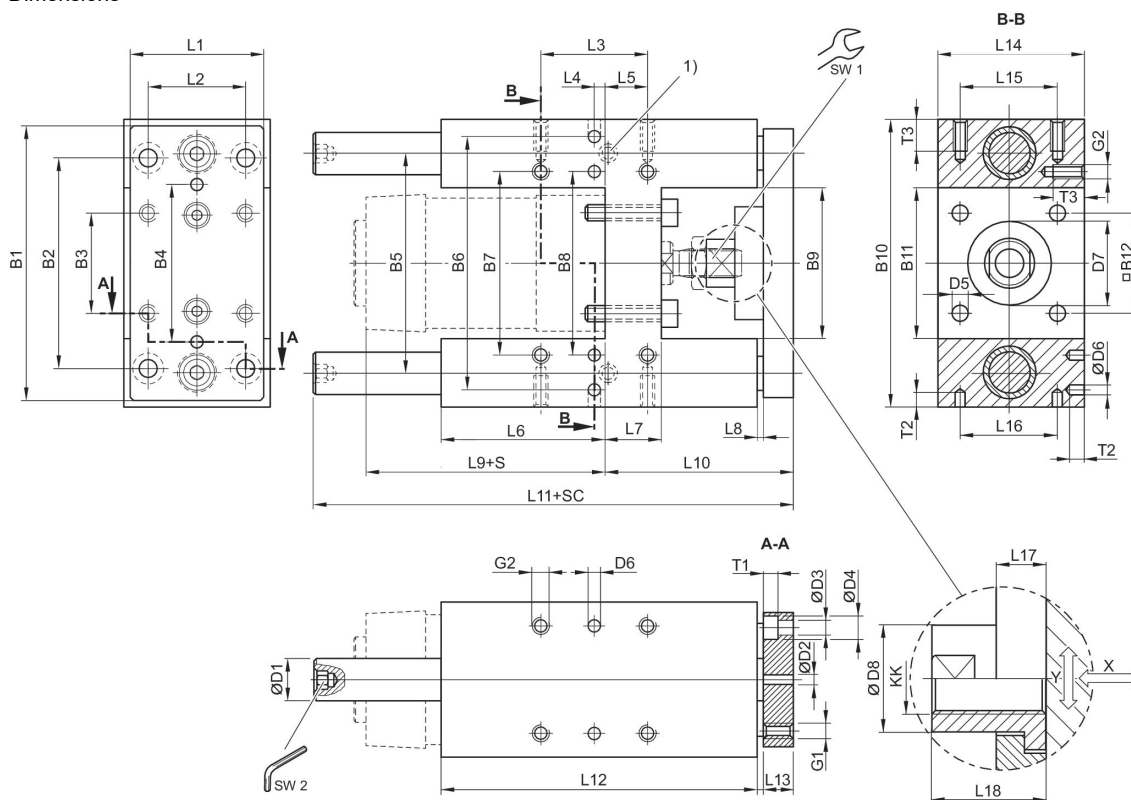
Bearing type: Linear ball bearing  
Ambient temperature min./max.: -20 °C ... 80 °C



Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
32	50	1.3	0.009	0821401320
32	100	1.3	0.009	0821401321
32	200	1.3	0.009	0821401322
32	320	1.3	0.009	0821401323
32	500	1.3	0.009	0821401324
32	600	1.3	0.009	0821401325
32	800	1.3	0.009	0821401326
32	1000	1.3	0.009	0821401327
32	1200	1.3	0.009	0821401328
40	50	2.3	0.016	0821401330
40	100	2.3	0.016	0821401331
40	200	2.3	0.016	0821401332
40	320	2.3	0.016	0821401333
40	500	2.3	0.016	0821401334
40	600	2.3	0.016	0821401335
40	800	2.3	0.016	0821401336
40	1000	2.3	0.016	0821401337
40	1200	2.3	0.016	0821401338
50	50	3.7	0.025	0821401340
50	100	3.7	0.025	0821401341
50	200	3.7	0.025	0821401342
50	320	3.7	0.025	0821401343
50	500	3.7	0.025	0821401344
50	600	3.7	0.025	0821401345
50	800	3.7	0.025	0821401346
50	1000	3.7	0.025	0821401347
50	1200	3.7	0.025	0821401348
63	50	4.7	0.025	0821401380
63	100	4.7	0.025	0821401381
63	200	4.7	0.025	0821401382

Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
63	320	4.7	0.025	0821401383
63	500	4.7	0.025	0821401384
63	600	4.7	0.025	0821401385
63	800	4.7	0.025	0821401386
63	1000	4.7	0.025	0821401387
63	1200	4.7	0.025	0821401388
80	100	8.8	0.039	0821401360
80	200	8.8	0.039	0821401361
80	320	8.8	0.039	0821401362
80	500	8.8	0.039	0821401363
80	600	8.8	0.039	0821401364
80	800	8.8	0.039	0821401365
80	1000	8.8	0.039	0821401366
80	1200	8.8	0.039	0821401367
100	100	11.1	0.039	0821401370
100	200	11.1	0.039	0821401371
100	320	11.1	0.039	0821401372
100	500	11.1	0.039	0821401373
100	600	11.1	0.039	0821401374
100	800	11.1	0.039	0821401375
100	1000	11.1	0.039	0821401376
100	1200	11.1	0.039	0821401377

Dimensions



1) Lube nipple  
S = stroke  
SC = cylinder stroke  
X = max. play (axial)  
Y = min. play (radial)  
Hexagon in guide rod

Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9
32	90	78	32.5	50	74	81	61	61	50.2
40	110	84	38	54	87	99	69	69	58.2
50	130	100	46.5	72	104	119	85	85	70.2
63	145	105	56.5	82	119	132	100	100	85.2
80	180	130	72	106	148	166	130	130	105.4
100	200	150	89	131	172	190	150	150	130.4

Piston Ø	B10	B11	B12	D1	D2 H7	D3	D4	D5	D6 H7
32	97	50.2	32.5	12	6	6.6	11	6.6	6
40	115	58.2	38	16	6	6.6	11	6.6	6
50	137	70.2	46.5	20	6	9	15	9	6
63	152	85.2	56.5	20	6	9	15	9	6
80	189	105.4	72	25	6	11	18	11	6
100	213	130.4	89	25	6	11	18	11	6

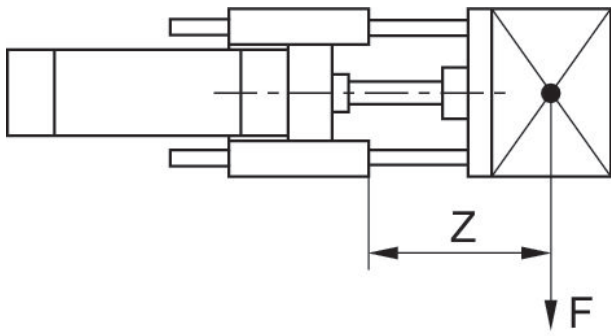
Piston Ø	D7 M8	D8	G1	G2	KK	L1	L2	L3	L4
32	30	14.5	M6	M6	M10x1,25	45	32.5	32.5	12
40	35	18	M6	M6	M12x1,25	54	38	38	8
50	40	24	M8	M8	M16x1,5	63	46.5	46.5	4.5
63	45	24	M8	M8	M16x1,5	80	56.5	56.5	13
80	45	30	M10	M10	M20x1,5	100	72	72	15
100	55	30	M10	M10	M20x1,5	120	89	89	20

Piston Ø	L5	L6	L7	L8	L9	L10	L11	L12	L13
32	4.25	76	17	3	94	64	177.5	125	12
40	11	81	21	3	105	74	192.5	140	12
50	18.75	79	26	3	106	89	237	150	15
63	15.25	111	26	3	121	89	237	182	15
80	21	128	34	3	128	110	280	215	20
100	24.5	128	39	3	138	115	280	220	20

Piston Ø	L14	L15	L16	L17	L18	T1	T2	T3	SW1
32	50	32.5	32.5	6	17	6.5	10	15	13
40	58	38	38	14	22	6.5	10	15	15
50	70	46.5	46.5	14	26	9	10	16	22
63	85	56.5	56.5	14	26	9	10	16	22
80	105	72	72	14	32	11	10	20	27
100	130	89	89	14	32	11	10	20	27

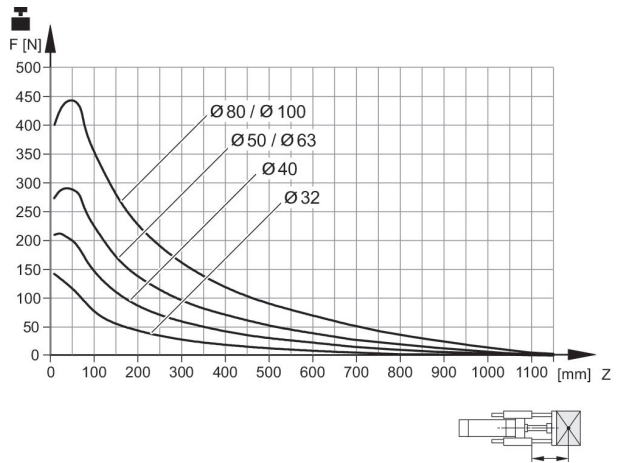
Piston Ø	SW2
32	5
40	6
50	6
63	6
80	8
100	8

**Useful load**



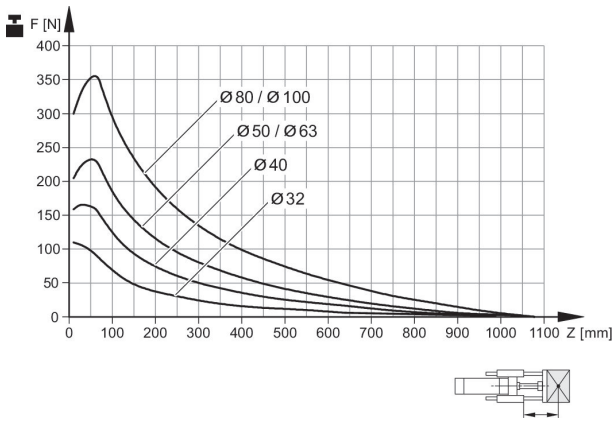
F = Useful load, Z = Projection

**Useful load**



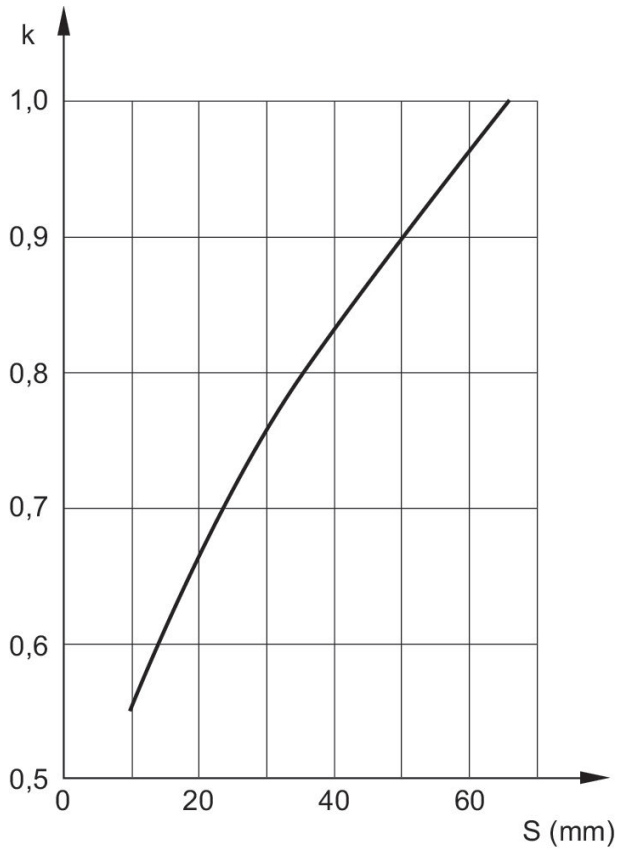
Service life 2x10<sup>6</sup> m  
F = Useful load, Z = Projection

**Useful load**



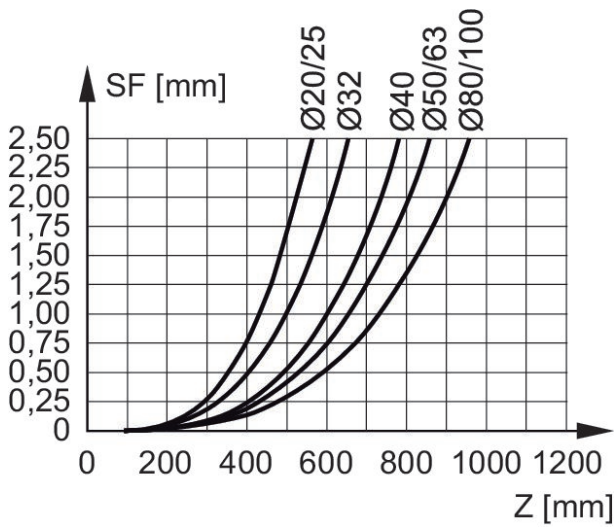
Service life 5x10<sup>6</sup> m  
F = Useful load, Z = Projection

**Reduction of useful load for short-stroke**



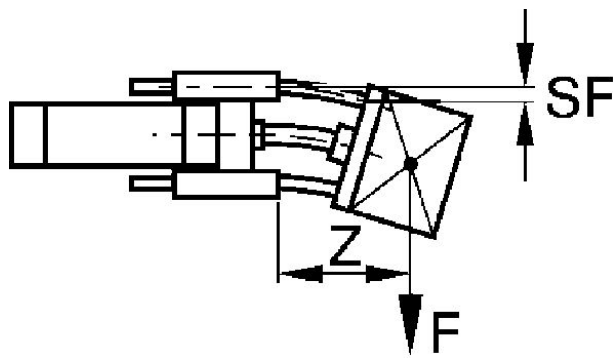
S = stroke  
k=correction factor: normal=1, shock loaded=2 With a short stroke, the useful load figures determined from the diagram must be multiplied by the correction factor k. These short-stroke adjustments are already included in the load diagram for a displacement of up to 60 mm.

**Bending due to own load**



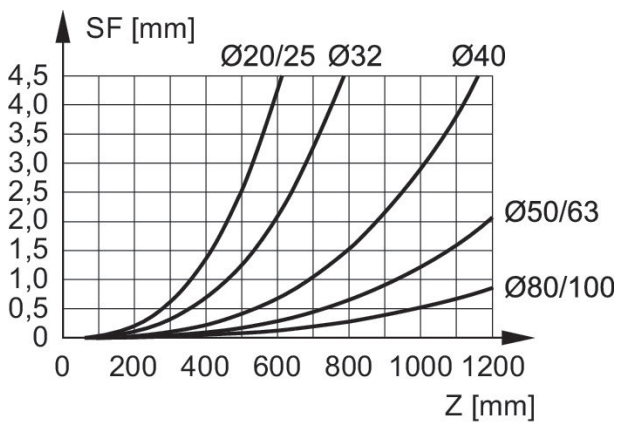
F = useful load (at the load center), SF = bending, Z = projection

**Bending due to 10 N load**



F = useful load (at the load center), SF = bending, Z = projection

**Bending due to 10 N load**



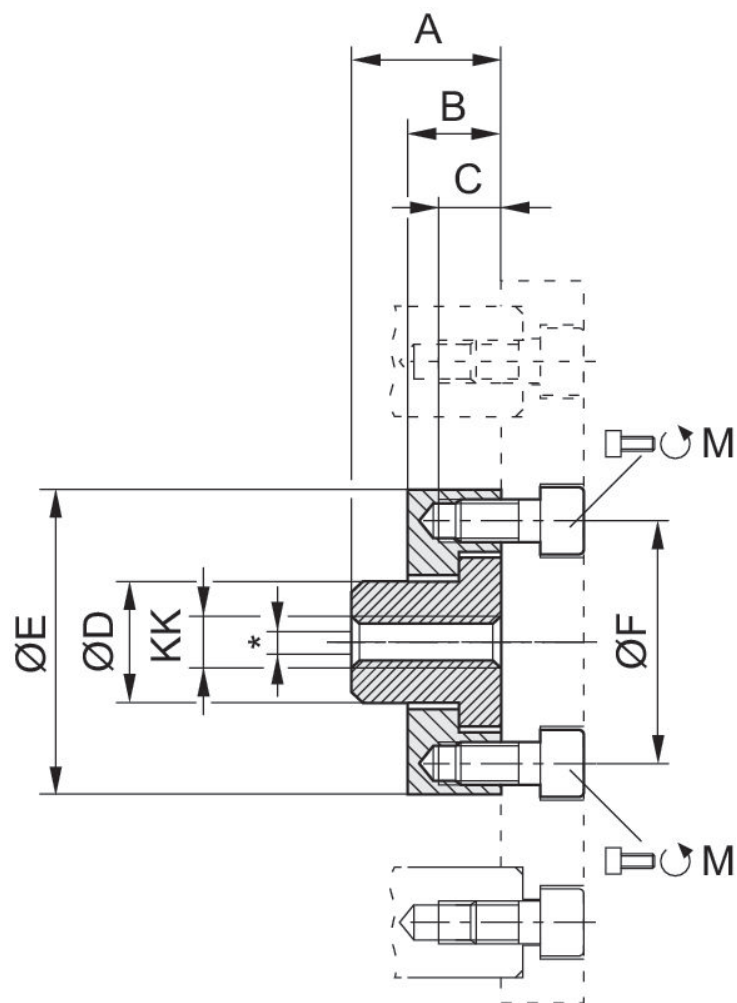
F = useful load (at the load center), SF = bending, Z = projection

**Compensating coupling GU3 form B, series CG1**



Suitable piston rod thread	Part No.
M8	R413000283
M10x1,25	R413000284
M20x1,5	R413000285

Dimensions



\* Radial joint from 1,5 ... 1,8 mm

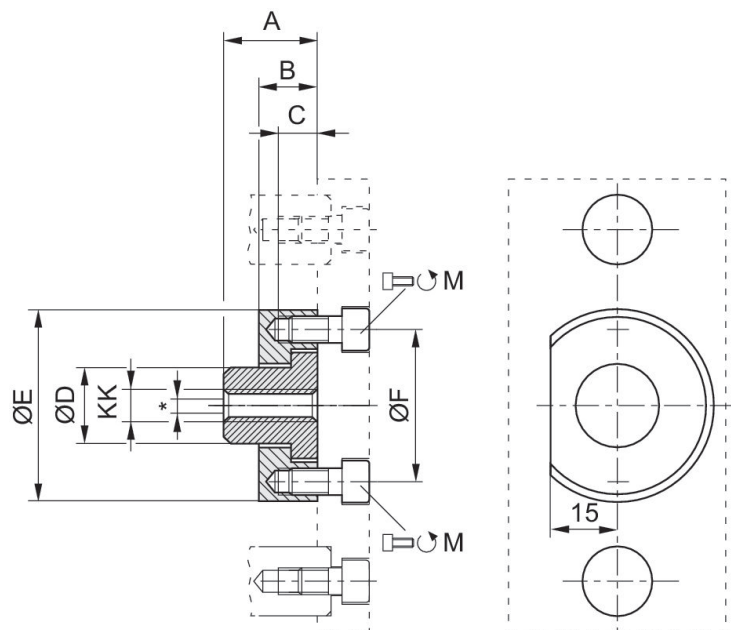
Part No.	KK	Cylinders Ø	M	A	B	C	D	ØE	ØF
R413000283	M8	20	2x M5x12	22	6	6	14.5	SW 30	26
R413000284	M10x1,25	25/32	2x M5x12	17	6	6	14.5	SW 30	26
R413000285	M20x1,5	80/100	4x M6x20	32	14	9.5	30	60	51

**Compensating coupling GU3 form C, series CG1**



Suitable piston rod thread	Part No.
M6	R413000276
M12x1,25	R413000280
M16x1,5	R413000281

Dimensions

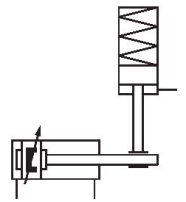


\* Radial joint from 1,0 ... 2,5 mm

Part No.	KK	Cylinders Ø	M	A	B	C	D	ØE	ØF
R413000276	M6	12/16	2x M4x10	18	7	7	10	22	15
R413000280	M12x1,25	40	2x M6x12	22	14	8	18	45	36
R413000281	M16x1,5	50/63	4x M6x14	26	14	8	24	54	45

**Holding unit, Series HU1**

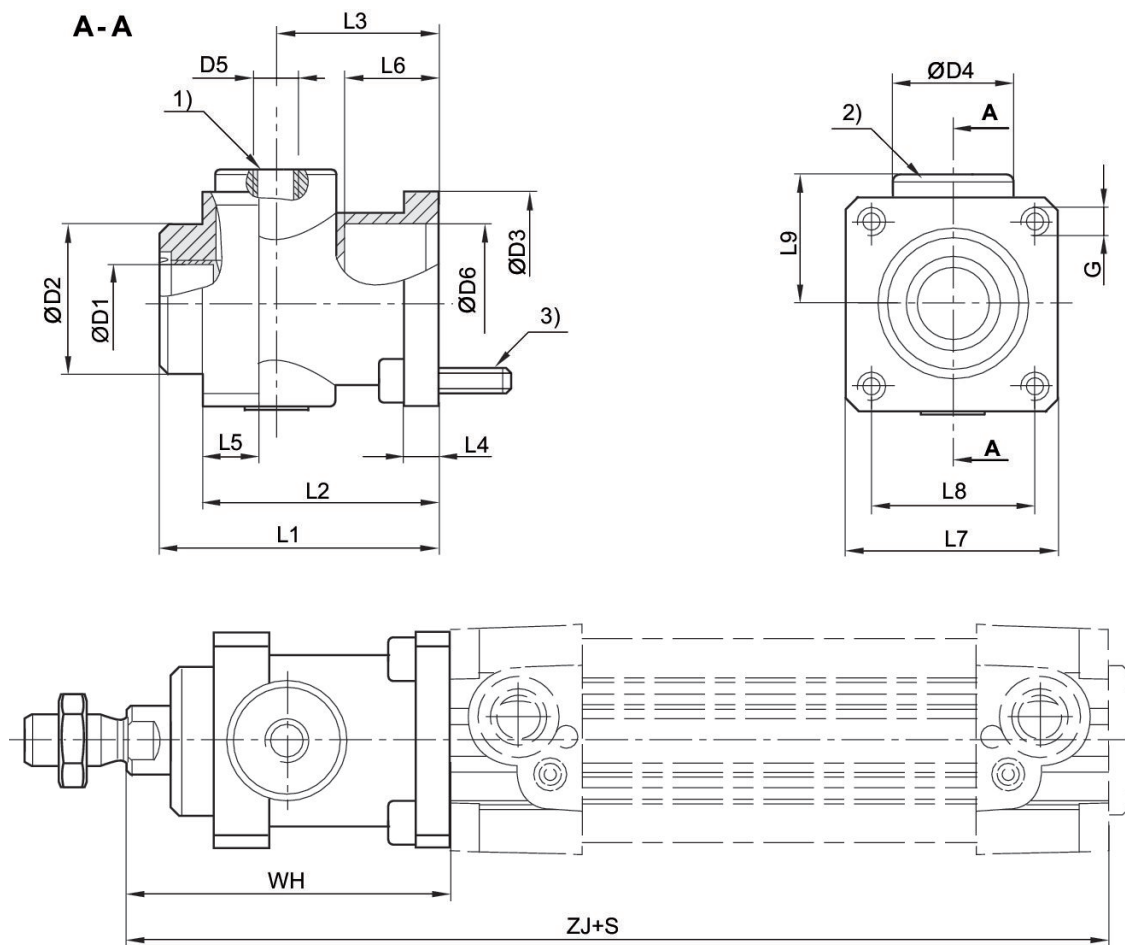
Ambient temperature min./max.: -10 °C ... 60 °C  
Medium temperature min./max.: -10 °C ... 60 °C



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Compressed air connection	M5	G 1/8	G 1/8	G 1/8	G 1/8	G 1/8
-	0821401165	0821401166	0821401167	0821401168	0821401169	0821401170

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Static holding force	650 N	1100 N	1600 N	2500 N	4000 N	6300 N
suitable piston rod Ø	12 mm	16 mm	20 mm	20 mm	25 mm	25 mm
Piston rod extension	42 mm	45 mm	57 mm	57 mm	77 mm	77 mm

Dimensions



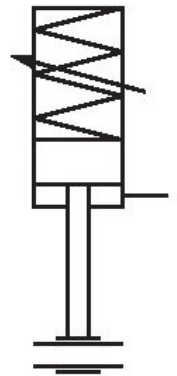
- 1) air connection
  - 2) Holding cartridge
  - 3) mounting screws 4x
- S = stroke

Piston Ø	Part No.	Ø D1	Ø D2	Ø D3	Ø D4	D5	L1	L2	L3
32	0821401165	12	30	35	25	M5	58	48	34
40	0821401166	16	35	40	28	G 1/8	65	55	38
50	0821401167	20	40	50	35	G 1/8	82	70	48
63	0821401168	20	45	60	38	G 1/8	82	70	49.5
80	0821401169	25	45	80	48	G 1/8	110	90	61
100	0821401170	25	55	100	58	G 1/8	115	100	69

Piston Ø	L4	L5	L6	L7	L8	L9	G	WH	ZJ
32	8	13	20.5	45	32.5	25.5	M6	68	162
40	8	13	22.5	50	38	30	M6	75	180
50	15	16	29.5	60	46.5	36	M8	94	200
63	15	16	29.5	70	56.5	40	M8	94	215
80	18	20	35	90	72	50	M10	123	251
100	18	20	-	105	89	58	M10	128	266

**Locking unit, Series LU1**

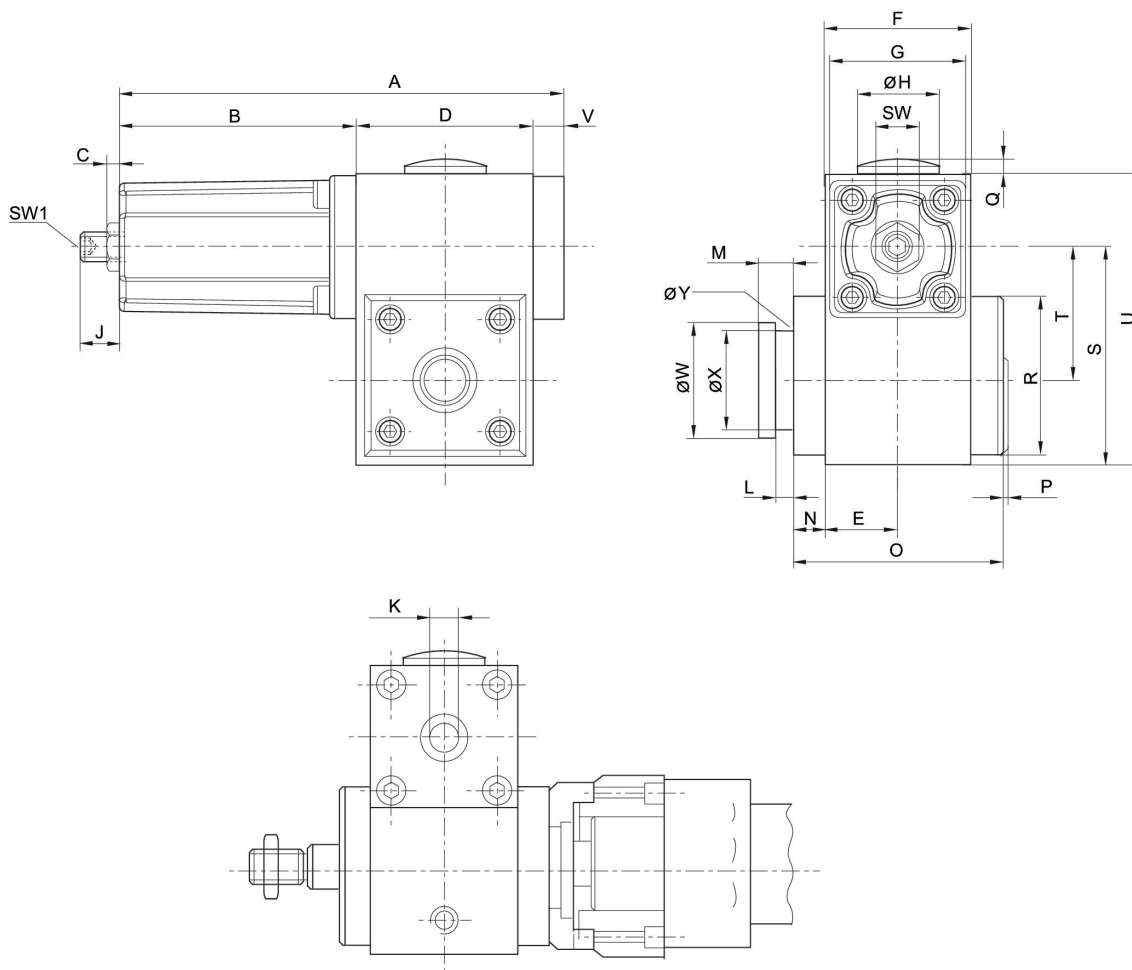
Ambient temperature min./max.: -20 °C ... 80 °C  
Medium temperature min./max.: -20 °C ... 80 °C



Piston Ø	32 mm	40 mm	50 mm63 mm	80 mm100 mm
Compressed air connection	G 1/8	G 1/8	G 1/8	G 1/8
-	0821401130	0821401131	0821401132	0821401133

Piston Ø	32 mm	40 mm	50 mm63 mm	80 mm100 mm
Static holding force	840 N	1100 N	2700 N	5800 N
suitable piston rod diameter	12 mm	16 mm	20 mm	25 mm
Piston rod extension	79 mm	81 mm	100 mm	140 mm

Dimensions



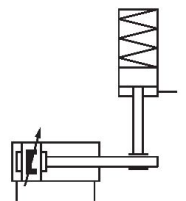
Piston Ø	Part No.	A	B	C	D	E	F	G	ØH
32	0821401130	135	69	10	56	23	46	45	30
40	0821401131	135	69	10	56	23	46	45	30
50, 63	0821401132	169	90	10	69	30	60	55	30
80, 100	0821401133	208	98	16.7	100	40	80	65	37.5

Piston Ø	J	K	L	M	N	O	P	Q	R
32	19	G 1/8	4.1	8	9	65	3	2.5	50
40	18	G 1/8	5.1	10	9	65	3	2.5	50
50, 63	17	G 1/8	5.1	10	9	84	3	2.5	60
80, 100	15	G 1/8	8.1	16	13	118	3	2	90

Piston Ø	S	SW	SW1	T	U	V	ØW	ØX	ØY
32	69	15	5	41.9	92	10	29.9	24	3
40	69	15	5	40.5	92	10	39.9	30	3
50, 63	80	15	5	48	111	10	39.9	30	3
80, 100	119	24	8	72	155	10	54.9	40	5

**Locking unit, Series LU1**

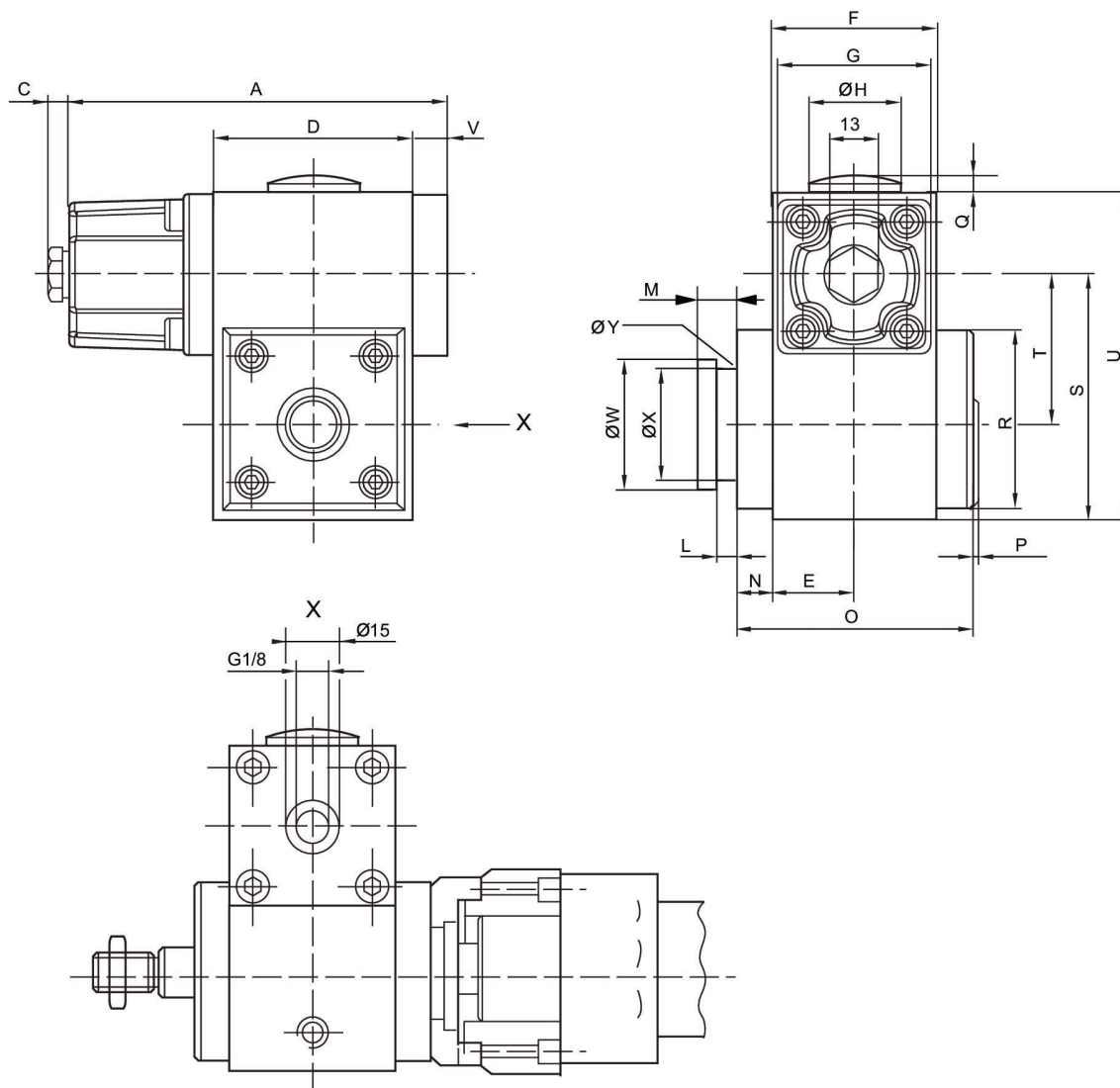
Ambient temperature min./max.: -20 °C ... 80 °C  
Medium temperature min./max.: -20 °C ... 80 °C



Piston Ø	32 mm	40 mm	50 mm63 mm	80 mm100 mm
Compressed air connection	G 1/8	G 1/8	G 1/8	G 1/8
-	R412003730	R412003731	R412003732	R412003733

Piston Ø	32 mm	40 mm	50 mm63 mm	80 mm100 mm
Static holding force	740 N	1000 N	2300 N	4000 N
suitable piston rod diameter	12 mm	16 mm	20 mm	25 mm
Piston rod extension	79 mm	81 mm	100 mm	140 mm

Dimensions



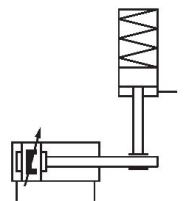
Piston Ø	Part No.	A	C	D	E	F	G	Ø H	L
32	R412003730	106	6	56	23	46	45	30	4.1
40	R412003731	106	6	56	23	46	45	30	5.1
50, 63	R412003732	139.5	6	69	30	60	55	30	5.1
80, 100	R412003733	176.5	6	100	40	80	65	37.5	8.1

Piston Ø	M	N	O	P	Q	R	S	T	U
32	8	9	65	3	2.5	50	68.5	41.9	91.5
40	10	9	65	3	2.5	50	68.5	40.5	91.5
50, 63	10	9	83.5	3	2.5	60	79.5	48	110
80, 100	16	13	118	3	2	90	119	72	155

Piston Ø	V	Ø W	Ø X	Ø Y
32	10	29.9	24	3
40	10	39.9	30	3
50, 63	10	39.9	30	3
80, 100	10	54.9	40	5

**Locking unit, Series LU1**

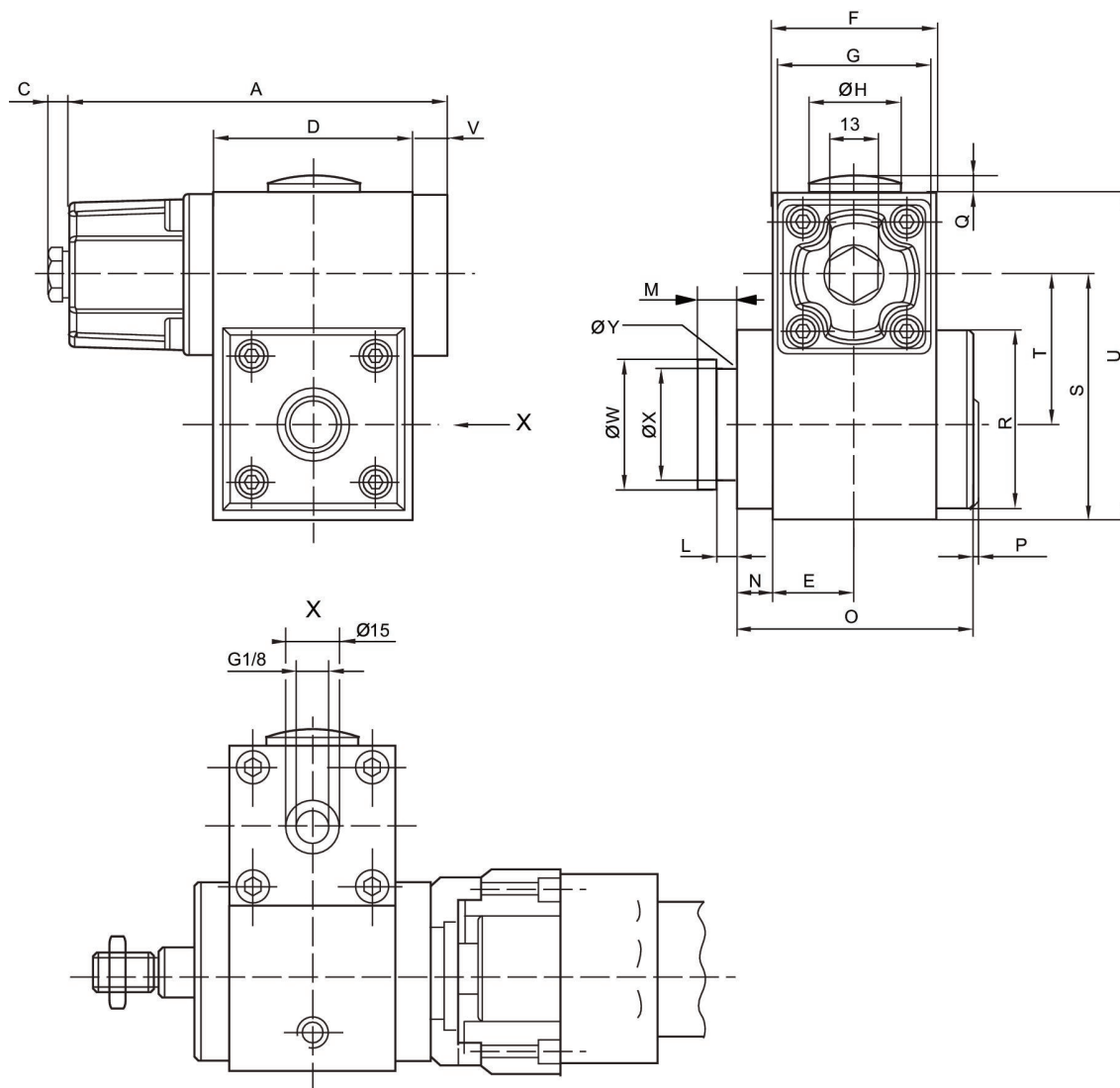
Ambient temperature min./max.: -20 °C ... 80 °C  
Medium temperature min./max.: -20 °C ... 80 °C



Piston Ø	32 mm	40 mm	50 mm63 mm	80 mm100 mm
Compressed air connection	G 1/8	G 1/8	G 1/8	G 1/8
-	0821401134	0821401135	0821401136	0821401137

Piston Ø	32 mm	40 mm	50 mm63 mm	80 mm100 mm
Static holding force	840 N	1100 N	2700 N	5800 N
suitable piston rod diameter	12 mm	16 mm	20 mm	25 mm
Piston rod extension	79 mm	81 mm	100 mm	140 mm

Dimensions



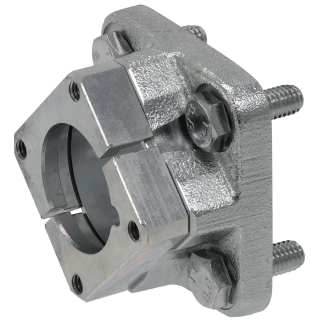
Piston Ø	Part No.	A	C	D	E	F	G	Ø H	L
32	0821401134	106	6	56	23	46	45	30	4.1
40	0821401135	106	6	56	23	46	45	30	5.1
50, 63	0821401136	139.5	6	69	30	60	55	30	5.1
80, 100	0821401137	176.5	6	100	40	80	65	37.5	8.1

Piston Ø	M	N	O	P	Q	R	S	T	U
32	8	9	65	3	2.5	50	68.5	41.9	91.5
40	10	9	65	3	2.5	50	68.5	40.5	91.5
50, 63	10	9	83.5	3	2.5	60	79.5	48	110
80, 100	16	13	118	3	2	90	119	72	155

Piston Ø	V	Ø W	Ø X	Ø Y
32	10	29.9	24	3
40	10	39.9	30	3
50, 63	10	39.9	30	3
80, 100	10	54.9	40	5

### Mounting flange, Series LU1

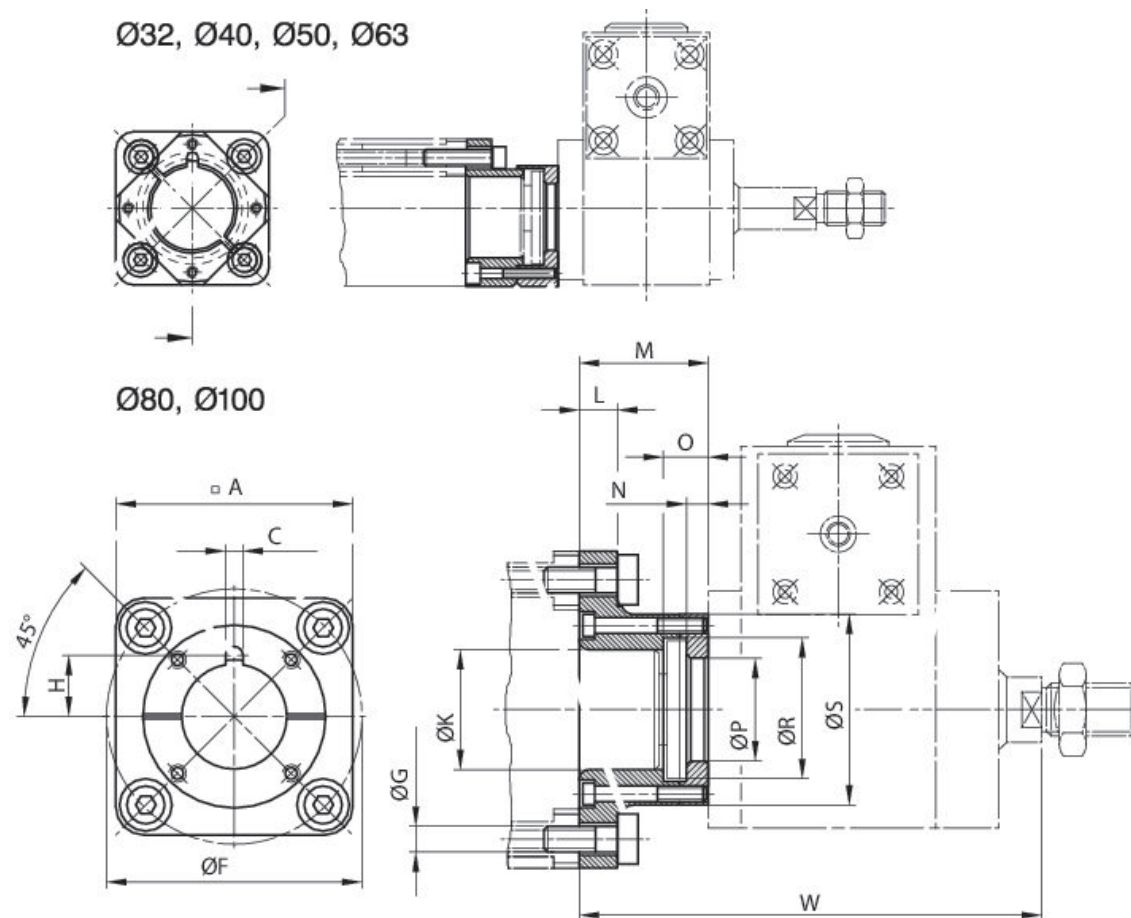
Ambient temperature min./max.: -20 °C ... 80 °C  
Medium temperature min./max.: -20 °C ... 80 °C



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
-	1827001504	1827001505	1827001506	1827001508	1827001433	1827001434

Keine Attribute mit Inhalt in Tabelle!

Dimensions



Screws included in scope of delivery  
The locking unit can be rotated by 4x90°.

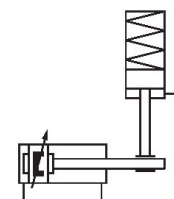
Piston Ø	Part No.	A	C +0,1	Ø F ±0,2	G H13	H	Ø K H10	L	M
32	1827001504	50	3.6	46	6.6	13.2	30	7	27.2
40	1827001505	57	3.6	54	6.6	18.2	35	9.5	33.3
50	1827001506	68	3.6	66	8.4	18.2	40	11	38.3
63	1827001508	75	3.6	80	8.4	18.2	45	11	38.3
80	1827001433	95	6	102	10.5	24.5	45	15	52
100	1827001434	115	6	126	10.5	24.6	55	15	57

Piston Ø	N -0,1	O	Ø P +0,2	Ø R +0,5	Ø S	W
32	3.9	8	24.2	33	46.5	105
40	4.9	10	30.2	40	55.5	111
50	4.9	10	30.2	40	66	137
63	4.9	10	30.2	40	71	137
80	7.9	16	40.2	55	75	186
100	7.9	16	40.2	55	80	191

**Locking unit, Series LU6**

Ambient temperature min./max.: -25 °C ... 80 °C

Medium temperature min./max.: -25 °C ... 80 °C



Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Compressed air connection	G 1/8	G 1/8	G 1/8	G 1/8	G 1/8	G 1/8
-	5230996402	5231996402	5232996402	5233996402	5234996402	5235996402

Piston Ø	125 mm
Compressed air connection	G 1/4
-	5236996402

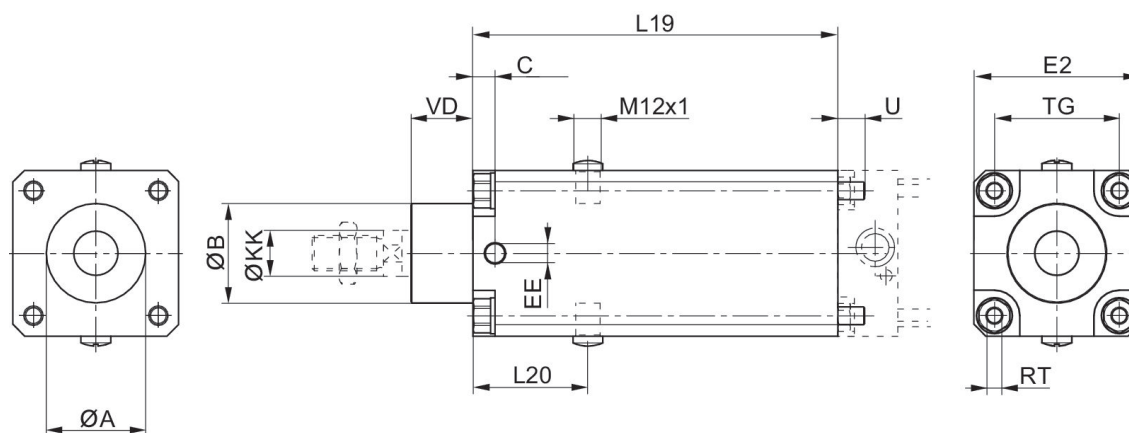
Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Max. moving mass, external	77 kg	122 kg	194 kg	306 kg	510 kg	815 kg
Max. torsional moment of piston rod	0.5 Nm	1 Nm	2 Nm	2.5 Nm	5 Nm	9 Nm
Max. holding/braking force FLU6	760 N	1200 N	1900 kN	3000 N	5000 N	8000 N
suitable piston rod diameter	12 mm	16 mm	20 mm	20 mm	25 mm	25 mm
Piston rod extension	125 mm	125 mm	145 mm	165 mm	185 mm	220 mm
Required flow rate Qn	50 l/min	70 l/min	140 l/min	240 l/min	450 l/min	700 l/min
Buckling protection of the piston rod 1), max. cylinder stroke for Euler case 1	750 mm	1100 mm	1350 mm	950 mm	1350 mm	950 mm
Buckling protection of the piston rod 1), max.	400 mm	550 mm	700 mm	500 mm	700 mm	500 mm

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
cylinder stroke for Euler case 2						
Max. piston speed	1 m/s	1 m/s	1 m/s	1 m/s	1 m/s	1 m/s
Max. total braking energy $E_{total}$	3.2 MJ	6 MJ	10 MJ	18 MJ	36 MJ	58 MJ
Max. braking energy per hour	720 J	1350 J	2250 J	4050 J	8100 J	13200 J
Max. braking energy per braking cycle	4.8 J	9 J	15 J	27 J	54 J	88 J
Braking energy per braking cycle related to B10d, EB10d	1.6 J	3 J	5 J	9 J	18 J	29 J
Brake response time (4 bar)	0.08 s	0.08 s	0.08 s	0.08 s	0.08 s	0.09 s
Brake response time (6.3 bar)	0.1 s	0.1 s	0.1 s	0.1 s	0.1 s	0.11 s
Brake response time (10 bar)	0.12 s	0.12 s	0.12 s	0.12 s	0.12 s	0.13 s

Piston Ø	125 mm
Max. moving mass, external	1223 kg
Max. torsional moment of piston rod	15 Nm
Max. holding/braking force FLU6	12000 N
suitable piston rod diameter	32 mm
Piston rod extension	220 mm
Required flow rate $Q_n$	1200 l/min
Buckling protection of the piston rod 1), max. cylinder stroke for Euler case 1	1500 mm
Buckling protection of the piston rod 1), max. cylinder stroke for Euler case 2	800 mm
Max. piston speed	1 m/s
Max. total braking energy $E_{total}$	93 MJ
Max. braking energy per hour	21000 J

Piston Ø	125 mm
Max. braking energy per braking cycle	140 J
Braking energy per braking cycle related to B10d, EB10d	47 J
Brake response time (4 bar)	0.09 s
Brake response time (6.3 bar)	0.11 s
Brake response time (10 bar)	0.13 s

Dimensions



Piston Ø	Part No.	ØA	ØB d11	C	EE	E2	L19	L20	ØKK e8-h9
32	5230996402	30,5	30	9	G1/8	48	125	44	12
40	5231996402	35,5	35	9	G1/8	53	125	44	16
50	5232996402	40,5	40	9	G1/8	63	145	49	20
63	5233996402	45,5	45	10	G1/8	75	165	52	20
80	5234996402	45,5	45	11	G1/8	98	185	61.5	25
100	5235996402	55,5	55	13	G1/8	118	220	68	25
125	5236996402	60,5	60	13	G1/4	142	220	75	32

Piston Ø	TG	RT	U	VD
32	32,5	M6	10	19
40	38	M6	10	21
50	46,5	M8	11	28
63	56,5	M8	11	28
80	72	M10	16	34
100	89	M10	16	37
125	110	M12	16	45

**Modular scraper system**

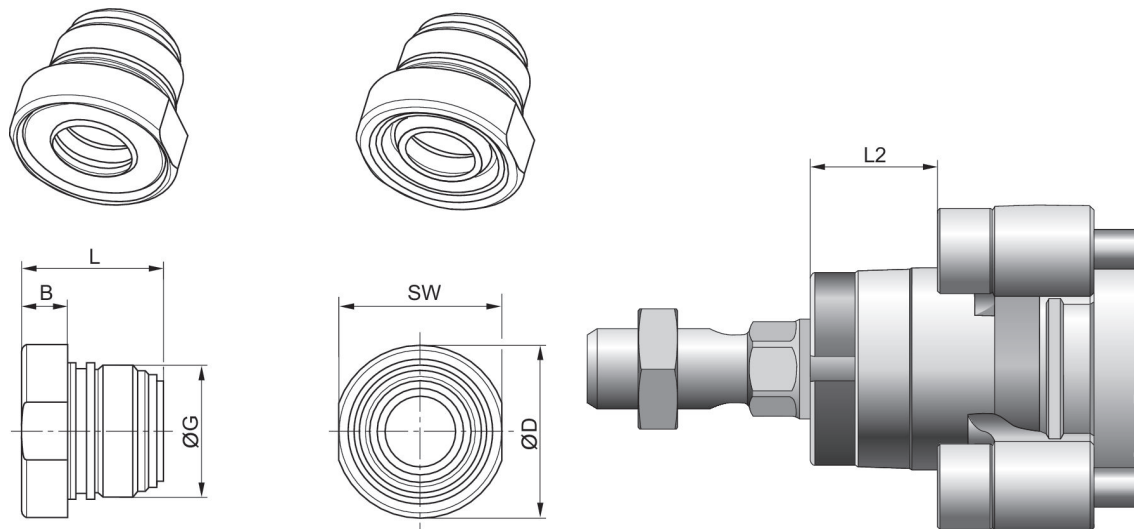
For series: PRA, TRB, CCL-IS  
Working pressure min./max.: 1.5 bar ... 10 bar



Piston diameter [mm]	Piston rod seal	Scraper	Application area	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
32	Acrylonitrile butadiene rubber	Polyester elastomer	Paper/printing industry, Textile industry	-20	80	0496400704
32	Acrylonitrile butadiene rubber	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-20	80	0496401107
32	Fluorocautchouc	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-10	150	0496401700
40	Acrylonitrile butadiene rubber	Brass	Chemical industry, Sugar production, Steel construction, Automotive industry, Woodworking industry	-20	80	0496400402
40	Fluorocautchouc	Brass	Chemical industry, Sugar production, Steel construction, Automotive industry, Woodworking industry	-10	150	0496401409
40	Acrylonitrile butadiene rubber	Polyester elastomer	Paper/printing industry, Textile industry	-20	80	0496400801
40	Acrylonitrile butadiene rubber	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-20	80	0496401204

Piston diameter [mm]	Piston rod seal	Scraper	Application area	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
40	Fluorocautchouc	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-10	150	0496401808

Dimensions



Piston Ø	B	ØD	G	L	L2	SW
32	6.7	24.5	M22x1	23	16.25	23
40	9.2	34	M26x1,5	28.1	18.25	32

**Modular scraper system**

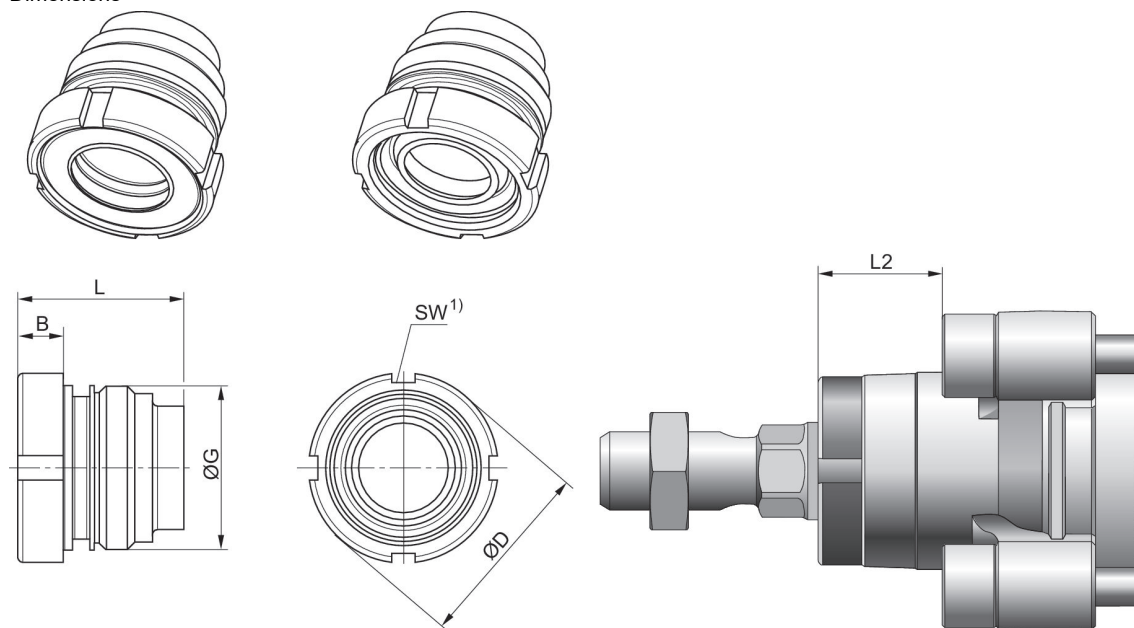
For series: PRA, TRB, CCL-IS  
Working pressure min./max.: 1.5 bar ... 10 bar



Piston diameter [mm]	Piston rod seal	Scraper	Application area	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
50, 63	Acrylonitrile butadiene rubber	Brass	Chemical industry, Sugar production, Steel construction, Automotive industry, Woodworking industry	-20	80	0496400518
50, 63	Fluorocautchouc	Brass	Chemical industry, Sugar production, Steel construction, Automotive industry, Woodworking industry	-10	150	0496401506
50, 63	Acrylonitrile butadiene rubber	Polyester elastomer	Paper/printing industry, Textile industry	-20	80	0496400909
50, 63	Acrylonitrile butadiene rubber	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-20	80	0496402103
50, 63	Fluorocautchouc	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-10	150	0496401905
80, 100	Acrylonitrile butadiene rubber	Brass	Chemical industry, Sugar production, Steel construction, Automotive industry, Woodworking industry	-20	80	0496400607
80, 100	Fluorocautchouc	Brass	Chemical industry, Sugar	-10	150	0496401603

Piston diameter [mm]	Piston rod seal	Scraper	Application area	Min. ambient temperature [°C]	Max. ambient temperature [°C]	Part No.
			production, Steel construction, Automotive industry, Woodworking industry			
80, 100	Acrylonitrile butadiene rubber	Polyester elastomer	Paper/printing industry, Textile industry	-20	80	0496401018
80, 100	Acrylonitrile butadiene rubber	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-20	80	0496402200
80, 100	Fluorocautchouc	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-10	150	0496402006
125	Acrylonitrile butadiene rubber	Brass	Chemical industry, Sugar production, Steel construction, Automotive industry, Woodworking industry	-20	80	0496301404
125	Fluorocautchouc	Brass	Chemical industry, Sugar production, Steel construction, Automotive industry, Woodworking industry	-10	150	0496303105
125	Acrylonitrile butadiene rubber	Polyester elastomer	Paper/printing industry, Textile industry	-20	80	0496301307
125	Acrylonitrile butadiene rubber	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-20	80	0496301706
125	Fluorocautchouc	Polytetrafluorethylene	Textile industry, Food industry, Chemical industry, Sugar production	-10	150	0496303202

Dimensions



1) Can be mounted with hook wrench in accordance with DIN 1810 A

Piston Ø	B	ØD	G	L	L2	SW
50, 63	9	38.5	M33x2	33.5	25	40-42
80, 100	10	44	M40x2	44	33	45-50
125	12	57	M50x2	56	45	58-62

## Sensor, Series IN1

For series: LU6

Electrical connection 2, thread size: M12x1

Certificates: cULus

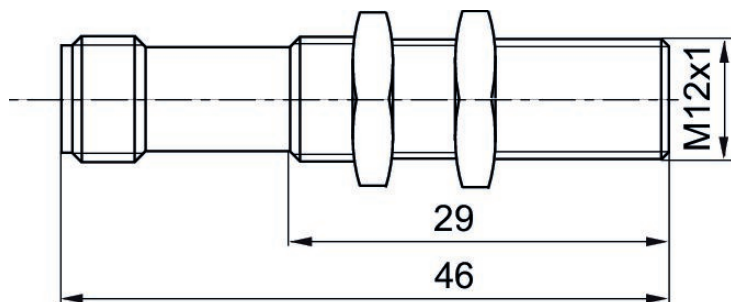
Electrical connection 2, number of poles: 3-pin

Ambient temperature min./max.: -20 °C ... 65 °C



Direct mounting for series	Switch descr.	Electrical connection size	Electrical connection number of poles	Electrical connection coding	Part No.
LU6	Inductive	M12x1	3-pin	B-coded	R412010426

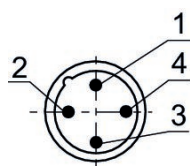
Dimensions



### R412010426

Pin assignments

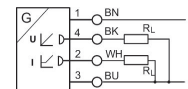
M12x1



Pin	Allocation
1	Pin 1: operational voltage + UB
2	not assigned
3	m = mass
4	switch output Out

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

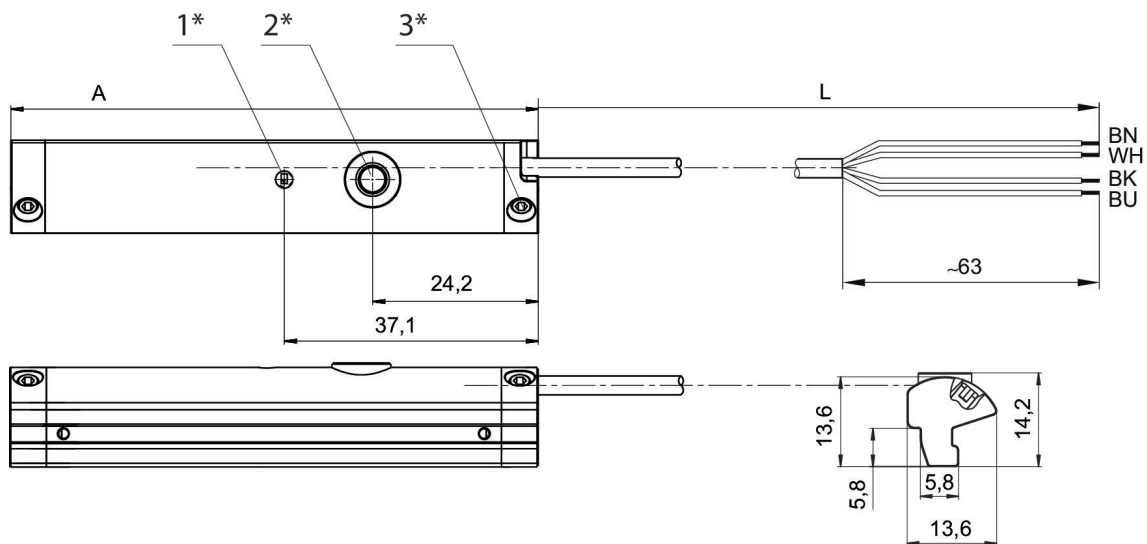
For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI  
 Certificates: cULus  
 Ambient temperature min./max.: -20 °C ... 70 °C



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 reversal	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	

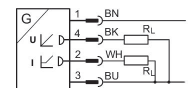
Dimensions



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**

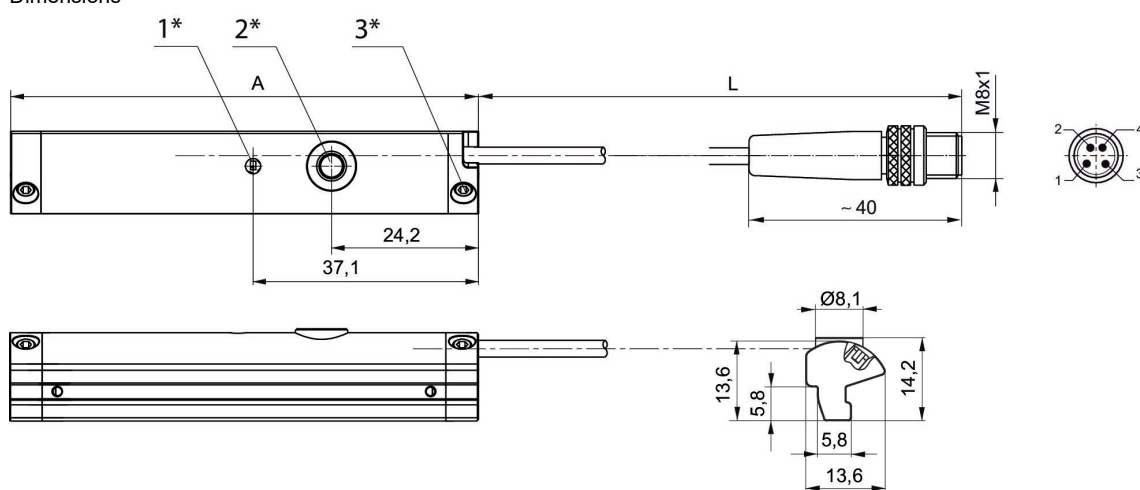
For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI  
 Electrical connection 2, thread size: M8x1  
 Certificates: cULus  
 Electrical connection 2, number of poles: 4-pin  
 Ambient temperature min./max.: -20 °C ... 70 °C



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					olarity 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

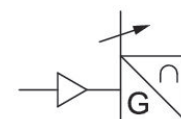
**Sensors, Series SM6-AL**

Electrical connection 2, thread size: M8x1

Certificates: cULus

Electrical connection 2, number of poles: 4-pin

Ambient temperature min./max.: -20 °C ... 70 °C

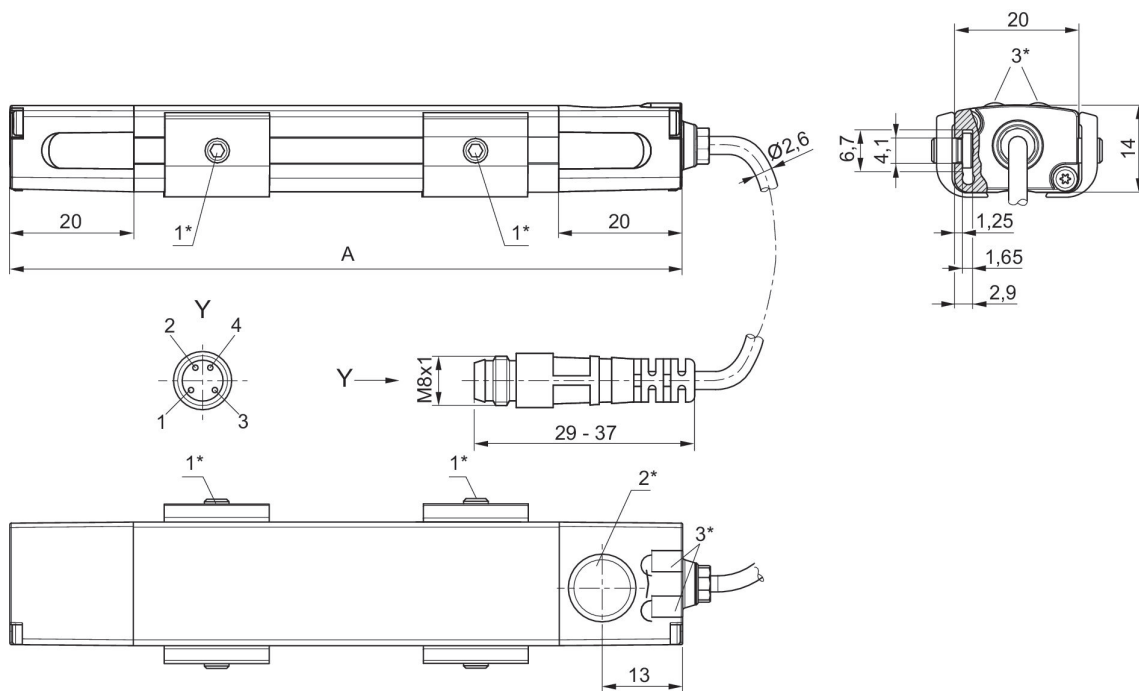


Switch descr.	Cable length L [m]	max. measuring range [mm]	Overall length Sensor [mm]	Incl. number of sensor clamp pairs [piece]	Version	Part No.
Analog	0.3	107	109	2	short circuit resistant, Protected against polarity reversal, Overload protection	R412010880
Analog	0.3	143	145	2	short circuit resistant, Protected against polarity reversal, Overload protection	R412010881
Analog	0.3	179	181	2	short circuit resistant, Protected against polarity reversal, Overload protection	R412010882
Analog	0.3	215	217	2	short circuit resistant, Protected against polarity reversal, Overload protection	R412010883
Analog	0.3	251	253	2	short circuit resistant, Protected against polarity reversal, Overload protection	R412010884
Analog	0.3	287	289	3	short circuit resistant, Protected against polarity reversal, Overload protection	R412010885
Analog	0.3	323	325	3	short circuit resistant, Pro-	R412010886

Switch descr.	Cable length L [m]	max. measuring range [mm]	Overall length Sensor [mm]	Incl. number of sensor clamp pairs [piece]	Version	Part No.
					tected against polarity reversal, Overload protection	
Analog	0.3	359	361	3	short circuit resistant, Protected against polarity reversal, Overload protection	R412010887
Analog	0.3	395	397	3	short circuit resistant, Protected against polarity reversal, Overload protection	R412010888
Analog	0.3	431	433	3	short circuit resistant, Protected against polarity reversal, Overload protection	R412010889
Analog	0.3	467	469	4	short circuit resistant, Protected against polarity reversal, Overload protection	R412010890
Analog	0.3	503	505	4	short circuit resistant, Protected against polarity reversal, Overload protection	R412010891
Analog	0.3	539	541	4	short circuit resistant, Protected against polarity reversal, Overload protection	R412010892
Analog	0.3	575	577	4	short circuit resistant, Protected against polarity reversal, Overload protection	R412010893
Analog	0.3	611	613	4	short circuit resistant, Protected against polarity reversal, Overload protection	R412010894
Analog	0.3	647	649	4	short circuit resistant, Protected against polarity reversal, Overload protection	R412010895
Analog	0.3	683	685	5	short circuit resistant, Pro-	R412010896

Switch descr.	Cable length L [m]	max. measuring range [mm]	Overall length Sensor [mm]	Incl. number of sensor clamp pairs [piece]	Version	Part No.
					tected against polarity reversal, Overload protection	
Analog	0.3	719	721	5	short circuit resistant, Protected against polarity reversal, Overload protection	R412010897
Analog	0.3	755	757	5	short circuit resistant, Protected against polarity reversal, Overload protection	R412010898
Analog	0.3	791	793	5	short circuit resistant, Protected against polarity reversal, Overload protection	R412010899
Analog	0.3	827	829	6	short circuit resistant, Protected against polarity reversal, Overload protection	R412010900
Analog	0.3	863	865	6	short circuit resistant, Protected against polarity reversal, Overload protection	R412010901
Analog	0.3	899	901	6	short circuit resistant, Protected against polarity reversal, Overload protection	R412010902
Analog	0.3	935	937	6	short circuit resistant, Protected against polarity reversal, Overload protection	R412010903
Analog	0.3	971	973	6	short circuit resistant, Protected against polarity reversal, Overload protection	R412010904
Analog	0.3	1007	1009	6	short circuit resistant, Protected against polarity reversal, Overload protection	R412010905

Dimensions



1\* = threaded pin M3x11 2\* = teach area 3\* = LED

A = sensor length

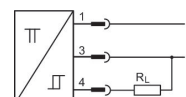
Pin assignment: 1 = (+), 2 = (OUT 1) 3 = (GND), 4 = (OUT 2/IO-Link), EN 60947-5-7

LED 1: yellow = measuring operation, red = error

LED 2: green = voltage signal, blue = current signal

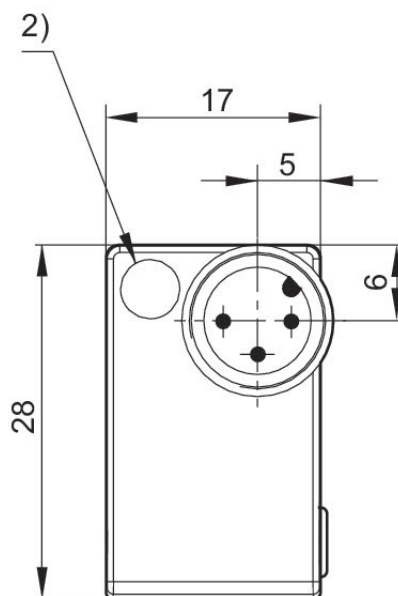
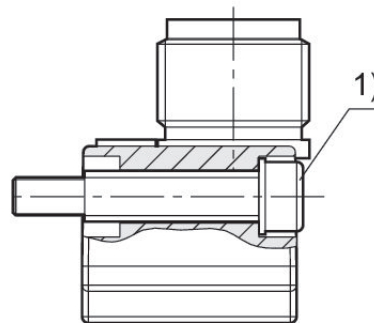
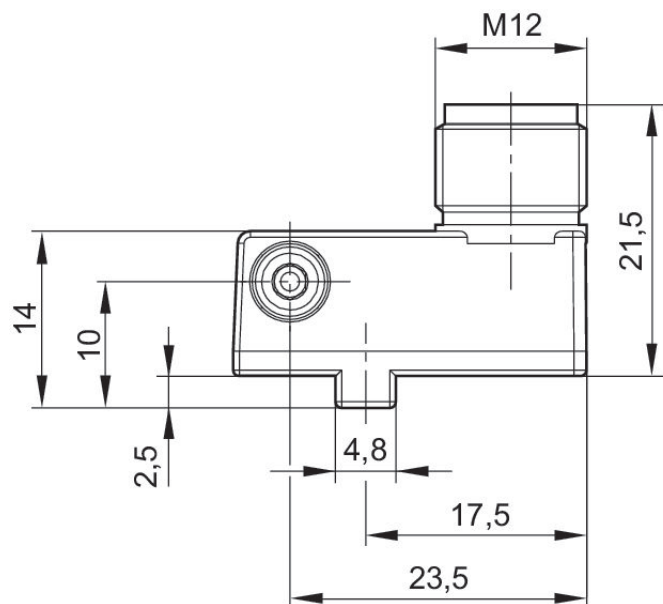
**Sensor, Series SN3**

Electrical connection 2, thread size: M12  
 Electrical connection 2, number of poles: 3-pin  
 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



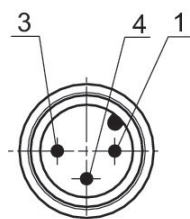
1) Clamping screw

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)**

For series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI  
 Certificates: UL (Underwriters Laboratories), cULus, RoHS  
 Ambient temperature min./max.: -30 °C ... 80 °C

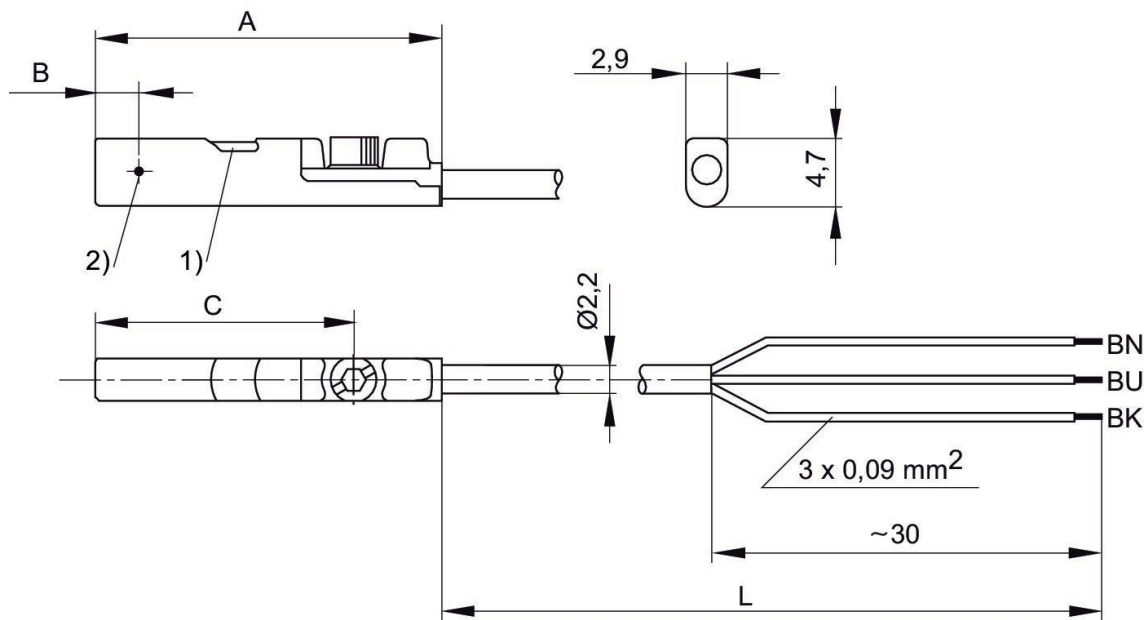


	Direct mounting for series	Switch descr.	Cable length L [m]	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Part No.
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	3	0.13	0.13	5	30	R412019488
	PRA, SSI, GSU, RTC, CKP, 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, Certificate UL (Underwriters Laboratories)**

For series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI

Electrical connection 2, thread size: M8

Certificates: RoHS

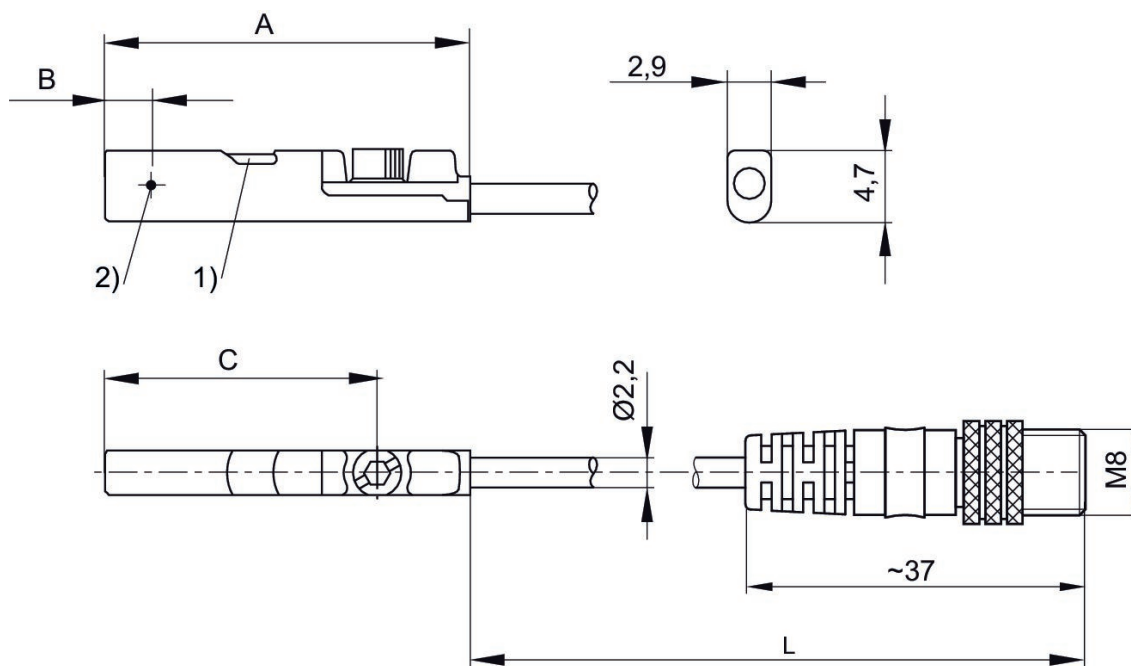
Electrical connection 2, number of poles: 3-pin

Ambient temperature min./max.: -30 °C ... 80 °C



	Direct mounting for series	Switch descr.	Cable length L [m]	Max. DC 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	NPN	0.3	0.1	10	30	R412024123
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	0.3	0.1	10	30	R412024125

**Dimensions**



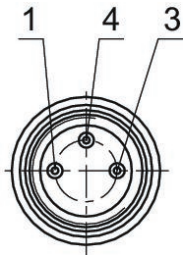
1) LED 2) Switching point

L = cable length

Part No.	A	B	C
R412024123	23.7	2.8	17.7
R412024125	23.7	2.8	17.7

**R412024123, R412024125**

Pin assignment M8x1 (3-pin)



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

**Sensors, Series ST4, plug M8, with knurled screw**

For series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI

Electrical connection 2, thread size: M8

Certificates: UL (Underwriters Laboratories), cULus, RoHS

Electrical connection 2, number of poles: 3-pin

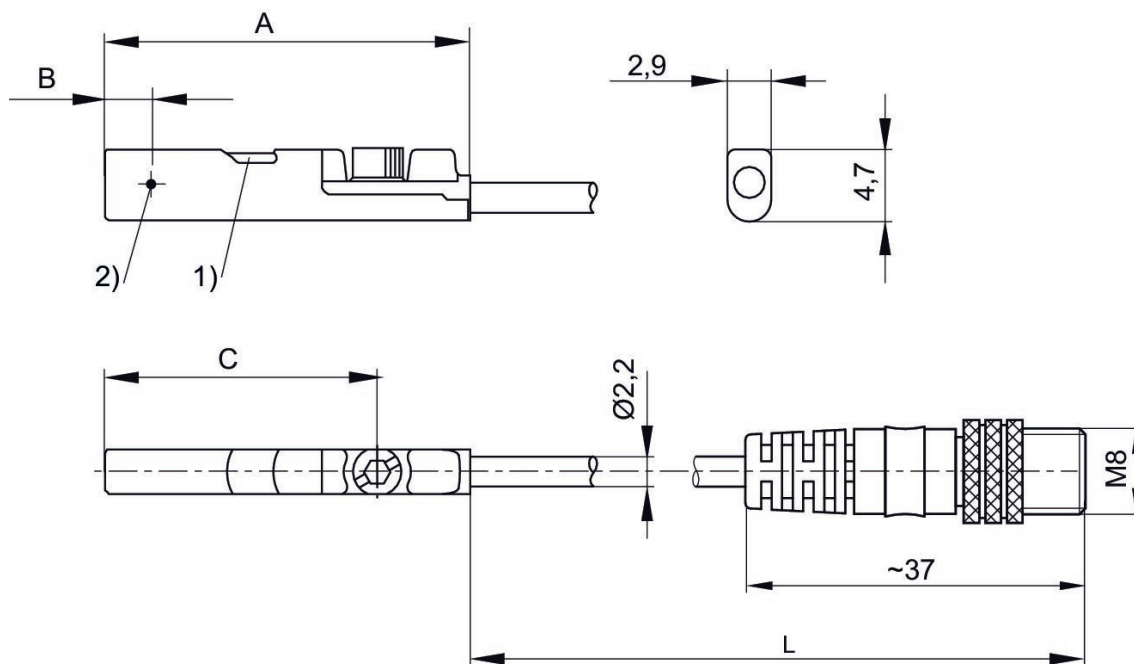
Ambient temperature min./max.: -30 °C ... 80 °C



	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

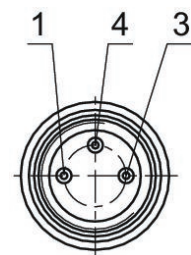


1) LED 2) Switching point  
L = cable length

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**

For series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI

Electrical connection 2, thread size: M12

Certificates: UL (Underwriters Laboratories), cULus, RoHS

Electrical connection 2, number of poles: 3-pin

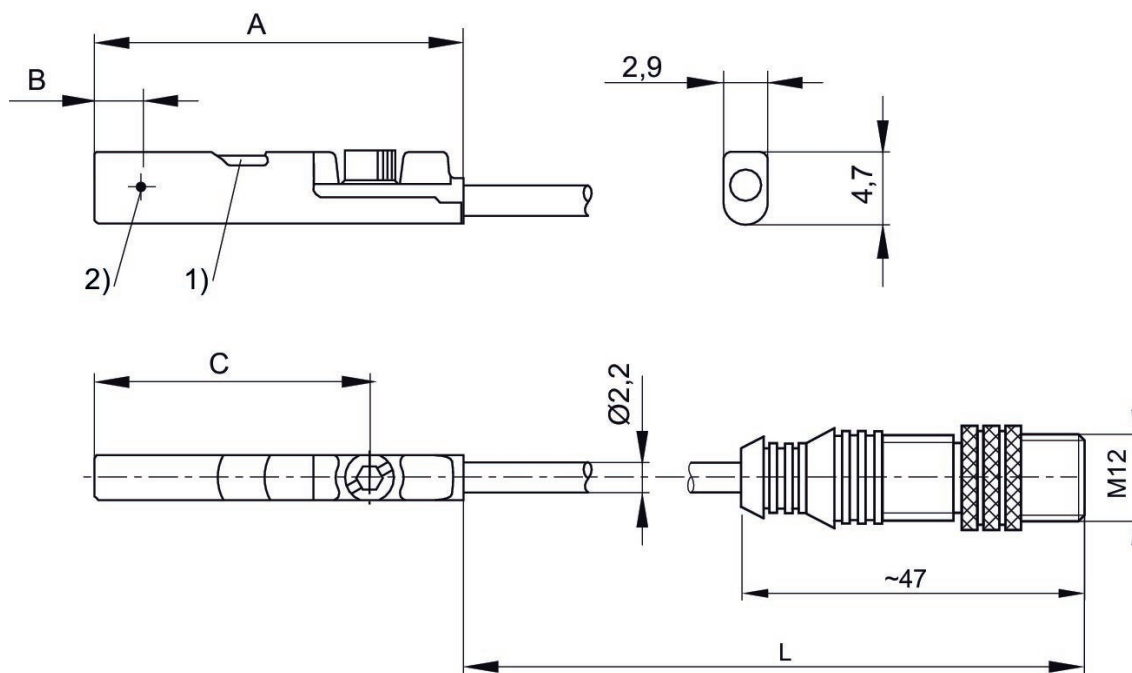
Ambient temperature min./max.: -30 °C ... 80 °C



	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

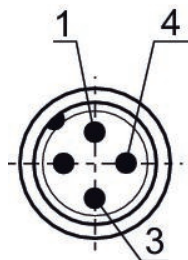
Dimensions



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**

For series: PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI

Electrical connection 2, thread size: M8

Certificates: UL (Underwriters Laboratories), cULus, RoHS

Electrical connection 2, number of poles: 3-pin

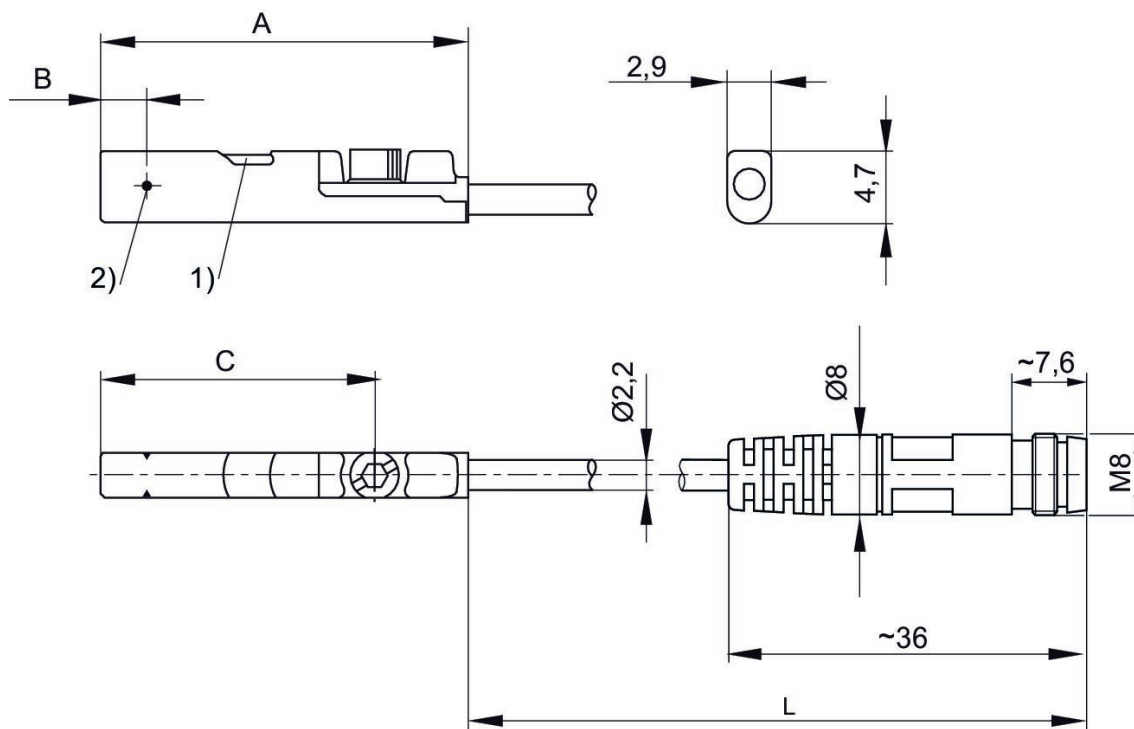
Ambient temperature min./max.: -30 °C ... 80 °C



	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

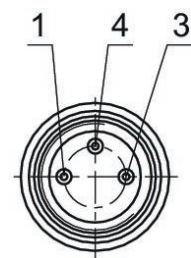


1) LED 2) Switching point  
L = cable length

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)

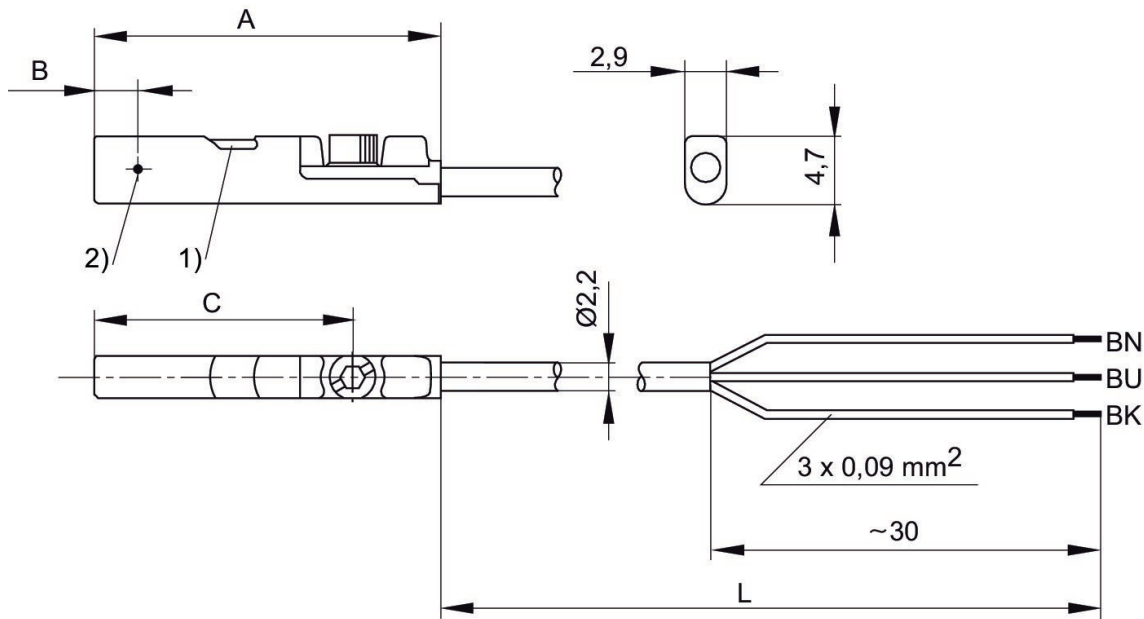
**Sensors, Series ST4, open cable ends, With stretched impulse**

For series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI  
 Electrical connection 2, thread size: M8  
 Certificates: RoHS  
 Electrical connection 2, number of poles: 3-pin  
 Ambient temperature min./max.: -30 °C ... 80 °C



	Direct mounting for series	Switch descr.	Cable length L [m]	Max. DC 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	electronic PNP	5	0.1	10	30	R412024124

Dimensions



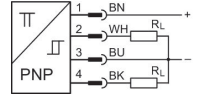
1) LED 2) Switching point  
 L = cable length BN = brown, BK = black, BU = blue

Part No.	A	B	C
R412024124	23.7	2.8	17.7



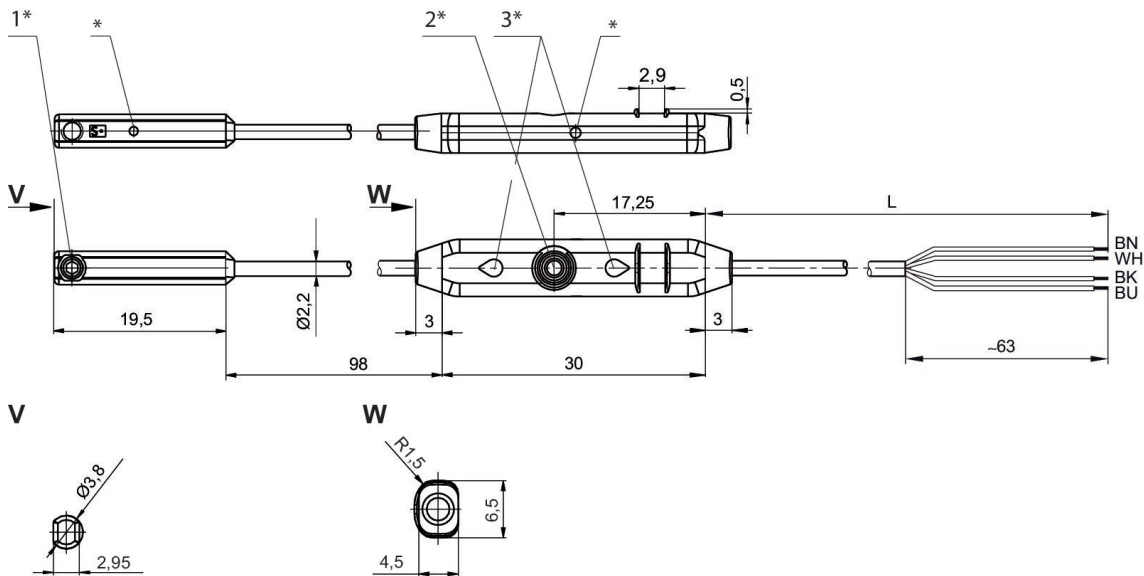
**Sensors, Series ST4-2P, with cable, without wire end ferrule, tin-plated**

For series: PRA, SSI, RTC, GPC, MSC, MSN, RCM, CVI  
 Certificates: RoHS  
 Ambient temperature min./max.: -20 °C ... 75 °C



Direct mounting for series	Indirect mounting for series	Slot width	Switch descr.	Electrical connection number of poles	Part No.
PRA, SSI, RTC, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	electronic PNP	4-pin	R412010139

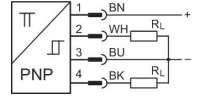
**Dimensions**



1\* = mounting screw 2\* = teach button 3\* = LED  
 L = cable length  
 (2) WH=white  
 \* Switching point

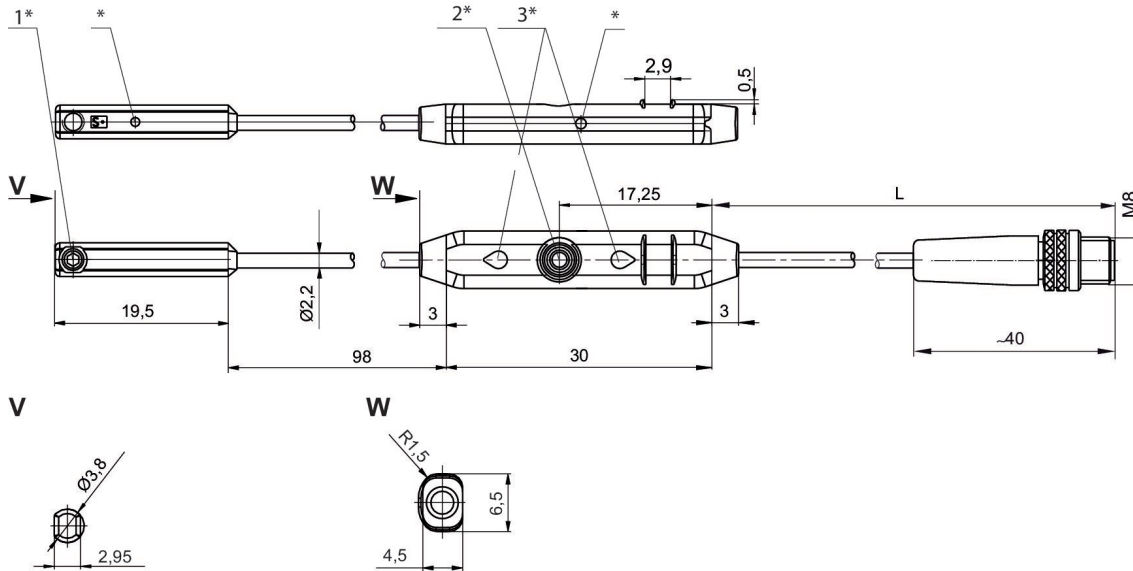
**Sensors, Series ST4-2P, with cable, plug M8x1**

For series: PRA, SSI, RTC, GPC, MSC, MSN, RCM, CVI  
 Electrical connection 2, thread size: M8x1  
 Certificates: RoHS  
 Electrical connection 2, number of poles: 4-pin  
 Ambient temperature min./max.: -20 °C ... 75 °C



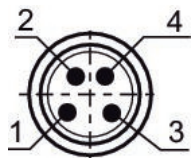
Direct mounting for series	Indirect mounting for series	Slot width	Switch descr.	Electrical connection size	Electrical connection number of poles	Part No.
PRA, SSI, RTC, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	electronic PNP	M8x1	4-pin	R412010140

**Dimensions**



1\* = mounting screw 2\* = teach button 3\* = LED  
 L = cable length  
 \* Switching point

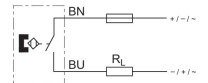
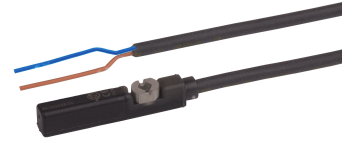
**R412010140**



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

**Sensors, Series ST6, open cable ends, 2-pin, Reed**

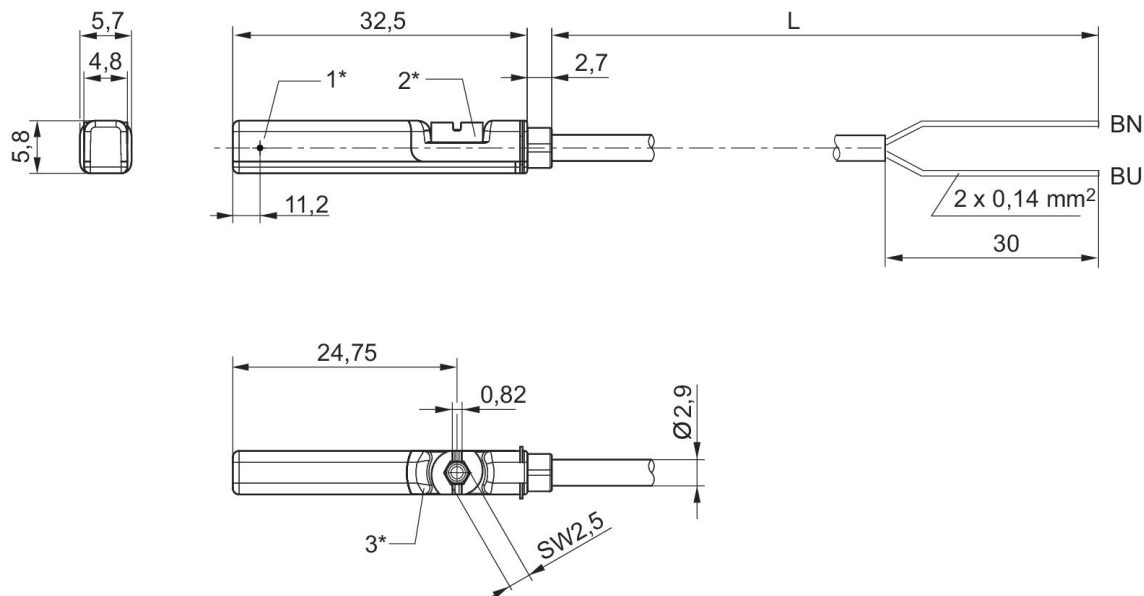
For series: PRA, CCI, KPZ, SSI, GPC, CVI  
 Certificates: CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)  
 Ambient temperature min./max.: -30 °C ... 80 °C



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]	Min. operating voltage AC [V AC]	Part No.
Reed	Polyurethane	2-pin	0.13	0.13	10	230	10	R412022866
Reed	Polyurethane	2-pin	0.13	0.13	10	230	10	R412027170

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

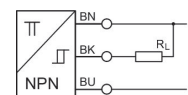
**Dimensions**



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

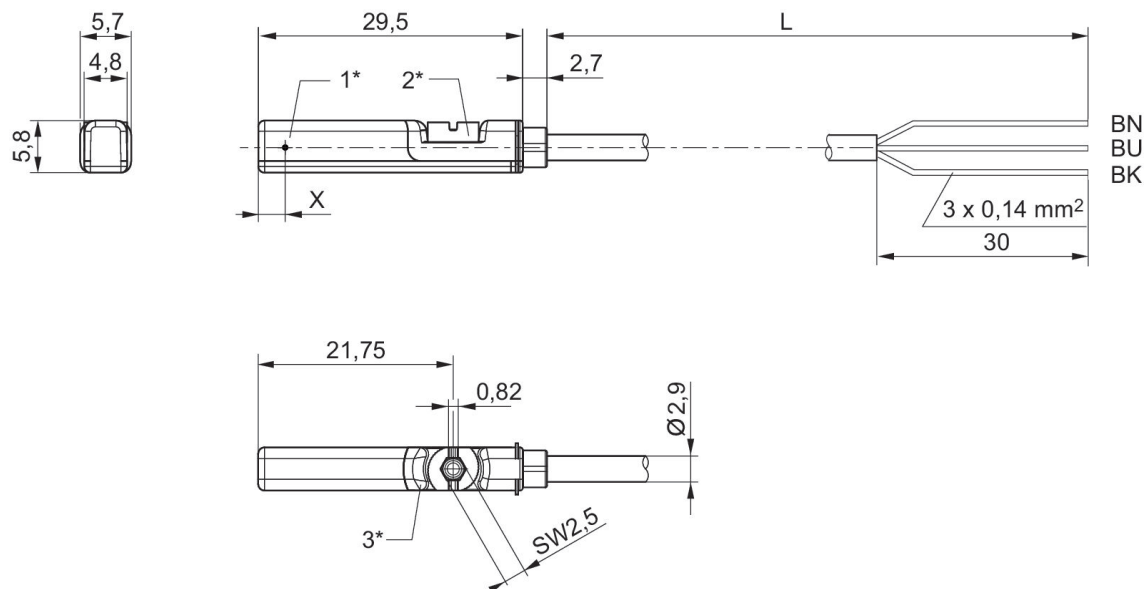
**Sensors, Series ST6, open cable ends, 3-pin, NPN**

For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI  
 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]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Cable length L [m]	Part No.
NPN	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	3	R412022849
NPN	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	5	R412022850

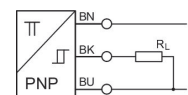
**Dimensions**



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

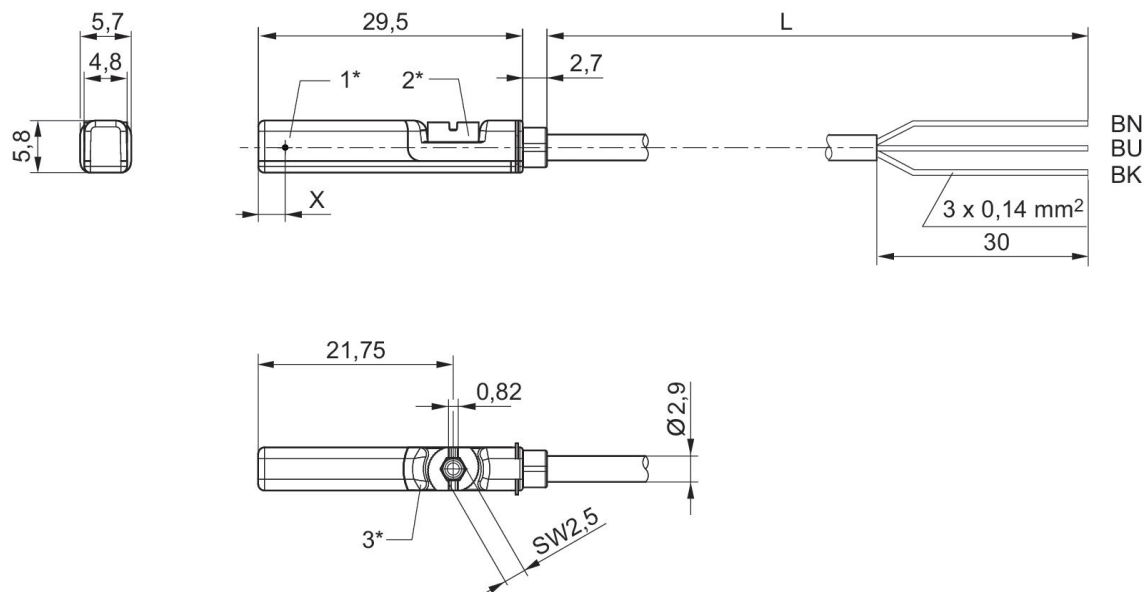
**Sensors, Series ST6, open cable ends, 3-pin, PNP**

For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI  
 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]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Cable length L [m]	Part No.
electronic PNP	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	3	R412022853
electronic PNP	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	5	R412022855
electronic PNP	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	10	R412022857

Dimensions



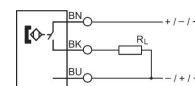
1\* = switching point 2\* = locking screw 3\* = LED window, transparent  
L = cable length BN = brown, BK = black, BU = blue  
X = electronic: 11.6 mm

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

For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI

Certificates: CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)

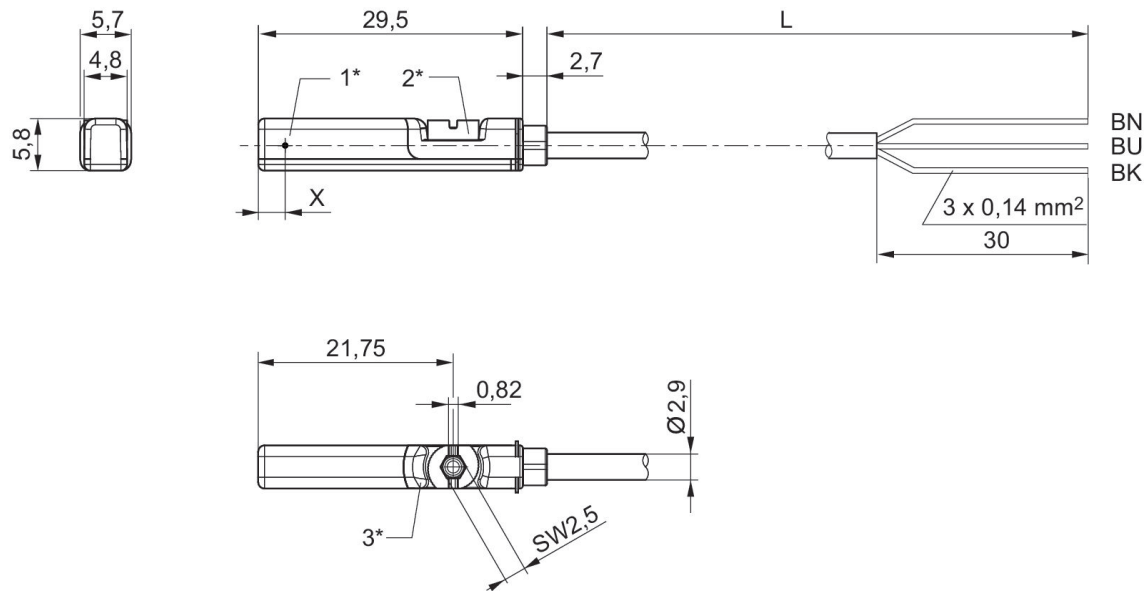
Ambient temperature min./max.: -30 °C ... 80 °C



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]	Min. operating voltage AC [V AC]	Part No.
Reed	Polyurethane	3-pin	0.3	0.5	10	30	10	R412022869
Reed	Polyurethane	3-pin	0.3	0.5	10	30	10	R412022870
Reed	Polyurethane	3-pin	0.3	0.5	10	30	10	R412022871

Max. operational voltage AC [V AC]	Version	Cable length L [m]	Part No.
30	Protected against polarity reversal	3	R412022869
30	Protected against polarity reversal	5	R412022870
30	Protected against polarity reversal	10	R412022871

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

**Sensors, Series ST6, plug M8**

For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI

Electrical connection 2, thread size: M8

Certificates: CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)

Electrical connection 2, number of poles: 3-pin

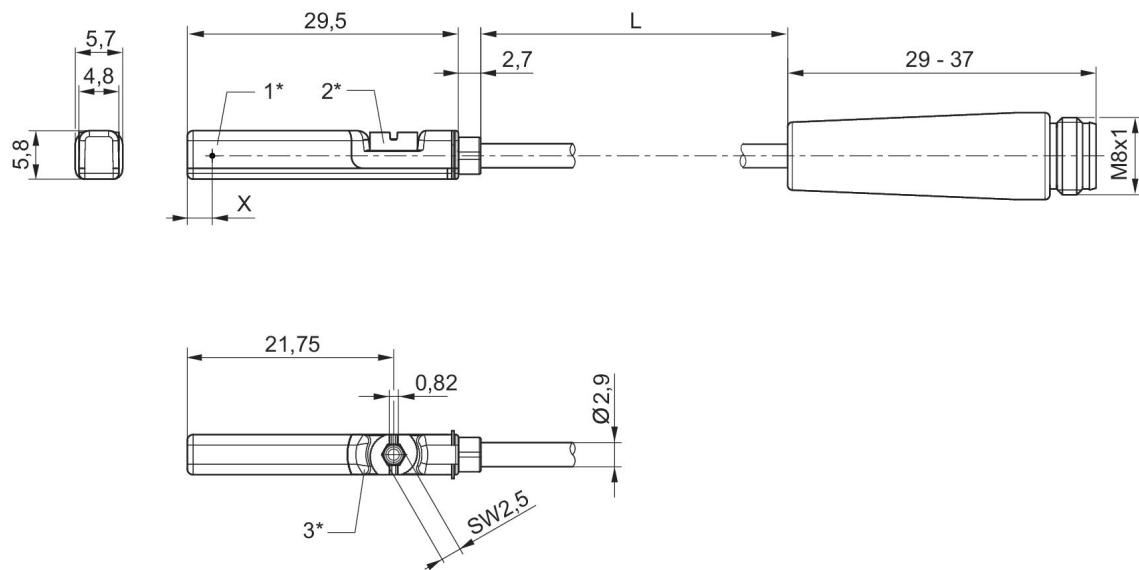
Ambient temperature min./max.: -30 °C ... 80 °C



	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**

For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI

Electrical connection 2, thread size: M12

Certificates: CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)

Electrical connection 2, number of poles: 3-pin

Ambient temperature min./max.: -30 °C ... 80 °C

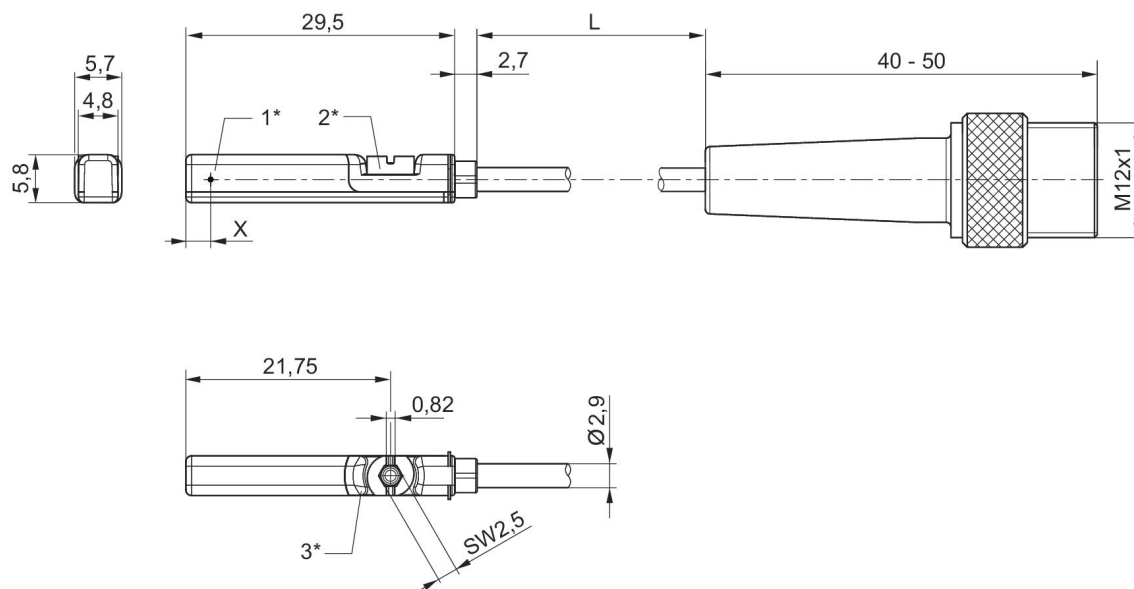


	Switch descr.	Cable sheath	Electrical interface 2	Number of poles	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Part No.
	Reed	Polyurethane	M12x1	2-pin	0.13	0.13	10	R412027171
	Reed	Polyurethane	M12x1	3-pin	0.3	0.5	10	R412022876
	electronic PNP	Polyurethane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

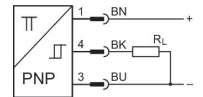
Dimensions



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**

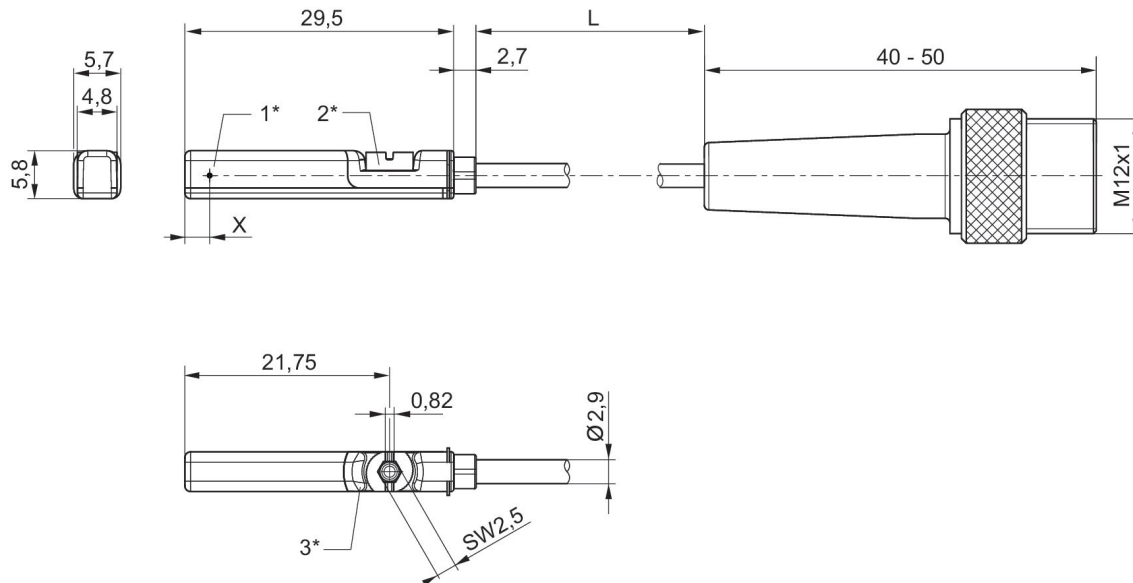
For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI  
 Electrical connection 2, thread size: M12  
 Certificates: ATEX, CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)  
 Electrical connection 2, number of poles: 3-pin  
 Ambient temperature min./max.: -20 °C ... 50 °C



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

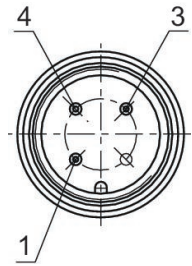
**Dimensions**



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**

For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI

Certificates: CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)

Electrical connection 2, number of poles: 3-pin

Ambient temperature min./max.: -30 °C ... 80 °C

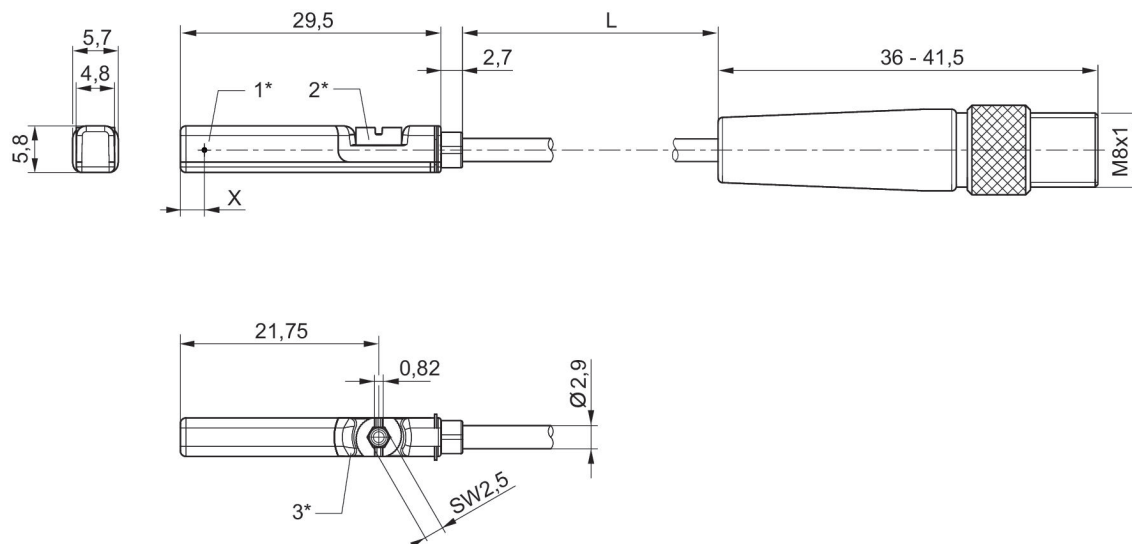


	Switch descr.	Cable sheath	Electrical interface 2	Number of poles	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Part No.
	Reed	Polyurethane	M8x1	3-pin	0.3	0.5	10	R412022873
	Reed	Polyvinyl chloride	M8x1	3-pin	0.3	0.5	10	R412022875
	Reed	Polyurethane	M8x1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

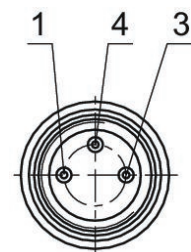
**Dimensions**



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**

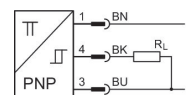
Pin assignment M8x1 (3-pin)



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

**Sensors, Series ST6, plug M8x1, ATEX**

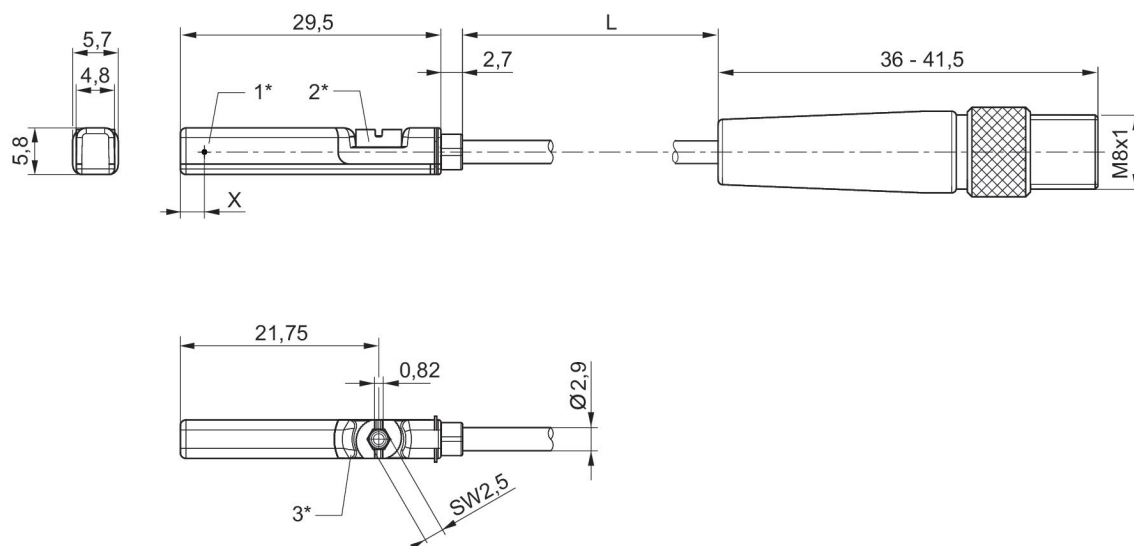
For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI  
 Electrical connection 2, thread size: M8  
 Certificates: ATEX, CE declaration of conformity, cULus, RoHS, UL (Underwriters Laboratories)  
 Electrical connection 2, number of poles: 3-pin  
 Ambient temperature min./max.: -20 °C ... 50 °C



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

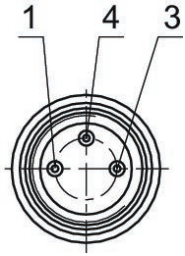
**Dimensions**



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

**R412022860**

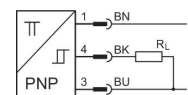
Pin assignment M8x1 (3-pin)



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

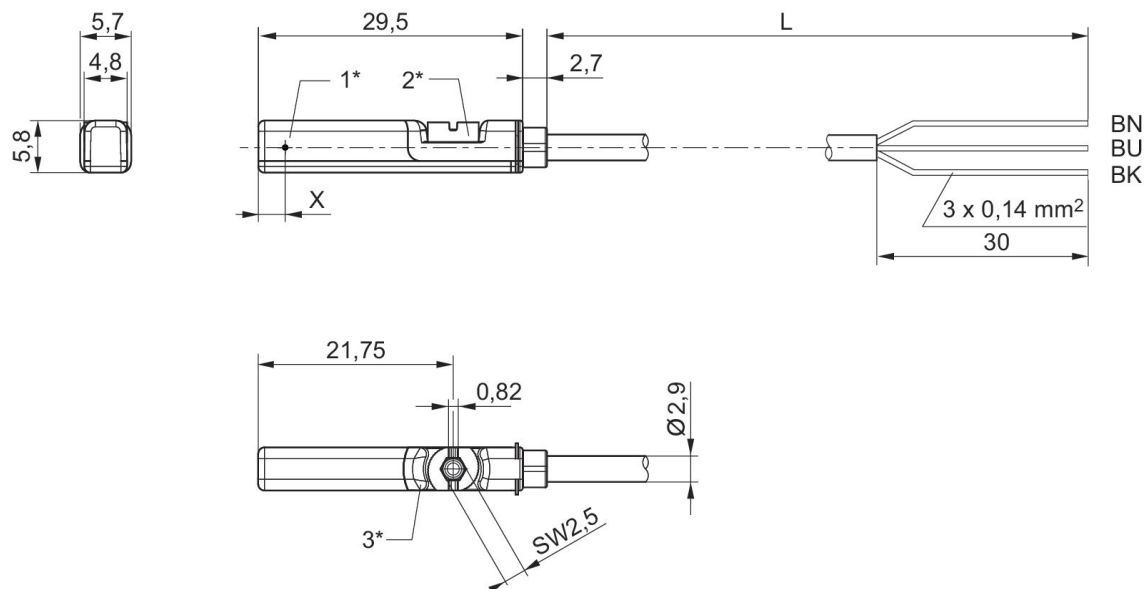
**Sensors, Series ST6, open cable ends, 3-pin, PNP, ATEX**

For series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI  
 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

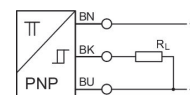
**Sensors, Series ST6, open cable ends, 3-pin, M12, cold-resistant**

For series: PRA

Temperature resistance: -40 °C cold-resistant

Certificates: RoHS, UL (Underwriters Laboratories), cULus

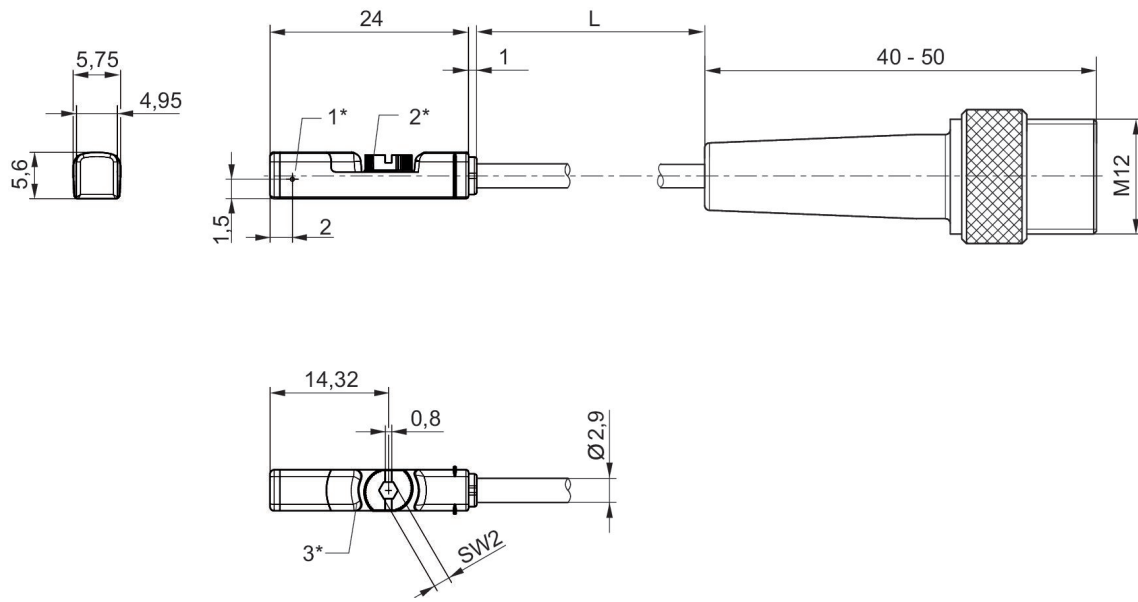
Ambient temperature min./max.: -40 °C ... 80 °C



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		3-pin	0.2	10	30	short circuit resistant	R412024011
PNP	Polyurethane	M8x1	3-pin	0.2	10	30	short circuit resistant	R412024669
PNP	Polyurethane	M12x1	3-pin	0.2	10	30	short circuit resistant	R412024670

Cable length L [m]	Part No.
5	R412024011
0.3	R412024669
0.3	R412024670

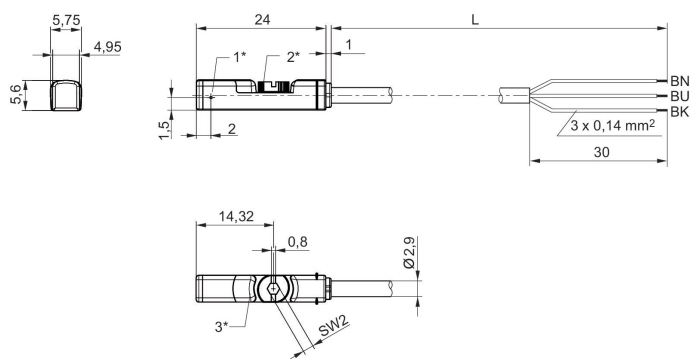
Dimensions



1\* = switching point 2\* = locking screw 3\* = LED window, transparent  
L = cable length

**R412024011**

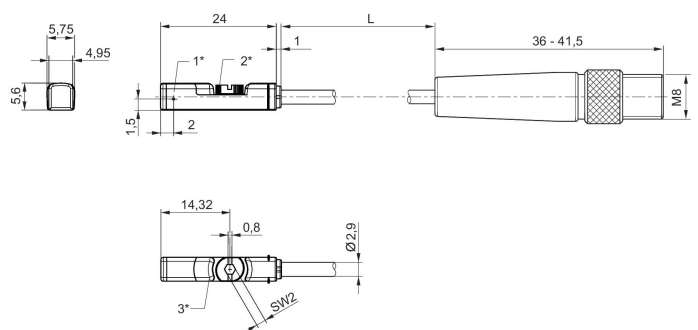
Dimensions



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

**R412024669**

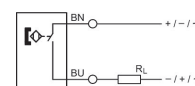
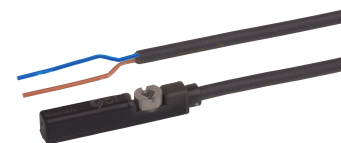
Dimensions



1\* = switching point 2\* = locking screw 3\* = LED window, transparent  
L = cable length

**Sensors, Series ST6, open cable ends, 2-pin, Heat resistant**

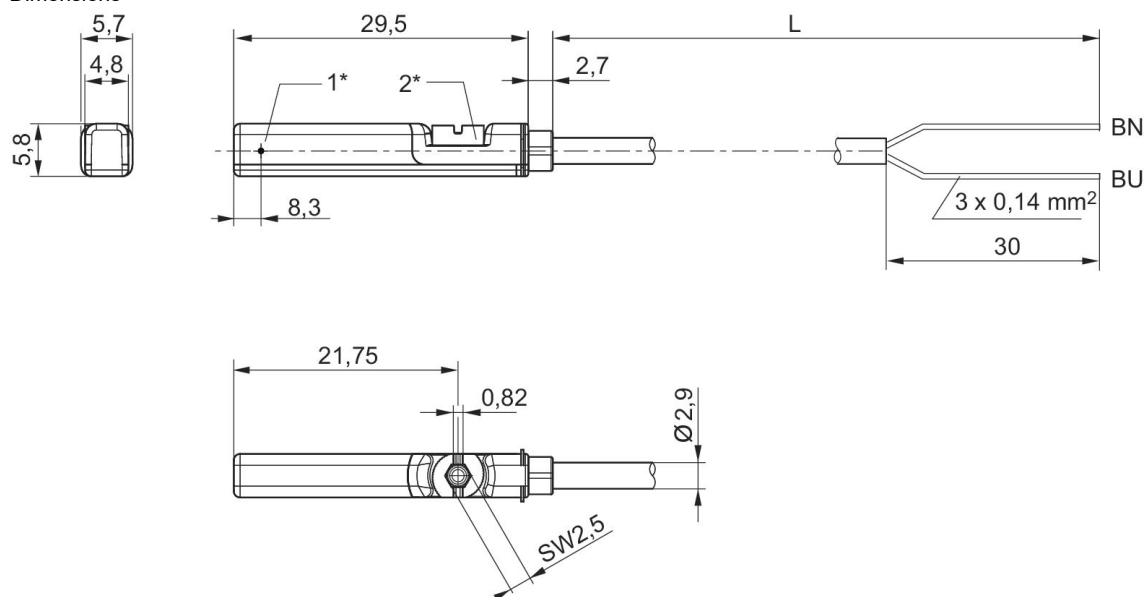
For series: PRA, PRE, CCI, KPZ  
 Temperature resistance: Heat resistant  
 Certificates: RoHS, UL (Underwriters Laboratories)  
 Ambient temperature min./max.: -20 °C ... 120 °C



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]	Min. operating voltage AC [V AC]	Part No.
Reed	Polyurethane	2-pin	0.13	0.13	0	30	0	R412022865
Reed	Polyurethane	2-pin	0.13	0.13	0	30	0	R412022867

Max. operational voltage AC [V AC]	Version	Cable length L [m]	Part No.
30	Protected against polarity reversal	3	R412022865
30	Protected against polarity reversal	10	R412022867

**Dimensions**



1\* = switching point 2\* = locking screw  
 L = cable length BN=brown, BU=blue

### Sensor mounting, Series CB1

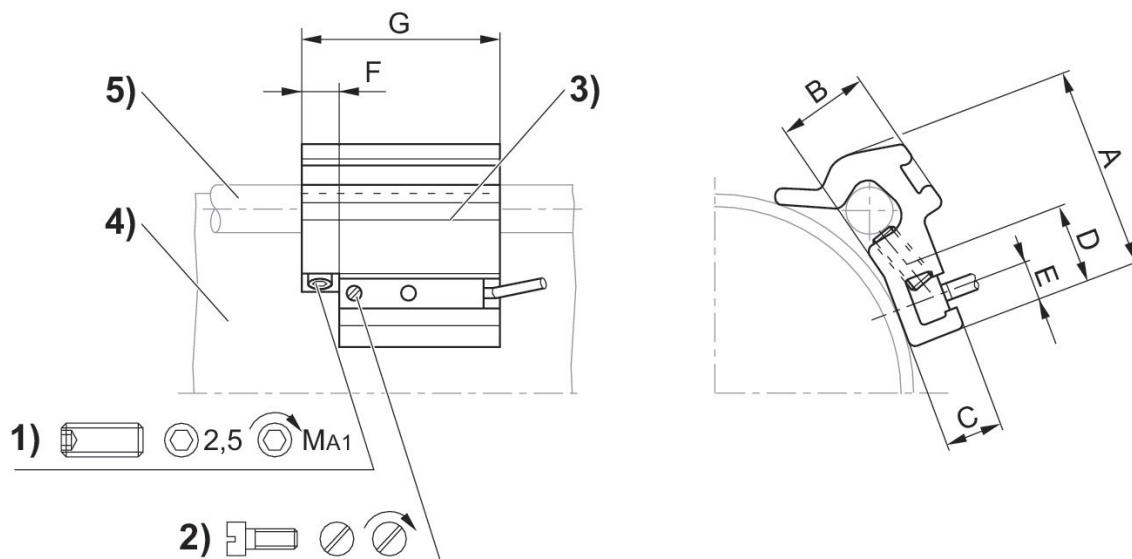
To mount on series: ST6, SM6

To mount on series: TRB, C12P, 167, CVI, TRR, 523



Min. cylinder Ø [mm]	Max. cylinder Ø [mm]	Material	Part No.
32	40	Aluminum	1827020282
50	63	Aluminum	1827020283
80	100	Aluminum	1827020284

#### Dimensions



1) Clamping threaded pin 2) Mounting screw for sensor 3) Sensor 4) Cylinder profile 5) Tie rod

Part No.	Cylinders Ø	A	B	C	D	E	F	G	Clamping threaded pin
1827020282	32 - 40 mm	26	10	7	14	5	8	40	M5x8
1827020283	50 - 63 mm	32.5	15.5	7	14	5	8	40	M5x10
1827020284	80 - 100 mm	43	17	6.9	14	5	8	40	M5x16

Part No.	MA1 [Nm]
1827020282	2 ±0,2
1827020283	2 ±0,2
1827020284	2 ±0,2

**Sensor mounting, Series CB1**

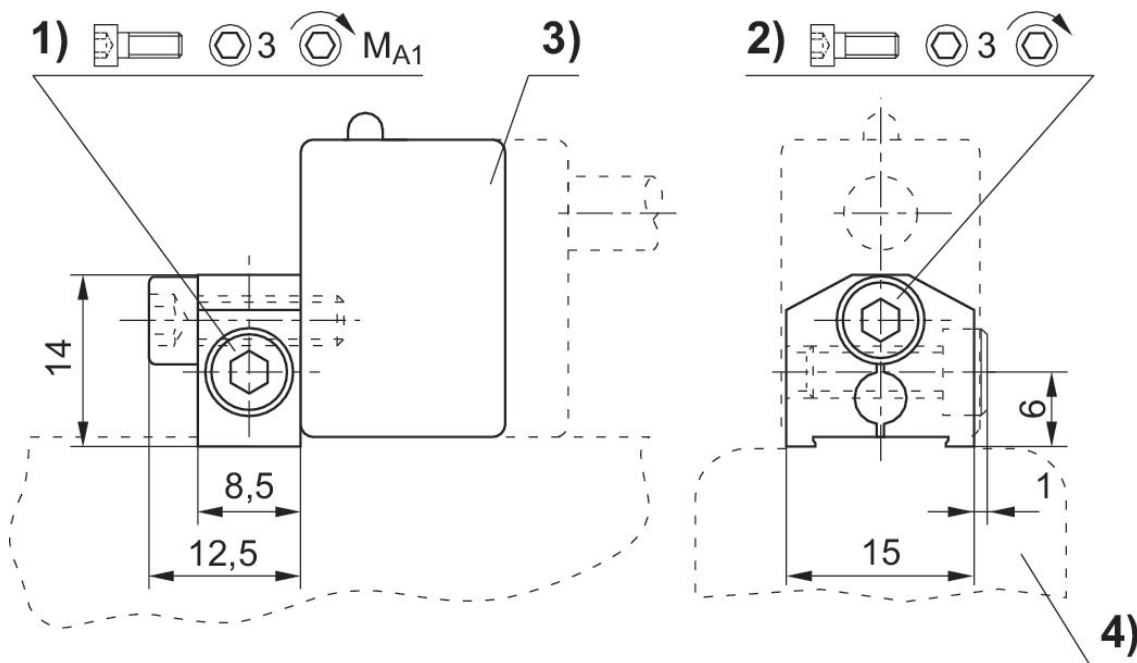
To mount on series: SN1, SN2

To mount on series: PRA



Material	Part No.
Aluminum	1827020084

Dimensions



1) Clamping screw 2) Mounting screw for sensor 3) Sensor 4) Cylinder profile

Part No.	Clamping screw	MA1 [Nm]
1827020084	M4x12	2

**Sensor mounting, Series CB1**

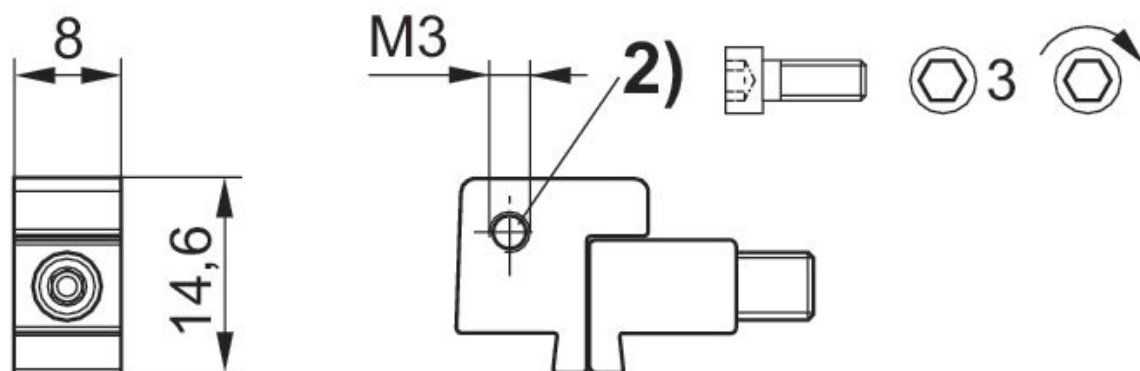
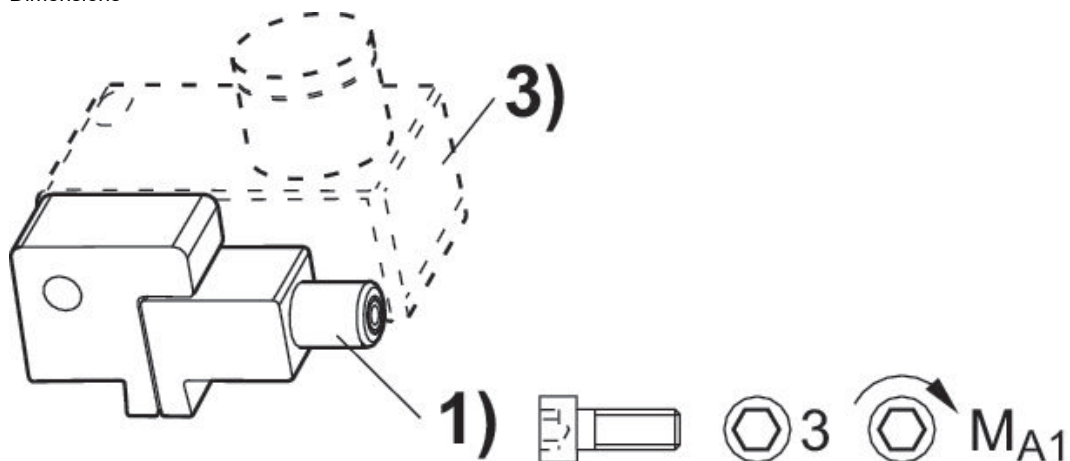
To mount on series: SN3

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



Material	Part No.
Aluminum	1827020386

Dimensions

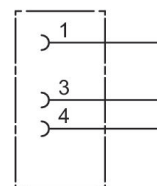


1) Clamping screw 2) Mounting screw 3) Sensor

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

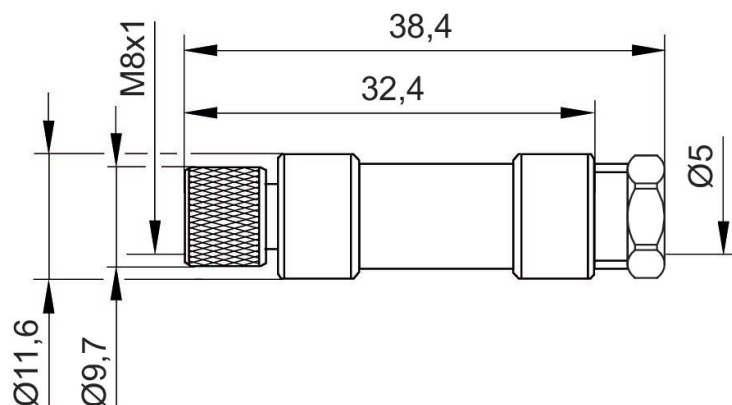
**Round plug connector, Series CON-RD**

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



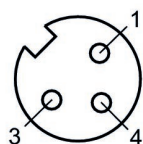
Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Soldering	4	3.5	5	1834484173

Dimensions



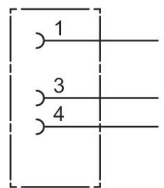
**1834484173**

Pin assignment, socket



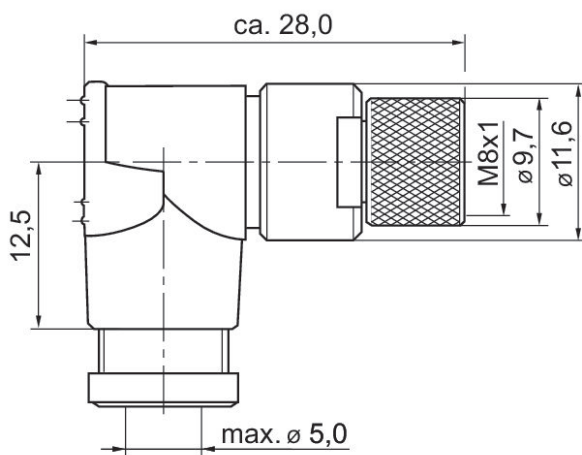
**Round plug connector, Series CON-RD**

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



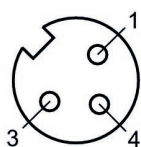
Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Soldering	4	3.5	5	1834484174

Dimensions in mm



**1834484174**

Pin assignment, socket



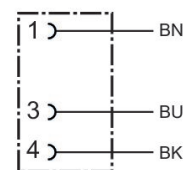
**Round plug connector, Series CON-RD**

Electrical connection 1: Socket ... M8x1 ... 3-pin ... straight

Electrical connection 2: open cable ends ... 3-pin

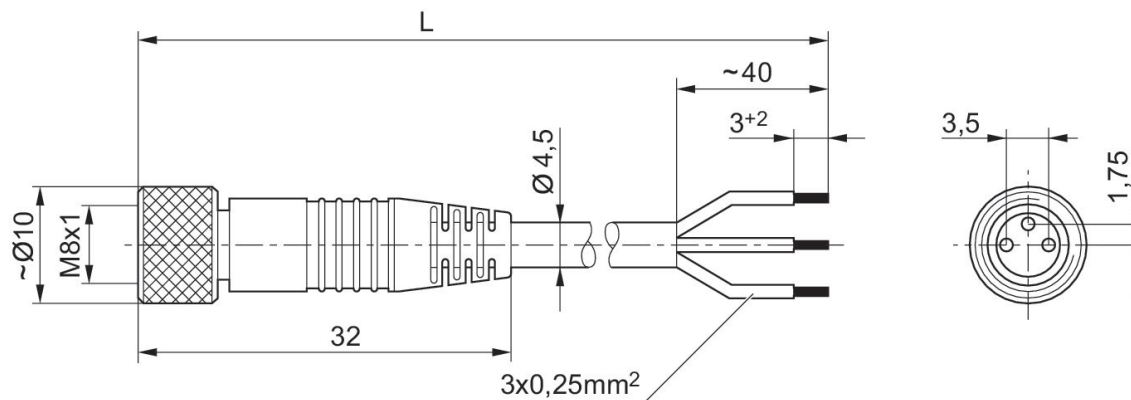
Certification: UL (Underwriters Laboratories)

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

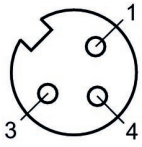
Dimensions



L = length

**1834484166, 1834484168, 1834484247**

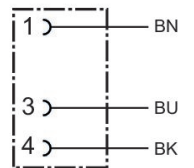
Pin assignment, socket



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

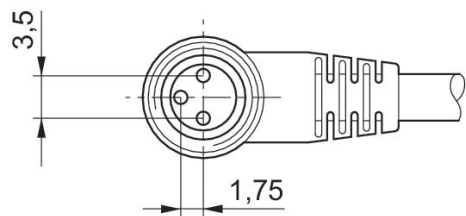
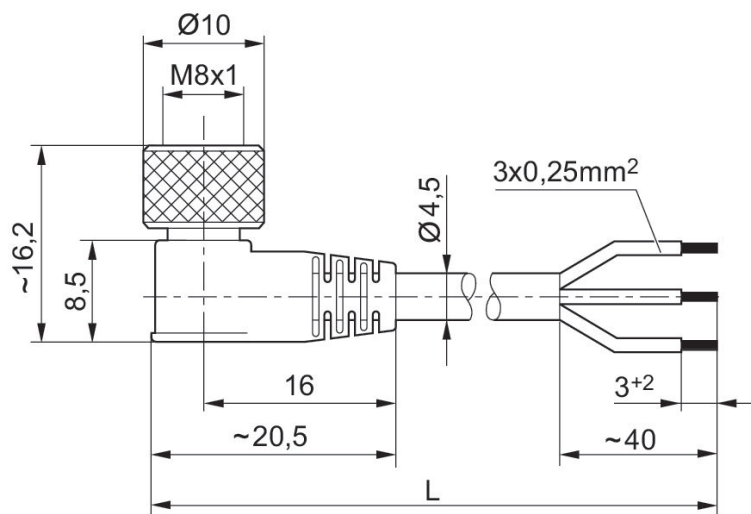
**Round plug connector, Series CON-RD**

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

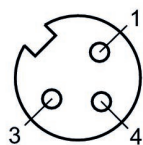
Dimensions



L = length

**1834484167, 1834484169, 1834484248**

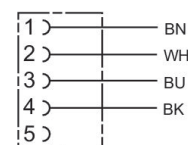
Pin assignment, socket



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

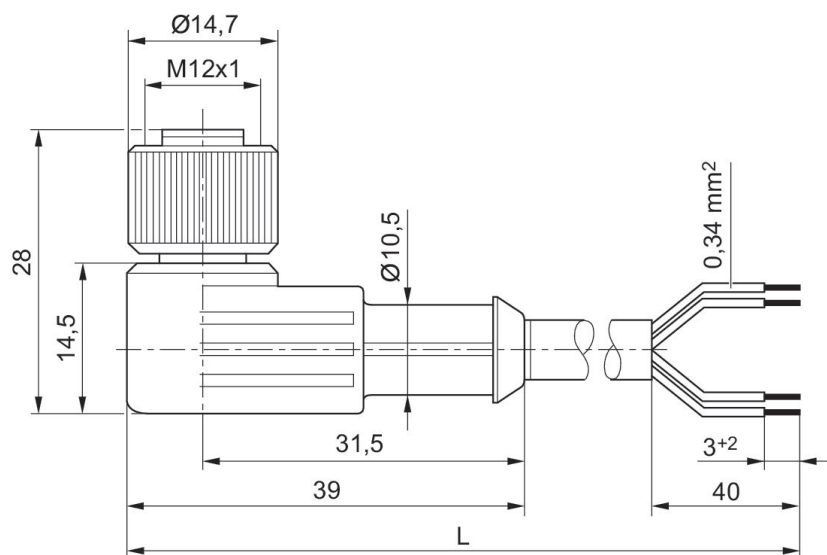
**Round plug connector, Series CON-RD, 5-pin, angled, unshielded**

Electrical connection 1: Socket ... M12x1 ... 5-pin ... angled  
 Electrical connection 2: without wire end ferrule, tin-plated ... 4-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	M12x1	5-pin	A-coded	open cable ends	4-pin	3	1834484259
48 V AC/DC	Socket	M12x1	5-pin	A-coded	open cable ends	4-pin	5	1834484260
48 V AC/DC	Socket	M12x1	5-pin	A-coded	open cable ends	4-pin	10	1834484261

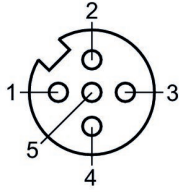
Dimensions



L = length

**1834484259, 1834484260, 1834484261**

Pin assignment, socket



(1) BN=brown (2) WH=white (3) BU=blue (4) BK=black  
(5) not assigned

**Silencers, series SI1, Sintered bronze**

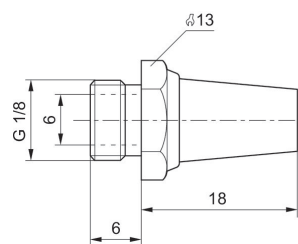
Compressed air connection type: External thread  
 Silencer material: Sintered bronze  
 Ambient temperature min./max.: -25 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



G	Sound pressure level [dB]	Nominal flow [l/min]	Delivery unit [piece]	Weight [kg]	Part No.
G 1/8	75	1623	10	0.01	1827000000
G 1/4	98	5950	10	0.013	R412004817
G 1/4	79	3390	10	0.02	1827000001
G 3/8	84	6554	5	0.05	1827000002
G 1/2	90	7223	2	0.08	1827000003
G 3/4	92	8394	1	0.13	1827000004

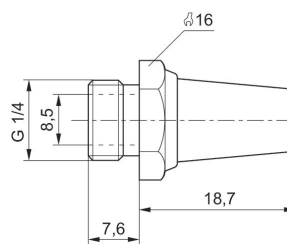
**1827000000**

Dimensions in mm



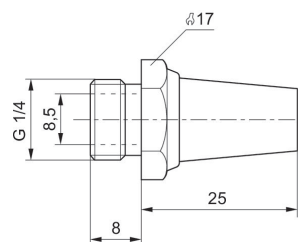
**R412004817**

Dimensions in mm



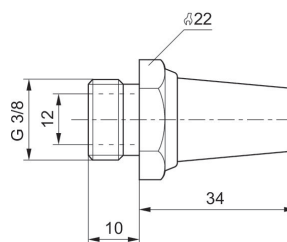
**1827000001**

Dimensions in mm



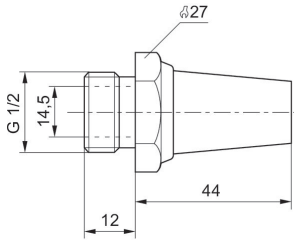
**1827000002**

Dimensions in mm



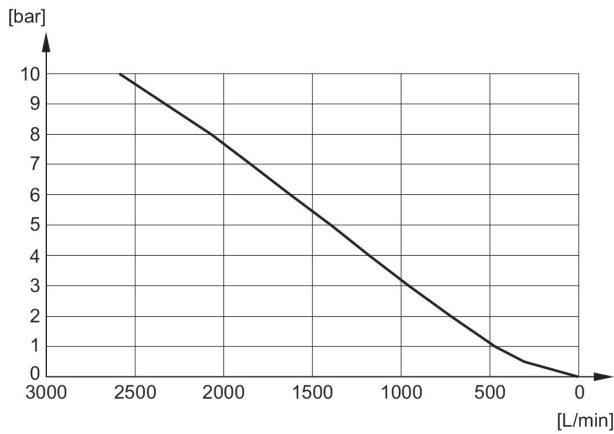
**1827000003**

Dimensions in mm



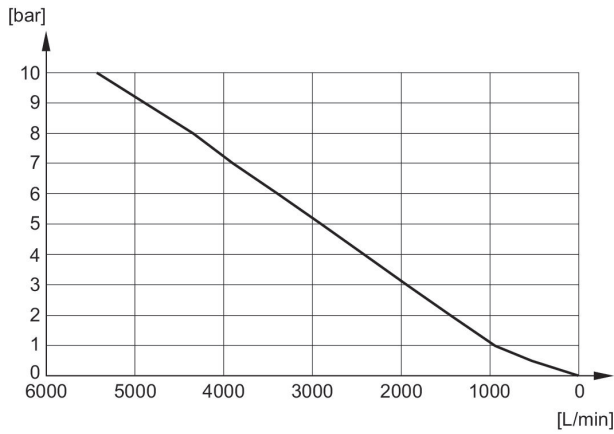
**Flow diagram**

**1827000000**



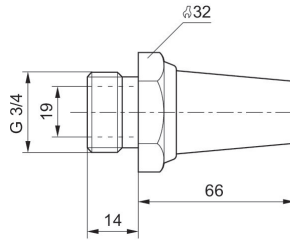
**Flow diagram**

**1827000001**



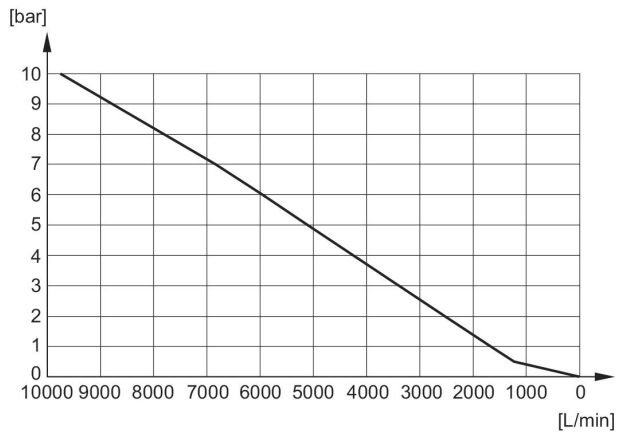
**1827000004**

Dimensions in mm



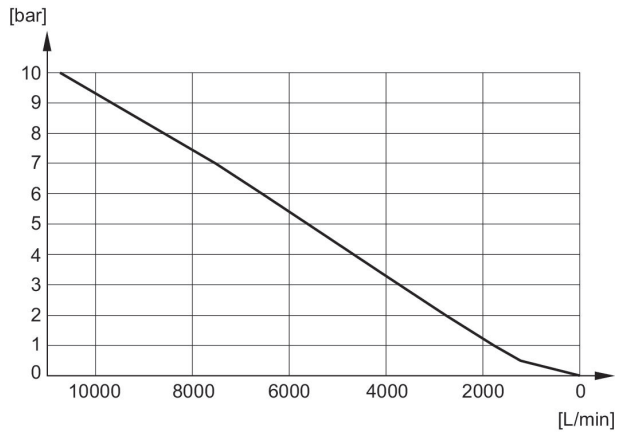
**Flow diagram**

**R412004817**



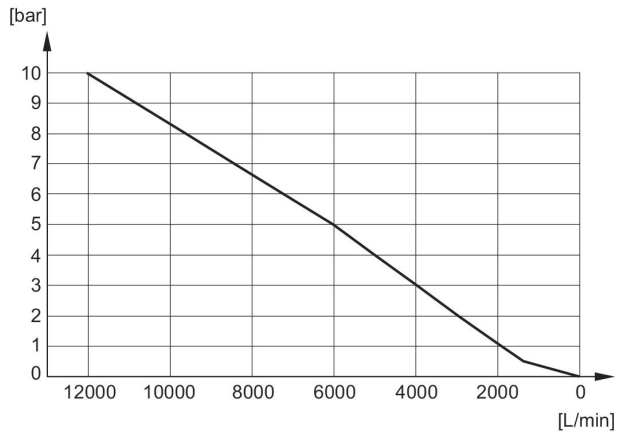
**Flow diagram**

**1827000002**



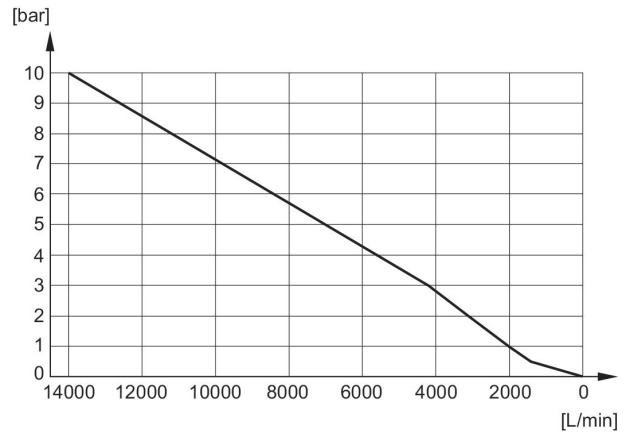
**Flow diagram**

**1827000003**



**Flow diagram**

**1827000004**



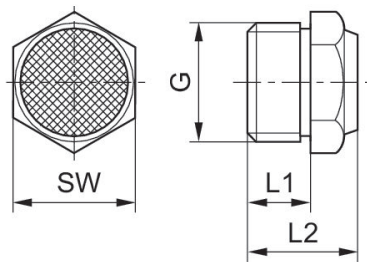
**Silencers, series SI1, Sintered bronze**

Compressed air connection type: External thread  
 Silencer material: Sintered bronze  
 Ambient temperature min./max.: -25 °C ... 80 °C  
 Working pressure min./max.: 0 bar ... 10 bar



G	Sound pressure level [dB]	Nominal flow [l/min]	Delivery unit [piece]	Weight [kg]	Part No.
G 1/8	85	700	10	0.001	1827000031
G 1/4	88	1116	10	0.01	1827000033
G 3/8	90	1706	5	0.016	1827000034
G 1/2	85	2568	2	0.035	1827000035

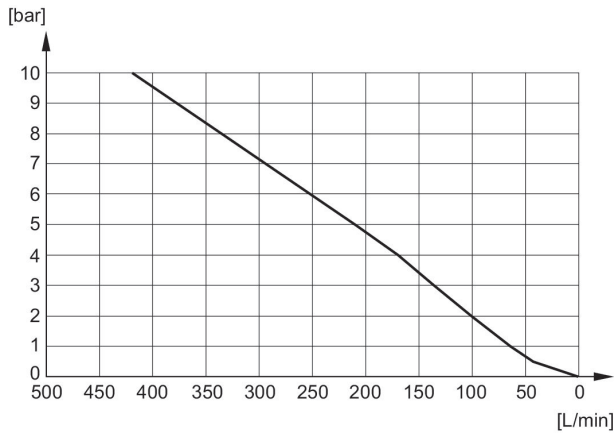
**Dimensions**



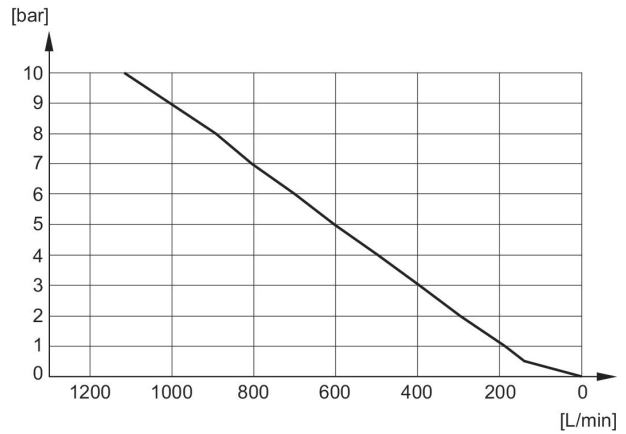
Part No.	Port G	L1	L2	SW
1827000032	M5	5	10.3	7
1827000031	G 1/8	6	11.5	13
1827000033	G 1/4	8	13.5	17
1827000034	G 3/8	10	17.5	22
1827000035	G 1/2	12	19.5	27
8145003400	G 3/4	14	22.5	32
8145001000	G 1	16	22.5	41

Sound pressure level measured at 6 bar at 1 m distance

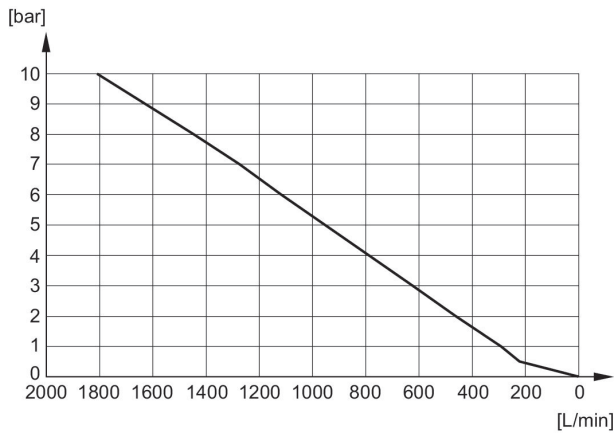
**Flow diagram 1827000032**



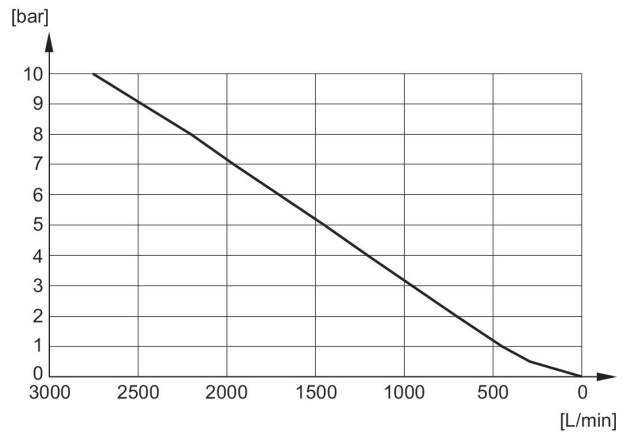
**Flow diagram 1827000031**



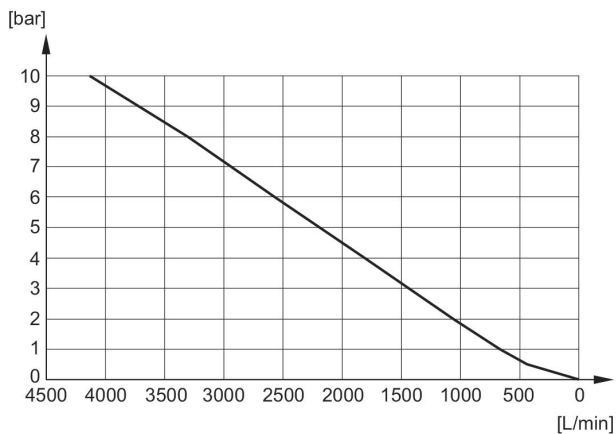
**Flow diagram 1827000033**



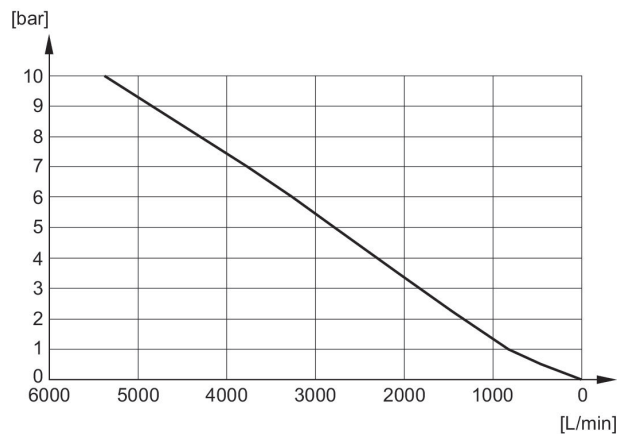
**Flow diagram 1827000034**



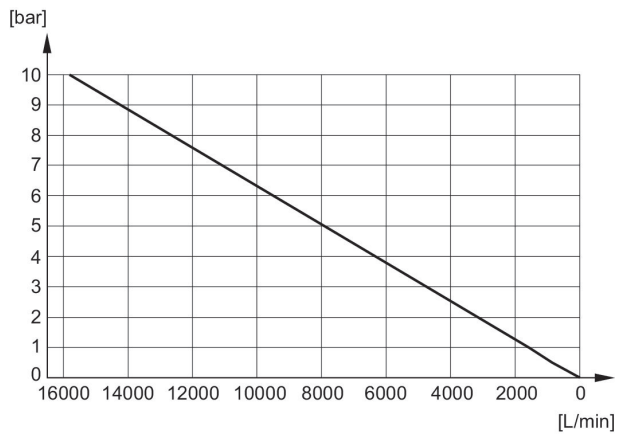
**Flow diagram 1827000035**



**Flow diagram 8145003400**







**Flow diagram 8145001000**



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