

ISO 15552, series TRB



AVENTICS™ ISO 15552, series TRB

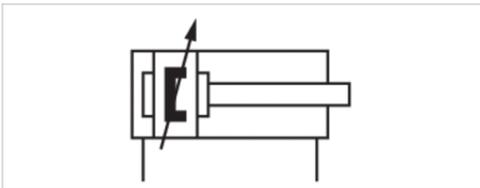


Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- Ports G 1/8 G 1/4 G 3/8 G 1/2
- double-acting
- with magnetic piston
- Cushioning pneumatically adjustable
- Piston rod External thread
- ATEX optional



Standards	ISO 15552
Certificates	ATEX optional
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar



Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm	80 mm M20x1,5 G 3/8 25 mm	100 mm M20x1,5 G 1/2 25 mm
Stroke 25	0822340001	0822341001	0822342001	0822343001	0822344001	0822345001
50	0822340002	0822341002	0822342002	0822343002	0822344002	0822345002
80	0822340003	0822341003	0822342003	0822343003	0822344003	0822345003
100	0822340004	0822341004	0822342004	0822343004	0822344004	0822345004
125	0822340005	0822341005	0822342005	0822343005	0822344005	0822345005
160	0822340006	0822341006	0822342006	0822343006	0822344006	0822345006
200	0822340007	0822341007	0822342007	0822343007	0822344007	0822345007
250	0822340008	0822341008	0822342008	0822343008	0822344008	0822345008
320	0822340009	0822341009	0822342009	0822343009	0822344009	0822345009
400	0822340010	0822341010	0822342010	0822343010	0822344010	0822345010
500	0822340011	0822341011	0822342011	0822343011	0822344011	0822345011

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
Stroke 25	0822306201
50	0822306202
80	0822306203
100	0822306204
125	0822306205
160	0822306206
200	0822306207
250	0822306208
320	0822306209
400	0822306210
500	0822306211

Technical data

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 length	16.5 mm	19 mm	17 mm	16.5 mm
Cushioning energy	4.8 J	9 J	15 J	27 J
Weight 0 mm stroke	0.46 kg	0.67 kg	1.14 kg	1.4 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg	0.052 kg
Tie-rods	Stainless steel	Stainless steel	Steel galvanized	Steel galvanized
Stroke max.	1600 mm	1900 mm	2100 mm	2500 mm

Piston Ø	80 mm	100 mm	125 mm
Retracting piston force	2855 N	4635 N	7220 N
Extracting piston force	3165 N	4945 N	7725 N
Cushioning length	19.5 mm	19.5 mm	22 mm
Cushioning energy	54 J	88 J	140 J
Weight 0 mm stroke	2.12 kg	3.16 kg	6.92 kg
Weight +10 mm stroke	0.06 kg	0.065 kg	0.21 kg
Tie-rods	Steel galvanized	Steel galvanized	Steel galvanized
Stroke max.	2800 mm	2800 mm	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

ATEX-certified cylinders with identification II 2G Ex h IIB T4 Gb / II 2D Ex h IIIB T135°C Db_X can be generated in the Internet configurator.

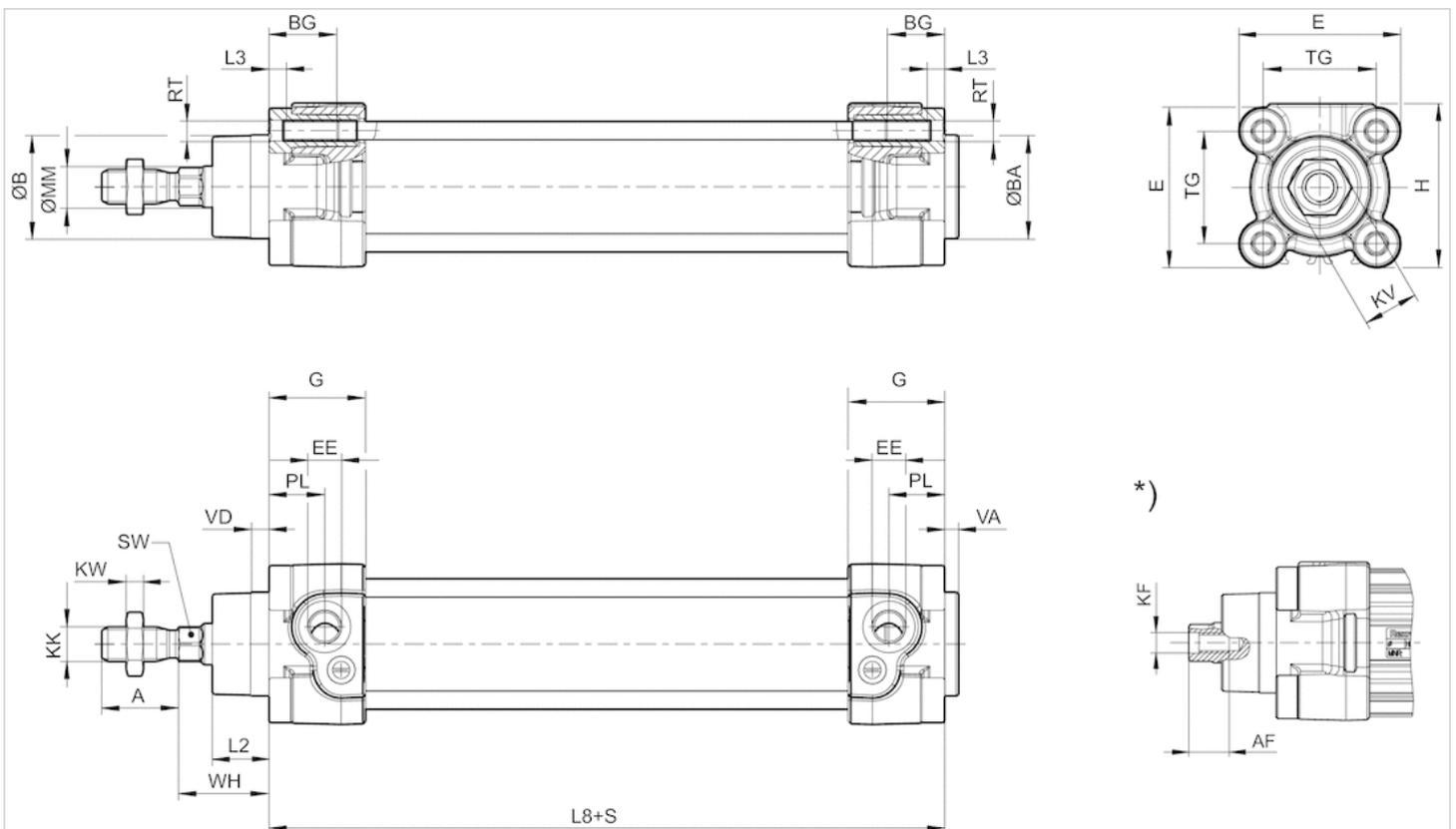
The operating temperature range for ATEX-certified cylinders is -20 °C ... 50 °C.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Polyurethane
Nut for piston rod	Steel, galvanized
Scraper	Polyurethane
Tie-rods	Stainless steel Steel, galvanized
See table for additional data on materials.	

Dimensions

Dimensions



S = stroke

*) For cylinders with optional piston rod with internal thread

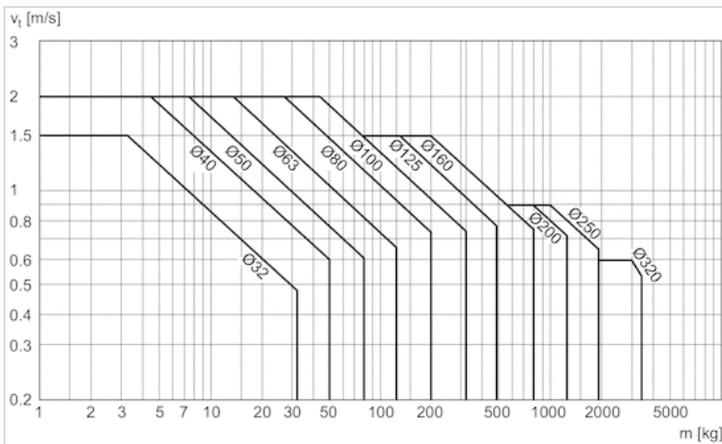
Dimensions

Piston Ø	A -2	AF+1	ØB d11	ØBA d11	BG min.	E	EE	G	H	KF	KK	KV	KW
32 mm	22	12	30	30	16	46.5	G 1/8	27.75	47.5	M6	M10x1,25	16	5
40 mm	24	13.5	35	35	16	53	G 1/4	33.25	53	M8	M12x1,25	18	6
50 mm	32	17	40	40	16	65	G 1/4	31	65	M10	M16x1,5	24	8
63 mm	32	17	45	45	16	75	G 3/8	38.25	75	M10	M16x1,5	24	8
80 mm	40	21	45	45	17	95	G 3/8	38.25	95	M12	M20x1,5	30	10
100 mm	40	21	55	55	17	115	G 1/2	42.25	115	M12	M20x1,5	30	10
125 mm	54	28	60	60	20	140	G 1/2	53.85	140	M16	M27x2	41	13.5

Piston Ø	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH
32 mm	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4
40 mm	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4
50 mm	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	4	5	37±1,4
63 mm	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	4	5	37±1,8
80 mm	25	23.5	33	0	128±0,8	M10	22	72±0,7	4	5	46±1,8
100 mm	25	25	36	0	138±1	M10	22	89±0,7	4	5	51±1,8
125 mm	32	33	45	0	160±1	M12	27	110±1,1	6	7	65±2,2

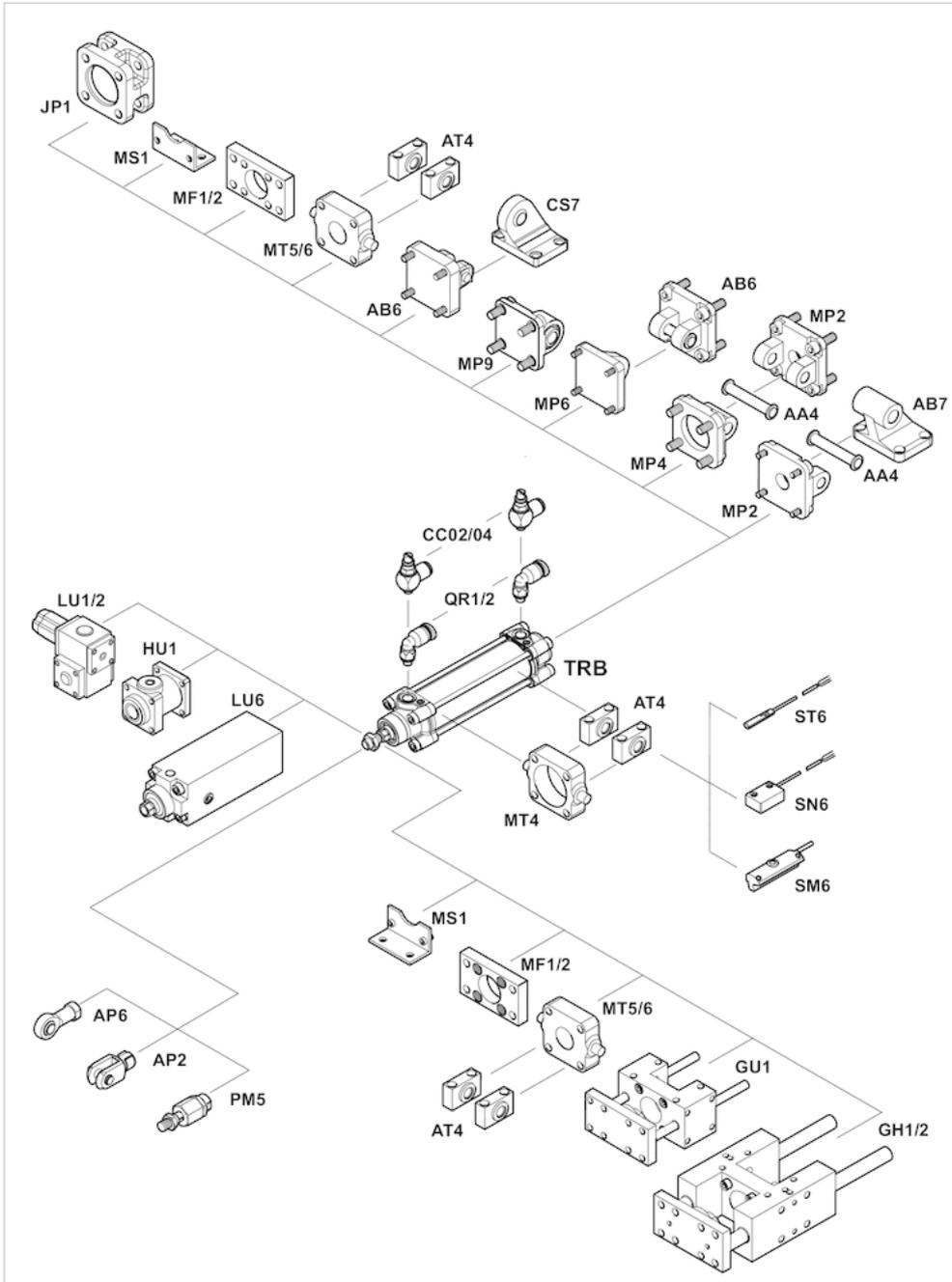
Diagrams

Cushioning diagram



v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview



Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- Ports G 1/8 G 1/4 G 3/8 G 1/2
- double-acting
- with magnetic piston
- Cushioning elastic
- Piston rod External thread



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar



Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm	80 mm M20x1,5 G 3/8 25 mm	100 mm M20x1,5 G 1/2 25 mm
Stroke 25	0822340600	0822341600	0822342600	0822343600	0822344600	0822345600
50	0822340601	0822341601	0822342601	0822343601	0822344601	0822345601
80	0822340602	0822341602	0822342602	0822343602	0822344602	0822345602
100	0822340611	R480055348	0822342607	0822343603	0822344603	0822345604
125	0822340612	0822341611	0822342612	R480163015	0822344605	R480141842
160	0822340609	0822341610	0822342606	0822343606	0822344609	0822345606
200	R480162940	0822341604	0822342620	R480163016	0822344607	0822345610
250	0822340618	0822341608	0822342614	0822343608	0822344608	R480149881
320	R480162941	R480162983	0822342621	0822343612	0822344606	R480163046
400	0822340614	0822341605	R480162998	R480163017	0822344604	0822345603
500	R480045159	R480162984	R480162999	R480163018	0822344611	R480163047

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
Stroke 25	R480170413
50	R480142425
80	R480170781
100	R480160422
125	R480170784
160	R480170785
200	R480170786
250	R480170787
320	R480146555
400	R480170788
500	R480168824

Technical data

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
Impact energy	0.4 J	0.65 J	1 J	1.6 J
Weight 0 mm stroke	0.46 kg	0.67 kg	1.14 kg	1.4 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg	0.052 kg
Tie-rods	Stainless steel	Stainless steel	Steel galvanized	Steel galvanized
Stroke max.	1600 mm	1900 mm	2100 mm	2500 mm

Piston Ø	80 mm	100 mm	125 mm
Retracting piston force	2855 N	4635 N	7220 N
Extracting piston force	3165 N	4945 N	7725 N
Impact energy	2.5 J	3.9 J	6 J
Weight 0 mm stroke	2.12 kg	3.16 kg	6.92 kg
Weight +10 mm stroke	0.06 kg	0.065 kg	0.21 kg
Tie-rods	Steel galvanized	Steel galvanized	Steel galvanized
Stroke max.	2800 mm	2800 mm	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

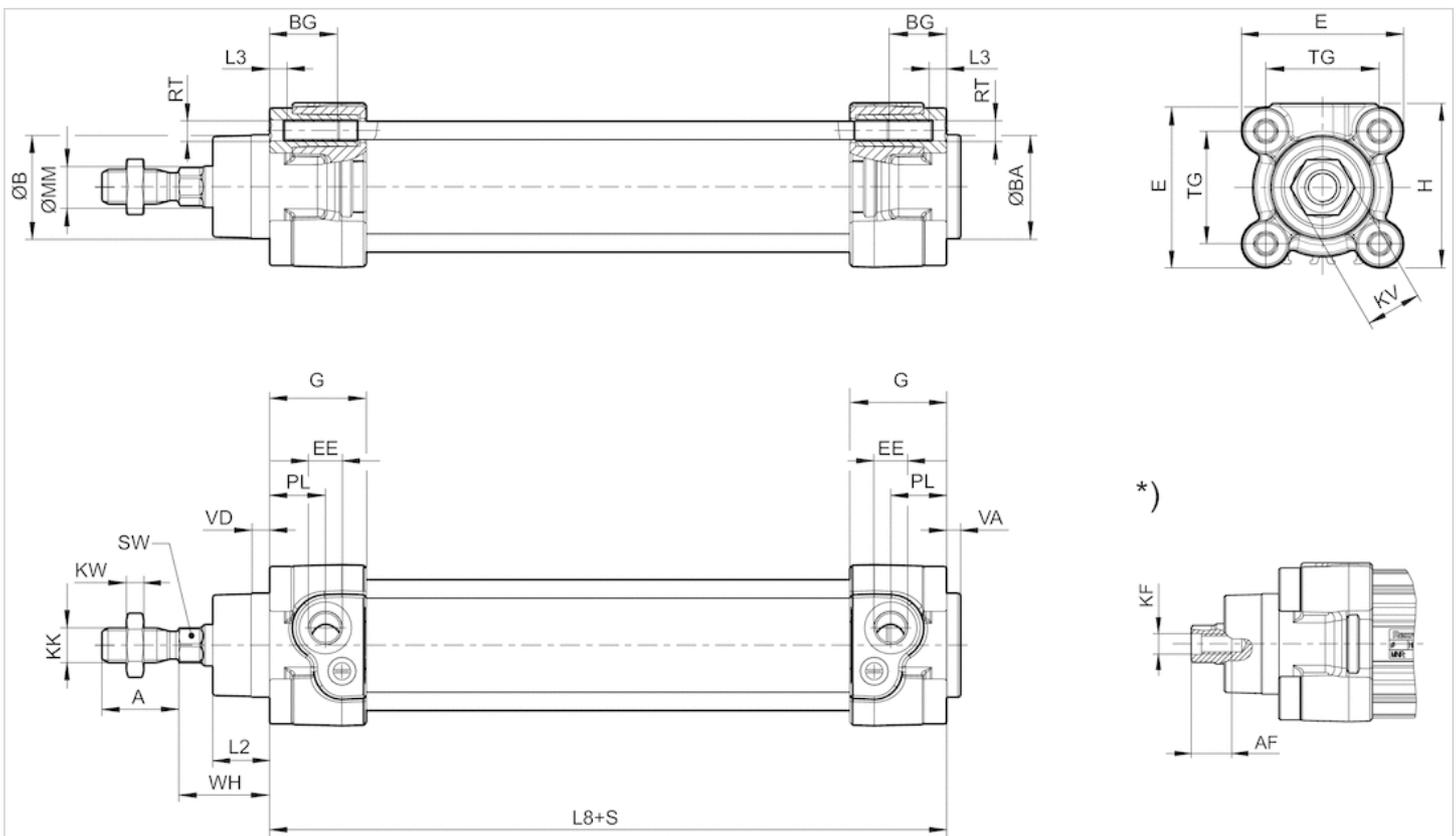
Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel

Material	
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Polyurethane
Nut for piston rod	Steel, galvanized
Scraper	Polyurethane
Tie-rods	Stainless steel Steel, galvanized
See table for additional data on materials.	

Dimensions

Dimensions



S = stroke

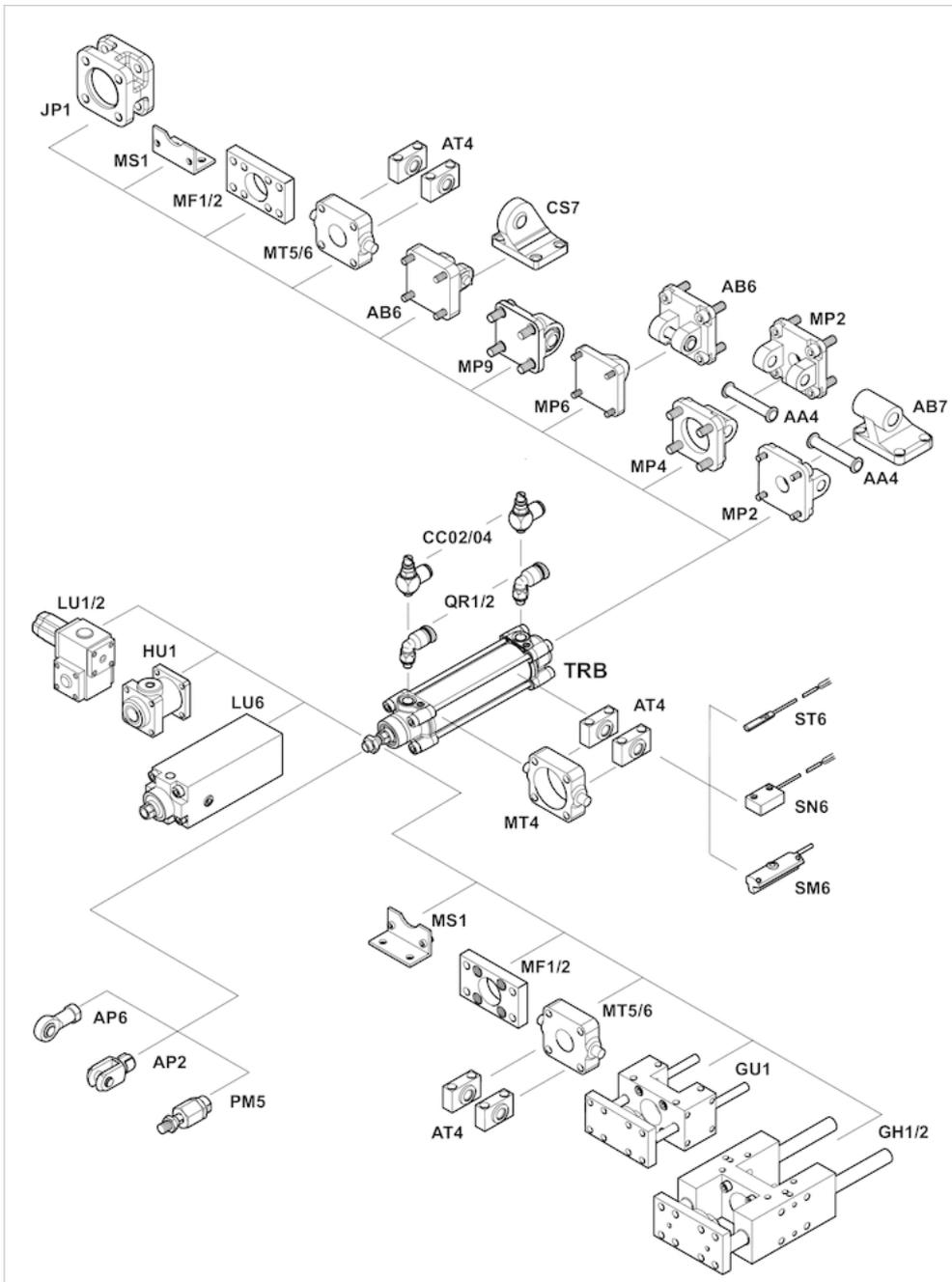
*) For cylinders with optional piston rod with internal thread

Dimensions

Piston Ø	A -2	AF+1	ØB d11	ØBA d11	BG min.	E	EE	G	H	KF	KK	KV	KW
32 mm	22	12	30	30	16	46.5	G 1/8	27.75	47.5	M6	M10x1,25	16	5
40 mm	24	13.5	35	35	16	53	G 1/4	33.25	53	M8	M12x1,25	18	6
50 mm	32	17	40	40	16	65	G 1/4	31	65	M10	M16x1,5	24	8
63 mm	32	17	45	45	16	75	G 3/8	38.25	75	M10	M16x1,5	24	8
80 mm	40	21	45	45	17	95	G 3/8	38.25	95	M12	M20x1,5	30	10
100 mm	40	21	55	55	17	115	G 1/2	42.25	115	M12	M20x1,5	30	10
125 mm	54	28	60	60	20	140	G 1/2	53.85	140	M16	M27x2	41	13.5

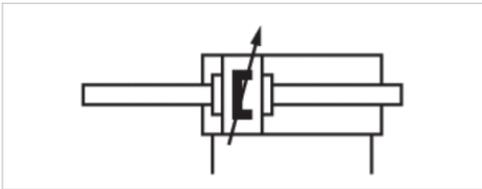
Piston Ø	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH
32 mm	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4
40 mm	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4
50 mm	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	4	5	37±1,4
63 mm	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	4	5	37±1,8
80 mm	25	23.5	33	0	128±0,8	M10	22	72±0,7	4	5	46±1,8
100 mm	25	25	36	0	138±1	M10	22	89±0,7	4	5	51±1,8
125 mm	32	33	45	0	160±1	M12	27	110±1,1	6	7	65±2,2

Accessories overview



Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- Ports G 1/8 G 1/4 G 3/8 G 1/2
- double-acting
- with magnetic piston
- Cushioning pneumatically adjustable
- Piston rod External thread
- Piston rod through
- ATEX optional



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm	80 mm M20x1,5 G 3/8 25 mm	100 mm M20x1,5 G 1/2 25 mm
Stroke 25	0822340501	0822341501	0822342501	0822343501	0822344501	0822345501
50	0822340502	0822341502	0822342502	0822343502	0822344502	0822345502
80	0822340503	0822341503	0822342503	0822343503	0822344503	0822345503
100	0822340504	0822341504	0822342504	0822343504	0822344504	0822345504
125	0822340505	0822341505	0822342505	0822343505	0822344505	0822345505
160	0822340506	0822341506	0822342506	0822343506	0822344506	0822345506
200	0822340507	0822341507	0822342507	0822343507	0822344507	0822345507
250	0822340508	0822341508	0822342508	0822343508	0822344508	0822345508
320	0822340509	0822341509	0822342509	0822343509	0822344509	0822345509
400	0822340510	0822341510	0822342510	0822343510	0822344510	0822345510
500	0822340511	0822341511	0822342511	0822343511	0822344511	0822345511

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
Stroke 25	R480166022
50	7472410919
80	7472024294
100	7472412262
125	7472412263
160	7472412264
200	7472412265
250	7472412266
320	7472412267
400	7472412268
500	7472412269

Technical data

Piston Ø	32 mm	40 mm	50 mm	63 mm
Retracting piston force	435 N	660 N	1035 N	1765 N
Extracting piston force	435 N	660 N	1035 N	1765 N
Cushioning length	16.5 mm	19 mm	17 mm	16.5 mm
Cushioning energy	4.8 J	9 J	15 J	27 J
Weight 0 mm stroke	0.52 kg	0.82 kg	1.42 kg	1.7 kg
Weight +10 mm stroke	0.033 kg	0.046 kg	0.061 kg	0.077 kg
Tie-rods	Stainless steel	Stainless steel	Steel galvanized	Steel galvanized
Stroke max.	1500 mm	1500 mm	1500 mm	1500 mm

Piston Ø	80 mm	100 mm	125 mm
Retracting piston force	2855 N	4635 N	7220 N
Extracting piston force	2855 N	4635 N	7220 N
Cushioning length	19.5 mm	495.3 mm	22 mm
Cushioning energy	54 J	88 J	140 J
Weight 0 mm stroke	2.67 kg	3.7 kg	9 kg
Weight +10 mm stroke	0.099 kg	0.104 kg	0.26 kg
Tie-rods	Steel galvanized	Steel galvanized	Steel galvanized
Stroke max.	1500 mm	1500 mm	1500 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

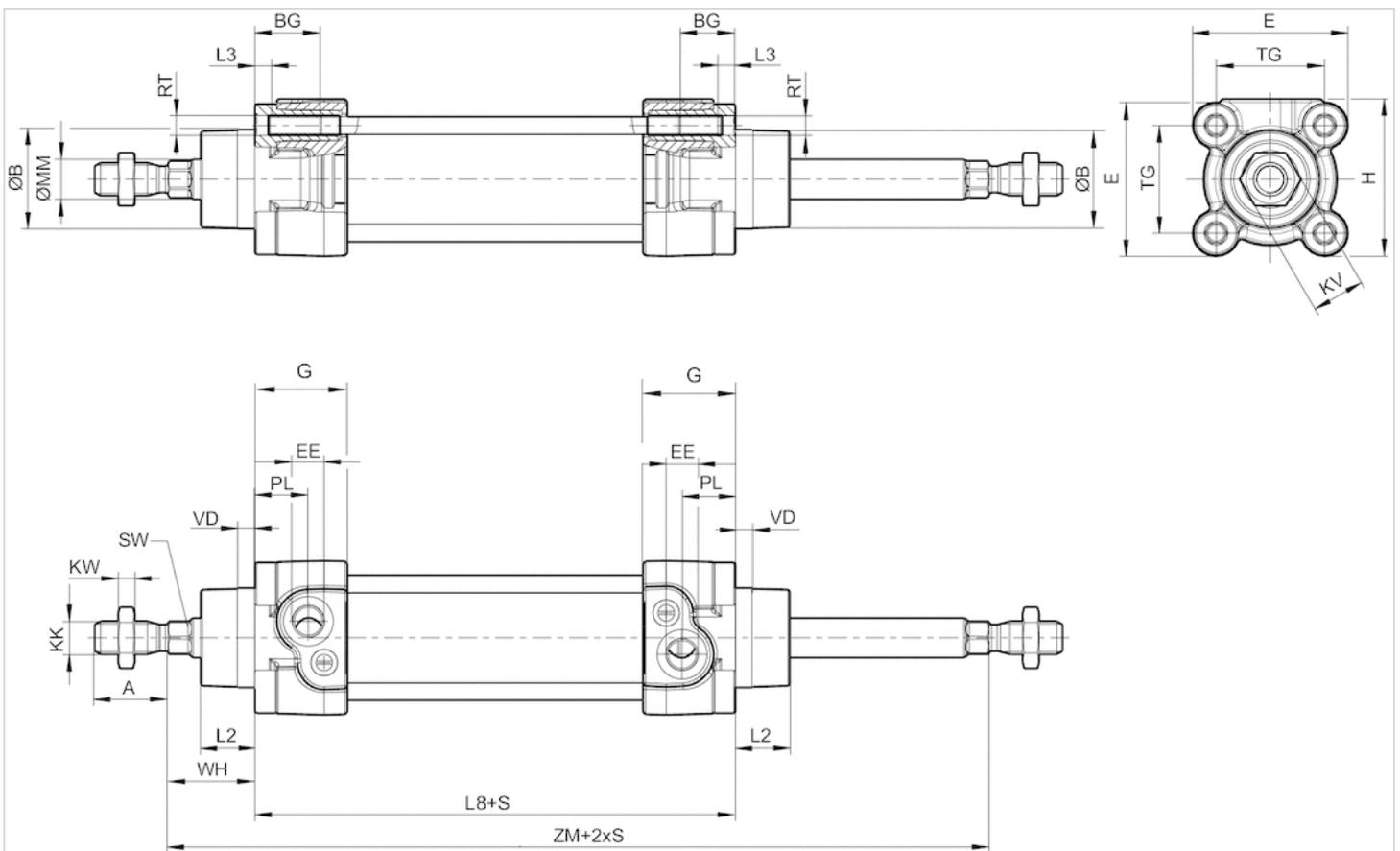
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Polyurethane
Nut for piston rod	Steel, galvanized
Scraper	Polyurethane
Tie-rods	Stainless steel Steel, galvanized
See table for additional data on materials.	

Dimensions

Dimensions



S = stroke

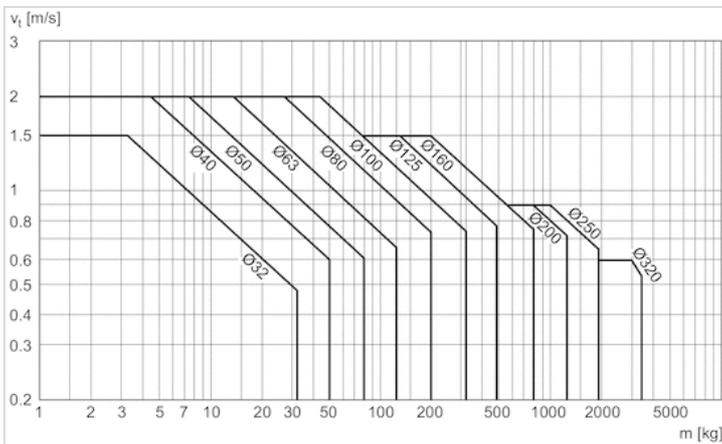
Dimensions

Piston Ø	A -2	ØB d11	BG min.	E	EE	G	H	KK	KV	KW	ØMM f8	PL	L2
32 mm	22	30	16	46.5	G1/8	27.75	47.5	M10x1,25	16	5	12	16	16.25
40 mm	24	35	16	53	G1/4	33.25	53	M12x1,25	18	6	16	20	18.25
50 mm	32	40	16	65	G1/4	31	65	M16x1,5	24	8	20	19	25
63 mm	32	45	16	75	G3/8	38.25	75	M16x1,5	24	8	20	24	25
80 mm	40	45	17	95	G3/8	38.25	95	M20x1,5	30	10	25	23.5	33
100 mm	40	55	17	115	G1/2	42.25	115	M20x1,5	30	10	25	25	36
125 mm	54	60	20	140	G1/2	53.85	140	M27x2	41	13.5	32	33	45

Piston Ø	L3 ±0,5	L8	RT	SW	TG	VD	WH	ZM
32 mm	4.5	94±0,4	M6	10	32,5±0,5	5	26±1,4	146+3/-1,5
40 mm	4.5	105±0,7	M6	13	38±0,5	5	30±1,4	165+3/-1,5
50 mm	4.5	106±0,7	M8	17	46,5±0,6	5	37±1,4	180+3/-1,5
63 mm	4.5	121±0,8	M8	17	56,5±0,7	5	37±1,8	195+3/-1,5
80 mm	0	128±0,8	M10	22	72±0,7	5	46±1,8	220+3/-1,5
100 mm	0	138±1	M10	22	89±0,7	5	51±1,8	240+3,5/-2
125 mm	0	160±1	M12	27	110±1,1	7	65±2,2	290+3,5/-2

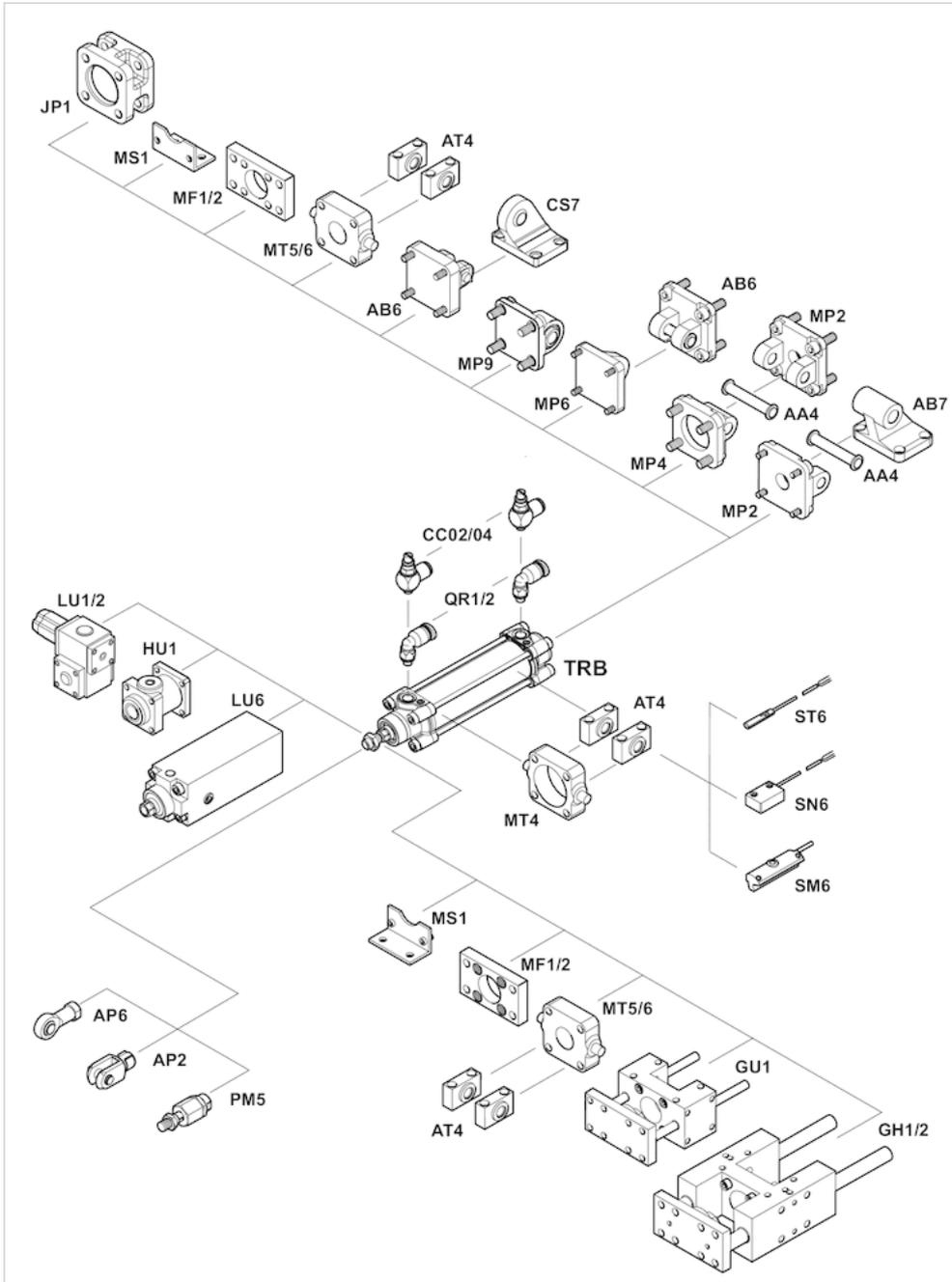
Diagrams

Cushioning diagram



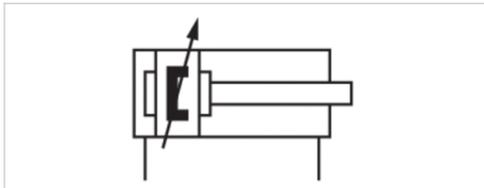
v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview



Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- Ports G 1/8 G 1/4 G 3/8 G 1/2
- double-acting
- with magnetic piston
- Cushioning pneumatically adjustable
- with trunnion mounting
- Piston rod External thread



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm	80 mm M20x1,5 G 3/8 25 mm	100 mm M20x1,5 G 1/2 25 mm
Stroke 80	0822340902	0822341902	0822342902	0822343902	0822344902	0822345902
100	0822340903	0822341903	0822342903	0822343903	0822344903	0822345903
125	0822340904	0822341904	0822342904	0822343904	0822344904	0822345904
160	0822340905	0822341905	0822342905	0822343905	0822344905	0822345905
200	0822340906	0822341906	0822342906	0822343906	0822344906	0822345906
250	0822340907	0822341907	0822342907	0822343907	0822344907	0822345907
320	0822340908	0822341908	0822342908	0822343908	0822344908	0822345908
400	0822340909	0822341909	0822342909	0822343909	0822344909	0822345909
500	0822340910	0822341910	0822342910	0822343910	0822344910	0822345910

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
Stroke 80	7472412312

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
100	R480647252
125	R480166294
160	7472412341
200	R480647253
250	7472412343
320	7472412344
400	R480647341
500	R480166072

Technical data

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 length	16.5 mm	19 mm	17 mm	16.5 mm
Cushioning energy	4.8 J	9 J	15 J	27 J
Weight 0 mm stroke	0.76 kg	1.17 kg	1.84 kg	2.5 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg	0.052 kg
Tie-rods	Stainless steel	Stainless steel	Steel galvanized	Steel galvanized
Stroke max.	1600 mm	1900 mm	2100 mm	2500 mm

Piston Ø	80 mm	100 mm	125 mm
Retracting piston force	2855 N	4635 N	7220 N
Extracting piston force	3165 N	4945 N	7725 N
Cushioning length	19.5 mm	19.5 mm	22 mm
Cushioning energy	54 J	88 J	140 J
Weight 0 mm stroke	3.67 kg	5.86 kg	10.62 kg
Weight +10 mm stroke	0.06 kg	0.065 kg	0.21 kg
Tie-rods	Steel galvanized	Steel galvanized	Steel galvanized
Stroke max.	2800 mm	2800 mm	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

NOTE:

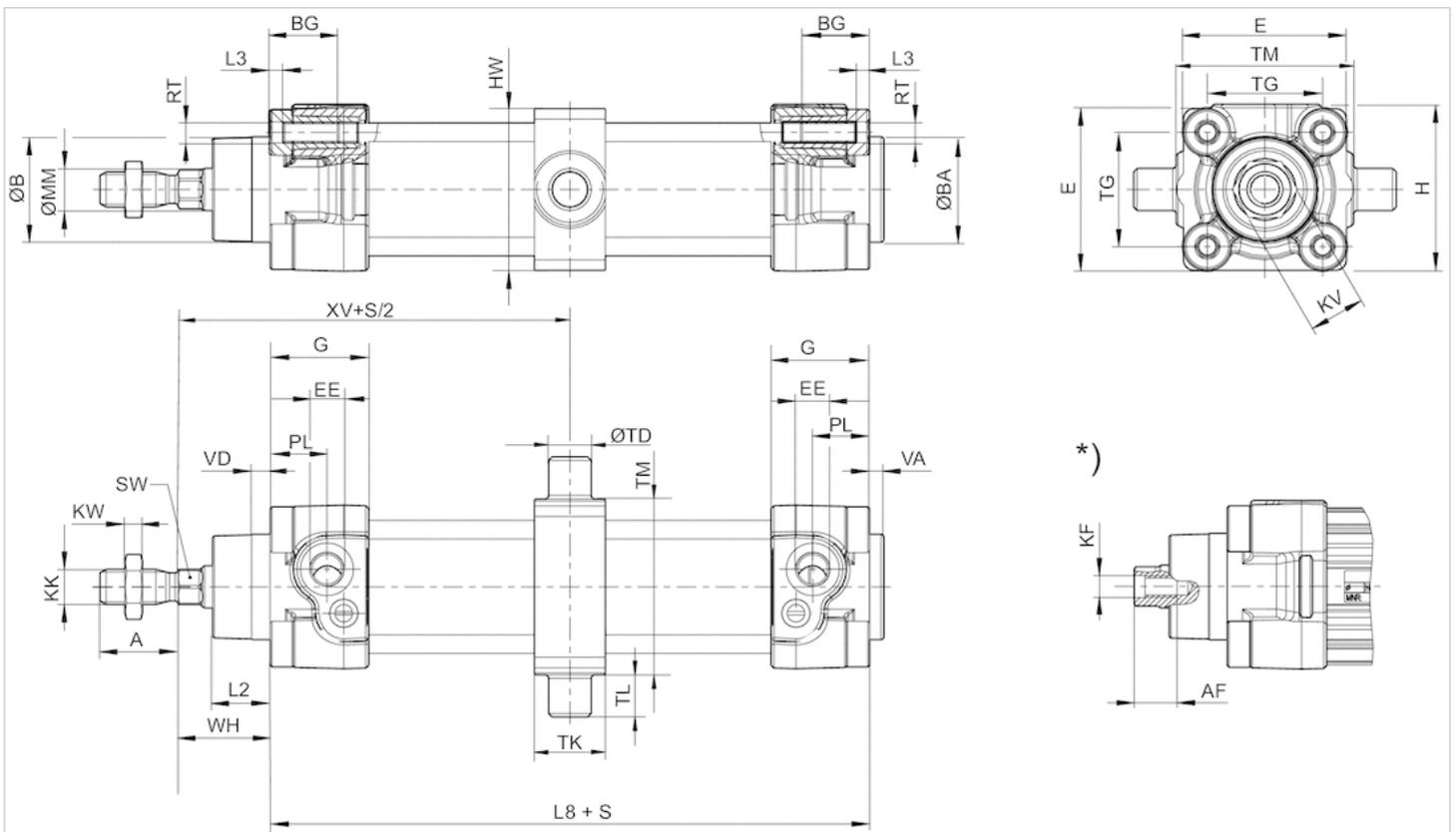
The orientation and position of the trunnion mounting in the center of the cylinder may not be changed!

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Polyurethane
Nut for piston rod	Steel, galvanized
Scraper	Polyurethane
Trunnion mounting	Nodular graphite iron, galvanized
Tie-rods	Stainless steel Steel, galvanized
	See table for additional data on materials.

Dimensions

Dimensions



S = stroke

*) For cylinders with optional piston rod with internal thread

Dimensions

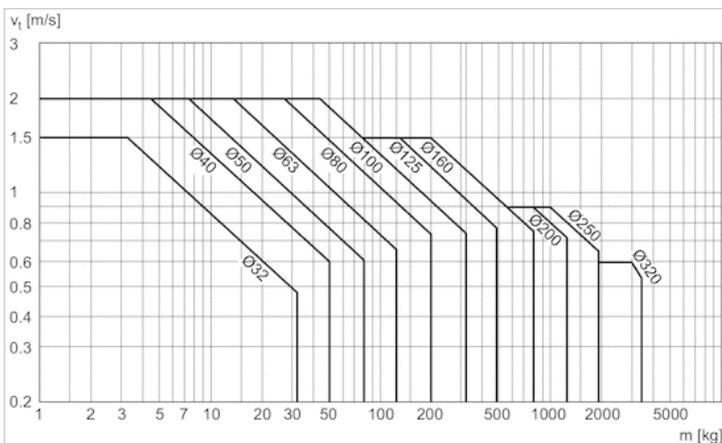
Piston Ø	A -2	AF+1	ØB d11	ØBA d11	BG min.	E	EE	G	H	KF	KK	KV	KW
32 mm	22	12	30	30	16	46.5	G1/8	27.75	47.5	M6	M10x1,25	16	5
40 mm	24	13.5	35	35	16	53	G1/4	33.25	53	M8	M12x1,25	18	6
50 mm	32	17	40	40	16	65	G1/4	31	65	M10	M16x1,5	24	8
63 mm	32	17	45	45	16	75	G3/8	38.25	75	M10	M16x1,5	24	8
80 mm	40	21	45	45	17	95	G3/8	38.25	95	M12	M20x1,5	30	10
100 mm	40	21	55	55	17	115	G1/2	42.25	115	M12	M20x1,5	30	10
125 mm	54	28	60	60	20	140	G1/2	53.85	140	M16	M27x2	41	13.5

Piston Ø	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH	HW	ØTD e9
32 mm	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4	46	12
40 mm	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4	59	16
50 mm	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	4	5	37±1,4	69	16
63 mm	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	4	5	37±1,8	84	20
80 mm	25	23.5	33	0	128±0,8	M10	22	72±0,7	4	5	46±1,8	102	20
100 mm	25	25	36	0	138±1	M10	22	89±0,7	4	5	51±1,8	125	25
125 mm	32	33	45	0	160±1	M12	27	110±1,1	6	7	65±2,2	155	25

Piston Ø	TK	TL h14	TM h14	XV
32 mm	20	12	50	73
40 mm	20	16	63	82.5
50 mm	25	16	75	90
63 mm	30	20	90	97.5
80 mm	35	20	110	110
100 mm	46	25	132	120
125 mm	32	25	160	145

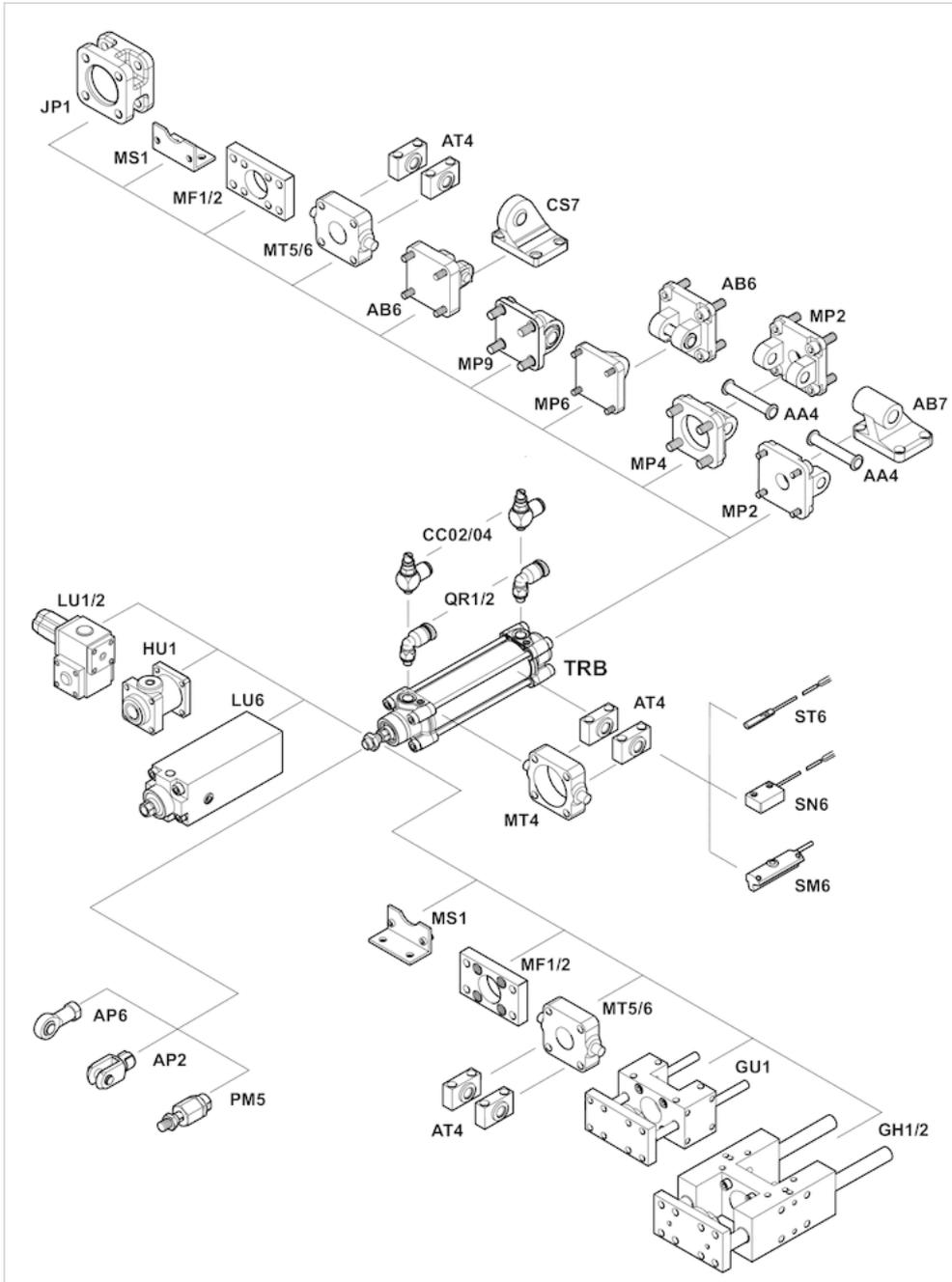
Diagrams

Cushioning diagram



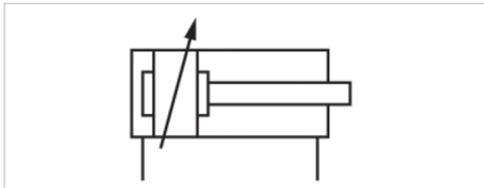
v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview



Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- Ports G 1/8 G 1/4 G 3/8 G 1/2
- double-acting
- Cushioning pneumatically adjustable
- Piston rod External thread
- Heat resistant



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-10 ... 150 °C
Medium temperature min./max.	-10 ... 150 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm	80 mm M20x1,5 G 3/8 25 mm	100 mm M20x1,5 G 1/2 25 mm
Stroke 25	0822240400	0822241400	0822242400	0822243400	0822244400	0822245400
50	0822240401	0822241401	0822242401	0822243401	0822244401	0822245401
80	0822240402	0822241402	0822242402	0822243402	0822244402	0822245402
100	0822240403	0822241403	0822242403	0822243403	0822244403	0822245403
125	0822240404	0822241404	0822242404	0822243404	0822244404	0822245404
160	0822240405	0822241405	0822242405	0822243405	0822244405	0822245405
200	0822240406	0822241406	0822242406	0822243406	0822244406	0822245406
250	0822240407	0822241407	0822242407	0822243407	0822244407	0822245407
320	0822240408	0822241408	0822242408	0822243408	0822244408	0822245408
400	0822240409	0822241409	0822242409	0822243409	0822244409	0822245409
500	0822240410	0822241410	0822242410	0822243410	-	0822245410

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
Stroke 25	0822206401
50	0822206402
80	0822206403
100	0822206404
125	0822206405
160	0822206406
200	0822206407
250	0822206408
320	0822206409
400	0822206410
500	0822206411

Technical data

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 length	11.5 mm	15 mm	17 mm	16.5 mm
Cushioning energy	4.8 J	9 J	15 J	27 J
Weight 0 mm stroke	0.46 kg	0.67 kg	1.14 kg	1.4 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg	0.052 kg
Tie-rods	Stainless steel	Stainless steel	Steel galvanized	Steel galvanized
Stroke max.	1600 mm	1900 mm	2100 mm	2500 mm

Piston Ø	80 mm	100 mm	125 mm
Retracting piston force	2855 N	4635 N	7220 N
Extracting piston force	3165 N	4945 N	7725 N
Cushioning length	19.5 mm	19.5 mm	22 mm
Cushioning energy	54 J	88 J	140 J
Weight 0 mm stroke	2.12 kg	3.16 kg	6.92 kg
Weight +10 mm stroke	0.06 kg	0.065 kg	0.21 kg
Tie-rods	Steel galvanized	Steel galvanized	Steel galvanized
Stroke max.	2800 mm	2800 mm	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

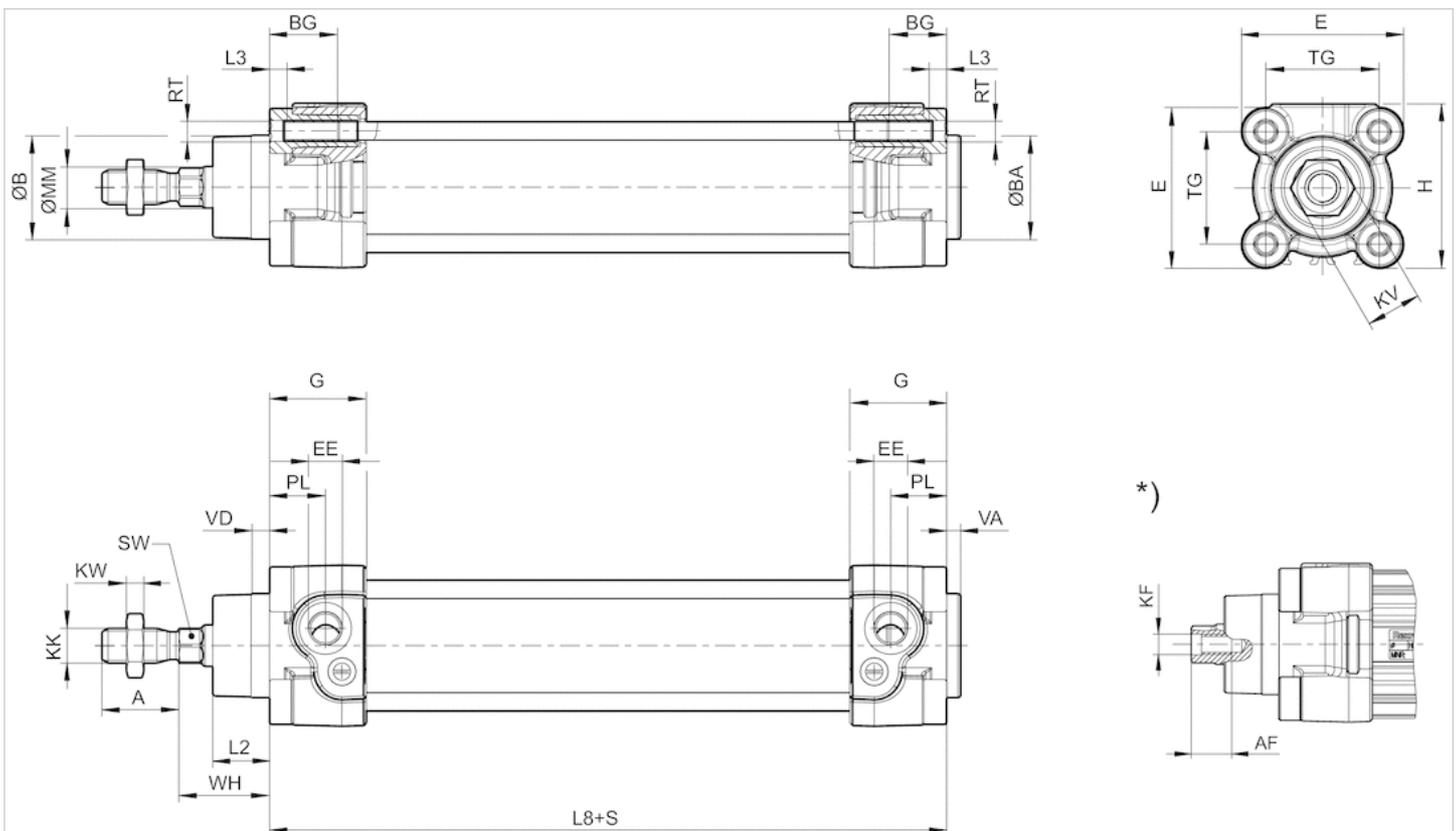
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Fluorocaoutchouc
Nut for piston rod	Steel, galvanized
Scraper	Fluorocaoutchouc
Tie-rods	Stainless steel Steel, galvanized
See table for additional data on materials.	

Dimensions

Dimensions



S = stroke

*) For cylinders with optional piston rod with internal thread

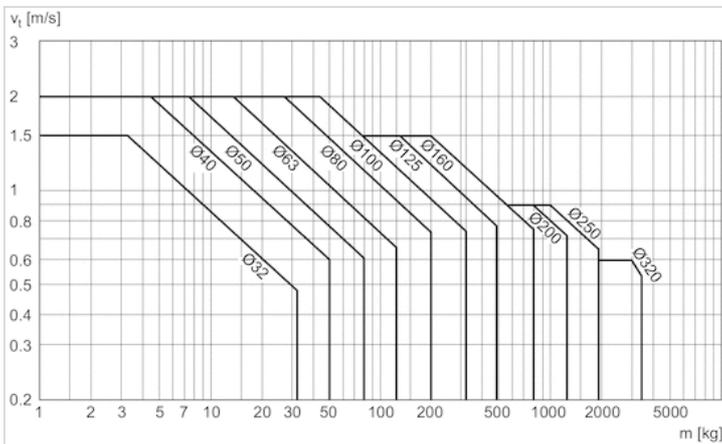
Dimensions

Piston Ø	A -2	AF+1	ØB d11	ØBA d11	BG min.	E	EE	G	H	KF	KK	KV	KW
32 mm	22	12	30	30	16	46.5	G 1/8	27.75	47.5	M6	M10x1,25	16	5
40 mm	24	13.5	35	35	16	53	G 1/4	33.25	53	M8	M12x1,25	18	6
50 mm	32	17	40	40	16	65	G 1/4	31	65	M10	M16x1,5	24	8
63 mm	32	17	45	45	16	75	G 3/8	38.25	75	M10	M16x1,5	24	8
80 mm	40	21	45	45	17	95	G 3/8	38.25	95	M12	M20x1,5	30	10
100 mm	40	21	55	55	17	115	G 1/2	42.25	115	M12	M20x1,5	30	10
125 mm	54	28	60	60	20	140	G 1/2	53.85	140	M16	M27x2	41	13.5

Piston Ø	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH
32 mm	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4
40 mm	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4
50 mm	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	4	5	37±1,4
63 mm	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	4	5	37±1,8
80 mm	25	23.5	33	0	128±0,8	M10	22	72±0,7	4	5	46±1,8
100 mm	25	25	36	0	138±1	M10	22	89±0,7	4	5	51±1,8
125 mm	32	33	45	0	160±1	M12	27	110±1,1	6	7	65±2,2

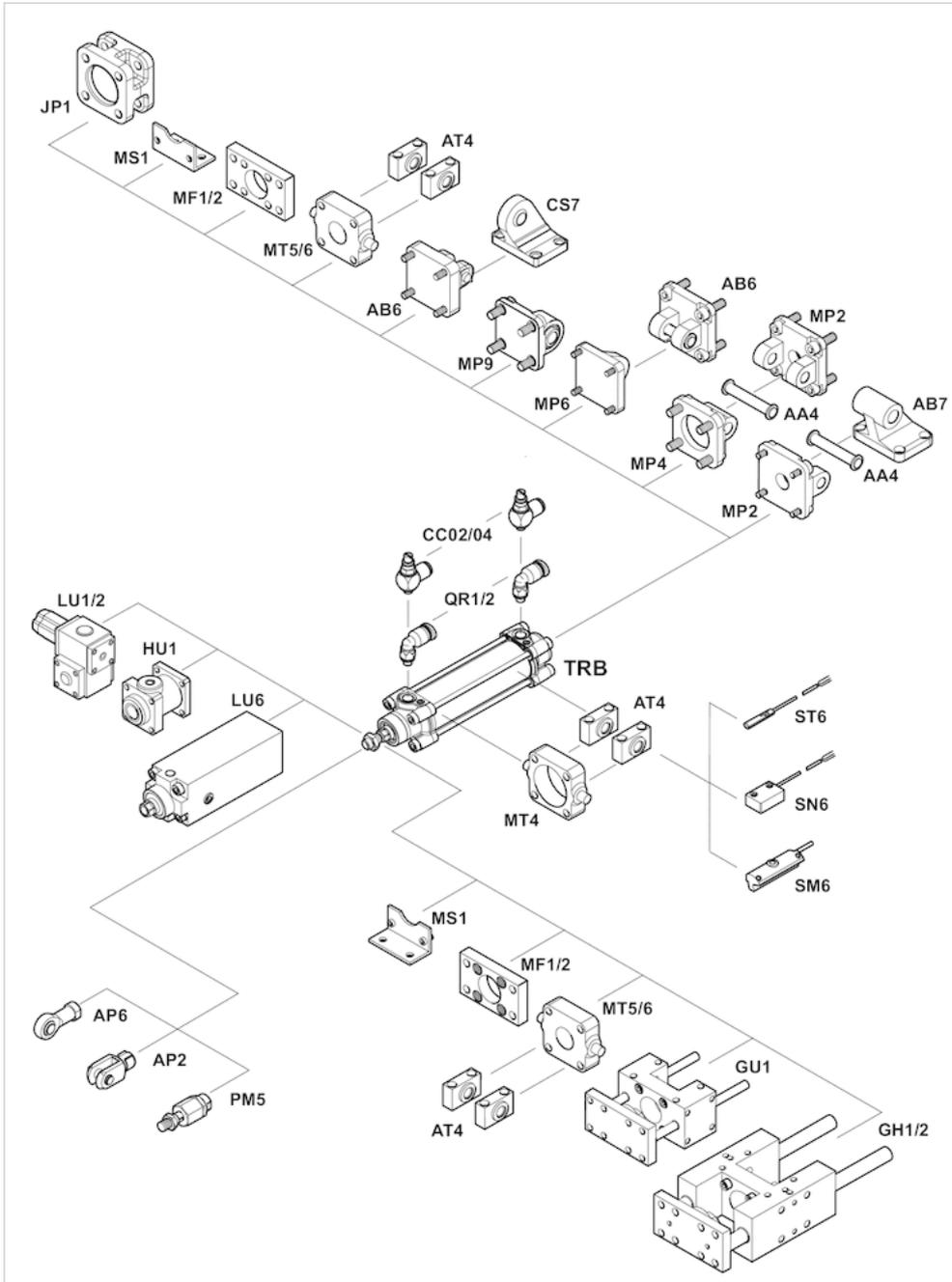
Diagrams

Cushioning diagram



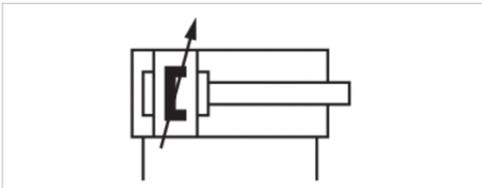
v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview



Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- Ports G 1/8 G 1/4 G 3/8 G 1/2
- double-acting
- with magnetic piston
- Cushioning pneumatically adjustable
- Piston rod External thread
- Heat resistant



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-10 ... 120 °C
Medium temperature min./max.	-10 ... 120 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm	80 mm M20x1,5 G 3/8 25 mm	100 mm M20x1,5 G 1/2 25 mm
Stroke 25	R412013636	R412013654	R412013674	R412013694	R412013712	R412013731
50	R412013637	R412013655	R412013675	R412013695	R412013713	R412013732
80	R412013638	R412013656	R412013676	R412013696	R412013714	R412013733
100	R412013639	R412013657	R412013677	R412013697	R412013715	R412013734
125	R412013640	R412013658	R412013678	R412013698	R412013716	R412013735
160	R412013641	R412013659	R412013679	R412013699	R412013717	R412013736
200	R412013642	R412013660	R412013680	R412013700	R412013718	R412013737
250	R412013643	R412013661	R412013681	R412013701	R412013719	R412013738
320	R412013644	R412013662	R412013682	R412013702	R412013720	R412013739
400	R412013645	R412013663	R412013683	R412013703	R412013721	R412013740
500	R412013646	R412013664	R412013684	R412013704	R412013722	R412013741

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
Stroke 25	R480605348
50	R480605349
80	R480605350
100	R480605351
125	R480605352
160	R480605353
200	R480605354
250	R480605355
320	R480605356
400	R480605357
500	R480605358

Technical data

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 length	11.5 mm	15 mm	17 mm	16.5 mm
Cushioning energy	4.8 J	9 J	15 J	27 J
Weight 0 mm stroke	0.46 kg	0.67 kg	1.14 kg	1.4 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg	0.052 kg
Tie-rods	Stainless steel	Stainless steel	Steel galvanized	Steel galvanized
Stroke max.	1600 mm	1900 mm	2100 mm	2500 mm

Piston Ø	80 mm	100 mm	125 mm
Retracting piston force	2855 N	4635 N	7220 N
Extracting piston force	3165 N	4945 N	7725 N
Cushioning length	19.5 mm	19.5 mm	22 mm
Cushioning energy	54 J	88 J	140 J
Weight 0 mm stroke	2.12 kg	3.16 kg	6.92 kg
Weight +10 mm stroke	0.06 kg	0.065 kg	0.21 kg
Tie-rods	Steel galvanized	Steel galvanized	Steel galvanized
Stroke max.	2800 mm	2800 mm	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

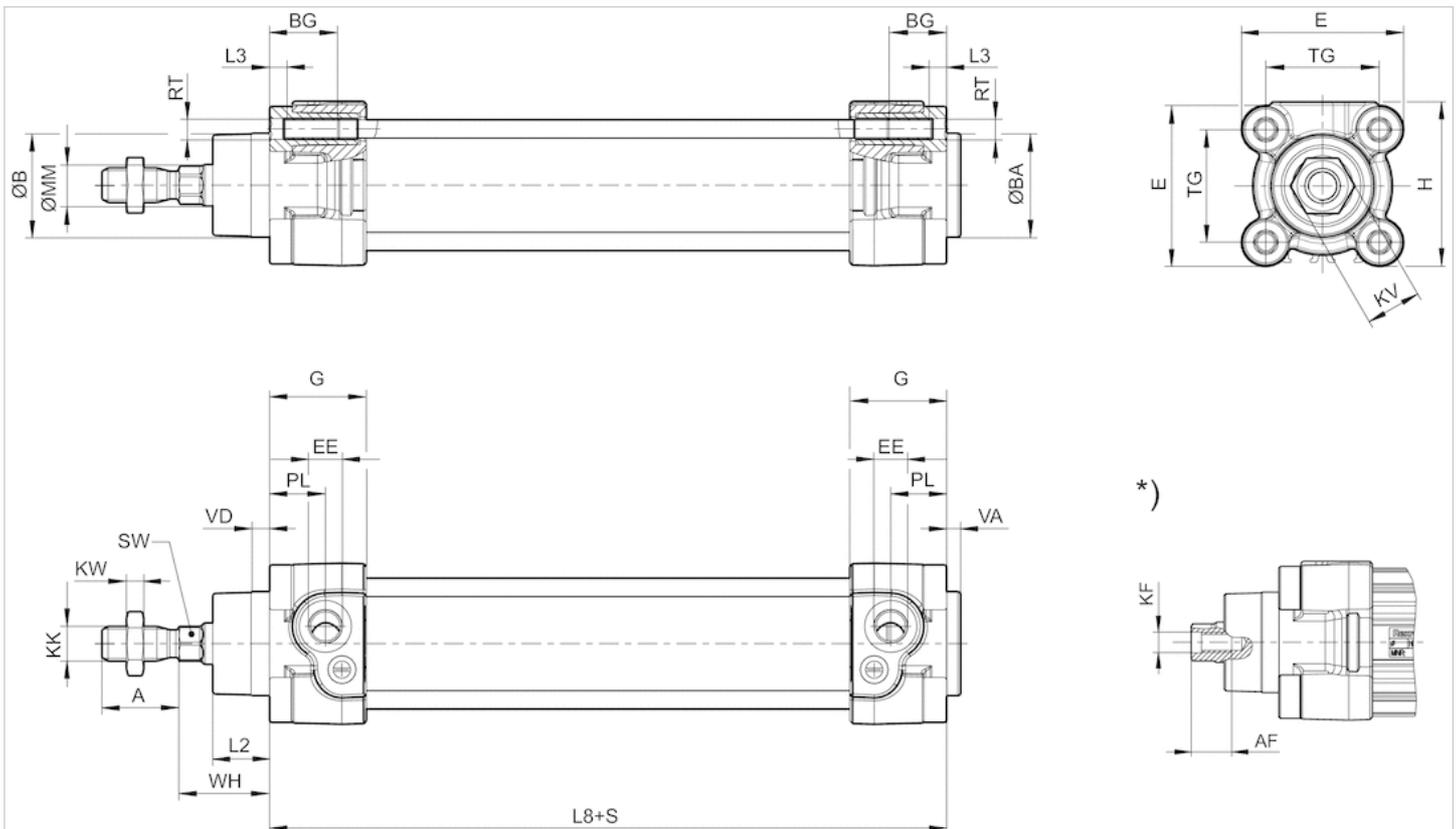
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Fluorocaoutchouc
Nut for piston rod	Steel, galvanized
Scraper	Fluorocaoutchouc
Tie-rods	Stainless steel Steel, galvanized
See table for additional data on materials.	

Dimensions

Dimensions



S = stroke

*) For cylinders with optional piston rod with internal thread

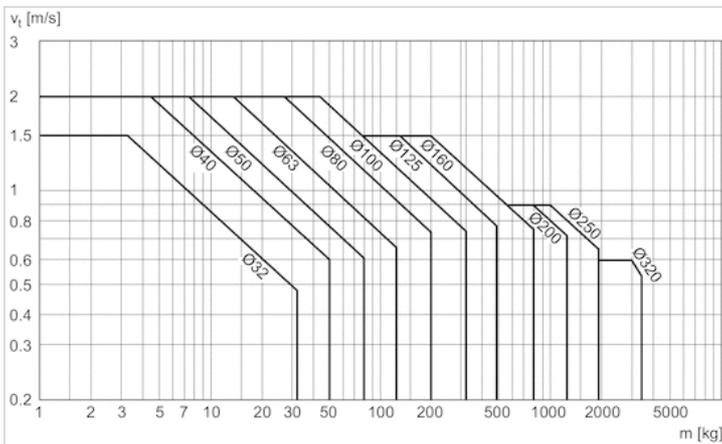
Dimensions

Piston Ø	A -2	AF+1	ØB d11	ØBA d11	BG min.	E	EE	G	H	KF	KK	KV	KW
32 mm	22	12	30	30	16	46.5	G 1/8	27.75	47.5	M6	M10x1,25	16	5
40 mm	24	13.5	35	35	16	53	G 1/4	33.25	53	M8	M12x1,25	18	6
50 mm	32	17	40	40	16	65	G 1/4	31	65	M10	M16x1,5	24	8
63 mm	32	17	45	45	16	75	G 3/8	38.25	75	M10	M16x1,5	24	8
80 mm	40	21	45	45	17	95	G 3/8	38.25	95	M12	M20x1,5	30	10
100 mm	40	21	55	55	17	115	G 1/2	42.25	115	M12	M20x1,5	30	10
125 mm	54	28	60	60	20	140	G 1/2	53.85	140	M16	M27x2	41	13.5

Piston Ø	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH
32 mm	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4
40 mm	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4
50 mm	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	4	5	37±1,4
63 mm	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	4	5	37±1,8
80 mm	25	23.5	33	0	128±0,8	M10	22	72±0,7	4	5	46±1,8
100 mm	25	25	36	0	138±1	M10	22	89±0,7	4	5	51±1,8
125 mm	32	33	45	0	160±1	M12	27	110±1,1	6	7	65±2,2

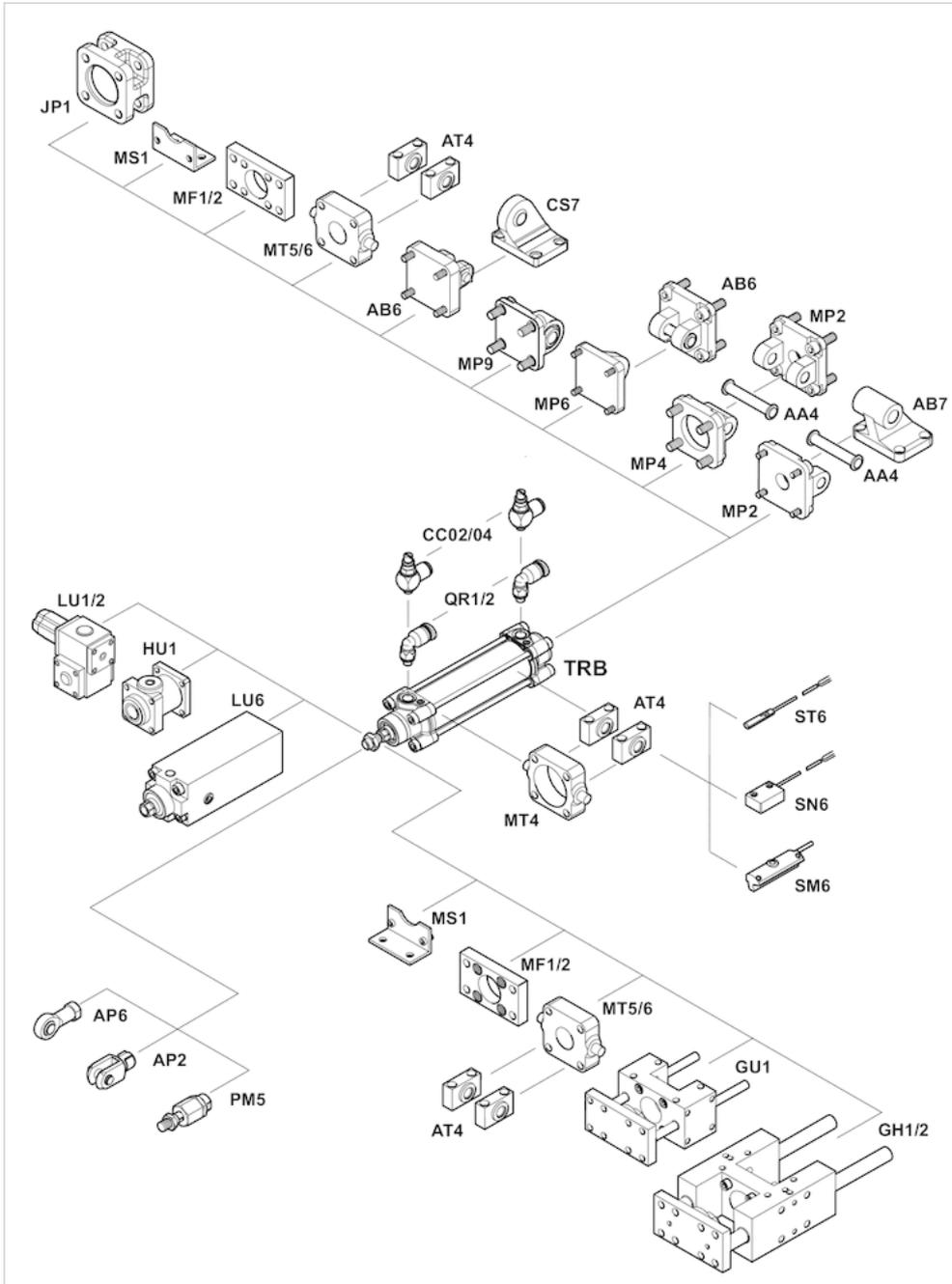
Diagrams

Cushioning diagram



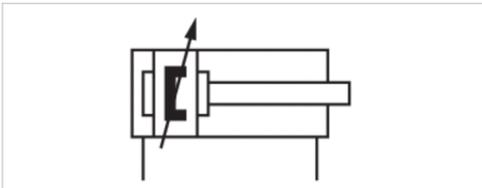
v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview



Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- Ports G 1/8 G 1/4 G 3/8 G 1/2
- double-acting
- with magnetic piston
- Cushioning pneumatically adjustable
- Piston rod External thread
- -40 °C cold-resistant



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-40 ... 70 °C
Medium temperature min./max.	-40 ... 70 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm	80 mm M20x1,5 G 3/8 25 mm	100 mm M20x1,5 G 3/8 25 mm
Stroke 25	R480691898	R480691909	R480691920	R480691931	R480691942	R480691953
50	R480691899	R480691910	R480691921	R480691932	R480691943	R480691954
80	R480691900	R480691911	R480691922	R480691933	R480691944	R480691955
100	R480691901	R480691912	R480691923	R480691934	R480691945	R480691956
125	R480691902	R480691913	R480691924	R480691935	R480691946	R480691957
160	R480691903	R480691914	R480691925	R480691936	R480691947	R480691958
200	R480691904	R480691915	R480691926	R480691937	R480691948	R480691959
250	R480691905	R480691916	R480691927	R480691938	R480691949	R480691960
320	R480691906	R480691917	R480691928	R480691939	R480691950	R480691961
400	R480691907	R480691918	R480691929	R480691940	R480691951	R480691962
500	R480691908	R480691919	R480691930	R480691941	R480691952	R480691963

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
Stroke 25	R480691964
50	R480691965
80	R480691966
100	R480691967
125	R480691968
160	R480691969
200	R480691970
250	R480691971
320	R480691972
400	R480691973
500	R480691974

Technical data

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm	125 mm
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N	7220 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N	7725 N
Cushioning length	11.5 mm	15 mm	17 mm	16.5 mm	19.5 mm	19.5 mm	22 mm
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J	140 J
Weight 0 mm stroke	0.46 kg	0.67 kg	1.14 kg	1.4 kg	2.12 kg	3.16 kg	6.92 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg	0.052 kg	0.06 kg	0.065 kg	0.21 kg
Stroke max.	1600 mm	1900 mm	2100 mm	2500 mm	2800 mm	2800 mm	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

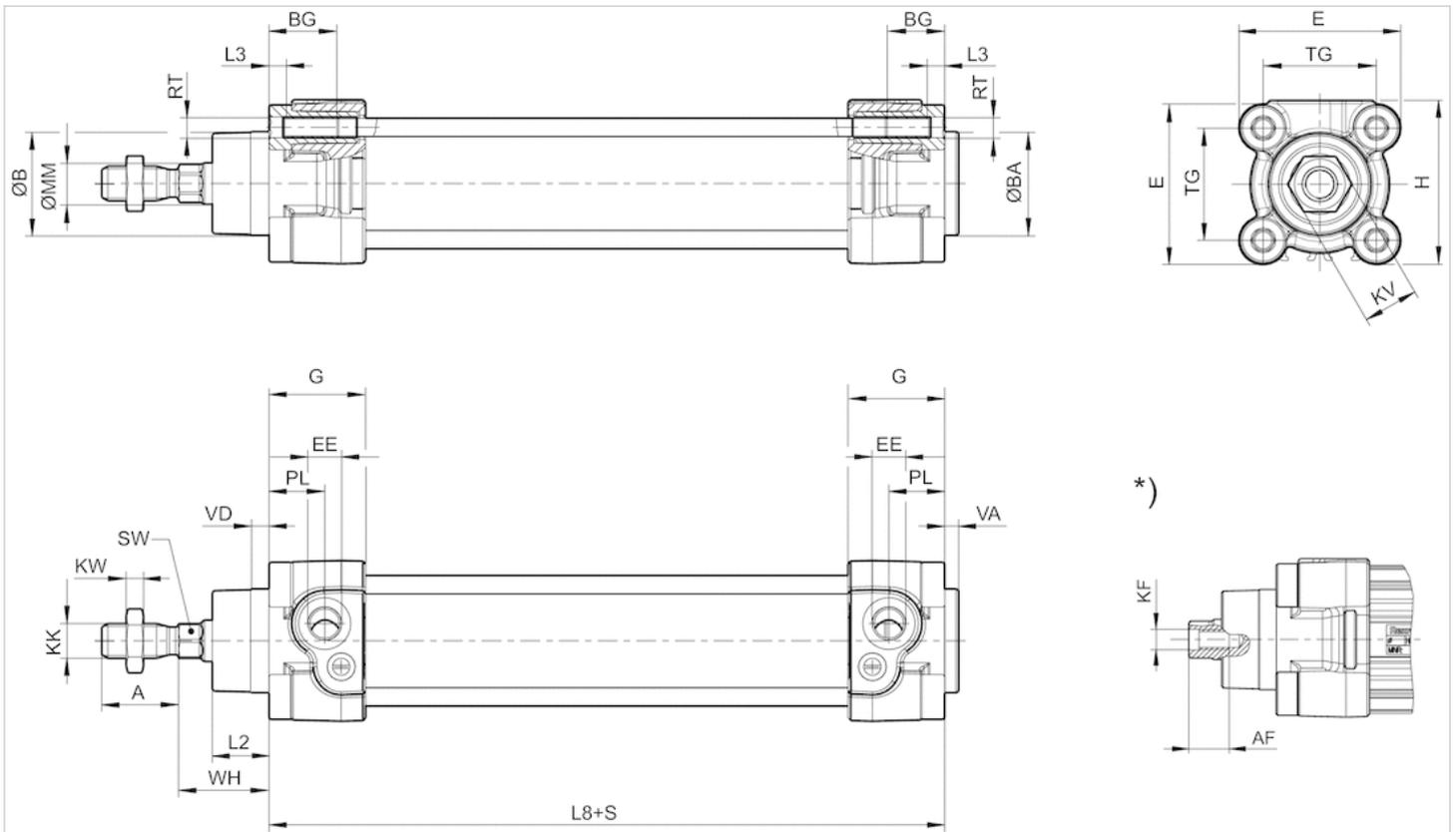
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Polyurethane
Nut for piston rod	Steel, galvanized
Scraper	Brass
Tie-rods	Stainless steel

Dimensions

Dimensions



S = stroke

*) For cylinders with optional piston rod with internal thread

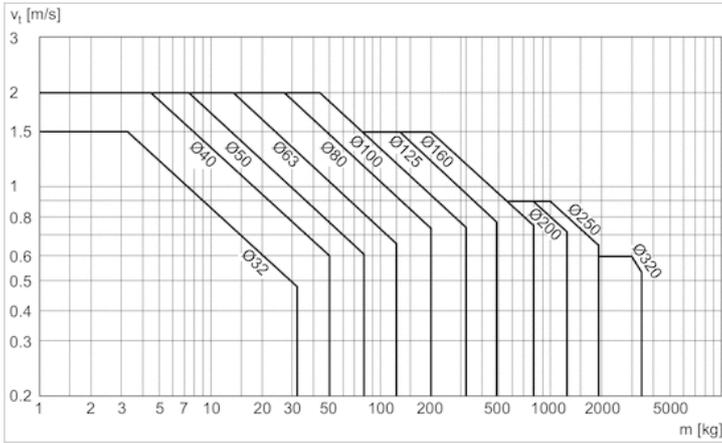
Dimensions

Piston Ø	A -2	AF+1	ØB d11	ØBA d11	BG min.	E	EE	G	H	KF	KK	KV	KW
32 mm	22	12	30	30	16	46.5	G 1/8	27.75	47.5	M6	M10x1,25	16	5
40 mm	24	13.5	35	35	16	53	G 1/4	33.25	53	M8	M12x1,25	18	6
50 mm	32	17	40	40	16	65	G 1/4	31	65	M10	M16x1,5	24	8
63 mm	32	17	45	45	16	75	G 3/8	38.25	75	M10	M16x1,5	24	8
80 mm	40	21	45	45	17	95	G 3/8	38.25	95	M12	M20x1,5	30	10
100 mm	40	21	55	55	17	115	G 1/2	42.25	115	M12	M20x1,5	30	10
125 mm	54	28	60	60	20	140	G 1/2	53.85	140	M16	M27x2	41	13.5

Piston Ø	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH
32 mm	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4
40 mm	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4
50 mm	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	4	5	37±1,4
63 mm	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	4	5	37±1,8
80 mm	25	23.5	33	0	128±0,8	M10	22	72±0,7	4	5	46±1,8
100 mm	25	25	36	0	138±1	M10	22	89±0,7	4	5	51±1,8
125 mm	32	33	45	0	160±1	M12	27	110±1,1	6	7	65±2,2

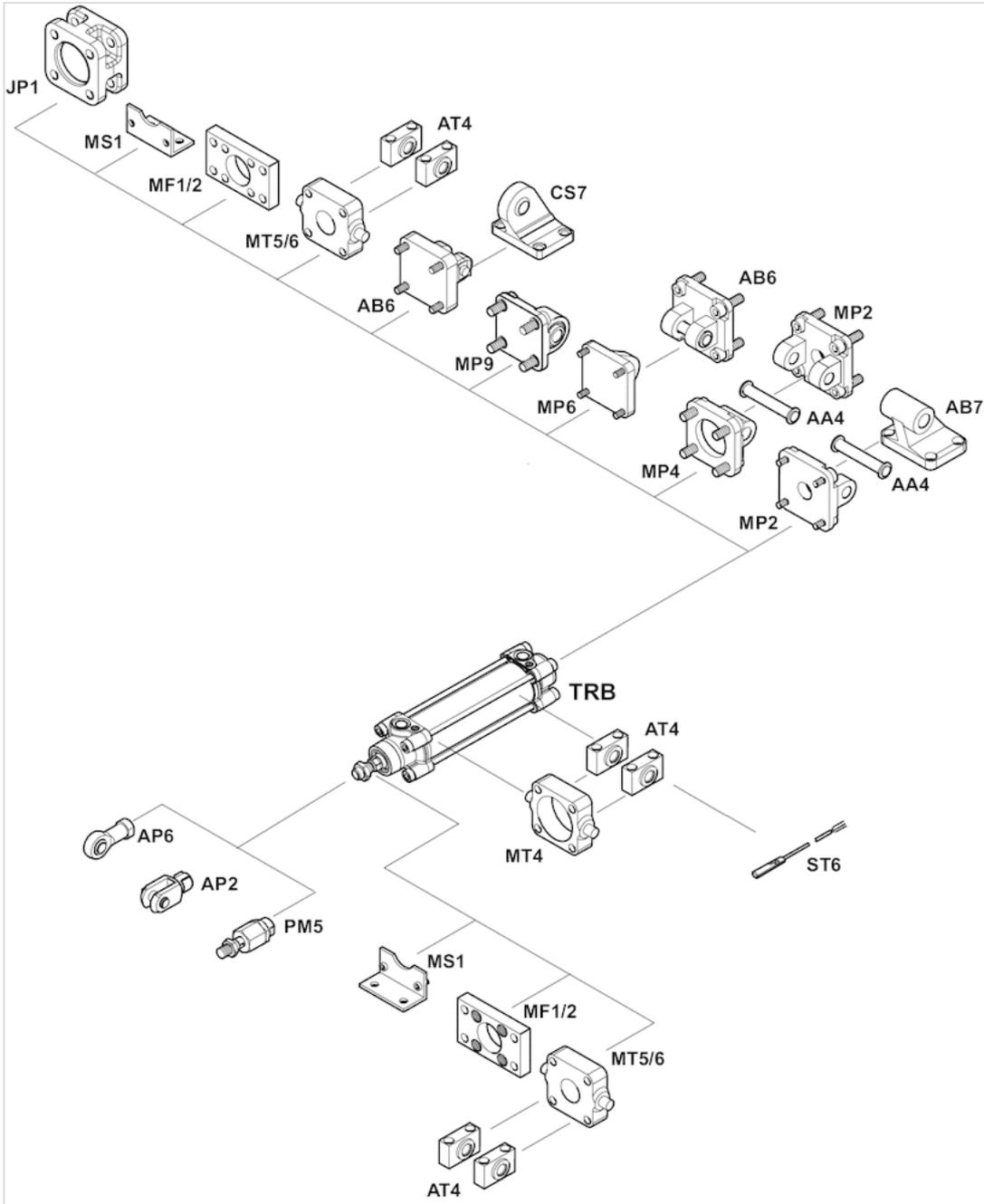
Diagrams

Cushioning diagram



v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview

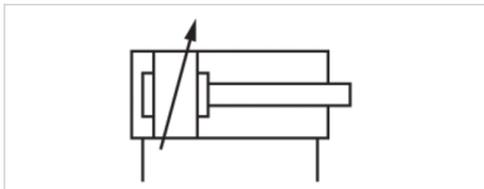


Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- double-acting
- Cushioning pneumatically adjustable
- Piston rod External thread
- Low friction



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar



Technical data

Piston Ø	32 mm	40 mm	50 mm
Retracting piston force	435 N	660 N	1035 N
Extracting piston force	505 N	790 N	1235 N
Extracting breakaway pressure	0.05 bar	0.04 bar	0.04 bar
Cushioning length	11.5 mm	15 mm	17 mm
Cushioning energy	4.8 J	9 J	15 J
Weight 0 mm stroke	0.46 kg	0.67 kg	1.14 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg
Tie-rods	Stainless steel	Stainless steel	Steel galvanized
Stroke max.	1600 mm	1900 mm	2100 mm

Piston Ø	63 mm	80 mm	100 mm
Retracting piston force	1765 N	2855 N	4635 N
Extracting piston force	1960 N	3165 N	4945 N
Extracting breakaway pressure	0.03 bar	0.03 bar	0.02 bar
Cushioning length	16.5 mm	19.5 mm	19.5 mm
Cushioning energy	27 J	54 J	88 J
Weight 0 mm stroke	1.4 kg	2.12 kg	3.16 kg
Weight +10 mm stroke	0.052 kg	0.06 kg	0.065 kg
Tie-rods	Steel galvanized	Steel galvanized	Steel galvanized
Stroke max.	2500 mm	2800 mm	2800 mm

Piston Ø	125 mm
Retracting piston force	7220 N
Extracting piston force	7725 N
Extracting breakaway pressure	0.02 bar
Cushioning length	22 mm
Cushioning energy	140 J
Weight 0 mm stroke	6.92 kg
Weight +10 mm stroke	0.21 kg
Tie-rods	Steel galvanized
Stroke max.	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in the MediaCentre).

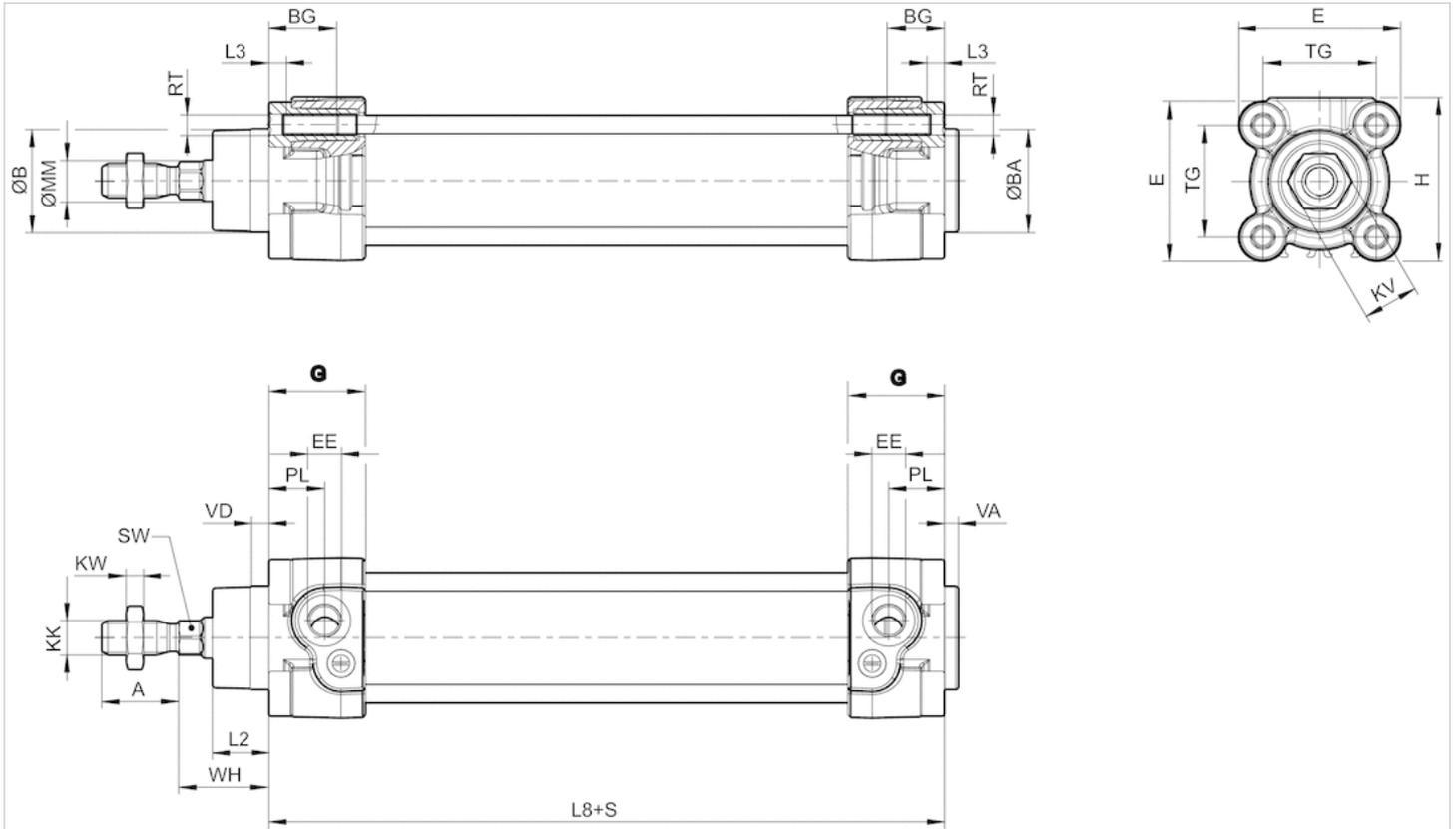
The extracting breakaway pressure is determined with the piston in center position.

Technical information

Material	
Cylinder tube	Steel, painted
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Nitrile butadiene rubber
Nut for piston rod	Steel, galvanized
Scraper	Nitrile butadiene rubber
Tie-rods	Stainless steel Steel, galvanized
	See table for additional data on materials.

Dimensions

Dimensions



S = stroke

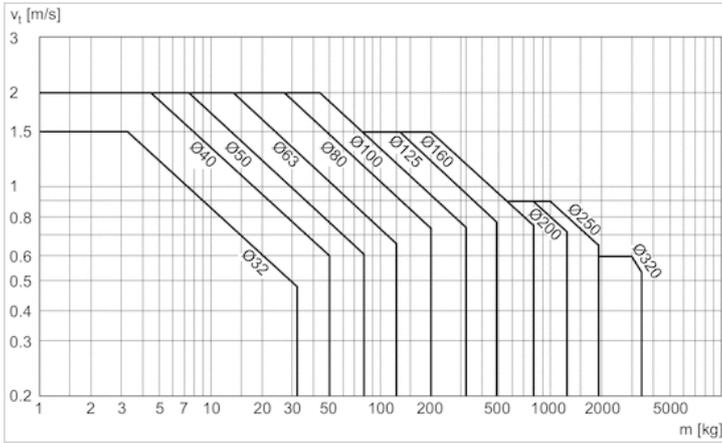
Dimensions

\varnothing	A -2	$\varnothing B$ d11	$\varnothing BA$ d11	BG min.	E	EE	G	H	KK	KV	KW	$\varnothing MM$ f8	PL	L2
32	22	30	30	16	46.5	G1/8	27.75	47.5	M10x1,25	16	5	12	16	16.25
40	24	35	35	16	53	G1/4	33.25	53	M12x1,25	18	6	16	20	18.25
50	32	40	40	16	65	G1/4	31	65	M16x1,5	24	8	20	19	25
63	32	45	45	16	75	G3/8	38.25	75	M16x1,5	24	8	20	24	25
80	40	45	45	17	95	G3/8	38.25	95	M20x1,5	30	10	25	23.5	33
100	40	55	55	17	115	G1/2	42.25	115	M20x1,5	30	10	25	25	36
125	54	60	60	20	140	G1/2	53.85	140	M27x2	41	13.5	32	33	45

L3 $\pm 0,5$	L8	RT	SW	TG	VA -1	VD	WH
4.5	94 $\pm 0,4$	M6	10	32,5 $\pm 0,5$	4	5	26 $\pm 1,4$
4.5	105 $\pm 0,7$	M6	13	38 $\pm 0,5$	4	5	30 $\pm 1,4$
4.5	106 $\pm 0,7$	M8	17	46,5 $\pm 0,6$	4	5	37 $\pm 1,4$
4.5	121 $\pm 0,8$	M8	17	56,5 $\pm 0,7$	4	5	37 $\pm 1,8$
0	128 $\pm 0,8$	M10	22	72 $\pm 0,7$	4	5	46 $\pm 1,8$
0	138 ± 1	M10	22	89 $\pm 0,7$	4	5	51 $\pm 1,8$
0	160 ± 1	M12	27	110 $\pm 1,1$	6	7	65 $\pm 2,2$

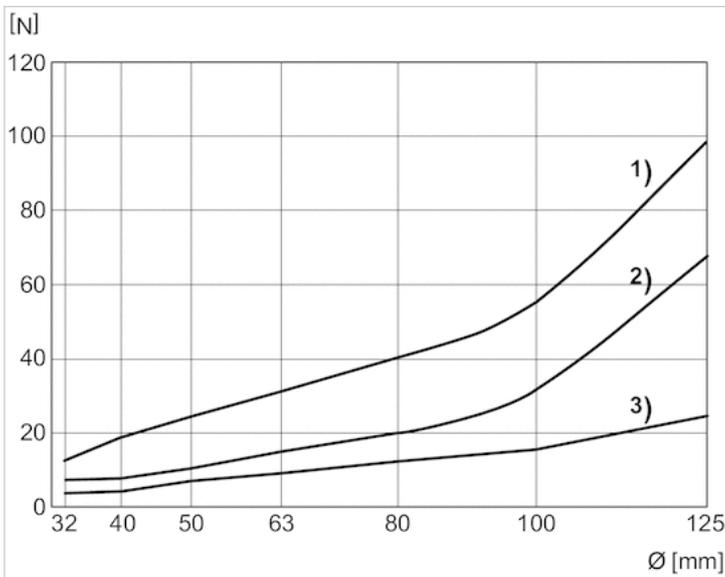
Diagrams

Cushioning diagram



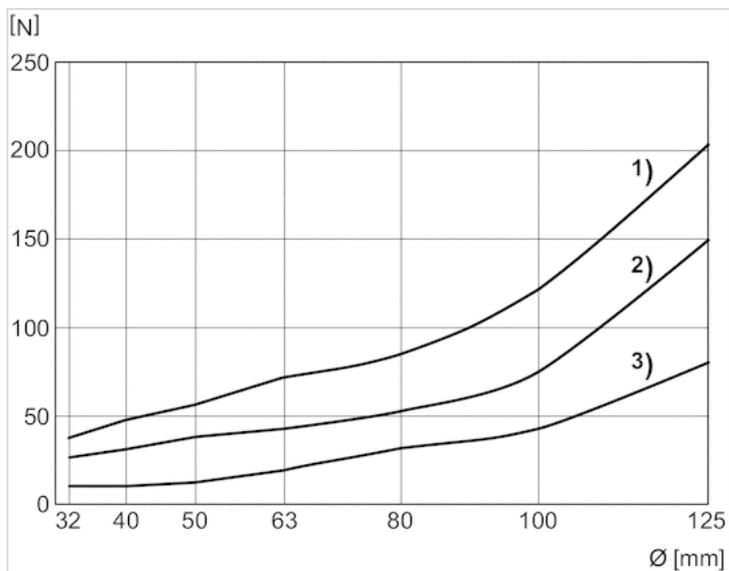
v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Stick-slip effect in unpressurized state



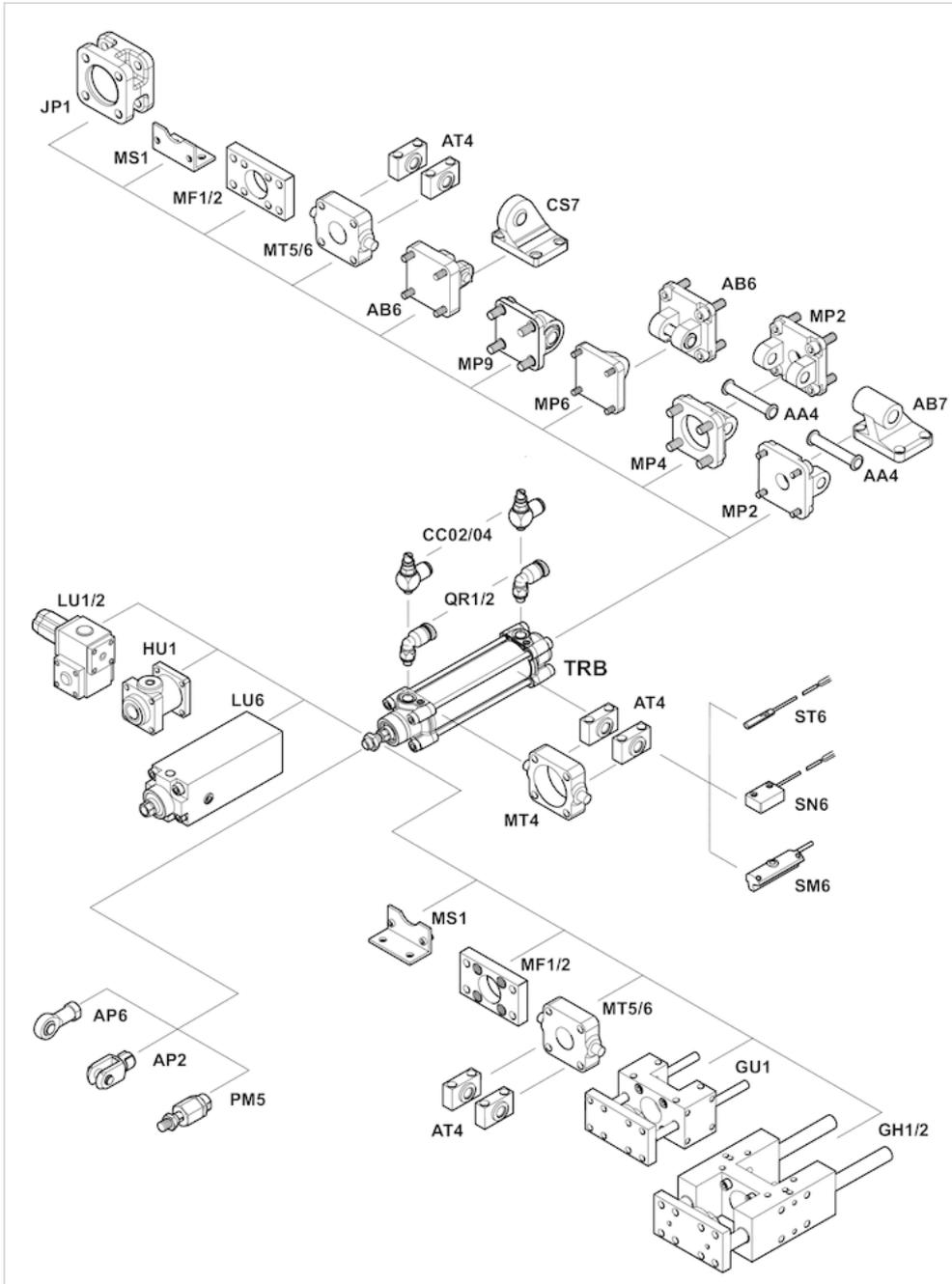
- 1) Standard PRA
- 2) Low-friction PRA (with magnet)
- 3) Low-friction TRB (without magnet)

Stick-slip effect, internal cylinder pressure on both sides 6.3 bar



- 1) Standard PRA
- 2) Low-friction PRA (with magnet)
- 3) Low-friction TRB (without magnet)

Accessories overview



Tie rod cylinder ISO 15552, Series TRB-MS

- Modular sealing system



Standards

ISO 15552

For additional technical data please see the relevant data sheets for the standard version.

Technical information

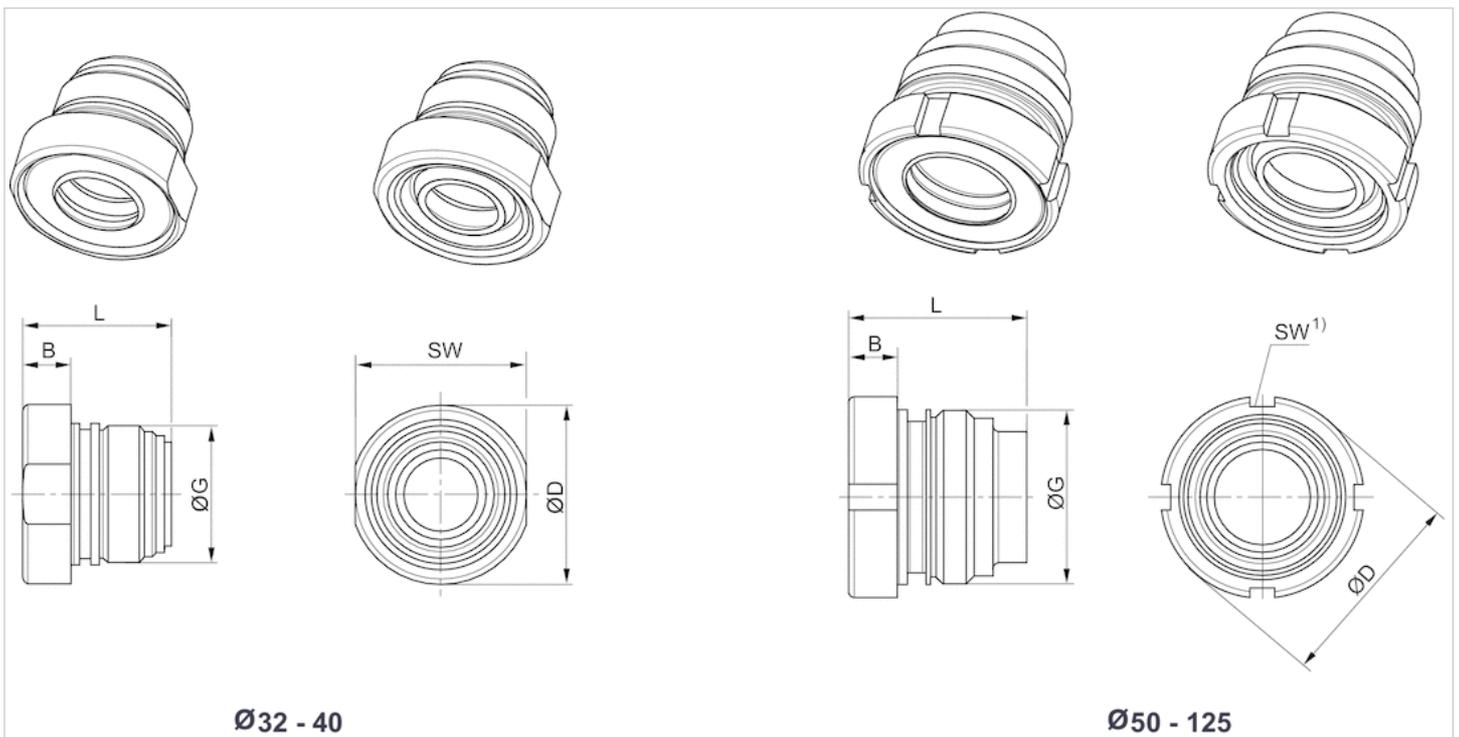
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Dimensions

Dimensions in mm

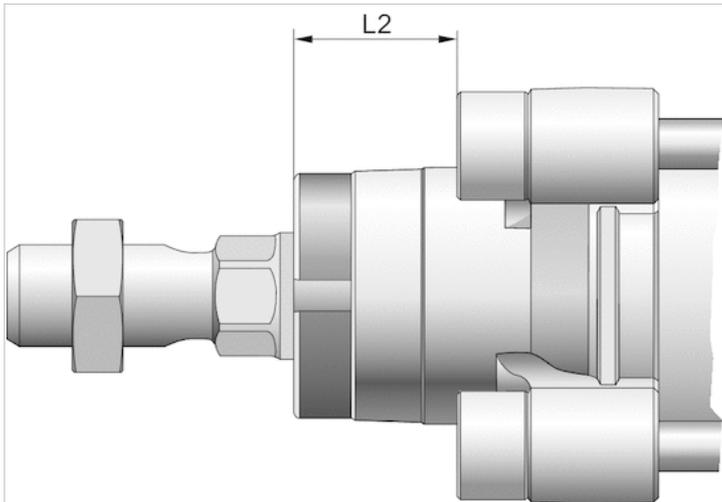


1) Can be mounted with hook wrench in accordance with DIN 1810 A

Dimensions

Piston Ø	32	
Seal	Acrylonitrile butadiene rubber	
Scraper	Polyester elastomer	
Ambient temperature min./max.	-20 °C ... + 80 °C	
Acrylonitrile butadiene rubber	Fluorocaoutchouc	
Polytetrafluorethylene	Polytetrafluorethylene	
-20 °C ... + 80 °C	-10 °C ... + 120 °C	
40-125	Acrylonitrile butadiene rubber	
Acrylonitrile butadiene rubber	Acrylonitrile butadiene rubber	
Polyester elastomer	Polytetrafluorethylene	
-20 °C ... + 80 °C	-20 °C ... + 80 °C	
Fluorocaoutchouc	Acrylonitrile butadiene rubber	Fluorocaoutchouc
Polytetrafluorethylene	Brass	Brass
-10 °C ... + 120 °C	-20 °C ... + 80 °C	-10 °C ... + 120 °C

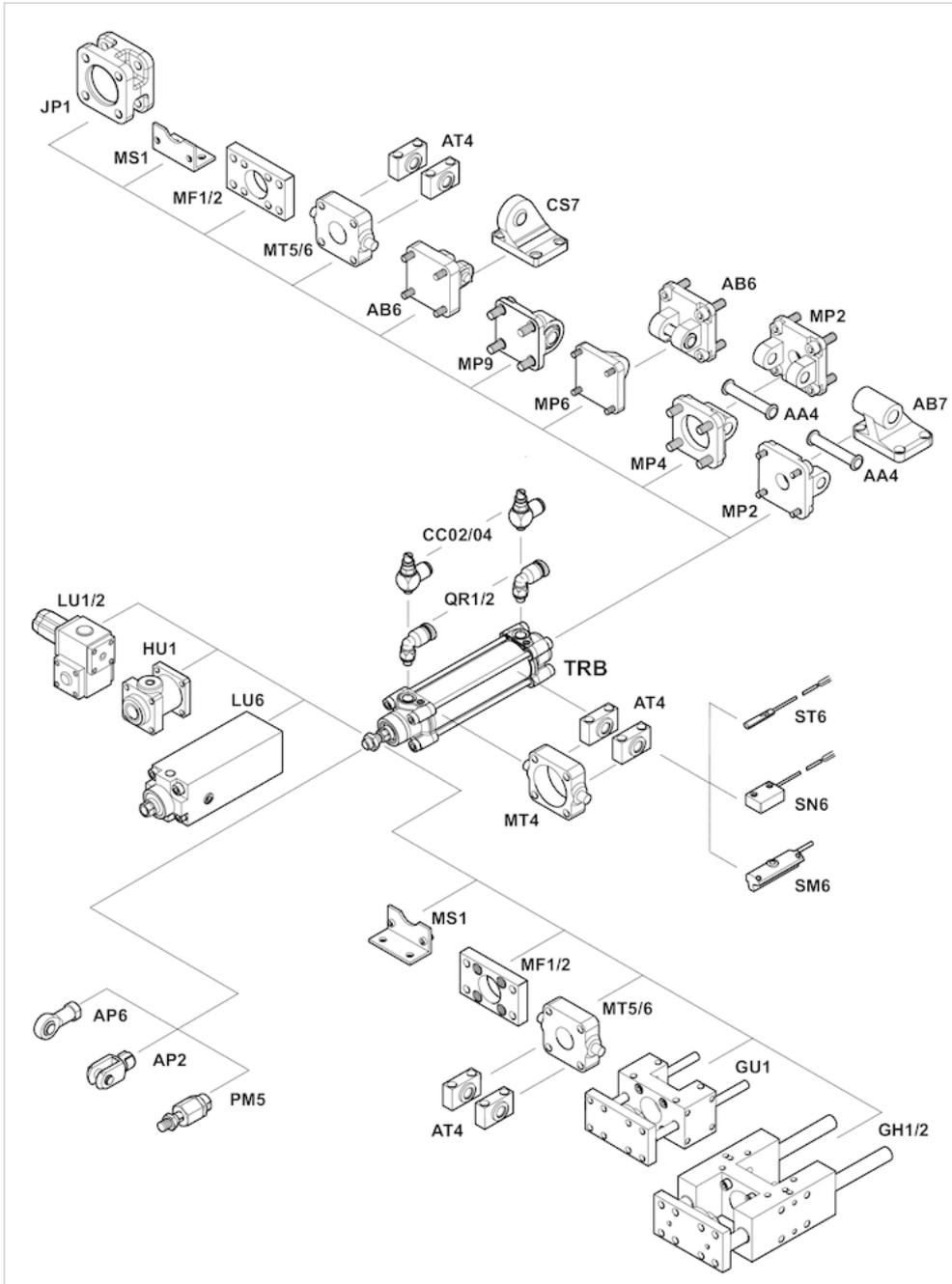
Dimensions



Dimensions

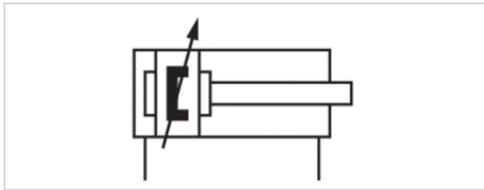
Ø	B	ØD	G	L	L2	SW
32	6.7	24.5	M22x1	23	16.25	23
40	9.2	34	M26x1,5	28.1	18.25	32
50, 63	9	38.5	M33x2	33.5	25	40-42
80, 100	10	44	M40x2	44	33	45-50
125	12	57	M50x2	56	45	58-62

Accessories overview



Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- Ports G 1/8 G 1/4 G 3/8 G 1/2
- double-acting
- with magnetic piston
- Cushioning pneumatically adjustable
- corrosion-resistant
- Piston rod External thread



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm	80 mm M20x1,5 G 3/8 25 mm	100 mm M20x1,5 G 1/2 25 mm
Stroke 25	R480692052	R480692063	R480692074	R480692085	R480692096	R480692107
50	R480692053	R480692064	R480692075	R480692086	R480692097	R480692108
80	R480692054	R480692065	R480692076	R480692087	R480692098	R480692109
100	R480692055	R480692066	R480692077	R480692088	R480692099	R480692110
125	R480692056	R480692067	R480692078	R480692089	R480692100	R480692111
160	R480692057	R480692068	R480692079	R480692090	R480692101	R480692112
200	R480692058	R480692069	R480692080	R480692091	R480692102	R480692113
250	R480692059	R480692070	R480692081	R480692092	R480692103	R480692114
320	R480692060	R480692071	R480692082	R480692093	R480692104	R480692115
400	R480692061	R480692072	R480692083	R480692094	R480692105	R480692116
500	R480692062	R480692073	R480692084	R480692095	R480692106	R480692117

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
Stroke 25	R480692118
50	R480692119
80	R480692120
100	R480692121
125	R480692122
160	R480692123
200	R480692124
250	R480692125
320	R480692126
400	R480692127
500	R480692128

Technical data

Piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm	125 mm
Retracting piston force	435 N	660 N	1035 N	1765 N	2855 N	4635 N	7220 N
Extracting piston force	505 N	790 N	1235 N	1960 N	3165 N	4945 N	7725 N
Cushioning length	16.5 mm	19 mm	17 mm	16.5 mm	19.5 mm	19.5 mm	22 mm
Cushioning energy	4.8 J	9 J	15 J	27 J	54 J	88 J	140 J
Weight 0 mm stroke	0.46 kg	0.67 kg	1.14 kg	1.4 kg	2.12 kg	3.16 kg	6.92 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg	0.052 kg	0.06 kg	0.065 kg	0.21 kg
Stroke max.	1600 mm	1900 mm	2100 mm	2500 mm	2800 mm	2800 mm	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

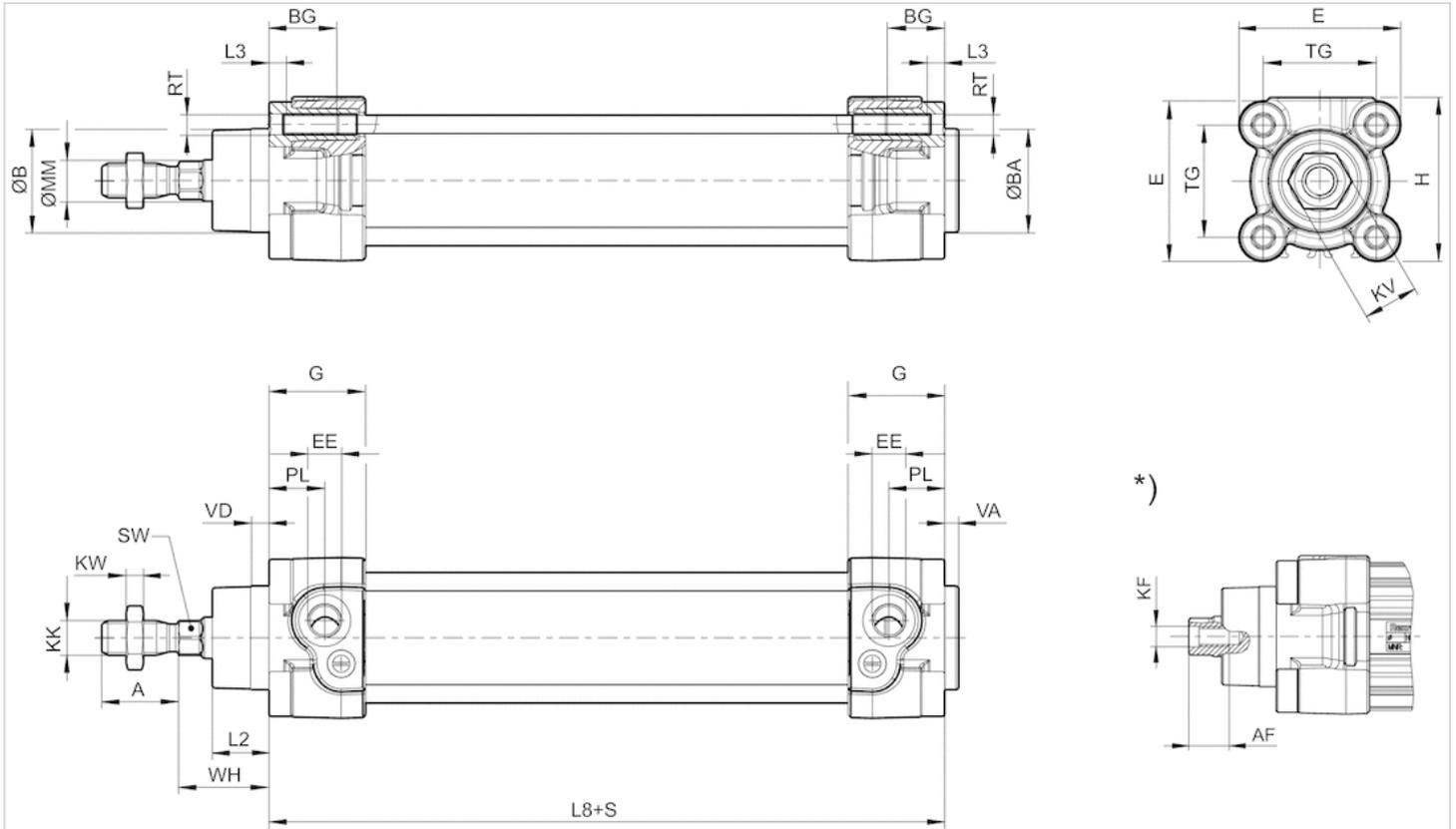
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum, anodized
End cover	Die-cast aluminum, anodized
Seal	Polyurethane
Nut for piston rod	Stainless steel
Scraper	Polyurethane
Tie-rods	Stainless steel

Dimensions

Dimensions



S = stroke

*) For cylinders with optional piston rod with internal thread

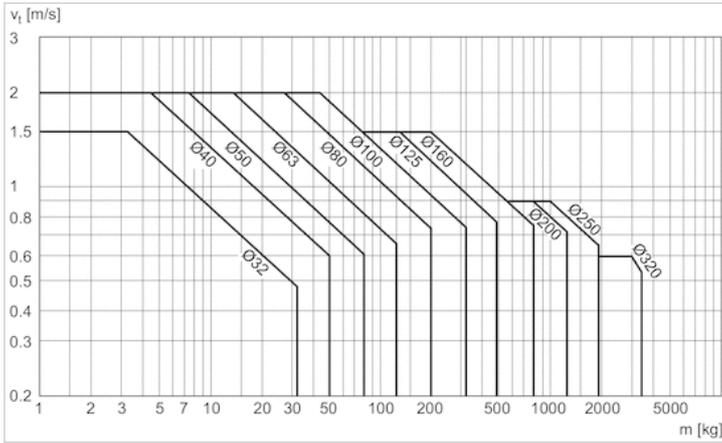
Dimensions

Piston Ø	A -2	AF+1	ØB d11	ØBA d11	BG min.	E	EE	G	H	KF	KK	KV	KW
32 mm	22	12	30	30	16	46.5	G 1/8	27.75	47.5	M6	M10x1,25	16	5
40 mm	24	13.5	35	35	16	53	G 1/4	33.25	53	M8	M12x1,25	18	6
50 mm	32	17	40	40	16	65	G 1/4	31	65	M10	M16x1,5	24	8
63 mm	32	17	45	45	16	75	G 3/8	38.25	75	M10	M16x1,5	24	8
80 mm	40	21	45	45	17	95	G 3/8	38.25	95	M12	M20x1,5	30	10
100 mm	40	21	55	55	17	115	G 1/2	42.25	115	M12	M20x1,5	30	10
125 mm	54	28	60	60	20	140	G 1/2	53.85	140	M16	M27x2	41	13.5

Piston Ø	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH
32 mm	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4
40 mm	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4
50 mm	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	4	5	37±1,4
63 mm	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	4	5	37±1,8
80 mm	25	23.5	33	0	128±0,8	M10	22	72±0,7	4	5	46±1,8
100 mm	25	25	36	0	138±1	M10	22	89±0,7	4	5	51±1,8
125 mm	32	33	45	0	160±1	M12	27	110±1,1	6	7	65±2,2

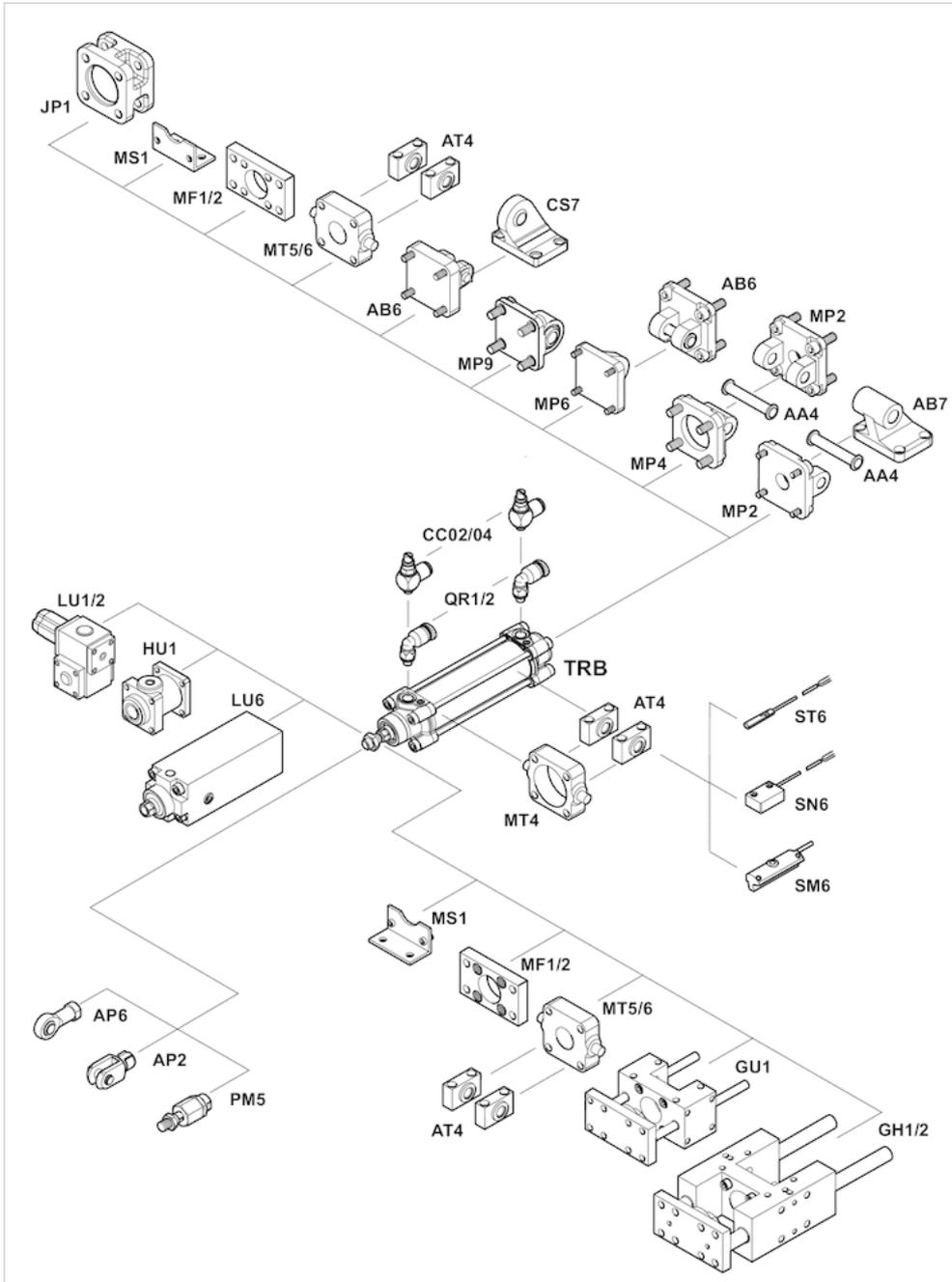
Diagrams

Cushioning diagram



v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview

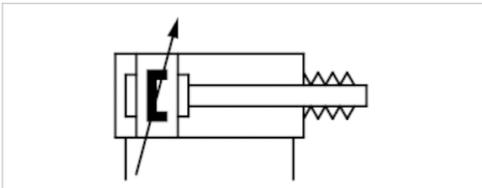


Tie rod cylinder ISO 15552, Series TRB

- Ø 32-125 mm
- Ports G 1/8 G 1/4 G 3/8 G 1/2
- double-acting
- with magnetic piston
- Cushioning pneumatically adjustable
- Piston rod External thread
- Piston rod protection Bellows



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar



Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm	80 mm M20x1,5 G 3/8 25 mm	100 mm M20x1,5 G 1/2 25 mm
Stroke 25	R481602131	R481602139	R481602150	R481602161	R481602172	R481602183
50	R481602132	R481602140	R481602151	R481602162	R481602173	R481602184
80	R481602133	R481602141	R481602152	R481602163	R481602174	R481602185
100	R481602134	R481602142	R481602153	R481602164	R481602175	R481602186
125	R481602135	R481602143	R481602154	R481602165	R481602176	R481602187
160	R481602136	R481602144	R481602155	R481602166	R481602177	R481602188
200	R481602137	R481602145	R481602156	R481602167	R481602178	R481602189
250	R481602138	R481602146	R481602157	R481602168	R481602179	R481602190
320	-	R481602147	R481602158	R481602169	R481602180	R481602191
400	-	R481602148	R481602159	R481602170	R481602181	R481602192
500	-	R481602149	R481602160	R481602171	R481602182	R481602193

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm M27x2 G 1/2 32 mm
Stroke 25	R481602194
50	R481602195
80	R481602196
100	R481602197
125	R481602198
160	R481602199
200	R481602200
250	R481602201
320	R481602202
400	R481602203
500	R481602204

Technical data

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 length	16.5 mm	19 mm	17 mm	16.5 mm
Cushioning energy	4.8 J	9 J	15 J	27 J
Speed max.	1 m/s	1 m/s	0.7 m/s	0.7 m/s
Tie-rods	Stainless steel	Stainless steel	galvanized steel	galvanized steel
Stroke max.	250 mm	500 mm	750 mm	1000 mm

Piston Ø	80 mm	100 mm	125 mm
Retracting piston force	2855 N	4635 N	7220 N
Extracting piston force	3165 N	4945 N	7725 N
Cushioning length	19.5 mm	19.5 mm	22 mm
Cushioning energy	54 J	88 J	140 J
Speed max.	0.7 m/s	0.7 m/s	0.6 m/s
Tie-rods	galvanized steel	galvanized steel	galvanized steel
Stroke max.	1000 mm	1000 mm	1000 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

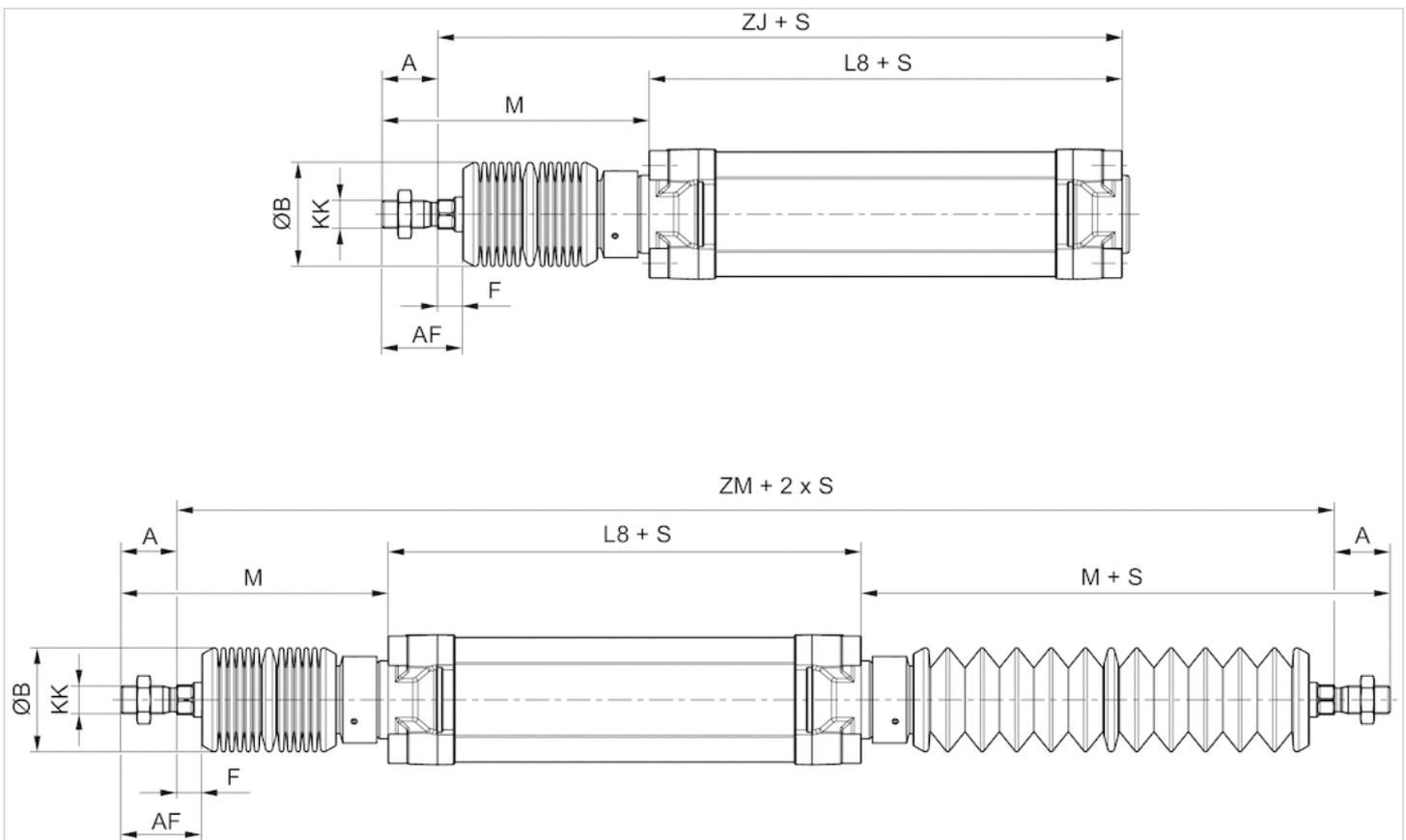
Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel

Material	
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Polyurethane
Nut for piston rod	Steel, galvanized
Scraper	Polyurethane
Tie-rods	Stainless steel galvanized steel
Bellow	Carboxylated nitrile rubber

Dimensions

Dimensions



S = stroke

Dimensions

Piston Ø	A	Ø B	KK	L8	AF	F
32 mm	22	42	M10x1.25	94	34	12
40 mm	24	42	M12x1.25	105	39	15
50 mm	32	64	M16x1,5	106	47	15
63 mm	32	64	M16x1,5	121	47	15
80 mm	40	64	M20x1,5	128	57	17
100 mm	40	64	M20x1,5	138	57	17
125 mm	54	94	M27x2	160	71	17

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
32 mm	81	153	212	107	179
40 mm	138	219	333	138	219
50 mm	153	227	348	153	227
63 mm	153	242	363	153	242
80 mm	170	258	388	170	258
100 mm	160	258	378	160	258
125 mm	188	294	418	188	294

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

Piston Ø	S=251-5000 M	S=251-500 ZJ	S=251-500 ZM	S=501-750 M
32 mm	–	–	–	–
40 mm	218	299	493	–
50 mm	233	307	508	313
63 mm	233	322	523	313
80 mm	250	338	548	330
100 mm	220	318	498	280
125 mm	248	354	548	308

Piston Ø	S=501-750 ZJ	S=501-750 ZM	S=751-1000 M	S=751-1000 ZJ
32 mm	–	–	–	–
40 mm	–	–	–	–
50 mm	387	668	–	–
63 mm	402	683	394	483
80 mm	418	708	411	499
100 mm	378	618	340	438
125 mm	414	668	368	474

Piston Ø	S=751-1000 ZM
32 mm	–
40 mm	–
50 mm	–
63 mm	845
80 mm	870
100 mm	738
125 mm	788

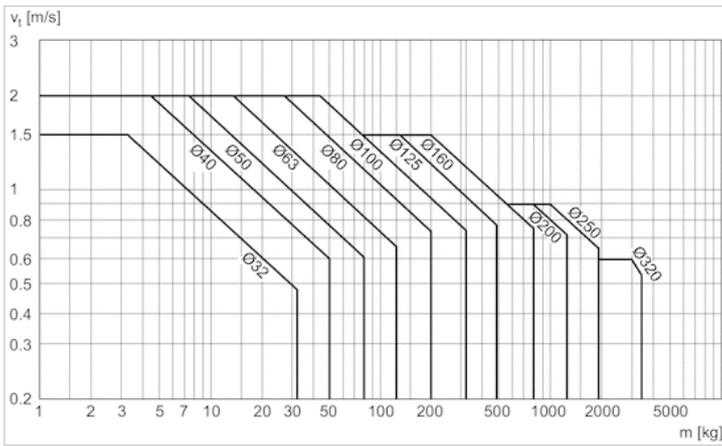
S = stroke

Weight [kg]

Piston Ø	Stroke	Weight 0 mm stroke	Weight +10 mm stroke
32	0-75	0,603	0.022
32	76-150	0,665	0.022
32	151-250	0,721	0.022
40	0-125	0,894	0.032
40	126-250	0,933	0.032
40	251-350	1,011	0.032
40	351-500	1,173	0.032
50	0-130	1,443	0.047
50	131-250	1,545	0.047
50	251-500	1,648	0.047
50	501-630	1,944	0.047
50	631-750	2,24	0.047
50	751-1000	2,538	0.047
63	0-130	1,808	0.054
63	131-250	1,911	0.054
63	251-500	2,013	0.054
63	501-630	2,309	0.054
63	631-750	2,605	0.054
63	751-1000	2,904	0.054
80	0-130	2,892	0.085
80	131-250	2,994	0.085
80	251-500	3,095	0.085
80	501-630	3,499	0.085
80	631-750	3,902	0.085
80	751-1000	4,31	0.085
100	0-125	3,988	0.1
100	126-250	4,09	0.1
100	251-500	4,191	0.1
100	501-600	4,519	0.1
100	601-750	4,847	0.1
100	751-1000	5,175	0.1
125	0-125	7,484	0.15
125	126-250	7,65	0.15
125	251-500	7,816	0.15
125	501-600	8,354	0.15
125	601-750	8,892	0.15
125	751-1000	9,429	0.15

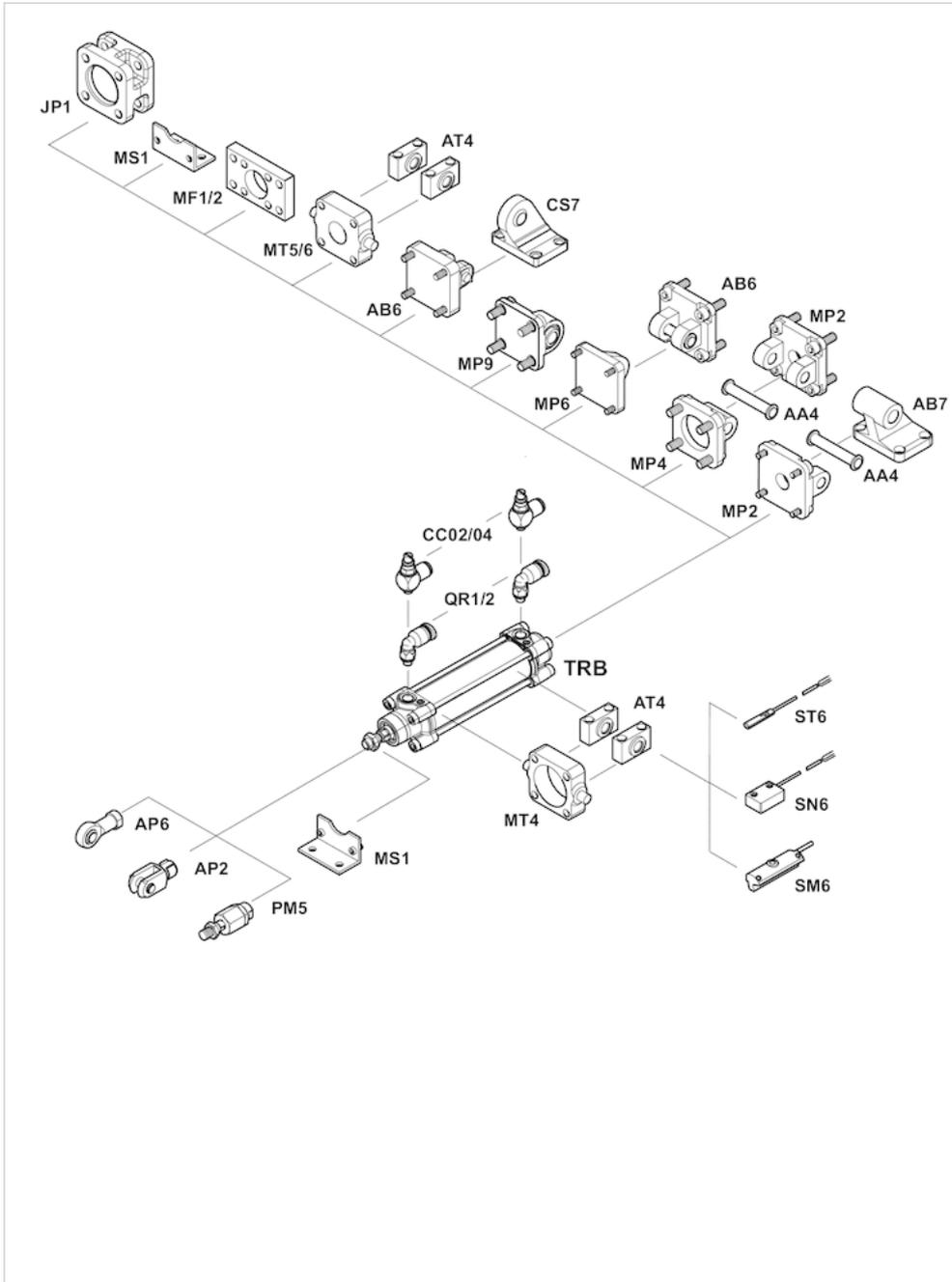
Diagrams

Cushioning diagram



v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview

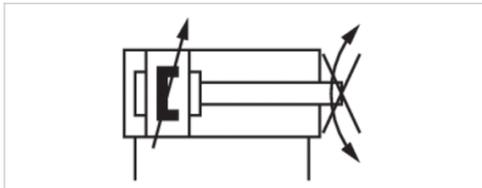


Tie rod cylinder ISO 15552, Series TRB

- Ø 32-63 mm
- Ports G 1/8 G 1/4 G 3/8
- double-acting
- with magnetic piston
- Cushioning pneumatically adjustable
- Piston rod External thread
- Piston rod non-rotating



Standards	ISO 15552
Compressed air connection	Internal thread
Working pressure min./max.	1.5 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar



Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm M10x1,25 G 1/8 12 mm	40 mm M12x1,25 G 1/4 16 mm	50 mm M16x1,5 G 1/4 20 mm	63 mm M16x1,5 G 3/8 20 mm
Stroke 25	R481602013	R481602024	R481602035	R481602046
50	R481602014	R481602025	R481602036	R481602047
80	R481602015	R481602026	R481602037	R481602048
100	R481602016	R481602027	R481602038	R481602049
125	R481602017	R481602028	R481602039	R481602050
160	R481602018	R481602029	R481602040	R481602051
200	R481602019	R481602030	R481602041	R481602052
250	R481602020	R481602031	R481602042	R481602053
320	R481602021	R481602032	R481602043	R481602054
400	R481602022	R481602033	R481602044	R481602055
500	R481602023	R481602034	R481602045	R481602056

Technical data

Piston Ø	32 mm	40 mm	50 mm
Retracting piston force	435 N	660 N	1035 N
Extracting piston force	505 N	790 N	1235 N
Cushioning length	16.5 mm	19 mm	17 mm
Cushioning energy	4.8 J	9 J	15 J
Torque for torsion protection, max.	0.75 Nm	1.5 Nm	2 Nm
Rotation angle tolerance (±)	1.8 °	1.6 °	1.4 °
Weight 0 mm stroke	0.46 kg	0.67 kg	1.14 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg
Tie-rods	Stainless steel	Stainless steel	Steel galvanized
Stroke max.	1500 mm	1500 mm	1500 mm

Piston Ø	63 mm
Retracting piston force	1765 N
Extracting piston force	1960 N
Cushioning length	16.5 mm
Cushioning energy	27 J
Torque for torsion protection, max.	2 Nm
Rotation angle tolerance (±)	1.4 °
Weight 0 mm stroke	1.4 kg
Weight +10 mm stroke	0.052 kg
Tie-rods	Steel galvanized
Stroke max.	1500 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

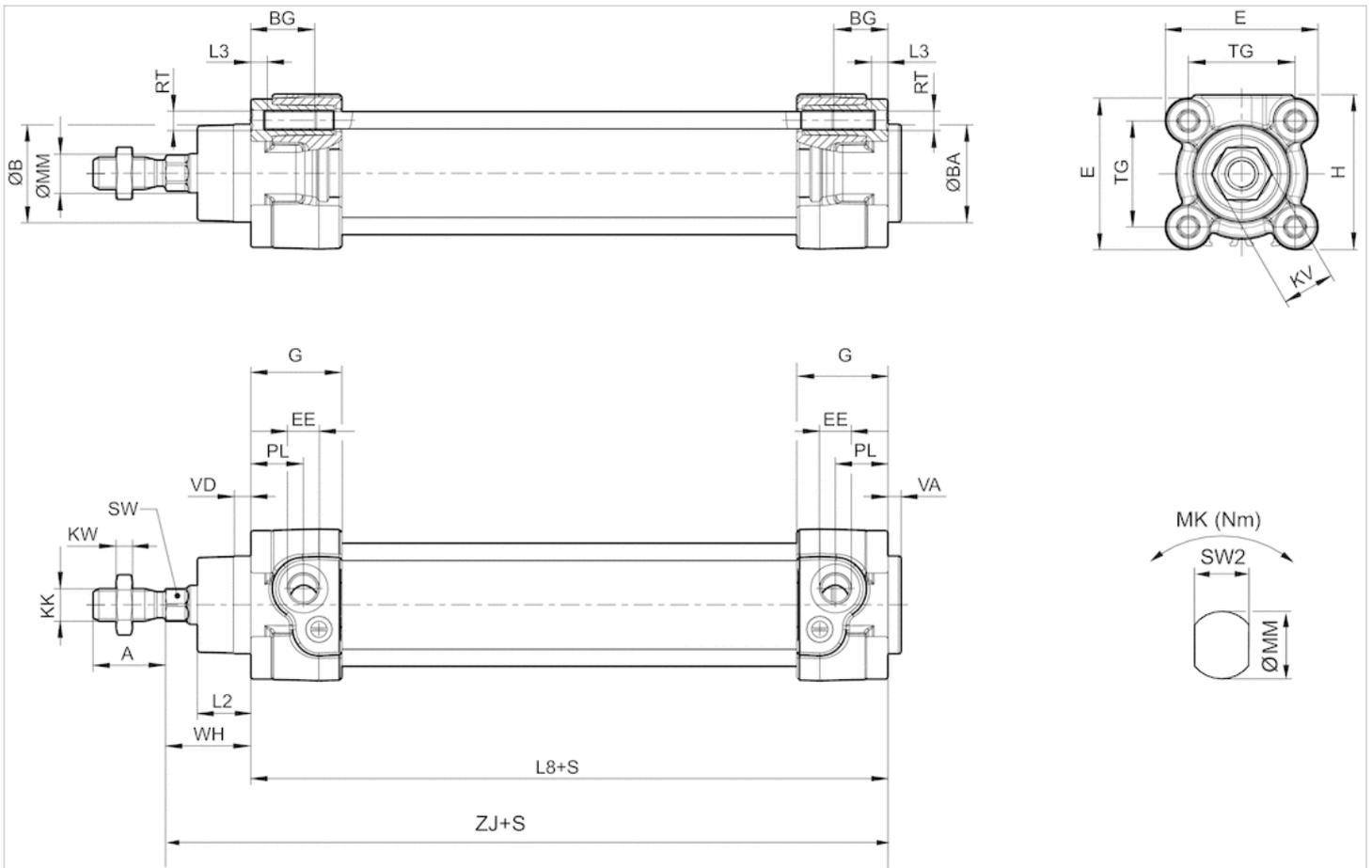
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Polyurethane
Nut for piston rod	Steel, galvanized
Scraper	Polyurethane
Tie-rods	Stainless steel Steel, galvanized
	See table for additional data on materials.

Dimensions

Dimensions



S = stroke

Dimensions

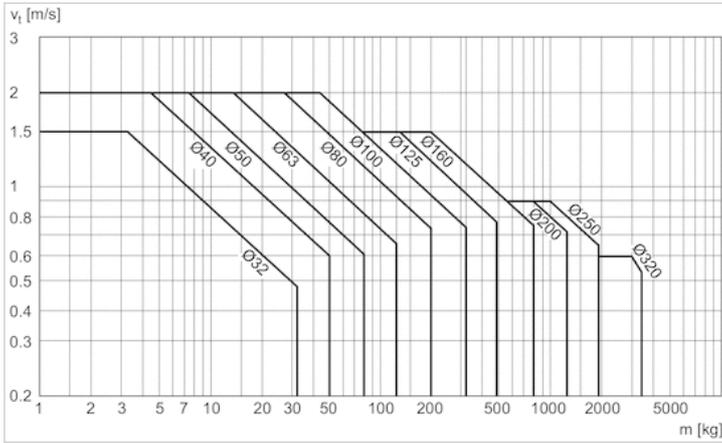
Piston Ø	A -2	ØB d11	ØBA d11	BG min.	E	EE	G	H	KF	KK	KV	KW
32 mm	22	30	30	16	46.5	G 1/8	27.75	47.5	M6	M10x1,25	16	5
40 mm	24	35	35	16	53	G 1/4	33.25	53	M8	M12x1,25	18	6
50 mm	32	40	40	16	65	G 1/4	31	65	M10	M16x1,5	24	8
63 mm	32	45	45	16	75	G 3/8	38.25	75	M10	M16x1,5	24	8

Piston Ø	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH	ZJ	MK	SW2
32 mm	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4	120	0.75	10
40 mm	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4	135	1.5	13
50 mm	20	19	25	4.5	106±0,7	M8	16*	46,5±0,6	4	5	37±1,4	143	2	16
63 mm	20	24	25	4.5	121±0,8	M8	16*	56,5±0,7	4	5	37±1,8	158	2	16

* not according to ISO 15552

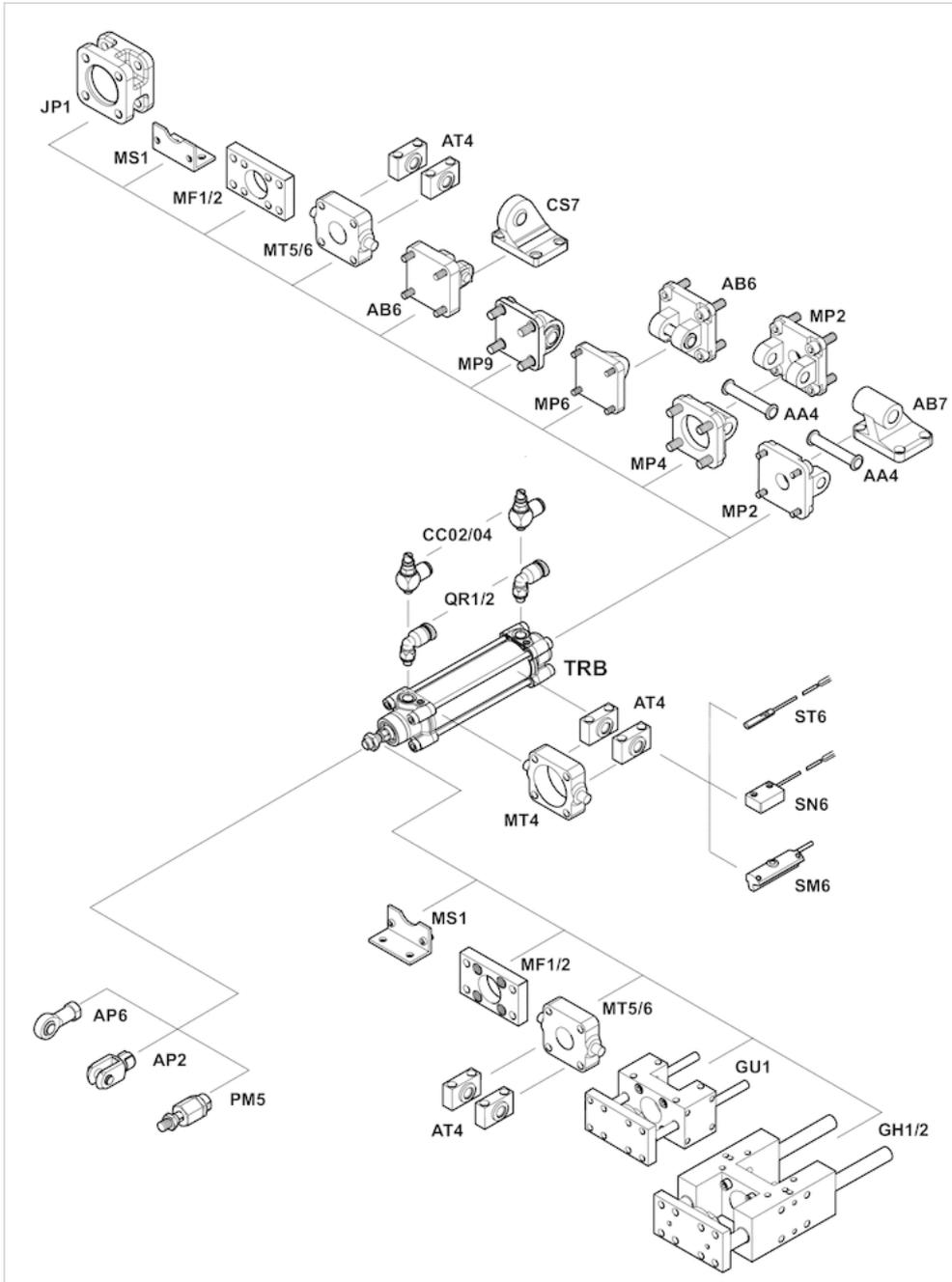
Diagrams

Cushioning diagram



v = Piston velocity [m/s]
m = Cushionable mass [kg]

Accessories overview

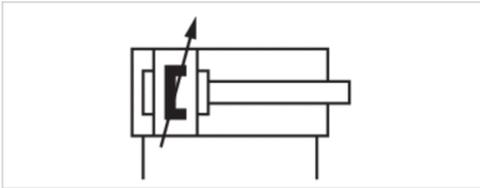


Tie rod cylinder ISO 15552, Series TRB - inch

- Ø 32-125 mm
- Ports 1/8 NPT 1/4 NPT 3/8 NPT 1/2 NPT
- double-acting
- with magnetic piston
- Cushioning pneumatically, pneumatically adjustable
- Piston rod External thread



Compressed air connection	Internal thread
Working pressure min./max.	2 ... 10 bar
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar



Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm 7/16-20 UNF 1/8 NPT 12 mm	40 mm 1/2-20 UNF 1/4 NPT 16 mm	50 mm 3/4-16 UNF 1/4 NPT 20 mm	63 mm 3/4-16 UNF 3/8 NPT 20 mm	80 mm 3/4-16 UNF 3/8 NPT 25 mm	100 mm 3/4-16 UNF 1/2 NPT 25 mm
Stroke 25.4	R480176766	R480176858	R480176946	R480177032	R480177121	R480177211
50.8	R480176776	R480176865	R480176953	R480177040	R480177128	R480177219
76.2	R480176789	R480176875	R480176960	R480177047	R480177139	R480177225
101.6	R480176795	R480176882	R480176969	R480177054	R480177143	R480177237
127	R480176802	R480176891	R480176979	R480177067	R480177155	R480177238
152.4	R480176813	R480176900	R480176982	R480177077	R480177164	R480177247
177.8	R480176817	R480176907	R480176997	R480177078	R480177166	R480177258
203.2	R480176823	R480176913	R480176998	R480177090	R480177176	R480177266
228.6	R480176834	R480176923	R480177007	R480177099	R480177182	R480177272
254	R480176844	R480176932	R480177017	R480177102	R480177195	R480177278
304.8	R480176852	R480176941	R480177023	R480177114	R480177205	R480177290

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm 1-14 UNF 1/2 NPT 32 mm
Stroke 25.4	R480177299
50.8	R480177307
76.2	R480177316
101.6	R480177323
127	R480177328
152.4	R480177334
177.8	R480177346
203.2	R480177357
228.6	R480177360
254	R480177367
304.8	R480177377

Technical data

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 length	16.5 mm	19 mm	17 mm	16.5 mm
Cushioning energy	4.8 J	9 J	15 J	27 J
Weight 0 mm stroke	0.46 kg	0.67 kg	1.14 kg	1.4 kg
Weight +10 mm stroke	0.024 kg	0.03 kg	0.036 kg	0.052 kg
Tie-rods	Stainless steel	Stainless steel	Steel galvanized	Steel galvanized
Stroke max.	1600 mm	1900 mm	2100 mm	2500 mm

Piston Ø	80 mm	100 mm	125 mm
Retracting piston force	2855 N	4635 N	7220 N
Extracting piston force	3165 N	4945 N	7725 N
Cushioning length	19.5 mm	19.5 mm	22 mm
Cushioning energy	54 J	88 J	140 J
Weight 0 mm stroke	2.12 kg	3.16 kg	6.92 kg
Weight +10 mm stroke	0.06 kg	0.065 kg	0.21 kg
Tie-rods	Steel galvanized	Steel galvanized	Steel galvanized
Stroke max.	2800 mm	2800 mm	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

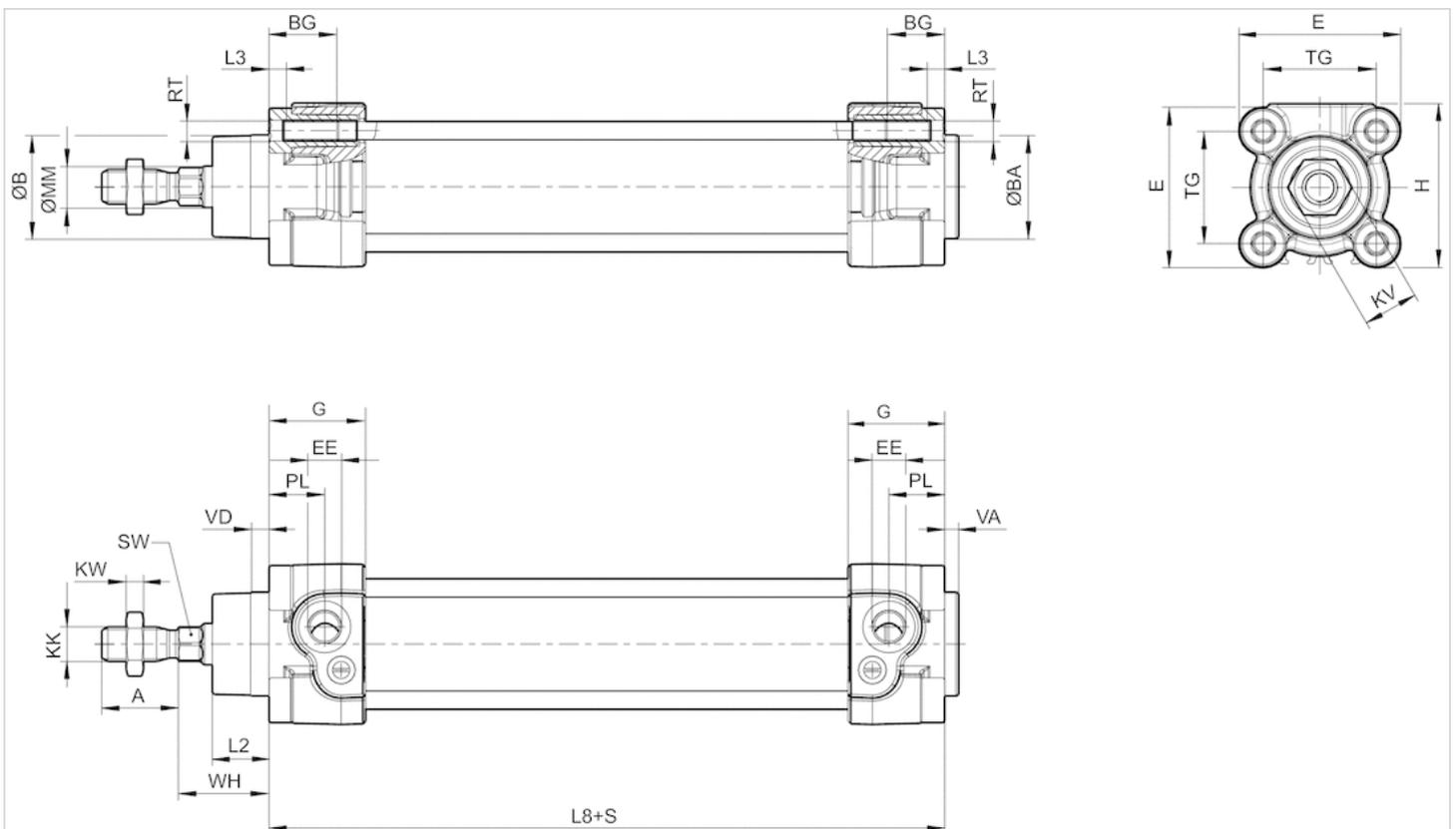
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Polyurethane
Nut for piston rod	Steel, galvanized
Scraper	Polyurethane
Tie-rods	Stainless steel Steel, galvanized
See table for additional data on materials.	

Dimensions

Dimensions in inches



S = stroke

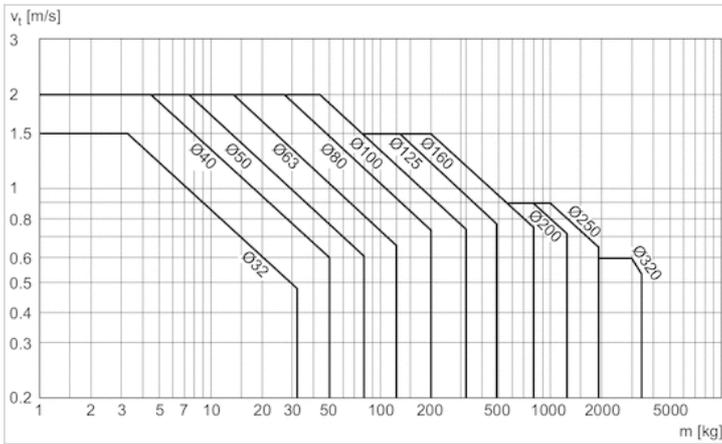
Dimensions in inches

Ø [mm]	Ø [inch]	A -0,08	ØB d11	ØBA d11	BG min.	E	EE	KK	G	H
32	1 1/4	0.87	1.18	1.18	0.63	1.83	1/8 NPT	7/16 - 20 UNF	1.09	1.87
40	1 1/2	0.94	1.38	1.38	0.63	2.09	1/4 NPT	1/2 - 20 UNF	1.31	2.09
50	2	1.26	1.57	1.57	0.63	2.56	1/4 NPT	3/4 - 16 UNF	1.22	2.56
63	2 1/2	1.26	1.77	1.77	0.63	2.95	3/8 NPT	3/4 - 16 UNF	1.51	2.95
80	3	1.57	1.77	1.77	0.67	3.74	3/8 NPT	3/4 - 16 UNF	1.51	3.74
100	4	1.57	2.17	2.17	0.67	4.53	1/2 NPT	3/4 - 16 UNF	1.66	4.53
125	5	2.13	2.36	2.36	0.79	5.51	1/2 NPT	1 - 14 UNF	2.12	5.51

KV	KW	ØMM f8	PL	L2	L3 ±0,02	L8	RT	SW	TG	VA -0,04	VD	WH
0.63	0.2	0.47	0.63	0.64	0.18	3.7±0.02	M6	0.39	1.28±0.02	0.16	0.2	1.02±0.06
0.71	0.24	0.63	0.79	0.72	0.18	4.13±0.03	M6	0.51	1.5±0.02	0.16	0.2	1.18±0.06
0.94	0.31	0.79	0.75	0.98	0.18	4.17±0.03	M8	0.67	1.83±0.02	0.16	0.2	1.46±0.06
0.94	0.31	0.79	0.94	0.98	0.18	4.76±0.03	M8	0.67	2.22±0.03	0.16	0.2	1.46±0.07
1.18	0.39	0.98	0.93	1.3	0	5.04±0.03	M10	0.87	2.83±0.03	0.16	0.2	1.81±0.07
1.18	0.39	0.98	0.98	1.42	0	5.43±0.04	M10	0.87	3.5±0.03	0.16	0.2	2.01±0.07
1.61	0.53	1.26	1.3	1.77	0	6.3±0.04	M12	1.06	4.33±0.04	0.24	0.28	2.56±0.09

Diagrams

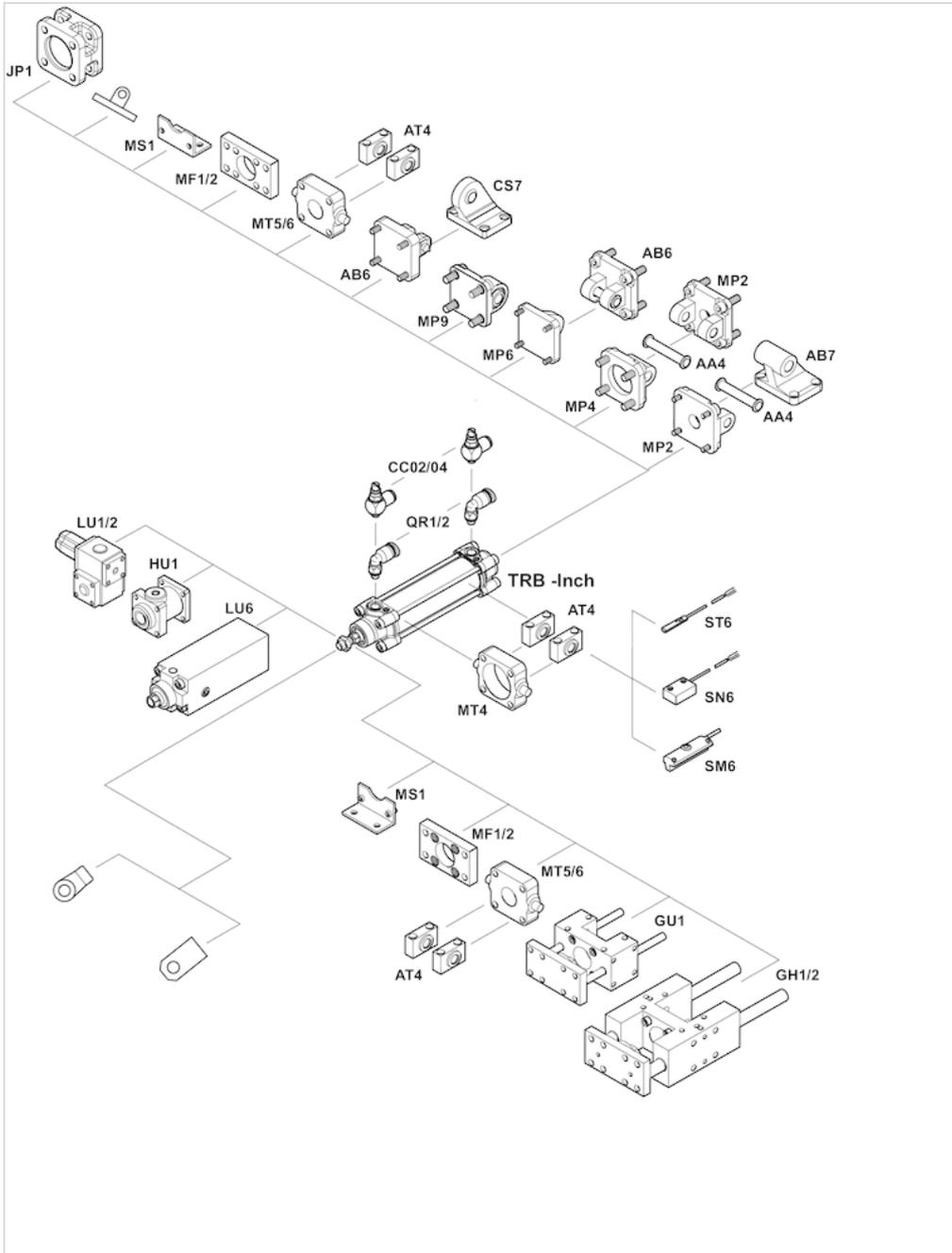
Cushioning diagram



v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview

Overview drawing

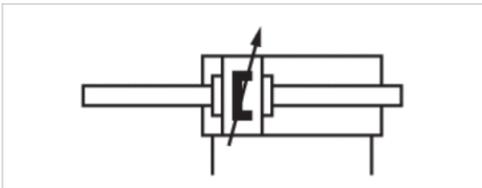
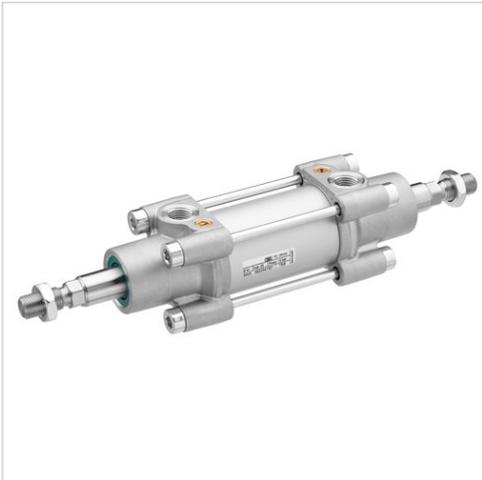


NOTE:

This overview drawing is only for orientation to indicate where the various accessory parts can be fastened to the cylinder. The illustration has been simplified for this purpose. It is thus not possible to derive the dimensions from this overview.

Tie rod cylinder ISO 15552, Series TRB - inch

- Ø 32-125 mm
- Ports 1/8 NPT 1/4 NPT 3/8 NPT 1/2 NPT
- double-acting
- with magnetic piston
- Cushioning pneumatically
- Piston rod External thread
- ATEX optional



Compressed air connection	Internal thread
Ambient temperature min./max.	-20 ... 80 °C
Medium temperature min./max.	-20 ... 80 °C
Medium	Compressed air
Max. particle size	50 µm
Oil content of compressed air	0 ... 5 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø Piston rod thread Ports Piston rod Ø	32 mm 7/16-20 UNF 1/8 NPT 12 mm	40 mm 1/2-20 UNF 1/4 NPT 16 mm	50 mm 3/4-16 UNF 1/4 NPT 20 mm	63 mm 3/4-16 UNF 3/8 NPT 20 mm	80 mm 3/4-16 UNF 3/8 NPT 25 mm	100 mm 3/4-16 UNF 1/2 NPT 25 mm
Stroke 25.4	R480176773	R480176861	R480176949	R480177037	R480177118	R480177210
50.8	R480176779	R480176863	R480176951	R480177044	R480177133	R480177214
76.2	R480176785	R480176872	R480176961	R480177052	R480177135	R480177222
101.6	R480176792	R480176878	R480176967	R480177058	R480177149	R480177233
127	R480176804	R480176893	R480176976	R480177063	R480177157	R480177241
152.4	R480176809	R480176896	R480176988	R480177071	R480177160	R480177246
177.8	R480176814	R480176903	R480176996	R480177084	R480177167	R480177259
203.2	R480176827	R480176916	R480177001	R480177088	R480177180	R480177268
228.6	R480176837	R480176921	R480177012	R480177095	R480177187	R480177276
254	R480176839	R480176931	R480177014	R480177108	R480177190	R480177284
304.8	R480176851	R480176939	R480177028	R480177111	R480177204	R480177293

Piston Ø Piston rod thread Ports Piston rod Ø	125 mm 1-14 UNF 1/2 NPT 32 mm
Stroke 25.4	R480177297
50.8	R480177304
76.2	R480177311
101.6	R480177321
127	R480177332
152.4	R480177337
177.8	R480177348
203.2	R480177356
228.6	R480177364
254	R480177366
304.8	R480177381

Technical data

Piston Ø	32 mm	40 mm	50 mm
Retracting piston force	435 N	660 N	1035 N
Extracting piston force	435 N	660 N	1035 N
Cushioning length	16.5 mm	15 mm	17 mm
Cushioning energy	4.8 J	9 J	15 J
Weight 0 mm stroke	0.52 kg	0.82 kg	1.42 kg
Weight +10 mm stroke	0.033 kg	0.046 kg	0.061 kg
Working pressure min./max.	2 ... 10 bar	2 ... 10 bar	2 ... 10 bar
Tie-rods	Stainless steel	Stainless steel	Steel galvanized
Stroke max.	1600 mm	1900 mm	2100 mm

Piston Ø	63 mm	80 mm	100 mm
Retracting piston force	1765 N	2855 N	4635 N
Extracting piston force	1765 N	2855 N	4635 N
Cushioning length	16.5 mm	19.5 mm	19.5 mm
Cushioning energy	27 J	54 J	88 J
Weight 0 mm stroke	1.7 kg	2.67 kg	3.7 kg
Weight +10 mm stroke	0.077 kg	0.099 kg	0.104 kg
Working pressure min./max.	2 ... 10 bar	2 ... 10 bar	2 ... 10 bar
Tie-rods	Steel galvanized	Steel galvanized	Steel galvanized
Stroke max.	2500 mm	2800 mm	2800 mm

Piston Ø	125 mm
Retracting piston force	7220 N
Extracting piston force	7220 N
Cushioning length	22 mm
Cushioning energy	140 J
Weight 0 mm stroke	9 kg
Weight +10 mm stroke	0.26 kg
Working pressure min./max.	2 ... 10 bar
Tie-rods	Steel galvanized

Piston Ø	125 mm
Stroke max.	2750 mm

Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .

The oil content of compressed air must remain constant during the life cycle.

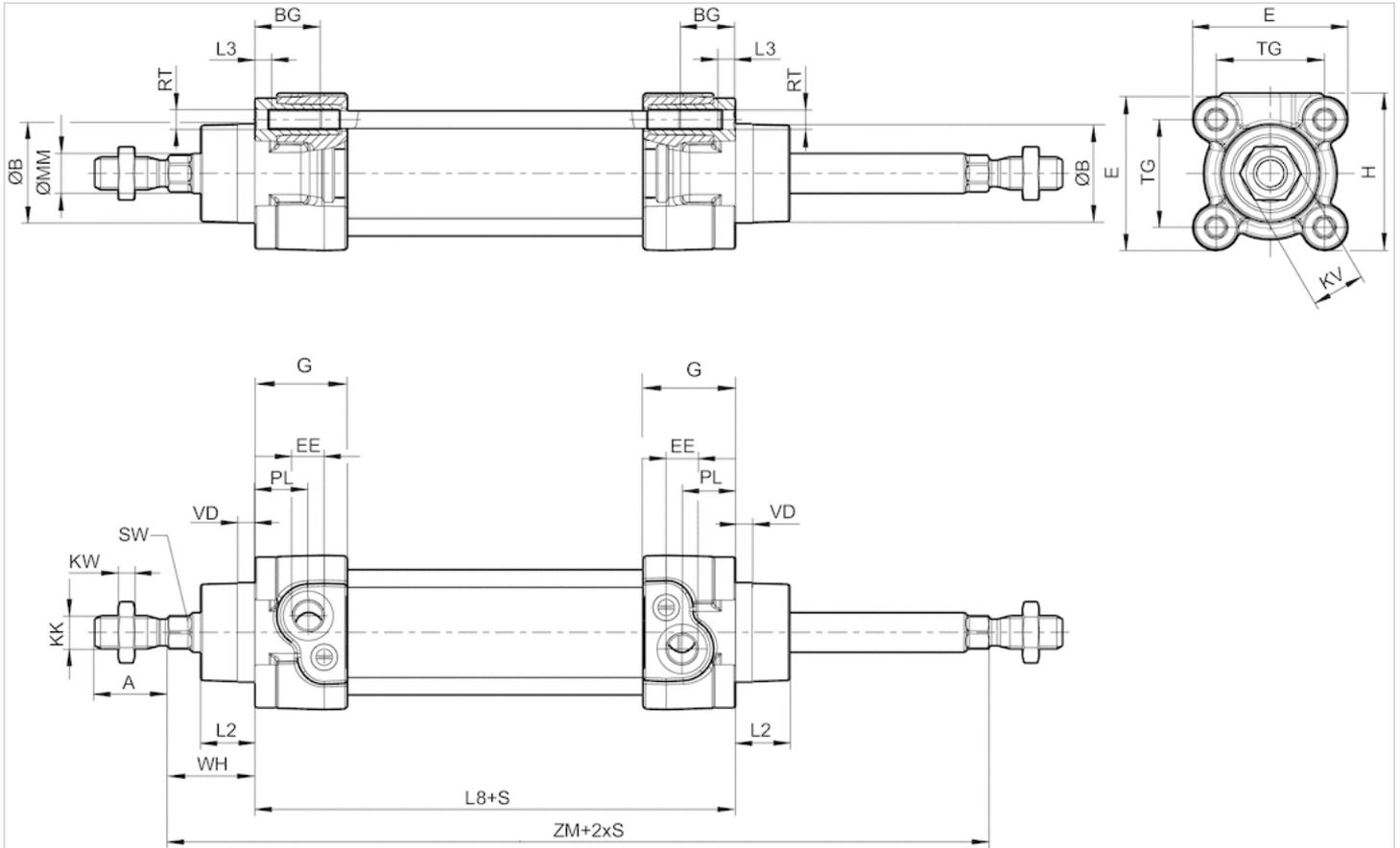
Use only the approved oils from AVENTICS. Further information can be found in the “Technical information” document (available in the MediaCentre).

Technical information

Material	
Cylinder tube	Aluminum, anodized
Piston rod	Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Seal	Polyurethane
Nut for piston rod	Steel, galvanized
Scraper	Polyurethane
Tie-rods	Stainless steel Steel, galvanized
	See table for additional data on materials.

Dimensions

Dimensions



S = stroke

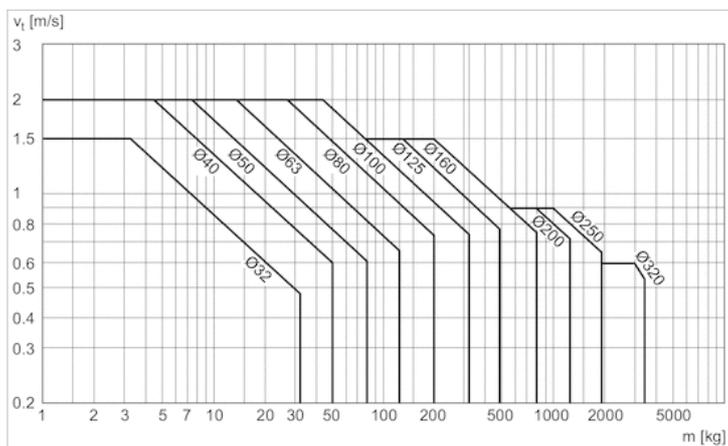
Dimensions in inches

Ø [mm]	Ø [inch]	A -0,08	ØB d11	BG min.	E	EE	KK	G	H	KV	KW
32	1 1/4	0.87	1.18	0.63	1.83	1/8 NPT	7/16 - 20 UNF	1.09	1.87	0.63	0.2
40	1 1/2	0.94	1.38	0.63	2.09	1/4 NPT	1/2 - 20 UNF	1.31	2.09	0.71	0.24
50	2	1.26	1.57	0.63	2.56	1/4 NPT	3/4 - 16 UNF	1.22	2.56	0.94	0.31
63	2 1/2	1.26	1.77	0.63	2.95	3/8 NPT	3/4 - 16 UNF	1.22	2.95	0.94	0.31
80	3	1.57	1.77	0.67	3.74	3/8 NPT	3/4 - 16 UNF	1.51	3.74	1.18	0.39
100	4	1.57	2.17	0.67	4.53	1/2 NPT	3/4 - 16 UNF	1.51	4.53	1.18	0.39
125	5	2.13	2.36	0.79	5.51	1/2 NPT	1 - 14 UNF	1.66	5.51	1.61	0.53

ØMM f8	PL	L2	L3 ±0,02	L8	RT	SW	TG	VD	WH	ZM
0.47	0.63	0.64	0.18	3.7±0.02	M6	0.39	1.28±0.02	0.2	26±1.4	5.75+0.12/0.06
0.63	0.79	0.72	0.18	4.13±0.03	M6	0.51	1.5±0.02	0.2	30±1.4	6.5+0.12/0.06
0.79	0.75	0.98	0.18	4.17±0.03	M8	0.67	1.83±0.02	0.2	37±1.4	7.09+0.12/0.06
0.79	0.94	0.98	0.18	4.76±0.03	M8	0.67	2.22±0.03	0.2	37±1.8	7.68+0.12/0.06
0.98	0.93	1.3	0	5.04±0.03	M10	0.87	2.83±0.03	0.2	46±1.8	8.66+0.12/0.06
0.98	0.98	1.42	0	5.43±0.04	M10	0.87	3.5±0.03	0.2	51±1.8	9.45+0.08/0.08
1.26	1.3	1.77	0	6.3±0.04	M12	1.06	4.33±0.04	0.28	65±2.2	11.42+0.08/0.08

Diagrams

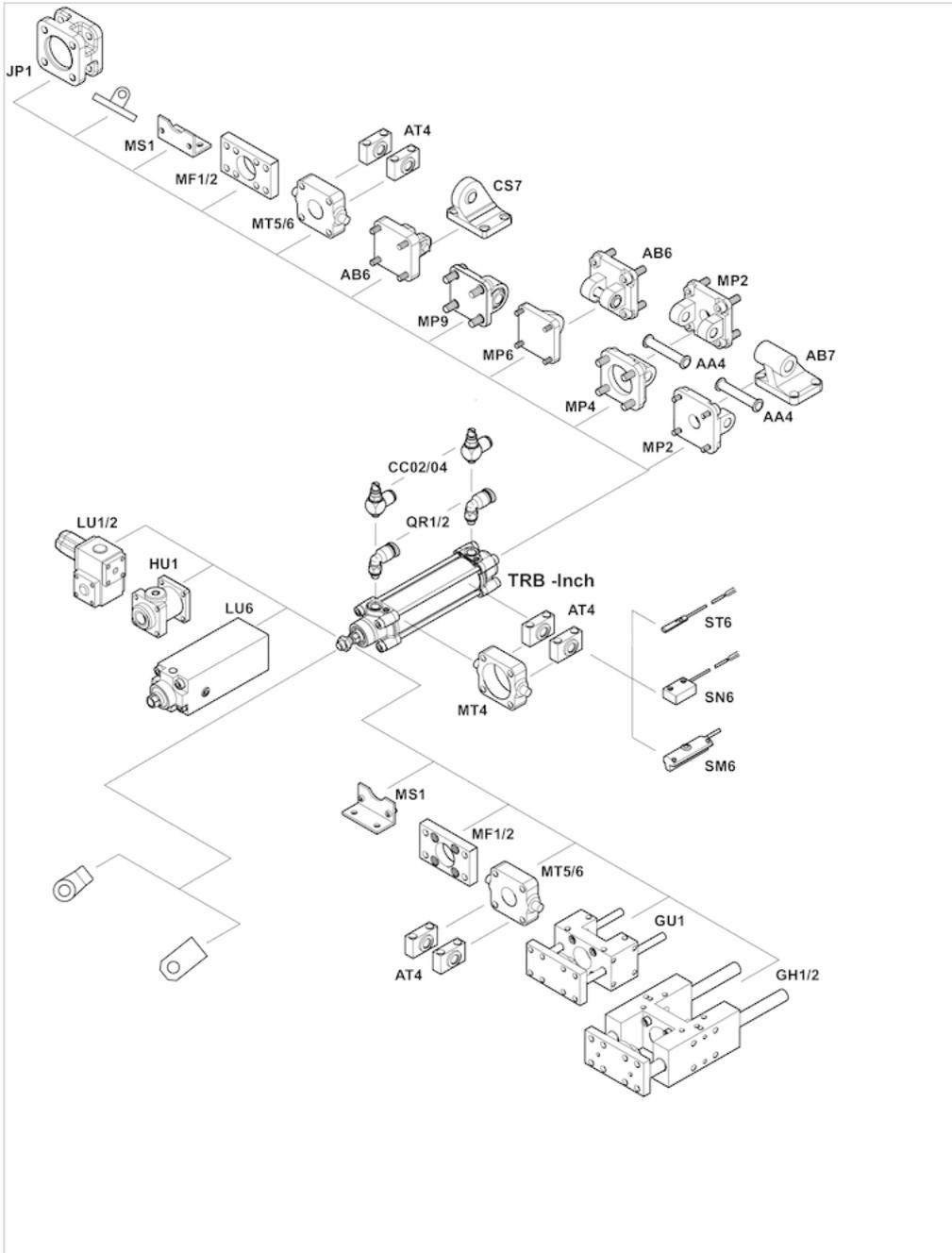
Cushioning diagram



v = Piston velocity [m/s]
 m = Cushionable mass [kg]

Accessories overview

Overview drawing



NOTE:

This overview drawing is only for orientation to indicate where the various accessory parts can be fastened to the cylinder. The illustration has been simplified for this purpose. It is thus not possible to derive the dimensions from this overview.

Bearing block AB7-HD, Series CM1

- Suitable for robust mechanical engineering applications, with fixed bearing
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards

ISO 15552

Technical data

Part No.	Piston Ø	Swivel bearing Ø
1825805275	32 mm	10 mm
1825805276	40 mm	12 mm
1825805277	50 mm	12 mm
1825805278	63 mm	16 mm
1825805279	80 mm	16 mm
1825805280	100 mm	20 mm
1825805281	125 mm	25 mm

Technical information

Material	
Material	Nodular graphite iron
	galvanized
Screws	galvanized steel

Bearing block CS7, Series CM1

- With ball joint and foot
- Cylinder mounting in accordance with VDMA 24562 part 2
- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards

VDMA 24562 part 2

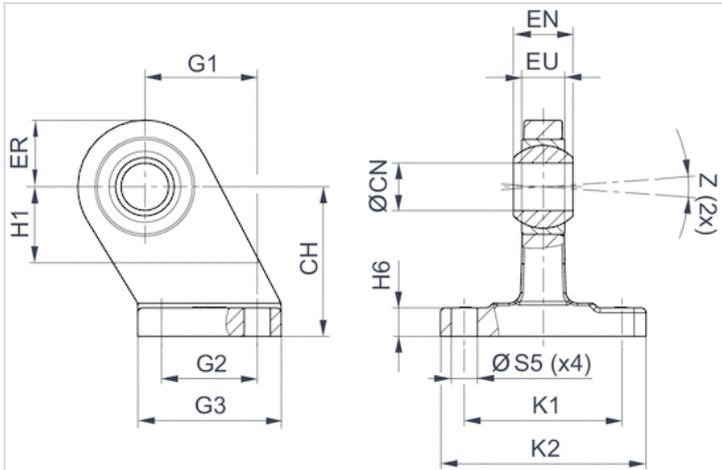
Technical data

Part No.	Piston Ø	Swivel bearing Ø
1827001784	32 mm	10 mm
1827001785	40 mm	12 mm
1827001786	50 mm	16 mm
1827001787	63 mm	16 mm
1827001788	80 mm	20 mm
1827001789	100 mm	20 mm
1827001790	125 mm	30 mm

Technical information

Material	
Material	Nodular graphite iron
	galvanized

Dimensions



Dimensions

Part No.	Piston Ø	CH JS15	ØCN H7	EU max.	EN -1,0	ER max.	G1 JS14	G2 JS14	G3 max.
1827001784	32 mm	32	10	10.5	14	16	21	18	31
1827001785	40 mm	36	12	12	16	18	24	22	35
1827001786	50 mm	45	16	15	21	21	33	30	45
1827001787	63 mm	50	16	15	21	23	37	35	50
1827001788	80 mm	63	20	18	25	28	47	40	60
1827001789	100 mm	71	20	18	25	30	55	50	70
1827001790	125 mm	90	30	25	37	40	70	60	90

H1 min.	H6	K1 JS14	K2 max.	ØS5 H13	Z min.
16	9 ±1	38	51	6.6	4°
20	9 ±1	41	54	6.6	4°
22	11 ±1	50	65	9	4°
27	11 ±1	52	67	9	4°
31	12 ±1,5	66	86	11	4°
38	13 ±1,5	76	96	11	4°
40	17 ±1,5	94	124	14	4°

Clevis mounting AB6, Series CM1

- Cylinder mounting in accordance with ISO 15552

- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards

ISO 15552

Technical data

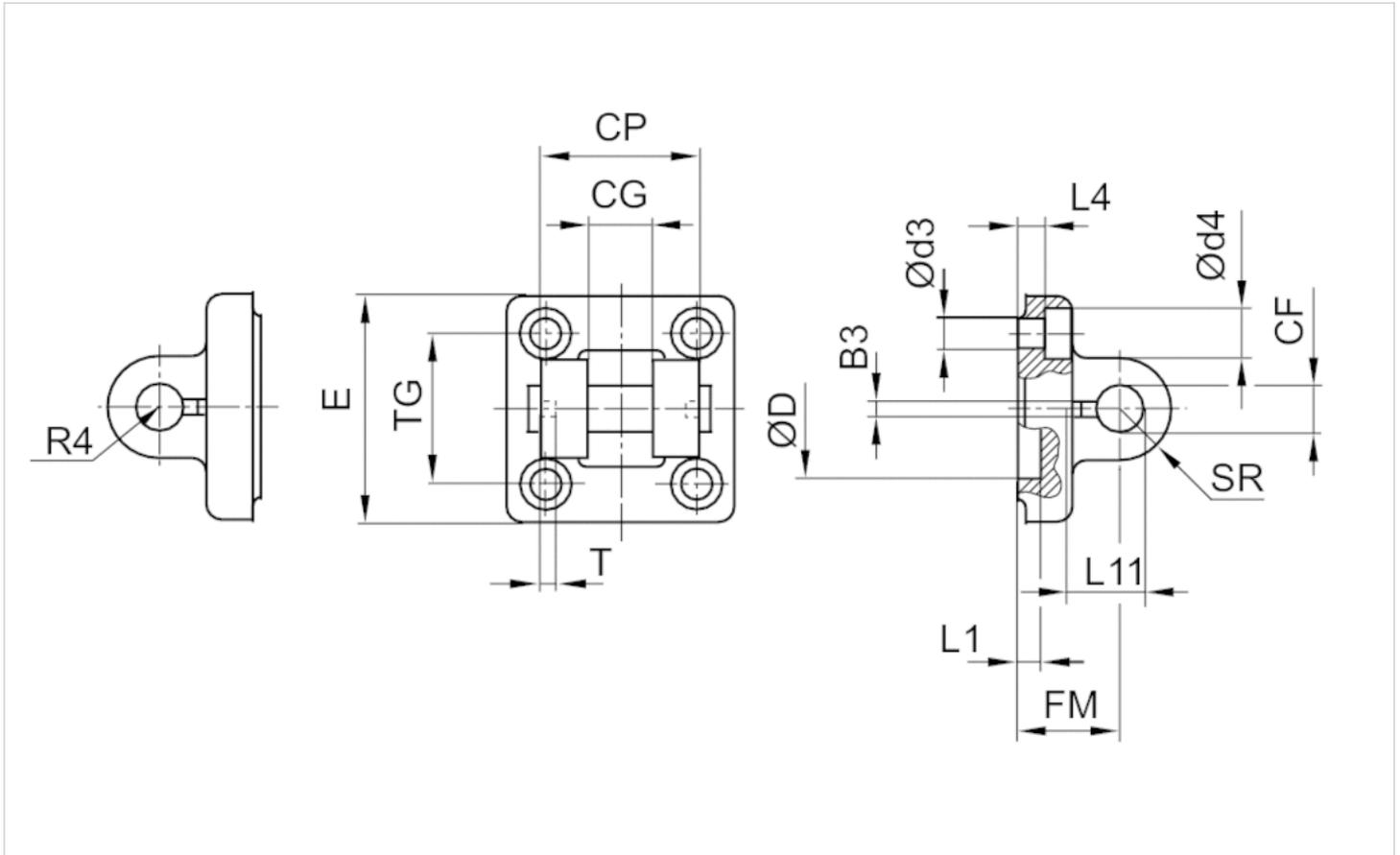
Part No.	Piston Ø	Swivel bearing Ø
1827001593	32 mm	10 mm
1827001594	40 mm	12 mm
1827001595	50 mm	16 mm
1827002024	63 mm	16 mm
1827001597	80 mm	20 mm
1827001598	100 mm	20 mm
1827001599	125 mm	30 mm

Scope of delivery: clevis mounting incl. pivot pins and mounting screws

Technical information

Material	
Material	Aluminum (forged)
Screws	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston Ø	B3 ±0,2	Ø CF F7	CG D10	CP d12	Ø d3	Ø d4	Ø D	E	FM ±0,2
1827001593	32 mm	3.3	10	14	34	6.6	11	30	49	22
1827001594	40 mm	4.3	12	16	40	6.6	11	35	55	25
1827001595	50 mm	4.3	16	21	45	9	15	40	67	27
1827002024	63 mm	4.3	16	21	51	9	15	45	77	32
1827001597	80 mm	4.3	20	25	65	11	18	45	97	36
1827001598	100 mm	4.3	20	25	75	11	18	55	117	41
1827001599	125 mm	6.3	30	37	97	14	20	60	140	50

L1 min.	L4 ±0,5	L11 -0,5	R4	SR	T ±0,2	TG
4.5	5.5	16.5	17	11	3	32,5 ±0,2
4.5	5.5	18	20	12	4	38 ±0,2
4.5	6.5	23	22	15	4	46,5 ±0,2
4.5	6.5	23	25	15	4	56,5 ±0,2
4.5	10	27	30	20	4	72 ±0,2
4.5	10	27	32	20	4	89 ±0,2
7	10	40	42	26	6	110 ±0,3

Clevis mounting MP2-HD, Series CM1

- Suitable for robust mechanical engineering applications
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards

ISO 15552

Technical data

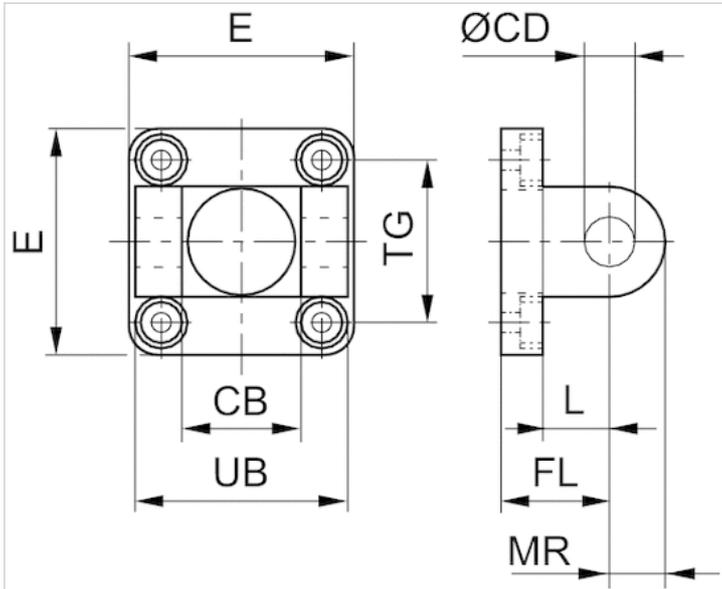
Part No.	Piston Ø	Swivel bearing Ø
1827001289	32 mm	10 mm
1827001290	40 mm	12 mm
1827001291	50 mm	12 mm
1827001500	63 mm	16 mm
1827001293	80 mm	16 mm
1827001294	100 mm	20 mm
1827004862	125 mm	25 mm

Scope of delivery: clevis mounting incl. mounting screws

Technical information

Material	
Material	Aluminum (forged)
Screws	Steel galvanized

Dimensions



Dimensions

Part No.	Piston Ø	CB H14	Ø CD H9	E	FL ±0.2	L min.	MR max.	UB h13	TG
1827001289	32 mm	26	10	47.5	22	12	10	45	32.5 ±0.2
1827001290	40 mm	28	12	53.5	25	15	13	52	38 ±0.2
1827001291	50 mm	32	12	64	27	15	13	60	46.5 ±0.2
1827001500	63 mm	40	16	74	32	18	17	70	56.5 ±0.2
1827001293	80 mm	50	16	94	36	20	17	90	72.0 ±0.2
1827001294	100 mm	60	20	113.5	41	25	18	110	89.0 ±0.2
1827004862	125 mm	70	25	138	50	30	26	130	110 ±0.3

Rear eye MP4-HD, Series CM1

- Suitable for robust mechanical engineering applications, for clevis mounting MP2 and AB3
- Cylinder mounting in accordance with ISO 15552
- Suitable piston \varnothing 32 40 50 63 80 100 125 mm



Standards

ISO 15552

Technical data

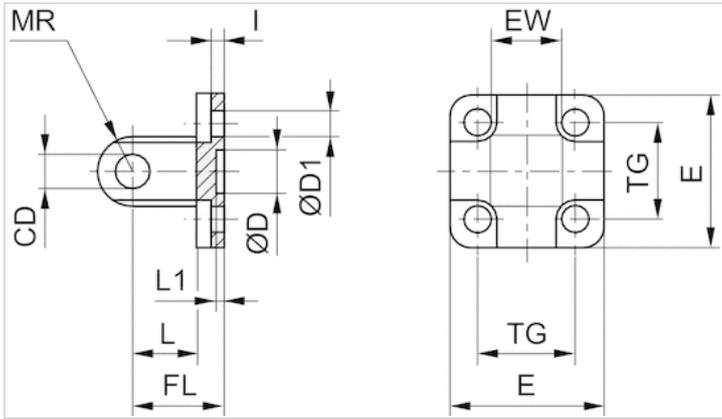
Part No.	Piston \varnothing	Swivel bearing \varnothing
1827001283	32 mm	10 mm
1827001284	40 mm	12 mm
1827001285	50 mm	12 mm
1827020086	63 mm	16 mm
1827001287	80 mm	16 mm
1827001288	100 mm	20 mm
1827004866	125 mm	25 mm

Scope of delivery: clevis incl. mounting screws

Technical information

Material	
Material	Aluminum (forged)
Screws	Steel galvanized

Dimensions



Dimensions

Part No.	Piston Ø	CD H9	Ø D	Ø D1	E	EW	FL ±0,2	I ±0,5	L min.	L1 min.
1827001283	32 mm	10	30 H11	6.6	48	26 -0,2/-0,6	22	5.5	12	4.5
1827001284	40 mm	12	35 H11	6.6	53	28 -0,2/-0,6	25	5.5	15	4.5
1827001285	50 mm	12	40 H11	9	63	32 -0,2/-0,6	27	6.5	15	4.5
1827020086	63 mm	16	45 H11	9	73	40 -0,2/-0,6	32	6.5	20	4.5
1827001287	80 mm	16	45 H11	11	98	50 -0,2/-0,6	36	10	20	4.5
1827001288	100 mm	20	55 H11	11	115	60 -0,2/-0,6	41	10	25	4.5
1827004866	125 mm	25	60 H11	14	140	70 -0,5/-1,2	50	10	30	7

MR max.	TG
10	32,5 ±0,2
12	38 ±0,2
12	46,5 ±0,2
16	56,5 ±0,2
16	72 ±0,2
20	89 ±0,2
26	110 ±0,3

Rear eye MP6, Series CM1

- With ball joint and foot
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards
Weight

ISO 15552
See table below

Technical data

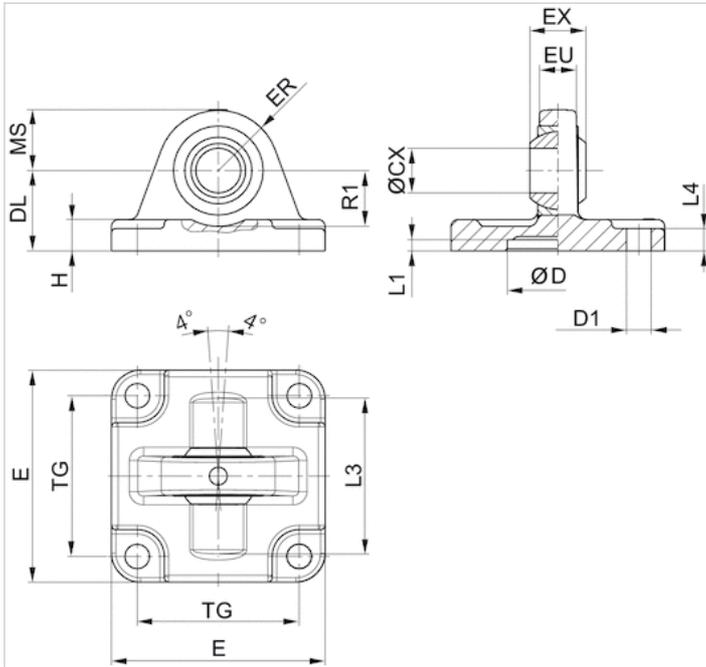
Part No.	Piston Ø	Swivel bearing Ø	Bearing material, inner ring	Bearing material, outer ring	Weight
1827001619	32 mm	10 mm	Stainless steel	Brass with PTFE coating	0.1 kg
1827001620	40 mm	12 mm	Stainless steel	Brass with PTFE coating	0.1 kg
1827001621	50 mm	16 mm	Stainless steel	Brass with PTFE coating	0.2 kg
1827020087	63 mm	16 mm	Stainless steel	Brass with PTFE coating	0.3 kg
1827001623	80 mm	20 mm	Stainless steel	Brass with PTFE coating	0.6 kg
1827001624	100 mm	20 mm	Stainless steel	Brass with PTFE coating	0.8 kg
1827001625	125 mm	30 mm	Stainless steel	Brass with PTFE coating	1.4 kg

Scope of delivery: clevis incl. mounting screws

Technical information

Material	
Material	Aluminum (forged)
Screws	galvanized steel
Bearing	Stainless steel

Dimensions



Dimensions

Part No.	Piston Ø	ØCX H7	ØD H11	ØD1 H13	DL ±0,2	E	EX -0,1	ER	EU	H	L1 min.
1827001619	32 mm	10	30	6.6	22	47	14	15	10.5	9	4.5
1827001620	40 mm	12	35	6.6	25	53	16	18	12	9	4.5
1827001621	50 mm	16	40	9	27	65	21	20	15	10.5	4.5
1827020087	63 mm	16	45	9	32	75	21	23	15	10.5	4.5
1827001623	80 mm	20	45	11	36	95	25	27	18	14	4.5
1827001624	100 mm	20	55	11	41	115	25	30	18	15	4.5
1827001625	125 mm	30	60	14	50	140	37	40	25	16	7

L3	L4	MS -0,5	R1 min.	TG
36	5.5	15	12	32,5 ±0,2
42	5.5	18	15	38 ±0,2
48	6.5	21	19	46,5 ±0,2
55	6.5	23	21	56,5 ±0,2
70	10	27	24	72 ±0,2
80	10	30	25	89 ±0,2
100	10	40	33	110 ±0,3

Rear eye MP9, Series CM1

- With rubber bushing
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards
Weight

ISO 15552
See table below

Technical data

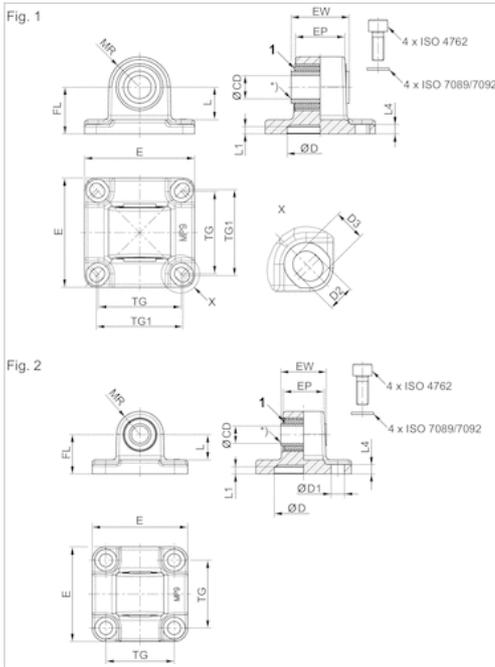
Part No.	Piston Ø	Swivel bearing Ø	Bearing material	Weight	Fig.
3683203000	32 mm	10 mm	Bronze	0.092 kg	Fig. 2
3683204000	40 mm	12 mm	Bronze	0.143 kg	Fig. 1
3683205000	50 mm	12 mm	Bronze	0.217 kg	Fig. 2
3683206000	63 mm	16 mm	Bronze	0.411 kg	Fig. 1
3683208000	80 mm	16 mm	Bronze	0.64 kg	Fig. 2
3683210000	100 mm	20 mm	Bronze	0.956 kg	Fig. 1
R412015973	125 mm	25 mm	steel, galvanized	1.37 kg	Fig. 2

Scope of delivery: clevis incl. mounting screws

Technical information

Material	
Material	Aluminum (forged)
Bearing	Bronze steel, galvanized

Dimensions



1) Rubber bushing

Dimensions

Part No.	Piston Ø	CD H11	CD H9	E	EW	EP	TG	TG1 ±0,2	FL ±0,2	L 1)	MR	L1	L4
3683203000	32 mm	10	-	46	25.5	18,9	32.5	-	22	13.8	12.5	5	5.5
3683204000	40 mm	-	12	53	27	23,5	38	40	25	16.3	15	5	5.5
3683205000	50 mm	-	12	65	31	28	46.5	-	27	17.3	16	5	6.5
3683206000	63 mm	-	16	75	39.5	33.5	56.5	59	32	22.3	21	5	6.5
3683208000	80 mm	-	16	94.5	49.5	43	72	-	36	21.8	22	5	10
3683210000	100 mm	-	20	114	59.5	54	89	90	41	25.8	25	5	10
R412015973	125 mm	-	25	138	69.5	60	110	-	50	33.8	34	7.5	10

D H11	D1 H13	D2 -0,2	D3 -0,2	Fig.
30	6.6	-	-	Fig. 2
35	-	6.6	8	Fig. 1
40	9	-	-	Fig. 2
45	6.6	-	-	Fig. 1
45	11	-	-	Fig. 2
55	-	11	11.7	Fig. 1
60	13.5	-	-	Fig. 2

Trunnion mounting MT5, MT6, Series CM1

- for mounting to the cylinder cover or base
- Suitable piston Ø 32 40 50 63 80 100 125 mm
- for series CCI, CVI, CCL-IC/-IS, PRA/TRB CVI, CCL-IS, PRA, TRB



Weight

See table below

The delivered product may vary from that in the illustration.

Technical data

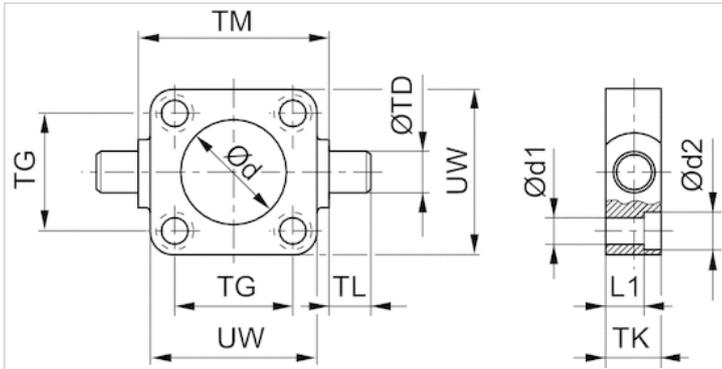
Part No.	Piston Ø	Weight
1827001609	32 mm	0.29 kg
1827001610	40 mm	0.5 kg
1827001611	50 mm	0.7 kg
1827002046	63 mm	1.1 kg
1827001613	80 mm	1.5 kg
1827001614	100 mm	2.7 kg
1827001615	125 mm	3.8 kg

Scope of delivery: trunnion mounting incl. mounting screws

Technical information

Material	
Material	Nodular graphite iron
	galvanized
Screws	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston \varnothing	$\varnothing d$ H11	$\varnothing d1$	$\varnothing d2$	L1	TD e9	TG $\pm 0,2$	TK	TL h14	TM h14	UW
1827001609	32 mm	30	6.6	11	7.5	12	32.5	16	12	50	48
1827001610	40 mm	35	6.6	11	7.5	16	38	20	16	63	56
1827001611	50 mm	40	9	15	10	16	46.5	24	16	75	65
1827002046	63 mm	45	9	15	10	20	56.5	24	20	90	75
1827001613	80 mm	45	11	18	16	20	72	28	20	110	100
1827001614	100 mm	55	11	18	25.5	25	89	38	25	132	120
1827001615	125 mm	60	14	20	34	25	110	46	25	160	145

Bearing, Series CM1

- for trunnion mounting
- Suitable piston \varnothing 32 40, 50 63, 80 mm



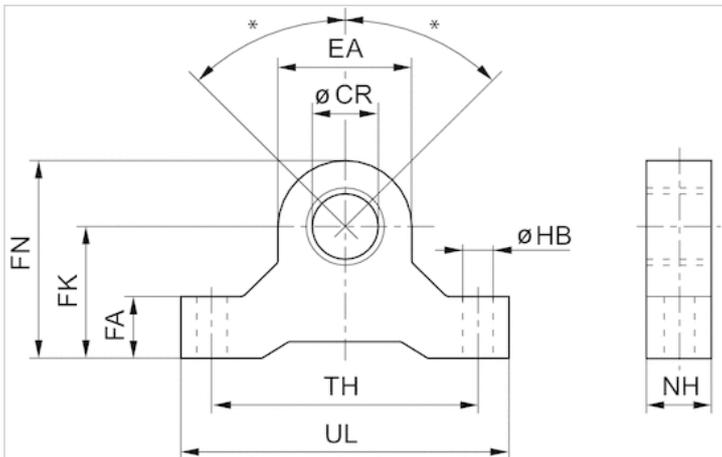
Technical data

Part No.	Piston \varnothing	Swivel bearing \varnothing	Scope of delivery
3671203000	32 mm	12 mm	2 piece
3671204000	40, 50 mm	16 mm	2 piece
3671206000	63, 80 mm	20 mm	2 piece

Technical information

Material	
Material	Aluminum

Dimensions



* Max. pendulum movement for cylinders with rear eye MP6 with ball joint: $\pm 45^\circ$

Dimensions

Part No.	Ø CR H8	EA	FA	FK ±0,1	FN	HB	NH	TH	UL
3671203000	12	19	11	22	32	6.6	11	44	55
3671204000	16	28	16	35	49	9	16	65	82
3671206000	20	38	19	40	59	9	19	80	99

Bearing AT4, Series CM1

- for trunnion mounting MT4, MT5, MT6
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 20, 25, 32 40, 50 63, 80 100, 125 mm
- for series CCI, CCL-IC, ICL, KPZ, PRA/TRB CCI, CCL-IC, KPZ, PRA/TRB



Standards

ISO 15552

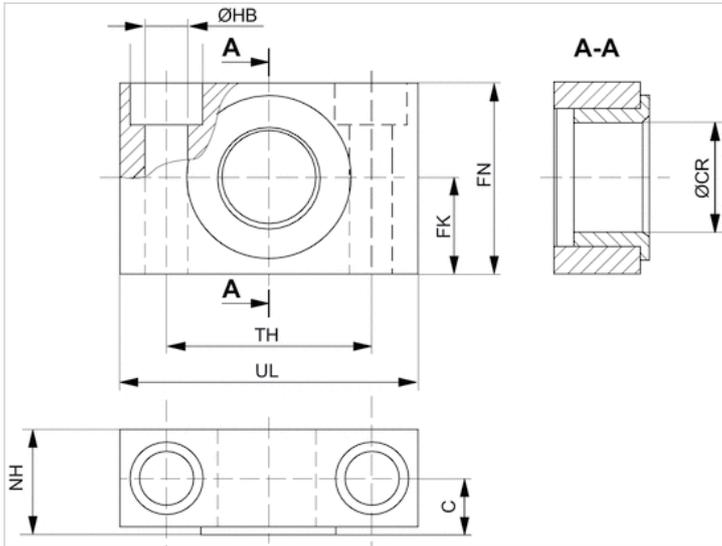
Technical data

Part No.	Piston Ø	Swivel bearing Ø	Scope of delivery
1827001603	20, 25, 32 mm	12 mm	2 piece
1827001604	40, 50 mm	16 mm	2 piece
1827001605	63, 80 mm	20 mm	2 piece
1827001606	100, 125 mm	25 mm	2 piece

Technical information

Material	
Material	Steel
	galvanized
Guide bushing	Sintered bronze

Dimensions



Dimensions

Part No.	Piston Ø	UL	NH	TH	C	CR H9	HB H13	FN	FK	Plain bearing
1827001603	20, 25, 32 mm	46	18	32 ±0,2	10.5	12	6.6	30	15 ±0,1	Sintered bronze
1827001604	40, 50 mm	55	21	36 ±0,2	12	16	9	36	18 ±0,1	Sintered bronze
1827001605	63, 80 mm	65	23	42 ±0,2	13	20	11	40	20 ±0,1	Sintered bronze
1827001606	100, 125 mm	75	28.5	50 ±0,2	16	25	14	50	25 ±0,1	Sintered bronze

Flange mounting MF1, MF2, Series CM1

- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards

ISO 15552

Technical data

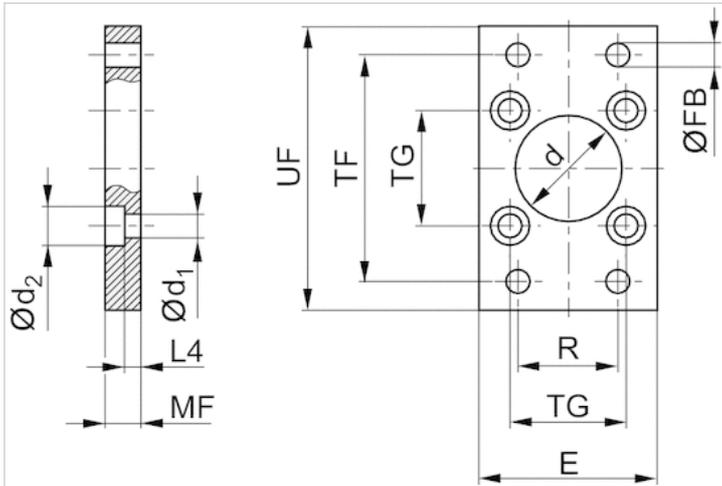
Part No.	Piston Ø	Swivel bearing Ø
1827001277	32 mm	30 mm
1827001278	40 mm	35 mm
1827001279	50 mm	40 mm
1827001499	63 mm	45 mm
1827001281	80 mm	45 mm
1827001282	100 mm	55 mm
1827004861	125 mm	60 mm

Scope of delivery: flange mounting incl. mounting screws

Technical information

Material	
Material	Steel
	galvanized
Screws	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston Ø	Ød H11	Ød1	Ød2	E max.	ØFB	L4	MF	R	TF	TG	UF
1827001277	32 mm	30	6.6	11	50	7	4.5	10	32	64	32,5 ±0,2	80
1827001278	40 mm	35	6.6	11	55	9	4.5	10	36	72	38 ±0,2	90
1827001279	50 mm	40	9	15	65	9	6	12	45	90	46,5 ±0,2	110
1827001499	63 mm	45	9	15	75	9	6	12	50	100	56,5 ±0,2	125
1827001281	80 mm	45	11	18	100	12	9	16	63	126	72 ±0,2	154
1827001282	100 mm	55	11	18	120	14	9	16	75	150	89 ±0,2	186
1827004861	125 mm	60	14	20	140	16	10.5	20	90	180	110 ±0,3	220

Intermediate flange JP1, Series CM1

- for multi-position cylinders

- Suitable piston Ø 32 40 50 63 80 100 125 mm



Technical data

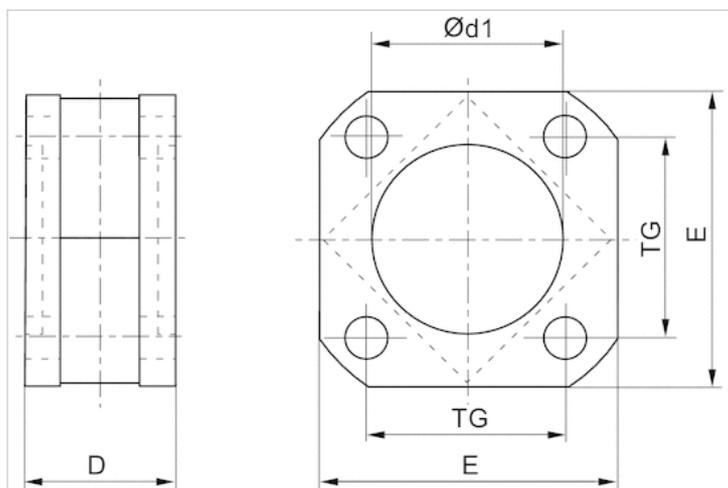
Part No.	Piston Ø
1827020247	32 mm
1827020248	40 mm
1827020249	50 mm
1827020250	63 mm
1827020251	80 mm
1827020252	100 mm
1827020253	125 mm

Scope of delivery incl. mounting screws

Technical information

Material	
Material	Aluminum

Dimensions



Dimensions

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

Foot mounting MS1, Series CM1

- to mount on cylinder PRA, TRB, CCL-IS/-IC, CCI, KPZ, 167, CVI, ITS
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards

ISO 15552

Technical data

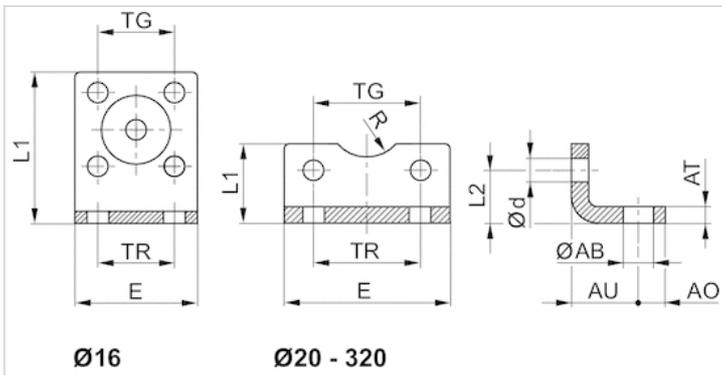
Part No.	Piston Ø	For series
1827001271	32 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001272	40 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001273	50 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001498	63 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001275	80 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001276	100 mm	CCI CCL-IC/-IS PRA/TRB CVI
1827001310	125 mm	PRA/TRB CCL-IS CVI

Scope of delivery: 2 foot mountings incl. mounting screws

Technical information

Material	
Material	Steel
	galvanized
Screws	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston Ø	ØAB	AO	AT	AU ±0,2	Ød	E	L1	L2	R	TG	TR
1827001271	32 mm	7	8	4 ±0,3	24	6.6	48	25	15.5	15	32,5 ±0,2	32
1827001272	40 mm	10	10	4 ±0,3	28	6.6	56	26	17	17.5	38 ±0,2	36
1827001273	50 mm	10	11	5 ±0,3	32	9	68	32	21.5	20	46,5 ±0,2	45
1827001498	63 mm	10	13	5 ±0,3	32	9	78	34	21.5	22.5	56,5 ±0,2	50
1827001275	80 mm	12	16	6 ±0,5	41	11	98	47	27	22.5	72 ±0,2	63
1827001276	100 mm	14.5	19	6 ±0,5	41	11	117	52	26.5	27.5	89 ±0,2	75
1827001310	125 mm	16.5	20	8 ±1,0	45	13.5	144	69	35	30	110 ±0,3	90

Bolts AA4, Series CM1

- Cylinder mounting in accordance with ISO 15552

- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards

Weight

See table below

See table below

Technical data

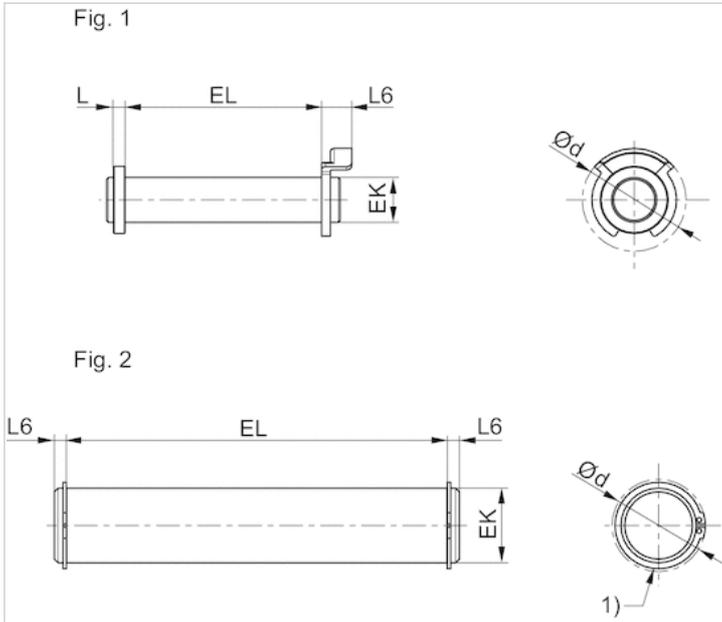
Part No.	Piston Ø	Standardization	Weight	Fig.
1823120020	32 mm	-	0.03 kg	Fig. 1
1823120021	40 mm	-	0.05 kg	Fig. 1
1823120022	50 mm	-	0.06 kg	Fig. 1
1823120023	63 mm	-	0.12 kg	Fig. 1
1823120024	80 mm	-	0.15 kg	Fig. 1
1823120025	100 mm	-	0.29 kg	Fig. 1
5236000092	125 mm	ISO 15552	0.53 kg	Fig. 2

Scope of delivery: pivot pins incl. circlips

Technical information

Material	
Material	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston Ø	Fig.	Ø d max.	EK e8	EL	L max.	L6 max.
1823120020	32 mm	Fig. 1	20	10	45.2 +0,3	3.5	9
1823120021	40 mm	Fig. 1	22	12	52.2 +0,3	4	9
1823120022	50 mm	Fig. 1	22	12	60.2 +0,3	4	9
1823120023	63 mm	Fig. 1	28	16	70.2 +0,3	4.5	11
1823120024	80 mm	Fig. 1	28	16	90.2 +0,3	4.5	11
1823120025	100 mm	Fig. 1	38	20	110.2 +0,3	5	11
5236000092	125 mm	Fig. 2	34.2	25	132 +0,5	-	3.75

Piston rod nut MR9



Weight

See table below

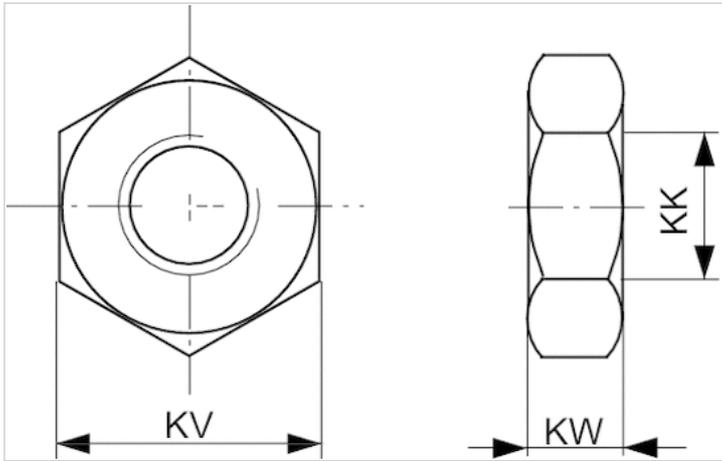
Technical data

Part No.	Suitable piston rod thread	Weight
1823A00020	M10x1,25	0.01 kg
8103190344	M12x1,25	0.012 kg
1823300030	M16x1,5	0.017 kg
1823300031	M20x1,5	0.03 kg
1823A00029	M27x2	0.108 kg
8103190414	M36x2	0.175 kg
8103190424	M42x2	0.37 kg

Technical information

Material	
	Steel
	galvanized

Dimensions



Dimensions

Part No.	KK	KV	KW
8103190344	M12x1,25	19	6
1823300030	M16x1,5	24	8
1823300031	M20x1,5	30	10
1823A00029	M27x2	41	13.5
8103190414	M36x2	50	16
8103190424	M42x2	60	21

Rod clevis AP2, Series CM2

- to mount on cylinder PRA, TRB, CCI, MNI, ICM, KPZ, KHZ, 167, CVI, RPC, RDC, ITS



Weight

See table below

Technical data

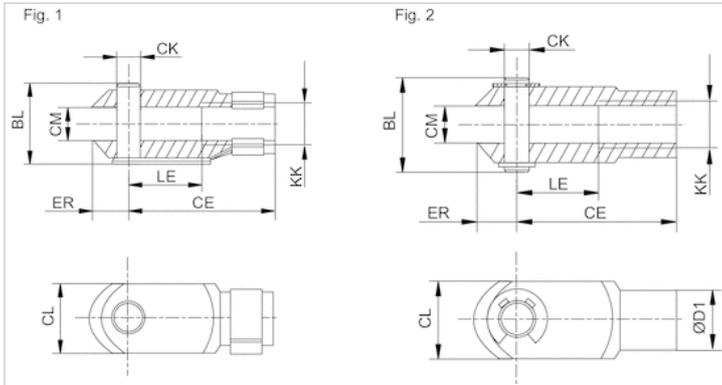
Part No.	Suitable piston rod thread	for	Weight
1822122024	M10x1,25	PRA TRB CCI MNI ICM KPZ 167 CVI RPC RDC	0.1 kg
1822122025	M12x1,25	PRA TRB CCI KPZ 167 CVI RPC 102	0.16 kg
1822122005	M16x1,5	PRA TRB CCI KPZ 167 CVI RPC RDC 102	0.4 kg
1822122004	M20x1,5	PRA TRB KPZ 167 CVI 102	0.7 kg
1827001493	M27x2	PRA TRB CCL-IS 167 CVI	2 kg

Part No.	Fig.
1822122024	Fig. 1
1822122025	Fig. 1
1822122005	Fig. 1
1822122004	Fig. 1
1827001493	Fig. 2

Technical information

Material	
	Steel
	galvanized

Dimensions



Dimensions

Part No.	KK	BL	CE	ØCK e11	CL	CM	ØD1	ER	LE	Fig.
1822122024	M10x1,25	26	40	10	20	10	18	12	20	Fig. 1
1822122025	M12x1,25	31	48	12	24	12	20	14	24	Fig. 1
1822122005	M16x1,5	39	64	16	32	16	26	19	32	Fig. 1
1822122004	M20x1,5	50	80	20	40	20	34	20	40	Fig. 1
1827001493	M27x2	68	110	30	55	30	48	38	54	Fig. 2

Rod clevis PM6, Series CM2

- for ball eye rod end AP6



Technical data

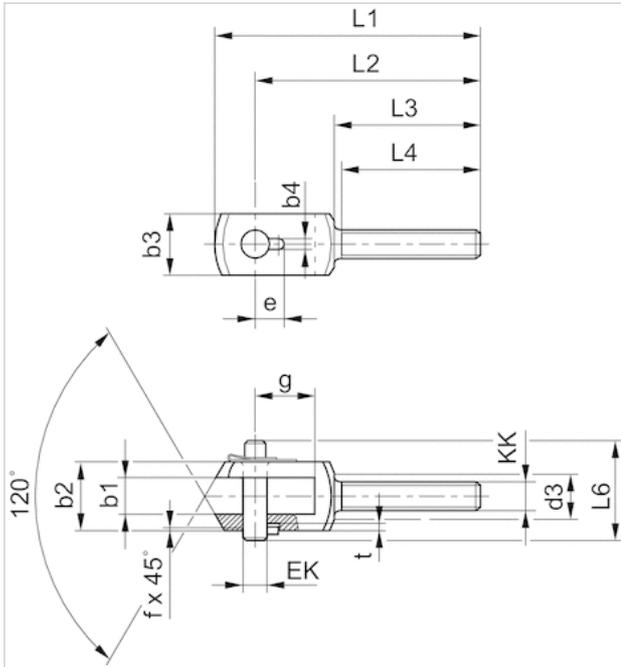
Part No.	for	Swivel bearing Ø
1822122032	AP6	14 mm
1822122033	AP6	16 mm
1822122034	AP6	21 mm
1822122035	AP6	25 mm
1822122036	AP6	30 mm

Scope of delivery incl. bolt

Technical information

Material	
	Steel
	galvanized

Dimensions



Dimensions

Part No.	b1 B12	b2 d12	b3	b4 +0,2	d3	e +0,3	EK	f	g	L1	L2	L3	L4 +1	L6	t +0,2
1822122032	14	28	20	3.3	17	11.5	10	0.7	20	90	78	53	50	35	3
1822122033	16	30	25	4.3	19	12	12	1	26	108	92	58	55	39	3
1822122034	21	40	35	4.3	24	14	16	1	31	129	108	65	62	50	3
1822122035	25	50	40	4.3	30	16	20	1	43	156	131	73	69	60	3
1822122036	37	67	60	6.3	38	24	30	1.5	54	200	168	98	92	77	5

Ball eye rod end AP6, series CM2

- with flange, to mount on cylinder PRA, TRB, CCI, SSI, MNI, RPC, KPZ, 167, CVI, RDC, 102, ITS



Weight

See table below

Technical data

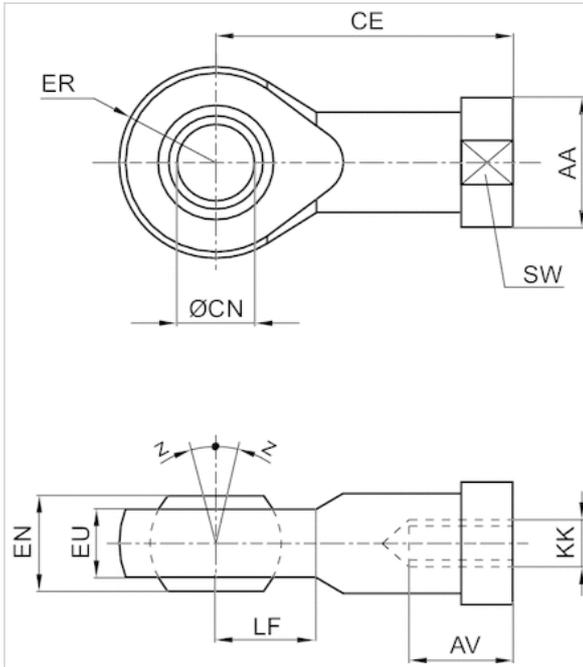
Part No.	Suitable piston rod thread	for	Swivel bearing Ø
1822124003	M10x1,25	PRA TRB MNI CCI SSI RPC KPZ 167 CVI RDC	254 mm
1822124004	M12x1,25	PRA TRB CCI SSI RPC KPZ 167 CVI 102	304.8 mm
1822124005	M16x1,5	PRA TRB CCI SSI RPC KPZ 167 CVI RDC 102	406.4 mm
1822124006	M20x1,5	PRA TRB KPZ 167 CVI 102	508 mm
1822124013	M27x2	PRA TRB 167 CVI	762 mm

Part No.	Weight
1822124003	0.07 kg
1822124004	0.12 kg
1822124005	0.21 kg
1822124006	0.38 kg
1822124013	1.17 kg

Technical information

Material	
	Steel
	galvanized

Dimensions



Dimensions

Part No.	KK	AA	AV min.	CE	Ø CN H7	EN -0,1	ER	EU max.	LF	SW	Z [°] max.
1822124003	M10x1,25	19	15	43	10	14	14	11.5	14	17	4
1822124004	M12x1,25	22	18	50	12	16	16	12.5	16	19	4
1822124005	M16x1,5	27	24	64	16	21	21	15.5	21	22	4
1822124006	M20x1,5	34	30	77	20	25	25	18.5	25	30	4
1822124013	M27x2	50	45	110	30	37	35	27	35	41	4

Compensating coupling PM5, series CM2

- to mount on cylinder PRA, TRB, CCL-IS/-IC, CCI, SSI, MNI, KPZ, KHZ, 167, CVI, RPC, RDC, ITS, spherical



Weight

See table below

Technical data

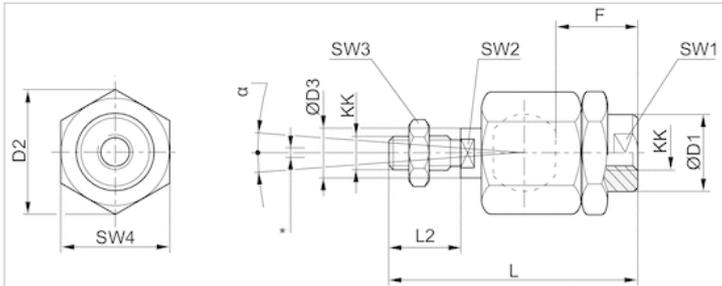
Part No.	Suitable piston rod thread	for
R412026142	M10x1,25	PRA TRB CCL-IS CCL-IC CCI SSI KPZ 167 CVI RPC
R412026143	M12x1,25	PRA TRB CCI CCL-IS CCL-IC SSI KPZ 167 CVI RPC
R412026144	M16x1,5	PRA TRB CCI CCL-IS CCL-IC KPZ 167 CVI RPC RDC
R412026145	M20x1,5	PRA TRB CCL-IS SSI KPZ 167 CVI
1826409006	M27x2	PRA TRB CCL-IS CVI

Part No.	Weight
R412026142	0.21 kg
R412026143	0.21 kg
R412026144	0.65 kg
R412026145	0.68 kg
1826409006	1.7 kg

Technical information

Material	
	Steel
	galvanized

Dimensions



* Radial joint

Dimensions

Part No.	KK	Ø D1	D2	Ø D3	F	L ±2	L2	SW1	SW2	SW3	SW4	α [°]	1)	2)
R412026142	M10x1,25	22	32	14	23	74.5	23	19	12	17	30	8	0.05-0.5	0-2
R412026143	M12x1,25	22	32	14	24	75	24	19	12	19	30	7	0.05-0.5	0-2
R412026144	M16x1,5	32	45	22	30	103	30	30	20	24	41	6	0.05-0.5	0-2
R412026145	M20x1,5	32	45	22	40	119	40	30	20	30	41	6	0.05-0.5	0-2
1826409006	M27x2	62	62	28	48	147	54	32	24	41	55	8	0.05-0.2	0-2

1) Axial play

2) Radial play

Compensating coupling PM7, series CM2

- to mount on cylinder PRA, TRB, CCL-IS/-IC, CCI, SSI, KPZ, 167, CVI, RPC, ITS, with plate



Weight

See table below

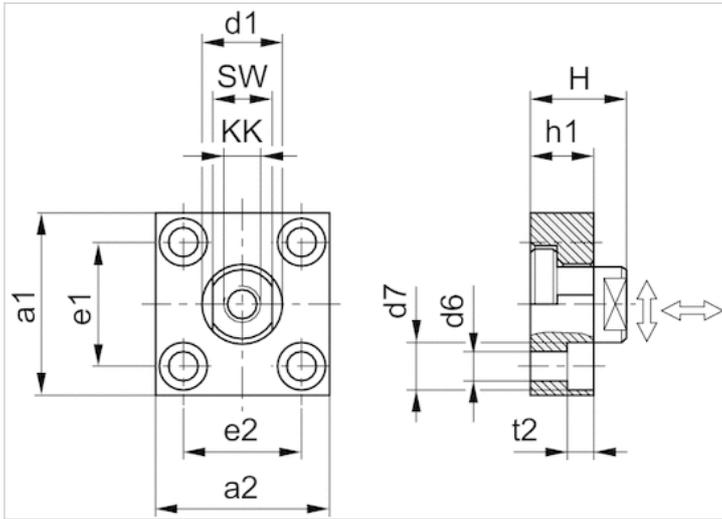
Technical data

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

Technical information

Material	
	Steel
	galvanized

Dimensions



Dimensions

Part No.	a1	a2	d1 h11	d6 H13	d7 H13	e1 H13	e2	h1	t2	H	SW
1827001629	60	37	20	6.6	11	36 ±0,15	23 ±0,15	15	7	24	17
1827001630	60	56	25	9	15	42 ±0,2	38 ±0,2	20	9	30	19
1827001631	80	80	30	11	18	58 ±0,2	58 ±0,2	20	11	32	24
1827001632	90	90	40	14	20	65 ±0,3	65 ±0,3	20	13	35	36
1827001633	90	90	40	14	20	65 ±0,3	65 ±0,3	20	13	35	36
1827001634	125	125	60	18	26	90 ±0,3	90 ±0,3	30	17	55	50

Tightening torque for the coupling pin $M_a \pm 5\%$	Axial play min./max.	Radial play min./max.
17 Nm	0.4 0.8 mm	1.9 2.3 mm
29 Nm	0.4 0.8 mm	1.9 2.3 mm
71 Nm	0.4 0.8 mm	1.9 2.3 mm
138 Nm	0.4 0.8 mm	1.9 2.3 mm
350 Nm	0.4 20.31 mm	1.9 2.3 mm
1080 Nm	0.4 0.95 mm	2.8 3.4 mm

Guide unit GU1, Series CG1

- Ø 32-100 mm
- Plain bearing
- For standard cylinders ISO 15552



Bearing type Plain bearing
Ambient temperature min./max. -20 ... 80 °C

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Stroke 50	0821401010	0821401020	0821401030	0821401480	0821401050	0821401060
100	0821401011	0821401021	0821401031	0821401481	0821401051	0821401061
160	0821401012	0821401022	0821401032	0821401482	0821401052	0821401062
200	0821401013	0821401023	0821401033	0821401483	0821401053	0821401063
250	0821401014	0821401024	0821401034	0821401484	0821401054	0821401064
320	0821401015	0821401025	0821401035	0821401485	0821401055	0821401065
400	0821401016	0821401026	0821401036	0821401486	0821401056	0821401066
500	0821401017	0821401027	0821401037	0821401487	0821401057	0821401067
600	0821401018	0821401028	0821401038	0821401488	0821401058	0821401068
800	0821401019	0821401029	0821401039	0821401489	0821401059	0821401069
1000	0821401500	0821401502	0821401504	0821401490	0821401508	0821401510
1200	0821401501	0821401503	0821401505	0821401491	0821401509	0821401511

For use with hybrid inch cylinders with metric piston rod thread

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Weight 0 mm stroke	0.63 kg	0.946 kg	1.36 kg	1.66 kg	3.45 kg	4.69 kg
+10 mm stroke	0.012 kg	0.018 kg	0.018 kg	0.018 kg	0.022 kg	0.022 kg

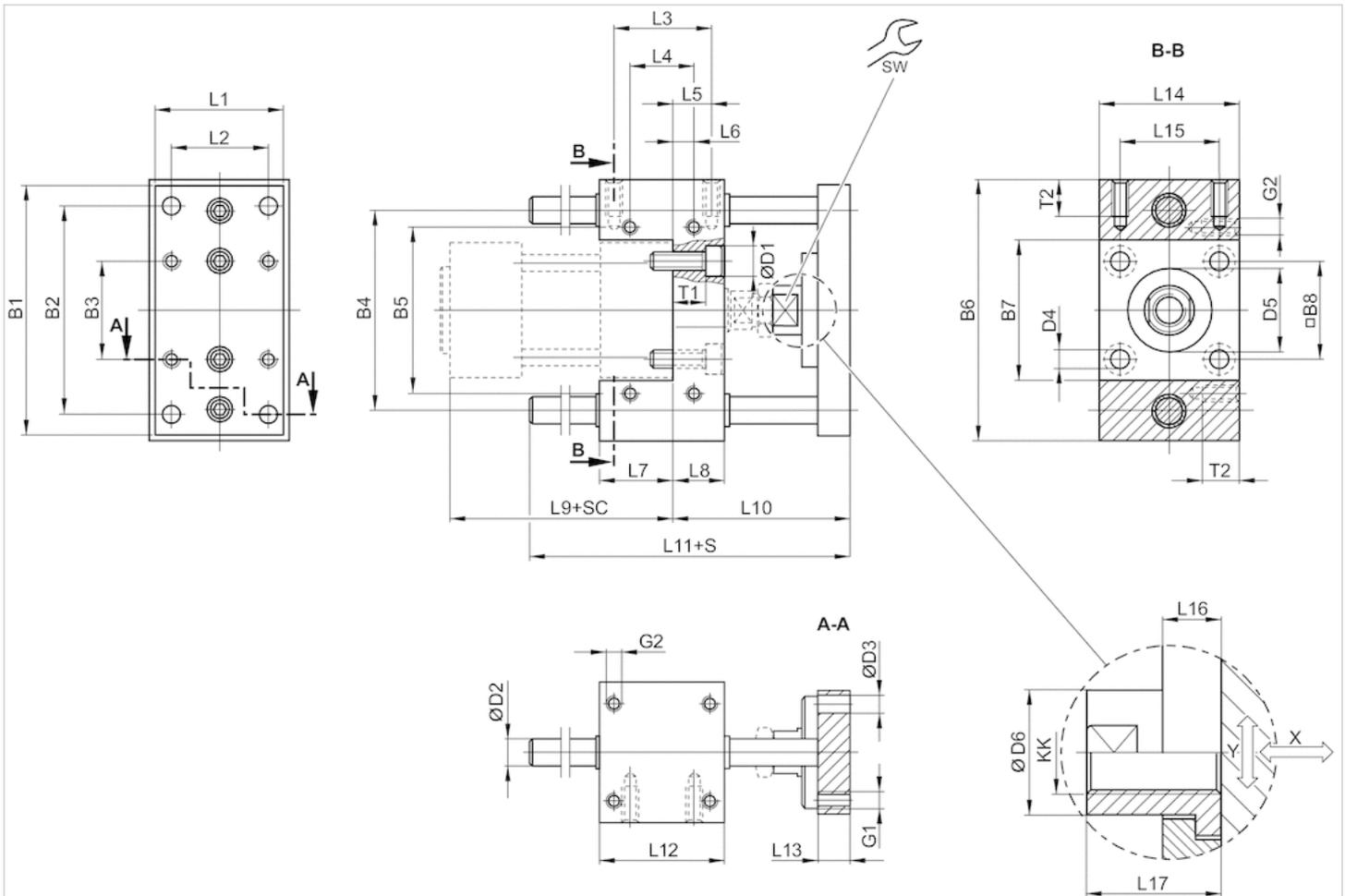
Technical information

Material	
Bearing housings	Aluminum, colorless anodized
Bearing type	Sintered bronze
Carrying plate	Aluminum, colorless anodized

Material	
Flexible coupling in carrying plate	Stainless steel
Guide rods	Hardened heat-treated steel, ground

Dimensions

Ø 32 ... 100 mm



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

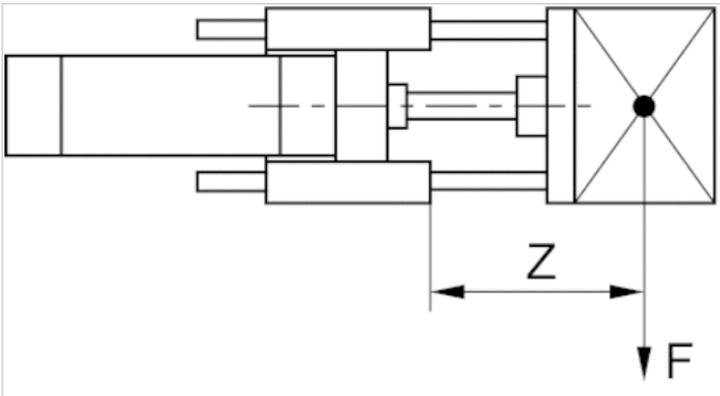
Dimensions

Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2	D3	D4	D5	D6	G1	G2	KK	L1
32 mm	90	78	32.5	74	58	100	48	32.5	11	10	6.6	6.6	30 M8	18	M6	M6	M10x1,25	45
40 mm	100	84	38	80	64	106	54	38	11	12	6.6	6.6	35 M8	18	M6	M6	M12x1,25	50
50 mm	120	100	46.5	96	80	125	66	46.5	15	12	9	9	40 M8	24	M8	M8	M16x1,5	60
63 mm	125	105	56.5	104	95	132	76	56.5	15	12	9	9	45 M8	24	M8	M8	M16x1,5	70
80 mm	155	130	72	130	130	165	98	72	18	16	11	11	45 M8	30	M10	M10	M20x1,5	90
100 mm	175	150	89	150	150	185	118	89	18	16	11	11	55 M8	30	M10	M10	M20x1,5	110

Piston Ø	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	SW	T1	T2
32 mm	32.5	32.5	32.5	9.25	9.25	31	17	94	69	106	48	12	48	32.5	14	22	15	10	14
40 mm	38	38	38	11	11	37	21	105	74	117	58	12	56	38	14	22	15	14	14
50 mm	46.5	46.5	46.5	18.75	18.75	34	25	106	89	129	59	15	66	46.5	14	26	22	16	16
63 mm	56.5	56.5	56.5	15.25	15.25	51	25	121	89	146	76	15	76	56.5	14	26	22	16	16
80 mm	72	72	50	25	14	56	34	128	106	170	90	16	98	72	14	32	27	24	20
100 mm	89	89	70	28.5	19	71	39	138	111	190	110	16	118	89	14	32	27	29	20

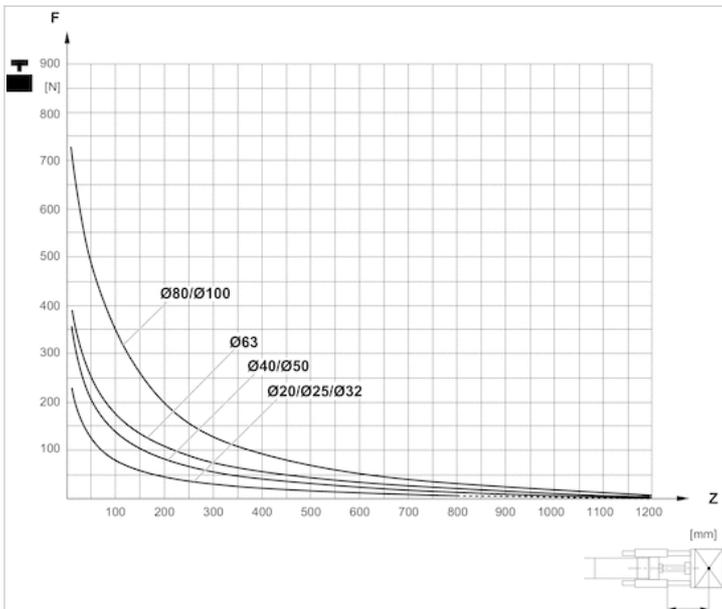
Diagrams

Useful load



F = Useful load, Z = Projection

Useful load



F = Useful load, Z = Projection

Guide unit GH1, Series CG1

- Ø 32-100 mm
- Plain bearing
- For standard cylinders ISO 15552



Bearing type

Plain bearing

Ambient temperature min./max.

-20 ... 80 °C

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Stroke 50	0821401220	0821401230	0821401240	0821401280	-	-
100	0821401221	0821401231	0821401241	0821401281	0821401260	0821401270
160	0821401222	0821401232	0821401242	0821401285	-	-
200	0821401223	0821401233	0821401243	0821401282	0821401261	0821401271
250	0821401224	0821401234	0821401244	0821401286	-	-
320	0821401225	0821401235	0821401245	0821401283	0821401262	0821401272
400	0821401226	0821401236	0821401246	0821401287	-	-
500	0821401227	0821401237	0821401247	0821401284	0821401263	0821401273
600	0821401228	0821401238	0821401249	0821401288	0821401264	0821401274
800	0821401229	0821401239	0821401474	0821401289	0821401265	0821401275
1000	0821401470	0821401472	0821401475	0821401290	0821401266	0821401276
1200	0821401471	0821401473	0821401476	0821401291	0821401267	0821401277

Inch dimensions rounded to the nearest whole number., For use with hybrid inch cylinders with metric piston rod thread

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Weight 0 mm stroke	1.3 kg	2.3 kg	3.7 kg	4.7 kg	8.8 kg	11.1 kg
+10 mm stroke	0.009 kg	0.016 kg	0.025 kg	0.025 kg	0.039 kg	0.039 kg

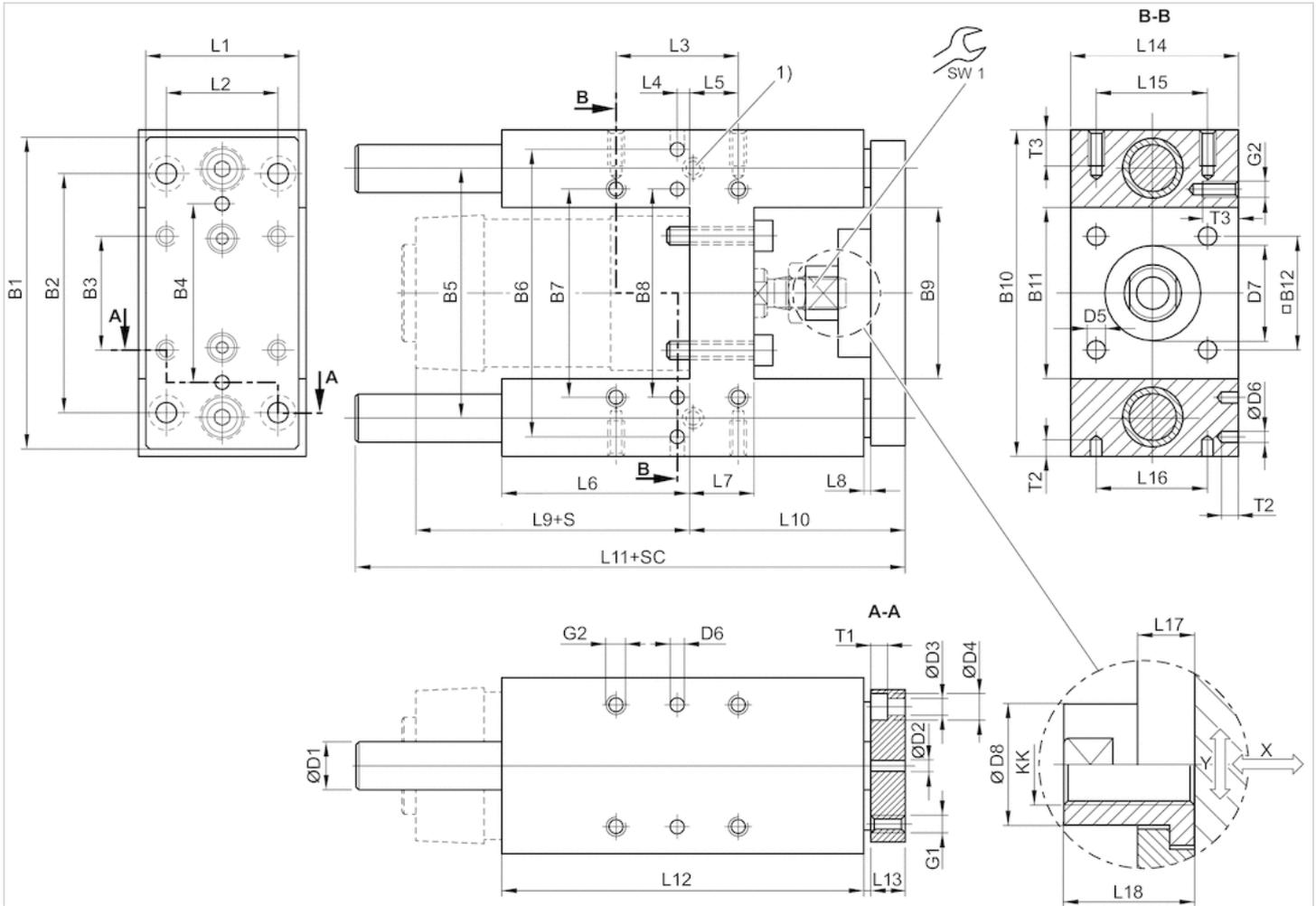
Technical information

Material	
Bearing housings	Aluminum, colorless anodized
Bearing type	Sintered bronze
Carrying plate	Aluminum, colorless anodized

Material	
Flexible coupling in carrying plate	Stainless steel
Guide rods	Hardened heat-treated steel, ground

Dimensions

Ø 32 ... 100 mm



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

Dimensions

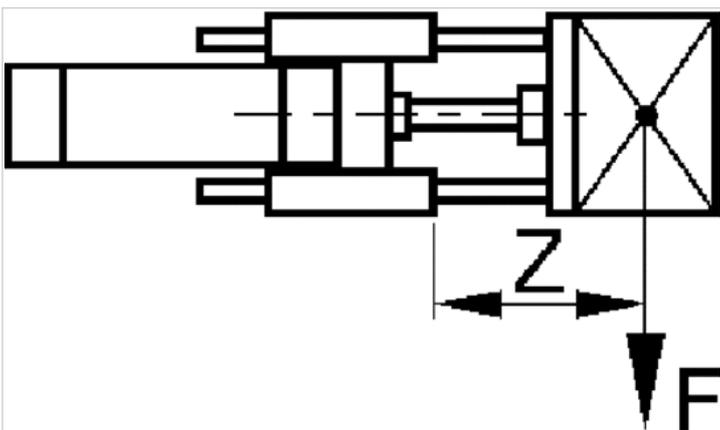
Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	D1	D2 H7	D3	D4	D5	D6 H7
32 mm	90	78	32.5	50	74	81	61	61	50.2	97	50.2	32.5	12	6	6.6	11	6.6	6
40 mm	110	84	38	54	87	99	69	69	58.2	115	58.2	38	16	6	6.6	11	6.6	6
50 mm	130	100	46.5	72	104	119	85	85	70.2	137	70.2	46.5	20	6	9	15	9	6
63 mm	145	105	56.5	82	119	132	100	100	85.2	152	85.2	56.5	20	6	9	15	9	6
80 mm	180	130	72	106	148	166	130	130	105.4	189	105.4	72	25	6	11	18	11	6
100 mm	200	150	89	131	172	190	150	150	130.4	213	130.4	89	25	6	11	18	11	6

Piston Ø	D7 M8	D8	G1	G2	KK	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
32 mm	30	14.5	M6	M6	M10x1,25	45	32.5	32.5	12	4.25	76	17	3	94	64	177.5	125
40 mm	35	18	M6	M6	M12x1,25	54	38	38	8	11	81	21	3	105	74	192.5	140
50 mm	40	24	M8	M8	M16x1,5	63	46.5	46.5	4.5	18.75	79	26	3	106	89	205	150
63 mm	45	24	M8	M8	M16x1,5	80	56.5	56.5	13	15.25	111	26	3	121	89	237	182
80 mm	45	30	M10	M10	M20x1,5	100	72	72	15	21	128	34	3	128	110	280	215
100 mm	55	30	M10	M10	M20x1,5	120	89	89	20	24.5	128	39	3	138	115	280	220

Piston Ø	L13	L14	L15	L16	L17	L18	T1	T2	T3	SW1
32 mm	12	50	32.5	32.5	6	17	6.5	10	15	13
40 mm	12	58	38	38	14	22	6.5	10	15	15
50 mm	15	70	46.5	46.5	14	26	9	10	16	22
63 mm	15	85	56.5	56.5	14	26	9	10	16	22
80 mm	20	105	72	72	14	32	11	10	20	27
100 mm	20	130	89	89	14	32	11	10	20	27

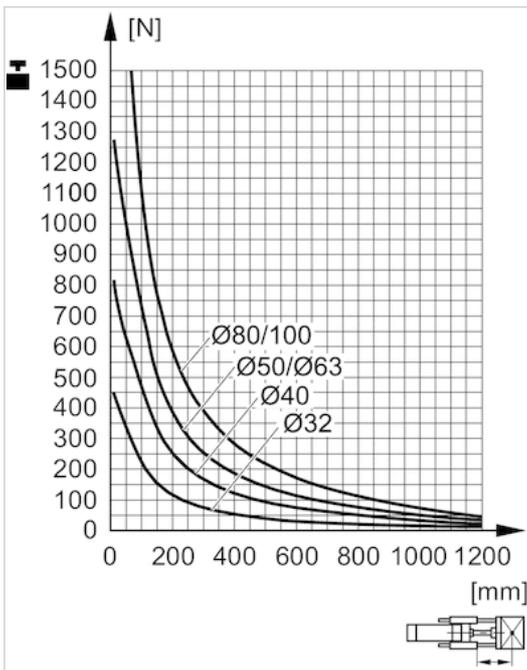
Diagrams

Useful load



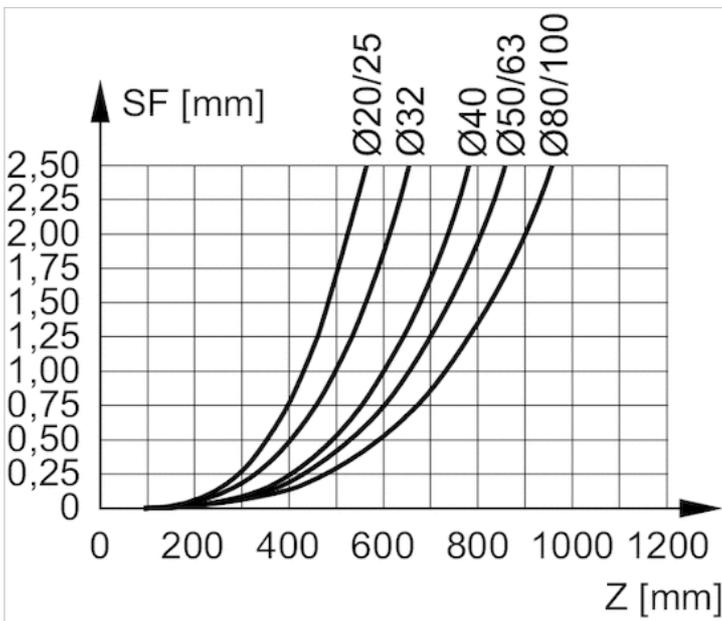
F = Useful load, Z = Projection

Useful load



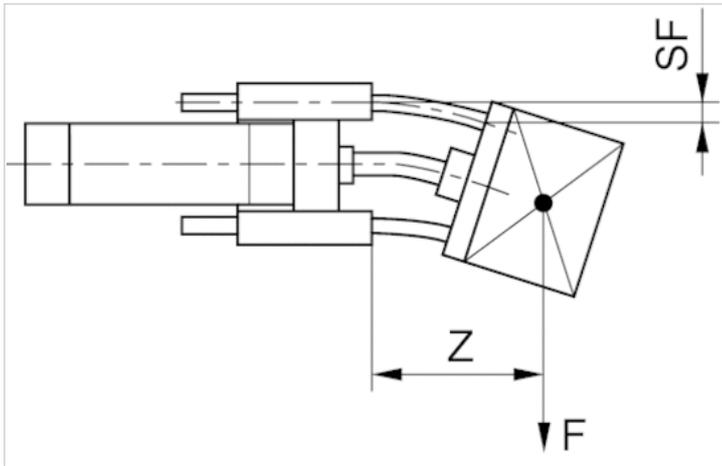
F = Useful load, Z = Projection

Bending due to own load



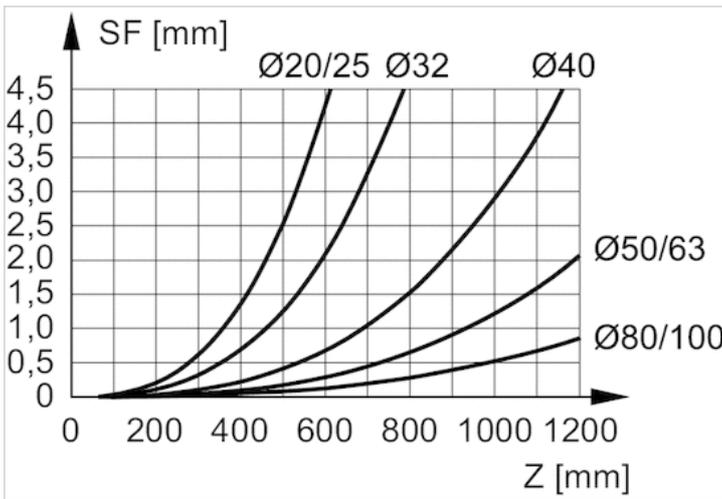
F = useful load (at the load center), SF = bending, Z = projection

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

- Ø 32-100 mm
- Linear ball bearing
- For standard cylinders ISO 15552



Bearing type

Linear ball bearing

Ambient temperature min./max.

-20 ... 80 °C

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Stroke 50	0821401320	0821401330	0821401340	0821401380	-	-
100	0821401321	0821401331	0821401341	0821401381	0821401360	0821401370
200	0821401322	0821401332	0821401342	0821401382	0821401361	0821401371
320	0821401323	0821401333	0821401343	0821401383	0821401362	0821401372
500	0821401324	0821401334	0821401344	0821401384	0821401363	0821401373
600	0821401325	0821401335	0821401345	0821401385	0821401364	0821401374
800	0821401326	0821401336	0821401346	0821401386	0821401365	0821401375
1000	0821401327	0821401337	0821401347	0821401387	0821401366	0821401376
1200	0821401328	0821401338	0821401348	0821401388	0821401367	0821401377

For use with hybrid inch cylinders with metric piston rod thread

Technical data

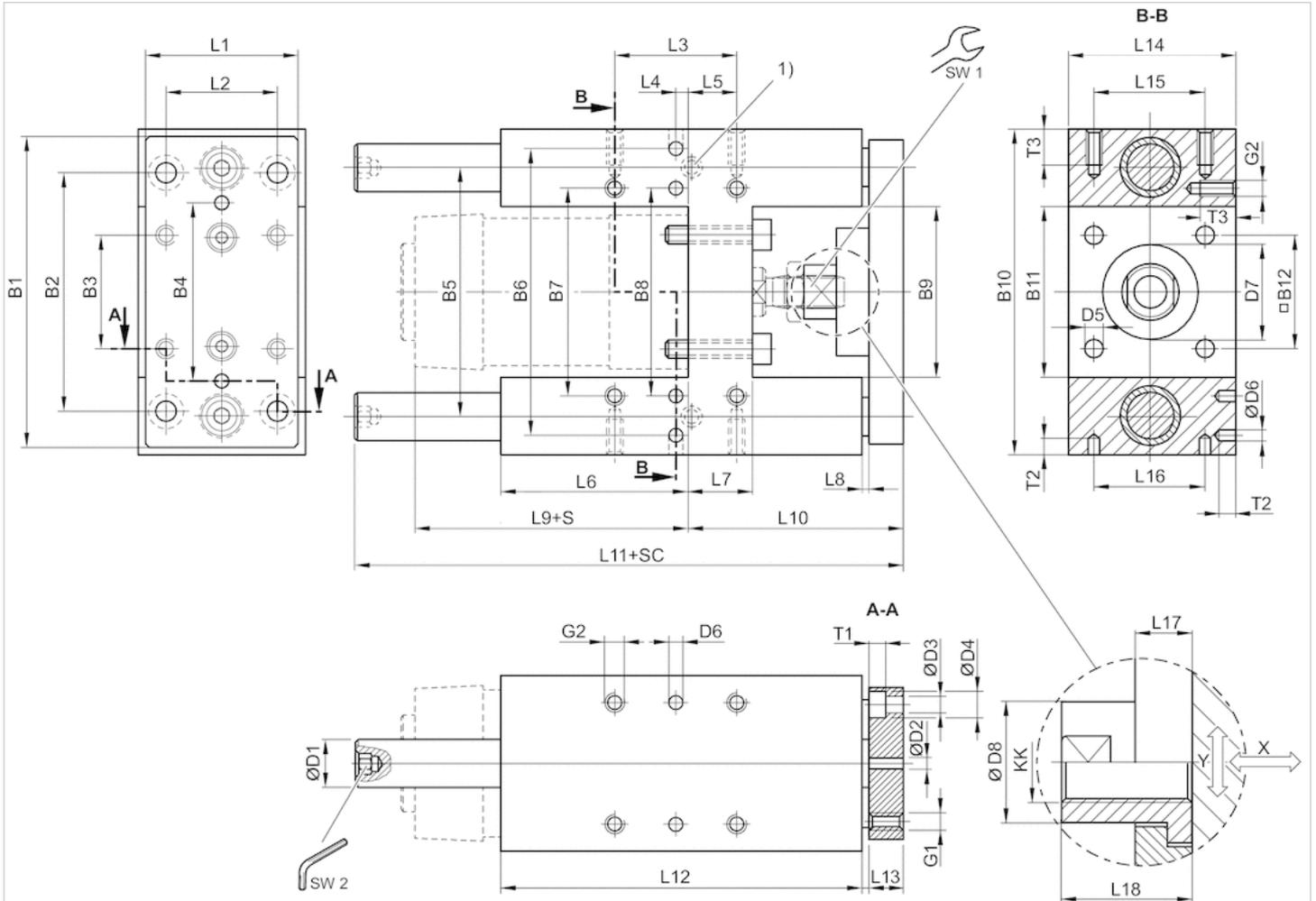
Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Weight 0 mm stroke	1.3 kg	2.3 kg	3.7 kg	4.7 kg	8.8 kg	11.1 kg
+10 mm stroke	0.009 kg	0.016 kg	0.025 kg	0.025 kg	0.039 kg	0.039 kg

Technical information

Material	
Bearing housings	Aluminum, colorless anodized
Bearing type	Steel
Carrying plate	Aluminum, colorless anodized
Flexible coupling in carrying plate	Stainless steel
Guide rods	Hardened heat-treated steel

Dimensions

Ø 32 ... 100 mm



1) Lube nipple

S = stroke

SC = cylinder stroke

X = max. play (axial)

Y = min. play (radial)

Hexagon in guide rod

Dimensions

Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	D1	D2 H7	D3	D4	D5	D6 H7
32 mm	90	78	32.5	50	74	81	61	61	50.2	97	50.2	32.5	12	6	6.6	11	6.6	6
40 mm	110	84	38	54	87	99	69	69	58.2	115	58.2	38	16	6	6.6	11	6.6	6
50 mm	130	100	46.5	72	104	119	85	85	70.2	137	70.2	46.5	20	6	9	15	9	6
63 mm	145	105	56.5	82	119	132	100	100	85.2	152	85.2	56.5	20	6	9	15	9	6
80 mm	180	130	72	106	148	166	130	130	105.4	189	105.4	72	25	6	11	18	11	6
100 mm	200	150	89	131	172	190	150	150	130.4	213	130.4	89	25	6	11	18	11	6

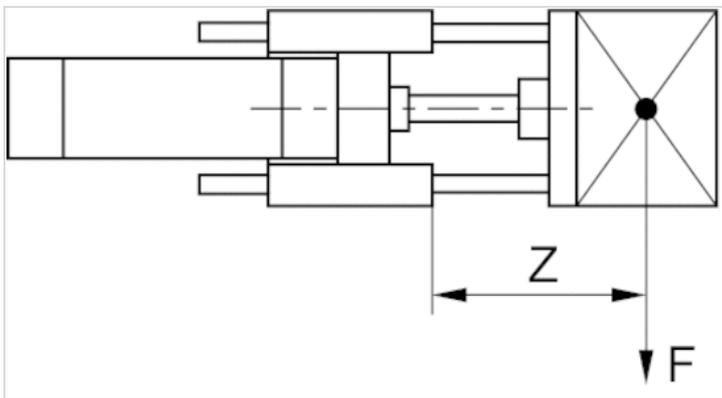
Piston Ø	D7 M8	D8	G1	G2	KK	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
32 mm	30	14.5	M6	M6	M10x1,25	45	32.5	32.5	12	4.25	76	17	3	94	64	177.5	125
40 mm	35	18	M6	M6	M12x1,25	54	38	38	8	11	81	21	3	105	74	192.5	140

Piston Ø	D7 M8	D8	G1	G2	KK	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
50 mm	40	24	M8	M8	M16x1,5	63	46.5	46.5	4.5	18.75	79	26	3	106	89	237	150
63 mm	45	24	M8	M8	M16x1,5	80	56.5	56.5	13	15.25	111	26	3	121	89	237	182
80 mm	45	30	M10	M10	M20x1,5	100	72	72	15	21	128	34	3	128	110	280	215
100 mm	55	30	M10	M10	M20x1,5	120	89	89	20	24.5	128	39	3	138	115	280	220

Piston Ø	L13	L14	L15	L16	L17	L18	T1	T2	T3	SW1	SW2
32 mm	12	50	32.5	32.5	6	17	6.5	10	15	13	5
40 mm	12	58	38	38	14	22	6.5	10	15	15	6
50 mm	15	70	46.5	46.5	14	26	9	10	16	22	6
63 mm	15	85	56.5	56.5	14	26	9	10	16	22	6
80 mm	20	105	72	72	14	32	11	10	20	27	8
100 mm	20	130	89	89	14	32	11	10	20	27	8

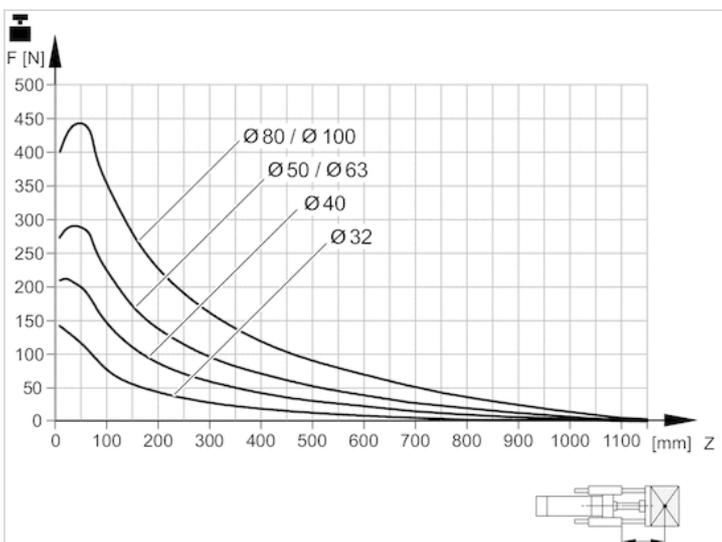
Diagrams

Useful load



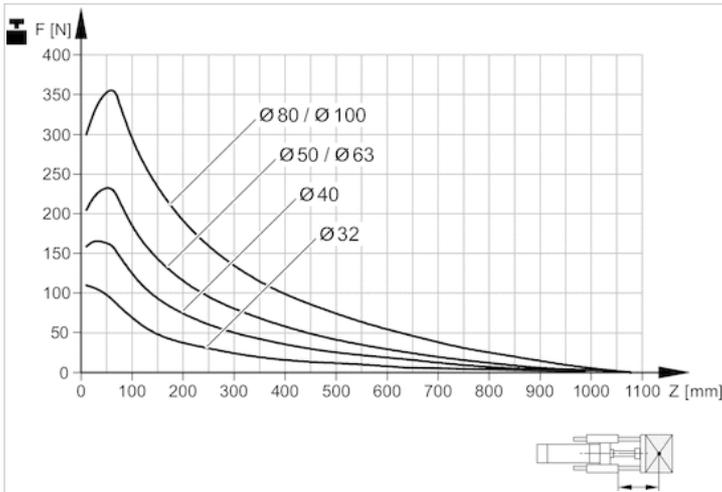
F = Useful load, Z = Projection

Useful load



Service life 2×10^6 m
F = Useful load, Z = Projection

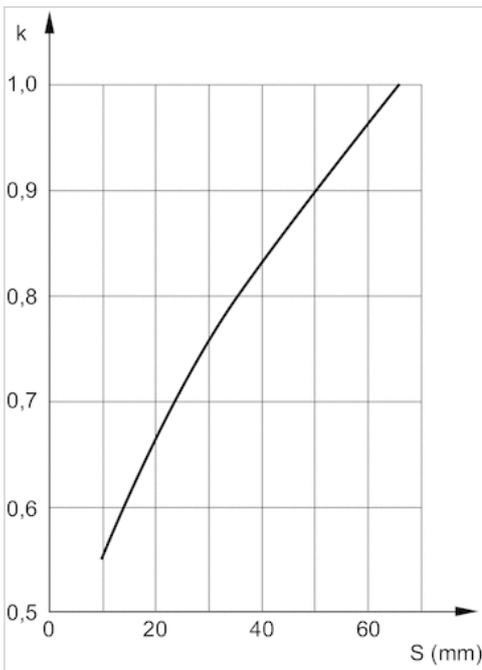
Useful load



Service life 5×10^6 m

F = Useful load, Z = Projection

Reduction of useful load for short-stroke

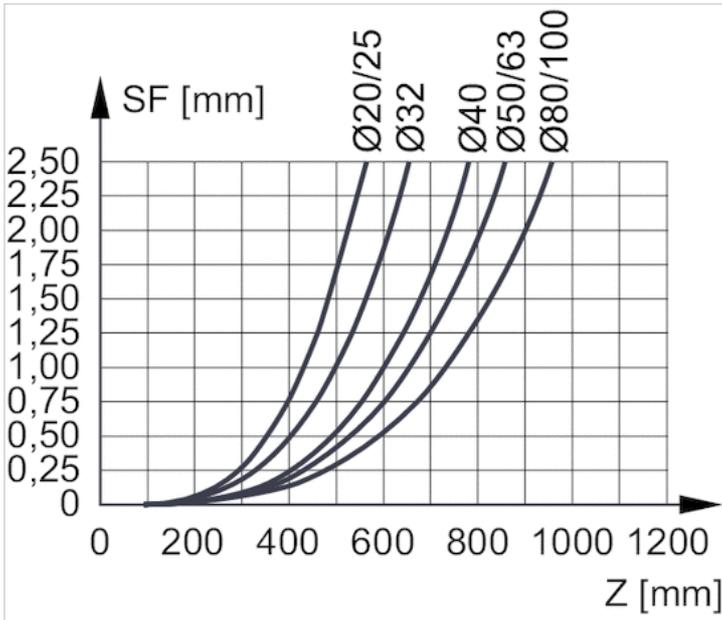


S = stroke

k = correction factor: normal=1, shock loaded=2

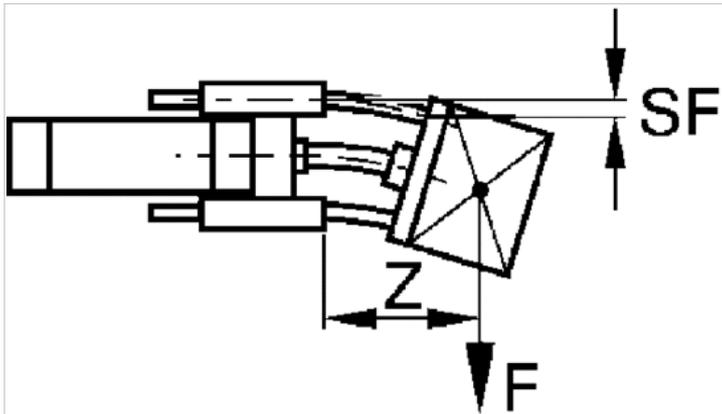
With a short stroke, the useful load figures determined from the diagram must be multiplied by the correction factor k . These short-stroke adjustments are already included in the load diagram for a displacement of up to 60 mm.

Bending due to own load



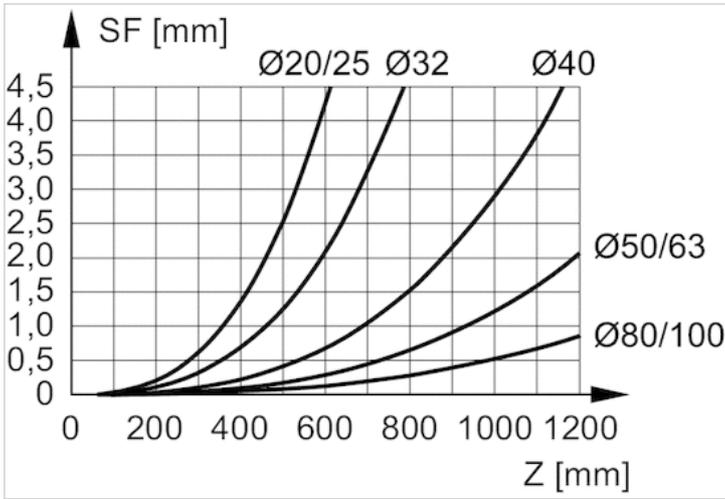
F = useful load (at the load center), SF = bending, Z = projection

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



Technical data

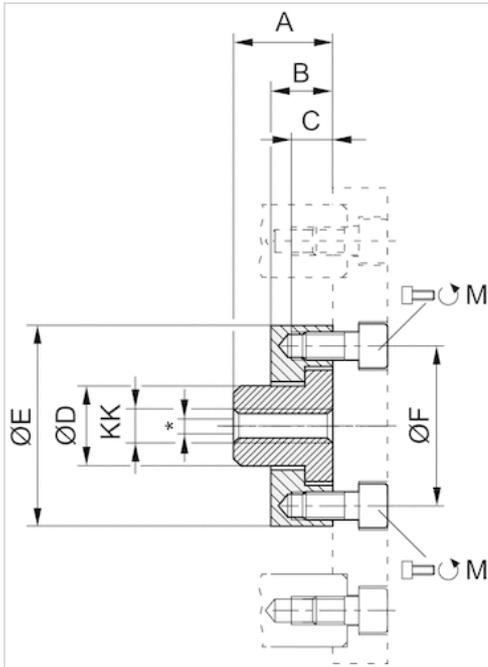
Part No.	Suitable piston rod thread
R413000283	M8
R413000284	M10x1,25
R413000285	M20x1,5

Scope of delivery: flexible coupling incl. mounting screws

Technical information

Material	
	Stainless steel
	Steel

Dimensions



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

Dimensions

Part No.	KK	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



Technical data

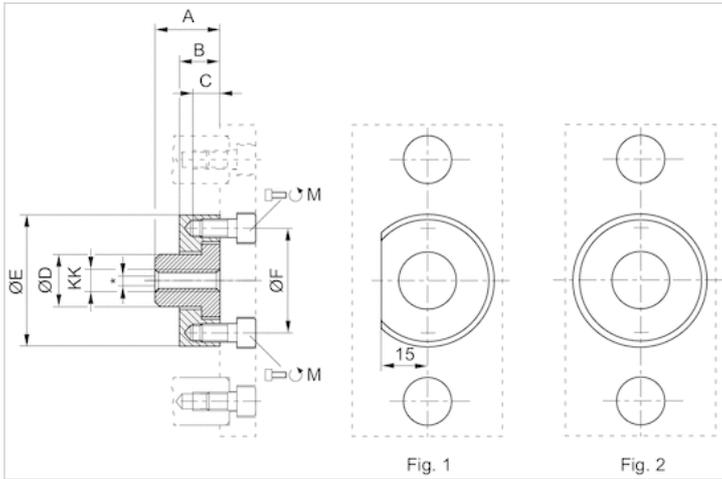
Part No.	Suitable piston rod thread
R413000276	M6
R413000280	M12x1,25
R413000281	M16x1,5

Scope of delivery: flexible coupling incl. mounting screws

Technical information

Material	
	Stainless steel
	Steel

Dimensions



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

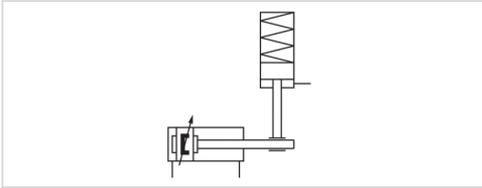
Dimensions

Part No.	KK	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

- Ø 32-100 mm

- hold: spring force, release: compressed air



Function	Hold with clamping jaws
Release pressure	4 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 5 mg/m ³
Weight	See table below

Technical data

Part No.	Piston Ø	suitable piston rod Ø	Piston rod extension	Compressed air connection	Static holding force	Weight
0821401165	32 mm	12 mm	42 mm	M5	650 N	0.2 kg
0821401166	40 mm	16 mm	45 mm	G 1/8	1100 N	0.27 kg
0821401167	50 mm	20 mm	57 mm	G 1/8	1600 N	0.57 kg
0821401168	63 mm	20 mm	57 mm	G 1/8	2500 N	0.8 kg
0821401169	80 mm	25 mm	77 mm	G 1/8	4000 N	1.85 kg
0821401170	100 mm	25 mm	77 mm	G 1/8	6300 N	2.9 kg

Holding force at 0 bar

Technical information

Warning: The holding unit may not be used for the following applications:

- 1) for dynamic holding
- 2) in or as safety equipment

Holding unit may only be unlocked when turned off.

Make sure that the load direction does not change during a holding interval. A change in the direction of force, as well as external forces such as impacts, strong vibrations, or torsional forces, will briefly release the piston rod and may destroy the HU1 holding unit. When clamped, there must be no residual pressure on the holding unit (0 bar).

Note:

The minimum control pressure is \geq the working pressure of the cylinder!

Technical information

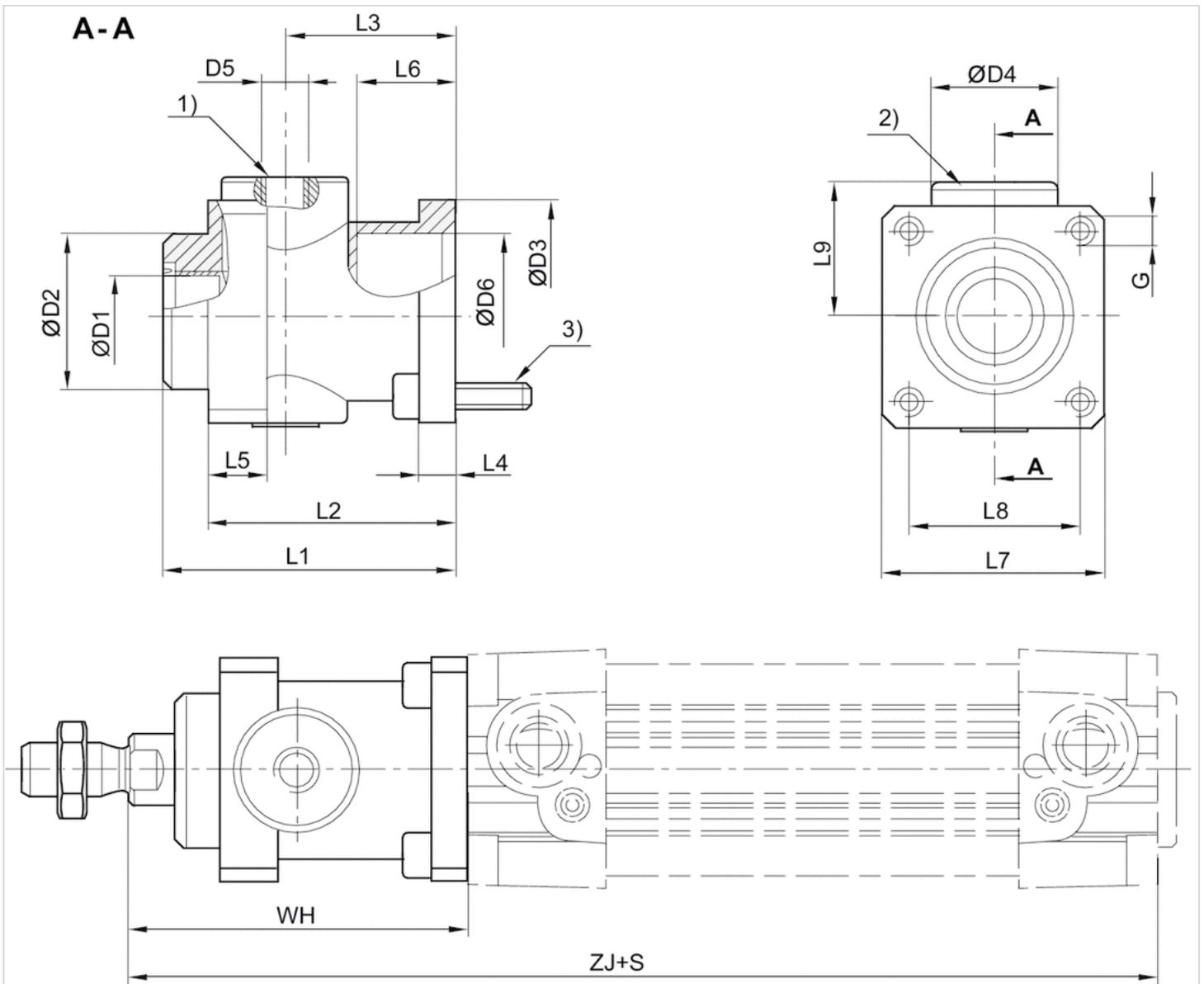
Material

Housing

Aluminum, black anodized

Dimensions

Dimensions



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

Dimensions

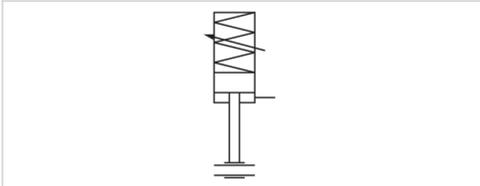
Part No.	Piston Ø	Ø D1	Ø D2	Ø D3	Ø D4	D5	L1	L2	L3	L4	L5	L6	L7	L8	L9	G
0821401165	32 mm	12	30	35	25	M5	58	48	34	8	13	20.5	45	32.5	25.5	M6
0821401166	40 mm	16	35	40	28	G 1/8	65	55	38	8	13	22.5	50	38	30	M6
0821401167	50 mm	20	40	50	35	G 1/8	82	70	48	15	16	29.5	60	46.5	36	M8
0821401168	63 mm	20	45	60	38	G 1/8	82	70	49.5	15	16	29.5	70	56.5	40	M8
0821401169	80 mm	25	45	80	48	G 1/8	110	90	61	18	20	35	90	72	50	M10
0821401170	100 mm	25	55	100	58	G 1/8	115	100	69	18	20	-	105	89	58	M10

WH	ZJ
68	162
75	180
94	200
94	215
123	251
128	266

Locking unit, Series LU1

- Ø 32-100 mm

- Hold: adjustable spring force, Release: compressed air



Function

Release pressure

Ambient temperature min./max.

Medium temperature min./max.

Medium

Max. particle size

Oil content of compressed air

Weight

Clamp with eccentric tappet

2 ... 8 bar

-20 ... 80 °C

-20 ... 80 °C

Compressed air

5 µm

0 ... 5 mg/m³

See table below

Technical data

Part No.	Piston Ø	suitable piston rod Ø	Piston rod extension	Compressed air connection	Static holding force
0821401130	32 mm	12 mm	79 mm	G 1/8	840 N
0821401131	40 mm	16 mm	81 mm	G 1/8	1100 N
0821401132	50 63 mm	20 mm	100 mm	G 1/8	2700 N
0821401133	80 100 mm	25 mm	140 mm	G 1/8	5800 N

Part No.	Weight
0821401130	1.75 kg
0821401131	1.75 kg
0821401132	3 kg
0821401133	8.8 kg

Holding force at 0 bar, Mounting elements LU3, LU4, LU5 are required for assembly and must be ordered separately as accessories.

Technical information

Warning:

The Locking unit may not be used for the following applications:

- for dynamic holding
- in or as safety equipment

Locking unit may only be unlocked when turned off.

Note:

The minimum release pressure is \geq the working pressure of the cylinder!

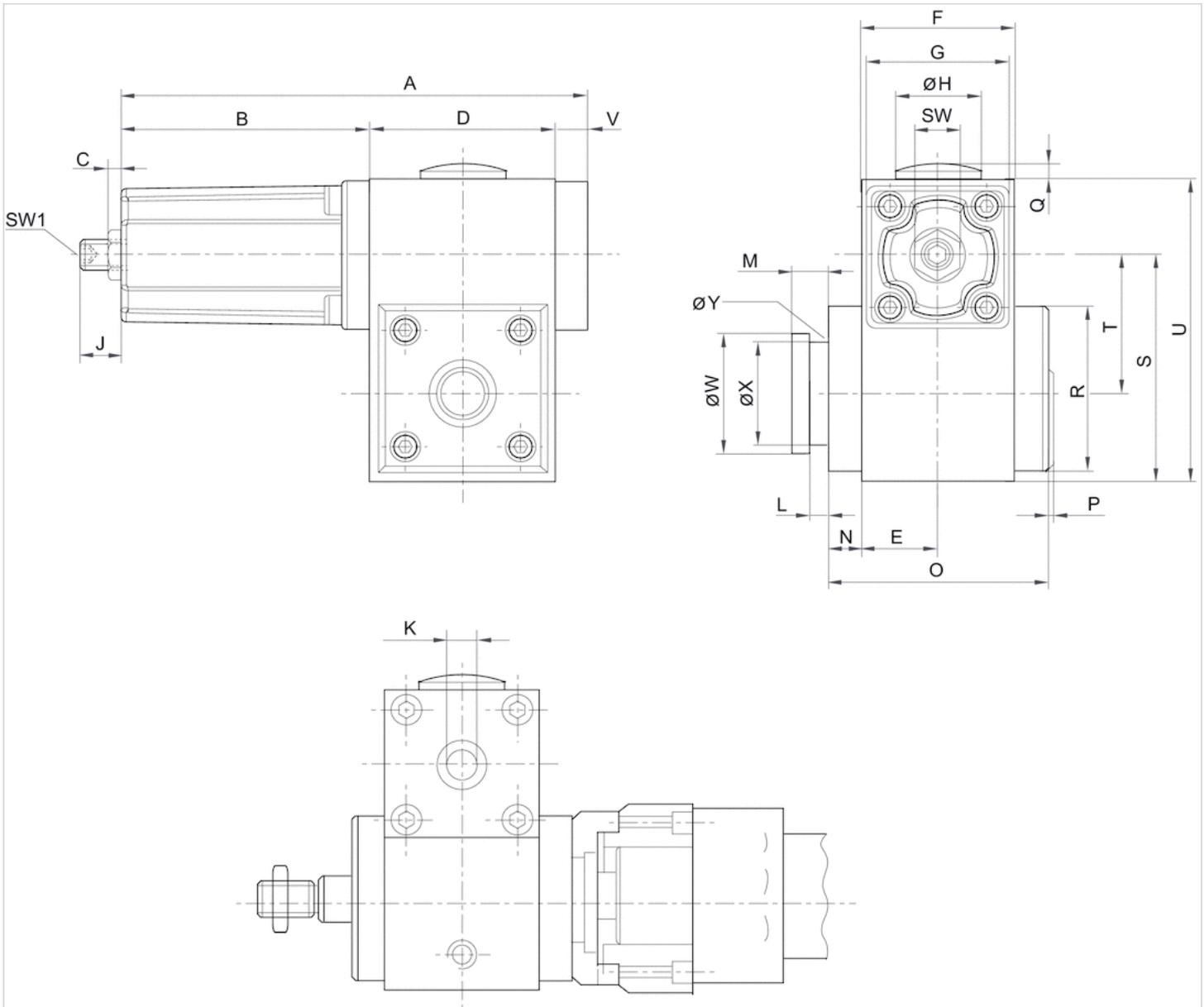
The holding force is dependent on the set spring force

Technical information

Material	
Housing	Aluminum, anodized
Cap	Die-cast aluminum

Dimensions

Dimensions



Dimensions

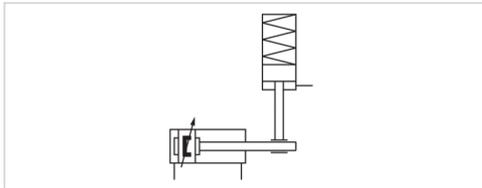
Part No.	A	B	C	D	E	F	G	ØH	J	K	L	M	N	O	P	Q	R	S	SW	SW1	T	U
0821401130	135	69	10	56	23	46	45	30	19	G 1/8	4.1	8	9	65	3	2.5	50	69	15	5	41.9	92
0821401131	135	69	10	56	23	46	45	30	18	G 1/8	5.1	10	9	65	3	2.5	50	69	15	5	40.5	92
0821401132	169	90	10	69	30	60	55	30	17	G 1/8	5.1	10	9	84	3	2.5	60	80	15	5	48	111
0821401133	208	98	16.7	100	40	80	65	37.5	15	G 1/8	8.1	16	13	118	3	2	90	119	24	8	72	155

V	ØW	ØX	ØY
10	29.9	24	3
10	39.9	30	3
10	39.9	30	3
10	54.9	40	5

Locking unit, Series LU1

- Ø 32-100 mm

- hold: spring force, release: compressed air



Function

Release pressure

Ambient temperature min./max.

Medium temperature min./max.

Medium

Max. particle size

Oil content of compressed air

Weight

Clamp with eccentric tappet

See table below

-20 ... 80 °C

-20 ... 80 °C

Compressed air

5 µm

0 ... 5 mg/m³

See table below

Technical data

Part No.	Piston Ø	suitable piston rod Ø	Piston rod extension	Compressed air connection	Release pressure
R412003730	32 mm	12 mm	79 mm	G 1/8	4.5 ... 8 bar
0821401134	32 mm	12 mm	79 mm	G 1/8	5.5 ... 8 bar
R412003731	40 mm	16 mm	81 mm	G 1/8	4.5 ... 8 bar
0821401135	40 mm	16 mm	81 mm	G 1/8	5.5 ... 8 bar
R412003732	50 63 mm	20 mm	100 mm	G 1/8	4.5 ... 8 bar
0821401136	50 63 mm	20 mm	100 mm	G 1/8	5.5 ... 8 bar
R412003733	80 100 mm	25 mm	140 mm	G 1/8	4.5 ... 8 bar
0821401137	80 100 mm	25 mm	140 mm	G 1/8	5.5 ... 8 bar

Part No.	Static holding force	Weight
R412003730	740 N	1.52 kg
0821401134	840 N	1.52 kg
R412003731	1000 N	1.5 kg
0821401135	1100 N	1.5 kg
R412003732	2300 N	2.56 kg
0821401136	2700 N	2.56 kg
R412003733	4000 N	7.7 kg
0821401137	5800 N	7.7 kg

Holding force at 0 bar, Mounting elements LU3, LU4, LU5 are required for assembly and must be ordered separately as accessories.

Technical information

Warning:

The Locking unit may not be used for the following applications:

- for dynamic holding
- in or as safety equipment

Locking unit may only be unlocked when turned off.

Technical information

Material	
Housing	Aluminum, anodized
Cap	Die-cast aluminum

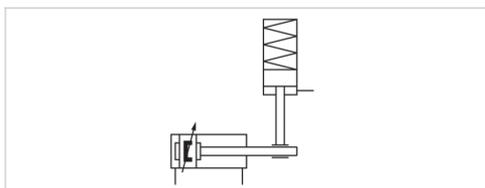
Locking unit, Series LU6

- Ø 32-125 mm

- Holding and braking: non-adjustable spring, Release: compressed air



Version	Clamping jaw lock
Function	Static holding Dynamic braking
Release pressure	4 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m ³
Weight	See table below



Technical data

Part No.	Piston Ø	suitable piston rod Ø	Piston rod extension	Compressed air connection	Required flow rate
					Qn
5230996402	32 mm	12 mm	125 mm	G 1/8	50 l/min
5231996402	40 mm	16 mm	125 mm	G 1/8	70 l/min
5232996402	50 mm	20 mm	145 mm	G 1/8	140 l/min
5233996402	63 mm	20 mm	165 mm	G 1/8	240 l/min
5234996402	80 mm	25 mm	185 mm	G 1/8	450 l/min
5235996402	100 mm	25 mm	220 mm	G 1/8	700 l/min
5236996402	125 mm	32 mm	220 mm	G 1/4	1200 l/min

Part No.	Max. torsional moment of piston rod	B10d value static	B10d value dynamic
5230996402	0.5 Nm	5.000.000	2.000.000
5231996402	1 Nm	5.000.000	2.000.000
5232996402	2 Nm	5.000.000	2.000.000
5233996402	2.5 Nm	5.000.000	2.000.000
5234996402	5 Nm	5.000.000	2.000.000
5235996402	9 Nm	5.000.000	2.000.000
5236996402	15 Nm	5.000.000	2.000.000

Part No.	Buckling protection of the piston rod 1)		Weight	
	Max. cylinder stroke for Euler case 1	Max. cylinder stroke for Euler case 2		
5230996402	750 mm	400 mm	0.8 kg	1)
5231996402	1100 mm	550 mm	1 kg	1)
5232996402	1350 mm	700 mm	1.8 kg	1)
5233996402	950 mm	500 mm	2.8 kg	1)

Part No.	Buckling protection of the piston rod 1)		Weight	
	Max. cylinder stroke for Euler case 1	Max. cylinder stroke for Euler case 2		
5234996402	1350 mm	700 mm	5.5 kg	1)
5235996402	950 mm	500 mm	9.5 kg	1)
5236996402	1500 mm	800 mm	13.8 kg	2)

1) Only applies in dynamic cases, and only retracting, DGUV certified

2) Only applies in dynamic cases, and only retracting

Technical data

Piston Ø	32 mm	40 mm	50 mm
Max. holding/braking force FLU6	760 N	1200 N	1900 N
Max. moving mass, external mmax	77 kg	122 kg	194 kg
Max. piston speed vmax	1 m/s	1 m/s	1 m/s
Max. total braking energy (MJ) Etotal	3.2 MJ	6 MJ	10 MJ
Max. braking energy per hour PLU6	720 J	1350 J	2250 J
Max. braking energy per braking cycle ELU6	4.8 J	9 J	15 J
Braking energy per braking cycle related to B10d EB10d	1.6 J	3 J	5 J
Brake response time (4 bar) tbrake	0.08 s	0.08 s	0.08 s
Brake response time (6.3 bar) tbrake	0.1 s	0.1 s	0.1 s
Brake response time (10 bar) tbrake	0.12 s	0.12 s	0.12 s

Piston Ø	63 mm	80 mm	100 mm
Max. holding/braking force FLU6	3000 N	5000 N	8000 N
Max. moving mass, external mmax	306 kg	510 kg	815 kg
Max. piston speed vmax	1 m/s	1 m/s	1 m/s
Max. total braking energy (MJ) Etotal	18 MJ	36 MJ	58 MJ
Max. braking energy per hour PLU6	4050 J	8100 J	13200 J
Max. braking energy per braking cycle ELU6	27 J	54 J	88 J
Braking energy per braking cycle related to B10d EB10d	9 J	18 J	29 J
Brake response time (4 bar) tbrake	0.08 s	0.08 s	0.09 s
Brake response time (6.3 bar) tbrake	0.1 s	0.1 s	0.11 s
Brake response time (10 bar) tbrake	0.12 s	0.12 s	0.13 s

Piston Ø	125 mm
Max. holding/braking force FLU6	12000 N
Max. moving mass, external mmax	1223 kg
Max. piston speed vmax	1 m/s
Max. total braking energy (MJ) Etotal	93 MJ
Max. braking energy per hour PLU6	21000 J
Max. braking energy per braking cycle ELU6	140 J
Braking energy per braking cycle related to B10d EB10d	47 J
Brake response time (4 bar) tbrake	0.09 s
Brake response time (6.3 bar) tbrake	0.11 s
Brake response time (10 bar) tbrake	0.13 s

The values for the max. braking energy per braking cycle are equivalent to the cushioning energy for cylinder series PRA and TRB.

Technical information

The maximum ambient and medium temperature is + 70 °C for the dynamic braking function.

Note:
Before pressurizing the locking unit, make sure that there is a balance of forces at the piston on the drive cylinder. Please see the operating instructions for further safety-relevant information. The locking unit can be used in controls with a max. performance level e in accordance with DIN EN ISO 13849-1 ("basic and well-tried safety principles"). For applications in category 2 to 4 controls, additional control measures according to DIN EN ISO 13849-1 are required.

The locking unit can be used as an individual component or pre-mounted on a cylinder..

Scope of delivery: LU6, each with 4 flange nuts, washers, and tie rods

For technical reasons, formulas and sample calculations have been moved to the MediaCentre (link to operating instructions).

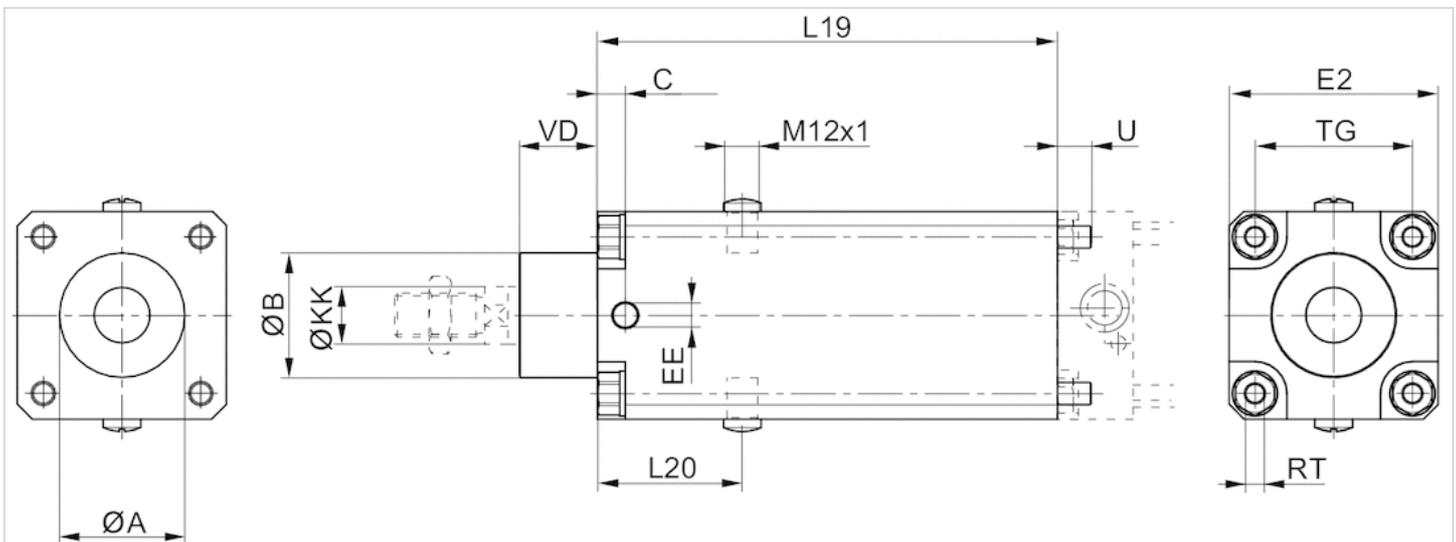
Technical information

Material

Housing	Aluminum, anodized
Seal	Nitrile butadiene rubber
Scraper	Nitrile butadiene rubber

Dimensions

Dimensions

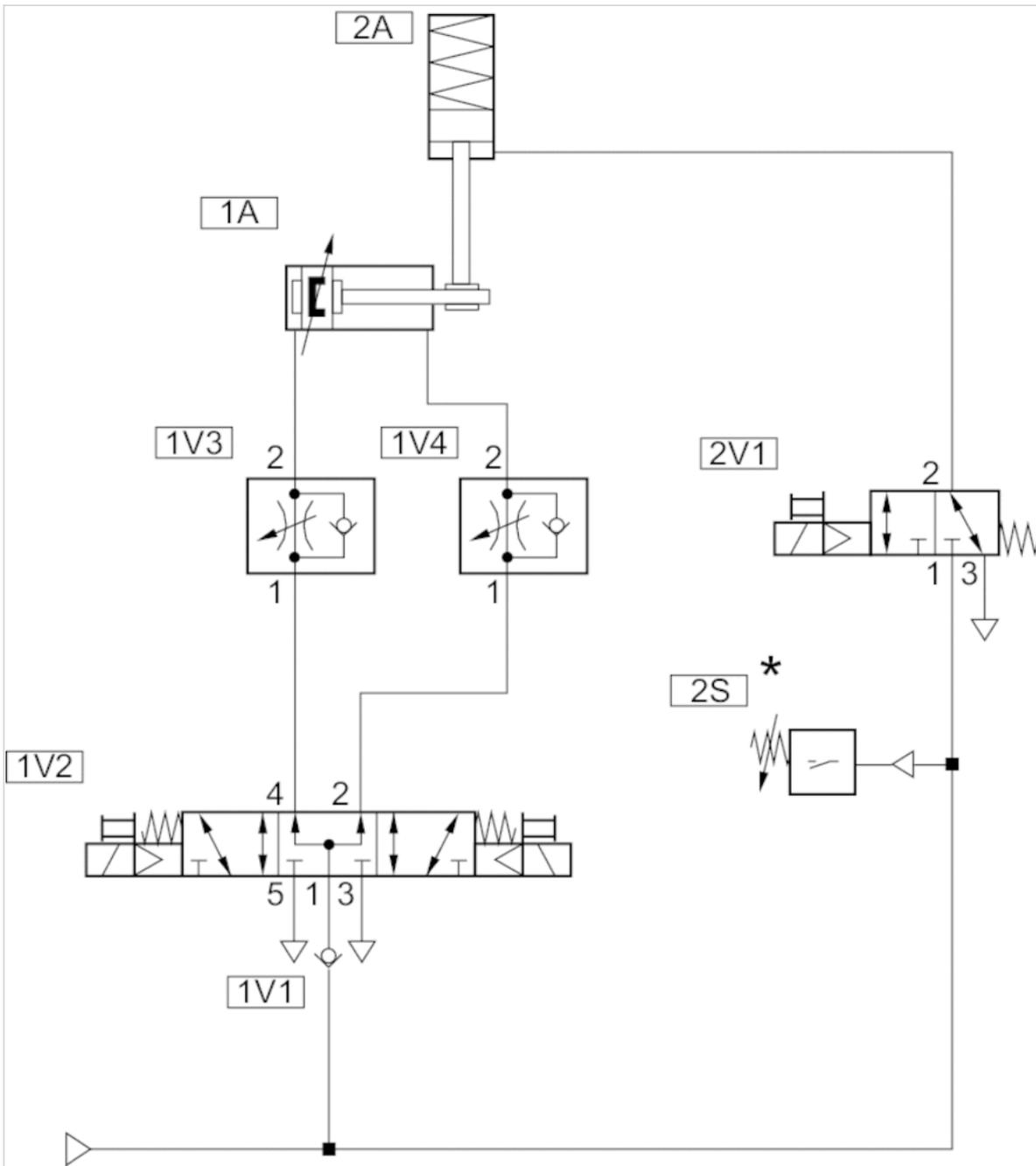


Dimensions

Piston \varnothing	$\varnothing A$	$\varnothing B$ d11	C	EE	E2	L19	L20	$\varnothing KK$ e8-h9	TG	RT	U	VD
32 mm	30,5	30	9	G1/8	48	125	44	12	32,5	M6	10	19
40 mm	35,5	35	9	G1/8	53	125	44	16	38	M6	10	21
50 mm	40,5	40	9	G1/8	63	145	49	20	46,5	M8	11	28
63 mm	45,5	45	10	G1/8	75	165	52	20	56,5	M8	11	28
80 mm	45,5	45	11	G1/8	98	185	61.5	25	72	M10	16	34
100 mm	55,5	55	13	G1/8	118	220	68	25	89	M10	16	37
125 mm	60,5	60	13	G1/4	142	220	75	32	110	M12	16	45

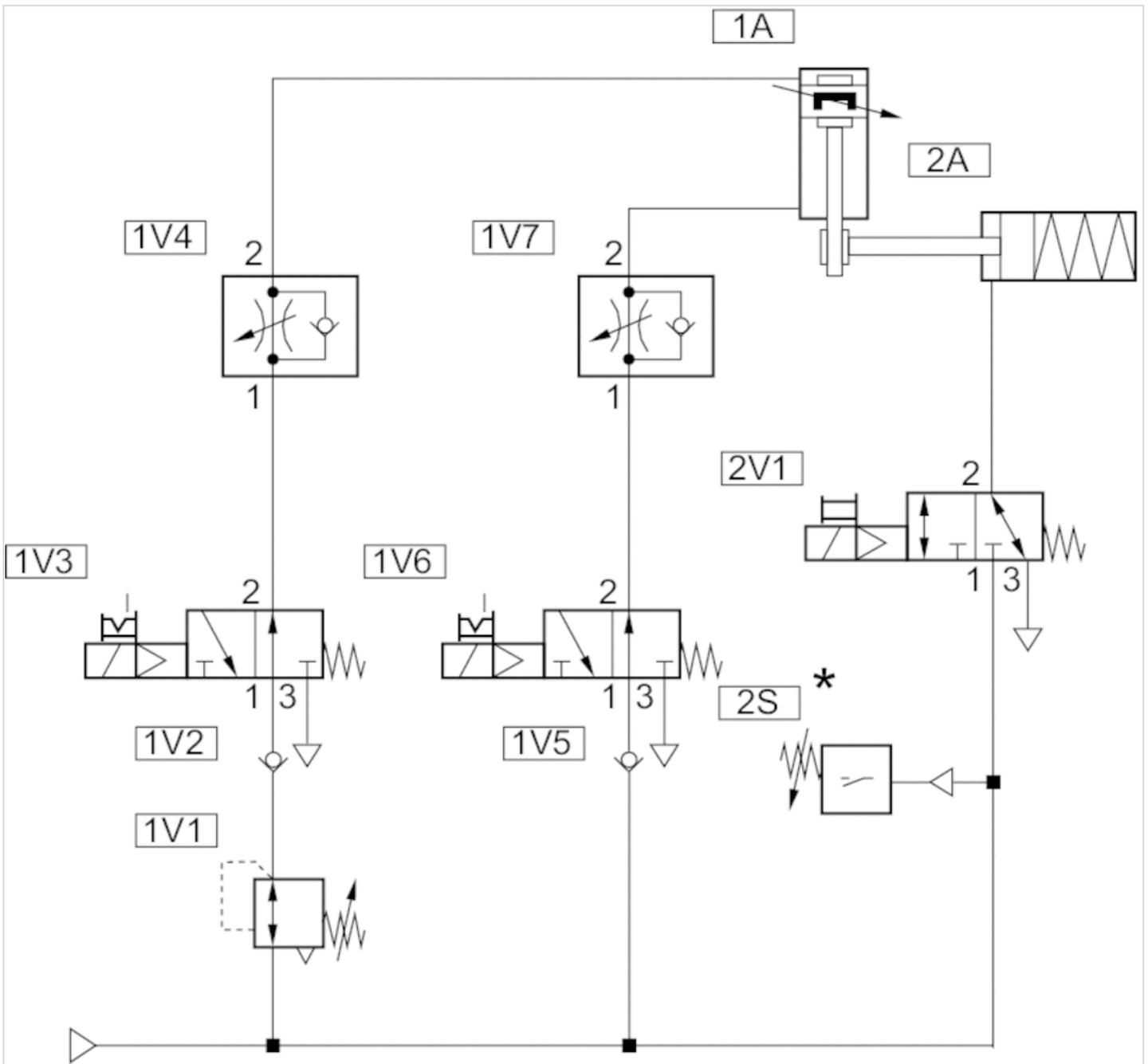
Circuit diagram

Circuit example for non-safety relevant functions; horizontal installation position



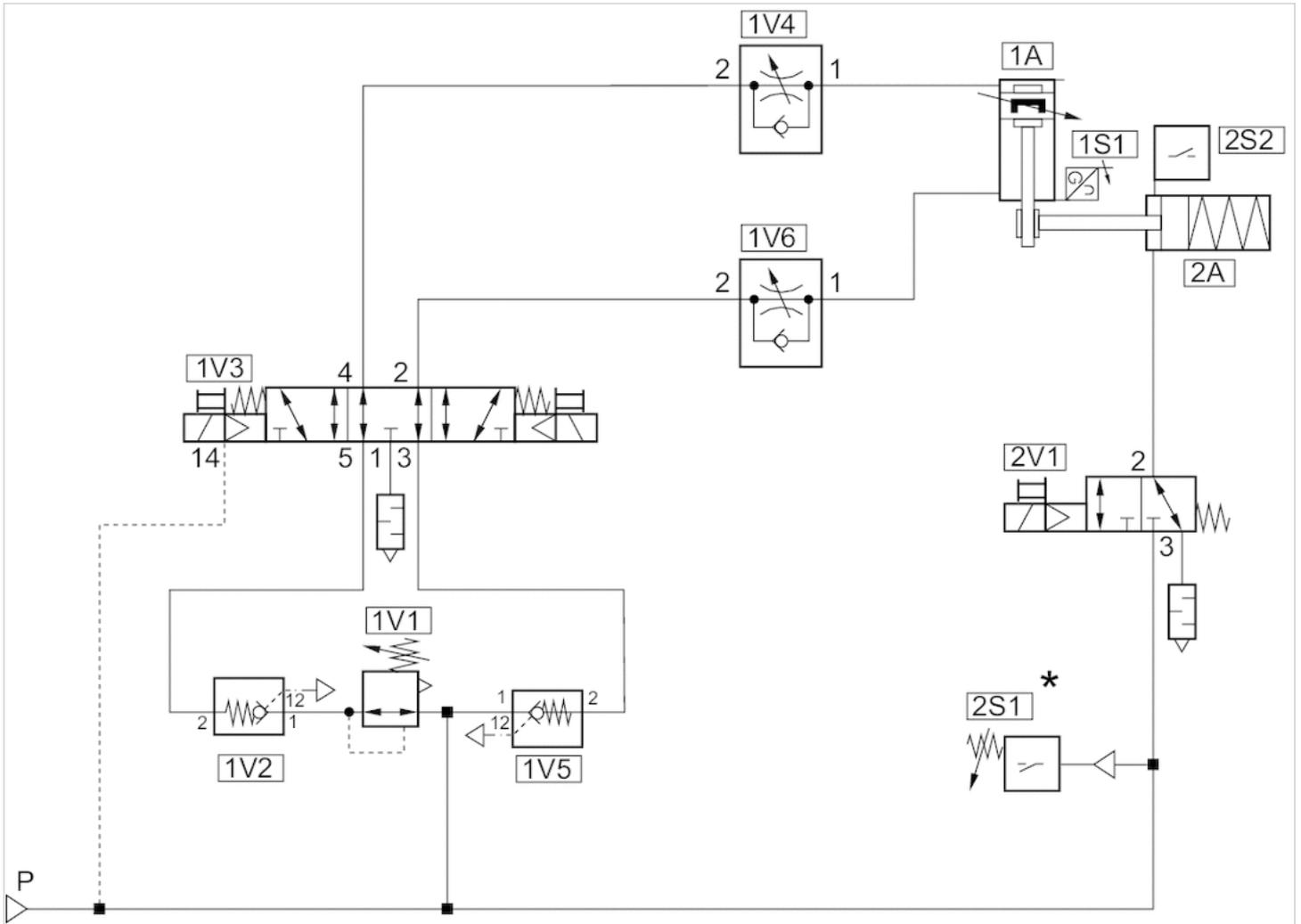
* From 4 bar : release of 2V1

Circuit example for non-safety relevant functions; Vertical mounting orientation



* From 4 bar : release of 2V1

Circuit example for safety-related stop functions; horizontal installation position

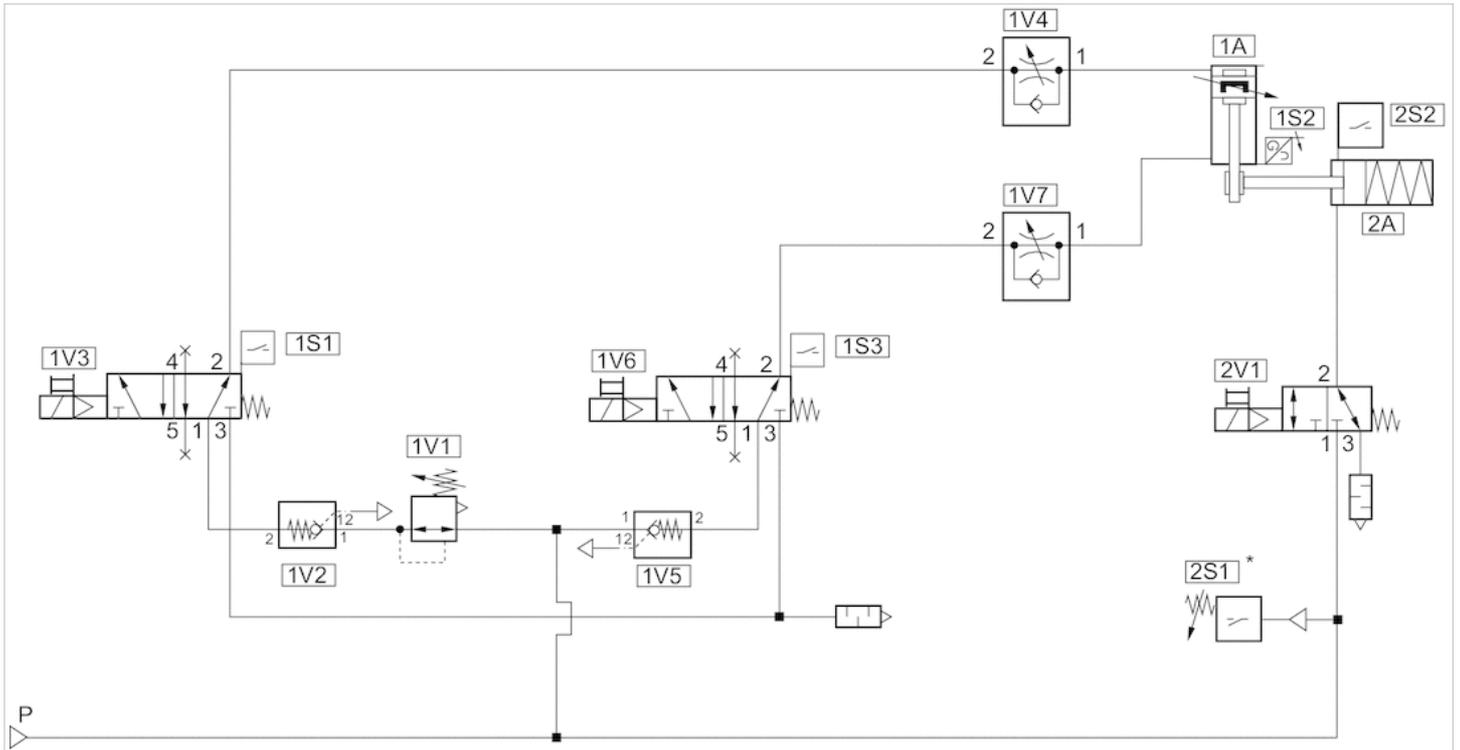


Channel 1: Safe stopping and closing

Channel 2: Safe brake control

* From 4 bar : release of 2V1

Circuit example for safety-related stop functions; Vertical mounting orientation



Channel 1: Safe stopping and closing

Channel 2: Safe brake control

* From 4 bar : release of 2V1

Foot mounting, Series LU4

- for cylinders with locking units

- Ø 32-100 mm



Ambient temperature min./max.

-20 ... 80 °C

Medium temperature min./max.

-20 ... 80 °C

Technical data

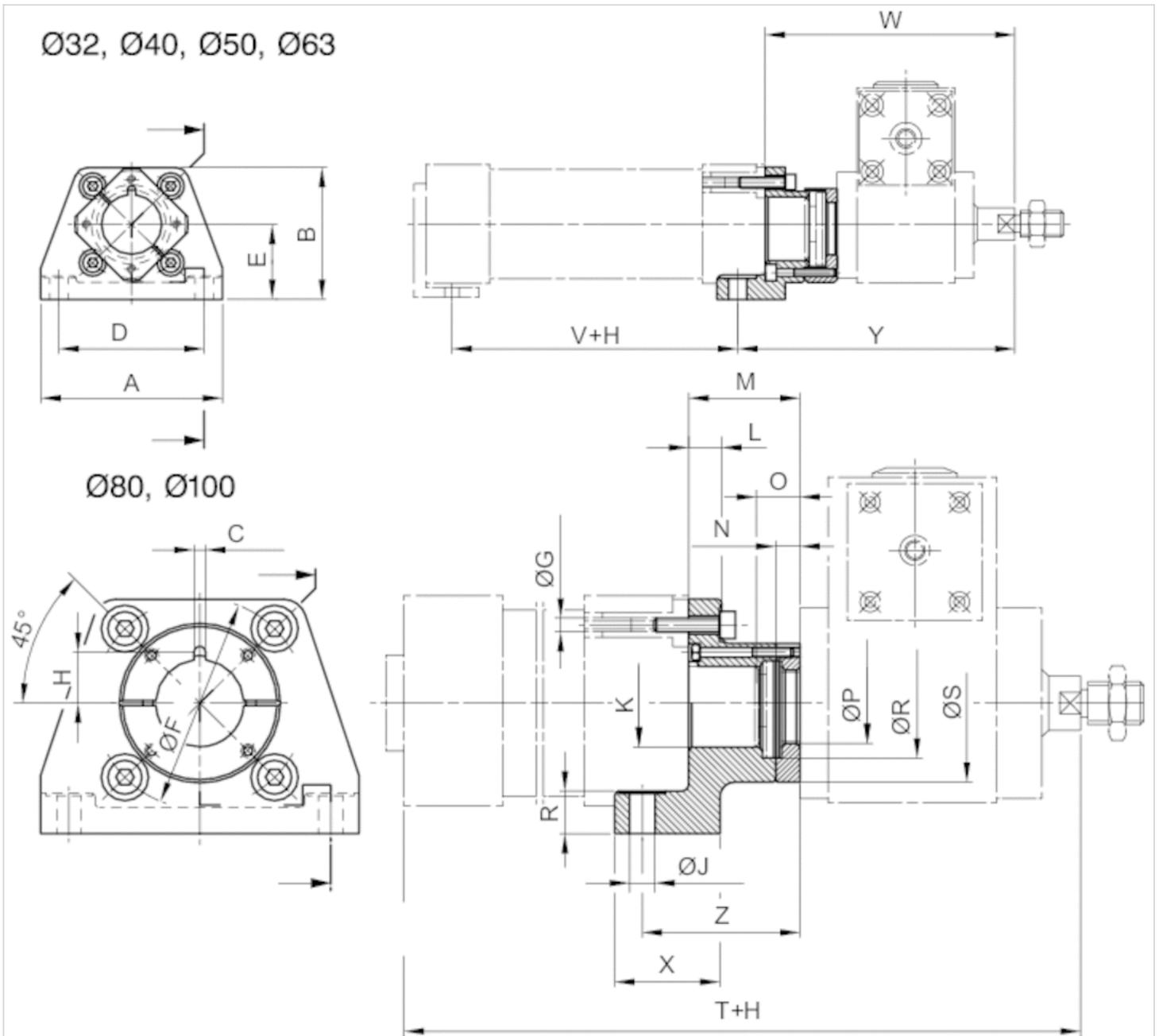
Part No.	Piston Ø
1827001520	32 mm
1827001521	40 mm
1827001522	50 mm
1827001526	63 mm
1827001524	80 mm
1827002152	100 mm

Technical information

Material	
Housing	Nodular graphite iron, galvanized

Dimensions

Dimensions



H = stroke

The locking unit can be rotated by 4x90°.

Dimensions

Part No.	A	B	C ±0,1	D ±0,1	E	Ø F	Ø G H13	I	J H8	K H10	L	M	N	O	Ø P	R
1827001520	79	57	3.6	65	32	46	6.6	13.2	6.6	30	7	27	3.9	-	24.2	9
1827001521	90	64	3.6	75	36	54	6.6	18.2	6.6	35	9.5	33	4.9	13	30.2	11
1827001522	110	80	3.6	90	45	66	8.4	18.2	9	40	11	38	4.9	-	30.2	15
1827001526	120	90	3.6	100	50	80	8.4	18.2	9	45	11	38	4.9	-	30.2	15
1827001524	153	113	6	128	63	102	10.5	24.5	11	45	15	52	7.9	18	40.2	19.5
1827002152	176	133	6	148	71	126	10.5	24.6	11	55	15	57	7.9	-	40.2	19.5

Ø R	Ø S	T	V	W	X	Y	Z
30	46.5	199	68	105	32	118	40
40	55.5	216	79	111	32	124	46
40	66	243	74	137	41	153	54
40	71	258	89	137	41	153	54
55	75	314	84	186	50	208	74
55	80	329	94	191	50	213	79

Flange mounting, Series LU5

- for cylinders with locking units

- Ø 32-100 mm



Ambient temperature min./max.

-20 ... 80 °C

Medium temperature min./max.

-20 ... 80 °C

Technical data

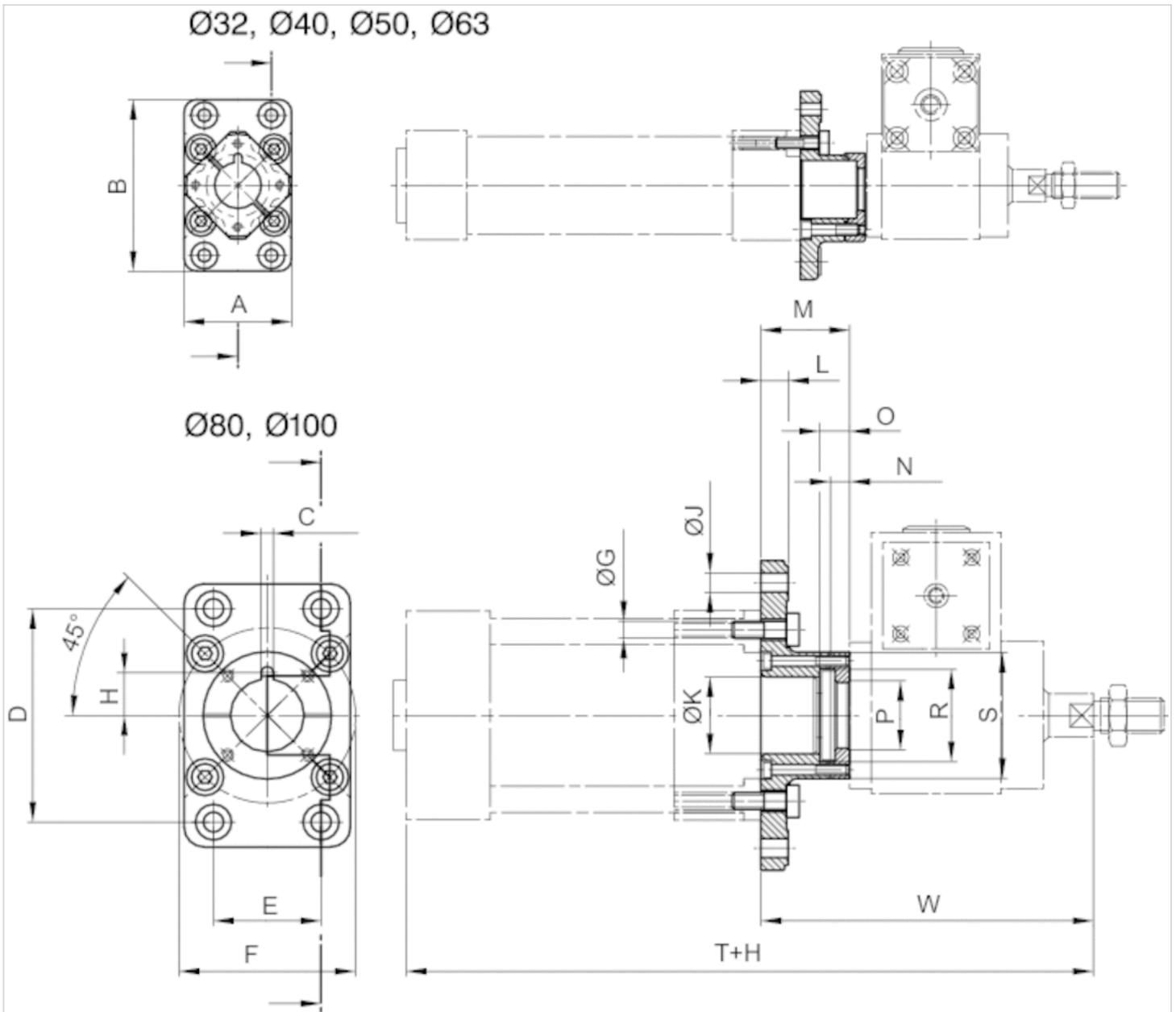
Part No.	Piston Ø
1827001512	32 mm
1827001513	40 mm
1827001514	50 mm
1827001503	63 mm
1827001516	80 mm
1827001517	100 mm

Technical information

Material	
Housing	Nodular graphite iron, galvanized

Dimensions

Dimensions



Dimensions

Part No.	A	B	C ±0,1	D ±0,1	E ±0,1	Ø F ±0,2	Ø G H13	H	Ø J H13	Ø K H10	L	M
1827001512	50	79	3.6	64	32	46	6.6	13.2	7	30	8	27
1827001513	56	91	3.6	72	36	54	6.6	18.2	9	35	10	33.3
1827001514	70	111	3.6	90	45	66	8.4	18.2	9	40	12	38.3
1827001503	80	120	3.6	100	50	80	8.4	18.2	9	45	12	38.3
1827001516	100	153	6	126	63	102	10.5	24.5	12	45	16	52
1827001517	120	178	6	150	75	126	10.5	24.6	14	55	16	57

N ±0,1	O	Ø P +0,2	Ø R +0,5	Ø S	W
3.9	8	24.2	33	50	105
4.9	10	30.2	40	55.5	111

N ±0,1	O	Ø P +0,2	Ø R +0,5	Ø S	W
4.9	10	30.2	40	66	137
4.9	10	30.2	40	71	137
7.9	16	40.2	55	75	186
7.9	16	40.2	55	80	191

Mounting flange, Series LU3

- for cylinders with locking units

- Ø 32-100 mm



Ambient temperature min./max.

-20 ... 80 °C

Medium temperature min./max.

-20 ... 80 °C

Weight

See table below

Technical data

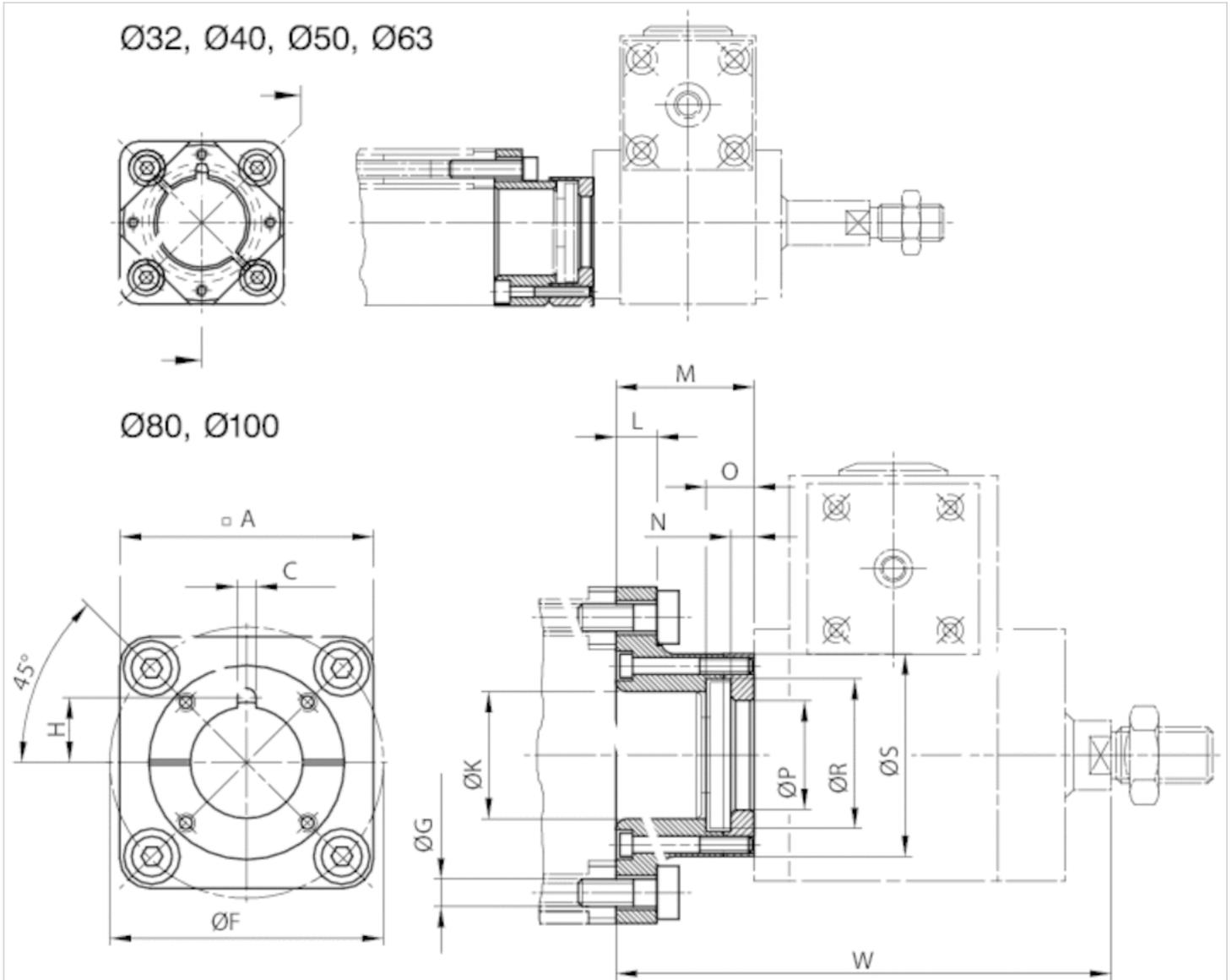
Part No.	Piston Ø	Weight
1827001504	32 mm	0.235 kg
1827001505	40 mm	0.36 kg
1827001506	50 mm	0.635 kg
1827001508	63 mm	0.84 kg
1827001433	80 mm	1.62 kg
1827001434	100 mm	2.27 kg

Technical information

Material	
Housing	Nodular graphite iron, galvanized

Dimensions

Dimensions



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

Dimensions

Part No.	A	C +0,1	Ø F ±0,2	G H13	H	Ø K H10	L	M	N -0,1	O	Ø P +0,2	Ø R +0,5
1827001504	50	3.6	46	6.6	13.2	30	7	27.2	3.9	8	24.2	33
1827001505	57	3.6	54	6.6	18.2	35	9.5	33.3	4.9	10	30.2	40
1827001506	68	3.6	66	8.4	18.2	40	11	38.3	4.9	10	30.2	40
1827001508	75	3.6	80	8.4	18.2	45	11	38.3	4.9	10	30.2	40
1827001433	95	6	102	10.5	24.5	45	15	52	7.9	16	40.2	55
1827001434	115	6	126	10.5	24.6	55	15	57	7.9	16	40.2	55

Ø S	W
46.5	105
55.5	111

\varnothing S	W
66	137
71	137
75	186
80	191

Modular sealing system

- Ø 32 mm ... 125 mm
- For series PRA, TRB, CCL-IS
- Piston Ø 32 40 50, 63 80, 100 125 mm



Working pressure min./max.
Ambient temperature min./max.
Medium
Oil content of compressed air

1.5 ... 10 bar
See table below
Compressed air
0 ... 5 mg/m³

Technical data

Part No.	Piston Ø	Piston rod seal	Scraper
0496400704	32 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496401107	32 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496401700	32 mm	Fluorocaoutchouc	Polytetrafluorethylene
0496400402	40 mm	Acrylonitrile butadiene rubber	Brass
0496401409	40 mm	Fluorocaoutchouc	Brass
0496400801	40 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496401204	40 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496401808	40 mm	Fluorocaoutchouc	Polytetrafluorethylene
0496400518	50, 63 mm	Acrylonitrile butadiene rubber	Brass
0496401506	50, 63 mm	Fluorocaoutchouc	Brass
0496400909	50, 63 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496402103	50, 63 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496401905	50, 63 mm	Fluorocaoutchouc	Polytetrafluorethylene
0496400607	80, 100 mm	Acrylonitrile butadiene rubber	Brass
0496401603	80, 100 mm	Fluorocaoutchouc	Brass
0496401018	80, 100 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496402200	80, 100 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496402006	80, 100 mm	Fluorocaoutchouc	Polytetrafluorethylene
0496301404	125 mm	Acrylonitrile butadiene rubber	Brass
0496303105	125 mm	Fluorocaoutchouc	Brass
0496301307	125 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496301706	125 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496303202	125 mm	Fluorocaoutchouc	Polytetrafluorethylene

Part No.	Ambient temperature min./max.	Application area
0496400704	-20 ... 80 °C	1)
0496401107	-20 ... 80 °C	2)

Part No.	Ambient temperature min./max.	Application area
0496401700	-10 ... 150 °C	2)
0496400402	-20 ... 80 °C	3)
0496401409	-10 ... 150 °C	3)
0496400801	-20 ... 80 °C	1)
0496401204	-20 ... 80 °C	2)
0496401808	-10 ... 150 °C	2)
0496400518	-20 ... 80 °C	3)
0496401506	-10 ... 150 °C	3)
0496400909	-20 ... 80 °C	1)
0496402103	-20 ... 80 °C	2)
0496401905	-10 ... 150 °C	2)
0496400607	-20 ... 80 °C	3)
0496401603	-10 ... 150 °C	3)
0496401018	-20 ... 80 °C	1)
0496402200	-20 ... 80 °C	2)
0496402006	-10 ... 150 °C	2)
0496301404	-20 ... 80 °C	3)
0496303105	-10 ... 150 °C	3)
0496301307	-20 ... 80 °C	1)
0496301706	-20 ... 80 °C	2)
0496303202	-10 ... 150 °C	2)

1)Application area Paper/printing industry Textile industry

2)Application area Textile industry Food industry Chemical industry Sugar production

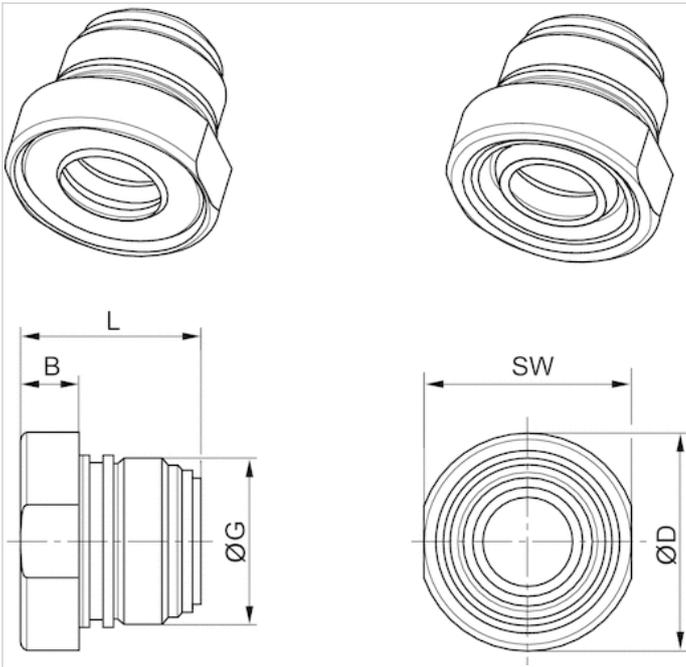
3)Application area Chemical industry Sugar production Steel construction Automotive industry Woodworking industry

Technical information

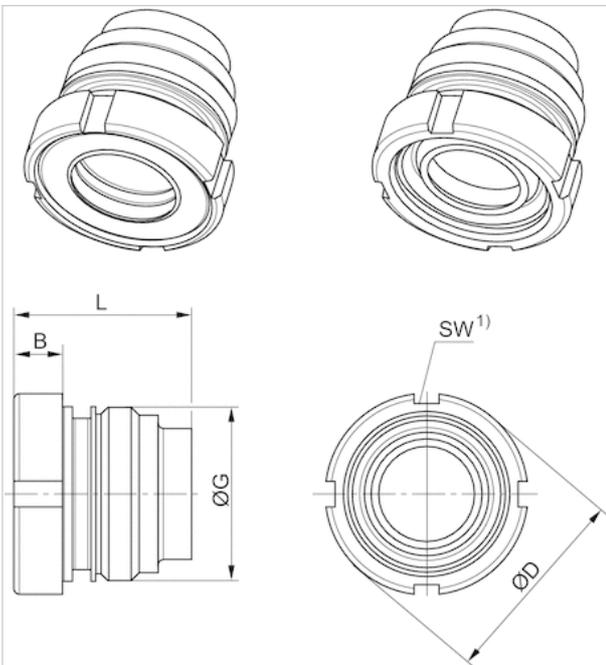
Material	
Housing	Aluminum, anodized
Scraper	Polyester elastomer Polytetrafluorethylene Brass
Piston rod seal	Acrylonitrile butadiene rubber Fluorocaoutchouc

Dimensions

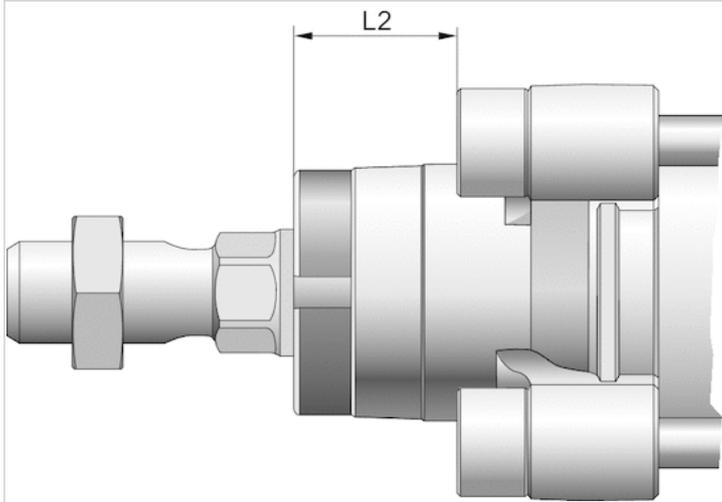
For cylinder diameters: 32-40 mm, Dimensions in mm



For cylinder diameters: 50 ... 125 mm, Dimensions in mm



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

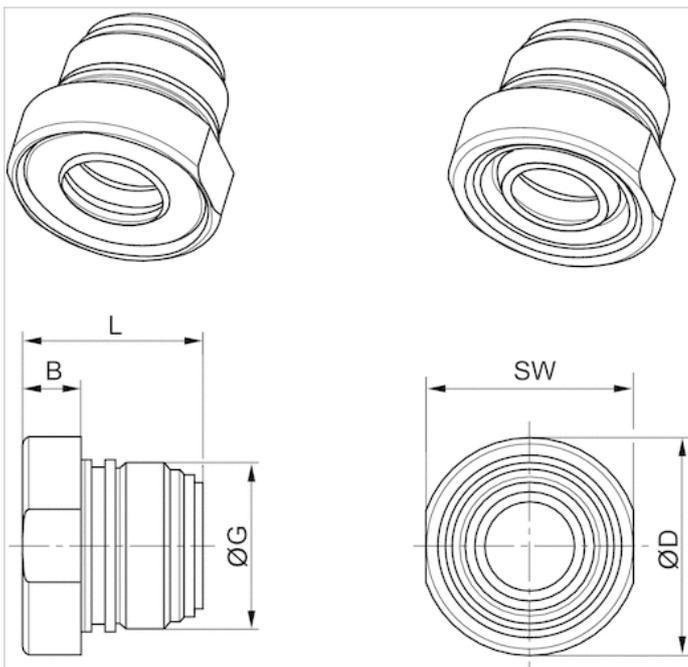


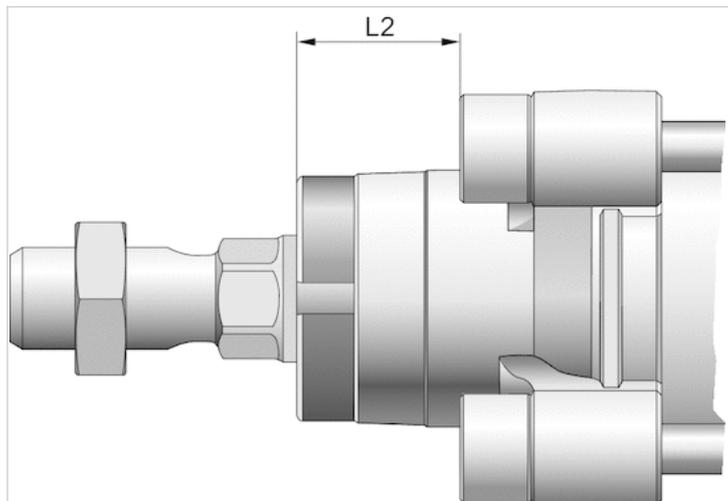
Dimensions

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
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

Dimensions

For cylinder diameters: 32-40 mm, Dimensions in mm



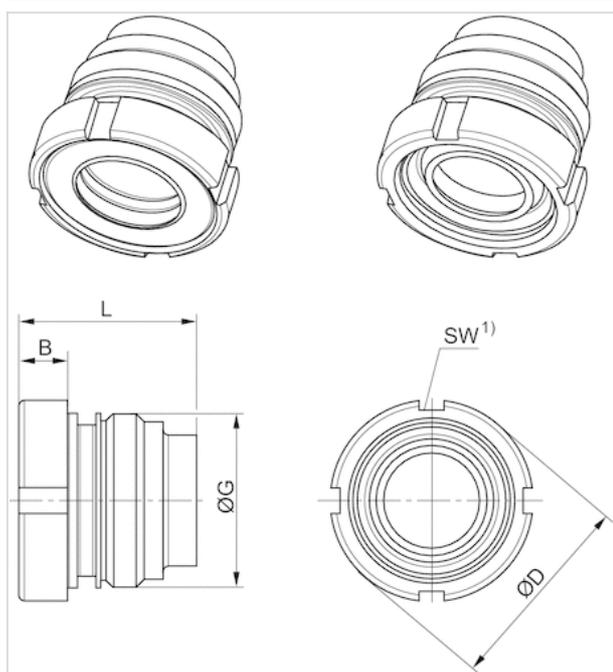


Dimensions

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
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

Dimensions

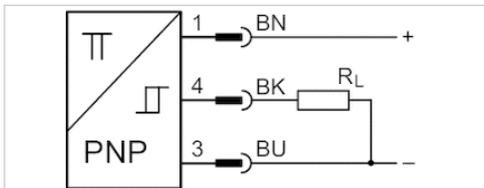
For cylinder diameters: 50 ... 125 mm, Dimensions in mm



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

Sensor, Series ST6

- 6 mm T-slot
- with cable
- open cable ends, 3-pin
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates

- ATEX class G
- ATEX class D
- Ambient temperature min./max.
- Protection class
- Switching point precision
- Quiescent current (without load)
- Min./max. DC operating voltage
- Switching logic
- LED status display
- Vibration resistance
- Shock resistance
- Cable length L

- ATEX CE declaration of conformity cULus RoHS
- II 3G Ex nA IIC T4 Gc X
- II 3D Ex tc IIIC T135°C Dc X
- 20 ... 50 °C
- IP67
- ±0,1 mT
- 10 mA
- 10 ... 30 V DC
- NO (make contact)
- Yellow
- 10 - 55 Hz, 1 mm
- 30 g / 11 ms
- 3 5 m

Technical data

Part No.	for	Type of contact	Cable length L
R412022854	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	3 m
R412022856	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	5 m

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022854	≤ 2,5 V	0.1 A
R412022856	≤ 2,5 V	0.1 A

Part No.	Max. switching frequency
R412022854	1000 Hz
R412022856	1000 Hz

Part No.	Version
R412022854	short circuit resistant Protected against polarity reversal

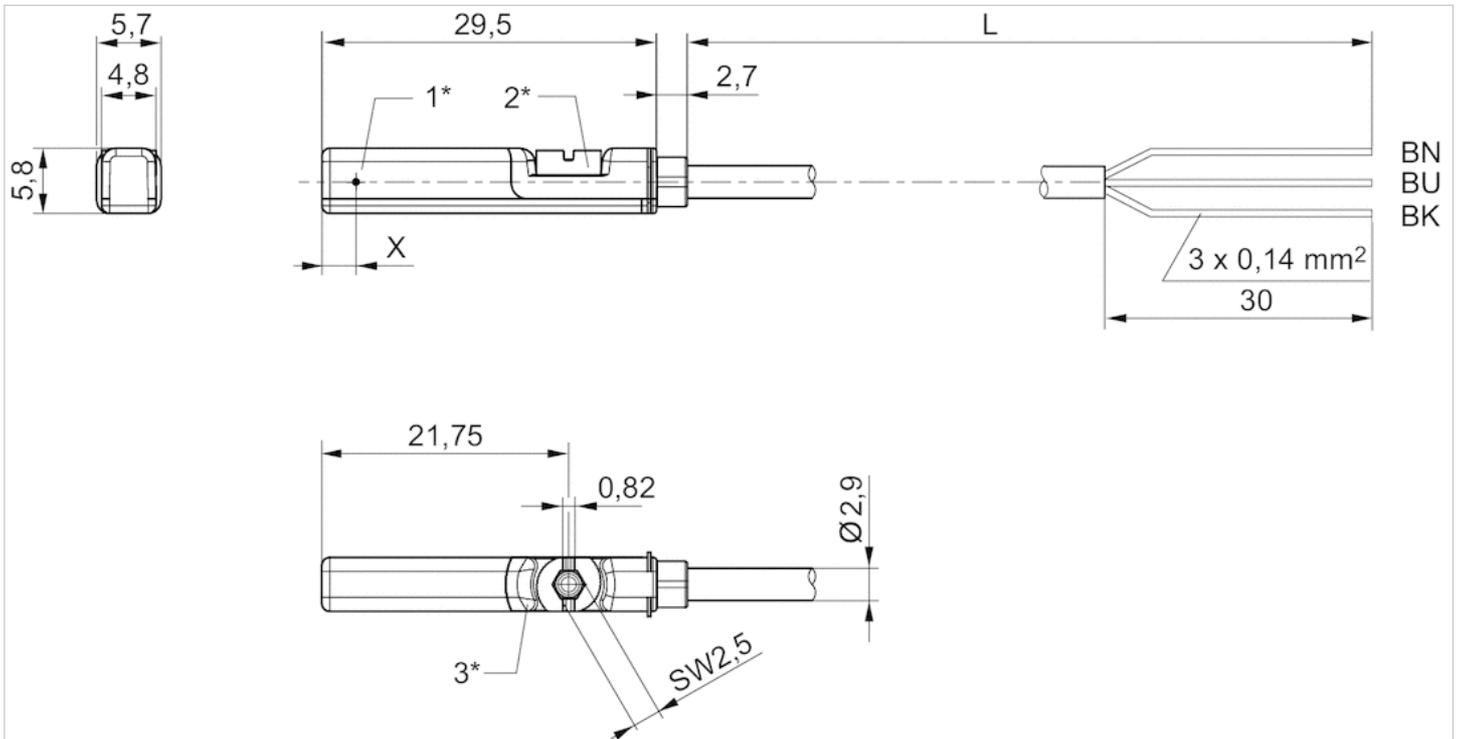
Part No.	Version
R412022856	short circuit resistant Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Fig. 2



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

Sensor, Series ST6

- 6 mm T-slot
- with cable
- open cable ends, 2-pin open cable ends, 3-pin
- UL certification
- Reed electronic PNP electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67, IP69K
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	See table below
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	3 5 10 m

Technical data

Part No.		for	Type of contact
R412022866		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412027170		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022869		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022870		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022871		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022853		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022855		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022857		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022849		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN
R412022850		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN

Part No.	Cable length L	Min./max. DC operating voltage	Min./max. AC operating voltage
R412022866	3 m	10 ... 230 V DC	10 ... 230 V AC
R412027170	5 m	10 ... 230 V DC	10 ... 230 V AC
R412022869	3 m	10 ... 30 V DC	10 ... 30 V AC
R412022870	5 m	10 ... 30 V DC	10 ... 30 V AC
R412022871	10 m	10 ... 30 V DC	10 ... 30 V AC
R412022853	3 m	10 ... 30 V DC	-
R412022855	5 m	10 ... 30 V DC	-
R412022857	10 m	10 ... 30 V DC	-
R412022849	3 m	10 ... 30 V DC	-
R412022850	5 m	10 ... 30 V DC	-

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022866	≤ 3,5 V	0.13 A
R412027170	≤ 3,5 V	0.13 A
R412022869	I*Rs	0.3 A
R412022870	≤ 0,1 V	0.3 A
R412022871	I*Rs	0.3 A
R412022853	≤ 2,5 V	0.13 A
R412022855	≤ 2,5 V	0.13 A
R412022857	≤ 2,5 V	0.13 A
R412022849	≤ 2,5 V	0.13 A
R412022850	≤ 2,5 V	0.13 A

Part No.	AC switching current, max.	Switching capacity
R412022866	0.13 A	Reed, 2-pin: max. 10 W
R412027170	0.13 A	Reed, 2-pin: max. 10 W
R412022869	0.5 A	Reed, 3-pin: max. 6 W
R412022870	0.5 A	Reed, 3-pin: max. 6 W
R412022871	0.5 A	Reed, 3-pin: max. 6 W

Part No.	AC switching current, max.	Switching capacity
R412022853	-	-
R412022855	-	-
R412022857	-	-
R412022849	-	-
R412022850	-	-

Part No.	Max. switching frequency	Operating current, not switched
R412022866	400 Hz	-
R412027170	400 Hz	-
R412022869	400 Hz	-
R412022870	400 Hz	-
R412022871	400 Hz	-
R412022853	1000 Hz	8 mA
R412022855	1000 Hz	8 mA
R412022857	1000 Hz	8 mA
R412022849	1000 Hz	8 mA
R412022850	1000 Hz	8 mA

Part No.	Operating current, switched
R412022866	-
R412027170	-
R412022869	-
R412022870	-
R412022871	-
R412022853	30 mA
R412022855	30 mA
R412022857	30 mA
R412022849	30 mA
R412022850	30 mA

Part No.	Version	Fig.	
R412022866	Protected against polarity reversal	Fig. 1	1)
R412027170	Protected against polarity reversal	Fig. 1	1)
R412022869	Protected against polarity reversal	Fig. 2	2)
R412022870	Protected against polarity reversal	Fig. 2	2)
R412022871	Protected against polarity reversal	Fig. 2	2)
R412022853	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022855	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022857	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022849	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022850	short circuit resistant Protected against polarity reversal	Fig. 2	3)

1) open cable ends, 2-pin, The product of operating voltage and continuous current must not exceed the maximum switching capacity.

2) open cable ends, 3-pin, The product of operating voltage and continuous current must not exceed the maximum switching capacity.

3) open cable ends, 3-pin

Technical information

No cULus certification for 230 V variant.

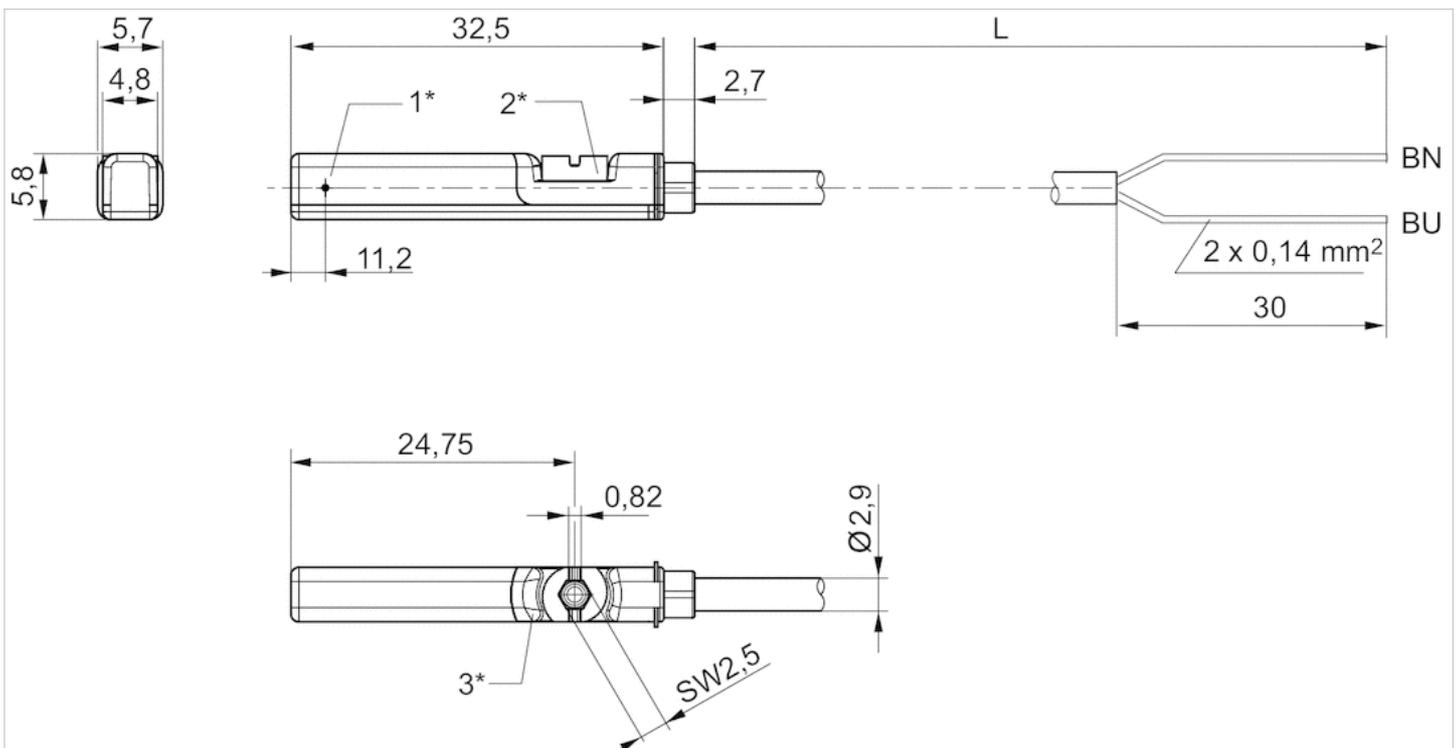
Technical information

Material

Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Fig. 1

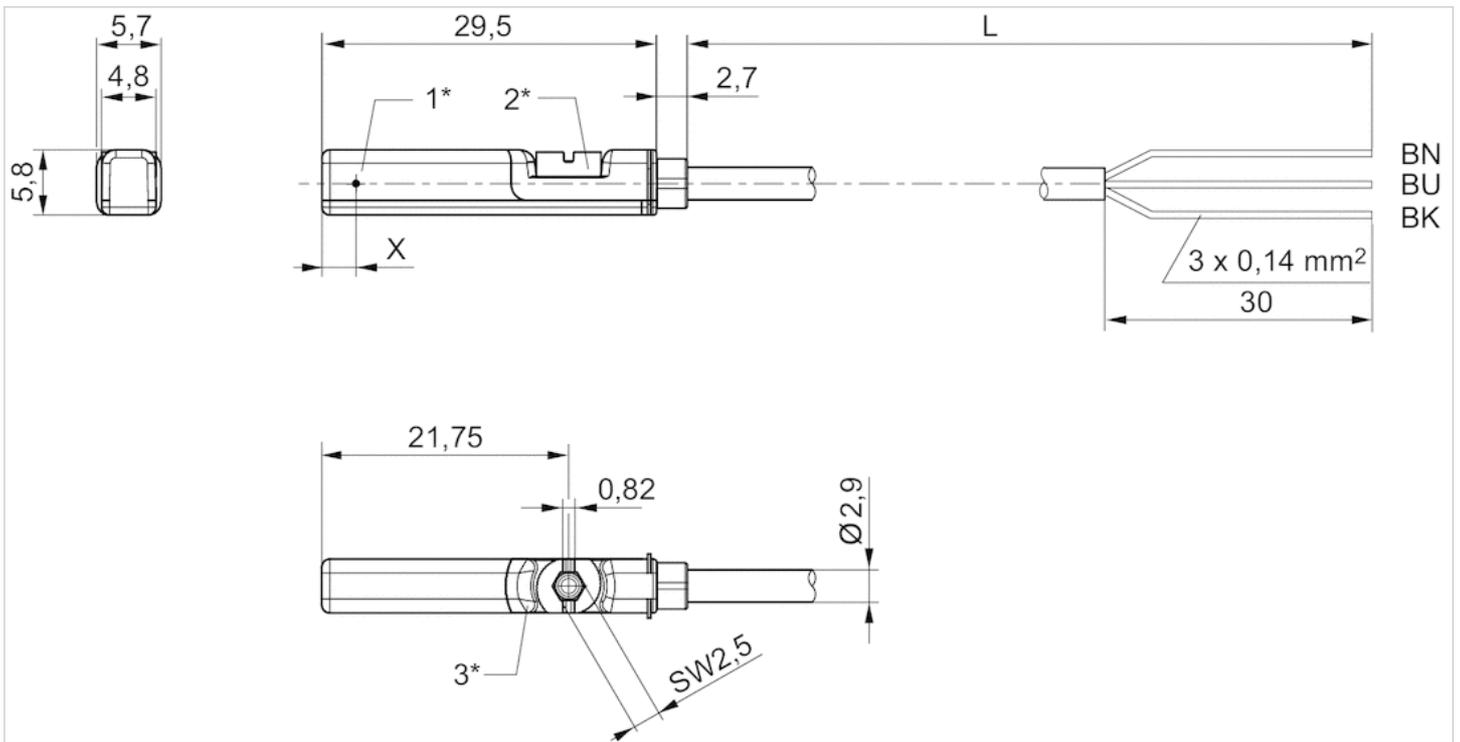


1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

BN=brown, BU=blue

Fig. 2



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

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin Plug, M8, 2-pin
- UL certification
- Reed electronic PNP electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	CE declaration of conformity cULus RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	10 ... 30 V DC
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 m

Technical data

Part No.		for	Type of contact
R412022868		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412027172		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022872		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022858		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022851		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN

Part No.	Cable length L	Min./max. AC operating voltage	Voltage drop U at I _{max}
R412022868	0.3 m	10 ... 30 V AC	≤ 3,5 V
R412027172	0.3 m	10 ... 30 V AC	≤ 3,5 V
R412022872	0.3 m	10 ... 30 V AC	≤ 0,1 V
R412022858	0.3 m	-	≤ 2,5 V
R412022851	0.3 m	-	≤ 2,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412022868	0.13 A	0.13 A
R412027172	0.13 A	0.13 A
R412022872	0.3 A	0.5 A
R412022858	0.13 A	-

Part No.	DC switching current, max.	AC switching current, max.
R412022851	0.13 A	-

Part No.	Switching capacity	Max. switching frequency
R412022868	Reed, 2-pin: max. 10 W	400 Hz
R412027172	Reed, 2-pin: max. 10 W	400 Hz
R412022872	Reed, 3-pin: max. 6 W	400 Hz
R412022858	-	1000 Hz
R412022851	-	1000 Hz

Part No.	Operating current, not switched	Operating current, switched
R412022868	-	-
R412027172	-	-
R412022872	-	-
R412022858	8 mA	30 mA
R412022851	8 mA	30 mA

Part No.	Version	
R412022868	Protected against polarity reversal	1)
R412027172	Protected against polarity reversal	1)
R412022872	Protected against polarity reversal	1)
R412022858	short circuit resistant Protected against polarity reversal	-
R412022851	short circuit resistant Protected against polarity reversal	-

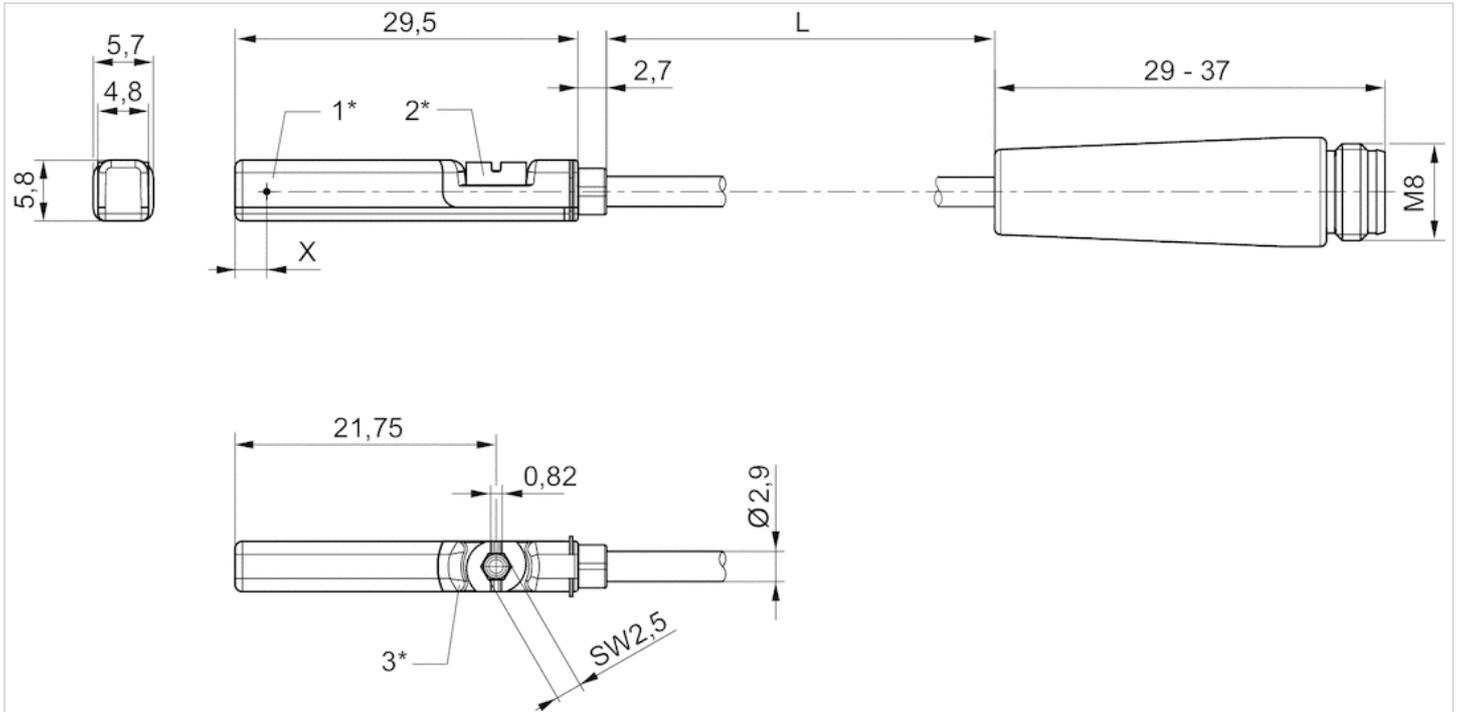
1) The product of operating voltage and continuous current must not exceed the maximum switching capacity.

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



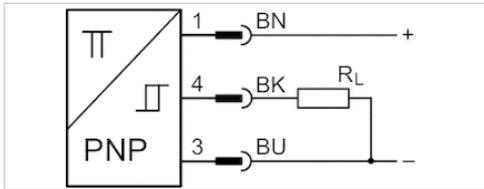
1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

X = electronic: 11,6 mm, Reed: 8,3 mm

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M12, 3-pin, with knurled screw
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	ATEX CE declaration of conformity cULus RoHS
ATEX class G	II 3G Ex nA IIC T4 Gc X
ATEX class D	II 3D Ex tc IIIC T135°C Dc X
Ambient temperature min./max.	-20 ... 50 °C
Protection class	IP67
Switching point precision	±0,1 mT
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	10 ... 30 V DC
Switching logic	NO (make contact)
LED status display	Yellow Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 m

Technical data

Part No.	for	Type of contact	Cable length L
R412022864	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	0.3 m

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022864	≤ 2,5 V	0.1 A

Part No.	Max. switching frequency
R412022864	1000 Hz

Part No.	Version
R412022864	short circuit resistant Protected against polarity reversal

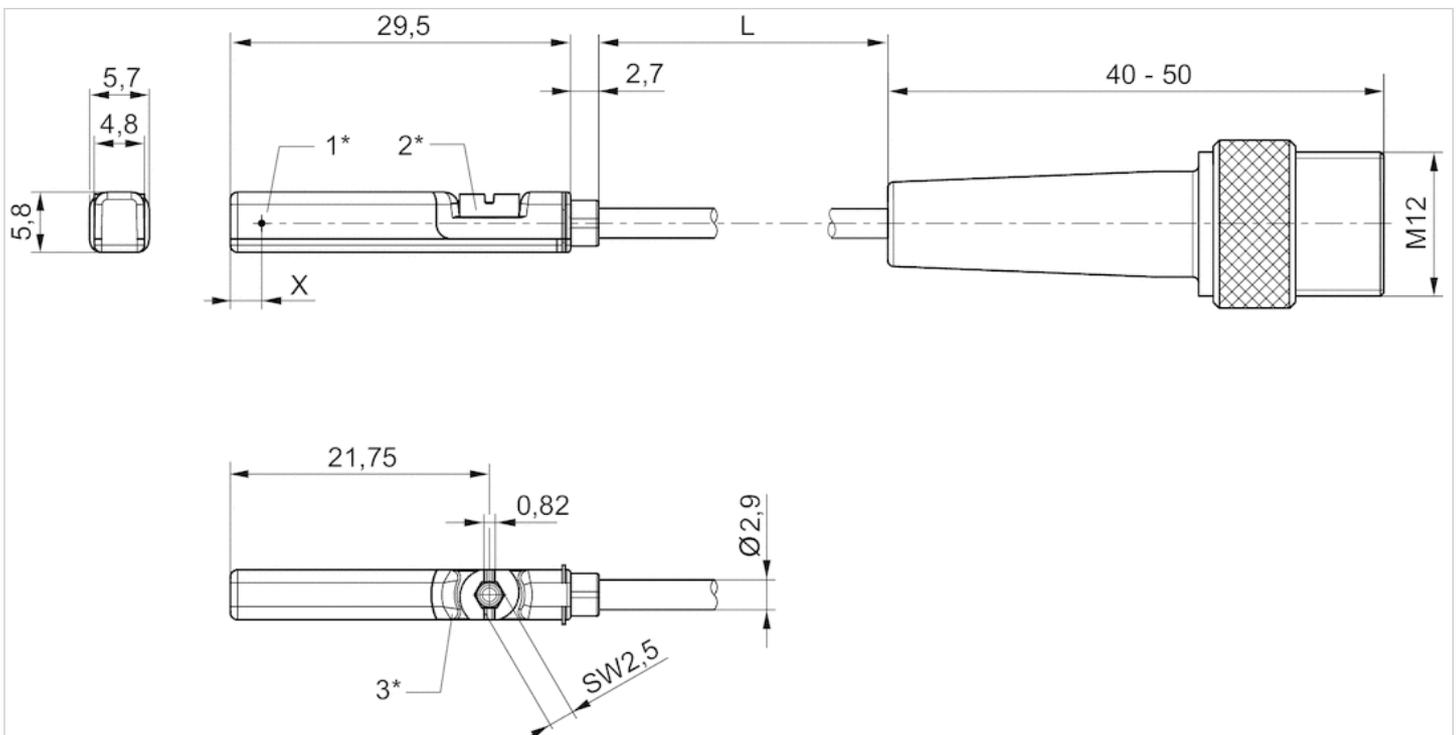
Technical information

Material

Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



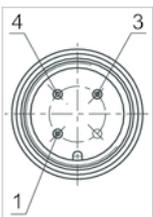
1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

X = PNP: 11,6 mm, reed: 8,3 mm

Pin assignments

Pin assignments



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

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M12, 2-pin, with knurled screw Plug, M12, 4-pin, with knurled screw
- UL certification
- Reed electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	CE declaration of conformity cULus RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	See table below
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	10 ... 30 V DC
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 0.1 3 5 m

Technical data

Part No.		for	Type of contact
R412027171		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022876		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022879		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022863		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022877		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022878		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP

Part No.	Cable length L	Min./max. AC operating voltage	Voltage drop U at I _{max}
R412027171	0.3 m	10 ... 30 V AC	≤ 3,5 V
R412022876	0.3 m	10 ... 30 V AC	≤ 0,1 V
R412022879	0.1 m	-	≤ 2,5 V
R412022863	0.3 m	-	≤ 2,5 V
R412022877	3 m	-	≤ 2,5 V
R412022878	5 m	-	≤ 2,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412027171	0.13 A	0.13 A
R412022876	0.3 A	0.5 A

Part No.	DC switching current, max.	AC switching current, max.
R412022879	0.13 A	-
R412022863	0.13 A	-
R412022877	0.13 A	-
R412022878	0.13 A	-

Part No.	Switching capacity	Max. switching frequency
R412027171	Reed, 2-pin: max. 10 W	400 Hz
R412022876	Reed, 3-pin: max. 6 W	400 Hz
R412022879	-	1000 Hz
R412022863	-	1000 Hz
R412022877	-	1000 Hz
R412022878	-	1000 Hz

Part No.	Operating current, not switched	Operating current, switched	Protection class
R412027171	-	-	IP65, IP67
R412022876	-	-	IP65, IP67
R412022879	8 mA	30 mA	IP65, IP67
R412022863	8 mA	30 mA	IP65, IP67, IP69K
R412022877	8 mA	30 mA	IP65, IP67
R412022878	8 mA	30 mA	IP65, IP67

Part No.	Version	
R412027171	Protected against polarity reversal	1)
R412022876	Protected against polarity reversal	1)
R412022879	short circuit resistant Protected against polarity reversal	-
R412022863	short circuit resistant Protected against polarity reversal	-
R412022877	short circuit resistant Protected against polarity reversal	-
R412022878	short circuit resistant Protected against polarity reversal	-

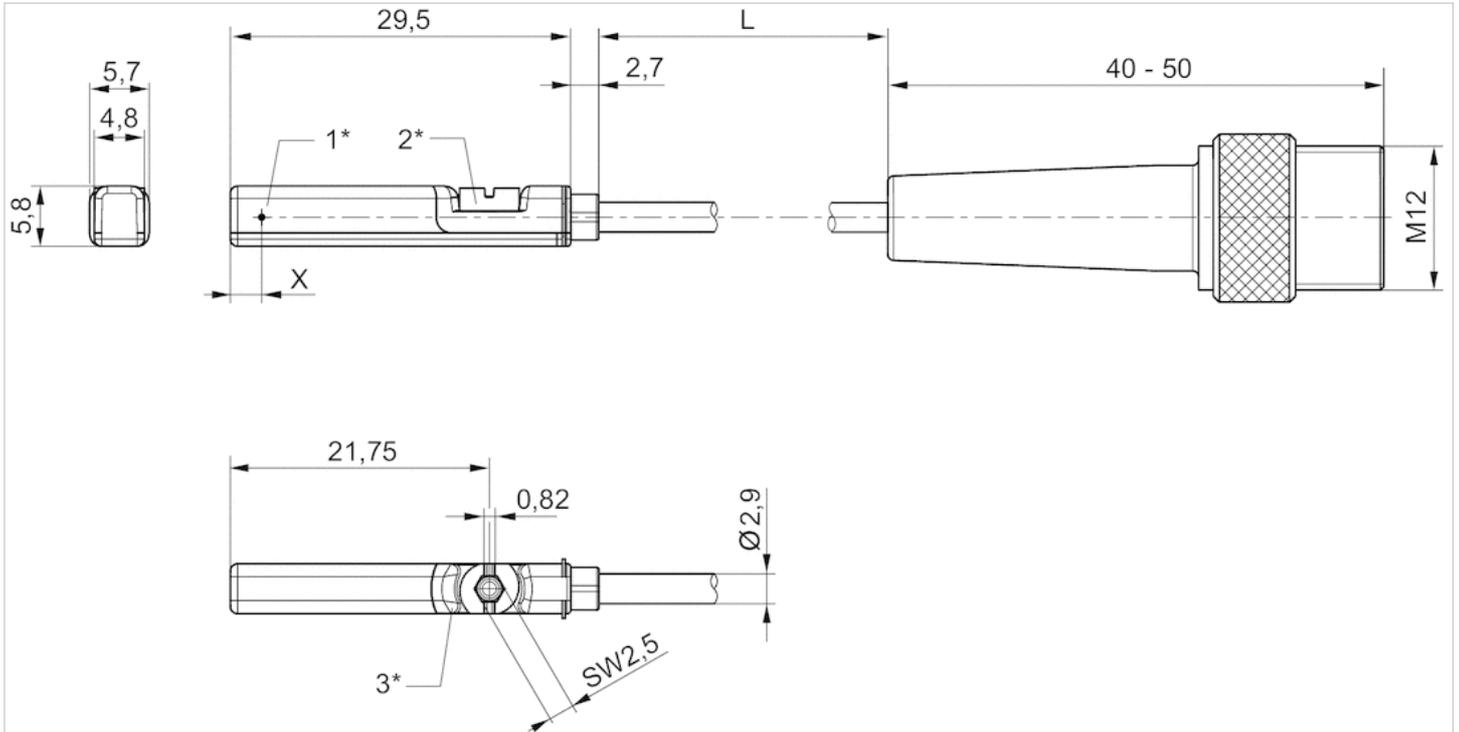
1) The product of operating voltage and continuous current must not exceed the maximum switching capacity.

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



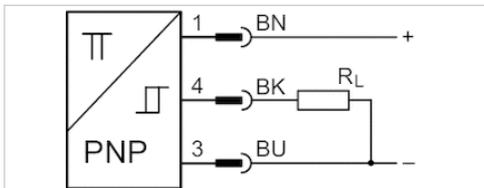
1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length
 X = PNP: 11,6 mm, reed: 8,3 mm

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin, with knurled screw
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	ATEX CE declaration of conformity cULus RoHS
ATEX class G	II 3G Ex nA IIC T4 Gc X
ATEX class D	II 3D Ex tc IIIC T135°C Dc X
Ambient temperature min./max.	-20 ... 50 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	10 ... 30 V DC
Switching logic	NO (make contact)
LED status display	Yellow Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 m



Technical data

Part No.	for	Type of contact	Cable length L
R412022860	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	0.3 m

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022860	≤ 2,5 V	0.1 A

Part No.	Max. switching frequency
R412022860	1000 Hz

Part No.	Version
R412022860	short circuit resistant Protected against polarity reversal

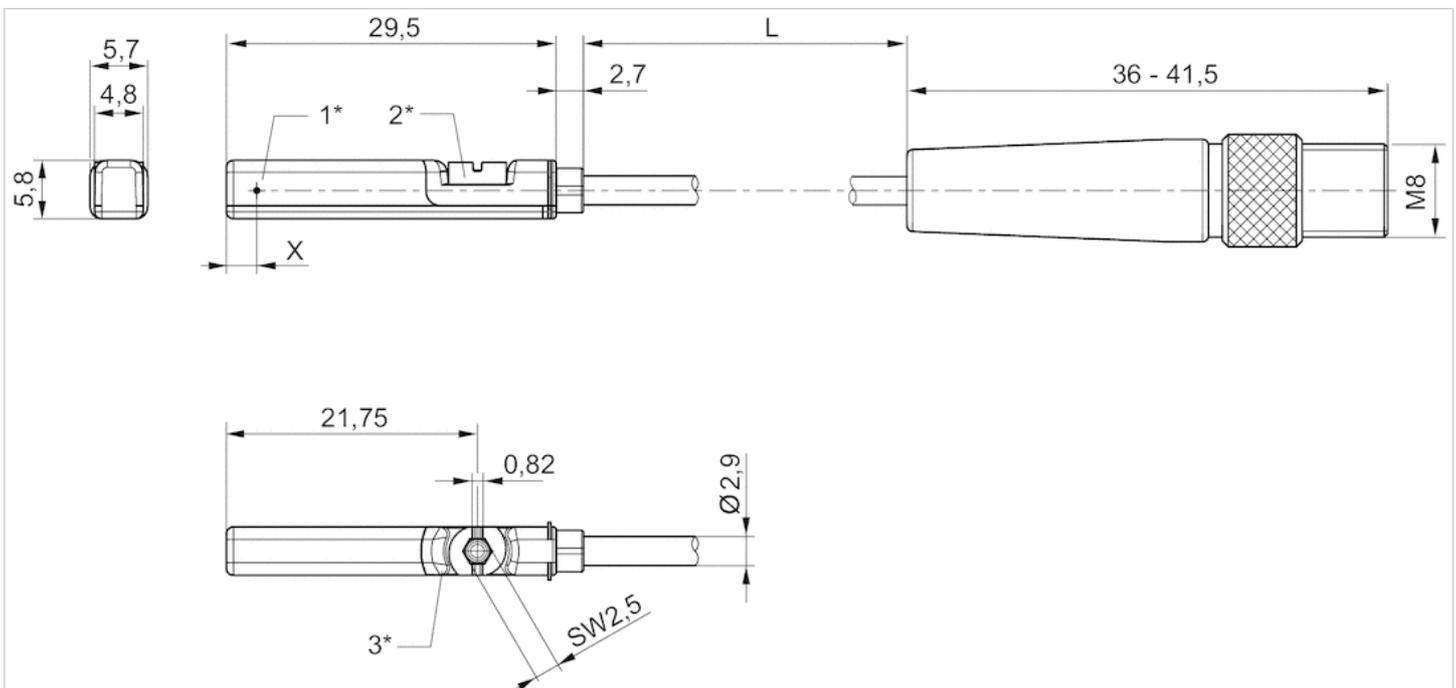
Technical information

Material

Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

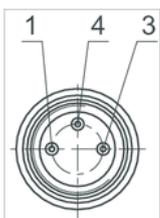
Dimensions



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

Pin assignments

Pin assignments



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

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin, with knurled screw
- UL certification
- Reed electronic PNP electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	CE declaration of conformity cULus RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	10 ... 30 V DC
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
Switching capacity	Reed, 3-pin: max. 6 W
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 0.5 m

Technical data

Part No.		for	Type of contact
R412022873		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022875		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022874		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022859		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022862		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022861		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022852		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN

Part No.	Cable sheath	Cable length L	Min./max. AC operating voltage
R412022873	Polyurethane	0.3 m	10 ... 30 V AC
R412022875	Polyvinyl chloride	0.3 m	10 ... 30 V AC
R412022874	Polyurethane	0.5 m	10 ... 30 V AC
R412022859	Polyurethane	0.3 m	-
R412022862	Polyvinyl chloride	0.3 m	-
R412022861	Polyurethane	0.5 m	-
R412022852	Polyurethane	0.3 m	-

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022873	I*Rs	0.3 A
R412022875	I*Rs	0.3 A
R412022874	I*Rs	0.3 A
R412022859	≤ 2,5 V	0.13 A
R412022862	≤ 2,5 V	0.13 A
R412022861	≤ 2,5 V	0.13 A
R412022852	≤ 2,5 V	0.13 A

Part No.	AC switching current, max.	Max. switching frequency
R412022873	0.5 A	400 Hz
R412022875	0.5 A	400 Hz
R412022874	0.5 A	400 Hz
R412022859	-	1000 Hz
R412022862	-	1000 Hz
R412022861	-	1000 Hz
R412022852	-	1000 Hz

Part No.	Operating current, not switched	Operating current, switched
R412022873	-	-
R412022875	-	-
R412022874	-	-
R412022859	8 mA	30 mA
R412022862	8 mA	30 mA
R412022861	8 mA	30 mA
R412022852	8 mA	30 mA

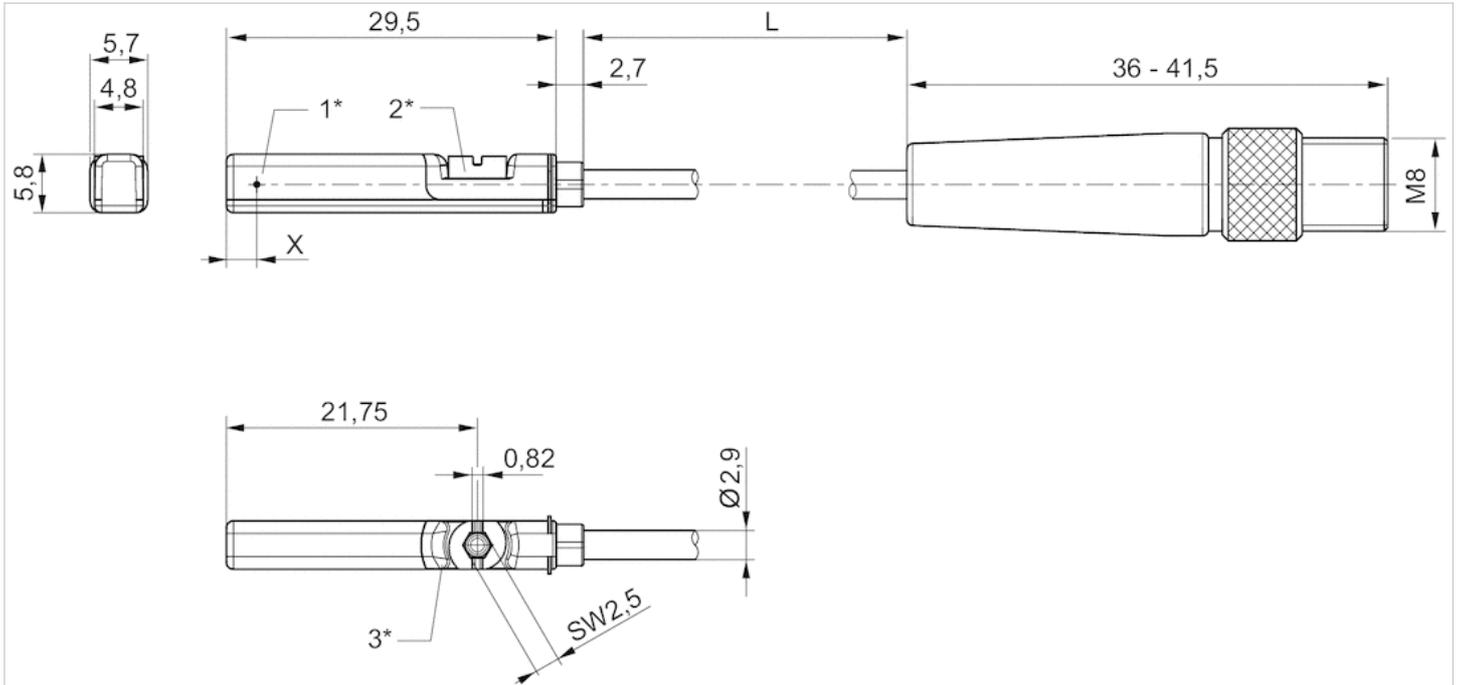
Part No.	Version
R412022873	Protected against polarity reversal
R412022875	Protected against polarity reversal
R412022874	Protected against polarity reversal
R412022859	short circuit resistant Protected against polarity reversal
R412022862	short circuit resistant Protected against polarity reversal
R412022861	short circuit resistant Protected against polarity reversal
R412022852	short circuit resistant Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane Polyvinyl chloride
Locking screw	Stainless steel

Dimensions

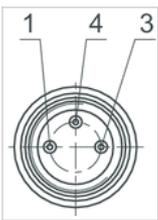
Dimensions



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

Pin assignments

Pin assignments



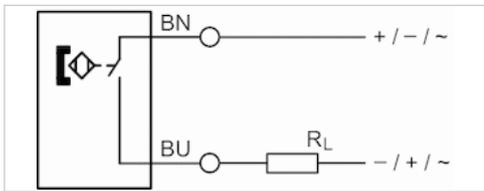
Pin	1	3	4
Allocation	(+)	(-)	(OUT)

Sensor, Series ST6-HT

- 6 mm T-slot
- with cable
- open cable ends, 2-pin
- Heat resistant
- UL certification
- Reed
- Direct mounting for series PRA, PRE, CCI, KPZ
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC



Certificates	CE declaration of conformity RoHS
Ambient temperature min./max.	-20 ... 120 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Min./max. DC operating voltage	0 ... 30 V DC
Min./max. AC operating voltage	0 ... 30 V AC
Switching logic	NO (make contact)
Switching capacity	Reed, 2-pin: max. 10 W
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	3 10 m



Technical data

Part No.	for	Type of contact	Cable length L	Voltage drop U at I _{max}
R412022865	PRA, PRE, CCI, KPZ	Reed	3 m	≤ 3,5 V
R412022867	PRA, PRE, CCI, KPZ	Reed	10 m	≤ 3,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412022865	0.13 A	0.13 A
R412022867	0.13 A	0.13 A

Part No.	Max. switching frequency	Version
R412022865	400 Hz	Protected against polarity reversal
R412022867	400 Hz	Protected against polarity reversal

Part No.	Temperature resistance
R412022865	Heat resistant

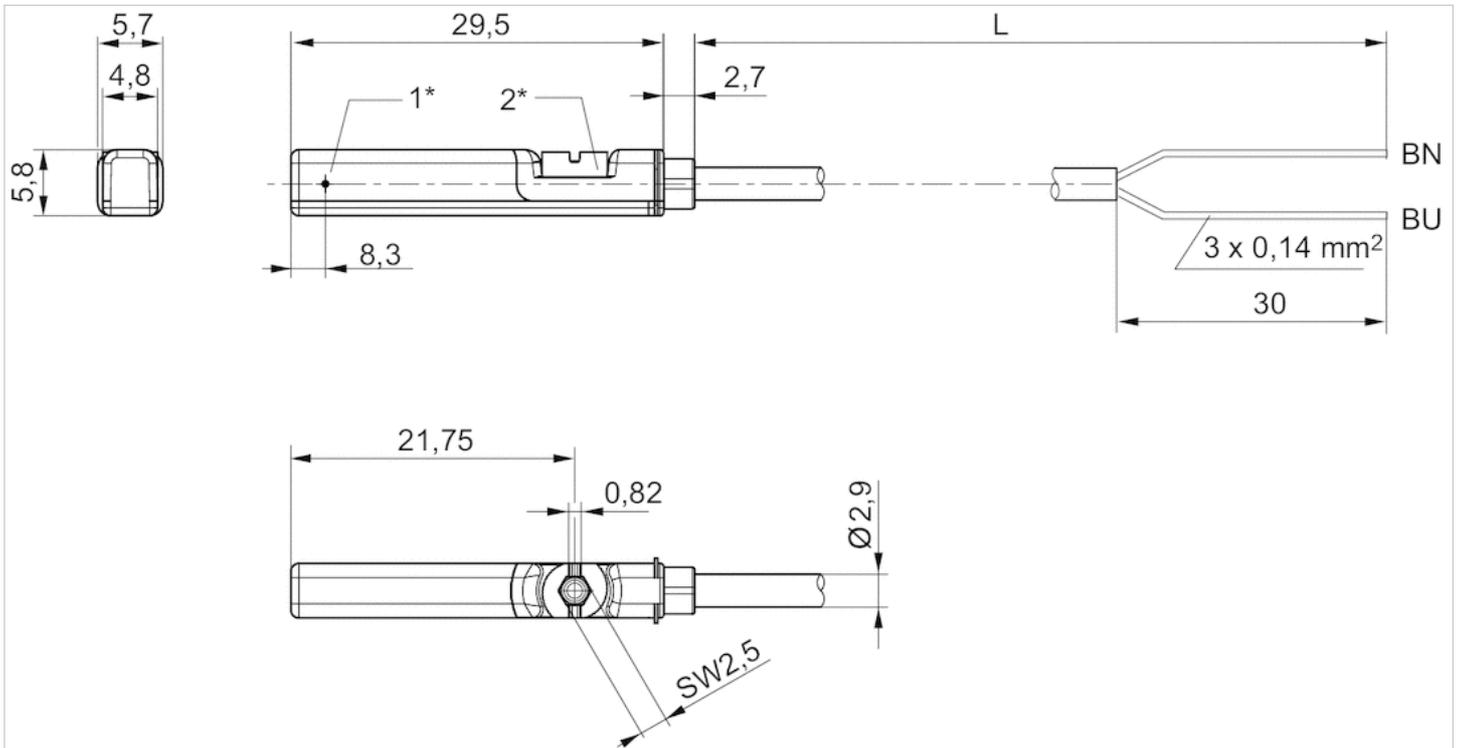
Part No.	Temperature resistance
R412022867	Heat resistant

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



1* = switching point 2* = locking screw

L = cable length

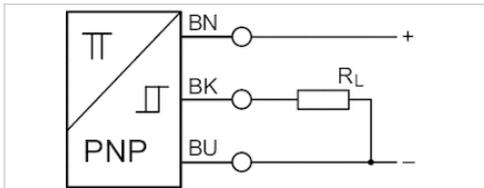
BN=brown, BU=blue

Sensor, Series ST6-LT

- 6 mm T-slot
- with cable
- open cable ends, 3-pin Plug, M8x1, 3-pin, with knurled screw Plug, M12x1, 3-pin, with knurled screw
- -40 °C cold-resistant
- UL certification
- electronic PNP
- Direct mounting for series PRA
- Indirect mounting for series TRB, ITS



Certificates	CE declaration of conformity cULus RoHS
Ambient temperature min./max.	-40 ... 80 °C
Protection class	IP65, IP67, IP68
Switching point precision	±0,1 mT
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	10 ... 30 V DC
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	5 0.3 m



Technical data

Part No.	for	Type of contact	Cable length L	Voltage drop U at I _{max}
R412024011	PRA	electronic PNP	5 m	≤ 2,5 V
R412024669	PRA	electronic PNP	0.3 m	≤ 2,5 V
R412024670	PRA	electronic PNP	0.3 m	≤ 2,5 V

Part No.	DC switching current, max.	Max. switching frequency	Material Housing
R412024011	0.2 A	1000 Hz	Polyurethane
R412024669	0.2 A	1000 Hz	Polyamide
R412024670	0.2 A	1000 Hz	Polyamide

Part No.	Version	Temperature resistance	Fig.	
R412024011	short circuit resistant	-40 °C cold-resistant	Fig. 1	1)
R412024669	short circuit resistant	-40 °C cold-resistant	Fig. 2	2)
R412024670	short circuit resistant	-40 °C cold-resistant	Fig. 3	3)

- 1) open cable ends, 3-pin
- 2) Plug M8x1, 3-pin, with knurled screw
- 3) plug M12, 3-pin, with knurled screw

Technical information

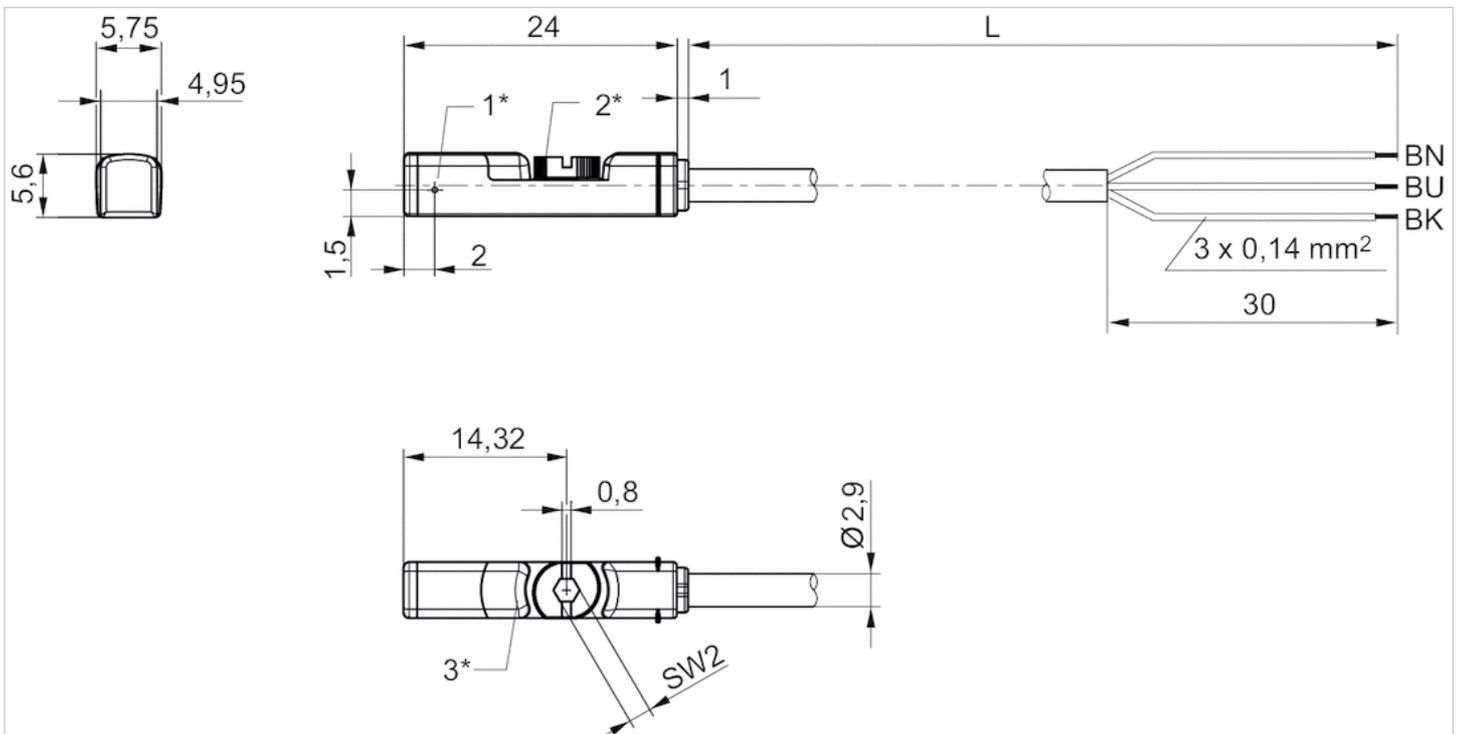
Cables must be firmly installed at temperatures of -40 °C ... -20 °C.

Technical information

Material	
Housing	Polyurethane Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

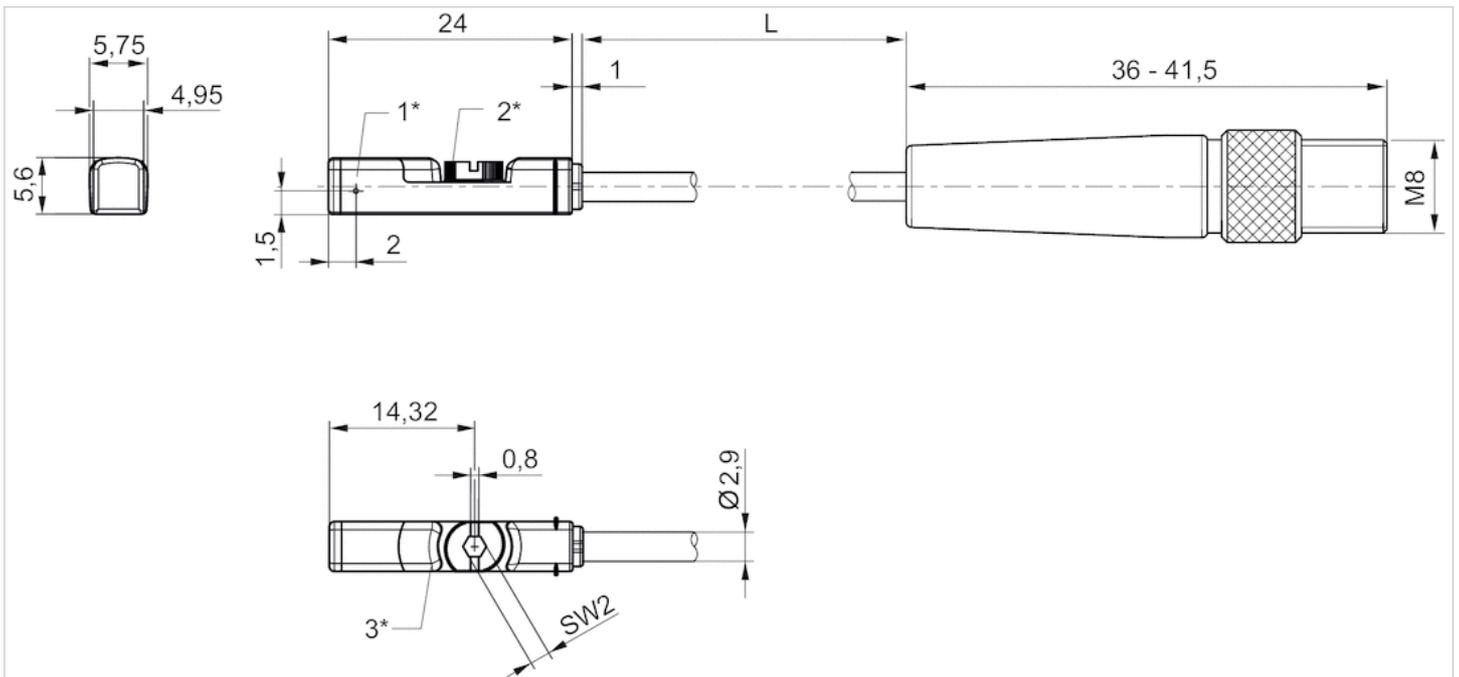
Dimensions

Fig. 1



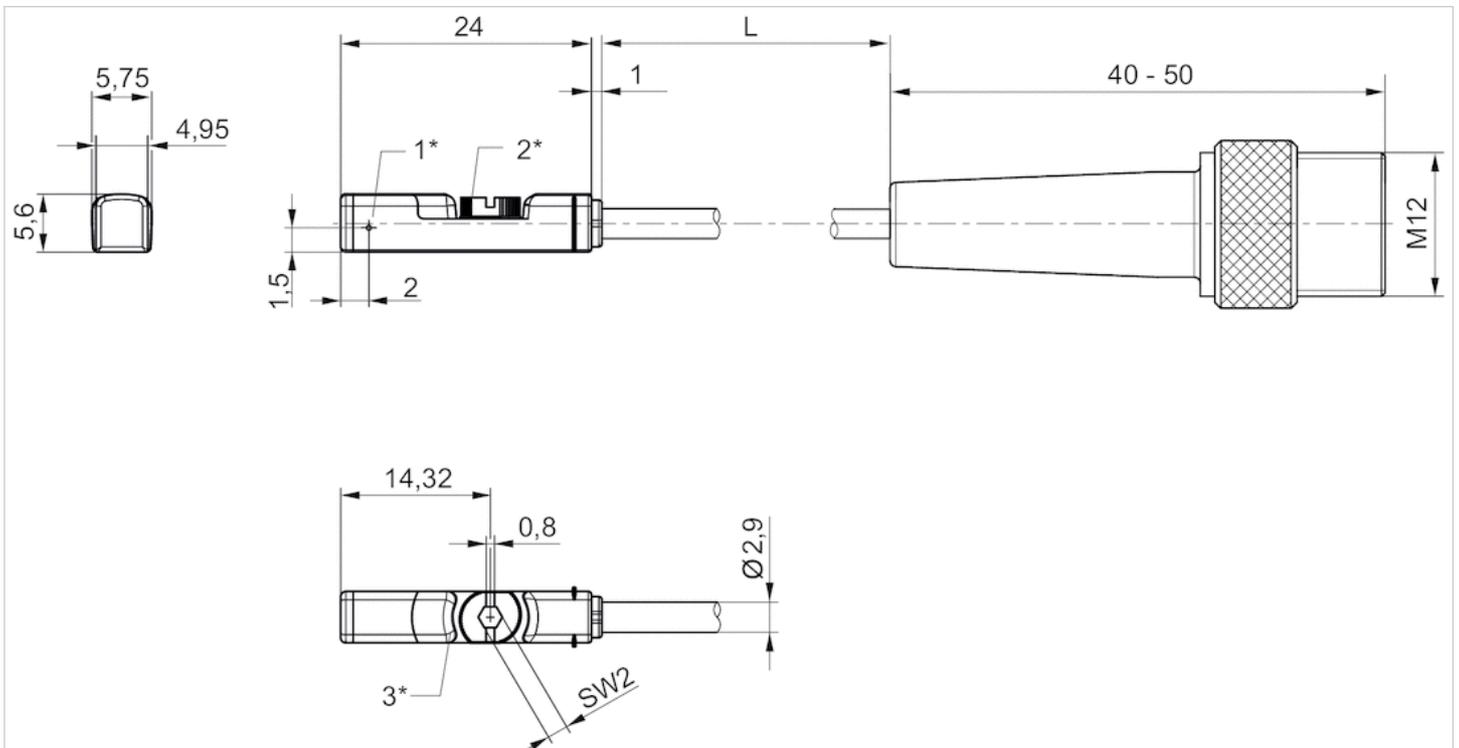
1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length
 BN = brown, BK = black, BU = blue

Fig. 2



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

Fig. 3



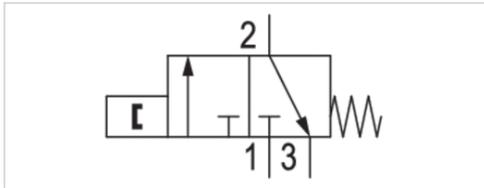
1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length

Pneumatic sensor, Series SP1

- Qn 40 l/min
- Mounting orientation Any



Mounting orientation	Any
Working pressure min./max.	2 ... 6 bar
Ambient temperature min./max.	-15 ... 60 °C
Medium	Compressed air
Max. particle size	40 µm
Switching point precision	±0,2 mT
Switching time on	12 ms
Switching time off	25 ms
Weight	0.015 kg



Technical data

Part No.
0820212201

Technical information

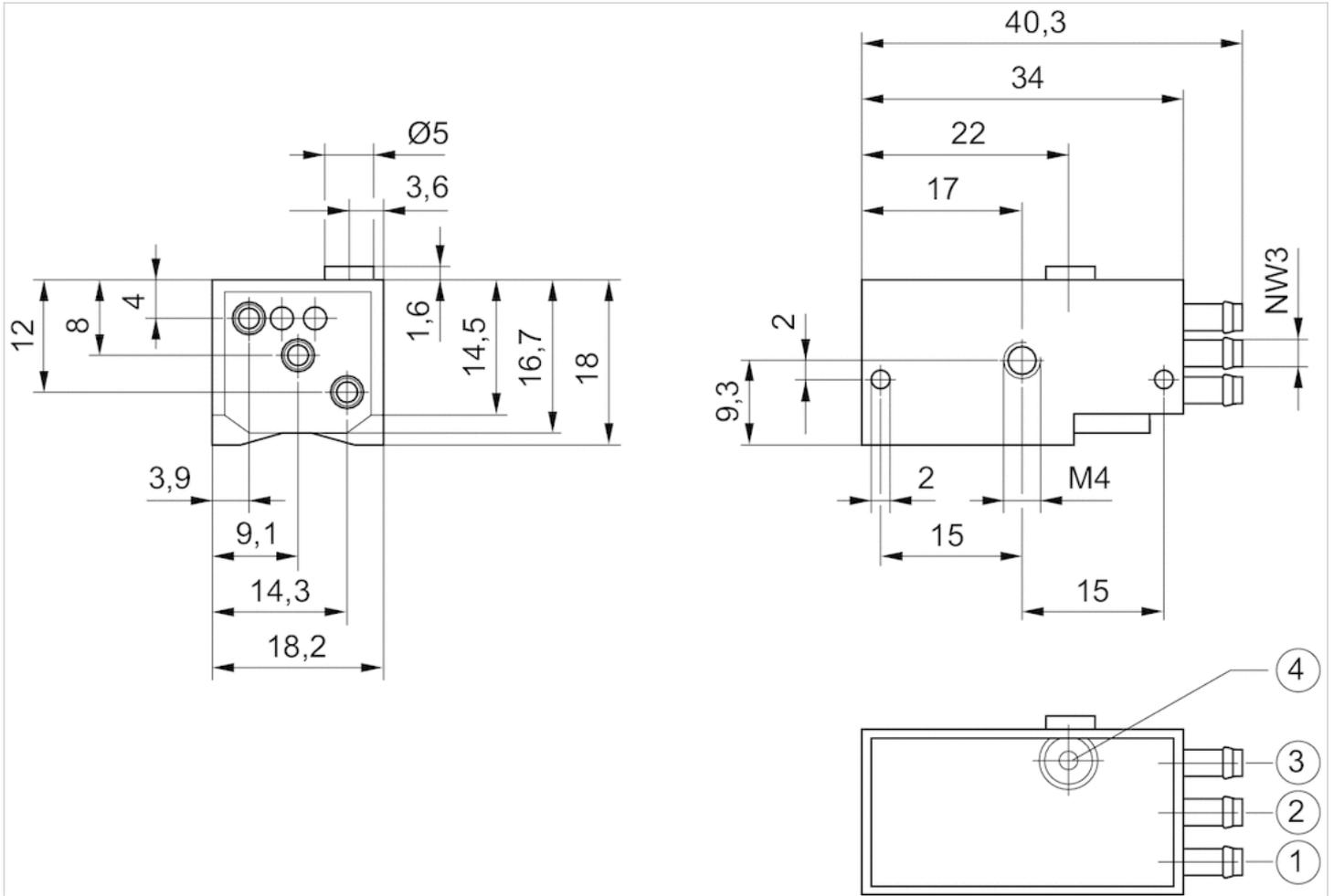
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The oil content of compressed air must remain constant during the life cycle.
 Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Notice: This product may only be operated with oil-free, dry compressed air.

Technical information

Material	
Housing	Polyamide

Dimensions



1) compressed air connection 2) output line 3) exhaust 4) visual indicator

Sensor, Series IN1

- for locking unit, series LU6



Standardization	DIN EN 60947-5-2
Certificates	cULus
Ambient temperature min./max.	-20 ... 65 °C
Protection class	IP67
Hysteresis	5 - 15%, adjustable
Temperature drift	± 10 %
Residual ripple	≤ 10 %
Reproducibility	≤ 2 %
Switching logic	NO (make contact)
LED status display	Yellow

Technical data

Part No.	Operational voltage	Switching distance max.	Power consumption	Continuous current
R412010426	10 ... 30 V DC	2 mm	10 mA	0.2 A

Part No.	Short circuit resistance
R412010426	short circuit resistant Protected against polarity reversal

Technical information

Flush installation

Switching states:

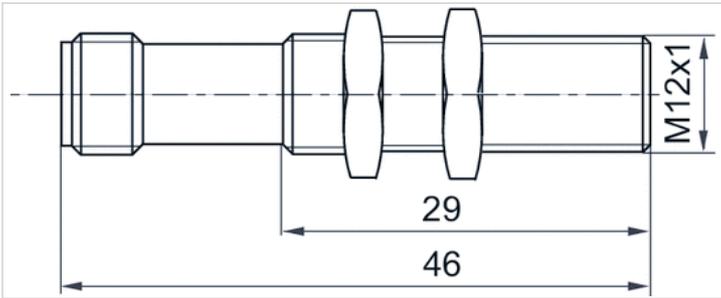
1. Pressure applied to locking unit, clamping pliers are open, sensor does not emit a signal (normally open)
2. No pressure applied to locking unit, clamping pliers are closed, sensor emits a signal (feedback that LU6 is clamping)

Technical information

Material	
Housing	Brass

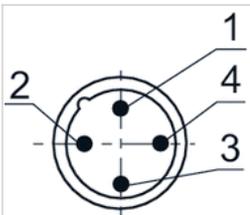
Dimensions

Dimensions



Pin assignments

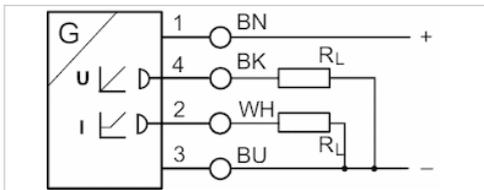
Pin assignments, M12x1



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

Sensors, Series SM6

- 6 mm groove
- with cable
- without wire end ferrule, tin-plated, 4-pin
- with distance measuring sensor, measurement range 32 ... 256 mm
- Analog
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, 167, MNI, ICM, TRR



Certificates	cULus
Ambient temperature min./max.	-20 ... 70 °C
Protection class	IP67
Output signal	0 - 10 V DC, 4 - 20 mA
Quiescent current (without load)	25 mA
Maximum load (analog current output)	500 Ω
Residual ripple	≤ 10 %
sampling interval	1 ms
Resolution max. measuring range	0,05 mm
Repetitive precision max. measuring range	0.1 mm
Linearity deviation	0,3 mm
Sampling speed	3 m/s
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	2 m

Technical data

Part No.	for	Type of contact	Cable length L
R412010141	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010143	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010262	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010264	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010411	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010413	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010415	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010417	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m

Part No.	max. measuring range	Overall length Sensor A
R412010141	32 mm	45 mm
R412010143	64 mm	77 mm
R412010262	96 mm	109 mm
R412010264	128 mm	141 mm
R412010411	160 mm	173 mm
R412010413	192 mm	205 mm

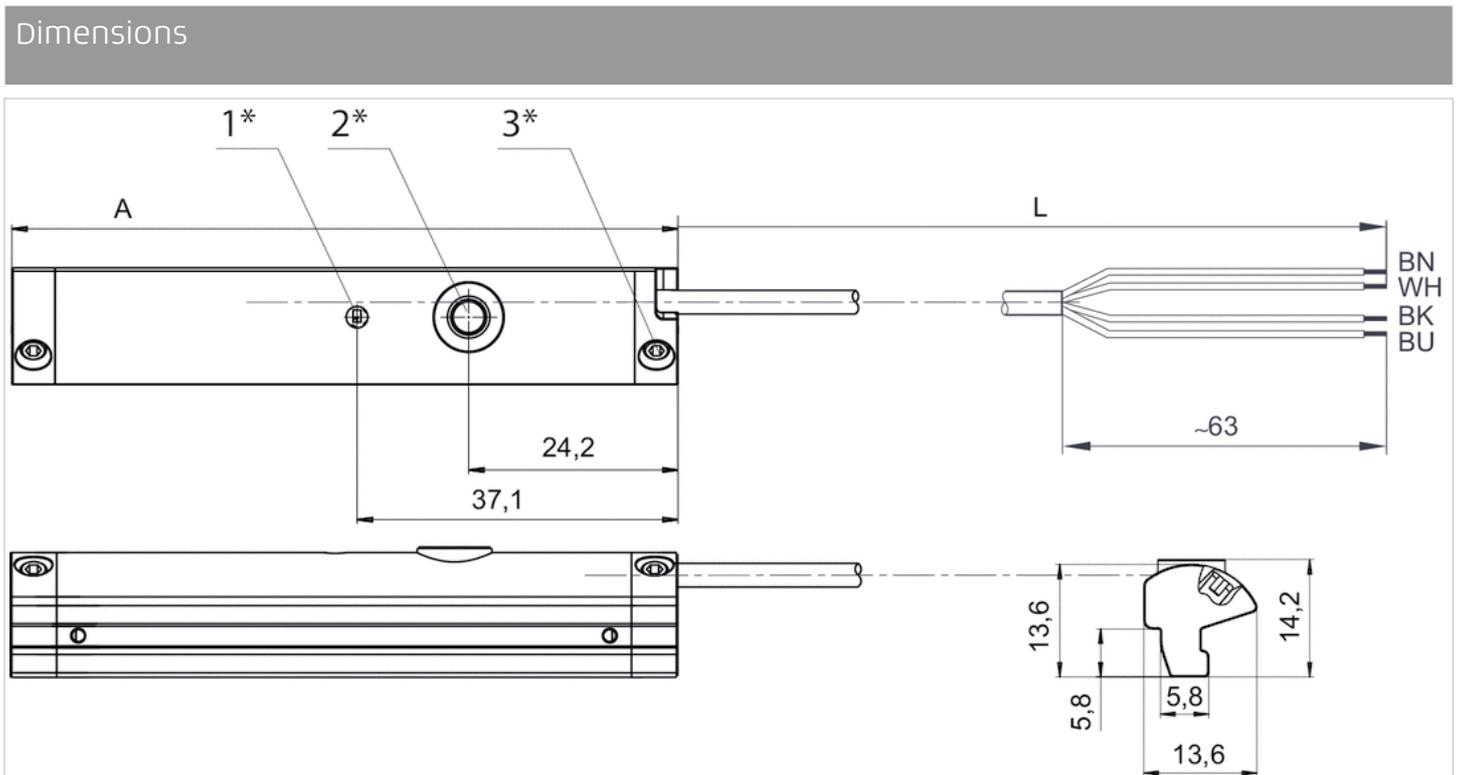
Part No.	max. measuring range	Overall length Sensor A
R412010415	224 mm	237 mm
R412010417	256 mm	269 mm

Part No.	Version
R412010141	short circuit resistant Protected against polarity reversal Overload protection
R412010143	short circuit resistant Protected against polarity reversal Overload protection
R412010262	short circuit resistant Protected against polarity reversal Overload protection
R412010264	short circuit resistant Protected against polarity reversal Overload protection
R412010411	short circuit resistant Protected against polarity reversal Overload protection
R412010413	short circuit resistant Protected against polarity reversal Overload protection
R412010415	short circuit resistant Protected against polarity reversal Overload protection
R412010417	short circuit resistant Protected against polarity reversal Overload protection

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Cable sheath	Polyurethane

Dimensions



1* = LED 2* = teach button 3* = threaded pin M3x11

L = cable length

(1) BN=brown

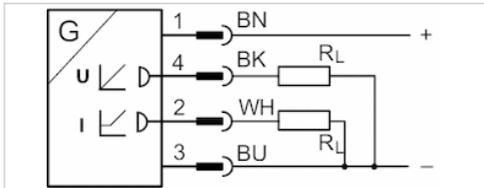
(2) WH=white

(3) BU=blue

(4) BK=black
A = sensor length

Sensors, Series SM6

- 6 mm groove
- with cable
- Plug, M8x1, 4-pin, with knurled screw
- with distance measuring sensor, measurement range 32 ... 256 mm
- Analog
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, 167, MNI, ICM, TRR



Certificates	cULus
Ambient temperature min./max.	-20 ... 70 °C
Protection class	IP67
Output signal	0 - 10 V DC, 4 - 20 mA
Quiescent current (without load)	25 mA
Min./max. DC operating voltage	15 ... 30 V DC
sampling interval	1 ms
Resolution max. measuring range	0,05 mm
Repetitive precision max. measuring range	0.1 mm
Linearity deviation	0,3 mm
Sampling speed	3 m/s
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 m

Technical data

Part No.	for	Type of contact	Cable length L
R412010142	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010144	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010263	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010265	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010410	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010412	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010414	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010416	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m

Part No.	max. measuring range	Overall length Sensor A
R412010142	32 mm	45 mm
R412010144	64 mm	77 mm
R412010263	96 mm	109 mm
R412010265	128 mm	141 mm
R412010410	160 mm	173 mm
R412010412	192 mm	205 mm

Part No.	max. measuring range	Overall length Sensor A
R412010414	224 mm	237 mm
R412010416	256 mm	269 mm

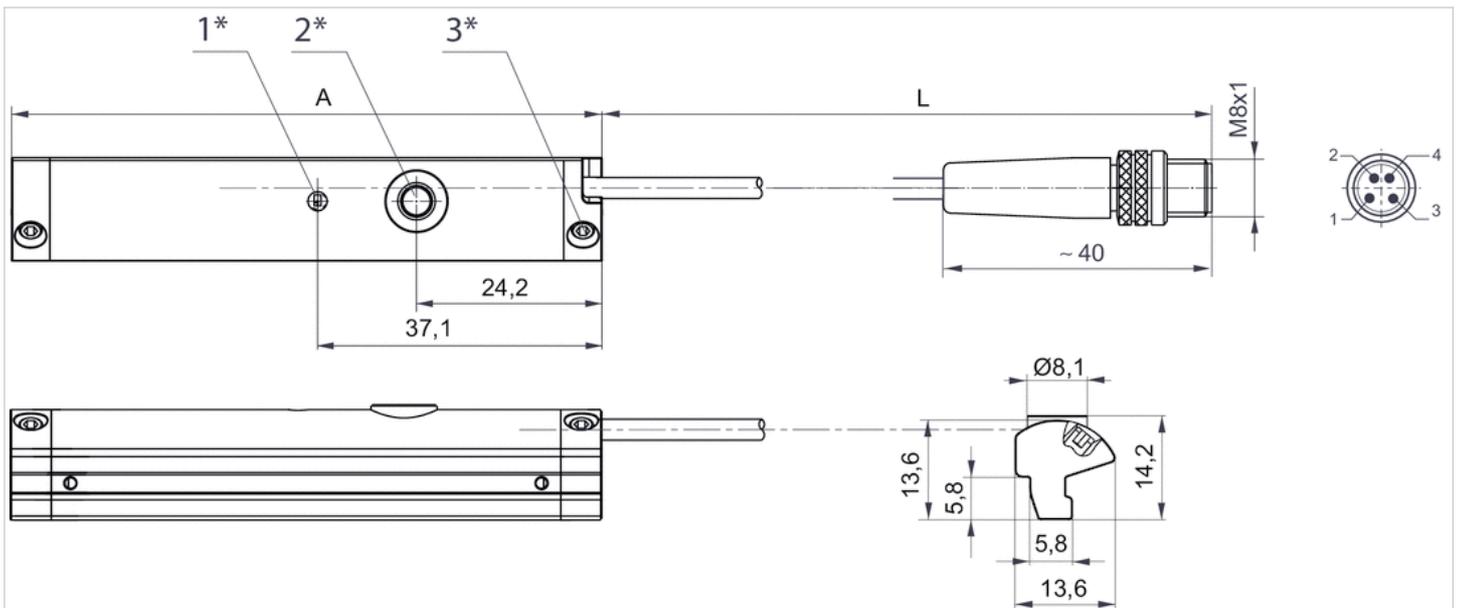
Part No.	Version
R412010142	short circuit resistant Protected against polarity reversal Overload protection
R412010144	short circuit resistant Protected against polarity reversal Overload protection
R412010263	short circuit resistant Protected against polarity reversal Overload protection
R412010265	short circuit resistant Protected against polarity reversal Overload protection
R412010410	short circuit resistant Protected against polarity reversal Overload protection
R412010412	short circuit resistant Protected against polarity reversal Overload protection
R412010414	short circuit resistant Protected against polarity reversal Overload protection
R412010416	short circuit resistant Protected against polarity reversal Overload protection

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Cable sheath	Polyurethane

Dimensions

Dimensions



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

Sensor, Series SN2

- with cable
- without wire end ferrule, tin-plated, 2-pin without wire end ferrule, tin-plated, 3-pin
- Heat resistant
- Reed electronic PNP
- Indirect mounting for series TRB, PRA, ITS, MNI, CSL-RD, ICM, RPC, TRR, FLT, CVI



Ambient temperature min./max.	See table below
Protection class	IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	15 mA
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	See table below
Min./max. AC operating voltage	See table below
LED status display	See table below
Cable length L	3 5 7 10 11 20 m

Technical data

Part No.		Type of contact	Cable sheath	Cable length L
0830100315		Reed	Polyvinyl chloride	3 m
0830100365		Reed	Polyvinyl chloride	3 m
0830100368		Reed	Polyvinyl chloride	3 m
0830100370		Reed	Polyurethane	3 m
0830100316		Reed	-	3 m
0830100373		Reed	-	3 m
0830100367		Reed	Polyurethane	3 m
0830100317		Reed	Thermoplastic elastomer	3 m
0830100366		Reed	Polyvinyl chloride	5 m
0830100369		Reed	Polyvinyl chloride	5 m
0830100327		Reed	Polyvinyl chloride	7 m
0830100325		Reed	Polyvinyl chloride	10 m
0830100326		Reed	Thermoplastic elastomer	11 m
R412004848		Reed	Polyvinyl chloride	20 m
0830100371		Reed	Polyvinyl chloride	3 m
0830100372		Reed	Polyvinyl chloride	5 m
0830100375		electronic PNP	Polyvinyl chloride	3 m
0830100378		electronic PNP	Thermoplastic elastomer	3 m
0830100377		electronic PNP	Polyurethane	3 m
0830100376		electronic PNP	Polyvinyl chloride	5 m

Part No.	Min./max. DC operating voltage	Min./max. AC operating voltage
0830100315	0 ... 60 V DC	0 ... 240 V AC
0830100365	12 ... 60 V DC	12 ... 240 V AC
0830100368	12 ... 60 V DC	12 ... 240 V AC
0830100370	12 ... 60 V DC	12 ... 240 V AC
0830100316	0 ... 60 V DC	0 ... 240 V AC
0830100373	0 ... 60 V DC	0 ... 240 V AC
0830100367	12 ... 60 V DC	12 ... 240 V AC
0830100317	12 ... 60 V DC	12 ... 240 V AC
0830100366	12 ... 60 V DC	12 ... 240 V AC
0830100369	12 ... 60 V DC	12 ... 240 V AC
0830100327	12 ... 60 V DC	12 ... 240 V AC
0830100325	12 ... 60 V DC	12 ... 240 V AC
0830100326	12 ... 60 V DC	12 ... 240 V AC
R412004848	12 ... 60 V DC	12 ... 240 V AC
0830100371	12 ... 42 V DC	12 ... 42 V AC
0830100372	12 ... 42 V DC	12 ... 42 V AC
0830100375	10 ... 30 V DC	10 ... 30 V AC
0830100378	10 ... 30 V DC	-
0830100377	10 ... 30 V DC	10 ... 30 V AC
0830100376	10 ... 30 V DC	10 ... 30 V AC

Part No.	Voltage drop U at I _{max}	DC switching current, max.
0830100315	$R_s \cdot I_{max}$.	0.13 A
0830100365	2,1 V + I*Rs	0.13 A
0830100368	2,1 V + I*Rs	0.3 A
0830100370	2,1 V + I*Rs	0.3 A
0830100316	$R_s \cdot I_{max}$.	0.13 A
0830100373	$R_s \cdot I_{max}$.	0.13 A
0830100367	2,1 V + I*Rs	0.13 A
0830100317	2,1 V + I*Rs	0.12 A
0830100366	2,1 V + I*Rs	0.13 A
0830100369	2,1 V + I*Rs	0.3 A
0830100327	2,1 V + I*Rs	0.3 A
0830100325	2,1 V + I*Rs	0.13 A
0830100326	2,1 V + I*Rs	0.12 A
R412004848	2,1 V + I*Rs	0.13 A
0830100371	I*Rs	0.13 A
0830100372	I*Rs	0.13 A
0830100375	≤ 2,0 V	0.13 A
0830100378	2,1 V + I*Rs	0.12 A
0830100377	≤ 2,0 V	0.13 A
0830100376	≤ 2,0 V	0.13 A

Part No.	AC switching current, max.	Ambient temperature min./max.	Switching capacity
0830100315	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100365	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100368	0.5 A	-20 ... 80 °C	10 W / 10 VA
0830100370	0.5 A	-20 ... 80 °C	10 W / 10 VA
0830100316	-	-20 ... 80 °C	10 W / 10 VA
0830100373	-	-20 ... 80 °C	10 W / 10 VA
0830100367	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100317	0.12 A	-20 ... 120 °C	10 W / 10 VA
0830100366	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100369	0.5 A	-20 ... 80 °C	10 W / 10 VA
0830100327	0.5 A	-20 ... 80 °C	10 W / 10 VA
0830100325	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100326	0.12 A	-20 ... 120 °C	10 W / 10 VA
R412004848	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100371	0.13 A	-20 ... 80 °C	5,5 W / 5,5 VA
0830100372	0.13 A	-20 ... 80 °C	5,5 W / 5,5 VA
0830100375	-	-10 ... 70 °C	-
0830100378	-	-20 ... 120 °C	10 W / 10 VA
0830100377	-	-10 ... 70 °C	-
0830100376	-	-10 ... 70 °C	-

Part No.	Protective resistor for reed	Vibration resistance	Shock resistance
0830100315	27 Ω	-	-

Part No.	Protective resistor for reed	Vibration resistance	Shock resistance
0830100365	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100368	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100370	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100316	1,3 Ω	-	-
0830100373	100 Ω	-	-
0830100367	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100317	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100366	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100369	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100327	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100325	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100326	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
R412004848	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100371	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100372	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100375	-	-	-
0830100378	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100377	-	-	-
0830100376	-	-	-

Part No.	Max. switching frequency	Operating current, not switched
0830100315	300 Hz	-
0830100365	-	-
0830100368	-	-
0830100370	-	-
0830100316	300 Hz	-
0830100373	300 Hz	-
0830100367	-	-
0830100317	-	-
0830100366	-	-
0830100369	-	-
0830100327	-	-
0830100325	-	-
0830100326	-	-
R412004848	-	-
0830100371	-	-
0830100372	-	-
0830100375	2000 Hz	10 mA
0830100378	-	-
0830100377	2000 Hz	10 mA
0830100376	2000 Hz	10 mA

Part No.	Operating current, switched	Material Housing	LED status display
0830100315	-	Polyamide	-
0830100365	-	Polyamide	Yellow

Part No.	Operating current, switched	Material Housing	LED status display
0830100368	-	Polyamide	Yellow
0830100370	-	Polyamide	Yellow
0830100316	-	Polyamide	-
0830100373	-	Polyamide	-
0830100367	-	Polyamide	Yellow
0830100317	-	Polyamide	-
0830100366	-	Polyamide	Yellow
0830100369	-	Polyamide	Yellow
0830100327	-	Polyamide	Yellow
0830100325	-	Polyamide	Yellow
0830100326	-	Polyamide	-
R412004848	-	epoxy resin	Yellow
0830100371	-	Polyamide	Yellow
0830100372	-	Polyamide	Yellow
0830100375	15 mA	Polyamide	Yellow
0830100378	-	Polyamide	-
0830100377	15 mA	Polyamide	Yellow
0830100376	15 mA	Polyamide	Yellow

Part No.	Version	
0830100315	Protected against polarity reversal	1)
0830100365	Protected against polarity reversal	1)
0830100368	Protected against polarity reversal	1)
0830100370	Protected against polarity reversal	1)
0830100316	Protected against polarity reversal	1)
0830100373	Protected against polarity reversal	1)
0830100367	Protected against polarity reversal	1)
0830100317	Protected against polarity reversal	1)
0830100366	Protected against polarity reversal	1)
0830100369	Protected against polarity reversal	1)
0830100327	Protected against polarity reversal	1)
0830100325	Protected against polarity reversal	1)
0830100326	Protected against polarity reversal	1)
R412004848	Protected against polarity reversal	1)
0830100371	Protected against polarity reversal	1)
0830100372	Protected against polarity reversal	1)
0830100375	short circuit resistant Protected against polarity reversal	2)
0830100378	Protected against polarity reversal	2)
0830100377	short circuit resistant Protected against polarity reversal	2)
0830100376	short circuit resistant Protected against polarity reversal	2)

1) without wire end ferrule, tin-plated, 2-pin

2) without wire end ferrule, tin-plated, 3-pin

Technical information

If reed sensors are used, we recommend using a short-circuit protective device (SCPD).

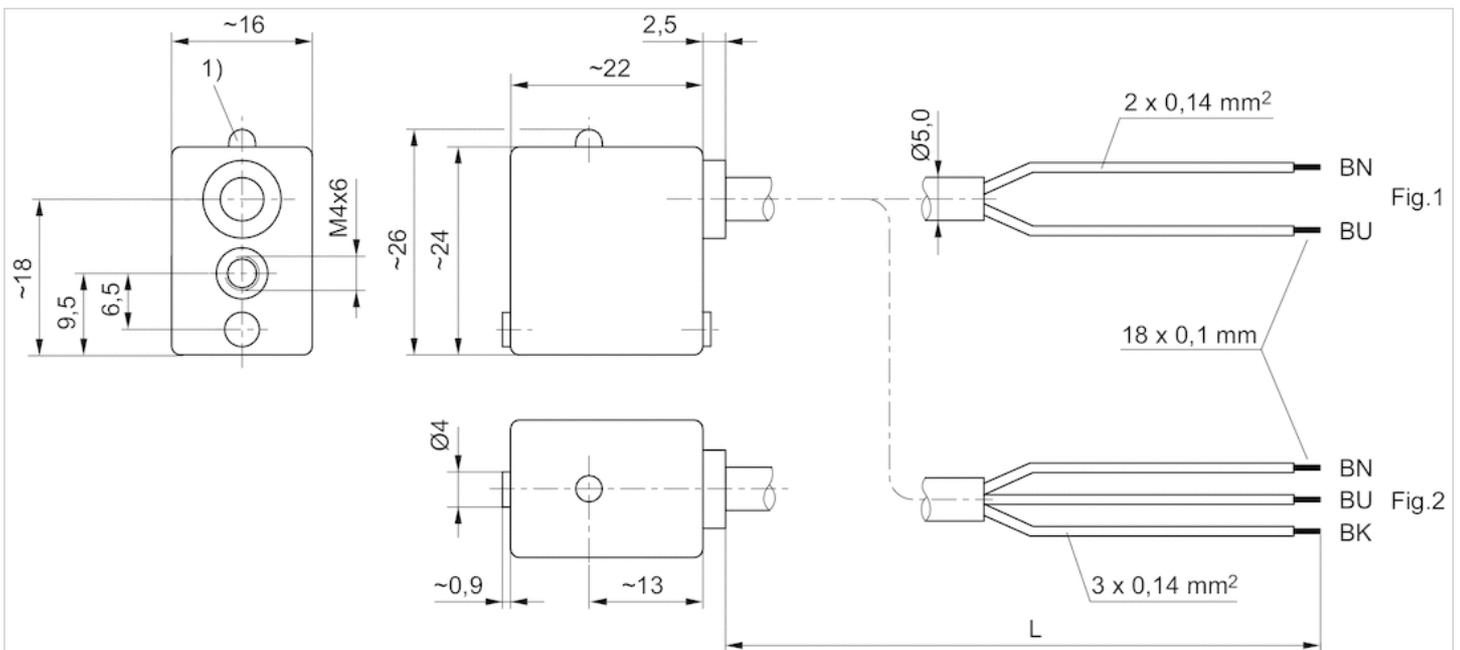
Technical information

Material

Housing	Polyamide epoxy resin
Cable sheath	Polyvinyl chloride Polyurethane Thermoplastic elastomer

Dimensions

Dimensions



1) LED

L = cable length

BN = brown, BK = black, BU = blue

Sensor, Series SN2

- Plug, M8, 2-pin Plug, M8, 3-pin Plug, M8, 4-pin
- Reed 2-Wire Reed 3-Wire Reed 3-Wire, with pulse stretching Reed 4-Wire electronic PNP
- With stretched impulse
- With stretched impulse
- Reed electronic PNP
- Indirect mounting for series TRB, PRA, ITS, MNI, CSL-RD, ICM, RPC, TRR, FLT, CVI



Ambient temperature min./max.	See table below
Protection class	IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	15 mA
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	See table below
Min./max. AC operating voltage	See table below
LED status display	See table below

Technical data

Part No.		Type of contact	Min./max. DC operating voltage
0830100465		Reed	12 ... 36 V DC
0830100468		Reed	12 ... 36 V DC
R412004299		Reed	12 ... 36 V DC
0830100466		Reed	12 ... 36 V DC
0830100469		Reed	12 ... 36 V DC
R412004820		Reed	12 ... 36 V DC
0830100472		Reed	12 ... 36 V DC
0830100467		Reed	12 ... 36 V DC
0830100480		electronic PNP	10 ... 30 V DC
R412004800		electronic PNP	10 ... 30 V DC

Part No.	Min./max. AC operating voltage	Voltage drop U at I _{max}
0830100465	12 ... 30 V AC	2,1 V + I*Rs
0830100468	12 ... 30 V AC	2,1 V + I*Rs
R412004299	12 ... 30 V AC	2,1 V + I*Rs
0830100466	12 ... 30 V AC	2,1 V + I*Rs
0830100469	12 ... 30 V AC	≤ 0,5 V
R412004820	12 ... 30 V AC	I*Rs
0830100472	12 ... 30 V AC	≤ 1,5 V
0830100467	12 ... 30 V AC	≤ 3,5 V
0830100480	12 ... 30 V AC	≤ 2,0 V
R412004800	-	≤ 2,0 V

Part No.	DC switching current, max.	AC switching current, max.
0830100465	0.13 A	0.13 A
0830100468	0.3 A	0.5 A
R412004299	0.13 A	0.13 A
0830100466	0.13 A	0.13 A
0830100469	0.13 A	0.13 A
R412004820	0.13 A	0.13 A
0830100472	0.2 A	0.13 A
0830100467	0.13 A	0.13 A
0830100480	0.13 A	-
R412004800	0.13 A	-

Part No.	Function	Ambient temperature min./max.
0830100465	Reed 2-Wire	-20 ... 80 °C
0830100468	Reed 2-Wire	-20 ... 80 °C
R412004299	Reed 3-Wire	-20 ... 80 °C
0830100466	Reed 3-Wire	-20 ... 80 °C
0830100469	Reed 3-Wire	-20 ... 80 °C

Part No.	Function	Ambient temperature min./max.
R412004820	Reed 3-Wire	-20 ... 80 °C
0830100472	Reed 3-Wire, with pulse stretching	-20 ... 70 °C
0830100467	Reed 4-Wire	-20 ... 80 °C
0830100480	electronic PNP	-10 ... 70 °C
R412004800	electronic PNP	-10 ... 70 °C

Part No.	Switching capacity	Protective resistor for reed	Vibration resistance
0830100465	10 W / 10 VA	27 Ω	30 g (50 - 2000 Hz)
0830100468	10 W / 10 VA	1,3 Ω	30 g (50 - 2000 Hz)
R412004299	10 W / 10 VA	27 Ω	30 g (50 - 2000 Hz)
0830100466	10 W / 10 VA	100 Ω	30 g (50 - 2000 Hz)
0830100469	5,5 W / 5,5 VA	27 Ω	30 g (50 - 1000 Hz)
R412004820	10 W / 10 VA	27 Ω	30 g (50 - 2000 Hz)
0830100472	5 W / 5 VA	-	35 g (50 - 2000 Hz)
0830100467	10 W / 10 VA	27 Ω	35 g (50 - 2000 Hz)
0830100480	-	-	-
R412004800	-	-	-

Part No.	Shock resistance	Max. switching frequency	Operating current, not switched
0830100465	100 g / 11 ms	-	-
0830100468	100 g / 11 ms	-	-
R412004299	100 g / 11 ms	-	-
0830100466	100 g / 11 ms	-	-
0830100469	100 g / 11 ms	-	-
R412004820	100 g / 11 ms	-	-
0830100472	50 g / 11 ms	-	-
0830100467	50 g / 11 ms	-	-
0830100480	-	2000 Hz	10 mA
R412004800	-	2000 Hz	10 mA

Part No.	Operating current, switched	Material Housing	LED status display
0830100465	-	Polyamide	Yellow
0830100468	-	Polyamide	Yellow
R412004299	-	Polyamide	Yellow
0830100466	-	Polyamide	Yellow
0830100469	-	Polyamide	Yellow
R412004820	-	epoxy resin	Yellow
0830100472	-	-	Red
0830100467	-	epoxy resin	Red
0830100480	15 mA	Polyamide	Yellow
R412004800	15 mA	epoxy resin	Yellow

Part No.	Version
0830100465	Protected against polarity reversal
0830100468	Protected against polarity reversal
R412004299	Protected against polarity reversal
0830100466	Protected against polarity reversal
0830100469	Protected against polarity reversal
R412004820	Protected against polarity reversal
0830100472	Protected against polarity reversal
0830100467	Protected against polarity reversal
0830100480	short circuit resistant Protected against polarity reversal
R412004800	short circuit resistant Protected against polarity reversal

Part No.	Switch signal	Fig.	
0830100465	-	Fig. 1	1)
0830100468	-	Fig. 1	1)
R412004299	-	Fig. 1	2)
0830100466	-	Fig. 1	1)
0830100469	-	Fig. 1	2)
R412004820	-	Fig. 1	2)
0830100472	With stretched impulse	Fig. 1	2)
0830100467	-	Fig. 2	3)
0830100480	-	Fig. 1	2)
R412004800	-	Fig. 1	2)

- 1) Plug M8, 2-pin
- 2) Plug M8, 3-pin
- 3) Plug M8, 4-pin

Technical information

If reed sensors are used, we recommend using a short-circuit protective device (SCPD).

Technical information

Material	
Housing	Polyamide epoxy resin

Dimensions

Fig. 1

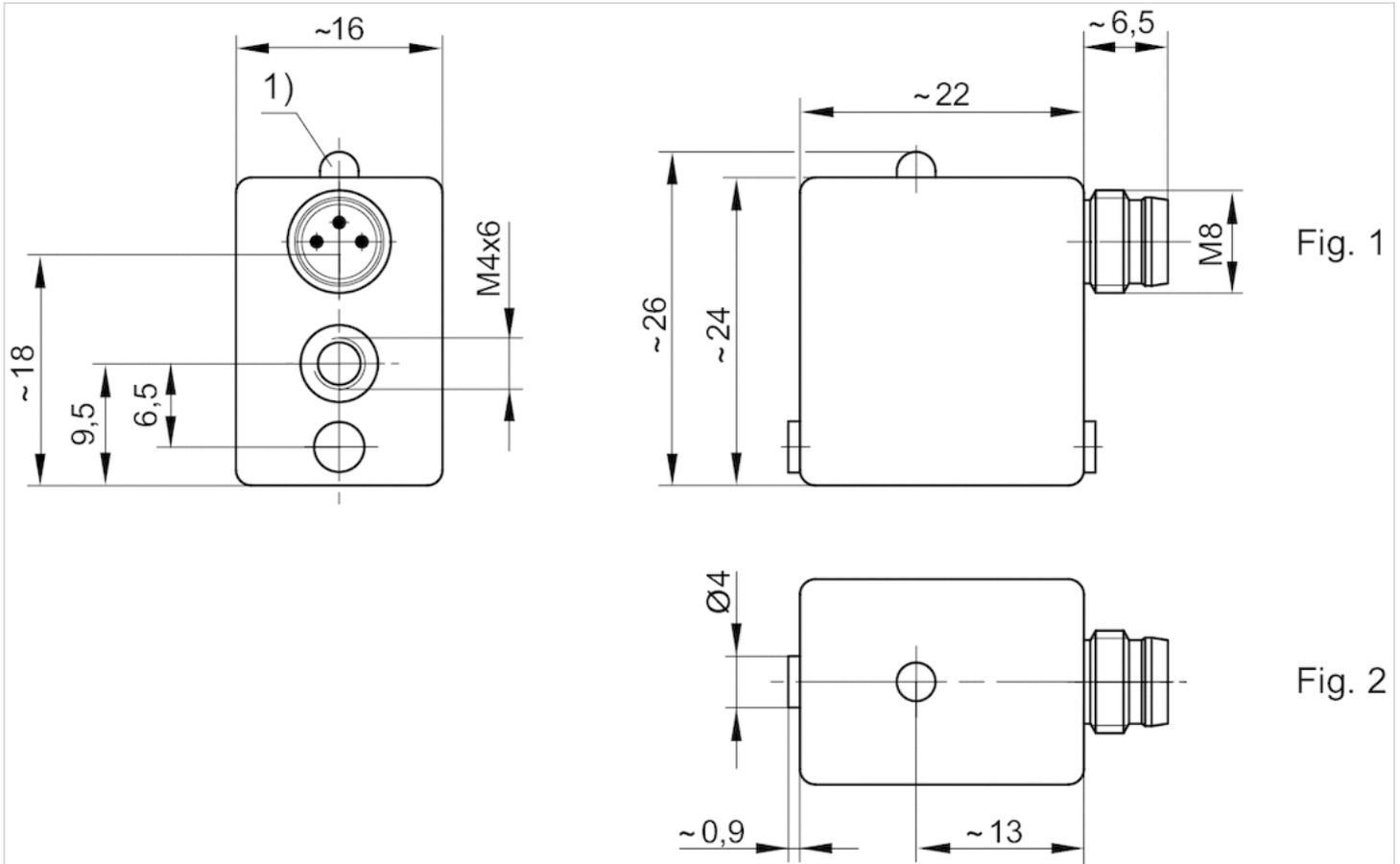


Fig. 1

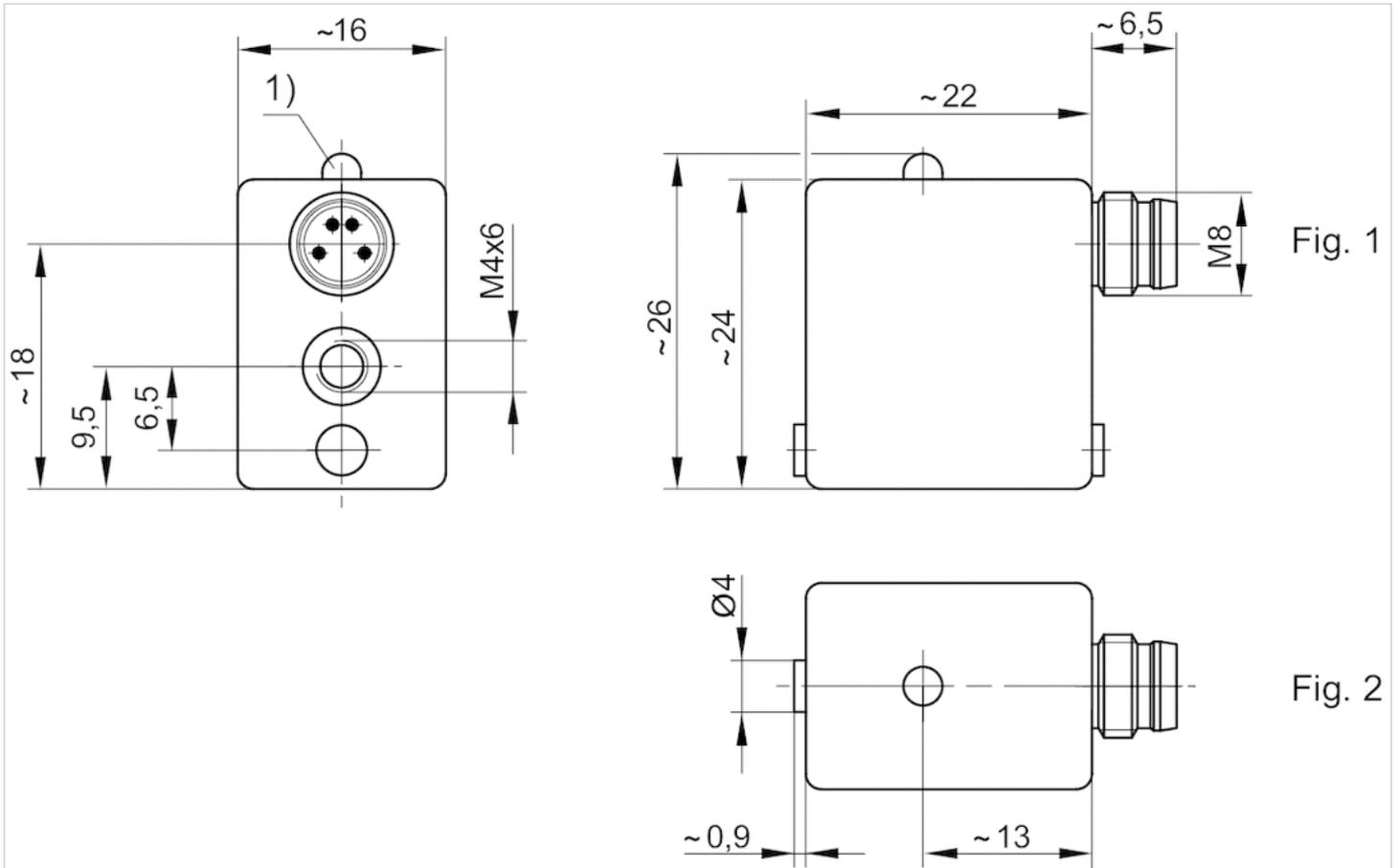
Fig. 2

1) LED

M8: combination plug can be combined with valve plug connectors Ø6.5 mm and M8.

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

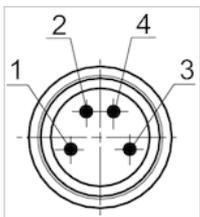
Fig. 2



1) LED

M8: combination plug can be combined with valve plug connectors Ø6.5 mm and M8.

Pin assignments

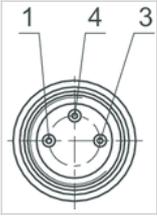


Pin	1	3	4
Allocation	(+)	(-)	(OUT)

EN 60947-5-2:1998

Pin assignments

Pin assignments



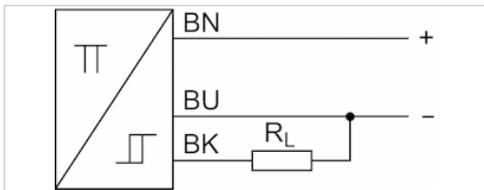
Pin	1	3	4
Allocation	(+)	(-)	(OUT)

Sensor, Series SN5-X

- 3-pin
- welding-proof
- With stretched impulse
- Sensor responds to ferromagnetic material., welding-proof, With stretched impulse
- electronic PNP
- Indirect mounting for series TRB, ITS



Ambient temperature min./max.	-10 ... 70 °C
Protection class	IP65
Nominal current, actuated state	25 mA
Quiescent current (without load)	14 mA
LED status display	See table below
Weight	0.05 kg



Technical data

Part No.	Type of contact	Voltage drop U at I _{max}	LED status display
0830100500	electronic PNP	≤ 2,0 V	Red
0830100502	electronic PNP	≤ 2,0 V	Red Green

Part No.	Version	Switch signal	welding-proof
0830100500	Protected against polarity reversal	With stretched impulse	welding-proof
0830100502	Protected against polarity reversal	With stretched impulse	welding-proof

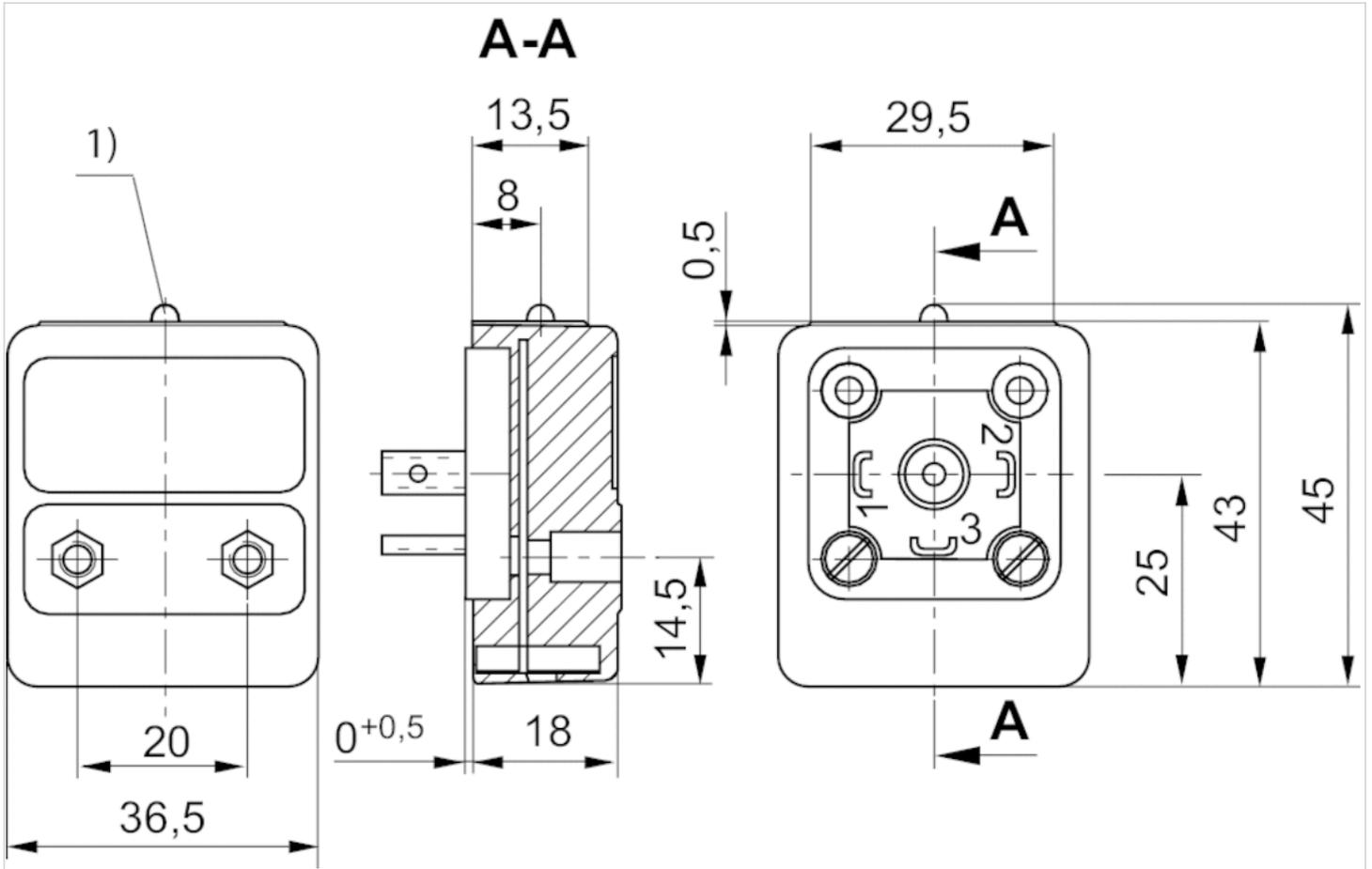
Technical information

Sensor responds to ferromagnetic material.

Technical information

Material	
Housing	epoxy resin

Dimensions



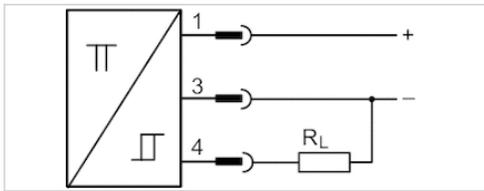
1) LED

Sensor, Series SN5-X

- Socket, M12, 3-pin
- With stretched impulse Time delay
- Sensor responds to ferromagnetic material., Time delay, With stretched impulse
- electronic PNP
- Indirect mounting for series TRB, ITS



Ambient temperature min./max.	-10 ... 70 °C
Protection class	IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	25 mA
Quiescent current (without load)	14 mA
Min./max. DC operating voltage	15 ... 30 V DC
Display	LED
LED status display	See table below



Technical data

Part No.	Type of contact	Voltage drop U at I _{max}	DC switching current, max.
0830100525	electronic PNP	≤ 2,0 V	0.2 A
0830100534	electronic PNP	≤ 2,0 V	0.2 A

Part No.	LED status display	Version
0830100525	Yellow	Protected against polarity reversal
0830100534	Yellow Green	short circuit resistant Protected against polarity reversal

Part No.	Switch signal	
0830100525	With stretched impulse	-
0830100534	Time delay	1)

1) Delivery incl. protective cap 1823317014

Technical information

Sensor responds to ferromagnetic material.

Technical information

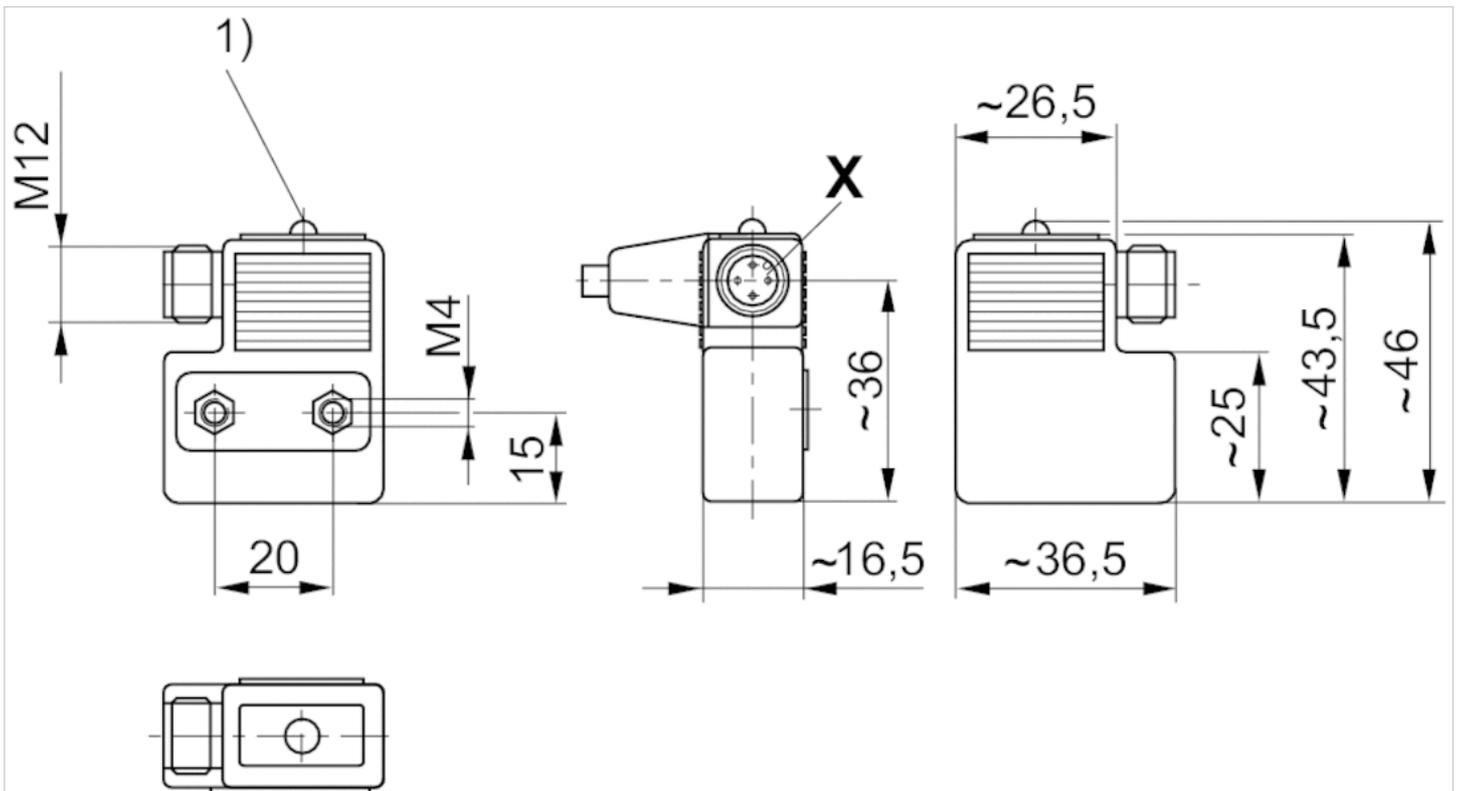
Material

Housing

epoxy resin

Dimensions

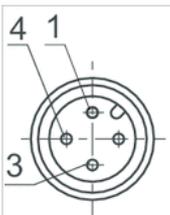
Dimensions



1) LED

Pin assignments

Pin assignments



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

Sensor, Series SN6

- Plug, Form B, industry, 2-pin
- Reed
- Indirect mounting for series TRB, ITS, 523



Ambient temperature min./max.	-25 ... 75 °C
Protection class	IP65
Switching point precision	±0,1 mT
Min./max. DC operating voltage	10 ... 48 V DC
Min./max. AC operating voltage	10 ... 48 V AC
LED status display	See table below
Vibration resistance	35 g (50 - 2000 Hz)
Shock resistance	50 g / 11 ms

Technical data

Part No.		Type of contact	DC switching current, max.
8940410602		Reed	3 A
8940410612		Reed	0.5 A

Part No.	AC switching current, max.	Switching capacity	LED status display
8940410602	3 A	60 W / 60 VA	-
8940410612	0.5 A	50 W / 50 VA	Yellow

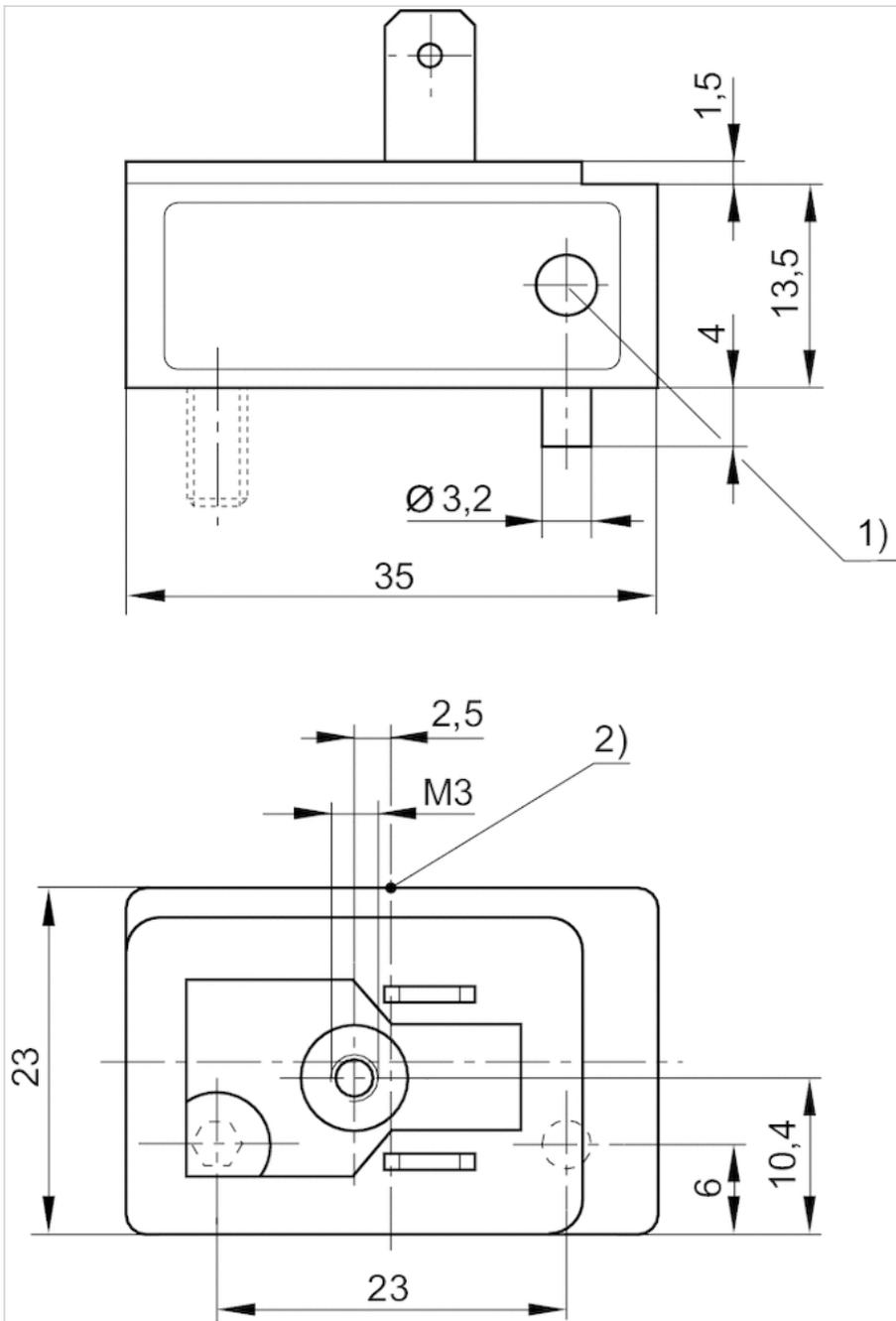
Part No.	Version
8940410602	-
8940410612	Protected against polarity reversal

Technical information

Material	
Housing	Polyester amide

Dimensions

Dimensions



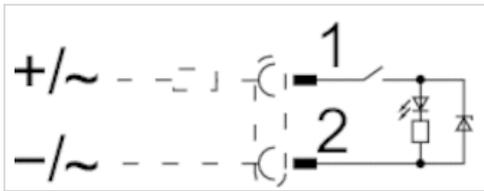
- 1) LED
- 2) Switching point

Sensor, Series SN6

- Plug, Form B, industry, 2-pin
- ATEX
- Reed
- Indirect mounting for series TRB, ITS



Certificates	ATEX
ATEX class G	II 3G Ex nC nA IIC T4 Gc
ATEX class D	II 3D Ex tc IIIB/IIIC T125°C Dc
Ambient temperature min./max.	-10 ... 50 °C
Protection class	IP65
Switching point precision	±0,1 mT
Min./max. DC operating voltage	21.6 ... 26.4 V DC
Min./max. AC operating voltage	210 ... 240 V AC
LED status display	Yellow



Technical data

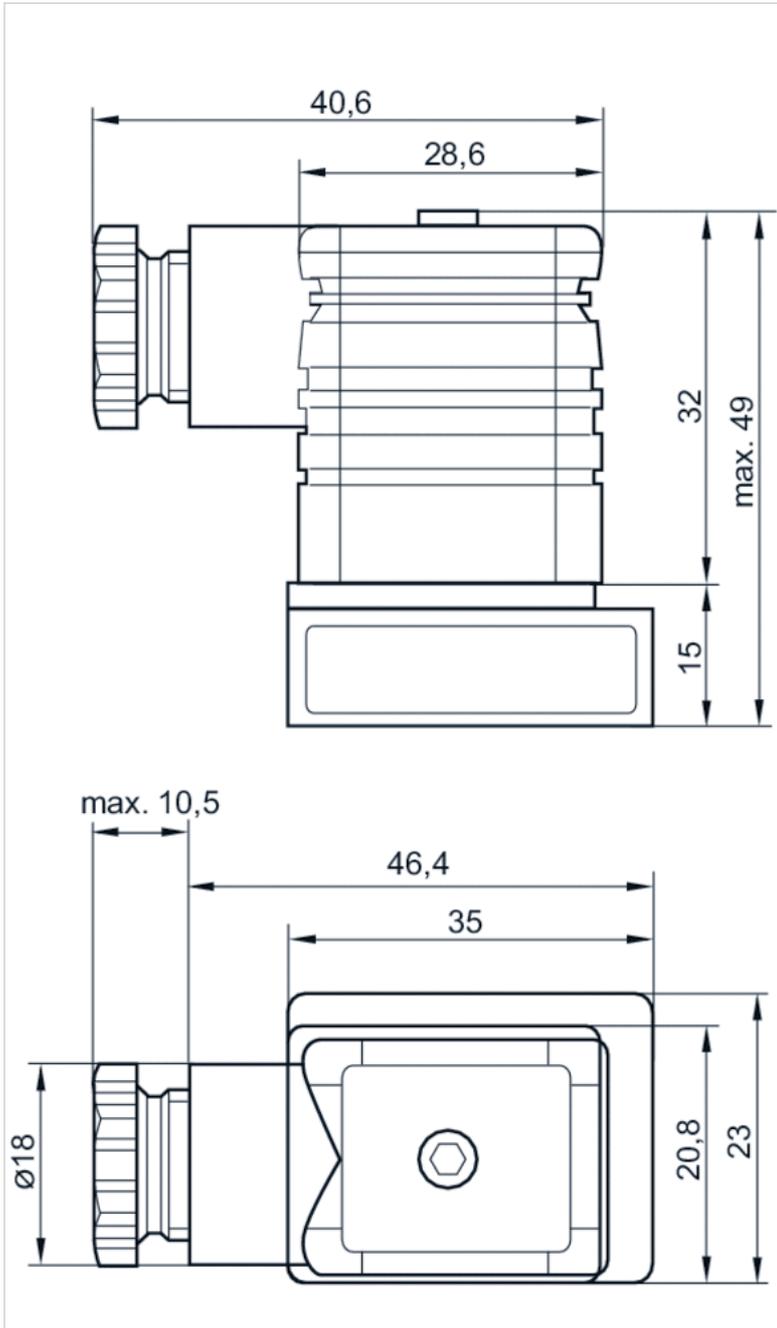
Part No.	Type of contact	DC switching current, max.	AC switching current, max.
R412000823	Reed	0.1 A	0.1 A

Part No.	Version
R412000823	Protected against polarity reversal

Technical information

Material	
Housing	Polyester amide

Dimensions



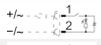
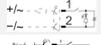
Sensor, Series SN6

- with cable
- without wire end ferrule, tin-plated, 2-pin
- Heat resistant
- Reed
- Indirect mounting for series TRB, ITS



Ambient temperature min./max.	See table below
Protection class	IP67, IP65
Switching point precision	±0,1 mT
Min./max. DC operating voltage	10 ... 48 V DC
Min./max. AC operating voltage	10 ... 48 V AC
LED status display	Yellow
Vibration resistance	35 g (50 - 2000 Hz)
Shock resistance	50 g / 11 ms
Cable length L	2.5 6 m

Technical data

Part No.		Type of contact	Cable length L	DC switching current, max.
8940412022		Reed	2.5 m	0.5 A
8940412032		Reed	6 m	0.5 A
8940411902		Reed	2.5 m	3 A

Part No.	AC switching current, max.	Ambient temperature min./max.	Switching capacity
8940412022	0.5 A	-25 ... 75 °C	50 W / 50 VA
8940412032	0.5 A	-25 ... 75 °C	50 W / 50 VA
8940411902	3 A	-20 ... 105 °C	60 W / 60 VA

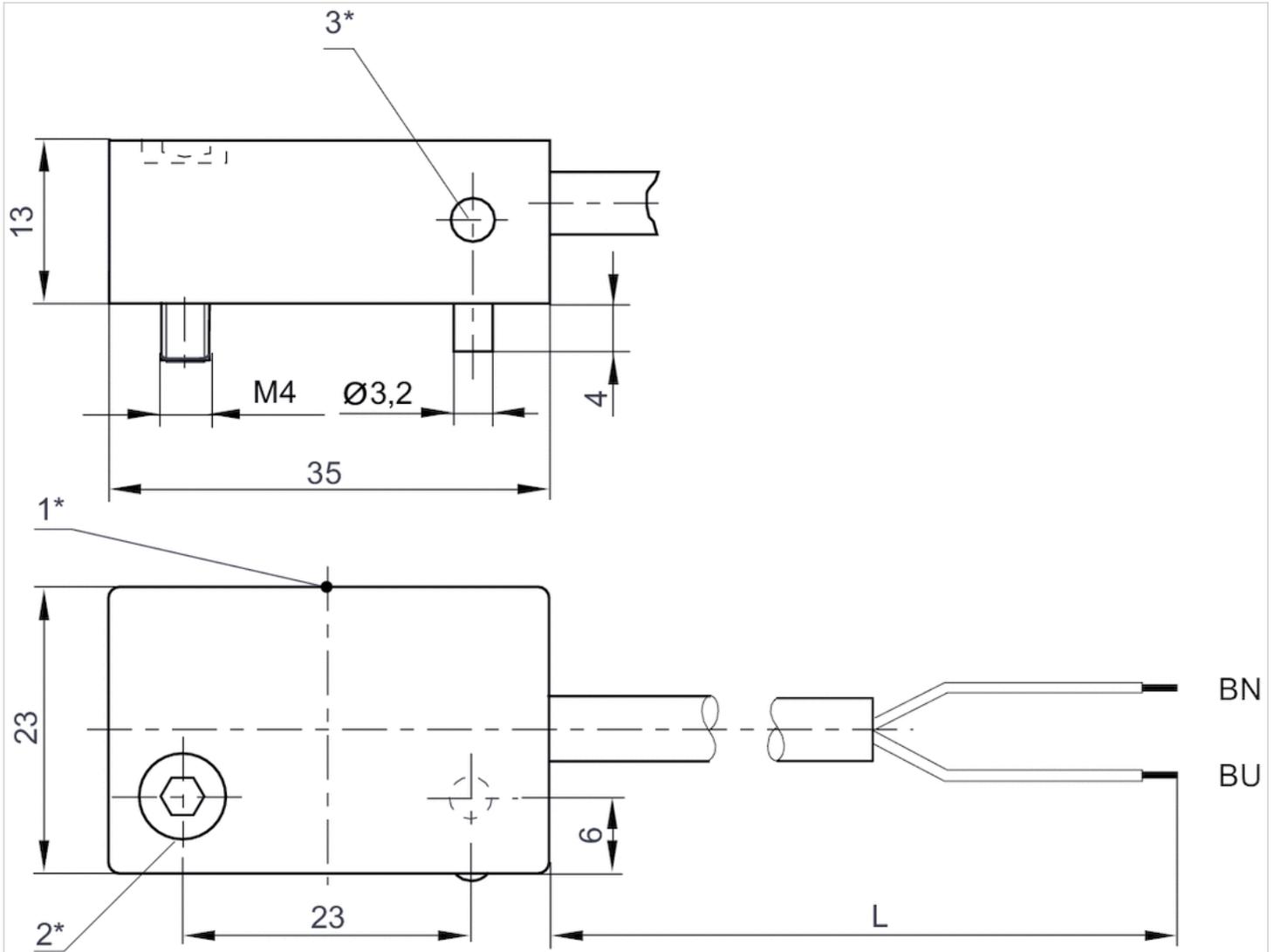
Part No.	Version
8940412022	Protected against polarity reversal
8940412032	Protected against polarity reversal
8940411902	Protected against polarity reversal

Technical information

Material	
Housing	Polyester amide
Cable sheath	Polyvinyl chloride

Dimensions

Dimensions



1* = switching point 2* = clamping screw 3* = LED

L = cable length

BN=brown, BU=blue

Sensor mounting, Series CB1

- for series SN5-X

- to mount on cylinder TRB



Weight

See table below

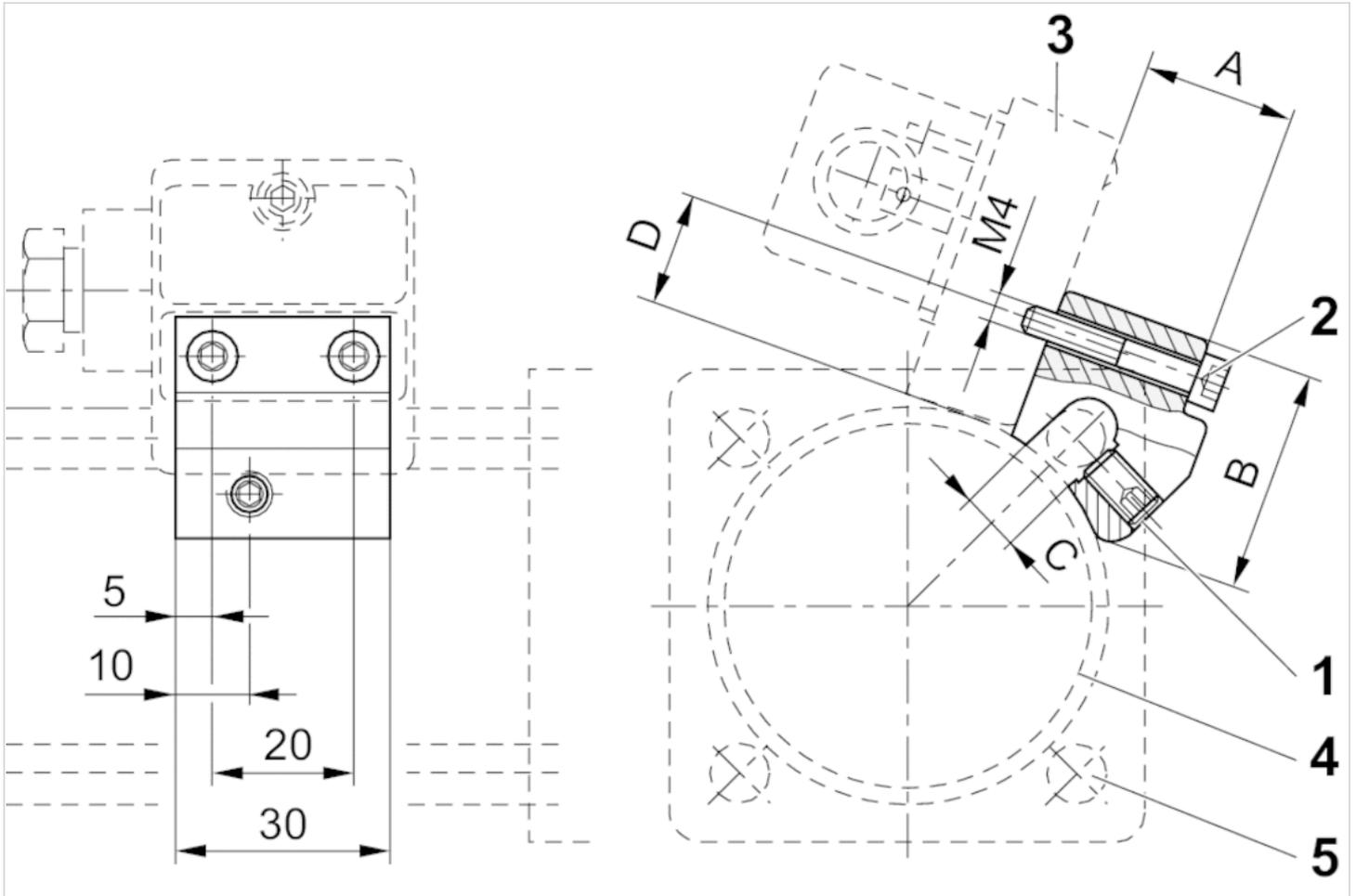
Technical data

Part No.	Cylinders Ø		for series	Weight
	min.	max.		
1827020056	32 mm	40 mm	SN5-X	0.03 kg
1827020057	50 mm	63 mm	SN5-X	0.035 kg
1827020058	80 mm	100 mm	SN5-X	0.4 kg

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

Part No.	A	B	C	D	SW
1827020056	19.5	30	6	15	3
1827020057	24.5	30	8	15	3
1827020058	29.5	31	10	15	3

Sensor mounting, Series CB1

- for series SN5-X

- to mount on cylinder TRB, ITS



Weight

See table below

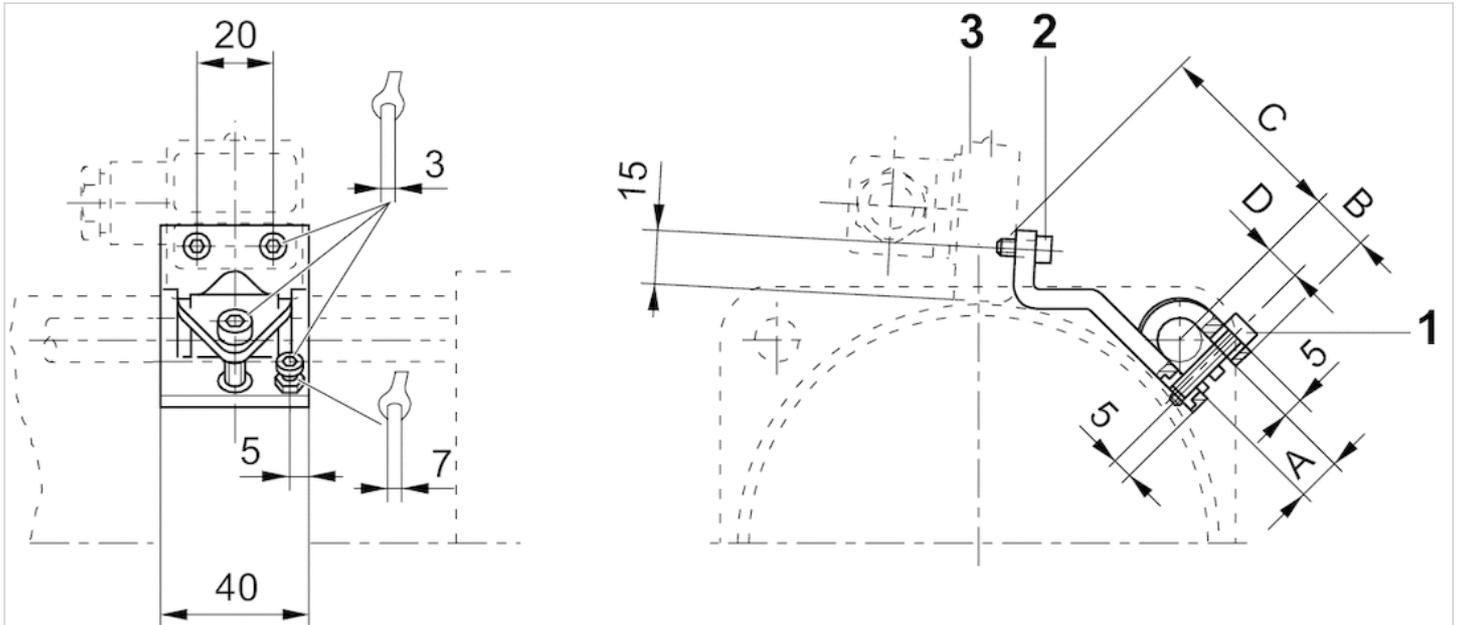
Technical data

Part No.	Cylinders Ø		for series	Weight
	min.	max.		
1827020076	3175 mm	125 mm	SN5-X	0.075 kg
1827020077	160 mm	200 mm	SN5-X	0.083 kg
1827020078	6350 mm	250 mm	SN5-X	0.094 kg

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

Part No.	A +0,5	B ±1	C ±2	D
1827020076	12	15	54	9
1827020077	16	17	53	11
1827020078	20	19	60	13

Series CAT

- Measuring instrument for adjusting the pneumatic cushioning
- for MNI, CSL-RD, CCL-IS, ICS, RPC, PRA/TRB, ITS



Certificates	CE declaration of conformity
Ambient temperature min./max.	0 ... 40 °C
Measurement range Min.	0.2 m/s
Measurement range Max.	2 m/s
LED status display	Green Yellow Red
Protection class	IP50
Weight	0.12 kg

Technical data

Part No.	for series
R412026160	MNI, CSL-RD, CCL-IS, ICS, RPC, PRA/TRB, ITS

Scope of delivery: 1 measuring instrument, 2 fastening strips, 1 power pack 3.7 V, 1 USB charging cable, Operating instructions, QR code notice, 1 case with foam inlay

Technical information

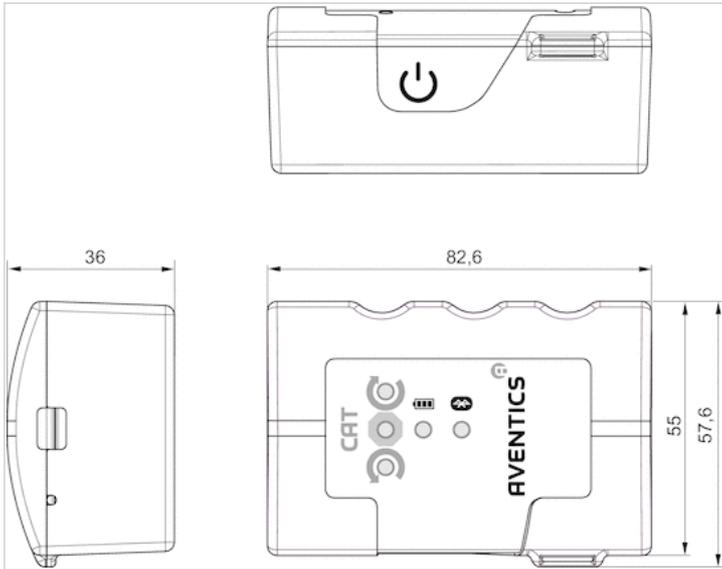
The CAT measuring instrument uses Bluetooth radio technology for wireless connection with the "Aventics" app, which is available free of charge in the Android/Play Store and/or the IOS/App Store.

Technical information

Material	
Housing	Luran S

Dimensions

Dimensions



Sensor mounting, Series CB1

- for series ST6, SM6, SN1, SN2

- to mount on cylinder TRB, C12P, CVI, 523



Weight

0.031 kg

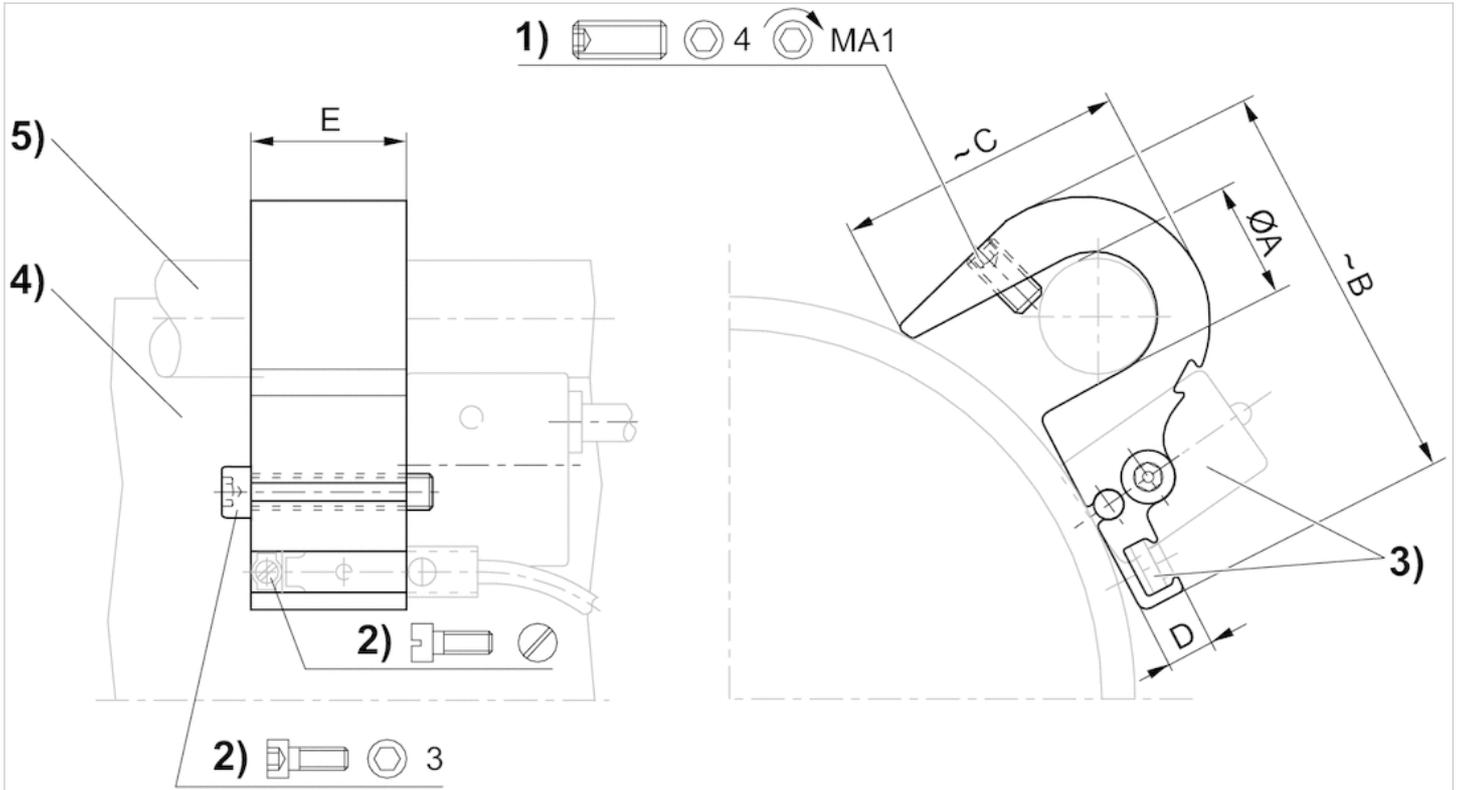
Technical data

Part No.	Cylinders Ø		for series
	min.	max.	
1827020292	125 mm	125 mm	ST6, SM6, SN1, SN2

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

Part No.	Ø A	B	C	D	E	1)	MA1 [Nm]
1827020292	12	45	29	6.5	21	M5x10	2

Sensor mounting, Series CB1

- for series ST6, SM6

- to mount on cylinder TRB, C12P, 167, CVI, TRR, 523



Weight

See table below

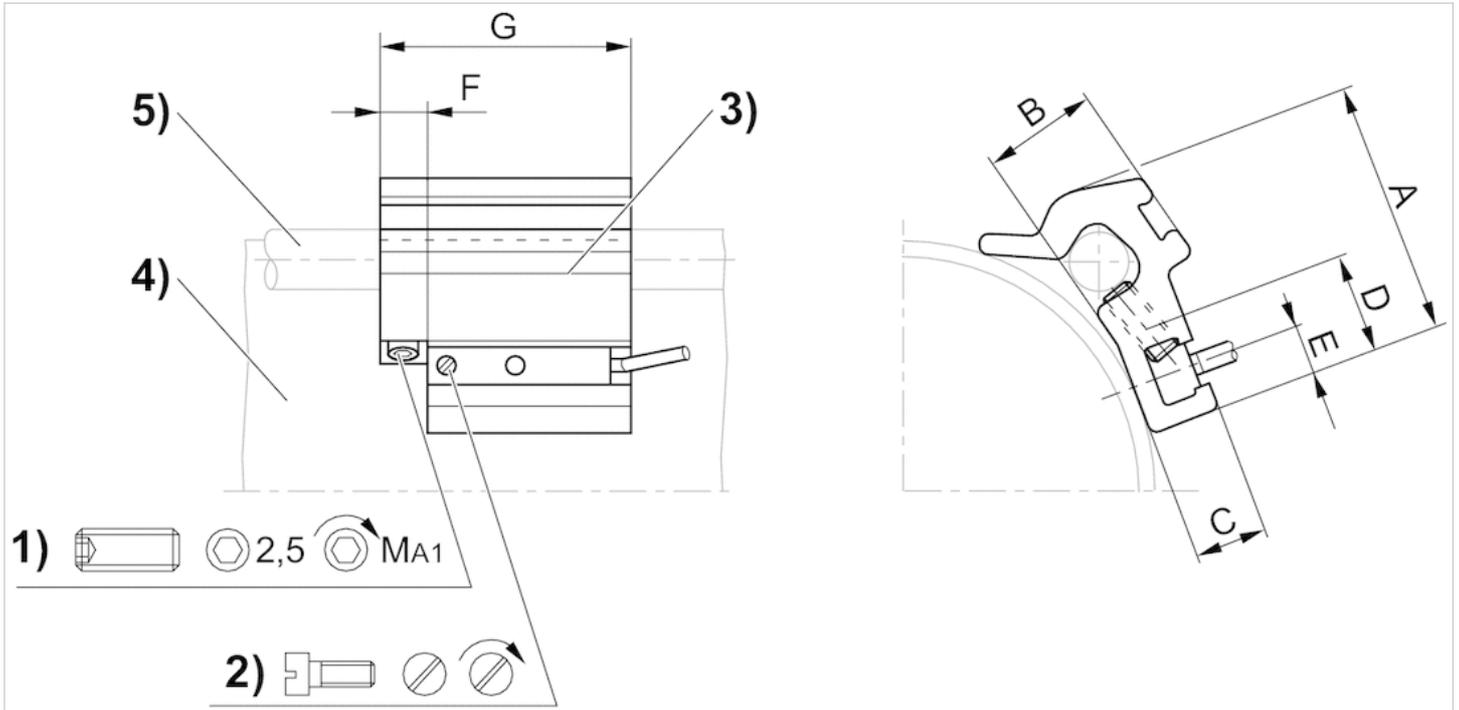
Technical data

Part No.	Cylinders Ø	Cylinders Ø	for series	Weight
	min.	max.		
1827020282	32 mm	40 mm	ST6, SM6	0.016 kg
1827020283	50 mm	63 mm	ST6, SM6	0.029 kg
1827020284	80 mm	100 mm	ST6, SM6	0.042 kg

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

Part No.	A	B	C	D	E	F	G	1)	MA1 [Nm]
1827020282	26	10	7	14	5	8	40	M5x8	2 ±0,2
1827020283	32.5	15.5	7	14	5	8	40	M5x10	2 ±0,2
1827020284	43	17	6.9	14	5	8	40	M5x16	2 ±0,2

Sensor mounting, Series CB1

- for series SN6

- to mount on cylinder TRB, C12P, CVI, 523



Weight

0.034 kg

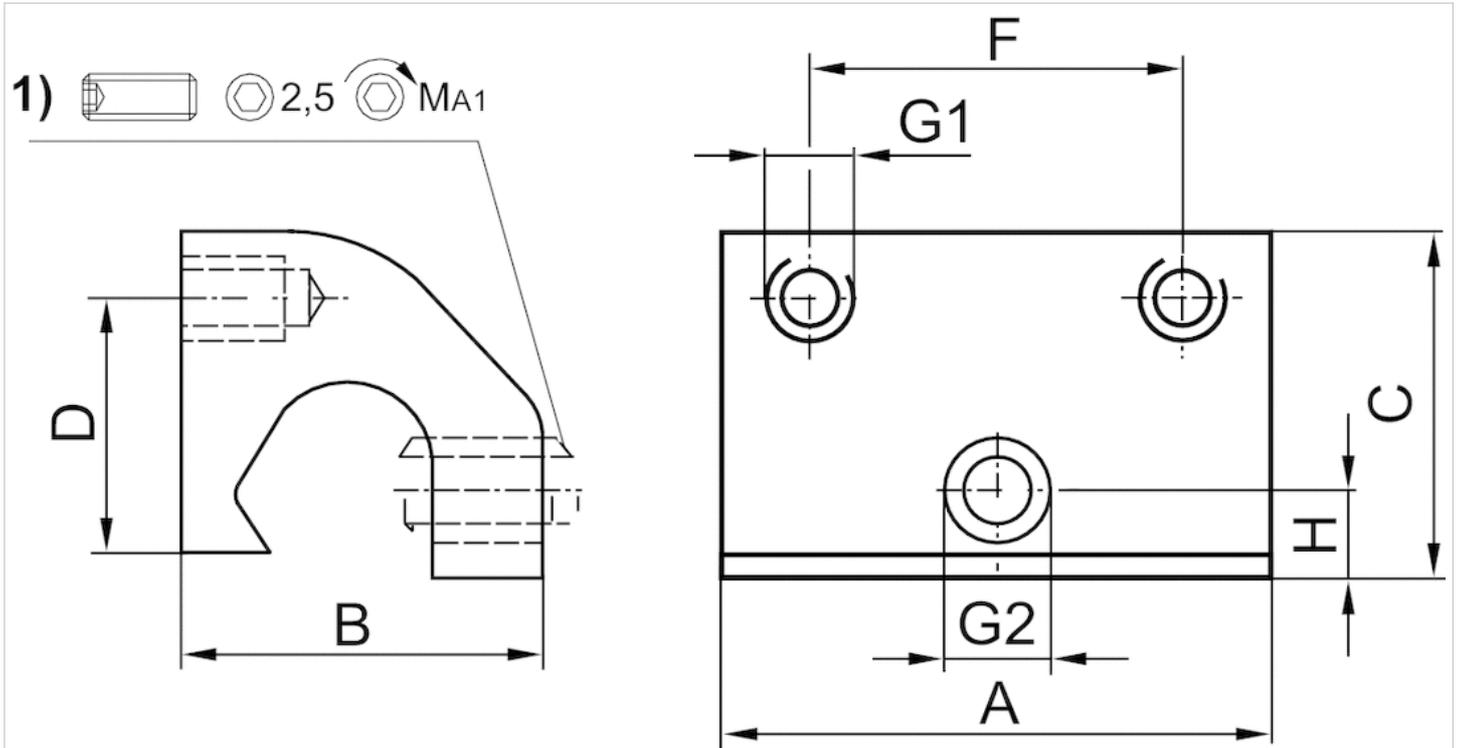
Technical data

Part No.	Cylinders Ø		for series
	min.	max.	
3220643562	80 mm	125 mm	SN6

Technical information

Material	
	Aluminum

Dimensions



1) Clamping threaded pin

Dimensions

Part No.	Cylinders Ø	A	B	C	D	F	G1	G2	H	MA1 [Nm]
3220643562	125 mm	35	22	21	12	23	M4	M5	5	1,8 +0,4

Sensor mounting, Series CB1

- for series SN6
- to mount on cylinder TRB, CVI, 523



Weight

0.028 kg

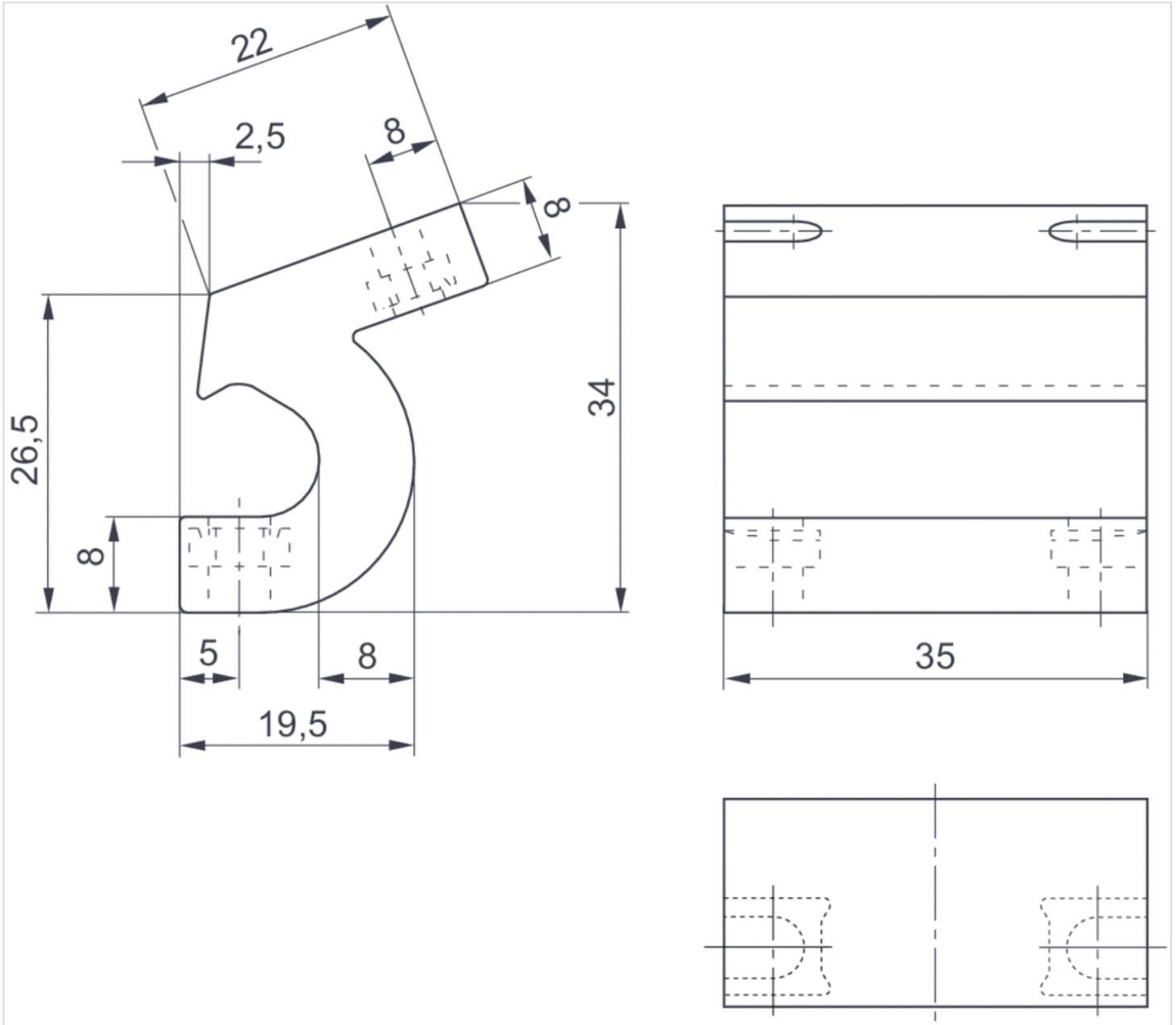
Technical data

Part No.	Cylinders Ø		for series
	min.	max.	
5230033502	32 mm	63 mm	SN6

Technical information

Material	
	Polyamide

Dimensions



Dimensions

Part No.	Cylinders Ø
5230033502	32 63 mm

Sensor mounting, Series CB1

- for series SN1, SN2

- to mount on cylinder TRB, TRR



Weight

See table below

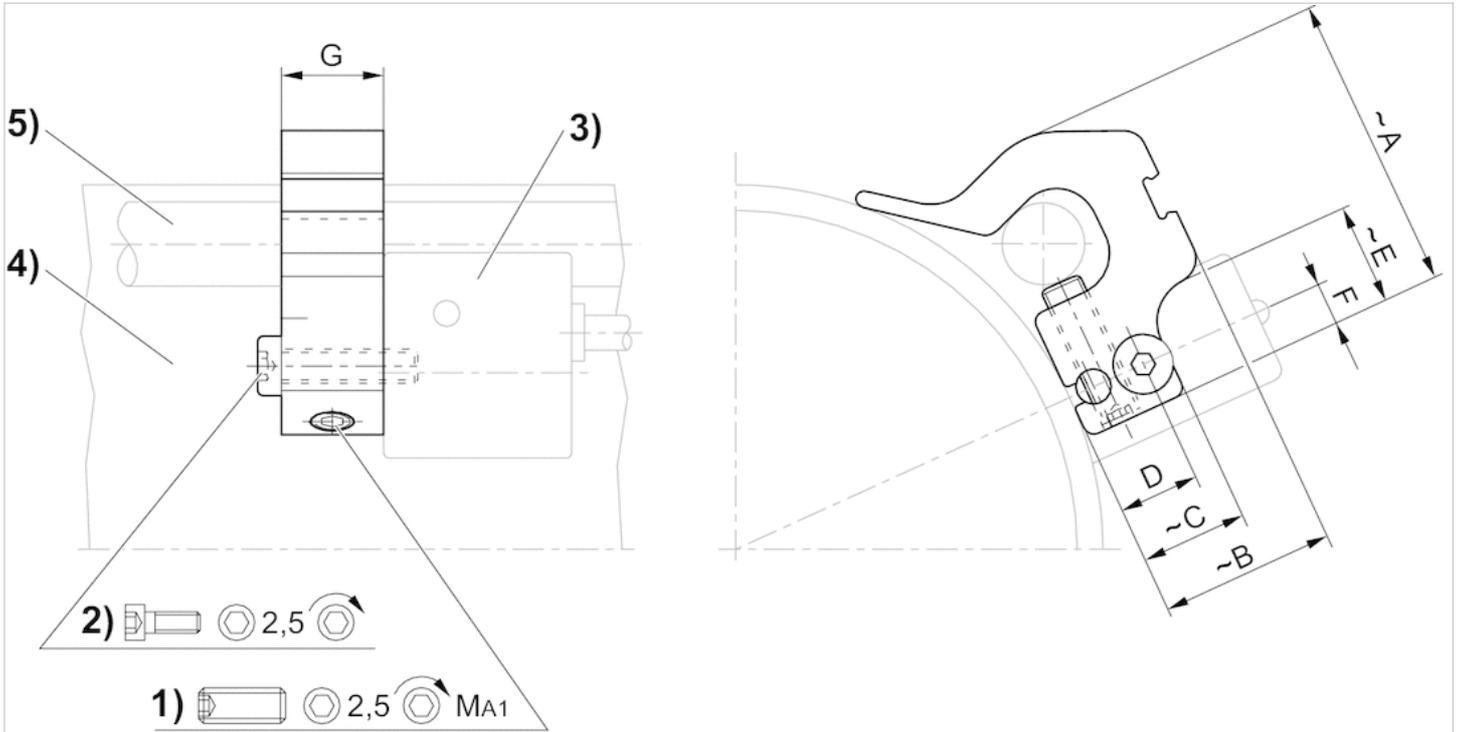
Technical data

Part No.	Cylinders Ø		for series	Weight
	min.	max.		
1827020081	32 mm	40 mm	SN1, SN2	0.015 kg
1827020082	50 mm	63 mm	SN1, SN2	0.013 kg
1827020083	80 mm	100 mm	SN1, SN2	0.018 kg

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

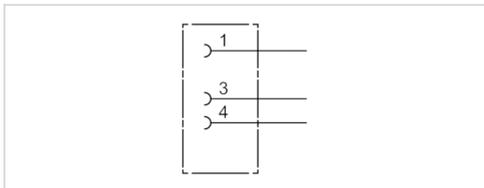
Part No.	Cylinders Ø mm	A	B	C	D	E	F	G	1)	MA1 [Nm]
1827020081	32 mm	25.3	12.5	12.5	9.5	-	5	16	M5x16	1 +0,3
1827020082	50 mm	28.7	15.6	12.5	9.5	12	5	12	M5x16	1 +0,3
1827020083	80 mm	33.8	23	12.5	9.5	12	5	12	M5x16	1 +0,3

Round plug connector, Series CON-RD

- Socket, M8x1, 3-pin, A-coded, straight, 180°
- UL (Underwriters Laboratories)
- unshielded



Connection type	Soldering
Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.009 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
1834484173	4 A	3.5 / 5 mm

Technical information

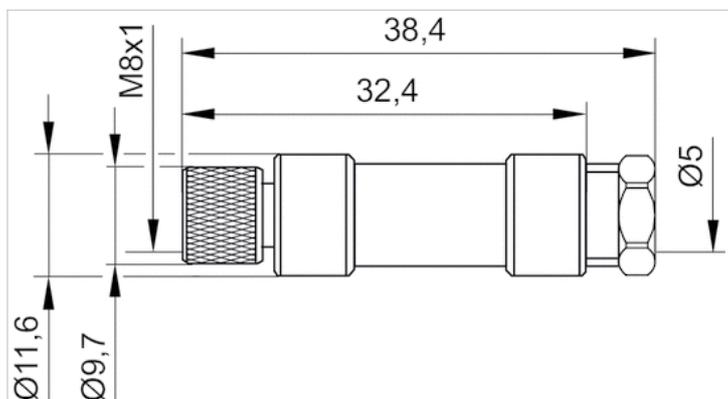
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

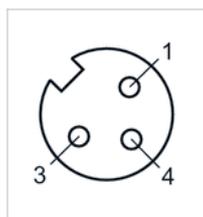
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

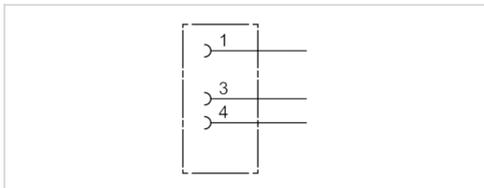


Round plug connector, Series CON-RD

- Socket, M8x1, 3-pin, A-coded, angled, 90°
- UL (Underwriters Laboratories)
- unshielded



Connection type	Soldering
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.01 kg



Technical data

Part No.	Max. current	Contact assignment	suitable cable-Ø min./max
1834484174	4 A	3	3.5 / 5 mm

Technical information

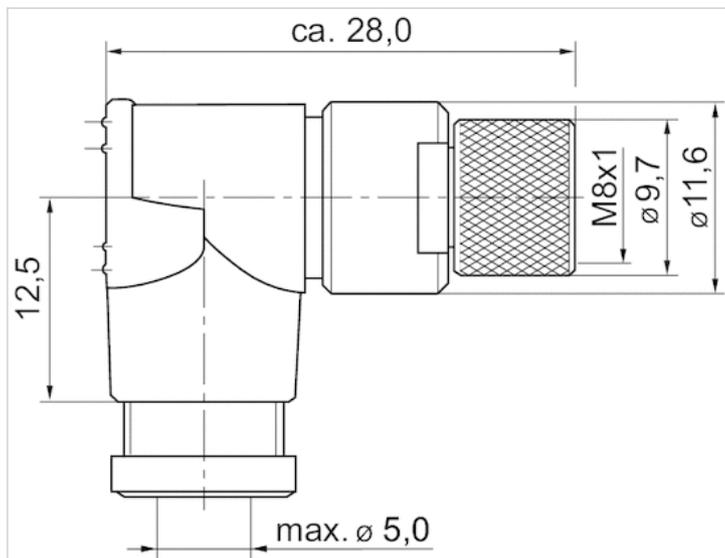
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

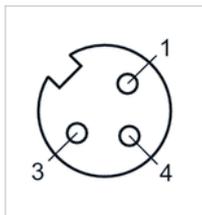
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

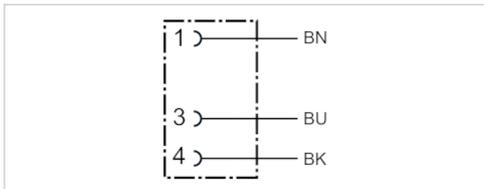


Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded straight 180°
- open cable ends
- with cable
- UL (Underwriters Laboratories)
- unshielded



Ambient temperature min./max.	-25 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.24 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Certification	Weight
1834484166	4 A	3	4.5 mm	3 m	UL (Underwriters Laboratories)	0.087 kg
1834484168	4 A	3	4.5 mm	5 m	UL (Underwriters Laboratories)	0.141 kg
1834484247	4 A	3	4.5 mm	10 m	UL (Underwriters Laboratories)	0.277 kg

Technical information

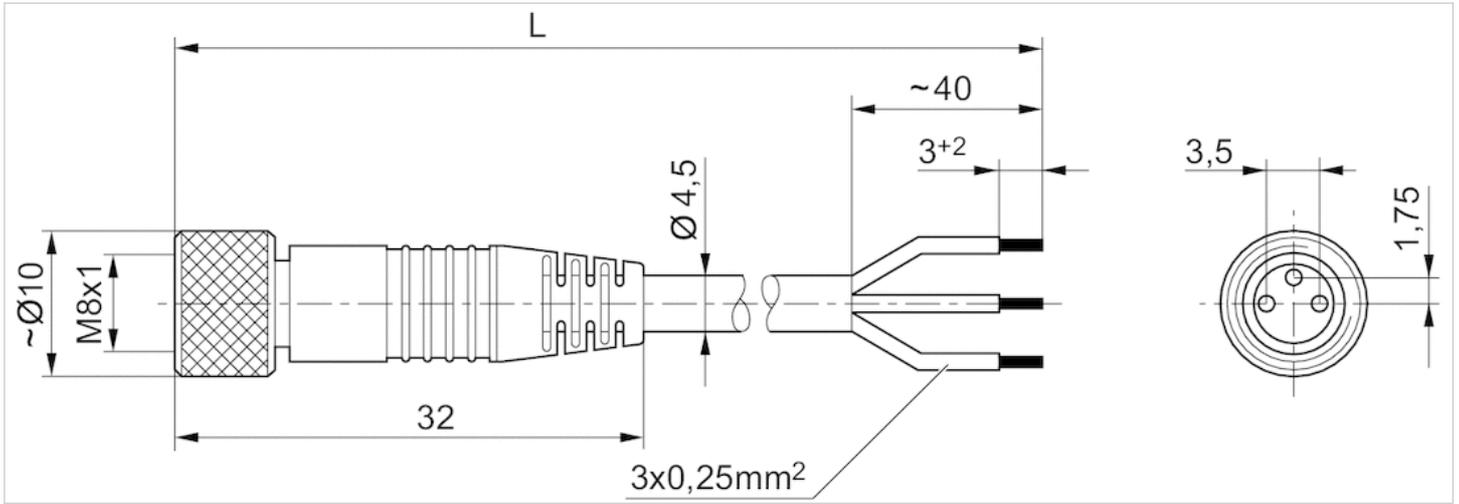
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

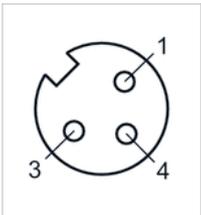
Dimensions



L = length

Pin assignments

Pin assignment, socket



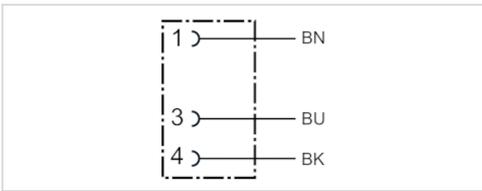
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded angled 90°
- open cable ends
- with cable
- unshielded



Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.24 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
1834484167	4 A	3	4.5 mm	3 m	0.087 kg
1834484169	4 A	3	4.5 mm	5 m	0.139 kg
1834484248	4 A	3	4.5 mm	10 m	0.279 kg

Technical information

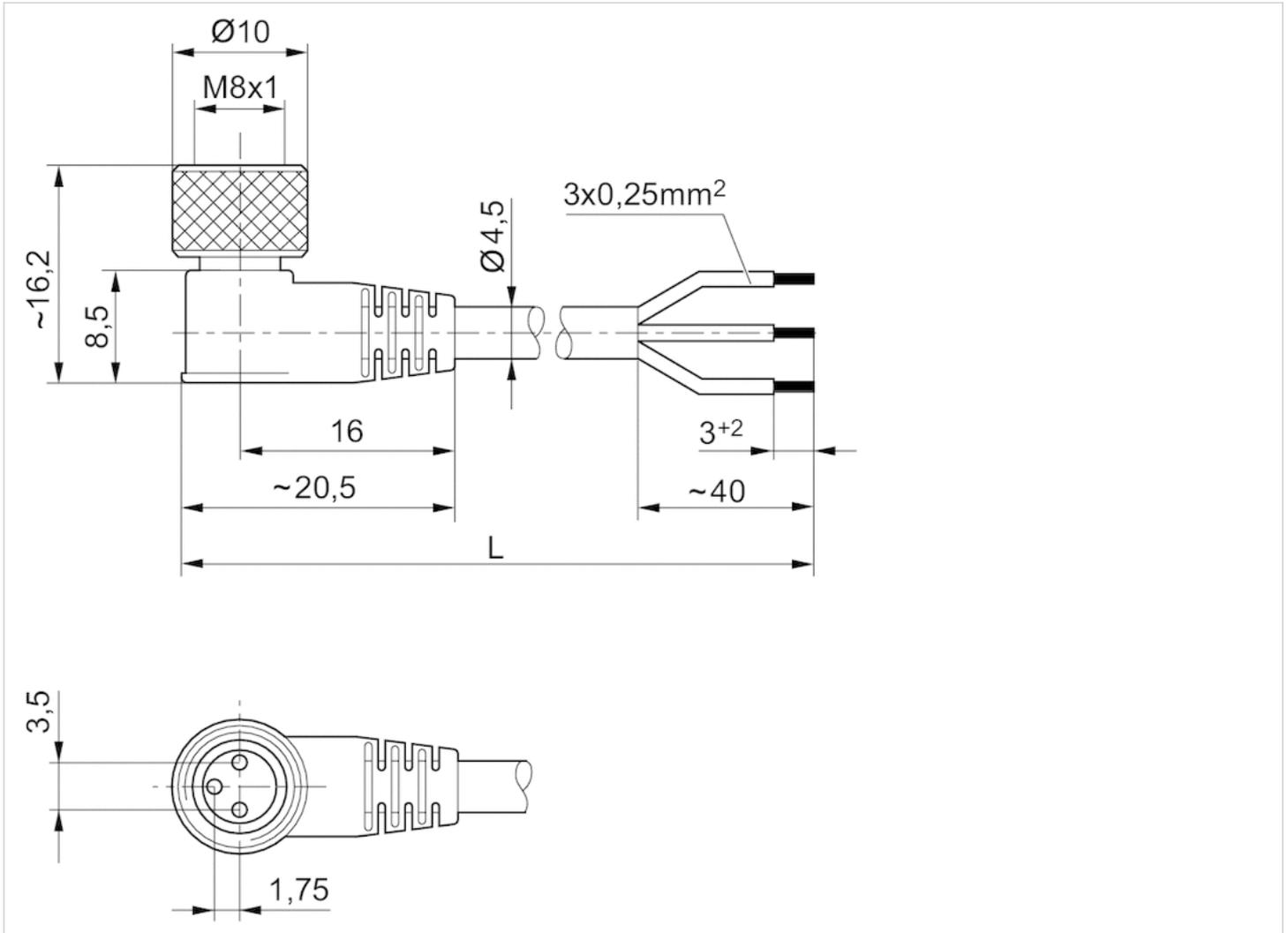
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

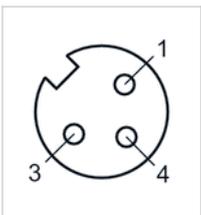
Dimensions



L = length

Pin assignments

Pin assignment, socket



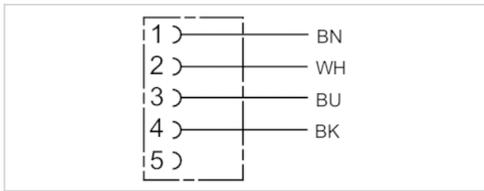
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

Round plug connector, Series CON-RD

- Socket M12x1 5-pin A-coded angled 90°
- open cable ends
- for DeviceNet
- with cable
- unshielded



Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP65
Wire cross-section	0.34 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
1834484259	4 A	4	5.2 mm	3 m	0.126 kg
1834484260	4 A	4	5.2 mm	5 m	0.195 kg
1834484261	4 A	4	5.2 mm	10 m	0.38 kg

Technical information

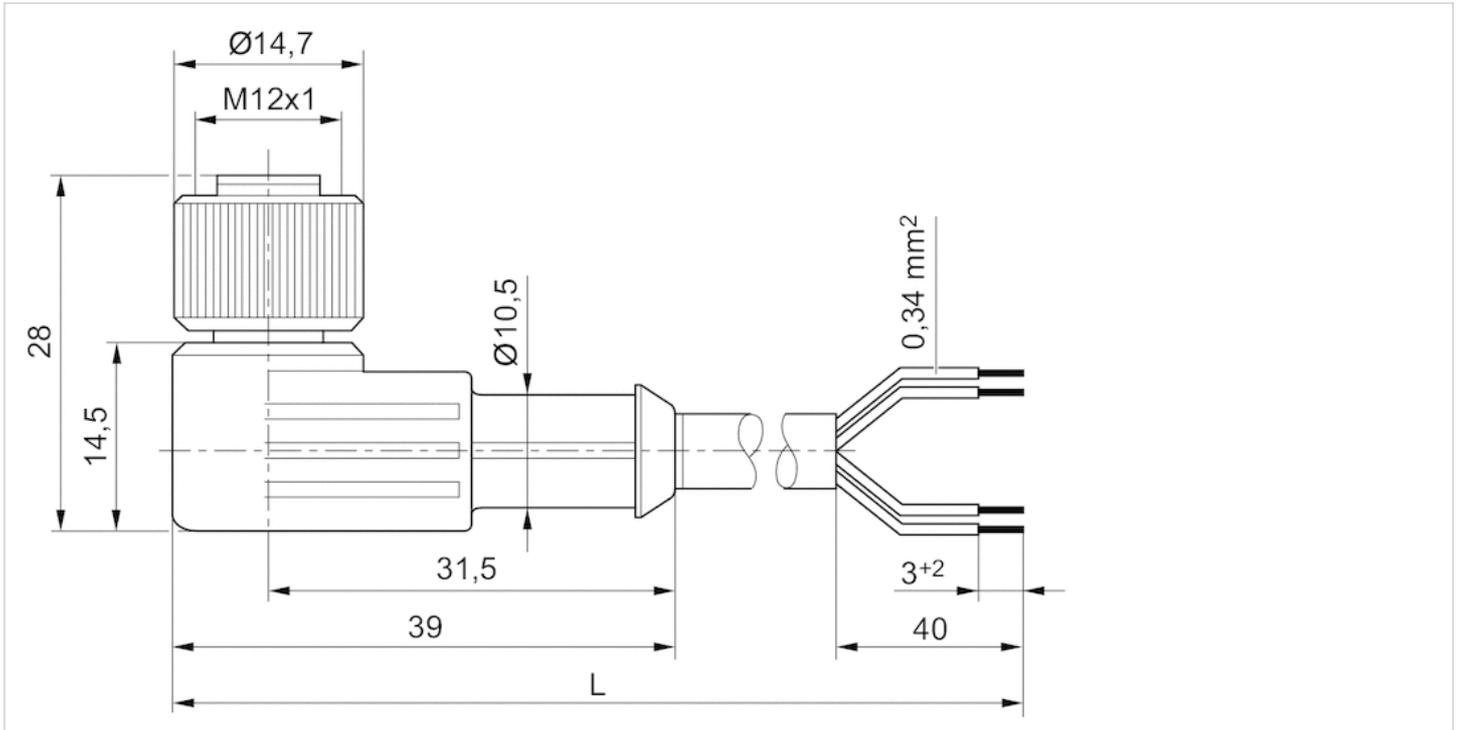
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyurethane

Dimensions

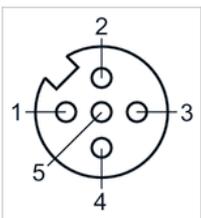
Dimensions



L = length

Pin assignments

Pin assignment, socket



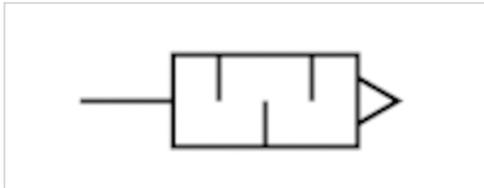
- (1) BN=brown
- (2) WH=white
- (3) BU=blue
- (4) BK=black
- (5) not assigned

Silencers, series SI1

- G 1/8
- Sintered bronze



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Sound pressure level	75 dB
Weight	0.01 kg
Comment	Flow characteristic curves can be found under "Diagrams".



Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
1827000000	G 1/8	1623 l/min	10 piece

Weight per piece

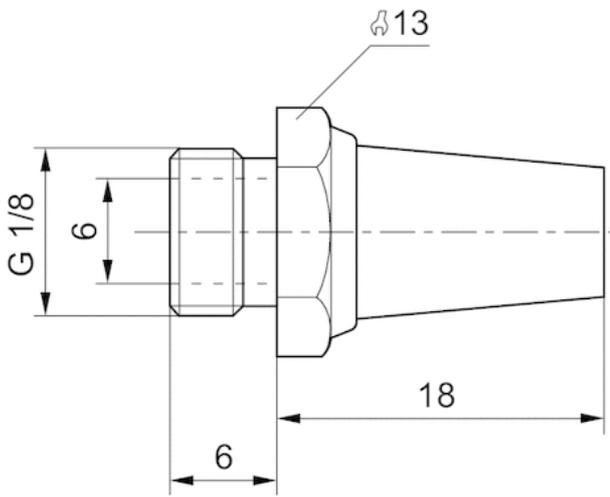
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

Material	
Silencer	Sintered bronze
Thread	Brass

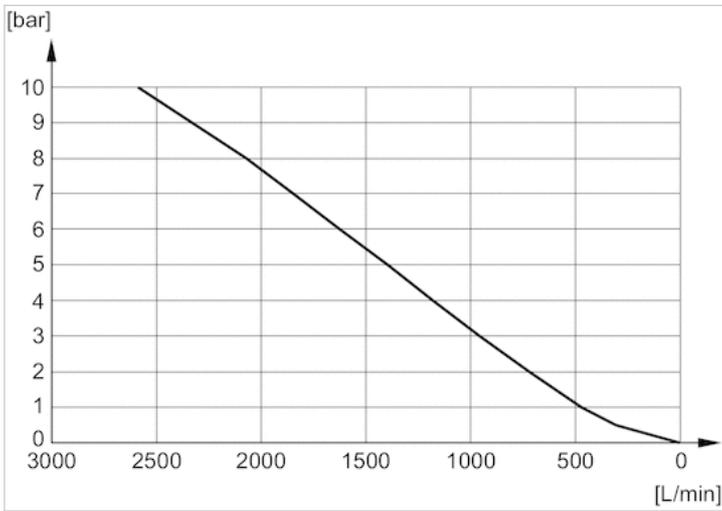
Dimensions

Dimensions in mm



Diagrams

Flow diagram, 1827000000

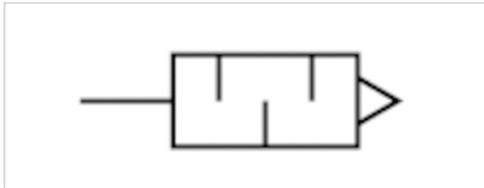


Silencers, series SI1

- G 1/4
- Sintered bronze



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Sound pressure level	79 dB
Weight	0.02 kg
Comment	Flow characteristic curves can be found under "Diagrams".



Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
1827000001	G 1/4	3390 l/min	10 piece

Weight per piece

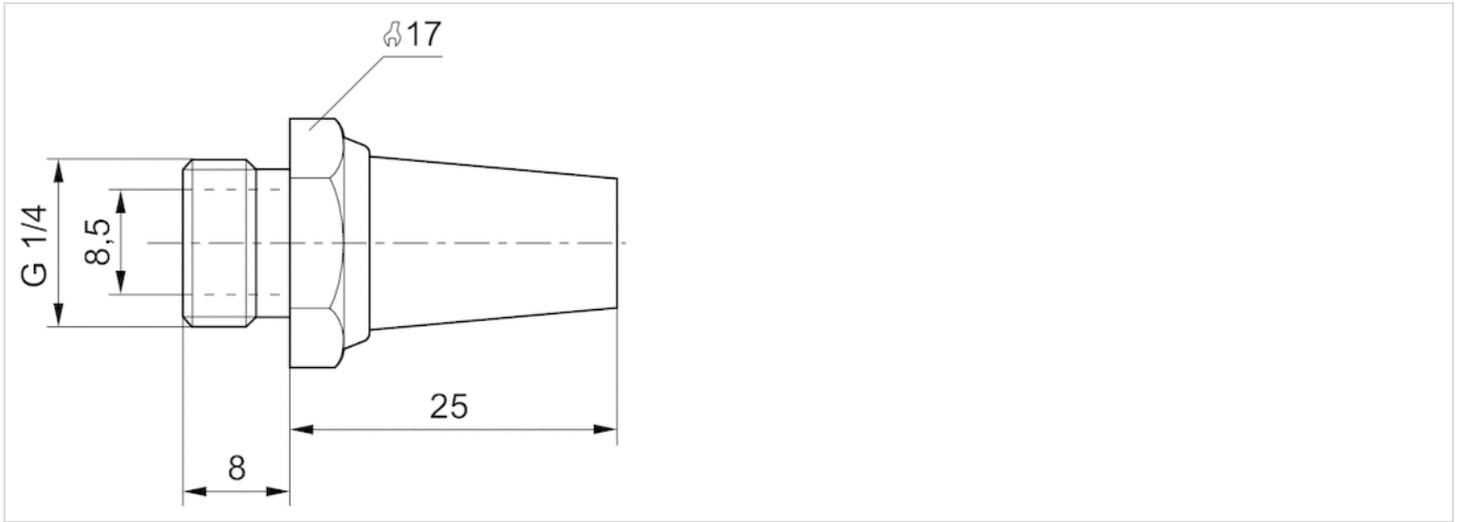
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

Material	
Silencer	Sintered bronze
Thread	Brass

Dimensions

Dimensions in mm

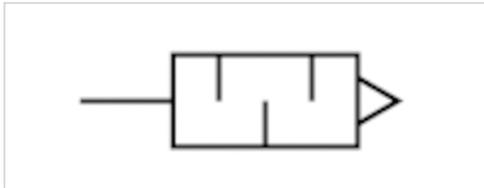


Silencers, series SI1

- G 3/8
- Sintered bronze



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Sound pressure level	84 dB
Weight	0.05 kg
Comment	Flow characteristic curves can be found under "Diagrams".



Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
1827000002	G 3/8	6554 l/min	5 piece

Weight per piece

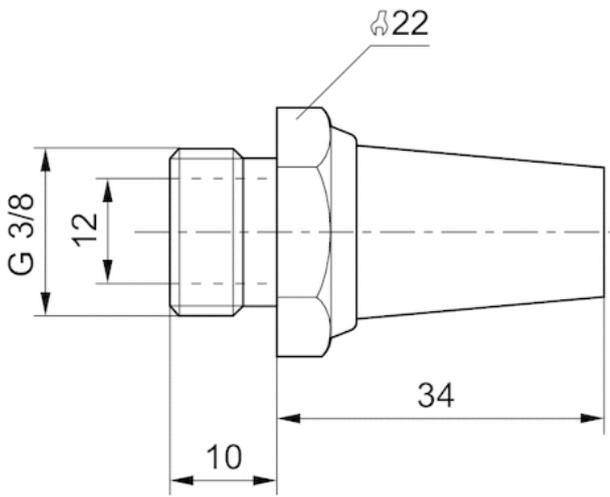
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

Material	
Silencer	Sintered bronze
Thread	Brass

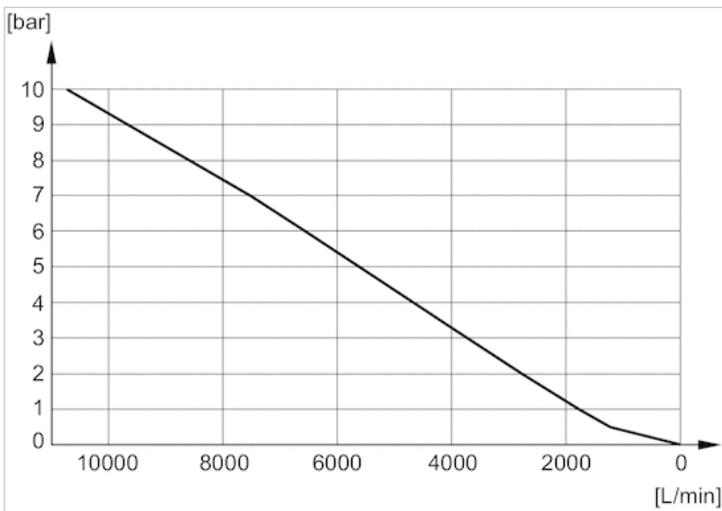
Dimensions

Dimensions in mm



Diagrams

Flow diagram, 1827000002

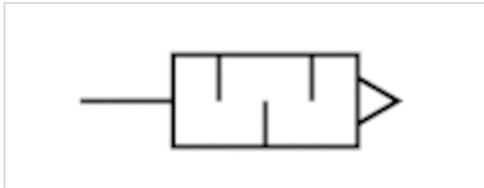


Silencers, series SI1

- G 1/2
- Sintered bronze



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Sound pressure level	90 dB
Weight	0.08 kg
Comment	Flow characteristic curves can be found under "Diagrams".



Technical data

Part No.	Compressed air connection	Flow	Delivery unit
		Qn	
1827000003	G 1/2	7223 l/min	2 piece

Weight per piece

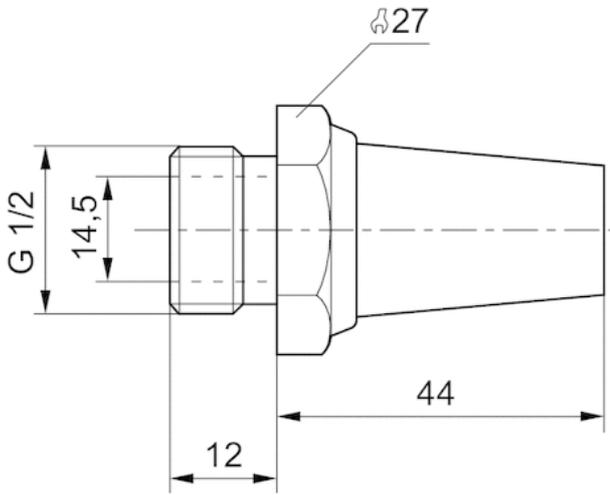
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

Material	
Silencer	Sintered bronze
Thread	Brass

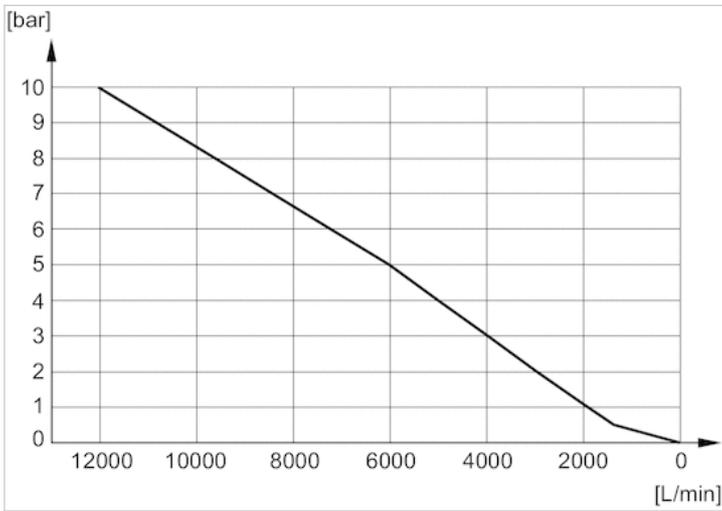
Dimensions

Dimensions in mm



Diagrams

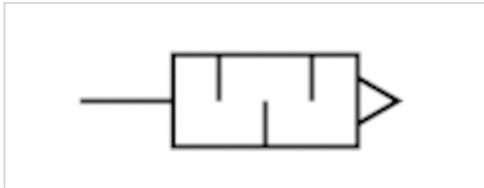
Flow diagram, 1827000003



Silencers, series SI1

- G 1/8 G 1/4 G 3/8 G 1/2

- Sintered bronze



Working pressure min./max.	0 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Sound pressure level	See table below
Weight	See table below
Comment	Flow characteristic curves can be found under "Diagrams".

Technical data

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

Weight per piece

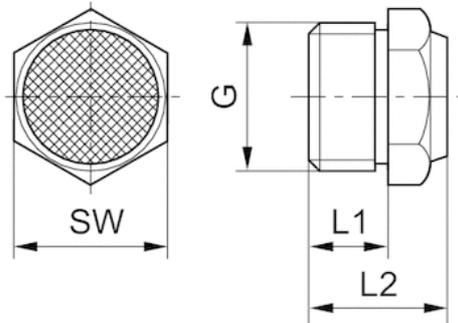
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

Material	
Silencer	Sintered bronze
Thread	Brass

Dimensions

Dimensions



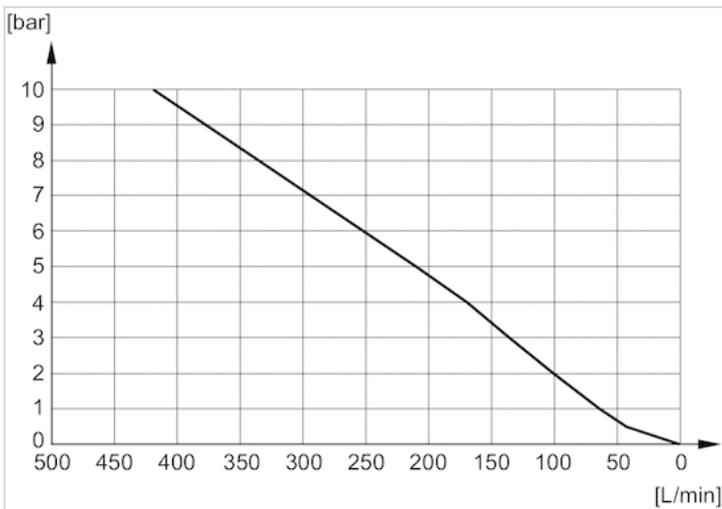
Dimensions

Part No.	Port G	L1	L2	SW
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

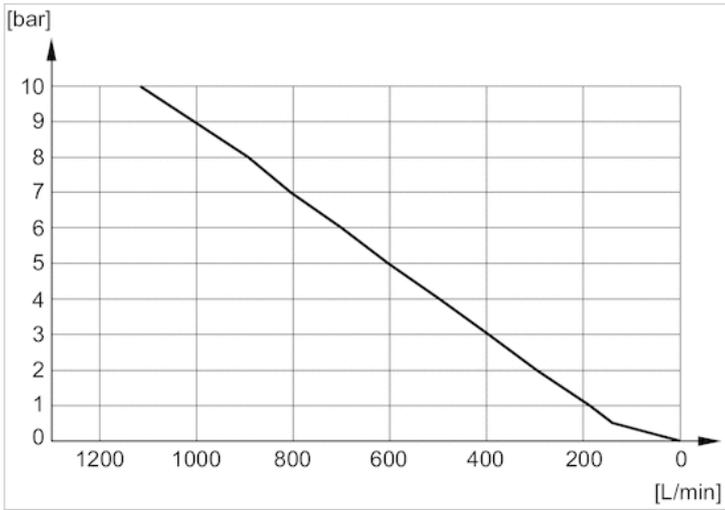
Sound pressure level measured at 6 bar at 1 m distance

Diagrams

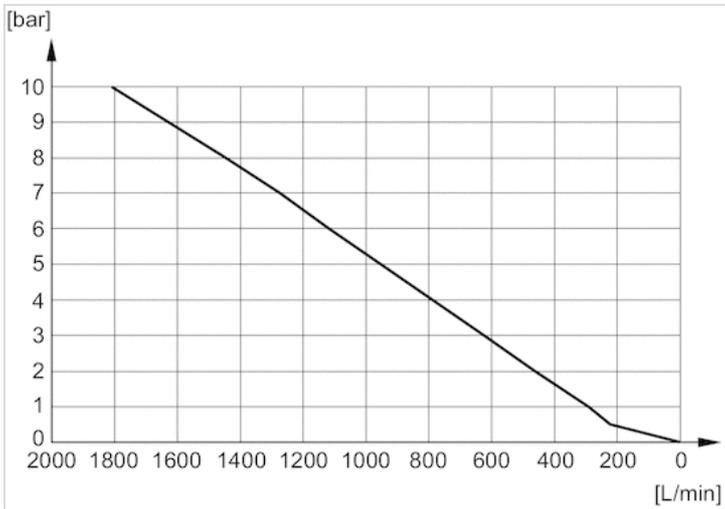
Flow diagram, 1827000032



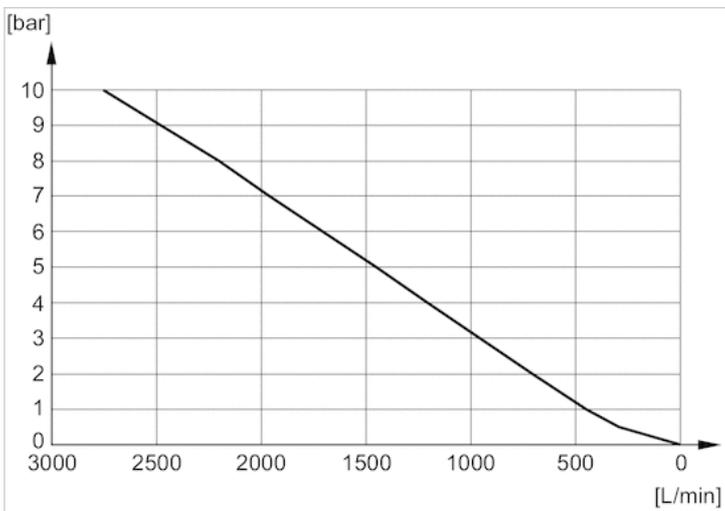
Flow diagram, 1827000031



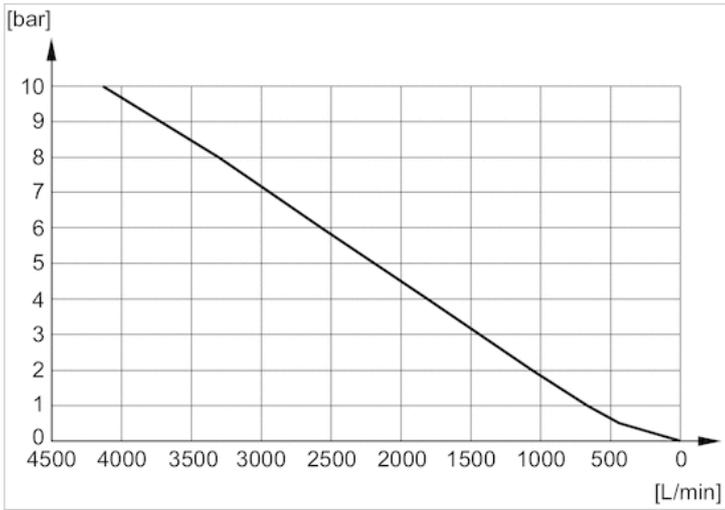
Flow diagram, 1827000033



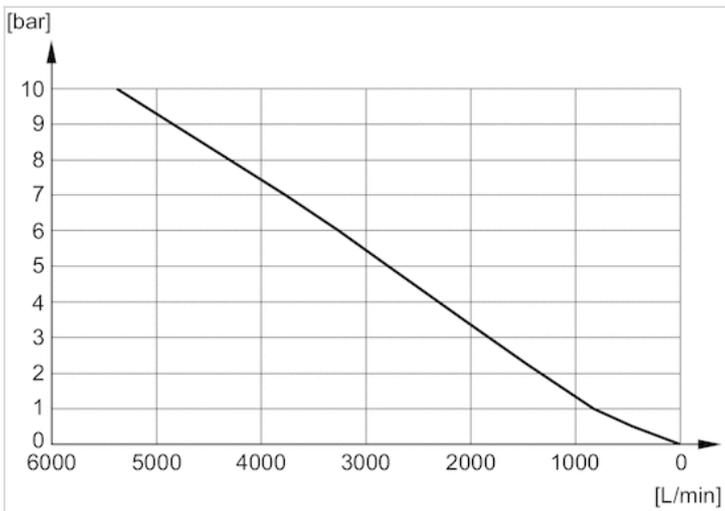
Flow diagram, 1827000034



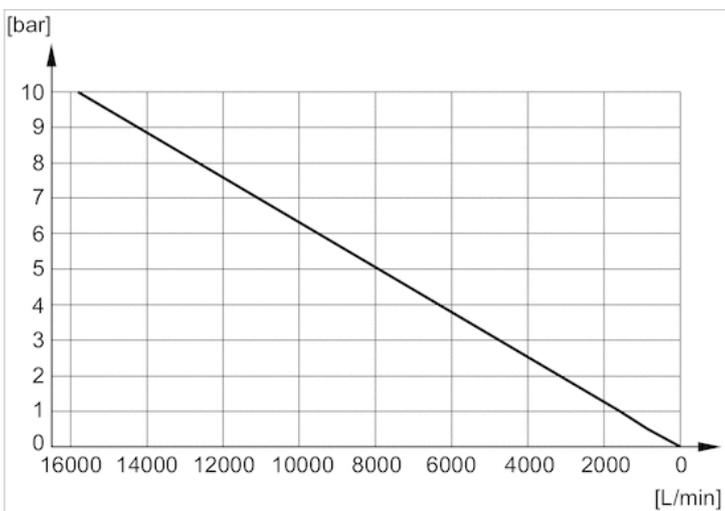
Flow diagram, 1827000035



Flow diagram, 8145003400



Flow diagram, 8145001000



Bearing block AB7-HD, Series CM1

- Suitable for robust mechanical engineering applications, with fixed bearing
- Cylinder mounting in accordance with ISO 15552
- Suitable piston \varnothing 32 40 50 63 80 100 125 160 200 250 mm



Standards

ISO 15552

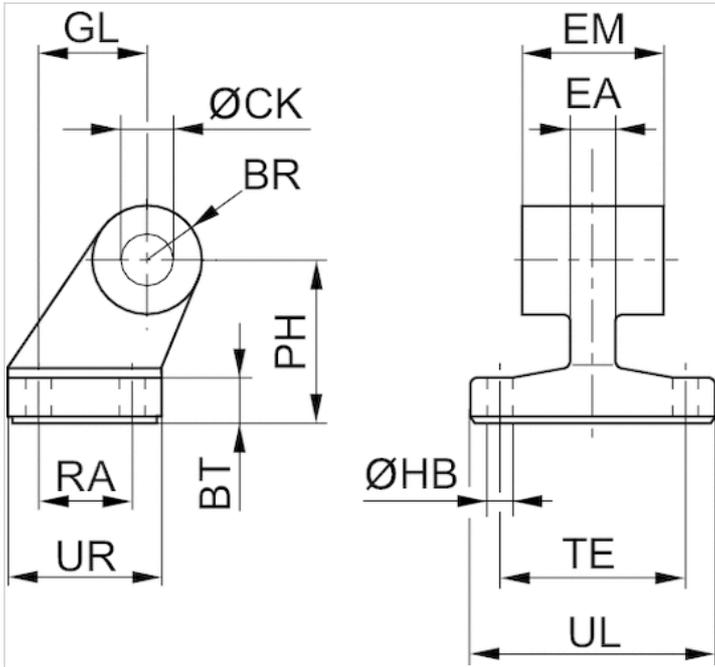
Technical data

Part No.	Piston \varnothing	Swivel bearing \varnothing
1825805275	32 mm	10 mm
1825805276	40 mm	12 mm
1825805277	50 mm	12 mm
1825805278	63 mm	16 mm
1825805279	80 mm	16 mm
1825805280	100 mm	20 mm
1825805281	125 mm	25 mm
1825805282	160 mm	30 mm
1825805283	200 mm	30 mm
1825805284	250 mm	40 mm

Technical information

Material	
Material	Nodular graphite iron galvanized
Screws	galvanized steel

Dimensions



Dimensions

Part No.	Piston \varnothing	BR	BT	$\varnothing CK$ H9	$\varnothing HB$ H13	EM	GL JS14	EA max.	PH JS15
1825805275	32 mm	10	8	10	6.6	26 -0,2/-0,6	21	10	32
1825805276	40 mm	11	10	12	6.6	28 -0,2/-0,6	24	12	36
1825805277	50 mm	13	12	12	9	32 -0,2/-0,6	33	16	45
1825805278	63 mm	15	12	16	9	40 -0,2/-0,6	37	16	50
1825805279	80 mm	15	14	16	11	50 -0,2/-0,6	47	20	63
1825805280	100 mm	19	15	20	11	60 -0,2/-0,6	55	20	71
1825805281	125 mm	22,5	20	25	14	70 -0,5/-1,5	70	30	90
1825805282	160 mm	31.5	25	30	14	90 -0,5/-1,5	97	36	115
1825805283	200 mm	31.5	30	30	18	90 -0,5/-1,5	105	40	135
1825805284	250 mm	40	35	40	22	110 -0,5/-1,5	128	45	165

RA JS14	TE JS14	UL max.	UR max.
18	38	51	31
22	41	54	35
30	50	65	45
35	52	67	50
40	66	86	60
50	76	96	70
60	94	124	90
88	118	156	126
90	122	162	130
110	150	200	160

Bearing block CS7, Series CM1

- With ball joint and foot
- Cylinder mounting in accordance with VDMA 24562 part 2
- Suitable piston Ø 32 40 50 63 80 100 125 160 200 250 mm



Standards

VDMA 24562 part 2

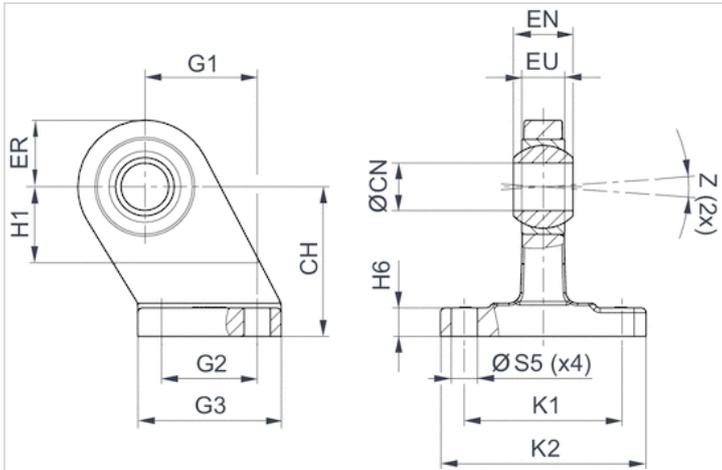
Technical data

Part No.	Piston Ø	Swivel bearing Ø
1827001784	32 mm	10 mm
1827001785	40 mm	12 mm
1827001786	50 mm	16 mm
1827001787	63 mm	16 mm
1827001788	80 mm	20 mm
1827001789	100 mm	20 mm
1827001790	125 mm	30 mm
1827001791	160 mm	35 mm
1827001792	200 mm	35 mm
1827001793	250 mm	40 mm

Technical information

Material	
Material	Nodular graphite iron galvanized

Dimensions



Dimensions

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

H1 min.	H6	K1 JS14	K2 max.	ØS5 H13	Z min.
16	9 ±1	38	51	6.6	4°
20	9 ±1	41	54	6.6	4°
22	11 ±1	50	65	9	4°
27	11 ±1	52	67	9	4°
31	12 ±1,5	66	86	11	4°
38	13 ±1,5	76	96	11	4°
40	17 ±1,5	94	124	14	4°
45	22 ±1,5	118	156	14	4°
45	27 ±2	122	162	18	4°
50	31 ±2	150	200	22	4°

Clevis mounting AB6, Series CM1

- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 160 200 250 mm



Standards

ISO 15552

Technical data

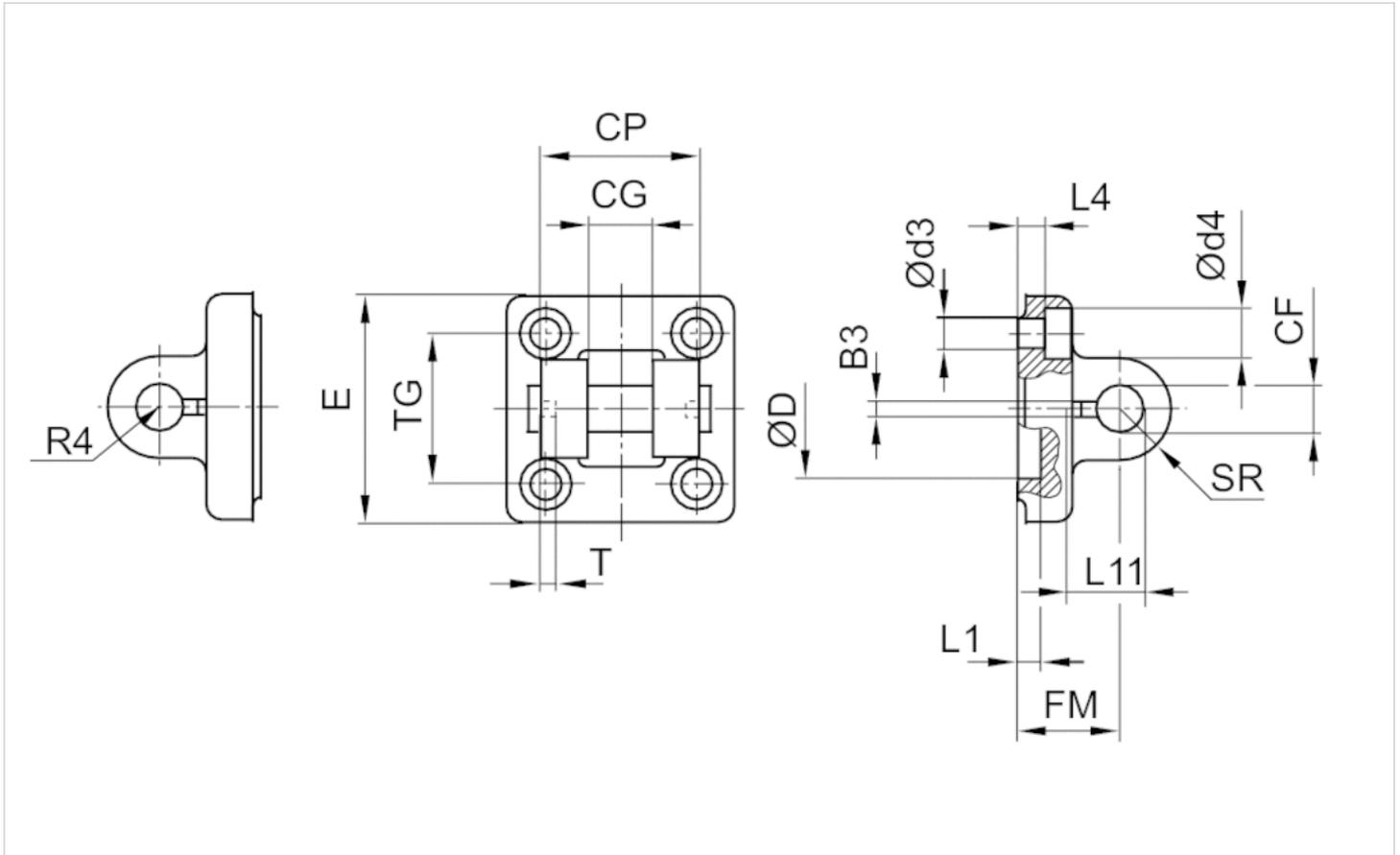
Part No.	Piston Ø	Swivel bearing Ø	Housing material	Surface
1827001593	32 mm	10 mm	Aluminum (forged)	-
1827001594	40 mm	12 mm	Aluminum (forged)	-
1827001595	50 mm	16 mm	Aluminum (forged)	-
1827002024	63 mm	16 mm	Aluminum (forged)	-
1827001597	80 mm	20 mm	Aluminum (forged)	-
1827001598	100 mm	20 mm	Aluminum (forged)	-
1827001599	125 mm	30 mm	Aluminum (forged)	-
1827001600	160 mm	35 mm	Nodular graphite iron	galvanized
1827001601	200 mm	35 mm	Nodular graphite iron	galvanized
1827001602	250 mm	40 mm	Nodular graphite iron	galvanized

Scope of delivery: clevis mounting incl. pivot pins and mounting screws

Technical information

Material	
Material	Aluminum (forged) Nodular graphite iron
	galvanized
Screws	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston Ø	B3 ±0,2	Ø CF F7	CG D10	CP d12	Ø d3	Ø d4	Ø D	E	FM ±0,2
1827001593	32 mm	3.3	10	14	34	6.6	11	30	49	22
1827001594	40 mm	4.3	12	16	40	6.6	11	35	55	25
1827001595	50 mm	4.3	16	21	45	9	15	40	67	27
1827002024	63 mm	4.3	16	21	51	9	15	45	77	32
1827001597	80 mm	4.3	20	25	65	11	18	45	97	36
1827001598	100 mm	4.3	20	25	75	11	18	55	117	41
1827001599	125 mm	6.3	30	37	97	14	20	60	140	50
1827001600	160 mm	6.3	35	43	122	18	26	65	180	55
1827001601	200 mm	6.3	35	43	122	18	26	75	220	60
1827001602	250 mm	8.3	40	49	125	22	33	90	280	70

L1 min.	L4 ±0,5	L11 -0,5	R4	SR	T ±0,2	TG
4.5	5.5	16.5	17	11	3	32,5 ±0,2
4.5	5.5	18	20	12	4	38 ±0,2
4.5	6.5	23	22	15	4	46,5 ±0,2
4.5	6.5	23	25	15	4	56,5 ±0,2
4.5	10	27	30	20	4	72 ±0,2
4.5	10	27	32	20	4	89 ±0,2
7	10	40	42	26	6	110 ±0,3

L1 min.	L4 ±0,5	L11 -0,5	R4	SR	T ±0,2	TG
10	10	45	46	32.5	6	140 ±0,3
10	11	45	49	32.5	6	175 ±0,3
12	11	53	55	40	8	220 ±0,3

Clevis mounting MP2-HD, Series CM1

- Suitable for robust mechanical engineering applications
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 160 200 250 mm



Standards

ISO 15552

Technical data

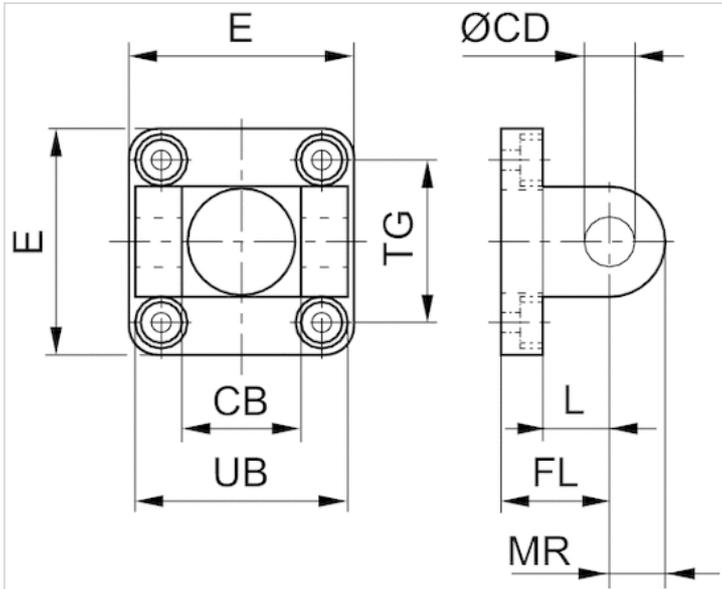
Part No.	Piston Ø	Swivel bearing Ø	Housing material	Surface
1827001289	32 mm	10 mm	Aluminum (forged)	-
1827001290	40 mm	12 mm	Aluminum (forged)	-
1827001291	50 mm	12 mm	Aluminum (forged)	-
1827001500	63 mm	16 mm	Aluminum (forged)	-
1827001293	80 mm	16 mm	Aluminum (forged)	-
1827001294	100 mm	20 mm	Aluminum (forged)	-
1827004862	125 mm	25 mm	Aluminum (forged)	-
1827004863	160 mm	30 mm	Nodular graphite iron	galvanized
1827004864	200 mm	30 mm	Nodular graphite iron	galvanized
1827004865	250 mm	40 mm	Nodular graphite iron	galvanized

Scope of delivery: clevis mounting incl. mounting screws

Technical information

Material	
Material	Aluminum (forged) Nodular graphite iron galvanized
Screws	Steel galvanized

Dimensions



Dimensions

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

Rear eye MP4-HD, Series CM1

- Suitable for robust mechanical engineering applications, for clevis mounting MP2 and AB3
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 160 200 250 mm



Standards

ISO 15552

Technical data

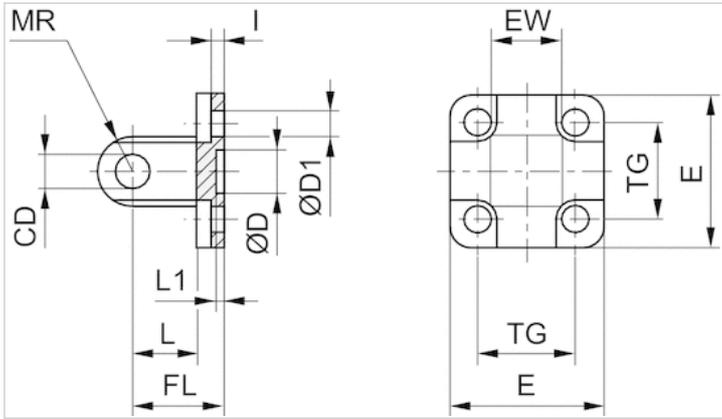
Part No.	Piston Ø	Swivel bearing Ø	Housing material	Surface
1827001283	32 mm	10 mm	Aluminum (forged)	-
1827001284	40 mm	12 mm	Aluminum (forged)	-
1827001285	50 mm	12 mm	Aluminum (forged)	-
1827020086	63 mm	16 mm	Aluminum (forged)	-
1827001287	80 mm	16 mm	Aluminum (forged)	-
1827001288	100 mm	20 mm	Aluminum (forged)	-
1827004866	125 mm	25 mm	Aluminum (forged)	-
1827004867	160 mm	30 mm	Nodular graphite iron	galvanized
1827004868	200 mm	30 mm	Nodular graphite iron	galvanized
1827004869	250 mm	40 mm	Nodular graphite iron	galvanized

Scope of delivery: clevis incl. mounting screws

Technical information

Material	
Material	Aluminum (forged) Nodular graphite iron galvanized
Screws	Steel galvanized

Dimensions



Dimensions

Part No.	Piston Ø	CD H9	Ø D	Ø D1	E	EW	FL ±0,2	I ±0,5	L min.	L1 min.
1827001283	32 mm	10	30 H11	6.6	48	26 -0,2/-0,6	22	5.5	12	4.5
1827001284	40 mm	12	35 H11	6.6	53	28 -0,2/-0,6	25	5.5	15	4.5
1827001285	50 mm	12	40 H11	9	63	32 -0,2/-0,6	27	6.5	15	4.5
1827020086	63 mm	16	45 H11	9	73	40 -0,2/-0,6	32	6.5	20	4.5
1827001287	80 mm	16	45 H11	11	98	50 -0,2/-0,6	36	10	20	4.5
1827001288	100 mm	20	55 H11	11	115	60 -0,2/-0,6	41	10	25	4.5
1827004866	125 mm	25	60 H11	14	140	70 -0,5/-1,2	50	10	30	7
1827004867	160 mm	30	65 H11	18	180	90 -0,5/-1,2	55	10	35	7
1827004868	200 mm	30	75 H11	18	220	90 -0,5/-1,2	60	11	35	7
1827004869	250 mm	40	90 H11	22	280	110 -0,5/-1,2	70	11	45	11

MR max.	TG
10	32,5 ±0,2
12	38 ±0,2
12	46,5 ±0,2
16	56,5 ±0,2
16	72 ±0,2
20	89 ±0,2
26	110 ±0,3
31	140 ±0,3
31	175 ±0,3
41	220 ±0,3

Rear eye MP6, Series CM1

- With ball joint and foot
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 mm



Standards

ISO 15552

Weight

See table below

Technical data

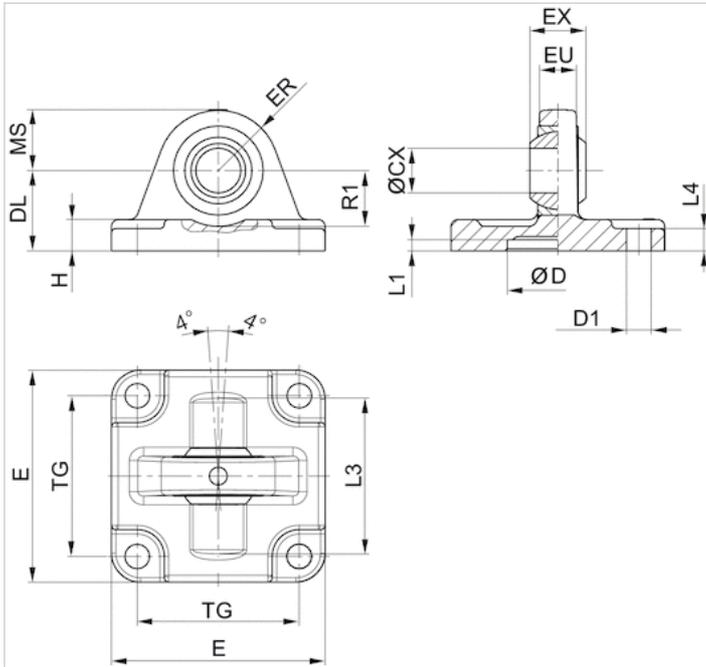
Part No.	Piston Ø	Swivel bearing Ø	Bearing material, inner ring	Bearing material, outer ring	Weight
1827001619	32 mm	10 mm	Stainless steel	Brass with PTFE coating	0.1 kg
1827001620	40 mm	12 mm	Stainless steel	Brass with PTFE coating	0.1 kg
1827001621	50 mm	16 mm	Stainless steel	Brass with PTFE coating	0.2 kg
1827020087	63 mm	16 mm	Stainless steel	Brass with PTFE coating	0.3 kg
1827001623	80 mm	20 mm	Stainless steel	Brass with PTFE coating	0.6 kg
1827001624	100 mm	20 mm	Stainless steel	Brass with PTFE coating	0.8 kg
1827001625	125 mm	30 mm	Stainless steel	Brass with PTFE coating	1.4 kg

Scope of delivery: clevis incl. mounting screws

Technical information

Material	
Material	Aluminum (forged)
Screws	galvanized steel
Bearing	Stainless steel

Dimensions



Dimensions

Part No.	Piston Ø	ØCX H7	ØD H11	ØD1 H13	DL ±0,2	E	EX -0,1	ER	EU	H	L1 min.
1827001619	32 mm	10	30	6.6	22	47	14	15	10.5	9	4.5
1827001620	40 mm	12	35	6.6	25	53	16	18	12	9	4.5
1827001621	50 mm	16	40	9	27	65	21	20	15	10.5	4.5
1827020087	63 mm	16	45	9	32	75	21	23	15	10.5	4.5
1827001623	80 mm	20	45	11	36	95	25	27	18	14	4.5
1827001624	100 mm	20	55	11	41	115	25	30	18	15	4.5
1827001625	125 mm	30	60	14	50	140	37	40	25	16	7

L3	L4	MS -0,5	R1 min.	TG
36	5.5	15	12	32,5 ±0,2
42	5.5	18	15	38 ±0,2
48	6.5	21	19	46,5 ±0,2
55	6.5	23	21	56,5 ±0,2
70	10	27	24	72 ±0,2
80	10	30	25	89 ±0,2
100	10	40	33	110 ±0,3

Rear eye MP9, Series CM1

- With rubber bushing
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 mm



Standards
Weight

See table below
See table below

Technical data

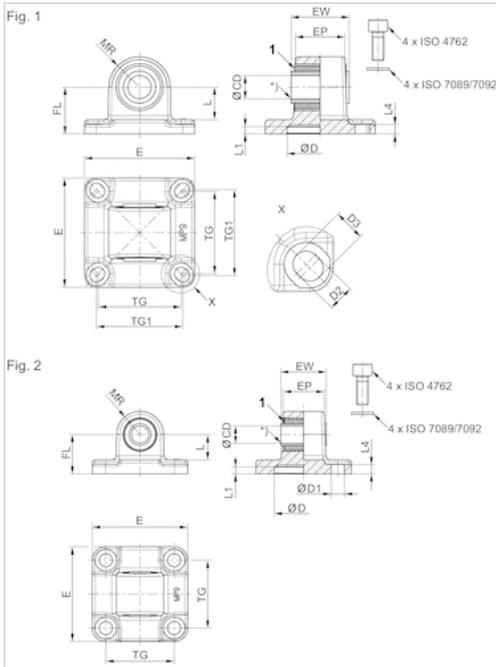
Part No.	Piston Ø	Swivel bearing Ø	Standardization	Weight	Fig.
3683203000	32 mm	10 mm	ISO 15552	0.092 kg	Fig. 2
3683204000	40 mm	12 mm	ISO 15552	0.143 kg	Fig. 1
3683205000	50 mm	12 mm	ISO 15552	0.217 kg	Fig. 2
3683206000	63 mm	16 mm	ISO 15552	0.411 kg	Fig. 1
3683208000	80 mm	16 mm	ISO 15552	0.64 kg	Fig. 2
3683210000	100 mm	20 mm	ISO 15552	0.956 kg	Fig. 1
3663208000	80 mm	16 mm	-	0.619 kg	Fig. 2

Scope of delivery: clevis incl. mounting screws

Technical information

Material	
Material	Aluminum (forged)
Bearing	Bronze

Dimensions



1) Rubber bushing

Dimensions

Part No.	Piston Ø	CD H11	CD H9	E	EW	EP	TG	TG1 ±0,2	FL ±0,2	L 1)	MR	L1	L4
3683203000	32 mm	10	-	46	25.5	18,9	32.5	-	22	13.8	12.5	5	5.5
3683204000	40 mm	-	12	53	27	23,5	38	40	25	16.3	15	5	5.5
3683205000	50 mm	-	12	65	31	28	46.5	-	27	17.3	16	5	6.5
3683206000	63 mm	-	16	75	39.5	33.5	56.5	59	32	22.3	21	5	6.5
3683208000	80 mm	-	16	94.5	49.5	43	72	-	36	21.8	22	5	10
3683210000	100 mm	-	20	114	59.5	54	89	90	41	25.8	25	5	10

D H11	D1 H13	D2 -0,2	D3 -0,2	Fig.
30	6.6	-	-	Fig. 2
35	-	6.6	8	Fig. 1
40	9	-	-	Fig. 2
45	6.6	-	-	Fig. 1
45	11	-	-	Fig. 2
55	-	11	11.7	Fig. 1

Trunnion mounting MT5, MT6, Series CM1

- for mounting to the cylinder cover or base
- Suitable piston Ø 32 40 50 63 80 100 125 160 200 250 mm
- for series CCI, CVI, CCL-IC/-IS, PRA/TRB CVI, CCL-IS, PRA, TRB ITS, TRB



Weight

See table below

The delivered product may vary from that in the illustration.

Technical data

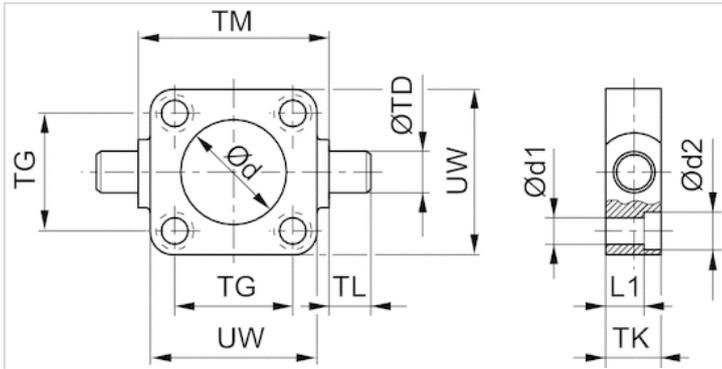
Part No.	Piston Ø	Weight
1827001609	32 mm	0.29 kg
1827001610	40 mm	0.5 kg
1827001611	50 mm	0.7 kg
1827002046	63 mm	1.1 kg
1827001613	80 mm	1.5 kg
1827001614	100 mm	2.7 kg
1827001615	125 mm	3.8 kg
1827001616	160 mm	5.5 kg
1827001617	200 mm	9.7 kg
1827001618	250 mm	15.7 kg

Scope of delivery: trunnion mounting incl. mounting screws

Technical information

Material	
Material	Nodular graphite iron
	galvanized
Screws	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston \varnothing	$\varnothing d$ H11	$\varnothing d1$	$\varnothing d2$	L1	TD e9	TG $\pm 0,2$	TK	TL h14	TM h14	UW
1827001609	32 mm	30	6.6	11	7.5	12	32.5	16	12	50	48
1827001610	40 mm	35	6.6	11	7.5	16	38	20	16	63	56
1827001611	50 mm	40	9	15	10	16	46.5	24	16	75	65
1827002046	63 mm	45	9	15	10	20	56.5	24	20	90	75
1827001613	80 mm	45	11	18	16	20	72	28	20	110	100
1827001614	100 mm	55	11	18	25.5	25	89	38	25	132	120
1827001615	125 mm	60	14	20	34	25	110	46	25	160	145
1827001616	160 mm	65	18	26	38	32	140	50	32	200	184
1827001617	200 mm	75	18	26	40	32	175	60	32	250	224
1827001618	250 mm	90	22	33	57	40	220	70	40	320	286

Bearing, Series CM1

- for trunnion mounting
- Suitable piston \varnothing 32 40, 50 63, 80 100, 125 mm



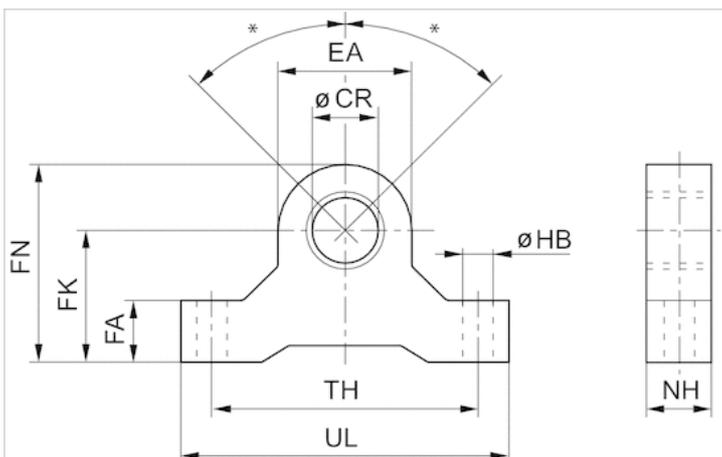
Technical data

Part No.	Piston \varnothing	Swivel bearing \varnothing	Scope of delivery
3671203000	32 mm	12 mm	2 piece
3671204000	40, 50 mm	16 mm	2 piece
3671206000	63, 80 mm	20 mm	2 piece
3671210000	100, 125 mm	25 mm	2 piece

Technical information

Material	
Material	Aluminum

Dimensions



* Max. pendulum movement for cylinders with rear eye MP6 with ball joint: $\pm 45^\circ$

Dimensions

Part No.	Ø CR H8	EA	FA	FK ±0,1	FN	HB	NH	TH	UL
3671203000	12	19	11	22	32	6.6	11	44	55
3671204000	16	28	16	35	49	9	16	65	82
3671206000	20	38	19	40	59	9	19	80	99
3671210000	25	46	22	48	71	11	22	96	118

Bearing AT4, Series CM1

- for trunnion mounting MT4, MT5, MT6
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 20, 25, 32 40, 50 63, 80 100, 125 mm
- for series CCI, CCL-IC, ICL, KPZ, PRA/TRB CCI, CCL-IC, KPZ, PRA/TRB



Standards

ISO 15552

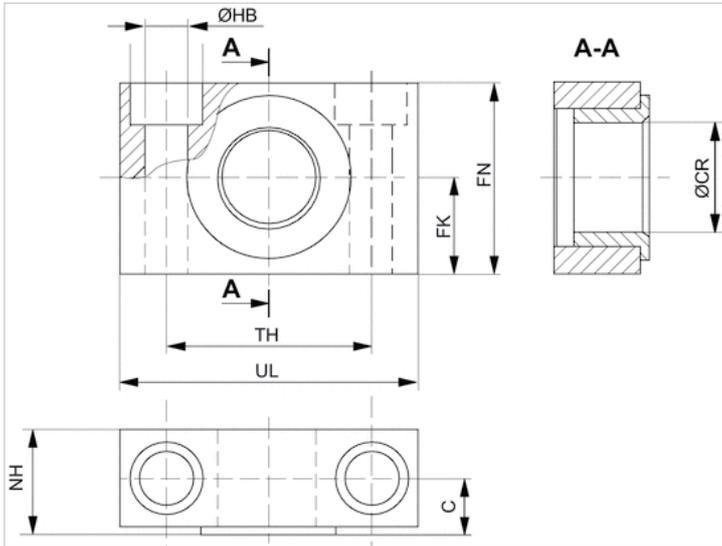
Technical data

Part No.	Piston Ø	Swivel bearing Ø	Scope of delivery
1827001603	20, 25, 32 mm	12 mm	2 piece
1827001604	40, 50 mm	16 mm	2 piece
1827001605	63, 80 mm	20 mm	2 piece
1827001606	100, 125 mm	25 mm	2 piece

Technical information

Material	
Material	Steel
	galvanized
Guide bushing	Sintered bronze

Dimensions



Dimensions

Part No.	Piston Ø	UL	NH	TH	C	CR H9	HB H13	FN	FK	Plain bearing
1827001603	20, 25, 32 mm	46	18	32 ±0,2	10.5	12	6.6	30	15 ±0,1	Sintered bronze
1827001604	40, 50 mm	55	21	36 ±0,2	12	16	9	36	18 ±0,1	Sintered bronze
1827001605	63, 80 mm	65	23	42 ±0,2	13	20	11	40	20 ±0,1	Sintered bronze
1827001606	100, 125 mm	75	28.5	50 ±0,2	16	25	14	50	25 ±0,1	Sintered bronze

Flange mounting MF1, MF2, Series CM1

- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 160 200 250 mm



Standards

ISO 15552

Technical data

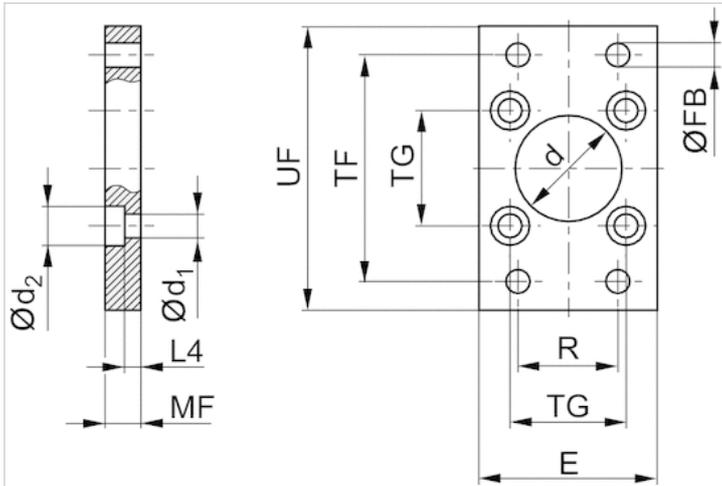
Part No.	Piston Ø	Swivel bearing Ø
1827001277	32 mm	30 mm
1827001278	40 mm	35 mm
1827001279	50 mm	40 mm
1827001499	63 mm	45 mm
1827001281	80 mm	45 mm
1827001282	100 mm	55 mm
1827004861	125 mm	60 mm
1827001460	160 mm	65 mm
1827001461	200 mm	75 mm
1827001462	250 mm	90 mm

Scope of delivery: flange mounting incl. mounting screws

Technical information

Material	
Material	Steel
	galvanized
Screws	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston Ø	Ød H11	Ød1	Ød2	E max.	ØFB	L4	MF	R	TF	TG	UF
1827001277	32 mm	30	6.6	11	50	7	4.5	10	32	64	32,5 ±0,2	80
1827001278	40 mm	35	6.6	11	55	9	4.5	10	36	72	38 ±0,2	90
1827001279	50 mm	40	9	15	65	9	6	12	45	90	46,5 ±0,2	110
1827001499	63 mm	45	9	15	75	9	6	12	50	100	56,5 ±0,2	125
1827001281	80 mm	45	11	18	100	12	9	16	63	126	72 ±0,2	154
1827001282	100 mm	55	11	18	120	14	9	16	75	150	89 ±0,2	186
1827004861	125 mm	60	14	20	140	16	10.5	20	90	180	110 ±0,3	220
1827001460	160 mm	65	18	26	180	18	9.5	20	115	230	140 ±0,3	275
1827001461	200 mm	75	18	26	220	22	12.5	25	135	270	175 ±0,3	312
1827001462	250 mm	90	22	33	280	26	10.5	25	165	330	220 ±0,3	380

Intermediate flange JP1, Series CM1

- for multi-position cylinders

- Suitable piston Ø 32 40 50 63 80 100 125 mm



Technical data

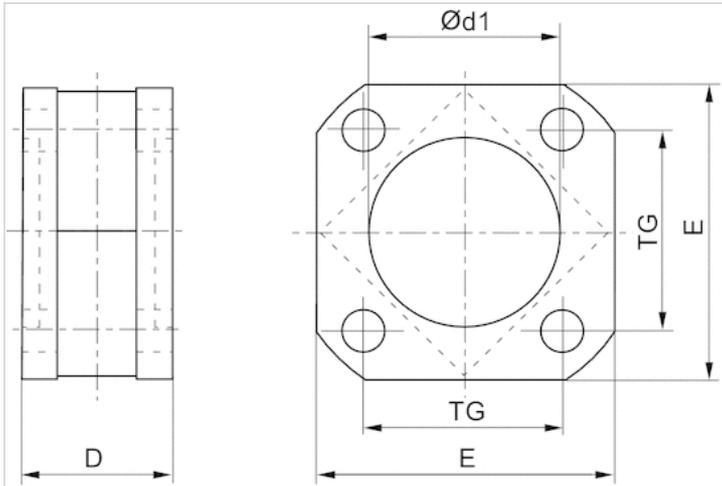
Part No.	Piston Ø
1827020247	32 mm
1827020248	40 mm
1827020249	50 mm
1827020250	63 mm
1827020251	80 mm
1827020252	100 mm
1827020253	125 mm

Scope of delivery incl. mounting screws

Technical information

Material	
Material	Aluminum

Dimensions



Dimensions

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

Foot mounting MS1, Series CM1

- to mount on cylinder PRA, TRB, CCL-IS/-IC, CCI, KPZ, 167, CVI, ITS
- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 160 200 250 mm



Standards

ISO 15552

Technical data

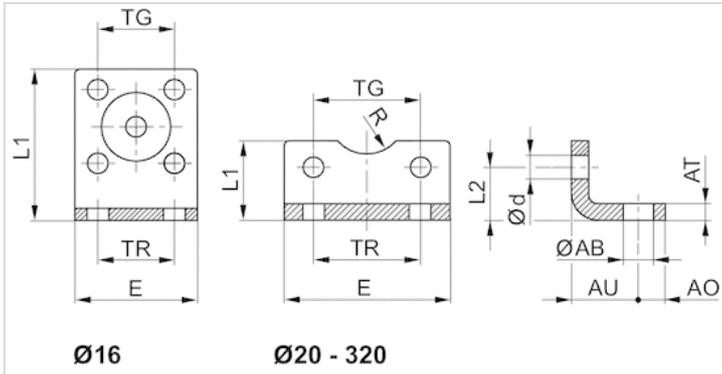
Part No.	Piston Ø	For series
1827001271	32 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001272	40 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001273	50 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001498	63 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001275	80 mm	PRA/TRB CCL-IC/-IS CCI CVI
1827001276	100 mm	CCI CCL-IC/-IS PRA/TRB CVI
1827001310	125 mm	PRA/TRB CCL-IS CVI
1827001457	160 mm	ITS
1827001458	200 mm	ITS
1827001459	250 mm	ITS

Scope of delivery: 2 foot mountings incl. mounting screws

Technical information

Material	
Material	Steel
	galvanized
Screws	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston Ø	ØAB	AO	AT	AU ±0,2	Ød	E	L1	L2	R	TG	TR
1827001271	32 mm	7	8	4 ±0,3	24	6.6	48	25	15.5	15	32,5 ±0,2	32
1827001272	40 mm	10	10	4 ±0,3	28	6.6	56	26	17	17.5	38 ±0,2	36
1827001273	50 mm	10	11	5 ±0,3	32	9	68	32	21.5	20	46,5 ±0,2	45
1827001498	63 mm	10	13	5 ±0,3	32	9	78	34	21.5	22.5	56,5 ±0,2	50
1827001275	80 mm	12	16	6 ±0,5	41	11	98	47	27	22.5	72 ±0,2	63
1827001276	100 mm	14.5	19	6 ±0,5	41	11	117	52	26.5	27.5	89 ±0,2	75
1827001310	125 mm	16.5	20	8 ±1,0	45	13.5	144	69	35	30	110 ±0,3	90
1827001457	160 mm	18.5	23	10 ±1,0	60	17.5	185	100	45	32.5	140 ±0,3	115
1827001458	200 mm	24	26	12 ±1,0	70	17.5	220	120	47.5	37.5	175 ±0,3	135
1827001459	250 mm	28	33	20 ±1,0	75	22	280	135	55	45	220 ±0,3	165

Bolts AA4, Series CM1

- Cylinder mounting in accordance with ISO 15552
- Suitable piston Ø 32 40 50 63 80 100 125 160, 200 250 320 mm



Standards
Weight

See table below
See table below

Technical data

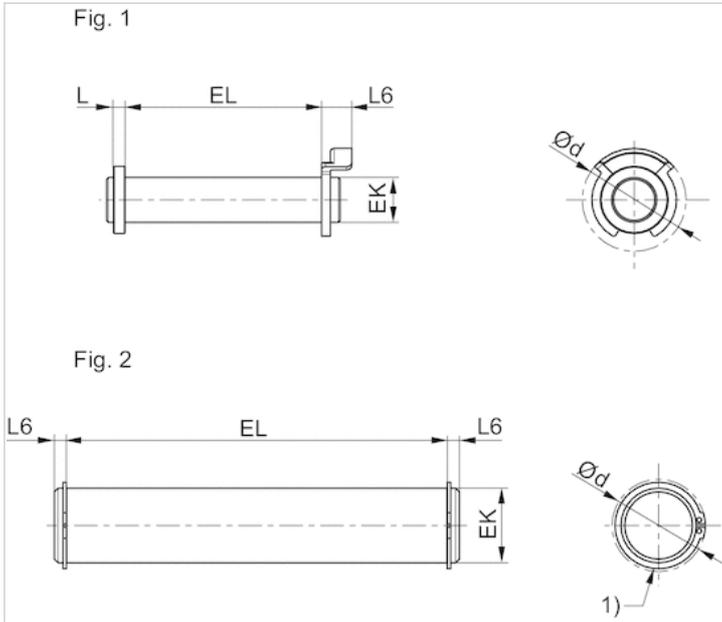
Part No.	Piston Ø	Standardization	Weight	Fig.
1823120020	32 mm	-	0.03 kg	Fig. 1
1823120021	40 mm	-	0.05 kg	Fig. 1
1823120022	50 mm	-	0.06 kg	Fig. 1
1823120023	63 mm	-	0.12 kg	Fig. 1
1823120024	80 mm	-	0.15 kg	Fig. 1
1823120025	100 mm	-	0.29 kg	Fig. 1
5236000092	125 mm	ISO 15552	0.53 kg	Fig. 2
5237000092	160, 200 mm	ISO 15552	0.99 kg	Fig. 2
5239000092	250 mm	ISO 15552	2.12 kg	Fig. 2
5239010092	320 mm	ISO 15552	3.01 kg	Fig. 2

Scope of delivery: pivot pins incl. circlips

Technical information

Material	
Material	Steel
	galvanized

Dimensions



Dimensions

Part No.	Piston Ø	Fig.	Ø d max.	EK e8	EL	L max.	L6 max.
1823120020	32 mm	Fig. 1	20	10	45.2 +0,3	3.5	9
1823120021	40 mm	Fig. 1	22	12	52.2 +0,3	4	9
1823120022	50 mm	Fig. 1	22	12	60.2 +0,3	4	9
1823120023	63 mm	Fig. 1	28	16	70.2 +0,3	4.5	11
1823120024	80 mm	Fig. 1	28	16	90.2 +0,3	4.5	11
1823120025	100 mm	Fig. 1	38	20	110.2 +0,3	5	11
5236000092	125 mm	Fig. 2	34.2	25	132 +0,5	-	3.75
5237000092	160, 200 mm	Fig. 2	40.5	30	172 +0,5	-	4.25
5239000092	250 mm	Fig. 2	52.6	40	202 +0,5	-	6.75
5239010092	320 mm	Fig. 2	59.1	45	222 +0,5	-	7.25

Guide unit GU1, Series CG1

- Ø 32-100 mm
- Plain bearing
- For standard cylinders ISO 15552



Bearing type

Plain bearing

Ambient temperature min./max.

-20 ... 80 °C

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Stroke 50	0821401010	0821401020	0821401030	0821401480	0821401050	0821401060
100	0821401011	0821401021	0821401031	0821401481	0821401051	0821401061
160	0821401012	0821401022	0821401032	0821401482	0821401052	0821401062
200	0821401013	0821401023	0821401033	0821401483	0821401053	0821401063
250	0821401014	0821401024	0821401034	0821401484	0821401054	0821401064
320	0821401015	0821401025	0821401035	0821401485	0821401055	0821401065
400	0821401016	0821401026	0821401036	0821401486	0821401056	0821401066
500	0821401017	0821401027	0821401037	0821401487	0821401057	0821401067
600	0821401018	0821401028	0821401038	0821401488	0821401058	0821401068
800	0821401019	0821401029	0821401039	0821401489	0821401059	0821401069
1000	0821401500	0821401502	0821401504	0821401490	0821401508	0821401510
1200	0821401501	0821401503	0821401505	0821401491	0821401509	0821401511

For use with hybrid inch cylinders with metric piston rod thread

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Weight 0 mm stroke	0.63 kg	0.946 kg	1.36 kg	1.66 kg	3.45 kg	4.69 kg
+10 mm stroke	0.012 kg	0.018 kg	0.018 kg	0.018 kg	0.022 kg	0.022 kg

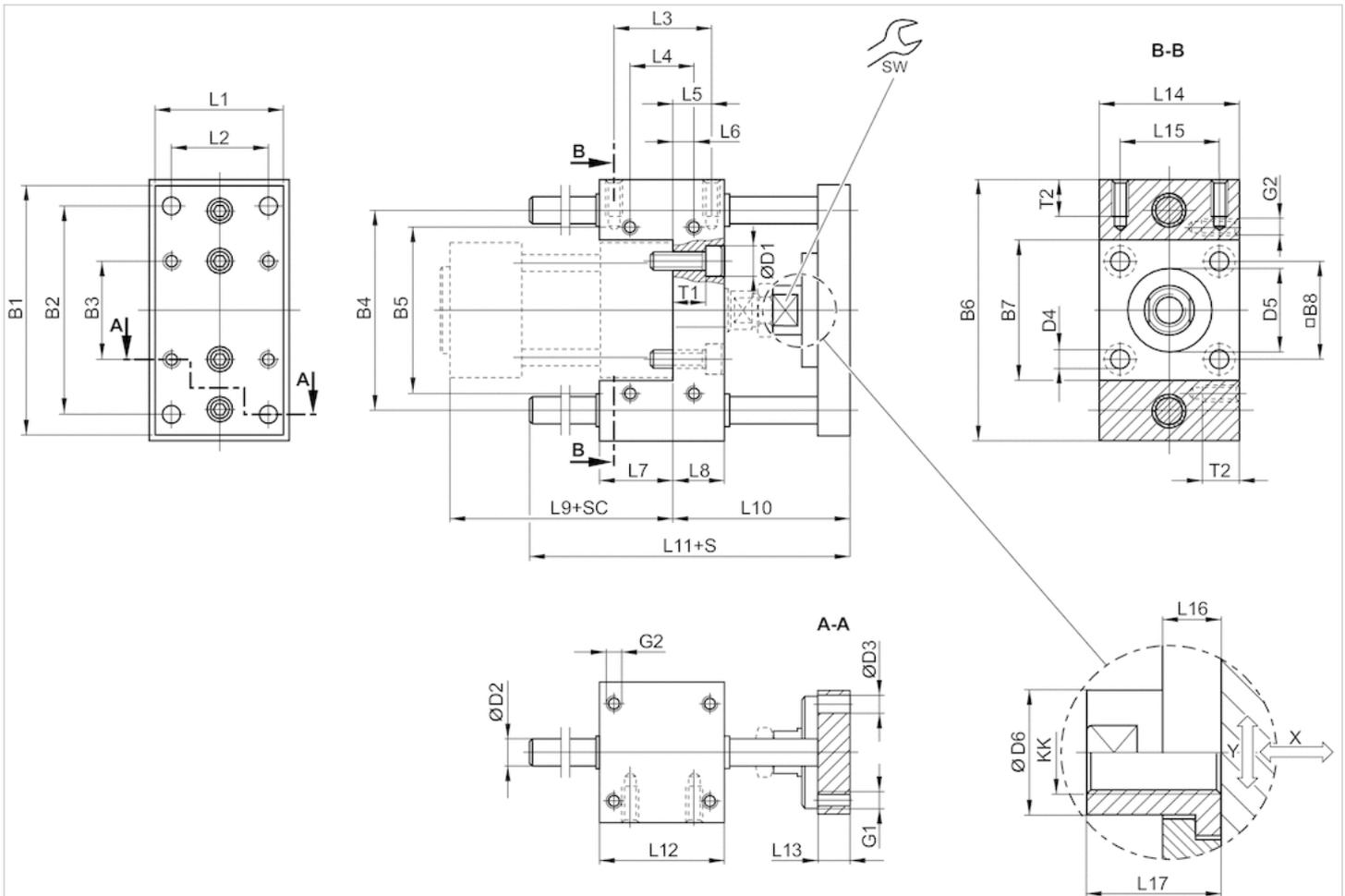
Technical information

Material	
Bearing housings	Aluminum, colorless anodized
Bearing type	Sintered bronze
Carrying plate	Aluminum, colorless anodized

Material	
Flexible coupling in carrying plate	Stainless steel
Guide rods	Hardened heat-treated steel, ground

Dimensions

Ø 32 ... 100 mm



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

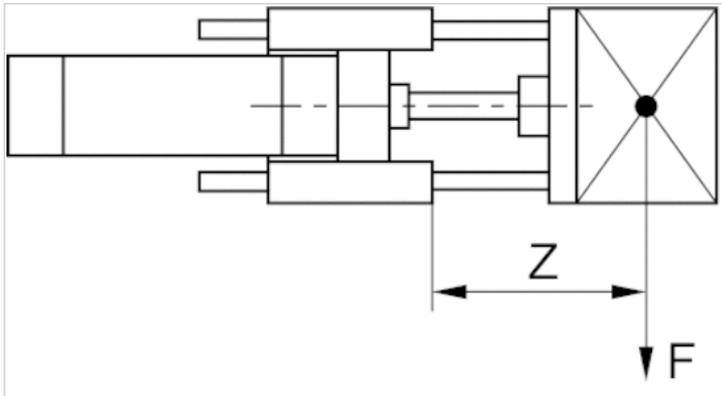
Dimensions

Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	D1	D2	D3	D4	D5	D6	G1	G2	KK	L1
32 mm	90	78	32.5	74	58	100	48	32.5	11	10	6.6	6.6	30 M8	18	M6	M6	M10x1,25	45
40 mm	100	84	38	80	64	106	54	38	11	12	6.6	6.6	35 M8	18	M6	M6	M12x1,25	50
50 mm	120	100	46.5	96	80	125	66	46.5	15	12	9	9	40 M8	24	M8	M8	M16x1,5	60
63 mm	125	105	56.5	104	95	132	76	56.5	15	12	9	9	45 M8	24	M8	M8	M16x1,5	70
80 mm	155	130	72	130	130	165	98	72	18	16	11	11	45 M8	30	M10	M10	M20x1,5	90
100 mm	175	150	89	150	150	185	118	89	18	16	11	11	55 M8	30	M10	M10	M20x1,5	110

Piston Ø	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	L17	SW	T1	T2
32 mm	32.5	32.5	32.5	9.25	9.25	31	17	94	69	106	48	12	48	32.5	14	22	15	10	14
40 mm	38	38	38	11	11	37	21	105	74	117	58	12	56	38	14	22	15	14	14
50 mm	46.5	46.5	46.5	18.75	18.75	34	25	106	89	129	59	15	66	46.5	14	26	22	16	16
63 mm	56.5	56.5	56.5	15.25	15.25	51	25	121	89	146	76	15	76	56.5	14	26	22	16	16
80 mm	72	72	50	25	14	56	34	128	106	170	90	16	98	72	14	32	27	24	20
100 mm	89	89	70	28.5	19	71	39	138	111	190	110	16	118	89	14	32	27	29	20

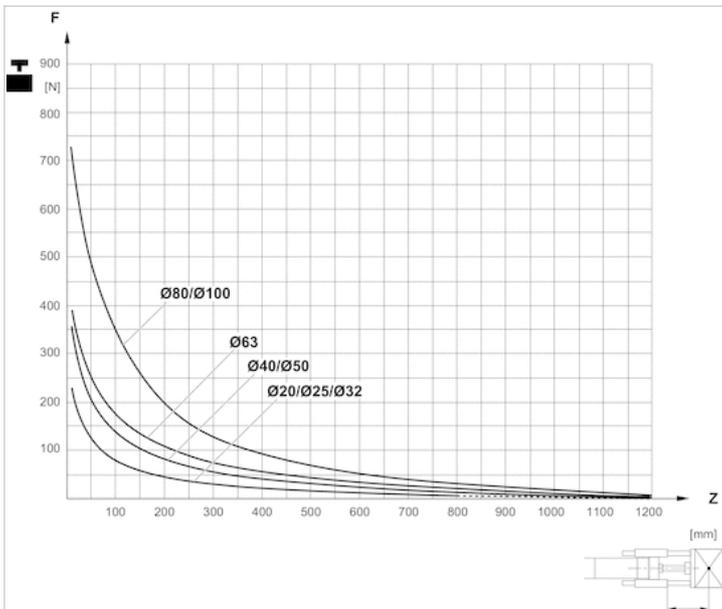
Diagrams

Useful load



F = Useful load, Z = Projection

Useful load



F = Useful load, Z = Projection

Guide unit GH1, Series CG1

- Ø 32-100 mm
- Plain bearing
- For standard cylinders ISO 15552



Bearing type

Plain bearing

Ambient temperature min./max.

-20 ... 80 °C

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Stroke 50	0821401220	0821401230	0821401240	0821401280	-	-
100	0821401221	0821401231	0821401241	0821401281	0821401260	0821401270
160	0821401222	0821401232	0821401242	0821401285	-	-
200	0821401223	0821401233	0821401243	0821401282	0821401261	0821401271
250	0821401224	0821401234	0821401244	0821401286	-	-
320	0821401225	0821401235	0821401245	0821401283	0821401262	0821401272
400	0821401226	0821401236	0821401246	0821401287	-	-
500	0821401227	0821401237	0821401247	0821401284	0821401263	0821401273
600	0821401228	0821401238	0821401249	0821401288	0821401264	0821401274
800	0821401229	0821401239	0821401474	0821401289	0821401265	0821401275
1000	0821401470	0821401472	0821401475	0821401290	0821401266	0821401276
1200	0821401471	0821401473	0821401476	0821401291	0821401267	0821401277

Inch dimensions rounded to the nearest whole number., For use with hybrid inch cylinders with metric piston rod thread

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Weight 0 mm stroke	1.3 kg	2.3 kg	3.7 kg	4.7 kg	8.8 kg	11.1 kg
+10 mm stroke	0.009 kg	0.016 kg	0.025 kg	0.025 kg	0.039 kg	0.039 kg

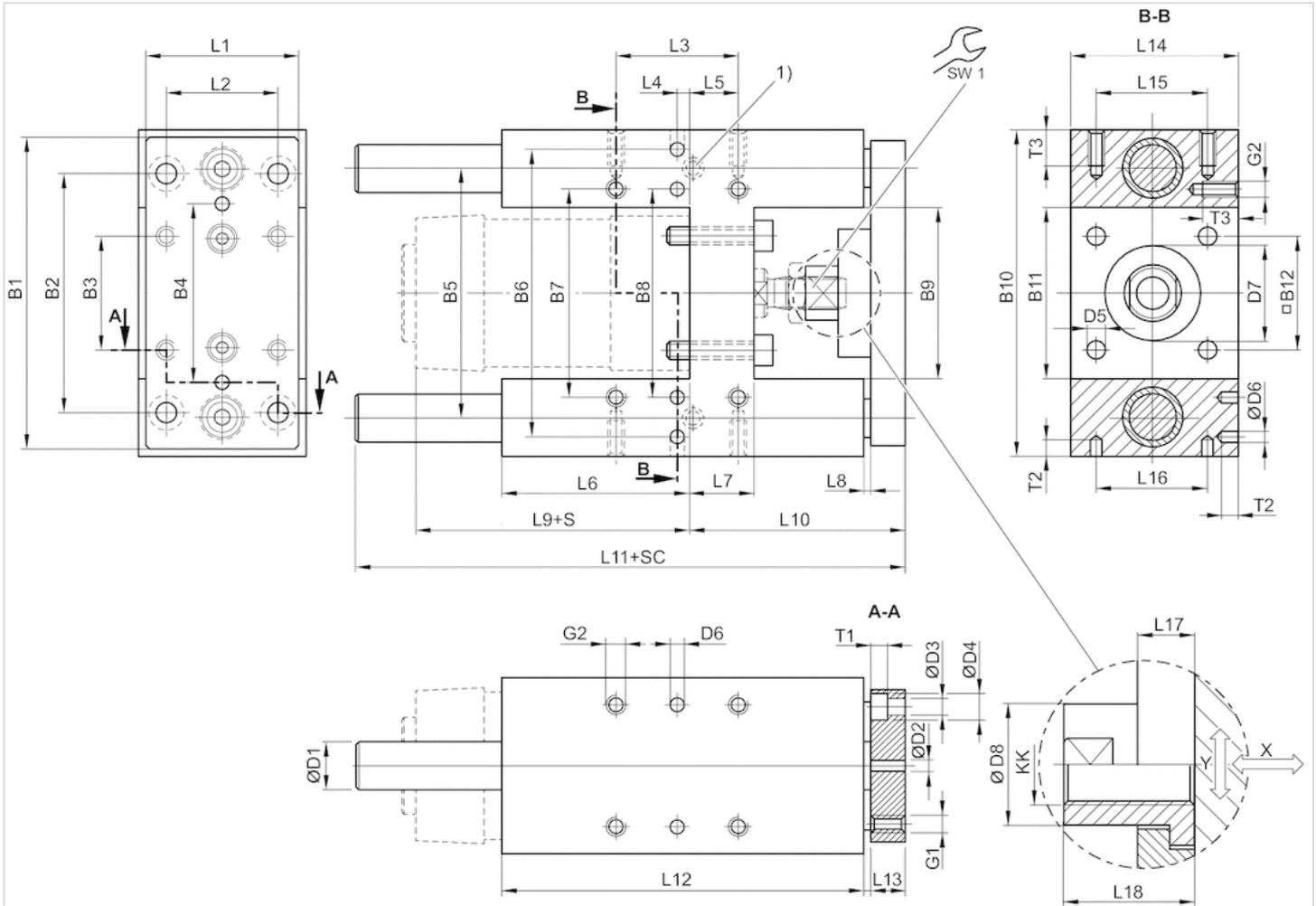
Technical information

Material	
Bearing housings	Aluminum, colorless anodized
Bearing type	Sintered bronze
Carrying plate	Aluminum, colorless anodized

Material	
Flexible coupling in carrying plate	Stainless steel
Guide rods	Hardened heat-treated steel, ground

Dimensions

Ø 32 ... 100 mm



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

Dimensions

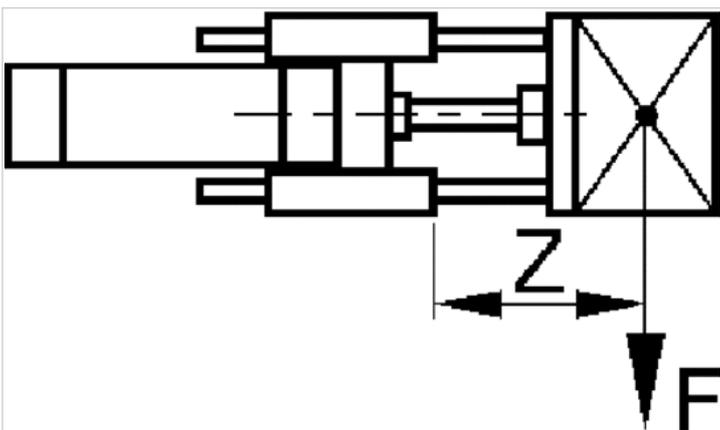
Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	D1	D2 H7	D3	D4	D5	D6 H7
32 mm	90	78	32.5	50	74	81	61	61	50.2	97	50.2	32.5	12	6	6.6	11	6.6	6
40 mm	110	84	38	54	87	99	69	69	58.2	115	58.2	38	16	6	6.6	11	6.6	6
50 mm	130	100	46.5	72	104	119	85	85	70.2	137	70.2	46.5	20	6	9	15	9	6
63 mm	145	105	56.5	82	119	132	100	100	85.2	152	85.2	56.5	20	6	9	15	9	6
80 mm	180	130	72	106	148	166	130	130	105.4	189	105.4	72	25	6	11	18	11	6
100 mm	200	150	89	131	172	190	150	150	130.4	213	130.4	89	25	6	11	18	11	6

Piston Ø	D7 M8	D8	G1	G2	KK	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
32 mm	30	14.5	M6	M6	M10x1,25	45	32.5	32.5	12	4.25	76	17	3	94	64	177.5	125
40 mm	35	18	M6	M6	M12x1,25	54	38	38	8	11	81	21	3	105	74	192.5	140
50 mm	40	24	M8	M8	M16x1,5	63	46.5	46.5	4.5	18.75	79	26	3	106	89	205	150
63 mm	45	24	M8	M8	M16x1,5	80	56.5	56.5	13	15.25	111	26	3	121	89	237	182
80 mm	45	30	M10	M10	M20x1,5	100	72	72	15	21	128	34	3	128	110	280	215
100 mm	55	30	M10	M10	M20x1,5	120	89	89	20	24.5	128	39	3	138	115	280	220

Piston Ø	L13	L14	L15	L16	L17	L18	T1	T2	T3	SW1
32 mm	12	50	32.5	32.5	6	17	6.5	10	15	13
40 mm	12	58	38	38	14	22	6.5	10	15	15
50 mm	15	70	46.5	46.5	14	26	9	10	16	22
63 mm	15	85	56.5	56.5	14	26	9	10	16	22
80 mm	20	105	72	72	14	32	11	10	20	27
100 mm	20	130	89	89	14	32	11	10	20	27

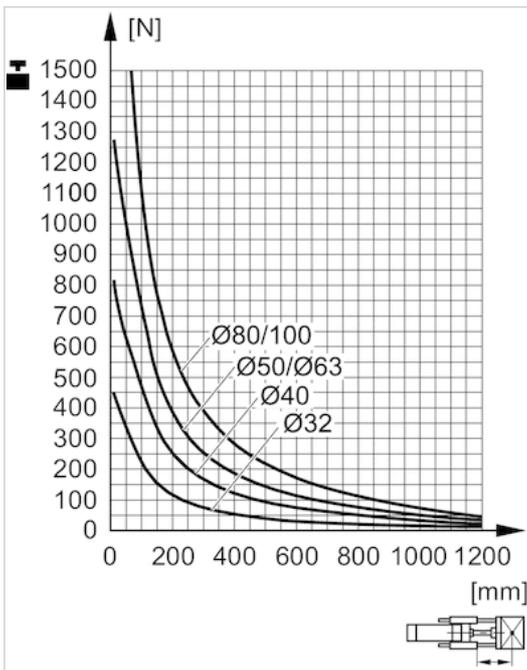
Diagrams

Useful load



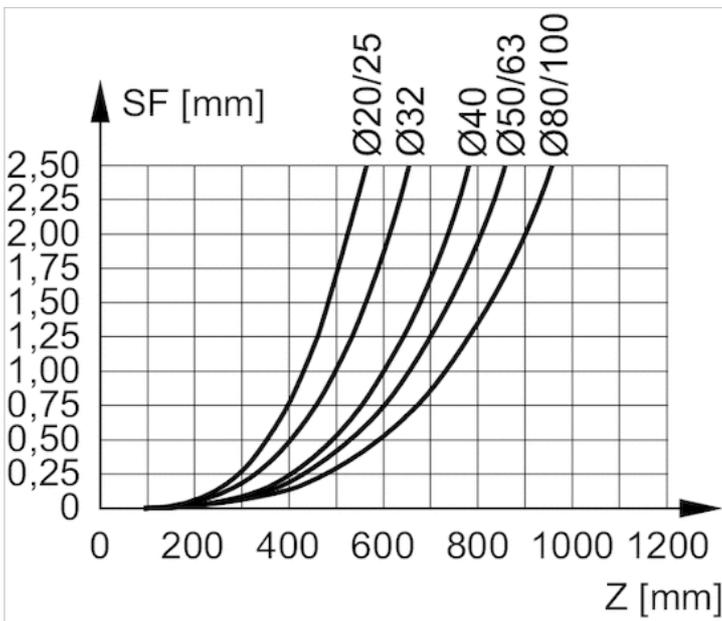
F = Useful load, Z = Projection

Useful load



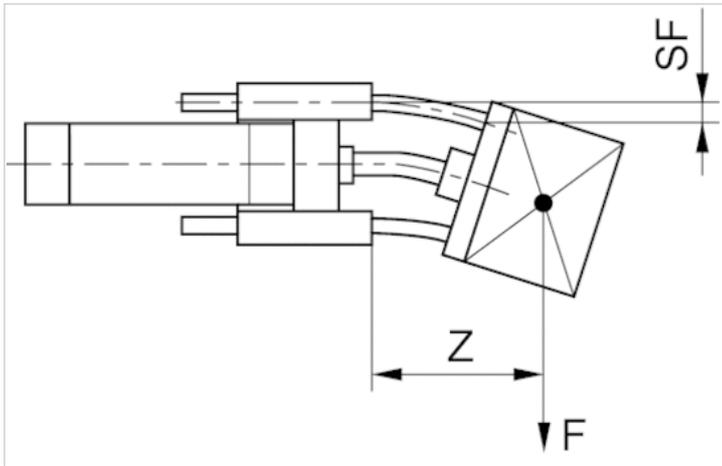
F = Useful load, Z = Projection

Bending due to own load



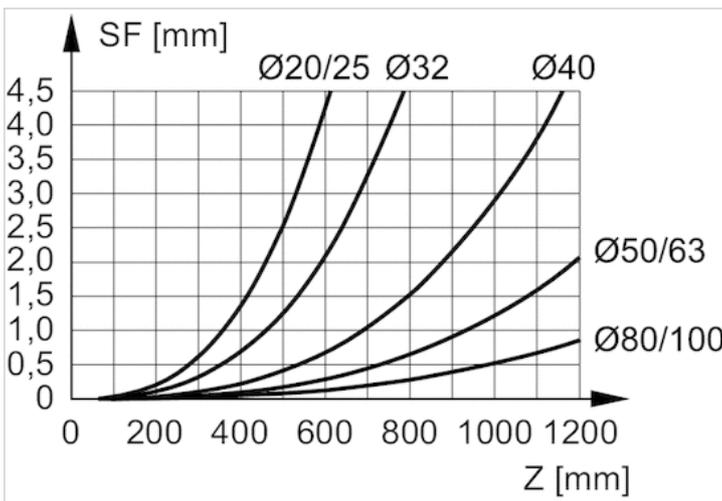
F = useful load (at the load center), SF = bending, Z = projection

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

- Ø 32-100 mm
- Linear ball bearing
- For standard cylinders ISO 15552



Bearing type

Linear ball bearing

Ambient temperature min./max.

-20 ... 80 °C

Technical data

Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Stroke 50	0821401320	0821401330	0821401340	0821401380	-	-
100	0821401321	0821401331	0821401341	0821401381	0821401360	0821401370
200	0821401322	0821401332	0821401342	0821401382	0821401361	0821401371
320	0821401323	0821401333	0821401343	0821401383	0821401362	0821401372
500	0821401324	0821401334	0821401344	0821401384	0821401363	0821401373
600	0821401325	0821401335	0821401345	0821401385	0821401364	0821401374
800	0821401326	0821401336	0821401346	0821401386	0821401365	0821401375
1000	0821401327	0821401337	0821401347	0821401387	0821401366	0821401376
1200	0821401328	0821401338	0821401348	0821401388	0821401367	0821401377

For use with hybrid inch cylinders with metric piston rod thread

Technical data

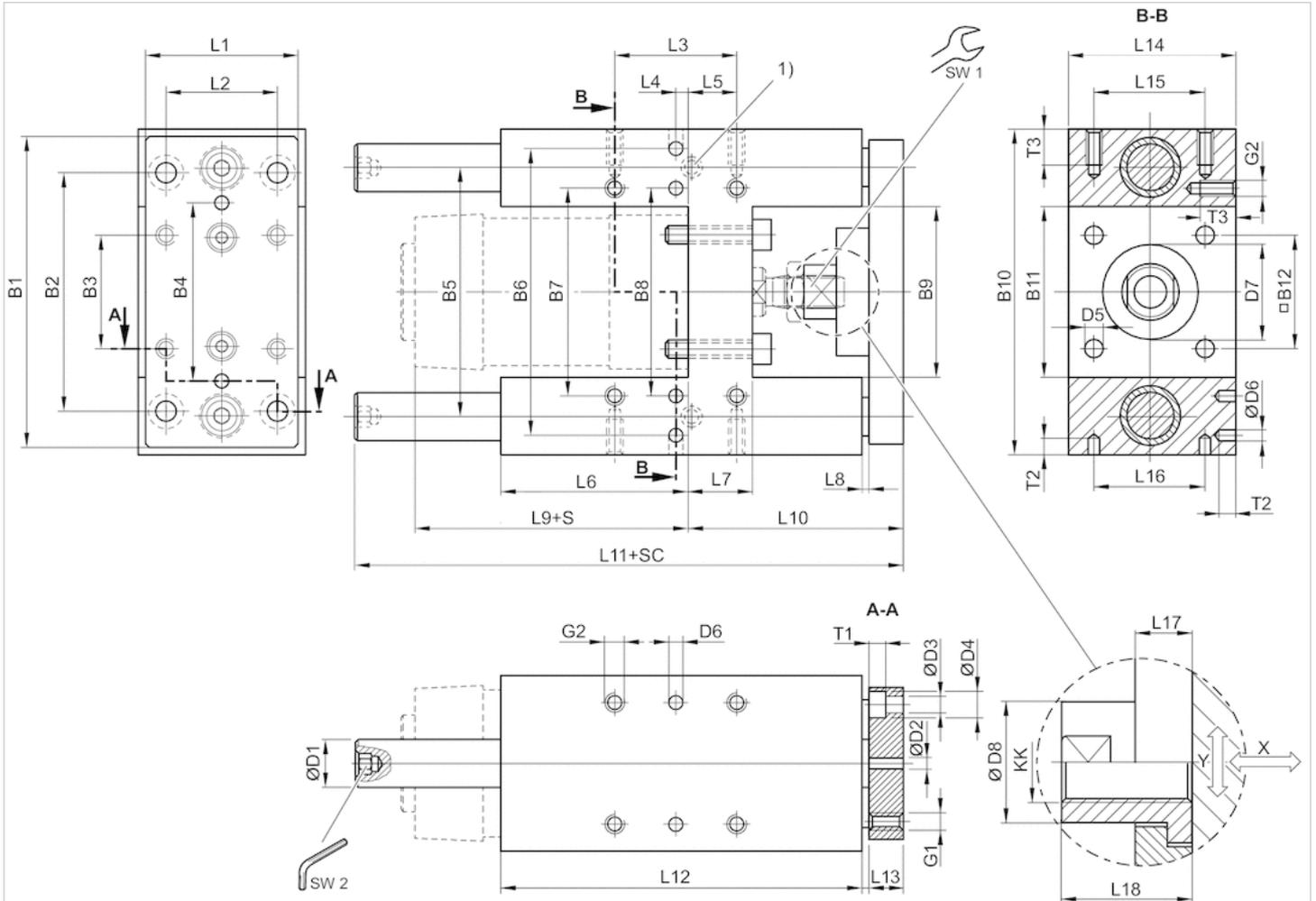
Suitable piston Ø	32 mm	40 mm	50 mm	63 mm	80 mm	100 mm
Weight 0 mm stroke	1.3 kg	2.3 kg	3.7 kg	4.7 kg	8.8 kg	11.1 kg
+10 mm stroke	0.009 kg	0.016 kg	0.025 kg	0.025 kg	0.039 kg	0.039 kg

Technical information

Material	
Bearing housings	Aluminum, colorless anodized
Bearing type	Steel
Carrying plate	Aluminum, colorless anodized
Flexible coupling in carrying plate	Stainless steel
Guide rods	Hardened heat-treated steel

Dimensions

Ø 32 ... 100 mm



1) Lube nipple

S = stroke

SC = cylinder stroke

X = max. play (axial)

Y = min. play (radial)

Hexagon in guide rod

Dimensions

Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	D1	D2 H7	D3	D4	D5	D6 H7
32 mm	90	78	32.5	50	74	81	61	61	50.2	97	50.2	32.5	12	6	6.6	11	6.6	6
40 mm	110	84	38	54	87	99	69	69	58.2	115	58.2	38	16	6	6.6	11	6.6	6
50 mm	130	100	46.5	72	104	119	85	85	70.2	137	70.2	46.5	20	6	9	15	9	6
63 mm	145	105	56.5	82	119	132	100	100	85.2	152	85.2	56.5	20	6	9	15	9	6
80 mm	180	130	72	106	148	166	130	130	105.4	189	105.4	72	25	6	11	18	11	6
100 mm	200	150	89	131	172	190	150	150	130.4	213	130.4	89	25	6	11	18	11	6

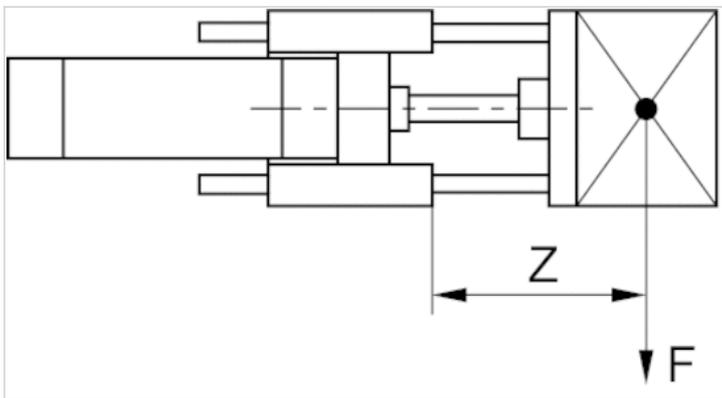
Piston Ø	D7 M8	D8	G1	G2	KK	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
32 mm	30	14.5	M6	M6	M10x1,25	45	32.5	32.5	12	4.25	76	17	3	94	64	177.5	125
40 mm	35	18	M6	M6	M12x1,25	54	38	38	8	11	81	21	3	105	74	192.5	140

Piston Ø	D7 M8	D8	G1	G2	KK	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12
50 mm	40	24	M8	M8	M16x1,5	63	46.5	46.5	4.5	18.75	79	26	3	106	89	237	150
63 mm	45	24	M8	M8	M16x1,5	80	56.5	56.5	13	15.25	111	26	3	121	89	237	182
80 mm	45	30	M10	M10	M20x1,5	100	72	72	15	21	128	34	3	128	110	280	215
100 mm	55	30	M10	M10	M20x1,5	120	89	89	20	24.5	128	39	3	138	115	280	220

Piston Ø	L13	L14	L15	L16	L17	L18	T1	T2	T3	SW1	SW2
32 mm	12	50	32.5	32.5	6	17	6.5	10	15	13	5
40 mm	12	58	38	38	14	22	6.5	10	15	15	6
50 mm	15	70	46.5	46.5	14	26	9	10	16	22	6
63 mm	15	85	56.5	56.5	14	26	9	10	16	22	6
80 mm	20	105	72	72	14	32	11	10	20	27	8
100 mm	20	130	89	89	14	32	11	10	20	27	8

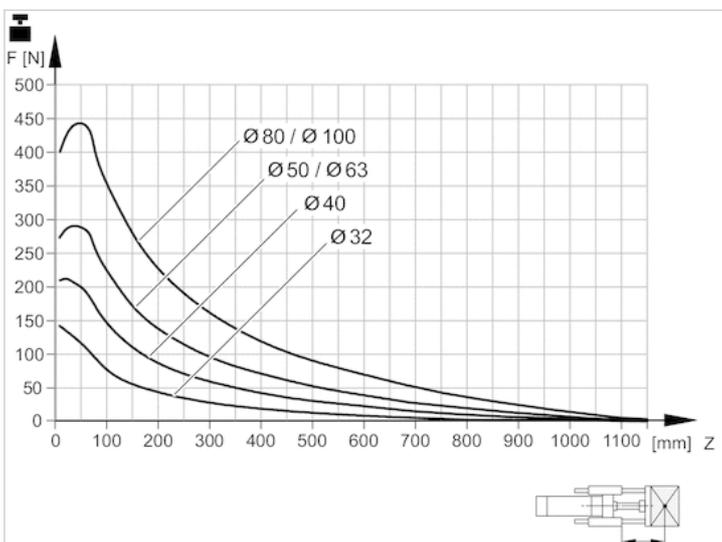
Diagrams

Useful load



F = Useful load, Z = Projection

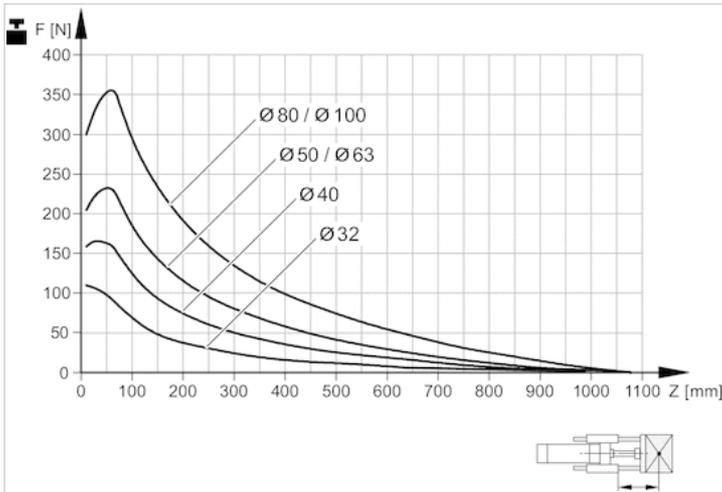
Useful load



Service life 2×10^6 m

F = Useful load, Z = Projection

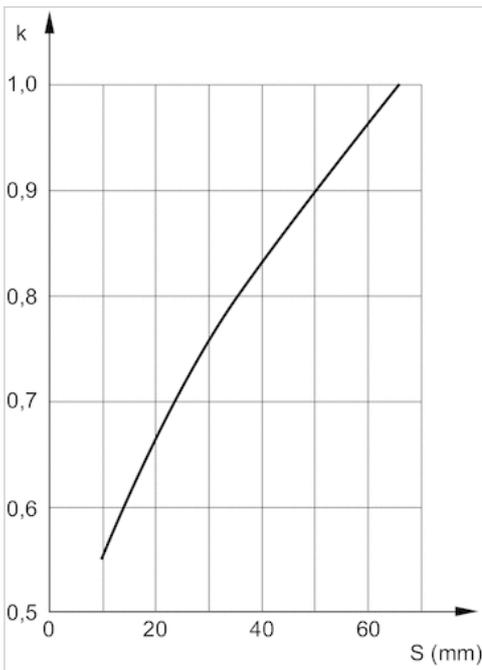
Useful load



Service life 5×10^6 m

F = Useful load, Z = Projection

Reduction of useful load for short-stroke

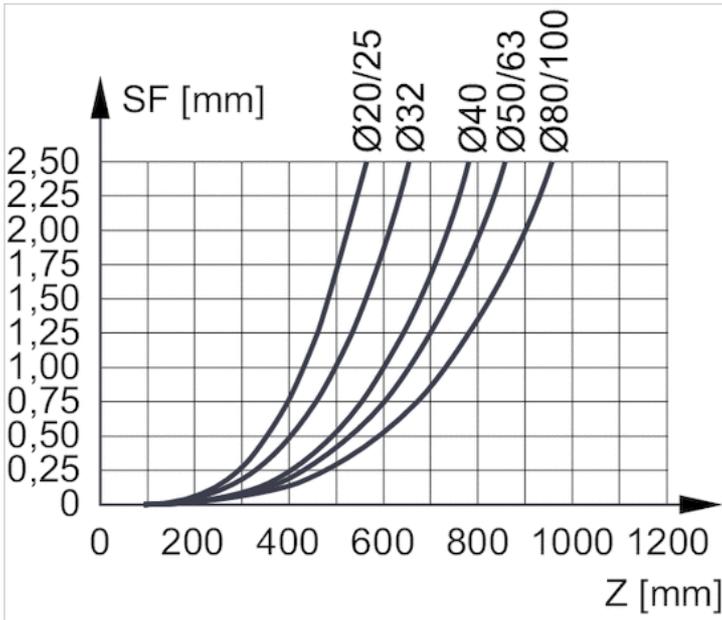


S = stroke

k = correction factor: normal=1, shock loaded=2

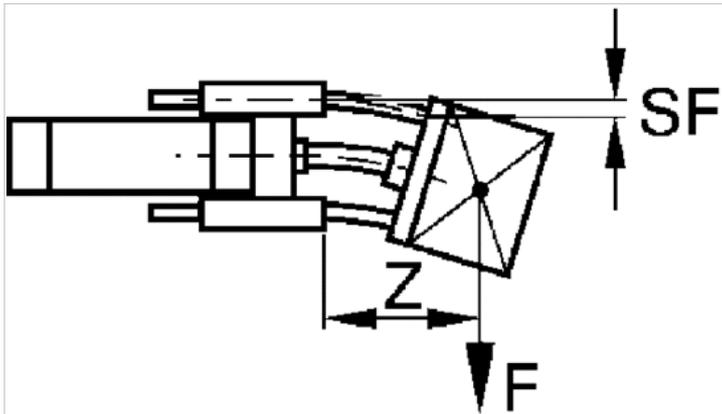
With a short stroke, the useful load figures determined from the diagram must be multiplied by the correction factor k . These short-stroke adjustments are already included in the load diagram for a displacement of up to 60 mm.

Bending due to own load



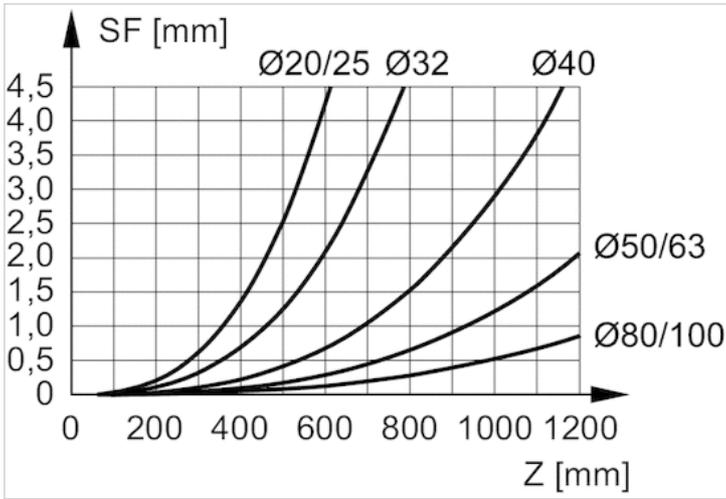
F = useful load (at the load center), SF = bending, Z = projection

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



Technical data

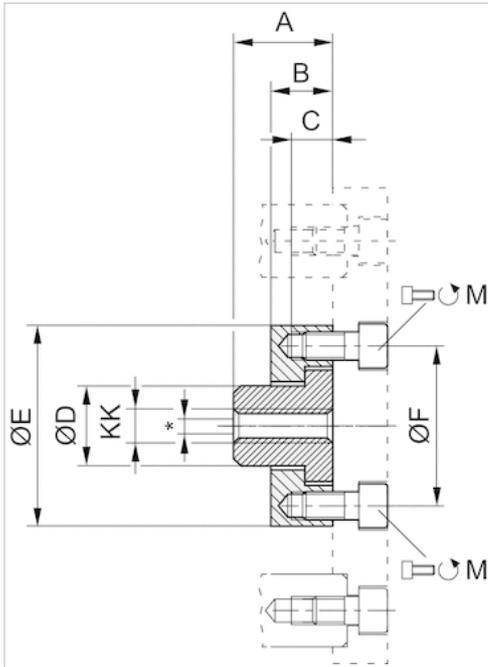
Part No.	Suitable piston rod thread
R413000283	M8
R413000284	M10x1,25
R413000285	M20x1,5

Scope of delivery: flexible coupling incl. mounting screws

Technical information

Material	
	Stainless steel
	Steel

Dimensions



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

Dimensions

Part No.	KK	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



Technical data

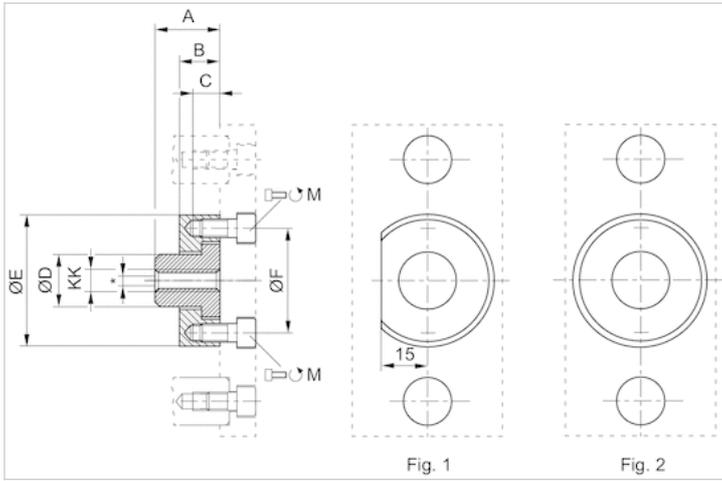
Part No.	Suitable piston rod thread
R413000276	M6
R413000280	M12x1,25
R413000281	M16x1,5

Scope of delivery: flexible coupling incl. mounting screws

Technical information

Material	
	Stainless steel
	Steel

Dimensions



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

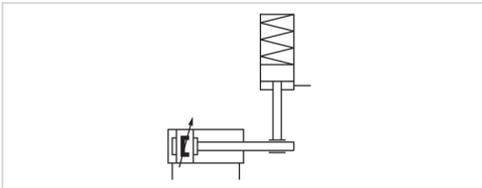
Dimensions

Part No.	KK	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

- Ø 32-100 mm

- hold: spring force, release: compressed air



Function	Hold with clamping jaws
Release pressure	4 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 5 mg/m ³
Weight	See table below

Technical data

Part No.	Piston Ø	suitable piston rod Ø	Piston rod extension	Compressed air connection	Static holding force	Weight
0821401165	32 mm	12 mm	42 mm	M5	650 N	0.2 kg
0821401166	40 mm	16 mm	45 mm	G 1/8	1100 N	0.27 kg
0821401167	50 mm	20 mm	57 mm	G 1/8	1600 N	0.57 kg
0821401168	63 mm	20 mm	57 mm	G 1/8	2500 N	0.8 kg
0821401169	80 mm	25 mm	77 mm	G 1/8	4000 N	1.85 kg
0821401170	100 mm	25 mm	77 mm	G 1/8	6300 N	2.9 kg

Holding force at 0 bar

Technical information

Warning: The holding unit may not be used for the following applications:

- 1) for dynamic holding
- 2) in or as safety equipment

Holding unit may only be unlocked when turned off.

Make sure that the load direction does not change during a holding interval. A change in the direction of force, as well as external forces such as impacts, strong vibrations, or torsional forces, will briefly release the piston rod and may destroy the HU1 holding unit. When clamped, there must be no residual pressure on the holding unit (0 bar).

Note:

The minimum control pressure is \geq the working pressure of the cylinder!

Technical information

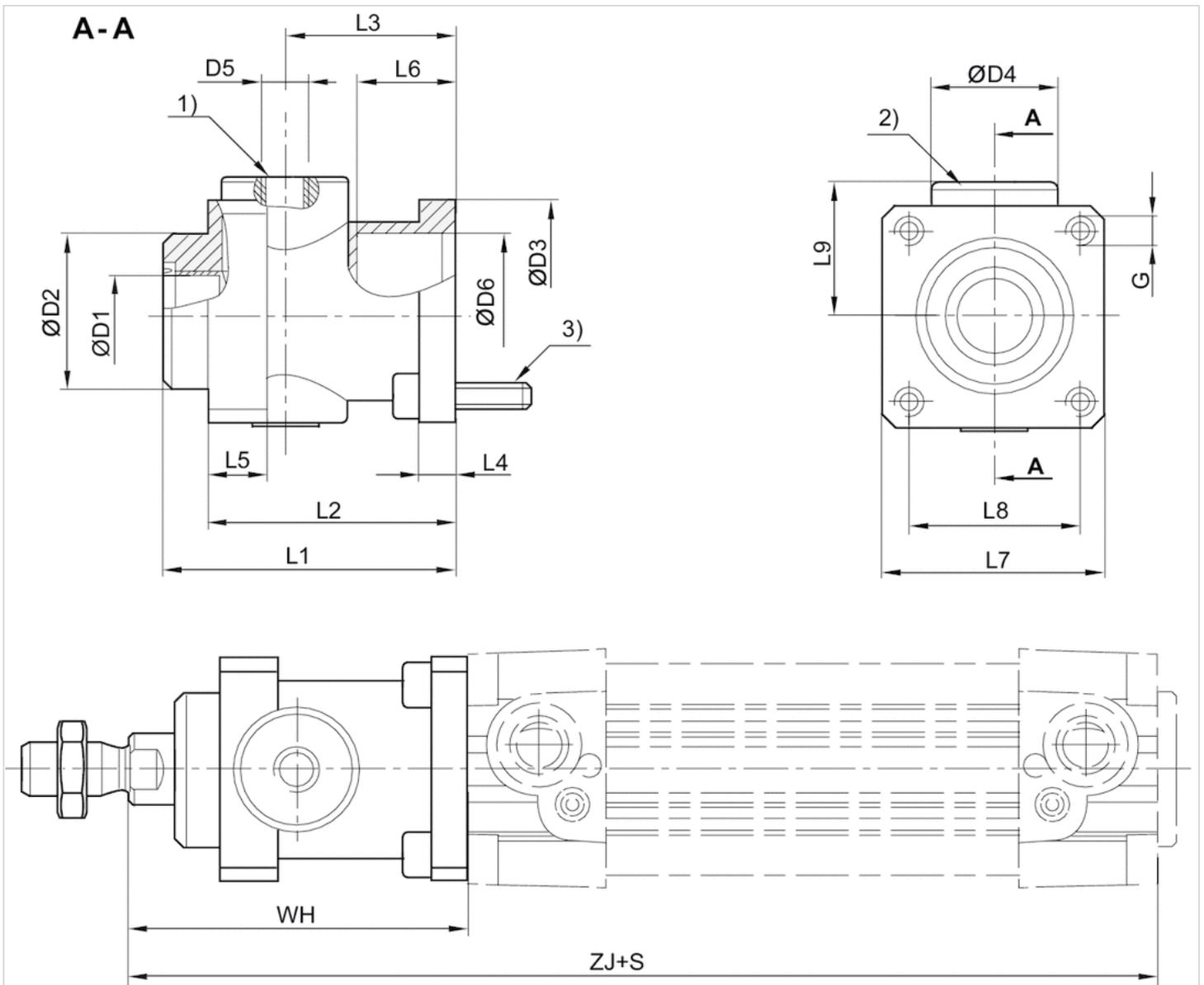
Material

Housing

Aluminum, black anodized

Dimensions

Dimensions



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

Dimensions

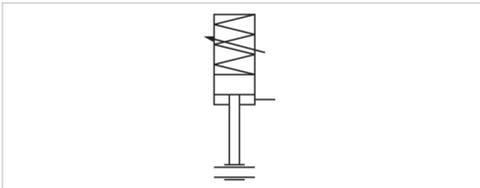
Part No.	Piston Ø	Ø D1	Ø D2	Ø D3	Ø D4	D5	L1	L2	L3	L4	L5	L6	L7	L8	L9	G
0821401165	32 mm	12	30	35	25	M5	58	48	34	8	13	20.5	45	32.5	25.5	M6
0821401166	40 mm	16	35	40	28	G 1/8	65	55	38	8	13	22.5	50	38	30	M6
0821401167	50 mm	20	40	50	35	G 1/8	82	70	48	15	16	29.5	60	46.5	36	M8
0821401168	63 mm	20	45	60	38	G 1/8	82	70	49.5	15	16	29.5	70	56.5	40	M8
0821401169	80 mm	25	45	80	48	G 1/8	110	90	61	18	20	35	90	72	50	M10
0821401170	100 mm	25	55	100	58	G 1/8	115	100	69	18	20	-	105	89	58	M10

WH	ZJ
68	162
75	180
94	200
94	215
123	251
128	266

Locking unit, Series LU1

- Ø 32-100 mm

- Hold: adjustable spring force, Release: compressed air



Function

Release pressure

Ambient temperature min./max.

Medium temperature min./max.

Medium

Max. particle size

Oil content of compressed air

Weight

Clamp with eccentric tappet

2 ... 8 bar

-20 ... 80 °C

-20 ... 80 °C

Compressed air

5 µm

0 ... 5 mg/m³

See table below

Technical data

Part No.	Piston Ø	suitable piston rod Ø	Piston rod extension	Compressed air connection	Static holding force
0821401130	32 mm	12 mm	79 mm	G 1/8	840 N
0821401131	40 mm	16 mm	81 mm	G 1/8	1100 N
0821401132	50 63 mm	20 mm	100 mm	G 1/8	2700 N
0821401133	80 100 mm	25 mm	140 mm	G 1/8	5800 N

Part No.	Weight
0821401130	1.75 kg
0821401131	1.75 kg
0821401132	3 kg
0821401133	8.8 kg

Holding force at 0 bar, Mounting elements LU3, LU4, LU5 are required for assembly and must be ordered separately as accessories.

Technical information

Warning:

The Locking unit may not be used for the following applications:

- for dynamic holding
- in or as safety equipment

Locking unit may only be unlocked when turned off.

Note:

The minimum release pressure is \geq the working pressure of the cylinder!

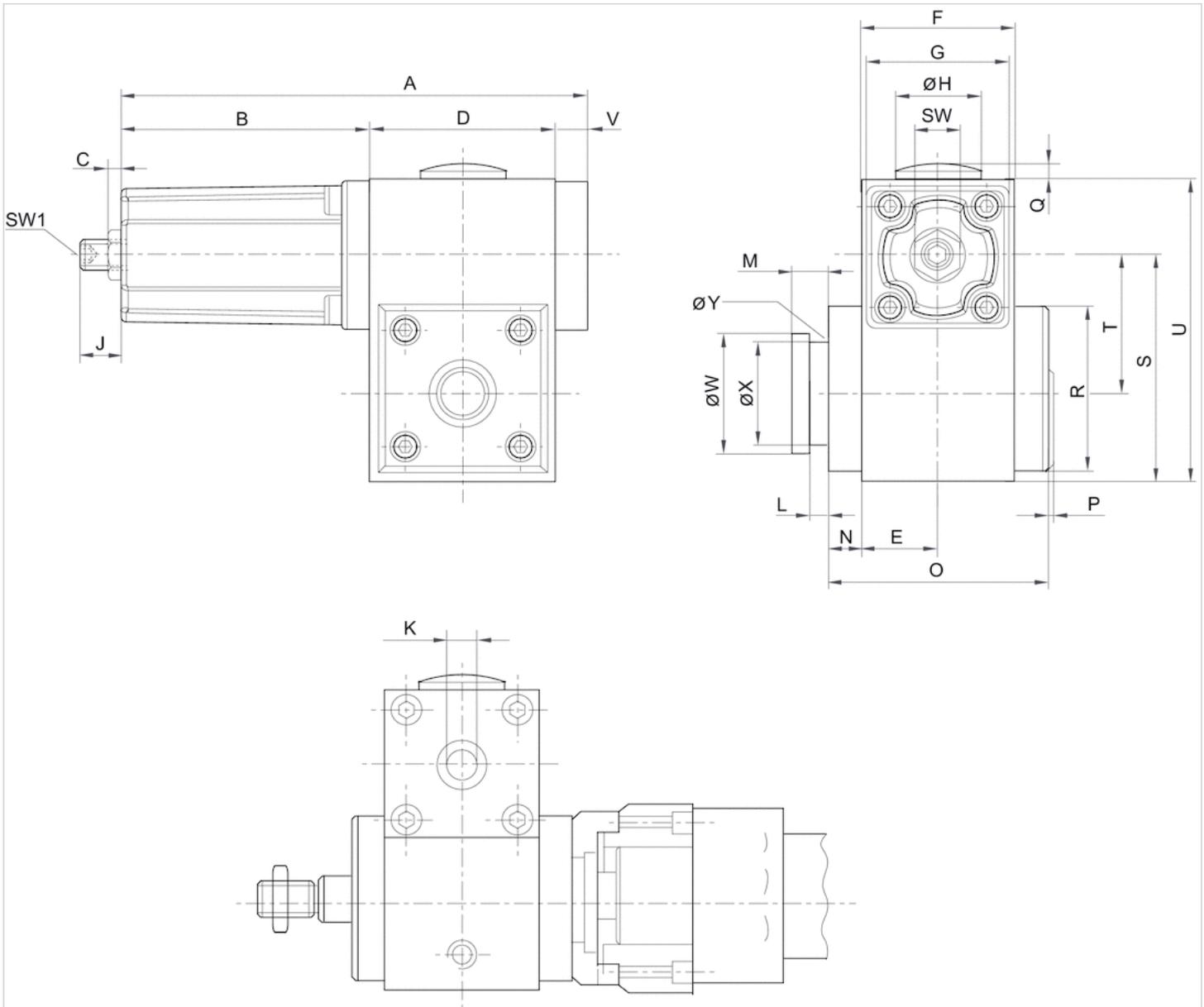
The holding force is dependent on the set spring force

Technical information

Material	
Housing	Aluminum, anodized
Cap	Die-cast aluminum

Dimensions

Dimensions



Dimensions

Part No.	A	B	C	D	E	F	G	ØH	J	K	L	M	N	O	P	Q	R	S	SW	SW1	T	U
0821401130	135	69	10	56	23	46	45	30	19	G 1/8	4.1	8	9	65	3	2.5	50	69	15	5	41.9	92
0821401131	135	69	10	56	23	46	45	30	18	G 1/8	5.1	10	9	65	3	2.5	50	69	15	5	40.5	92
0821401132	169	90	10	69	30	60	55	30	17	G 1/8	5.1	10	9	84	3	2.5	60	80	15	5	48	111
0821401133	208	98	16.7	100	40	80	65	37.5	15	G 1/8	8.1	16	13	118	3	2	90	119	24	8	72	155

V	ØW	ØX	ØY
10	29.9	24	3
10	39.9	30	3
10	39.9	30	3
10	54.9	40	5

Locking unit, Series LU1

- Ø 32-100 mm

- hold: spring force, release: compressed air



Function

Release pressure

Ambient temperature min./max.

Medium temperature min./max.

Medium

Max. particle size

Oil content of compressed air

Weight

Clamp with eccentric tappet

See table below

-20 ... 80 °C

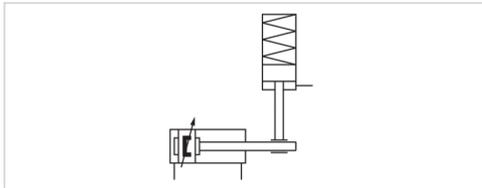
-20 ... 80 °C

Compressed air

5 µm

0 ... 5 mg/m³

See table below



Technical data

Part No.	Piston Ø	suitable piston rod Ø	Piston rod extension	Compressed air connection	Release pressure
R412003730	32 mm	12 mm	79 mm	G 1/8	4.5 ... 8 bar
0821401134	32 mm	12 mm	79 mm	G 1/8	5.5 ... 8 bar
R412003731	40 mm	16 mm	81 mm	G 1/8	4.5 ... 8 bar
0821401135	40 mm	16 mm	81 mm	G 1/8	5.5 ... 8 bar
R412003732	50 63 mm	20 mm	100 mm	G 1/8	4.5 ... 8 bar
0821401136	50 63 mm	20 mm	100 mm	G 1/8	5.5 ... 8 bar
R412003733	80 100 mm	25 mm	140 mm	G 1/8	4.5 ... 8 bar
0821401137	80 100 mm	25 mm	140 mm	G 1/8	5.5 ... 8 bar

Part No.	Static holding force	Weight
R412003730	740 N	1.52 kg
0821401134	840 N	1.52 kg
R412003731	1000 N	1.5 kg
0821401135	1100 N	1.5 kg
R412003732	2300 N	2.56 kg
0821401136	2700 N	2.56 kg
R412003733	4000 N	7.7 kg
0821401137	5800 N	7.7 kg

Holding force at 0 bar, Mounting elements LU3, LU4, LU5 are required for assembly and must be ordered separately as accessories.

Technical information

Warning:

The Locking unit may not be used for the following applications:

- for dynamic holding
- in or as safety equipment

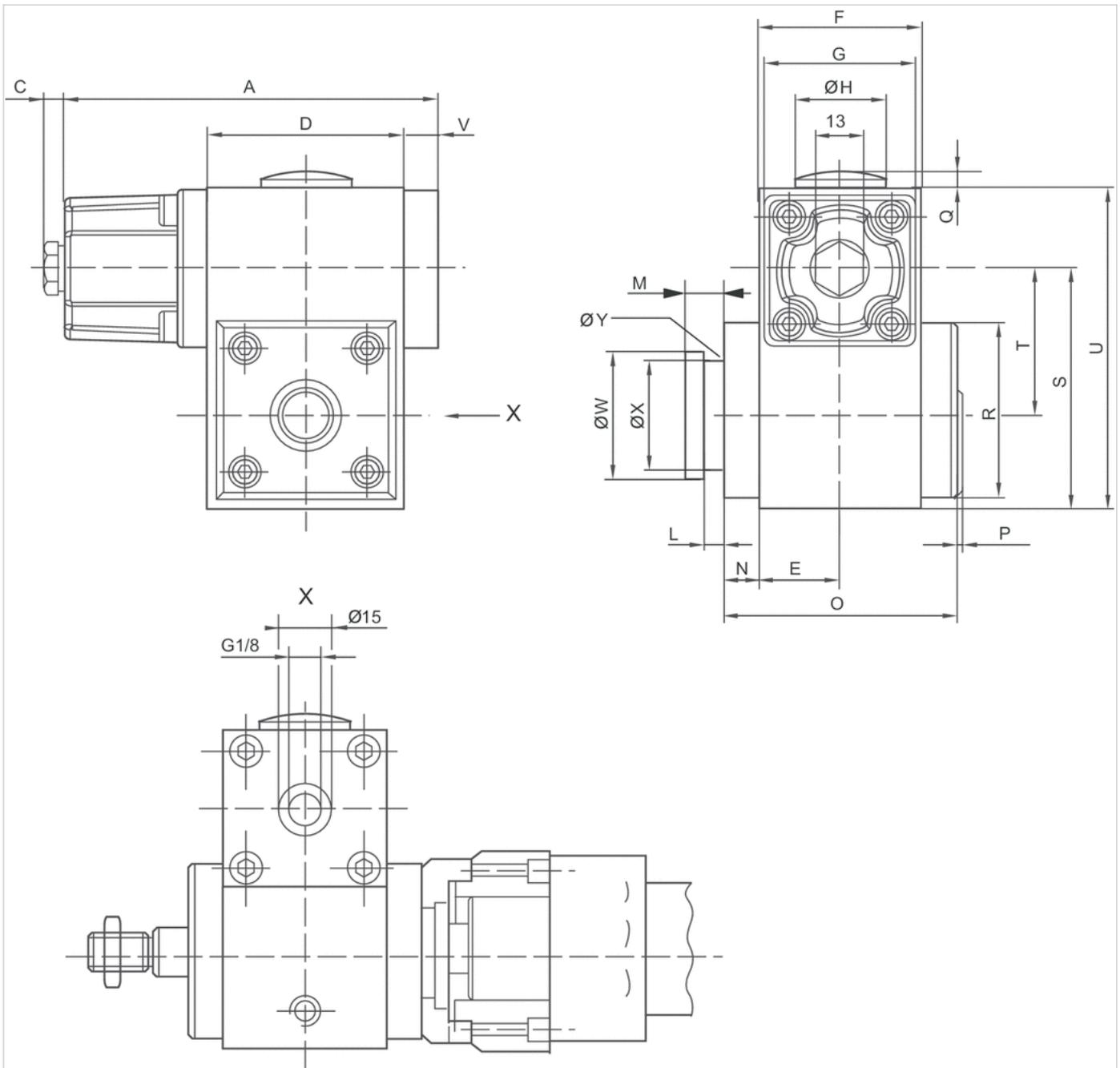
Locking unit may only be unlocked when turned off.

Technical information

Material	
Housing	Aluminum, anodized
Cap	Die-cast aluminum

Dimensions

Dimensions



Dimensions

Part No.	A	C	D	E	F	G	ØH	L	M	N	O	P	Q	R	S	T	U	V	ØW	ØX	ØY
R412003730	106	6	56	23	46	45	30	4.1	8	9	65	3	2.5	50	68.5	41.9	91.5	10	29.9	24	3
0821401134	106	6	56	23	46	45	30	4.1	8	9	65	3	2.5	50	68.5	41.9	91.5	10	29.9	24	3
R412003731	106	6	56	23	46	45	30	5.1	10	9	65	3	2.5	50	68.5	40.5	91.5	10	39.9	30	3
0821401135	106	6	56	23	46	45	30	5.1	10	9	65	3	2.5	50	68.5	40.5	91.5	10	39.9	30	3
R412003732	139.5	6	69	30	60	55	30	5.1	10	9	83.5	3	2.5	60	79.5	48	110	10	39.9	30	3
0821401136	139.5	6	69	30	60	55	30	5.1	10	9	83.5	3	2.5	60	79.5	48	110	10	39.9	30	3
R412003733	176.5	6	100	40	80	65	37.5	8.1	16	13	118	3	2	90	119	72	155	10	54.9	40	5
0821401137	176.5	6	100	40	80	65	37.5	8.1	16	13	118	3	2	90	119	72	155	10	54.9	40	5

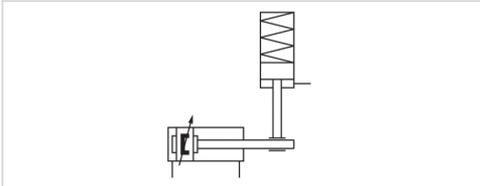
Locking unit, Series LU6

- Ø 32-125 mm

- Holding and braking: non-adjustable spring, Release: compressed air



Version	Clamping jaw lock
Function	Static holding Dynamic braking
Release pressure	4 ... 10 bar
Ambient temperature min./max.	-25 ... 80 °C
Medium temperature min./max.	-25 ... 80 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m ³
Weight	See table below



Technical data

Part No.	Piston Ø	suitable piston rod Ø	Piston rod extension	Compressed air connection	Required flow rate
					Qn
5230996402	32 mm	12 mm	125 mm	G 1/8	50 l/min
5231996402	40 mm	16 mm	125 mm	G 1/8	70 l/min
5232996402	50 mm	20 mm	145 mm	G 1/8	140 l/min
5233996402	63 mm	20 mm	165 mm	G 1/8	240 l/min
5234996402	80 mm	25 mm	185 mm	G 1/8	450 l/min
5235996402	100 mm	25 mm	220 mm	G 1/8	700 l/min
5236996402	125 mm	32 mm	220 mm	G 1/4	1200 l/min

Part No.	Max. torsional moment of piston rod	B10d value static	B10d value dynamic
5230996402	0.5 Nm	5.000.000	2.000.000
5231996402	1 Nm	5.000.000	2.000.000
5232996402	2 Nm	5.000.000	2.000.000
5233996402	2.5 Nm	5.000.000	2.000.000
5234996402	5 Nm	5.000.000	2.000.000
5235996402	9 Nm	5.000.000	2.000.000
5236996402	15 Nm	5.000.000	2.000.000

Part No.	Buckling protection of the piston rod 1)		Weight	
	Max. cylinder stroke for Euler case 1	Max. cylinder stroke for Euler case 2		
5230996402	750 mm	400 mm	0.8 kg	1)
5231996402	1100 mm	550 mm	1 kg	1)
5232996402	1350 mm	700 mm	1.8 kg	1)
5233996402	950 mm	500 mm	2.8 kg	1)

Part No.	Buckling protection of the piston rod 1)		Weight	
	Max. cylinder stroke for Euler case 1	Max. cylinder stroke for Euler case 2		
5234996402	1350 mm	700 mm	5.5 kg	1)
5235996402	950 mm	500 mm	9.5 kg	1)
5236996402	1500 mm	800 mm	13.8 kg	2)

1) Only applies in dynamic cases, and only retracting, DGUV certified

2) Only applies in dynamic cases, and only retracting

Technical data

Piston Ø	32 mm	40 mm	50 mm
Max. holding/braking force FLU6	760 N	1200 N	1900 N
Max. moving mass, external mmax	77 kg	122 kg	194 kg
Max. piston speed vmax	1 m/s	1 m/s	1 m/s
Max. total braking energy (MJ) Etotal	3.2 MJ	6 MJ	10 MJ
Max. braking energy per hour PLU6	720 J	1350 J	2250 J
Max. braking energy per braking cycle ELU6	4.8 J	9 J	15 J
Braking energy per braking cycle related to B10d EB10d	1.6 J	3 J	5 J
Brake response time (4 bar) tbrake	0.08 s	0.08 s	0.08 s
Brake response time (6.3 bar) tbrake	0.1 s	0.1 s	0.1 s
Brake response time (10 bar) tbrake	0.12 s	0.12 s	0.12 s

Piston Ø	63 mm	80 mm	100 mm
Max. holding/braking force FLU6	3000 N	5000 N	8000 N
Max. moving mass, external mmax	306 kg	510 kg	815 kg
Max. piston speed vmax	1 m/s	1 m/s	1 m/s
Max. total braking energy (MJ) Etotal	18 MJ	36 MJ	58 MJ
Max. braking energy per hour PLU6	4050 J	8100 J	13200 J
Max. braking energy per braking cycle ELU6	27 J	54 J	88 J
Braking energy per braking cycle related to B10d EB10d	9 J	18 J	29 J
Brake response time (4 bar) tbrake	0.08 s	0.08 s	0.09 s
Brake response time (6.3 bar) tbrake	0.1 s	0.1 s	0.11 s
Brake response time (10 bar) tbrake	0.12 s	0.12 s	0.13 s

Piston Ø	125 mm
Max. holding/braking force FLU6	12000 N
Max. moving mass, external mmax	1223 kg
Max. piston speed vmax	1 m/s
Max. total braking energy (MJ) Etotal	93 MJ
Max. braking energy per hour PLU6	21000 J
Max. braking energy per braking cycle ELU6	140 J
Braking energy per braking cycle related to B10d EB10d	47 J
Brake response time (4 bar) tbrake	0.09 s
Brake response time (6.3 bar) tbrake	0.11 s
Brake response time (10 bar) tbrake	0.13 s

The values for the max. braking energy per braking cycle are equivalent to the cushioning energy for cylinder series PRA and TRB.

Technical information

The maximum ambient and medium temperature is + 70 °C for the dynamic braking function.

Note:
 Before pressurizing the locking unit, make sure that there is a balance of forces at the piston on the drive cylinder. Please see the operating instructions for further safety-relevant information. The locking unit can be used in controls with a max. performance level e in accordance with DIN EN ISO 13849-1 ("basic and well-tried safety principles"). For applications in category 2 to 4 controls, additional control measures according to DIN EN ISO 13849-1 are required.

The locking unit can be used as an individual component or pre-mounted on a cylinder..

Scope of delivery: LU6, each with 4 flange nuts, washers, and tie rods

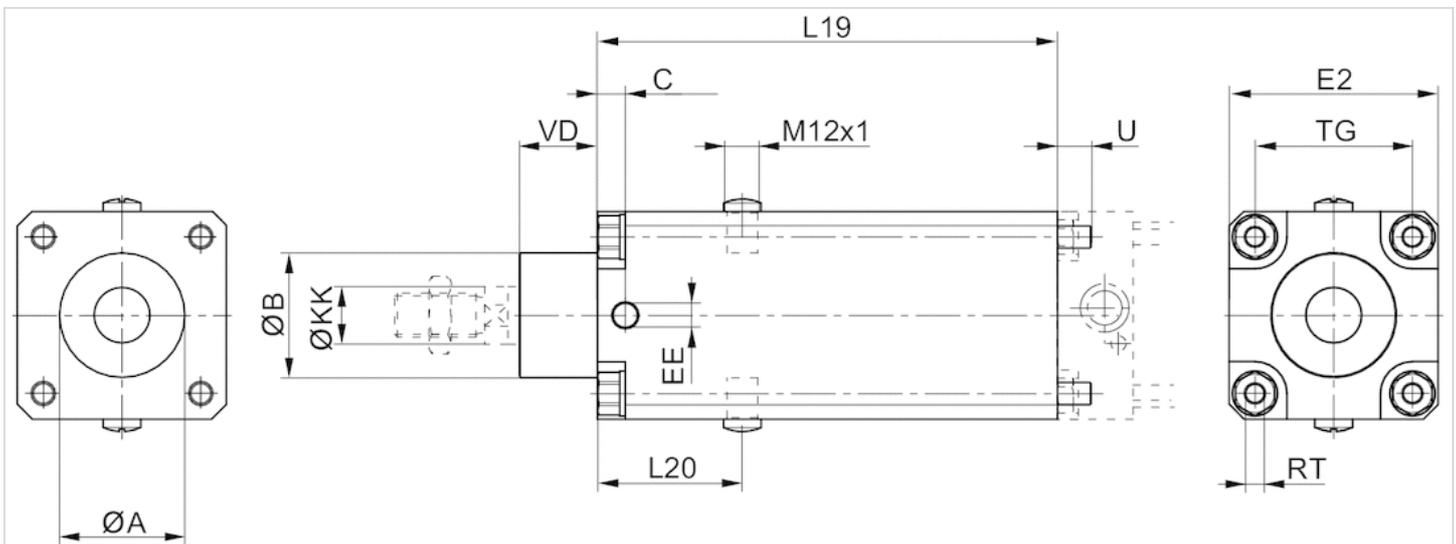
For technical reasons, formulas and sample calculations have been moved to the MediaCentre (link to operating instructions).

Technical information

Material	
Housing	Aluminum, anodized
Seal	Nitrile butadiene rubber
Scraper	Nitrile butadiene rubber

Dimensions

Dimensions

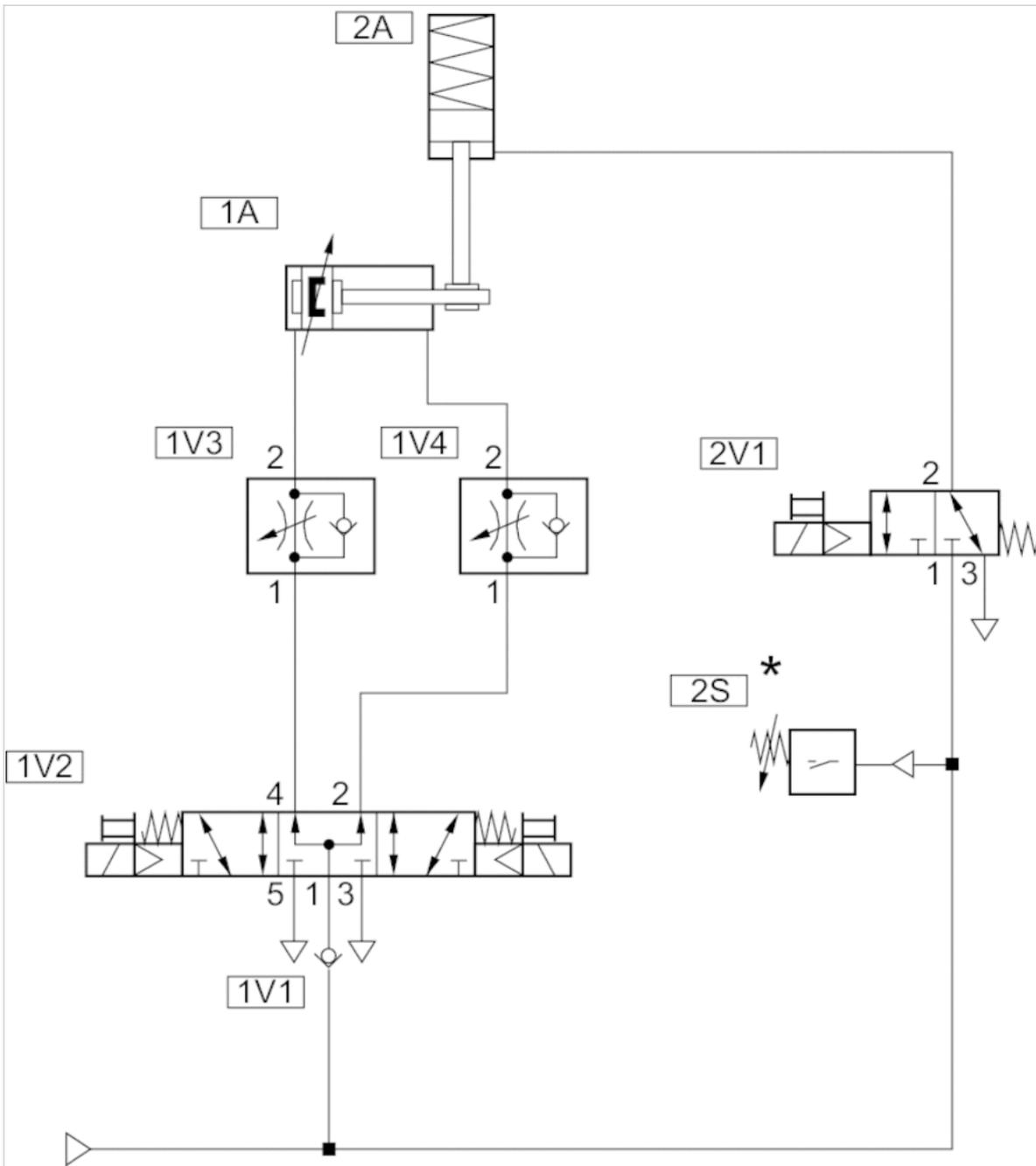


Dimensions

Piston Ø	ØA	ØB d11	C	EE	E2	L19	L20	ØKK e8-h9	TG	RT	U	VD
32 mm	30,5	30	9	G1/8	48	125	44	12	32,5	M6	10	19
40 mm	35,5	35	9	G1/8	53	125	44	16	38	M6	10	21
50 mm	40,5	40	9	G1/8	63	145	49	20	46,5	M8	11	28
63 mm	45,5	45	10	G1/8	75	165	52	20	56,5	M8	11	28
80 mm	45,5	45	11	G1/8	98	185	61.5	25	72	M10	16	34
100 mm	55,5	55	13	G1/8	118	220	68	25	89	M10	16	37
125 mm	60,5	60	13	G1/4	142	220	75	32	110	M12	16	45

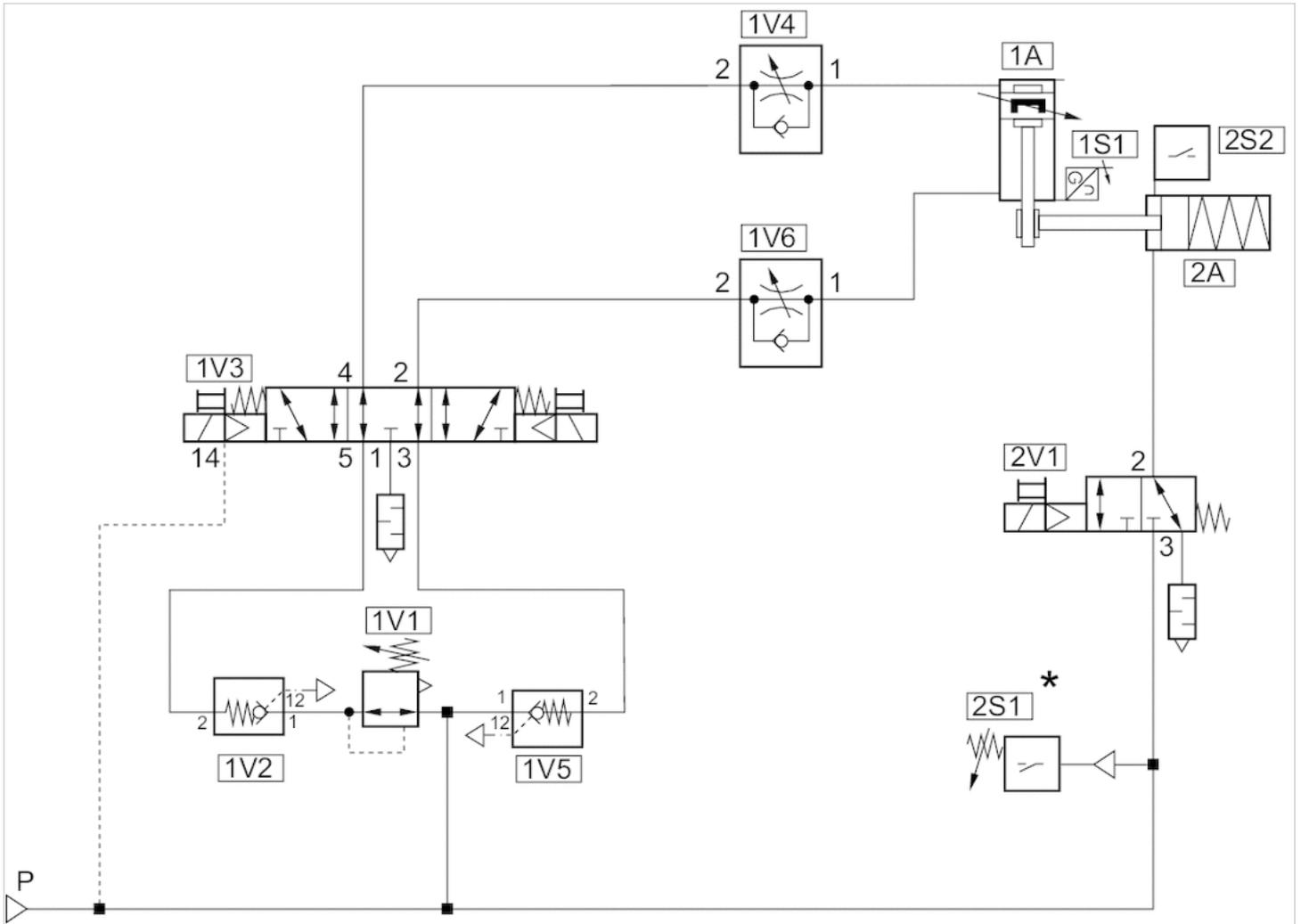
Circuit diagram

Circuit example for non-safety relevant functions; horizontal installation position



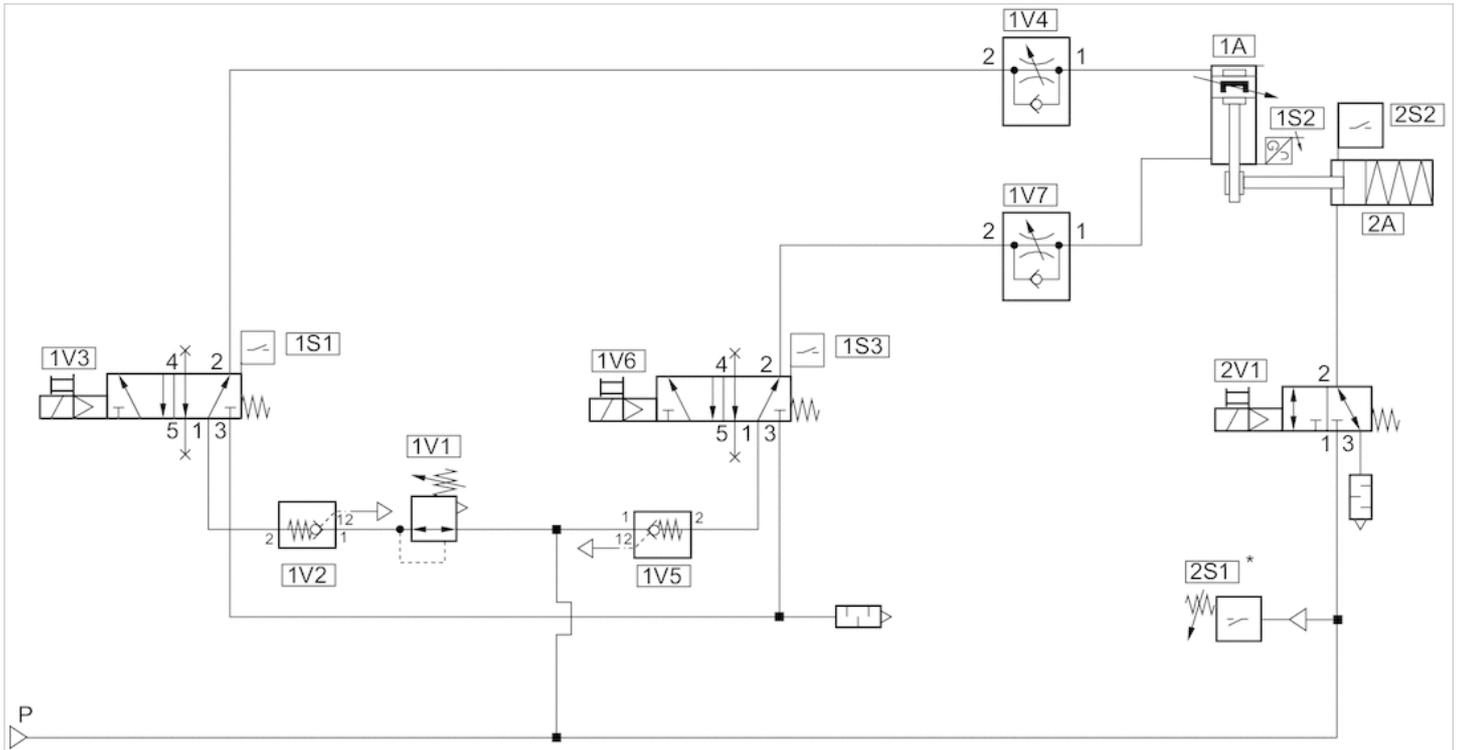
* From 4 bar : release of 2V1

Circuit example for safety-related stop functions; horizontal installation position



Channel 1: Safe stopping and closing
 Channel 2: Safe brake control
 * From 4 bar : release of 2V1

Circuit example for safety-related stop functions; Vertical mounting orientation



Channel 1: Safe stopping and closing

Channel 2: Safe brake control

* From 4 bar : release of 2V1

Foot mounting, Series LU4

- for cylinders with locking units

- Ø 32-100 mm



Ambient temperature min./max.

-20 ... 80 °C

Medium temperature min./max.

-20 ... 80 °C

Technical data

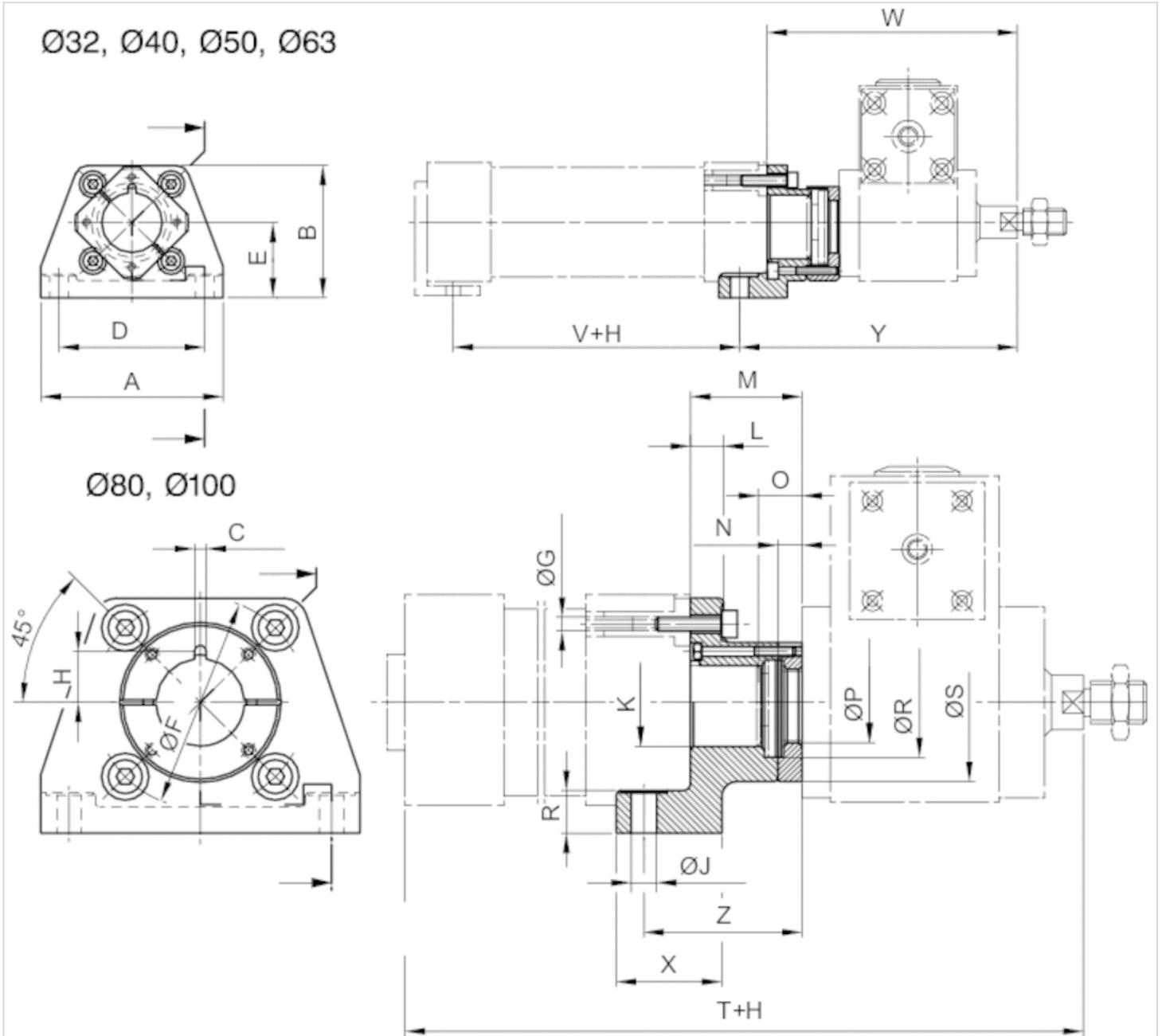
Part No.	Piston Ø
1827001520	32 mm
1827001521	40 mm
1827001522	50 mm
1827001526	63 mm
1827001524	80 mm
1827002152	100 mm

Technical information

Material	
Housing	Nodular graphite iron, galvanized

Dimensions

Dimensions



H = stroke

The locking unit can be rotated by 4x90°.

Dimensions

Part No.	A	B	C ±0,1	D ±0,1	E	Ø F	Ø G H13	I	J H8	K H10	L	M	N	O	Ø P	R
1827001520	79	57	3.6	65	32	46	6.6	13.2	6.6	30	7	27	3.9	-	24.2	9
1827001521	90	64	3.6	75	36	54	6.6	18.2	6.6	35	9.5	33	4.9	13	30.2	11
1827001522	110	80	3.6	90	45	66	8.4	18.2	9	40	11	38	4.9	-	30.2	15
1827001526	120	90	3.6	100	50	80	8.4	18.2	9	45	11	38	4.9	-	30.2	15
1827001524	153	113	6	128	63	102	10.5	24.5	11	45	15	52	7.9	18	40.2	19.5
1827002152	176	133	6	148	71	126	10.5	24.6	11	55	15	57	7.9	-	40.2	19.5

Ø R	Ø S	T	V	W	X	Y	Z
30	46.5	199	68	105	32	118	40
40	55.5	216	79	111	32	124	46
40	66	243	74	137	41	153	54
40	71	258	89	137	41	153	54
55	75	314	84	186	50	208	74
55	80	329	94	191	50	213	79

Flange mounting, Series LU5

- for cylinders with locking units

- Ø 32-100 mm



Ambient temperature min./max.

-20 ... 80 °C

Medium temperature min./max.

-20 ... 80 °C

Technical data

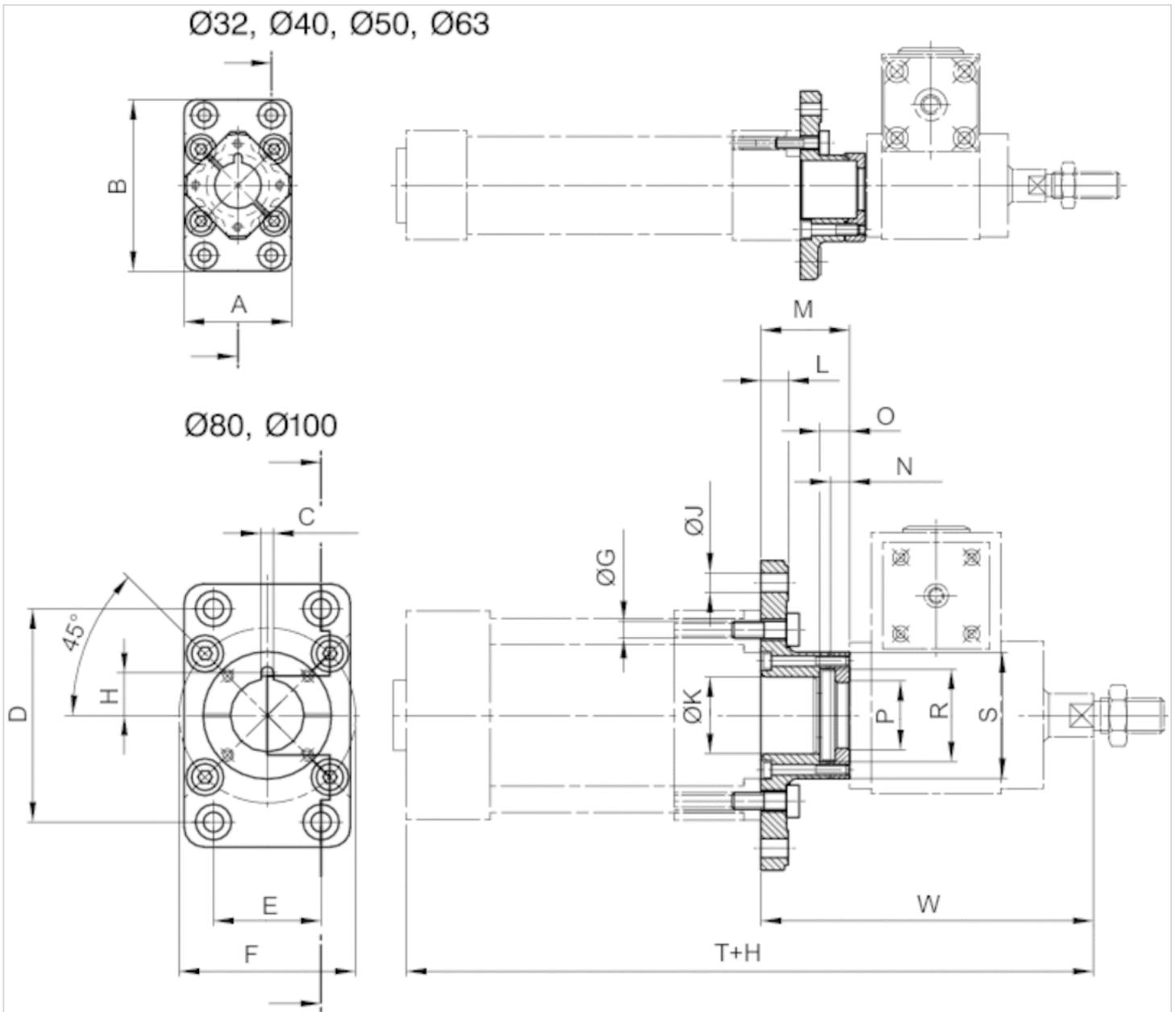
Part No.	Piston Ø
1827001512	32 mm
1827001513	40 mm
1827001514	50 mm
1827001503	63 mm
1827001516	80 mm
1827001517	100 mm

Technical information

Material	
Housing	Nodular graphite iron, galvanized

Dimensions

Dimensions



Dimensions

Part No.	A	B	C ±0,1	D ±0,1	E ±0,1	Ø F ±0,2	Ø G H13	H	Ø J H13	Ø K H10	L	M
1827001512	50	79	3.6	64	32	46	6.6	13.2	7	30	8	27
1827001513	56	91	3.6	72	36	54	6.6	18.2	9	35	10	33.3
1827001514	70	111	3.6	90	45	66	8.4	18.2	9	40	12	38.3
1827001503	80	120	3.6	100	50	80	8.4	18.2	9	45	12	38.3
1827001516	100	153	6	126	63	102	10.5	24.5	12	45	16	52
1827001517	120	178	6	150	75	126	10.5	24.6	14	55	16	57

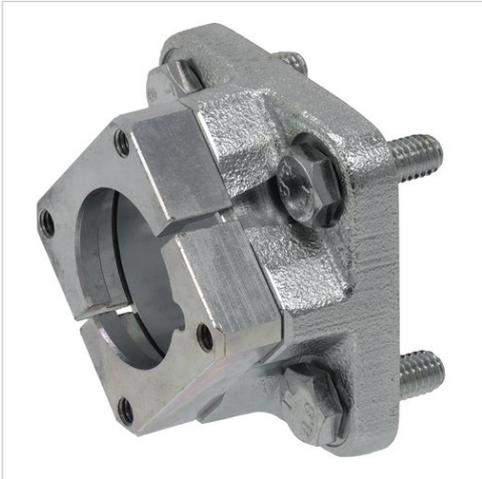
N ±0,1	O	Ø P +0,2	Ø R +0,5	Ø S	W
3.9	8	24.2	33	50	105
4.9	10	30.2	40	55.5	111

N ±0,1	O	Ø P +0,2	Ø R +0,5	Ø S	W
4.9	10	30.2	40	66	137
4.9	10	30.2	40	71	137
7.9	16	40.2	55	75	186
7.9	16	40.2	55	80	191

Mounting flange, Series LU3

- for cylinders with locking units

- Ø 32-100 mm



Ambient temperature min./max.

-20 ... 80 °C

Medium temperature min./max.

-20 ... 80 °C

Weight

See table below

Technical data

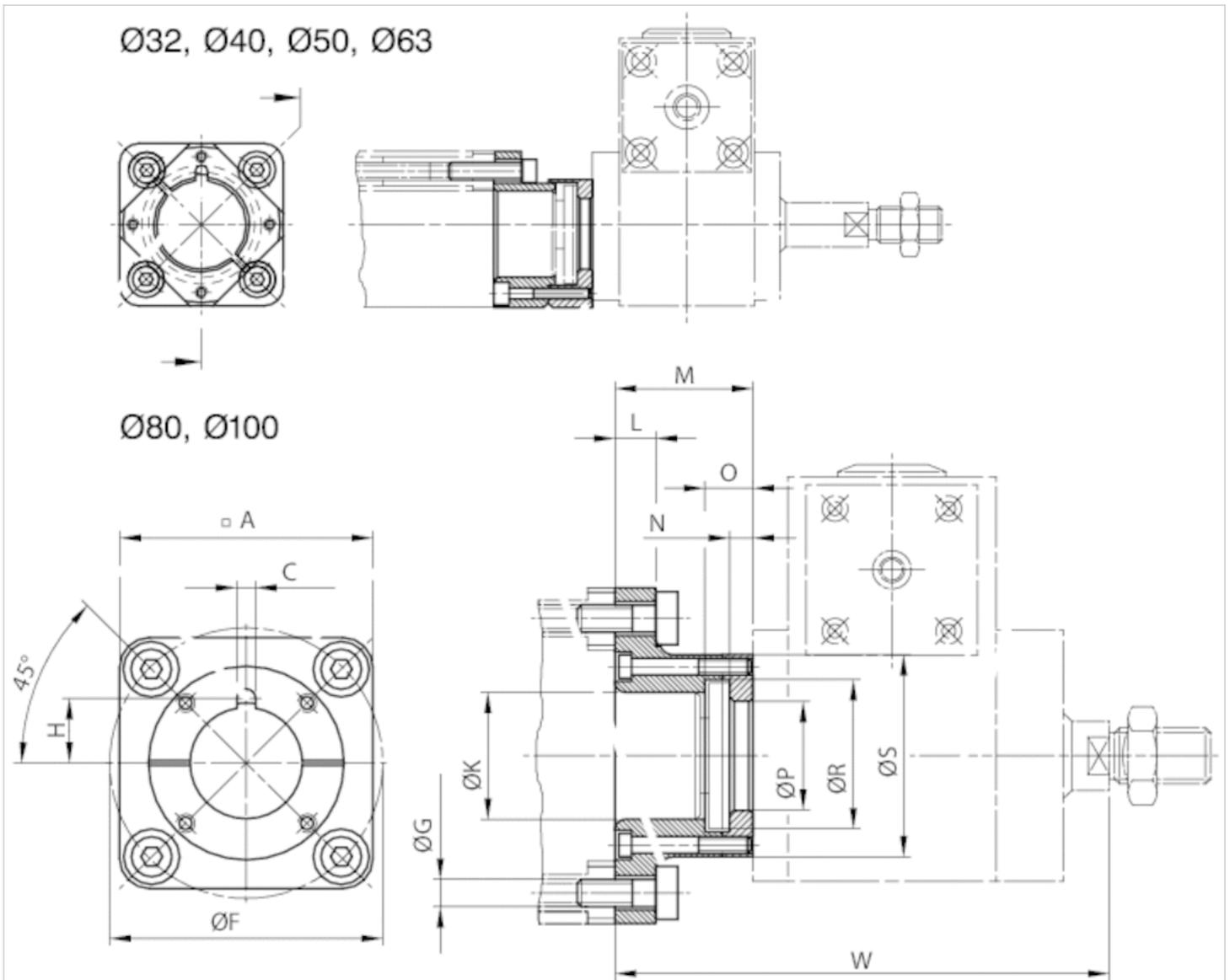
Part No.	Piston Ø	Weight
1827001504	32 mm	0.235 kg
1827001505	40 mm	0.36 kg
1827001506	50 mm	0.635 kg
1827001508	63 mm	0.84 kg
1827001433	80 mm	1.62 kg
1827001434	100 mm	2.27 kg

Technical information

Material	
Housing	Nodular graphite iron, galvanized

Dimensions

Dimensions



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

Dimensions

Part No.	A	C +0,1	Ø F ±0,2	G H13	H	Ø K H10	L	M	N -0,1	O	Ø P +0,2	Ø R +0,5
1827001504	50	3.6	46	6.6	13.2	30	7	27.2	3.9	8	24.2	33
1827001505	57	3.6	54	6.6	18.2	35	9.5	33.3	4.9	10	30.2	40
1827001506	68	3.6	66	8.4	18.2	40	11	38.3	4.9	10	30.2	40
1827001508	75	3.6	80	8.4	18.2	45	11	38.3	4.9	10	30.2	40
1827001433	95	6	102	10.5	24.5	45	15	52	7.9	16	40.2	55
1827001434	115	6	126	10.5	24.6	55	15	57	7.9	16	40.2	55

Ø S	W
46.5	105
55.5	111

\varnothing S	W
66	137
71	137
75	186
80	191

Modular sealing system

- Ø 32 mm ... 125 mm
- For series PRA, TRB, CCL-IS
- Piston Ø 32 40 50, 63 80, 100 125 mm



Working pressure min./max.
Ambient temperature min./max.
Medium
Oil content of compressed air

1.5 ... 10 bar
See table below
Compressed air
0 ... 5 mg/m³

Technical data

Part No.	Piston Ø	Piston rod seal	Scraper
0496400704	32 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496401107	32 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496401700	32 mm	Fluorocaoutchouc	Polytetrafluorethylene
0496400402	40 mm	Acrylonitrile butadiene rubber	Brass
0496401409	40 mm	Fluorocaoutchouc	Brass
0496400801	40 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496401204	40 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496401808	40 mm	Fluorocaoutchouc	Polytetrafluorethylene
0496400518	50, 63 mm	Acrylonitrile butadiene rubber	Brass
0496401506	50, 63 mm	Fluorocaoutchouc	Brass
0496400909	50, 63 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496402103	50, 63 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496401905	50, 63 mm	Fluorocaoutchouc	Polytetrafluorethylene
0496400607	80, 100 mm	Acrylonitrile butadiene rubber	Brass
0496401603	80, 100 mm	Fluorocaoutchouc	Brass
0496401018	80, 100 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496402200	80, 100 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496402006	80, 100 mm	Fluorocaoutchouc	Polytetrafluorethylene
0496301404	125 mm	Acrylonitrile butadiene rubber	Brass
0496303105	125 mm	Fluorocaoutchouc	Brass
0496301307	125 mm	Acrylonitrile butadiene rubber	Polyester elastomer
0496301706	125 mm	Acrylonitrile butadiene rubber	Polytetrafluorethylene
0496303202	125 mm	Fluorocaoutchouc	Polytetrafluorethylene

Part No.	Ambient temperature min./max.	Application area
0496400704	-20 ... 80 °C	1)
0496401107	-20 ... 80 °C	2)

Part No.	Ambient temperature min./max.	Application area
0496401700	-10 ... 150 °C	2)
0496400402	-20 ... 80 °C	3)
0496401409	-10 ... 150 °C	3)
0496400801	-20 ... 80 °C	1)
0496401204	-20 ... 80 °C	2)
0496401808	-10 ... 150 °C	2)
0496400518	-20 ... 80 °C	3)
0496401506	-10 ... 150 °C	3)
0496400909	-20 ... 80 °C	1)
0496402103	-20 ... 80 °C	2)
0496401905	-10 ... 150 °C	2)
0496400607	-20 ... 80 °C	3)
0496401603	-10 ... 150 °C	3)
0496401018	-20 ... 80 °C	1)
0496402200	-20 ... 80 °C	2)
0496402006	-10 ... 150 °C	2)
0496301404	-20 ... 80 °C	3)
0496303105	-10 ... 150 °C	3)
0496301307	-20 ... 80 °C	1)
0496301706	-20 ... 80 °C	2)
0496303202	-10 ... 150 °C	2)

1)Application area Paper/printing industry Textile industry

2)Application area Textile industry Food industry Chemical industry Sugar production

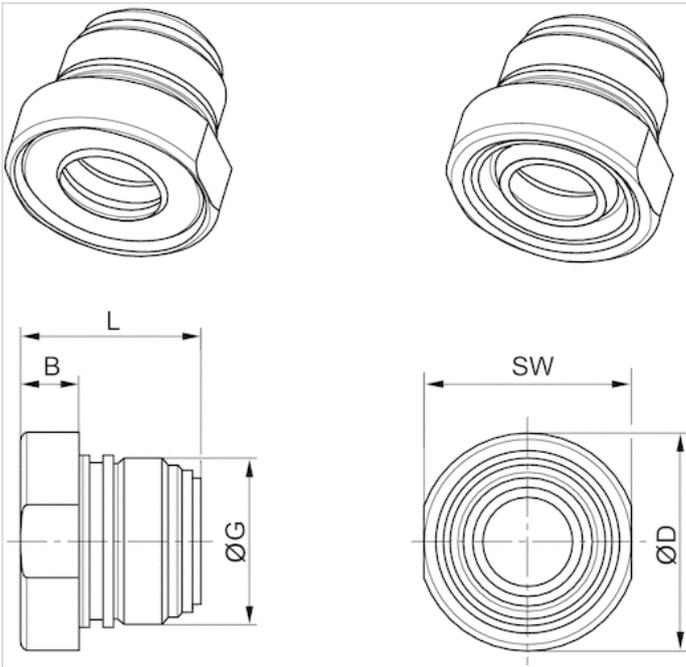
3)Application area Chemical industry Sugar production Steel construction Automotive industry Woodworking industry

Technical information

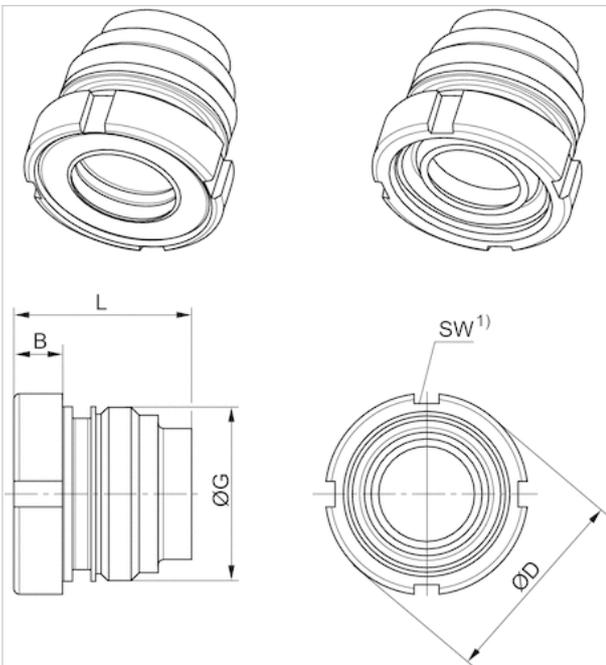
Material	
Housing	Aluminum, anodized
Scraper	Polyester elastomer Polytetrafluorethylene Brass
Piston rod seal	Acrylonitrile butadiene rubber Fluorocaoutchouc

Dimensions

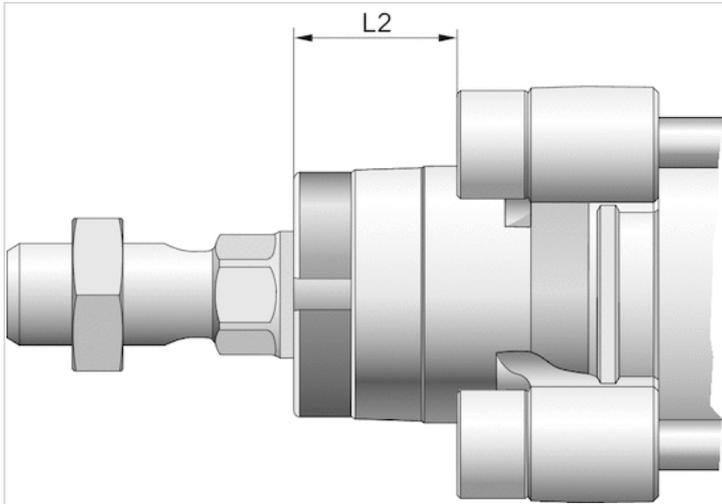
For cylinder diameters: 32-40 mm, Dimensions in mm



For cylinder diameters: 50 ... 125 mm, Dimensions in mm



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

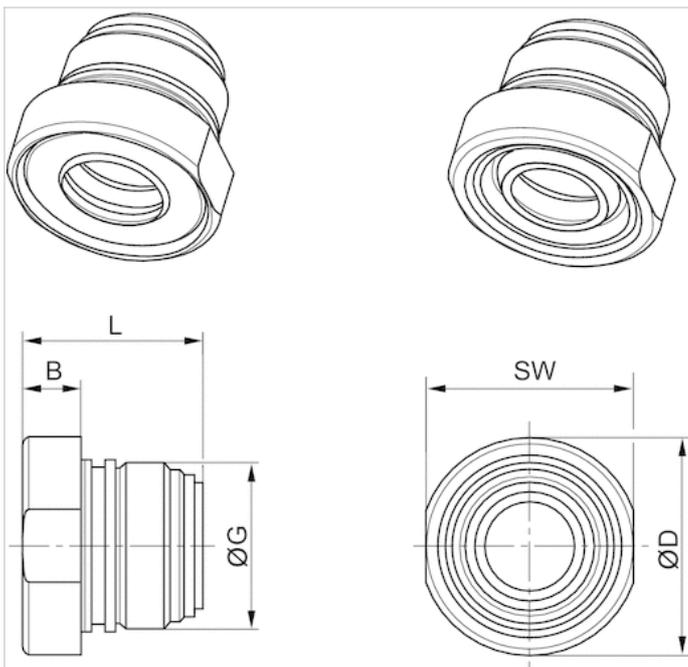


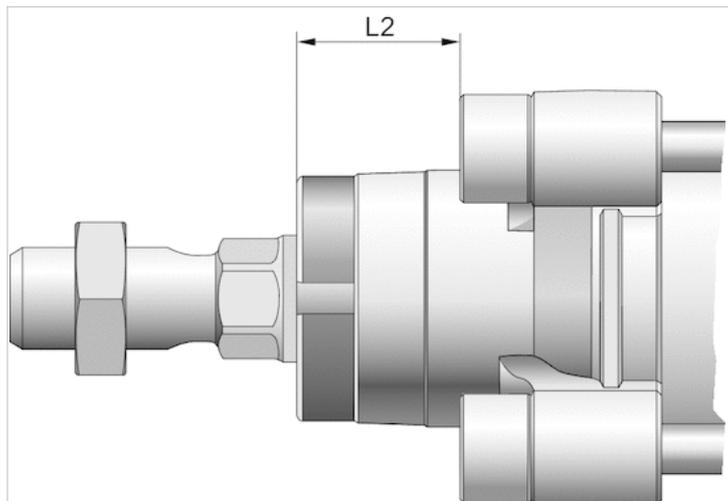
Dimensions

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
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

Dimensions

For cylinder diameters: 32-40 mm, Dimensions in mm



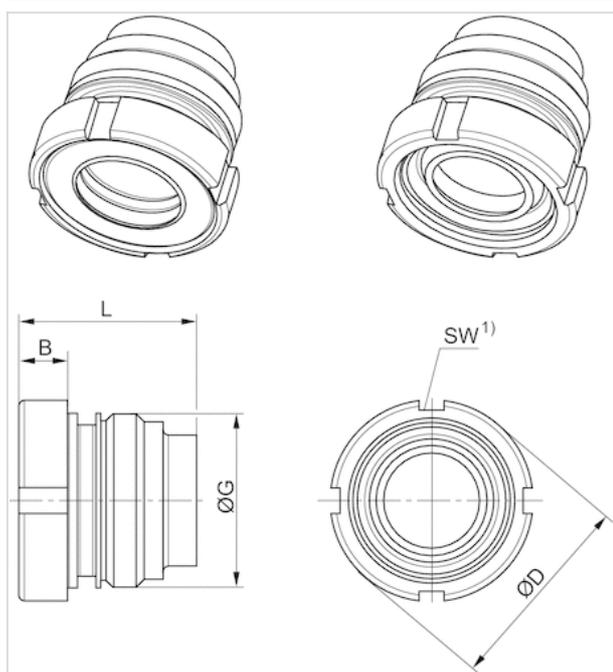


Dimensions

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
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

Dimensions

For cylinder diameters: 50 ... 125 mm, Dimensions in mm



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

Sensor mounting, Series CB1

- for series ST6, SM6, SN1, SN2

- to mount on cylinder TRB, C12P, CVI, 523



Weight

0.031 kg

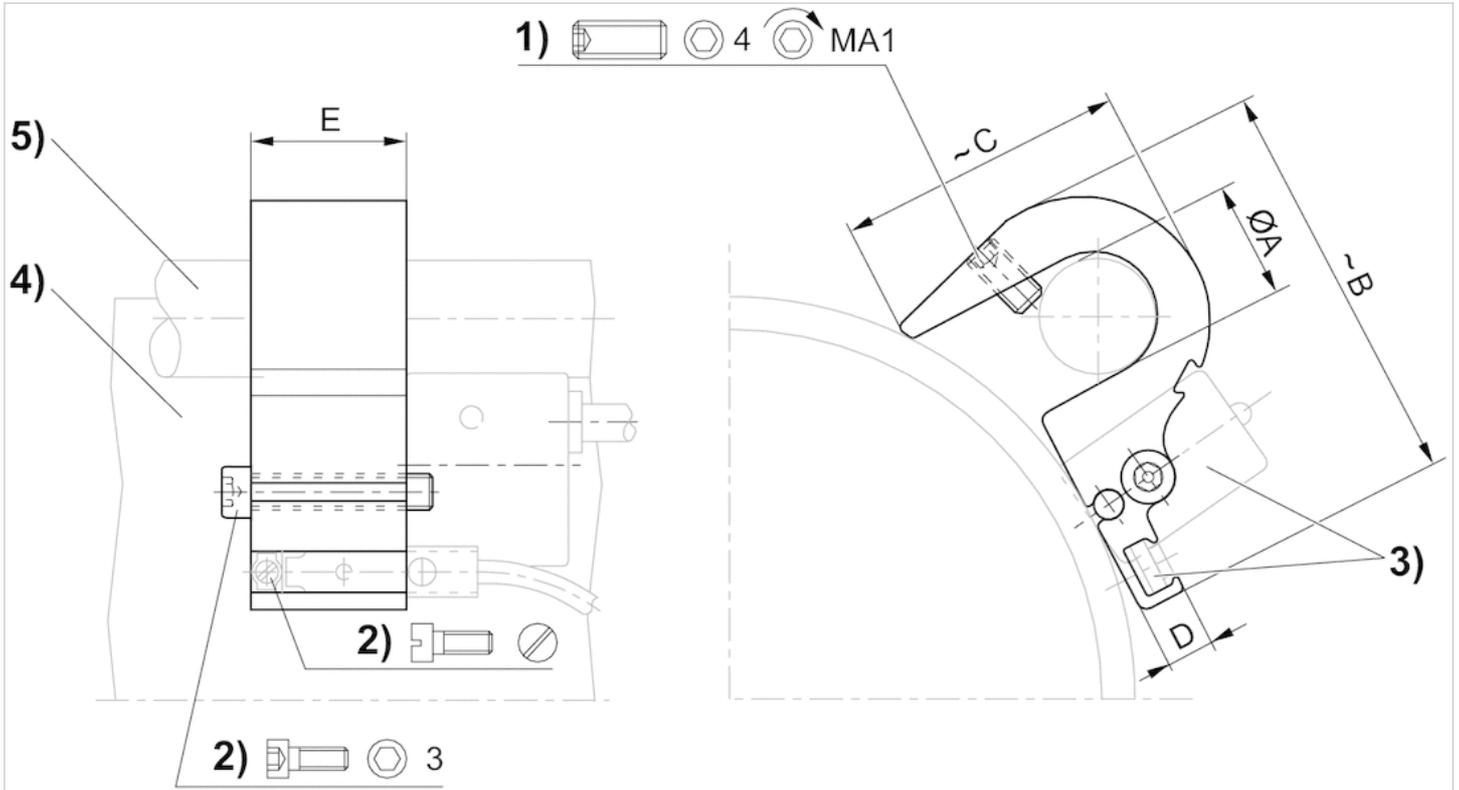
Technical data

Part No.	Cylinders Ø		for series
	min.	max.	
1827020292	125 mm	125 mm	ST6, SM6, SN1, SN2

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

Part No.	Ø A	B	C	D	E	1)	MA1 [Nm]
1827020292	12	45	29	6.5	21	M5x10	2

Sensor mounting, Series CB1

- for series ST6, SM6

- to mount on cylinder TRB, C12P, 167, CVI, TRR, 523



Weight

See table below

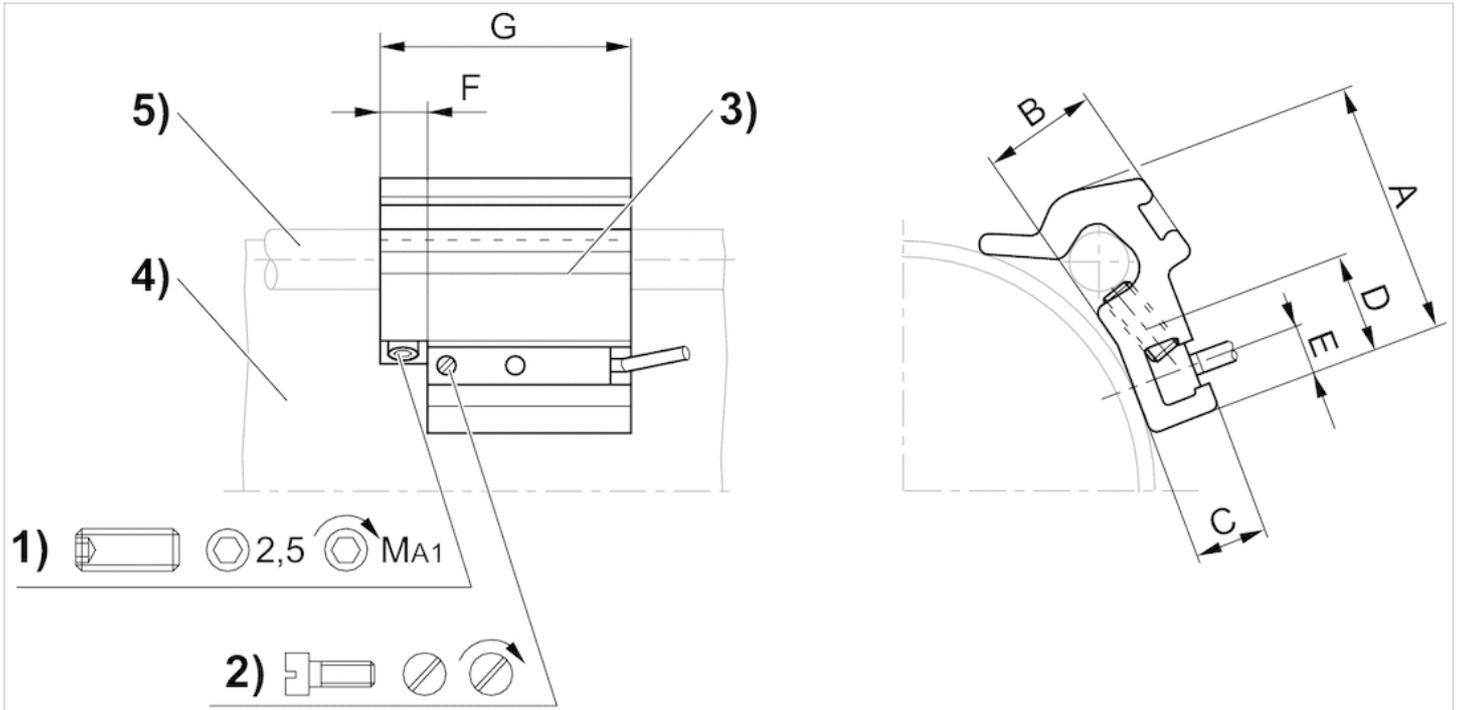
Technical data

Part No.	Cylinders Ø		for series	Weight
	min.	max.		
1827020282	32 mm	40 mm	ST6, SM6	0.016 kg
1827020283	50 mm	63 mm	ST6, SM6	0.029 kg
1827020284	80 mm	100 mm	ST6, SM6	0.042 kg

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

Part No.	A	B	C	D	E	F	G	1)	MA1 [Nm]
1827020282	26	10	7	14	5	8	40	M5x8	2 ±0,2
1827020283	32.5	15.5	7	14	5	8	40	M5x10	2 ±0,2
1827020284	43	17	6.9	14	5	8	40	M5x16	2 ±0,2

Sensor mounting, Series CB1

- for series SN6

- to mount on cylinder TRB, C12P, CVI, 523



Weight

0.034 kg

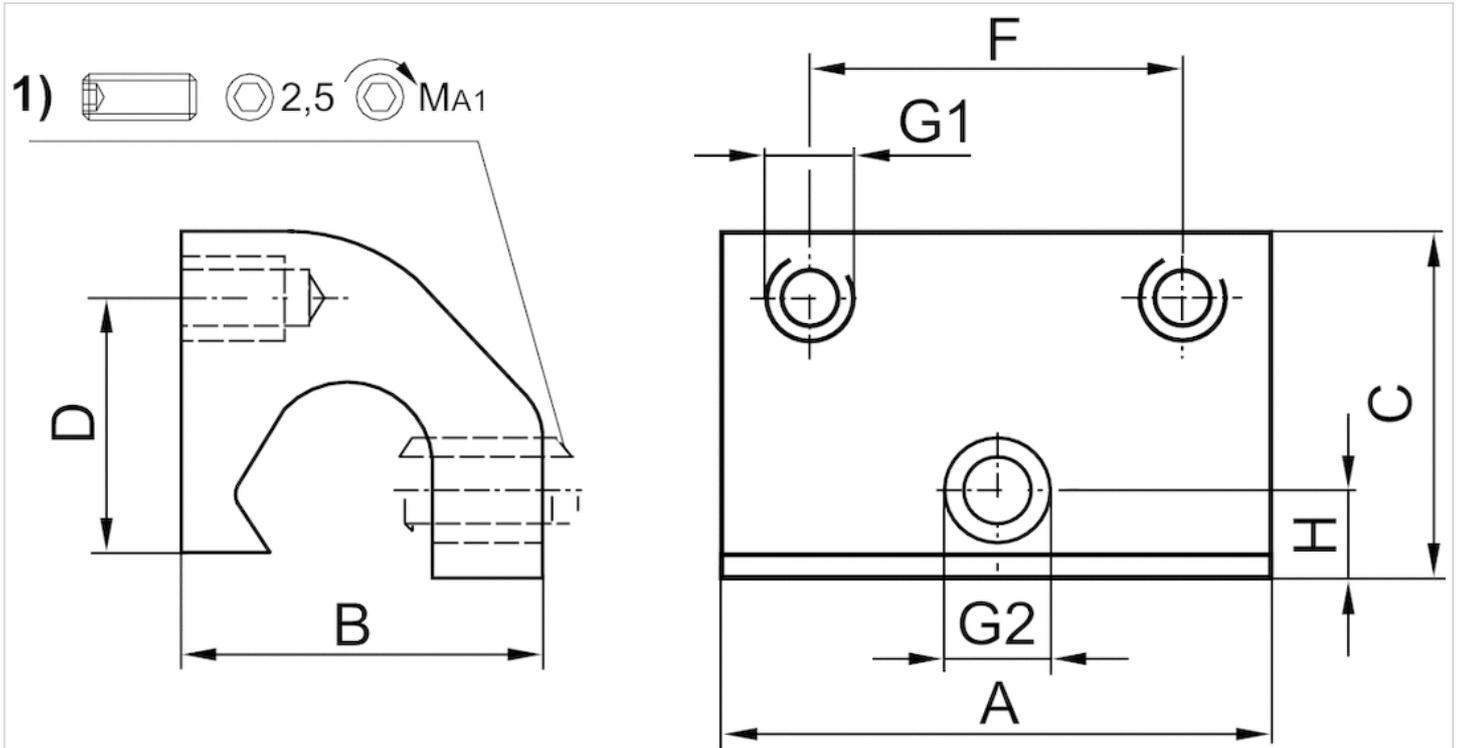
Technical data

Part No.	Cylinders Ø		for series
	min.	max.	
3220643562	80 mm	125 mm	SN6

Technical information

Material	
	Aluminum

Dimensions



1) Clamping threaded pin

Dimensions

Part No.	Cylinders Ø	A	B	C	D	F	G1	G2	H	MA1 [Nm]
3220643562	125 mm	35	22	21	12	23	M4	M5	5	1,8 +0,4

Sensor mounting, Series CB1

- for series SN6
- to mount on cylinder TRB, CVI, 523



Weight

0.028 kg

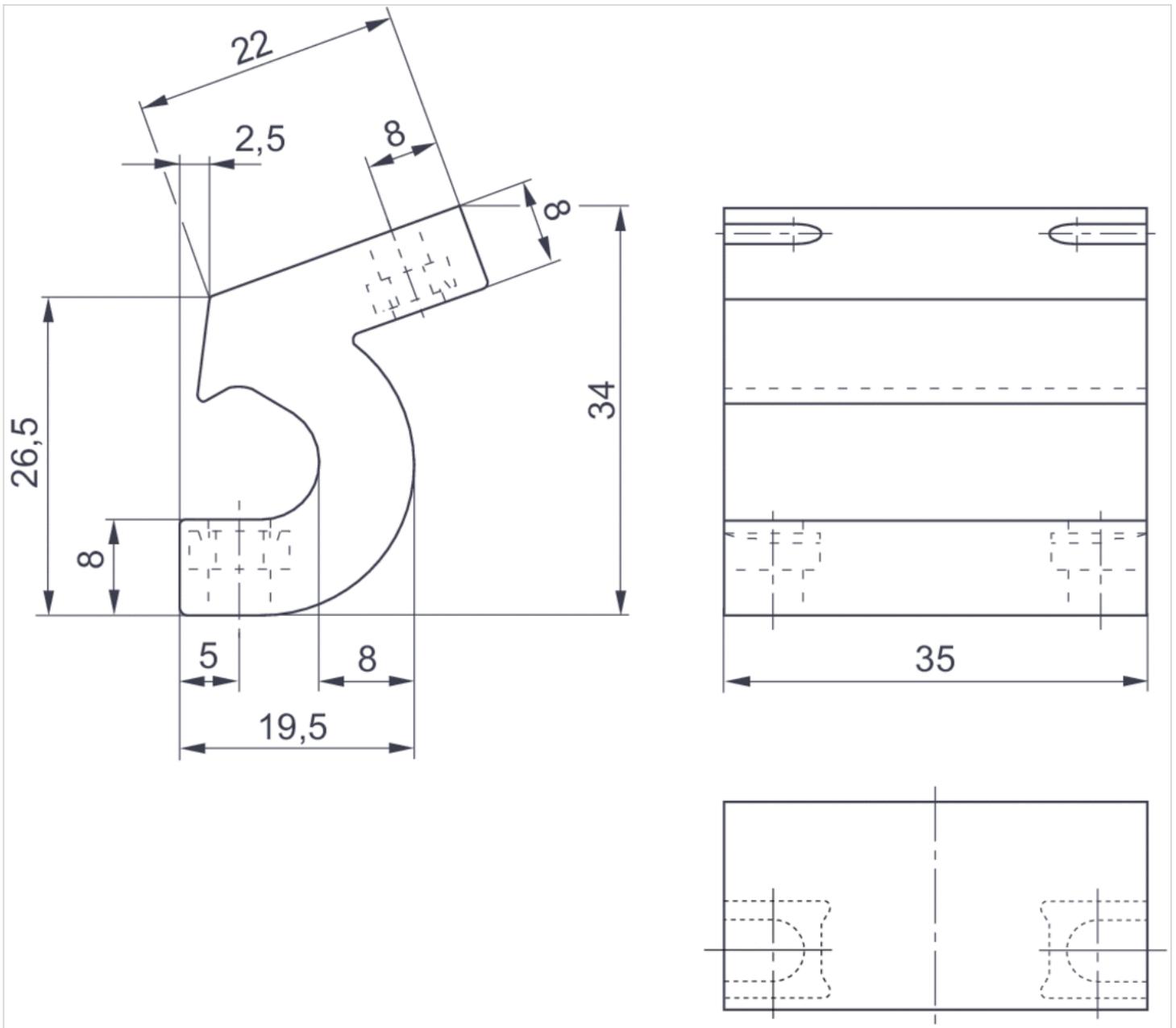
Technical data

Part No.	Cylinders Ø		for series
	min.	max.	
5230033502	32 mm	63 mm	SN6

Technical information

Material	
	Polyamide

Dimensions



Dimensions

Part No.	Cylinders Ø
5230033502	32 63 mm

Sensor, Series ST6

- 6 mm T-slot
- with cable
- open cable ends, 2-pin open cable ends, 3-pin
- UL certification
- Reed electronic PNP electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67, IP69K
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	See table below
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	3 5 10 m

Technical data

Part No.		for	Type of contact
R412022866		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412027170		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022869		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022870		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022871		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022853		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022855		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022857		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022849		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN
R412022850		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN

Part No.	Cable length L	Min./max. DC operating voltage	Min./max. AC operating voltage
R412022866	3 m	10 ... 230 V DC	10 ... 230 V AC
R412027170	5 m	10 ... 230 V DC	10 ... 230 V AC
R412022869	3 m	10 ... 30 V DC	10 ... 30 V AC
R412022870	5 m	10 ... 30 V DC	10 ... 30 V AC
R412022871	10 m	10 ... 30 V DC	10 ... 30 V AC
R412022853	3 m	10 ... 30 V DC	-
R412022855	5 m	10 ... 30 V DC	-
R412022857	10 m	10 ... 30 V DC	-
R412022849	3 m	10 ... 30 V DC	-
R412022850	5 m	10 ... 30 V DC	-

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022866	≤ 3,5 V	0.13 A
R412027170	≤ 3,5 V	0.13 A
R412022869	I*Rs	0.3 A
R412022870	≤ 0,1 V	0.3 A
R412022871	I*Rs	0.3 A
R412022853	≤ 2,5 V	0.13 A
R412022855	≤ 2,5 V	0.13 A
R412022857	≤ 2,5 V	0.13 A
R412022849	≤ 2,5 V	0.13 A
R412022850	≤ 2,5 V	0.13 A

Part No.	AC switching current, max.	Switching capacity
R412022866	0.13 A	Reed, 2-pin: max. 10 W
R412027170	0.13 A	Reed, 2-pin: max. 10 W
R412022869	0.5 A	Reed, 3-pin: max. 6 W
R412022870	0.5 A	Reed, 3-pin: max. 6 W
R412022871	0.5 A	Reed, 3-pin: max. 6 W

Part No.	AC switching current, max.	Switching capacity
R412022853	-	-
R412022855	-	-
R412022857	-	-
R412022849	-	-
R412022850	-	-

Part No.	Max. switching frequency	Operating current, not switched
R412022866	400 Hz	-
R412027170	400 Hz	-
R412022869	400 Hz	-
R412022870	400 Hz	-
R412022871	400 Hz	-
R412022853	1000 Hz	8 mA
R412022855	1000 Hz	8 mA
R412022857	1000 Hz	8 mA
R412022849	1000 Hz	8 mA
R412022850	1000 Hz	8 mA

Part No.	Operating current, switched
R412022866	-
R412027170	-
R412022869	-
R412022870	-
R412022871	-
R412022853	30 mA
R412022855	30 mA
R412022857	30 mA
R412022849	30 mA
R412022850	30 mA

Part No.	Version	Fig.	
R412022866	Protected against polarity reversal	Fig. 1	1)
R412027170	Protected against polarity reversal	Fig. 1	1)
R412022869	Protected against polarity reversal	Fig. 2	2)
R412022870	Protected against polarity reversal	Fig. 2	2)
R412022871	Protected against polarity reversal	Fig. 2	2)
R412022853	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022855	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022857	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022849	short circuit resistant Protected against polarity reversal	Fig. 2	3)
R412022850	short circuit resistant Protected against polarity reversal	Fig. 2	3)

- 1) open cable ends, 2-pin, The product of operating voltage and continuous current must not exceed the maximum switching capacity.
- 2) open cable ends, 3-pin, The product of operating voltage and continuous current must not exceed the maximum switching capacity.
- 3) open cable ends, 3-pin

Technical information

No cULus certification for 230 V variant.

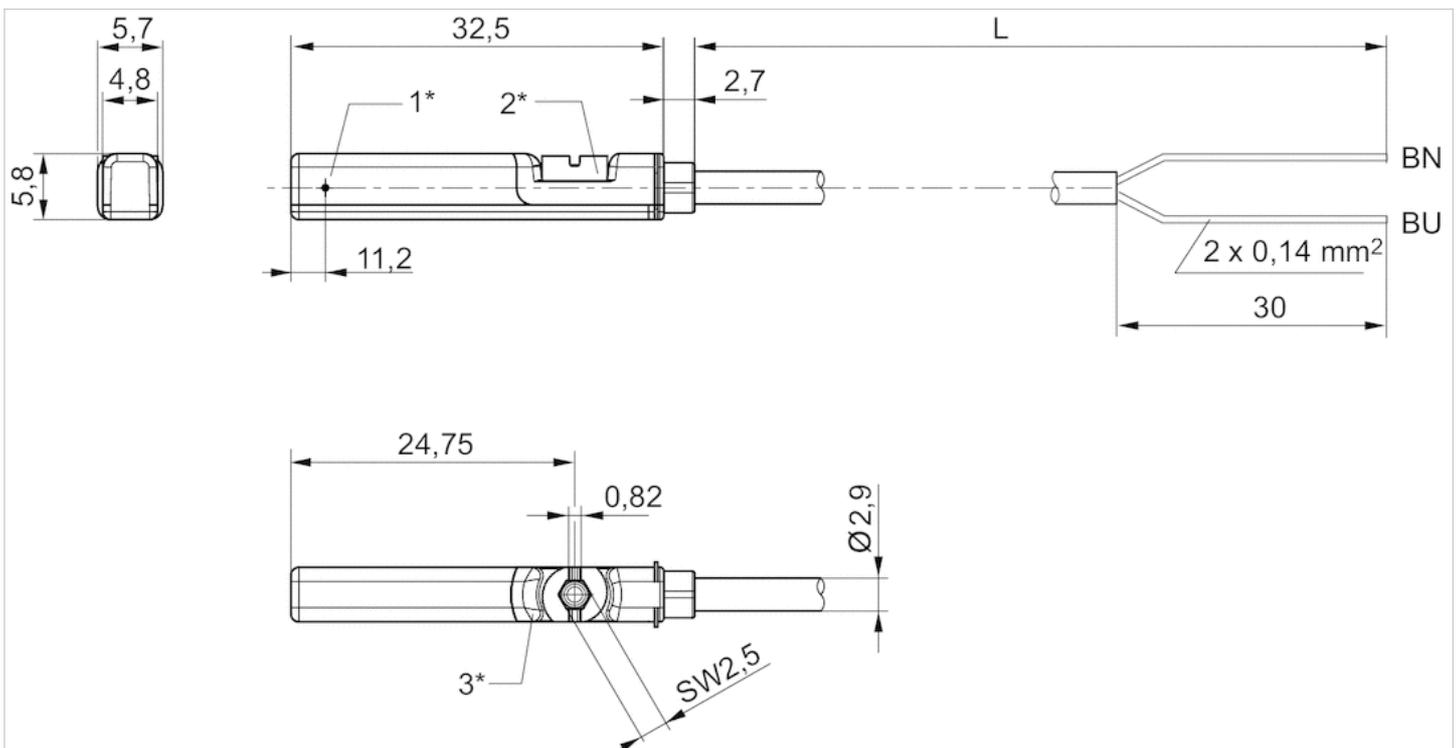
Technical information

Material

Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Fig. 1

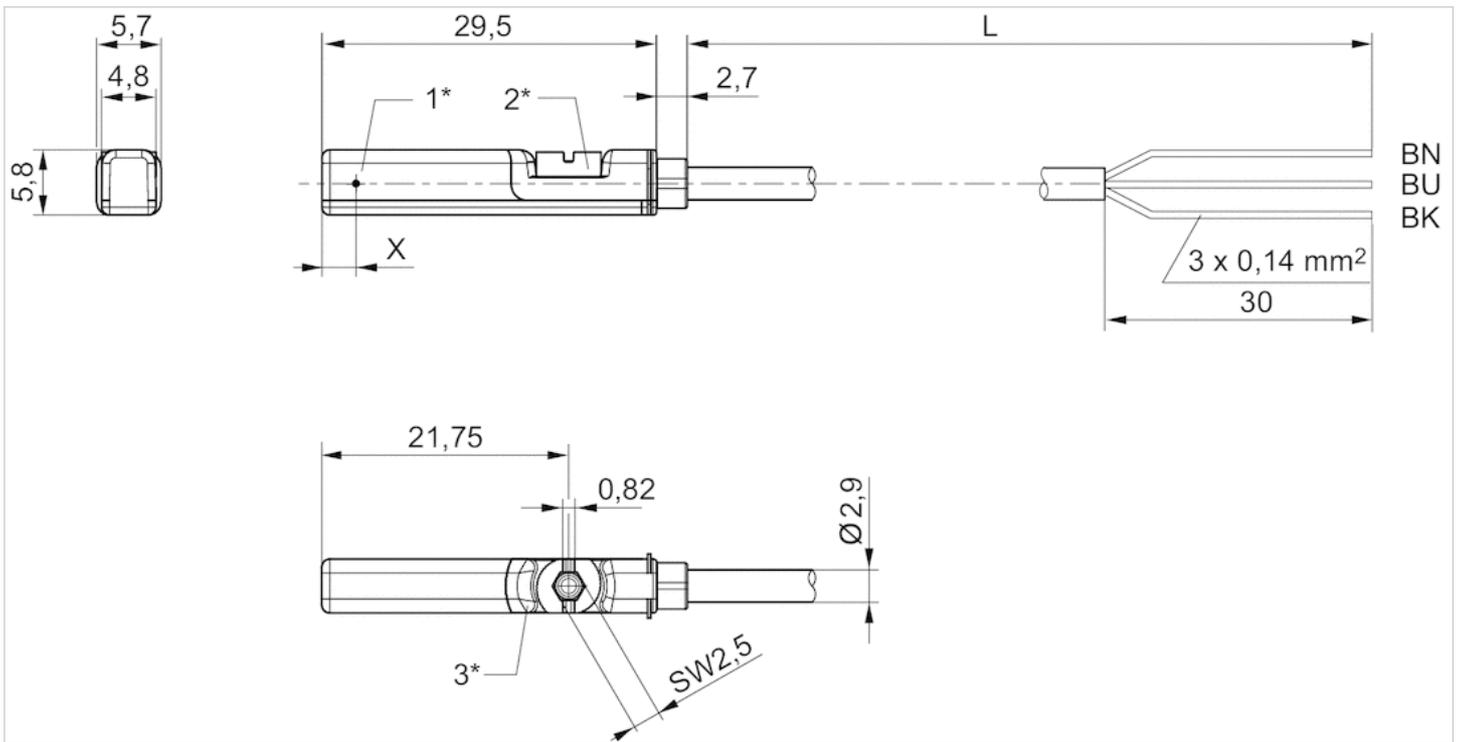


1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

BN=brown, BU=blue

Fig. 2



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

Sensor mounting, Series CB1

- for series SN1, SN2

- to mount on cylinder TRB, TRR



Weight

See table below

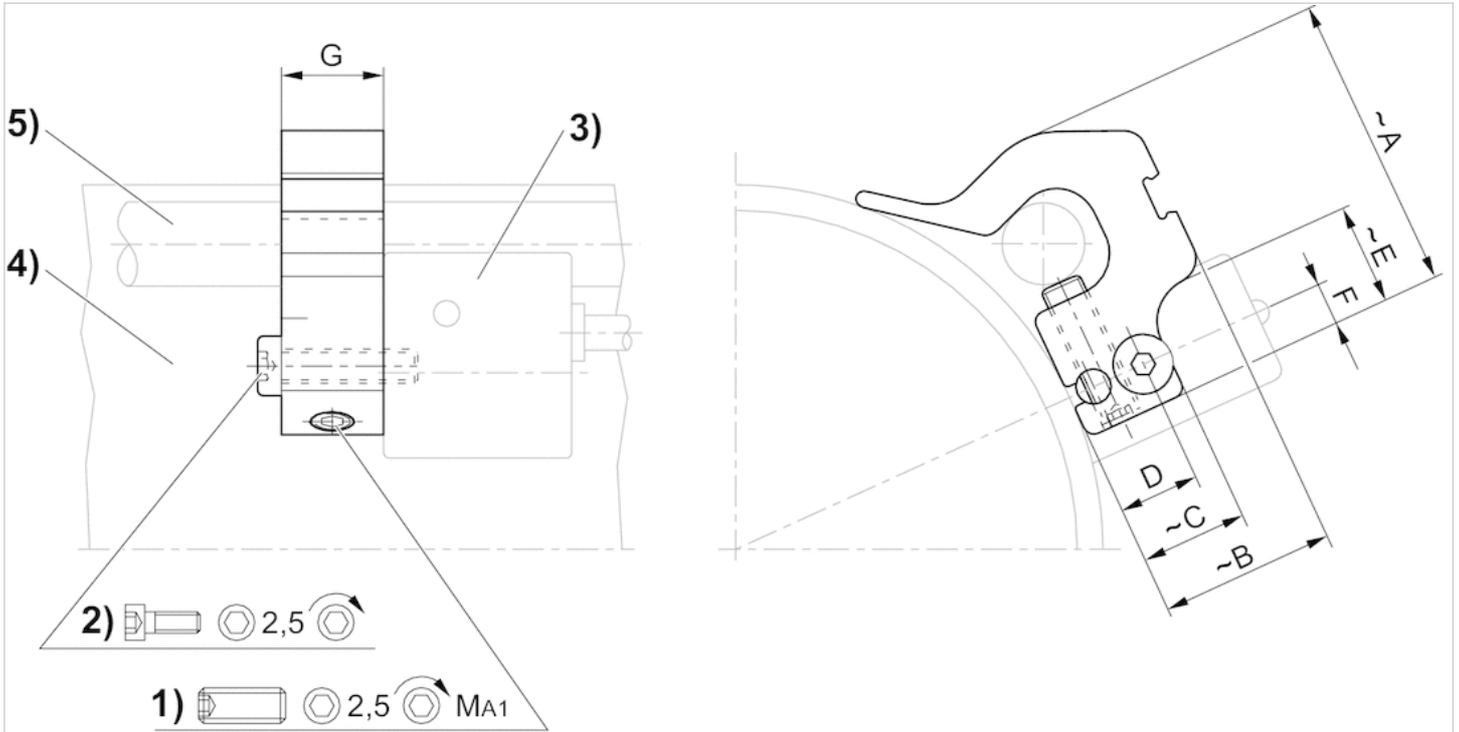
Technical data

Part No.	Cylinders Ø		for series	Weight
	min.	max.		
1827020081	32 mm	40 mm	SN1, SN2	0.015 kg
1827020082	50 mm	63 mm	SN1, SN2	0.013 kg
1827020083	80 mm	100 mm	SN1, SN2	0.018 kg

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

Part No.	Cylinders Ø mm	A	B	C	D	E	F	G	1)	MA1 [Nm]
1827020081	32 mm	25.3	12.5	12.5	9.5	-	5	16	M5x16	1 +0,3
1827020082	50 mm	28.7	15.6	12.5	9.5	12	5	12	M5x16	1 +0,3
1827020083	80 mm	33.8	23	12.5	9.5	12	5	12	M5x16	1 +0,3

Sensor, Series IN1

- for locking unit, series LU6



Standardization	DIN EN 60947-5-2
Certificates	cULus
Ambient temperature min./max.	-20 ... 65 °C
Protection class	IP67
Hysteresis	5 - 15%, adjustable
Temperature drift	± 10 %
Residual ripple	≤ 10 %
Reproducibility	≤ 2 %
Switching logic	NO (make contact)
LED status display	Yellow

Technical data

Part No.	Operational voltage	Switching distance max.	Power consumption	Continuous current
R412010426	10 ... 30 V DC	2 mm	10 mA	0.2 A

Part No.	Short circuit resistance
R412010426	short circuit resistant Protected against polarity reversal

Technical information

Flush installation

Switching states:

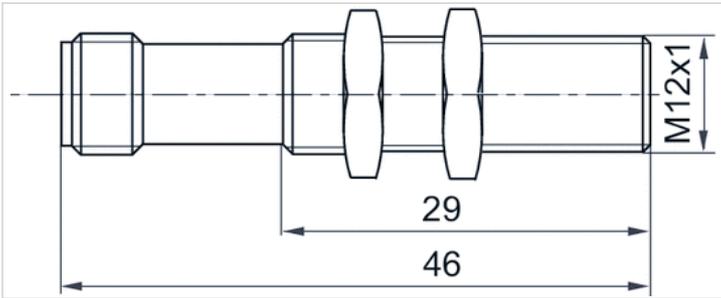
1. Pressure applied to locking unit, clamping pliers are open, sensor does not emit a signal (normally open)
2. No pressure applied to locking unit, clamping pliers are closed, sensor emits a signal (feedback that LU6 is clamping)

Technical information

Material	
Housing	Brass

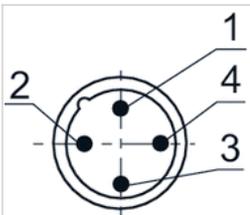
Dimensions

Dimensions



Pin assignments

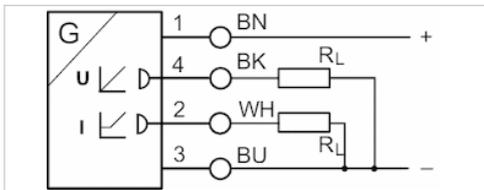
Pin assignments, M12x1



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

Sensors, Series SM6

- 6 mm groove
- with cable
- without wire end ferrule, tin-plated, 4-pin
- with distance measuring sensor, measurement range 32 ... 256 mm
- Analog
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, 167, MNI, ICM, TRR



Certificates	cULus
Ambient temperature min./max.	-20 ... 70 °C
Protection class	IP67
Output signal	0 - 10 V DC, 4 - 20 mA
Quiescent current (without load)	25 mA
Maximum load (analog current output)	500 Ω
Residual ripple	≤ 10 %
sampling interval	1 ms
Resolution max. measuring range	0,05 mm
Repetitive precision max. measuring range	0.1 mm
Linearity deviation	0,3 mm
Sampling speed	3 m/s
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	2 m

Technical data

Part No.	for	Type of contact	Cable length L
R412010141	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010143	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010262	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010264	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010411	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010413	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010415	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m
R412010417	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	2 m

Part No.	max. measuring range	Overall length Sensor A
R412010141	32 mm	45 mm
R412010143	64 mm	77 mm
R412010262	96 mm	109 mm
R412010264	128 mm	141 mm
R412010411	160 mm	173 mm
R412010413	192 mm	205 mm

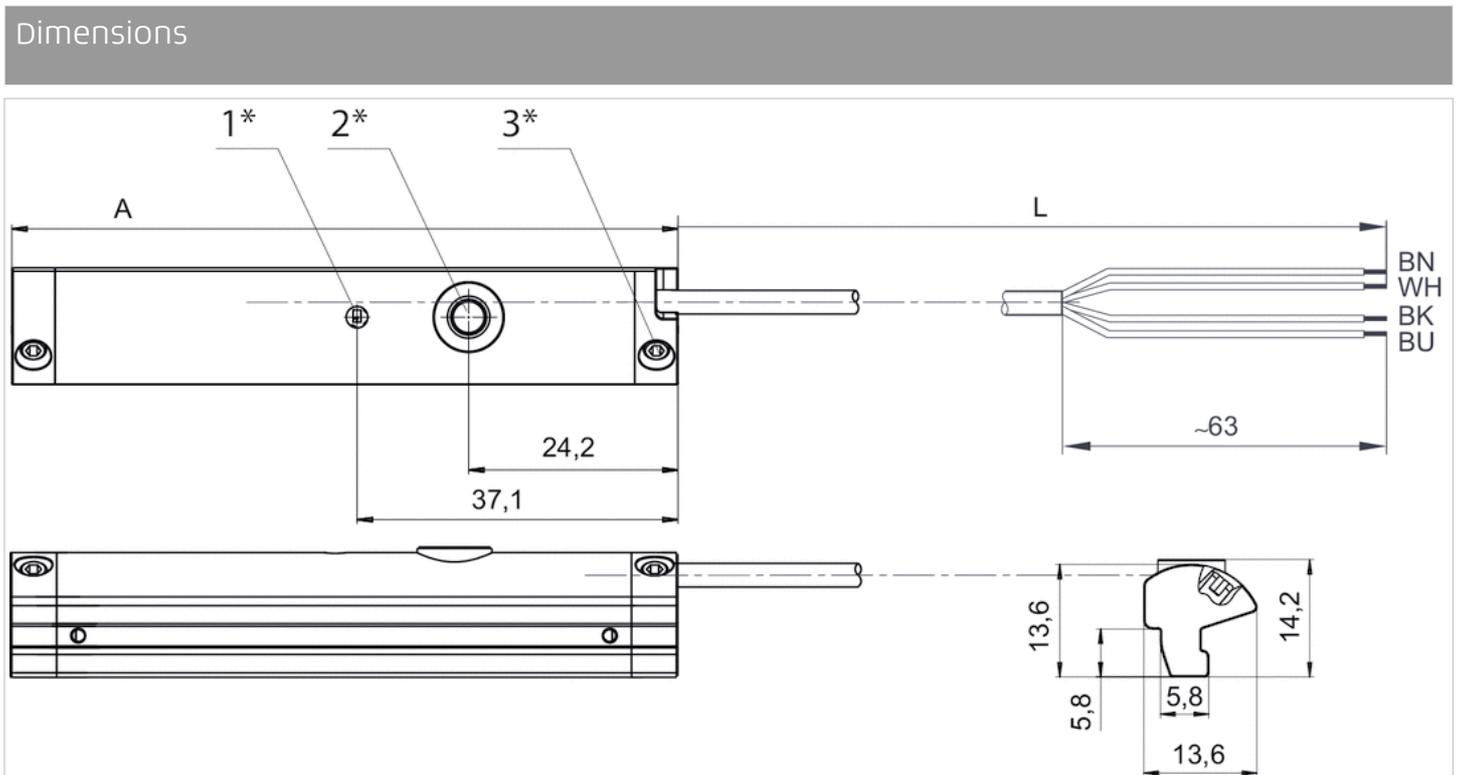
Part No.	max. measuring range	Overall length Sensor A
R412010415	224 mm	237 mm
R412010417	256 mm	269 mm

Part No.	Version
R412010141	short circuit resistant Protected against polarity reversal Overload protection
R412010143	short circuit resistant Protected against polarity reversal Overload protection
R412010262	short circuit resistant Protected against polarity reversal Overload protection
R412010264	short circuit resistant Protected against polarity reversal Overload protection
R412010411	short circuit resistant Protected against polarity reversal Overload protection
R412010413	short circuit resistant Protected against polarity reversal Overload protection
R412010415	short circuit resistant Protected against polarity reversal Overload protection
R412010417	short circuit resistant Protected against polarity reversal Overload protection

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Cable sheath	Polyurethane

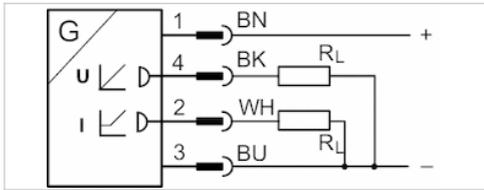
Dimensions



(4) BK=black
A = sensor length

Sensors, Series SM6

- 6 mm groove
- with cable
- Plug, M8x1, 4-pin, with knurled screw
- with distance measuring sensor, measurement range 32 ... 256 mm
- Analog
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, 167, MNI, ICM, TRR



Certificates	cULus
Ambient temperature min./max.	-20 ... 70 °C
Protection class	IP67
Output signal	0 - 10 V DC, 4 - 20 mA
Quiescent current (without load)	25 mA
Min./max. DC operating voltage	15 ... 30 V DC
sampling interval	1 ms
Resolution max. measuring range	0,05 mm
Repetitive precision max. measuring range	0.1 mm
Linearity deviation	0,3 mm
Sampling speed	3 m/s
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 m

Technical data

Part No.	for	Type of contact	Cable length L
R412010142	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010144	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010263	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010265	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010410	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010412	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010414	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m
R412010416	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Analog	0.3 m

Part No.	max. measuring range	Overall length Sensor A
R412010142	32 mm	45 mm
R412010144	64 mm	77 mm
R412010263	96 mm	109 mm
R412010265	128 mm	141 mm
R412010410	160 mm	173 mm
R412010412	192 mm	205 mm

Part No.	max. measuring range	Overall length Sensor A
R412010414	224 mm	237 mm
R412010416	256 mm	269 mm

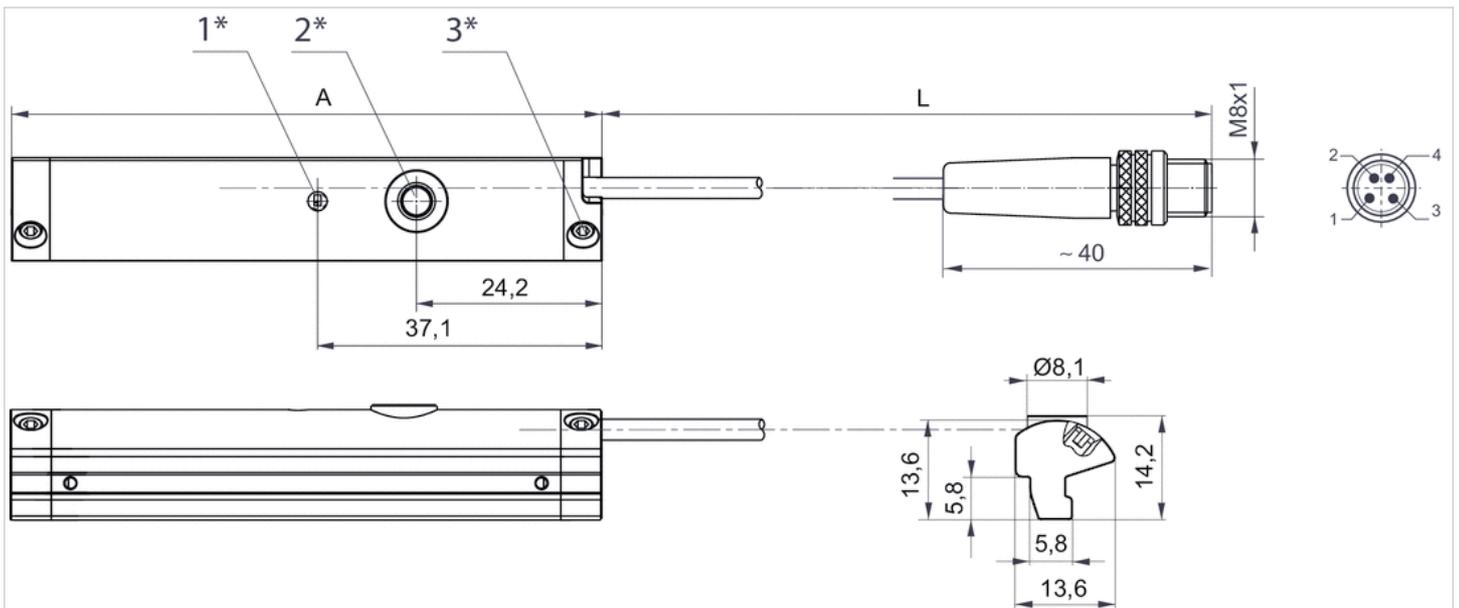
Part No.	Version
R412010142	short circuit resistant Protected against polarity reversal Overload protection
R412010144	short circuit resistant Protected against polarity reversal Overload protection
R412010263	short circuit resistant Protected against polarity reversal Overload protection
R412010265	short circuit resistant Protected against polarity reversal Overload protection
R412010410	short circuit resistant Protected against polarity reversal Overload protection
R412010412	short circuit resistant Protected against polarity reversal Overload protection
R412010414	short circuit resistant Protected against polarity reversal Overload protection
R412010416	short circuit resistant Protected against polarity reversal Overload protection

Technical information

Material	
Housing	Polyamide fiber-glass reinforced
Cable sheath	Polyurethane

Dimensions

Dimensions



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

Sensor, Series SN2

- with cable
- without wire end ferrule, tin-plated, 2-pin without wire end ferrule, tin-plated, 3-pin
- Heat resistant
- Reed electronic PNP
- Indirect mounting for series TRB, PRA, ITS, MNI, CSL-RD, ICM, RPC, TRR, FLT, CVI



Ambient temperature min./max.	See table below
Protection class	IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	15 mA
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	See table below
Min./max. AC operating voltage	See table below
LED status display	See table below
Cable length L	3 5 7 10 11 20 m

Technical data

Part No.		Type of contact	Cable sheath	Cable length L
0830100315		Reed	Polyvinyl chloride	3 m
0830100365		Reed	Polyvinyl chloride	3 m
0830100368		Reed	Polyvinyl chloride	3 m
0830100370		Reed	Polyurethane	3 m
0830100316		Reed	-	3 m
0830100373		Reed	-	3 m
0830100367		Reed	Polyurethane	3 m
0830100317		Reed	Thermoplastic elastomer	3 m
0830100366		Reed	Polyvinyl chloride	5 m
0830100369		Reed	Polyvinyl chloride	5 m
0830100327		Reed	Polyvinyl chloride	7 m
0830100325		Reed	Polyvinyl chloride	10 m
0830100326		Reed	Thermoplastic elastomer	11 m
R412004848		Reed	Polyvinyl chloride	20 m
0830100371		Reed	Polyvinyl chloride	3 m
0830100372		Reed	Polyvinyl chloride	5 m
0830100375		electronic PNP	Polyvinyl chloride	3 m
0830100378		electronic PNP	Thermoplastic elastomer	3 m
0830100377		electronic PNP	Polyurethane	3 m
0830100376		electronic PNP	Polyvinyl chloride	5 m

Part No.	Min./max. DC operating voltage	Min./max. AC operating voltage
0830100315	0 ... 60 V DC	0 ... 240 V AC
0830100365	12 ... 60 V DC	12 ... 240 V AC
0830100368	12 ... 60 V DC	12 ... 240 V AC
0830100370	12 ... 60 V DC	12 ... 240 V AC
0830100316	0 ... 60 V DC	0 ... 240 V AC
0830100373	0 ... 60 V DC	0 ... 240 V AC
0830100367	12 ... 60 V DC	12 ... 240 V AC
0830100317	12 ... 60 V DC	12 ... 240 V AC
0830100366	12 ... 60 V DC	12 ... 240 V AC
0830100369	12 ... 60 V DC	12 ... 240 V AC
0830100327	12 ... 60 V DC	12 ... 240 V AC
0830100325	12 ... 60 V DC	12 ... 240 V AC
0830100326	12 ... 60 V DC	12 ... 240 V AC
R412004848	12 ... 60 V DC	12 ... 240 V AC
0830100371	12 ... 42 V DC	12 ... 42 V AC
0830100372	12 ... 42 V DC	12 ... 42 V AC
0830100375	10 ... 30 V DC	10 ... 30 V AC
0830100378	10 ... 30 V DC	-
0830100377	10 ... 30 V DC	10 ... 30 V AC
0830100376	10 ... 30 V DC	10 ... 30 V AC

Part No.	Voltage drop U at I _{max}	DC switching current, max.
0830100315	$R_s \cdot I_{max}$.	0.13 A
0830100365	2,1 V + I*Rs	0.13 A
0830100368	2,1 V + I*Rs	0.3 A
0830100370	2,1 V + I*Rs	0.3 A
0830100316	$R_s \cdot I_{max}$.	0.13 A
0830100373	$R_s \cdot I_{max}$.	0.13 A
0830100367	2,1 V + I*Rs	0.13 A
0830100317	2,1 V + I*Rs	0.12 A
0830100366	2,1 V + I*Rs	0.13 A
0830100369	2,1 V + I*Rs	0.3 A
0830100327	2,1 V + I*Rs	0.3 A
0830100325	2,1 V + I*Rs	0.13 A
0830100326	2,1 V + I*Rs	0.12 A
R412004848	2,1 V + I*Rs	0.13 A
0830100371	I*Rs	0.13 A
0830100372	I*Rs	0.13 A
0830100375	≤ 2,0 V	0.13 A
0830100378	2,1 V + I*Rs	0.12 A
0830100377	≤ 2,0 V	0.13 A
0830100376	≤ 2,0 V	0.13 A

Part No.	AC switching current, max.	Ambient temperature min./max.	Switching capacity
0830100315	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100365	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100368	0.5 A	-20 ... 80 °C	10 W / 10 VA
0830100370	0.5 A	-20 ... 80 °C	10 W / 10 VA
0830100316	-	-20 ... 80 °C	10 W / 10 VA
0830100373	-	-20 ... 80 °C	10 W / 10 VA
0830100367	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100317	0.12 A	-20 ... 120 °C	10 W / 10 VA
0830100366	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100369	0.5 A	-20 ... 80 °C	10 W / 10 VA
0830100327	0.5 A	-20 ... 80 °C	10 W / 10 VA
0830100325	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100326	0.12 A	-20 ... 120 °C	10 W / 10 VA
R412004848	0.13 A	-20 ... 80 °C	10 W / 10 VA
0830100371	0.13 A	-20 ... 80 °C	5,5 W / 5,5 VA
0830100372	0.13 A	-20 ... 80 °C	5,5 W / 5,5 VA
0830100375	-	-10 ... 70 °C	-
0830100378	-	-20 ... 120 °C	10 W / 10 VA
0830100377	-	-10 ... 70 °C	-
0830100376	-	-10 ... 70 °C	-

Part No.	Protective resistor for reed	Vibration resistance	Shock resistance
0830100315	27 Ω	-	-

Part No.	Protective resistor for reed	Vibration resistance	Shock resistance
0830100365	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100368	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100370	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100316	1,3 Ω	-	-
0830100373	100 Ω	-	-
0830100367	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100317	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100366	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100369	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100327	1,3 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100325	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100326	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
R412004848	27 Ω	30 g (50 - 1000 Hz)	50 g / 11 ms
0830100371	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100372	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100375	-	-	-
0830100378	27 Ω	30 g (50 - 1000 Hz)	100 g / 11 ms
0830100377	-	-	-
0830100376	-	-	-

Part No.	Max. switching frequency	Operating current, not switched
0830100315	300 Hz	-
0830100365	-	-
0830100368	-	-
0830100370	-	-
0830100316	300 Hz	-
0830100373	300 Hz	-
0830100367	-	-
0830100317	-	-
0830100366	-	-
0830100369	-	-
0830100327	-	-
0830100325	-	-
0830100326	-	-
R412004848	-	-
0830100371	-	-
0830100372	-	-
0830100375	2000 Hz	10 mA
0830100378	-	-
0830100377	2000 Hz	10 mA
0830100376	2000 Hz	10 mA

Part No.	Operating current, switched	Material Housing	LED status display
0830100315	-	Polyamide	-
0830100365	-	Polyamide	Yellow

Part No.	Operating current, switched	Material Housing	LED status display
0830100368	-	Polyamide	Yellow
0830100370	-	Polyamide	Yellow
0830100316	-	Polyamide	-
0830100373	-	Polyamide	-
0830100367	-	Polyamide	Yellow
0830100317	-	Polyamide	-
0830100366	-	Polyamide	Yellow
0830100369	-	Polyamide	Yellow
0830100327	-	Polyamide	Yellow
0830100325	-	Polyamide	Yellow
0830100326	-	Polyamide	-
R412004848	-	epoxy resin	Yellow
0830100371	-	Polyamide	Yellow
0830100372	-	Polyamide	Yellow
0830100375	15 mA	Polyamide	Yellow
0830100378	-	Polyamide	-
0830100377	15 mA	Polyamide	Yellow
0830100376	15 mA	Polyamide	Yellow

Part No.	Version	
0830100315	Protected against polarity reversal	1)
0830100365	Protected against polarity reversal	1)
0830100368	Protected against polarity reversal	1)
0830100370	Protected against polarity reversal	1)
0830100316	Protected against polarity reversal	1)
0830100373	Protected against polarity reversal	1)
0830100367	Protected against polarity reversal	1)
0830100317	Protected against polarity reversal	1)
0830100366	Protected against polarity reversal	1)
0830100369	Protected against polarity reversal	1)
0830100327	Protected against polarity reversal	1)
0830100325	Protected against polarity reversal	1)
0830100326	Protected against polarity reversal	1)
R412004848	Protected against polarity reversal	1)
0830100371	Protected against polarity reversal	1)
0830100372	Protected against polarity reversal	1)
0830100375	short circuit resistant Protected against polarity reversal	2)
0830100378	Protected against polarity reversal	2)
0830100377	short circuit resistant Protected against polarity reversal	2)
0830100376	short circuit resistant Protected against polarity reversal	2)

1) without wire end ferrule, tin-plated, 2-pin

2) without wire end ferrule, tin-plated, 3-pin

Technical information

If reed sensors are used, we recommend using a short-circuit protective device (SCPD).

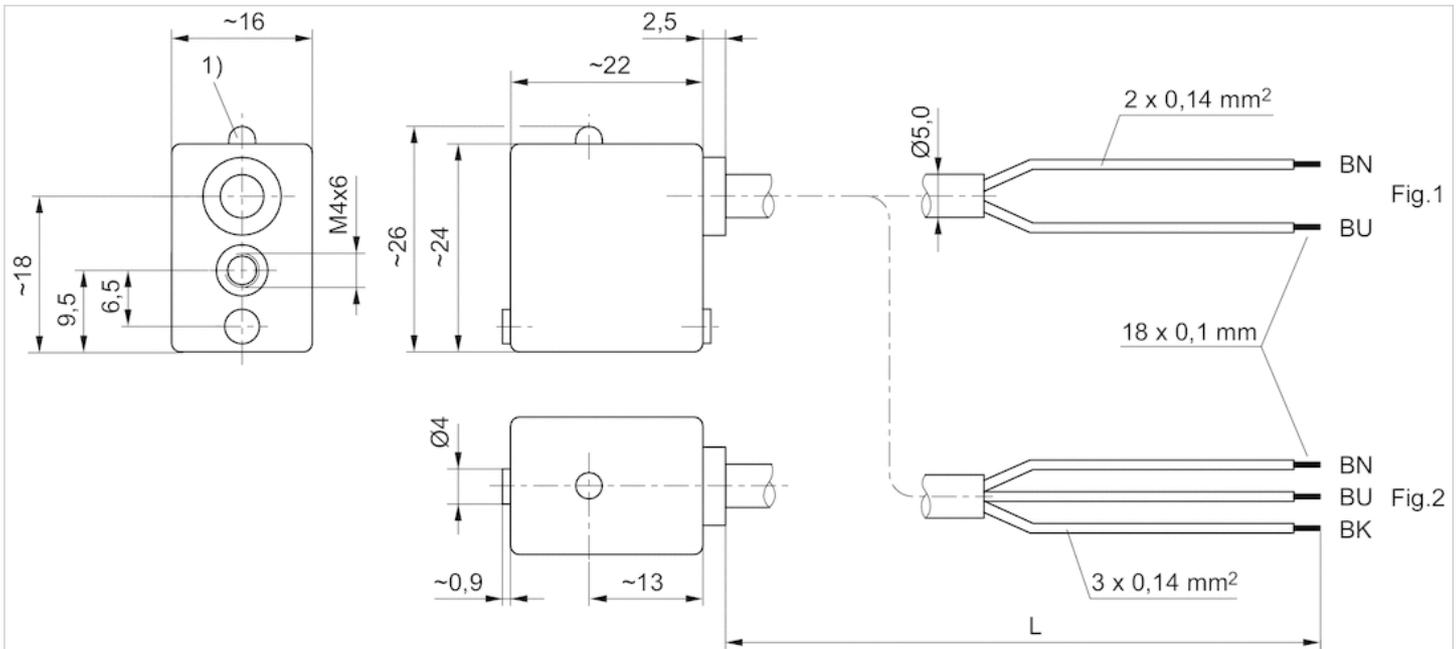
Technical information

Material

Housing	Polyamide epoxy resin
Cable sheath	Polyvinyl chloride Polyurethane Thermoplastic elastomer

Dimensions

Dimensions



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

Sensor, Series SN2

- Plug, M8, 2-pin Plug, M8, 3-pin Plug, M8, 4-pin
- Reed 2-Wire Reed 3-Wire Reed 3-Wire, with pulse stretching Reed 4-Wire electronic PNP
- With stretched impulse
- With stretched impulse
- Reed electronic PNP
- Indirect mounting for series TRB, PRA, ITS, MNI, CSL-RD, ICM, RPC, TRR, FLT, CVI



Ambient temperature min./max.	See table below
Protection class	IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	15 mA
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	See table below
Min./max. AC operating voltage	See table below
LED status display	See table below

Technical data

Part No.		Type of contact	Min./max. DC operating voltage
0830100465		Reed	12 ... 36 V DC
0830100468		Reed	12 ... 36 V DC
R412004299		Reed	12 ... 36 V DC
0830100466		Reed	12 ... 36 V DC
0830100469		Reed	12 ... 36 V DC
R412004820		Reed	12 ... 36 V DC
0830100472		Reed	12 ... 36 V DC
0830100467		Reed	12 ... 36 V DC
0830100480		electronic PNP	10 ... 30 V DC
R412004800		electronic PNP	10 ... 30 V DC

Part No.	Min./max. AC operating voltage	Voltage drop U at I _{max}
0830100465	12 ... 30 V AC	2,1 V + I*Rs
0830100468	12 ... 30 V AC	2,1 V + I*Rs
R412004299	12 ... 30 V AC	2,1 V + I*Rs
0830100466	12 ... 30 V AC	2,1 V + I*Rs
0830100469	12 ... 30 V AC	≤ 0,5 V
R412004820	12 ... 30 V AC	I*Rs
0830100472	12 ... 30 V AC	≤ 1,5 V
0830100467	12 ... 30 V AC	≤ 3,5 V
0830100480	12 ... 30 V AC	≤ 2,0 V
R412004800	-	≤ 2,0 V

Part No.	DC switching current, max.	AC switching current, max.
0830100465	0.13 A	0.13 A
0830100468	0.3 A	0.5 A
R412004299	0.13 A	0.13 A
0830100466	0.13 A	0.13 A
0830100469	0.13 A	0.13 A
R412004820	0.13 A	0.13 A
0830100472	0.2 A	0.13 A
0830100467	0.13 A	0.13 A
0830100480	0.13 A	-
R412004800	0.13 A	-

Part No.	Function	Ambient temperature min./max.
0830100465	Reed 2-Wire	-20 ... 80 °C
0830100468	Reed 2-Wire	-20 ... 80 °C
R412004299	Reed 3-Wire	-20 ... 80 °C
0830100466	Reed 3-Wire	-20 ... 80 °C
0830100469	Reed 3-Wire	-20 ... 80 °C

Part No.	Function	Ambient temperature min./max.
R412004820	Reed 3-Wire	-20 ... 80 °C
0830100472	Reed 3-Wire, with pulse stretching	-20 ... 70 °C
0830100467	Reed 4-Wire	-20 ... 80 °C
0830100480	electronic PNP	-10 ... 70 °C
R412004800	electronic PNP	-10 ... 70 °C

Part No.	Switching capacity	Protective resistor for reed	Vibration resistance
0830100465	10 W / 10 VA	27 Ω	30 g (50 - 2000 Hz)
0830100468	10 W / 10 VA	1,3 Ω	30 g (50 - 2000 Hz)
R412004299	10 W / 10 VA	27 Ω	30 g (50 - 2000 Hz)
0830100466	10 W / 10 VA	100 Ω	30 g (50 - 2000 Hz)
0830100469	5,5 W / 5,5 VA	27 Ω	30 g (50 - 1000 Hz)
R412004820	10 W / 10 VA	27 Ω	30 g (50 - 2000 Hz)
0830100472	5 W / 5 VA	-	35 g (50 - 2000 Hz)
0830100467	10 W / 10 VA	27 Ω	35 g (50 - 2000 Hz)
0830100480	-	-	-
R412004800	-	-	-

Part No.	Shock resistance	Max. switching frequency	Operating current, not switched
0830100465	100 g / 11 ms	-	-
0830100468	100 g / 11 ms	-	-
R412004299	100 g / 11 ms	-	-
0830100466	100 g / 11 ms	-	-
0830100469	100 g / 11 ms	-	-
R412004820	100 g / 11 ms	-	-
0830100472	50 g / 11 ms	-	-
0830100467	50 g / 11 ms	-	-
0830100480	-	2000 Hz	10 mA
R412004800	-	2000 Hz	10 mA

Part No.	Operating current, switched	Material Housing	LED status display
0830100465	-	Polyamide	Yellow
0830100468	-	Polyamide	Yellow
R412004299	-	Polyamide	Yellow
0830100466	-	Polyamide	Yellow
0830100469	-	Polyamide	Yellow
R412004820	-	epoxy resin	Yellow
0830100472	-	-	Red
0830100467	-	epoxy resin	Red
0830100480	15 mA	Polyamide	Yellow
R412004800	15 mA	epoxy resin	Yellow

Part No.	Version
0830100465	Protected against polarity reversal
0830100468	Protected against polarity reversal
R412004299	Protected against polarity reversal
0830100466	Protected against polarity reversal
0830100469	Protected against polarity reversal
R412004820	Protected against polarity reversal
0830100472	Protected against polarity reversal
0830100467	Protected against polarity reversal
0830100480	short circuit resistant Protected against polarity reversal
R412004800	short circuit resistant Protected against polarity reversal

Part No.	Switch signal	Fig.	
0830100465	-	Fig. 1	1)
0830100468	-	Fig. 1	1)
R412004299	-	Fig. 1	2)
0830100466	-	Fig. 1	1)
0830100469	-	Fig. 1	2)
R412004820	-	Fig. 1	2)
0830100472	With stretched impulse	Fig. 1	2)
0830100467	-	Fig. 2	3)
0830100480	-	Fig. 1	2)
R412004800	-	Fig. 1	2)

- 1) Plug M8, 2-pin
- 2) Plug M8, 3-pin
- 3) Plug M8, 4-pin

Technical information

If reed sensors are used, we recommend using a short-circuit protective device (SCPD).

Technical information

Material	
Housing	Polyamide epoxy resin

Dimensions

Fig. 1

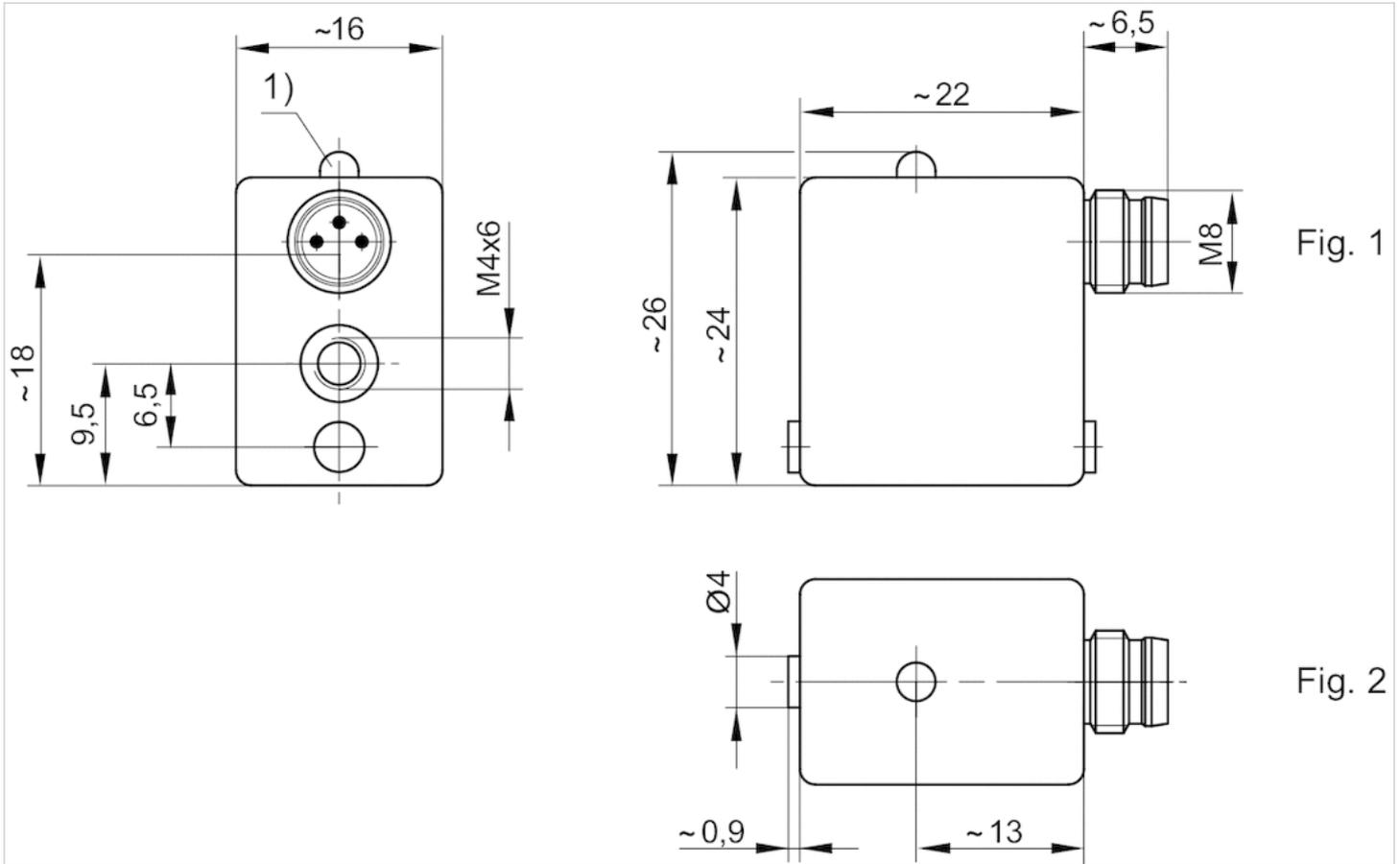


Fig. 1

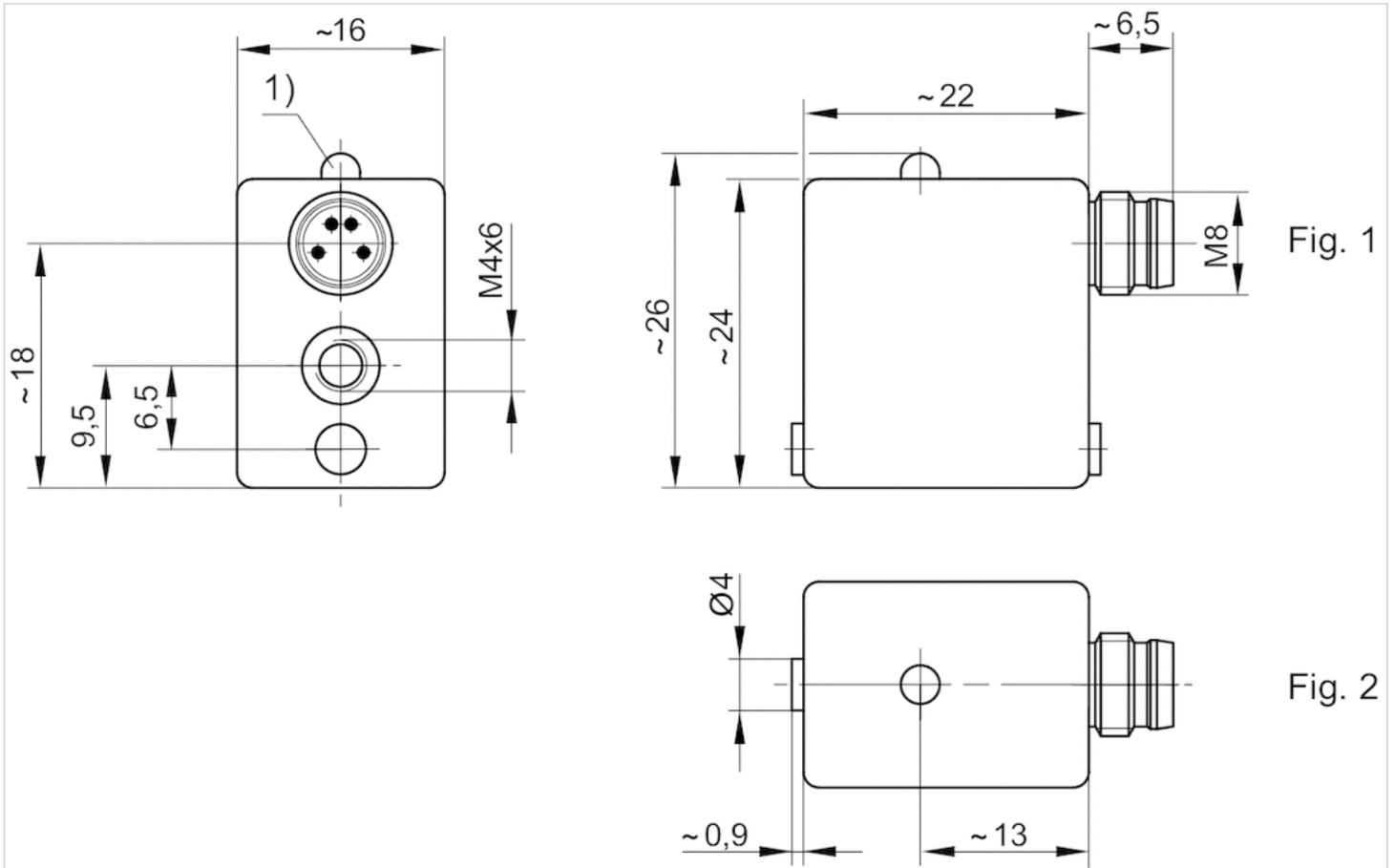
Fig. 2

1) LED

M8: combination plug can be combined with valve plug connectors Ø6.5 mm and M8.

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

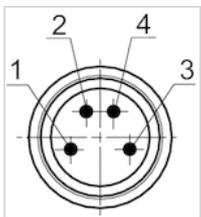
Fig. 2



1) LED

M8: combination plug can be combined with valve plug connectors Ø6.5 mm and M8.

Pin assignments

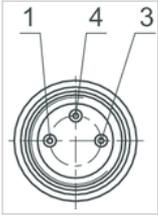


Pin	1	3	4
Allocation	(+)	(-)	(OUT)

EN 60947-5-2:1998

Pin assignments

Pin assignments



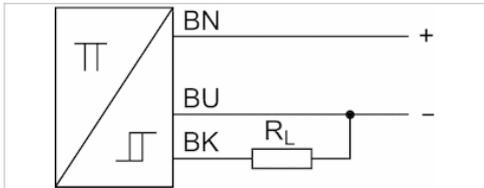
Pin	1	3	4
Allocation	(+)	(-)	(OUT)

Sensor, Series SN5-X

- 3-pin
- welding-proof
- With stretched impulse
- Sensor responds to ferromagnetic material., welding-proof, With stretched impulse
- electronic PNP
- Indirect mounting for series TRB, ITS



Ambient temperature min./max.	-10 ... 70 °C
Protection class	IP65
Nominal current, actuated state	25 mA
Quiescent current (without load)	14 mA
LED status display	See table below
Weight	0.05 kg



Technical data

Part No.	Type of contact	Voltage drop U at I _{max}	LED status display
0830100500	electronic PNP	≤ 2,0 V	Red
0830100502	electronic PNP	≤ 2,0 V	Red Green

Part No.	Version	Switch signal	welding-proof
0830100500	Protected against polarity reversal	With stretched impulse	welding-proof
0830100502	Protected against polarity reversal	With stretched impulse	welding-proof

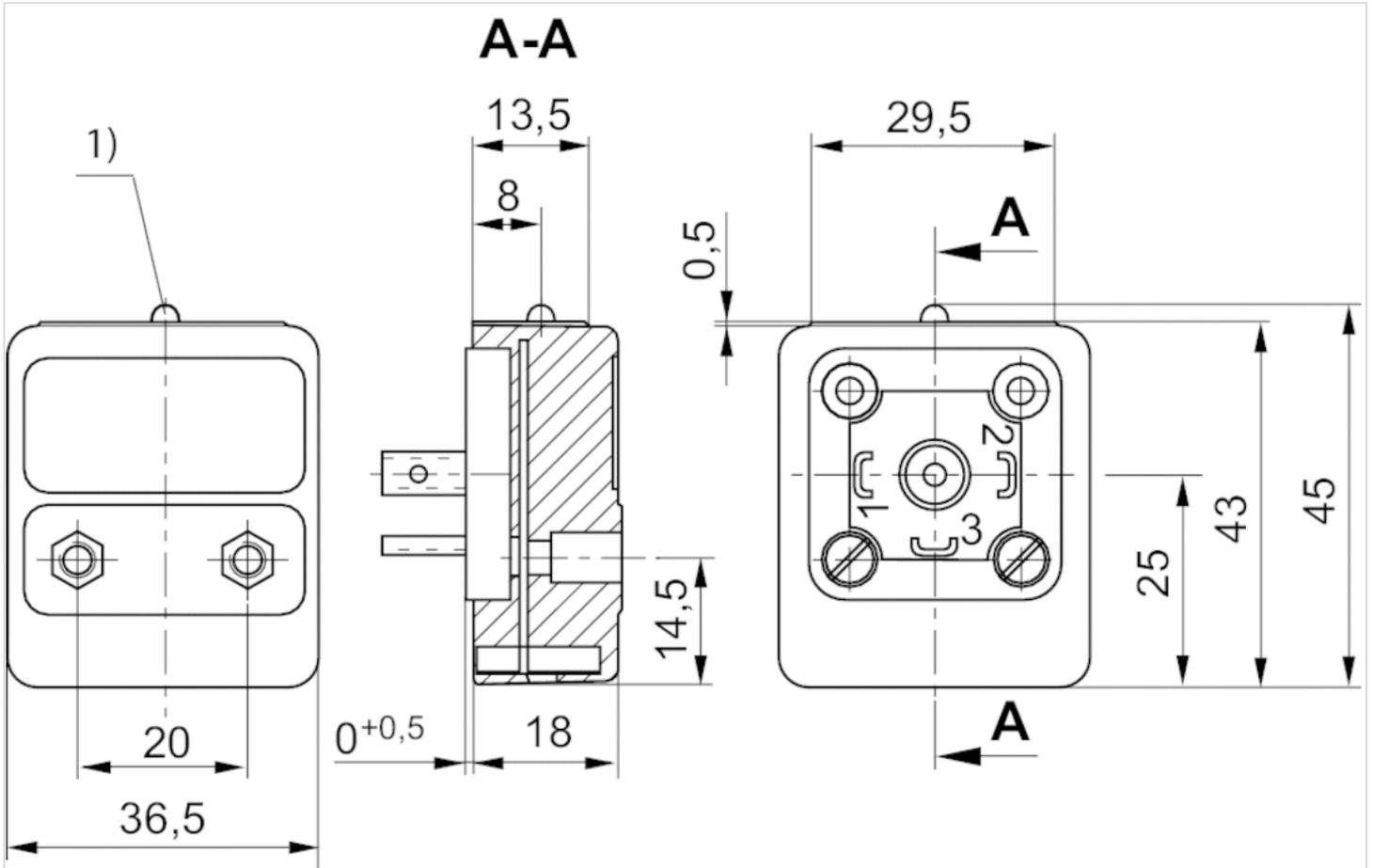
Technical information

Sensor responds to ferromagnetic material.

Technical information

Material	
Housing	epoxy resin

Dimensions



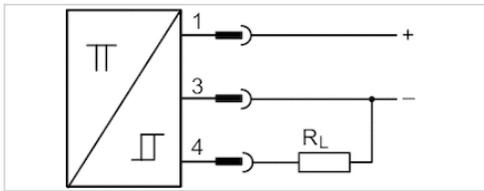
1) LED

Sensor, Series SN5-X

- Socket, M12, 3-pin
- With stretched impulse Time delay
- Sensor responds to ferromagnetic material., Time delay, With stretched impulse
- electronic PNP
- Indirect mounting for series TRB, ITS



Ambient temperature min./max.	-10 ... 70 °C
Protection class	IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	25 mA
Quiescent current (without load)	14 mA
Min./max. DC operating voltage	15 ... 30 V DC
Display	LED
LED status display	See table below



Technical data

Part No.	Type of contact	Voltage drop U at I _{max}	DC switching current, max.
0830100525	electronic PNP	≤ 2,0 V	0.2 A
0830100534	electronic PNP	≤ 2,0 V	0.2 A

Part No.	LED status display	Version
0830100525	Yellow	Protected against polarity reversal
0830100534	Yellow Green	short circuit resistant Protected against polarity reversal

Part No.	Switch signal	
0830100525	With stretched impulse	-
0830100534	Time delay	1)

1) Delivery incl. protective cap 1823317014

Technical information

Sensor responds to ferromagnetic material.

Technical information

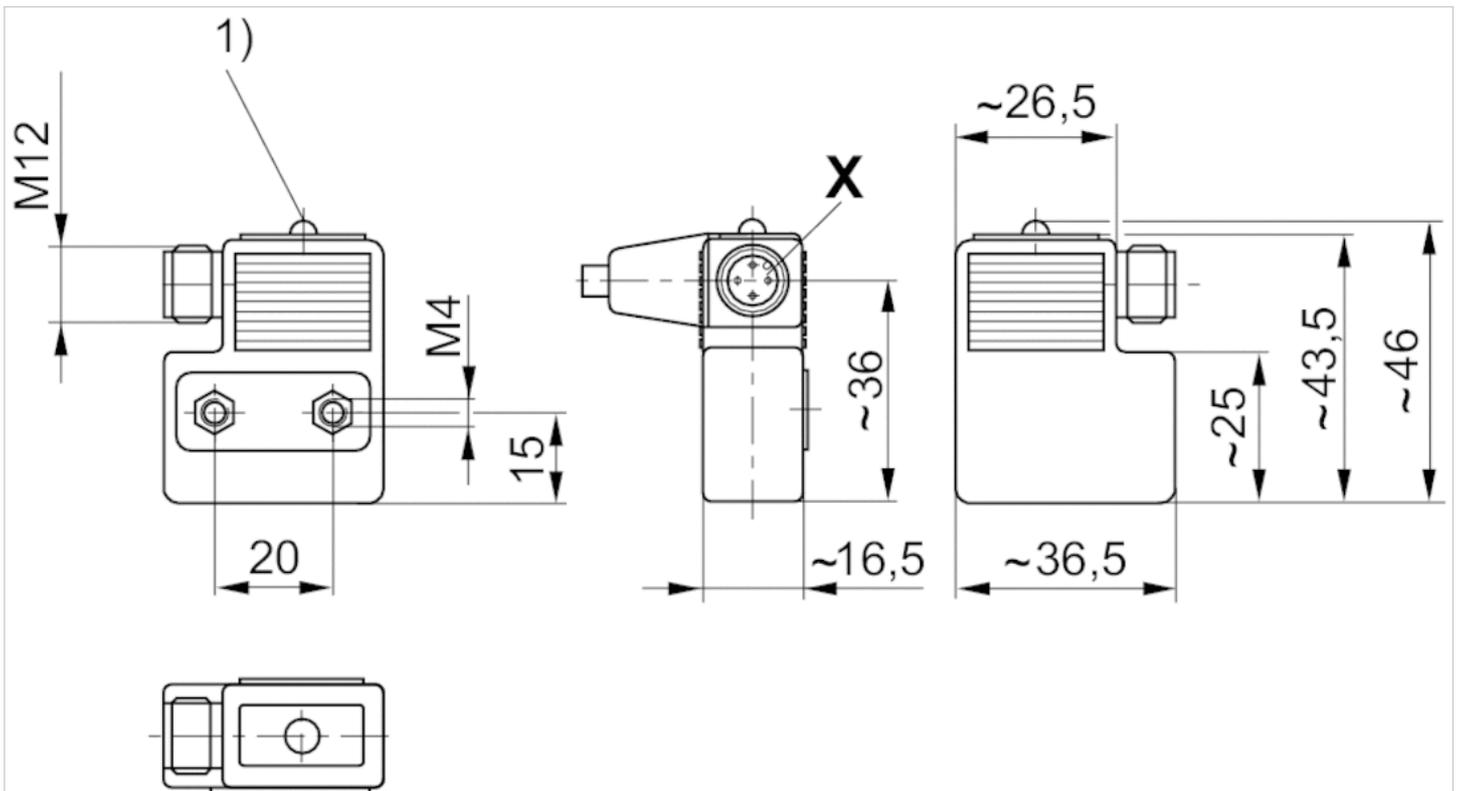
Material

Housing

epoxy resin

Dimensions

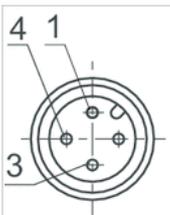
Dimensions



1) LED

Pin assignments

Pin assignments



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

Sensor, Series SN6

- Plug, Form B, industry, 2-pin
- Reed
- Indirect mounting for series TRB, ITS, 523



Ambient temperature min./max.	-25 ... 75 °C
Protection class	IP65
Switching point precision	±0,1 mT
Min./max. DC operating voltage	10 ... 48 V DC
Min./max. AC operating voltage	10 ... 48 V AC
LED status display	See table below
Vibration resistance	35 g (50 - 2000 Hz)
Shock resistance	50 g / 11 ms

Technical data

Part No.		Type of contact	DC switching current, max.
8940410602		Reed	3 A
8940410612		Reed	0.5 A

Part No.	AC switching current, max.	Switching capacity	LED status display
8940410602	3 A	60 W / 60 VA	-
8940410612	0.5 A	50 W / 50 VA	Yellow

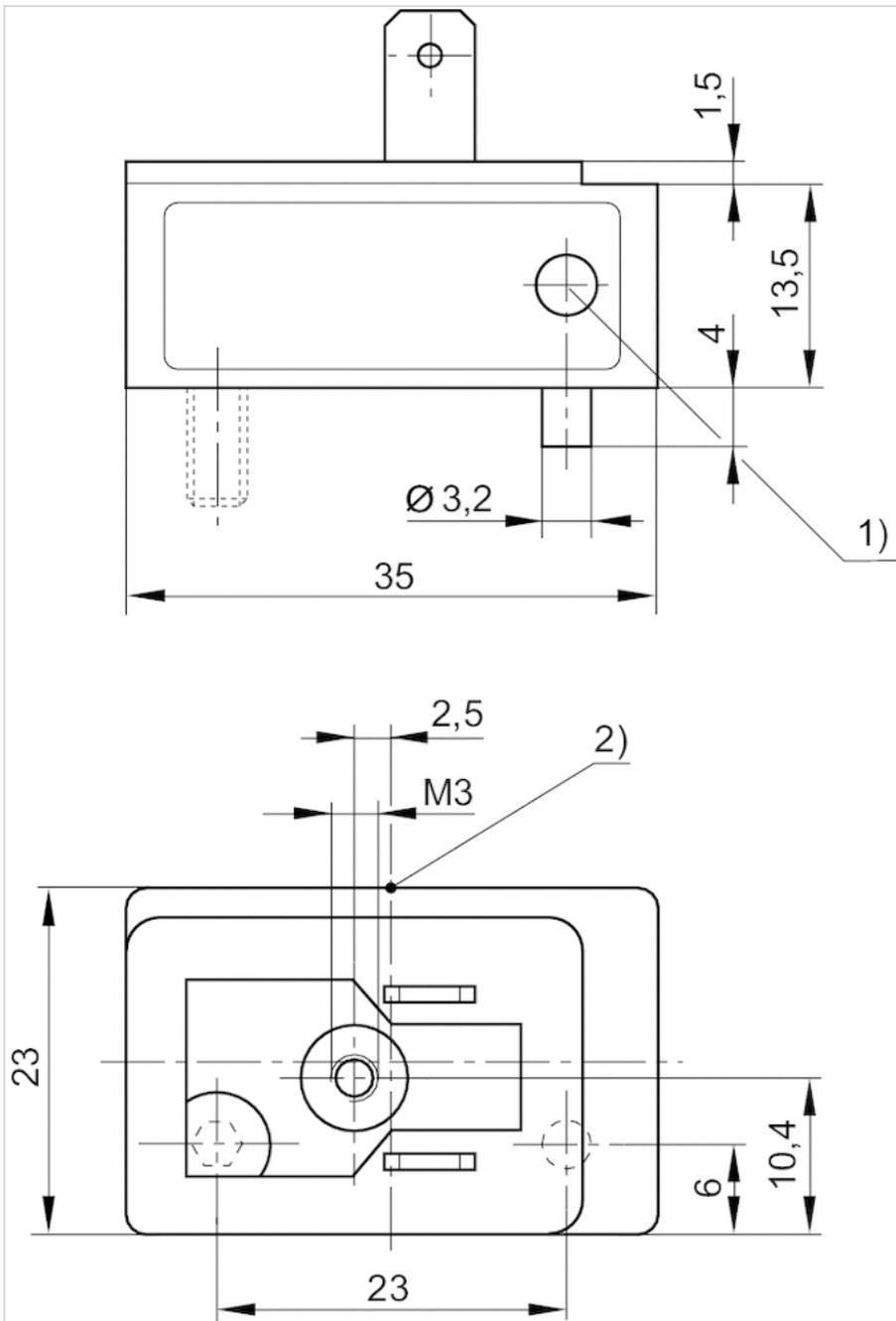
Part No.	Version
8940410602	-
8940410612	Protected against polarity reversal

Technical information

Material	
Housing	Polyester amide

Dimensions

Dimensions



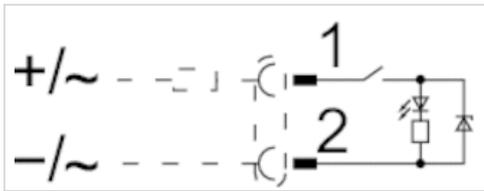
- 1) LED
- 2) Switching point

Sensor, Series SN6

- Plug, Form B, industry, 2-pin
- ATEX
- Reed
- Indirect mounting for series TRB, ITS



Certificates	ATEX
ATEX class G	II 3G Ex nC nA IIC T4 Gc
ATEX class D	II 3D Ex tc IIIB/IIIC T125°C Dc
Ambient temperature min./max.	-10 ... 50 °C
Protection class	IP65
Switching point precision	±0,1 mT
Min./max. DC operating voltage	21.6 ... 26.4 V DC
Min./max. AC operating voltage	210 ... 240 V AC
LED status display	Yellow



Technical data

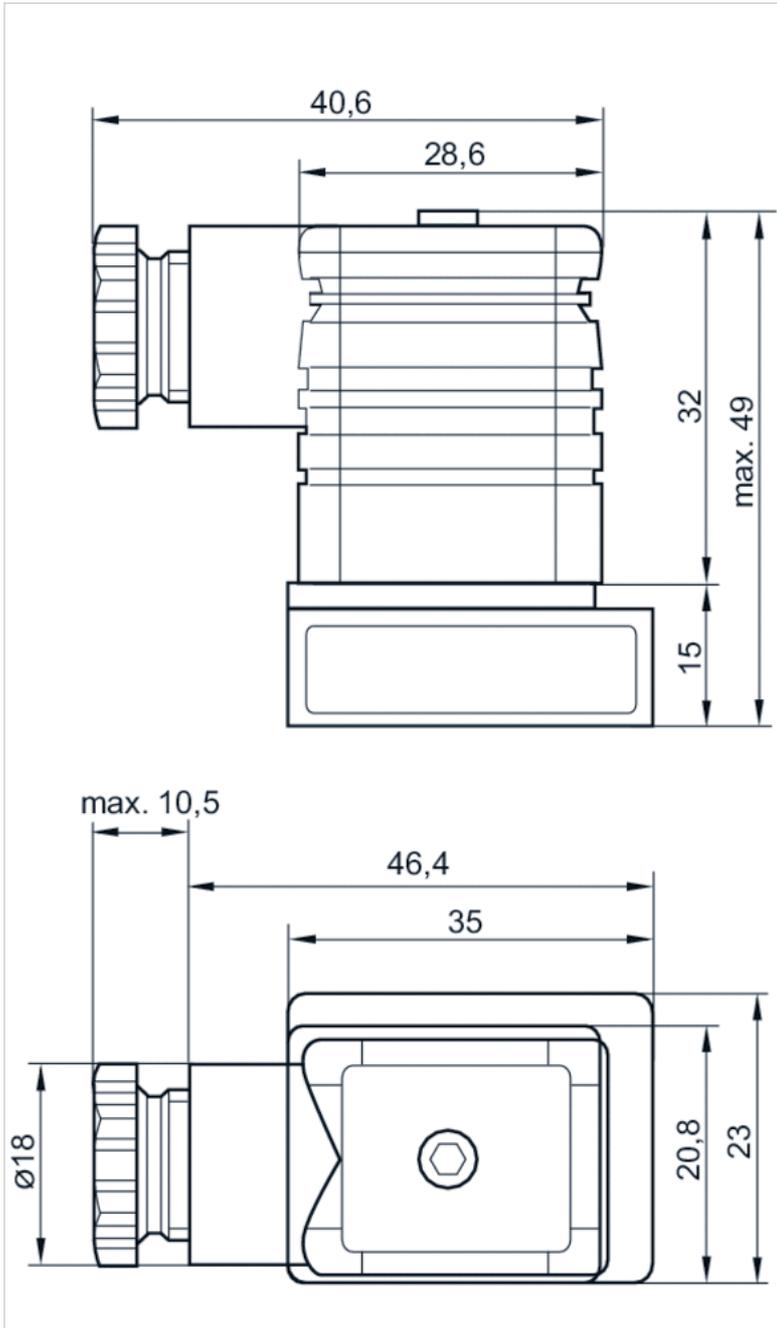
Part No.	Type of contact	DC switching current, max.	AC switching current, max.
R412000823	Reed	0.1 A	0.1 A

Part No.	Version
R412000823	Protected against polarity reversal

Technical information

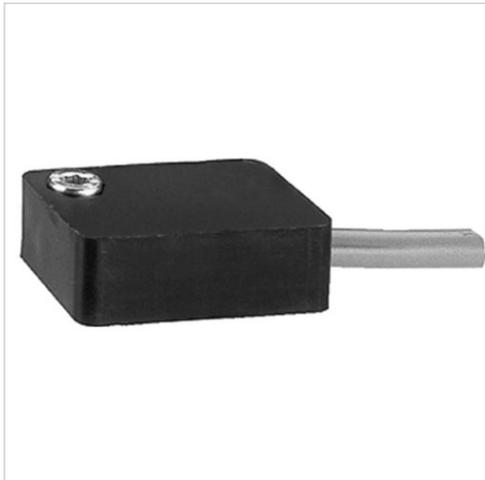
Material	
Housing	Polyester amide

Dimensions



Sensor, Series SN6

- with cable
- without wire end ferrule, tin-plated, 2-pin
- Heat resistant
- Reed
- Indirect mounting for series TRB, ITS



Ambient temperature min./max.	See table below
Protection class	IP67, IP65
Switching point precision	±0,1 mT
Min./max. DC operating voltage	10 ... 48 V DC
Min./max. AC operating voltage	10 ... 48 V AC
LED status display	Yellow
Vibration resistance	35 g (50 - 2000 Hz)
Shock resistance	50 g / 11 ms
Cable length L	2.5 6 m

Technical data

Part No.		Type of contact	Cable length L	DC switching current, max.
8940412022		Reed	2.5 m	0.5 A
8940412032		Reed	6 m	0.5 A
8940411902		Reed	2.5 m	3 A

Part No.	AC switching current, max.	Ambient temperature min./max.	Switching capacity
8940412022	0.5 A	-25 ... 75 °C	50 W / 50 VA
8940412032	0.5 A	-25 ... 75 °C	50 W / 50 VA
8940411902	3 A	-20 ... 105 °C	60 W / 60 VA

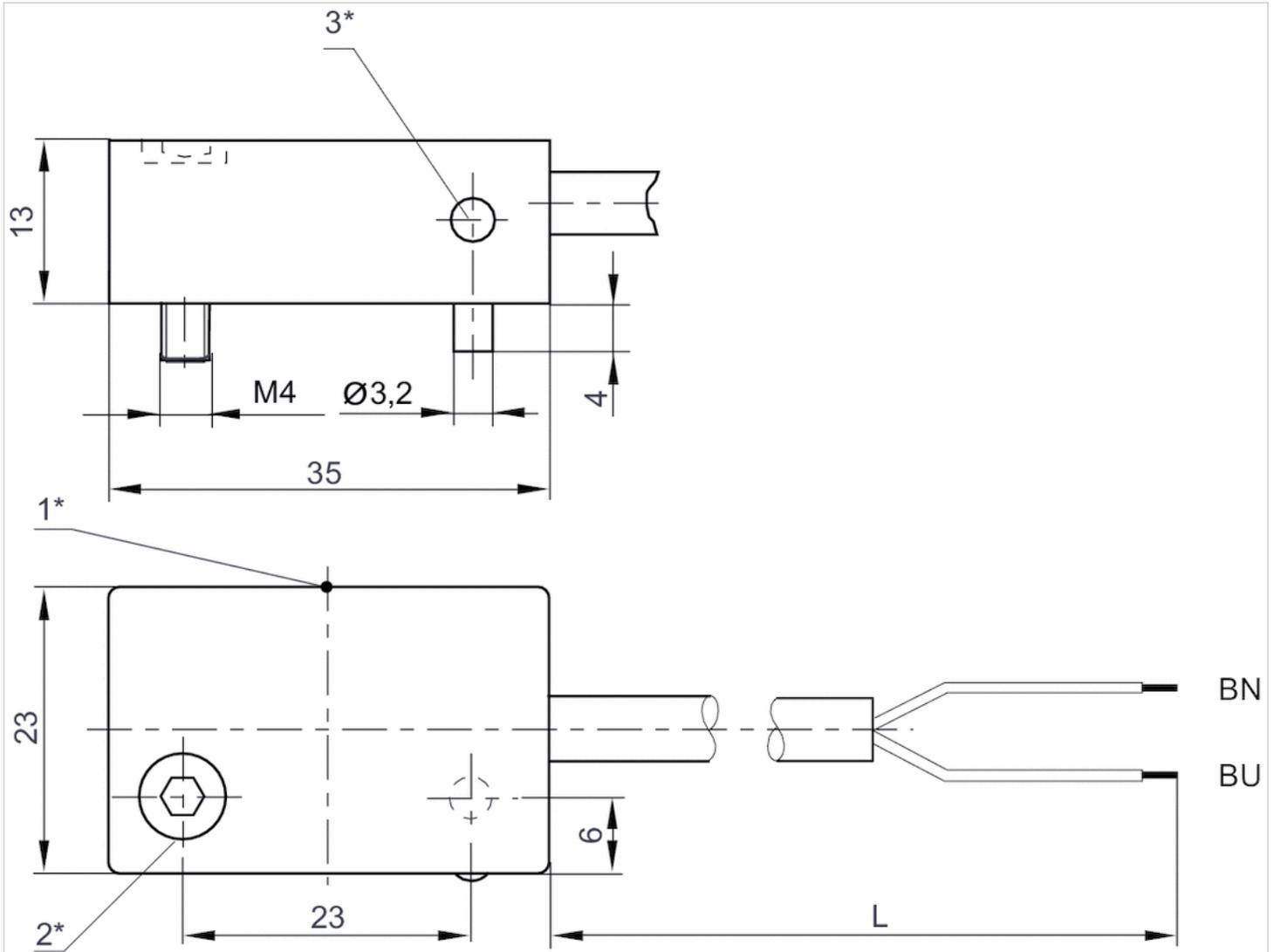
Part No.	Version
8940412022	Protected against polarity reversal
8940412032	Protected against polarity reversal
8940411902	Protected against polarity reversal

Technical information

Material	
Housing	Polyester amide
Cable sheath	Polyvinyl chloride

Dimensions

Dimensions



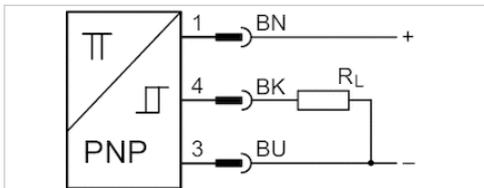
1* = switching point 2* = clamping screw 3* = LED

L = cable length

BN=brown, BU=blue

Sensor, Series ST6

- 6 mm T-slot
- with cable
- open cable ends, 3-pin
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates

- ATEX class G
- ATEX class D
- Ambient temperature min./max.
- Protection class
- Switching point precision
- Quiescent current (without load)
- Min./max. DC operating voltage
- Switching logic
- LED status display
- Vibration resistance
- Shock resistance
- Cable length L

- ATEX CE declaration of conformity cULus
- RoHS
- II 3G Ex nA IIC T4 Gc X
- II 3D Ex tc IIIC T135°C Dc X
- 20 ... 50 °C
- IP67
- ±0,1 mT
- 10 mA
- 10 ... 30 V DC
- NO (make contact)
- Yellow
- 10 - 55 Hz, 1 mm
- 30 g / 11 ms
- 3 5 m

Technical data

Part No.	for	Type of contact	Cable length L
R412022854	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	3 m
R412022856	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	5 m

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022854	≤ 2,5 V	0.1 A
R412022856	≤ 2,5 V	0.1 A

Part No.	Max. switching frequency
R412022854	1000 Hz
R412022856	1000 Hz

Part No.	Version
R412022854	short circuit resistant Protected against polarity reversal

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin, with knurled screw
- UL certification
- Reed electronic PNP electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	CE declaration of conformity cULus RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	10 ... 30 V DC
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
Switching capacity	Reed, 3-pin: max. 6 W
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 0.5 m

Technical data

Part No.		for	Type of contact
R412022873		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022875		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022874		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022859		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022862		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022861		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022852		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN

Part No.	Cable sheath	Cable length L	Min./max. AC operating voltage
R412022873	Polyurethane	0.3 m	10 ... 30 V AC
R412022875	Polyvinyl chloride	0.3 m	10 ... 30 V AC
R412022874	Polyurethane	0.5 m	10 ... 30 V AC
R412022859	Polyurethane	0.3 m	-
R412022862	Polyvinyl chloride	0.3 m	-
R412022861	Polyurethane	0.5 m	-
R412022852	Polyurethane	0.3 m	-

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022873	I*Rs	0.3 A
R412022875	I*Rs	0.3 A
R412022874	I*Rs	0.3 A
R412022859	≤ 2,5 V	0.13 A
R412022862	≤ 2,5 V	0.13 A
R412022861	≤ 2,5 V	0.13 A
R412022852	≤ 2,5 V	0.13 A

Part No.	AC switching current, max.	Max. switching frequency
R412022873	0.5 A	400 Hz
R412022875	0.5 A	400 Hz
R412022874	0.5 A	400 Hz
R412022859	-	1000 Hz
R412022862	-	1000 Hz
R412022861	-	1000 Hz
R412022852	-	1000 Hz

Part No.	Operating current, not switched	Operating current, switched
R412022873	-	-
R412022875	-	-
R412022874	-	-
R412022859	8 mA	30 mA
R412022862	8 mA	30 mA
R412022861	8 mA	30 mA
R412022852	8 mA	30 mA

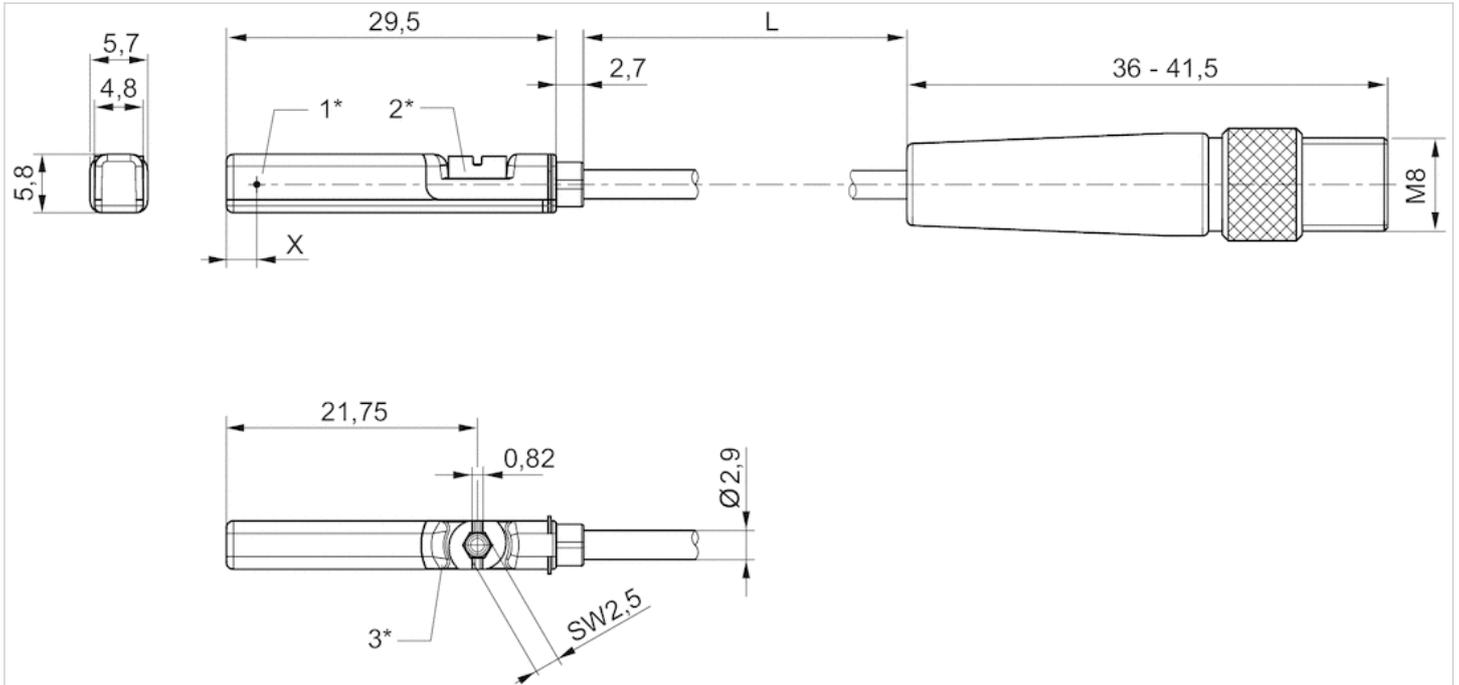
Part No.	Version
R412022873	Protected against polarity reversal
R412022875	Protected against polarity reversal
R412022874	Protected against polarity reversal
R412022859	short circuit resistant Protected against polarity reversal
R412022862	short circuit resistant Protected against polarity reversal
R412022861	short circuit resistant Protected against polarity reversal
R412022852	short circuit resistant Protected against polarity reversal

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane Polyvinyl chloride
Locking screw	Stainless steel

Dimensions

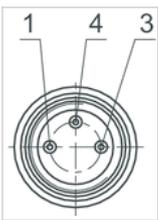
Dimensions



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

Pin assignments

Pin assignments



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

Sensor mounting, Series CB1

- for series SN5-X

- to mount on cylinder TRB



Weight

See table below

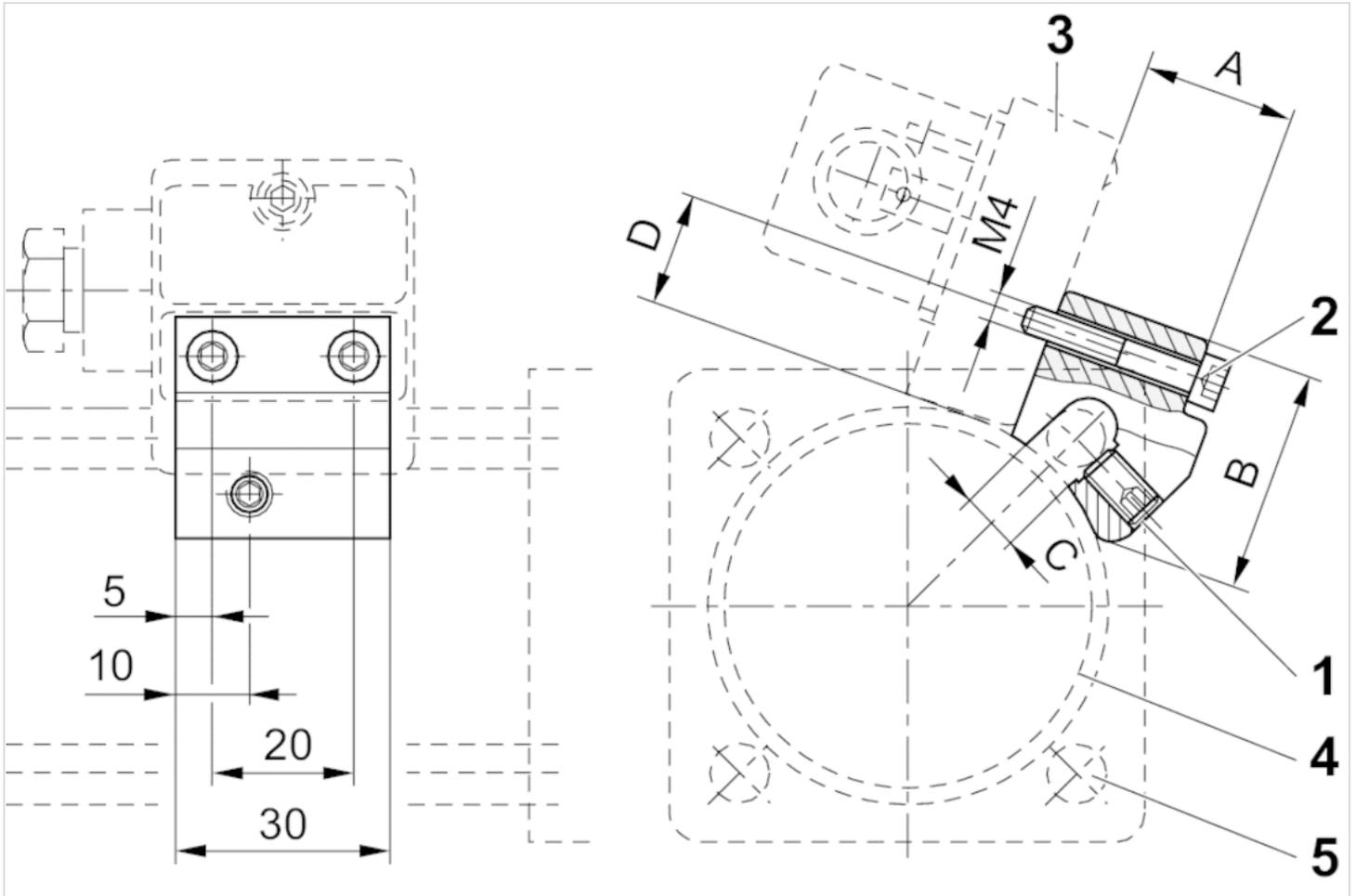
Technical data

Part No.	Cylinders Ø		for series	Weight
	min.	max.		
1827020056	32 mm	40 mm	SN5-X	0.03 kg
1827020057	50 mm	63 mm	SN5-X	0.035 kg
1827020058	80 mm	100 mm	SN5-X	0.4 kg

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

Part No.	A	B	C	D	SW
1827020056	19.5	30	6	15	3
1827020057	24.5	30	8	15	3
1827020058	29.5	31	10	15	3

Sensor mounting, Series CB1

- for series SN5-X

- to mount on cylinder TRB, ITS



Weight

See table below

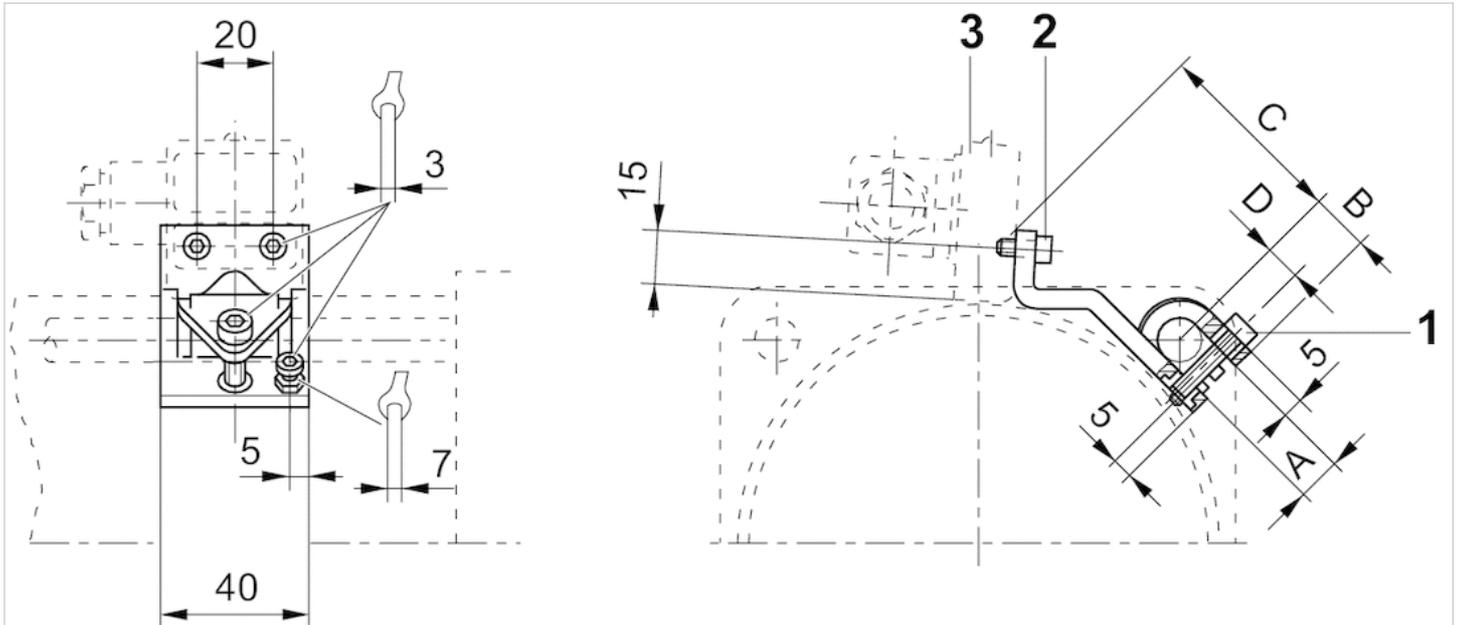
Technical data

Part No.	Cylinders Ø		for series	Weight
	min.	max.		
1827020076	3175 mm	125 mm	SN5-X	0.075 kg
1827020077	160 mm	200 mm	SN5-X	0.083 kg
1827020078	6350 mm	250 mm	SN5-X	0.094 kg

Technical information

Material	
	Aluminum

Dimensions



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

Dimensions

Part No.	A +0,5	B ±1	C ±2	D
1827020076	12	15	54	9
1827020077	16	17	53	11
1827020078	20	19	60	13

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin Plug, M8, 2-pin
- UL certification
- Reed electronic PNP electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	CE declaration of conformity cULus RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	10 ... 30 V DC
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 m

Technical data

Part No.		for	Type of contact
R412022868		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412027172		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022872		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022858		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022851		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic NPN

Part No.	Cable length L	Min./max. AC operating voltage	Voltage drop U at I _{max}
R412022868	0.3 m	10 ... 30 V AC	≤ 3,5 V
R412027172	0.3 m	10 ... 30 V AC	≤ 3,5 V
R412022872	0.3 m	10 ... 30 V AC	≤ 0,1 V
R412022858	0.3 m	-	≤ 2,5 V
R412022851	0.3 m	-	≤ 2,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412022868	0.13 A	0.13 A
R412027172	0.13 A	0.13 A
R412022872	0.3 A	0.5 A
R412022858	0.13 A	-

Part No.	DC switching current, max.	AC switching current, max.
R412022851	0.13 A	-

Part No.	Switching capacity	Max. switching frequency
R412022868	Reed, 2-pin: max. 10 W	400 Hz
R412027172	Reed, 2-pin: max. 10 W	400 Hz
R412022872	Reed, 3-pin: max. 6 W	400 Hz
R412022858	-	1000 Hz
R412022851	-	1000 Hz

Part No.	Operating current, not switched	Operating current, switched
R412022868	-	-
R412027172	-	-
R412022872	-	-
R412022858	8 mA	30 mA
R412022851	8 mA	30 mA

Part No.	Version	
R412022868	Protected against polarity reversal	1)
R412027172	Protected against polarity reversal	1)
R412022872	Protected against polarity reversal	1)
R412022858	short circuit resistant Protected against polarity reversal	-
R412022851	short circuit resistant Protected against polarity reversal	-

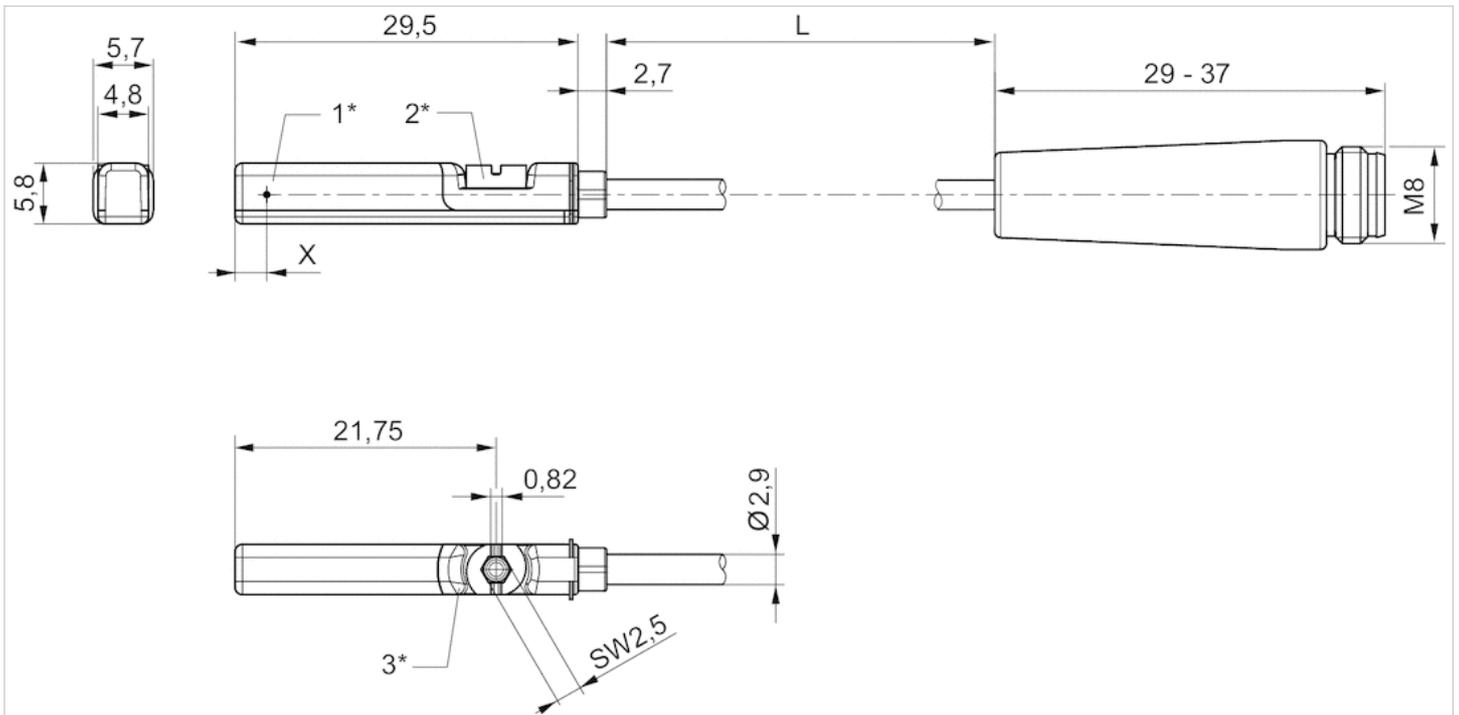
1) The product of operating voltage and continuous current must not exceed the maximum switching capacity.

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

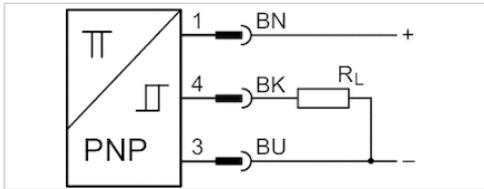
X = electronic: 11,6 mm, Reed: 8,3 mm

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin, with knurled screw
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	ATEX CE declaration of conformity cULus RoHS
ATEX class G	II 3G Ex nA IIC T4 Gc X
ATEX class D	II 3D Ex tc IIIC T135°C Dc X
Ambient temperature min./max.	-20 ... 50 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	10 ... 30 V DC
Switching logic	NO (make contact)
LED status display	Yellow Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 m



Technical data

Part No.	for	Type of contact	Cable length L
R412022860	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	0.3 m

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022860	≤ 2,5 V	0.1 A

Part No.	Max. switching frequency
R412022860	1000 Hz

Part No.	Version
R412022860	short circuit resistant Protected against polarity reversal

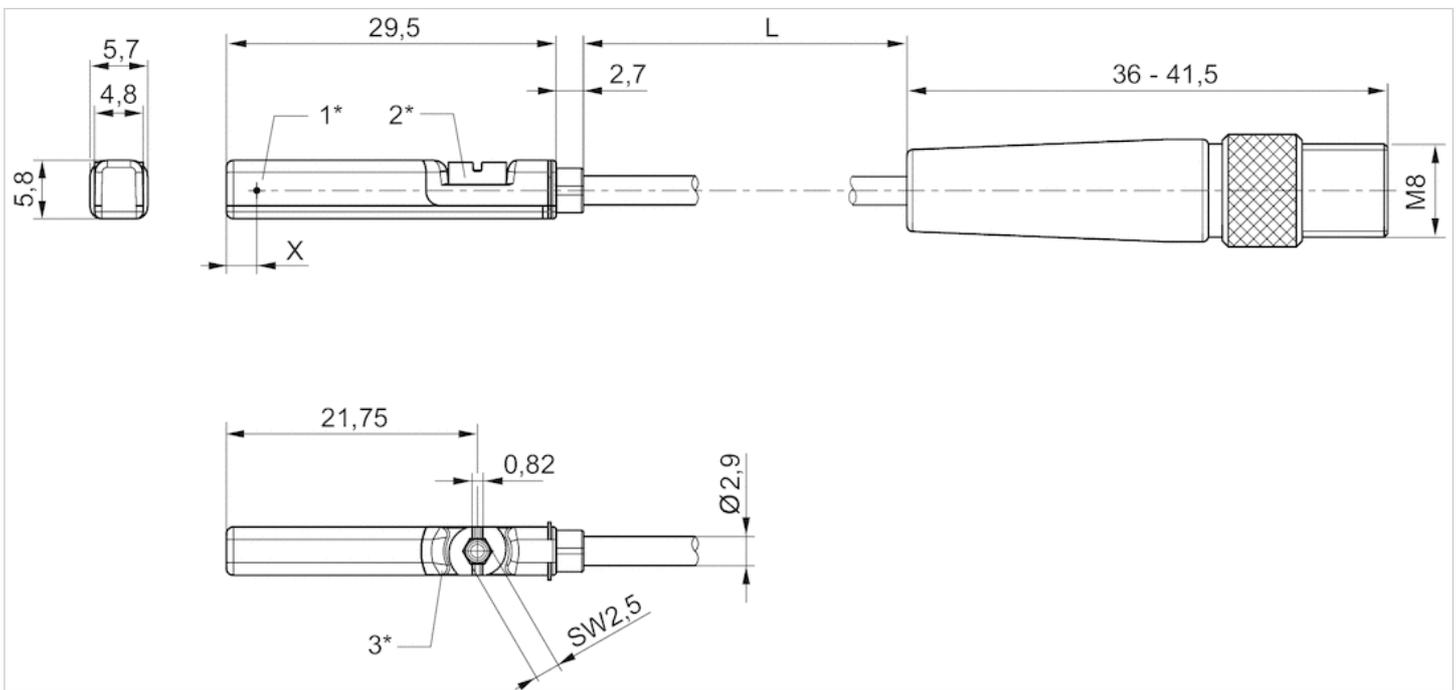
Technical information

Material

Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

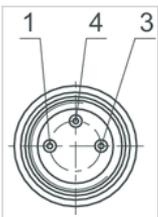
Dimensions



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

Pin assignments

Pin assignments



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

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M12, 2-pin, with knurled screw Plug, M12, 4-pin, with knurled screw
- UL certification
- Reed electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	CE declaration of conformity cULus RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	See table below
Switching point precision	±0,1 mT
Nominal current, actuated state	30 mA
Quiescent current (without load)	8 mA
Min./max. DC operating voltage	10 ... 30 V DC
Min./max. AC operating voltage	See table below
Hysteresis	≥ 0,2 mT
Switching logic	NO (make contact)
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 0.1 3 5 m

Technical data

Part No.		for	Type of contact
R412027171		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022876		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	Reed
R412022879		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022863		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022877		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP
R412022878		PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP

Part No.	Cable length L	Min./max. AC operating voltage	Voltage drop U at I _{max}
R412027171	0.3 m	10 ... 30 V AC	≤ 3,5 V
R412022876	0.3 m	10 ... 30 V AC	≤ 0,1 V
R412022879	0.1 m	-	≤ 2,5 V
R412022863	0.3 m	-	≤ 2,5 V
R412022877	3 m	-	≤ 2,5 V
R412022878	5 m	-	≤ 2,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412027171	0.13 A	0.13 A
R412022876	0.3 A	0.5 A

Part No.	DC switching current, max.	AC switching current, max.
R412022879	0.13 A	-
R412022863	0.13 A	-
R412022877	0.13 A	-
R412022878	0.13 A	-

Part No.	Switching capacity	Max. switching frequency
R412027171	Reed, 2-pin: max. 10 W	400 Hz
R412022876	Reed, 3-pin: max. 6 W	400 Hz
R412022879	-	1000 Hz
R412022863	-	1000 Hz
R412022877	-	1000 Hz
R412022878	-	1000 Hz

Part No.	Operating current, not switched	Operating current, switched	Protection class
R412027171	-	-	IP65, IP67
R412022876	-	-	IP65, IP67
R412022879	8 mA	30 mA	IP65, IP67
R412022863	8 mA	30 mA	IP65, IP67, IP69K
R412022877	8 mA	30 mA	IP65, IP67
R412022878	8 mA	30 mA	IP65, IP67

Part No.	Version	
R412027171	Protected against polarity reversal	1)
R412022876	Protected against polarity reversal	1)
R412022879	short circuit resistant Protected against polarity reversal	-
R412022863	short circuit resistant Protected against polarity reversal	-
R412022877	short circuit resistant Protected against polarity reversal	-
R412022878	short circuit resistant Protected against polarity reversal	-

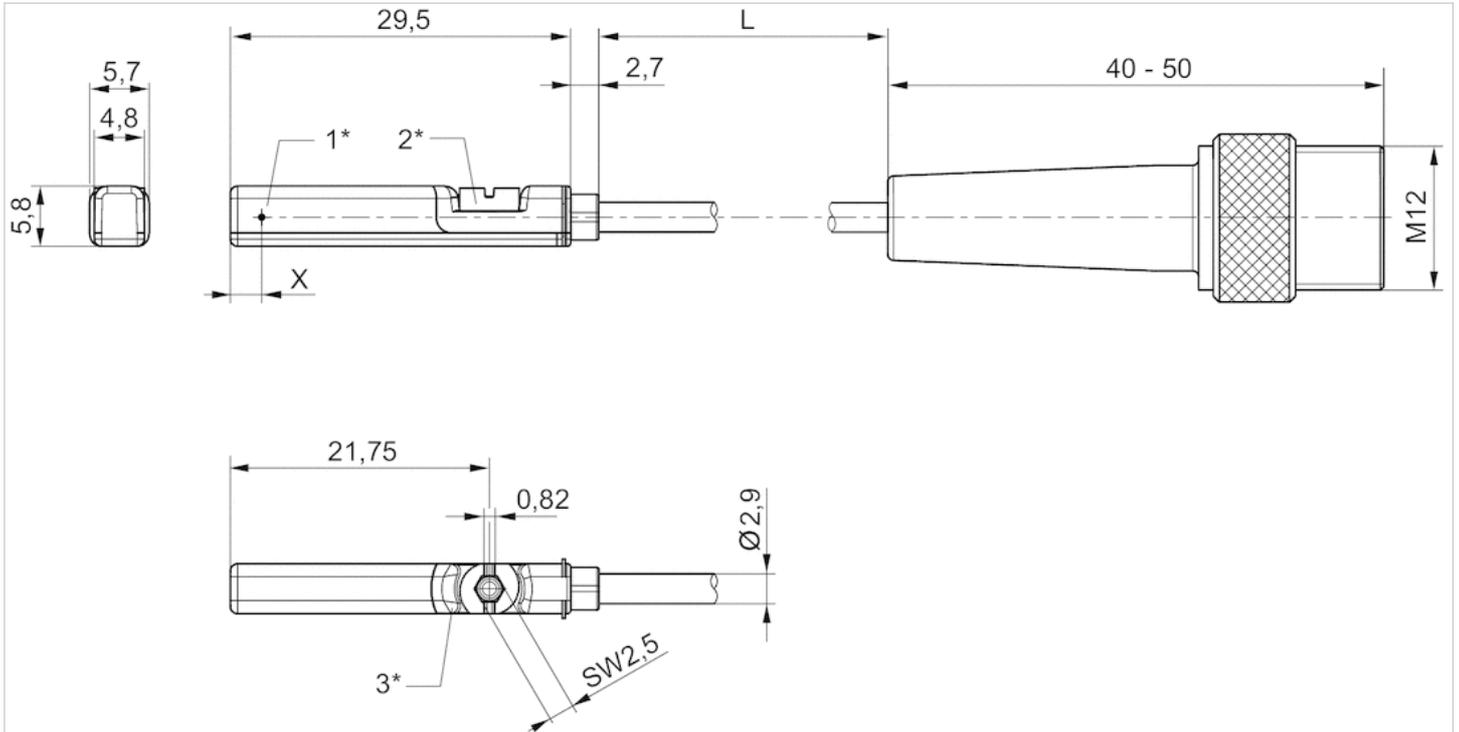
1) The product of operating voltage and continuous current must not exceed the maximum switching capacity.

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



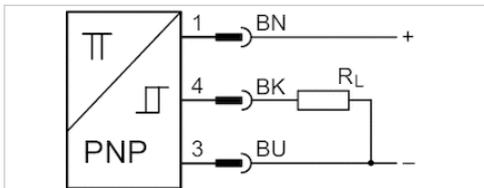
1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length
 X = PNP: 11,6 mm, reed: 8,3 mm

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M12, 3-pin, with knurled screw
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates	ATEX CE declaration of conformity cULus RoHS
ATEX class G	II 3G Ex nA IIC T4 Gc X
ATEX class D	II 3D Ex tc IIIC T135°C Dc X
Ambient temperature min./max.	-20 ... 50 °C
Protection class	IP67
Switching point precision	±0,1 mT
Quiescent current (without load)	10 mA
Min./max. DC operating voltage	10 ... 30 V DC
Switching logic	NO (make contact)
LED status display	Yellow Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	0.3 m



Technical data

Part No.	for	Type of contact	Cable length L
R412022864	PRA, PRE, CCI, KPZ, SSI, GPC, CVI	electronic PNP	0.3 m

Part No.	Voltage drop U at I _{max}	DC switching current, max.
R412022864	≤ 2,5 V	0.1 A

Part No.	Max. switching frequency
R412022864	1000 Hz

Part No.	Version
R412022864	short circuit resistant Protected against polarity reversal

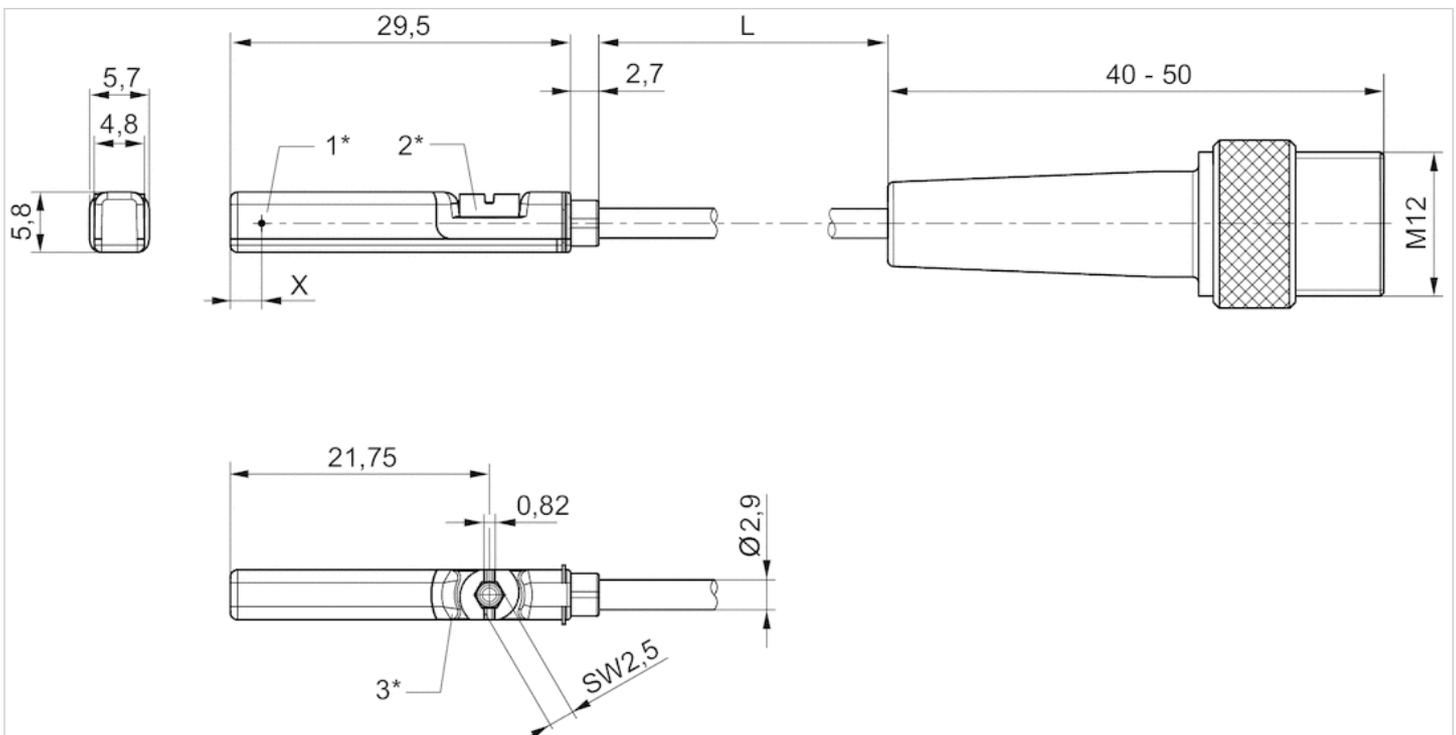
Technical information

Material

Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



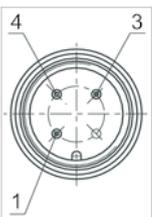
1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

X = PNP: 11,6 mm, reed: 8,3 mm

Pin assignments

Pin assignments



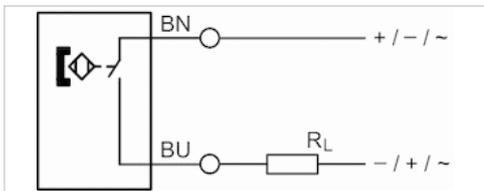
Pin	1	3	4
Allocation	(+)	(-)	(OUT)

Sensor, Series ST6-HT

- 6 mm T-slot
- with cable
- open cable ends, 2-pin
- Heat resistant
- UL certification
- Reed
- Direct mounting for series PRA, PRE, CCI, KPZ
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC



Certificates	CE declaration of conformity RoHS
Ambient temperature min./max.	-20 ... 120 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Min./max. DC operating voltage	0 ... 30 V DC
Min./max. AC operating voltage	0 ... 30 V AC
Switching logic	NO (make contact)
Switching capacity	Reed, 2-pin: max. 10 W
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Cable length L	3 10 m



Technical data

Part No.	for	Type of contact	Cable length L	Voltage drop U at I _{max}
R412022865	PRA, PRE, CCI, KPZ	Reed	3 m	≤ 3,5 V
R412022867	PRA, PRE, CCI, KPZ	Reed	10 m	≤ 3,5 V

Part No.	DC switching current, max.	AC switching current, max.
R412022865	0.13 A	0.13 A
R412022867	0.13 A	0.13 A

Part No.	Max. switching frequency	Version
R412022865	400 Hz	Protected against polarity reversal
R412022867	400 Hz	Protected against polarity reversal

Part No.	Temperature resistance
R412022865	Heat resistant

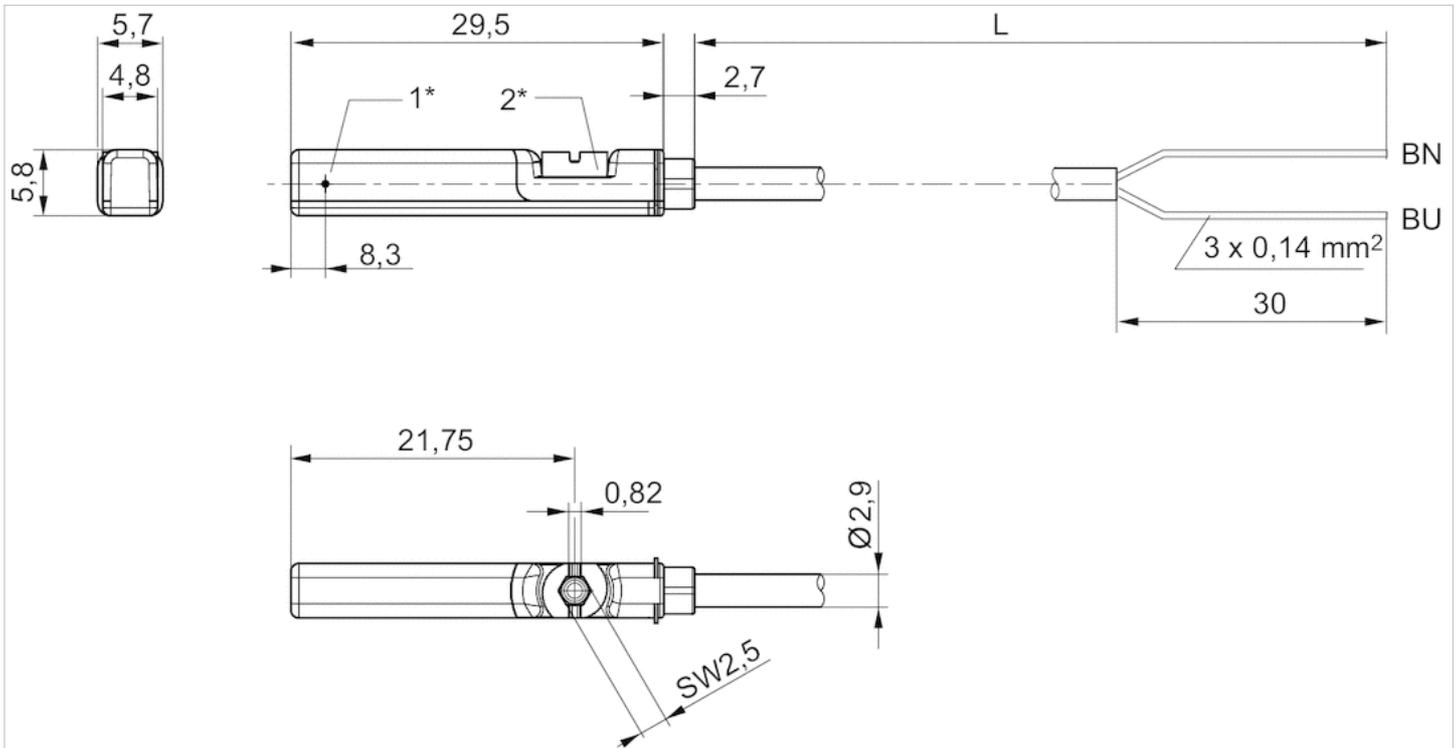
Part No.	Temperature resistance
R412022867	Heat resistant

Technical information

Material	
Housing	Polyamide
Cable sheath	Polyurethane
Locking screw	Stainless steel

Dimensions

Dimensions



1* = switching point 2* = locking screw

L = cable length

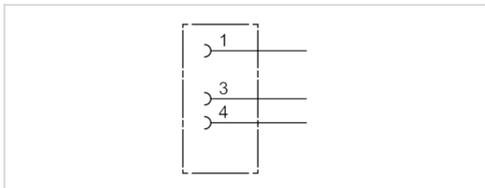
BN=brown, BU=blue

Round plug connector, Series CON-RD

- Socket, M8x1, 3-pin, A-coded, straight, 180°
- UL (Underwriters Laboratories)
- unshielded



Connection type	Soldering
Ambient temperature min./max.	-25 ... 80 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.009 kg



Technical data

Part No.	Max. current	suitable cable-Ø min./max
1834484173	4 A	3.5 / 5 mm

Technical information

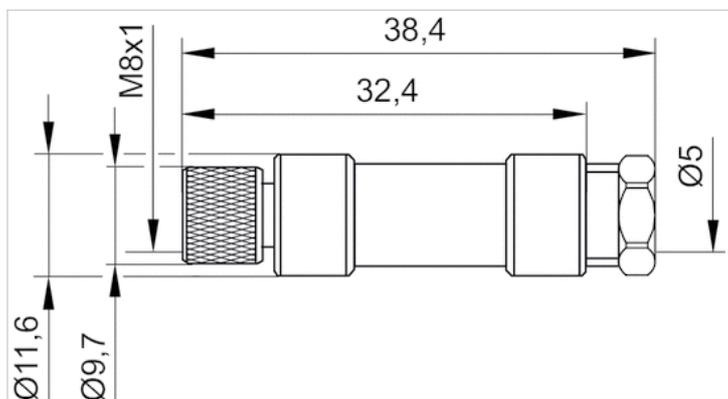
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

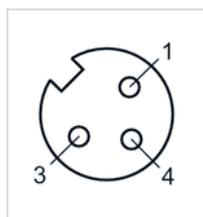
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

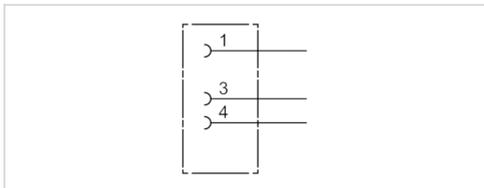


Round plug connector, Series CON-RD

- Socket, M8x1, 3-pin, A-coded, angled, 90°
- UL (Underwriters Laboratories)
- unshielded



Connection type	Soldering
Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Weight	0.01 kg



Technical data

Part No.	Max. current	Contact assignment	suitable cable-Ø min./max
1834484174	4 A	3	3.5 / 5 mm

Technical information

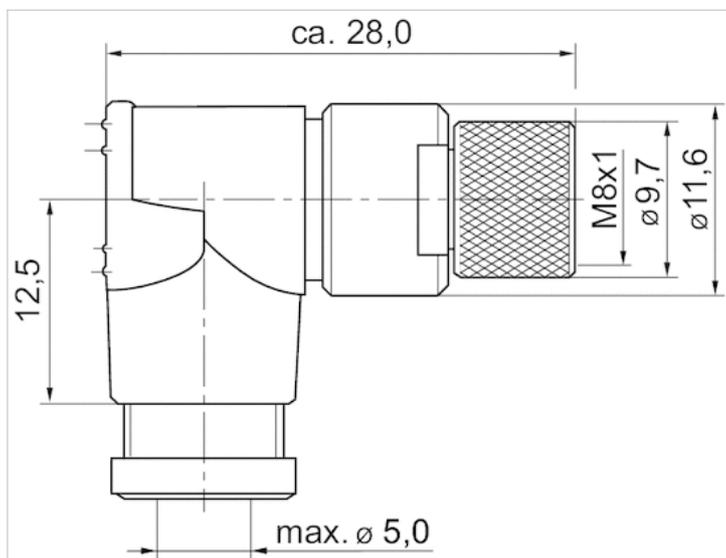
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyamide

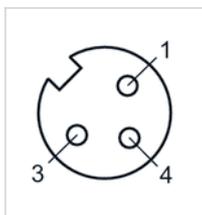
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

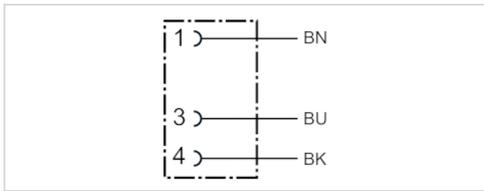


Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded straight 180°
- open cable ends
- with cable
- UL (Underwriters Laboratories)
- unshielded



Ambient temperature min./max.	-25 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.24 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Certification	Weight
1834484166	4 A	3	4.5 mm	3 m	UL (Underwriters Laboratories)	0.087 kg
1834484168	4 A	3	4.5 mm	5 m	UL (Underwriters Laboratories)	0.141 kg
1834484247	4 A	3	4.5 mm	10 m	UL (Underwriters Laboratories)	0.277 kg

Technical information

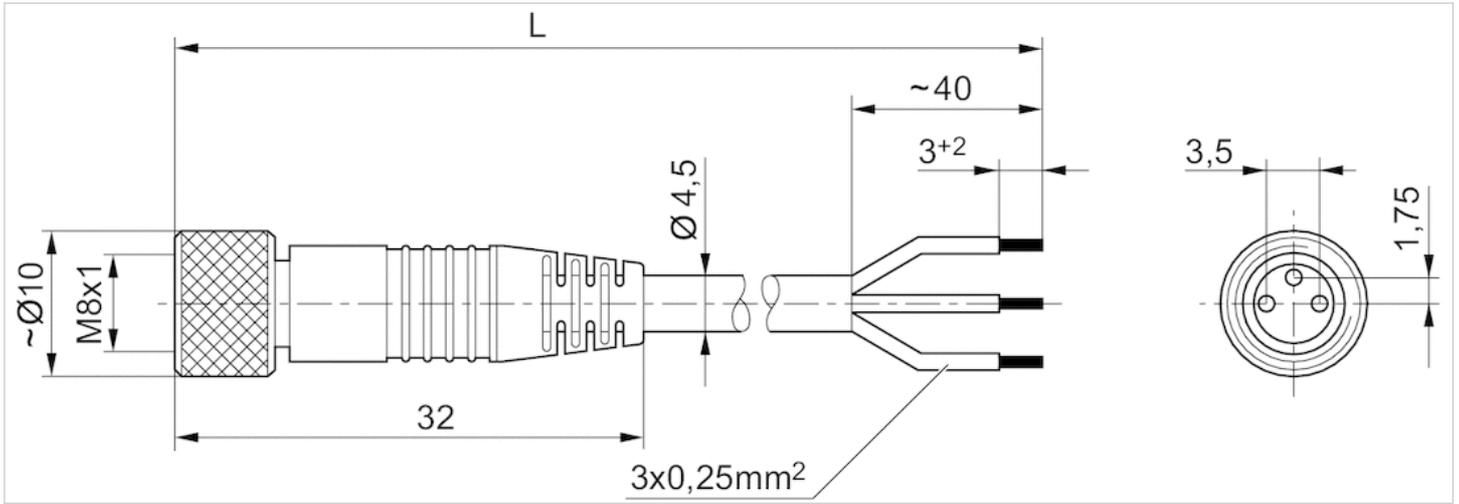
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

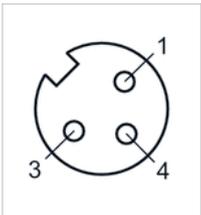
Dimensions



L = length

Pin assignments

Pin assignment, socket



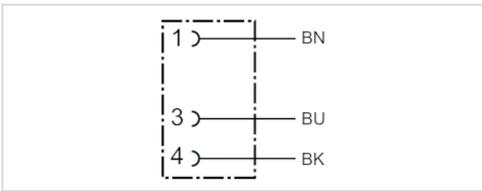
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded angled 90°
- open cable ends
- with cable
- unshielded



Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP67
Wire cross-section	0.24 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
1834484167	4 A	3	4.5 mm	3 m	0.087 kg
1834484169	4 A	3	4.5 mm	5 m	0.139 kg
1834484248	4 A	3	4.5 mm	10 m	0.279 kg

Technical information

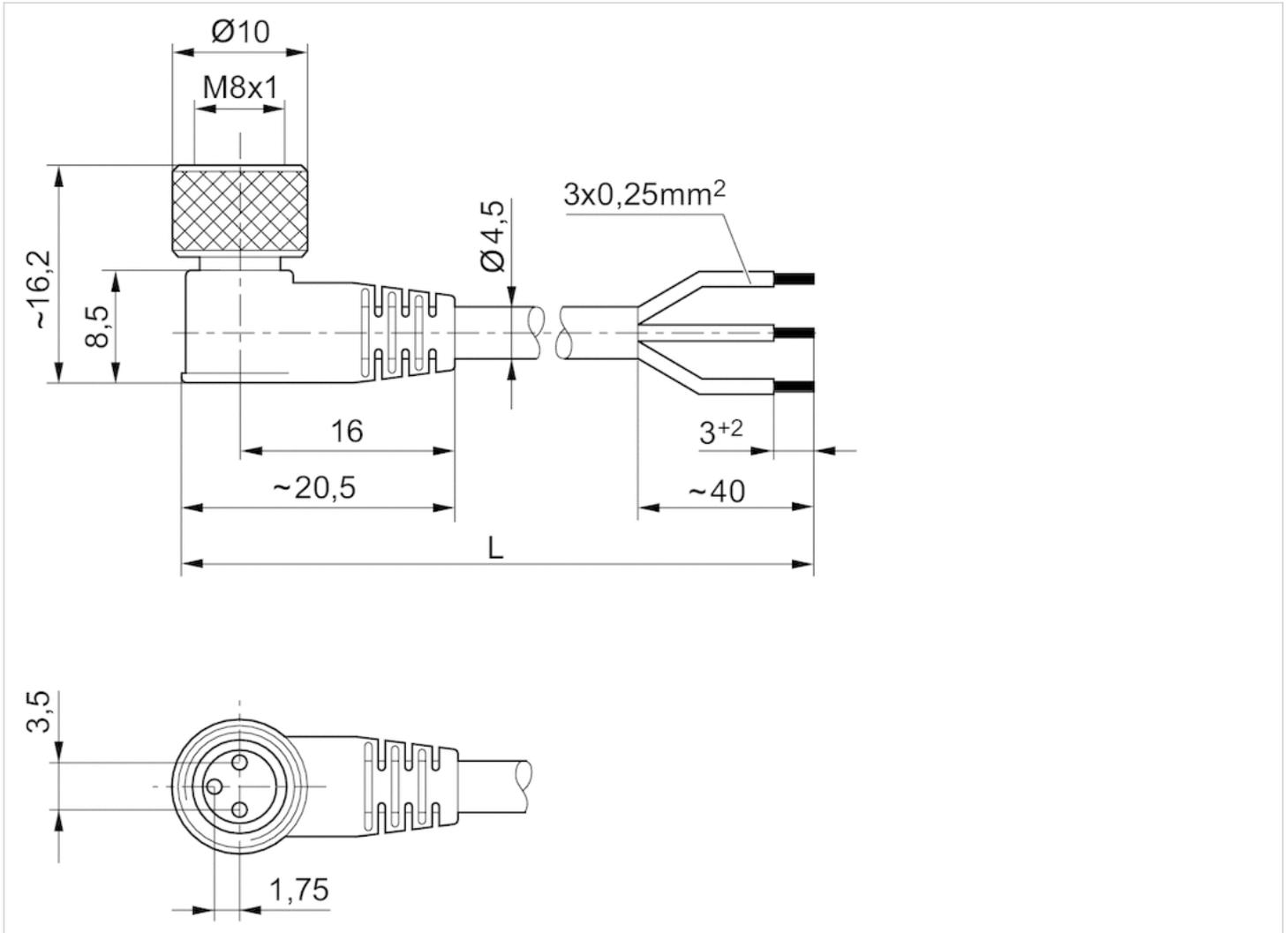
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Housing	Polyurethane
Cable sheath	Polyurethane

Dimensions

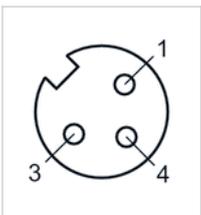
Dimensions



L = length

Pin assignments

Pin assignment, socket



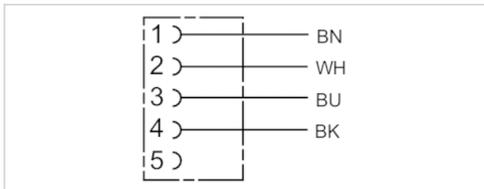
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

Round plug connector, Series CON-RD

- Socket M12x1 5-pin A-coded angled 90°
- open cable ends
- for DeviceNet
- with cable
- unshielded



Ambient temperature min./max.	-40 ... 85 °C
Operational voltage	48 V AC/DC
Protection class	IP65
Wire cross-section	0.34 mm ²
Weight	See table below



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
1834484259	4 A	4	5.2 mm	3 m	0.126 kg
1834484260	4 A	4	5.2 mm	5 m	0.195 kg
1834484261	4 A	4	5.2 mm	10 m	0.38 kg

Technical information

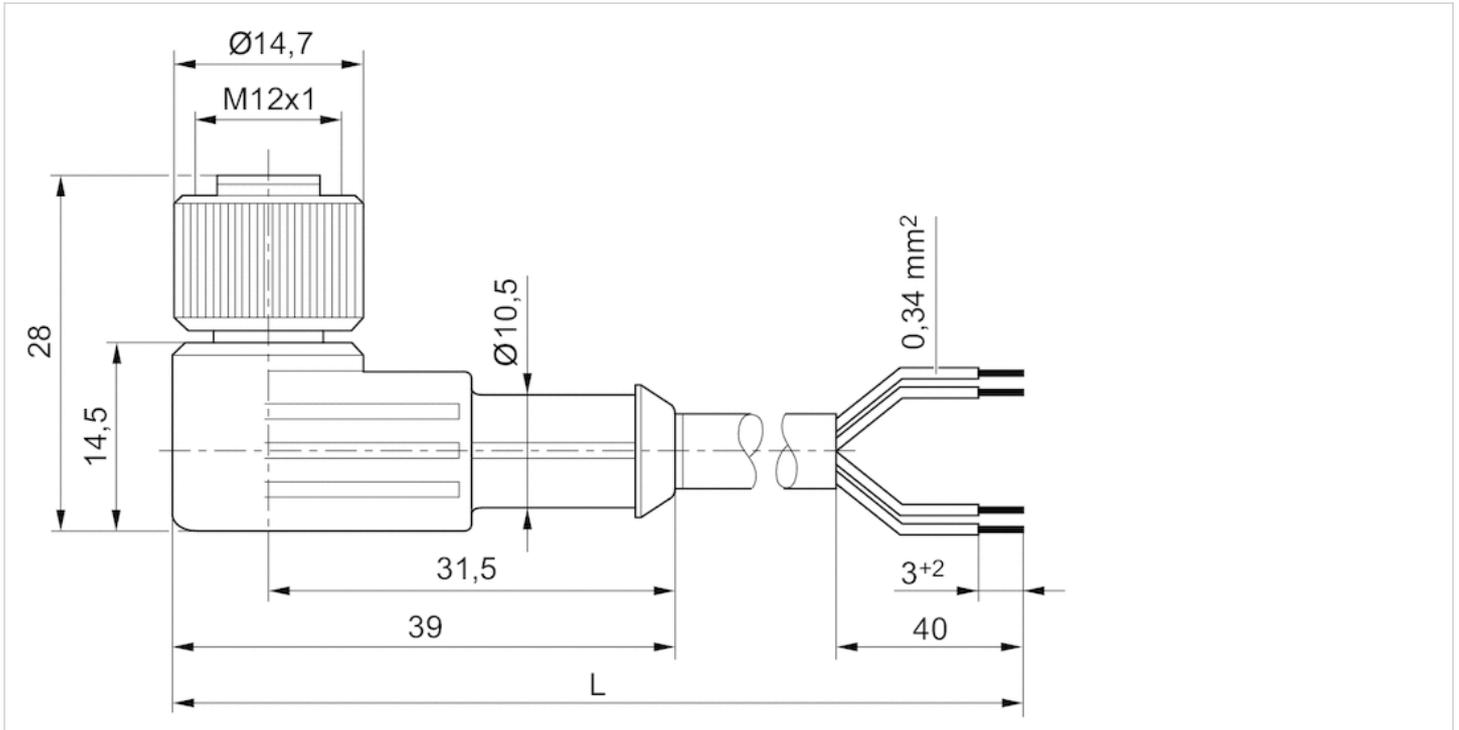
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyurethane

Dimensions

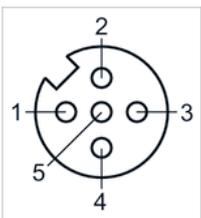
Dimensions



L = length

Pin assignments

Pin assignment, socket



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

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