series MNI

AVENTICS™

AVENTICS Series MNI Mini cylinders (ISO 6432)

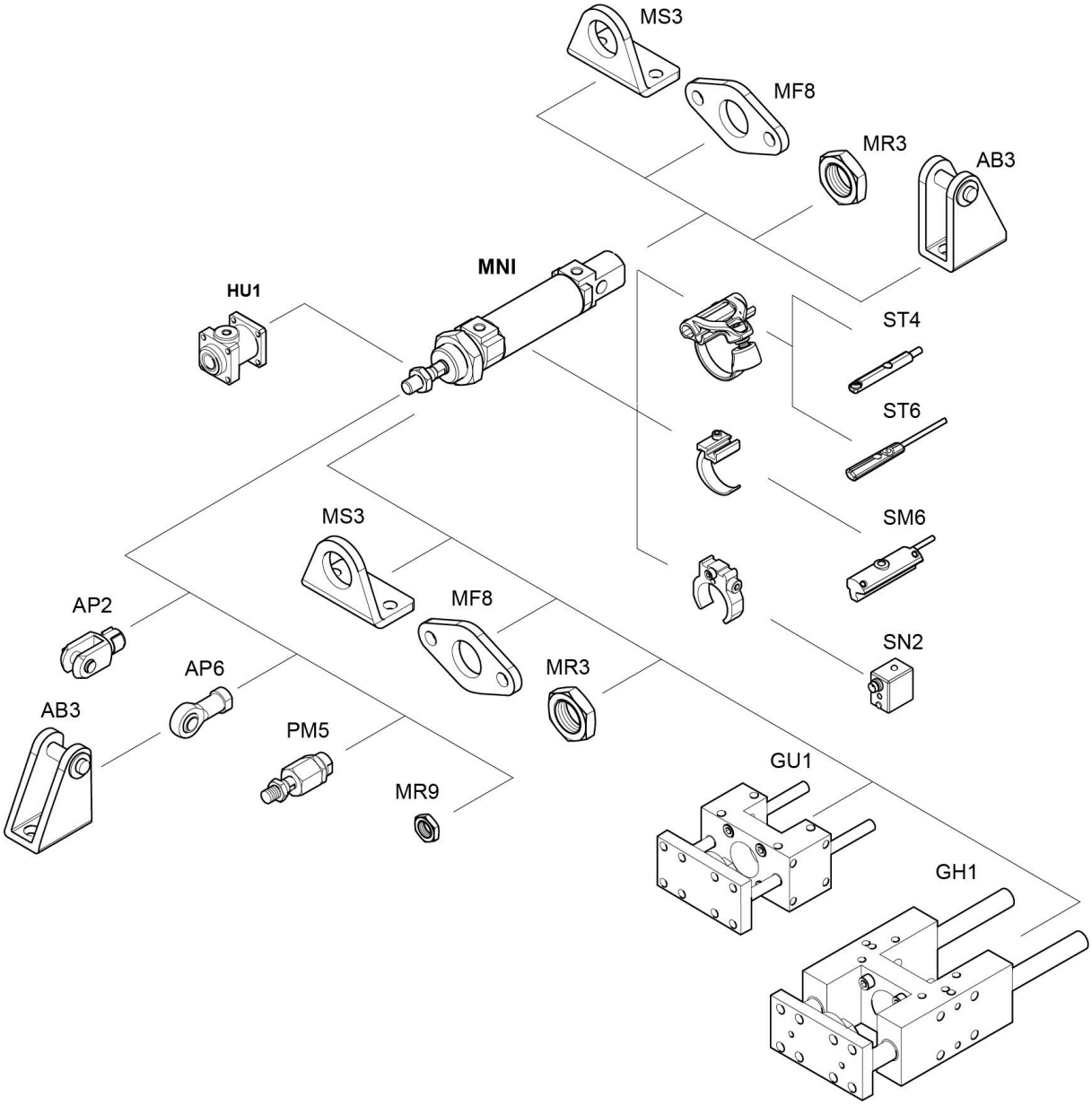
EMERSON™

series MNI

The AVENTICS Series MNI (ISO 6432) round cylinders for general machine construction are characterized by its robust and long service life.

- Robust and space-saving design
- Characterized by extreme durability and a long service life
- Offers piston diameters from 10 mm to 25 mm
- Configurations available as single/through piston rod, elastic/adjusted cushioning, with/without magnetic detection, non-rotating piston rod, ATEX

Overview drawing



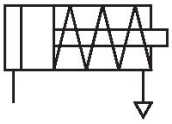
Product overview

Product overview

Product overview

Mini cylinder, Series MNI

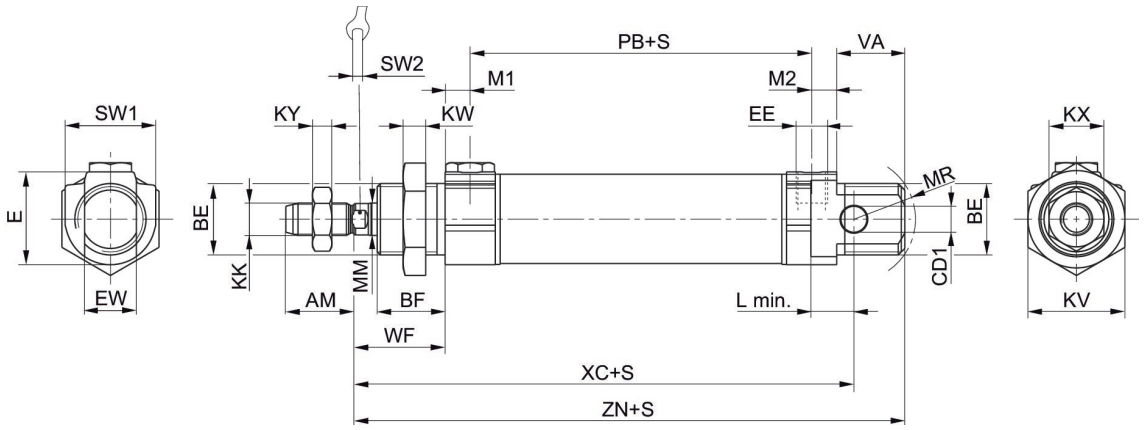
Standards: ISO 6432
Functional principle: Single-acting, retracted without pressure
: Piston without magnet
: elastic cushioning
: with integrated rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 2 bar ... 10 bar



Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	G 1/8	G 1/8
Piston rod Ø	4 mm	6 mm	6 mm	8 mm	10 mm
Stroke 10	0822430201	0822431201	0822432201	0822433201	0822434201
25	0822430202	0822431202	0822432202	0822433202	0822434202
40	0822430203	0822431209	0822432204	0822433204	0822434207
50	-	0822431203	0822432203	0822433203	0822434203

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Extracting piston force	41 N	60.2 N	102.2 N	174.6 N	279.6 N
Spring force min. - max.	5.2 N ... 8.4 N	6.7 N ... 11 N	14.2 N ... 24.4 N	12.8 N ... 23.4 N	19.2 N ... 29.4 N
Impact energy	0.04 J	0.07 J	0.14 J	0.23 J	0.35 J
Weight 0 mm stroke	0.03 kg	0.06 kg	0.075 kg	0.14 kg	0.23 kg
Weight 10 mm stroke	0.005 kg	0.006 kg	0.007 kg	0.016 kg	0.024 kg

Dimensions



S = stroke
X = vent screw

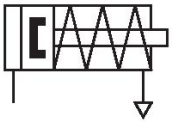
Piston Ø	AM-2	BE	BF	CD1 H9	E	EE t=depth of thread	EW d13	KK	KV
10	12	M12x1,25	11	4	14	M5 t=5	8	M4	17
12	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28	G1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28	G1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
10	5.5	7	2.2	6	4	4.8	12	37	11
12	6	10	3.2	8	6	4.8	16	41	16
16	6	10	3.2	8	6	4.8	16	47	17
20	7	13	4	12	8	7	18	51	19
25	7	17	6	12	10	7	19	55	21

Piston Ø	WF ±1,4	XC ±1	ZN ± 1,4	SW 1	SW 2
10	16	64	73.5	13	3
12	22	75	88.5	19	5
16	22	82	95.5	19	5
20	24	95	109.5	28	6
25	28	104	119.5	28	8

Mini cylinder, Series MNI

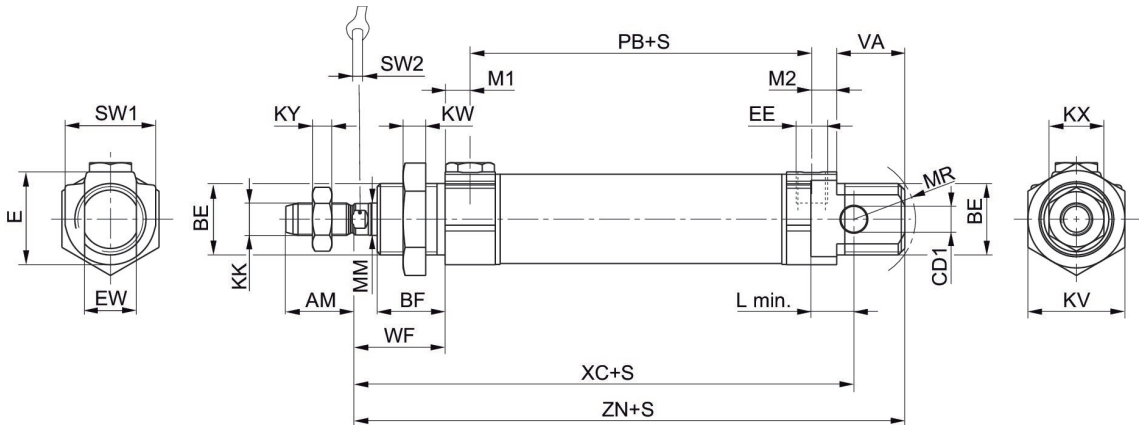
Standards: ISO 6432
Functional principle: Single-acting, retracted without pressure
: Piston with magnet
: elastic cushioning
: with integrated rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 2 bar ... 10 bar



Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	G 1/8	G 1/8
Piston rod Ø	4 mm	6 mm	6 mm	8 mm	10 mm
Stroke 10	0822430301	0822431301	0822432301	0822433301	0822434301
25	0822430302	0822431302	0822432302	0822433302	0822434302
40	0822430303	R480609773	R412009548	R480609780	R480609781
50	-	0822431303	0822432303	0822433303	0822434303

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Extracting piston force	41 N	60.2 N	102.2 N	174.6 N	279.6 N
Spring force min. - max.	5.2 N ... 8.4 N	6.7 N ... 11 N	14.2 N ... 24.4 N	12.8 N ... 23.4 N	19.2 N ... 29.4 N
Impact energy	0.04 J	0.07 J	0.14 J	0.23 J	0.35 J
Weight 0 mm stroke	0.03 kg	0.06 kg	0.075 kg	0.14 kg	0.23 kg
Weight 10 mm stroke	0.005 kg	0.006 kg	0.007 kg	0.016 kg	0.024 kg

Dimensions



S = stroke
X = vent screw

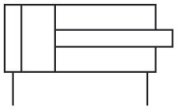
Piston Ø	AM-2	BE	BF	CD H9	E	EE t=depth of thread	EW d13	KK	KV
10	12	M12x1,25	11	4	14	M5 t=5	8	M4	17
12	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28	G1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28	G1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
10	5.5	7	2.2	6	4	4.8	12	47	11
12	6	10	3.2	8	6	4.8	16	41	16
16	6	10	3.2	8	6	4.8	16	47	17
20	7	13	4	12	8	7	18	51	19
25	7	17	6	12	10	7	19	55	21

Piston Ø	WF ±1,4	XC ±1	ZN ± 1,4	SW 1	SW 2
10	16	74	83.5	13	3
12	22	75	88.5	19	5
16	22	82	95.5	19	5
20	24	95	109.5	28	6
25	28	104	119.5	28	8

Mini cylinder, Series MNI

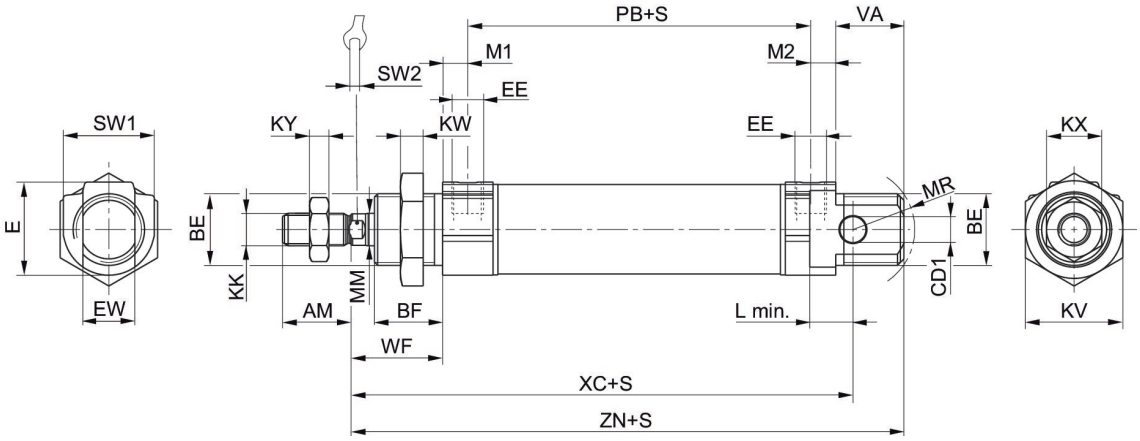
Standards: ISO 6432
Functional principle: Double-acting
: Piston without magnet
: elastic cushioning
: with integrated rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
: ATEX optional
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar



Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	G 1/8	G 1/8
Piston rod Ø	4 mm	6 mm	6 mm	8 mm	10 mm
Stroke 10	0822030201	0822031201	0822032201	0822033201	0822034201
25	0822030202	0822031202	0822032202	0822033202	0822034202
50	0822030203	0822031203	0822032203	0822033203	0822034203
80	0822030204	0822031204	0822032204	0822033204	0822034204
100	0822030205	0822031205	0822032205	0822033205	0822034205
125	0822030211	0822031206	0822032206	0822033206	0822034206
160	0822030219	0822031207	0822032207	0822033207	0822034207
200	0822030222	0822031211	0822032208	0822033208	0822034208
250	0822030223	0822031221	0822032214	0822033209	0822034209
320	-	0822031226	0822032240	0822033210	0822034210
400	-	0822031214	0822032213	0822033240	0822034211
500	-	0822031250	0822032228	0822033221	0822034212

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Retracting piston force	42 N	53 N	109 N	166 N	260 N
Extracting piston force	49 N	71 N	127 N	198 N	309 N
Impact energy	0.04 J	0.07 J	0.14 J	0.23 J	0.35 J
Weight 0 mm stroke	0.034 kg	0.063 kg	0.082 kg	0.135 kg	0.233 kg
Weight 10 mm stroke	0.0024 kg	0.0046 kg	0.0055 kg	0.009 kg	0.013 kg

Dimensions



S = stroke

Piston Ø	AM –2	BE	BF	CD H9	E	EE t=depth of thread	EW d13	KK	KV
10	12	M12x1,25	11	4	14	M5 t=5	8	M4	17
12	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28	G 1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28	G 1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
10	5.5	7	2.2	6	4	4.8	12	37	11
12	6	10	3.2	8	6	4.8	16	41	16
16	6	10	3.2	8	6	4.8	16	47	17
20	7	13	4	12	8	7	18	51	19
25	7	17	6	12	10	7	19	55	21

Piston Ø	WF ±1,4	XC ±1	ZN ± 1,4	SW 1	SW 2
10	16	64	73.5	13	3
12	22	75	88.5	19	5
16	22	82	95.5	19	5
20	24	95	109.5	28	6
25	28	104	119.5	28	8

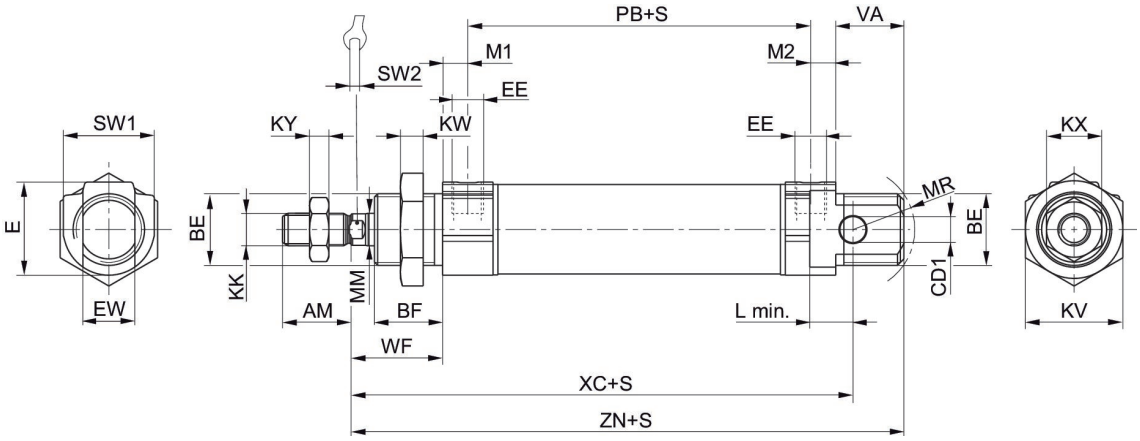
Mini cylinder, Series MNI

Standards: ISO 6432
Functional principle: Double-acting
Certificates: ATEX optional
: Piston with magnet
: elastic cushioning
: with integrated rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
: ATEX optional
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	G 1/8	G 1/8
Piston rod Ø	4 mm	6 mm	6 mm	8 mm	10 mm
Stroke 10	0822330201	0822331201	0822332201	0822333201	0822334201
25	0822330202	0822331202	0822332202	0822333202	0822334202
50	0822330203	0822331203	0822332203	0822333203	0822334203
80	0822330204	0822331204	0822332204	0822333204	0822334204
100	0822330205	0822331205	0822332205	0822333205	0822334205
125	0822330215	0822331206	0822332206	0822333206	0822334206
160	0822330209	0822331207	0822332207	0822333207	0822334207
200	0822330235	0822331218	0822332208	0822333208	0822334208
250	0822330219	0822331219	0822332209	0822333209	0822334209
320	-	0822331223	0822332210	0822333210	0822334210
400	-	0822331217	0822332219	0822333214	0822334211
500	-	0822331233	0822332220	0822333220	0822334212

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Retracting piston force	42 N	53 N	109 N	166 N	260 N
Extracting piston force	49 N	71 N	127 N	198 N	309 N
Impact energy	0.04 J	0.07 J	0.14 J	0.23 J	0.35 J
Weight 0 mm stroke	0.042 kg	0.073 kg	0.091 kg	0.149 kg	0.249 kg
Weight 10 mm stroke	0.0024 kg	0.0046 kg	0.0055 kg	0.009 kg	0.013 kg

Dimensions



S = stroke

Piston Ø	AM–2	BE	BF	CD H9	E	EE t=depth of thread	EW d13	KK	KV
10	12	M12x1,25	11	4	14	M5 t=5	8	M4	17
12	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28	G 1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28	G 1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
10	5.5	7	2.2	6	4	4.8	12	47	11
12	6	10	3.2	8	6	4.8	16	41	16
16	6	10	3.2	8	6	4.8	16	47	17
20	7	13	4	12	8	7	18	51	19
25	7	17	6	12	10	7	19	55	21

Piston Ø	WF ±1,4	XC ±1	ZN ± 1,4	SW 1	SW 2
10	16	74 1)	83.5	13	3
12	22	75	88.5	19	5
16	22	82	95.5	19	5
20	24	95	109.5	28	6
25	28	104	119.5	28	8

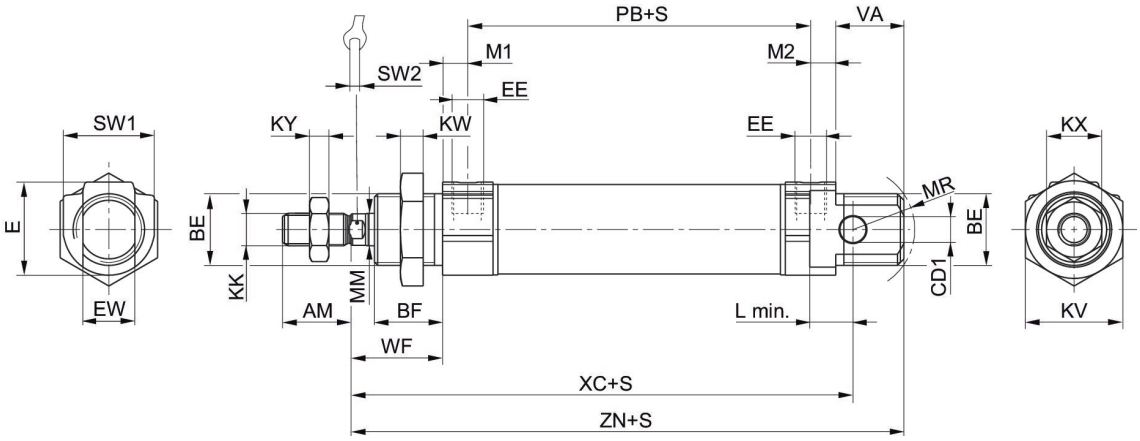
Mini cylinder, Series MNI

Standards: ISO 6432
Functional principle: Double-acting
: Piston with magnet
: elastic cushioning
: with integrated rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
: Heat resistant
Ambient temperature min./max.: -10 °C ... 120 °C
Medium temperature min./max.: -10 °C ... 120 °C
Working pressure min./max.: 1 bar ... 10 bar

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	G 1/8	G 1/8
Piston rod Ø	4 mm	6 mm	6 mm	8 mm	10 mm
Stroke 10	0822330401	0822331401	0822332401	0822333401	0822334401
25	0822330402	0822331402	0822332402	0822333402	0822334402
50	0822330403	0822331403	0822332403	0822333403	0822334403
80	0822330404	0822331404	0822332404	0822333404	0822334404
100	0822330405	0822331405	0822332405	0822333405	0822334405
125	-	0822331406	0822332406	0822333406	0822334406
160	0822330407	0822331407	0822332407	0822333407	0822334407
200	-	0822331413	0822332408	0822333408	0822334408
250	0822330410	0822331408	R412000707	0822333409	0822334409
320	-	-	R412009449	0822333410	0822334410
400	-	-	0822332409	-	0822334411
500	-	-	-	0822333416	0822334412

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Retracting piston force	42 N	53 N	109 N	166 N	260 N
Extracting piston force	49 N	71 N	127 N	198 N	309 N
Impact energy	0.04 J	0.07 J	0.14 J	0.23 J	0.35 J
Weight 0 mm stroke	0.042 kg	0.073 kg	0.091 kg	0.149 kg	0.249 kg
Weight 10 mm stroke	0.0024 kg	0.0046 kg	0.0055 kg	0.009 kg	0.013 kg

Dimensions



S = stroke

Piston Ø	AM–2	BE	BF	CD H9	E	EE t=depth of thread	EW d13	KK	KV
10	12	M12x1,25	11	4	14	M5 t=5	8	M4	17
12	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28	G1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28	G1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
10	5.5	7	2.2	6	4	4.8	12	47	11
12	6	10	3.2	8	6	4.8	16	41	16
16	6	10	3.2	8	6	4.8	16	47	17
20	7	13	4	12	8	7	18	51	19
25	7	17	6	12	10	7	19	55	21

Piston Ø	WF ±1,4	XC ±1	ZN ± 1,4	SW 1	SW 2
10	16	74	83.5	13	3
12	22	75	88.5	19	5
16	22	82	95.5	19	5
20	24	95	109.5	28	6
25	28	104	119.5	28	8

Mini cylinder, Series MNI

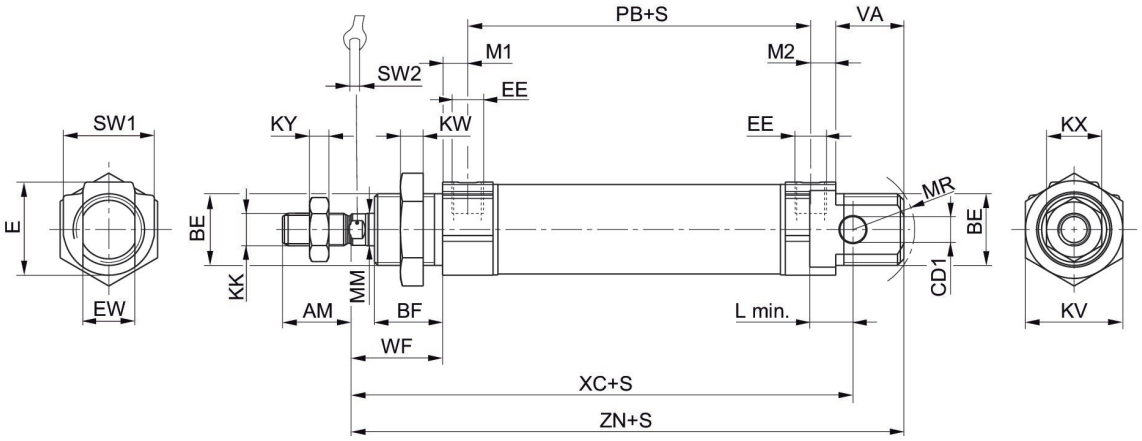
Standards: ISO 6432
Functional principle: Double-acting
: Piston with magnet
: elastic cushioning
: Polymer bearing bushing in rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	G 1/8	G 1/8
Piston rod Ø	4 mm	6 mm	6 mm	8 mm	10 mm
Stroke 5	-	-	-	5226644050	-
10	5226600100	5226610100	5226620100	5226644100	5226634100
15	5226600150	5226610150	5226620150	-	5226634150
18	-	-	5226620180	-	-
20	5226600200	5226610200	5226620200	5226644200	5226634200
25	5226600250	5226610250	5226620250	5226644250	5226634250
30	5226600300	5226610300	5226620300	5226644300	5226634300
35	-	5226610350	5226620350	5226644350	5226634350
40	5226600400	5226610400	5226620400	5226644400	5226634400
45	-	-	5226620450	-	-
50	5226600500	5226610500	5226620500	5226644500	5226634500
55	-	-	5226620550	-	5226634550
60	5226600600	5226610600	5226620600	-	5226634600
65	5226600650	5226610650	-	-	5226634650
70	5226600700	5226610700	5226620700	-	5226634700
75	5226600750	5226610750	5226620750	5226644750	5226634750
80	5226600800	5226610800	5226620800	5226644800	5226634800
90	-	-	5226620900	-	5226634900
100	5226601000	5226611000	5226621000	5226645000	5226635000
110	-	-	5226621100	-	5226635100
115	-	-	5226621150	-	-
120	-	-	5226621200	-	5226635200
125	5226601250	5226611250	5226621250	5226645250	5226635250
130	-	-	-	-	5226635300

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	G 1/8	G 1/8
Piston rod Ø	4 mm	6 mm	6 mm	8 mm	10 mm
135	-	-	5226621350	-	-
140	-	-	-	-	5226635400
150	-	5226611500	5226621500	-	5226635500
160	5226601600	5226611600	5226621600	5226645600	5226635600
170	-	-	5226621700	-	5226635700
175	-	5226611750	5226621750	-	5226635750
180	-	-	5226621800	-	5226635800
190	-	-	5226621900	-	-
200	5226602000	5226612000	5226622000	-	5226636000
210	-	-	-	-	5226636100
220	-	-	5226622200	-	5226636200
225	-	-	-	-	5226636250
235	-	-	-	-	5226636350
240	-	-	5226622400	-	-
250	-	5226612500	5226622500	-	5226636500
260	-	-	-	-	5226636600
265	-	-	5226622650	-	-
270	-	-	5226622700	-	5226636700
290	-	-	-	-	5226636900
300	-	-	5226623000	5226647000	5226637000
320	-	5226613200	-	-	5226637200
335	-	-	-	-	5226637350
350	-	-	5226623500	-	5226637500
400	-	5226618020	5226628020	-	5226639000
420	-	-	-	-	5226639050
425	-	-	-	-	5226639080
440	-	-	-	-	5226639070
450	-	-	-	-	5226639020
480	-	5226618010	-	-	-
490	-	-	5226628000	-	5226639010
495	-	-	5226628010	-	-
500	-	-	-	-	5226639030
550	-	-	5226628040	-	5226639090
560	-	-	-	-	5226639040
600	-	-	-	-	5226639190
620	-	-	-	-	5226639060
850	-	-	5226628030	-	-

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Retracting piston force	42 N	53 N	109 N	166 N	260 N
Extracting piston force	49 N	71 N	127 N	198 N	309 N
Impact energy	0.04 J	0.07 J	0.14 J	0.23 J	0.35 J
Weight 0 mm stroke	0.042 kg	0.073 kg	0.091 kg	0.149 kg	0.249 kg
Weight 10 mm stroke	0.0024 kg	0.0046 kg	0.0055 kg	0.009 kg	0.013 kg

Dimensions



S = stroke

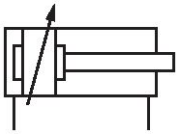
Piston Ø	AM–2	BE	BF	CD1 H10	E	EE t=depth of thread	EW d13	KK	KV
10	12	M12x1,25	11	4	14	M5 t=5	8	M4	17
12	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28.6	G 1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28.6	G 1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
10	5.5	7	2.2	6	4	4.8	12	37	11
12	6	10	3.2	9	6	4.8	16	41	16
16	6	10	3.2	9	6	4.8	16	47	17
20	7	13	4	12	8	7.7	18	51	19
25	7	17	6	12	10	7.7	19	55	21

Piston Ø	WF ±1,4	XC ±1	ZN ± 1,4	SW 1	SW 2
10	16	64	73.5	13	3
12	22	75	88.5	19	5
16	22	82	95.5	19	5
20	24	95	109.5	28	6
25	28	104	119.5	28	8

Mini cylinder, Series MNI

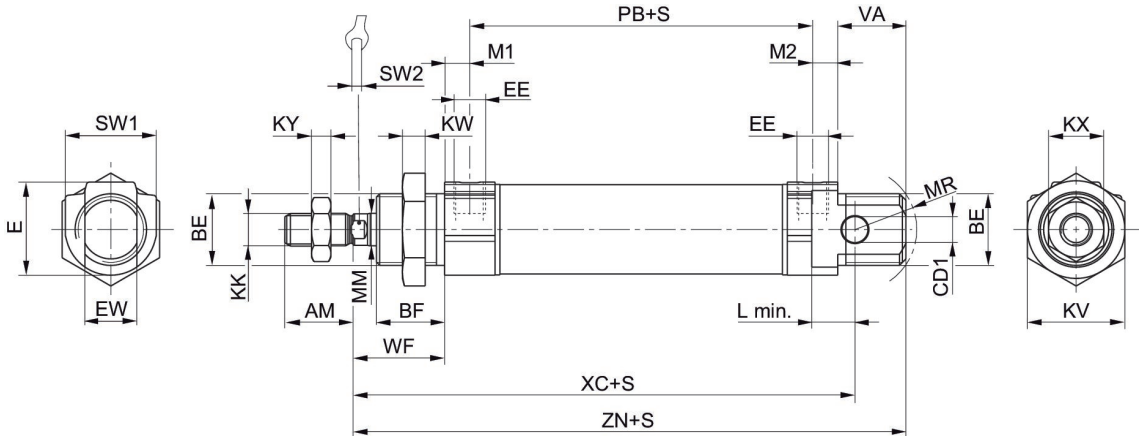
Standards: ISO 6432
Functional principle: Double-acting
Certificates: ATEX optional
: Piston without magnet
: Pneumatic adjustable cushioning
: with integrated rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
: ATEX optional
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar



Piston Ø	16 mm	20 mm	25 mm
Piston rod thread	M6	M8	M10x1,25
Ports	M5	G 1/8	G 1/8
Piston rod Ø	6 mm	8 mm	10 mm
Stroke 10	0822232001	0822233001	0822234001
25	0822232002	0822233002	0822234002
50	0822232003	0822233003	0822234003
80	0822232004	0822233004	0822234004
100	0822232005	0822233005	0822234005
125	0822232006	0822233006	0822234006
160	0822232007	0822233007	0822234007
200	0822232008	0822233008	0822234008
250	0822232009	0822233009	0822234009
320	0822232010	0822233010	0822234010
400	0822232011	0822233017	0822234011
500	0822232012	0822233041	0822234012

Piston Ø	16 mm	20 mm	25 mm
Retracting piston force	109 N	166 N	260 N
Extracting piston force	127 N	198 N	309 N
Cushion-ing energy	0.6 J	1.5 J	2.3 J
Cushioning length	9 mm	13 mm	17.5 mm
Weight 0 mm stroke	0.09 kg	0.146 kg	0.25 kg
Weight 10 mm stroke	0.0055 kg	0.009 kg	0.013 kg

Dimensions



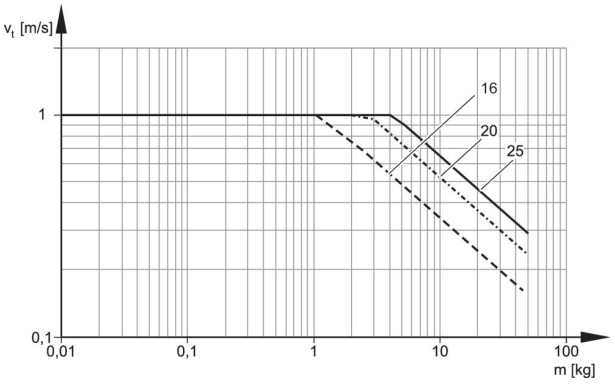
S = stroke

Piston Ø	AM –2	BE	BF	CD H9	E	EE t=depth of thread	EW d13	KK	KV
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28	G1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28	G1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
16	6	10	3.2	8	6	4.8	16	47	17
20	7	13	4	12	8	7	18	51	19
25	7	17	6	12	10	7	19	55	21

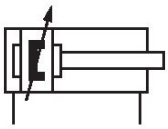
Piston Ø	WF ±1,4	XC ±1	ZN ± 1,4	SW 1	SW 2
16	22	82	95.5	19	5
20	24	95	109.5	28	6
25	28	104	119.5	28	8

Cushioning diagram



Mini cylinder, Series MNI

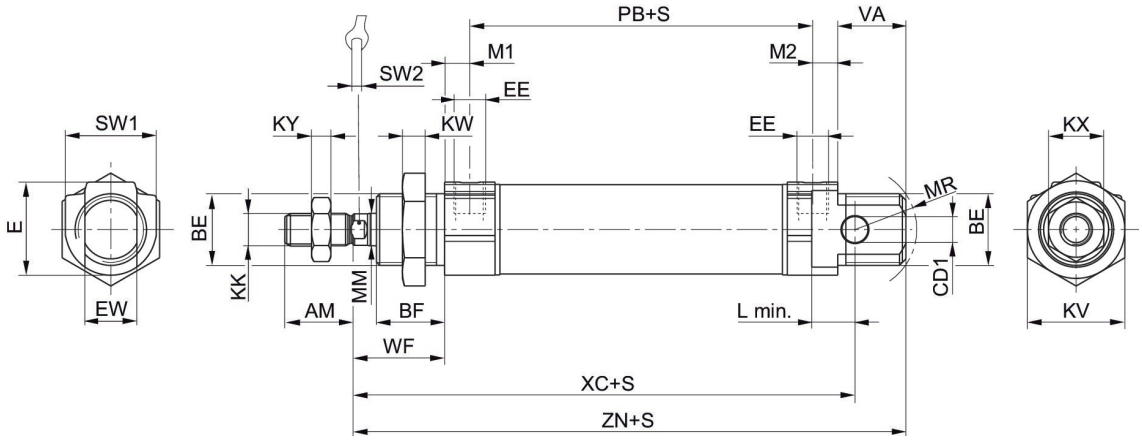
Standards: ISO 6432
Functional principle: Double-acting
: Piston with magnet
: Pneumatic adjustable cushioning
: with integrated rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
: ATEX optional
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar



Piston Ø	16 mm	20 mm	25 mm
Piston rod thread	M6	M8	M10x1,25
Ports	M5	G 1/8	G 1/8
Piston rod Ø	6 mm	8 mm	10 mm
Stroke 10	0822332501	0822333501	0822334501
25	0822332502	0822333502	0822334502
50	0822332503	0822333503	0822334503
80	0822332504	0822333504	0822334504
100	0822332505	0822333505	0822334505
125	0822332506	0822333506	0822334506
160	0822332507	0822333507	0822334507
200	0822332508	0822333508	0822334508
250	0822332509	0822333509	0822334509
320	0822332510	0822333510	0822334510
400	0822332511	0822333519	0822334511
500	0822332512	0822333541	0822334512

Piston Ø	16 mm	20 mm	25 mm
Retracting piston force	109 N	166 N	260 N
Extracting piston force	127 N	198 N	309 N
Cushion-ing energy	0.6 J	1.5 J	2.3 J
Cushioning length	9 mm	13 mm	17.5 mm
Weight 0 mm stroke	0.1 kg	0.16 kg	0.265 kg
Weight 10 mm stroke	0.0055 kg	0.009 kg	0.013 kg

Dimensions



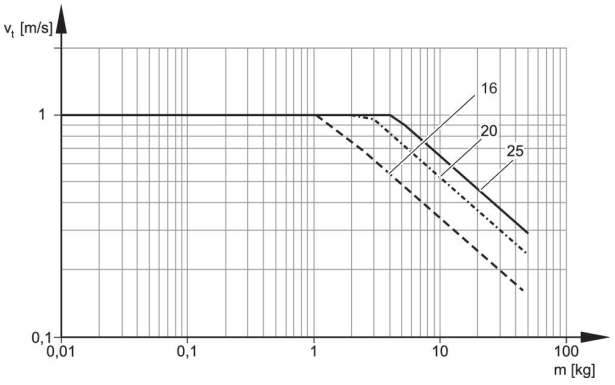
S = stroke

Piston Ø	AM–2	BE	BF	CD H9	E	EE t=depth of thread	EW d13	KK	KV
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28	G1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28	G1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
16	6	10	3.2	8	6	4.8	16	47	17
20	7	13	4	12	8	7	18	51	19
25	7	17	6	12	10	7	19	55	21

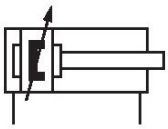
Piston Ø	WF ±1,4	XC ±1	Y ± 1	ZN ± 1,4	SW 1	SW 2
16	22	82	27	95.5	19	5
20	24	95	32	109.5	28	6
25	28	104	36	119.5	28	8

Cushioning diagram



Mini cylinder, Series MNI

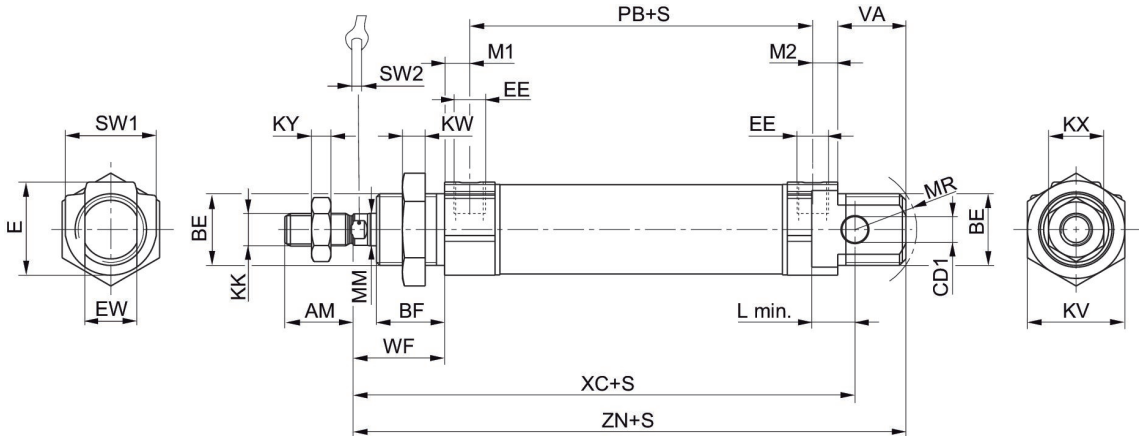
Standards: ISO 6432
Functional principle: Double-acting
: Piston with magnet
: Pneumatic adjustable cushioning
: with integrated rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
: Heat resistant
Ambient temperature min./max.: -10 °C ... 120 °C
Medium temperature min./max.: -10 °C ... 120 °C
Working pressure min./max.: 1 bar ... 10 bar



Piston Ø	16 mm	20 mm	25 mm
Piston rod thread	M6	M8	M10x1,25
Ports	M5	G 1/8	G 1/8
Piston rod Ø	6 mm	8 mm	10 mm
Stroke 10	0822332451	0822333451	0822334451
25	0822332452	0822333452	0822334452
50	0822332453	0822333453	0822334453
80	0822332454	0822333454	0822334454
100	0822332455	0822333455	0822334455
125	0822332456	0822333456	0822334456
160	0822332457	0822333457	0822334457
200	0822332458	0822333458	0822334458
250	R412008586	0822333459	0822334459
320	R480638873	0822333460	0822334460
400	-	0822333462	0822334461
500	R480611199	-	0822334462

Piston Ø	16 mm	20 mm	25 mm
Retracting piston force	109 N	166 N	260 N
Extracting piston force	127 N	198 N	309 N
Cushion-ing energy	0.6 J	1.5 J	2.3 J
Cushioning length	9 mm	13 mm	17.5 mm
Weight 0 mm stroke	0.1 kg	0.16 kg	0.265 kg
Weight 10 mm stroke	0.0055 kg	0.009 kg	0.013 kg

Dimensions



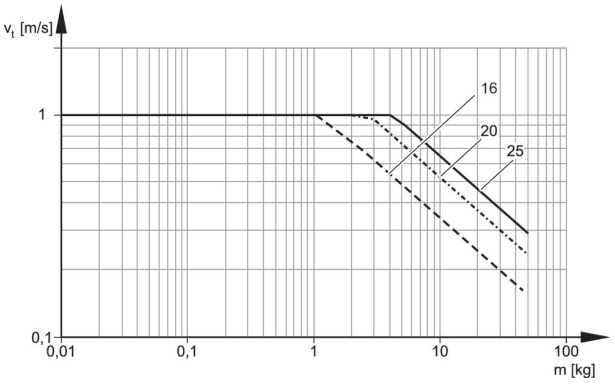
S = stroke

Piston Ø	AM–2	BE	BF	CD H9	E	EE t=depth of thread	EW d13	KK	KV
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28	G1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28	G1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
16	6	10	3.2	8	6	4.8	16	47	17
20	7	13	4	12	8	7	18	51	19
25	7	17	6	12	10	7	19	55	21

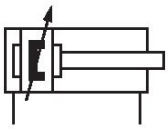
Piston Ø	WF ±1,4	XC ±1	ZN ± 1,4	SW 1	SW 2
16	22	82	95.5	19	5
20	24	95	109.5	28	6
25	28	104	119.5	28	8

Cushioning diagram



Mini cylinder, Series MNI

Standards: ISO 6432
Functional principle: Double-acting
: Piston with magnet
: Pneumatic adjustable cushioning
: Polymer bearing bushing in rear eye
Piston rod: External thread
Piston rod: single
Compressed air connection: Internal thread
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar

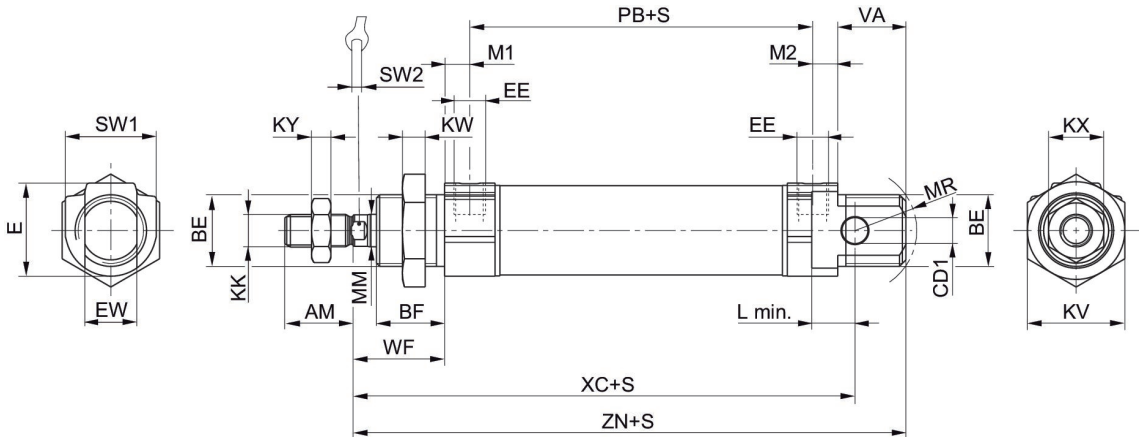


Piston Ø	16 mm	20 mm	25 mm
Piston rod thread	M6	M8	M10x1,25
Ports	M5	G 1/8	G 1/8
Piston rod Ø	6 mm	8 mm	10 mm
Stroke 10	5226720100	5226744100	5226734100
15	5226720150	5226744150	5226734150
20	-	5226744200	5226734200
25	5226720250	5226744250	5226734250
30	5226720300	5226744300	5226734300
40	5226720400	5226744400	5226734400
50	5226720500	5226744500	5226734500
60	5226720600	5226744600	5226734600
75	5226720750	5226744750	5226734750
80	5226720800	5226744800	5226734800
100	5226721000	5226745000	5226735000
125	5226721250	5226745250	5226735250
150	5226721500	5226745500	5226735500
160	5226721600	5226745600	5226735600
200	5226722000	5226746000	5226736000
250	-	5226746500	5226736500
300	-	5226747000	5226737000
320	-	-	5226737200
350	-	-	5226737500

Piston Ø	16 mm	20 mm	25 mm
Retracting piston force	109 N	166 N	260 N
Extracting piston force	127 N	198 N	309 N

Piston Ø	16 mm	20 mm	25 mm
Cushion-ing energy	0.6 J	1.5 J	2.3 J
Cushioning length	9 mm	13 mm	17.5 mm
Weight 0 mm stroke	0.1 kg	0.16 kg	0.265 kg
Weight 10 mm stroke	0.0055 kg	0.009 kg	0.013 kg

Dimensions



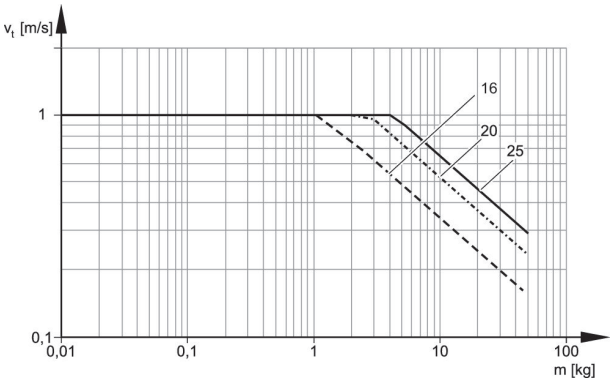
S = stroke

Piston Ø	AM–2	BE	BF	CD1 H10	E	EE t=depth of thread	EW d13	KK	KV
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28.6	G 1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28.6	G 1/8 t=8	16	M10x1,25	30

Piston Ø	KW	KX	KY	L min	MM f8	M1/M2	MR	PB ±1	VA
16	6	10	3.2	8	6	4.8	16	47	17
20	7	13	4	12	8	7.7	18	51	19
25	7	17	6	12	10	7.7	19	55	21

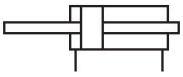
Piston Ø	WF ±1,4	XC ±1	ZN ± 1,4	SW 1	SW 2
16	22	82	95.5	19	5
20	24	95	109.5	28	6
25	28	104	119.5	28	8

Cushioning diagram



Mini cylinder, Series MNI

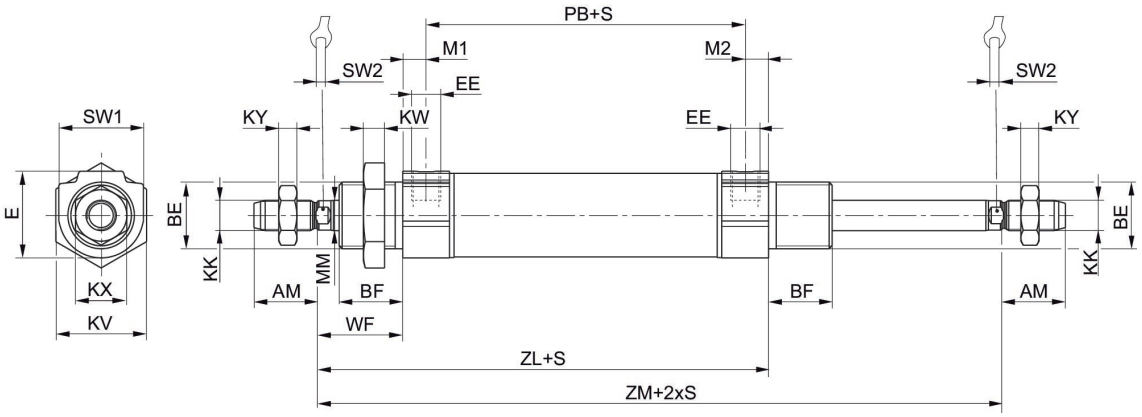
Standards: ISO 6432
Functional principle: Double-acting
Certificates: ATEX optional
: Piston without magnet
: elastic cushioning
Piston rod: External thread
Piston rod: through
Compressed air connection: Internal thread
: ATEX optional
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar



Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	G 1/8	G 1/8
Piston rod Ø	4 mm	6 mm	6 mm	8 mm	10 mm
Stroke 10	0822080201	0822081201	0822082201	0822083201	0822084201
25	0822080202	0822081202	0822082202	0822083202	0822084202
50	0822080203	0822081203	0822082203	0822083203	0822084203
80	0822080204	0822081204	0822082204	0822083204	0822084204
100	0822080205	0822081205	0822082205	0822083205	0822084205
125	0822080209	0822081206	0822082206	0822083206	0822084206
160	-	0822081207	0822082207	0822083207	0822084207
200	-	0822081209	0822082208	0822083208	0822084208
250	-	-	-	0822083209	0822084209
320	-	-	-	0822083210	0822084210
400	-	-	-	-	0822084211
500	-	-	-	R480641970	0822084212

Piston Ø	10 mm	12 mm	16 mm	20 mm	25 mm
Retracting piston force	42 N	53 N	109 N	166 N	260 N
Extracting piston force	42 N	53 N	109 N	166 N	260 N
Impact energy	0.04 J	0.07 J	0.14 J	0.23 J	0.35 J
Weight 0 mm stroke	0.039 kg	0.073 kg	0.091 kg	0.182 kg	0.317 kg
Weight 10 mm stroke	0.0029 kg	0.005 kg	0.0063 kg	0.0102 kg	0.0155 kg

Dimensions



S = stroke

Piston Ø	AM –2	BE	BF	E	EE t=depth of thread	KK	KV	KW	KX
10	12	M12x1,25	11	14	M5 t=5	M4	17	5.5	7
12	16	M16x1,5	16	19	M5 t=5	M6	22	6	10
16	16	M16x1,5	16	19	M5 t=5	M6	22	6	10
20	20	M22x1,5	18	28	G1/8 t=8	M8	30	7	13
25	22	M22x1,5	21	28	G1/8 t=8	M10x1,25	30	7	17

Piston Ø	KY	MM f8	M1/M2	PB ±1	SW 1	SW 2	WF±1,4	ZL ± 1,7	ZM +0/-2,5
10	2.2	4	4.8	37	13	3	16	62.5	80.5
12	3.2	6	4.8	41	19	5	22	72.5	96.5
16	3.2	6	4.8	47	19	5	22	78.5	102.5
20	4	8	7	51	28	6	24	90.5	116.4
25	6	10	7	55	28	8	28	98.5	128.2

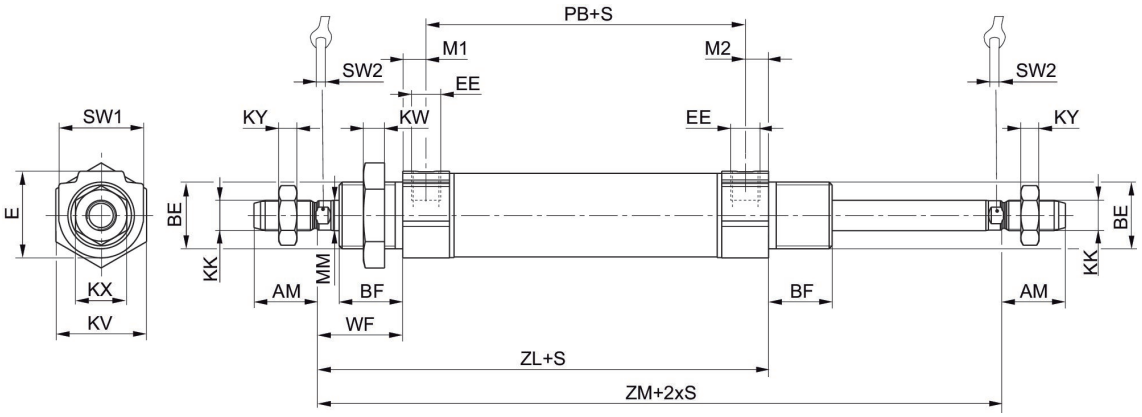
Mini cylinder, Series MNI

Standards: ISO 6432
Functional principle: Double-acting
Certificates: ATEX optional
: Piston with magnet
: elastic cushioning
Piston rod: External thread
Piston rod: through
Compressed air connection: Internal thread
: ATEX optional
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar

Piston Ø	16 mm	20 mm	25 mm
Piston rod thread	M6	M8	M10x1,25
Ports	M5	G 1/8	G 1/8
Piston rod Ø	6 mm	8 mm	10 mm
Stroke 10	0822382001	0822383001	0822384001
25	0822382002	0822383002	0822384002
50	0822382003	0822383003	0822384003
80	0822382004	0822383004	0822384004
100	0822382005	0822383005	0822384005
125	0822382006	0822383006	0822384006
160	0822382007	0822383007	0822384007
200	0822382008	0822383008	0822384008
250	0822382010	0822383009	0822384009
320	R480623516	0822383010	0822384010
400	-	-	0822384011
500	-	-	0822384012

Piston Ø	16 mm	20 mm	25 mm
Retracting piston force	109 N	166 N	260 N
Extracting piston force	109 N	166 N	260 N
Impact energy	0.14 J	0.23 J	0.35 J
Weight 0 mm stroke	0.091 kg	0.182 kg	0.317 kg
Weight 10 mm stroke	0.0063 kg	0.0102 kg	0.0155 kg

Dimensions



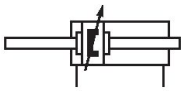
S = stroke

Piston Ø	AM –2	BE	BF	E	EE t=depth of thread	KK	KV	KW	KX
16	16	M16x1,5	16	19	M5 t=5	M6	22	6	10
20	20	M22x1,5	18	28	G1/8 t=8	M8	30	7	13
25	22	M22x1,5	21	28	G1/8 t=8	M10x1,25	30	7	17

Piston Ø	KY	MM f8	M1/M2	PB ±1	SW 1	SW 2	WF ±1,4	ZL ± 1,7	ZM +0/-2,5
16	3.2	6	4.8	47	19	5	22	78.5	102.5
20	4	8	7	51	28	6	24	90.5	116.4
25	6	10	7	55	28	8	28	98.5	128.2

Mini cylinder, Series MNI

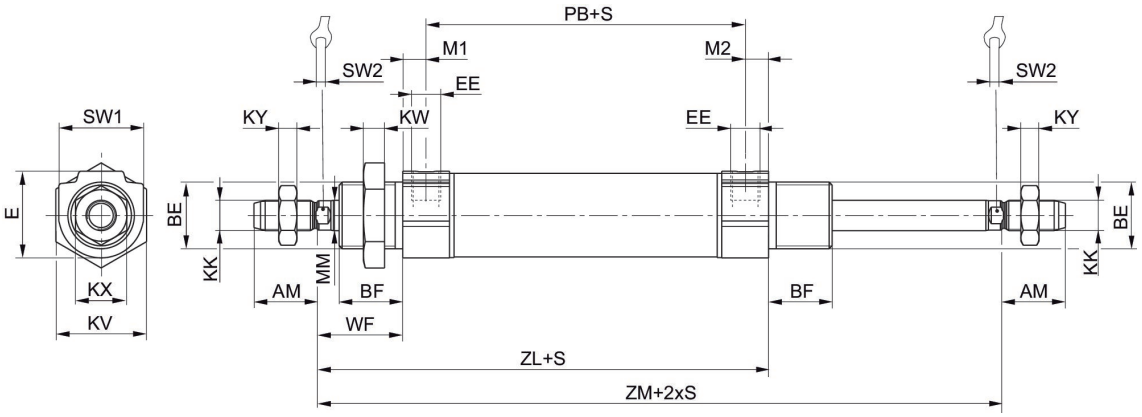
Standards: ISO 6432
Functional principle: Double-acting
Certificates: ATEX optional
: Piston with magnet
: Pneumatic adjustable cushioning
Piston rod: External thread
Piston rod: through
Compressed air connection: Internal thread
: ATEX optional
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar



Piston Ø	16 mm	20 mm	25 mm
Piston rod thread	M6	M8	M10x1,25
Ports	M5	G 1/8	G 1/8
Piston rod Ø	6 mm	8 mm	10 mm
Stroke 10	R480680379	R480680390	R480680402
25	R480680380	R480680391	R480680403
50	R480680381	R480680392	R480680404
80	R480680382	R480680393	R480680405
100	R480680383	R480680394	R480680406
125	R480680384	R480680395	R480680407
160	R480680385	R480680396	R480680408
200	R480680386	R480680397	R480680409
250	R480680387	R480680398	R480680410
320	R480680388	R480680399	R480680411
400	R480680389	R480680400	R480680412
500	-	R480680401	R480680413

Piston Ø	16 mm	20 mm	25 mm
Retracting piston force	109 N	166 N	260 N
Extracting piston force	109 N	166 N	260 N
Cushioning energy	0.6 J	1.5 J	2.3 J
Cushioning length	9 mm	13 mm	17.5 mm
Weight 0 mm stroke	0.1 kg	0.193 kg	0.334 kg
Weight 10 mm stroke	0.063 kg	0.102 kg	0.155 kg

Dimensions



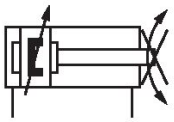
S = stroke

Piston Ø	AM –2	BE	BF	E	EE t=depth of thread	KK	KV	KW	KX
16	16	M16x1,5	16	19	M5 t=5	M6	22	6	10
20	20	M22x1,5	18	28	G1/8 t=8	M8	30	7	13
25	22	M22x1,5	21	28	G1/8 t=8	M10x1,25	30	7	17

Piston Ø	KY	MM f8	M1/M2	PB ±1	SW 1	SW 2	WF ±1,4	ZL ± 1,7	ZM +0/-2,5
16	3.2	6	4.8	47	19	5	22	78.5	102.5
20	4	8	7	51	28	6	24	90.5	116.4
25	6	10	7	55	28	8	28	98.5	128.2

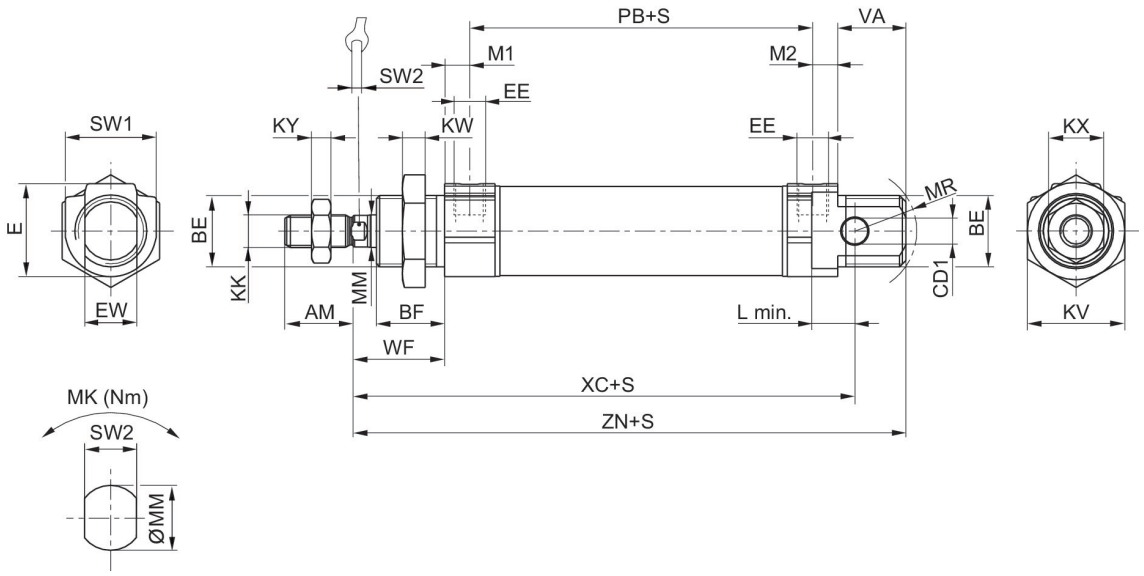
Mini cylinder, Series MNI

Standards: ISO 6432
Functional principle: Double-acting
: Piston with magnet
: Pneumatic adjustable cushioning
: with integrated rear eye
Piston rod: External thread
Piston rod: non-rotating
Compressed air connection: Internal thread
Ambient temperature min./max.: -25 °C ... 80 °C
Medium temperature min./max.: -25 °C ... 80 °C
Working pressure min./max.: 1 bar ... 10 bar



Piston Ø	16 mm	20 mm	25 mm
Piston rod thread	M6	M8	M10x1,25
Ports	M5	G 1/8	G 1/8
Piston rod Ø	6 mm	8 mm	10 mm
Stroke 10	R480680343	R480680355	R480680367
25	R480680344	R480680356	R480680368
50	R480680345	R480680357	R480680369
80	R480680346	R480680358	R480680370
100	R480680347	R480680359	R480680371
125	R480680348	R480680360	R480680372
160	R480680349	R480680361	R480680373
200	R480680350	R480680362	R480680374
250	R480680351	R480680363	R480680375
320	R480680352	R480680364	R480680376
400	R480680353	R480680365	R480680377
500	R480680354	R480680366	R480680378

Piston Ø	16 mm	20 mm	25 mm
Retracting piston force	110 N	171 N	265 N
Extracting piston force	127 N	198 N	309 N
Cushion-ing energy	0.6 J	1.5 J	2.3 J
Cushioning length	9 mm	13 mm	17.5 mm
Weight 0 mm stroke	0.1 kg	0.16 kg	0.265 kg
Weight 10 mm stroke	0.0055 kg	0.009 kg	0.013 kg



Piston Ø	AM–2	BE	BF	CD1 H9	E	EE t=depth of thread	EW d13	KK	KV
16	16	M16x1,5	16	6	19	M5 t=5	12	M6	22
20	20	M22x1,5	18	8	28,6	G1/8 t=8	16	M8	30
25	22	M22x1,5	21	8	28,6	G1/8 t=8	16	M10x1,25	30

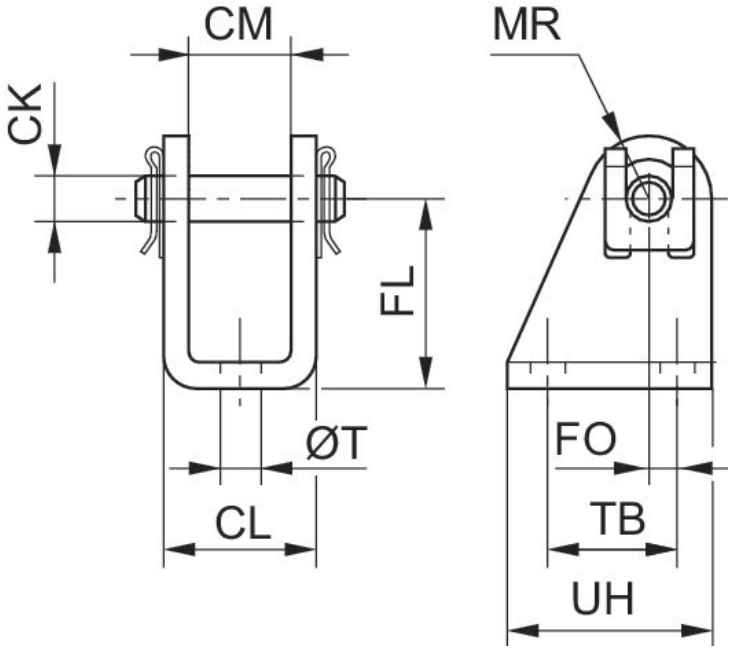
Piston Ø	KW	KX	KY	L	MK	MM f8	M1/M2	MR	PB ±1
16	6	10	3.2	8	0,1	6	4.8	16	47
20	7	13	4	12	0,25	8	7	18	51
25	7	17	6	12	0,4	10	7	19	55

Piston Ø	VA	WF ±1,4	XC ±1	Y ± 1	ZN ± 1,4	SW 1	SW 2
16	17	22	82	27	95.5	19	5
20	19	24	95	32	109.5	28	6
25	21	28	104	36	119.5	28	8

Clevis mounting AB3, Series CM1

Piston diameter [mm]	Swivel bearing Ø [mm]	Material	Part No.
8, 10	4	Steel, chrome-plated	1827001447
12, 16	6	Steel, chrome-plated	1827001446
20, 25	8	Steel, chrome-plated	1827001445

Dimensions



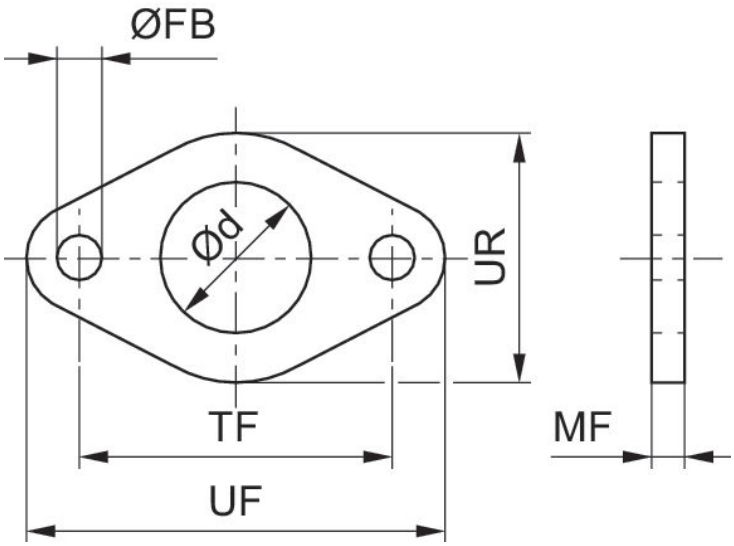
Piston Ø	Part No.	CM	Ø CK	CL	FL	FO	MR	Ø T	TB
8, 10	1827001447	8,1	4	13,1	24	1,5	5	4,5	12,5
8, 10	3323410000	8	4	13	24	1,5	5	4.5	12
12, 16	1827001446	12,1	6	18,1	27	2,0	7	5,5	15
12, 16	3323416000	12	6	18	27	2,0	7	5.5	15
20, 25	1827001445	16,1	8	24,1	30	4,0	10	6,6	20
20, 25	3323420000	16	8	24	30	4,0	10	6.6	22
32	3323432000	26	10	36	32	6,0	12	6.6	24

Piston Ø	UH
8, 10	20
8, 10	20
12, 16	25
12, 16	25
20, 25	32
20, 25	34
32	36

Flange mounting MF8, Series CM1

Piston diameter [mm]	Standardization	Material	Part No.
8, 10	ISO 6432	Galvanized Steel	1821036012
12, 16	ISO 6432	Galvanized Steel	1821036011
20, 25	ISO 6432	Galvanized Steel	1821036010

Dimensions

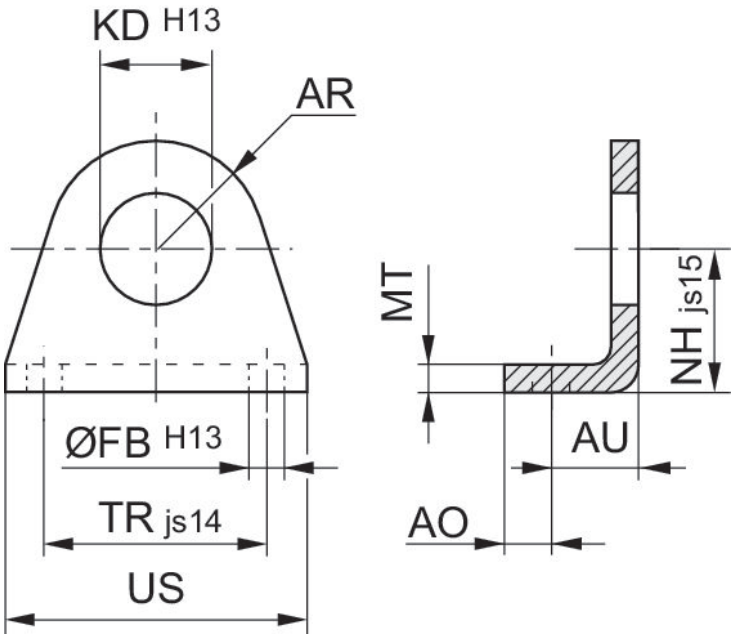


Piston Ø	Part No.	Ø d	Ø FB	MF	TF js14	UF	UR
8, 10	3322010000	12	4.5	3	30	40	22
12, 16	3322016000	16	5.5	4	40	52	30
20, 25	3322020000	22	6.6	5	50	66	40
8, 10	1821036012	12	4.5	3	30	40	25
12, 16	1821036011	16	5.5	4	40	52	30
20, 25	1821036010	22	6.6	5	50	66	40

Foot mounting MS3 ISO 6432

Piston diameter [mm]	Standardization	Material	Part No.
8, 10	ISO 6432	Steel, chrome-plated	1821332029
12, 16	ISO 6432	Steel, chrome-plated	1821332028
20, 25	ISO 6432	Steel, chrome-plated	1821332027

Dimensions



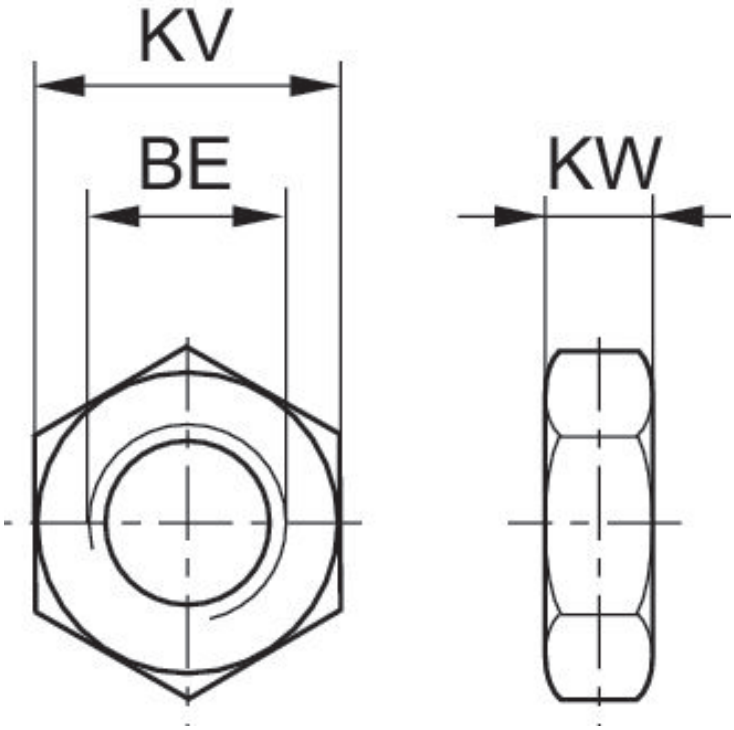
Piston Ø	Part No.	AO	AR	AU	Ø FB H13	Ø KD H13	MT	NH ±0,3 js15	TR js14
8, 10	3322210000	5	10	11	4.5	12	3	16	25
8, 10	1821332029	5	10	11	4.5	12.1	3	16	25
12, 16	3322216000	6	12.5	14	5.5	16.1	4	20	32
12, 16	1821332028	6	13	14	5.5	16.1	4	20	32
20, 25	3322220000	8	20	17.5	6.6	22.1	5	25	40
20, 25	1821332027	8	20	17	6.6	22.1	5	25	40
32	3322232000	9	24	20	6.6	30.1	5	32	48

Piston Ø	US
8, 10	35
8, 10	35
12, 16	42
12, 16	42
20, 25	54
20, 25	54
32	65

Nut MR3, series CM1

Suitable piston Ø [mm]	Thread size	Material	Part No.
8, 10	M12x1,25	Steel, chrome-plated	1823300024
12, 16	M16x1,5	Steel, chrome-plated	2915A51204
20, 25	M22x1,5	Steel, chrome-plated	2915051207

Dimensions

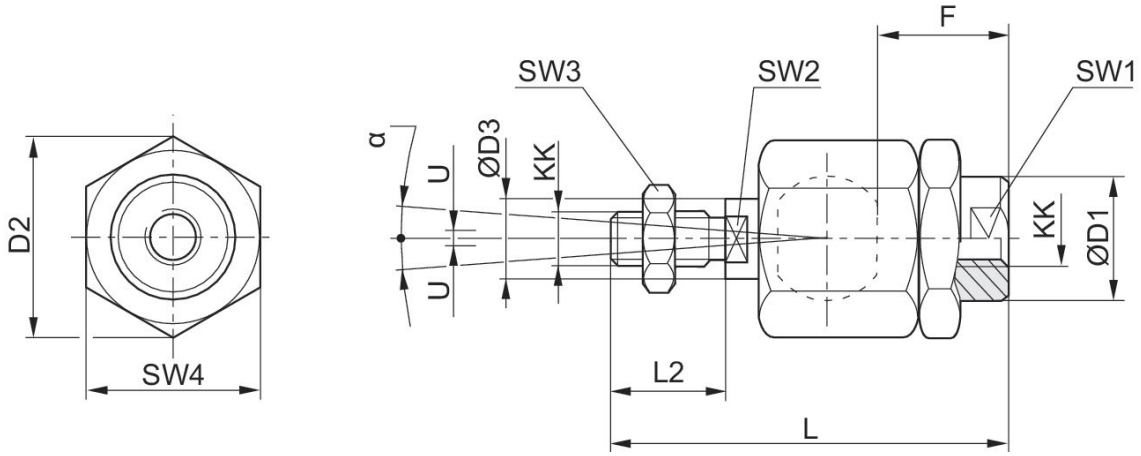


Piston Ø	Part No.	For series	BE	KV	KW
8, 10	1823300024	MNI	M12x1,25	17	5.5
12, 16	2915A51204	MNI	M16x1,5	22	6
20, 25	2915051207	CSL-RD, MNI	M22x1,5	30	7
8, 10	0413215803	ICM	M12x1,25	17	6.75
16	0413214505	ICM	M16x1,5	24	7
16	2918540030	CSL-RD	M16 x1,5	27	8
20, 25	0413214602	ICM	M22 x1,5	30	8
20, 25	R913030290	CSL-RD	M22 x1,5	32	11
32	0413214718	ICM	M30x1,5	41	11
80	3008010180	102	M24x2	36	8
60, 85	3056010180	102	M24	36	8
32	R412027809	102	M30x1,5	36	10
40	R412027810	RPC	M36x1,5	46	10
113, 160	3012010180	102	M36x3	52	10
40	R412027811	RPC	M38x1,5	46	10
50, 63	R412027812	RPC	M45x1,5	60	12
250	3075010180	102	M48x3	65	12

Flexible spherical coupling, Series PM5

Suitable piston rod thread	for series	Part No.
M4	MNI	1826409008
M6x1	CCL-IC, CCI, MNI	R412026140
M8x1,25	CCL-IC, CCI, MNI	R412026141
M10x1,25	PRA/TRB, CCL-IC/-IS, CCI, SSI, KPZ, 167, CVI, RPC	R412026142

Dimensions



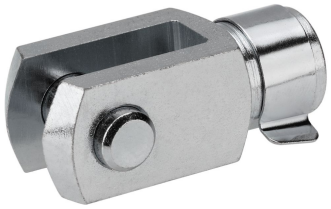
* Radial joint

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

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

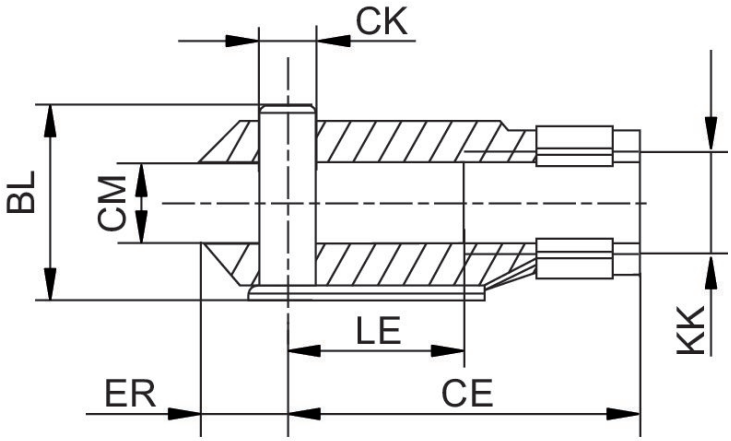
1) Axial play

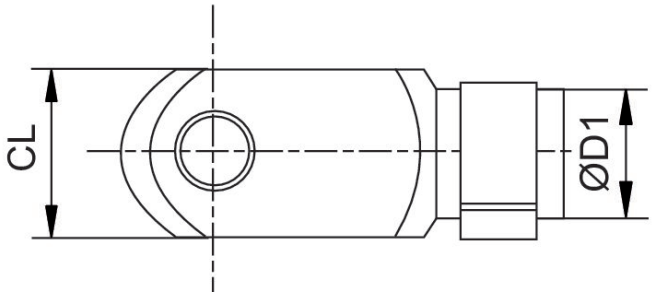
Rod clevis with lock washer, Series AP2, Galvanized Steel



Suitable piston rod thread	for series	Part No.
M4	MNI, ICM	1822122028
M6	CCI, MNI, ICM, KHZ	1822122009
M8	CCI, MNI, ICM, KHZ	1822122010
M10x1,25	PRA, TRB, CCI, MNI, ICM, KPZ, 167, CVI, RPC, RDC	1822122024

Dimensions



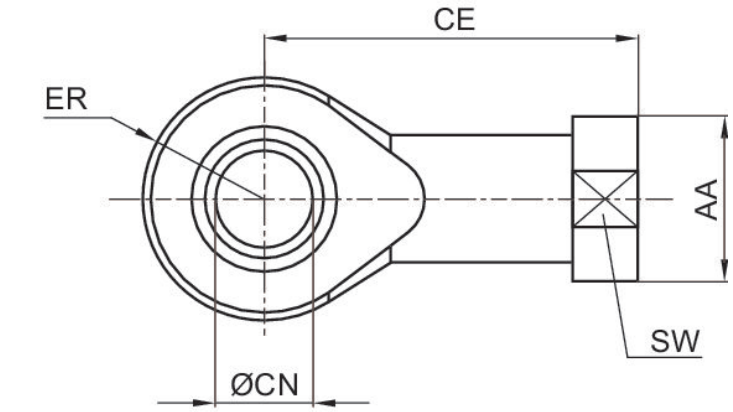


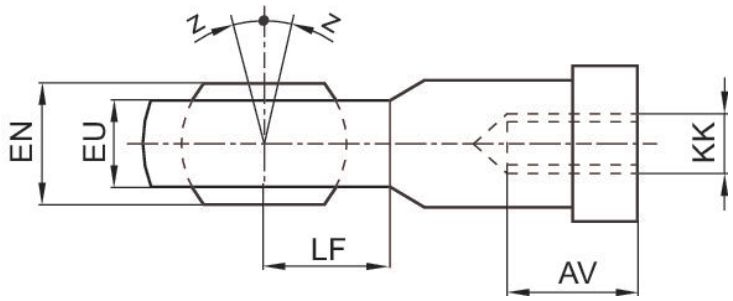
Part No.	BL	CE	ØCK h11	CL	CM	ØD1	ER	KK	LE
1822122028	11	16	4	8	4	8	5	M4	8
1822122008	13.5	20	5	10	5	9	6	M5	10
1822122009	16	24	6	12	6	10	7	M6	12
1822122010	21,5	32	8	16	8	14	10	M8	16
8958000122	26	40	10	20	10	18	12	M10	20
1822122024	26	40	10	20	10	18	12	M10x1,25	20
8958000132	31	48	12	24	12	20	14	M12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

Ball eye rod end AP6, galvanized Steel

Suitable piston rod thread	for series	Swivel bearing Ø [mm]	Part No.
M4	MNI, SSI	5	1822124000
M6	MNI, CCI, SSI	6	1822124001
M8	MNI, CCI, SSI, KPZ	8	1822124002
M10x1,25	PRA, TRB, MNI, CCI, SSI, RPC, KPZ, 167, CVI, RDC	10	1822124003

Dimensions





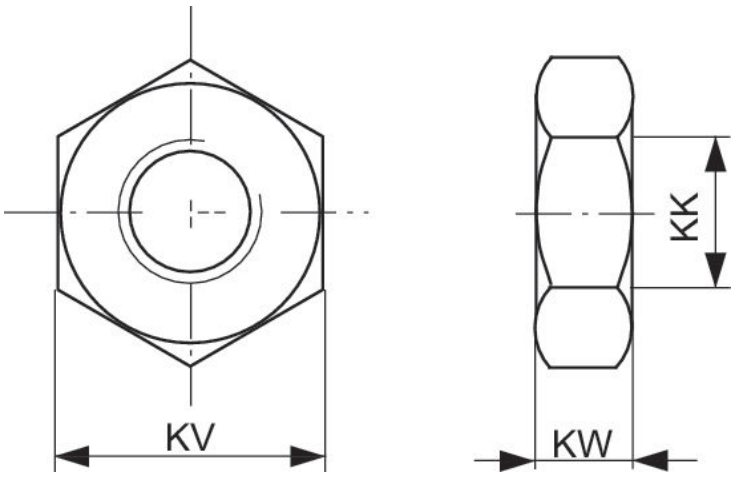
KK	Part No.	AA	AV min.	CE	Ø CN H7	EN –0,1	ER	EU max.	LF
M4	1822124000	12	8	27	5	8	9	7.5	9
M6	1822124001	13	9	30	6	9	10	7.5	10
M8	1822124002	16	12	36	8	12	12	9.5	12
M10	8958206402	19	20	43	10	14	14	10.5	13
M12	8958208852	22	22	50	12	16	16	12	16
M10x1,25	1822124003	19	15	43	10	14	14	11.5	14
M12x1,25	1822124004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

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

Piston rod nut MR9

Thread size	Material	Part No.
M4	Steel, chrome-plated	8103040114
M6	Steel, chrome-plated	1823300033
M8	Steel, chrome-plated	1823300034
M10x1,25	Steel, chrome-plated	1823A00020

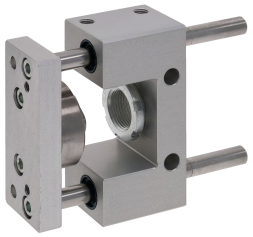
Dimensions



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

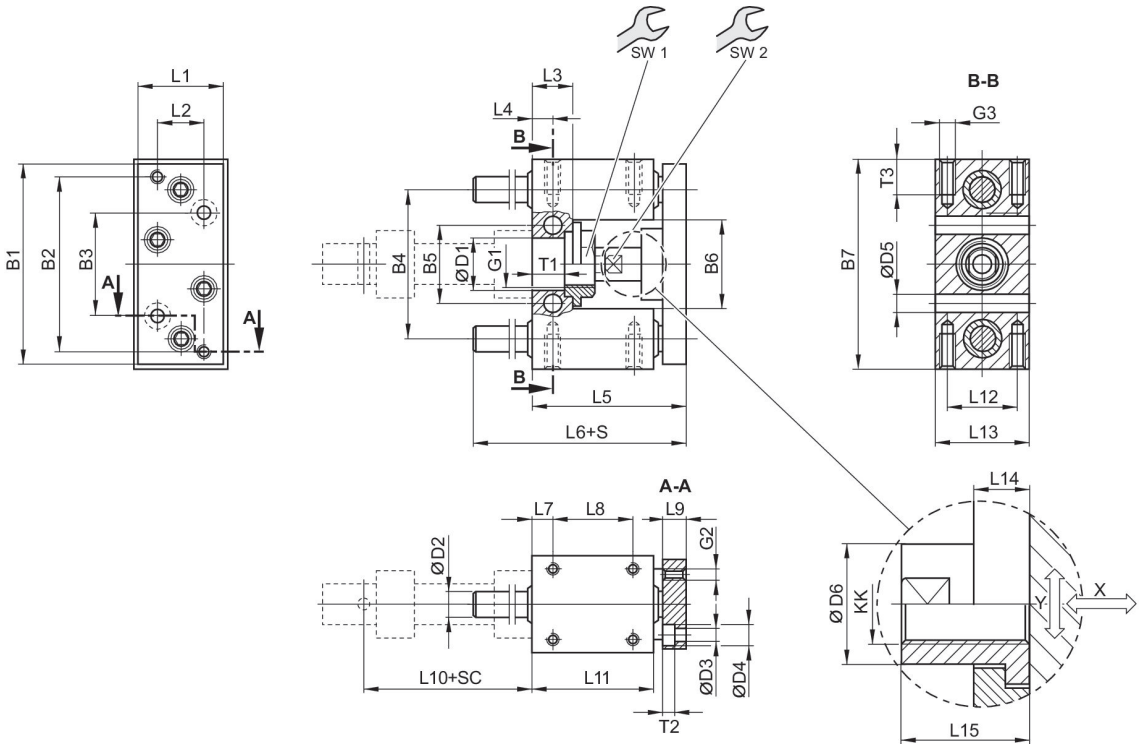
Guide unit GU1, Series CG1

Bearing type: Plain bearing
Min. ambient temperature: -20 °C
Max. ambient temperature: 80 °C



Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
12	50	0.247	0.0078	0821401095
12	100	0.247	0.0078	0821401096
12	200	0.247	0.0078	0821401097

Dimensions



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

Piston Ø	B1	B2	B3	B4	B5	B6	B7	D1	D2
12	63	54	32	46	24	27	65	16 H7	8

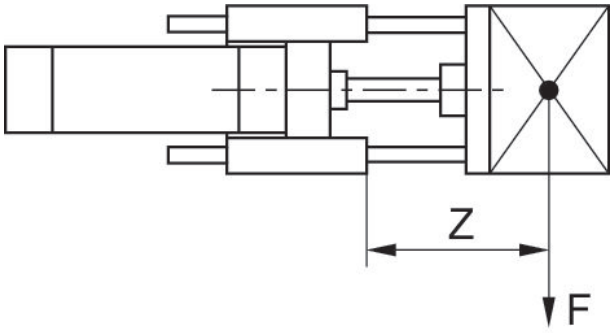
Piston Ø	D3	D4	D5	D6	G1	G2	G3	KK	L1
12	4.5	8	5.5	10	M16x1,5	M4	M4	M6	27

Piston Ø	L2	L3	L4	L5	L6	L7	L8	L9	L10
12	15	13	6.5	53	73	6.5	25	10	52.6

Piston Ø	L11	L12	L13	L14	L15	SW1	SW2	T1	T2
12	38	22	30	7	18	19	8	10.6	4.6

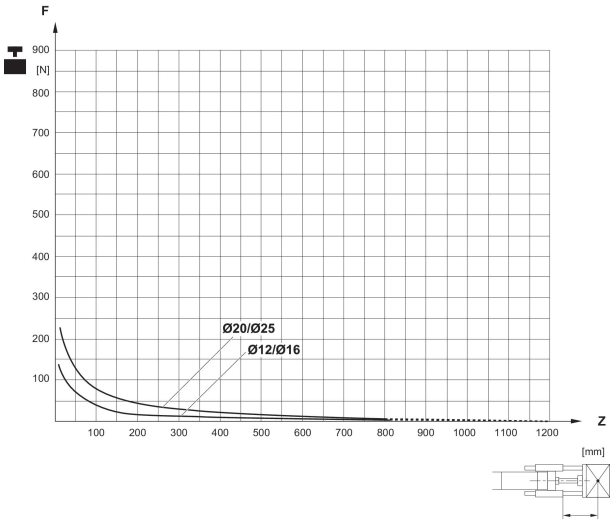
Piston Ø	T3
12	8

Useful load



F = Useful load, Z = Projection

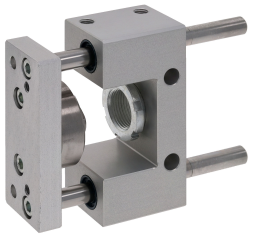
Useful load



F = Useful load, Z = Projection

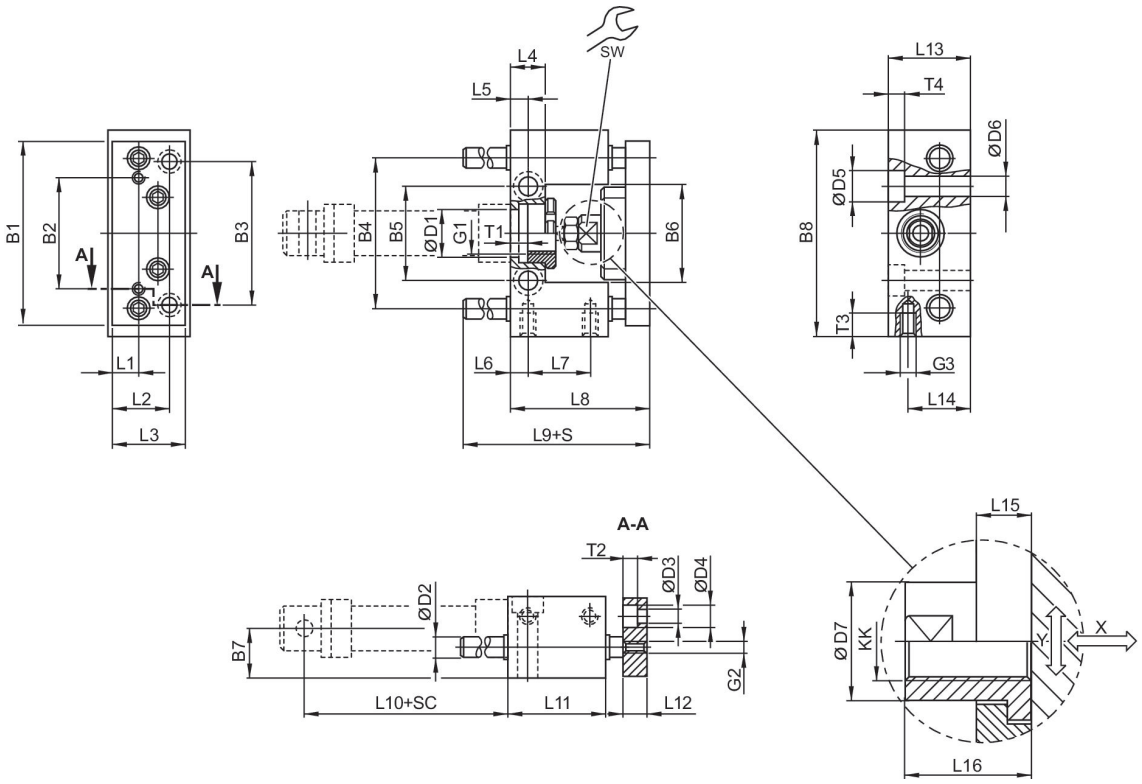
Guide unit GU1, Series CG1

Bearing type: Plain bearing
Min. ambient temperature: -20 °C
Max. ambient temperature: 80 °C



Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
20	50	0.66	0.0122	0821401070
20	100	0.66	0.0122	0821401071
20	160	0.66	0.0122	0821401072
20	200	0.66	0.0122	0821401073
20	250	0.66	0.0122	0821401074
20	400	0.66	0.0122	0821401075
20	800	0.66	0.0122	0821401077
20	1000	0.66	0.0122	0821401078
25	50	0.66	0.0122	0821401080
25	100	0.66	0.0122	0821401081
25	160	0.66	0.0122	0821401082
25	200	0.66	0.0122	0821401083
25	250	0.66	0.0122	0821401084
25	400	0.66	0.0122	0821401085
25	600	0.66	0.0122	0821401086
25	800	0.66	0.0122	0821401087

Dimensions



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

Piston Ø	B1	B2	B3	B4	B5	B6	B7	B8	D1
20	90	55	70	74	46.5	48	24	100	22 H7
25	90	55	70	74	46.5	48	24	100	22 H7

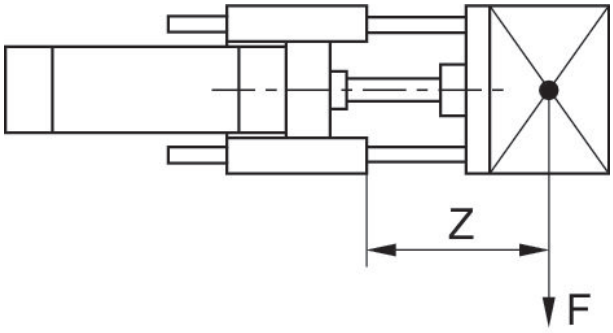
Piston Ø	D2	D3	D4	D5	D6	D7	G1	G2	G3
20	10	6.6	11	15	9	18	M22x1,5	M6	M8
25	10	6.6	11	15	9	18	M22x1,5	M6	M8

Piston Ø	KK	L1	L2	L3	L4	L5	L6	L7	L8
20	M8	14	29	38	17	8.5	8	32	65
25	M10x1,25	14	29	38	17	8.5	8	32	71

Piston Ø	L9	L10	L11	L12	L13	L14	L15	L16	T1
20	77	71	48	12	40	30	14	22	8
25	77	76	48	12	40	30	14	22	8

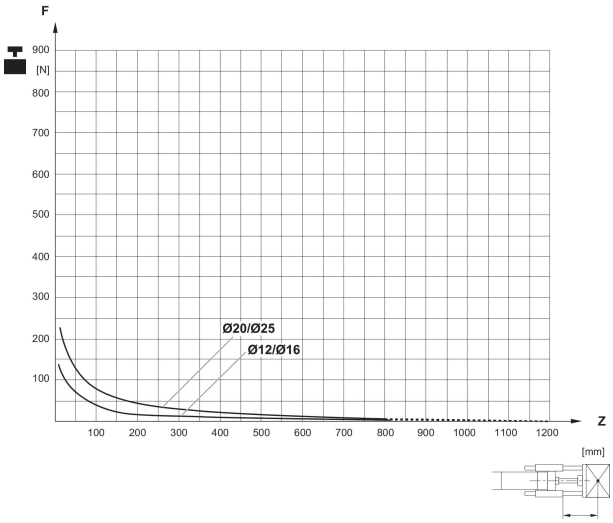
Piston Ø	T2	T3	T4	SW
20	7	14	9	15
25	7	14	9	15

Useful load



F = Useful load, Z = Projection

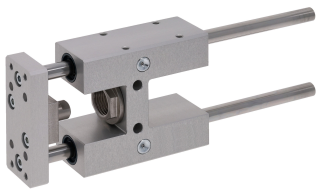
Useful load



F = Useful load, Z = Projection

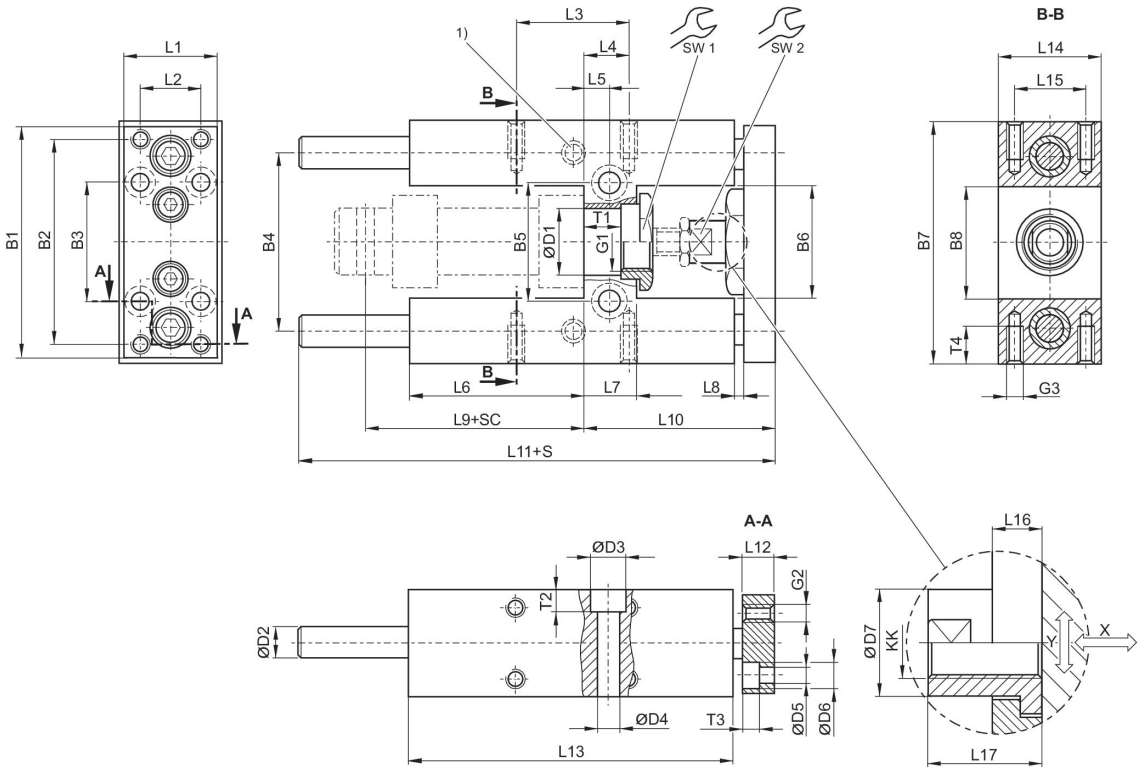
Guide unit GH1, Series CG1

Bearing type: Plain bearing
Min. ambient temperature: -20 °C
Max. ambient temperature: 80 °C



Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
12	50	0.395	0.0078	0821401295
12	100	0.395	0.0078	0821401296
12	200	0.395	0.0078	0821401297
20	50	0.73	0.0122	0821401200
20	100	0.73	0.0122	0821401201
20	160	0.73	0.0122	0821401202
20	200	0.73	0.0122	0821401203
20	250	0.73	0.0122	0821401204
20	400	0.73	0.0122	0821401205
20	600	0.73	0.0122	0821401206
20	800	0.73	0.0122	0821401207
25	50	0.73	0.0122	0821401210
25	100	0.73	0.0122	0821401211
25	160	0.73	0.0122	0821401212
25	200	0.73	0.0122	0821401213
25	250	0.73	0.0122	0821401214
25	400	0.73	0.0122	0821401215
25	600	0.73	0.0122	0821401216
25	800	0.73	0.0122	0821401217

Dimensions



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

Piston Ø	Part No.	B1	B2	B3	B4	B5	B6	B7	B8
12	0821401295	63	54	32	46	24	27	65	27
20	0821401200	76	68	40	58	38	37	79	37
25	0821401210	76	68	40	58	38	37	79	37

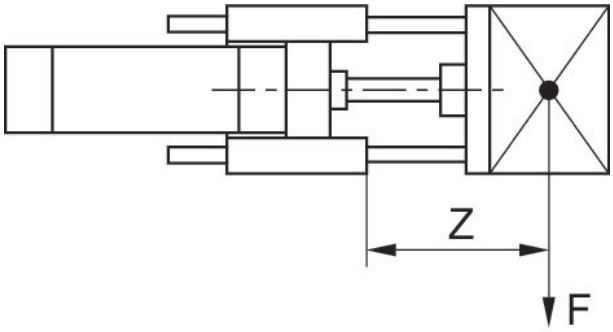
Piston Ø	D1	D2	D3	D4	D5	D6	D7	G1	G2
12	16 H7	8	–	5.5	4.5	8	10	M16x1,5	M4
20	22 H7	10	11	6.6	5.5	10.5	14.5	M22x1,5	M5
25	22 H7	10	11	6.6	5.5	10.5	14.5	M22x1,5	M5

Piston Ø	G3	KK	L1	L2	L3	L4	L5	L6	L7
12	M4	M6	27	15	32.5	11	6.5	37	13
20	M6	M8	32	20	32.5	15	8.5	58	17
25	M6	M10x1,25	32	20	32.5	15	8.5	58	17

Piston Ø	L8	L9	L10	L11	L12	L13	L14	L15	L16
12	3	52.6	51	133	10	75	30	22	7
20	3	71	65	160.5	12	108	34	23	6
25	3	76	65	160.5	12	108	34	23	6

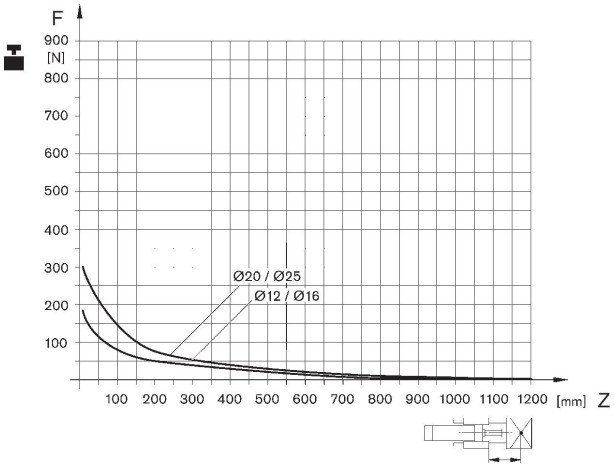
Piston Ø	L17	SW1	SW2	T1	T2	T3	T4
12	18	19	8	10.6	–	4.6	8
20	22	27	13	11	7	5.7	14
25	17	27	13	11	7	5.7	14

Useful load



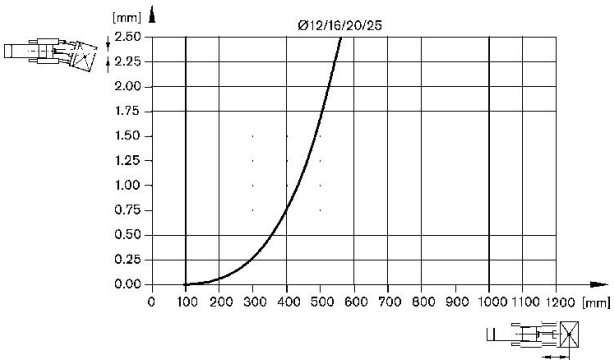
F = Useful load, Z = Projection

Useful load

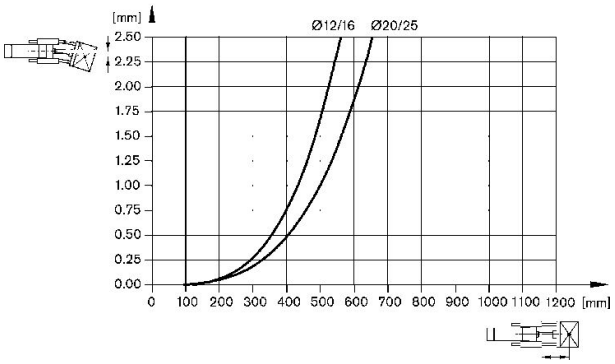


F = Useful load, Z = Projection

Bending due to own load

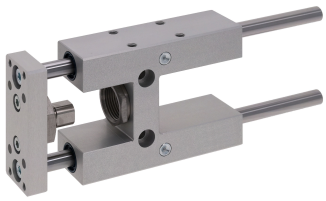


Bending due to 10 N load



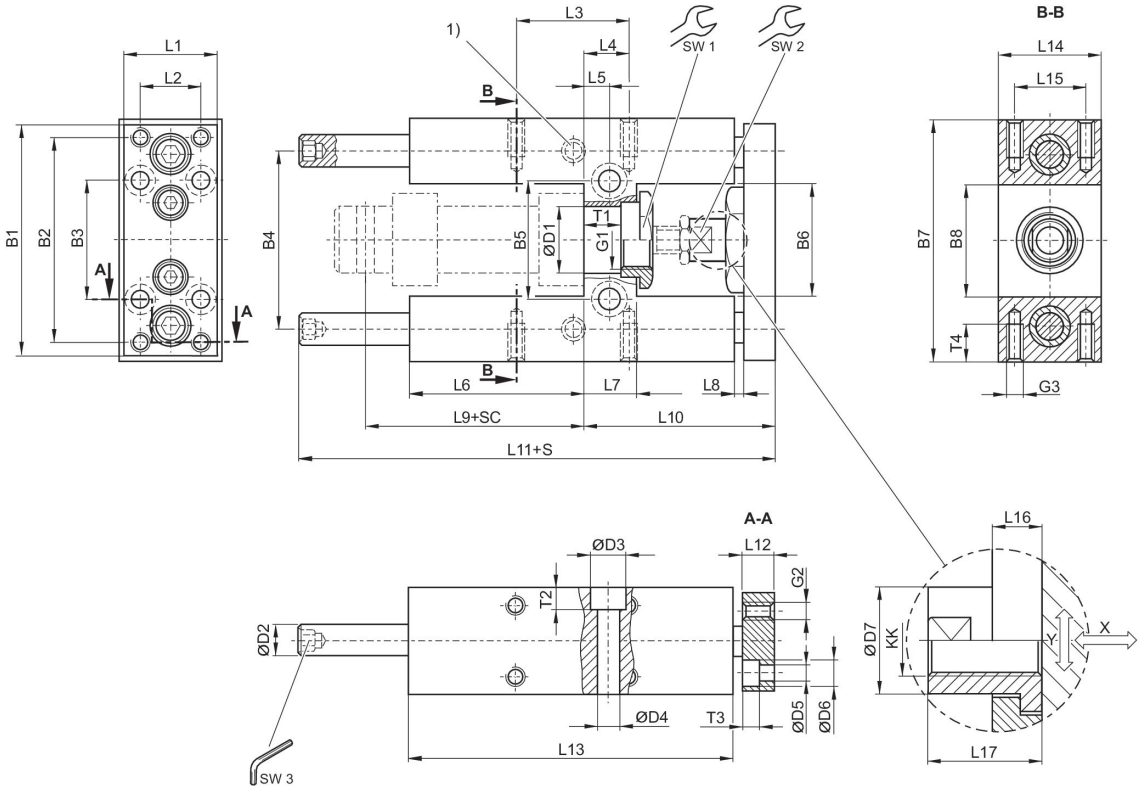
Guide unit GH2, Series CG1

Bearing type: Linear ball bearing
Min. ambient temperature: -20 °C
Max. ambient temperature: 80 °C



Piston diameter [mm]	Stroke [mm]	Weight 0 mm stroke [kg]	Weight +10 mm stroke [kg]	Part No.
12	50	0.395	0.0078	0821401395
12	100	0.395	0.0078	0821401396
12	200	0.395	0.0078	0821401397
20	50	0.73	0.012	0821401300
20	100	0.73	0.012	0821401301
20	250	0.73	0.012	0821401302
20	400	0.73	0.012	0821401303
20	600	0.73	0.012	0821401304
20	800	0.73	0.012	0821401305
25	50	0.73	0.012	0821401310
25	100	0.73	0.012	0821401311
25	250	0.73	0.012	0821401312
25	400	0.73	0.012	0821401313
25	600	0.73	0.012	0821401314
25	800	0.73	0.012	0821401315

Dimensions



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

Piston Ø	Part No.	B1	B2	B3	B4	B5	B6	B7	B8
12	0821401395	63	54	32	46	24	27	65	27
20	0821401300	76	68	40	58	38	37	79	37
25	0821401310	76	68	40	58	38	37	79	37

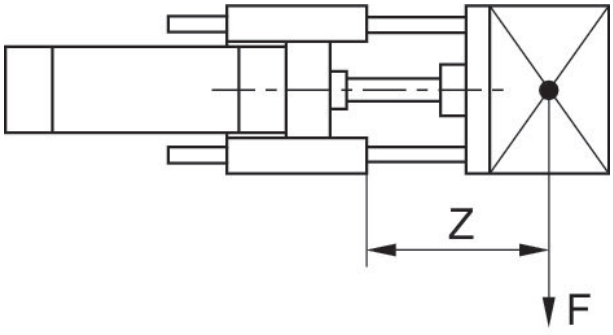
Piston Ø	D1	D2	D3	D4	D5	D6	D7	G1	G2
12	16 H7	8	–	5.5	4.5	8	10	M16x1,5	M4
20	22 H7	10	11	6.6	5.5	10.5	14.5	M22x1,5	M5
25	22 H7	10	11	6.6	5.5	10.5	14.5	M22x1,5	M5

Piston Ø	G3	KK	L1	L2	L3	L4	L5	L6	L7
12	M4	M6	27	15	32.5	11	6.5	37	13
20	M6	M8	32	20	32.5	15	8.5	58	17
25	M6	M10x1,25	32	20	32.5	15	8.5	58	17

Piston Ø	L8	L9	L10	L11	L12	L13	L14	L15	L16
12	3	52.6	51	133	10	75	30	22	7
20	3	71	65	160.5	12	108	34	23	6
25	3	76	65	160.5	12	108	34	23	6

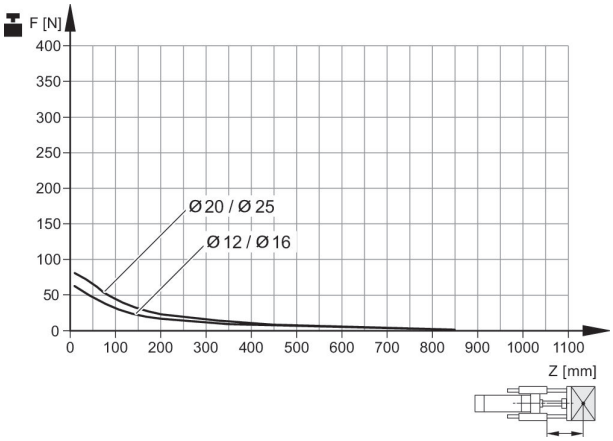
Piston Ø	L17	SW1	SW2	SW3	T1	T2	T3	T4
12	18	19	8	4	10.6	–	4.6	8
20	22	27	13	5	11	7	5.7	14
25	17	27	13	5	11	7	5.7	14

Useful load



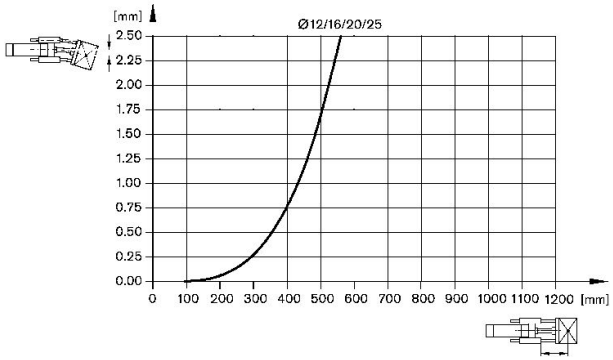
F = Useful load, Z = Projection

Useful load

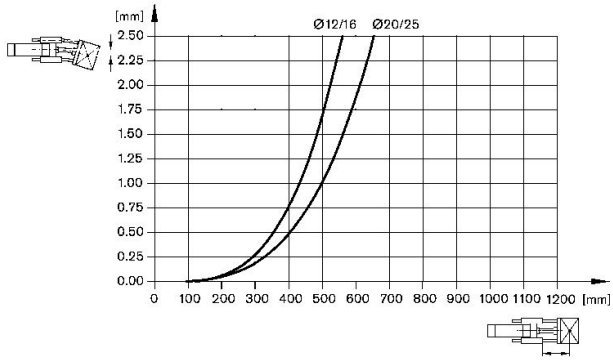


Service life 5x10⁶ m
F = Useful load, Z = Projection

Bending due to own load

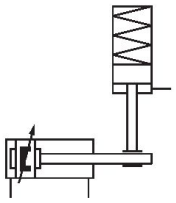


Bending due to 10 N load



Holding unit, Series HU1

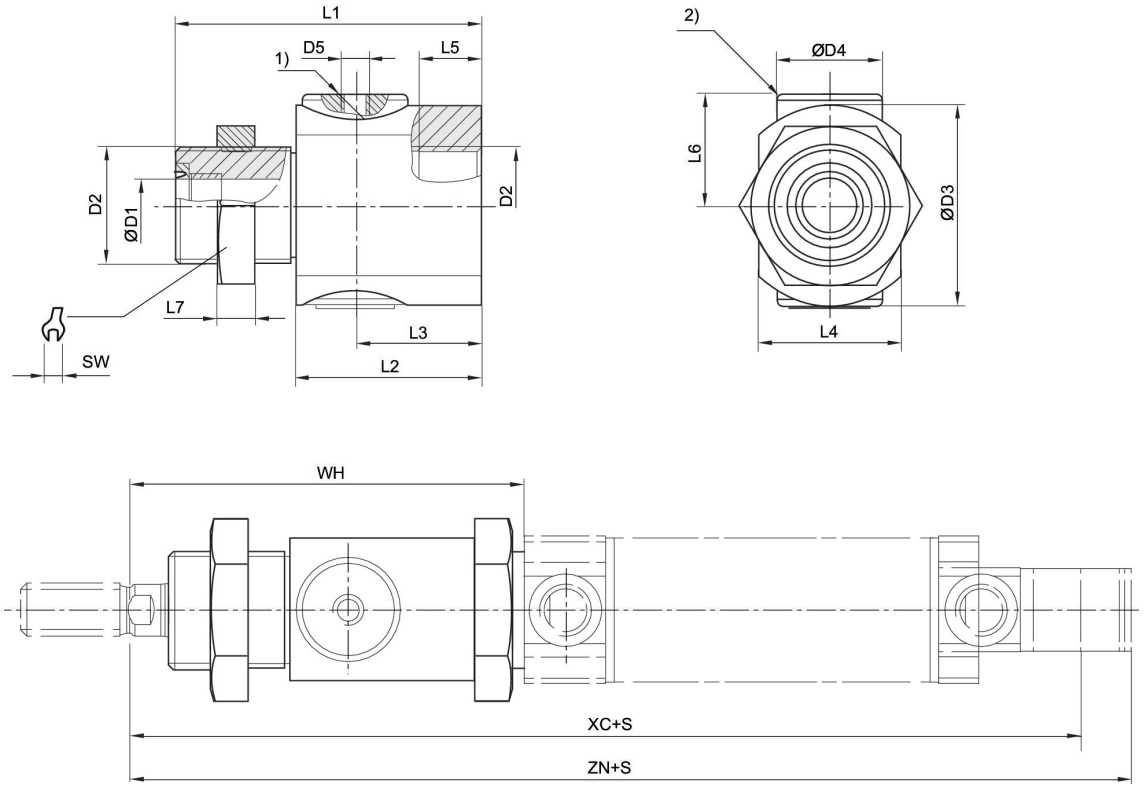
Min. ambient temperature: -10 °C
Max. ambient temperature: 60 °C



Piston Ø	20 mm	25 mm
Compressed air connection	M5	M5
-	0821401163	0821401164

Piston Ø	20 mm	25 mm
Static holding force	300 N	400 N

Dimensions



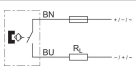
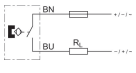
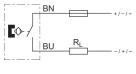
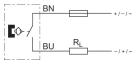
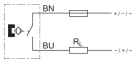
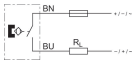
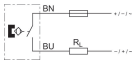
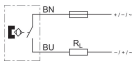
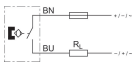
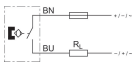
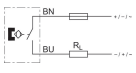
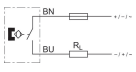
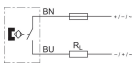
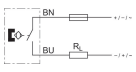
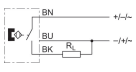
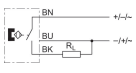
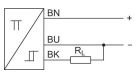
1) air connection
2) Holding cartridge
S = stroke

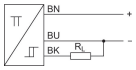
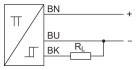
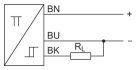
Piston Ø	Part No.	ØD1	D2	ØD3	ØD4	D5	L1	L2	L3
20	0821401163	8	M22x1,5	38	20	M5	58	35	24
25	0821401164	10	M22x1,5	38	20	M5	58	35	24

Piston Ø	L4	L5	L6	L7	SW	WH	XC	ZN
20	27	12	21	7	30	78	149	163.5
25	27	12	21	7	30	79	155	170.5

Sensor, Series SN2, open cable ends

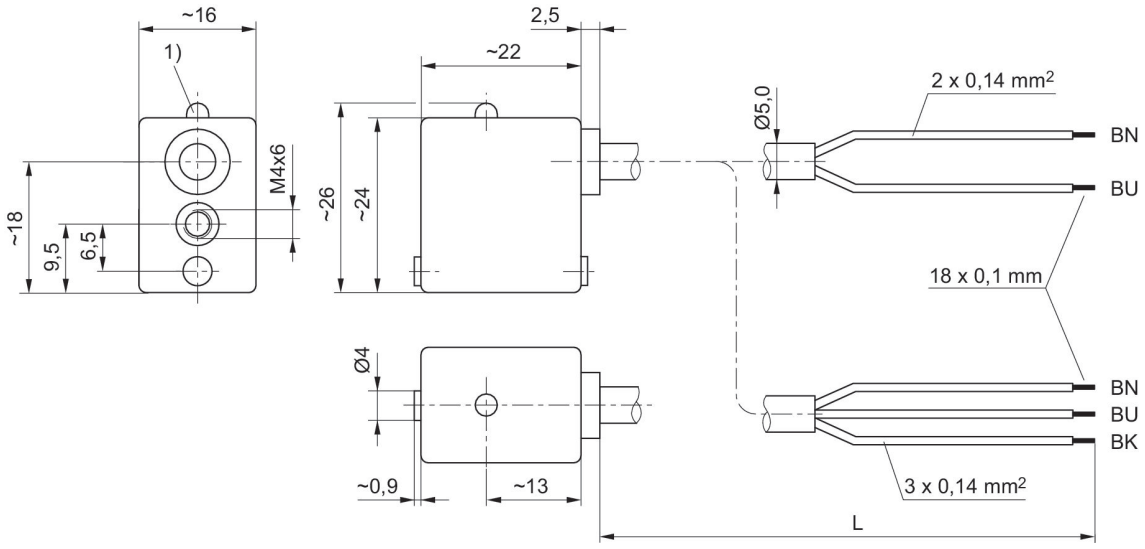
: with cable
Indirect mounting for series: TRB PRA ITS MNI CSL-RD ICM RPC TRR FLT CVI

	Switch descr.	Protective resistor for reed	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Max. DC switching current [A]	Part No.
	Reed	27 Ω	0	60	0	240	0.13	0830100315
	Reed	27 Ω	12	60	12	240	0.13	0830100365
	Reed	1,3 Ω	12	60	12	240	0.3	0830100368
	Reed	1,3 Ω	12	60	12	240	0.3	0830100370
	Reed	1,3 Ω	0	60	0	240	0.13	0830100316
	Reed	100 Ω	0	60	0	240	0.13	0830100373
	Reed	27 Ω	12	60	12	240	0.13	0830100367
	Reed	27 Ω	12	60	12	240	0.12	0830100317
	Reed	27 Ω	12	60	12	240	0.13	0830100366
	Reed	1,3 Ω	12	60	12	240	0.3	0830100369
	Reed	1,3 Ω	12	60	12	240	0.3	0830100327
	Reed	27 Ω	12	60	12	240	0.13	0830100325
	Reed	27 Ω	12	60	12	240	0.12	0830100326
	Reed	27 Ω	12	60	12	240	0.13	R412004848
	Reed	27 Ω	12	42	12	42	0.13	0830100371
	Reed	27 Ω	12	42	12	42	0.13	0830100372
	electronic PNP		10	30	10	30	0.13	0830100375

	Switch descr.	Protective resistor for reed	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Max. DC switching current [A]	Part No.
	electronic PNP	27 Ω	10	30			0.12	0830100378
	electronic PNP		10	30	10	30	0.13	0830100377
	electronic PNP		10	30	10	30	0.13	0830100376

Max. AC switching current [A]	Switching capacity	Voltage drop U at Imax	Electrical connection number of poles	Cable length L [m]	Cable sheath	Part No.
0.13	10 W / 10 VA	Rs*Imax.	2-pin	3	Polyvinyl chloride	0830100315
0.13	10 W / 10 VA	2,1 V + I*Rs	2-pin	3	Polyvinyl chloride	0830100365
0.5	10 W / 10 VA	2,1 V + I*Rs	2-pin	3	Polyvinyl chloride	0830100368
0.5	10 W / 10 VA	2,1 V + I*Rs	2-pin	3	Polyurethane	0830100370
	10 W / 10 VA	Rs*Imax.	2-pin	3		0830100316
	10 W / 10 VA	Rs*Imax.	2-pin	3		0830100373
0.13	10 W / 10 VA	2,1 V + I*Rs	2-pin	3	Polyurethane	0830100367
0.12	10 W / 10 VA	2,1 V + I*Rs	2-pin	3	Thermoplastic elastomer	0830100317
0.13	10 W / 10 VA	2,1 V + I*Rs	2-pin	5	Polyvinyl chloride	0830100366
0.5	10 W / 10 VA	2,1 V + I*Rs	2-pin	5	Polyvinyl chloride	0830100369
0.5	10 W / 10 VA	2,1 V + I*Rs	2-pin	7	Polyvinyl chloride	0830100327
0.13	10 W / 10 VA	2,1 V + I*Rs	2-pin	10	Polyvinyl chloride	0830100325
0.12	10 W / 10 VA	2,1 V + I*Rs	2-pin	11	Thermoplastic elastomer	0830100326
0.13	10 W / 10 VA	2,1 V + I*Rs	2-pin	20	Polyvinyl chloride	R412004848
0.13	5,5 W / 5,5 VA	I*Rs	2-pin	3	Polyvinyl chloride	0830100371
0.13	5,5 W / 5,5 VA	I*Rs	2-pin	5	Polyvinyl chloride	0830100372
		≤ 2,0 V	3-pin	3	Polyvinyl chloride	0830100375
	10 W / 10 VA	2,1 V + I*Rs	3-pin	3	Thermoplastic elastomer	0830100378
		≤ 2,0 V	3-pin	3	Polyurethane	0830100377
		≤ 2,0 V	3-pin	5	Polyvinyl chloride	0830100376

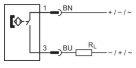
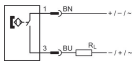
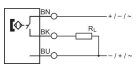
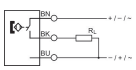
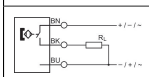
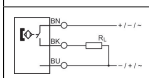
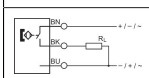
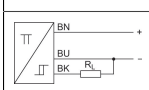
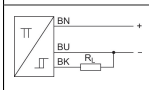
Dimensions



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

Sensor, Series SN2, Plug M8

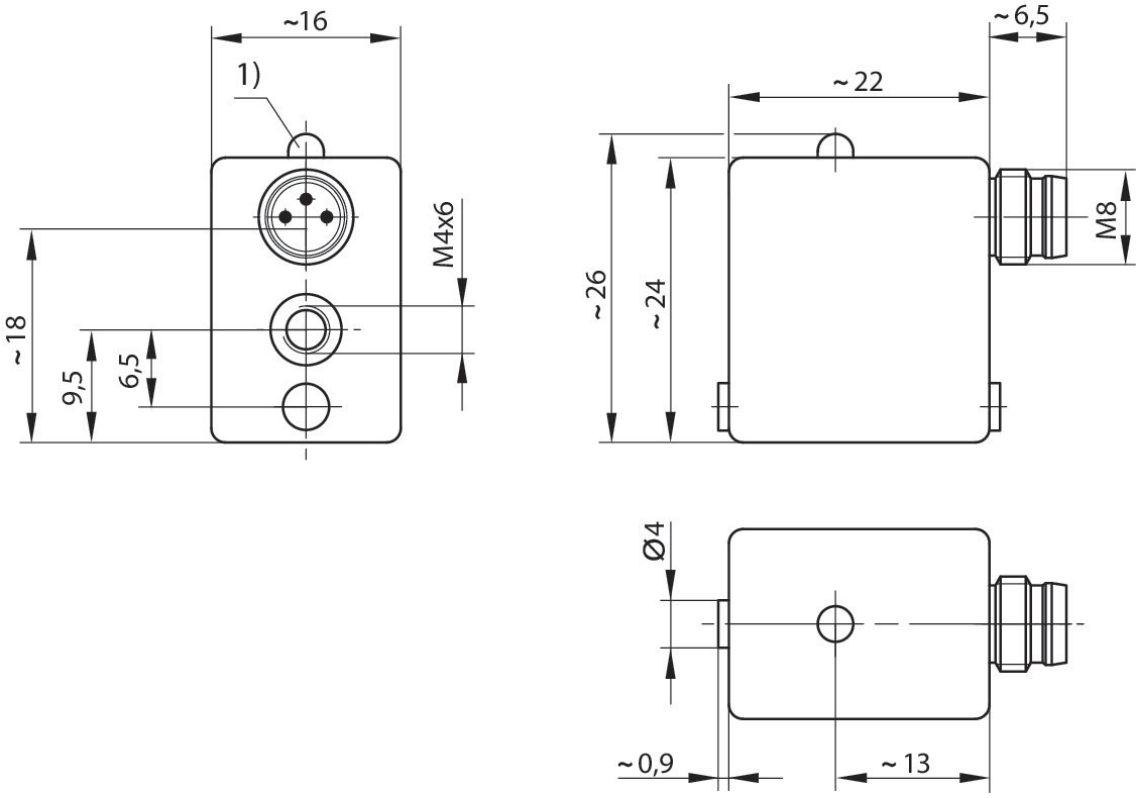
Indirect mounting for series: TRB PRA ITS MNI CSL-RD ICM RPC TRR FLT CVI

	Switch descr.	Protective resistor for reed	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Max. DC switching current [A]	Part No.
	Reed	27 Ω	12	36	12	30	0.13	0830100465
	Reed	1,3 Ω	12	36	12	30	0.3	0830100468
	Reed	27 Ω	12	36	12	30	0.13	R412004299
	Reed	100 Ω	12	36	12	30	0.13	0830100466
	Reed	27 Ω	12	36	12	30	0.13	0830100469
	Reed	27 Ω	12	36	12	30	0.13	R412004820
	Reed		12	36	12	30	0.2	0830100472
	electronic PNP		10	30	12	30	0.13	0830100480
	electronic PNP		10	30			0.13	R412004800

Max. AC switching current [A]	Switching capacity	Voltage drop U at Imax	Electrical connection number of poles	Part No.
0.13	10 W / 10 VA	2,1 V + I*Rs	2-pin	0830100465
0.5	10 W / 10 VA	2,1 V + I*Rs	2-pin	0830100468
0.13	10 W / 10 VA	2,1 V + I*Rs	3-pin	R412004299
0.13	10 W / 10 VA	2,1 V + I*Rs	2-pin	0830100466
0.13	5,5 W / 5,5 VA	≤ 0,5 V	3-pin	0830100469
0.13	10 W / 10 VA	I*Rs	3-pin	R412004820
0.13	5 W / 5 VA	≤ 1,5 V	3-pin	0830100472

Max. AC switching current [A]	Switching capacity	Voltage drop U at Imax	Electrical connection number of poles	Part No.
		≤ 2,0 V	3-pin	0830100480
		≤ 2,0 V	3-pin	R412004800

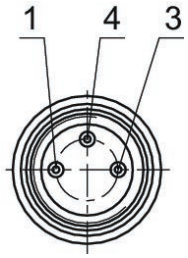
Dimensions



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

0830100465, 0830100468, R412004299, 0830100466, 0830100469, R412004820, 0830100472, 0830100480, R412004800

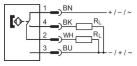
Pin assignment M8x1 (3-pin)



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

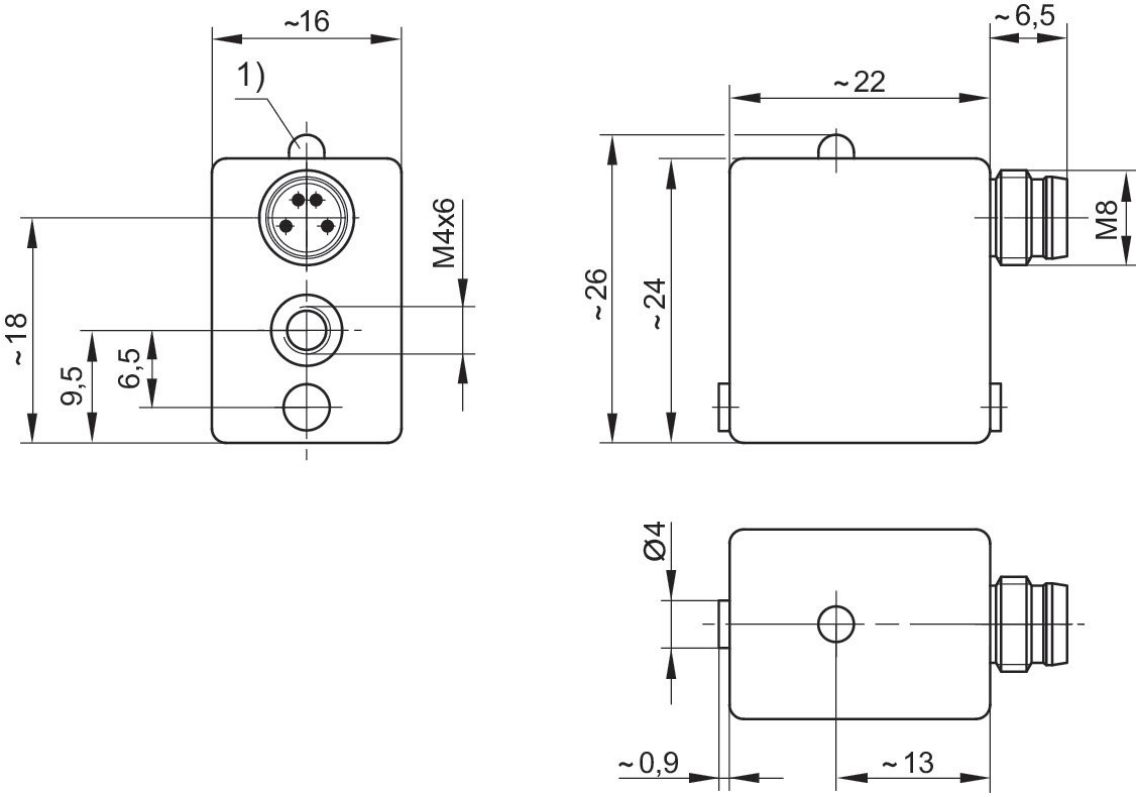
Sensor, Series SN2, Plug M8, 4-pin

Indirect mounting for series: TRB PRA ITS MNI CSL-RD ICM RPC TRR FLT CVI

	Switch descr.	Protective resistor for reed	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Max. operational voltage AC [V AC]	Max. DC switching current [A]	Part No.
	Reed	27 Ω	12	36	12	30	0.13	0830100467

Max. AC switching current [A]	Switching capacity	Voltage drop U at Imax	Electrical connection number of poles	Part No.
0.13	10 W / 10 VA	≤ 3,5 V	4-pin	0830100467

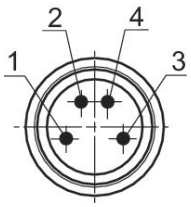
Dimensions



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

0830100467

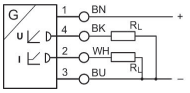
Pin assignment M8x1 (4-pin)



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

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

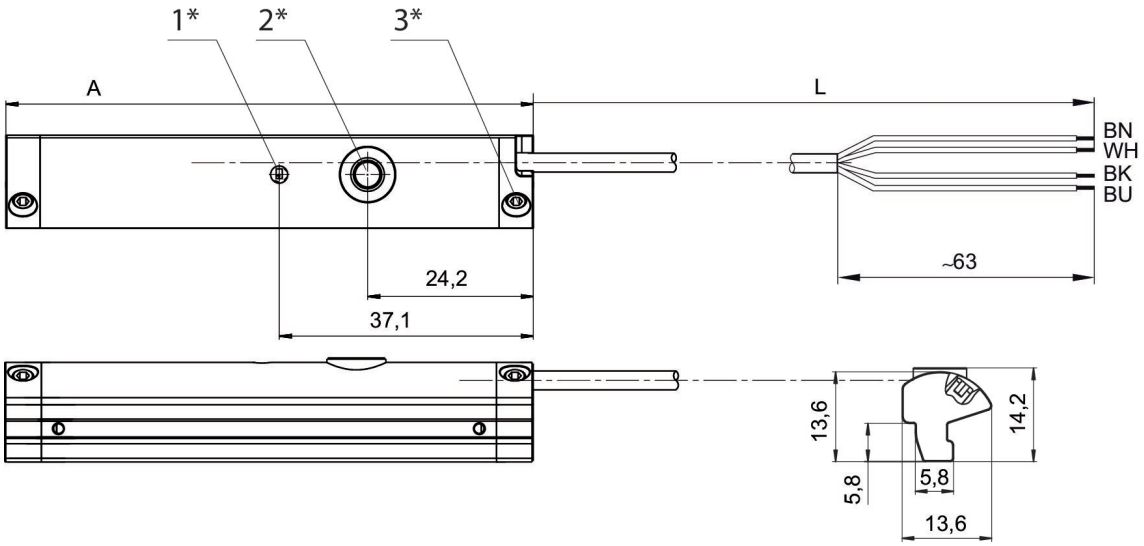
For series: PRA PRE CCI KPZ SSI GPC CVI
Certificates: cULus
Min. ambient temperature: -20 °C
Max. ambient temperature: 70 °C



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

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

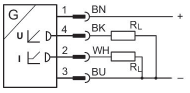
Dimensions



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

Sensors, Series SM6, with cable, plug M8x1

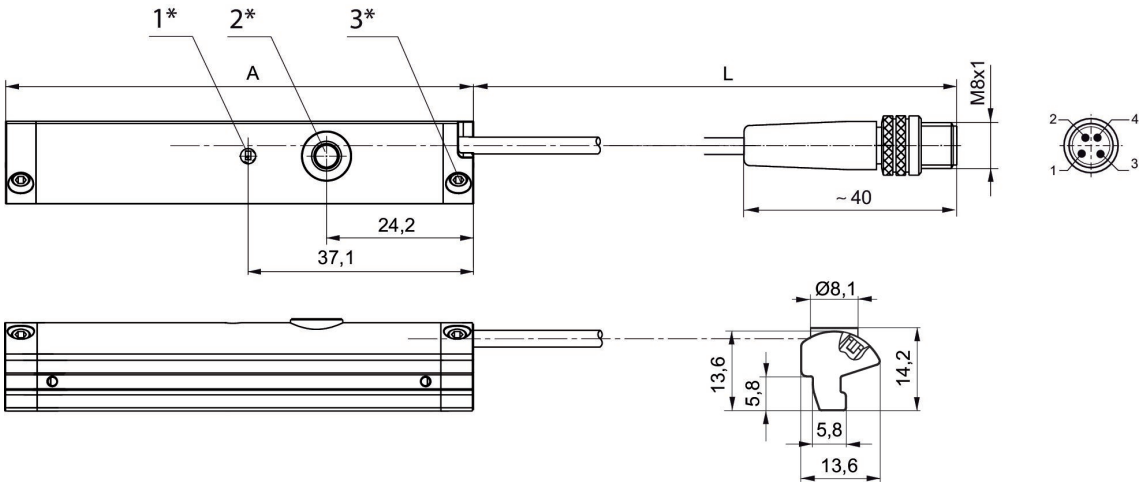
For series: PRA PRE CCI KPZ SSI GPC CVI
Electrical connection 2, thread size: M8x1
Certificates: cULus
Electrical connection 2, number of poles: 4-pin
Min. ambient temperature: -20 °C
Max. ambient temperature: 70 °C



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

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

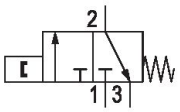
Dimensions



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

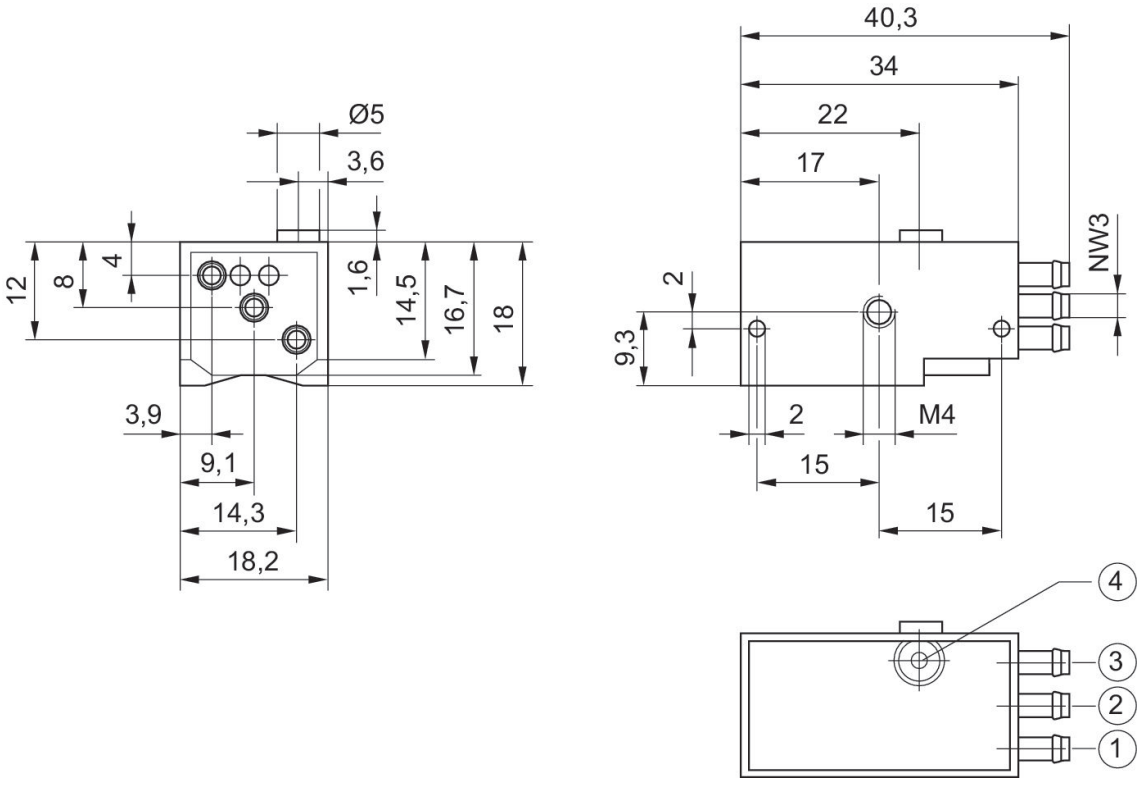
Pneumatic sensor, Series SP1

Flow Flow: 40 l/min
Min. ambient temperature: -15 °C
Max. ambient temperature: 60 °C
Min. working pressure: 2 bar
Max. working pressure: 6 bar



Switching time on [ms]	Switching time off [ms]	Switch-ing point precision	Part No.
12	25	±0,2 mT	0820212201

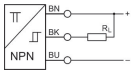
Dimensions



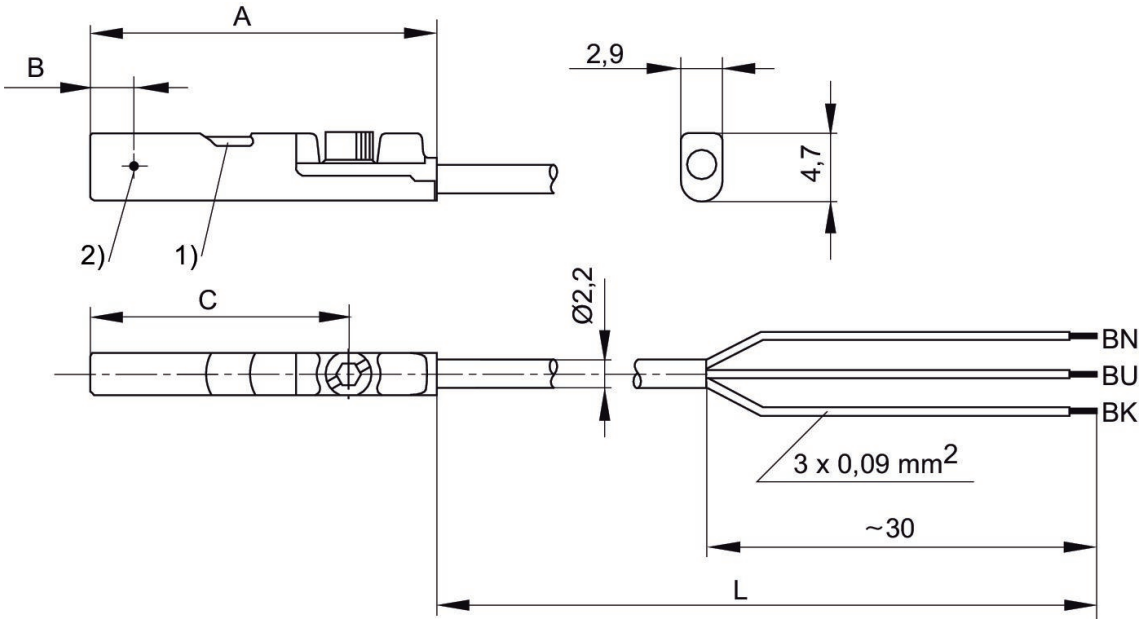
1) compressed air connection 2) output line 3) exhaust 4) visual indicator

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

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

	Direct mounting for series	Switch descr.	Cable length L [m]	Max. DC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Part No.
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	5	0.1	10	30	R412024124

Dimensions

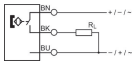
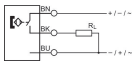
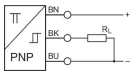
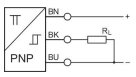
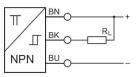
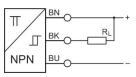


1) LED 2) Switching point
L = cable length BN = brown, BK = black, BU = blue

Part No.	A	B	C
R412024124	23.7	2.8	17.7

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

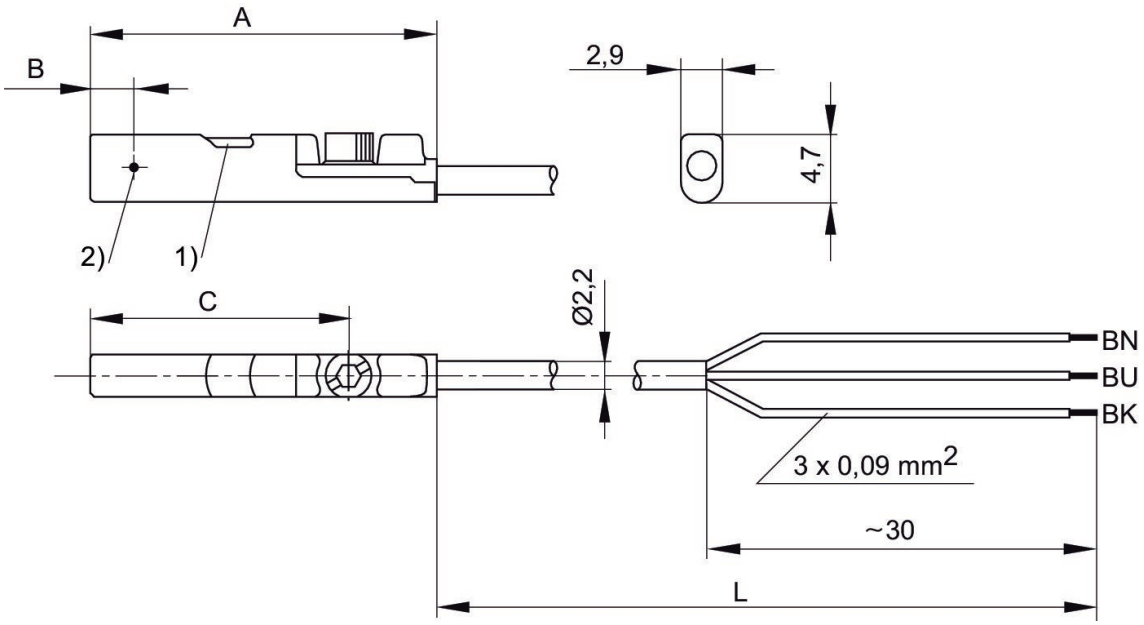
: 4 mm C-slot
: with cable
Direct mounting for series: PRA SSI GSU RTC CKP GPC MSC MSN RCM CVI
Indirect mounting for series: MNI CSL-RD ICM
Certificates: UL (Underwriters Laboratories) cULus RoHS
Ambient temperature min./max.: -30 °C ... 80 °C

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

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

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

Dimensions

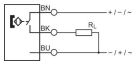
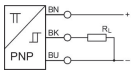
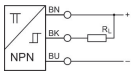


1) LED 2) Switching point
L = cable length BN = brown, BK = black, BU = blue

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

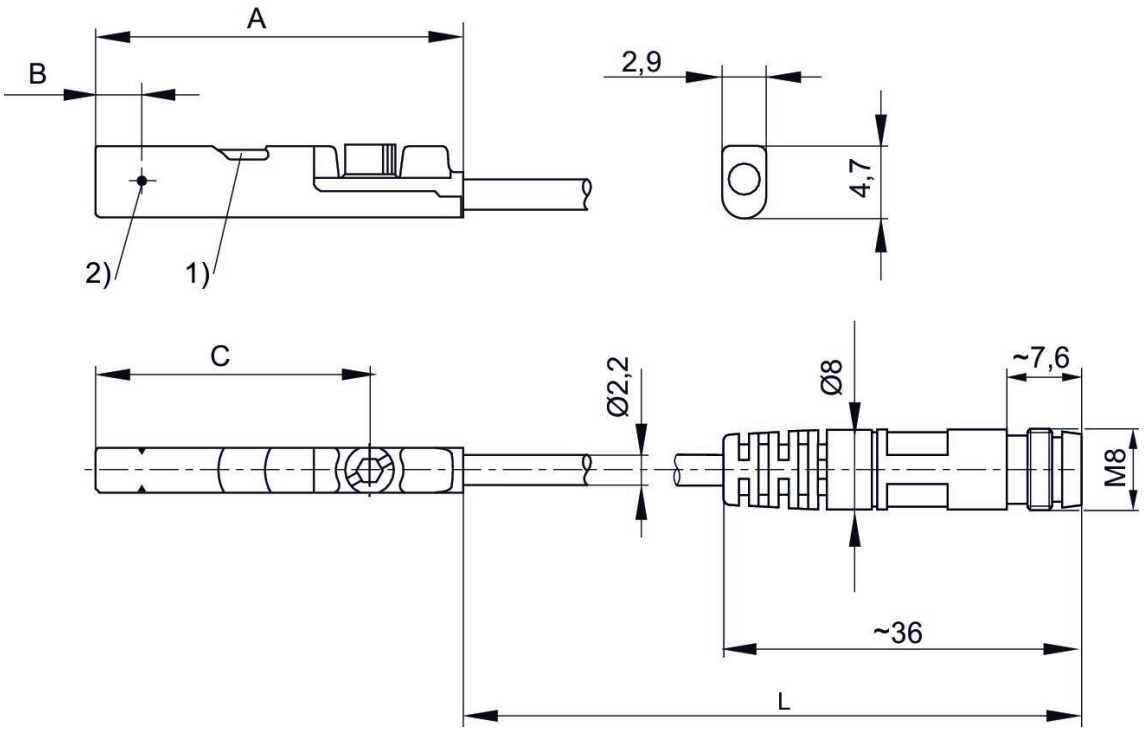
Sensors, Series ST4, plug M8

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

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

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

Dimensions

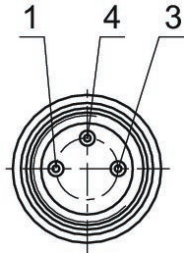


1) LED 2) Switching point
L = cable length

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

R412019682, R412019683, R412019694

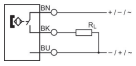
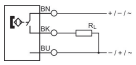
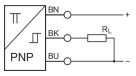
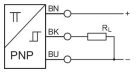
Pin assignment M8x1 (3-pin)



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

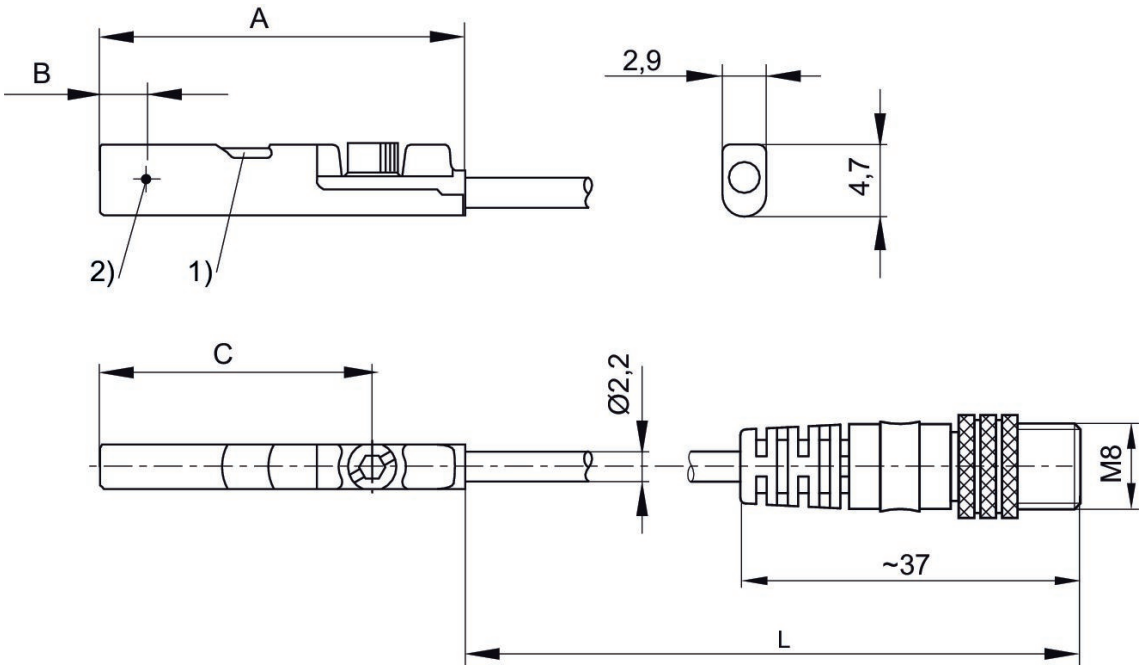
Sensors, Series ST4, plug M8, with knurled screw

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

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

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

Dimensions

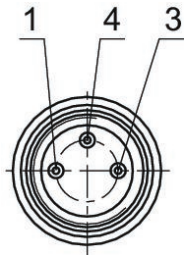


1) LED 2) Switching point
L = cable length

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

R412019490, R412019686, R412019493, R412019687

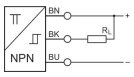
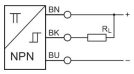
Pin assignment M8x1 (3-pin)



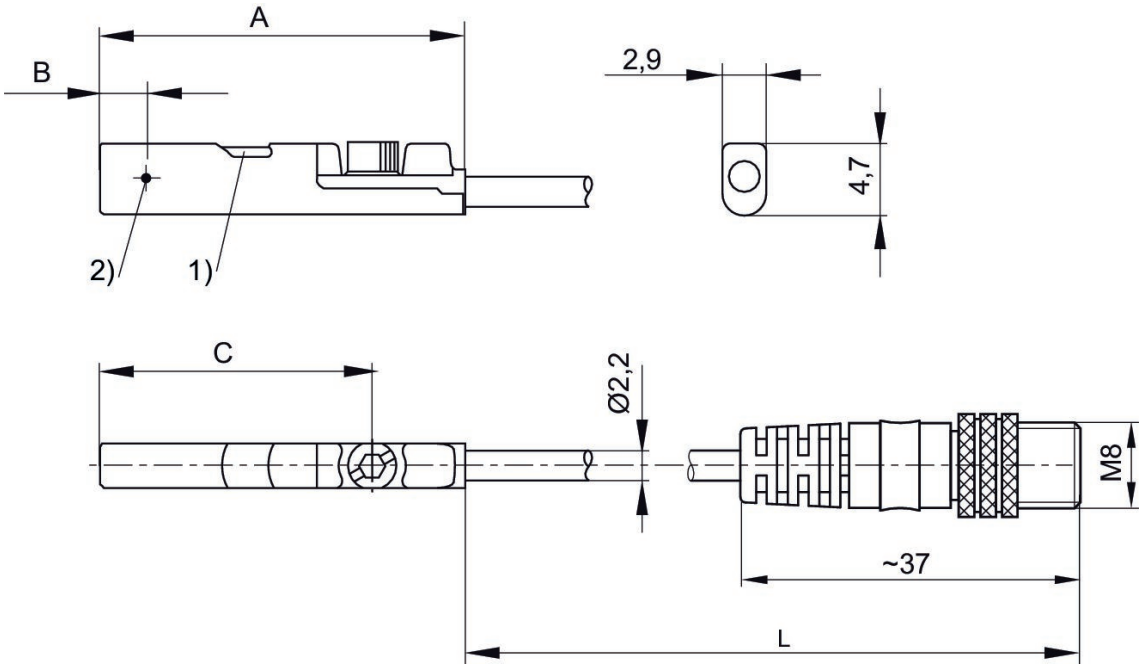
Pin	Allocation
1	(+)
3	(-)
4	(OUT)

Sensors, Series ST4, plug M8, with knurled screw, Certificate UL (Underwriters Laboratories)

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

	Direct mounting for series	Switch descr.	Cable length L [m]	Max. DC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Part No.
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	NPN	0.3	0.1	10	30	R412024123
	PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	0.3	0.1	10	30	R412024125

Dimensions

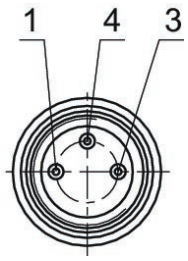


1) LED 2) Switching point
L = cable length

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

R412024123, R412024125

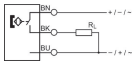
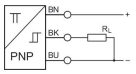
Pin assignment M8x1 (3-pin)



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

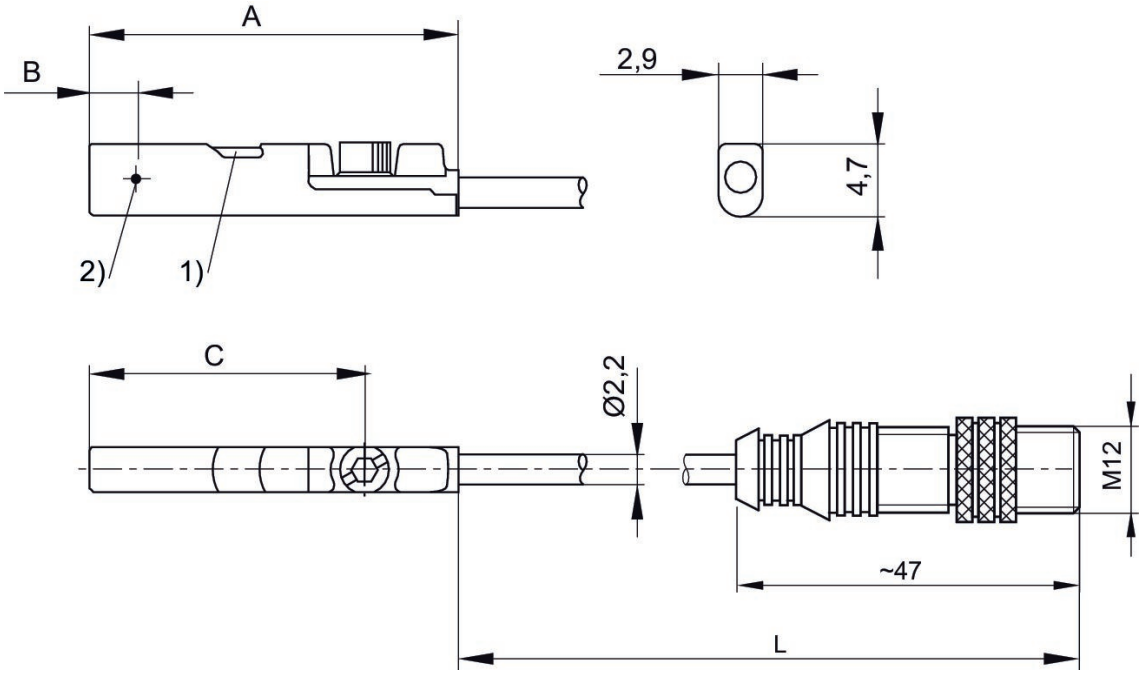
Sensors, Series ST4, plug M12, with knurled screw

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

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

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

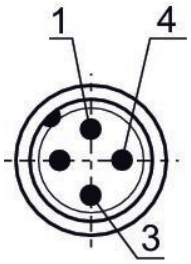
Dimensions



1) LED 2) Switching point
L = cable length

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

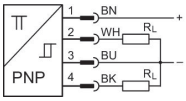
R412019688, R412019689



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

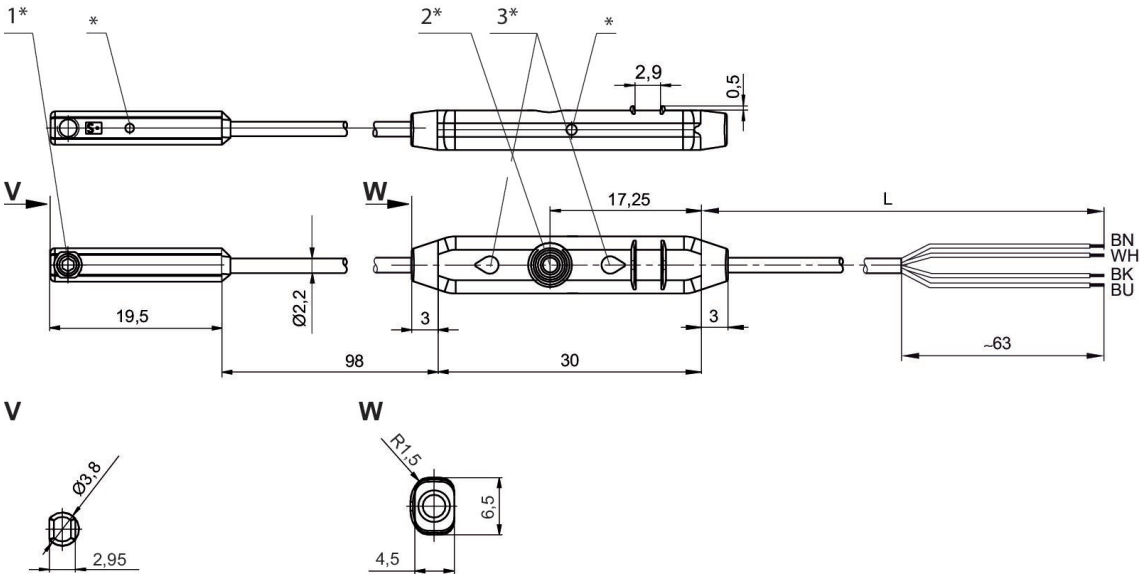
Sensors, Series ST4-2P, with cable, without wire end ferrule, tin-plated

: 4 mm C-slot
: with cable
Direct mounting for series: PRA SSI RTC GPC MSC MSN RCM CVI
Indirect mounting for series: MNI CSL-RD ICM
Certificates: RoHS
Ambient temperature min./max.: -20 °C ... 75 °C



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

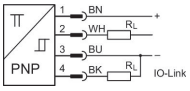
Dimensions



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

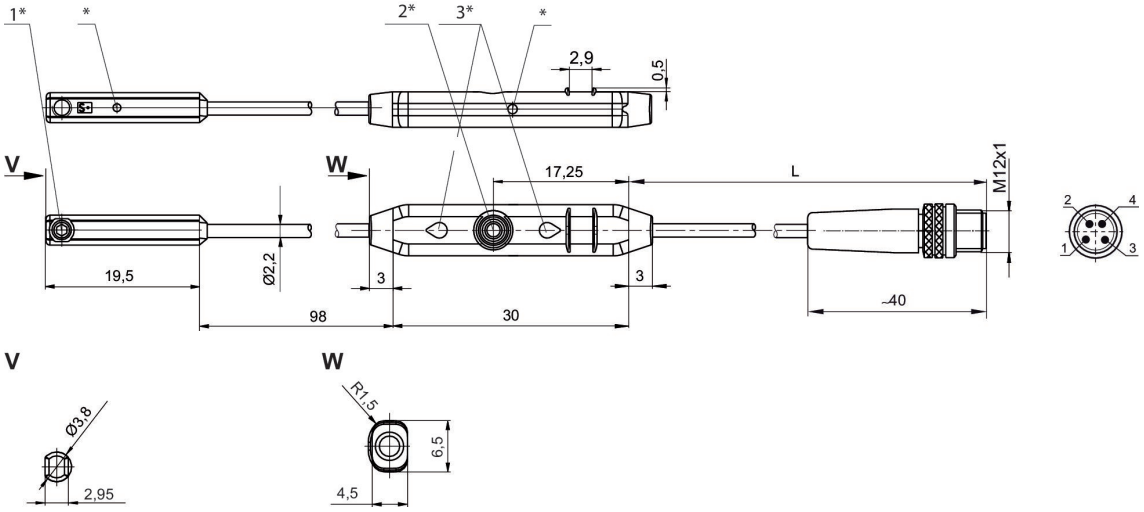
Sensors, Series ST4-2P, with cable, plug M12x1, IO-Link

: 4 mm C-slot
: with cable
Direct mounting for series: PRA SSI RTC GPC MSC MSN RCM CVI
Indirect mounting for series: MNI CSL-RD ICM
Certificates: RoHS
Ambient temperature min./max.: -20 °C ... 75 °C



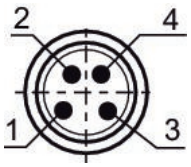
Direct mounting for series	Indirect mounting for series	Slot width	Switch descr.	Electrical connection size	Electrical connection number of poles	Part No.
PRA, SSI, RTC, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	electronic PNP	M12x1	4-pin	R412023459

Dimensions



1* = mounting screw 2* = teach button 3* = LED
L = cable length
PIN assignment: 1 = (+), 2 = (OUT), 3 = (-), 4 = (OUT) IO-Link
* Switching point

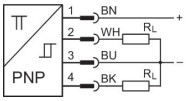
R412023459



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

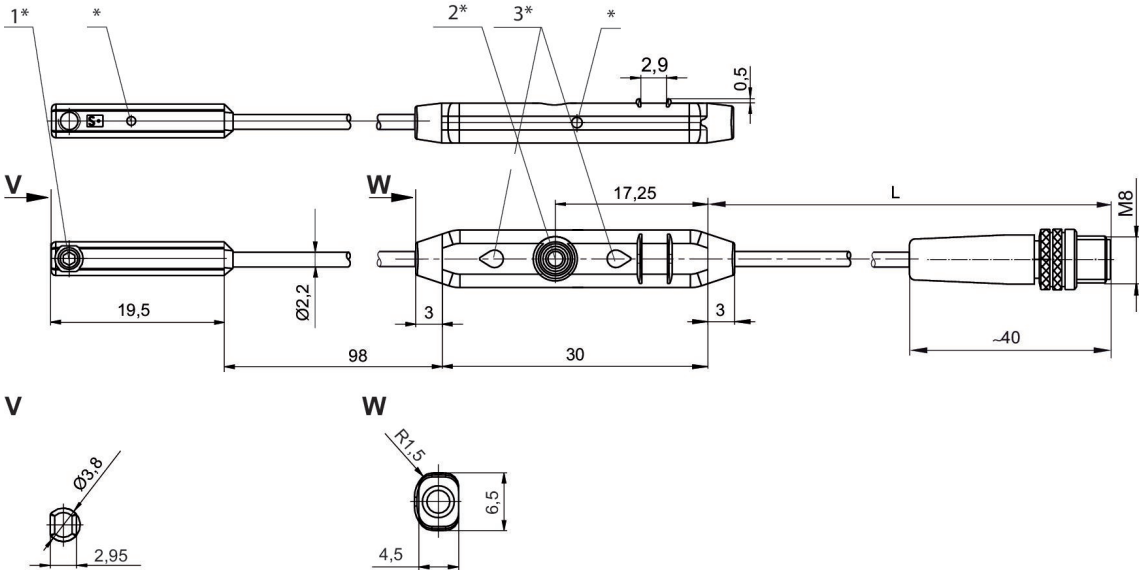
Sensors, Series ST4-2P, with cable, plug M8x1

: 4 mm C-slot
: with cable
Direct mounting for series: PRA SSI RTC GPC MSC MSN RCM CVI
Indirect mounting for series: MNI CSL-RD ICM
Certificates: RoHS
Ambient temperature min./max.: -20 °C ... 75 °C



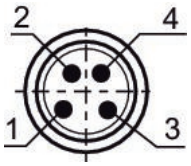
Direct mounting for series	Indirect mounting for series	Slot width	Switch descr.	Electrical connection size	Electrical connection number of poles	Part No.
PRA, SSI, RTC, GPC, MSC, MSN, RCM, CVI	MNI, CSL-RD, ICM	4 mm C-slot	electronic PNP	M8x1	4-pin	R412010140

Dimensions



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

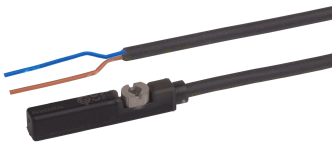
R412010140

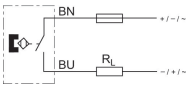


Pin	Allocation
1	(+)
2	(OUT)
3	(-)
4	(OUT)

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

: 6 mm T-slot
: with cable
Direct mounting for series: PRA CCI KPZ SSI GPC CVI
Indirect mounting for series: TRB ITS 167 C12P CCL-IS MNI CSL-RD RPC ICS-D2 ICM KHZ TRR
Certificates: CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Ambient temperature min./max.: -30 °C ... 80 °C

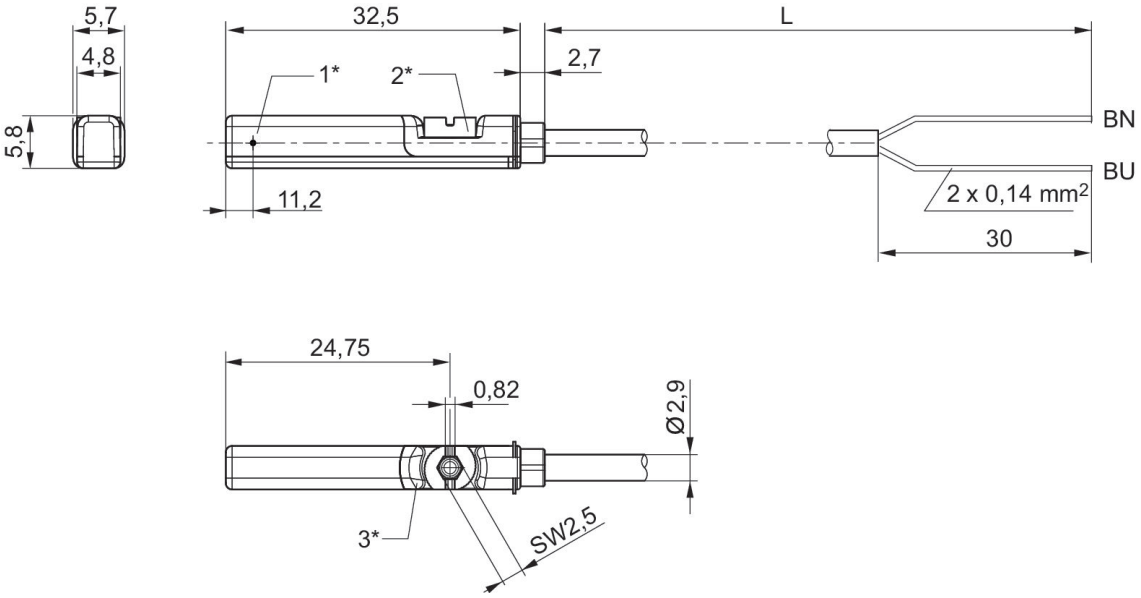




Switch descr.	Cable sheath	Number of poles	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Part No.
Reed	Polyurethane	2-pin	0.13	0.13	10	230	10	R412022866
Reed	Polyurethane	2-pin	0.13	0.13	10	230	10	R412027170

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

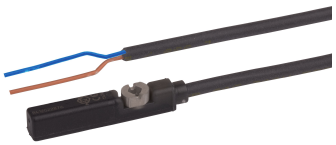
Dimensions

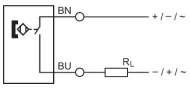


1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length BN=brown, BU=blue

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

: 6 mm T-slot
: with cable
Direct mounting for series: PRA PRE CCI KPZ
Indirect mounting for series: TRB ITS MNI CSL-RD RPC
Temperature resistance: Heat resistant
Certificates: RoHS UL (Underwriters Laboratories)
Ambient temperature min./max.: -20 °C ... 120 °C

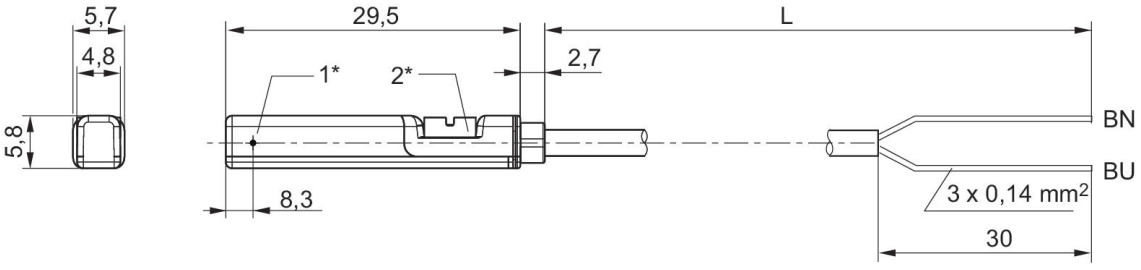


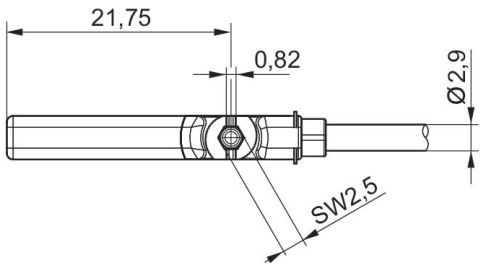


Switch descr.	Cable sheath	Number of poles	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Part No.
Reed	Polyurethane	2-pin	0.13	0.13	0	30	0	R412022865
Reed	Polyurethane	2-pin	0.13	0.13	0	30	0	R412022867

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

Dimensions

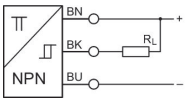




1* = switching point 2* = locking screw
L = cable length BN=brown, BU=blue

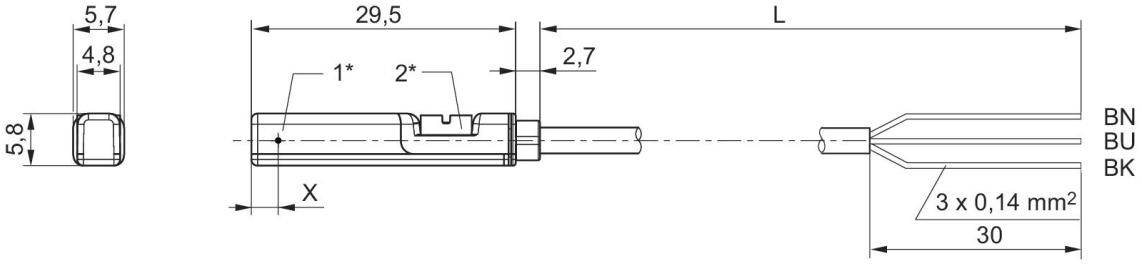
Sensors, Series ST6, open cable ends, 3-pin, NPN

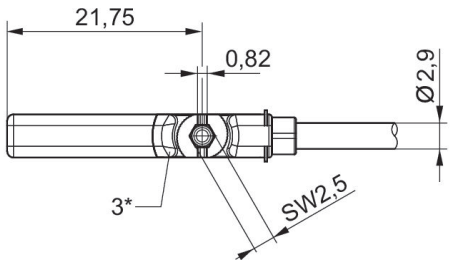
: 6 mm T-slot
: with cable
Direct mounting for series: PRA PRE CCI KPZ SSI GPC CVI
Indirect mounting for series: TRB ITS CCL-IS MNI CSL-RD RPC ICS-D2 ICM KHZ TRR
Certificates: CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Ambient temperature min./max.: -30 °C ... 80 °C



Switch descr.	Cable sheath	Number of poles	Max. DC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Cable length L [m]	Part No.
NPN	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	3	R412022849
NPN	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	5	R412022850

Dimensions

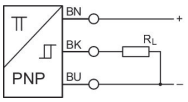




1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length BN = brown, BK = black, BU = blue
X = electronic: 11.6 mm

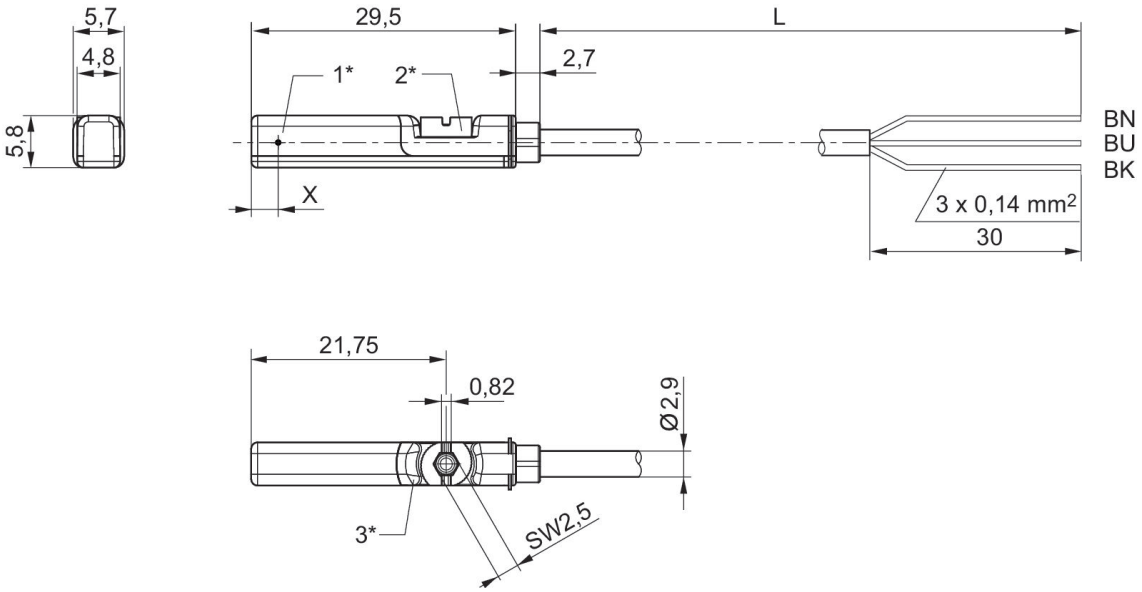
Sensors, Series ST6, open cable ends, 3-pin, PNP

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



Switch descr.	Cable sheath	Number of poles	Max. DC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Cable length L [m]	Part No.
electronic PNP	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	3	R412022853
electronic PNP	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	5	R412022855
electronic PNP	Polyurethane	3-pin	0.13	10	30	short circuit resistant, Protected against polarity reversal	10	R412022857

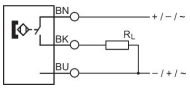
Dimensions



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

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

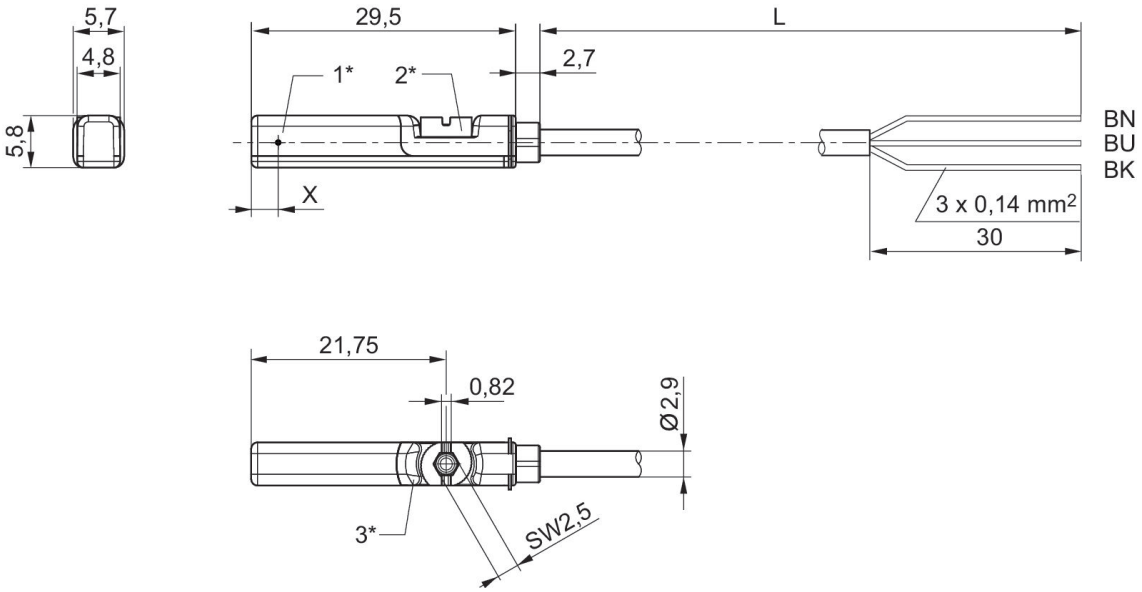
: 6 mm T-slot
: with cable
Direct mounting for series: PRA PRE CCI KPZ SSI GPC CVI
Indirect mounting for series: TRB ITS CCL-IS MNI CSL-RD RPC ICS-D2 ICM KHZ TRR
Certificates: CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Ambient temperature min./max.: -30 °C ... 80 °C



Switch descr.	Cable sheath	Number of poles	Max. DC switching current [A]	Max. AC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Min. operating voltage AC [V AC]	Part No.
Reed	Polyurethane	3-pin	0.3	0.5	10	30	10	R412022869
Reed	Polyurethane	3-pin	0.3	0.5	10	30	10	R412022870
Reed	Polyurethane	3-pin	0.3	0.5	10	30	10	R412022871

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

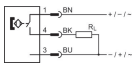
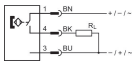
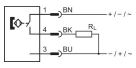
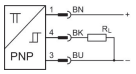
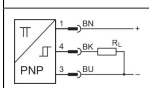
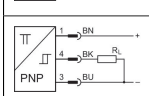
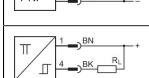
Dimensions



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

Sensors, Series ST6, plug M8x1, with knurled screw

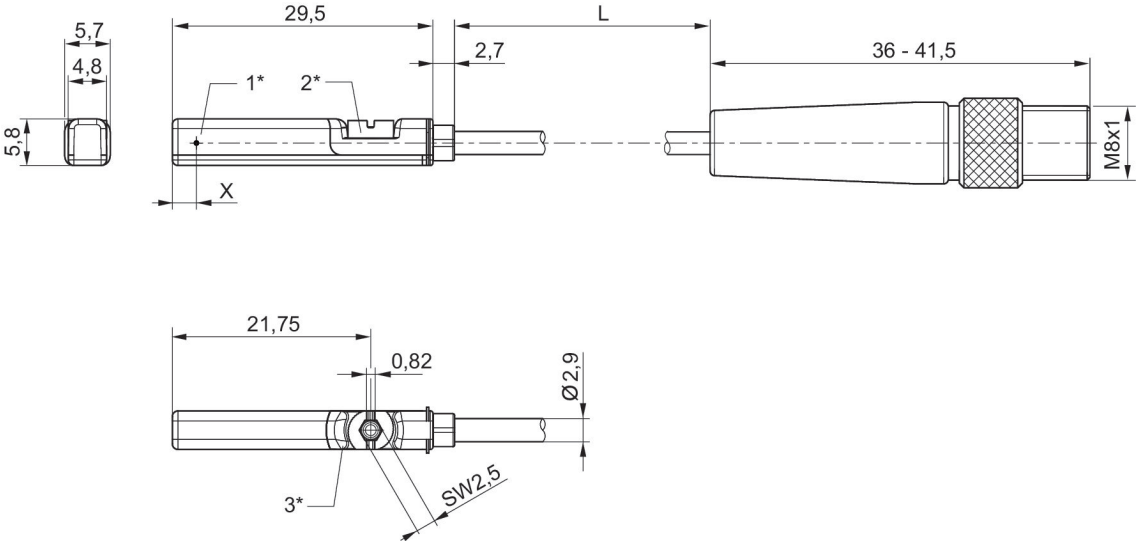
: 6 mm T-slot
: with cable
Direct mounting for series: PRA PRE CCI KPZ SSI GPC CVI
Indirect mounting for series: TRB ITS CCL-IS MNI CSL-RD RPC ICS-D2 ICM KHZ TRR
Certificates: CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Ambient temperature min./max.: -30 °C ... 80 °C

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

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

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

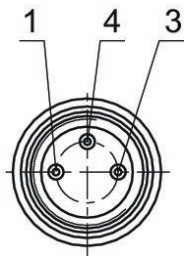
Dimensions



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

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

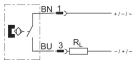
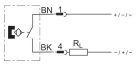
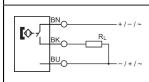
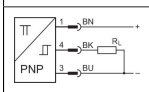
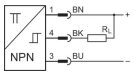
Pin assignment M8x1 (3-pin)



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

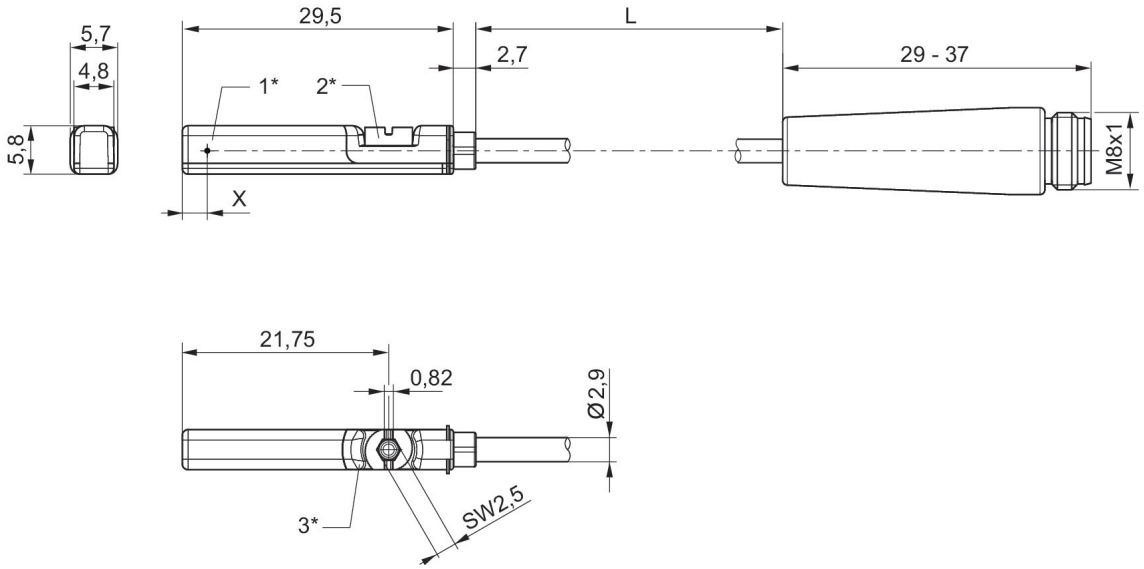
Sensors, Series ST6, plug M8

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

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

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

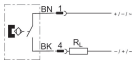
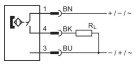
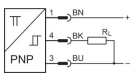
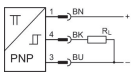
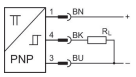
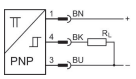
Dimensions



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

Sensors, Series ST6, plug M12x1

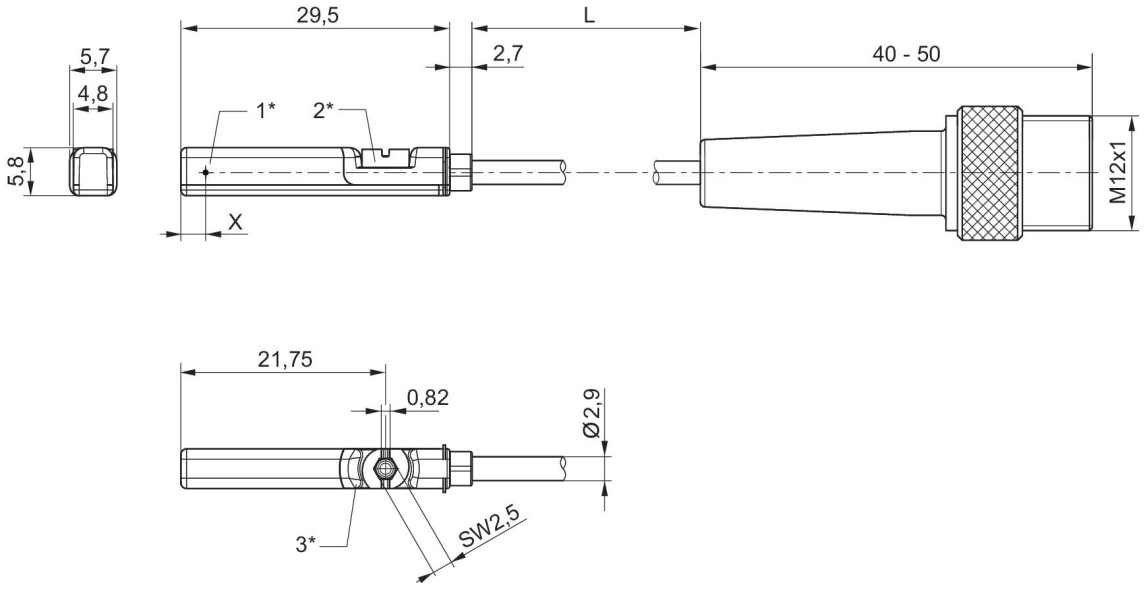
: 6 mm T-slot
: with cable
Direct mounting for series: PRA PRE CCI KPZ SSI GPC CVI
Indirect mounting for series: TRB ITS CCL-IS MNI CSL-RD RPC ICS-D2 ICM KHZ TRR
Certificates: CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Ambient temperature min./max.: -30 °C ... 80 °C

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

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

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

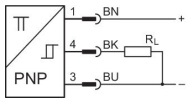
Dimensions



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

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

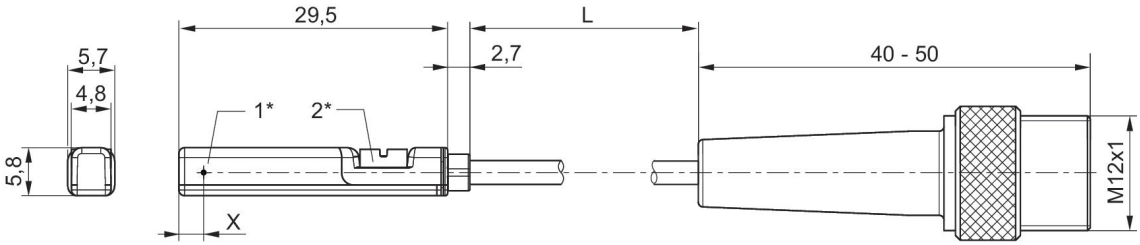
: 6 mm T-slot
: with cable
Direct mounting for series: PRA PRE CCI KPZ SSI GPC CVI
Indirect mounting for series: TRB ITS CCL-IS MNI CSL-RD RPC ICS-D2 ICM KHZ TRR
Certificates: ATEX CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Ambient temperature min./max.: -20 °C ... 50 °C

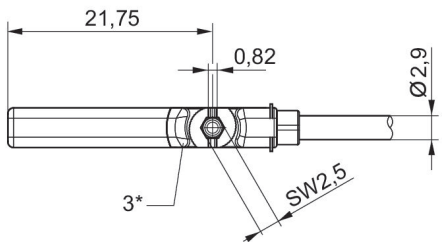


Switch descr.	Cable sheath	Electrical interface 2	Number of poles	Max. DC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Part No.
PNP	Polyurethane	M12x1	3-pin	0.1	10	30	short circuit resistant, Protected against polarity reversal	R412022864

Cable length L [m]	Part No.
0.3	R412022864

Dimensions

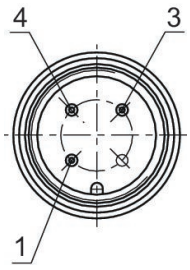




1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
X = PNP: 11,6 mm, reed: 8,3 mm

R412022864

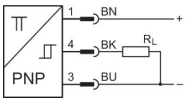
Pin assignments



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

Sensors, Series ST6, plug M8x1, ATEX

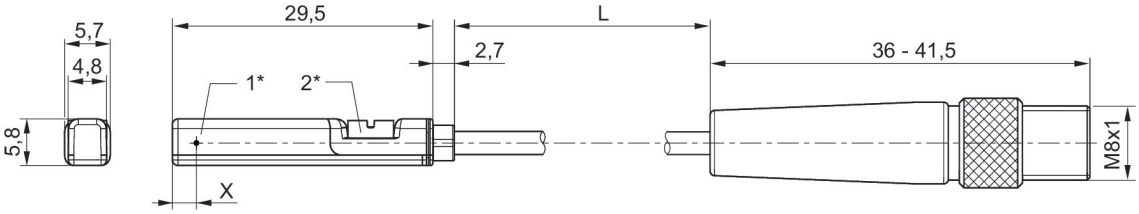
: 6 mm T-slot
: with cable
Direct mounting for series: PRA PRE CCI KPZ SSI GPC CVI
Indirect mounting for series: TRB ITS CCL-IS MNI CSL-RD RPC ICS-D2 ICM KHZ TRR
Certificates: ATEX CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Ambient temperature min./max.: -20 °C ... 50 °C

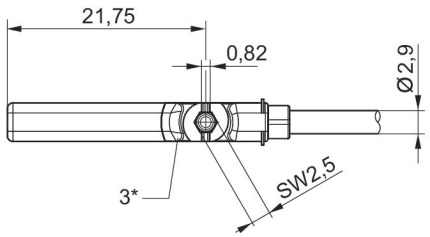


Switch descr.	Cable sheath	Electrical interface 2	Number of poles	Max. DC switching current [A]	Min. operating voltage DC [V DC]	Max. operating voltage DC [V DC]	Version	Part No.
PNP	Polyurethane	M8x1	3-pin	0.1	10	30	short circuit resistant, Protected against polarity reversal	R412022860

Cable length L [m]	Part No.
0.3	R412022860

Dimensions

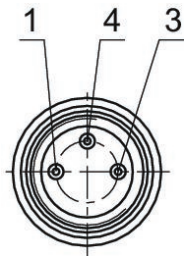




1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
X = electronic: 11,6 mm, Reed: 8,3 mm

R412022860

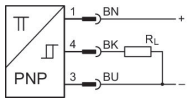
Pin assignment M8x1 (3-pin)



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

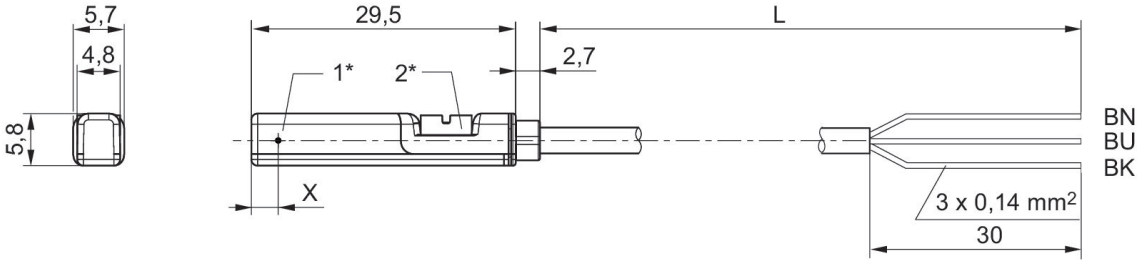
Sensors, Series ST6, open cable ends, 3-pin, PNP, ATEX

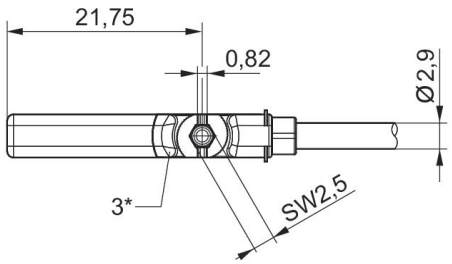
: 6 mm T-slot
: with cable
Direct mounting for series: PRA PRE CCI KPZ SSI GPC CVI
Indirect mounting for series: TRB ITS CCL-IS MNI CSL-RD RPC ICS-D2 ICM KHZ TRR
Certificates: ATEX CE declaration of conformity cULus RoHS UL (Underwriters Laboratories)
Ambient temperature min./max.: -20 °C ... 50 °C



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

Dimensions





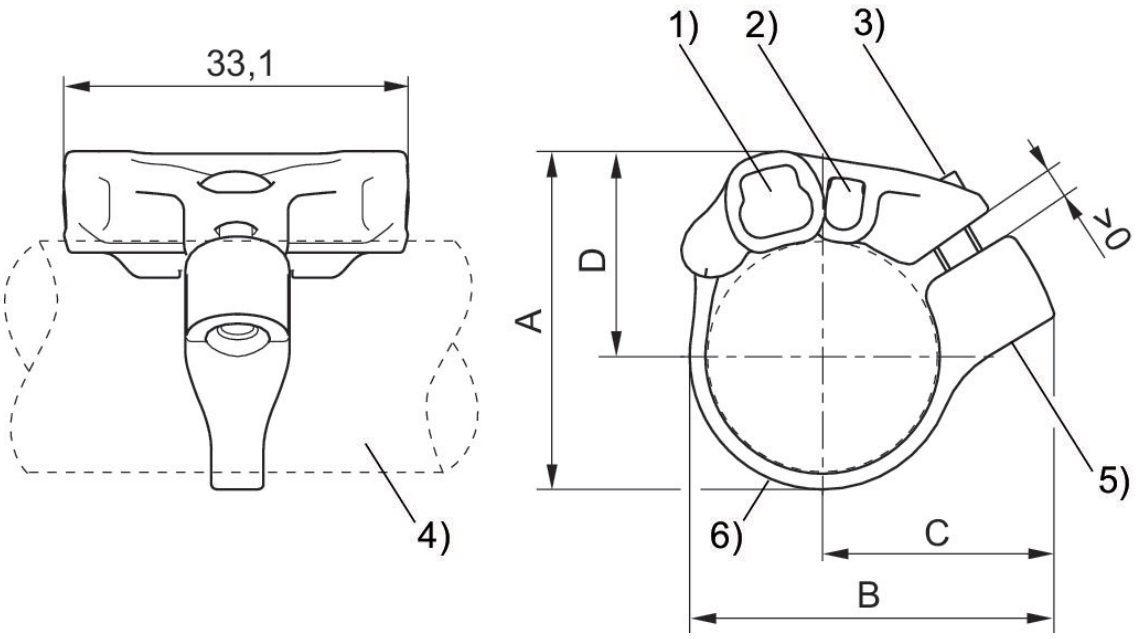
1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length BN = brown, BK = black, BU = blue
X = electronic: 11.6 mm

Sensor mounting, Series CB1

To mount on series: ST4 ST6
To mount on series: MNI ICM CSL-RD
Min. ambient temperature: -30 °C
Max. ambient temperature: 80 °C

Min. cylinder Ø [mm]	Material	Part No.
16	Polyamide, Stainless Steel	R412021791
20	Polyamide, Stainless Steel	R412021792
25	Polyamide, Stainless Steel	R412021793

Dimensions



1) Sensor slot for ST6 2) Sensor slot for ST4 3) Mounting screw (made of stainless steel) 4) Cylinder profile 5) Thread insert (made of stainless steel) 6) Tightening strap

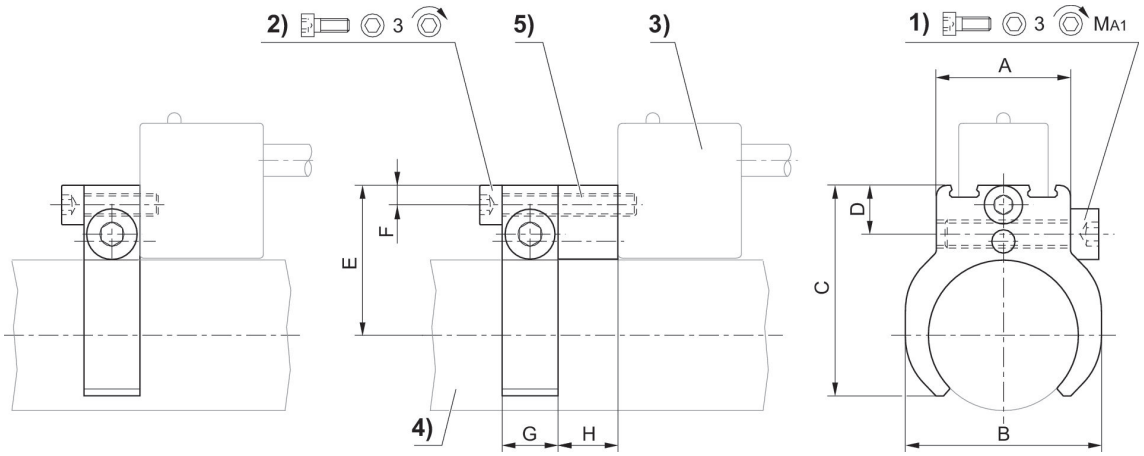
Part No.	A	B	C	D
R412021791	27.7	32.5	22.1	17.3
R412021792	32.4	35	22.4	19.7
R412021793	37.4	39.5	24.3	22.2

Sensor mounting, Series CB1

To mount on series: SN1 SN2
To mount on series: MNI

Min. cylinder Ø [mm]	Max. cylinder Ø [mm]	Material	Part No.
10	10	Aluminum	1827020065
12	12	Aluminum	1827020066
16	16	Aluminum	1827020067
20	20	Aluminum	1827020068
25	25	Aluminum	1827020069

Dimensions



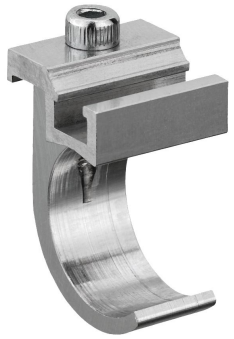
1) Clamping screw 2) Mounting screw for sensor 3) Sensor 4) Cylinder profile 5) Insert (on request)

Cylinders Ø mm	Part No.	A	B	C	D	E	F	G	H
10	1827020065	16	16	23.5	8.2	18.7	3.5	10	10.7
12	1827020066	16	20	25.5	8.2	19.9	3.5	10	10.7
16	1827020067	20	24	29.7	8.7	21.9	3.5	10	10.7
20	1827020068	20	28	33	8.7	24.1	3.5	10	10.7
25	1827020069	24	35	37.5	8.7	26.6	3.5	10	10.7

Cylinders Ø mm	1)	MA1 [Nm]
10	M4x14	1 +0,3
12	M4x14	1 +0,3
16	M4x25	1 +0,3
20	M4x25	1 +0,3
25	M4x25	1 +0,3

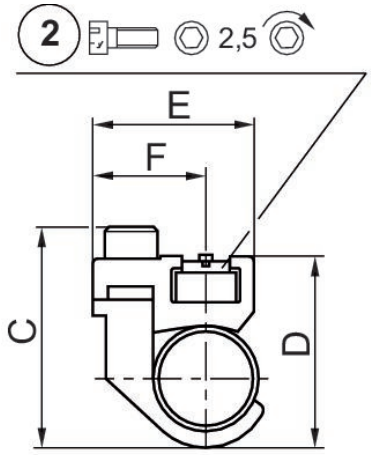
Sensor mounting, Series CB1

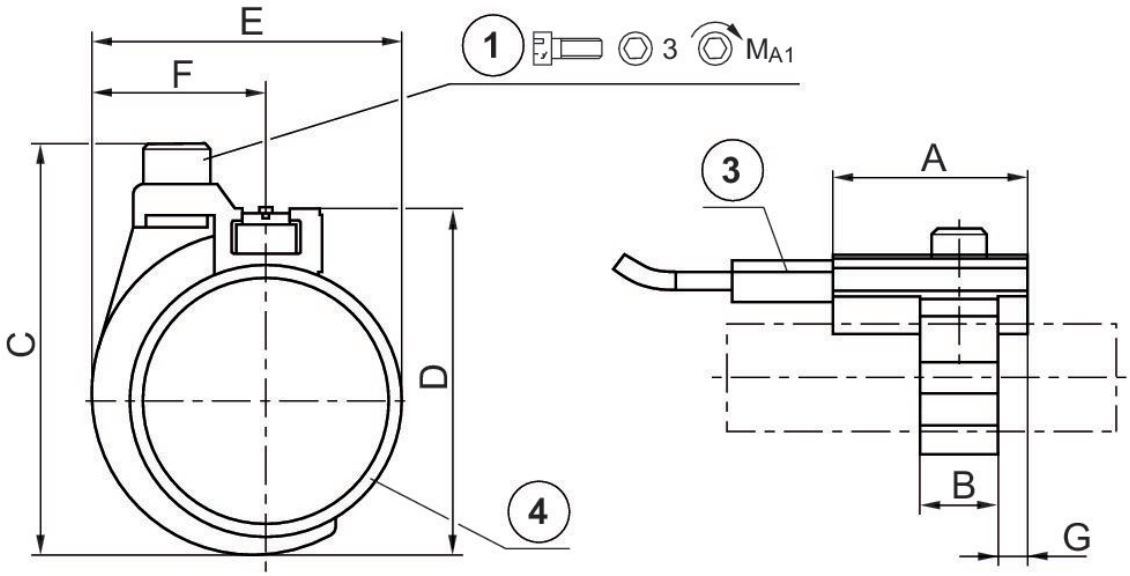
To mount on series: ST6 SM6
To mount on series: MNI ICM



Min. cylinder Ø [mm]	Material	Part No.
10	Aluminum	1827020296
12	Aluminum	1827020297
16	Aluminum	1827020298
20	Aluminum	1827020299
25	Aluminum	1827020300

Dimensions





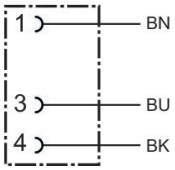
1) Mounting screw 2) Mounting screw for sensor 3) Sensor 4) Cylinder pipe

Part No.	Cylinders Ø	A	B	C	D	E	F	G	Mounting screw
1827020296	10 mm	20	8	24	19	17.5	11.8	3	M3x8
1827020297	12 mm	20	8	26	22	19	11.8	3	M3x8
1827020298	16 mm	20	12	34	30	23	13.8	4	M4x10
1827020299	20 mm	20	12	38	32	26	13.8	4	M4x10
1827020300	25 mm	20	12	43	37	31	13.8	4	M4x10

Part No.	MA1 [Nm]
1827020296	1 +0,2
1827020297	1 +0,2
1827020298	2 +0,3
1827020299	2 +0,3
1827020300	2 +0,3

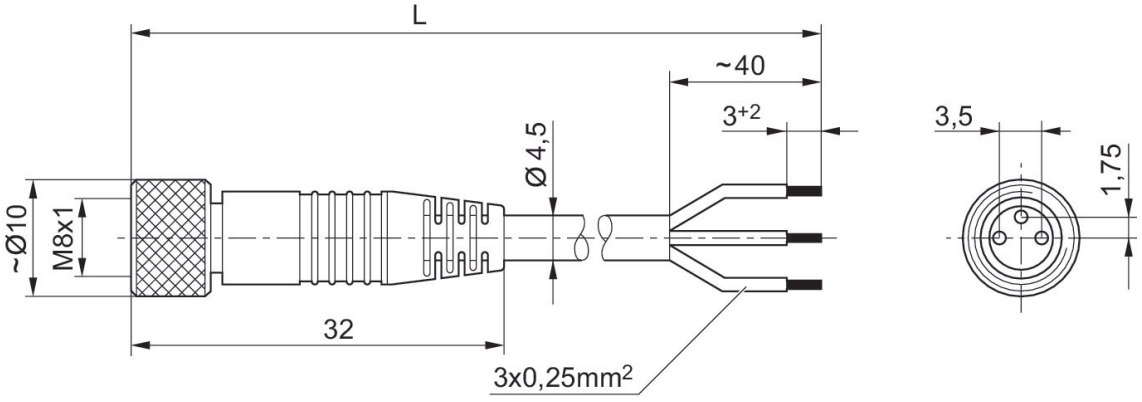
Round plug connector, Series CON-RD

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



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

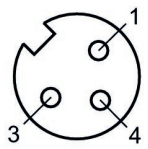
Dimensions



L = length

1834484166, 1834484168, 1834484247

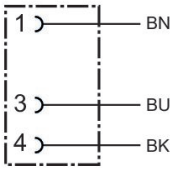
Pin assignment, socket



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

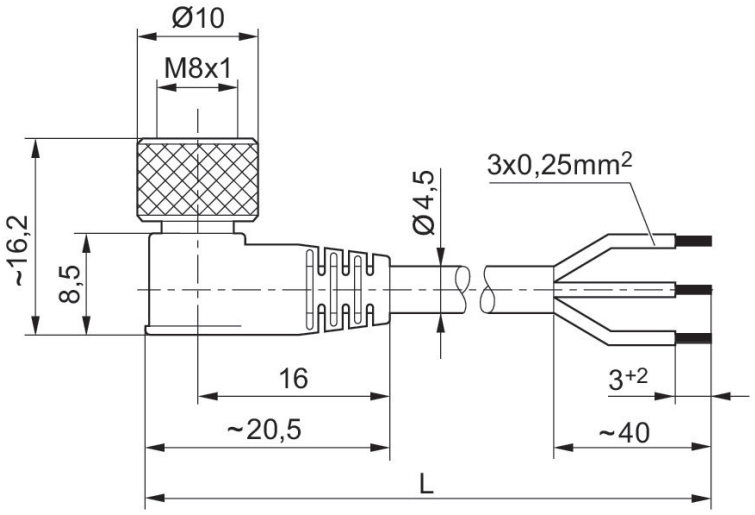
Round plug connector, Series CON-RD

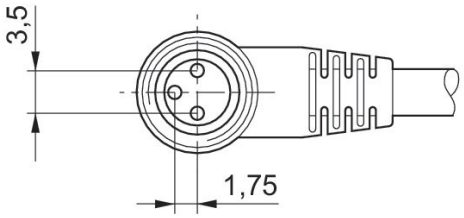
Electrical connection 1: Socket ... M8x1 ... 3-pin ... angled
Electrical connection 2: open cable ends ... 3-pin
Ambient temperature min./max.: -40 °C ... 85 °C



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

Dimensions

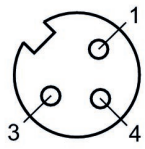




L = length

1834484167, 1834484169, 1834484248

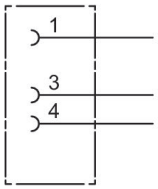
Pin assignment, socket



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

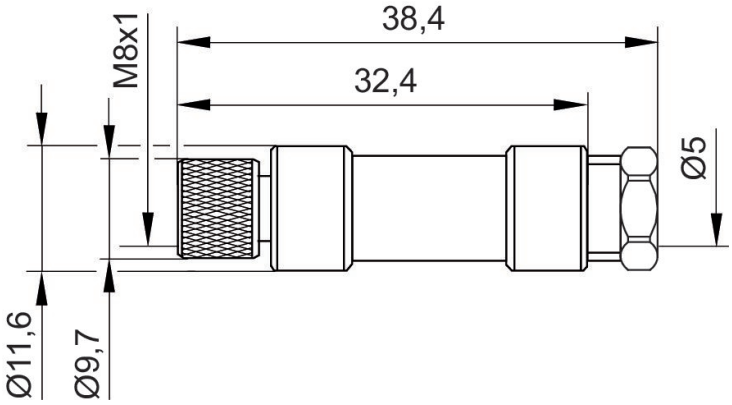
Round plug connector, Series CON-RD

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



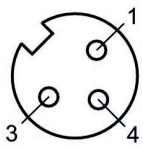
Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Soldering	4	3.5	5	1834484173

Dimensions



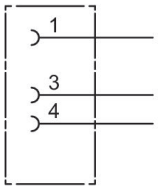
1834484173

Pin assignment, socket



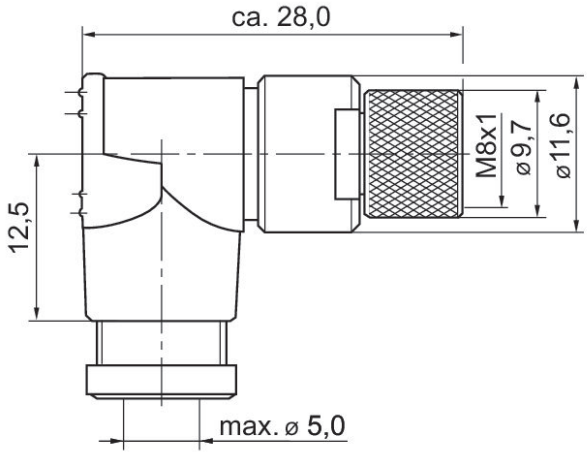
Round plug connector, Series CON-RD

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



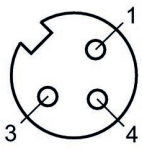
Operational voltage	Coding	Shielding	Connection type	Max. current [A]	min. suitable cable Ø [mm]	max. suitable cable Ø [mm]	Part No.
48 V AC/DC	A-coded	unshielded	Soldering	4	3.5	5	1834484174

Dimensions in mm



1834484174

Pin assignment, socket



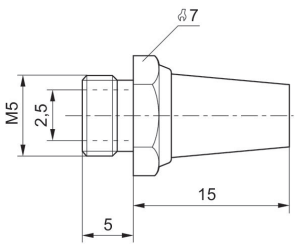
Silencers, series SI1, Sintered bronze

Compressed air connection type: External thread
Silencer material: Sintered bronze
Min. ambient temperature: -25 °C
Max. ambient temperature: 80 °C
Min. working pressure: 0 bar
Max. working pressure: 10 bar

G	Sound pressure level [dB]	Nominal flow [l/min]	Delivery unit [piece]	Weight [kg]	Part No.
M5	72	398	10	0.004	1827000006
M7			10	0.005	8140000700
M10x1	75	1747	1	0.011	5324001110
M12x1,5	80	3049	1	0.019	5324001170
M14x1,5	80	3390	1	0.018	5324001120
M22x1,5	85	7223	1	0.071	5324001140
G 1/8	75	1623	10	0.01	1827000000
G 1/4	98	5950	10	0.013	R412004817
G 1/4	79	3390	10	0.02	1827000001
G 3/8	84	6554	5	0.05	1827000002
G 1/2	90	7223	2	0.08	1827000003
G 3/4	92	8394	1	0.13	1827000004
G 1	102	12848	1	0.18	1827000005

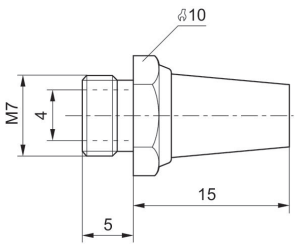
1827000006

Dimensions in mm



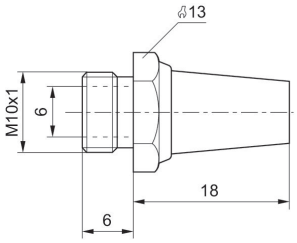
8140000700

Dimensions in mm



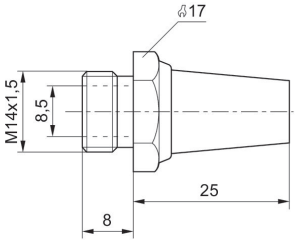
5324001110

Dimensions in mm



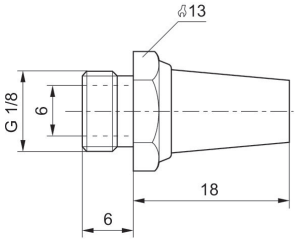
5324001120

Dimensions in mm



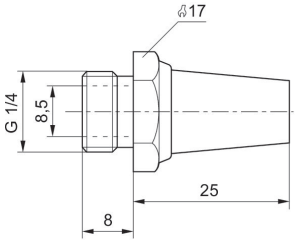
1827000000

Dimensions in mm



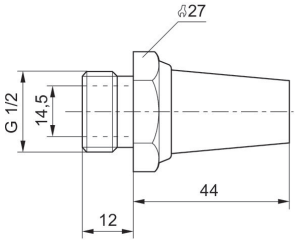
1827000001

Dimensions in mm



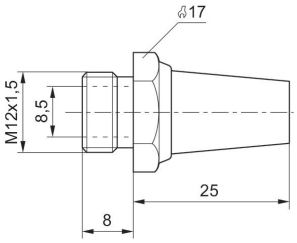
1827000003

Dimensions in mm



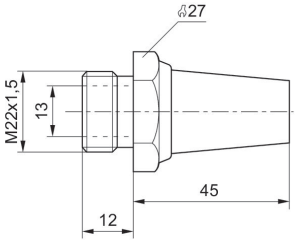
5324001170

Dimensions in mm



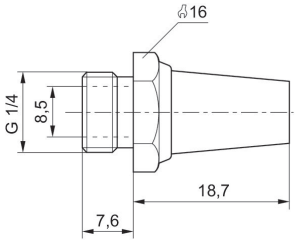
5324001140

Dimensions in mm



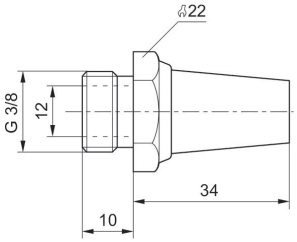
R412004817

Dimensions in mm



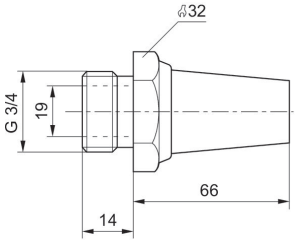
1827000002

Dimensions in mm



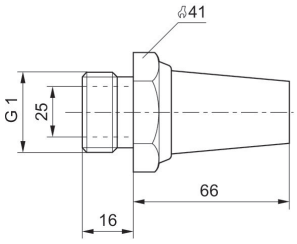
1827000004

Dimensions in mm



1827000005

Dimensions in mm

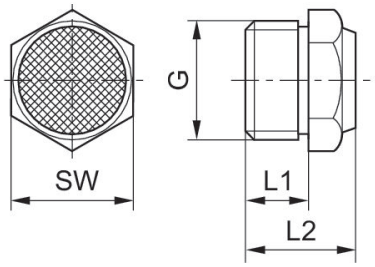


Silencers, series SI1, Sintered bronze

Compressed air connection type: External thread
Silencer material: Sintered bronze
Min. ambient temperature: -25 °C
Max. ambient temperature: 80 °C
Min. working pressure: 0 bar
Max. working pressure: 10 bar

G	Sound pressure level [dB]	Nominal flow [l/min]	Delivery unit [piece]	Weight [kg]	Part No.
M5	79	252	10	0.005	1827000032
G 1/8	85	700	10	0.001	1827000031
G 1/4	88	1116	10	0.01	1827000033
G 3/8	90	1706	5	0.016	1827000034
G 1/2	85	2568	2	0.035	1827000035
G 3/4	82	3260	1	0.095	8145003400
G 1	82	9485	1	0.057	8145001000

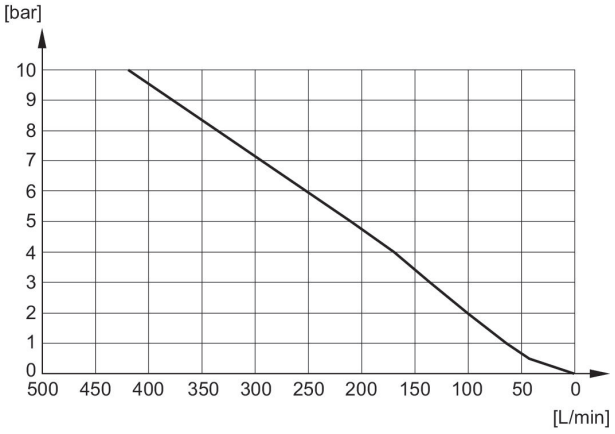
Dimensions



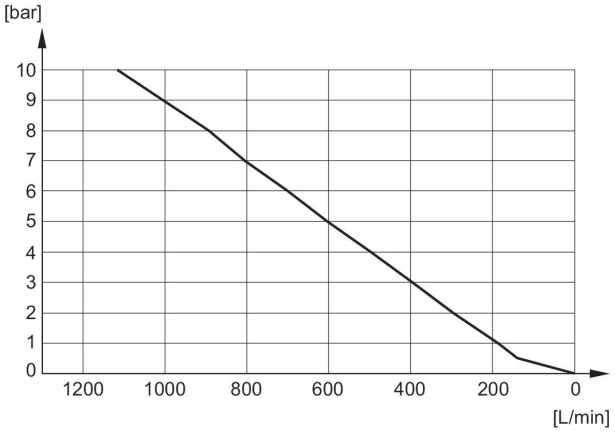
Part No.	Port G	L1	L2	SW
1827000032	M5	5	10.3	7
1827000031	G 1/8	6	11.5	13
1827000033	G 1/4	8	13.5	17
1827000034	G 3/8	10	17.5	22
1827000035	G 1/2	12	19.5	27
8145003400	G 3/4	14	22.5	32
8145001000	G 1	16	22.5	41

Sound pressure level measured at 6 bar at 1 m distance

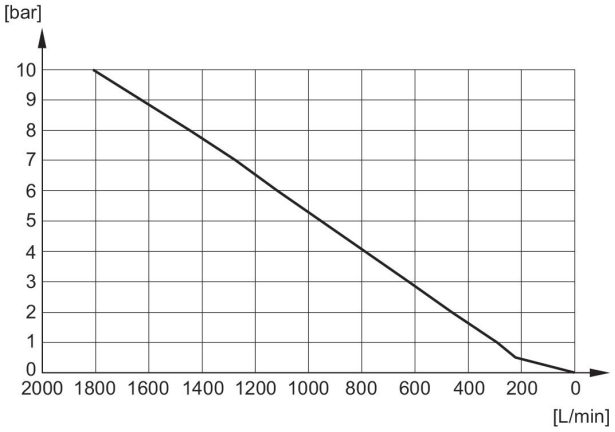
Flow diagram1827000032



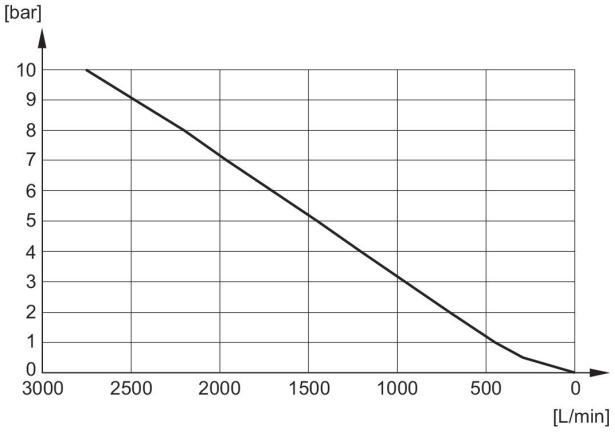
Flow diagram 1827000031



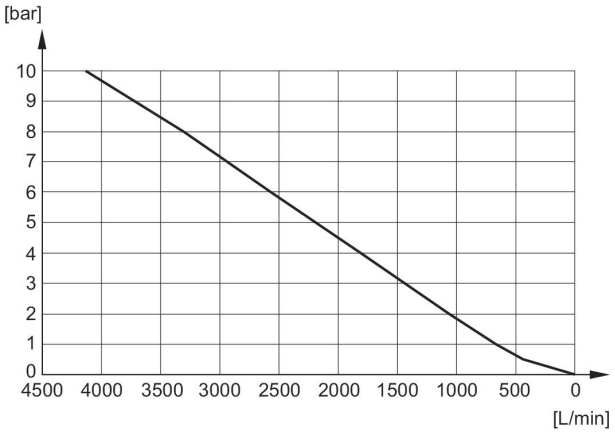
Flow diagram 1827000033



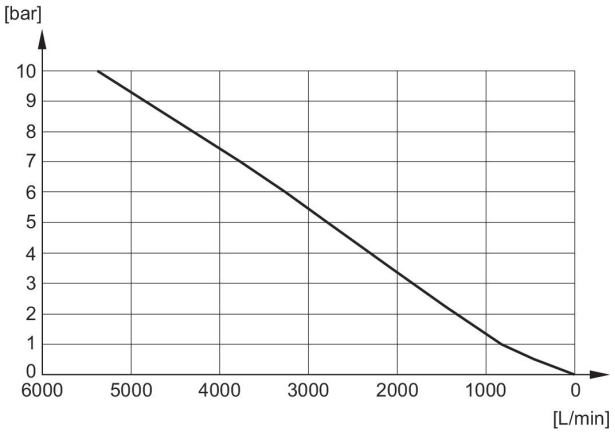
Flow diagram 1827000034



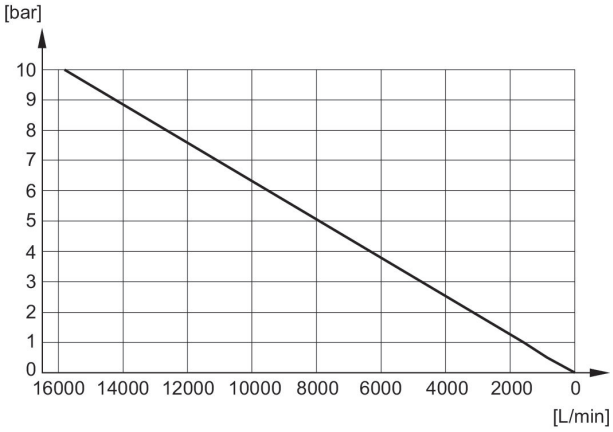
Flow diagram 1827000035



Flow diagram 8145003400



Flow diagram 8145001000



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