

## Series ICM



**AVENTICS™**

**AVENTICS Series ICM Mini  
cylinders**

  
**EMERSON™**

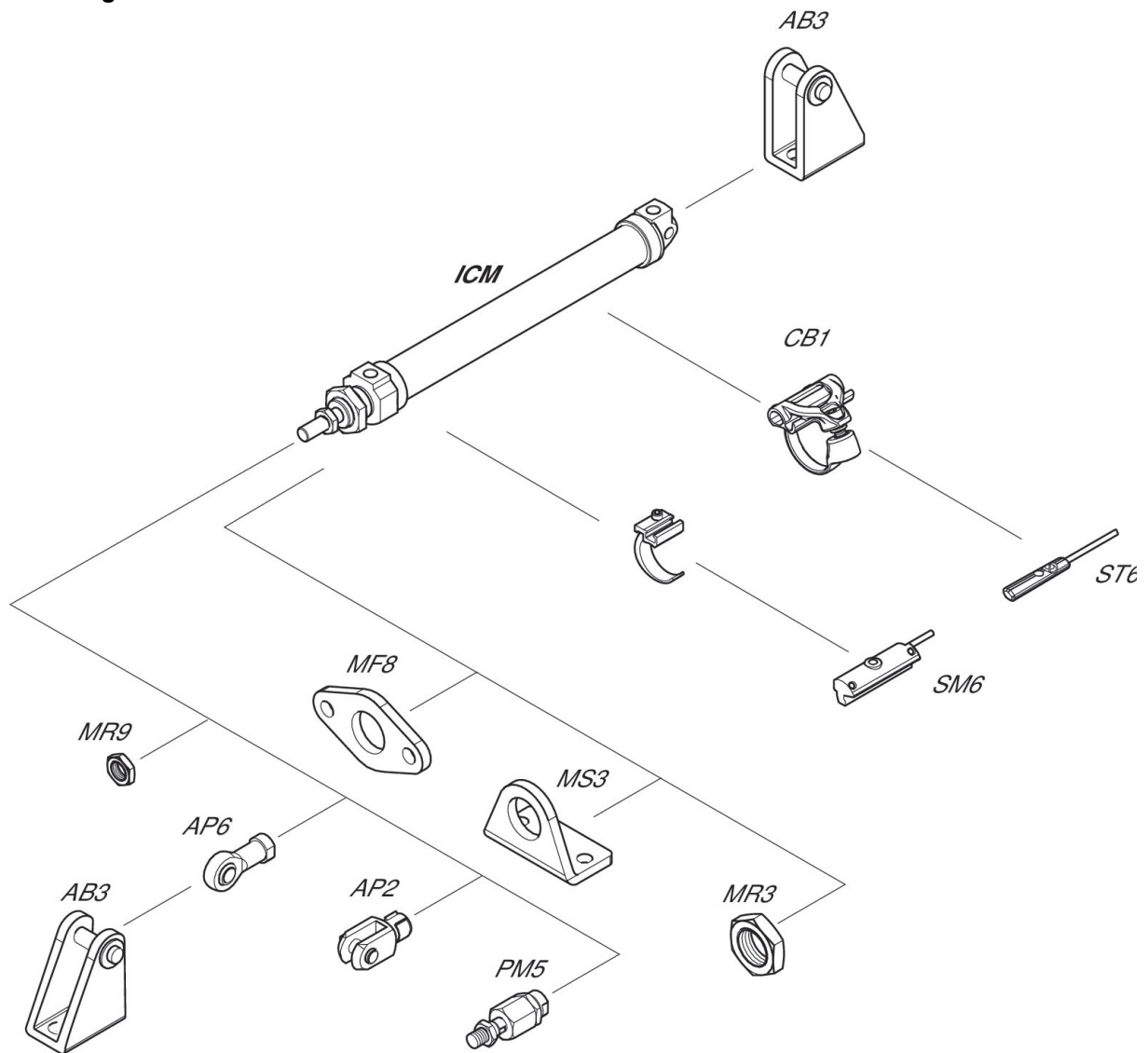
**Series ICM**

The AVENTICS Series ICM is a mini cylinder and cost-efficient solution for high corrosion resistance and reliability – even in harsh environments. The cylinder tube and piston rod are made of stainless steel, the cylinder covers are fashioned from a high-quality polymer.

- Ø 8 ... 32 mm
- Max. stroke: 400 mm
- corrosion-resistant
- suitable for use in food processing



Overview drawing



**Product overview**

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### Mini cylinder, Series ICM

Environmental requirements: Industry standard, suitable for use in food processing,

High corrosion

Functional principle: Single-acting, retracted without pressure

Magnetic piston: Piston without magnet

Cushioning: elastic cushioning

Piston rod thread - type: External thread

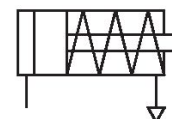
Compressed air connection type: Internal thread

Scraper: Standard Industry Scraper

Rear eye: with integrated rear eye

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

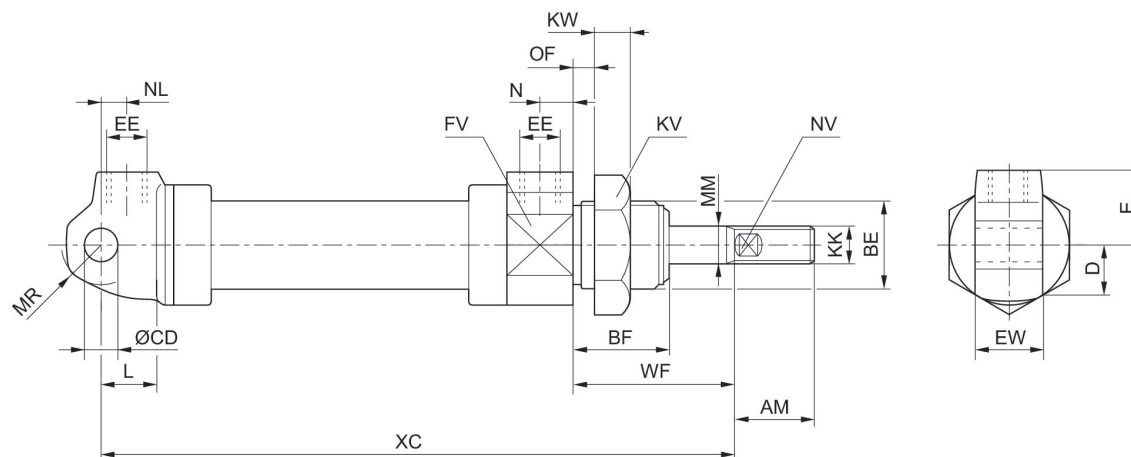
Ambient temperature min./max.: -20 °C ... 70 °C



Piston Ø	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	M5	G 1/8	G 1/8
Stroke 25	1326108020	1326110020	1326112020	1326116020	1326120020	1326125020

Piston Ø	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
Extracting piston force	26 N	40 N	58 N	90 N	136 N	250 N
Working pressure min./max.	3 bar ... 10 bar	3 bar ... 10 bar	3 bar ... 10 bar	3 bar ... 10 bar	3 bar ... 10 bar	3 bar ... 10 bar
Min. spring force	4 N	6 N	7 N	24 N	28 N	28 N
Max. spring force	6 N	9 N	13 N	37 N	62 N	62 N

#### Dimensions



Piston Ø	AM +0 -2	BE	BF	CD H11	D	E	EE	EW d13	FV
8	12	M12x1,25	14	4	7.5	12	M5	8	14
10	12	M12x1,25	14	4	8	12	M5	8	16
12	16	M16x1,5	20	6	10	13.5	M5	12	20
16	16	M16x1,5	20	6	12	14	M5	12	24
20	20	M22x1,5	22	8	15	18	G 1/8	16	30
25	27	M22x1,5	22	8	17	18	G 1/8	16	34

Piston Ø	KK	KV	KW	L	MM	MR	N	NL	NV
8	M4	17	7	7	4	5	5	12	3
10	M4	17	7	7	4	5	5	12	3
12	M6	24	7	9	6	7.5	5	7	4
16	M6	24	7	9	6	7.5	5	6	4
20	M8	30	8	12	8	10	8	7	6
25	M10x1,25	30	8	12	10	10	8	6.5	8

Piston Ø	OF max.	WF ±1,2	XC ±1
8	4.5	16	114
10	4.5	16	114
12	10	22	112
16	10	22	108
20	10	24	123
25	10	23	127

### Mini cylinder, Series ICM

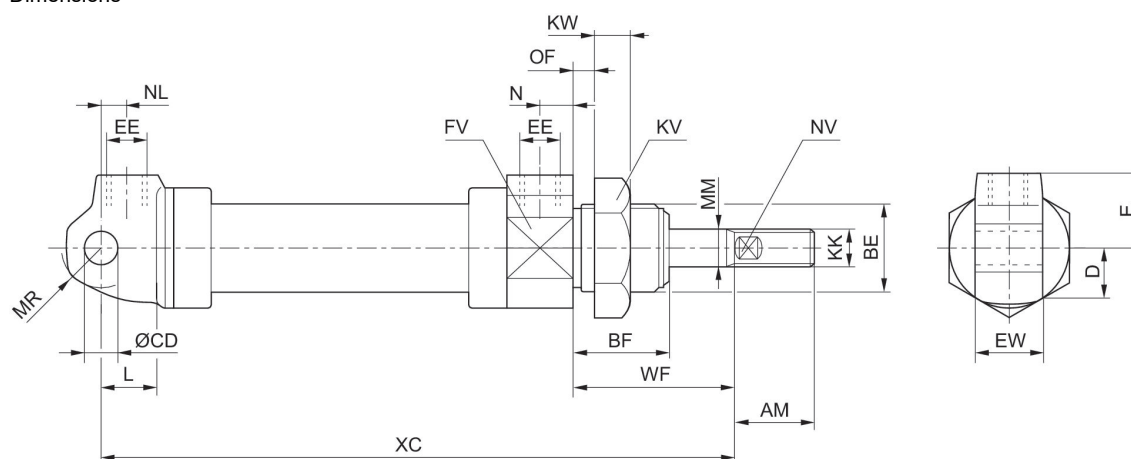
Environmental requirements: Industry standard, suitable for use in food processing,  
High corrosion  
Functional principle: Single-acting, extended without pressure  
Magnetic piston: Piston without magnet  
Cushioning: elastic cushioning  
Piston rod thread - type: External thread  
Compressed air connection type: Internal thread  
Scraper: Standard Industry Scraper  
Rear eye: with integrated rear eye  
Medium temperature min./max.: -20 °C ... 70 °C  
Ambient temperature min./max.: -20 °C ... 70 °C



Piston Ø	16 mm	20 mm	25 mm
Piston rod thread	M6	M8	M10x1,25
Ports	M5	G 1/8	G 1/8
Stroke 25	1326216020	1326220020	1326225020

Piston Ø	16 mm	20 mm	25 mm
Retracting piston force	72 N	104 N	198 N
Working pressure min./max.	3 bar ... 10 bar	3 bar ... 10 bar	3 bar ... 10 bar
Min. spring force	24 N	28 N	28 N
Max. spring force	37 N	62 N	62 N

#### Dimensions



Piston Ø	AM	BE	BF	CD H11	D	E	EE	EW d13	FV
16	16	M16x1,5	20	6	12	14	M5	12	24
20	20	M22x1,5	22	8	15	18	G1/8	16	30
25	27	M22x1,5	22	8	17	18	G1/8	16	34

Piston Ø	KK	KV	KW	L	MM	MR	N	NL	NV
16	M6	24	7	9	6	7.5	5	6	4
20	M8	30	8	12	8	10	8	7	6
25	M10x1,25	30	8	12	10	10	8	6.5	8

Piston Ø	OF max.	WF ±1,2	XC ±1
16	10	47	133
20	10	49	148
25	10	53	152

### Mini cylinder, Series ICM

Environmental requirements: Industry standard, suitable for use in food processing,

High corrosion

Functional principle: Double-acting

Magnetic piston: Piston without magnet

Cushioning: elastic cushioning

Piston rod thread - type: External thread

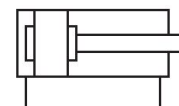
Compressed air connection type: Internal thread

Scraper: Standard Industry Scraper

Rear eye: with integrated rear eye

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

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



Piston Ø	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
Piston rod thread	M4	M4	M6	M6	M8	M10x1,25
Ports	M5	M5	M5	M5	G 1/8	G 1/8
Stroke 12	1320801000	1321001000	1321201000	1321601000	1322001000	1322501000
15	-	-	-	R404056204	R402001534	R404052262
20	-	-	-	R402001217	R402001222	R404062718
25	1320802000	1321002000	1321202000	1321602000	1322002000	1322502000
30	-	-	-	R404050535	R404050958	R404050434
35	-	-	-	R402001399	R402001018	R404009112
40	-	R412019436	-	R404051299	R404051300	R404050929
50	1320805000	1321005000	1321205000	1321605000	1322005000	1322505000
60	-	-	R404069622	R404050901	R402001220	R402001223
70	-	-	-	R404052041	-	R404055008
80	1320808000	1321008000	1321208000	1321608000	1322008000	1322508000
100	-	-	1321210000	1321610000	1322010000	1322510000
125	-	-	-	R404052590	1322012000	1322512000
160	-	-	-	-	1322016000	1322516000
200	-	-	-	R404050903	R402001221	R402001225
250	-	-	-	-	-	R404050418
300	-	-	-	-	R404008665	R404058499
320	-	-	-	-	-	R404008358
400	-	-	-	-	-	R404050620

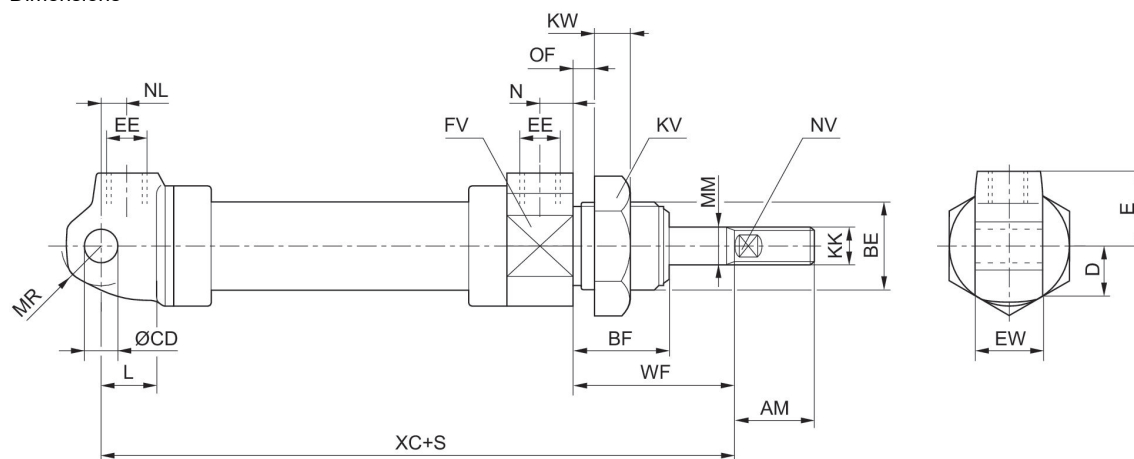
Piston Ø	32 mm
Piston rod thread	M10x1,25
Ports	G 1/8
Stroke 12	R404059486
15	R402001401

Piston Ø	32 mm
Piston rod thread	M10x1,25
Ports	G 1/8
20	R404051563
25	1323202000
30	R404052299
35	R402001229
40	R404062567
50	1323205000
60	R404051858
70	-
80	1323208000
100	1323210000
125	1323212000
160	1323216000
200	1323220000
250	R402001226
300	R404009040
320	R404058773
400	-

Piston Ø	8 mm	10 mm	12 mm	16 mm	20 mm	25 mm
Retracting piston force	24 N	42 N	53 N	109 N	166 N	260 N
Extracting piston force	32 N	49 N	71 N	127 N	198 N	309 N
Weight 10 mm stroke	0.003 kg	0.004 kg	0.005 kg	0.005 kg	0.01 kg	0.014 kg
Working pressure min./max.	2 bar ... 10 bar	1.5 bar ... 10 bar	1.5 bar ... 10 bar	2 bar ... 10 bar	2 bar ... 10 bar	2 bar ... 10 bar
Weight 0 mm stroke	0.025 kg	0.035 kg	0.048 kg	0.054 kg	0.08 kg	0.1 kg

Piston Ø	32 mm
Retracting piston force	435 N
Extracting piston force	506 N
Weight 10 mm stroke	0.022 kg, 0.22 kg
Working pressure min./max.	2 bar ... 10 bar ... 1 bar ... 10 bar
Weight 0 mm stroke	0.26 kg

Dimensions



S = stroke

Piston Ø	AM +0/-2	BE	BF	CD H11	D	E	EE	EW d13	FV
8	12	M12x1,25	14	4	7.5	12	M5	8	14
10	12	M12x1,25	14	4	8	12	M5	8	16
12	16	M16x1,5	20	6	10	13.5	M5	12	20
16	16	M16x1,5	20	6	12	14	M5	12	24
20	20	M22x1,5	22	8	15	18	G1/8	16	30
25	27	M22x1,5	22	8	17	18	G1/8	16	34
32	32	M30x1,5	29	10	22.5	24	G1/8	26	46

Piston Ø	KK	KV	KW	L	MM	MR	N	NL	NV
8	M4	17	7	7	4	5	5	12	3
10	M4	17	7	7	4	5	5	12	3
12	M6	24	7	9	6	7.5	5	7	4
16	M6	24	7	9	6	7.5	5	6	4
20	M8	30	8	12	8	10	8	7	6
25	M10x1,25	30	8	12	10	10	8	6.5	8
32	M10x1,25	41	11	13	12	15	10	10.5	11

Piston Ø	OF max.	WF ±1,2	XC ±1
8	4.5	16	64
10	4.5	16	64
12	10	22	62
16	10	22	58
20	10	24	73
25	10	23	72
32	14	38	98

### Mini cylinder, Series ICM

Environmental requirements: Industry standard, suitable for use in food processing,

High corrosion

Functional principle: Double-acting

Magnetic piston: Piston with magnet

Cushioning: elastic cushioning

Piston rod thread - type: External thread

Compressed air connection type: Internal thread

Scraper: Standard Industry Scraper

Rear eye: with integrated rear eye

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

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

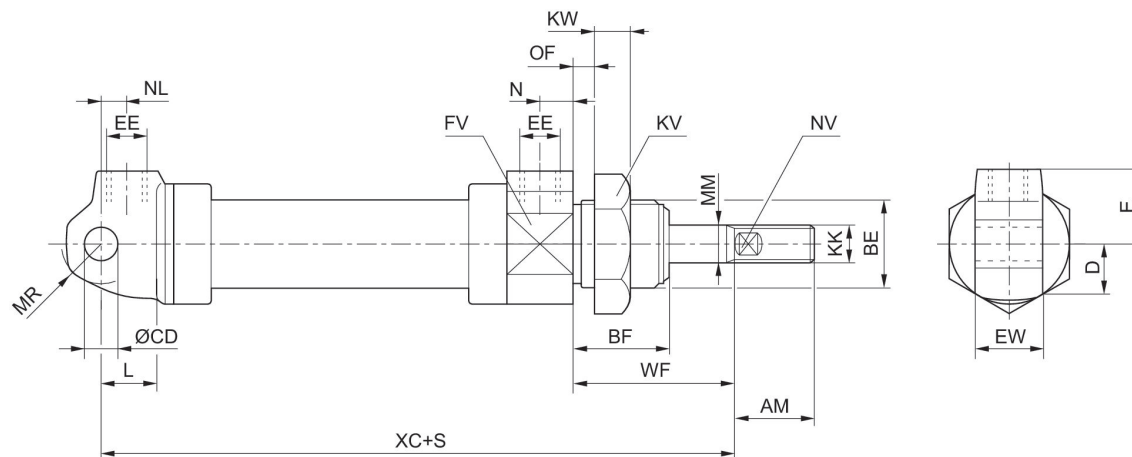


Piston Ø	12 mm	16 mm	20 mm	25 mm	32 mm
Piston rod thread	M6	M6	M8	M10x1,25	M10x1,25
Ports	M5	M5	G 1/8	G 1/8	G 1/8
Stroke 12	1331201000	1331601000	1332001000	1332501000	-
15	-	R404062574	R402001231	R404050979	-
20	-	-	-	R404054477	-
25	1331202000	1331602000	1332002000	1332502000	1333202000
30	-	-	R402001533	R404052834	R404050547
35	-	R404053760	R404063867	-	R404050533
40	-	-	R404051010	R402001019	-
50	1331205000	1331605000	1332005000	1332505000	1333205000
60	-	R404052973	R402001230	-	-
70	-	-	-	R404051389	R404051564
80	1331208000	1331608000	1332008000	1332508000	1333208000
100	1331210000	1331610000	1332010000	1332510000	1333210000
125	-	-	1332012000	1332512000	1333212000
160	-	R404063245	1332016000	1332516000	1333216000
200	-	R404065638	R402001232	R402001235	1333220000
250	-	-	R404051220	R402001236	R404051390
300	-	-	R404053499	R404050518	-
320	-	-	R404008517	R404009055	-
400	-	-	R404001788	-	R404009214

Piston Ø	12 mm	16 mm	20 mm	25 mm	32 mm
Retracting piston force	53 N	109 N	166 N	260 N	435 N
Extracting piston force	71 N	127 N	198 N	309 N	506 N
Weight 10 mm stroke	0.005 kg	0.005 kg	0.01 kg	0.014 kg	0.022 kg

Piston Ø	12 mm	16 mm	20 mm	25 mm	32 mm
Working pressure min./max.	1 bar ... 10 bar	1 bar ... 10 bar	1 bar ... 10 bar	1 bar ... 10 bar	1 bar ... 10 bar
Weight 0 mm stroke	0.048 kg	0.054 kg	0.08 kg	0.1 kg	0.26 kg

Dimensions



S = stroke

Piston Ø	AM +0/-2	BE	BF	CD H11	D	E	EE	EW d13	FV
12	16	M16x1,5	20	6	10	13.5	M5	12	20
16	16	M16x1,5	20	6	12	14	M5	12	24
20	20	M22x1,5	22	8	15	18	G 1/8	16	30
25	27	M22x1,5	22	8	17	18	G 1/8	16	34
32	32	M30x1,5	29	10	22.5	24	G 1/8	26	46

Piston Ø	KK	KV	KW	L	MM	MR	N	NL	NV
12	M6	24	7	9	6	7.5	5	7	4
16	M6	24	7	9	6	7.5	5	6	4
20	M8	30	8	12	8	10	8	7	6
25	M10x1,25	30	8	12	10	10	8	6.5	8
32	M10x1,25	41	11	13	12	15	10	10.5	11

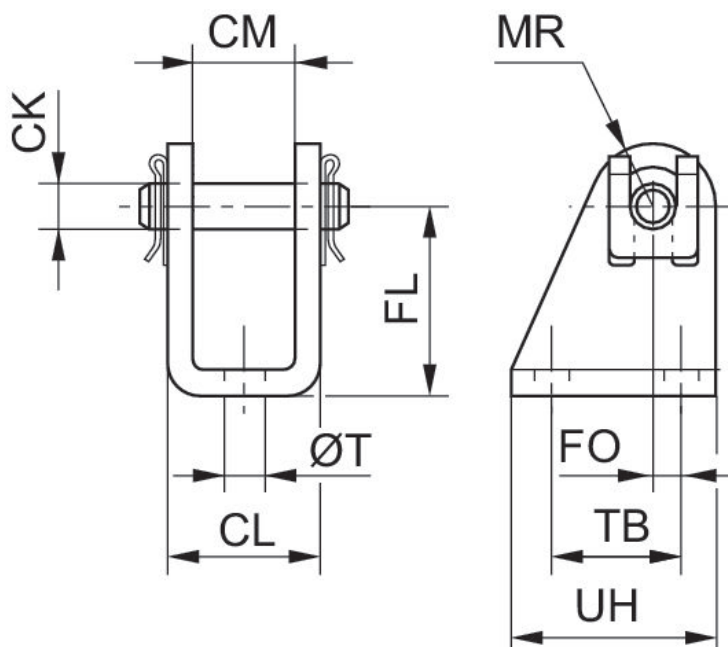
Piston Ø	OF max.	WF ±1,2	XC ±1
12	10	22	75
16	10	22	82
20	10	24	95
25	10	23	104
32	14	38	128

Clevis mounting AB3, Series CM1



Piston diameter [mm]	Swivel bearing Ø [mm]	Material	Part No.
8, 10	4	Galvanized Steel	1827001447
12, 16	6	Galvanized Steel	1827001446
20, 25	8	Galvanized Steel	1827001445
8, 10	4	Stainless Steel	3323410000
32	10	Stainless Steel	3323432000

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
20, 25	1827001445	16,1	8	24,1	30	4,0	10	6,6	20
32	3323432000	26	10	36	32	6,0	12	6,6	24

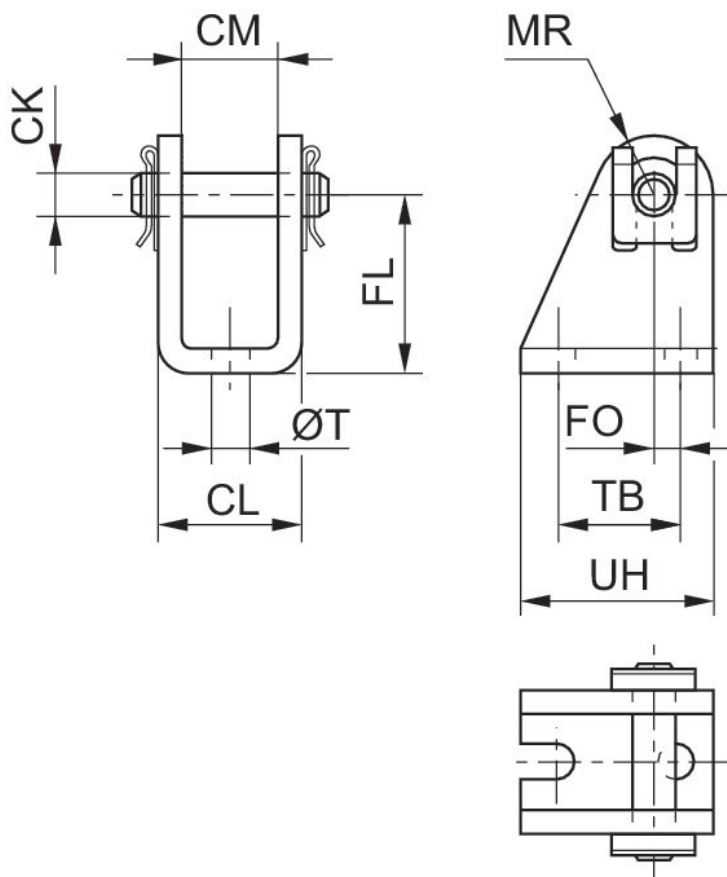
Piston Ø	UH
8, 10	20
8, 10	20
12, 16	25
20, 25	32
32	36

Clevis mounting AB3, Series CM1



Piston diameter [mm]	Swivel bearing Ø [mm]	Material	Part No.
12, 16	6	Stainless Steel	3323416000
20, 25	8	Stainless Steel	3323420000

Dimensions



Piston Ø	Part No.	CM	Ø CK	CL	FL	FO	MR	Ø T	TB
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
20, 25	32
32	36

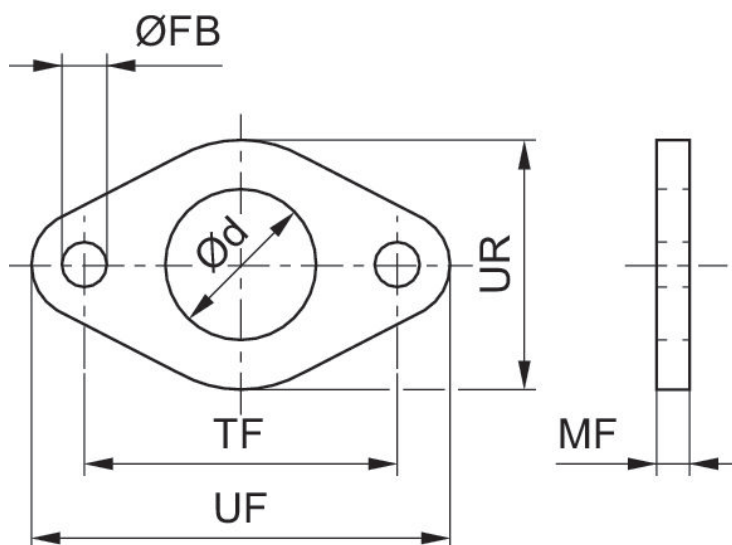
**Flange mounting MF8, Series CM1**

Standards: ISO 6432



Piston diameter [mm]	Standard-ization	Material	Part No.
8, 10	ISO 6432	Galvanized Steel	1821036012
12, 16	ISO 6432	Galvanized Steel	1821036011
20, 25	ISO 6432	Galvanized Steel	1821036010
8, 10	ISO 6432	Stainless Steel	3322010000
12, 16	ISO 6432	Stainless Steel	3322016000
20, 25	ISO 6432	Stainless Steel	3322020000

Dimensions



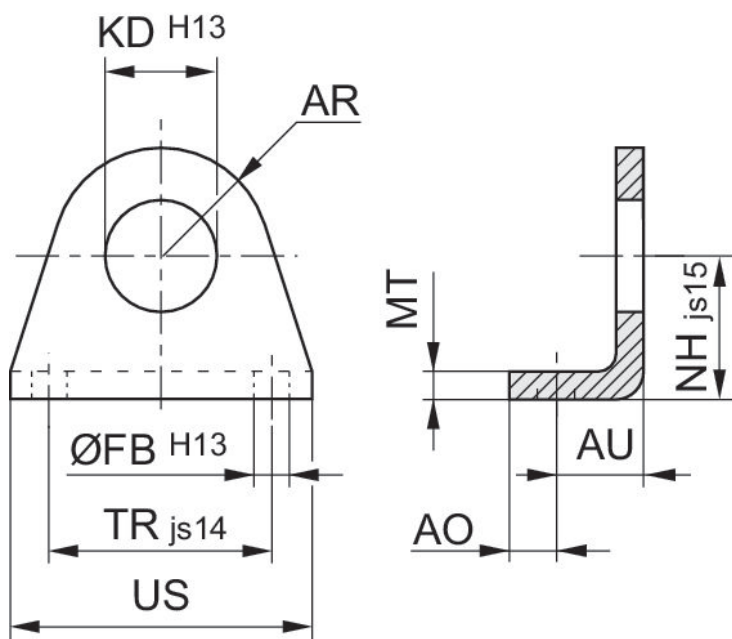
Piston $\varnothing$	Part No.	$\varnothing d$	$\varnothing FB$	MF	TF js14	UF	UR
8, 10	3322010000	12	4.5	3	30	40	22
12, 16	3322016000	16	5.5	4	40	52	30
20, 25	3322020000	22	6.6	5	50	66	40
8, 10	1821036012	12	4.5	3	30	40	25
12, 16	1821036011	16	5.5	4	40	52	30
20, 25	1821036010	22	6.6	5	50	66	40

**Foot mounting MS3 ISO 6432**



Piston diameter [mm]	Standard-ization	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
8, 10	ISO 6432	Stainless Steel	3322210000
12, 16	ISO 6432	Stainless Steel	3322216000
20, 25	ISO 6432	Stainless Steel	3322220000
32	ISO 6432	Stainless Steel	3322232000

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

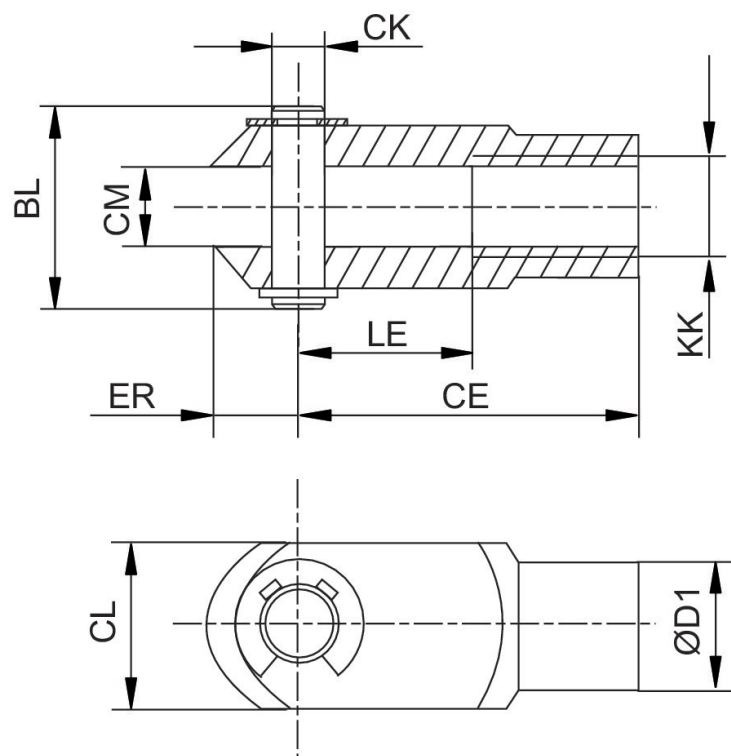
Piston Ø	US
8, 10	35
8, 10	35
12, 16	42
12, 16	42
20, 25	54
20, 25	54
32	65

Rod clevis with circlip, Series AP2



Suitable piston rod thread	for series	Weight [kg]	Part No.
M27x2	PRA, TRB, CCL-IS, 167, CVI	2	1827001493
M36x2	ITS	3.5	1827001471
M42x2	ITS	6.6	1827001472

Dimensions



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

\* ØCK h11  
\*\* ØCK f8

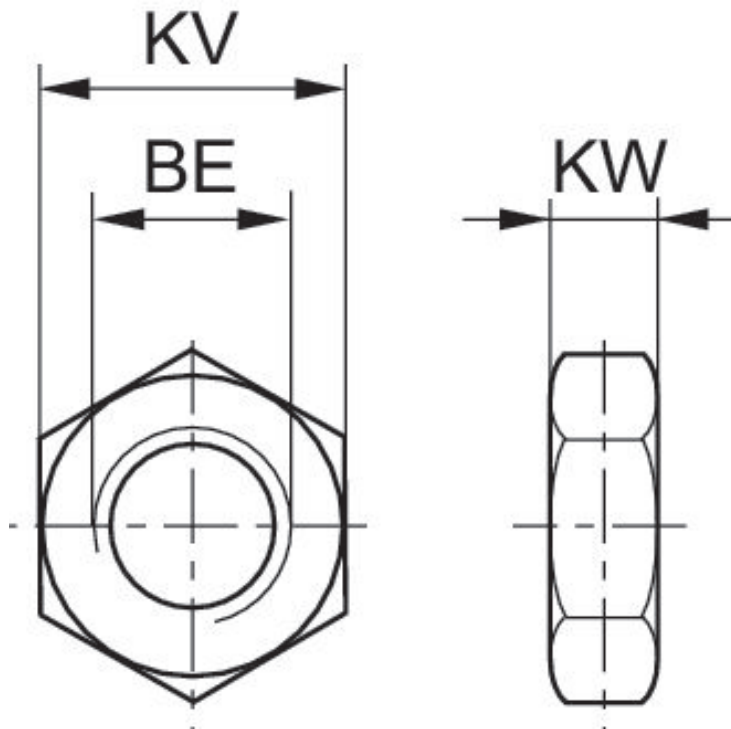
Nut MR3, series CM1



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
8, 10	M12x1,25	Polyamide, fiber-glass reinforced	0413215803
16	M16x1,5	Polyamide, fiber-glass reinforced	0413214505
20, 25	M22x1,5	Polyamide, fiber-glass reinforced	0413214602
32	M30x1,5	Polyamide, fiber-glass reinforced	0413214718
80	M24x2	Steel, chrome-plated	3008010180
60, 85	M24	Steel, chrome-plated	3056010180
113, 160	M36x3	Steel, chrome-plated	3012010180
250	M48x3	Steel, chrome-plated	3075010180
32	M30x1,5	Steel, chrome-plated	R412027809
40	M36x1.5	Steel, chrome-plated	R412027810

Suitable piston Ø [mm]	Thread size	Material	Part No.
40	M38x1,5	Steel, chrome-plated	R412027811
50, 63	M45x1,5	Steel, chrome-plated	R412027812
16	M16x1,5	Stainless Steel	2918540030
20, 25	M22x1,5	Stainless Steel	R913030290

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

Rod clevis with circlip, Series AP2, Stainless Steel



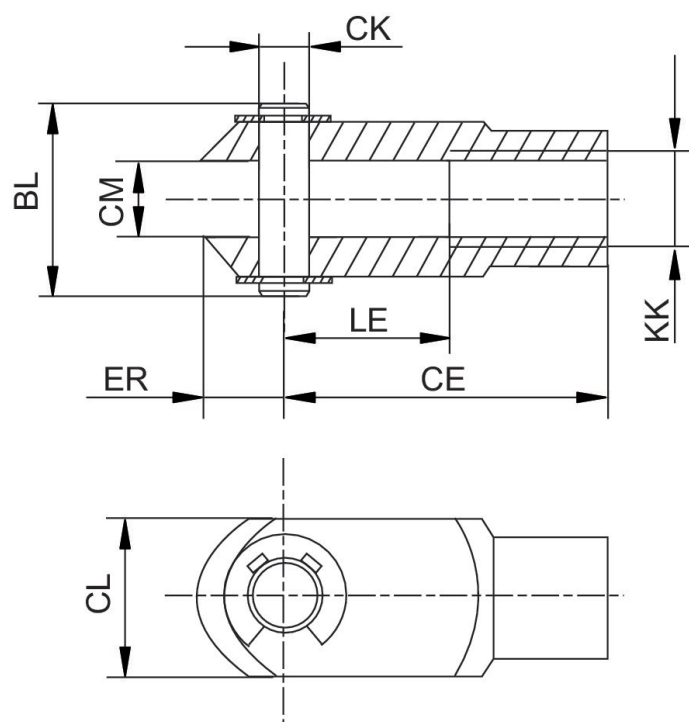
Suitable piston rod thread	for series	Weight [kg]	Part No.
M4	CCL-IC/-IS, CCI, CSL-RD, ICM, ICS-D2, SSI, 167	0.007	3330510000
M6	CCL-IC/-IS, CCI, CSL-RD, ICM, ICS-D2, SSI, 167	0.021	3330516000
M8	CCL-IC/-IS, CCI, CSL-RD, ICM, ICS-D2, SSI	0.05	3330520000
M10x1,25	CCL-IC/-IS, CCI, CSL-RD, ICM, ICS-D2, SSI, 167	0.1	3590502000
M12x1,25	CCL-IC/-IS, CCI, CSL-RD, ICM, ICS-D2, SSI	0.156	3590504000
M16x1,5	CCL-IC/-IS, CCI, CSL-RD, ICM, ICS-D2, SSI	0.362	3590505000
M20x1,5	CCL-IC/-IS, CCI, CSL-RD, ICM, ICS-D2, SSI	0.72	3590508000

Part No.	CE	ØCK	CL	CM B12	ER	BL	KK	LE
3330510000	16	4 *	8	4	5	11	M4	8
3330516000	24	6 *	12	6	7	17	M6	12
3330520000	32	8 **	16	8	10	24	M8	16
3590502000	40	10 **	20	10	12	27	M10x1,25	20
3590504000	48	12 **	24	12	14	33	M12x1,25	24
3590505000	64	16 **	32	16	19	43	M16x1,5	32
3590508000	80	20 **	40	20	25	53	M20x1,5	40

\* ØCK h11  
\*\* ØCK e8

**3330520000, 3590502000, 3590504000, 3590505000, 3590508000**

Dimensions

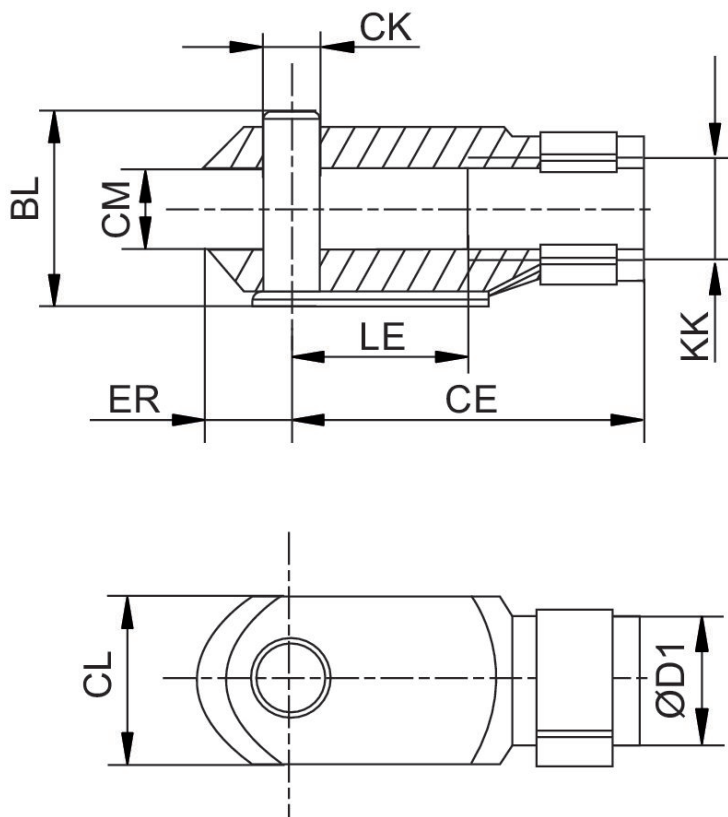


Rod clevis with lock washer, Series AP2, Galvanized Steel



Suitable piston rod thread	for series	Weight [kg]	Part No.
M4	MNI, ICM	0.01	1822122028
M5	KHZ	0.01	1822122008
M6	CCI, MNI, ICM, KHZ	0.02	1822122009
M8	CCI, MNI, ICM, KHZ	0.05	1822122010
M10	RPC, KHZ	0.1	8958000122
M12	RPC, 102	0.16	8958000132
M10x1,25	PRA, TRB, CCI, MNI, ICM, KPZ, 167, CVI, RPC, RDC	0.1	1822122024
M12x1,25	PRA, TRB, CCI, KPZ, 167, CVI, RPC, 102	0.16	1822122025
M16x1,5	PRA, TRB, CCI, KPZ, 167, CVI, RPC, RDC, 102	0.4	1822122005
M20x1,5	PRA, TRB, KPZ, 167, CVI, 102	0.7	1822122004
M48x2	ITS	9.7	8958019332

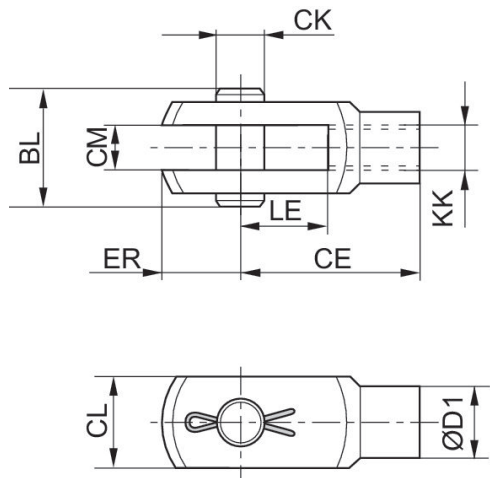
Dimensions



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

8958019332

Dimensions



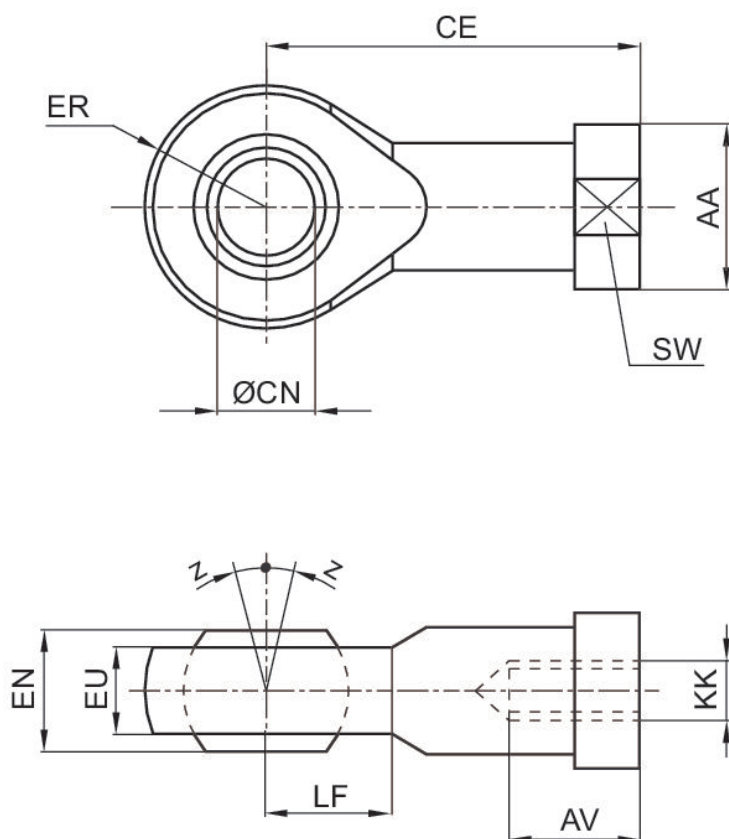
**Ball eye rod end AP6, stainless Steel**

Mounting: with flange



Suitable piston rod thread	for series	Swivel bearing Ø [mm]	Weight [kg]	Part No.
M4	ICM	5	0.02	8958209002
M6	CCL-IC, CSL-RD, ICM	6	0.04	8958209012
M8	CCL-IC, CSL-RD, ICM	8	0.06	8958209022
M10x1,25	CCL-IS, CCL-IC, SSI, CSL-RD, ICM, ICS-D2	10	0.09	8958209032
M12x1,25	CCL-IS, CCL-IC, SSI, ICS-D2	12	0.12	8958209042
M16x1,5	CCL-IS, CCL-IC, SSI, ICS-D2	16	0.23	8958209052
M20x1,5	CCL-IS, SSI, ICS-D2	20	0.41	8958209062
M27x2	CCL-IS	30	1.24	8958209072

Dimensions



KK	Part No.	AA	AV min.	CE	Ø CN H7	EN -0,1	ER	EU max.	LF
M4	8958209002	11	8	27	5	8	9	6	9
M6	8958209012	13	9	30	6	9	10	6,75	10
M8	8958209022	16	12	36	8	12	12	9	12
M10x1,25	8958209032	19	15	43	10	14	14	10.5	14
M12x1,25	8958209042	22	18	50	12	16	16	12	16
M16x1,5	8958209052	27	24	64	16	21	21	15	21
M20x1,5	8958209062	34	30	77	20	25	25	18	25
M27x2	8958209072	50	45	110	30	37	35	25	35

KK	SW	Z [°] max.
M4	9	6,5
M6	11	6,5
M8	14	6,5
M10x1,25	17	6,5
M12x1,25	19	6,5
M16x1,5	22	7,5
M20x1,5	30	7,5
M27x2	41	7,5

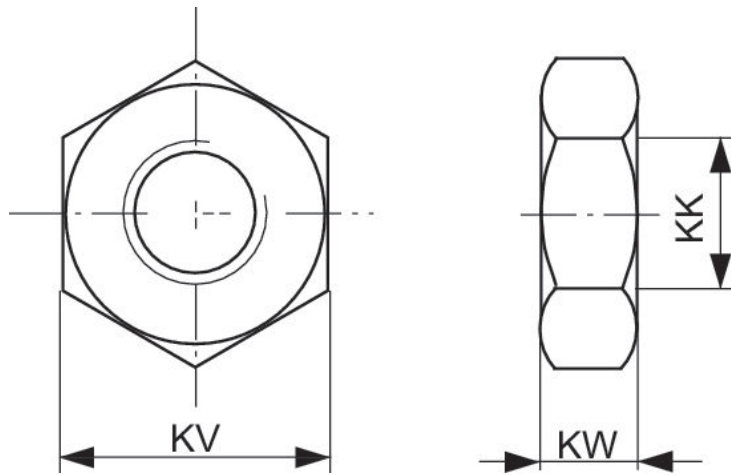
Piston rod nut MR9



Thread size	Material	Part No.
M4	Steel, chrome-plated	8103040114
M6	Steel, chrome-plated	1823300033
M8	Steel, chrome-plated	1823300034
M10	Steel, chrome-plated	8103040224
M10x1,25	Steel, chrome-plated	1823A00020
M12	Steel, chrome-plated	8103060064
M12x1,25	Steel, chrome-plated	1823A00021
M12x1,25	Steel, chrome-plated	8103190344
M16x1,5	Steel, chrome-plated	1823300030
M20x1,5	Steel, chrome-plated	1823300031
M20x1,5	Steel, chrome-plated	8103040344
M27x2	Steel, chrome-plated	1823A00029
M36x2	Steel, chrome-plated	8103190414
M42x2	Steel, chrome-plated	8103190424

Thread size	Material	Part No.
M48x2	Steel, chrome-plated	8103190434
M4	Stainless Steel	3330310000
M6	Stainless Steel	8103190644
M8	Stainless Steel	8103190164
M10x1,25	Stainless Steel	8103190464
M10x1,25	Stainless steel, acid-proof	2990600303
M12x1,25	Stainless steel, acid-proof	2990600304
M16x1,5	Stainless steel, acid-proof	2990600305
M20x1,5	Stainless steel, acid-proof	2990600308
M36x2	Stainless steel, acid-proof	2990600316
M42x2	Stainless steel, acid-proof	2990600325
M6	Stainless Steel	3330316000
M8	Stainless Steel	3330320000
M10x1,25	Stainless Steel	3590302000
M12x1,25	Stainless Steel	3590304000
M16x1,5	Stainless Steel	3590305000
M20x1,5	Stainless Steel	3590308000
M27x2	Stainless steel, acid-proof	2990600312
M24x2	Steel, chrome-plated	8103190394

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

### Holding unit, Series HU1

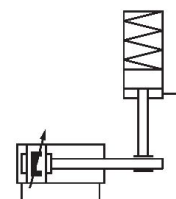
: hold: spring force, release: compressed air

Function: Hold with clamping jaws

Release pressure: 4 bar ... 8 bar

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

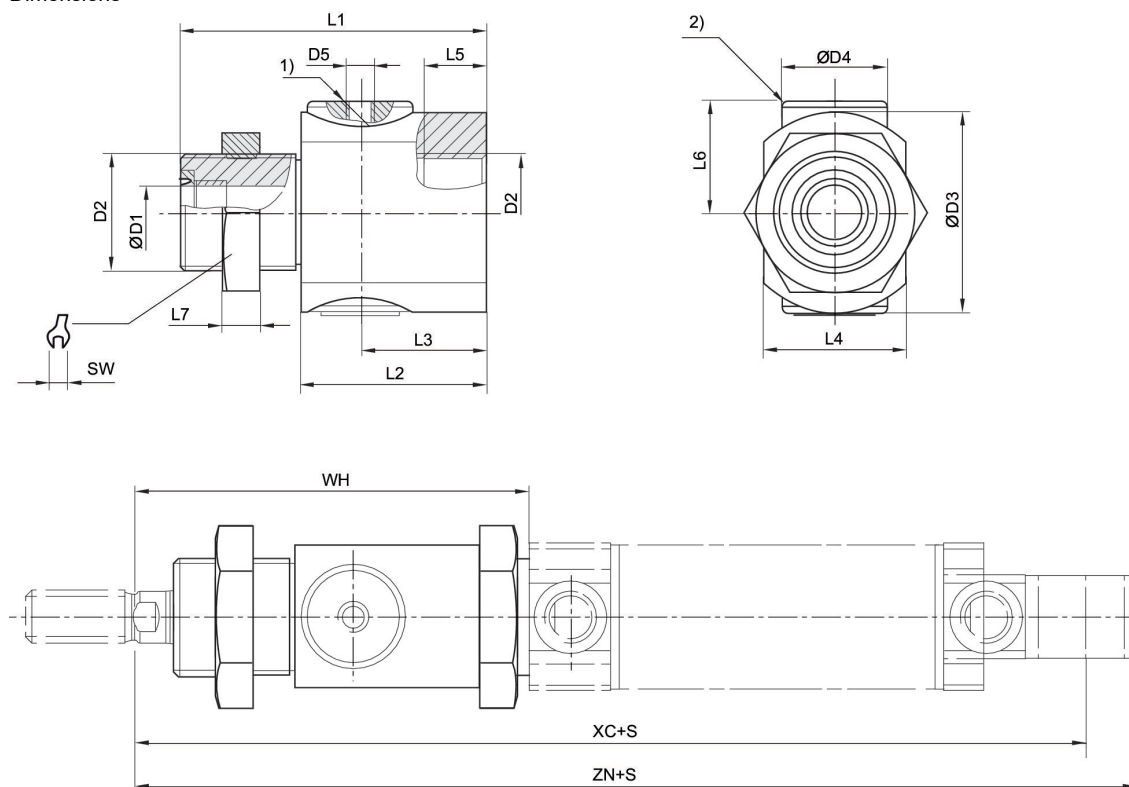
Medium temperature min./max.: -10 °C ... 60 °C



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
suitable piston rod Ø	8 mm	10 mm
Piston rod extension	54 mm	51 mm

Dimensions



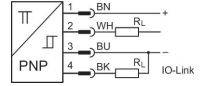
1) air connection  
2) Holding cartridge  
S = stroke

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

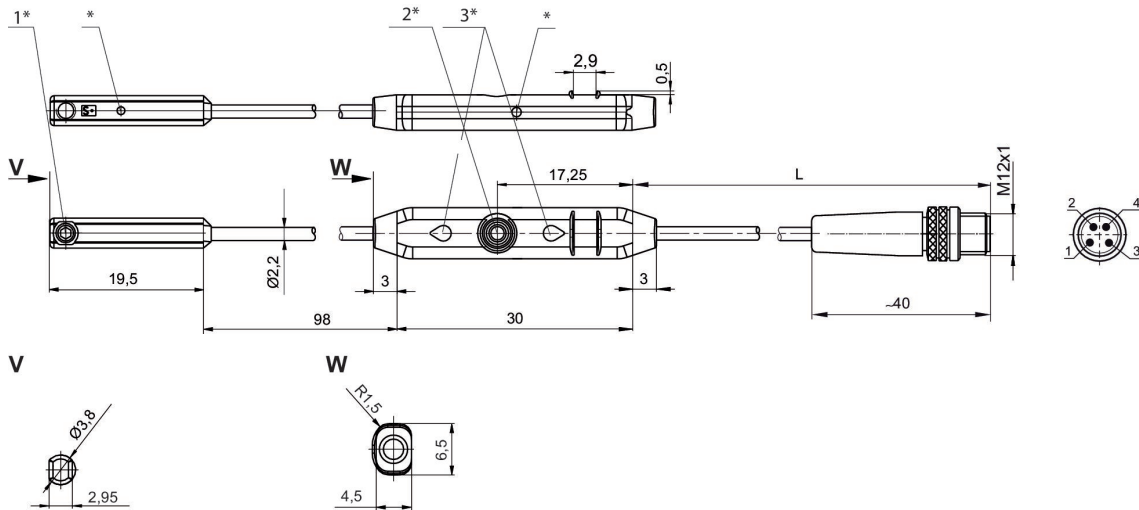
**Sensors, Series ST4-2P**

Direct mounting for series: PRA, SSI, RTC, GPC, MSC, MSN, RCM, CVI  
 Indirect mounting for series: MNI, CSL-RD, ICM  
 Electrical connection 2, type: Plug  
 Certificates: RoHS  
 Electrical connection 2, number of poles: 4-pin  
 Ambient temperature min./max.: -20 °C ... 75 °C



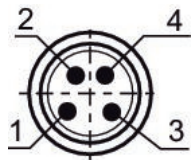
Slot width	Switch descr.	Electrical connection size	Electrical connection number of poles	Part No.
4 mm C-slot	electronic PNP	M8x1	4-pin	R412025689

**Dimensions**



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

**R412025689**



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

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

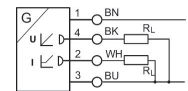
: with cable

Certificates: cULus

Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI

Indirect mounting for series: TRB, ITS, 167, MNI, ICM, TRR

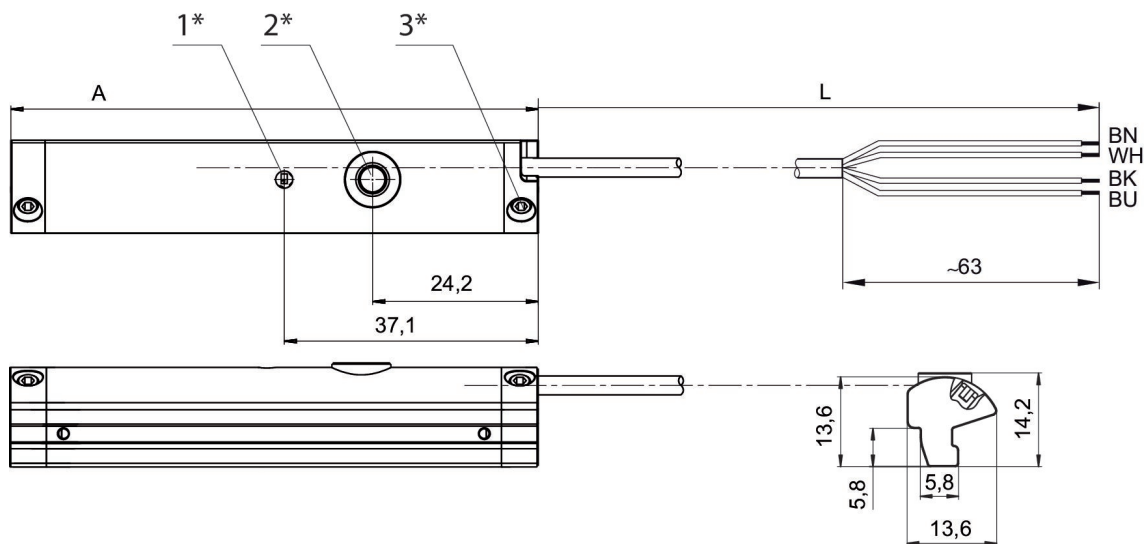
Ambient temperature min./max.: -20 °C ... 70 °C



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

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

Dimensions



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

**Sensors, Series SM6, with cable, plug M8x1**

: with cable

Certificates: cULus

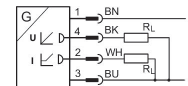
Direct mounting for series: PRA, PRE, CCI, KPZ, SSI, GPC, CVI

Indirect mounting for series: TRB, ITS, 167, MNI, ICM, TRR

Electrical connection 2, thread size: M8x1

Electrical connection 2, number of poles: 4-pin

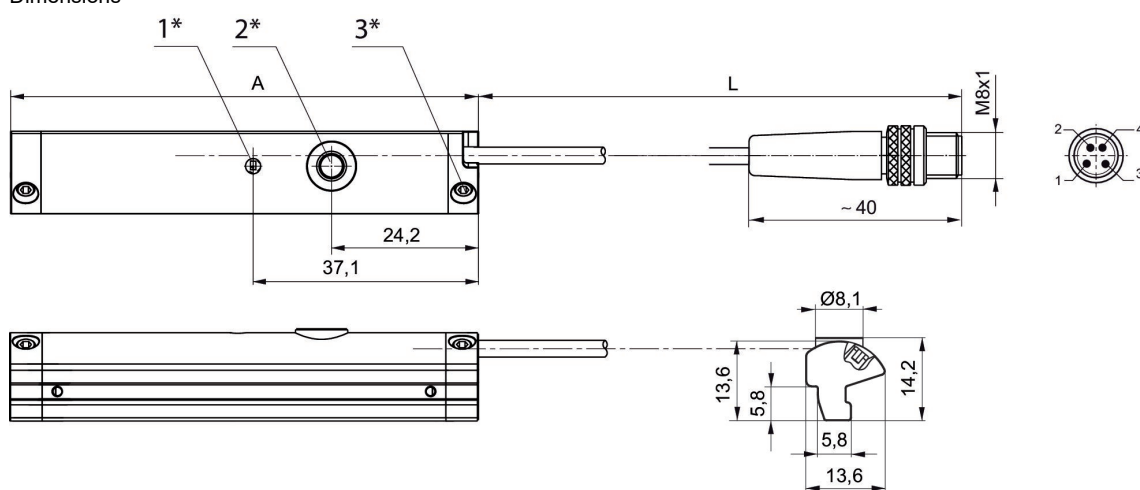
Ambient temperature min./max.: -20 °C ... 70 °C



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

Switch descr.	Cable length L [m]	max. measuring range [mm]	Overall length Sensor [mm]	Version	Part No.
				olarity reversal, Protected against polarity reversal, Overload protection	
Analog	0.3	256	269	Protected against polarity reversal, Protected against polarity reversal, Overload protection	R412010416

Dimensions



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

### Sensors, Series ST4

Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI

Indirect mounting for series: MNI, CSL-RD, ICM

Electrical connection 2, type: open cable ends

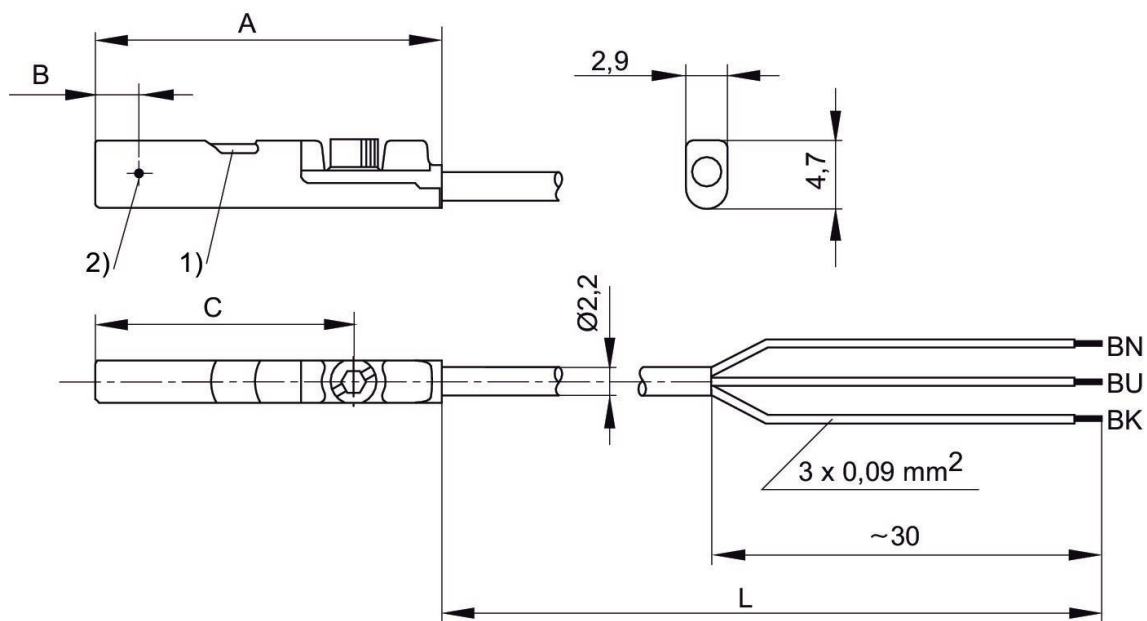
Certificates: UL (Underwriters Laboratories), cULus, RoHS

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



	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]	Version	Part No.
	Reed	3	0.13	0.13	5	30	Protected against polarity reversal	R412019488
	Reed	5	0.13	0.13	5	30	Protected against polarity reversal	R412019489
	electronic PNP	3	0.1		10	30	short circuit resistant, Protected against polarity reversal	R412019680
	electronic PNP	5	0.1		10	30	short circuit resistant, Protected against polarity reversal	R412019681
	NPN	3	0.1		10	30	short circuit resistant, Protected against polarity reversal	R412019684
	NPN	5	0.1		10	30	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

Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI

Indirect mounting for series: MNI, CSL-RD, ICM

Electrical connection 2, type: Plug

Certificates: RoHS

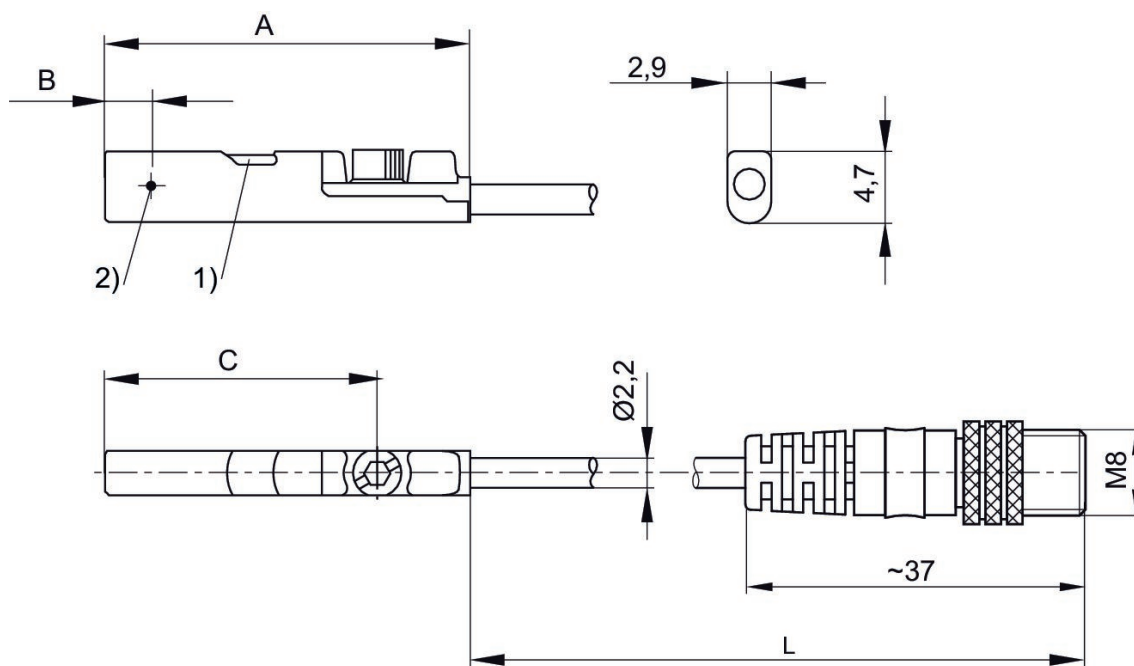
Electrical connection 2, number of poles: 3-pin

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



	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.
	NPN	0.3	0.1	10	30	R412024123
	electronic PNP	0.3	0.1	10	30	R412024125

#### Dimensions

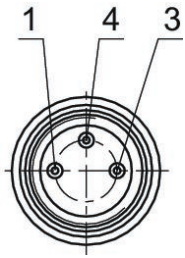


1) LED 2) Switching point  
L = cable length

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

Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI

Indirect mounting for series: MNI, CSL-RD, ICM

Electrical connection 2, type: Plug

Certificates: UL (Underwriters Laboratories), cULus, RoHS

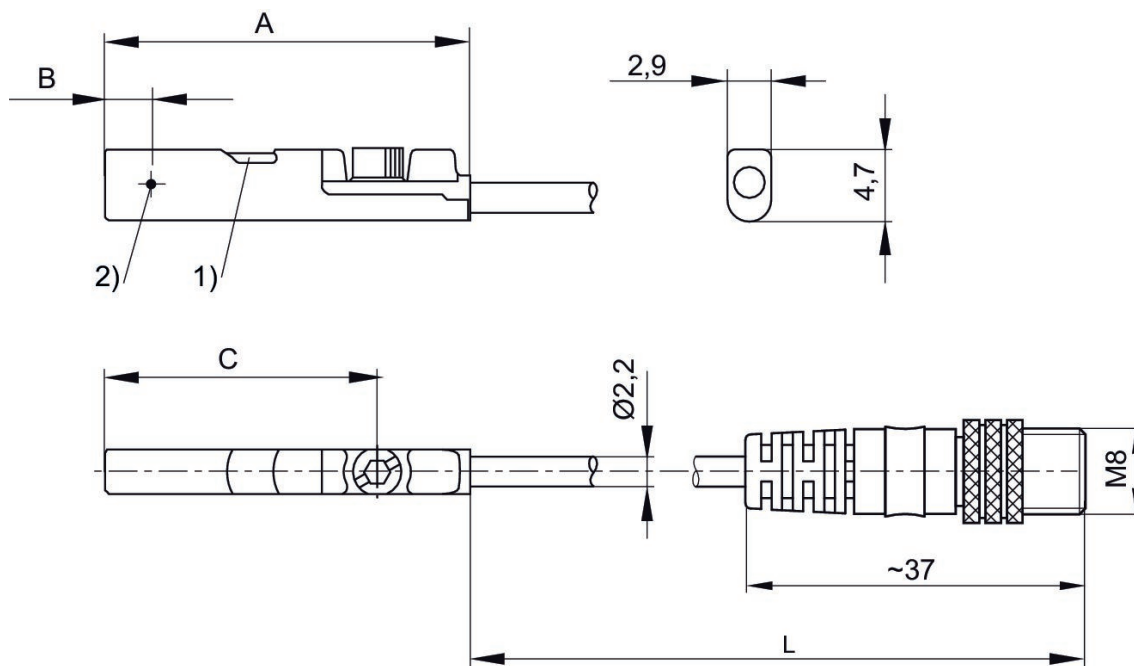
Electrical connection 2, number of poles: 3-pin

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



	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]	Version	Part No.
	Reed	0.3	0.13	0.13	5	30	Protected against polarity reversal	R412019490
	Reed	0.5	0.13	0.13	5	30	Protected against polarity reversal	R412019686
	electronic PNP	0.3	0.1		10	30	short circuit resistant, Protected against polarity reversal	R412019493
	electronic PNP	0.5	0.1		10	30	short circuit resistant, Protected against polarity reversal	R412019687

Dimensions

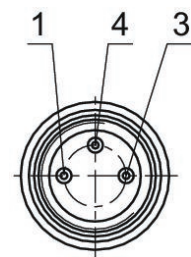


1) LED 2) Switching point  
L = cable length

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

Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI

Indirect mounting for series: MNI, CSL-RD, ICM

Electrical connection 2, type: Plug

Certificates: UL (Underwriters Laboratories), cULus, RoHS

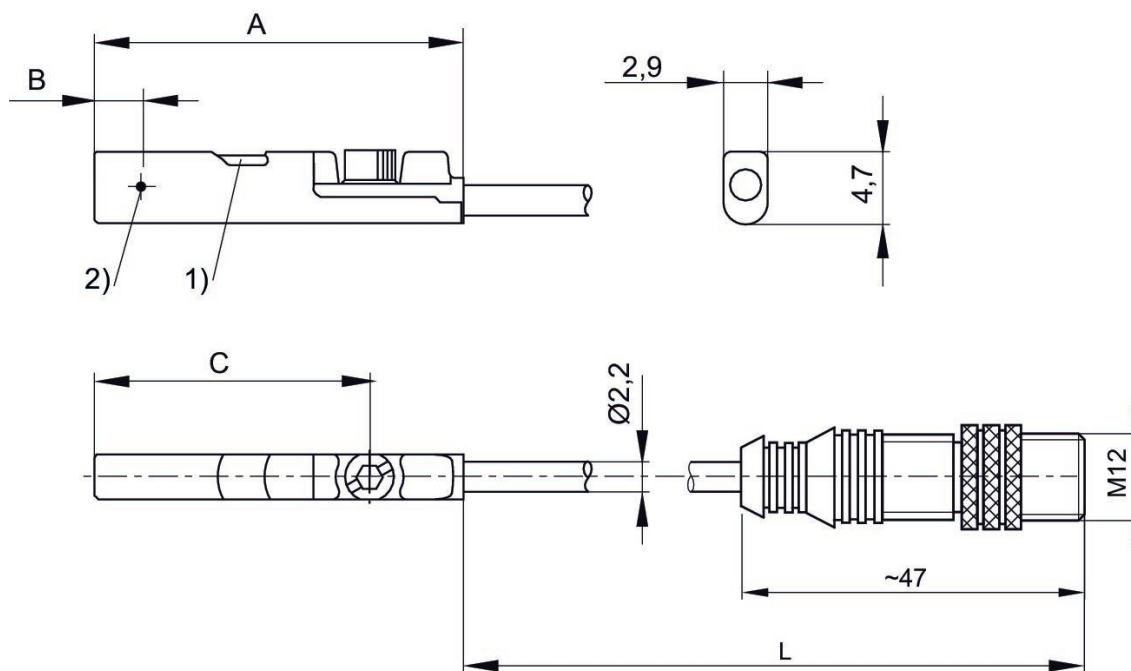
Electrical connection 2, number of poles: 3-pin

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



	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]	Version	Part No.
	Reed	0.3	0.13	0.13	5	30	Protected against polarity reversal	R412019688
	electronic PNP	0.3	0.1		10	30	short circuit resistant, Protected against polarity reversal	R412019689

#### Dimensions

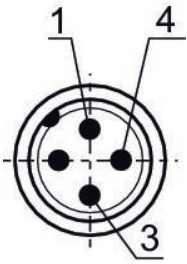


1) LED 2) Switching point

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

Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI

Indirect mounting for series: MNI, CSL-RD, ICM

Electrical connection 2, type: Plug

Certificates: UL (Underwriters Laboratories), cULus, RoHS

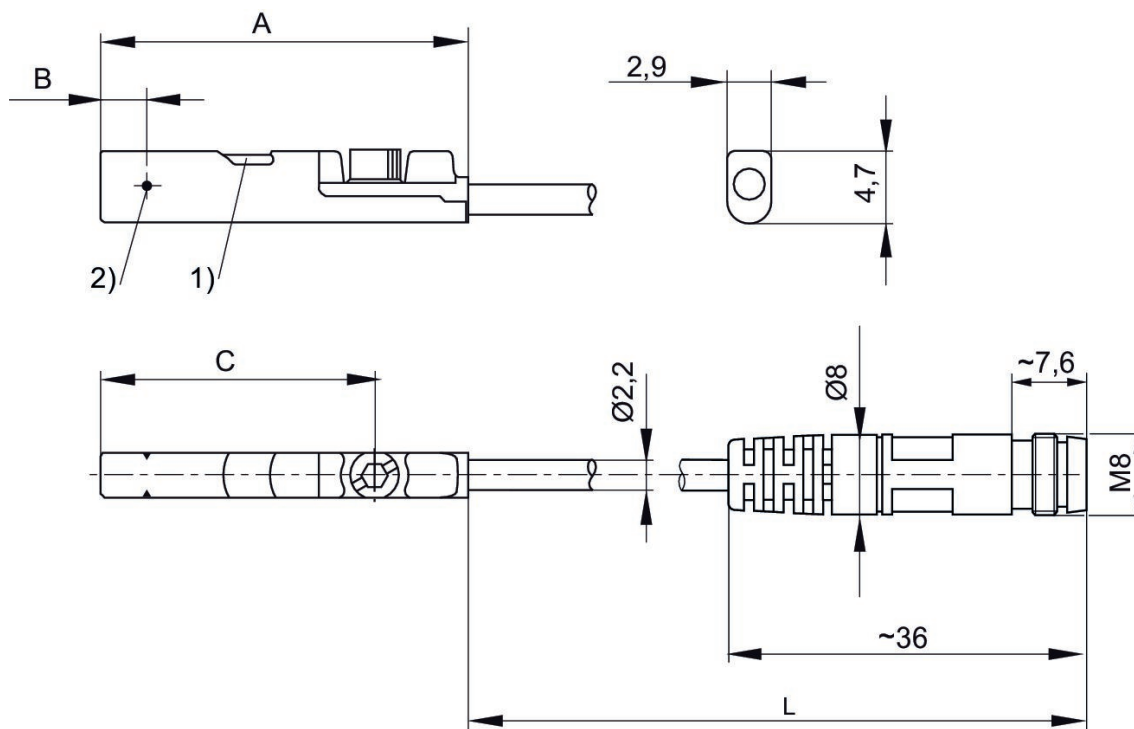
Electrical connection 2, number of poles: 3-pin

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



	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]	Version	Part No.
	Reed	0.3	0.13	0.13	5	30	Protected against polarity reversal	R412019682
	electronic PNP	0.3	0.1		10	30	short circuit resistant, Protected against polarity reversal	R412019683
	NPN	0.3	0.1		10	30	short circuit resistant, Protected against polarity reversal	R412019694

Dimensions

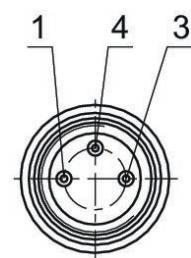


1) LED 2) Switching point  
L = cable length

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

Direct mounting for series: PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI

Indirect mounting for series: MNI, CSL-RD, ICM

Electrical connection 2, type: open cable ends

Certificates: RoHS

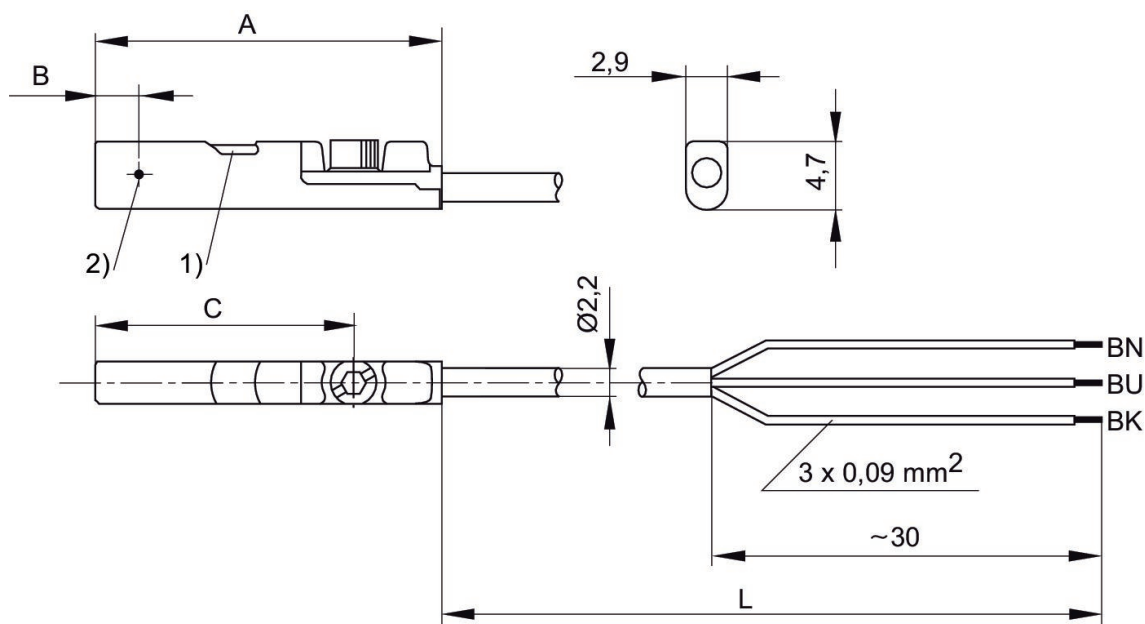
Electrical connection 2, number of poles: 3-pin

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



	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.
	electronic PNP	5	0.1	10	30	R412024124

#### Dimensions



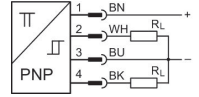
1) LED 2) Switching point

L = cable length BN = brown, BK = black, BU = blue

Part No.	A	B	C
R412024124	23.7	2.8	17.7

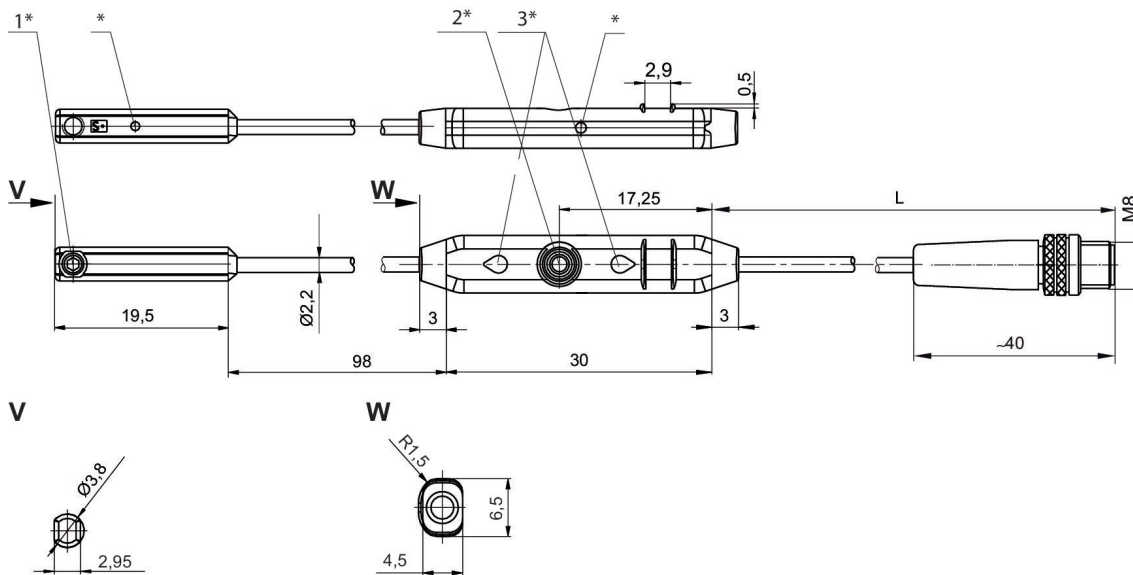
**Sensors, Series ST4-2P**

Direct mounting for series: PRA, SSI, RTC, GPC, MSC, MSN, RCM, CVI  
 Indirect mounting for series: MNI, CSL-RD, ICM  
 Electrical connection 2, type: Plug  
 Certificates: RoHS  
 Electrical connection 2, number of poles: 4-pin  
 Ambient temperature min./max.: -20 °C ... 75 °C



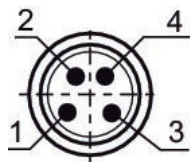
Slot width	Switch descr.	Electrical connection size	Electrical connection number of poles	Part No.
4 mm C-slot	electronic PNP	M8x1	4-pin	R412010140

Dimensions



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

**R412010140**



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

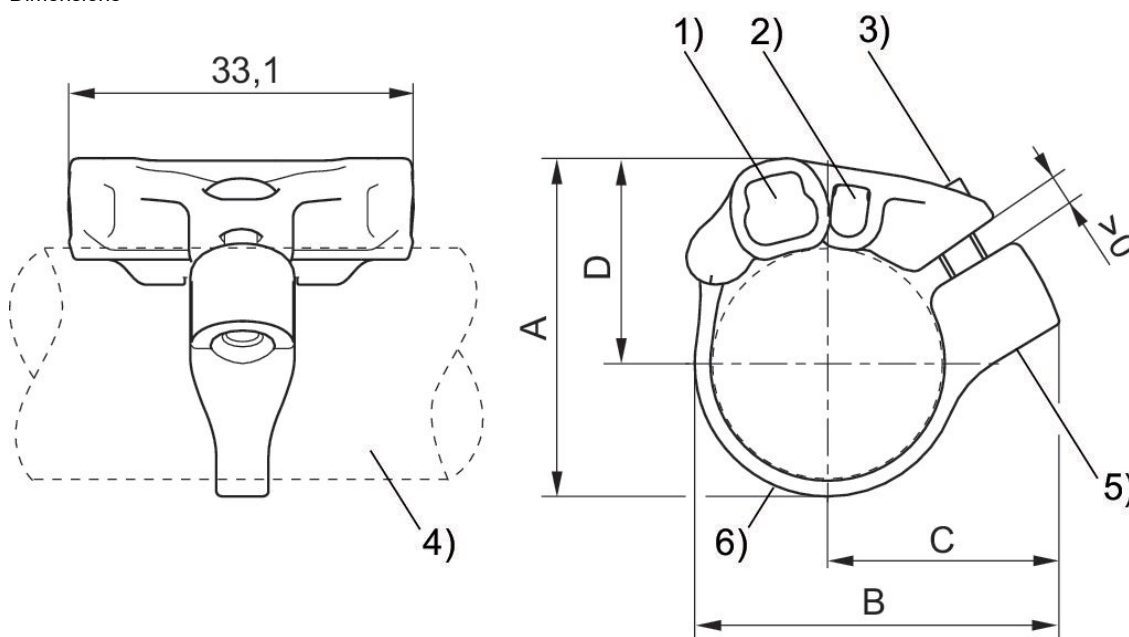
### Sensor mounting, Series CB1

To mount on series: ST4, ST6  
Direct mounting for series: MNI, ICM, CSL-RD  
Ambient temperature min./max.: -30 °C ... 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

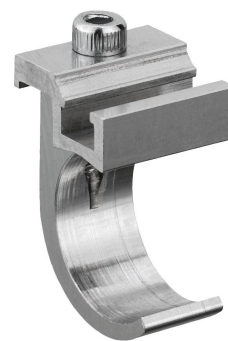


1) Sensor slot for ST6 2) Sensor slot for ST4 3) Mounting screw (made of stainless steel) 4) Cylinder profile 5) Thread insert (made of stainless steel) 6) Tightening strap

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

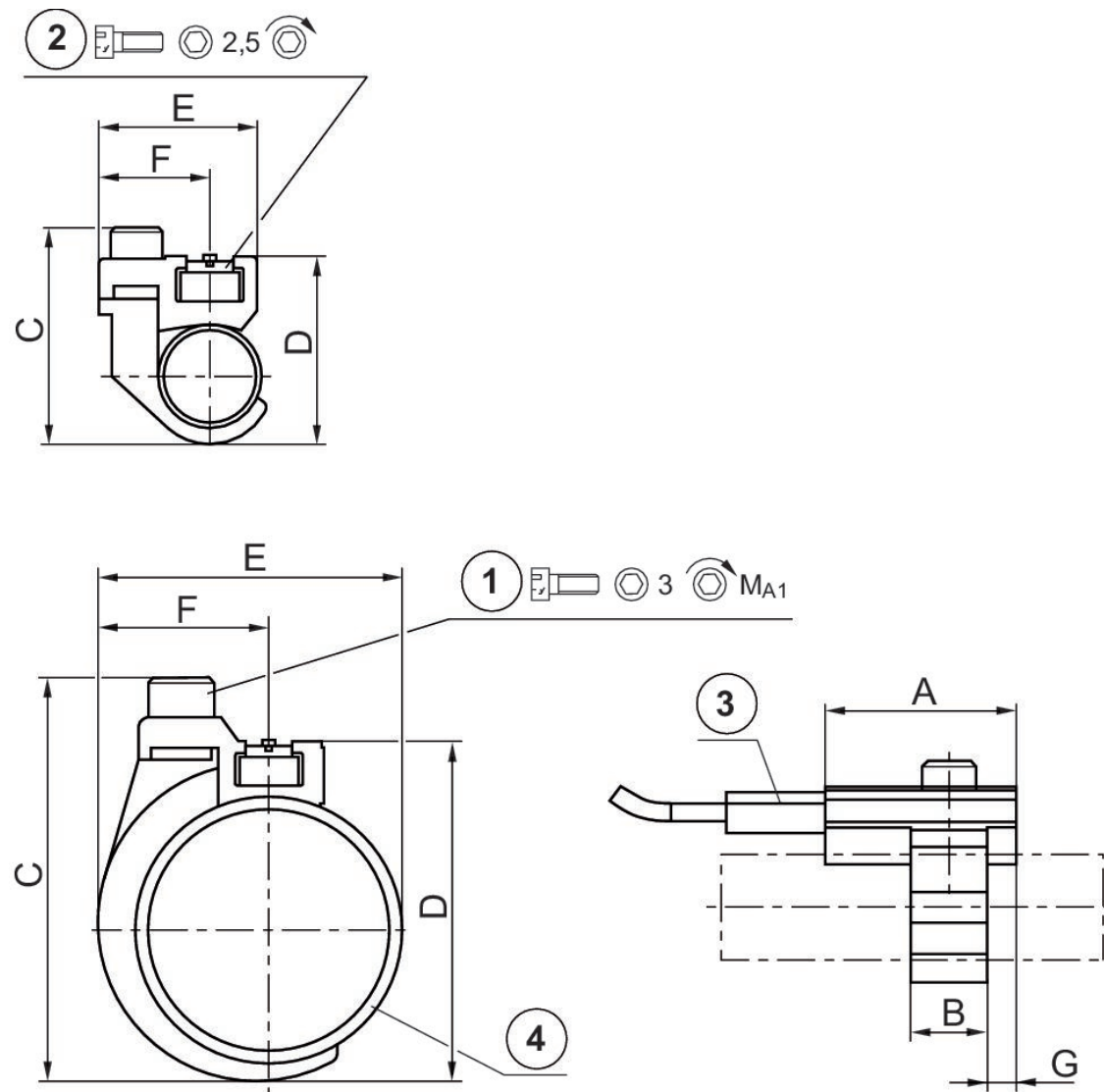
**Sensor mounting, Series CB1**

To mount on series: ST6, SM6  
Direct mounting for 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

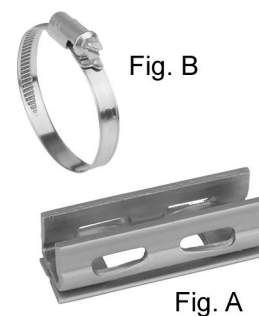
Part No.	Cylinders Ø	A	B	C	D	E	F	G	Mounting screw
1827020296	10 mm	20	8	24	19	17.5	11.8	3	M3x8
1827020297	12 mm	20	8	26	22	19	11.8	3	M3x8
1827020298	16 mm	20	12	34	30	23	13.8	4	M4x10
1827020299	20 mm	20	12	38	32	26	13.8	4	M4x10
1827020300	25 mm	20	12	43	37	31	13.8	4	M4x10

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

### Sensor mounting, Series CB1

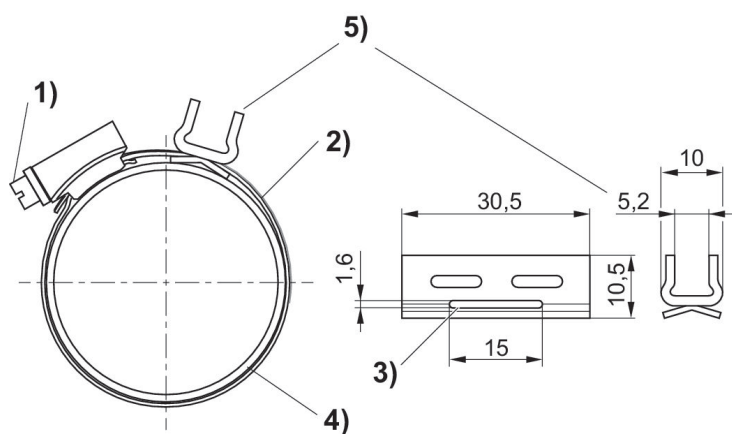
To mount on series: ST6

Direct mounting for series: CSL-RD, ICM, ICS-D1, ICS-D2, RPC



Min. cylinder Ø [mm]	Max. cylinder Ø [mm]	Material	Fig.	Part No.
25	32	Stainless Steel	Fig. B	R412024050
40	40	Stainless Steel	Fig. B	R412024051
50	50	Stainless Steel	Fig. B	R412024052
63	63	Stainless Steel	Fig. B	R412024053
25	63	Stainless Steel	Fig. A	R412024054

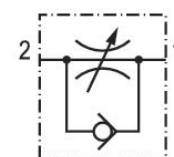
#### Dimensions



1) Mounting screw 2) Tightening strap 3) Opening for tightening strap 4) Cylinder tube 5) Sensor holder

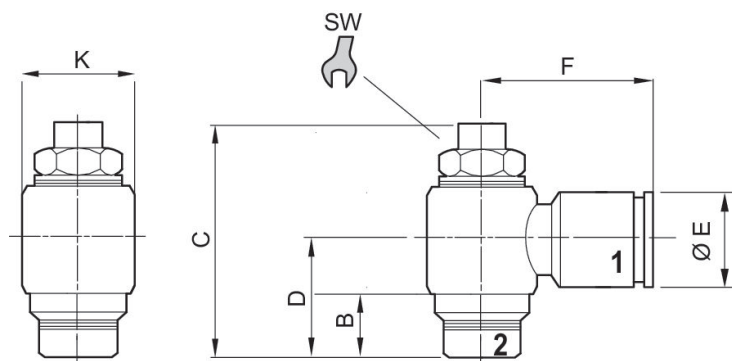
Part No.	Cylinder tube Ø	For series	Fig.
R412024050	25 - 32 mm	ST6	Fig. B
R412024051	40 mm	ST6	Fig. B
R412024052	50 mm	ST6	Fig. B
R412024053	63 mm	ST6	Fig. B
R412024054	25 - 63 mm	ST6	Fig. A

Check-choke valve, stainless steel, Series CC02-SL, Exhaust Air Throttling, Heat resistant



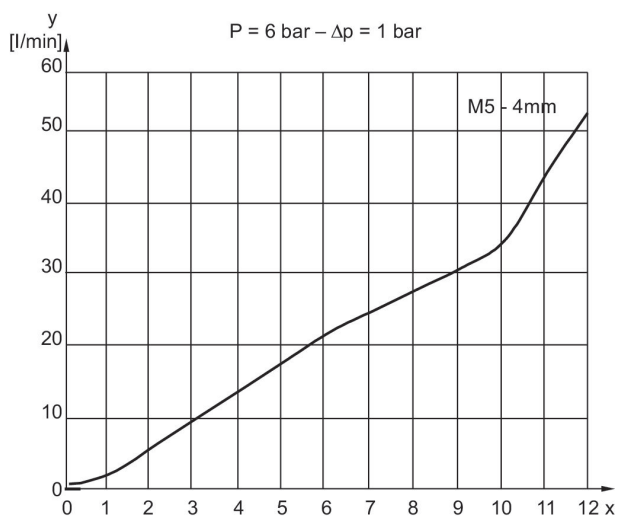
Compressed air connection 1	Compressed air connection type 1	Compressed air connection 2	Compressed air connection type 2	Qn 2 > 1 [l/min]	Part No.
Ø 4	Push-in fitting	M5	External thread	50	R412024736
Ø 4	Push-in fitting	G 1/8	External thread	150	R412024737
Ø 6	Push-in fitting	G 1/8	External thread	190	R412024738
Ø 8	Push-in fitting	G 1/8	External thread	200	R412024739

Dimensions

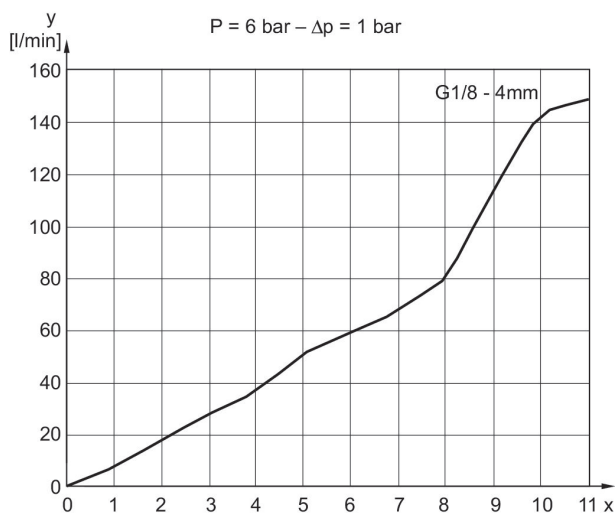


Part No.	Port 1	Port 2	B	C	D	ØE	F	ØK	SW
R412024736	Ø 4	M5	5	28.5	12.5	9	18	10	6
R412024737	Ø 4	G 1/8	5	32	15.5	9	19.5	14	9
R412024738	Ø 6	G 1/8	5	32	15.5	12	22	14	9
R412024739	Ø 8	G 1/8	5	32	15.5	14	22.5	14	9
R412024740	Ø 6	G 1/4	6.5	40	17.5	12	23.5	17	10
R412024741	Ø 8	G 1/4	6.5	40	17.5	14	24	17	10
R412024742	Ø 10	G 1/4	9	52	22	16	28	22	14

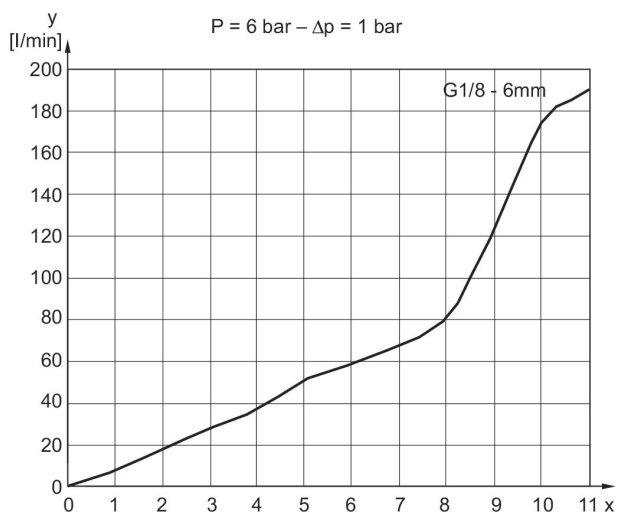
Flow diagram R412024736



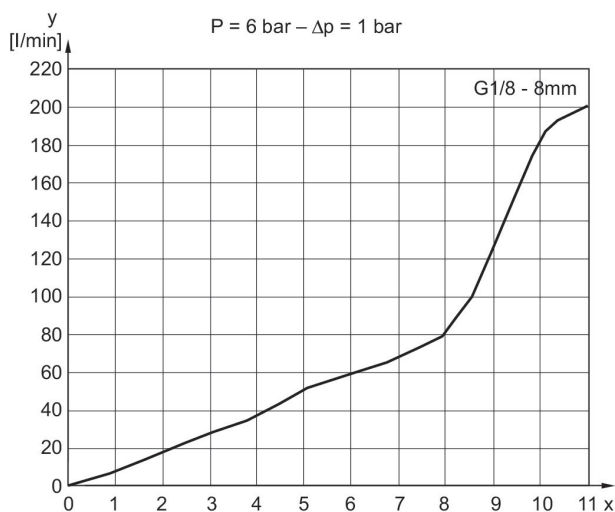
Flow diagram R412024737



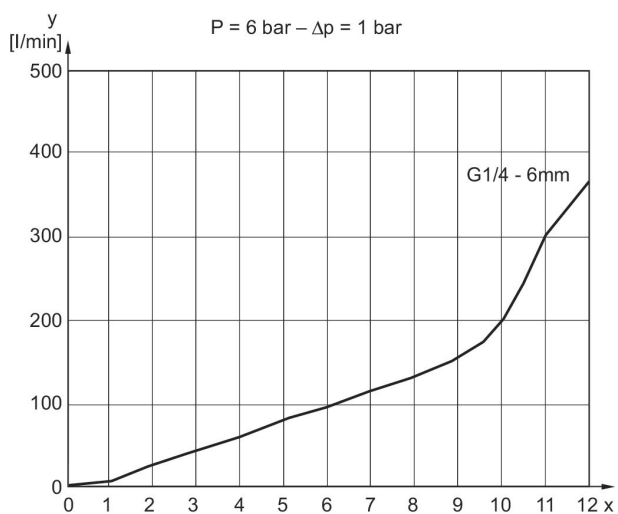
Flow diagram R412024738, R412024750



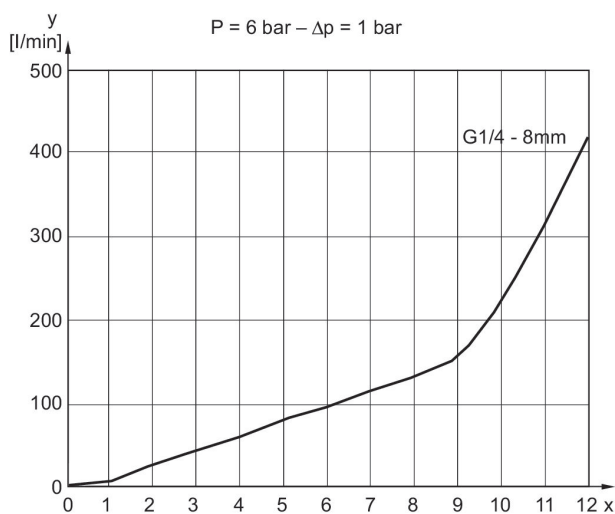
Flow diagram R412024739



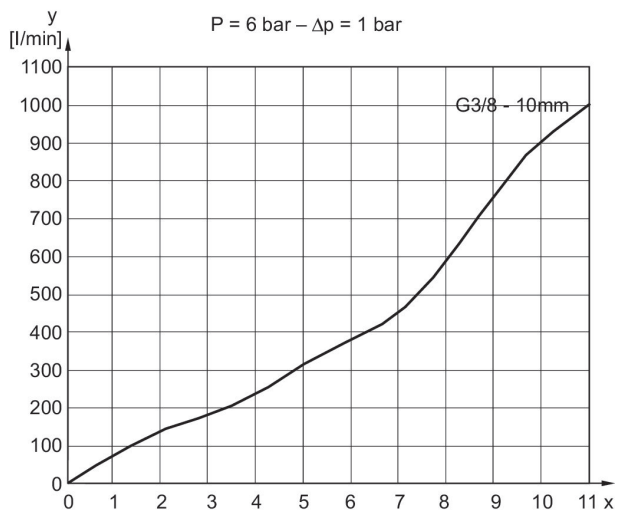
Flow diagram R412024751, R412024740



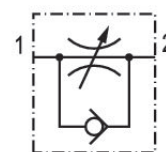
Flow diagram R412024741



Flow diagram

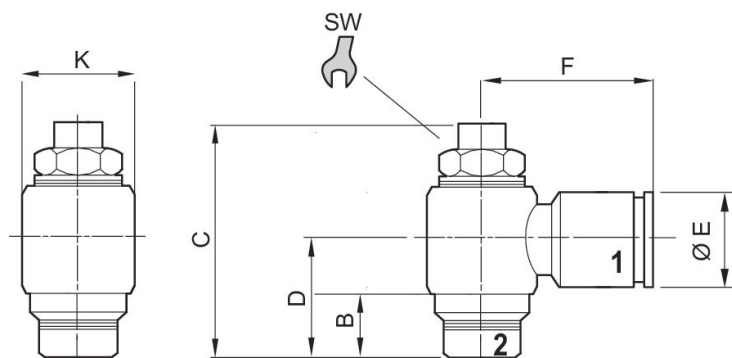


Check-choke valve, stainless steel, Series CC02-SL, Inlet-Side Throttling, Heat resistant



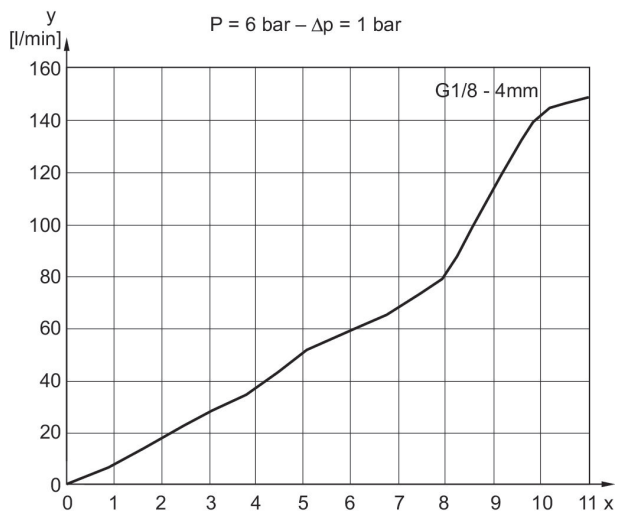
Compressed air connection 1	Compressed air connection type 1	Compressed air connection 2	Compressed air connection type 2	Qn 1 > 2 [l/min]	Part No.
Ø 4	Push-in fitting	G 1/8	External thread	150	R412024749
Ø 6	Push-in fitting	G 1/8	External thread	190	R412024750

Dimensions

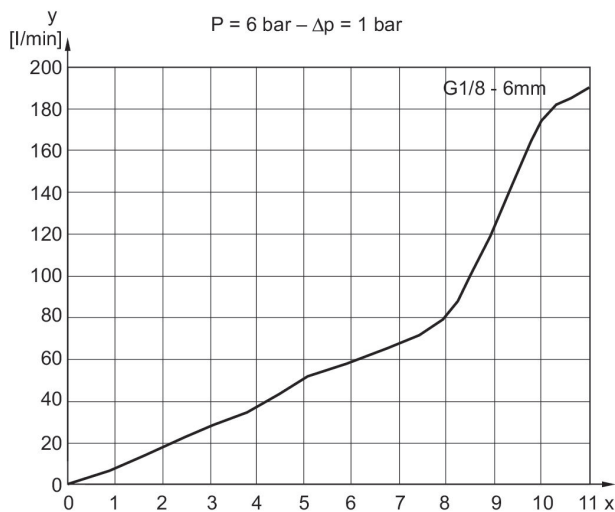


Part No.	Port 1	Port 2	B	C	D	ØE	F	ØK	SW
R412024749	Ø 4	G 1/8	5	32	15.5	9	19.5	14	9
R412024750	Ø 6	G 1/8	5	32	15.5	12	22	14	9
R412024751	Ø 6	G 1/4	6.5	40	17.5	12	23.5	17	10
R412024752	Ø 8	G 1/4	6.5	40	17.5	14	24	17	10
R412024753	Ø 10	G 3/4	9	52	22	16	28	22	14

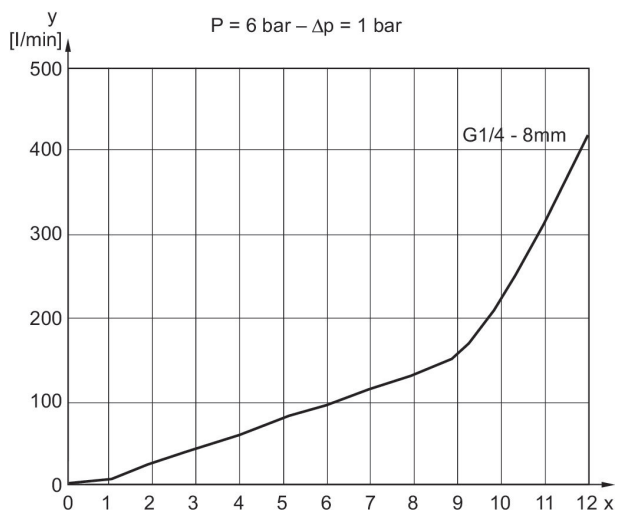
Flow diagram



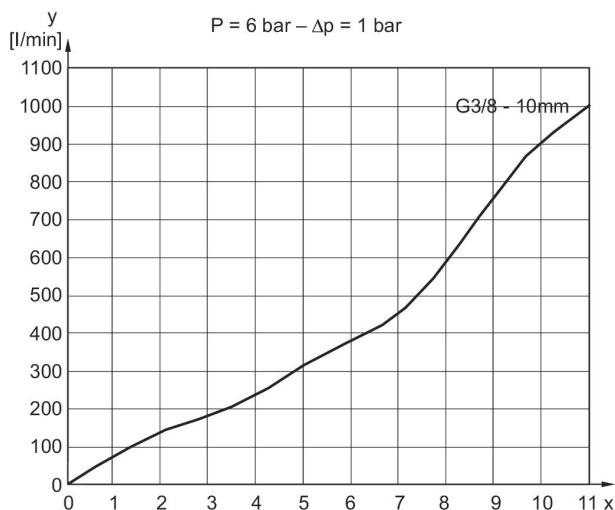
Flow diagram R412024738, R412024750



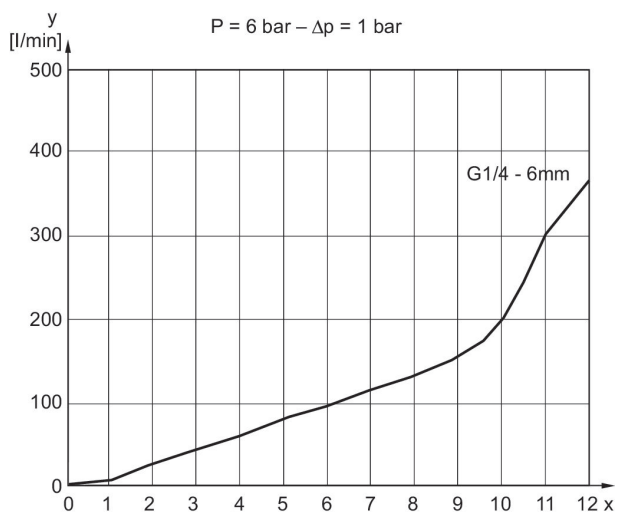
Flow diagram R412024752



Flow diagram R412024753



Flow diagram R412024751, R412024740



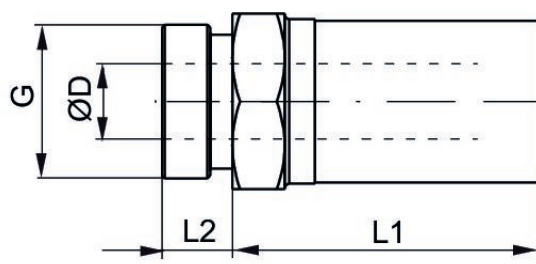
### AVENTICS Series SI1 Silencers

Compressed air connection type: External thread  
 Silencer material: Stainless Steel  
 Ambient temperature min./max.: -20 °C ... 150 °C  
 Working pressure min./max.: 0 bar ... 10 bar



G	Sound pressure level [dB]	Nominal flow [l/min]	Delivery unit [piece]	Weight [kg]	Part No.
M5	85	73	1	0.003	R412010090
G 1/8	90	1312	1	0.011	R412010081

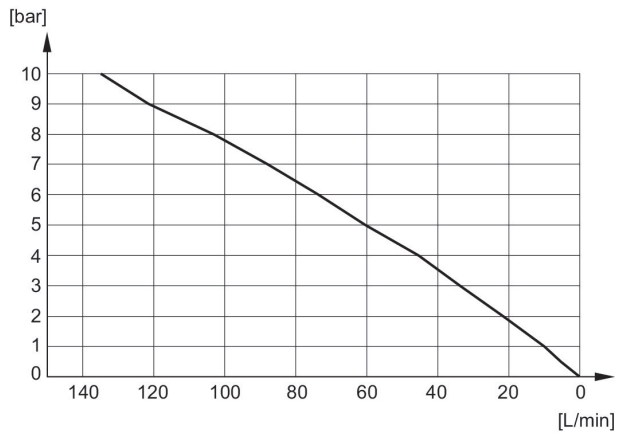
Dimensions



Part No.	Port G	SW	Ø D	L1	L2
R412010090	M5	9	3.1	16.5	5
R412010081	G 1/8	12	6.6	21.5	7
R412010082	G 1/4	15	8.6	24	9
R412010083	G 3/8	19	12.1	31	9
R412010084	G 1/2	23	15.3	38.5	9.5
R412010085	G 3/4	30	19.3	47.5	11
R412010086	G 1	36	25.5	56	15

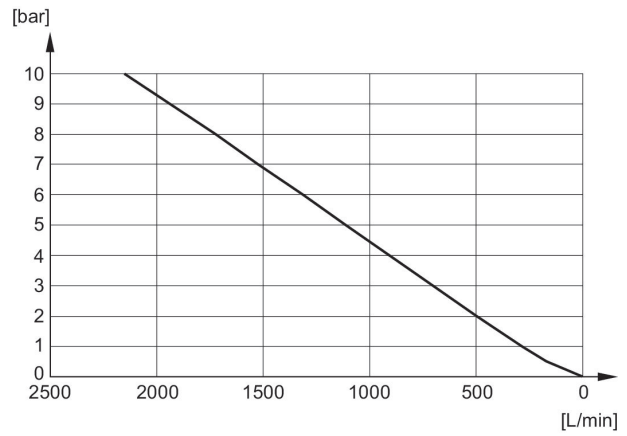
Flow diagram

R412010090



Flow diagram





R412010081



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