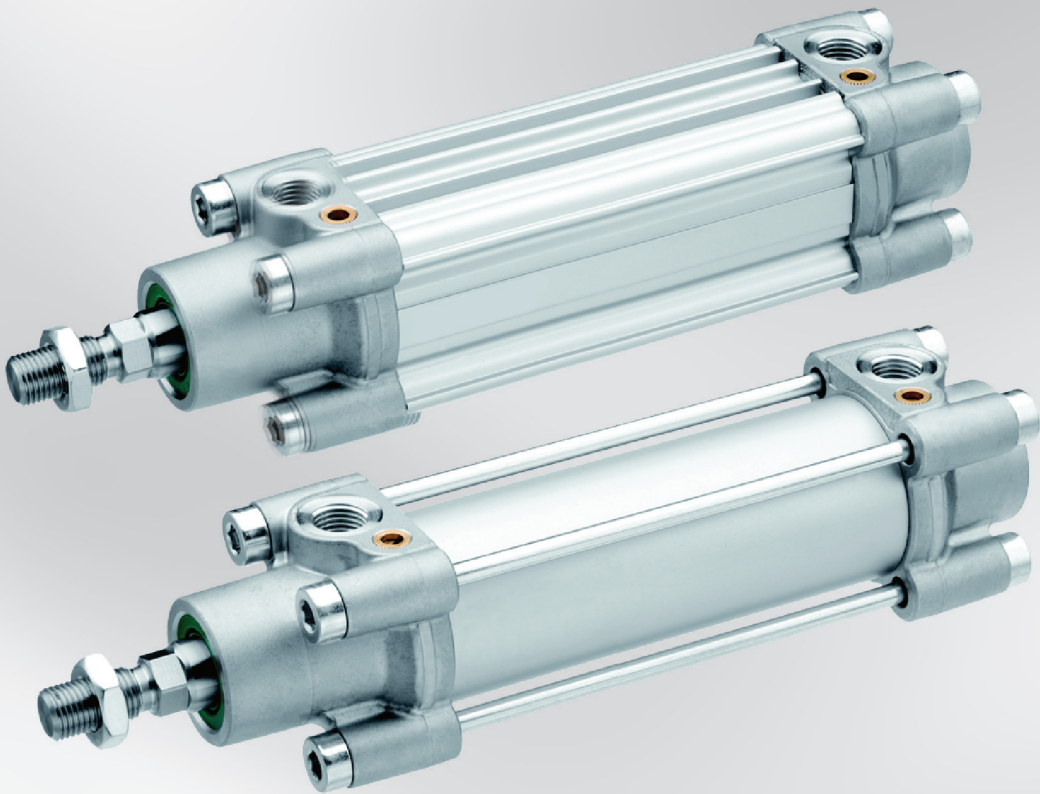


SERIES PRA AND TRB
ISO 15552 PNEUMATIC CYLINDERS



Series PRA and TRB

Pneumatic ISO 15552 Cylinders

The next generation of ISO cylinders from AVENTICS

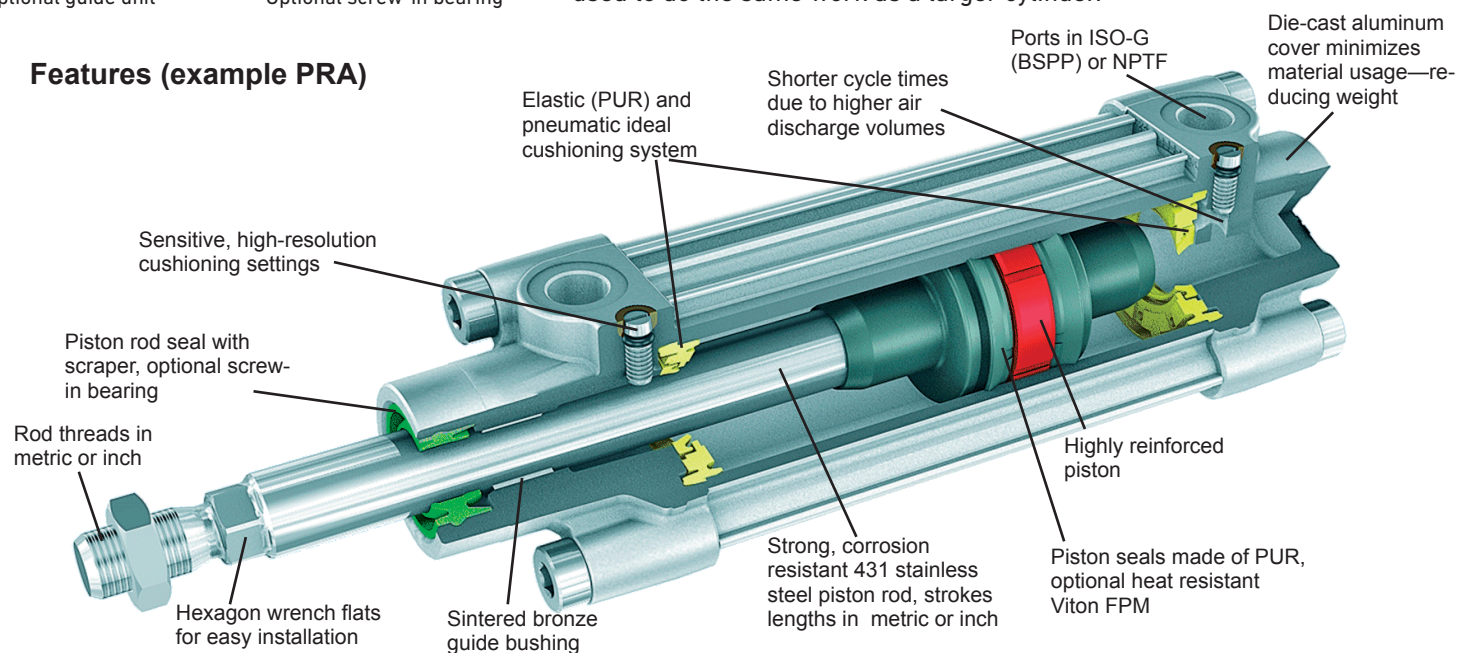
The Series PRA and TRB cylinder series represent consistent further development of our proven ISO cylinder designs. They offer the classic solution for numerous tasks and applications in nearly all industries—available worldwide to a uniform standard. The latest series are considerably lighter, more efficient and have superior cushioning design—taking full advantage of the AVENTICS Ideal Cushioning technology.



What is AVENTICS “Ideal Cushioning”?

Ideal cushioning is a combination of precise adjustable pneumatic cushions and elastic bumpers that work together to eliminate end-of-stroke bounce and minimize residual energy. This reduces vibration and noise while reducing cycle times. What’s this mean for you? AVENTICS cylinders that are ideal cushioning capable, when properly adjusted, will last longer and run faster than other comparable cylinders. Our Velocity Time Meter measures piston speed to allow perfect adjustment of the cushions. Ideal cushioning allows machinery to last longer plus run faster and with less noise. Many times a AVENTICS Ideal Cushioning-capable cylinder of a smaller bore size can be used to do the same work as a larger cylinder.

Features (example PRA)



Specifications for both **PRA** (P**ro**file **A**dvanced) and **TRB** (T**ie** **R**od **B**asic):

Stroke range: 1—110" or 1—2800mm

Working pressure: 22 to 145psi (1.5 to 10 bar)

Bore sizes: 32—125mm

Temperature range: -4°F to +175°F (-20°C to +80°C)

heat resistant version to +300°F (+150°C)

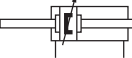
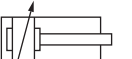


Focused
Delivery
Program

Many styles and sizes of Series PRA/TRB are included in the AVENTICS Quick Ship focused delivery program. For details on the program and the part numbers included, visit www.aventics.com/us/QuickShipPRA-TRB

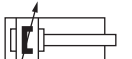
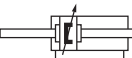
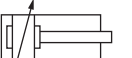
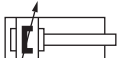
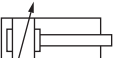
Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA

		Profile cylinder, ISO 15552, Series PRA & TRB □ Ø 32 - 125 mm □ Common Specifications	4
		Profile cylinder, ISO 15552, Series PRA □ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF □ double-acting □ magnetic piston □ ideal cushioning □ single rod, male thread (Inch and Metric)	6
		Profile cylinder, ISO 15552, Series PRA □ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF □ double-acting □ magnetic piston □ ideal cushioning □ double rod, male thread (Inch and Metric)	8
		Profile cylinder, ISO 15552, Series PRA □ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2 □ double-acting □ heat resistant □ adjustable cushioning □ single rod, male thread (Metric Only)	10

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series TRB

		ISO 15552, Series TRB □ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF □ double-acting □ magnetic piston □ ideal cushioning □ single rod, male thread (Inch and Metric)	11
		ISO 15552, Series TRB □ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF □ double-acting □ magnetic piston □ ideal cushioning □ double rod, male thread (Inch and Metric)	13
		ISO 15552, Series TRB □ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2 □ double-acting □ heat resistant □ adjustable cushioning □ single rod, male thread (Metric Only)	15
		ISO 15552, Series TRB (MT4) □ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF □ double-acting □ magnetic piston □ mid-stroke fixed trunnion mount □ ideal cushioning □ single rod, male thread (Metric Only)	16
		ISO 15552, Series TRB □ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2 □ double-acting □ adjustable cushioning □ low friction cylinder (Metric Only)	17

Accessories

Screw-in bearing (PRA and TRB) and seal kits

	Screw-in bearing (PRA and TRB) □ seal kits	18
---	---	----

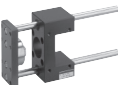
Cylinder mountings

	Bearing block AB7 with fixed bearing (PRA and TRB) □ Cylinder mounting in accordance with ISO 15552	19
	Clevis mounting AB6 (PRA and TRB) □ Cylinder mounting in accordance with ISO 15552	20
	Bearing block with ball joint and foot, angled (PRA and TRB) □ Cylinder mounting in accordance with VDMA 24562 part 2	21
	Clevis mounting MP2 (PRA and TRB) □ Cylinder mounting in accordance with ISO 15552	21
	Rear eye MP4 for MP2 clevis mounting (PRA and TRB) □ Cylinder mounting in accordance with ISO 15552	22
	Rear eye MP9 with rubber bushing (PRA and TRB) □ Cylinder mounting in accordance with ISO 15552	23
	Bearing AT4 for trunnion mounting MT4 (PRA and TRB) □ Cylinder mounting in accordance with ISO 15552	24

Note: Cylinders marked “adjustable cushioning” do not have mechanical bumpers like the ones marked “ideal cushioning”.

Piston rod cylinders → Standard cylinders

★ **ISO 15552, Series PRA & TRB**

	MT4 center trunnion mounting (PRA only) □ Cylinder mounting in accordance with ISO 15552	24
	Flange mounting MF1, MF2 (PRA and TRB) □ Cylinder mounting in accordance with ISO 15552	25
	Rear eye with ball joint, MP6 (PRA and TRB) □ Cylinder mounting in accordance with ISO 15552	26
	Trunnion mounting MT5/MT6, front or rear (PRA and TRB) □ Cylinder mounting in accordance with ISO 15552	27
	Intermediate flange for multi-position cylinders (PRA and TRB)	28
	Foot mounting MS1 (PRA and TRB)	28
	AA4 pivot pin (PRA and TRB)	29
Piston rod mountings		
	Piston rod nut MR9 (Metric)	30
	Flexible spherical coupling PM5 (Metric)	30
	Rod clevis AP2 (Metric)	31
	Ball eye rod end AP6 (Metric)	31
	Inch rod accessories	32
Guide units		
	Guide unit, GU1 (PRA and TRB) □ Ø 32 - 100 mm □ Plain bearing □ for standard cylinder ISO 15552	33
	Guide unit, GH2 (PRA and TRB) □ Ø 32 - 100 mm □ linear ball bearing □ for standard cylinder ISO 15552	35
	Guide unit, GH1 (PRA and TRB) □ Ø 32 - 100 mm □ Plain bearing □ for standard cylinder ISO 15552	40
	Flange mounting (PRA and TRB) □ 'U' version, for guide units, Ø 80 - 100 mm	43
	Flange mounting (PRA and TRB) □ for guide units, 'H' version, Ø 12 - 100 mm	44
	Flexible coupling GU3 form C (PRA and TRB) □ for guide units □ version 'U' and 'H', Ø12–63	44

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

	Flexible coupling GU3 form B (PRA and TRB) □ for guide units □ 'H' version, Ø20–100	45
	Holding unit, HU1 (PRA and TRB) □ Ø32 - 100 mm □ hold: spring force, release: compressed air	46
	Holding cartridge, HU2 (PRA and TRB) □ Ø20 - 100 mm □ hold: spring force, release: compressed air	48
	Locking Unit LU6 (PRA and TRB) □ Ø32 - 125 mm □ hold: non-adjustable spring force, release: compressed air	49

Sensors and sensor mountings, accessories

	Sensor, Series ST6 (PRA and TRB) □ 6 mm groove □ with cable □ without wire end ferrule, tin-plated	50
	Sensor, Series ST6 (PRA and TRB) □ 6 mm groove □ with cable □ Plug, M8, 3-pin, with knurled screw	51
	Sensor, Series ST6 (PRA and TRB) □ 6 mm groove □ with cable □ Plug, M8, 3-pin	52
	Sensor, Series ST6 (PRA and TRB) □ 6 mm groove □ with cable □ Plug, M12, 3-pin, with knurled screw	54
	Sensor, Series SM6 (PRA and TRB) □ 6 mm groove □ with cable □ Plug, M8x1, 4-pin, with knurled screw □ distance measuring sensor	55
	Sensor, Series ST8 (PRA and TRB) □ 8 mm groove □ with cable □ without wire end ferrule, tin-plated	56
	Sensor, Series ST8 (PRA and TRB) □ 8 mm groove □ with cable □ Plug, M8	57
	Sensor, Series ST8 (PRA and TRB) □ 8 mm groove □ with cable □ Plug, M12, 3-pin, with knurled screw	58
	Connecting cable with plug (PRA and TRB) □ without wire end ferrule □ tin-plated	59
	Connecting cable with plug, M8x1 (PRA and TRB) □ Socket, M8, 3-pin □ without wire end ferrule □ tin-plated, 3-pin	61
	Connecting cable, Series CN1 (PRA and TRB) □ Socket, M12, 5-pin □ without wire end ferrule □ tin-plated, 5-pin	62

Sensors and sensor mountings, accessories (PRA only)

	Sensor mounting (PRA only) □ for Sensor Series ST6 □ to mount on cylinder, series PRA	63
	Sensor mounting (PRA only) □ for Sensor Series ST8 □ to mount on cylinder series PRA	64
	Groove lock profile (PRA only)	64

Sensors and sensor mountings, accessories (TRB only)

	Sensor mountings □ for Sensor Series ST6 □ to mount on cylinder series TRB	65
	Sensor mounting □ for Sensor Series ST6 □ to mount on cylinder series TRB	65
	Sensor mounting □ for Sensor ST8 □ to mount on cylinder series TRB	66
	Velocity - Timer - Meter, Series VTM □ for measuring piston speed and stroke times	66

Piston rod cylinders → Standard cylinders

★ **Profile cylinder, ISO 15552, Series PRA & TRB**

□ Ø 32 - 125 mm □ Common Specifications

Standards	ISO 15552
Compressed air connection	internal thread, NPTF or ISO 1179-1 / ISO 16030
Working pressure min./max.	22 psi – 145psi (1.5 to 10 bar)
Ambient temperature min./max.	-4°F to + 175°F (-20°C to + 80°C)
High Temp version (1)	14°F to +300°F (-10°C to +150°C)
Medium	Compressed air
Minimum filtration	50 µm
Medium temperature min./max.	-4°F to + 175°F (-20°C to + 80°C)
Oil content of compressed air	0 mg/m³ - 5 mg/m³
Pressure for determining piston forces	6.3 bar (91.3 psi)
Materials:	
Cylinder tube (2)	Aluminum, anodized
Piston rod	431 Stainless steel
Front cover	Die-cast aluminum
End cover	Die-cast aluminum
Piston Seals (3)	Polyurethane
Piston rod nut	Steel, galvanized
Scraper (3)	Polyurethane



Profile cylinder, ISO 15552, Series PRA



ISO 15552, Series TRB

Piston Ø	Bore	32mm / 1-1/4"	40mm / 1-1/2"	50mm / 2"	63mm / 2-1/2"
Extending piston force (4)	N (lb-f)	505 (372.7)	790 (583)	1235 (911.4)	1960 (1446.5)
Retracting piston force (5)	N (lb-f)	435 (321)	660 (487.1)	1035 (763.8)	1765 (1302.6)
Max piston speed (extend)	m/s (in/s)	3 (118.1)	3 (118.1)	2.5 (98.4)	2.5 (98.4)
Cushion length	mm (in)	11.5 (0.5)	15 (0.6)	17 (0.7)	16.5 (0.6)
Max Cushioning energy	J (ft-lb)	4.8 (3.54)	9 (6.64)	15 (11.06)	27 (19.91)
Min. pressure PUR seals (typical break-away)	[bar] (psi)	0.13 (1.89)	0.12 (1.74)	0.08 (1.16)	0.07 (1.02)
Min. pressure FPM seals (typical break-away)	[bar] (psi)	0.08 (1.16)	0.06 (0.87)	0.04 (0.58)	0.04 (0.58)
Min. pressure low friction seals (6) (1)	[bar] (psi)	0.05 (0.73)	0.04 (0.58)	0.03 (0.44)	0.03 (0.44)
Stroke max.	mm (in)	1600 (63)	1900 (74.8)	2100 (82.7)	2500 (98.4)
Weight (PRA Single rod) (0mm stroke)	kg (lb)	0.5 (1.1)	0.65 (1.43)	1.06 (2.34)	1.42 (3.13)
Weight (PRA Single rod) +10 mm (1/2") stroke	kg (lb)	0.022 (0.06)	0.032 (0.09)	0.047 (0.13)	0.054 (0.15)
Weight (TRB Single rod) (0mm stroke)	kg (lb)	0.46 (1.01)	0.67 (1.48)	1.14 (2.51)	1.4 (3.09)
Weight (TRB Single rod) +10 mm (1/2") stroke	kg (lb)	0.024 (0.07)	0.03 (0.08)	0.036 (0.1)	0.052 (0.15)
Weight (PRA Double rod) (0mm stroke)	kg (lb)	0.58 (1.28)	0.8 (1.76)	1.34 (2.95)	1.72 (3.79)
Weight (PRA Double rod) +10 mm (1/2") stroke	kg (lb)	0.031 (0.09)	0.048 (0.13)	0.072 (0.2)	0.079 (0.22)
Weight (TRB Double rod) (0mm stroke)	kg (lb)	0.52 (1.15)	0.48 (1.06)	1.42 (3.13)	1.7 (3.75)
Weight (TRB Double rod) +10 mm (1/2") stroke	kg (lb)	0.033 (0.09)	0.046 (0.13)	0.061 (0.17)	0.077 (0.22)
	Note	(7)	(7)	(8)	(8)

Notes

- (1) Not compatible with magnetic piston
- (2) TRB low friction version tube material is steel
- (3) Other materials available as options
- (4) Single rod only
- (5) Both extend and retract, double rod version
- (6) TRB Only
- (7) TRB Tie-rod material: Stainless steel
- (8) TRB Tie-rod material: Steel, galvanized

Metric versions include rod nut, inch versions do not.

Piston rod cylinders → Standard cylinders

★ Profile cylinder, ISO 15552, Series PRA & TRB

□ Ø 32 - 125 mm □ Common Specifications

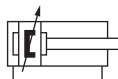
Piston Ø	Bore	80mm / 3"	100 / 4"	125mm / 5"
Extending piston force (3)	N (lb-f)	3165 (2335.8)	4945 (3649.4)	7725 (5701.1)
Retracting piston force (4)	N (lb-f)	2855 (2107)	4635 (3420.6)	7220 (5328.4)
Max piston speed (extend)	m/s (in/s)	1.8 (70.8)	1.8 (70.8)	1.2 (47.2)
Cushion length	mm (in)	19.5 (0.8)	19.5 70.9	22 47.2
Max Cushioning energy	J (ft-lb)	54 (39.83)	88 (64.9)	140 (103.25)
Min. pressure PUR seals	[bar] (psi)	0.05 (0.73)	0.03 (0.44)	0.03 (0.44)
Min. pressure FPM seals	[bar] (psi)	0.03 (0.44)	0.03 (0.44)	0.02 (0.29)
Min. pressure low friction seals (5) (6)	[bar] (psi)	0.02 (0.29)	0.02 (0.29)	0.01 (0.15)
Stroke max.	mm (in)	2800 (110.2)	2800 (110.2)	2750 (108.3)
Weight (PRA Single rod) (0mm stroke)	kg (lb)	2.37 (5.23)	3.51 (7.74)	6.72 (14.82)
Weight (PRA Single rod) +10 mm (1/2") stroke	kg (lb)	0.085 (0.24)	0.1 (0.28)	0.15 (0.42)
Weight (TRB Single rod) (0mm stroke)	kg (lb)	2.12 (4.67)	3.16 (6.97)	6.92 (15.26)
Weight (TRB Single rod) +10 mm (1/2") stroke	kg (lb)	0.06 (0.17)	0.065 (0.18)	0.21 (0.59)
Weight (PRA Double rod) (0mm stroke)	kg (lb)	2.92 (6.44)	4.08 (9)	8.92 (19.67)
Weight (PRA Double rod) +10 mm (1/2") stroke	kg (lb)	0.124 (0.35)	0.139 (0.39)	0.22 (0.62)
Weight (TRB Double rod) (0mm stroke)	kg (lb)	2.67 (5.89)	3.7 (8.16)	9 (19.85)
Weight (TRB Double rod) +10 mm (1/2") stroke	kg (lb)	0.099 (0.28)	0.104 (0.29)	0.26 (0.73)
	Note	(8)	(8)	(8)

Notes

- (1) Not compatible with magnetic piston
- (2) TRB low friction version tube material is steel
- (3) Other materials available as options
- (4) Single rod only
- (5) Both extend and retract, double rod version
- (6) TRB Only
- (7) TRB Tie-rod material: Stainless steel
- (8) TRB Tie-rod material: Steel, galvanized

★ Profile cylinder, ISO 15552, Series PRA

□ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF □ double-acting □ magnetic piston □ ideal cushioning □ single rod, male thread (Inch and Metric)


Technical Remarks

- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of air pressure must remain constant during the life cycle.
- ATEX-certified cylinders can be generated in the configurator.
- ATEX ID II 2G2D c T4 T135°C -20°C ≤Ta ≤60°C
- For ATEX-certified cylinders, the temperature range specified in the header does not apply. See the ATEX ID.

Inch Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 7/16 - 20 UNF 1/8 NPTF 12	40 1/2 - 20 UNF 1/4 NPTF 16	50 3/4 - 16 UNF 1/4 NPTF 20	63 3/4 - 16 UNF 3/8 NPTF 20	80 3/4 - 16 UNF 3/8 NPTF 25	100 3/4 - 16 UNF 1/2 NPTF 25	125 1 - 14 UNF 1/2 NPTF 32
	* Stroke 0010	R480176154	R480176238	R480176328	R480176417	R480176506	R480176593	R480176685
	0020	R480176162	R480176251	R480176334	R480176427	R480176510	R480176601	R480176689
	0030	R480176169	R480176257	R480176345	R480176437	R480176523	R480176609	R480176694
	0040	R480176174	R480176263	R480176354	R480176441	R480176526	R480176614	R480176707
	0050	R480176187	R480176275	R480176363	R480176452	R480176534	R480176626	R480176712
	0060	R480176190	R480176280	R480176370	R480176459	R480176546	R480176633	R480176721
	0070	R480176201	R480176293	R480176377	R480176464	R480176554	R480176641	R480176729
	0080	R480176209	R480176298	R480176383	R480176472	R480176561	R480176646	R480176736
	0090	R480176218	R480176304	R480176395	R480176480	R480176567	R480176660	R480176746
	0100	R480176228	R480176316	R480176400	R480176490	R480176581	R480176665	R480176754
	0120	R480176232	R480176321	R480176412	R480176500	R480176585	R480176676	R480176761

Metric Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 M10x1,25 G 1/8 12	40 M12x1,25 G 1/4 16	50 M16x1,5 G 1/4 20	63 M16x1,5 G 3/8 20	80 M20x1,5 G 3/8 25	100 M20x1,5 G 1/2 25	125 M27x2 G 1/2 32
	** Stroke 25	0822120001	0822121001	0822122001	0822123001	0822124001	0822125001	R480140491
	50	0822120002	0822121002	0822122002	0822123002	0822124002	0822125002	R480140455
	80	0822120003	0822121003	0822122003	0822123003	0822124003	0822125003	R480141371
	100	0822120004	0822121004	0822122004	0822123004	0822124004	0822125004	R480079499
	125	0822120005	0822121005	0822122005	0822123005	0822124005	0822125005	R480140083
	160	0822120006	0822121006	0822122006	0822123006	0822124006	0822125006	R480079809
	200	0822120007	0822121007	0822122007	0822123007	0822124007	0822125007	R480140833
	250	0822120008	0822121008	0822122008	0822123008	0822124008	0822125008	R480141106
	320	0822120009	0822121009	0822122009	0822123009	0822124009	0822125009	R480140759
	400	0822120010	0822121010	0822122010	0822123010	0822124010	0822125010	R480141373
	500	0822120011	0822121011	0822122011	0822123011	0822124011	0822125011	R480141666

* First 3 digits of inch stroke are whole inches, 4th digit 1/8" increments

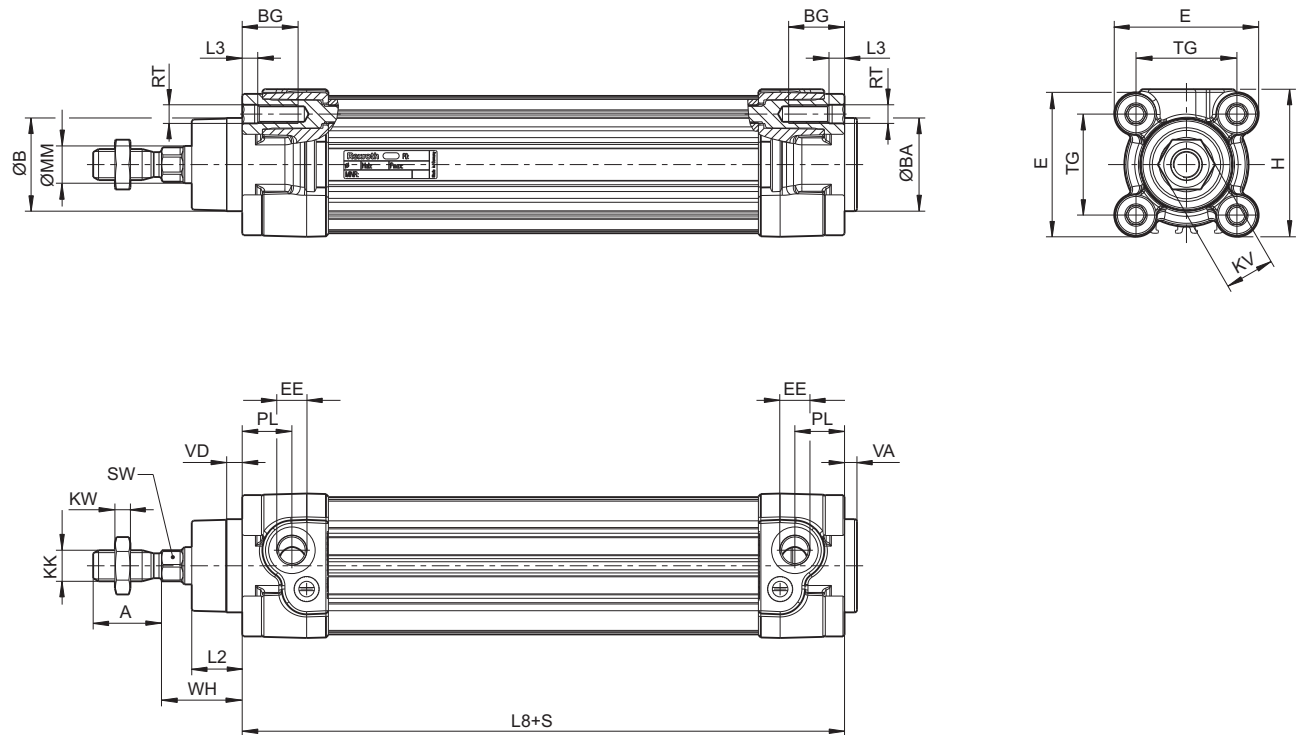
** Metric stroke in mm

Piston rod cylinders → Standard cylinders

★ Profile cylinder, ISO 15552, Series PRA

- ☐ Ø 32 - 125 mm ☐ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF ☐ double-acting ☐ magnetic piston ☐ ideal cushioning
☐ single rod, male thread ☐ ATEX optional

Dimensions



00134208

S = stroke

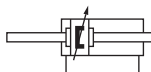
Piston Ø	A -2	ØB d11	ØBA d11	BG min.	E	EE inch	EE	H	KK inch	KK	KV
32	22	30	30	16	46.5	1/8 NPT	G1/8	47.5	7/16 - 20 UNF	M10x1,25	16
40	24	35	35	16	53	1/4 NPT	G1/4	53	1/2 - 20 UNF	M12x1,25	18
50	32	40	40	16	65	1/4 NPT	G1/4	65	3/4 - 16 UNF	M16x1,5	24
63	32	45	45	16	75	3/8 NPT	G 3/8	75	3/4 - 16 UNF	M16x1,5	24
80	40	45	45	17	95	3/8 NPT	G 3/8	95	3/4 - 16 UNF	M20x1,5	30
100	40	55	55	17	115	1/2 NPT	G 1/2	115	3/4 - 16 UNF	M20x1,5	30
125	54	60	60	20	140	1/2 NPT	G 1/2	140	1 - 14 UNF	M27x2	41

Piston Ø	KW	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH
32	5	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4
40	6	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4
50	8	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	4	5	37±1,4
63	8	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	4	5	37±1,8
80	10	25	23.5	33	0	128±0,8	M10	22	72±0,7	4	5	46±1,8
100	10	25	25	36	0	138±1	M10	22	89±0,7	4	5	51±1,8
125	13.5	32	33	45	0	160±1	M12	27	110±1,1	6	7	65±2,2

Piston rod cylinders → Standard cylinders

★ Profile cylinder, ISO 15552, Series PRA

☐ Ø 32 - 125 mm
 ☐ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF
 ☐ double-acting
 ☐ magnetic piston
 ☐ ideal cushioning
☐ double rod, male thread (Inch and Metric)



Inch Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 7/16 - 20 UNF 1/8 NPTF 12	40 1/2 - 20 UNF 1/4 NPTF 16	50 3/4 - 16 UNF 1/4 NPTF 20	63 3/4 - 16 UNF 3/8 NPTF 20	80 3/4 - 16 UNF 3/8 NPTF 25	100 3/4 - 16 UNF 1/2 NPTF 25	125 1 - 14 UNF 1/2 NPTF 32
	* Stroke 0010	R480176152	R480176240	R480176332	R480176414	R480176507	R480176597	R480176680
	0020	R480176160	R480176248	R480176341	R480176423	R480176517	R480176604	R480176693
	0030	R480176173	R480176255	R480176348	R480176435	R480176519	R480176612	R480176700
	0040	R480176175	R480176267	R480176356	R480176440	R480176533	R480176615	R480176706
	0050	R480176182	R480176276	R480176359	R480176448	R480176535	R480176625	R480176715
	0060	R480176191	R480176283	R480176366	R480176454	R480176542	R480176630	R480176724
	0070	R480176204	R480176289	R480176378	R480176463	R480176555	R480176645	R480176726
	0080	R480176212	R480176300	R480176389	R480176477	R480176559	R480176651	R480176740
	0090	R480176214	R480176308	R480176391	R480176481	R480176573	R480176659	R480176749
	0100	R480176226	R480176313	R480176404	R480176489	R480176577	R480176667	R480176750
	0120	R480176236	R480176319	R480176408	R480176496	R480176582	R480176674	R480176762

Metric Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 M10x1,25 G 1/8 12	40 M12x1,25 G 1/4 16	50 M16x1,5 G 1/4 20	63 M16x1,5 G 3/8 20	80 M20x1,5 G 3/8 25	100 M20x1,5 G 1/2 25	125 M27x2 G 1/2 32
	** Stroke 25	R480041413	R480041432	R480041443	R480041453	R480041484	R480148059	R480148066
	50	R480041419	R480041433	R480041444	R480041454	R480041485	R480069994	R480148067
	80	R480041420	R480041434	R480041445	R480041455	R480041487	R480148061	R480148068
	100	R480041421	R480041435	R480041446	R480041456	R480041488	R480059815	R480142910
	125	R480041422	R480041436	R480041074	R480041457	R480041490	R480146278	R480148069
	160	R480041423	R480041437	R480041447	R480041458	R480041491	R480148062	R480148070
	200	R480041425	R480041438	R480041448	R480041459	R480041492	R480148063	R480148071
	250	R480041426	R480041439	R480041449	R480041460	R480041493	R480077546	R480148072
	320	R480041427	R480041440	R480041450	R480041461	R480041494	R480148064	R480148073
	400	R480041428	R480041441	R480041451	R480041481	R480041496	R480148065	R480148074
	500	R480041429	R480041442	R480041452	R480041482	R480041497	R480148060	R480148075

* First 3 digits of inch stroke are whole inches, 4th digit 1/8" increments

** Metric stroke in mm

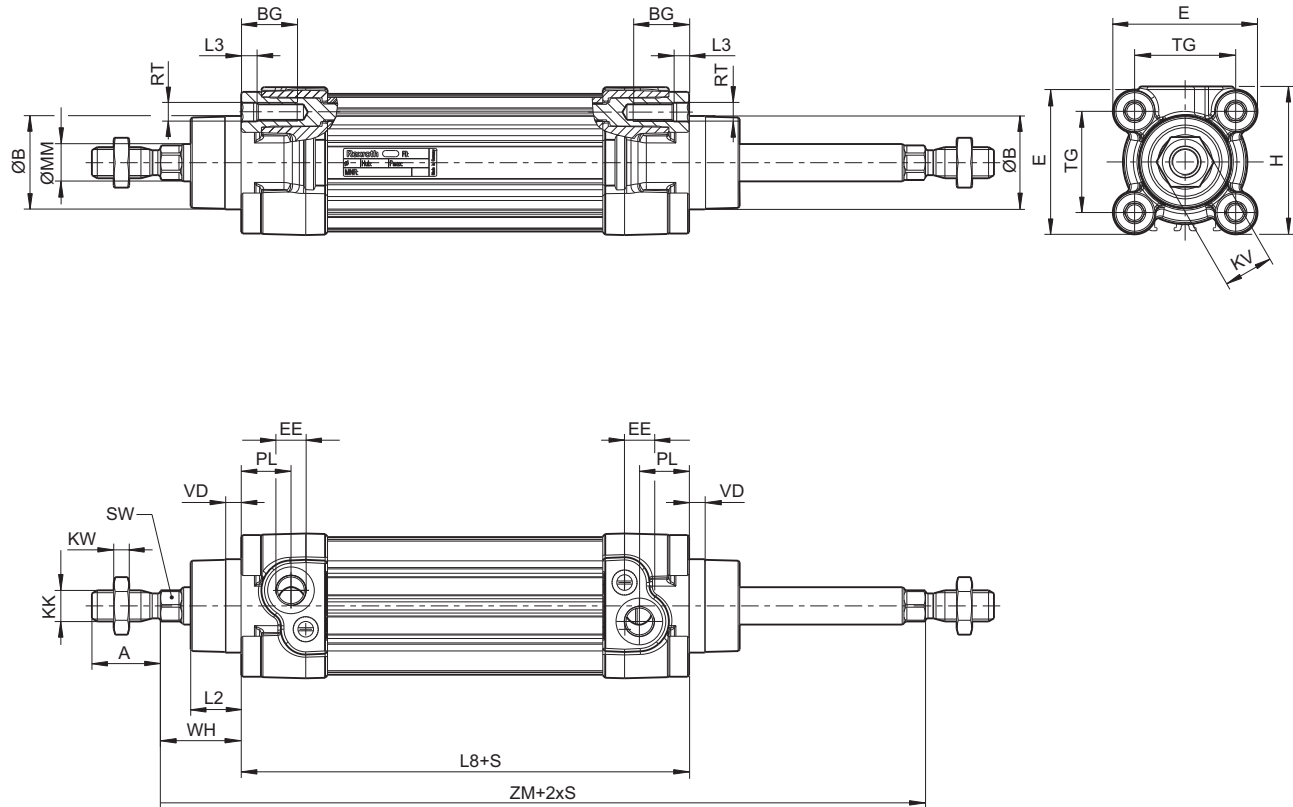
Configurable product	
	This product is configurable. Please use our configurator at www.boschrexroth.com/pneumatics or contact the nearest Bosch Rexroth sales office.

Piston rod cylinders → Standard cylinders

★ Profile cylinder, ISO 15552, Series PRA

□ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2 □ double-acting □ magnetic piston □ ideal cushioning □ double rod, male thread

Dimensions



00134209

S = stroke

Piston Ø	A -2	ØB d11	BG min.	E	EE inch	EE	H	KK inch	KK	KV	KW	ØMM f8
32	22	30	16	46.5	1/8 NPT	G 1/8	47.5	7/16 - 20 UNF	M10x1,25	16	5	12
40	24	35	16	53	1/4 NPT	G 1/4	53	1/2 - 20 UNF	M12x1,25	18	6	16
50	32	40	16	65	1/4 NPT	G 1/4	65	3/4 - 16 UNF	M16x1,5	24	8	20
63	32	45	16	75	3/8 NPT	G 3/8	75	3/4 - 16 UNF	M16x1,5	24	8	20
80	40	45	17	95	3/8 NPT	G 3/8	95	3/4 - 16 UNF	M20x1,5	30	10	25
100	40	55	17	115	1/2 NPT	G 1/2	115	3/4 - 16 UNF	M20x1,5	30	10	25
125	54	60	20	140	1/2 NPT	G 1/2	140	1 - 14 UNF	M27x2	41	13.5	32

Piston Ø	PL	L2	L3 ±0,5	L8	RT	SW	TG	VD	WH	ZM
32	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	5	26±1,4	146+3/-1,5
40	20	18.25	4.5	105±0,7	M6	13	38±0,5	5	30±1,4	165+3/-1,5
50	19	25	4.5	106±0,7	M8	17	46,5±0,6	5	37±1,4	180+3/-1,5
63	24	25	4.5	121±0,8	M8	17	56,5±0,7	5	37±1,8	195+3/-1,5
80	23.5	33	0	128±0,8	M10	22	72±0,7	5	46±1,8	220+3/-1,5
100	25	36	0	138±1	M10	22	89±0,7	5	51±1,8	240+3,5/-2
125	33	45	0	160±1	M12	27	110±1,1	7	65±2,2	290+3,5/-2

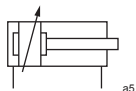
Piston rod cylinders → Standard cylinders

★ **Profile cylinder, ISO 15552, Series PRA**

□ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2 □ double-acting □ high temperature - up to 300° F (150° C) □ adjustable cushioning □ single rod, male thread (Metric Only)



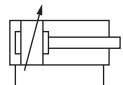
00134193



a5

Technical Remarks

- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth, see chapter „Technical information“.

Metric Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 M10x1,25 G 1/8 12	40 M12x1,25 G 1/4 16	50 M16x1,5 G 1/4 20	63 M16x1,5 G 3/8 20	80 M20x1,5 G 3/8 25	100 M20x1,5 G 1/2 25	125 M27x2 G 1/2 32
	** Stroke 25	R480144202	R480041108	R480147979	R480147990	R480144198	R480148011	R480170695
	50	R480147959	R480147968	R480147980	R480147991	R480148001	R480148012	R480157264
	80	R480040989	R480147969	R480147981	R480147992	R480148002	R480148013	R480163258
	100	R480147960	R480147970	R480147982	R480147993	R480147611	R480148014	R480153677
	125	R480147961	R480147971	R480147983	R480147994	R480148003	R480148015	R480155595
	160	R480147962	R480147972	R480147984	R480147995	R480148004	R480148016	R480170774
	200	R480147963	R480147973	R480147985	R480144714	R480147052	R480148017	R480165969
	250	R480147964	R480147974	R480147986	R480147996	R480148005	R480148018	R480158304
	320	R480147965	R480147975	R480147987	R480147997	R480146313	R480148019	R480170775
	400	R480147966	R480147976	R480147988	R480147998	R480042946	R480148020	R480170776
	500	R480147967	R480147977	R480147989	R480147999	R480148009	R480147194	R480149365

** Metric stroke in mm

Note - See page 8 for dimensions.

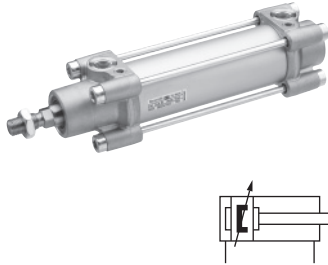
Configurable product

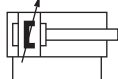
This product is configurable. Please use our configurator at www.boschrexroth.com/pneumatics or contact the nearest Bosch Rexroth sales office.

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series TRB

□ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF □ double-acting □ magnetic piston □ ideal cushioning □ single rod, male thread □ ATEX optional (Inch and Metric)



Inch Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 7/16 - 20 UNF 1/8 NPTF 12	40 1/2 - 20 UNF 1/4 NPTF 16	50 3/4 - 16 UNF 1/4 NPTF 20	63 3/4 - 16 UNF 3/8 NPTF 20	80 3/4 - 16 UNF 3/8 NPTF 25	100 3/4 - 16 UNF 1/2 NPTF 25	125 1 - 14 UNF 1/2 NPTF 32
	* Stroke 0010	R480176766	R480176858	R480176946	R480177032	R480177121	R480177211	R480177299
	0020	R480176776	R480176865	R480176953	R480177040	R480177128	R480177219	R480177307
	0030	R480176789	R480176875	R480176960	R480177047	R480177139	R480177225	R480177316
	0040	R480176795	R480176882	R480176969	R480177054	R480177143	R480177237	R480177323
	0050	R480176802	R480176891	R480176979	R480177067	R480177155	R480177238	R480177328
	0060	R480176813	R480176900	R480176982	R480177077	R480177164	R480177247	R480177334
	0070	R480176817	R480176907	R480176997	R480177078	R480177166	R480177258	R480177346
	0080	R480176823	R480176913	R480176998	R480177090	R480177176	R480177266	R480177357
	0090	R480176834	R480176923	R480177007	R480177099	R480177182	R480177272	R480177360
	0100	R480176844	R480176932	R480177017	R480177102	R480177195	R480177278	R480177367
	0120	R480176852	R480176941	R480177023	R480177114	R480177205	R480177290	R480177377

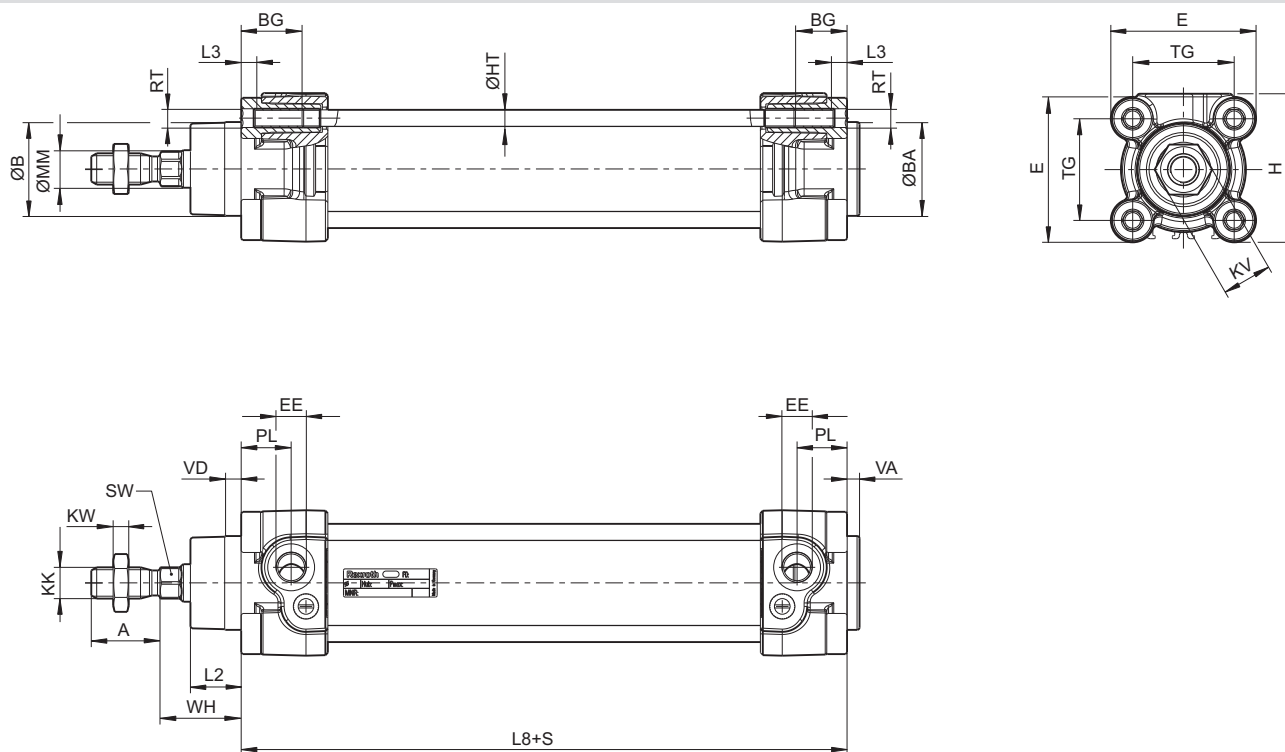
Metric Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 M10x1,25 G 1/8 12	40 M12x1,25 G 1/4 16	50 M16x1,5 G 1/4 20	63 M16x1,5 G 3/8 20	80 M20x1,5 G 3/8 25	100 M20x1,5 G 1/2 25	125 M27x2 G 1/2 32
	** Stroke 25	0822340001	0822341001	0822342001	0822343001	0822344001	0822345001	0822306201
	50	0822340002	0822341002	0822342002	0822343002	0822344002	0822345002	0822306202
	80	0822340003	0822341003	0822342003	0822343003	0822344003	0822345003	0822306203
	100	0822340004	0822341004	0822342004	0822343004	0822344004	0822345004	0822306204
	125	0822340005	0822341005	0822342005	0822343005	0822344005	0822345005	0822306205
	160	0822340006	0822341006	0822342006	0822343006	0822344006	0822345006	0822306206
	200	0822340007	0822341007	0822342007	0822343007	0822344007	0822345007	0822306207
	250	0822340008	0822341008	0822342008	0822343008	0822344008	0822345008	0822306208
	320	0822340009	0822341009	0822342009	0822343009	0822344009	0822345009	0822306209
	400	0822340010	0822341010	0822342010	0822343010	0822344010	0822345010	0822306210
	500	0822340011	0822341011	0822342011	0822343011	0822344011	0822345011	0822306211

* First 3 digits of inch stroke are whole inches, 4th digit 1/8" increments

** Metric stroke in mm

★ ISO 15552, Series TRB

- ☐ Ø 32 - 125 mm ☐ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF ☐ double-acting ☐ magnetic piston ☐ ideal cushioning
☐ single rod, male thread ☐ ATEX optional

Dimensions


00134211

S = stroke

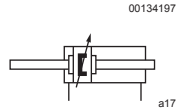
Ø	A -2	ØB d11	ØBA d11	BG min.	E	EE inch	EE	H	ØHT	KK inch	KK	KV
32	22	30	30	16	46.5	1/8 NPT	G1/8	47.5	6	7/16 - 20 UNF	M10x1,25	16
40	24	35	35	16	53	1/4 NPT	G1/4	53	6	1/2 - 20 UNF	M12x1,25	18
50	32	40	40	16	65	1/4 NPT	G1/4	65	8	3/4 - 16 UNF	M16x1,5	24
63	32	45	45	16	75	3/8 NPT	G3/8	75	8	3/4 - 16 UNF	M16x1,5	24
80	40	45	45	17	95	3/8 NPT	G3/8	95	10	3/4 - 16 UNF	M20x1,5	30
100	40	55	55	17	115	1/2 NPT	G1/2	115	10	3/4 - 16 UNF	M20x1,5	30
125	54	60	60	20	140	1/2 NPT	G1/2	140	12	1 - 14 UNF	M27x2	41

Ø	KW	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VA -1	VD	WH
32	5	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	4	5	26±1,4
40	6	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	4	5	30±1,4
50	8	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	4	5	37±1,4
63	8	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	4	5	37±1,8
80	10	25	23.5	33	0	128±0,8	M10	22	72±0,7	4	5	46±1,8
100	10	25	25	36	0	138±1	M10	22	89±0,7	4	5	51±1,8
125	13.5	32	33	45	0	160±1	M12	27	110±1,1	6	7	65±2,2

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series TRB

- Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF □ double-acting □ magnetic piston □ ideal cushioning
□ double rod, male thread (Inch and Metric)



Inch Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 7/16 - 20 UNF 1/8 NPTF 12	40 1/2 - 20 UNF 1/4 NPTF 16	50 3/4 - 16 UNF 1/4 NPTF 20	63 3/4 - 16 UNF 3/8 NPTF 20	80 3/4 - 16 UNF 3/8 NPTF 25	100 3/4 - 16 UNF 1/2 NPTF 25	125 1 - 14 UNF 1/2 NPTF 32
	* Stroke 0010	R480176773	R480176861	R480176949	R480177037	R480177118	R480177210	R480177297
	0020	R480176779	R480176863	R480176951	R480177044	R480177133	R480177214	R480177304
	0030	R480176785	R480176872	R480176961	R480177052	R480177135	R480177222	R480177311
	0040	R480176792	R480176878	R480176967	R480177058	R480177149	R480177233	R480177321
	0050	R480176804	R480176893	R480176976	R480177063	R480177157	R480177241	R480177332
	0060	R480176809	R480176896	R480176988	R480177071	R480177160	R480177246	R480177337
	0070	R480176814	R480176903	R480176996	R480177084	R480177167	R480177259	R480177348
	0080	R480176827	R480176916	R480177001	R480177088	R480177180	R480177268	R480177356
	0090	R480176837	R480176921	R480177012	R480177095	R480177187	R480177276	R480177364
	0100	R480176839	R480176931	R480177014	R480177108	R480177190	R480177284	R480177366
	0120	R480176851	R480176939	R480177028	R480177111	R480177204	R480177293	R480177381

Metric Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 M10x1,25 G 1/8 12	40 M12x1,25 G 1/4 16	50 M16x1,5 G 1/4 20	63 M16x1,5 G 3/8 20	80 M20x1,5 G 3/8 25	100 M20x1,5 G 1/2 25	125 M27x2 G 1/2 32
	** Stroke 25	0822340501	0822341501	0822342501	0822343501	0822344501	0822345501	R480166022
	50	0822340502	0822341502	0822342502	0822343502	0822344502	0822345502	7472410919
	80	0822340503	0822341503	0822342503	0822343503	0822344503	0822345503	7472024294
	100	0822340504	0822341504	0822342504	0822343504	0822344504	0822345504	7472412262
	125	0822340505	0822341505	0822342505	0822343505	0822344505	0822345505	7472412263
	160	0822340506	0822341506	0822342506	0822343506	0822344506	0822345506	7472412264
	200	0822340507	0822341507	0822342507	0822343507	0822344507	0822345507	7472412265
	250	0822340508	0822341508	0822342508	0822343508	0822344508	0822345508	7472412266
	320	0822340509	0822341509	0822342509	0822343509	0822344509	0822345509	7472412267
	400	0822340510	0822341510	0822342510	0822343510	0822344510	0822345510	7472412268
	500	0822340511	0822341511	0822342511	0822343511	0822344511	0822345511	7472412269

* First 3 digits of inch stroke are whole inches, 4th digit 1/8" increments

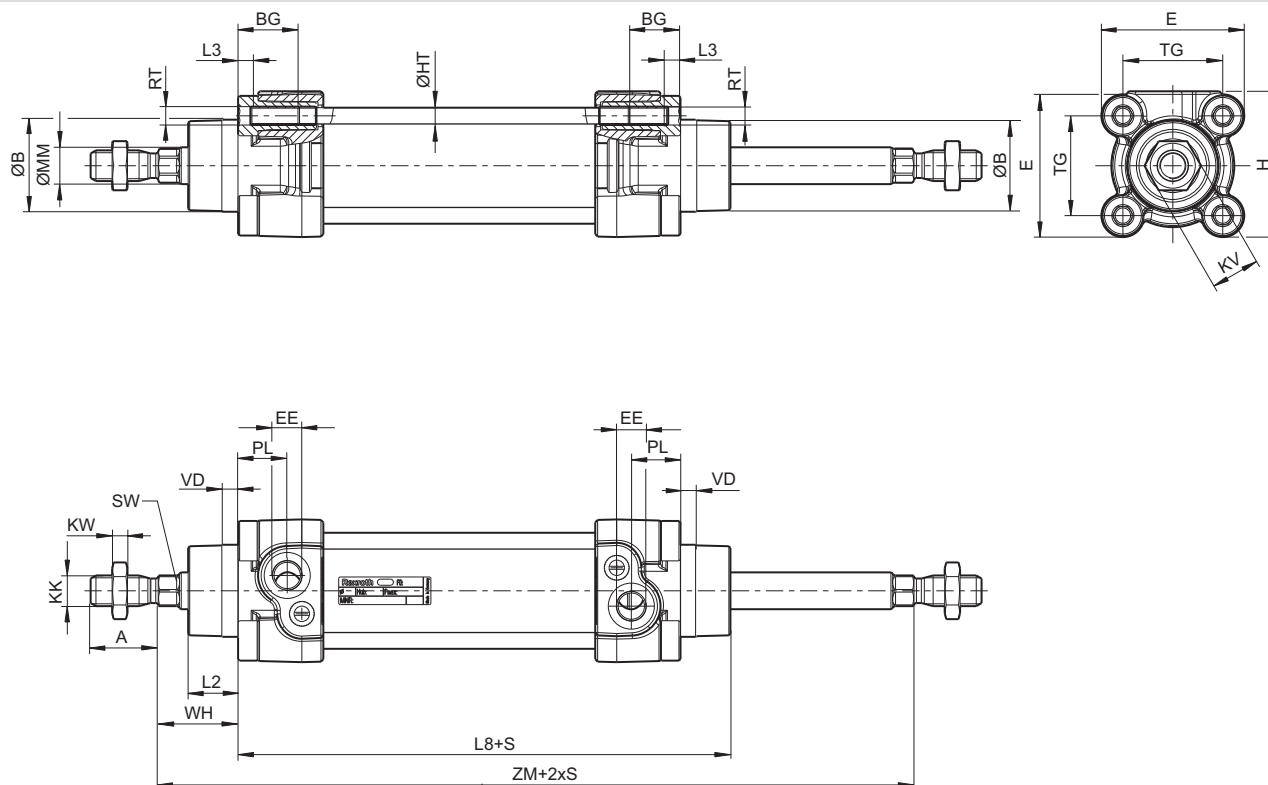
** Metric stroke in mm

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series TRB

- ☐ Ø 32 - 125 mm
 ☐ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF
 ☐ double-acting
 ☐ magnetic piston
 ☐ ideal cushioning
☐ double rod, male thread

Dimensions



00134212

S = stroke

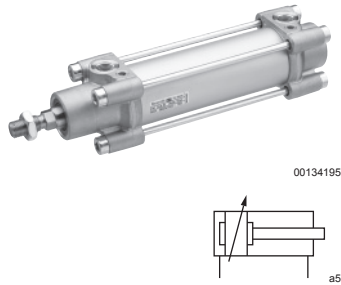
Ø	A - 2	ØB d11	BG min.	E	EE inch	EE	H	ØHT	KK inch	KK	KV	KW
32	22	30	16	46.5	1/8 NPT	G1/8	47.5	6	7/16 - 20 UNF	M10x1,25	16	5
40	24	35	16	53	1/4 NPT	G1/4	53	6	1/2 - 20 UNF	M12x1,25	18	6
50	32	40	16	65	1/4 NPT	G1/4	65	8	3/4 - 16 UNF	M16x1,5	24	8
63	32	45	16	75	3/8 NPT	G3/8	75	8	3/4 - 16 UNF	M16x1,5	24	8
80	40	45	17	95	3/8 NPT	G3/8	95	10	3/4 - 16 UNF	M20x1,5	30	10
100	40	55	17	115	1/2 NPT	G1/2	115	10	3/4 - 16 UNF	M20x1,5	30	10
125	54	60	20	140	1/2 NPT	G1/2	140	12	1 - 14 UNF	M27x2	41	13.5

Ø	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG	VD	WH	ZM
32	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5	5	26±1,4	146+3/-1,5
40	16	20	18.25	4.5	105±0,7	M6	13	38±0,5	5	30±1,4	165+3/-1,5
50	20	19	25	4.5	106±0,7	M8	17	46,5±0,6	5	37±1,4	180+3/-1,5
63	20	24	25	4.5	121±0,8	M8	17	56,5±0,7	5	37±1,8	195+3/-1,5
80	25	23.5	33	0	128±0,8	M10	22	72±0,7	5	46±1,8	220+3/-1,5
100	25	25	36	0	138±1	M10	22	89±0,7	5	51±1,8	240+3,5/-2
125	32	33	45	0	160±1	M12	27	110±1,1	7	65±2,2	

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series TRB

- ☐ Ø 32 - 125 mm
 ☐ Ports: G 1/8 - G 1/2
 ☐ double-acting
 ☐ high temperature to 300° F (150° C)
 ☐ adjustable cushioning
☐ single rod: male thread (Metric Only)



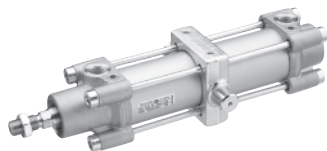
Metric Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 M10x1,25 G 1/8 12	40 M12x1,25 G 1/4 16	50 M16x1,5 G 1/4 20	63 M16x1,5 G 3/8 20	80 M20x1,5 G 3/8 25	100 M20x1,5 G 1/2 25	125 M27x2 G 1/2 32
	** Stroke 25	0822240400	0822241400	0822242400	0822243400	0822244400	0822245400	0822206401
	50	0822240401	0822241401	0822242401	0822243401	0822244401	0822245401	0822206402
	80	0822240402	0822241402	0822242402	0822243402	0822244402	0822245402	0822206403
	100	0822240403	0822241403	0822242403	0822243403	0822244403	0822245403	0822206404
	125	0822240404	0822241404	0822242404	0822243404	0822244404	0822245404	0822206405
	160	0822240405	0822241405	0822242405	0822243405	0822244405	0822245405	0822206406
	200	0822240406	0822241406	0822242406	0822243406	0822244406	0822245406	0822206407
	250	0822240407	0822241407	0822242407	0822243407	0822244407	0822245407	0822206408
	320	0822240408	0822241408	0822242408	0822243408	0822244408	0822245408	0822206409
	400	0822240409	0822241409	0822242409	0822243409	0822244409	0822245409	0822206410
	500	0822240410	0822241410	0822242410	0822243410	0822244410	0822245410	0822206411

** Metric stroke in mm

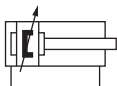
Note - See page 13 for dimensions.

★ ISO 15552, Series TRB

- ☐ Ø 32 - 125 mm
 ☐ Ports: G 1/8 - G 1/2, 1/8 NPTF - 1/2 NPTF
 ☐ double-acting
 ☐ magnetic piston
 ☐ ideal cushioning
☐ mid-stroke fixed trunnion mount
☐ single rod, male thread (Metric Only)



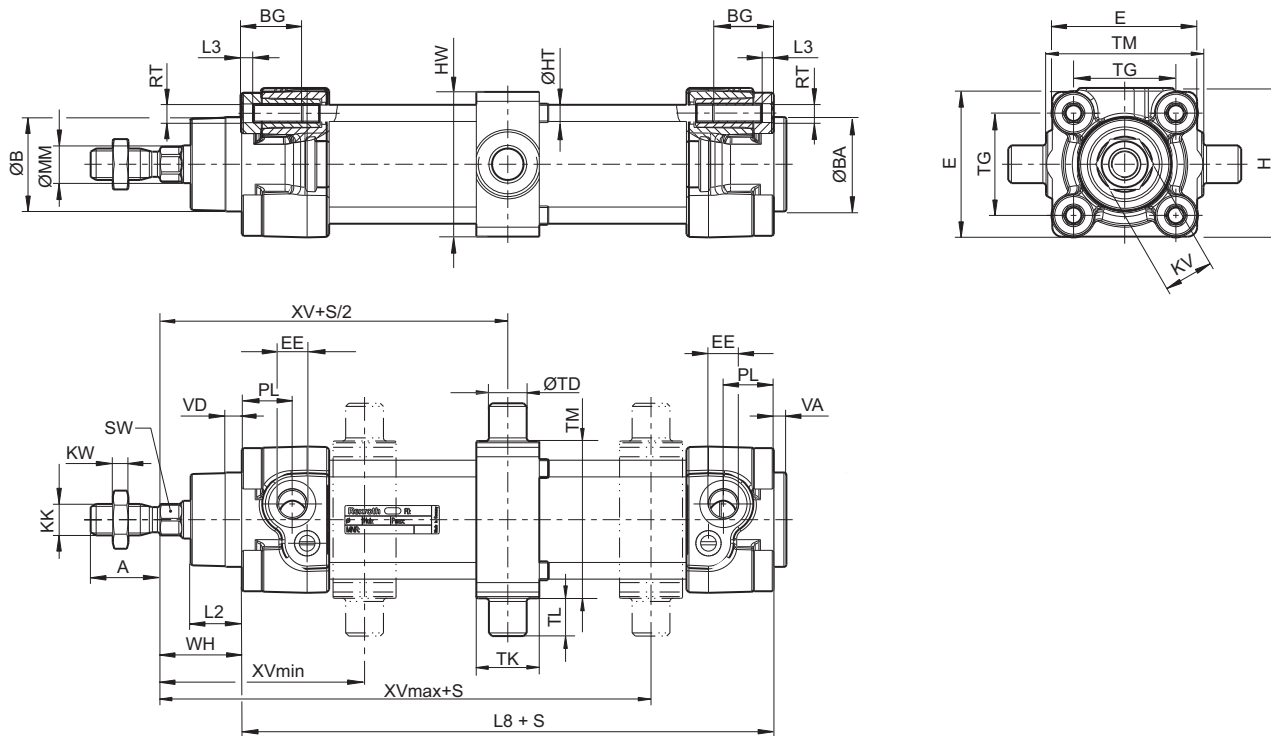
00134196



Metric Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 M10x1,25 G 1/8 12	40 M12x1,25 G 1/4 16	50 M16x1,5 G 1/4 20	63 M16x1,5 G 3/8 20	80 M20x1,5 G 3/8 25	100 M20x1,5 G 1/2 25	125 M27x2 G 1/2 32
	** Stroke 80	0822340902	0822341902	0822342902	0822343902	0822344902	0822345902	7472412312
	100	0822340903	0822341903	0822342903	0822343903	0822344903	0822345903	7472412319
	125	0822340904	0822341904	0822342904	0822343904	0822344904	0822345904	R480166294
	160	0822340905	0822341905	0822342905	0822343905	0822344905	0822345905	7472412341
	200	0822340906	0822341906	0822342906	0822343906	0822344906	0822345906	7472412342
	250	0822340907	0822341907	0822342907	0822343907	0822344907	0822345907	7472412343
	320	0822340908	0822341908	0822342908	0822343908	0822344908	0822345908	7472412344
	400	0822340909	0822341909	0822342909	0822343909	0822344909	0822345909	7472412345
	500	0822340910	0822341910	0822342910	0822343910	0822344910	0822345910	R480166072

** Metric stroke in mm

Note: Trunnion is delivered in mid-stroke position, field adjustable.

Dimensions


00134213

S = stroke

Configurable product


This product is configurable. Please use our configurator at www.boschrexroth.com/pneumatics or contact the nearest Bosch Rexroth sales office.

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series TRB

□ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2 □ double-acting □ magnetic piston □ ideal cushioning □ mid-stroke fixed trunnion mount □ single rod, male thread

Ø	A -2	ØB d11	ØBA d11	BG min.	E	EE	H	ØHT	HW	KK
32	22	30	30	16	46.5	G1/8	47.5	6	56	M10x1,25
40	24	35	35	16	53	G1/4	53	6	59	M12x1,25
50	32	40	40	16	65	G1/4	65	8	69	M16x1,5
63	32	45	45	16	75	G3/8	75	8	84	M16x1,5
80	40	45	45	17	95	G3/8	95	10	102	M20x1,5
100	40	55	55	17	115	G1/2	115	10	125	M20x1,5
125	54	60	60	20	140	G1/2	140	12	160	M27x2

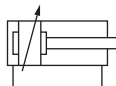
Ø	KV	KW	ØMM f8	PL	L2	L3 ±0,5	L8	RT	SW	TG
32	16	5	12	16	16.25	4.5	94±0,4	M6	10	32,5±0,5
40	18	6	16	20	18.25	4.5	105±0,7	M6	13	38±0,5
50	24	8	20	19	25	4.5	106±0,7	M8	17	46,5±0,6
63	24	8	20	24	25	4.5	121±0,8	M8	17	56,5±0,7
80	30	10	25	23.5	33	0	128±0,8	M10	22	72±0,7
100	30	10	25	25	36	0	138±1	M10	22	89±0,7
125	41	13.5	32	33	45	0	160±1	M12	27	110±1,1

Ø	VA -1	VD	WH	HW	ØTD e9	TK	TL h14	TM h14	XVmin	Xvmax	XV
32	4	5	26±1,4	46	12	20	12	50	65	81	73
40	4	5	30±1,4	59	16	20	16	63	74.5	90.5	82.5
50	4	5	37±1,4	69	16	25	16	75	82	98	90
63	4	5	37±1,8	84	20	30	20	90	91.5	103.5	97.5
80	4	5	46±1,8	102	20	35	20	110	103	117	110
100	4	5	51±1,8	125	25	46	25	132	118	122	120
125	6	7	65±2,2	160	25	50	25	160	143	147	145

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series TRB

□ Ø 32 - 125 mm □ Ports: G 1/8 - G 1/2 □ double-acting □ adjustable cushioning □ low friction cylinder (Metric Only)



00105160

Metric Version	Piston Ø (mm) Rod thread Ports Rod Ø (mm)	32 M10x1,25 G 1/8 12	40 M12x1,25 G 1/4 16	50 M16x1,5 G 1/4 20	63 M16x1,5 G 3/8 20	80 M20x1,5 G 3/8 25	100 M20x1,5 G 1/2 25	125 M27x2 G 1/2 32
	** Stroke 25	R480600269	R480600280	R480600291	R480600302	R480600313	R480600324	R480600335
	50	R480600270	R480600281	R480600292	R480600303	R480600314	R480600325	R480600336
	80	R480600271	R480600282	R480600293	R480600304	R480600315	R480600326	R480600337
	100	R480600272	R480600283	R480600294	R480600305	R480600316	R480600327	R480600338
	125	R480600273	R480600284	R480600295	R480600306	R480600317	R480600328	R480600339
	160	R480600274	R480600285	R480600296	R480600307	R480600318	R480600329	R480600340
	200	R480600275	R480600286	R480600297	R480600308	R480600319	R480600330	R480600341
	250	R480600276	R480600287	R480600298	R480600309	R480600320	R480600331	R480600342
	400	R480600278	R480600289	R480600300	R480600311	R480600322	R480600333	R480600344
	500	R480600268	R480600290	R480600301	R480600312	R480600323	R480600334	R480600345

** Metric stroke in mm

Note - See page 13 for dimensions.

Piston rod cylinders → Standard cylinders

★ Standard Cylinder Series PRA and TRB

Optional screw-in bearings, 32-125 mm (1.25" - 5") diameter / Repair Seal Kits

★ Screw-in bearing



Replacement screw-in rod bearings - Standard (PRA and TRB)	
Material	
Piston rod bushing	Steel, bearing layer composite PVDF + PTFE
Wiper	Metal
	or Polyesterelastomer (PEE)
	or Carbon-filled PTFE
Seals (standard)	Nitrile rubber
(high temp)	or Viton
Casing	Anodized aluminum
Ambient temperature range	5°F to 158°F (-15°C to +70°C)
High temp versions	Up to 300°F (150°C)

In very difficult environments high demands are made on a wiper. Depending on the environment different types of wipers are suitable. To provide maximum flexibility and maintenance friendliness we offer for these applications different adapters.

Note that the cylinder is still to ISO standards dimensions.

PRA/TRB Screw-in Bearings Replacement Parts							
Bore size mm (inch)	32 (1 1/4")	40 (1 1/2")	50 (2")	63 (2 1/2")	80 (3")	100 (4")	125 (5")
Metal	n/a	0496400402	0496400518	0496400518	0496400607	0496400607	0496301404
PEE	0496400704	0496400801	0496400909	0496400909	0496401018	0496401018	0496301307
PTFE	0496401107	0496401204	0496402103	0496402103	0496402200	0496402200	0496301706
Metal (high temp)	n/a	0496401409	0496401506	0496401506	0496401603	0496401603	0496303105
PTFE (high temp)	0496401700	0496401808	0496401905	0496401905	0496402006	0496402006	0496303202

Repair kits for new and old style TRB and PRA Cylinders. Includes cushion seal, piston seal, rod seal and scraper, bearing, bumper and grease.

Bore size mm (inch)	Standard Part Number	Low Friction Part Number	High Temp Part Number	Metal Scraper Part Number*			
32	1827009557	R412012554	1827009619	R412012555			
40	1827009564	R412012558	1827009620	R412012559			
50	1827009569	R412012562	1827009621	R412012563			
63	1827009576	R412012566	1827009622	R412012567			
80	1827009899	R412012570	1827009948	R412012571			
100	1827009907	R412012574	1827009949	R412012575			
125	R412012576	R412012578	R412012577	R412012579			

There are differences in the materials of the non-wearing parts of the cylinder versions that preclude converting cylinder versions by just changing seals.

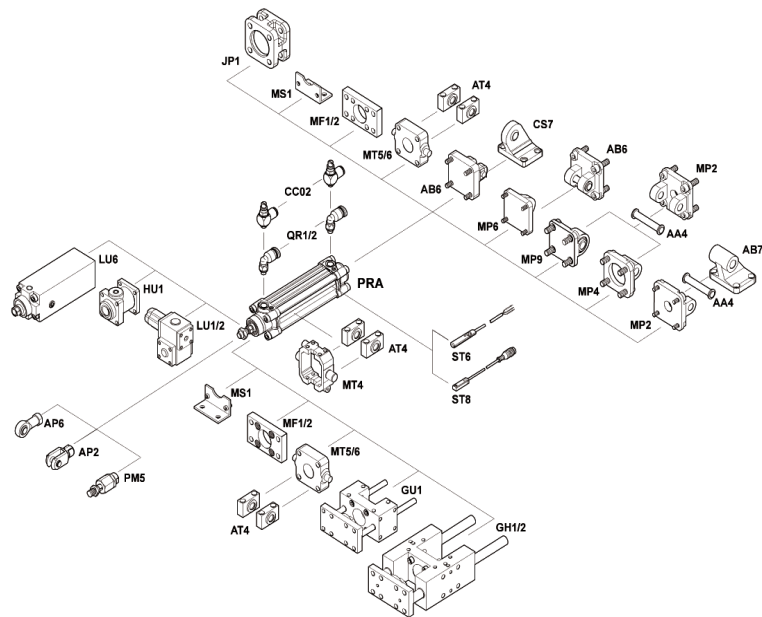
The seals are dimensionally interchangeable between versions.

*Metal scraper part numbers include complete head.

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

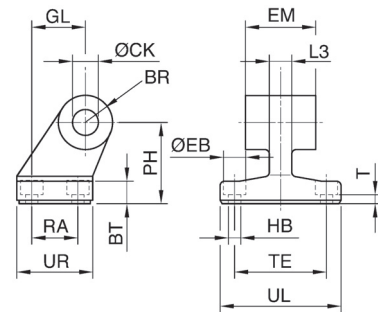


★ Bearing block AB7 with fixed bearing

□ Cylinder mounting in accordance with ISO 15552



00105160



00105184

Part No.	Piston Ø	BR	BT	Ø CK H9	Ø EB H13	EM	GL JS14	Ø HB H13	L3 1)	PH JS15	RA JS14
1825805275	32	10	8	10	11	26 -0,2/-0,6	21	6.6	10	32	18
1825805276	40	11	10	12	11	28 -0,2/-0,6	24	6.6	12	36	22
1825805277	50	13	12	12	15	32 -0,2/-0,6	33	9	16	45	30
1825805278	63	15	12	16	15	40 -0,2/-0,6	37	9	16	50	35
1825805279	80	15	14	16	18	50 -0,2/-0,6	47	11	20	63	40
1825805280	100	19	15	20	18	60 -0,2/-0,6	55	11	20	71	50
1825805281	125	22,5	20	25	20	70 -0,5/-1,5	70	14	30	90	60

Part No.	T	TE JS14	UL 1)	UR 1)	Material	Surface					
1825805275	8 -1,0	38	51	31	Nodular graphite iron	galvanized					
1825805276	10 -1	41	54	35	Nodular graphite iron	galvanized					
1825805277	12 -1,5	50	65	45	Nodular graphite iron	galvanized					
1825805278	12 -1,5	52	67	50	Nodular graphite iron	galvanized					
1825805279	14 -1,5	66	86	60	Nodular graphite iron	galvanized					
1825805280	15 -1,5	76	96	70	Nodular graphite iron	galvanized					
1825805281	20 -2,5	94	124	90	Nodular graphite iron	galvanized					

1) max.

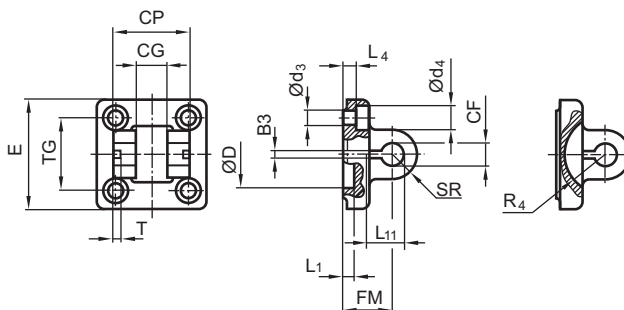
★ ISO 15552, Series PRA & TRB

Accessories

★ Clevis mounting AB6

☐ Cylinder mounting in accordance with ISO 15552


00105816



00105819

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

Part No.	Piston Ø	B3 ±0,2	Ø CF F7	CG D10	CP d12	Ø d3	Ø d4	Ø D	E	FM ±0,2	L1 1)	L4 ±0,5
1827001593	32	3.3	10	14	34	6.6	11	30	49	22	4.5	5.5
1827001594	40	4.3	12	16	40	6.6	11	35	55	25	4.5	5.5
1827001595	50	4.3	16	21	45	9	15	40	67	27	4.5	6.5
1827002024	63	4.3	16	21	51	9	15	45	77	32	4.5	6.5
1827001597	80	4.3	20	25	65	11	18	45	97	36	4.5	10
1827001598	100	4.3	20	25	75	11	18	55	117	41	4.5	10
1827001599	125	6.3	30	37	97	14	20	60	140	50	7	10

Part No.	L11 -0,5	R4	SR	T ±0,2	TG	Material					
1827001593	16.5	17	11	3	32,5 ±0,2	Aluminum, forged					
1827001594	18	20	12	4	38 ±0,2	Aluminum, forged					
1827001595	23	22	15	4	46,5 ±0,2	Aluminum, forged					
1827002024	23	25	15	4	56,5 ±0,2	Aluminum, forged					
1827001597	27	30	20	4	72 ±0,2	Aluminum, forged					
1827001598	27	32	20	4	89 ±0,2	Aluminum, forged					
1827001599	40	42	26	6	110 ±0,3	Aluminum, forged					

1) Min.

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

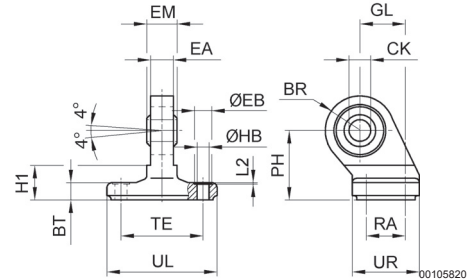
Accessories

★ Bearing block with ball joint and foot, angled

□ Cylinder mounting in accordance with VDMA 24562 part 2



00105817



00105820

Part No.	Piston Ø	BR 1)	BT	CK H7	EA 1)	Ø EB 2)	EM -0,1	GL JS14	H1 1)	Ø HB H13	L2 1)	PH JS15
1827001784	32	16	9	10	10.5	11	14	21	16	6.6	1.6	32
1827001785	40	18	9	12	12	11	16	24	16	6.6	1.6	36
1827001786	50	21	11	16	15	15	21	33	23	9	1.6	45
1827001787	63	23	11	16	15	15	21	37	23	9	1.6	50
1827001788	80	28	12	20	18	18	25	47	32	11	2.5	63
1827001789	100	30	13	20	18	18	25	55	33	11	2.5	71
1827001790	125	40	17	30	25	20	37	70	50	14	3.2	90

Part No.	RA JS14	TE JS14	UL 1)	UR 1)	Material	Surface						
1827001784	18	38	51	31	Nodular graphite iron	galvanized						
1827001785	22	41	54	35	Nodular graphite iron	galvanized						
1827001786	30	50	65	45	Nodular graphite iron	galvanized						
1827001787	35	52	67	50	Nodular graphite iron	galvanized						
1827001788	40	66	86	60	Nodular graphite iron	galvanized						
1827001789	50	76	96	70	Nodular graphite iron	galvanized						
1827001790	60	94	124	90	Nodular graphite iron	galvanized						

1) max.

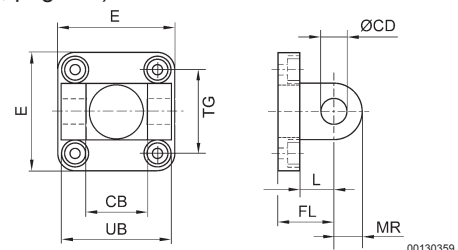
2) Min.

★ Clevis mounting MP2

□ Cylinder mounting in accordance with ISO 15552 (for pivot pin, see AA4, page 29)



P523_025



00130359

Scope of delivery: clevis mounting incl. mounting screws

★ ISO 15552, Series PRA & TRB

Accessories

Part No.	Piston Ø	CB H14	Ø CD H9	E	FL	L 1)	MR 2)	UB h13	TG	Material
1827001289	32	26	10	49 ±1	22 ±0,2	12	10	45	32,5 ±0,2	Aluminum, forged
1827001290	40	28	12	53 ±1	25 ±0,2	15	13	52	38 ±0,2	Aluminum, forged
1827001291	50	32	12	63 ±1	27 ±0,2	15	13	60	46,5 ±0,2	Aluminum, forged
1827001500	63	40	16	73 ±1	32 ±0,2	18	17	70	56,5 ±0,2	Aluminum, forged
1827001293	80	50	16	98 ±1	36 ±0,2	20	17	90	72,0 ±0,2	Aluminum, forged
1827001294	100	60	20	115 ±1	41 ±0,2	25	18	110	89,0 ±0,2	Aluminum, forged
1827004862	125	70	25	140	50 ±0,2	30	26	130	110 ±0,3	Nodular graphite iron

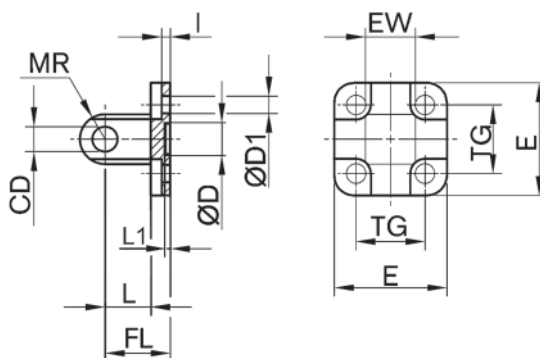
Part No.	Surface										
1827001289	-										
1827001290	-										
1827001291	-										
1827001500	-										
1827001293	-										
1827001294	-										
1827004862	galvanized										

1) Min.

2) max.

★ Rear eye MP4 for MP2 clevis mounting
☐ Cylinder mounting in accordance with ISO 15552


P523_024



00126403_a

Scope of delivery: clevis incl. mounting screws

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

Piston rod cylinders → Standard cylinders

★ **ISO 15552, Series PRA & TRB**

Accessories

Part No.	TG	Material	Surface							
1827001283	32,5 ±0,2	Aluminum, forged	-							
1827001284	38 ±0,2	Aluminum, forged	-							
1827001285	46,5 ±0,2	Aluminum, forged	-							
1827020086	56,5 ±0,2	Aluminum, forged	-							
1827001287	72 ±0,2	Aluminum, forged	-							
1827001288	89 ±0,2	Aluminum, forged	-							
1827004866	110 ±0,3	Nodular graphite iron	galvanized							

1) Min.

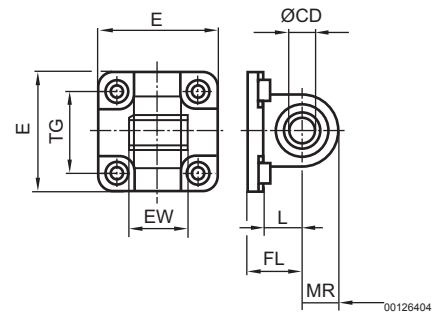
2) max.

★ **Rear eye MP9 with rubber bushing**

□ Cylinder mounting in accordance with ISO 15552



P523_026



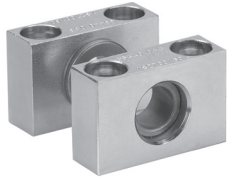
Scope of delivery: clevis incl. mounting screws

Part No.	Piston Ø	CD H9	E	EW	FL	L	MR	TG ±0,2	Material	Weight [kg]
3683202000	25	10	40	17.5	20	14.5	12	27	Die-cast aluminum	0.1
3683203000	32	10	46	25.5	22	16.5	14	32.5	Die-cast aluminum	0.1
3683204000	40	12	55	27	25	17.5	19	38	Die-cast aluminum	0.1
3683205000	50	12	62	31	27	18.5	19.5	46.5	Die-cast aluminum	0.2
3683206000	63	16	80	39.5	32	21.5	26	56.5	Die-cast aluminum	0.3
3683208000	80	16	94	49.5	36	24.5	27	72	Die-cast aluminum	0.4
3683210000	100	20	114	59.5	41	26.5	29	89	Die-cast aluminum	0.7

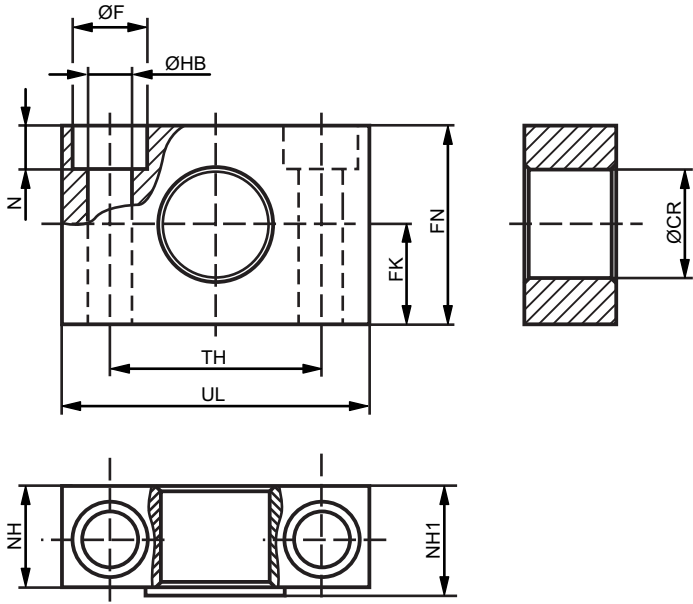
★ ISO 15552, Series PRA & TRB
Accessories

★ Bearing AT4 for trunnion mounting MT4

□ Cylinder mounting in accordance with ISO 15552



00105163



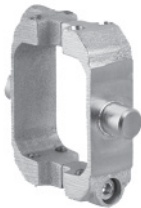
00105221

Part No.	Piston Ø	Ø CR H7	Ø F H13	FK ±0,1	FN	Ø HB H12	N -0,4	NH	NH1	TH ±0,15	UL f8
1827001603	32	12	11	15 ±0,1	30	6.6	6.8	15	18	32 ±0,2	46
1827001604	40, 50	16	15	18 ±0,1	36	9	9	18	21	36 ±0,2	55
1827001605	63, 80	20	18	20 ±0,1	40	11	11	20	23	42 ±0,2	65
1827001606	100, 125	25	20	25 ±0,1	50	14	13	25	28.5	50 ±0,2	75

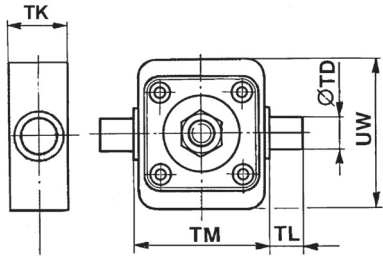
Part No.	Material	Surface									
1827001603	Steel	galvanized									
1827001604	Steel	galvanized									
1827001605	Steel	galvanized									
1827001606	Steel	galvanized									

★ MT4 center trunnion mounting (PRA only)

□ Cylinder mounting in accordance with ISO 15552



00122726



00126406

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

Part No.	Piston Ø	Ø TD e9	TK 2)	TL h14	TM	UW	Material	Surface		
1827003991	32	12	22	12	50	70	Nodular graphite iron	galvanized		
1827003992	40	16	28	16	63	78	Nodular graphite iron	galvanized		
1827003993	50	16	28	16	75	96	Nodular graphite iron	galvanized		
1827003994	63	20	35	20	90	108	Nodular graphite iron	galvanized		
1827003995	80	20	35	20	110	130	Nodular graphite iron	galvanized		
1827003996	100	25	46	25	132	150	Nodular graphite iron	galvanized		
1827003997	125	25	46	25	160	171	Nodular graphite iron	galvanized		

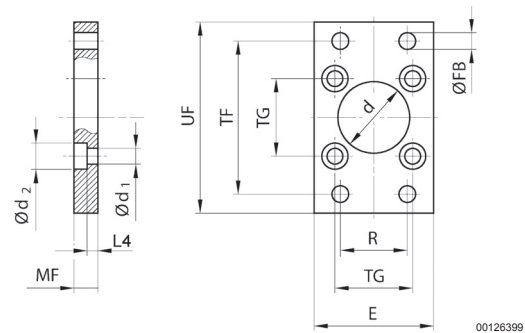
2) max.

★ Flange mounting MF1, MF2

□ Cylinder mounting in accordance with ISO 15552



00105812



00126399

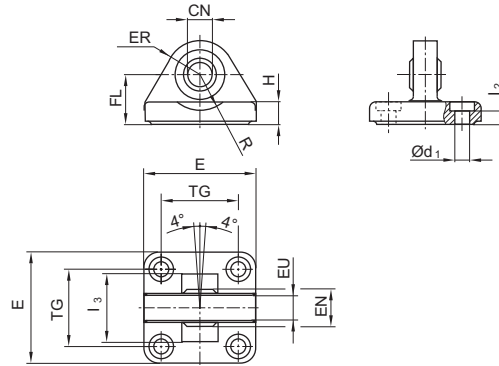
Scope of delivery: flange mounting incl. mounting screws

Part No.	Piston Ø	Ø d H11	Ø d1	Ø d2	E 1)	Ø FB	L4	MF	R	TF	TG
1827001277	32	30	6.6	11	50	7	4.5	10	32	64	32,5 ±0,2
1827001278	40	35	6.6	11	55	9	4.5	10	36	72	38 ±0,2
1827001279	50	40	9	15	65	9	6	12	45	90	46,5 ±0,2
1827001499	63	45	9	15	75	9	6	12	50	100	56,5 ±0,2
1827001281	80	45	11	18	100	12	9	16	63	126	72 ±0,2
1827001282	100	55	11	18	120	14	9	16	75	150	89 ±0,2
1827004861	125	60	14	20	140	16	10.5	20	90	180	110 ±0,3

Part No.	UF	Material	Surface								
1827001277	80	Steel	galvanized								
1827001278	90	Steel	galvanized								
1827001279	110	Steel	galvanized								
1827001499	125	Steel	galvanized								
1827001281	154	Steel	galvanized								
1827001282	186	Steel	galvanized								
1827004861	220	Steel	galvanized								

1) max.

☐ Cylinder mounting in accordance with ISO 15552



00126391_d

Part No.	Piston Ø	Ø CN H7	Ø d1 H13	E	EN -0,1	ER	EU	FL ±0,2	H	I2	I3 min.	R min.
1827001619	32	10	6.6	47	14	15	10.5	22	9	5.5	36	12
1827001620	40	12	6.6	53	16	18	12	25	9	5.5	42	15
1827001621	50	16	9	65	21	20	15	27	10.5	6.5	48	19
1827020087	63	16	9	75	21	23	15	32	10.5	6.5	55	21
1827001623	80	20	11	95	25	27	18	36	14	10	70	24
1827001624	100	20	11	115	25	30	18	41	15	10	80	25
1827001625	125	30	14	140	37	40	25	50	16	10	100	33

[illegible]

[illegible]

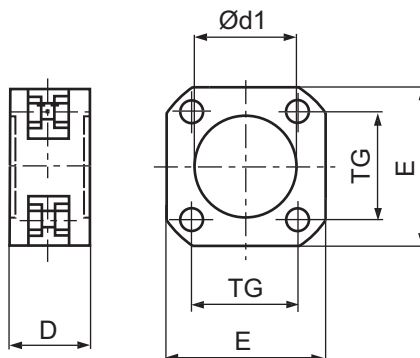
★ ISO 15552, Series PRA & TRB

Accessories

★ Intermediate flange for multi-position cylinders



P523_049



D271_052

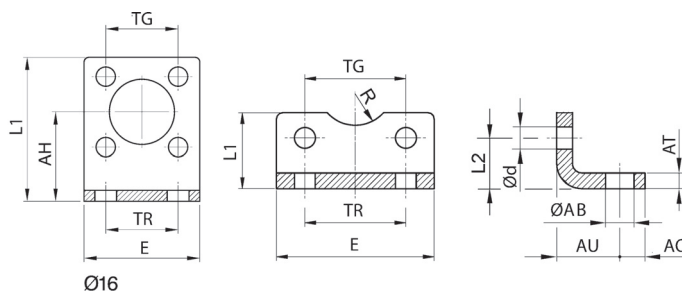
Scope of delivery: flange and mounting screws

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

★ Foot mounting MS1



00105808



00126387

Scope of delivery: 2 foot mountings incl. mounting screws

Part No.	Piston Ø	Ø AB	AO	AT	AU ±0,2	Ø d	E	L1	L2	R	TG ±0,2
1827001271	32	7	11	5 ±0,5	24	6.6	48	30	15.7	15	32.5
1827001272	40	10	12	5 ±0,5	28	6.6	53	30	17	17.5	38
1827001273	50	10	13	5 ±0,5	32	10	63	30	21.7	20	46.5
1827001498	63	10	13	5 ±0,5	32	10	80	45	21.7	22.5	56.5
1827001275	80	12	19	6 ±0,75	41	11	98	60	27	22.5	72
1827001276	100	14.5	19	6 ±0,75	41	11	115	60	26.5	27.5	89
1827001310	125	16	15	8 ±0,75	45	14	140	60	35±0,3	—	110 ±0,3

Part No.	TR	Material	Surface								
1827001271	32	Steel	galvanized								
1827001272	36	Steel	galvanized								
1827001273	45	Steel	galvanized								

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

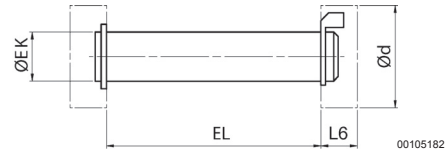
Accessories

Part No.	TR	Material	Surface								
1827001498	50	Steel	galvanized								
1827001275	63	Steel	galvanized								
1827001276	75	Steel	galvanized								
1827001310	90	Steel	galvanized								

★ AA4 pivot pin (for MP2)



00105158



00105182

Part No.	Piston Ø	Ø EK e8	EL	Ø d 1)	L6 1)	Material	Surface	ISO 15552	Note
1823120020	32	10	45,2 +2	23	9	Steel	galvanized	-	2)
1823120021	40	12	52,2 +2	25	9	Steel	galvanized	-	2)
1823120022	50	12	60,2 +2	25	9	Steel	galvanized	-	2)
1823120023	63	16	70,2 +2	32	11	Steel	galvanized	-	2)
1823120024	80	16	90,2 +2	32	11	Steel	galvanized	-	2)
1823120025	100	20	110,2 +2	40	11	Steel	galvanized	-	2)
5236000092	125	25	132 +0,5	34.2	3,5	Steel	galvanized	ISO 15552	2)

1) max.

2) Scope of delivery: pivot pins incl. circlips

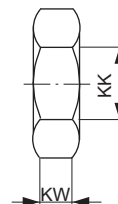
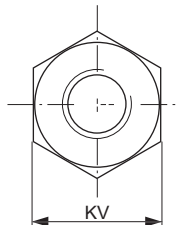
★ ISO 15552, Series PRA & TRB

Accessories

★ Additional Piston rod nut MR9 (Metric)



00105168



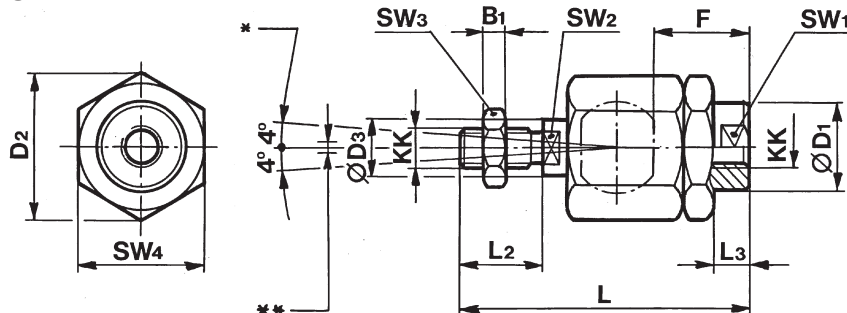
00105192

Part No.	KK	KV	KW	Material	Surface	Weight [kg]			
1823300020	M10x1,25	17	6	Steel	galvanized	0.01			
1823300021	M12x1,25	19	7	Steel	galvanized	0.012			
1823300030	M16x1,5	24	8	Steel	galvanized	0.017			
1823300031	M20x1,5	30	10	Steel	galvanized	0.03			
1823300029	M27x2	41	13.5	Steel	galvanized	0.108			
1823300025	M36x2	55	18	Steel	galvanized	0.175			
1823300026	M42x2	65	21	Steel	galvanized	0.37			

★ Flexible spherical coupling PM5 (Metric)



00105169



D300_029

* angle equalization

** Radial joint from 0,5 - 2 mm

Part No.	KK	B1	Ø D1	D2	Ø D3	F	L ±2	L2	L3 ±1	SW1	SW2	SW3
1826409002	M10x1,25	6	21.5	34	14	23	73	20	7.5	19	12	17
1826409003	M12x1,25	7	21.5	34	14	28	77	24	13	19	12	19
1826409004	M16x1,5	8	33.5	47	22	32	108	32	9	30	19	24
1826409005	M20x1,5	10	33.5	47	22	42	122	40	19	30	19	30
1826409006	M27x2	13.5	62	62	28	48	147	54	14	32	24	41

Part No.	SW4	Material	Surface	Weight [kg]					
1826409002	30	Steel	galvanized	0.21					
1826409003	30	Steel	galvanized	0.21					
1826409004	41	Steel	galvanized	0.65					
1826409005	41	Steel	galvanized	0.68					
1826409006	55	Steel	galvanized	1.7					

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

★ Rod clevis AP2 (Metric)



00105171

Fig. 1

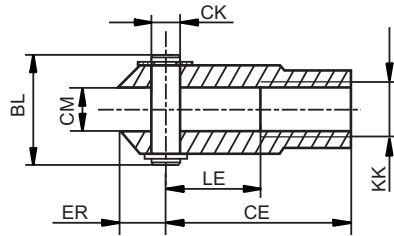
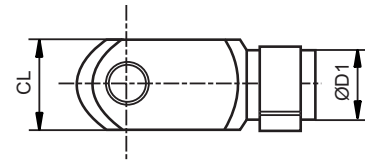
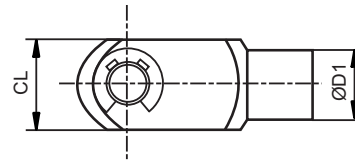
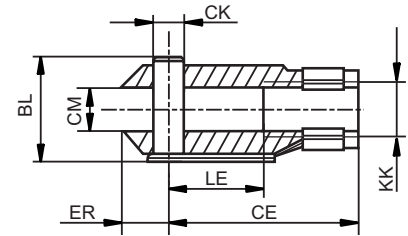


Fig. 2



00126410

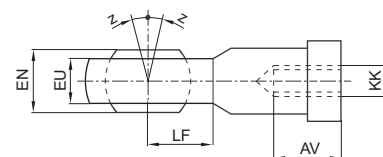
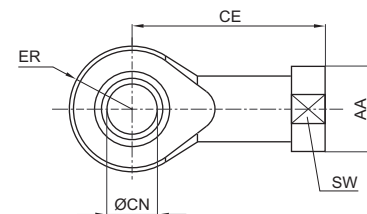
Part No.	KK	Fig.	BL	CE	Ø CK H9	CL	CM	Ø D1	ER	LE
1822122024	M10x1,25	2	26	40	10	20	10	18	12	20
1822122025	M12x1,25	2	31	48	12	24	12	20	14	24
1822122005	M16x1,5	2	39	64	16	32	16	26	19	32
1822122004	M20x1,5	2	50	80	20	40	20	34	20	40
1827001493	M27x2	1	68	110	30	55	30	48	38	54

Part No.	Material	Surface	Weight [kg]							
1822122024	Steel	galvanized	0.1							
1822122025	Steel	galvanized	0.154							
1822122005	Steel	galvanized	0.352							
1822122004	Steel	galvanized	0.7							
1827001493	Steel	galvanized	2							

★ Ball eye rod end AP6 (Metric)



00105172



00126602

Part No.	KK	AA	AV min.	CE	Ø CN H7	EN -0,1	ER	EU max.	LF	SW	Z [°] max.	Material	Surface	Weight [kg]
1822124003	M10x1,25	19	15	43	10	14	14	11.5	14	17	4	Steel	galvanized	0.07
1822124004	M12x1,25	22	18	50	12	16	16	12.5	16	19	4	Steel	galvanized	0.105
1822124005	M16x1,5	27	24	64	16	21	21	15.5	21	22	4	Steel	galvanized	0.21
1822124006	M20x1,5	34	30	77	20	25	25	18.5	25	30	4	Steel	galvanized	0.38
1822124013	M27x2	50	45	110	30	37	35	27	35	41	4	Steel	galvanized	1.17

★ ISO 15552, Series PRA & TRB

Accessories

★ Inch rod accessories

Select by "KK" to match rod thread				
Bore	KK	CD	Rod eye	Rod clevis
32	7/16-20 UNF	0.500	R433012610	R433012602
40	1/2-20 UNF	0.500	R432006533	R433012665
50	3/4-16 UNF	0.750	R433012611	R433012603
63	3/4-16 UNF	0.750	R433012611	R433012603
80	3/4-16 UNF	0.750	R433012611	R433012603
100	3/4-16 UNF	0.750	R433012611	R433012603
125	1-14 UNF	1.000	R433012613	R433012604

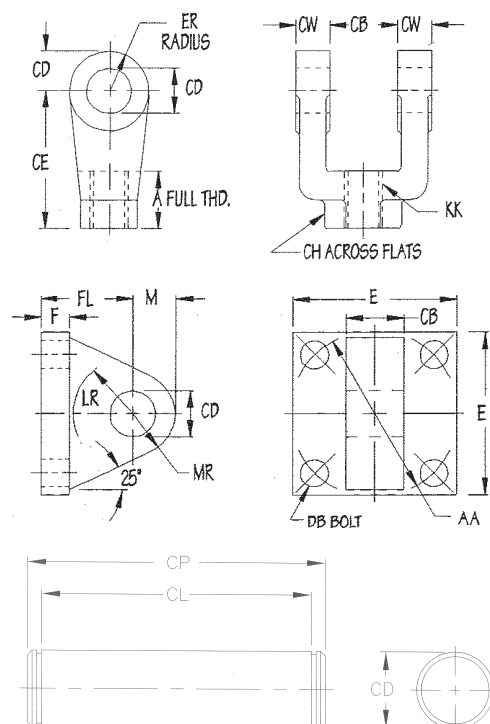
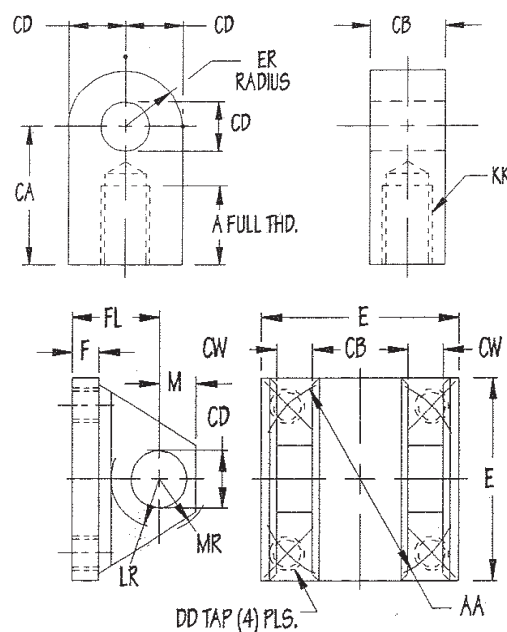
Select by "CD" to match pivot pin					
Bore	KK	CD	Pivot pin	Clevis Bracket	Eye Bracket
32	7/16-20 UNF	0.500	R433012621	R433012631	R433012638
40	1/2-20 UNF	0.500	R433012621	R433012631	R433012638
50	3/4-16 UNF	0.750	R433012623	R433012632	R433012639
63	3/4-16 UNF	0.750	R433012623	R433012632	R433012639
80	3/4-16 UNF	0.750	R433012623	R433012632	R433012639
100	3/4-16 UNF	0.750	R433012623	R433012632	R433012639
125	1-14 UNF	1.000	R433012626	R433012633	R433012641

Dimensions

Rod Eye	A	CA	CB	CD	ER	KK
R433012610	0.750	1.500	0.750	0.500	0.560	7-16-20
R432006533	0.750	1.500	0.750	0.500	0.560	1/2-20
R433012611	1.130	2.060	1.250	0.750	0.810	3/4-16
R433012613	1.630	2.810	1.500	1.000	1.130	1-14

Clevis Bracket	AA	CB	CD	CW	ER	DD
R433012631	2.300	0.750	0.500	0.500	0.500	3/8-24
R433012632	2.900	1.250	0.750	0.630	0.750	1/2-20
R433012633	3.600	1.250	0.750	0.630	0.750	1/2-20

Clevis Bracket	E	F	FL	LR	M	MR
R433012631	2.500	0.380	1.130	0.630	0.500	0.560
R433012632	3.000	0.630	1.880	0.880	0.750	0.880
R433012633	3.500	0.630	1.880	0.880	0.750	1.000



Dimensions

Rod Clevis	A	CB	CD	CE	CH	CW	ER	KK		
R433012602	0.750	0.750	0.500	1.500	0.780	0.500	0.500	7/16-20		
R433012665	0.750	0.750	0.500	1.500	0.780	0.500	0.500	1/2-20		
R433012603	1.130	1.250	0.750	2.380	1.250	0.630	0.750	3/4-16		
R433012604	1.630	1.500	1.000	3.130	1.630	0.750	1.000	1-14		

Eye Bracket	AA	CB	CD	DB	E	F	FL	LR	M	MR
R433012638	2.300	0.750	0.500	0.380	2.500	0.380	1.130	0.690	0.500	0.560
R433012639	2.900	1.250	0.750	0.500	3.000	0.630	1.880	1.000	0.750	0.880
R433012641	4.600	1.500	1.000	0.630	4.500	0.750	2.250	1.380	1.000	1.250

Pivot Pin w/snap ring	CD	CL	CP							
R433012619	0.500	1.880	2.090							
R433012621	0.750	2.620	2.880							
R433012623	1.000	3.120	3.380							

Note: The "inch" clevis bracket and eye bracket are for use with the inch rod eye and rod clevis, not for mounting directly to the cylinder. Metric versions include rod nut, inch versions do not.

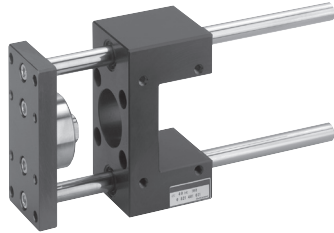
Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

★ Guide unit, GU1

□ Ø 32 - 100 mm □ Plain bearing □ for cylinder with metric rod threads



00105859

Ambient temperature min./max.

-20 °C / 80 °C

Materials:

Bearing housings

Aluminum, black anodized

Bearing type

Sintered bronze

Carrying plate

Aluminum, black anodized

Flexible coupling in carrying plate

Stainless steel

Guide rods

Stainless steel, smooth rolled

Suitable piston Ø		[mm]	32	40	50	63	80
Weight	0 mm stroke	[kg]	0.63	0.946	1.356	1.655	3.45
	10 mm stroke	[kg]	0.0122	0.0176	0.0176	0.0176	0.0222

Suitable piston Ø		[mm]	100				
Weight	0 mm stroke	[kg]	4.69				
	10 mm stroke	[kg]	0.0222				

	Suitable piston Ø mm (inch)	32	40	50	63	80	100
	Stroke 50 (2")	0821401010	0821401020	0821401030	0821401480	0821401050	0821401060
	100 (4")	0821401011	0821401021	0821401031	0821401481	0821401051	0821401061
	160 (6")	0821401012	0821401022	0821401032	0821401482	0821401052	0821401062
	200 (8")	0821401013	0821401023	0821401033	0821401483	0821401053	0821401063
	250 (10")	0821401014	0821401024	0821401034	0821401484	0821401054	0821401064
	320 (13")	0821401015	0821401025	0821401035	0821401485	0821401055	0821401065
	400 (16")	0821401016	0821401026	0821401036	0821401486	0821401056	0821401066
	500 (20")	0821401017	0821401027	0821401037	0821401487	0821401057	0821401067
	600 (24")	0821401018	0821401028	0821401038	0821401488	0821401058	0821401068
	800 (32")	0821401019	0821401029	0821401039	0821401489	0821401059	0821401069
	1000 (39")	0821401500	0821401502	0821401504	0821401490	0821401508	0821401510
	1200 (47")	0821401501	0821401503	0821401505	0821401491	0821401509	0821401511

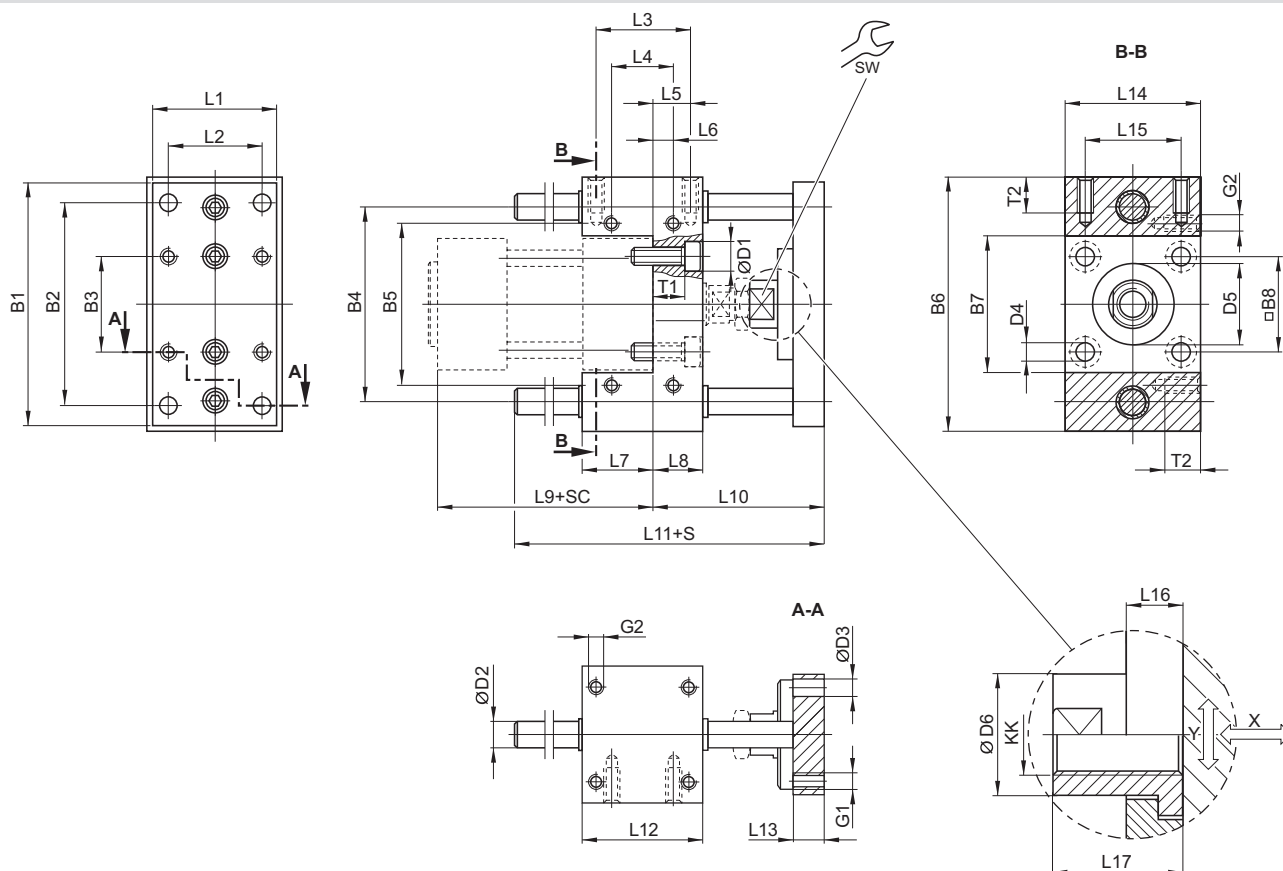
Note - Inch dimensions rounded to the nearest whole number.

- See internet configurator for cylinders with NPT ports and metric rod threads.

★ **ISO 15552, Series PRA & TRB**

Accessories

Ø 32 - 100 mm



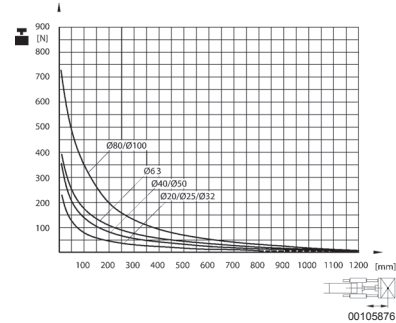
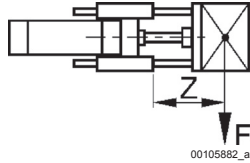
Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

Ø	L11	L12	L13	L14	L15	L16	L17	SW	T1	T2				
63	146	76	15	76	56.5	14	26	22	16	16				
80	170	90	16	98	72	14	32	27	24	20				
100	190	110	16	118	89	14	32	27	29	20				

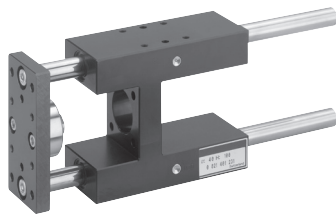
Useful load



F = useful load, Z = projection

★ Guide unit, GH2

□ Ø 32 - 100 mm □ linear ball bearing □ for cylinder with metric rod threads



Ambient temperature min./max.

-20 °C / 80 °C

Materials:

Bearing type

Carrying plate

Flexible coupling in carrying plate

Guide rods

Steel

Aluminum, black anodized

Stainless steel

Stainless steel, ground

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

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

	Suitable piston Ø [mm] Min. play (radial) [mm] (inch)	32 1.5	40 2	50 2	63 2	80 2	100 2
	Stroke 50 (2")	0821401320	0821401330	0821401340	0821401380	-	-
	100 (4")	0821401321	0821401331	0821401341	0821401381	0821401360	0821401370
	200 (8")	0821401322	0821401332	0821401342	0821401382	0821401361	0821401371
	320 (13")	0821401323	0821401333	0821401343	0821401383	0821401362	0821401372
	500 (20")	0821401324	0821401334	0821401344	0821401384	0821401363	0821401373
	600 (24")	0821401325	0821401335	0821401345	0821401385	0821401364	0821401374
	800 (32")	0821401326	0821401336	0821401346	0821401386	0821401365	0821401375
	1000 (39")	0821401327	0821401337	0821401347	0821401387	0821401366	0821401376
	1200 (47")	0821401328	0821401338	0821401348	0821401388	0821401367	0821401377

Note - Inch dimensions rounded to the nearest whole number.

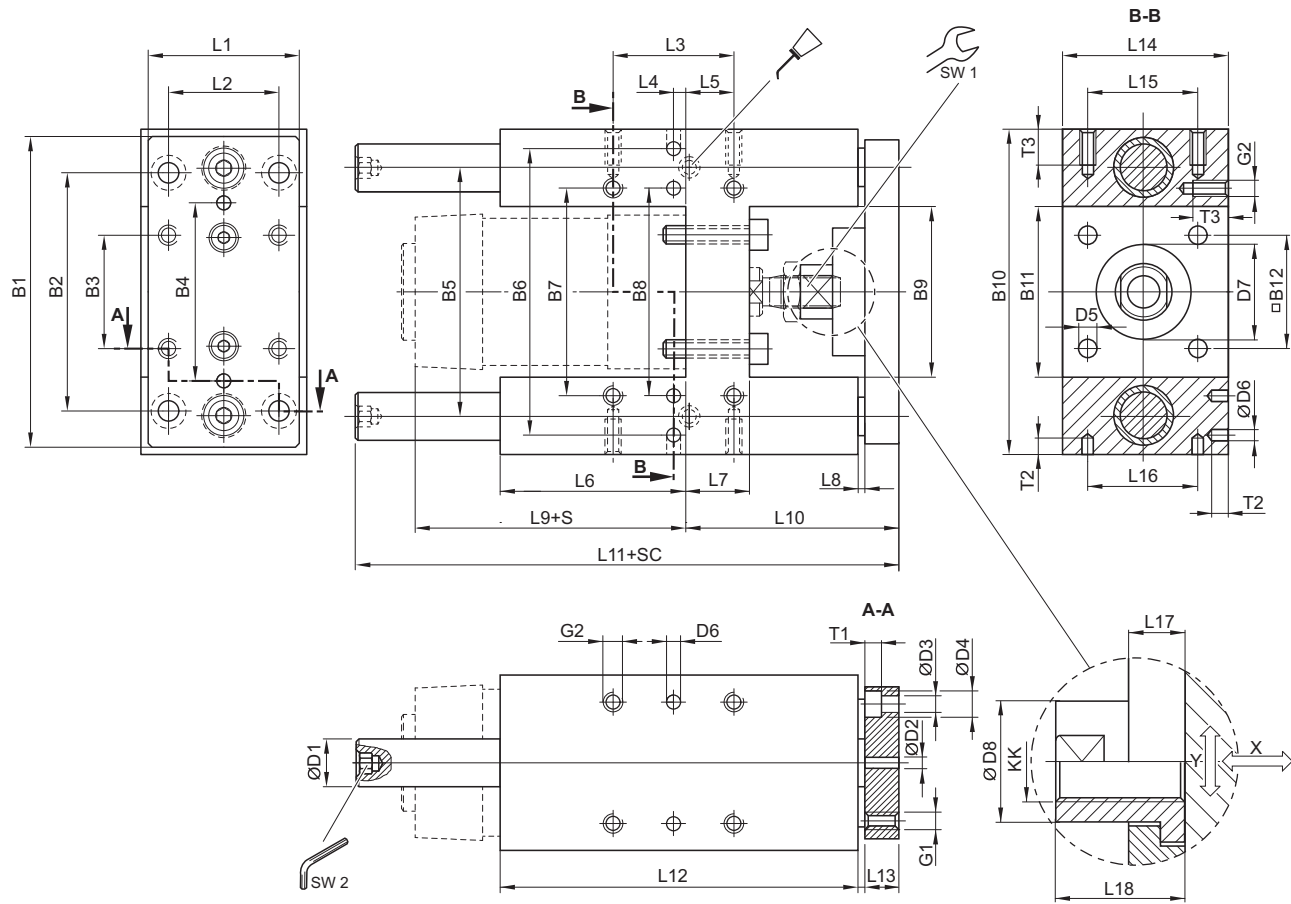
- See internet configurator for cylinders with NPT ports and metric rod threads.

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

Ø 32 - 100 mm



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

Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
32	90	78	32.5	50 ±0,02	74	81 ±0,02	61	61 ±0,02	50.2	97	50.2
40	110	84	38	54 ±0,02	87	99 ±0,02	69	69 ±0,02	58.2	115	58.2
50	130	100	46.5	72 ±0,02	104	119 ±0,02	85	85 ±0,02	70.2	137	70.2
63	145	105	56.5	82 ±0,02	119	132 ±0,02	100	100 ±0,02	85.2	152	85.2
80	180	130	72	106 ±0,02	148	166 ±0,02	130	130 ±0,02	105.4	189	105.4
100	200	150	89	131 ±0,02	172	190 ±0,02	150	150 ±0,02	130.4	213	130.4

Ø	B12	D1	D2	D3	D4	D5	D6	D7	D8	G1	G2	KK	L1
32	32.5	12	6 H7	6.6	11	6.6	6 H7	30 M8	14.5	M6	M6	M10x1,25	45
40	38	16	6 H7	6.6	11	6.6	6 H7	35 M8	18	M6	M6	M12x1,25	54
50	46.5	20	6 H7	9	15	9	6 H7	40 M8	24	M8	M8	M16x1,5	63
63	56.5	20	6 H7	9	15	9	6 H7	45 M8	24	M8	M8	M16x1,5	80
80	72	25	6 H7	11	18	11	6 H7	45 M8	30	M10	M10	M20x1,5	100
100	89	25	6 H7	11	18	11	6 H7	55 M8	30	M10	M10	M20x1,5	120

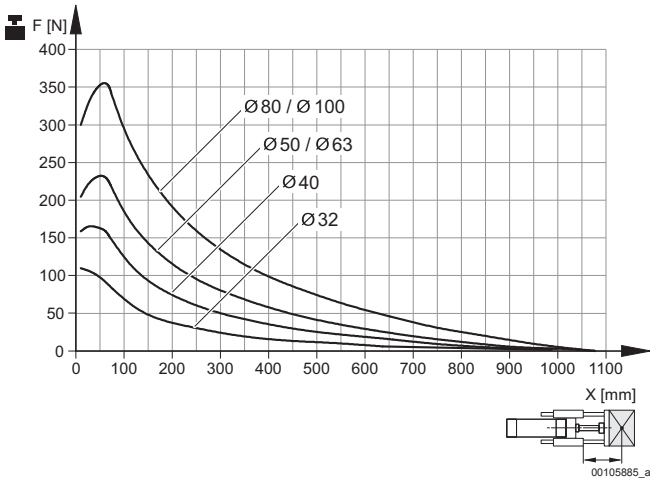
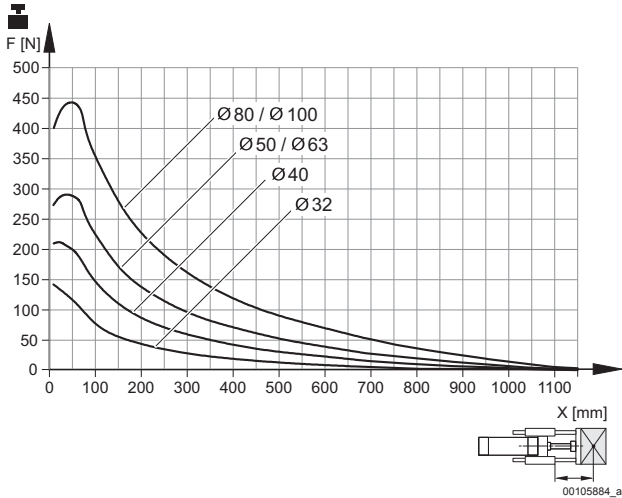
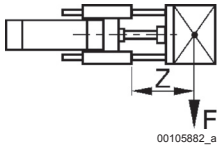
Ø	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15
32	32.5	32.5	12	4.25	76	17	3	94	64	177.5	125	12	50	32.5

★ ISO 15552, Series PRA & TRB
Accessories

Ø	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15
40	38	38	8	11	81	21	3	105	74	192.5	140	12	58	38
50	46.5	46.5	4.5	18.75	79	26	3	106	89	237	150	15	70	46.5
63	56.5	56.5	13	15.25	111	26	3	121	89	237	182	15	85	56.5
80	72	72	15	21	128	34	3	128	110	280	215	20	105	72
100	89	89	20	24.5	128	39	3	138	115	280	220	20	130	89

Ø	L16	L17	L18	T1	T2	T3	SW1	SW2						
32	32,5 ±0,02	6	17	6.5	10	15	13	5						
40	38 ±0,02	14	22	6.5	10	15	15	6						
50	46,5 ±0,02	14	26	9	10	16	22	6						
63	56,5 ±0,02	14	26	9	10	16	22	6						
80	72 ±0,02	14	32	11	10	20	27	8						
100	89 ±0,02	14	32	11	10	20	27	8						

Useful load



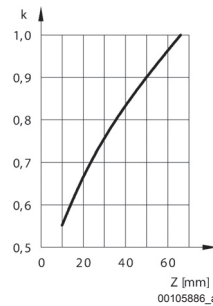
F = useful load, Z = projection

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

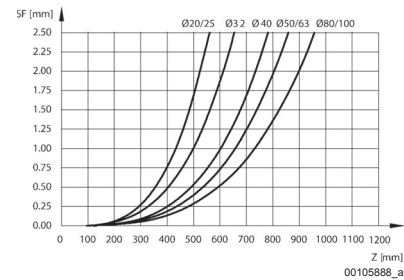
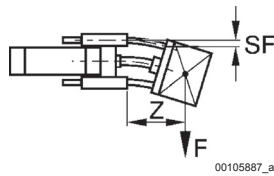
Reduction of useful load on short strokes



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

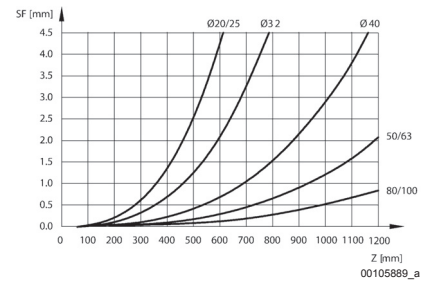
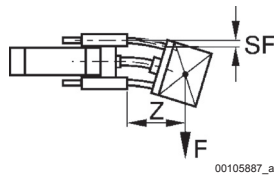
With a short stroke, the nominal load data determined from the diagram must be multiplied by the correction factor k. These short-stroke adjustments are already included in the load diagram for a displacement of up to 60 mm.

Bending due to own load



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

Bending due to 10 N load



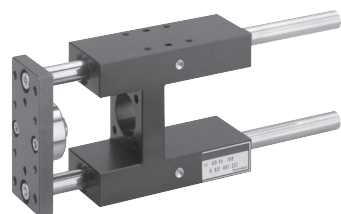
F = useful load (at the load center), SF = bending, Z = projection

★ ISO 15552, Series PRA & TRB

Accessories

★ Guide unit, GH1

□ Ø 32 - 100 mm □ Plain bearing □ for cylinder with metric rod threads



00105863

Ambient temperature min./max.

-20 °C / 80 °C

Materials:

Bearing housings

Aluminum, black anodized

Bearing type

Sintered bronze

Carrying plate

Aluminum, black anodized

Flexible coupling in carrying plate

Stainless steel

Guide rods

Stainless steel, smooth rolled

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

Suitable piston Ø		[mm]	100				
Weight	0 mm stroke	[kg]	11.1				
	10 mm stroke	[kg]	0.039				

	Suitable piston Ø [mm] Min. play (radial) [mm] (inch)	32 1.5	40 2	50 2	63 2	80 2	100 2
	Stroke 50 (2")	0821401220	0821401230	0821401240	0821401280	-	-
	100 (4")	0821401221	0821401231	0821401241	0821401281	0821401260	0821401270
	160 (6")	0821401222	0821401232	0821401242	0821401285	-	-
	200 (8")	0821401223	0821401233	0821401243	0821401282	0821401261	0821401271
	250 (10")	0821401224	0821401234	0821401244	0821401286	-	-
	320 (13")	0821401225	0821401235	0821401245	0821401283	0821401262	0821401272
	400 (16")	0821401226	0821401236	0821401246	0821401287	-	-
	500 (20")	0821401227	0821401237	0821401247	0821401284	0821401263	0821401273
	600 (24")	0821401228	0821401238	0821401249	0821401288	0821401264	0821401274
	800 (32")	0821401229	0821401239	0821401474	0821401289	0821401265	0821401275
	1000 (39")	0821401470	0821401472	0821401475	0821401290	0821401266	0821401276
	1200 (47")	0821401471	0821401473	0821401476	0821401291	0821401267	0821401277

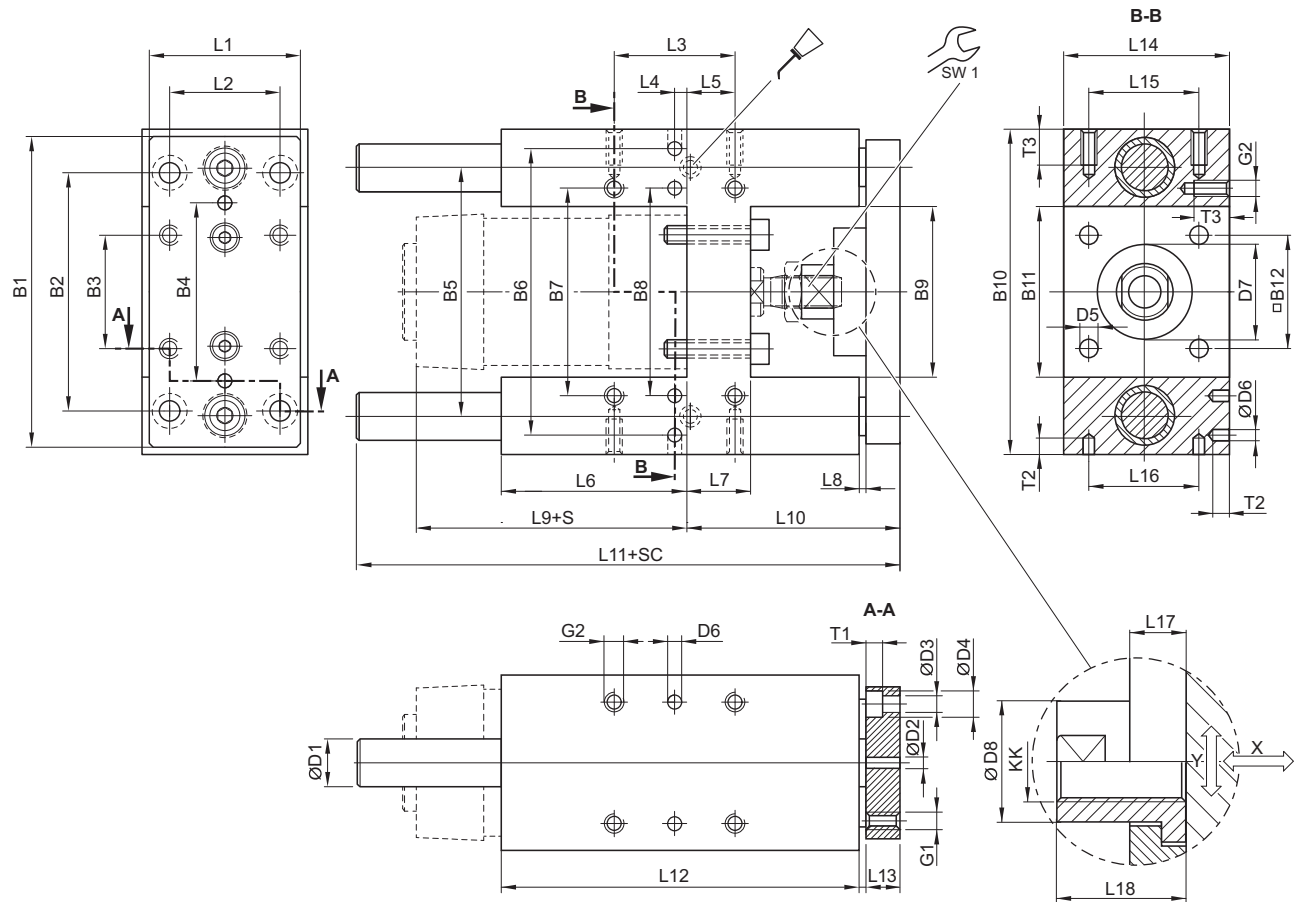
Note - Inch dimensions rounded to the nearest whole number.

- See internet configurator for cylinders with NPT ports and metric rod threads.

★ ISO 15552, Series PRA & TRB

Accessories

Ø 32 - 100 mm



00127787

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

Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
32	90	78	32.5	50 ±0,02	74	81 ±0,02	61	61 ±0,02	50.2	97	50.2
40	110	84	38	54 ±0,02	87	99 ±0,02	69	69 ±0,02	58.2	115	58.2
50	130	100	46.5	72 ±0,02	104	119 ±0,02	85	85 ±0,02	70.2	137	70.2
63	145	105	56.5	82 ±0,02	119	132 ±0,02	100	100 ±0,02	85.2	152	85.2
80	180	130	72	106 ±0,02	148	166 ±0,02	130	130 ±0,02	105.4	189	105.4
100	200	150	89	131 ±0,02	172	190 ±0,02	150	150 ±0,02	130.4	213	130.4

Ø	B12	D1	D2	D3	D4	D5	D6	D7	D8	G1	G2	KK	L1
32	32.5	12	6 H7	6.6	11	6.6	6 H7	30 M8	14.5	M6	M6	M10x1,25	45
40	38	16	6 H7	6.6	11	6.6	6 H7	35 M8	18	M6	M6	M12x1,25	54
50	46.5	20	6 H7	9	15	9	6 H7	40 M8	24	M8	M8	M16x1,5	63
63	56.5	20	6 H7	9	15	9	6 H7	45 M8	24	M8	M8	M16x1,5	80
80	72	25	6 H7	11	18	11	6 H7	45 M8	30	M10	M10	M20x1,5	100
100	89	25	6 H7	11	18	11	6 H7	55 M8	30	M10	M10	M20x1,5	120

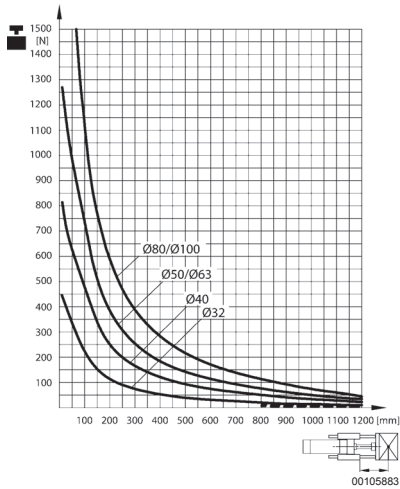
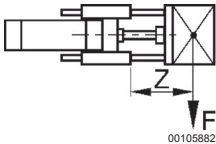
Ø	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15
32	32.5	32.5	12	4.25	76	17	3	94	64	177.5	125	12	50	32.5
40	38	38	8	11	81	21	3	105	74	192.5	140	12	58	38

★ ISO 15552, Series PRA & TRB
Accessories

Ø	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15
50	46.5	46.5	4.5	18.75	79	26	3	106	89	205	150	15	70	46.5
63	56.5	56.5	13	15.25	111	26	3	121	89	237	182	15	85	56.5
80	72	72	15	21	128	34	3	128	110	280	215	20	105	72
100	89	89	20	24.5	128	39	3	138	115	280	220	20	130	89

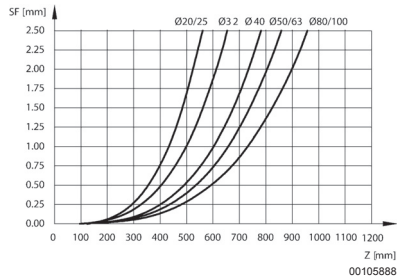
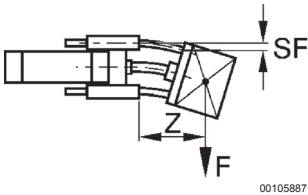
Ø	L16	L17	L18	T1	T2	T3	SW1							
32	32,5 ±0,02	6	17	6.5	10	15	13							
40	38 ±0,02	14	22	6.5	10	15	15							
50	46,5 ±0,02	14	26	9	10	16	22							
63	56,5 ±0,02	14	26	9	10	16	22							
80	72 ±0,02	14	32	11	10	20	27							
100	89 ±0,02	14	32	11	10	20	27							

Useful load



F= useful load, Z = projection

Bending due to own load

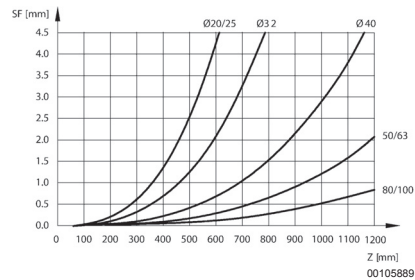
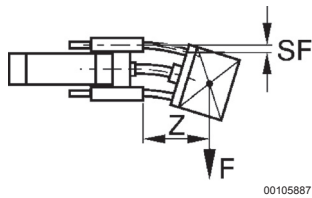


F = useful load (at the load center), SF = bending, Z = projection

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB
Accessories

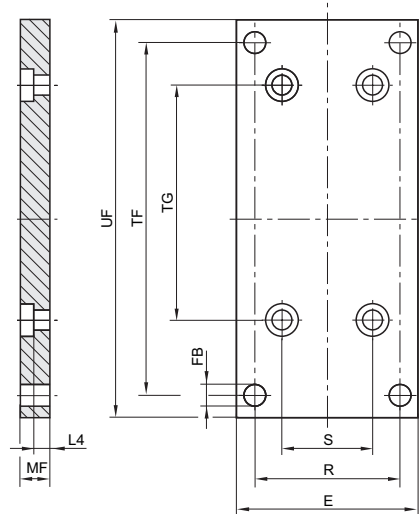
Bending due to 10 N load



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

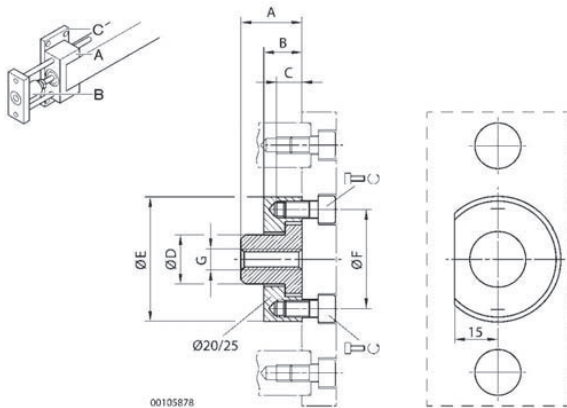
★ Flange mounting

□ 'U' version, for guide units, Ø 80 - 100 mm



Part No.	Ø	E	FB	L4	MF	R	S	TF	TG	UF	Material
1827010494	80	100	12	9	16	80	50	195	130	220	Steel, nickel-plated
1827010495	100	120	14	9	16	95	--	217	150	245	Steel, nickel-plated

Part No.	Surface										
1827010494	galvanized										
1827010495	galvanized										



A = Guide unit
B = Rod coupling
C = Mounting flange

★ ISO 15552, Series PRA & TRB

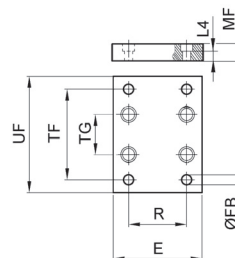
Accessories

★ Flange mounting

□ for guide units, 'H' version, Ø 12 - 100 mm

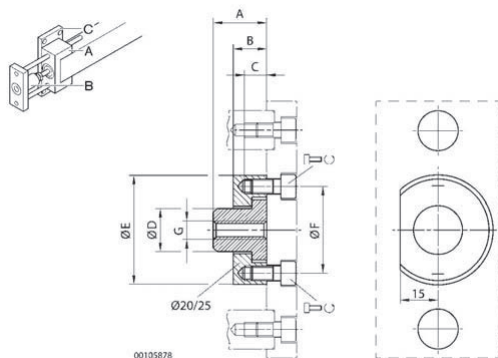


00106403



00106476

Part No.	Ø	E	Ø FB	L4	MF	R	TF	TG	UF	Material	Surface
1821038163	12/16	50	5.5	4.5	10	32.5	50	23	64	Steel, galvanized	galvanized
1821038078	20/25	50	6.6	4.5	10	32.5	50	23	64	Steel, galvanized	galvanized
1821038079	32	50	6.6	4.5	10	32.5	116	61	130	Steel, galvanized	galvanized
1821038080	40	55	9	4.5	10	38	140	69	160	Steel, galvanized	galvanized
1821038081	50	70	9	6	12	46.5	160	85	180	Steel, galvanized	galvanized
1821038082	63	80	9	6	12	56.5	175	100	195	Steel, galvanized	galvanized
1821038083	80	100	12	9	16	72	218	130	242	Steel, galvanized	galvanized
1821038084	100	120	14	9	16	89	245	150	272	Steel, galvanized	galvanized



00135878

A = Guide unit

B = Rod coupling

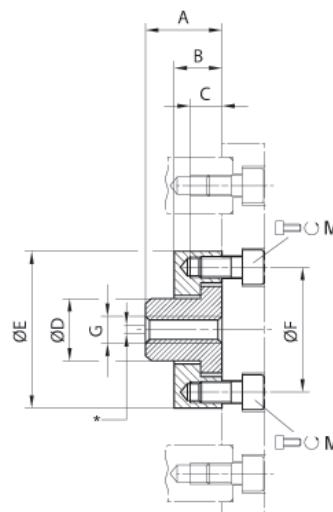
C = Mounting flange

★ Flexible coupling GU3

□ for guide units □ version 'U' and 'H', Ø12–63



00105864



00132063

* Radial joint from 2 - 2.5 mm

Scope of delivery: flexible coupling incl. mounting screws

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

Part No.	Ø	M	G	A	B	C	D	ØE	ØF
1827020170	12/16	2x M4x10	M6	18	7	7	10	22	15
1827020174	40	2x M6x12	M12x1,25	22	14	8	18	45	36
1827020175	50/63	4x M6x14	M16x1,5	26	14	8	24	54	45

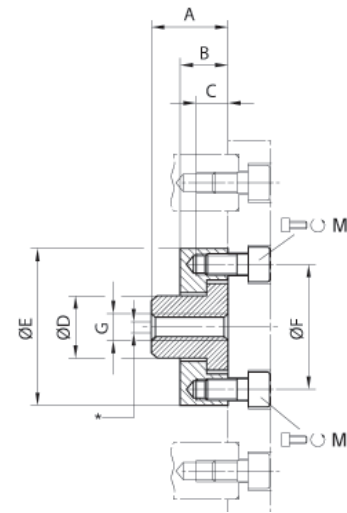
Part No.	Material								
1827020170	Stainless steel								
1827020174	Stainless steel								
1827020175	Stainless steel								

★ Flexible coupling GU3

□ for guide units □ 'H' version, Ø20–100



00106407



00105878_a

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

Scope of delivery: flexible coupling incl. mounting screws

Part No.	Ø	M	G	A	B	C	D	ØE	ØF
1827020177	20	2x M5x12	M8	22	14	6	14.5	33	26
1827020178	25/32	2x M5x12	M10x1,25	17	14	6	14.5	33	26
1827020179	80/100	4x M6x20	M20x1,5	32	14	11.5	32	60	51

Part No.	Material								
1827020177	Stainless steel								
1827020178	Stainless steel								
1827020179	Stainless steel								

★ ISO 15552, Series PRA & TRB

Accessories

★ Holding unit, HU1

□ Ø32 - 100 mm □ hold: spring force, release: compressed air



00104762

Function	Hold with clamping jaws
Working pressure min./max.	4 bar / 8 bar
Control pressure min./max.	-- / 8 bar
Ambient temperature min./max.	-10°C / +60°C
Medium temperature min./max.	-10°C / +60°C
Particle size max.	5 µm
Oil content of compressed air	0 mg/m³ - 5 mg/m³
Materials:	
Housing	Aluminum, black anodized

Technical Remarks

- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth, see chapter „Technical information“.
- Warning:
The holding unit may NOT be used for the following applications:
 - for dynamic holding
 - in or as safety equipment
- Holding unit may only be unlocked when turned off
- NOTE:
The minimum control pressure is $\geq$ working pressure!

	Piston Ø	suitable piston rod diameter	piston rod extension	Compressed air connection	Holding force	Weight	Part No.
		h8 tolerance			[N]		
	32	12	42	M5	650	0.2	0821401165
	40	16	45	G 1/8	1100	0.27	0821401166
	50	20	57	G 1/8	1600	0.57	0821401167
	63	20	57	G 1/8	2500	0.8	0821401168
	80	25	77	G 1/8	4000	1.85	0821401169
	100	25	77	G 1/8	6300	2.9	0821401170

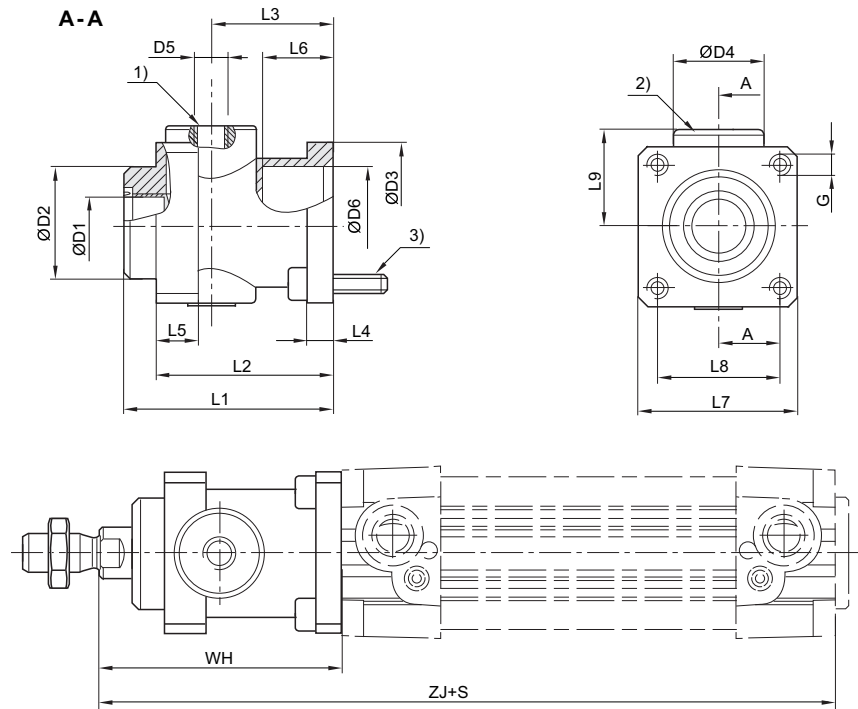
Caution: To use holding unit in combination with a linear guide, add the following rod extensions to the cylinder (in addition to configuring the cylinder to accept a rod holding unit): 32mm bore 6mm, 40mm bore 10mm, 50/63/80mm bores 13mm, and 100mm bore 23mm.

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

Dimensions



00129789

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

	A	Ø D1	Ø D2	Ø D3	Ø D4	D5	L1	L2	L3	L4	L5	L6
0821401165	16,25	12	30	35	25	M5	58	48	34	8	13	20.5
0821401166	19	16	35	40	28	G 1/8	65	55	38	8	13	22.5
0821401167	23,25	20	40	50	35	G 1/8	82	70	48	15	16	29.5
0821401168	28,25	20	45	60	38	G 1/8	82	70	49.5	15	16	29.5
0821401169	36	25	45	80	48	G 1/8	110	90	61	18	20	35
0821401170	44,5	25	55	100	58	G 1/8	115	100	69	18	20	—
	L7	L8	L9	G	WH	ZJ						
0821401165	45	32.5	25.5	M6	68	162						
0821401166	50	38	30	M6	75	180						
0821401167	60	46.5	36	M8	94	200						
0821401168	70	56.5	40	M8	94	215						
0821401169	90	72	50	M10	123	251						
0821401170	105	89	58	M10	128	266						

★ ISO 15552, Series PRA & TRB

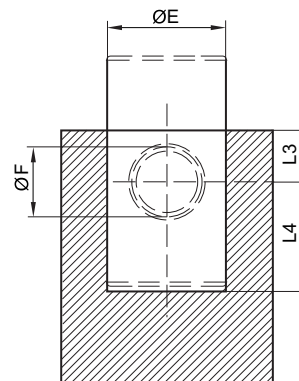
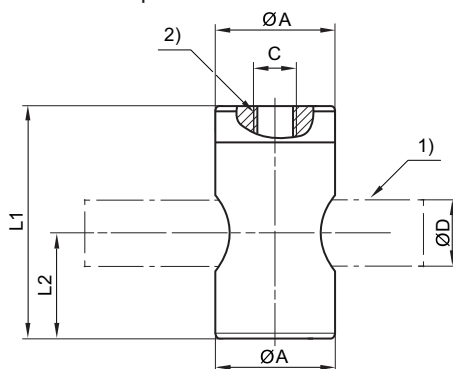
Accessories

★ Holding cartridge, HU2

□ Ø20 - 100 mm □ hold: spring force, release: compressed air



00104758



00129790

1) piston rod
2) air connection

Technical Remarks

- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of air pressure must remain constant during the life cycle.
- Warning:
The holding cartridge may NOT be used for the following applications:
 - for dynamic holding
 - in or as safety equipment
- Holding cartridge may only be unlocked when air pressure is turned off
- NOTE:
The minimum control pressure is $\geq$ working pressure!

	Piston Ø	suitable piston rod diameter	Compressed air connection	Holding force	Weight	Part No.
		h8 tolerance		[N]		
	32	12	M5	650	0.09	0821401154
	20	8	M5	300	0.07	0821401152
	40	16	G 1/8	1100	0.11	0821401155
	25	10	M5	400	0.07	0821401153
	50	20	G 1/8	1600	0.21	0821401156
	63	20	G 1/8	2500	0.29	0821401157
	80	25	G 1/8	4000	0.55	0821401158
	100	25	G 1/8	6300	1.1	0821401159

	Ø D	Ø A	C	Ø E	Ø F	L1	L2	L3 1)	L4			
0821401152	8	20	M5	20	D +1	40	19	7	20			
0821401153	10	20	M5	20	D +1	40	19	8	20			
0821401154	12	25	M5	25	D +1	47.5	22	10	23			
0821401155	16	28	G 1/8	28	D +1	55	25	12	26			
0821401156	20	35	G 1/8	35	D +1	66	30	15	31			
0821401157	20	38	G 1/8	38	D +1	74	34	15	35			
0821401158	25	48	G 1/8	48	D +1	95	45	20	46			
0821401159	25	58	G 1/8	58	D +1	110	52	20	53			

1) Min.

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

★ Locking Unit LU6

□ Ø32 - 125 mm □ Hold: non-adjustable spring force, Release: compressed air (for new applications)



Version	Clamping jaw lock
Function	Hold with clamping jaws
Release pressure	4 bar / 10 bar
Ambient temperature min./max.	-25°C / +80°C
Medium temperature min./max.	-25°C / +80°C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 mg/m³ - 5 mg/m³
Materials:	
Housing	Aluminum, anodized
Seal and Scraper	Nitrile butadiene rubber

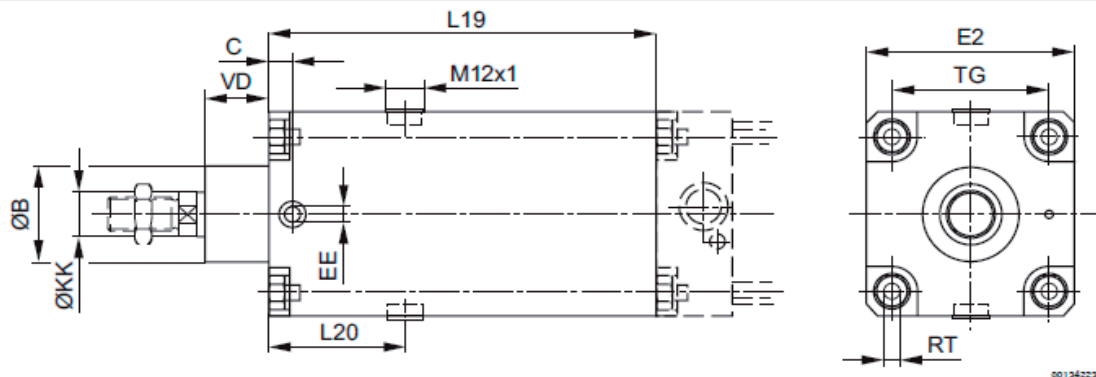
Technical Remarks

- The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C.
- The oil content of air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth
- Warning:
The brake may NOT be used for the following applications:
- for dynamic holding
- in or as safety equipment
- NOTE:
Before pressurizing the lock, make sure that there is a balance of forces at the piston on the drive cylinder. Please see the operating instructions for further information relevant for safety.

	Piston Ø	suitable piston rod diameter	piston rod extension	Compressed air connection	Holding force [N]	Weight	Part No.
	32	12	125	G 1/8	760	0.8	5230996402
	40	16	125	G 1/8	1200	1	5231996402
	50	20	145	G 1/8	1900	1.8	5232996402
	63	20	165	G 1/8	3000	2.8	5233996402
	80	25	185	G 1/8	5000	5.5	5234996402
	100	25	220	G 1/8	8000	9.5	5235996402
	125	32	220	G 1/4	12000	13.8	5236996402

Holding force at 0 bar

Dimensions



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

★ **ISO 15552, Series PRA & TRB**

Accessories

★ **Sensor, Series ST6**
☐ 6 mm groove ☐ with cable ☐ without wire end ferrule, tin-plated (for new applications)


00112027_2

Ambient temperature min./max.	-25°C / +70°C
Protection class according to EN 60529:2000	IP 68
Switching point precision [mm]	±0,1
Switching capacity	3 W / 3 VA
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms

Materials:

Housing

Polyamide

Cable

Polyurethane

	Type of contact	cable length L	DC operating voltage Min./max.	Operational voltage AC Min./max.	DC switching current, max.	AC switching current, max.	Part No.
		[m]	[V]	[V]	[A]	[A]	
	Reed	3	10 / 110	10 / 110	0, 13	0,13	R412007815
	Reed	3 5 10	10 / 30	10 / 30	0,13	0,13	0830100629 0830100630 R412004575
	electronic PNP	3 5 10	10 / 30	-	0.1	0,1	0830100631 0830100632 R412004576
	electronic NPN	3 5	10 / 30	-	0.1	-	0830100633 0830100634
Part No.	Voltage drop U at I _{max}	Protective resistor for reed	Max. switching frequency	Operating current, not switched	Operating current, switched	Note	
	[V]	[Ω]	[kHz]	[mA]	[mA]		
0830100629 0830100630 R412004575	I*Rs	15	< 0,3	-	< 10	1)	
0830100631 0830100632 R412004576	≤ 2,5	-	< 1,0	< 20	< 30	2)	
0830100633 0830100634	≤ 2,5	-	< 1,0	< 20	< 30	2)	

1) short circuit protected

2) short circuit resistant; short circuit protected

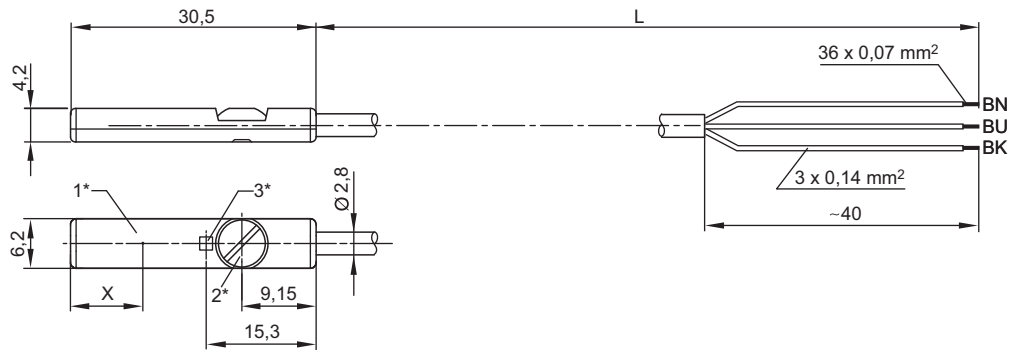
interfaces: without wire end ferrule, tin-plated

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

Dimensions



00111942_b

1* = sensor element 2* = clamping screw 3* = LED

L = cable length

BN = brown, BK = black, BU = blue

X = electronic: 6 mm, Reed: 10 mm

★ Sensor, Series ST6

□ 6 mm groove □ with cable □ Plug, M8, 3-pin, with knurled screw (for new applications)



00112027_5

Ambient temperature min./max.

-25°C / +70°C

Protection class according to EN 60529:2000

IP 68

Switching point precision [mm]

±0,1

Switching capacity

3 W / 3 VA

LED status display

Yellow

Vibration resistance

10 - 55 Hz, 1 mm

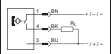
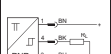
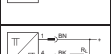
Shock resistance

30 g / 11 ms

Materials:

Housing

Polyamide

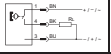
	Type of contact	cable length L	DC operating voltage Min./max.	Operational voltage AC Min./max.	DC switching current, max.	AC switching current, max.	Part No.
		[m]	[V]	[V]	[A]	[A]	
	Reed	0.3 0.5	10 / 30	10 / 30	0,13	0,13	0830100434 0830100436
	electronic PNP	0.3 0.3 0.5	10 / 30	-	0.1	0,1	0830100435 R412004762 0830100437
	electronic NPN	0.3	10 / 30	-	0.1	-	0830100431

Polyurethane

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

	Type of contact	cable length L	DC operating voltage Min./max.	Operational voltage AC Min./max.	DC switching current, max.	AC switching current, max.	Part No.
		[m]	[V]	[V]	[A]	[A]	
	Reed	0.3	10 / 30	10 / 30	0,13	0,13	0830100488
	electronic PNP	0.3	10 / 30	-	0.1	0,1	0830100489
	electronic NPN	0.3	10 / 30	-	0.1	-	0830100430

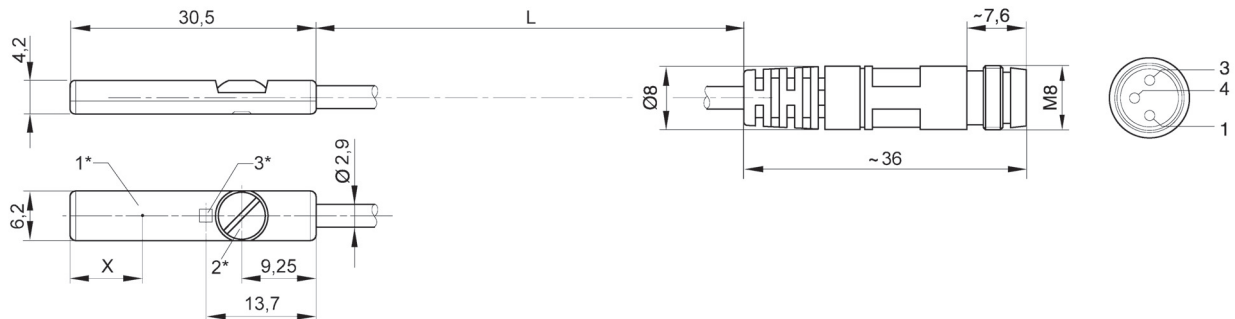
Part No.	Voltage drop U at I _{max}	Protective resistor for reed	Max. switching frequency	Operating current, not switched	Operating current, switched	Note
	[V]	[Ω]	[kHz]	[mA]	[mA]	
0830100488	I*Rs	15	< 0,3	-	< 10	1)
0830100489	≤ 2,5	-	< 1,0	< 20	< 30	2)
0830100430	≤ 2,5	-	< 1,0	< 20	< 30	2)

1) short circuit protected

2) short circuit resistant; short circuit protected

interfaces: Plug; M8; 3-pin

Dimensions



1* = sensor element 2* = clamping screw 3* = LED

L = cable length

X = electronic: 6 mm, Reed: 10 mm

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

00111942_a

★ ISO 15552, Series PRA & TRB
Accessories

★ Sensor, Series ST6

□ 6 mm groove □ with cable □ Plug, M12, 3-pin, with knurled screw (for new applications)



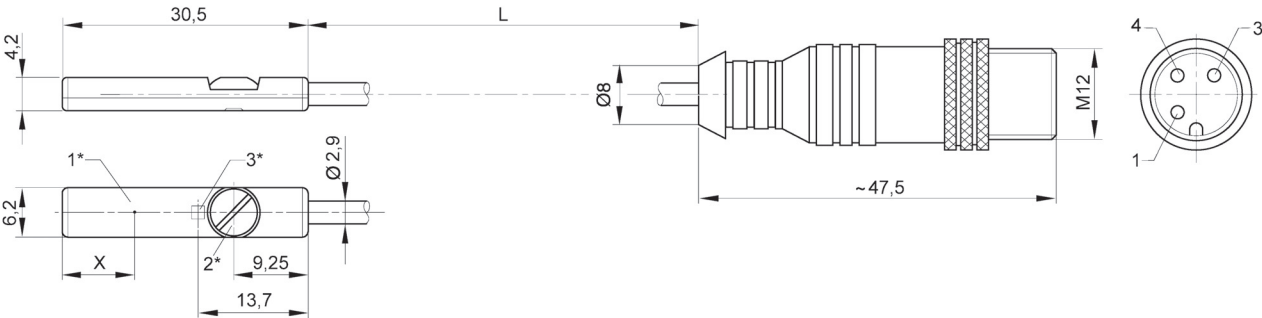
Ambient temperature min./max.	-25°C / +70°C
Protection class according to EN 60529:2000	IP 68
Switching point precision [mm]	±0,1
Switching capacity	3 W / 3 VA
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Materials:	
Housing	Polyamide
Cable	Polyurethane

	Type of contact	cable length L	DC operating voltage Min./max.	Operational voltage AC Min./max.	DC switching current, max.	AC switching current, max.	Part No.
		[m]	[V]	[V]	[A]	[A]	
	Reed	0.3	10 / 30	10 / 30	0,13	0,13	0830100432
	electronic PNP	0.3	10 / 30	-	0.1	-	0830100433

Part No.	Voltage drop U at I _{max}	Protective resistor for reed	Max. switching frequency	Operating current, not switched	Operating current, switched	Note
	[V]	[Ω]	[kHz]	[mA]	[mA]	
0830100432	I*Rs	15	< 0,3	-	< 10	1)
0830100433	≤ 2,5	-	< 1,0	< 20	< 30	2)

1) short circuit protected
2) short circuit resistant; short circuit protected
interfaces: Plug; M12; 3-pin; with knurled screw

Dimensions



1* = sensor element 2* = clamping screw 3* = LED
L = cable length
X = PNP: 6 mm, Reed: 10 mm
Pin assignment: 1 = (+), 3 = (-), 4 = (OUT), EN 60947-5-2:1998

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

★ Sensor, Series SM6

□ 6 mm groove □ with cable □ Plug, M8x1, 4-pin, with knurled screw □ distance measuring sensor



0013 4312

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

Materials:

Housing

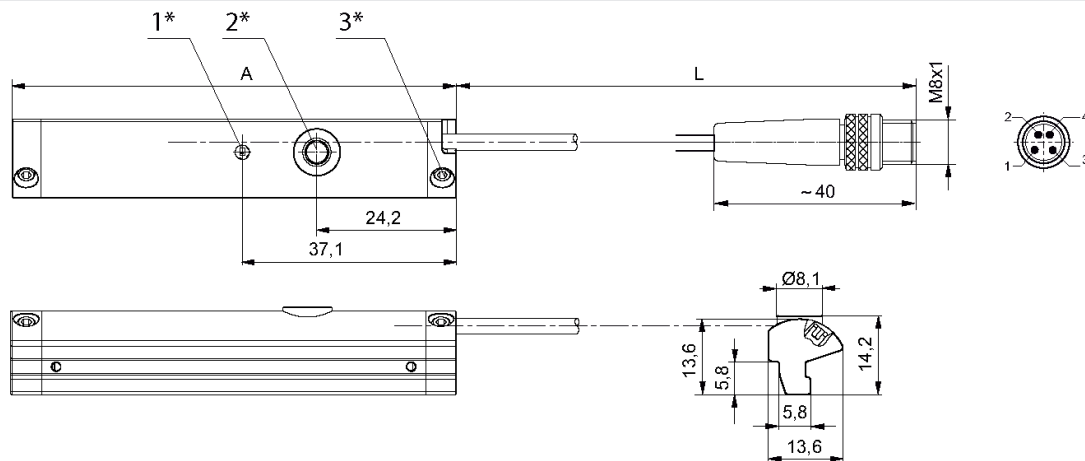
Polyamide, fiber-glass reinforced

Cable sheath

Polyurethane

	Type of contact	Cable length	Measurement range Max.	Overall length Sensor A	Part No.
		[m]	[mm]	[mm]	
	Analog	0.3	32	45	R412010142
			64	77	R412010144
			96	109	R412010263
			128	141	R412010265
			160	173	R412010410
			192	205	R412010412
			224	237	R412010414
			256	269	R412010416
interfaces: Plug; M8x1; 4-pin; with knurled screw short circuit resistant; Protected against polarity reversal; Overload protection					

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

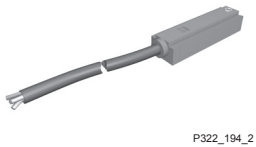
A = sensor length

00133798

★ ISO 15552, Series PRA & TRB
Accessories

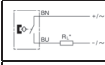
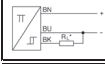
★ Sensor, Series ST8

□ 8 mm groove □ with cable □ without wire end ferrule, tin-plated
(compatible with Series 523, not for new applications)



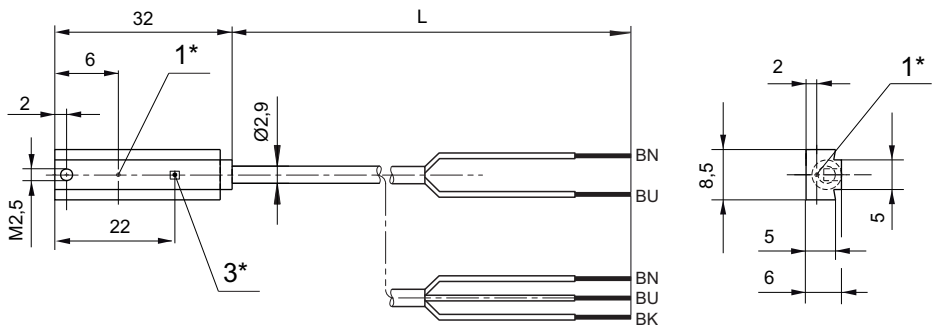
P322_194_2

Ambient temperature min./max.	-25°C / +75°C
Protection class according to EN 60529:2000	IP 67
Switching point precision [mm]	±0,1
Vibration resistance	10 - 55 Hz, 1,5 mm
Materials:	
Housing	Polyamide
Cable	Polyvinyl chloride

	Type of contact	cable length L	DC operating voltage Min./max.	Operational voltage AC Min./max.	DC switching current, max.	AC switching current, max.	Part No.
		[m]	[V]	[V]	[A]	[A]	
	Reed	2.5 10	10 / 30	-- / 240 12 / 240	- 0.1	- 0,13	2750132310 2750152310
	electronic PNP	2.5 10	10 / 30	-	0,15	-	2750131110 2750151110
Part No.	Voltage drop U at Imax		Shock resistance max.		Note		
	[V]						
2750132310	≤ 3,0				2)		
2750152310	I*Rs		30 g / 11 ms		1); 2)		
2750131110							
2750151110	≤ 2,0		30 g		3)		

1) switching capacity: 3 W / 3 VA
2) short circuit protected
3) short circuit resistant; short circuit protected
interfaces: without wire end ferrule, tin-plated

Dimensions



00134180

1* = sensor element
3* = LED
L = cable length
BN = brown, BK = black, BU = blue

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA & TRB

Accessories

★ Sensor, Series ST8

□ 8 mm groove □ with cable □ Plug, M8

(compatible with Series 523, not for new applications)



P322_194_11

Ambient temperature min./max.

-25°C / +75°C

Protection class according to EN 60529:2000

IP 67

Switching point precision [mm]

±0,1

Vibration resistance

10 - 55 Hz, 1,5 mm

Shock resistance

30 g

Materials:

Housing

Polyamide

Cable

Polyurethane

	Type of contact	cable length L	DC operating voltage Min./max.	Operational voltage AC Min./max.	DC switching current, max.	AC switching current, max.	Part No.
		[m]	[V]	[V]	[A]	[A]	
	Reed	0.3	10 / 30	3 / 30	0.1	0,15	2750111320
	electronic PNP	0.3	10 / 30	-	0,15	-	2750111120 2750123120 2750213120
	electronic NPN	0.3	10 / 30	-	0,15	-	2750111220
Part No.	Voltage drop U at I _{max}				Note		
	[V]						
2750111320	I*Rs				2); 3)		
2750111120					4)		
2750123120	≤ 2,0				1); 4)		
2750213120					4)		
2750111220	≤ 2,0				4)		

1) in accordance with EN 50082-2

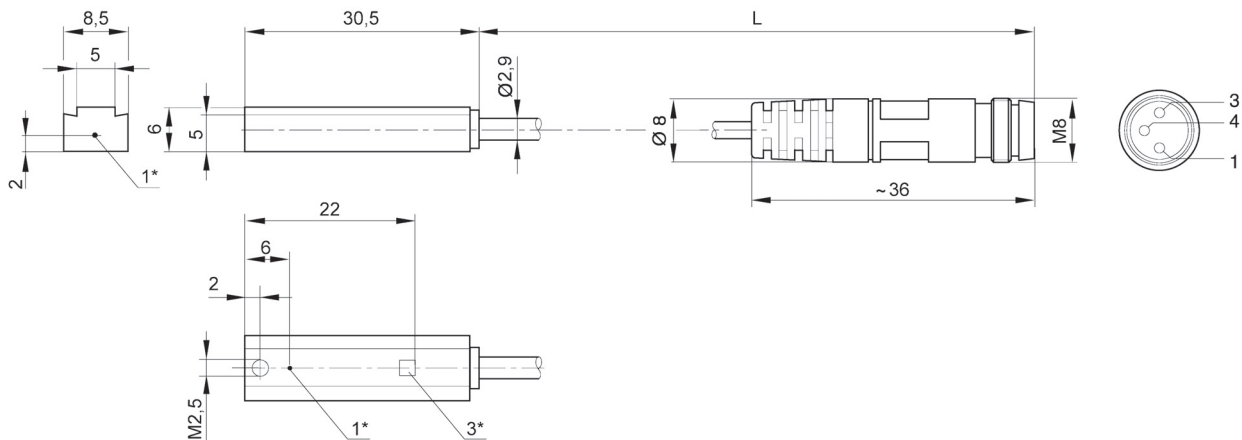
2) switching capacity: 3 W / 3 VA

3) short circuit protected

4) short circuit resistant; short circuit protected

interfaces: Plug; M8

Dimensions



1* = sensor element

3* = LED

L = cable length

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

d322_178_b

★ ISO 15552, Series PRA & TRB
Accessories

★ Sensor, Series ST8

□ 8 mm groove □ with cable □ Plug, M12, 3-pin, with knurled screw
(compatible with Series 523, not for new applications)

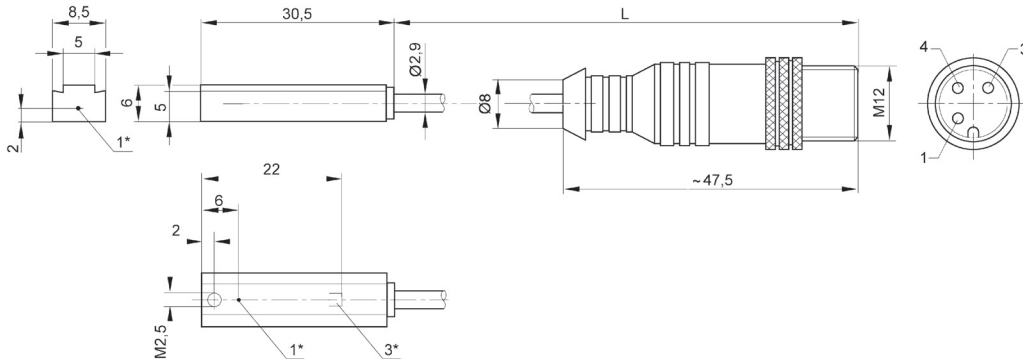


Ambient temperature min./max.	-25°C / +75°C
Protection class according to EN 60529:2000	IP 67
Switching point precision [mm]	±0,1
Vibration resistance	10 - 55 Hz, 1,5 mm
Shock resistance	30 g
Materials:	
Housing	Polyamide
Cable	Polyurethane

	Type of contact	cable length L	DC operating voltage Min./max.	DC switching current, max.	Voltage drop U at I _{max}	Part No.
		[m]	[V]	[A]	[V]	
	electronic PNP	0.3	10 / 30	0,15	≤ 2,0	2750121120

interfaces: Plug; M12; 3-pin; with knurled screw
short circuit resistant; short circuit protected

Dimensions



1* = sensor element
3* = LED
L = cable length
Pin assignment: 1 = (+), 3 = (-), 4 = (OUT), EN 60947-5-2:1998

★ ISO 15552, Series PRA and TRB
Accessories

★ Connecting cable with plug
□ without wire end ferrule, tin-plated



Protection class according to EN 60529 IP 65

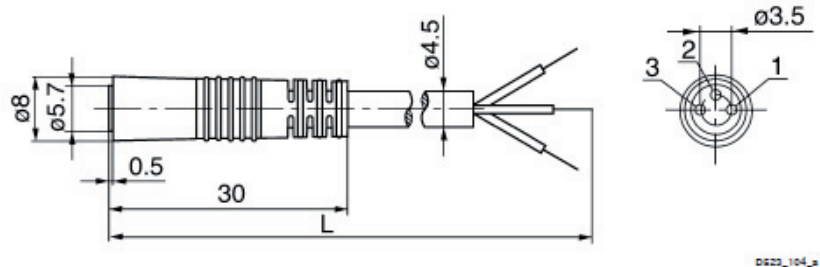
Materials:
Cable sheath Polyvinyl chloride

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

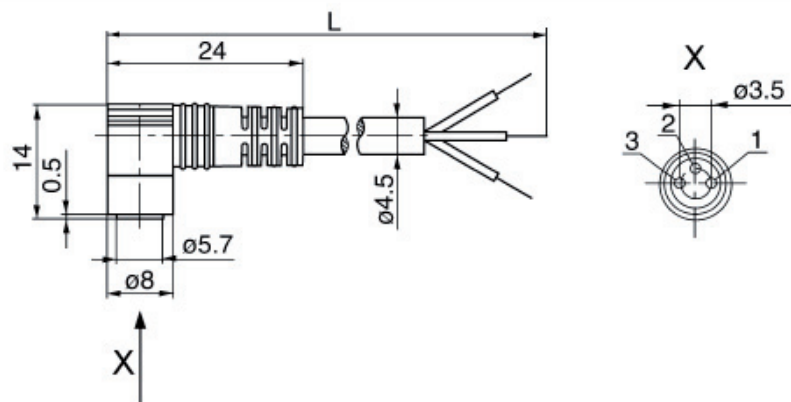
	Electrical Interface	Number of plug options	Operating voltage Min./max.		Cable exit	Housing color	Number of wires	Cable length	Note	Part No.
	[Port 2]	[for port 1]	[V DC]	[V AC]				[m]		
	Plug, M8, 3-pin, with detent	1 position	75	60	straight 180°	Black	3	2.5	Fig. 1	8946016112
	Plug, M8, 3-pin	--			straight 180°			5	Fig. 1	4408270000
	Plug, M8, 3-pin, with detent	1 position			straight 180°			10	Fig. 1	8946016122
	Plug, M8, 3-pin, with detent	1 position			straight 180°			15	Fig. 1	8946016132
	Plug, M8, 3-pin, with detent	1 position			angled 90°			2.5	Fig. 2	8946016212
	Plug, M8, 3-pin	--			angled 90°			5	Fig. 2	4408254000
	Plug, M8, 3-pin, with detent	1 position			angled 90°			10	Fig. 2	8946016222
	Plug, M8, 3-pin, with detent	1 position			angled 90°			15	Fig. 2	8946016232

★ ISO 15552, Series PRA and TRB

Accessories

Fig. 1


(1) BN=brown (2) BK=black (3) BU=blue
L = length

Fig. 2


(1) BN=brown (2) BK=black (3) BU=blue
L = length

★ ISO 15552, Series PRA and TRB

Accessories

★ Connecting cable with plug, M8X1

- Socket, M8, 3-pin □ without wire end ferrule, tin-plated, 3-pin



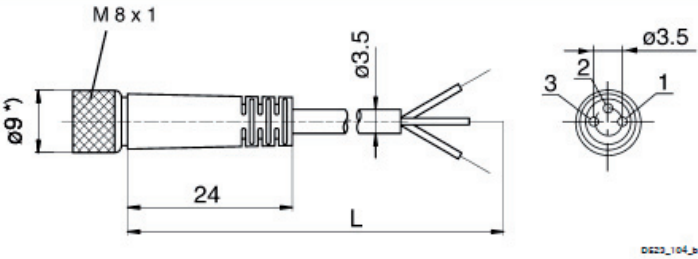
Materials:
Cable sheath

Polyvinyl chloride

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

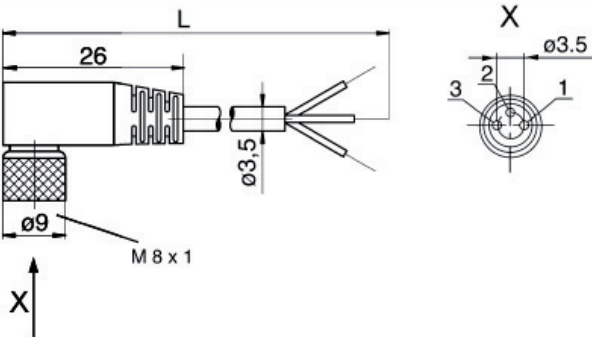
	Operating voltage		Cable exit	Protection class according to EN 60529	Housing color	Number of wires	Cable length	Note	Part No.
	[V DC]	[V AC]					[m]		
	75	60	straight 180°	IP 67	Black	3	2	Fig. 1	8946201312
			straight 180°	IP 67			5	Fig. 1	8946201302
			straight 180°	IP 67			10	Fig. 1	8946201322
			straight 180°	IP 67			15	Fig. 1	8946201332
			angled 90°	IP 67			2	Fig. 2	8946201412
			angled 90°	IP 67			5	Fig. 2	8946201402
			angled 90°	IP 67			10	Fig. 2	8946201422
			angled 90°	IP 65			15	Fig. 2	8946201432

Fig. 1



(1) BN=brown (2) BK=black (3) BU=blue
L = length
*) With 15 m cable length Ø12

Fig. 2



(1) BN=brown (2) BK=black (3) BU=blue
L = length

★ ISO 15552, Series PRA and TRB
Accessories

★ Connecting cable, Series CN1

□ Socket, M12, 5-pin □ without wire end ferrule, tin-plated, 5-pin *



Ambient temperature min./max. -40°C / +85°C
Protection class according to EN 60529 IP 65

Materials:
Cable sheath Polyurethane

* Also compatible with 3-pin M12 connector

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

	Number of plug options	Operating voltage		Max. current	Cable exit	Housing color	Number of wires	Part No. Black
	[for port 1]	[V DC]	[V AC]	[A]				
1) -----BN 2) -----WH 3) -----BU 4) -----BK 5)	1 position	300	250	4	straight 180°	Black	4	1834484256
					straight 180°			1834484257
					straight 180°			1834484258
					angled 90°			1834484259
					angled 90°			1834484260
					angeld 90°			1834484261
Part No.	Cable length [m]		Cable color		Weight [kg]		Note	
1834484256	3		Black		0.131		Fig. 1	
1834484257	5				0.201		Fig. 1	
1834484258	10				0.398		Fig. 1	
1834484259	3				0.13		Fig. 2	
1834484260	5				0.202		Fig. 2	
1834484261	10				0.387		Fig. 2	

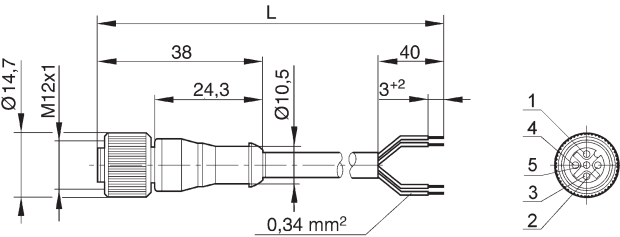


Figure 1
(1) BN=brown (2) WH=white (3) BU=blue (4) BK=black
(5) not assigned
L=length

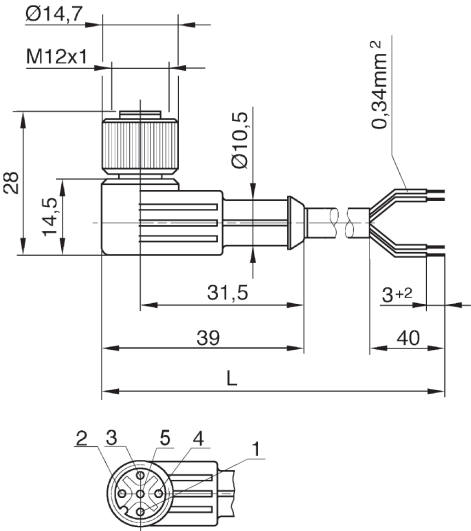


Figure 2
(1) BN=brown (2) WH=white (3) BU=blue (4) BK=black
(5) not assigned
L=length

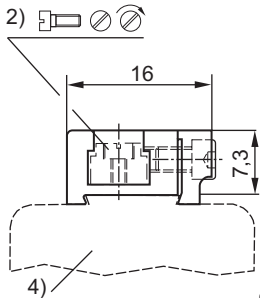
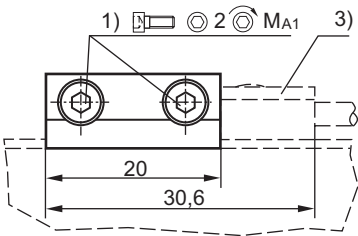
★ ISO 15552, Series PRA
Accessories

★ Sensor mounting

□ for Sensor Series ST6 □ to mount on cylinder Series PRA



00105962



00104951

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

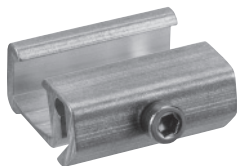
Part No.	1)	MA1 [Nm]	Material	Weight [kg]					
1827020287	M2,5x5	1	Aluminum	0.006					

★ **ISO 15552, Series PRA**

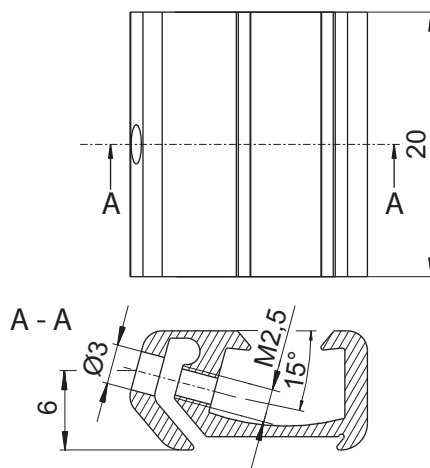
Accessories

★ Sensor mounting

☐ for Sensor Series ST8 ☐ to mount on cylinder series PRA



00133850



00133781

Part No.	Cylinders Ø [mm]	Material	Weight [kg]						
R412008435	32 - 125	Aluminum	0.005						

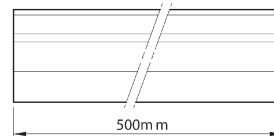
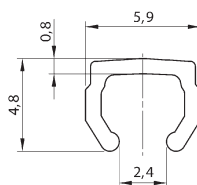
incl. mounting screw

★ Groove lock profile

☐ for use on cylinder series PRA



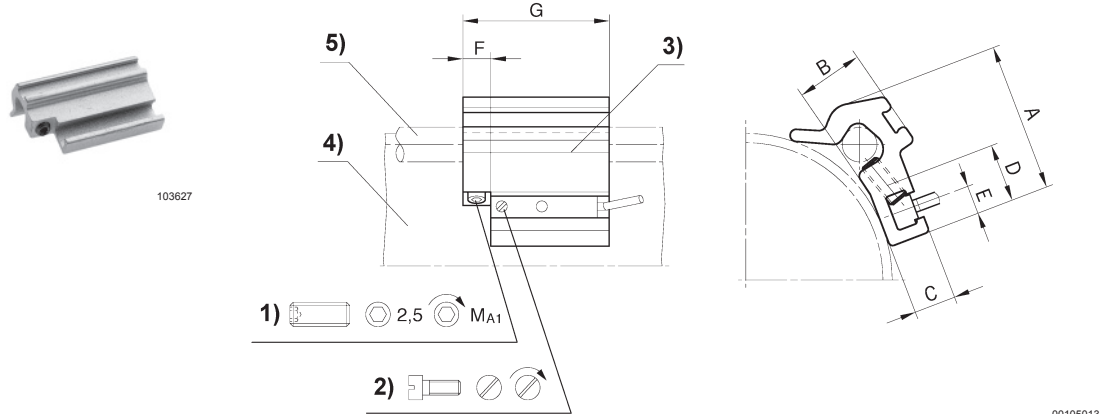
00105175



00111999

[illegible]

□ for Sensor Series ST6 and SM6 □ to mount on cylinder series TRB

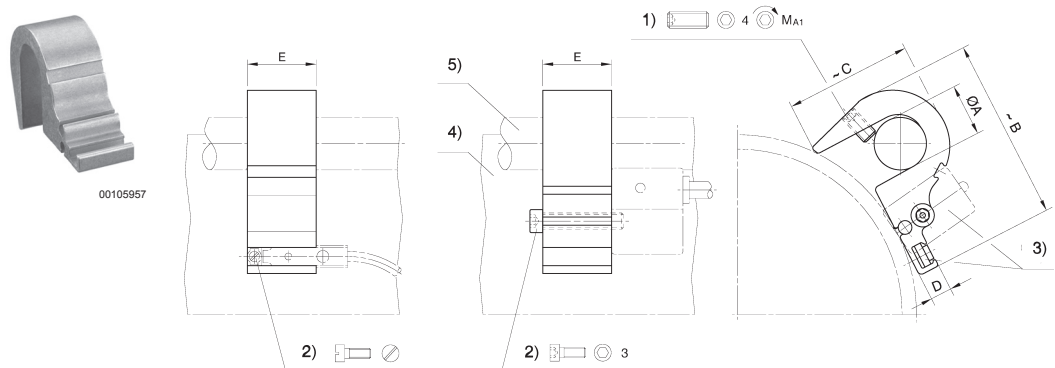


1) Clamping threaded pin 2) Mounting screw for sensor 3) Sensor 4) Cylinder profile 5) Tie rod

Part No.	Cylinders Ø [mm]	A	B	C	D	E	F	G	1)	MA1 [Nm]
1827020282	32 - 40	26	10	7	14	5	8	40	M5x8	2 ±0,2
1827020283	50 - 63	32.5	15.5	7	14	5	8	40	M5x10	2 ±0,2
1827020284	80 - 100	43	17	6.9	14	5	8	40	M5x16	2 ±0,2

Part No.	Material	Weight [kg]								
1827020282	Aluminum	0.016								
1827020283	Aluminum	0.029								
1827020284	Aluminum	0.042								

☐ for Sensor Series ST6 and SM6 to mount on cylinder series TRB



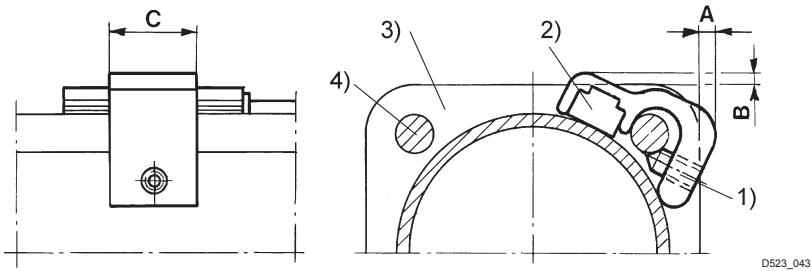
1) Clamping threaded pin 2) Mounting screw for sensor 3) Sensor 4) Cylinder profile 5) Tie rod

Part No.	Cylinders Ø [mm]	Ø A	B	C	D	E	1)	MA1 [Nm]	Material
1827020292	125 - 125	12	45	29	6.5	21	M5x10	2	Aluminum

★ ISO 15552, Series TRB
Accessories

★ Sensor mounting

□ for Sensor ST8 □ to mount on cylinder, series TRB



1) Clamping threaded pin 2) Sensor 3) Cylinder profile 4) Tie rod

Part No.	Cylinders Ø [mm]	A 1) 2)	B 1) 2)	C	Material	Weight [kg]			
2752115000	32 - 63	2.5	1.5	14	Aluminum	0.01			
2752135000	80 - 125	—	—	14	Aluminum	0.012			

1) only for Ø 32 and 40
2) max.

Sensor technologies → Velocity - Timer - Meter

★ Velocity - Timer - Meter, Series VTM
□ for measuring piston speed and stroke times



Measurement range (minimum)	0.1 m/s
Measurement range (maximum)	9.99 m/s
Resolution	0.01 m/s
Precision [% of full scale value]	<±0,5 %
Magnetic field	2 mT
Measurement range (minimum)	0.001 seconds
Measurement range (maximum)	59.9 seconds
Protection class	IP 40
Ambient temperature min./max.	32°F / 122°F (+0°C / +50°C)

Materials:	
Housing	Polyamide

Technical Remarks
■ With velocity sensor (supplied) place on the cylinder barrel, piston velocity is displayed in m/s.
■ Fits all Bosch Rexroth cylinders with magnetic piston.
■ Time interval measurement of cycle times is also possible with other accessories such as proximity switch (cylinder needs proximity switch, also order control box listed below).

Type of contact	Part Number
Velocity - Timer - Meter, electronic PNP	R402002202
Velocity - Timer - Meter, electronic NPN	R402002603
Control box with pwer supply cable and adapter	R402002203
Carrying case with inlay for VTM and accessories	R402002204

★ ISO 15552, Series TRB
Cylinder Description

Series	PRProfile Advanced version - PRA Tie Rod Basic version - TRB
Function	Double Acting - DA
Bore Size	032 - 125
* Stroke	0000
Threads	Metric - 0 Inch - 1
Cushions	Adjustable Cushions - 2 Bumpers - 1
Piston	Magnet - 2 No Magnet - 1
Piston rod	Single rod, male thread - 1 Single rod, female thread - 2 Double rod, male thread - 3 Single rod, male thread, extended for HU1 - 4 Single rod, male thread extended for LU6 - 5 Single rod, male thread, extended for HLU1 / LU2 - 6
Seals	PUR (standard) - 1 Low friction - 2 High Temp (Viton) - 3
Scraper	Standard fixed scraper PUR or Viton - 1 Metal fixed scraper - 2 Screw in bearing, PUR scraper - 3 Screw in bearing, PTFE scraper - 4 Screw in bearing, Metal scraper - 5 High temp screw in bearing PTFE scraper - 4 High Temp screw in bearing, Metal scraper - 5
Cylinder type	Basic cylinder - BAS Cylinder with accessories - ACC

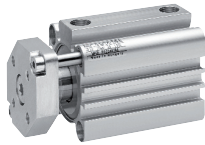
TRB - DA - 050 - 0100 - 0 - 2- 2- 4- 1- 1- ACC

* "0000 - millimeters for metric, inches and last digit in 1/8 inch increments for NPT (eg:0034 is 3.5")

Piston rod cylinders → Standard cylinders

★ ISO 15552, Series PRA and TRB

Other ISO Cylinder Series



SSI series - Compact Cylinder ISO 15524

- Bore sizes 12-100mm
- Options include magnetic piston, cushioning and non-rotating rod



CCI series - Compact Cylinder ISO 21287

- Inch and metric versions in all sizes (16 to 100mm dia).
- Common accessories with PRA in most cases (exceptions include Guide Units, Rod Locks and MT4 mounts).



MNI series - Compact Cylinder ISO 6432

- Bore sizes 10 to 25mm
- Stainless steel tube, aluminum head and cap



CSL-RD series - Stainless Steel ISO 6432

- Regular or hygienic versions available
- 304 stainless steel tube, head and cap



ICS series - Stainless Steel ISO 6431

- Washdown/sanitary design
- 303 or 316 stainless steel options
- Bore sizes 32 to 100mm



ICL series - Clean Line ISO 15552

- Corrosion protected and Sanitary design
- Inch and metric versions in all sizes (32 to 125mm dia).
- Common foot print and accessories with PRA in most cases (exceptions include Guide Units, Rod Locks and MT4 mounts).
- Anodized aluminum body, head and cap



ITS series

- Large bore (160-320mm dia) to ISO 15552 (metric only)

Other ISO versions

- Tandem and multi-position versions available - see KPZ compact series
- Pneumatic, low pressure hydraulics and air/oil intensifier - see 167 series

NOTICE TO PRODUCT USERS

1. WARNING: FLUID MEDIA

AVENTICS pneumatic devices are designed and tested for use with filtered, clean, dry, chemical free air at pressures and temperatures within the specified limits of the device. For use with media other than air or for human life support systems, AVENTICS must be consulted. Hydraulic cylinders are designed for operation with filtered, clean, petroleum based hydraulic fluid; operation using fire-resistant or other special types of fluids may require special packing and seals. Consult the factory.

2. WARNING: MATERIAL COMPATIBILITY

Damage to product seals or other parts caused by the use of non-compatible lubricants, oil additives or synthetic lubricants in the air system compressor or line lubrication devices voids the AVENTICS warranty and can result in product failure or other malfunction. See lubrication recommendations below.

AIR LINE LUBRICANTS! In service higher than 18 cycles per minute or with continuous flow of air through the device, an air line lubricator is recommended.* (Do not use line lubrication with vacuum products.) However, the lubricator must be maintained since the oil will wash out the grease, and lack of lubrication will greatly shorten the life expectancy. The oils used in the lubricator must be compatible with the elastomers in the device. The elastomers are normally BUNA-N, NEOPRENE, VITON, SILICONE and HYTREL. AVENTICS recommends the use of only petroleum based oils without synthetic additives, and with an aniline point between 180° F and 210° F.

COMPRESSOR LUBRICANTS! All compressors (with the exception of special "oil free" units) pass oil mist or vapor from the internal crankcase lubricating system through to the compressed air. Since even small amounts of non-compatible lubricants can cause severe seal deterioration (which could result in component and system failure) special care should be taken in selecting compatible compressor lubricants.

3. WARNING: INSTALLATION AND MOUNTING

The user of these devices must conform to all applicable electrical, mechanical, piping and other codes in the installation, operation or repair of these devices.

INSTALLATION! Do not attempt to install, operate or repair these devices without proper training in the technique of working on pneumatic or hydraulic systems and devices, unless under trained supervision. Compressed air and hydraulic systems contain high levels of stored energy. Do not attempt to connect, disconnect or repair these products

when a system is under pressure. Always exhaust or drain the pressure from a system before performing any service work. Failure to do so can result in serious personal injury.

MOUNTING! Devices should be mounted and positioned in such a manner that they cannot be accidentally operated.

4. WARNING: APPLICATION AND USE OF PRODUCTS

The possibility does exist for any device or accessory to fail to operate properly through misuse, wear or malfunction. The user must consider these possibilities and should provide appropriate safe guards in the application or system design to prevent personal injury or property damage in the event of a malfunction.

5. WARNING: CONVERSION, MAINTENANCE AND REPAIR

When a device is disassembled for conversion to a different configuration, maintenance or repair, the device must be tested for leakage and proper operation after being reassembled and prior to installation.

MAINTENANCE AND REPAIR! Maintenance periods should be scheduled in accordance with frequency of use and working conditions. All AVENTICS products should provide a minimum of 1,000,000 cycles of maintenance free service when used and lubricated as recommended. However, these products should be visually inspected for defects and given an "in system" operating performance and leakage test once a year. Where devices require a major repair as a result of the one million cycles, one year, or routine inspection, the device must be disassembled, cleaned, inspected, parts replaced as required, rebuilt and tested for leakage and proper operation prior to installation. See individual catalogs for specific cycle life estimates.

6. PRODUCT CHANGES

Product changes including specifications, features, designs and availability are subject to change at any time without notice. For critical dimensions or specifications, contact factory.

*Many AVENTICS pneumatic valves and cylinders can operate with or without air line lubrication; see individual sales catalogs for details.

-Refer to the appropriate service manual for parts and service information, most are available for download from www.aventics.com/us/downloads

WARRANTIES

7.1 Emerson warrants that:

- a) Emerson will transfer title to the Goods (excluding Software and Firmware) to Customer under Clause 4 of our Terms and Conditions of Sale*;
- b) Goods, Documentation and Services will conform with the Specification;
- c) Goods made by Emerson or its Affiliates will, under normal use and care, be free from defects in materials or workmanship; and
- d) Emerson and its Affiliates' Personnel delivering Services are trained and will use reasonable skill and care.

7.2 **Warranty Periods.** Unless otherwise specified by Emerson, the warranties in Clause 7.1 apply as follows:

- a) **Goods:** until the earlier of 12 months from the first installation or 18 months from delivery (90 days from delivery in the case of consumables);
- b) **Services:** for 90 days from completion of the Services;
- c) **Goods repaired, replacement items and Services re-performed:** from delivery of the replacement or completion of the repair or re-performance, for 90 days or until the end of the original warranty period (if later).

7.3 **Warranty Procedure.** Clause 7.3 applies if, within the warranty period, Customer discovers any non-conformity with a warranty in Clause 7.1, tells Emerson in writing and, in the case of Goods, returns the non-conforming items at Customer's cost, freight and insurance pre-paid, to the repair facility chosen by Emerson. Where this Clause applies, Emerson will, at its sole option, either:

- a) correct any non-conforming Documents and Services; or
- b) repair or replace non-conforming Goods FCA (Incoterms® 2010) at the repair location; or
- c) instead refund the price of the non-conforming item.

7.4 Exclusions from Warranty.

- a) The warranties in Clause 7.1(b), (c) and (d) exclude and Customer will pay the cost of all repairs and replacements caused by any of the following: normal wear and use; inadequate maintenance; unsuitable power sources or environmental conditions; improper handling, storage, installation, or operation; misuse or accident caused by anybody except Emerson; a modification or repair not approved by Emerson in writing; materials or workmanship made, provided or specified by Customer; contamination; the use of unapproved parts, firmware or software; Cyber Attack; any other cause not the fault of Emerson.
- b) Emerson will not pay any costs relating to non-compliance with a warranty in Clause 7.1, except where agreed in writing in advance. Unless accepted in writing by Emerson, Customer will pay:
 - (i) all costs of dismantling, freight, reinstallation and the time and expenses of Emerson Personnel for travel under Clause 7; and
 - (ii) all costs incurred by Emerson in correcting nonconformities for which Emerson is not responsible under Clause 7 and in examining items that comply with the warranties in Clause 7.1.
- c) If Emerson relies on wrong or incomplete information supplied by Customer, all warranties are void unless Emerson agrees otherwise in writing.
- d) Customer alone is responsible for the selection, maintenance and use of the Goods.
- e) Resale Products carry only the warranty given by the original manufacturer. Emerson has no liability for Resale Products beyond making a reasonable commercial effort to arrange procurement and shipping of the Resale Products.

7.5 **Disclaimer.** The limited warranties set out in this Clause 7 are the only warranties made by Emerson and can be changed only with Emerson's signed written agreement. THE WARRANTIES AND REMEDIES IN CLAUSE 7 ARE EXCLUSIVE. THERE ARE NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, ABOUT MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE OR ANYTHING ELSE FOR ANY OF THE GOODS, DOCUMENTATION OR SERVICES.

*Additional conditions apply - for full details, visit our website to download our Terms and Conditions of Sale:

For U.S.: www.aventics.com/us/downloads | For Canada: www.aventics.com/ca | (AVENTICS Corporation is owned by Emerson Electric Co.)

AVENTICS Corporation

1953 Mercer Road
Lexington, KY 40511
Tel 859.254.8031
Fax 800.489.1488
www.aventics.com/us
info.us@aventics.com

**AVENTICS Incorporated**

5515 North Service Rd
Suite #104
Burlington, Ontario L7L 6G4
Tel 905.332.0399
Fax 905.332.8596
www.aventics.com/ca
info.ca@aventics.com

AVENTICS México, S. de R.L. de C.V.

AV. Paseo de la Reforma 250, Esquina Niza
Deleg. Cuauhtémoc
06280 México, D.F.
Tel 866.873.0635
www.aventics.com/mx
info.mx@aventics.com



Further contacts:

www.aventics.com/en/contact

The data specified only serve to describe the product. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. It must be remembered that our products are subject to a natural process of wear and aging.