

AVENTICS 

SERIES RTC RODLESS CYLINDERS PNEUMATIC SHUTTLE TYPE

Pneumatics
It's that easy



Series RTC Rodless Cylinder

Pneumatic automation building block

Series RTC (Rodless Thrust Cylinder)-High performance shuttle type rodless cylinders

The Series RTC is the latest generation of rodless cylinders from AVENTICS, building on years of experience with rodless cylinder design. The economical RTC features a robust, virtually leak-free design with high speed capability. Offering inch and metric options in four versions, RTC's can be custom configured online. The guided versions are Easy-2-Combine capable when used with a connection kit to combine with other standard actuators to build modular automation systems.

Shuttle and piston body in one piece:

- Robust design—integrated for high strength and long life
- Sensor magnet standard
- Easy maintenance

Sturdy, compact profile:

- Strong, yet light-weight aluminum
- Smaller profile than RexMover™

Ideal Cushioning:

- Adjustable pneumatic end-cushioning
- Impact bumpers reduce noise and absorb residual impact energy

Sealing bands:

- Stainless steel reinforced polyurethane inner sealing band, unique shape makes cylinder more air tight than other brands
- Magnetically coupled outer band protects against dust, etc.
- Virtually leak-free design

Sensor grooves (2) visible from 3 sides:

- ST4 sensors mechanically protected
- Internal groove provides cable channel



Oval-shaped piston:

- Low height saves space
- Greater resistance to side load

Choice of air connections:

- On the side at both ends
- Or one end cover allows dual porting—without pressure drop
- NPT or ISO-G (BSP) ports

Series RTC-BV Basic Version shown

- Four main versions available:

- RTC-BV Basic Version
- RTC-CG Compact Guide
- RTC-HD Heavy Duty
- RTC-CKP Twin Guides

(Guided versions are Easy-2-Combine capable with connection kit)

T-grooves for mounting:

- Easy installation of cylinders using two styles of foot mounts, or choose end cover mounts

High speed:

- Speeds up to 21 feet per second



Focused
Delivery
Program

Many versions of RTC cylinders are available on our Quick Ship Focused delivery program, visit:

www.aventics.com/us/QuickShipRTC

How to Order:

- Our online configurator allows you to design custom cylinders while preventing the selection of impossible configurations. Provides part number and CAD drawing immediately.
- Go to: www.aventics.com/us and select "Configurators"

Rodless cylinders ▶ Index
Series RTC

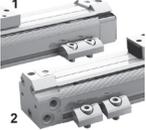
Inch version

	Rodless cylinder, RTC-BV ▶ Ø 16 - 80 mm ▶ Compressed air connections 10-32 UNF - 3/8 NPTF ▶ double-acting ▶ with magnetic piston ▶ integrated guide ▶ Basic Version ▶ cushioning: pneumatically, adjustable	6
	Rodless cylinder, Series RTC-CG ▶ Ø 16 - 40 mm ▶ Compressed air connections 10-32 UNF - 1/4 NPTF ▶ double-acting ▶ with magnetic piston ▶ ball rail guide ▶ Compact Guide ▶ cushioning: pneumatically, adjustable ▶ Easy-2-Combine-capable with connection kit	12
	Rodless cylinder, Series RTC-HD ▶ Ø 16 - 63 mm ▶ Compressed air connections 10-32 UNF - 3/8 NPTF ▶ double-acting ▶ with magnetic piston ▶ ball rail guide ▶ Heavy Duty ▶ cushioning: pneumatically, adjustable ▶ Easy-2-Combine-capable with connection kit	18

Metric version

	Rodless cylinder, Series BV ▶ Ø 16 - 80 mm ▶ Ports: M7 - G 3/8 ▶ double-acting ▶ with magnetic piston ▶ integrated guide ▶ Basic Version ▶ cushioning: pneumatically, adjustable	25
	Rodless cylinder, Series SB ▶ Ø 25 - 40 mm ▶ Ports: G 1/8 - G 1/4 ▶ double-acting ▶ with magnetic piston ▶ short slide bearing guide ▶ cushioning: pneumatically, adjustable	31
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	Rodless cylinder, Series RTC-CG ▶ Ø 16 - 40 mm ▶ Ports: M7 - G 1/4 ▶ double-acting ▶ with magnetic piston ▶ ball rail guide ▶ Compact Guide ▶ cushioning: pneumatically, adjustable ▶ Easy-2-Combine-capable with connection kit	43
	Rodless cylinder, Series RTC-HD ▶ Ø 16 - 63 mm ▶ Ports: M7 - G 3/8 ▶ double-acting ▶ with magnetic piston ▶ ball rail guide ▶ Heavy Duty ▶ cushioning: pneumatically, adjustable ▶ Easy-2-Combine-capable with connection kit	50

Cylinder mounts

	Compensating coupling, S44 ▶ for Series RTC-BV	57
	End cover mounting, MF1 ▶ for Series RTC-BV, RTC-CG, RTC-HD	59
	Foot mounting, M41, M48 ▶ for Series RTC-BV, RTC-CG, RTC-HD	61

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Series RTC**Stroke setting accessories**

Shock absorber kit for stroke length adjustment
 ▶ Ø 16 - 63 mm
 ▶ for Series RTC-CG, RTC-HD, CKP

63



Holder for shock absorbers for stroke length adjustment
 ▶ Ø 16 - 63 mm
 ▶ for Series RTC-HD, RTC-CG, RTC-SB, RTC-LB,CKP

68



Stop for stroke length adjustable
 ▶ Ø 16, Ø 25 mm (-HD), Ø 25, 32 mm (-CG,-SB/LB), Ø 32 ... 63 mm
 ▶ for Series RTC-HD, RTC-CG, RTC-SB, RTC-LB

70



Kit for intermediate position
 ▶ Ø 25 - 40 mm
 ▶ for Series RTC-HD, RTC-CG, CKP

72

Industrial shock absorbers

Industrial shock absorbers, Series SA2-RT
 ▶ For RTC Ø 16 - 63 mm
 ▶ cushioning, self-compensating
 ▶ mounting lock nut

75

Sensors and sensor mounts, accessories

Sensor, Series ST4
 ▶ 4 mm groove ▶ with cable ▶ open cable ends, 3-pin
 ▶ 4 mm groove ▶ with cable ▶ Plug, M8, 3-pin, with knurled screw
 ▶ 4 mm groove ▶ with cable ▶ Plug, M8, 3-pin
 ▶ 4 mm groove ▶ with cable ▶ Plug, M12, 3-pin, with knurled screw

80



Sensor, Series SM6-AL
 ▶ M8x1, 4-pin with cable and plug
 ▶ with distance measuring sensor, measurement range 107 - 1007 mm
 ▶ IO-Link, analog

89



Sensor mount, Series CB1
 ▶ for mounting SM6-AL on RTC

92



T-groove nut
 ▶ for RTC, CKP, GPC

94



Connecting cable, Series CON-RD
 ▶ socket, M8, 3-pin, A-coded, straight, 180°
 ▶ with cable, open cable ends, unshielded

96



Connecting cable, Series CON-RD
 ▶ socket, snap Ø8, 3-pin, with detent, straight, 180°
 ▶ with cable, open cable ends, unshielded

98

Technical information

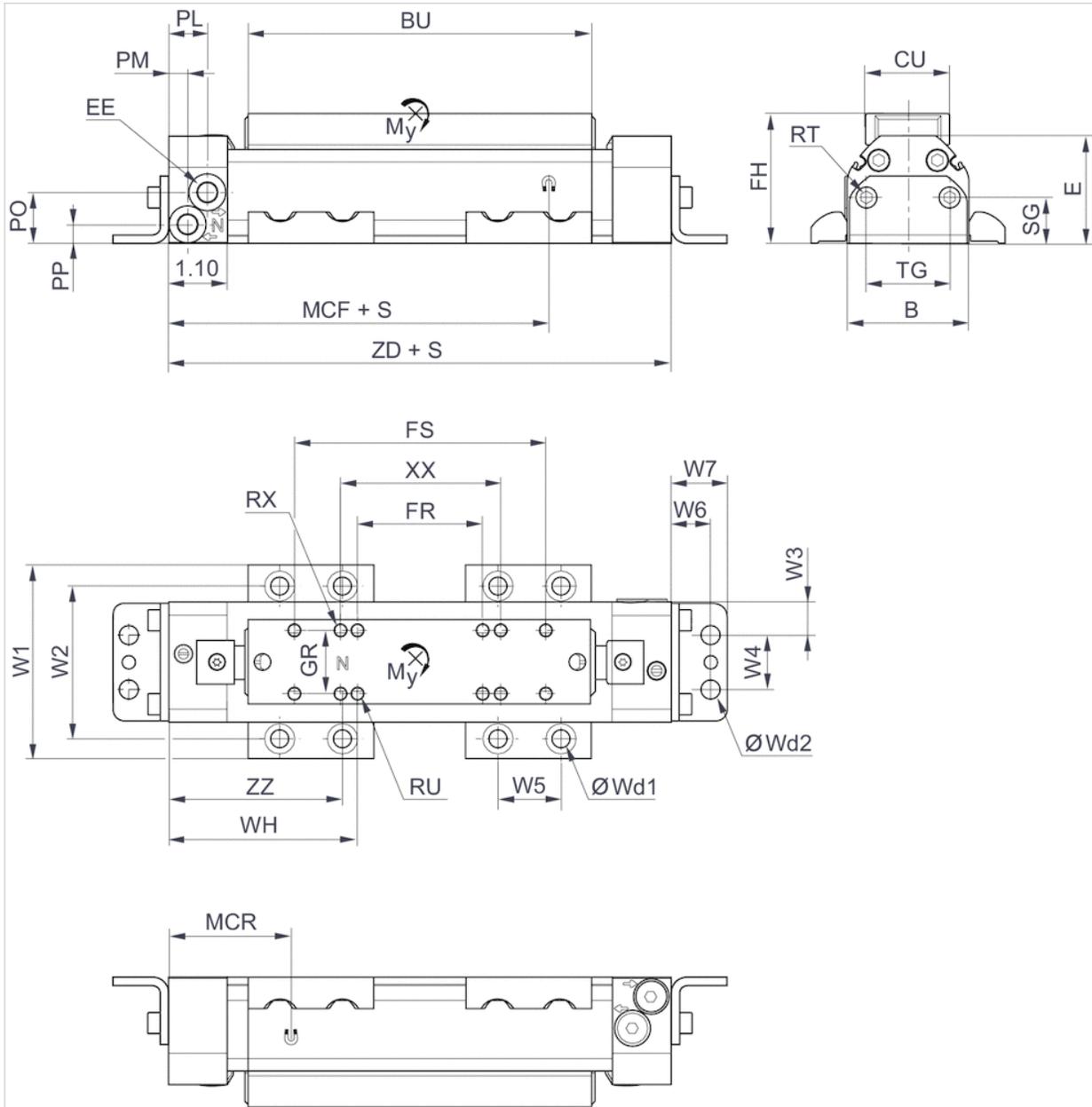
The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
The delivered product is lubricated for lifetime.
These pneumatic components with NPT or inch thread dimensions are only available from our US sales organization.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Cover	Aluminum, anodized
Seal	Polyurethane
Sealing strips	Polyurethane, Stainless steel
Ball rail table	Aluminum, anodized

Dimensions

Dimensions in inches



S = stroke

Dimensions in inches

Piston Ø	B	BU	CU	E	EE	FH	FR	FS	GR	PL	PM	PO	PP	RT 1)	RU 2)
0.63 inch	1.34	4.65	1.02	1.42	*10-32 UNF/M7	1.61	2.36	3.94	0.79	0.85	0.35	13,1	0.52	M4	M4
0.98 inch	1.73	5.79	1.02	1.79	1/8 NPTF	1.99	1.57	3.94	0.79	0.79	0.31	21,5	0.85	M5	M4
1.26 inch	2.28	6.42	1.57	2.03	1/8 NPTF	2.44	2.36	4.72	1.18	0.73	0.37	24,5	0.96	M6	M6
1.57 inch	2.76	7.17	1.57	2.38	1/4 NPTF	2.8	2.36	4.72	1.18	0.71	0.39	31,5	1.24	M6	M6
1.97 inch	3.62	8.07	1.57	2.66	1/4 NPTF	3.08	2.36	5.51	1.18	0.63	0.63	35,5	1.4	M8	M6
2.48 inch	4.41	9.17	2.17	3.25	3/8 NPTF	3.67	3.94	7.09	1.57	0.55	0.55	45,5	1.79	M8	M8

Piston Ø	B	BU	CU	E	EE	FH	FR	FS	GR	PL	PM	PO	PP	RT 1)	RU 2)
3.15 inch	5.51	10.59	2.17	4.07	3/8 NPTF	4.5	3.94	7.09	1.57	0.55	0.55	59,5	2.34	M8	M8

RX	SG	TG	W1	W2	W3	W4	W5	W6	W7	Wd1	Wd2	ZZ	WH	ZD	M [lbs] 3)
8-36 UNF	0.68	0.75	2.48	1.79	0.31	0.71	1.18	0.53	0.78	M6	M6	2.68	2.5	7.36	0.17
8-36 UNF	0.68	0.75	2.87	2.19	0.51	0.71	1.18	0.53	0.78	M6	M6	2.73	3.44	8.46	0.35
1/4-20 UNC	0.87	1.57	3.66	2.85	0.63	1.02	1.18	0.75	1.06	M8	M8	3.22	3.54	9.45	0.71
1/4-20 UNC	0.87	1.57	4.13	3.33	0.87	1.02	1.18	0.75	1.06	M8	M8	3.68	4	10.35	1.08
1/4-20 UNC	0.87	1.57	5.51	4.51	0.43	2.76	1.57	0.87	1.29	M12	M12	4.29	4.61	9.82	1.61
1/4-20 UNC	1.18	3.15	6.3	5.3	1.22	1.97	1.57	0.87	1.29	M12	M12	5.06	4.59	13.12	2.29
1/4-20 UNC	1.18	3.15	7.4	6.4	1.77	1.97	1.57	0.87	1.29	M12	M12	5.61	5.14	14.21	4.71

1) Thread depth: 0.35 inch for piston Ø 5/8 - 1 1/2, 0.47 inch for piston Ø 5/8 - 3

2) Thread depth: 0.24 inch for piston Ø 5/8 - 1, 0.40 inch for piston Ø 1 1/4 - 2, 0.59 inch for piston Ø 2 1/2 - 3

3) M = moving mass

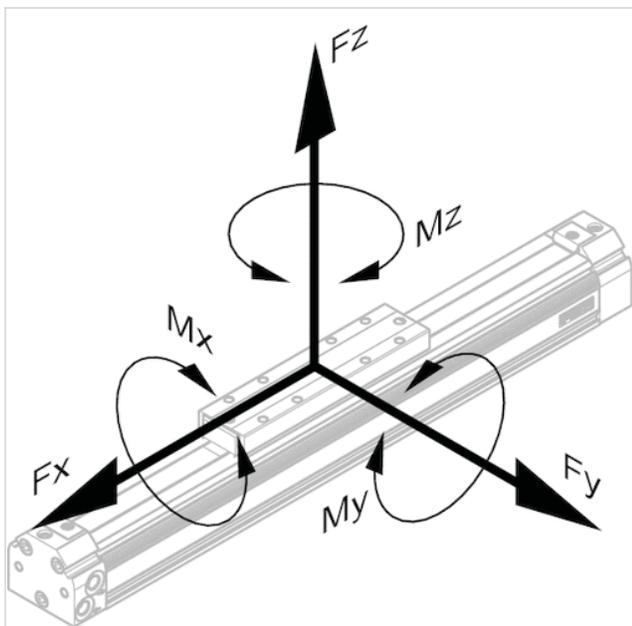
* Can be selected in the configurator (M7 for high-speed applications)

Dimensions

Permissible forces F_x F_y F_z and torques M_x M_y M_z

$$\frac{M_x}{M_{x_{max.}}} + \frac{M_y}{M_{y_{max.}}} + \frac{M_z}{M_{z_{max.}}} \leq 1$$

With simultaneously moments on the cylinder this equation must be used in addition to the maximum moments check. In the cushioning phase of the movement additional forces occur and must be considered. Please use our calculation tool for rodless cylinders on the <http://www.aventics.com>.



dynamic

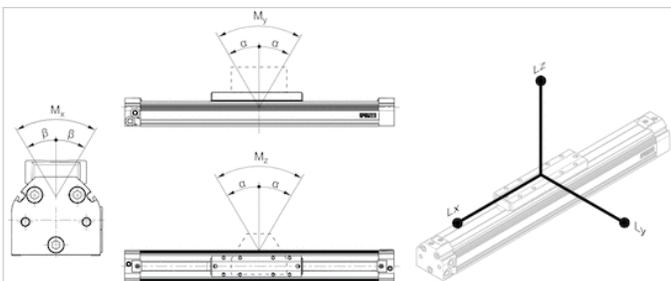
Piston Ø	Ø [inch]	Mx [Nm]	My [Nm]	Mz [Nm]
0.63 inch	5/8	0.42	10	2
0.98 inch	1	1	24	3
1.26 inch	1 1/4	3.8	42	12
1.57 inch	1 1/2	6	75	15
1.97 inch	2	9.1	128	20
2.48 inch	2 1/2	14.5	195	24
3.15 inch	3	20	300	28

static

Piston Ø	Ø [inch]	Fx [N]	Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]
0.63 inch	5/8	800	150	1100	2	25	8
0.98 inch	1	1800	210	3800	6	50	12
1.26 inch	1 1/4	2200	550	6600	18	80	43
1.57 inch	1 1/2	3500	650	8000	28	140	55
1.97 inch	2	5000	750	9000	35	230	70
2.48 inch	2 1/2	6800	850	13000	45	340	90
3.15 inch	3	9500	1000	13000	55	500	110

Dimensions

Max. play and recommended max. lever arm length



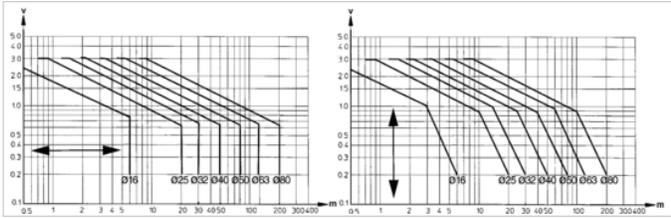
L = lever arm
M = Torques

Dimensions

Piston Ø	Ø [inch]	α	β
0.63 inch	5/8	0.5°	0.2°
0.98 inch	1	0.5°	0.2°
1.26 inch	1 1/4	0.6°	1.5°
1.57 inch	1 1/2	0.4°	1.0°
1.97 inch	2	0.4°	1.0°
2.48 inch	2 1/2	0.3°	1.0°
3.15 inch	3	0.3°	1.0°

Diagrams

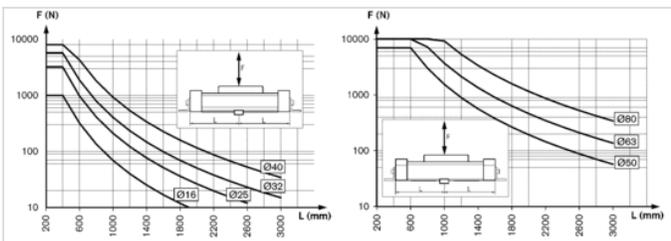
Limit diagram for pneumatic cushioning for horizontal or vertical mounting



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

The values for the cushionable mass m and piston velocity v must be on or below the graph for the selected piston diameter.

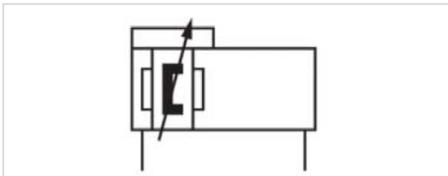
Support span



Max. support span L [mm] as a function of F [N] at a deflection of 0.5 mm

Rodless cylinder, Series RTC-CG

- Ports 10-32 UNF - 3/8 NPTF
- Ø 0.63-1.57 inch (16mm to 40mm)
- double-acting
- with magnetic piston
- ball rail guide
- Compact Guide
- Cushioning pneumatically, adjustable
- Easy2Combine capable with connection kit



Working pressure min./max.	29 ... 116 psi
Ambient temperature min./max.	14 ... 140 °F
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m ³
Pressure for determining piston forces	91.35 psi

An example configuration is illustrated.
The delivered product may thus deviate from the illustration.

Technical data

Piston Ø	0.63 inch	0.98 inch	1.26 inch	1.57 inch
Stroke 6	R480161097	R480676520	R480639375	R480676522
12	R480676516	R480635761	R480610198	R480676523
24	R480676517	R480656723	R480168891	R480174815
40	R480676518	R480639928	R480676521	R480676524
60	R480676519	R480625335	R480608061	R480606820

Technical data

Piston Ø	0.63 inch	0.98 inch	1.26 inch	1.57 inch
Cushioning length	0.79 inch	0.79 inch	0.79 inch	0.79 inch
Speed max.	6.56 ft/s	6.56 ft/s	6.56 ft/s	6.56 ft/s
Stroke max.	70.86 inch	70.86 inch	70.86 inch	70.86 inch

Technical information

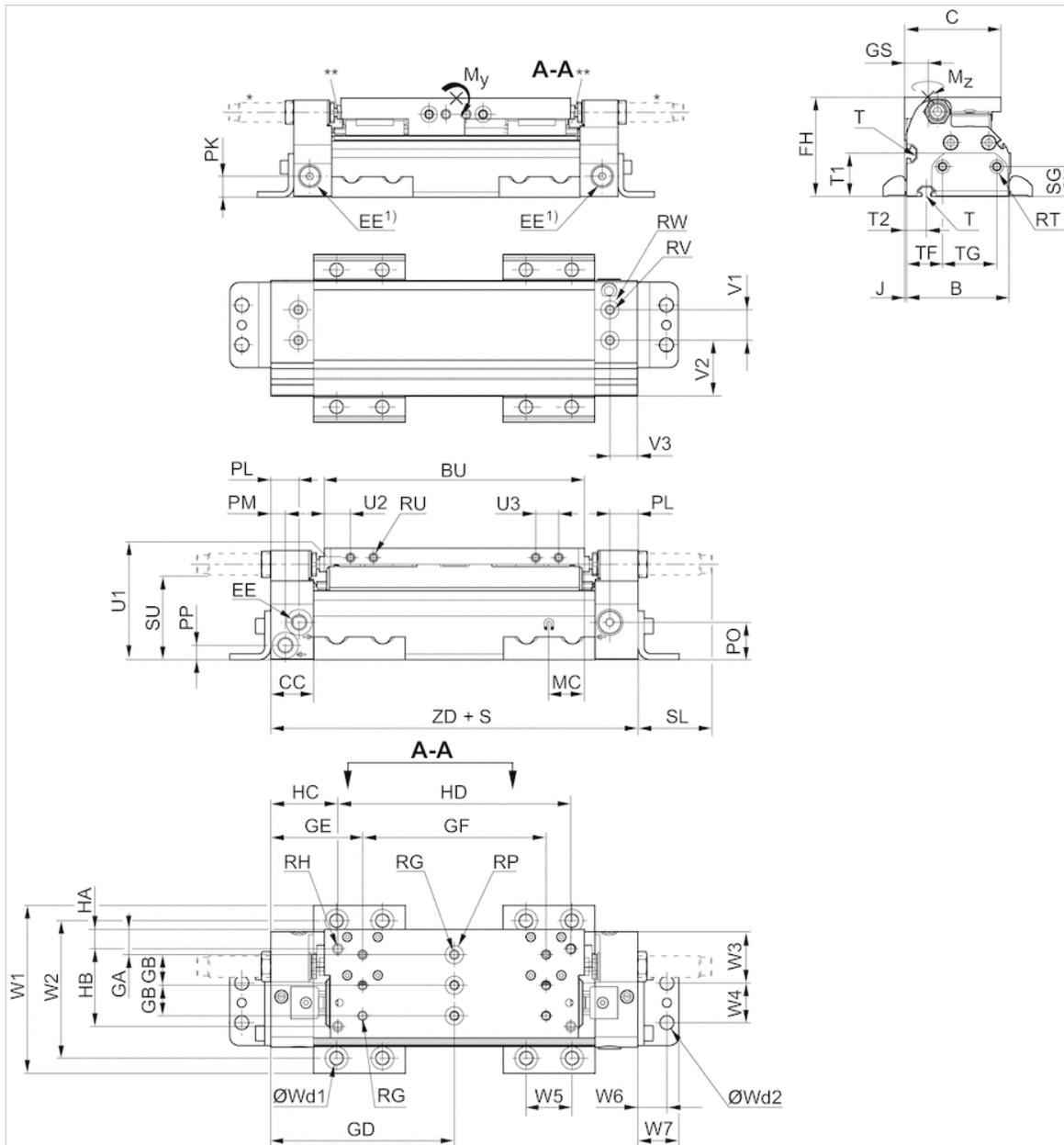
The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .
The delivered product is lubricated for lifetime.
Use hydraulic shock absorbers for precise end position adjustment.
These pneumatic components with NPT or inch thread dimensions are only available from our US sales organization.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Cover	Aluminum, anodized
Seal	Polyurethane
Sealing strips	Polyurethane, Stainless steel
Ball rail table	Aluminum, anodized
Guide rail	Steel, hardened

Dimensions

Dimensions in inches



S = stroke

T = Type of t-groove nut

1) Auxiliary air feeding

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

* Shock absorber optional in end cover for diameters 16-40

** RTC-CG 16 & 25: 2x Lube ports on each runner block, RTC-CG 32 & 40: Lube nipple of funnel type with thread connection M3

Dimensions in inches

Piston Ø	B	C	BU	CC	EE	FH	GA	GB	GD	GE	GF	GS	HA	HB	HC	HD	J	MC
0.63 inch	1.97	2.01	4.8	1.1	*10-32/M7	2.13	0.28	0.79	3.68	1.52	4.33	0.45	0.3	1.5	2.68	2	0.08	0.47
0.98 inch	2.46	2.29	5.79	1.1	1/8 NPTF	2.56	0.24	0.79	4.23	2.11	4.25	0.59	0.2	1.8	1.53	5.4	0.06	0.59
1.26 inch	2.97	2.8	6.69	1.1	1/8 NPTF	2.87	0.65	0.79	4.72	2.36	4.72	0.69	0.5	2	1.72	6	0.06	0.79
1.57 inch	3.37	2.91	7.32	1.1	1/8 NPTF	3.72	0.65	0.79	5.18	2.82	4.72	0.73	0.5	2	2.18	6	0.06	0.67

PK	PL	PM	PN	PO	PP	RG 1)	RH 2)	RP	RT 3)	RU 4)	SG	SL	SU	T	W1	W2
0.47	0.71	0.28	0.28	0.52	0.29	M5	4xUNC 1/4-20	Ø 9	M5	M5	0.68	1.31	1.52	N4	3.09	2.42
0.4	0.79	0.31	0.35	0.85	0.37	M5	4xUNC 1/4-20	Ø 9	M5	M6	0.68	1.94	1.85	N6	3.58	2.91
0.59	0.73	0.37	0.47	0.96	0.37	M6	4xUNC 1/4-20	Ø 12	M6	M6	0.87	1.9	2.19	N6	4.33	3.54
0.71	0.71	0.39	0.43	1.24	0.41	M6	4xUNC 1/4-20	Ø 12	M6	M6	0.87	1.78	2.89	N6	4.72	3.93

W3	W4	W5	W6	W7	Wd1	Wd2	T1	T2	TF	TG	U1	U2	U3	ZD	M [lb] 5)
0.94	0.71	1.18	0.53	0.78	M6	M6	0.73	0.41	1	0.75	1.89	0.51	0.59	7.36	0.485
0.14	0.71	1.18	0.53	0.78	M6	M6	1.05	0.53	1.22	0.75	2.32	0.51	1.06	8.46	0.882
1.32	1.02	1.18	0.75	1.06	M8	M8	1.24	0.57	1.04	1.57	2.64	0.67	1.34	9.45	1.036
1.48	1.02	1.18	0.75	1.06	M8	M8	1.63	0.51	1.2	1.57	3.13	0.98	1.34	10.36	2.138

1) Thread depth: 0.47 inch for piston Ø 5/8, 1 and 1 1/2. 0.41 inch for piston Ø 1 1/4

2) Thread depth: 0.50 inch for piston Ø 5/8 - 1 1/2

3) Thread depth: 0.35 inch for piston Ø 5/8 - 1 1/2

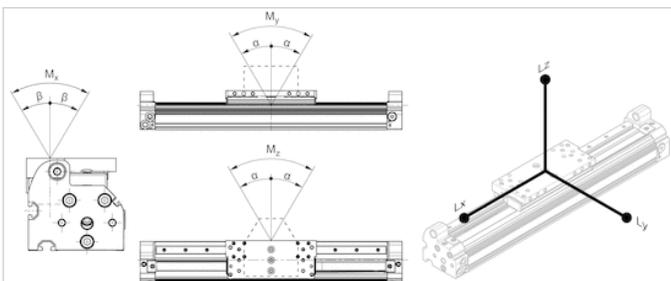
4) Thread depth: 0.40 inch for piston Ø 5/8 - 1 1/2

5) M = moving mass

* Can be selected in the configurator (M7 for high-speed applications)

Dimensions

Max. play and recommended max. lever arm length



L = lever arm

M = Torques

Dimensions

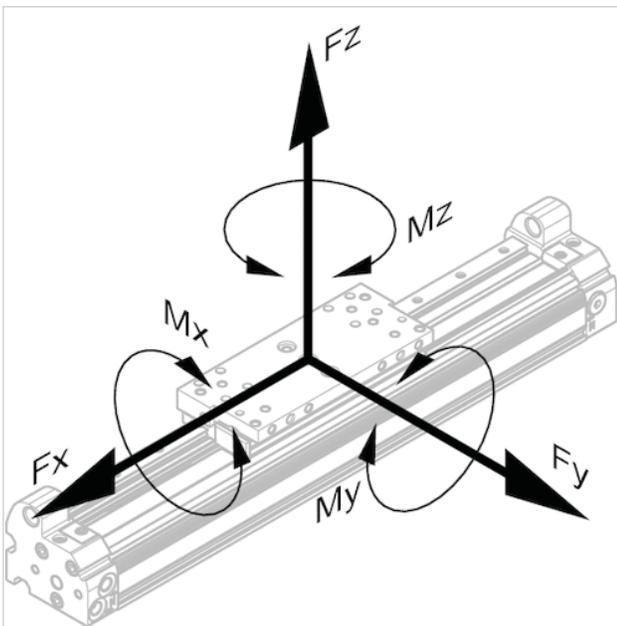
Piston Ø	Ø [inch]	α	β	Lx	Ly	Lz
0.63 inch	5/8	0,1°	0,2°	328	328	328
0.98 inch	1	0,1°	0,2°	424	424	424
1.26 inch	1 1/4	0,1°	0,2°	480	480	480
1.57 inch	1 1/2	0,1°	0,2°	532	532	532

Dimensions

Permissible forces F_x F_y F_z and torques M_x M_y M_z

$$\frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + \frac{M_z}{M_{z_{\max.}}} \leq 1$$

With simultaneously moments on the cylinder this equation must be used in addition to the maximum moments check. In the cushioning phase of the movement additional forces occur and must be considered. Please use our calculation tool for rodless cylinders on the <http://www.aventics.com>.



dynamic

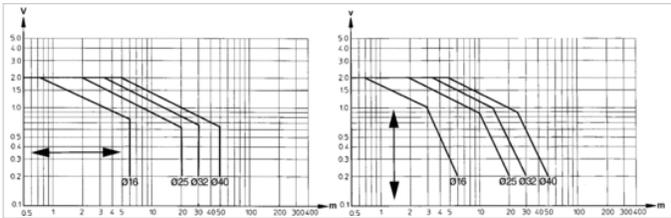
Piston Ø	Ø [inch]	M_x [Nm]	M_y [Nm]	M_z [Nm]
0.63 inch	5/8	4	30	30
0.98 inch	1	10	78	78
1.26 inch	1 1/4	22	158	110
1.57 inch	1 1/2	36	284	109

static

Piston Ø	Ø [inch]	F_x [N]	F_y [N]	F_z [N]	M_x [Nm]	M_y [Nm]	M_z [Nm]
0.63 inch	5/8	744	744	744	4	30	30
0.98 inch	1	1456	1456	1456	10	78	78
1.26 inch	1 1/4	1840	1840	2646	22	158	110
1.57 inch	1 1/2	1640	1640	4284	36	284	109

Diagrams

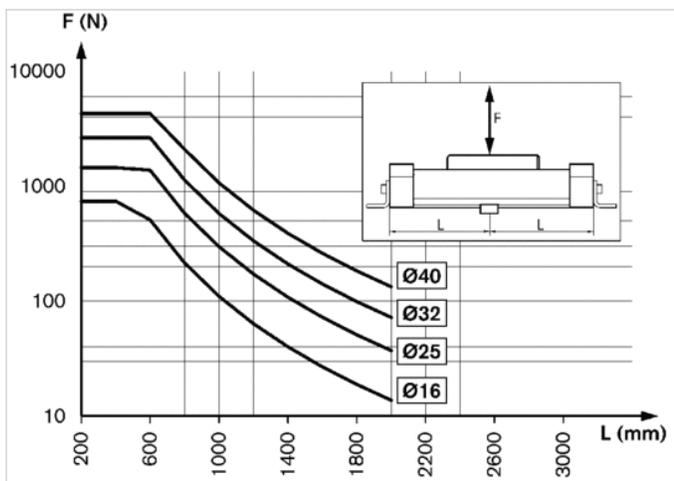
Limit diagram for pneumatic cushioning for horizontal or vertical mounting



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

The values for the cushionable mass m and piston velocity v must be on or below the graph for the selected piston diameter.

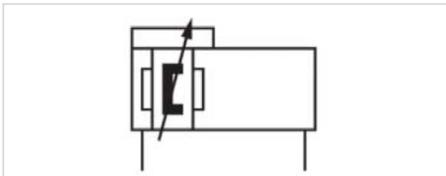
Support span



Max. support span L [mm] as a function of F [N] at a deflection of 0.5 mm

Rodless cylinder, Series RTC-HD

- Ports 10-32 UNF - 3/8 NPTF
- Ø 0.98-2.48 inch (16mm to 63mm)
- double-acting
- with magnetic piston
- ball rail guide
- Heavy Duty
- Cushioning pneumatically, adjustable
- Easy2Combine capable with connection kit



Working pressure min./max.	58 ... 116 psi
Ambient temperature min./max.	14 ... 140 °F
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m ³
Pressure for determining piston forces	91.35 psi

An example configuration is illustrated.
The delivered product may thus deviate from the illustration.

Technical data

Piston Ø	0.98 inch	1.26 inch	1.57 inch	1.97 inch	2.48 inch
Stroke 8	R480676537	R480676527	R480676548	R480636524	R480676533
12	R480676538	R480676542	R480676549	R480676530	R480172938
16	R480676539	R480676543	R480676550	R480676553	R480624465
20	R480641671	R480628417	R480676551	R480676554	R480653340
24	R480165994	R480165995	R480619943	R480669357	R480172944
30	R480676540	R480676544	R480676529	R480676555	R480676557
48	R480673624	R480676545	R480180094	R480644142	R480641138
54	R480676541	R480676546	R480627168	R480676531	R480676534
60	R480625336	R480607665	R480181358	R480676556	R480181400
100	R480676526	R480676547	R480676552	R480676532	R480676535

Technical data

Piston Ø	0.98 inch	1.26 inch	1.57 inch	1.97 inch	2.48 inch
Cushioning length	0.79 inch	0.79 inch	0.79 inch	0.79 inch	0.79 inch
Speed max.	6.56 ft/s	6.56 ft/s	6.56 ft/s	6.56 ft/s	6.56 ft/s

Technical information

The pressure dew point must be at least 27 °F under ambient and medium temperature and may not exceed 5.4 °F .

The delivered product is lubricated for lifetime.

Use hydraulic shock absorbers for precise end position adjustment.

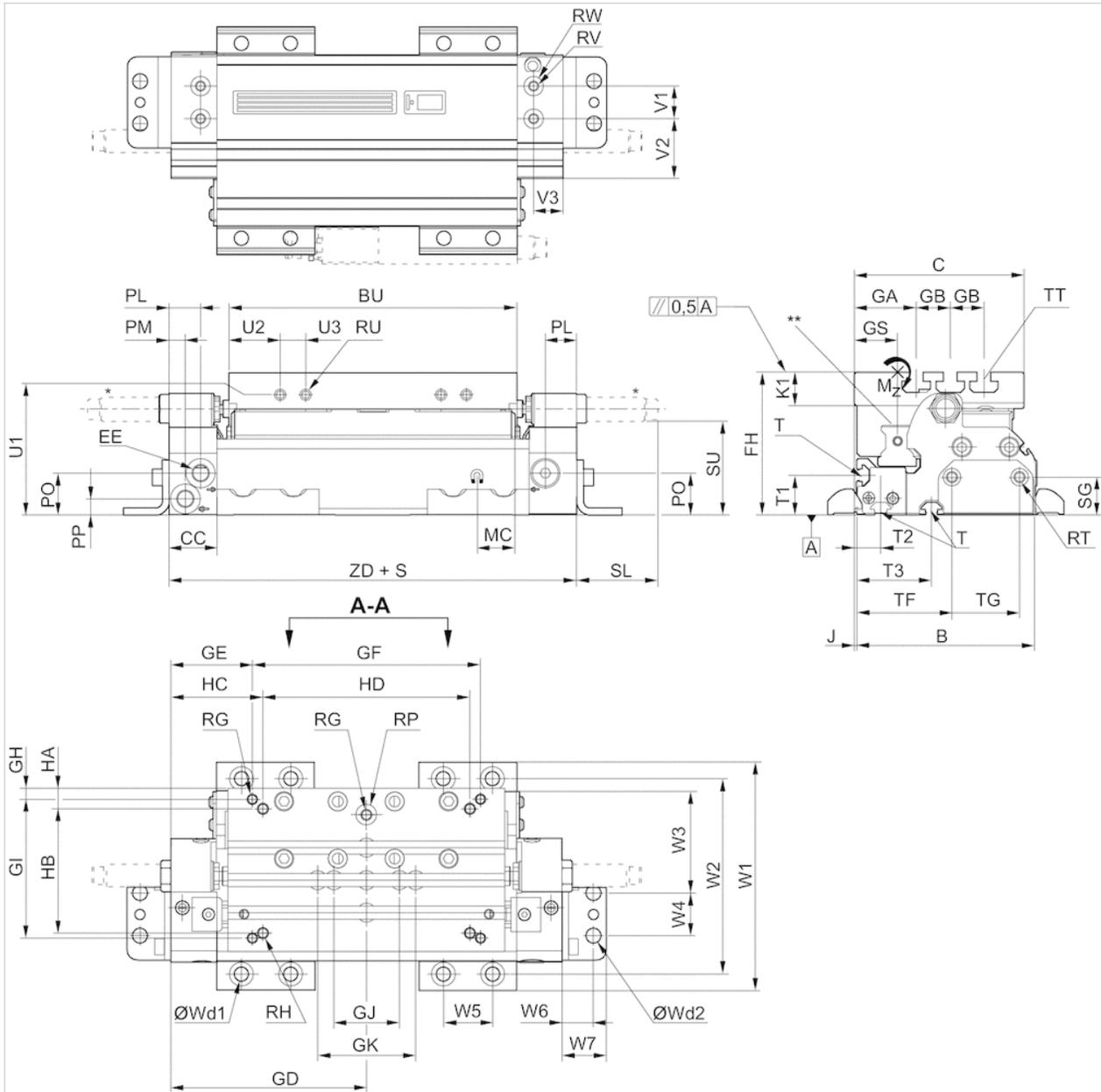
These pneumatic components with NPT or inch thread dimensions are only available from our US sales organization.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Cover	Aluminum, anodized
Seal	Polyurethane
Sealing strips	Polyurethane, Stainless steel
Ball rail table	Aluminum, anodized
Guide rail	Steel, hardened

Dimensions

Dimensions in inches



S = stroke

T = Type of t-groove nut

TT = Type of t-groove nut

* Shock absorber optional in end cover for diameters 16-40

** RTC-HD 16 & 25: funnel type lube nipple with thread M3, RTC-HD 32 - 63: lube nipple DIN 71412 with thread M6

Dimensions in inches

Piston Ø	Ø[inch]	B	C	BU	CC	EE	EF	EG	FH	GA	GB	GD	GE	GF	GH
0.98 inch	1	4.6	3.92	5.79	1.1	1/8 NPTF	–	–	2.76	1.02	0.79	4.23	4.23	4.33	0.63
1.26 inch	1 1/4	4.13	3.94	6.69	1.1	1/8 NPTF	–	–	3.3	1.44	0.79	4.72	4.72	5.51	0.26
1.57 inch	1 1/2	5.2	4.8	7.32	1.1	1/4 NPTF	–	–	3.85	1.44	0.79	5.18	5.18	6.69	0.47
1.97 inch	2	5.69	5.22	8.07	1.1	1/4 NPTF	Ø 4,59	Ø 0,91	4.7	1.22	0.79	5.8	5.8	7.48	0.39
2.48 inch	2 1/2	6.34	5.47	9.17	1.1	3/8 NPTF	Ø 0,59	Ø 1,04	5.09	1.22	0.79	6.56	6.56	7.48	0.39

GI	GJ	GK	GS	HA	HB	HC	HD	J	K1	MC	PK	PL	PM	PN	PO	PP	PR	PQ	RG 1)
20/40	1.57	–	1.46	0,25	3,3	1,732	5	0.06	0.84	0.59	0.4	0.79	0.31	0.35	0.85	0.37	–	–	M5
85	1.57	2.36	1	0,5	3	2,224	5	0.06	0.78	0.79	0.59	0.73	0.37	0.47	0.96	0.37	–	–	M6
100	1.57	2.36	1.24	0,5	4	2,181	6	0.06	1.01	0.67	0.71	0.71	0.39	0.43	1.24	0.41	–	–	M6
100	1.57	2.36	1.24	0,6	3,9	2,598	6.4	0.06	1.3	0.91	–	0.63	0.63	–	1.38	0.47	0.84	1.22	M8
100	1.57	2.36	1.24	0,6	4	2,354	8.4	0.06	1.3	0.98	–	0.55	0.55	–	1.79	0.57	1.06	0.98	M8

RH 2)	RP	RQ	RT 3)	RU 4)	SG	SL	SU	T	TT	W1	W2	W3	W4	W5	W6	W7
4xUNC 1/4-20	Ø 9	M6	M5	M6	0.68	1.94	1.85	N6	N6	5.17	4.5	2.83	0.71	0.05	0.53	0.78
4xUNC 1/4-20	Ø 12	M6	M6	M6	0.87	1.9	2.19	N6	N8	5.49	4.7	2.48	1.02	0.05	0.75	1.06
4xUNC 1/4-20	Ø 12	M8	M6	M6	0.87	1.78	2.89	N6	N8	6.55	5.76	3.31	1.02	0.05	0.75	1.06
4xUNC 5/16-18	Ø 12	M8	M8	M5	0.87	–	–	N8	N8	7.56	6.57	2.5	2.76	0.06	0.87	1.29
4xUNC 5/16-18	Ø 12	M8	M8	M5	1.18	–	–	N8	N8	8.21	7.22	3.15	1.97	0.06	0.87	1.29

Wd1	Wd2	T1	T2	T3	TF	TG	U1	U2	U3	U4	ZD	M [lb] 5)
M6	M6	0.79	0.55	2.13	2.81	0.75	2.24	0,7	0,85	0.59	8.46	2.75
M8	M8	0.91	0.55	1.73	2.2	1.57	2.8	1.18	0,83	0.59	9.45	3.09
M8	M8	0.97	1.16	2.34	3.03	1.57	3.26	1.18	1,14	0.59	9.3	5.67
M12	M12	1.4	0.73	1.71	3.09	1.57	4,1	1.18	0.59	0.59	11.6	7.03
M12	M12	1.8	0.67	1.56	2.56	3.15	4.5	1.18	0.59	0.59	13.11	7.63

1) Thread depth: 0.47 inch for piston Ø 5/8 - 1, 0.63 inch for piston Ø 5/8 - 1 1/2, 0.55 inch for piston Ø 5/8 - 3

2) Thread depth: 0.50 inch for piston Ø 5/8 - 3

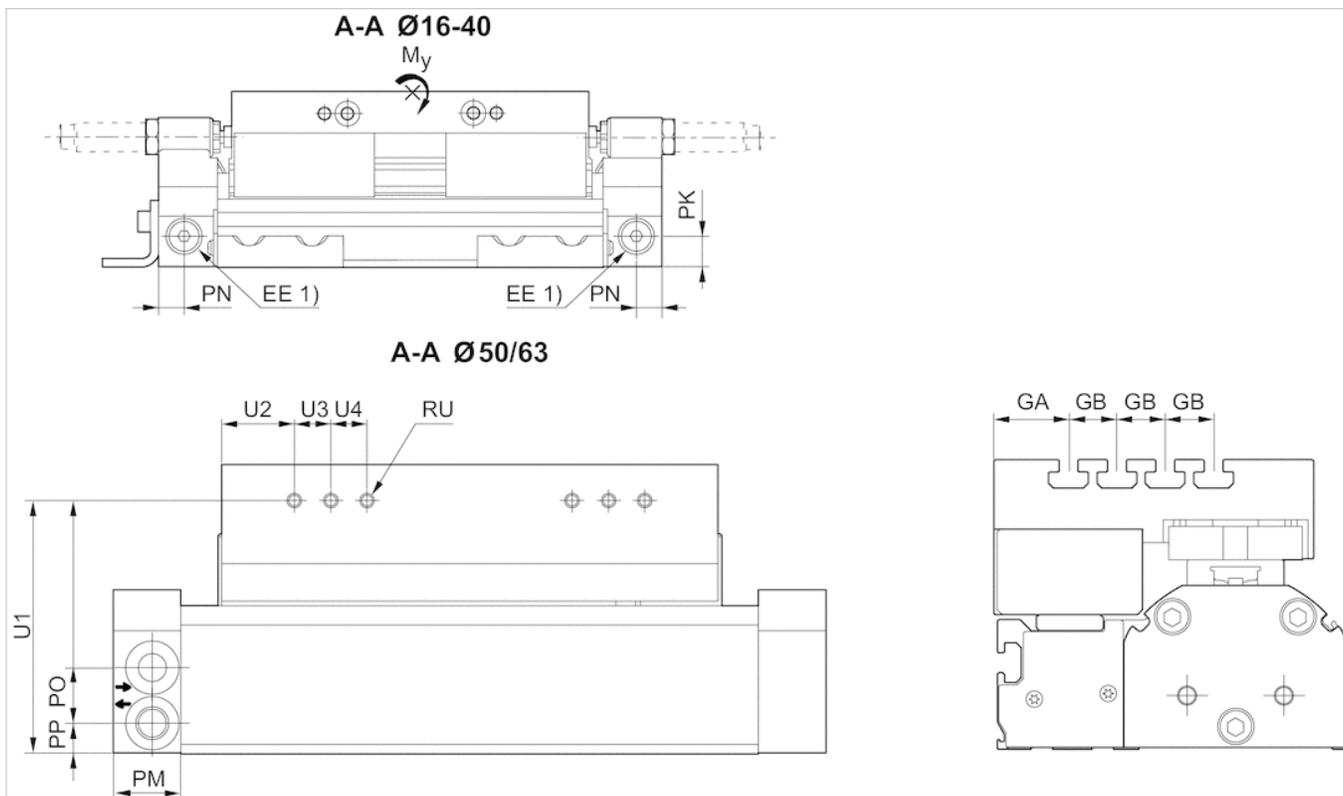
3) Thread depth: 0.35 inch for piston Ø 5/8 - 1 1/2, 0.47 inch for piston Ø 5/8 - 3

4) Thread depth: 0.40 inch for piston Ø 5/8 - 3

5) M = moving mass

* Can be selected in the configurator (M7 for high-speed applications)

Dimensions



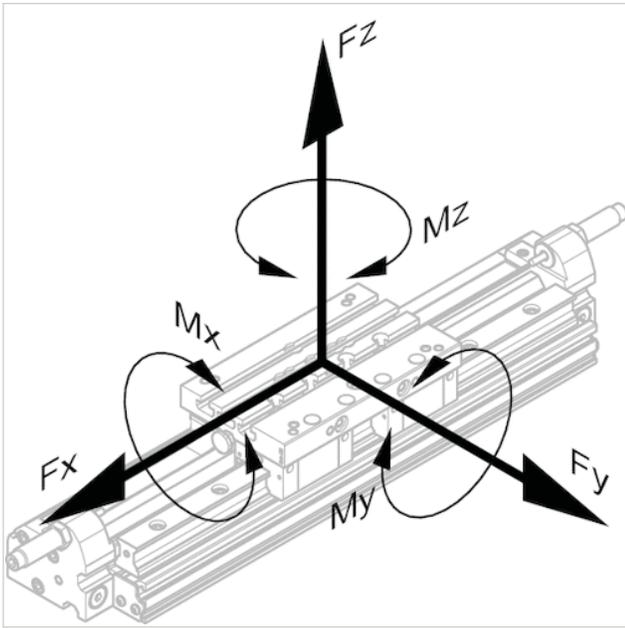
1) Auxiliary air feeding

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Permissible forces F_x F_y F_z and torques M_x M_y M_z

$$\frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + \frac{M_z}{M_{z_{\max.}}} \leq 1$$

With simultaneously moments on the cylinder this equation must be used in addition to the maximum moments check. In the cushioning phase of the movement additional forces occur and must be considered. Please use our calculation tool for rodless cylinders on the <http://www.aventics.com>.



dynamic

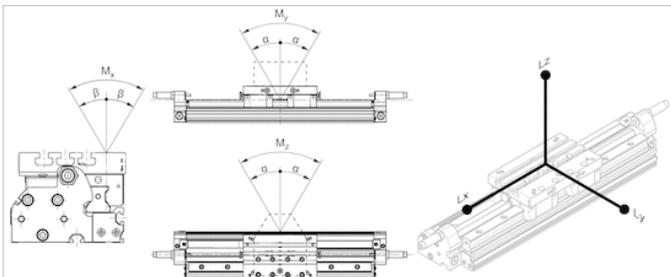
Piston Ø	Ø [inch]	Mx [Nm]	My [Nm]	Mz [Nm]
0.98 inch	1	100	336	114
1.26 inch	1 1/4	154	502	190
1.57 inch	1 1/2	254	764	376
1.97 inch	2	254	924	455
2.48 inch	2 1/2	254	1120	551

static

Piston Ø	Ø [inch]	Fx [N]	Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]
0.98 inch	1	2640	2640	7810	100	336	114
1.26 inch	1 1/4	3760	3760	9952	154	502	190
1.57 inch	1 1/2	6840	6840	13922	254	764	376
1.97 inch	2	6840	6840	13922	254	924	455
2.48 inch	2 1/2	6840	6840	13922	254	1120	551

Dimensions

Max. play and recommended max. lever arm length



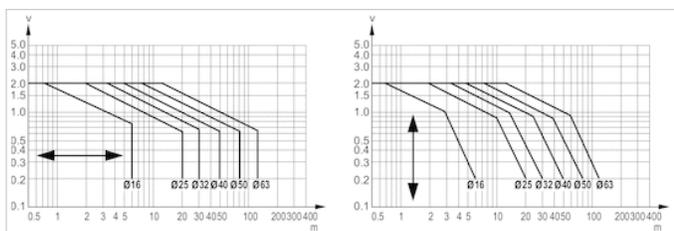
L = lever arm
M = Torques

Dimensions

Piston Ø	Ø [inch]	α	β	Lx	Ly	Lz
0.98 inch	1	0,1°	0,2°	344	344	344
1.26 inch	1 1/4	0,1°	0,2°	404	404	404
1.57 inch	1 1/2	0,1°	0,2°	440	440	440
1.97 inch	2	0,1°	0,2°	532	532	532
2.48 inch	2 1/2	0,1°	0,2°	644	644	644

Diagrams

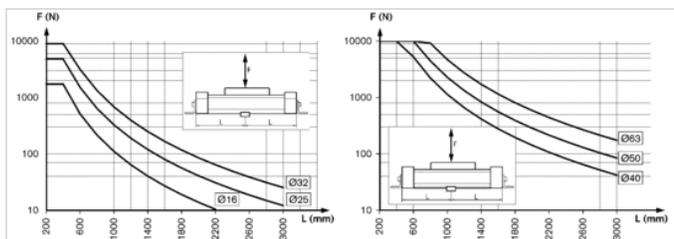
Limit diagram for pneumatic cushioning for horizontal or vertical mounting



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

The values for the cushionable mass m and piston velocity v must be on or below the graph for the selected piston diameter.

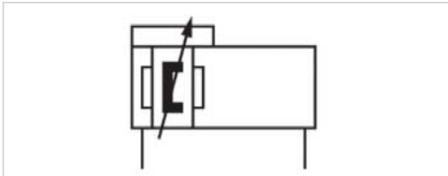
Support span



Max. support span L [mm] as a function of F [N] at a deflection of 0.5 mm

Rodless cylinder, Series RTC-BV

- Ø 16-80 mm
- Ports M7, G 1/8, G 1/4, G 3/8
- double-acting
- with magnetic piston
- integrated guide
- Basic Version
- Cushioning pneumatically, adjustable



Working pressure min./max.	2 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø	16 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
Stroke 100	R480143252	R480141454	-	-	-	-	-
200	R480143255	R480141455	R480141462	-	-	-	-
300	R480143256	R480141456	R480141463	-	-	-	-
400	R480143257	R480141457	R480141464	R480141472	R480148854	R480147730	R480147731
500	R480143258	R480141458	R480141465	R480141473	R480146166	R480147713	R480147714
600	R480143259	R480141459	R480141466	R480141474	R480149081	R480146014	R480146210
700	R480143260	R480141460	R480141468	R480141475	R480145947	R480145948	R480155522
800	-	R480141461	R480141469	R480141476	R480148600	R480147223	R480147699
900	-	-	R480141470	R480141477	R480147023	R480146204	R480156948
1000	-	-	R480141471	R480141478	R480149199	R480147036	R480147700

Technical data

Piston Ø	16 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
Piston force	127 N	309 N	507 N	792 N	1237 N	1964 N	3146 N
Cushioning length	20 mm	20 mm	20 mm	20 mm	20 mm	20 mm	20 mm
Cushioning energy	1,5 J	4 J	7 J	10 J	15 J	25 J	40 J

Piston Ø	16 mm	25 mm	32 mm	40 mm	50 mm	63 mm	80 mm
Speed max.	5,5 m/s	6,5 m/s	4 m/s	5 m/s	3 m/s	3 m/s	3 m/s
Weight 0 mm stroke	0,45 kg	0,82 kg	1,39 kg	2,09 kg	3,37 kg	5,65 kg	9,71 kg
+10 mm stroke	0,014	0,023	0,031	0,044	0,065	0,098	0,157
Stroke max.	6600 mm	7000 mm	9900 mm	9900 mm	9900 mm	5800 mm	4800 mm

Technical information

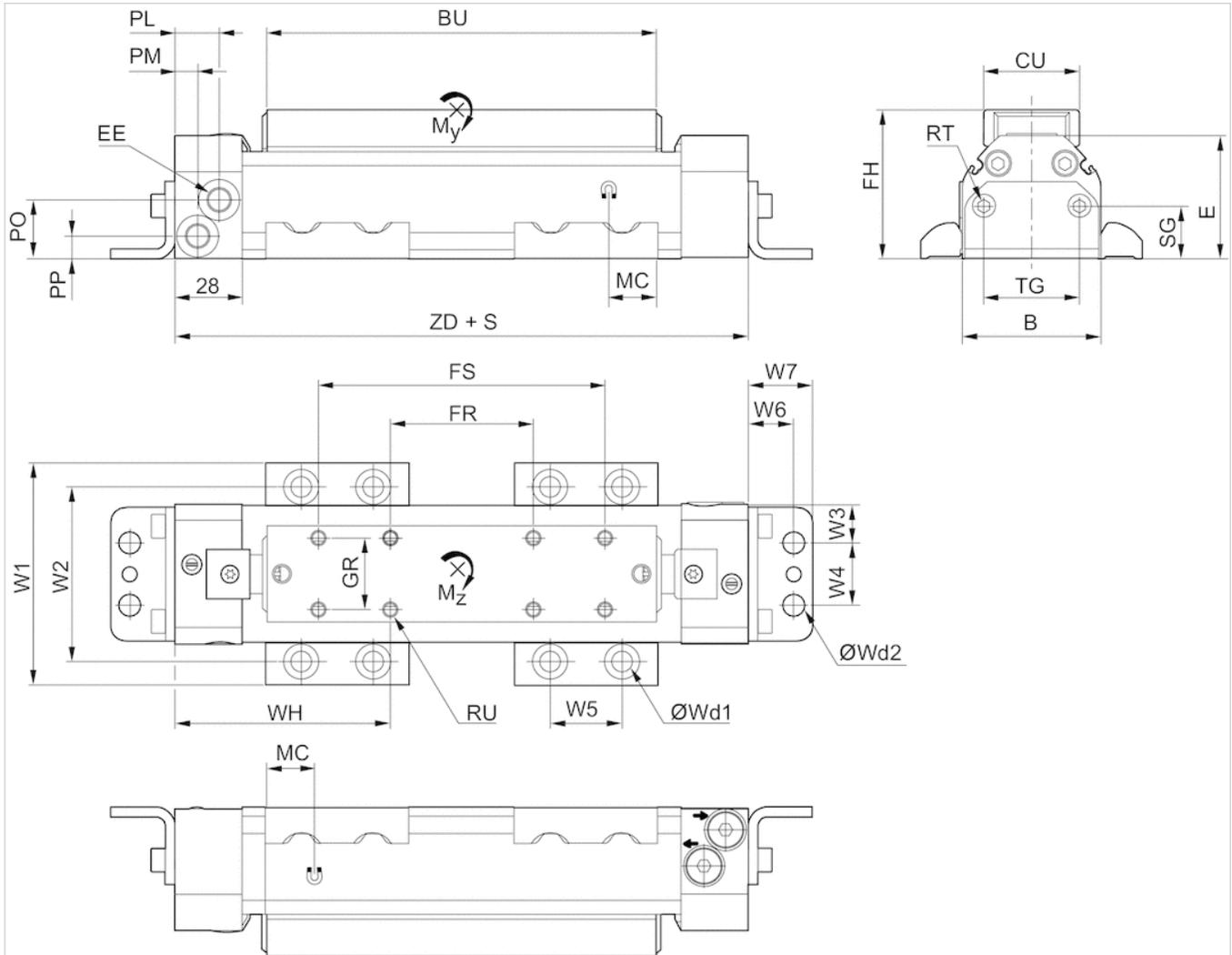
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The delivered product is lubricated for lifetime.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Cover	Aluminum, anodized
Seal	Polyurethane
Sealing strips	Polyurethane, Stainless steel
Ball rail table	Aluminum, anodized

Dimensions

Piston Ø 16 ... 80 Dimensions in mm



S = stroke

Dimensions

Piston Ø	B	BU	CU	E	EE	FH	FR	FS	GR	MC	PL	PM	PO	PP	RT 1)	RU 2)	SG	TG	W1	W2	W3	W4	W5
16 mm	34	118	26	36	M7	41	60	100	20	12	21.5	9	13.1	7.5	M5	M4	17.3	19	63	45.5	8	18	30
25 mm	44	147	26	45.5	G 1/8	50.6	40	100	20	15	20	8	21.5	9.3	M5	M4	17.3	19	73	55.5	13	18	30
32 mm	58	163	40	51.5	G 1/8	62.1	60	120	30	20	18.5	9.5	24.5	9.5	M6	M6	22	40	93	72.5	16	26	30
40 mm	70	182	40	60.5	G 1/4	71.1	60	120	30	17	18	10	31.5	11	M6	M6	22	40	105	84.5	22	26	30
50 mm	92	205	40	67.5	G 1/4	78.3	60	140	30	23	16	16	35.5	12.5	M8	M6	22	40	140	114.5	11	70	40
63 mm	112	233	55	82.5	G 3/8	93.3	100	180	40	25	14	14	45.5	14.5	M8	M8	30	80	160	134.5	31	50	40
80 mm	140	269	55	103.5	G 3/8	114.2	100	180	40	27	14	14	59.5	16.5	M8	M8	30	80	188	162.5	45	50	40

Piston Ø	W6	W7	Wd1	Wd2	WH	ZD	M [kg] 3)
16 mm	13.5	19.8	M6	M6	63.5	187	0.08
25 mm	13.5	19.8	M6	M6	87.5	215	0.16

Piston Ø	W6	W7	Wd1	Wd2	WH	ZD	M [kg] 3)
32 mm	19	26.8	M8	M8	90	240	0.32
40 mm	19	26.8	M8	M8	101.5	263	0.49
50 mm	22	32.7	M12	M12	117.1	294.2	0.73
63 mm	22	32.7	M12	M12	116.5	333.2	1.31
80 mm	22	32.7	M12	M12	130.5	361	2.14

1) thread depth: 9 mm for piston Ø 16–40 mm, 12 mm for piston Ø 50–80 mm

2) thread depth: 6 mm for piston Ø 16–25 mm, 10 mm for piston Ø 32–50 mm, 15 mm for piston Ø 63–80 mm

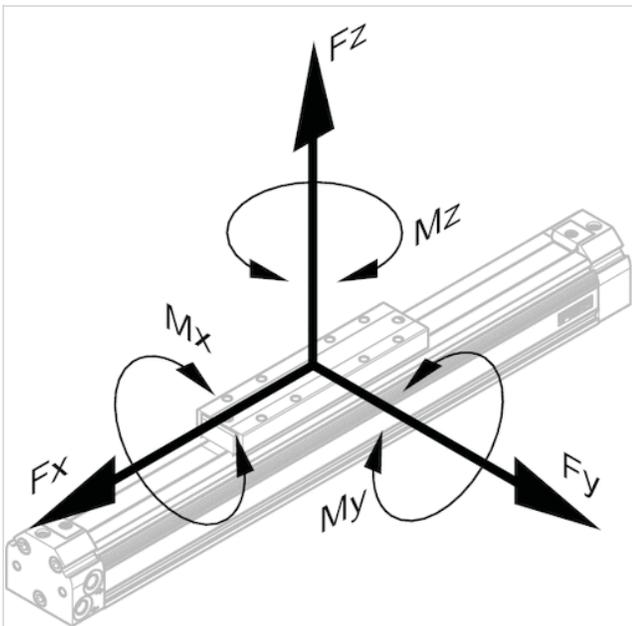
3) M = moving mass

Dimensions

Permissible forces F_x F_y F_z and torques M_x M_y M_z

$$\frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + \frac{M_z}{M_{z_{\max.}}} \leq 1$$

With simultaneously moments on the cylinder this equation must be used in addition to the maximum moments check. In the cushioning phase of the movement additional forces occur and must be considered. Please use our calculation tool for rodless cylinders on the <http://www.aventics.com>.



dynamic

Piston Ø	M_x [Nm]	M_y [Nm]	M_z [Nm]
16 mm	0.42	10	2
25 mm	1	24	3
32 mm	3.8	42	12
40 mm	6	75	15
50 mm	9.1	128	20

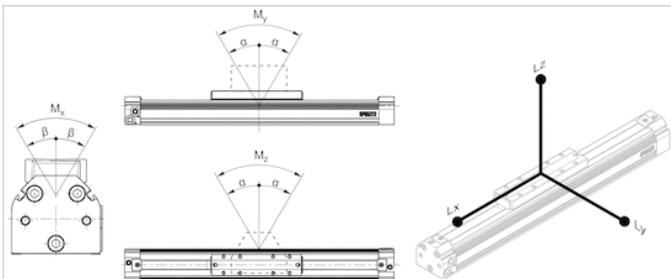
Piston Ø	Mx [Nm]	My [Nm]	Mz [Nm]
63 mm	14.5	195	24
80 mm	20	300	28

static

Piston Ø	Fx [N]	Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]
16 mm	800	150	1100	2	25	8
25 mm	1800	210	3800	6	50	12
32 mm	2200	550	6600	18	80	43
40 mm	3500	650	8000	28	140	55
50 mm	5000	750	9000	35	230	70
63 mm	6800	850	13000	45	340	90
80 mm	9500	1000	13000	55	500	110

Dimensions

Max. play and recommended max. lever arm length



L = lever arm

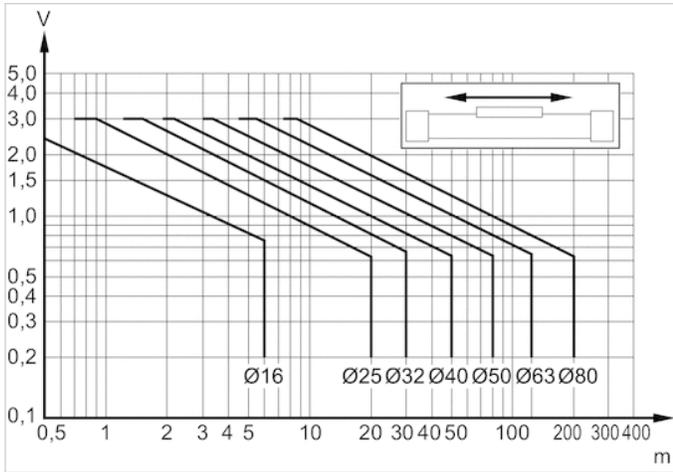
M = Torques

Dimensions

Piston Ø	α	β	Lx	Ly	Lz
16 mm	0,5°	2,0° ±1°	162	94	162
25 mm	0,5°	2,0° ±1°	217	123	217
32 mm	0,6°	1,5° ±0,5°	240	139	240
40 mm	0,4°	1,0° ±0,3°	275	158	275
50 mm	0,4°	1,0° ±0,3°	317	181	317
63 mm	0,3°	1,0° ±0,3°	368	209	368
80 mm	0,3°	1,0° ±0,3°	435	245	435

Diagrams

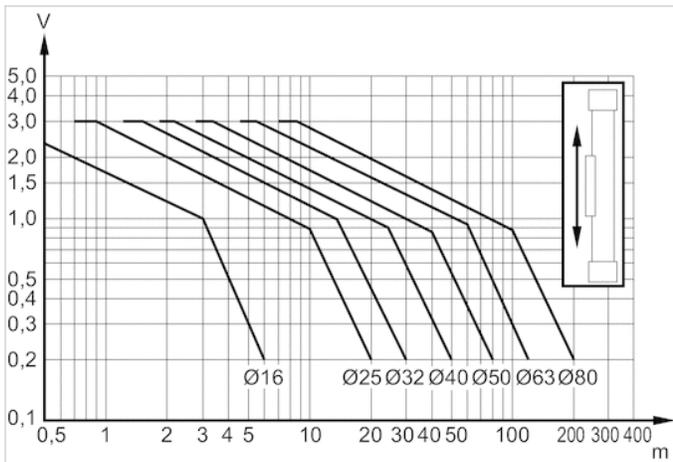
Limit diagram for pneumatic cushioning with horizontal mounting



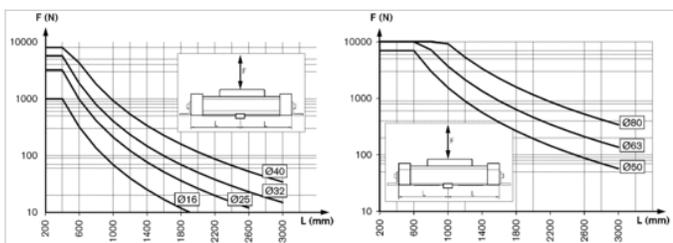
v = Piston velocity [m/s] m = Cushionable mass [kg]

The values for the cushionable mass m and piston velocity v must be on or below the graph for the selected piston diameter.

Limit diagram for pneumatic cushioning with vertical mounting



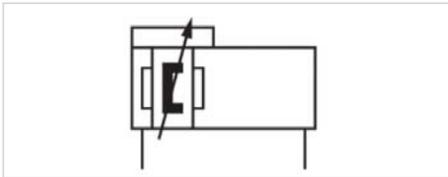
Support span



Max. support span L [mm] as a function of F [N] at a deflection of 0.5 mm

Rodless cylinder, Series RTC-SB

- Ø 25-40 mm
- Ports G 1/8, G 1/4
- double-acting
- with magnetic piston
- Slide bearing guide
- Cushioning pneumatically, adjustable



Working pressure min./max.	2 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø	25 mm	32 mm	40 mm
Stroke 100	R480470710	R480677234	R480470700
200	R480470711	R480470720	R480470701
300	R480470712	R480470721	R480470702
400	R480470713	R480470722	R480470703
500	R480470714	R480470723	R480470704
600	R480470715	R480470724	R480470705
700	R480470716	R480470725	R480470706
800	R480470717	R480470726	R480470707
900	R480470718	R480470727	R480470708
1000	R480470719	R480470728	R480470709

Technical data

Piston Ø	25 mm	32 mm	40 mm
Piston force	309 N	507 N	792 N
Cushioning length	20 mm	20 mm	20 mm
Cushioning energy	4 J	7 J	10 J
Speed max.	6,5 m/s	4 m/s	5 m/s

Piston Ø	25 mm	32 mm	40 mm
Weight 0 mm stroke	1,335 kg	2,095 kg	2,853 kg
+10 mm stroke	0,033 kg	0,04 kg	0,04 kg
Stroke max.	7000 mm	9900 mm	9900 mm

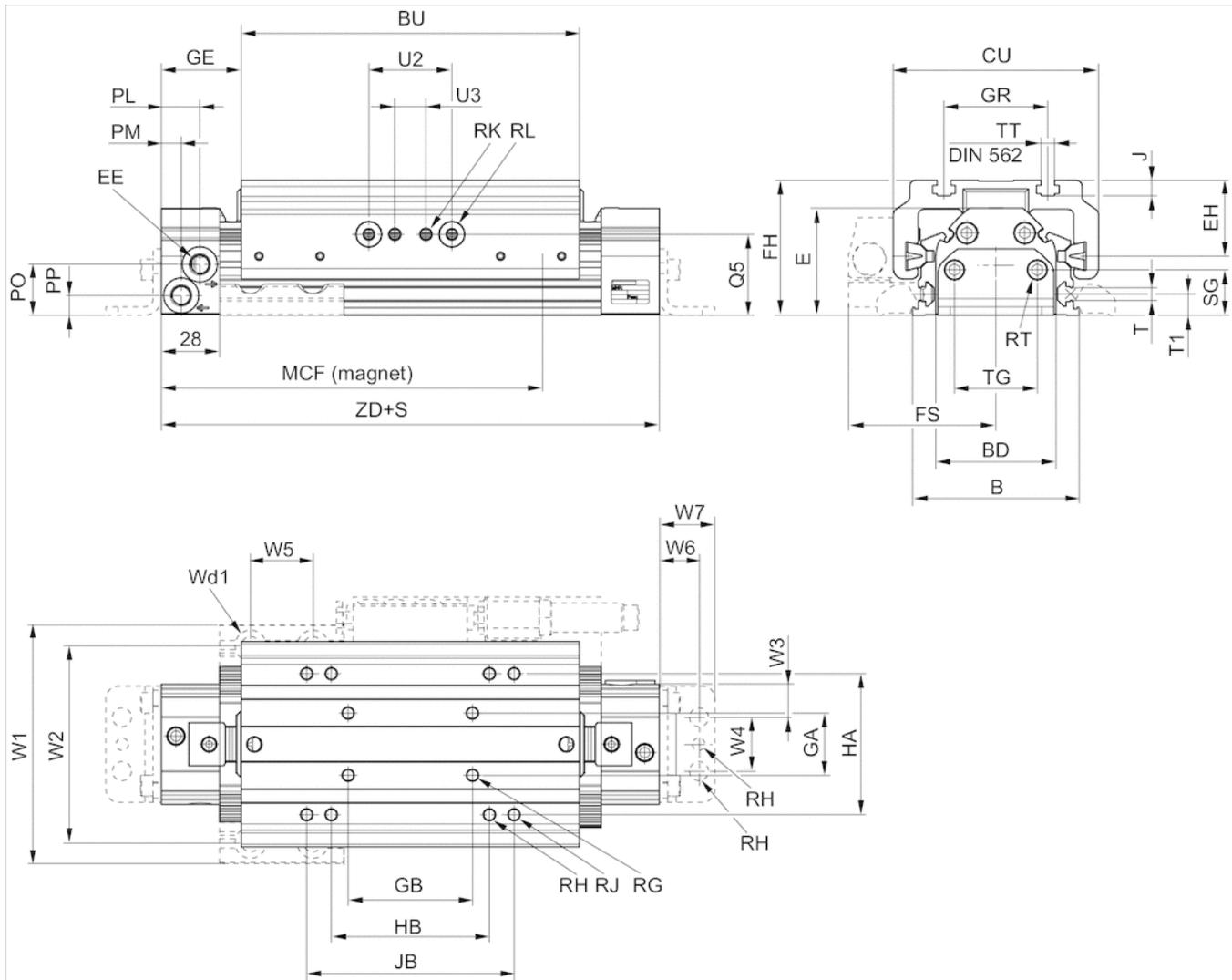
Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The delivered product is lubricated for lifetime.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Cover	Aluminum, anodized
Seal	Polyurethane
Sealing strips	Polyurethane, Stainless steel
Ball rail table	Aluminum, anodized

Dimensions



Dimensions

Piston Ø	B	BU	BD	CU	EE	EH	FH	FS	GA	GB	GE	GR	HA	HB	J	JB	MCF	PL	PM	PO	PP	Q5	RG
25 mm	67,3	147	44	81	G 1/8	28	55.1	62	18	60	34	40	54.4	63.5	5.9	80	165	20	8	21.5	9.3	38.8	M4
32 mm	80,3	163	58	99	G 1/8	36,6	65.1	71	30	60	38.5	50	68	76.2	7.5	100	182	18.5	9.5	24.5	9.5	39	M6
40 mm	89,3	182	70	108	G 1/4	41	71	75.5	30	60	40.5	50	80	101.6	7.5	120	205	18	10	31.5	11	44.6	M6

Piston Ø	RH	RJ	RK	RL	RT 1)	SG	T	TT	T1	TG	U2	U3	W1	W2	W3	W4	W5	W6	W7	Wd1	Wd2
25 mm	1/4-28 UNF	M6	M6	Ø12.01 H7	M5	17.3	N6	M4	10.1	19	40	15	96	79	7	18	30	13.5	19.8	Ø6.8	Ø6.8
32 mm	1/4-28 UNF	M6	M6	Ø12.01 H7	M6	22	N6	M6	10.1	40	40	15	115	95	15	26	30	19	26.8	Ø8.8	Ø9.2
40 mm	1/4-28 UNF	M6	M6	Ø12.01 H7	M6	22	N6	M6	11.2	40	40	15	124	104	15	26	30	19	26.8	Ø8.8	Ø9.2

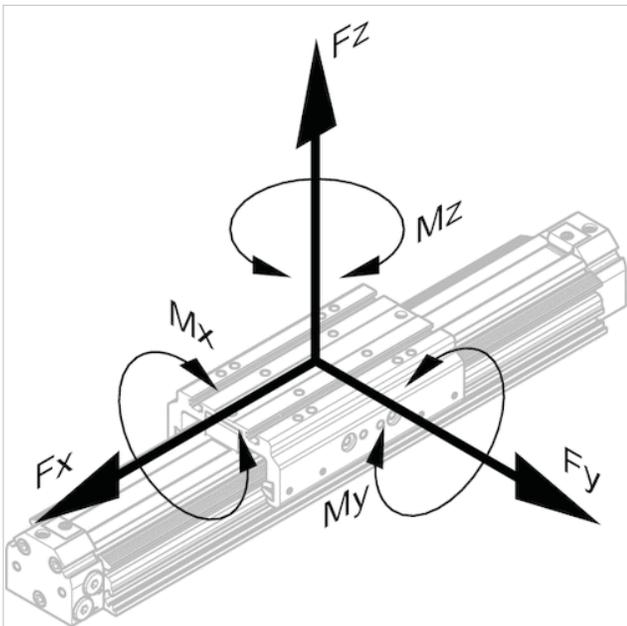
Piston Ø	Wd3	ZD
25 mm	Ø4G8	215
32 mm	Ø6G8	240
40 mm	Ø6G8	263

Dimensions

Permissible forces F_x F_y F_z and torques M_x M_y M_z

$$\frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + \frac{M_z}{M_{z_{\max.}}} \leq 1$$

With simultaneously moments on the cylinder this equation must be used in addition to the maximum moments check. In the cushioning phase of the movement additional forces occur and must be considered. Please use our calculation tool for rodless cylinders on the <http://www.aventics.com>.



dynamic

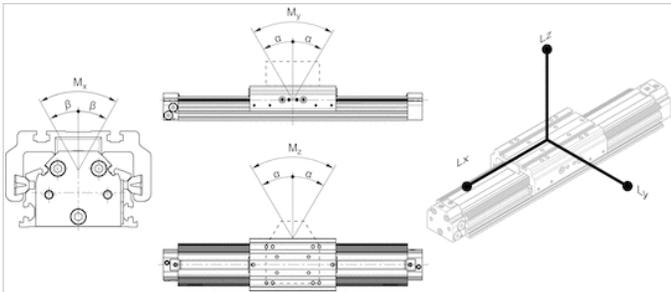
Piston Ø	M_x [Nm]	M_y [Nm]	M_z [Nm]
25 mm	1.4	30	30
32 mm	6	45	45
40 mm	8	50	50

static

Piston Ø	F_x [N]	F_y [N]	F_z [N]	M_x [Nm]	M_y [Nm]	M_z [Nm]
25 mm	1800	700	2300	32	50	50
32 mm	2200	1000	2600	73	91	91
40 mm	2700	1000	2600	83	111	111

Dimensions

Max. play and recommended max. lever arm length



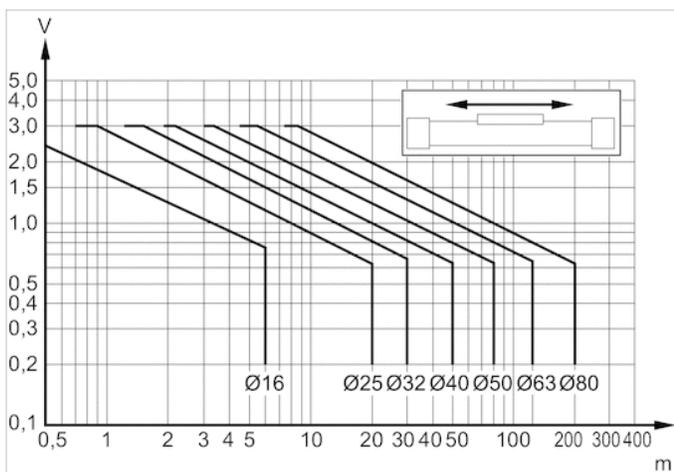
L = lever arm
M = Torques

Dimensions

Piston Ø	α	β	Lx	Ly	Lz
25 mm	$\leq 0,2^\circ$	$\leq 0,3^\circ$	201	110	201
32 mm	$\leq 0,2^\circ$	$\leq 0,3^\circ$	242	120	242
40 mm	$\leq 0,2^\circ$	$\leq 0,3^\circ$	242	120	242

Diagrams

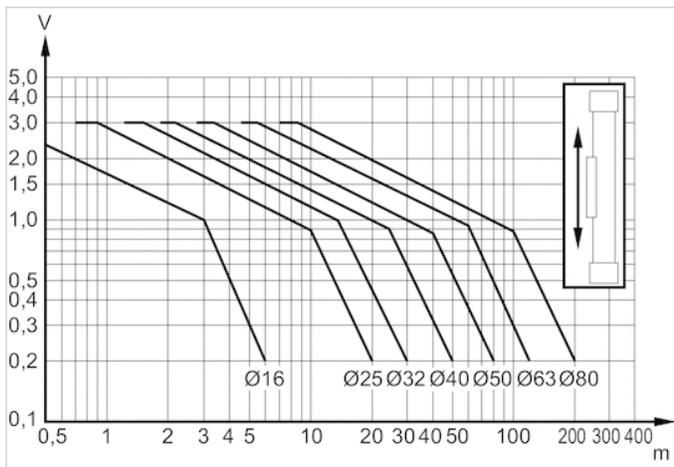
Limit diagram for pneumatic cushioning with horizontal mounting



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

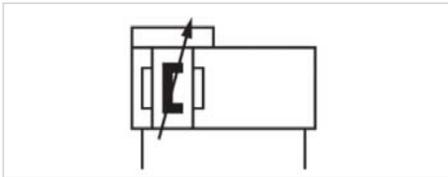
The values for the cushionable mass m and piston velocity v must be on or below the graph for the selected piston diameter.

Limit diagram for pneumatic cushioning with vertical mounting



Rodless cylinder, Series RTC-LB

- Ø 25-40 mm
- Ports G 1/8, G 1/4
- double-acting
- with magnetic piston
- Slide bearing guide with long slide
- Cushioning pneumatically, adjustable



Working pressure min./max.	2 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m ³
Pressure for determining piston forces	6.3 bar

Technical data

Piston Ø	25 mm	32 mm	40 mm
Stroke 100	R480470739	R480677235	R480470729
200	R480470740	R480470749	R480470730
300	R480470741	R480470750	R480470731
400	R480470742	R480470751	R480470732
500	R480470743	R480470752	R480470733
600	R480470744	R480470753	R480470734
700	R480470745	R480470754	R480470735
800	R480470746	R480470755	R480470736
900	R480470747	R480470756	R480470737
1000	R480470748	R480470757	R480470738

Technical data

Piston Ø	25 mm	32 mm	40 mm
Piston force	309 N	507 N	792 N
Cushioning length	20 mm	20 mm	20 mm
Cushioning energy	4 J	7 J	10 J
Speed max.	6,5 m/s	4 m/s	5 m/s

Piston Ø	25 mm	32 mm	40 mm
Weight 0 mm stroke	2,375 kg	3,702 kg	5,043 kg
+10 mm stroke	0,033 kg	0,04 kg	0,049 kg
Stroke max.	7000 mm	9900 mm	9900 mm

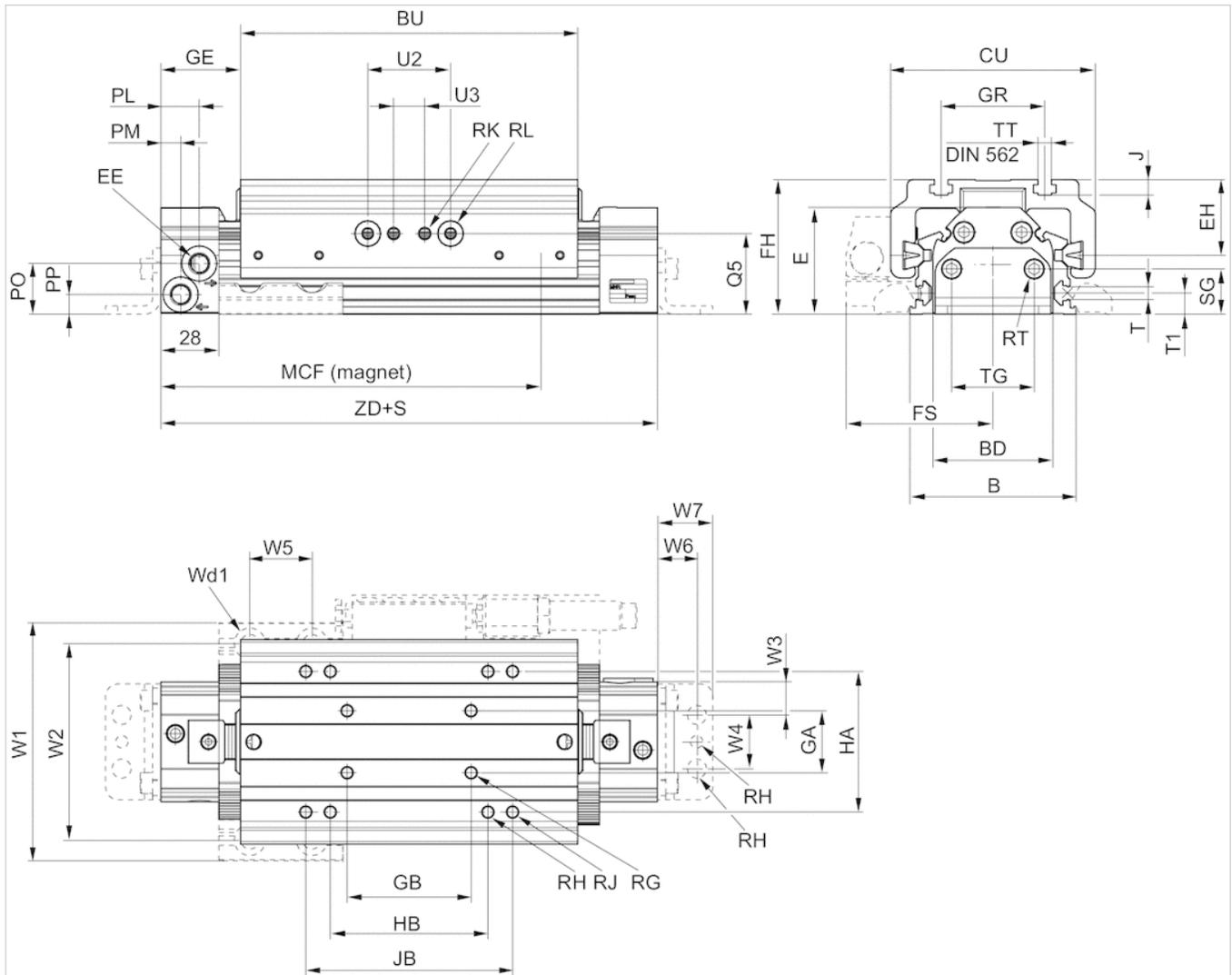
Technical information

The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
The delivered product is lubricated for lifetime.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Cover	Aluminum, anodized
Seal	Polyurethane
Sealing strips	Polyurethane, Stainless steel
Ball rail table	Aluminum, anodized

Dimensions



Dimensions

Piston Ø	B	BU	BD	CU	EE	EH	FH	FS	GA	GB	GE	GR	HA	HB	J	JB	MCF	PL	PM	PO	PP	Q5	RG
25 mm	67,3	294	44	81	G 1/8	28	55.1	62	18	60	34	40	54.4	101.6	5.9	160	312	20	8	21.5	9.3	38.8	M4
32 mm	80,3	326	58	99	G 1/8	36,6	65.1	71	30	60	38.5	50	68	101.6	7.5	200	345	18.5	9.5	24.5	9.5	39	M6
40 mm	89,3	364	70	108	G 1/4	41	71	75.5	30	60	40.5	50	80	127	7.5	240	388	18	10	31.5	11	44.6	M6

Piston Ø	RH	RJ	RK	RL	RT 1)	SG	T	TT	T1	TG	U2	U3	W1	W2	W3	W4	W5	W6	W7	Wd1	Wd2
25 mm	1/4-28 UNF	M6	M6	Ø12.01 H7	M5	17.3	N6	N6	10.1	19	40	15	96	79	7	18	30	13.5	19.8	Ø6.8	Ø6.8
32 mm	1/4-28 UNF	M6	M6	Ø12.01 H7	M6	22	N6	N6	10.1	40	40	15	115	95	15	26	30	19	26.8	Ø8.8	Ø9.2
40 mm	1/4-28 UNF	M6	M6	Ø12.01 H7	M6	22	N6	N6	11.2	40	40	15	124	104	15	26	30	19	26.8	Ø8.8	Ø9.2

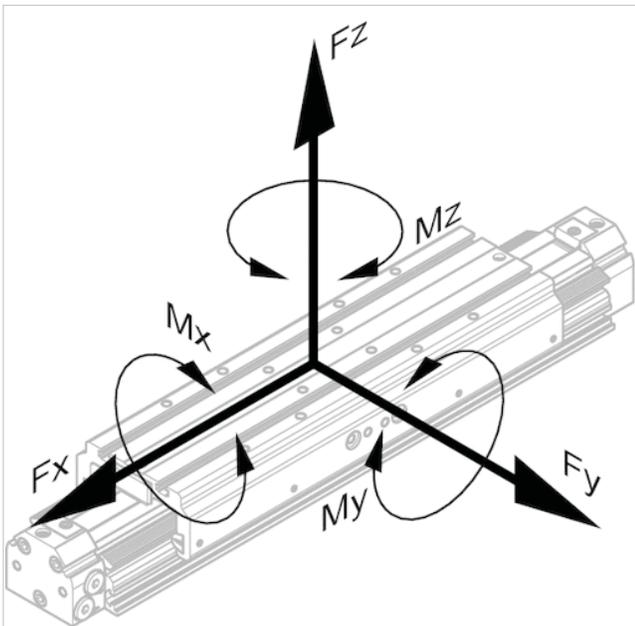
Piston Ø	Wd3	ZD
25 mm	Ø4G8	362
32 mm	Ø6G8	403
40 mm	Ø6G8	445

Dimensions

Permissible forces F_x F_y F_z and torques M_x M_y M_z

$$\frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + \frac{M_z}{M_{z_{\max.}}} \leq 1$$

With simultaneously moments on the cylinder this equation must be used in addition to the maximum moments check. In the cushioning phase of the movement additional forces occur and must be considered. Please use our calculation tool for rodless cylinders on the <http://www.aventics.com>.



dynamic

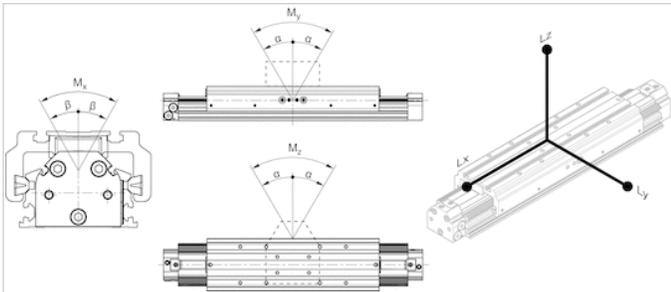
Piston Ø	M_x [Nm]	M_y [Nm]	M_z [Nm]
25 mm	1.4	60	60
32 mm	6	90	90
40 mm	8	100	100

static

Piston Ø	F_x [N]	F_y [N]	F_z [N]	M_x [Nm]	M_y [Nm]	M_z [Nm]
25 mm	1800	1200	3200	42	160	160
32 mm	2200	1400	3800	96	310	310
40 mm	2700	1400	3800	109	362	362

Dimensions

Max. play and recommended max. lever arm length



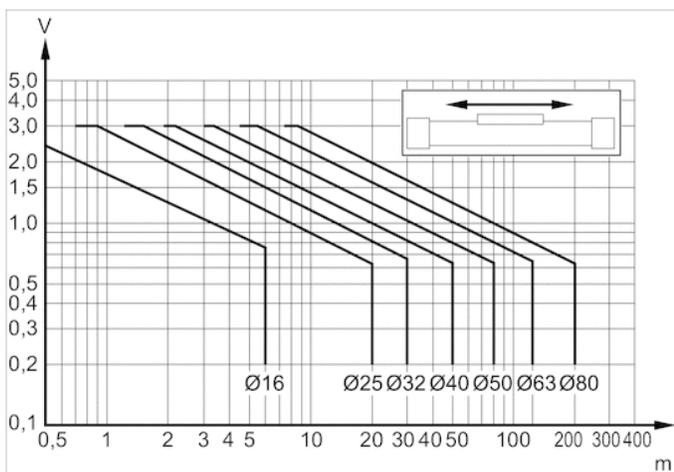
L = lever arm
M = Torques

Dimensions

Piston Ø	α	β	Lx	Ly	Lz
25 mm	$\leq 0,2^\circ$	$\leq 0,3^\circ$	551	280	551
32 mm	$\leq 0,1^\circ$	$\leq 0,3^\circ$	612	320	612
40 mm	$\leq 0,1^\circ$	$\leq 0,3^\circ$	612	320	612

Diagrams

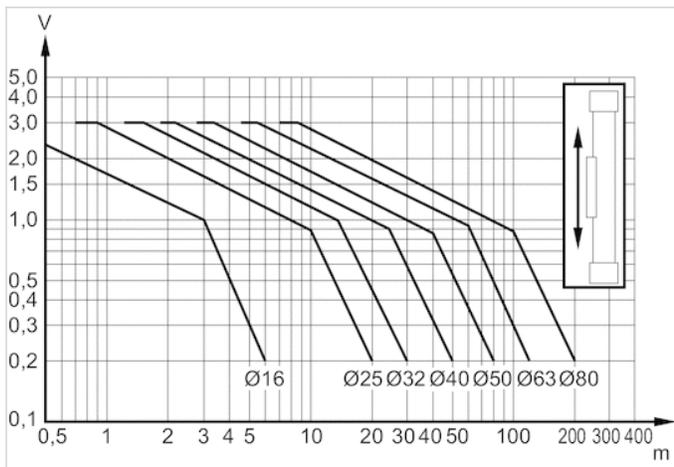
Limit diagram for pneumatic cushioning with horizontal mounting



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

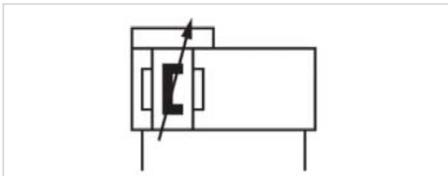
The values for the cushionable mass m and piston velocity v must be on or below the graph for the selected piston diameter.

Limit diagram for pneumatic cushioning with vertical mounting



Rodless cylinder, Series RTC-CG

- Ø 16-40 mm
- Ports M7, G 1/8, G 1/4
- double-acting
- with magnetic piston
- ball rail guide
- Compact Guide
- Cushioning pneumatically, adjustable
- Easy2Combine capable with connection kit



Working pressure min./max.	2 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m ³
Pressure for determining piston forces	6.3 bar
null	

An example configuration is illustrated.
The delivered product may thus deviate from the illustration.

Technical data

Piston Ø	16 mm	25 mm	32 mm	40 mm
Stroke 200	R480148169	R480146993	R480154848	R480156966
300	R480148470	R480146765	R480154708	R480150407
400	R480153838	R480147184	R480148680	R480153577
500	R480147715	R480146182	R480146674	R480146348
600	R480146105	R480147519	R480146692	R480149794
700	R480156308	R480146193	R480146396	R480156967
800	-	R480148254	R480153429	R480146347
900	-	-	R480156962	R480156968
1000	-	-	R480153428	R480147888

Technical data

Piston Ø	16 mm	25 mm	32 mm	40 mm
Piston force	127 N	309 N	507 N	792 N
Cushioning length	20 mm	20 mm	20 mm	20 mm
Cushioning energy	1,5 J	4 J	7 J	10 J

Piston Ø	16 mm	25 mm	32 mm	40 mm
Speed max.	2 m/s	2 m/s	2 m/s	2 m/s
Weight 0 mm stroke	0,94 kg	1,64 kg	2,43 kg	3,92 kg
+10 mm stroke	0,026	0,041	0,056	0,075
Stroke max.	1800 mm	1800 mm	1800 mm	2000 mm

Technical information

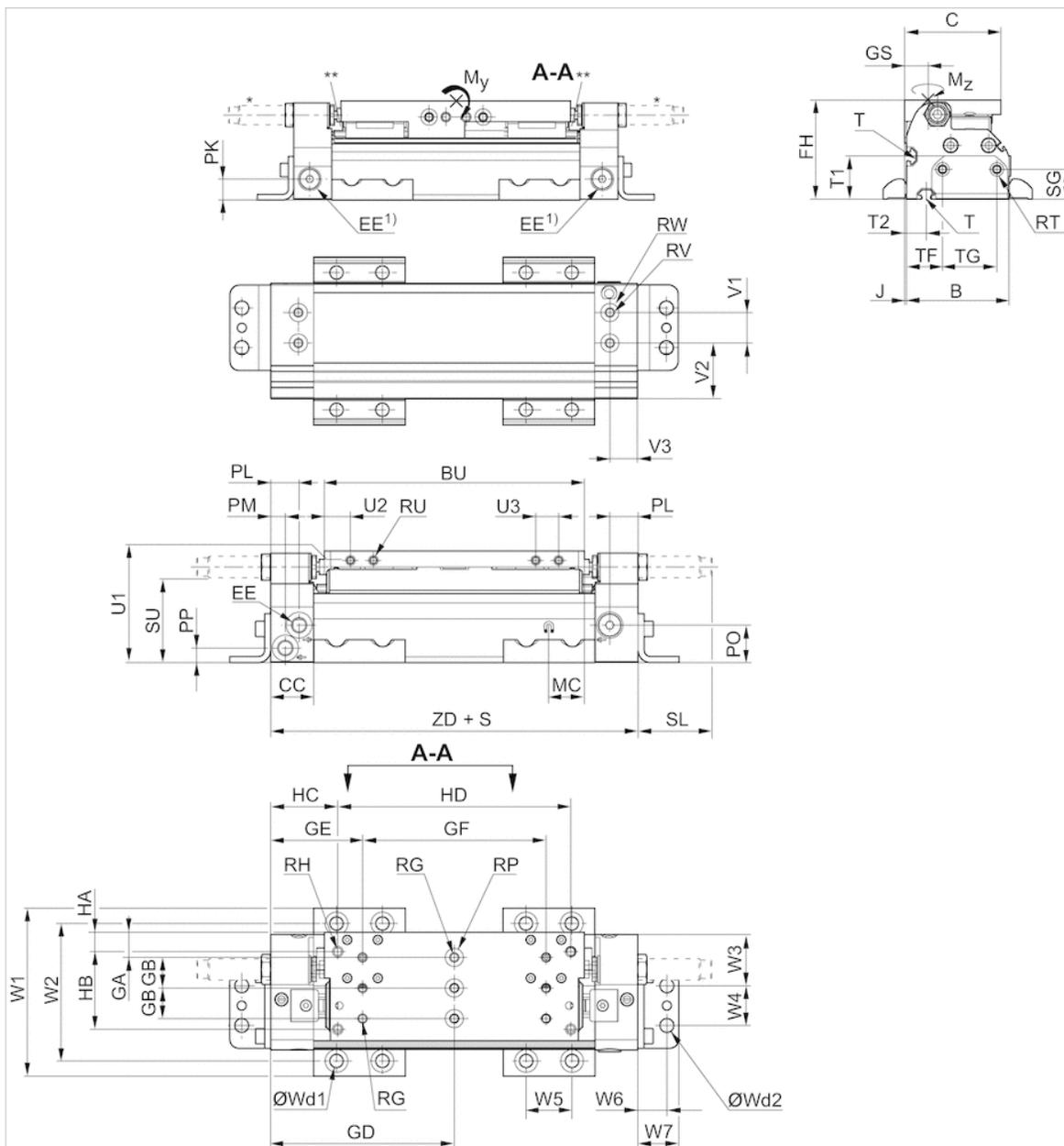
The pressure dew point must be at least 15 °C under ambient and medium temperature and may not exceed 3 °C .
 The delivered product is lubricated for lifetime.
 Use hydraulic shock absorbers for precise end position adjustment.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Cover	Aluminum, anodized
Seal	Polyurethane
Sealing strips	Polyurethane, Stainless steel
Ball rail table	Aluminum, anodized
Guide rail	Steel, hardened

Dimensions

Dimensions



S = stroke

T = Type of t-groove nut

1) Auxiliary air feeding

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

* Shock absorber optional in end cover for diameters 16-40

** RTC-CG 16 & 25: 2x Lube ports on each runner block, RTC-CG 32 & 40: Lube nipple of funnel type with thread connection M3

Dimensions

Piston Ø	B	C	BU	CC	EE	FH	GA	GB	GD	GE	GF	GS	HA	HB	HC	HD	J	MC	PK	PL	PM	PN	PO
16 mm	50	51	122	28	3xM7	54	7	20	93.5	38.5	110	11.5	7.6	38.1	68.1	50.8	2	12	11.9	18	7	7	13.3
25 mm	62.5	58.1	147	28	3xG 1/8	65	6	20	107.5	53.5	108	15	5.1	45.7	38.9	137.2	1.5	15	10.1	20	8	9	21.5
32 mm	75.5	71	170	28	3xG 1/8	73	16.5	20	120	60	120	17.5	12.7	50.8	43.8	152.4	1.5	20	15	18.5	9.5	12	24.5
40 mm	85.5	74	186	28	3xG 1/4	94.4	16.5	20	131.6	71.6	120	18.5	12.7	50.8	55.4	152.4	1.5	17	18	18	10	11	31.5

PP	RG 1)	RH 2)	RP	RT 3)	RU 4)	RV	RW	SG	SL	SU	T	V1	V2	V3	W1	W2	W3	W4	W5	W6
7.3	M5	UNC 1/4-20	Ø 9	M5	M5	M5x8	Ø 9H8x1,6	17.3	33.2	38.6	N4	20	6	14	78.4	61.4	24	18	30	13.5
9.3	M5	UNC 1/4-20	Ø 9	M5	M6	M5x8	Ø 9H8x1,6	17.3	49.3	47.1	N6	20	26.5	18	90.9	73.9	31.5	18	30	13.5
9.5	M6	UNC 1/4-20	Ø 12	M6	M6	M6x10	Ø 12H8x2,1	22	48.3	55.5	N6	20	36.5	18	109.9	89.9	33.5	26	30	19
10.5	M6	UNC 1/4-20	Ø 12	M6	M6	M6x10	Ø 12H8x2,1	22	45.1	73.4	N6	20	40.5	18	119.9	99.9	37.5	26	30	19

W7	Wd1	Wd2	T1	T2	TF	TG	U1	U2	U3	ZD	M [kg] 5)
19.8	M6	M6	18.5	10.5	25.5	19	48	13	15	187	0.22
19.8	M6	M6	26.6	13.5	31	19	59	12.5	27	215	0.4
26.8	M8	M8	31.5	14.5	26.5	40	67	17	34	240	0.47
26.8	M8	M8	41.4	13	30.5	40	79.4	25	34	263.1	0.97

1) thread depth: 12 mm for piston Ø 16, 25 & 40 mm; 10,5 mm for piston Ø 32

2) thread depth: 12,7 mm for piston Ø 16–40 mm

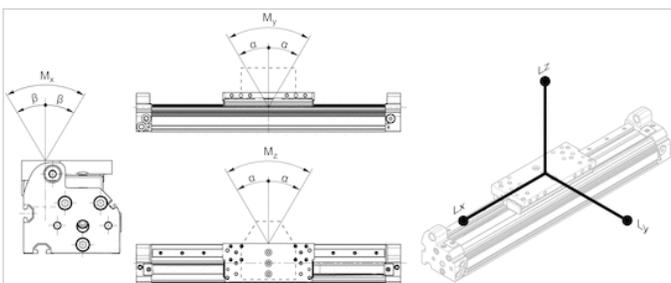
3) thread depth: 9 mm for piston Ø 16–40 mm

4) thread depth: 10 mm for piston Ø 16–40 mm

5) M = moving mass

Dimensions

Max. play and recommended max. lever arm length



L = lever arm

M = Torques

Dimensions

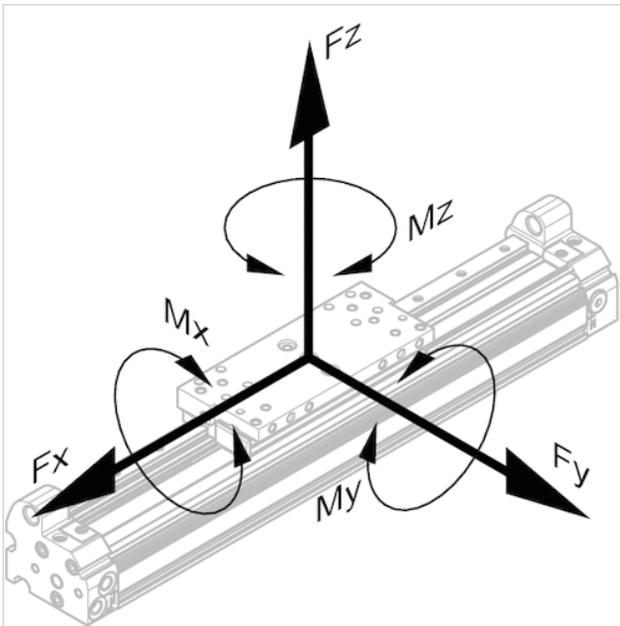
Piston Ø	α	β	Lx	Ly	Lz
16 mm	0,1°	0,2°	328	328	328
25 mm	0,1°	0,2°	424	424	424
32 mm	0,1°	0,2°	480	480	480
40 mm	0,1°	0,2°	532	532	532

Dimensions

Permissible forces F_x F_y F_z and torques M_x M_y M_z

$$\frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + \frac{M_z}{M_{z_{\max.}}} \leq 1$$

With simultaneously moments on the cylinder this equation must be used in addition to the maximum moments check. In the cushioning phase of the movement additional forces occur and must be considered. Please use our calculation tool for rodless cylinders on the <http://www.aventics.com>.



dynamic

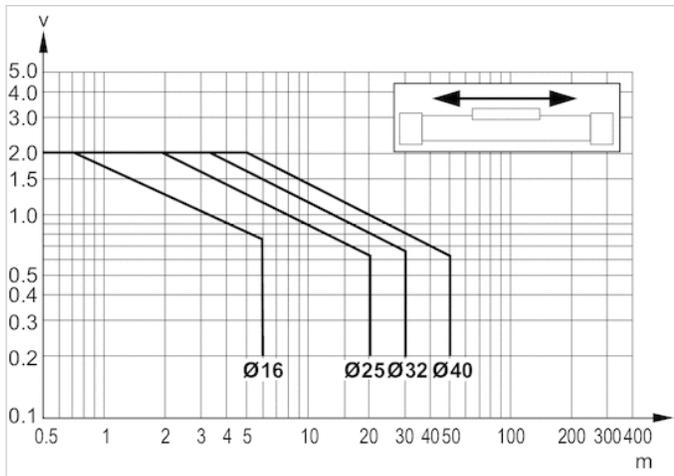
Piston Ø	M_x [Nm]	M_y [Nm]	M_z [Nm]
16 mm	4	30	30
25 mm	10	78	78
32 mm	22	158	110
40 mm	36	284	109

static

Piston Ø	F_x [N]	F_y [N]	F_z [N]	M_x [Nm]	M_y [Nm]	M_z [Nm]
16 mm	744	744	744	4	30	30
25 mm	1456	1456	1456	10	78	78
32 mm	1840	1840	2646	22	158	110
40 mm	1640	1640	4284	36	284	109

Diagrams

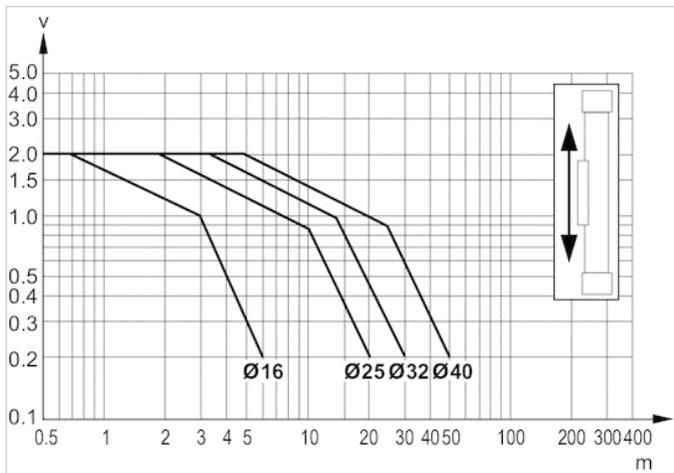
Limit diagram for pneumatic cushioning with horizontal mounting



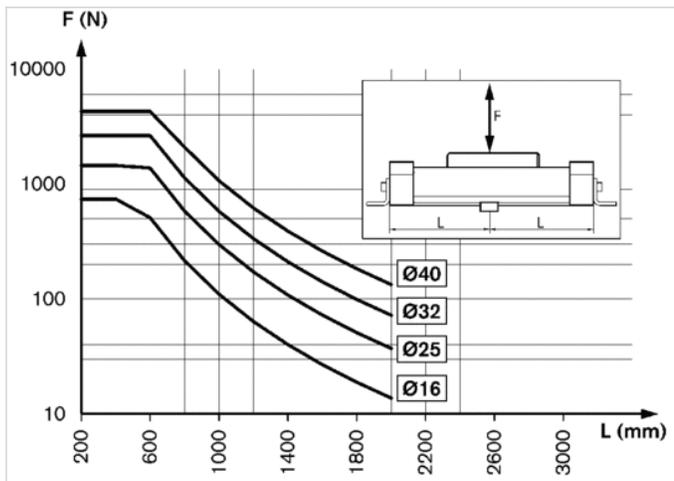
v = Piston velocity [m/s] m = Cushionable mass [kg]

The values for the cushionable mass m and piston velocity v must be on or below the graph for the selected piston diameter.

Limit diagram for pneumatic cushioning with vertical mounting



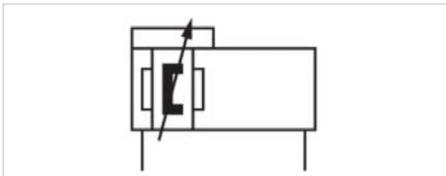
Support span



Max. support span L [mm] as a function of F [N] at a deflection of 0.5 mm

Rodless cylinder, Series RTC-HD

- Ø 16-63 mm
- Ports M7, G 1/8, G 1/4, G 3/8
- double-acting
- with magnetic piston
- ball rail guide
- Heavy Duty
- Cushioning pneumatically, adjustable
- Easy2Combine capable with connection kit



Working pressure min./max.	4 ... 8 bar
Ambient temperature min./max.	-10 ... 60 °C
Medium	Compressed air
Max. particle size	5 µm
Oil content of compressed air	0 ... 1 mg/m ³
Pressure for determining piston forces	6.3 bar
null	

An example configuration is illustrated.
The delivered product may thus deviate from the illustration.

Technical data

Piston Ø	16 mm	25 mm	32 mm	40 mm	50 mm	63 mm
Stroke 200	R480156949	R480149659	R480154726	R480155259	-	-
300	R480156950	R480149553	R480148820	R480154424	-	-
400	R480156951	R480150759	R480148602	R480154425	R480155175	R480156946
500	R480147724	R480147725	R480147726	R480147727	R480147728	R480147729
600	R480156953	R480153574	R480148603	R480148971	R480146987	R480156947
700	R480156954	R480156959	R480154001	R480149554	R480156943	R480149638
800	-	R480155572	R480150325	R480156710	R480149774	R480154379
900	-	-	R480156963	R480156969	R480156944	R480149592
1000	-	-	R480148582	R480150515	R480149030	R480149031

Technical data

Piston Ø	16 mm	25 mm	32 mm	40 mm	50 mm	63 mm
Piston force	127 N	309 N	507 N	792 N	1237 N	1964 N
Cushioning length	20 mm	20 mm	20 mm	20 mm	20 mm	20 mm
Cushioning energy	1,5 J	4 J	7 J	10 J	15 J	25 J

Piston Ø	16 mm	25 mm	32 mm	40 mm	50 mm	63 mm
Speed max.	2 m/s	2 m/s	2 m/s	2 m/s	2 m/s	2 m/s
Weight 0 mm stroke	1,62 kg	2,96 kg	3,9 kg	6,58 kg	8,94 kg	11,75 kg
+10 mm stroke	0,047	0,071	0,086	0,128	0,162	0,193
Stroke max.	1800 mm	4300 mm	4300 mm	4300 mm	4300 mm	3700 mm

Technical information

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

The delivered product is lubricated for lifetime.

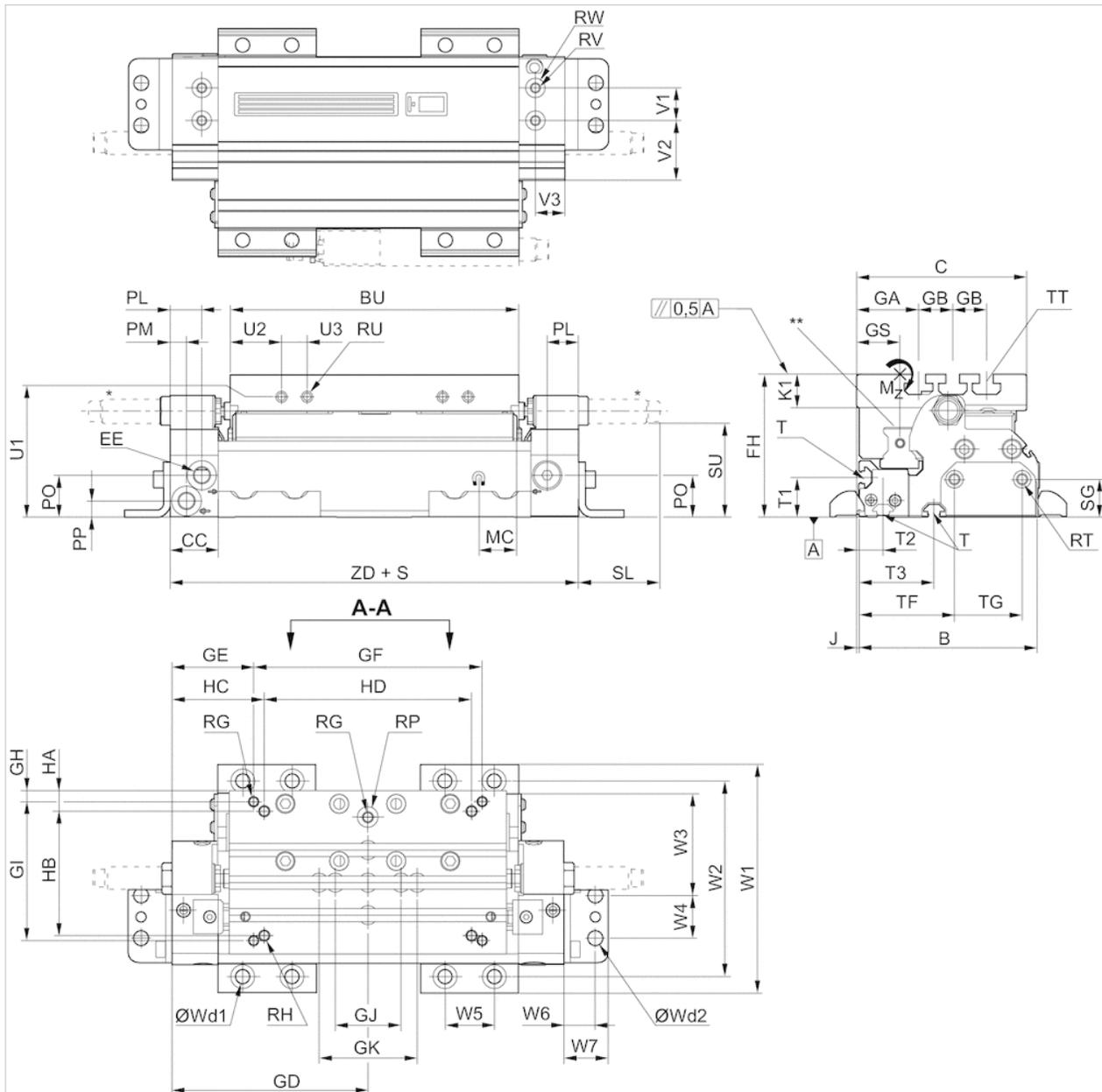
Use hydraulic shock absorbers for precise end position adjustment.

Technical information

Material	
Cylinder tube	Aluminum, anodized
Cover	Aluminum, anodized
Seal	Polyurethane
Sealing strips	Polyurethane, Stainless steel
Ball rail table	Aluminum, anodized
Guide rail	Steel, hardened

Dimensions

Ø 16 ... 63 mm



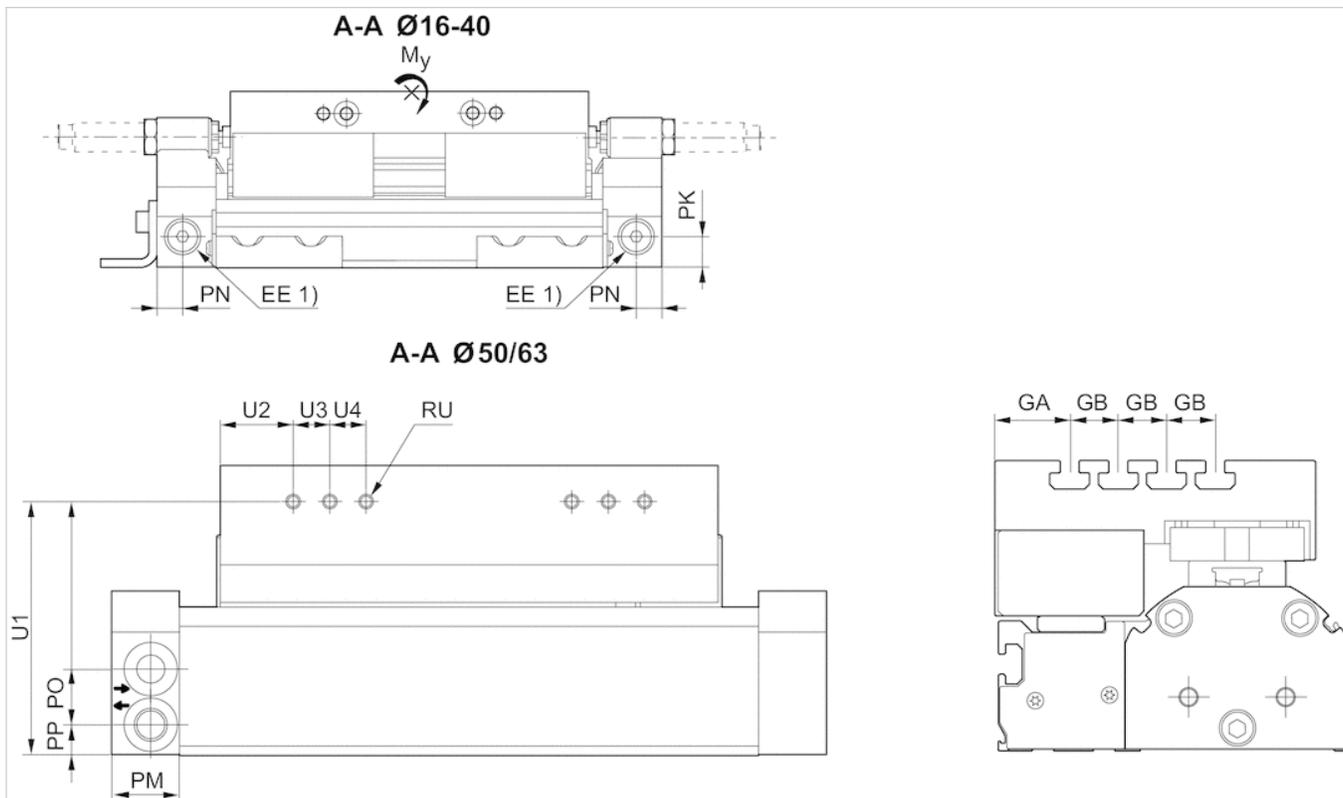
S = stroke

T = Type of t-groove nut

TT = Type of t-groove nut

* Shock absorber optional in end cover for diameters 16-40

** RTC-HD 16 & 25: funnel type lube nipple with thread M3, RTC-HD 32 - 63: lube nipple DIN 71412 with thread M6



1) Auxiliary air feeding

An example configuration is illustrated. The delivered product may thus deviate from the illustration.

Dimensions

Piston Ø	B	C	BU	CC	EE	FH	GA	GB	GD	GE	GF	GH	GI	GJ	GK	GS	HA	HB	HC	HD	J
16 mm	82	82	122	28	M7	60	27	20	93.5	43.5	100	5	20/20/20	40	-	32	7.6	69.9	55.4	76.2	1.5
25 mm	103	99.5	147	28	G 1/8	70	26	20	107.5	52.5	110	16	20/40	40	-	37	6.4	83.8	44	127	1.5
32 mm	105	100	170	28	G 1/8	83.8	36.5	20	120	50	140	6.7	85	40	60	25.5	12.7	76.2	56.5	127	1.5
40 mm	132	122	186	28	G 1/4	97.7	36.5	20	131.5	46.5	170	12	100	40	60	31.5	12.7	101.6	55.4	152.4	1.5
50 mm	144.5	132.5	205	28	G 1/4	119.4	31	20	147.3	52.3	190	10	100	40	60	31.5	15.2	99.06	66	162.6	1.5
63 mm	161	139	233	28	G 3/8	129.4	31	20	166.5	71.5	190	10	100	40	60	31.5	15.2	101.6	59.8	213.4	1.5

Piston Ø	K1	MC	PK	PL	PM	PN	PO	PP	RG 1)	RH 2)	RP	RT 3)	RU 4)	RV	RW	SG	SL	SU
16 mm	20.7	12	11.9	18	7	7	13.3	7.3	M5	UNC 1/4-20	Ø 9	M5	M5	M5x8	Ø 9H8x1,6	17.3	33.2	38.6
25 mm	21.4	15	10.1	20	8	9	21.5	9.3	M5	UNC 1/4-20	Ø 9	M5	M6	M5x8	Ø 9H8x1,6	17.3	49.3	47.1
32 mm	19.7	20	15	18.5	9.5	12	24.5	9.5	M6	UNC 1/4-20	Ø 12	M6	M6	M6x10	Ø 12H8x2,1	22	48.3	55.5
40 mm	25.6	17	18	18	10	11	31.5	10.5	M6	UNC 1/4-20	Ø 12	M6	M6	M6x10	Ø 12H8x2,1	22	45.1	73.4
50 mm	28.6	23	N/A	16	16	N/A	35	12	M8	UNC 5/16-18	Ø 12	M8	M5	-	-	22	N/A	N/A
63 mm	28.6	25	N/A	14	14	N/A	45.5	14.5	M8	UNC 5/16-18	Ø 12	M8	M5	-	-	30	N/A	N/A

Piston Ø	T	TT	V1	V2	V3	W1	W2	W3	W4	W5	W6	W7	Wd1	Wd2	T1	T2	T3	TF	TG	U1	U2	U3	U4
16 mm	N4	N6	20	6	14	110.4	93.4	56	18	30	13.5	19.8	M6	M6	20.8	13.7	-	55.5	19	47	16.5	15	15
25 mm	N6	N6	20	26.5	18	131.4	114.4	72	18	30	16.5	19.8	M6	M6	20	14	54	71.5	19	60	18	21.5	15
32 mm	N6	N8	20	36.5	18	139.4	119.4	63	26	30	19	26.8	M8	M8	23	14	44	56	40	71	30	21	15
40 mm	N6	N8	20	40.5	18	166.4	146.4	84	26	30	19	26.8	M8	M8	24.7	29.5	59.5	77	40	82.7	30	29	15
50 mm	N8	N8	-	-	-	192.1	166.9	63.5	70	40	22	32.7	M12	M12	35.6	18.5	43.5	78.5	40	104.4	30	15	15

Piston Ø	T	TT	V1	V2	V3	W1	W2	W3	W4	W5	W6	W7	Wd1	Wd2	T1	T2	T3	TF	TG	U1	U2	U3	U4
63 mm	N8	N8	-	-	-	208.6	183.4	80	50	40	22	32.7	M12	M12	45.6	17	39.5	65	80	114.4	30	15	15

Piston Ø	ZD	M [kg] 5)
16 mm	187	0.64
25 mm	215	1.25
32 mm	240	1.4
40 mm	263.1	2.57
50 mm	294.6	3.19
63 mm	333	3.46

1) thread depth: 12 mm for piston Ø 16–25, 16 mm for piston Ø 32–40, 14 mm for piston Ø 50–63

2) thread depth: 12,7 mm for piston Ø 16–63 mm

3) thread depth: 9 mm for piston Ø 16–40 mm, 12 mm for piston Ø 50–63 mm

4) thread depth: 10 mm for piston Ø 16–63 mm

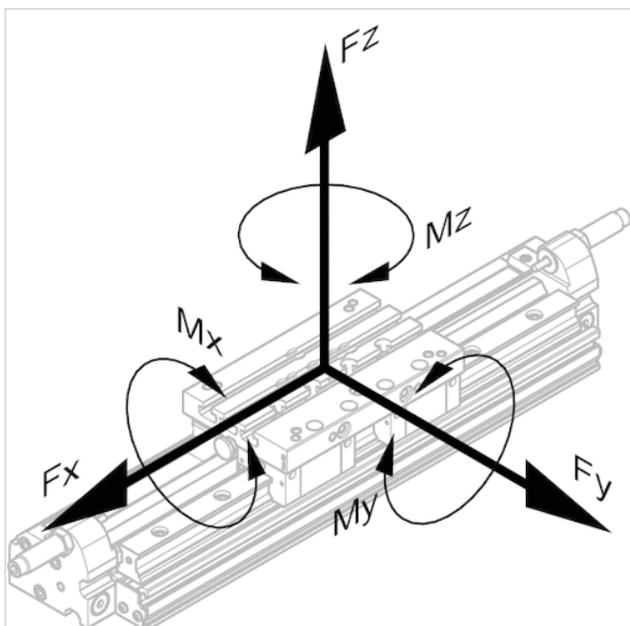
5) M = moving mass

Dimensions

Permissible forces F_x F_y F_z and torques M_x M_y M_z

$$\frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + \frac{M_z}{M_{z_{\max.}}} \leq 1$$

With simultaneously moments on the cylinder this equation must be used in addition to the maximum moments check. In the cushioning phase of the movement additional forces occur and must be considered. Please use our calculation tool for rodless cylinders on the <http://www.aventics.com>.



dynamic

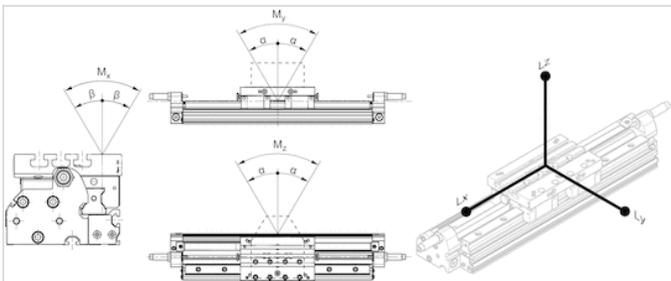
Piston Ø	Mx [Nm]	My [Nm]	Mz [Nm]
16 mm	34	138	53
25 mm	100	336	114
32 mm	154	502	190
40 mm	254	764	376
50 mm	254	924	455
63 mm	254	1120	551

static

Piston Ø	Fx [N]	Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]
16 mm	1640	1640	4284	34	138	53
25 mm	2640	2640	7810	100	336	114
32 mm	3760	3760	9952	154	502	190
40 mm	6840	6840	13922	254	764	376
50 mm	6840	6840	13922	254	924	455
63 mm	6840	6840	13922	254	1120	551

Dimensions

Max. play and recommended max. lever arm length



L = lever arm

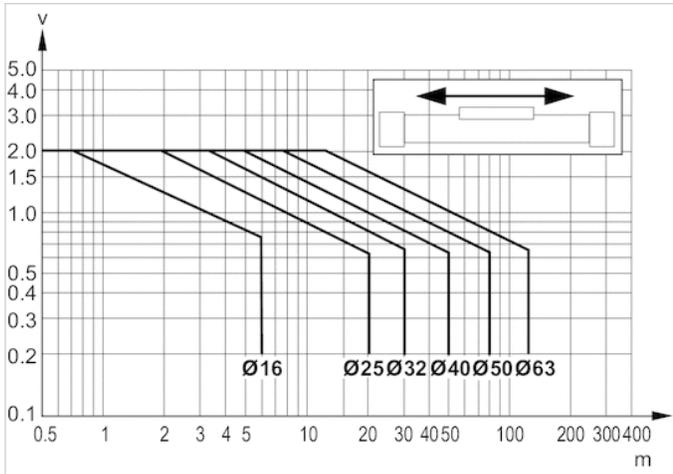
M = Torques

Dimensions

Piston Ø	α	β	Lx	Ly	Lz
16 mm	0,1°	0,2°	260	260	260
25 mm	0,1°	0,2°	344	344	344
32 mm	0,1°	0,2°	404	404	404
40 mm	0,1°	0,2°	440	440	440
50 mm	0,1°	0,2°	532	532	532
63 mm	0,1°	0,2°	644	644	644

Diagrams

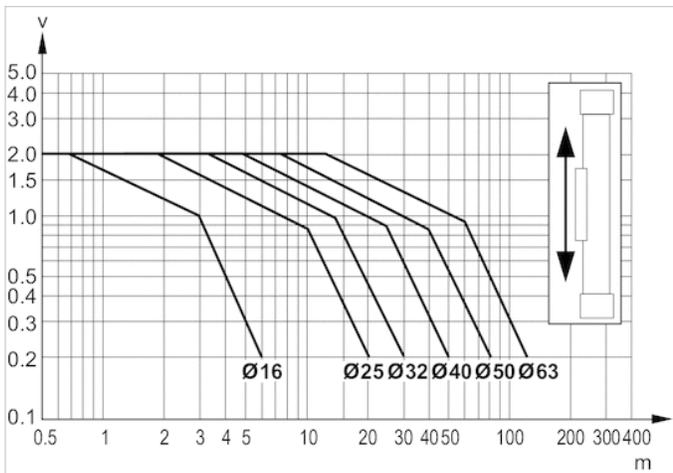
Limit diagram for pneumatic cushioning with horizontal mounting



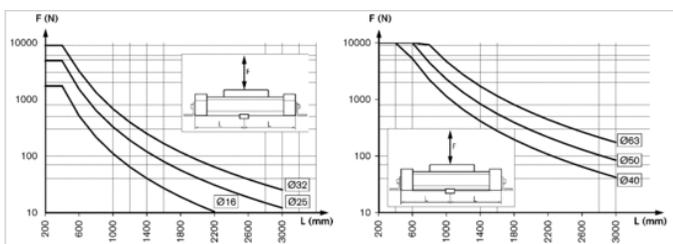
v = Piston velocity [m/s] m = Cushionable mass [kg]

The values for the cushionable mass m and piston velocity v must be on or below the graph for the selected piston diameter.

Limit diagram for pneumatic cushioning with vertical mounting



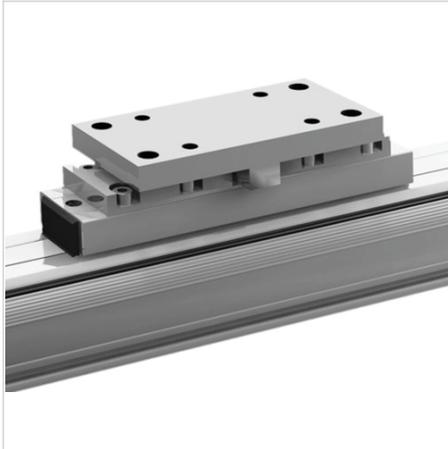
Support span



Max. support span L [mm] as a function of F [N] at a deflection of 0.5 mm

Compensating coupling, Series S44

- Suitable piston Ø 16, 25, 32, 40, 50, 63, 80 mm



Weight

See table below

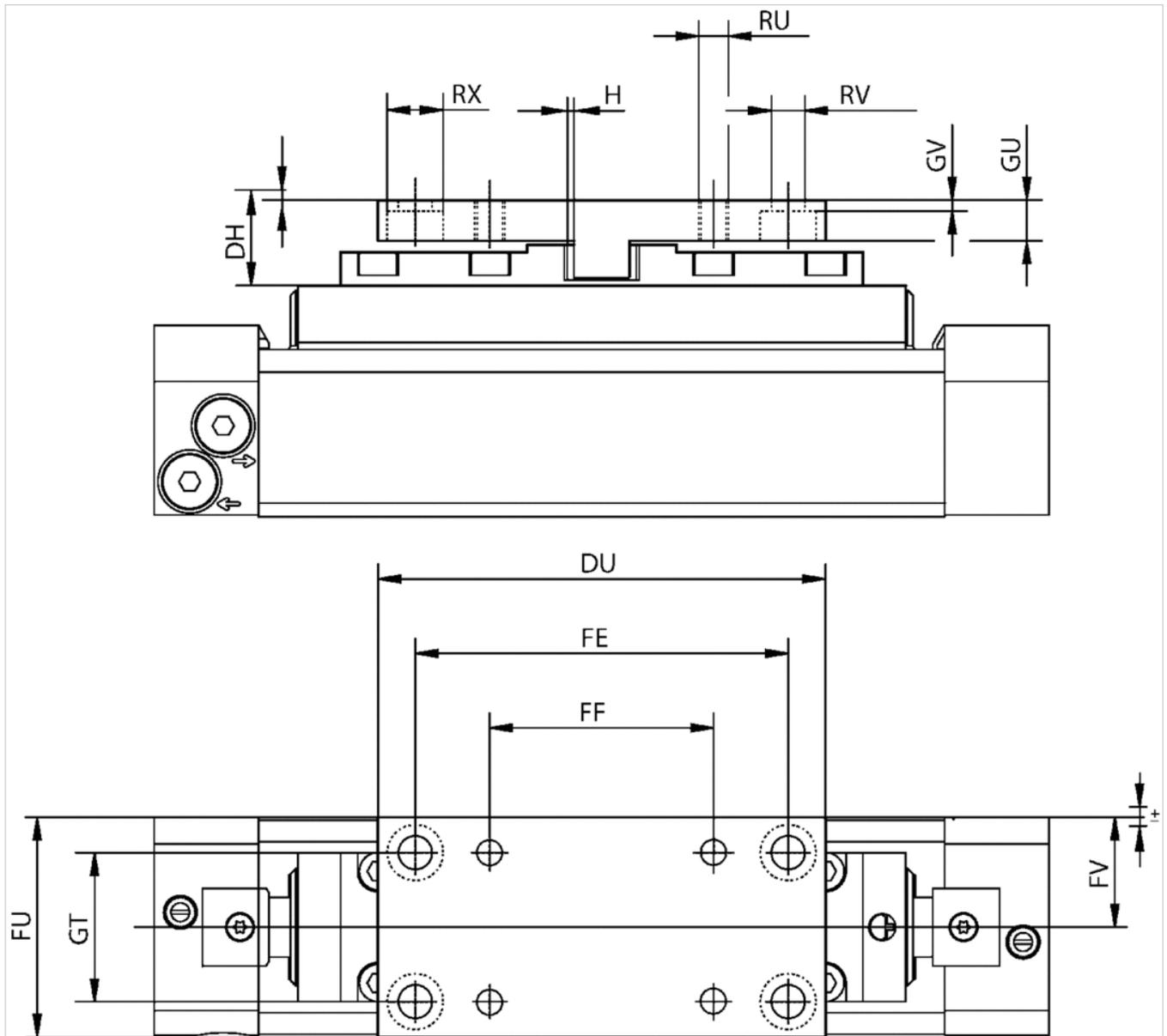
Technical data

Part No.	Piston Ø	Weight
R402002403	16, 25 mm	0,1 kg
R402002404	32, 40 mm	0,3 kg
R402002405	50, 63, 80 mm	0,8 kg

Technical information

Material	
Material	Aluminum

Dimensions



Dimensions

Part No.	Piston Ø	DH	DU	FU	FV	FE	FF	GT	GU	GV	H	RU	RV	RX
R402002403	16, 25 mm	17,5–20	95	34	17 ±8	80	60	20	9	3	0,15–0,4	M6	6.6	11
R402002404	32, 40 mm	23–27	120	59	29,5 ±14	100	60	40	11	3	0,15–0,4	M8	9	15
R402002405	50, 63, 80 mm	30,5–35	150	90	45 ±24	120	80	60	15	5	0,15–0,4	M10	11	15

End cover mounting, Series MF1

- Suitable piston Ø 16, 25, 32, 40, 50, 63, 80 mm



Weight

See table below

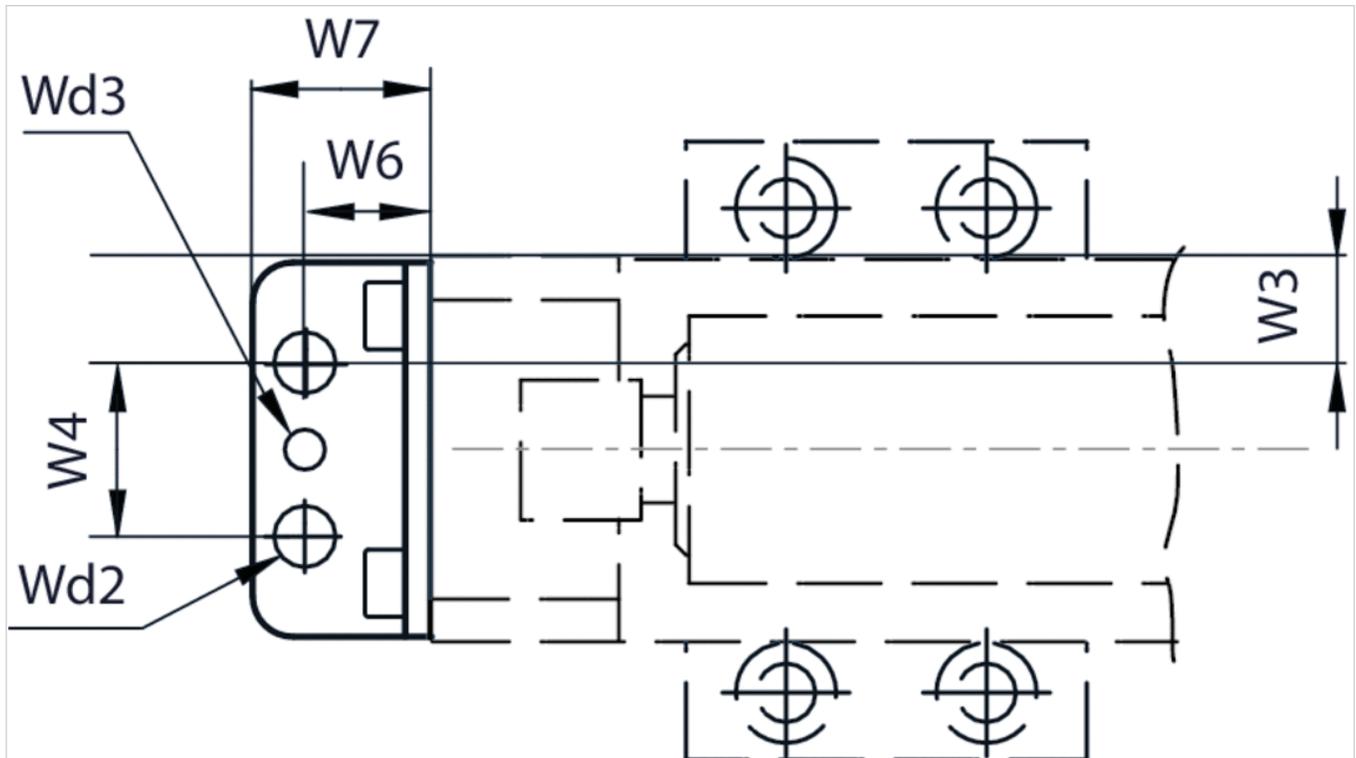
Technical data

Part No.	Piston Ø	Scope of delivery	Weight
R402002728	16, 25 mm	2 piece	0,2 kg
R402002729	32, 40 mm	2 piece	0,3 kg
R402002730	50 mm	2 piece	0,4 kg
R402002731	63, 80 mm	2 piece	0,5 kg

Technical information

Material	
Material	Steel

Dimensions

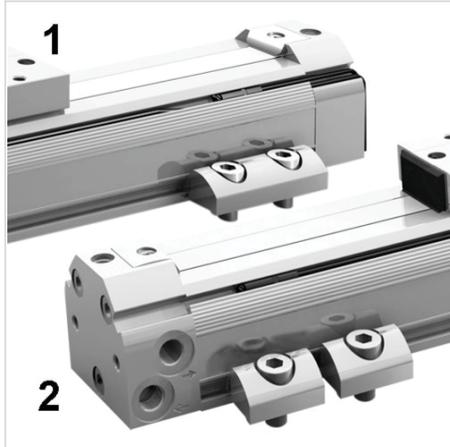


Dimensions

Part No.	Piston Ø	For series	W3	W4	W6	W7	Wd2	Wd3
R402002728	16, 25 mm	RTC-BV, RTC-CG, RTC-HD	8 / 13	18	13,5	19,8	M6	Ø4 G8
R402002729	32, 40 mm	RTC-BV, RTC-CG, RTC-HD	16 / 22	26	19	26,8	M8	Ø6 G8
R402002730	50 mm	RTC-BV, RTC-CG, RTC-HD	11	70	22	32,7	M12	Ø6 G8
R402002731	63, 80 mm	RTC-BV, RTC-CG, RTC-HD	31 / 45	50	22	32,7	M12	Ø6 G8

Foot mounting, Series M41, M48

- Suitable piston Ø 16, 25, 32, 40, 50, 63, 80 mm



Weight

See table below

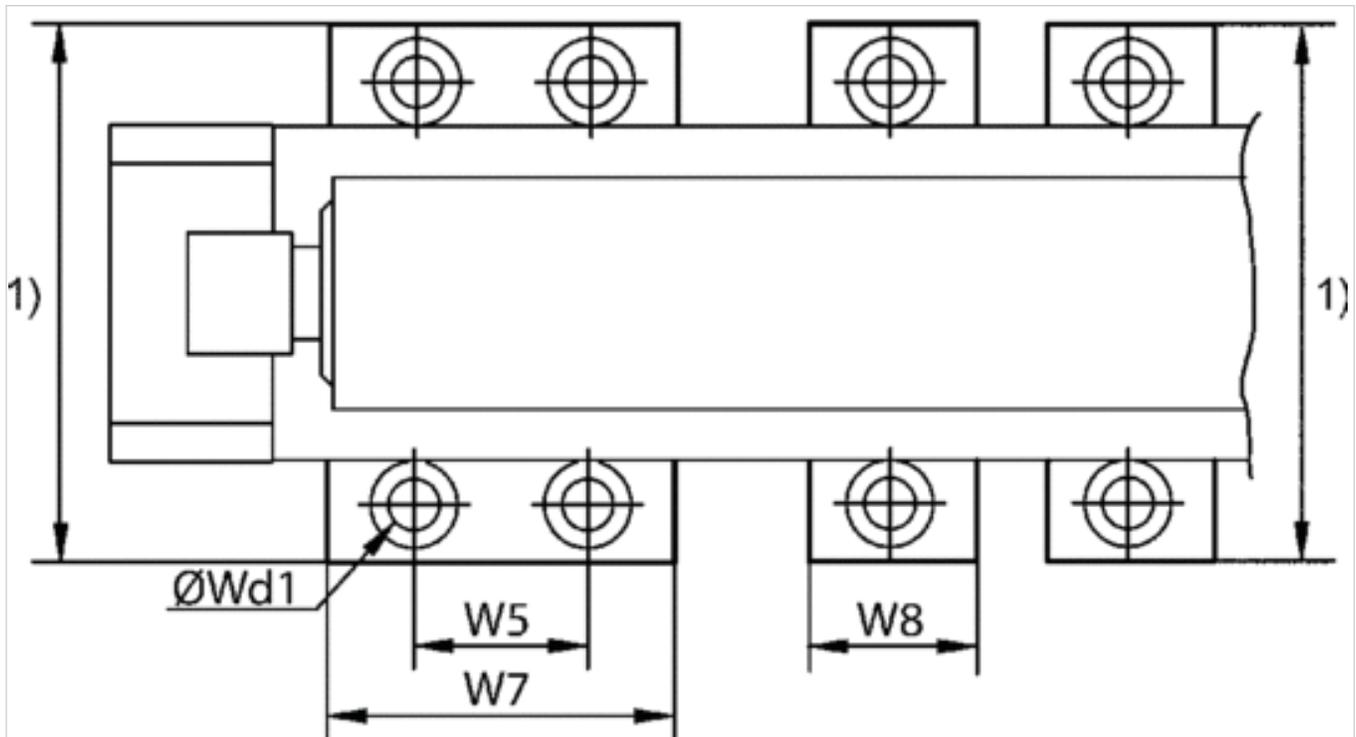
Technical data

Part No.	Piston Ø	Scope of delivery	Weight	Fig.
R402003401	16, 25 mm	2 piece	0,05 kg	Fig. 1
R402003402	32, 40 mm	2 piece	0,07 kg	Fig. 1
R402003403	50, 63, 80 mm	2 piece	0,2 kg	Fig. 1
R402003404	16, 25 mm	4 piece	0,03 kg	Fig. 2
R402003405	32, 40 mm	4 piece	0,04 kg	Fig. 2
R402005912	50, 63, 80 mm	4 piece	0,04 kg	Fig. 2

Technical information

Material	
Material	Aluminum

Dimensions



1) see data sheet for the respective product variant

Dimensions

Part No.	Piston Ø	For series	Wd1	W5	W7	W8	Fig.
R402003401	16, 25 mm	RTC-BV, RTC-CG, RTC-HD	6,8	30	60	–	Fig. 1
R402003402	32, 40 mm	RTC-BV, RTC-CG, RTC-HD	8,8	30	60	–	Fig. 1
R402003403	50, 63, 80 mm	RTC-BV, RTC-CG, RTC-HD	13	40	80	–	Fig. 1
R402003404	16, 25 mm	RTC-BV, RTC-CG, RTC-HD	6,8	–	–	30	Fig. 2
R402003405	32, 40 mm	RTC-BV, RTC-CG, RTC-HD	8,8	–	–	30	Fig. 2
R402005912	50, 63, 80 mm	RTC-BV, RTC-CG, RTC-HD	13	–	–	40	Fig. 2

Fig. 1 M41

Fig. 2 M48

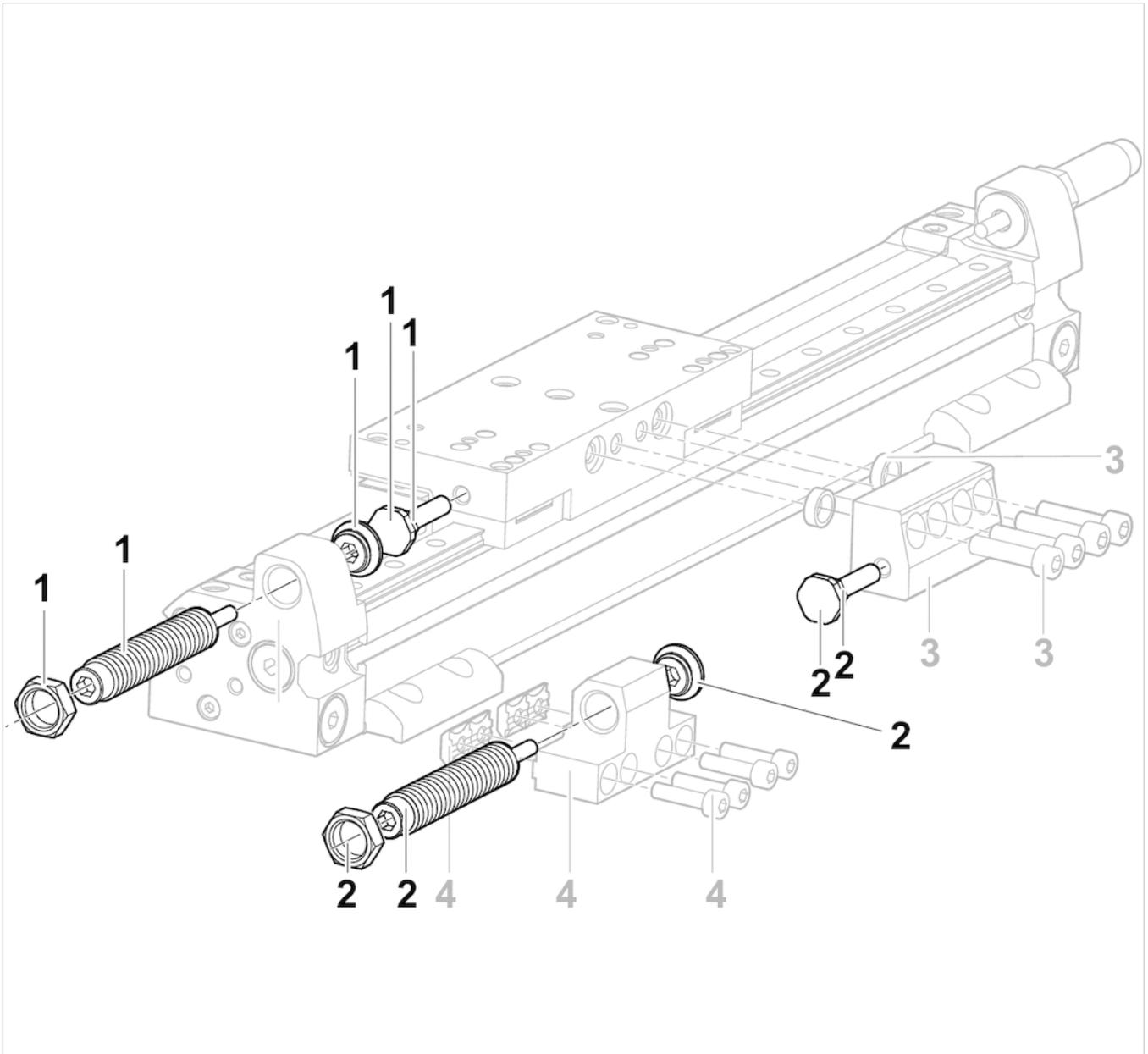
Shock absorber kit for stroke length adjustment



Technical data

Part No.	for series	Cushioning hardness	Diameter
R412019543	RTC-HD, RTC-CG, CKP	S = soft	Ø 16 mm
R402002804	RTC-HD, RTC-CG, CKP	M = medium	Ø 16 mm
R402003618	RTC-HD, RTC-CG, CKP	H = hard	Ø 16 mm
R402002805	RTC-HD, RTC-CG, CKP	S = soft	Ø 25 mm, Ø 32 mm, Ø 40
R402003619	RTC-HD, RTC-CG, CKP	M = medium	Ø 25 mm, Ø 32 mm, Ø 40
R412019544	RTC-HD, RTC-CG, CKP	H = hard	Ø 25 mm, Ø 32 mm, Ø 40 mm
R402002806	RTC-HD, RTC-CG	S = soft	Ø 50 ... 63 mm
R402003620	RTC-HD, RTC-CG	M = medium	Ø 50 ... 63 mm
R412019545	RTC-HD, RTC-CG, CKP	H = hard	Ø 50 mm, Ø 63 mm

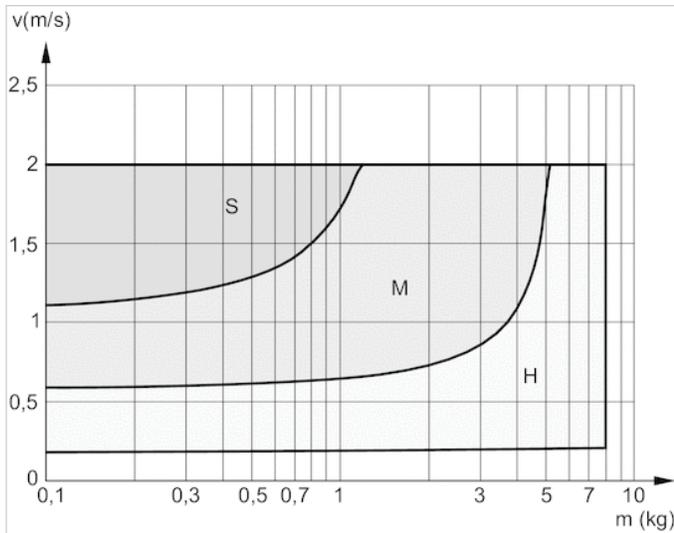
Dimensions



- 1) Shock absorber kit
- 2) Shock absorber kit
- 3) Stop
- 4) Holder for shock absorber

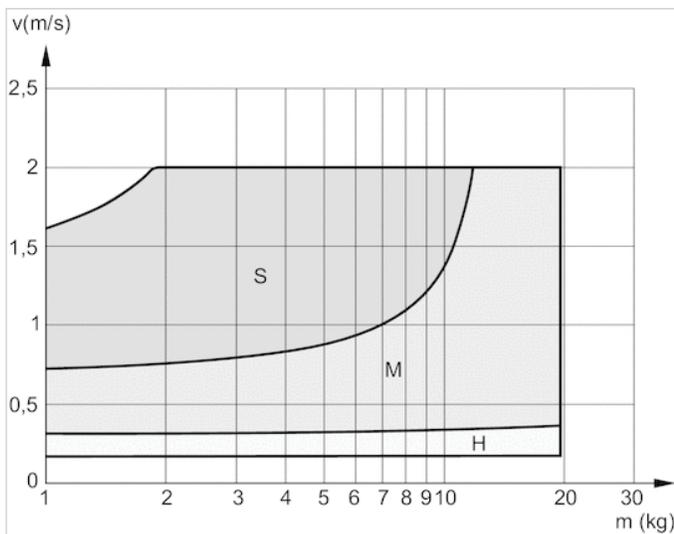
Diagrams

Cushioning diagram Ø 16 mm



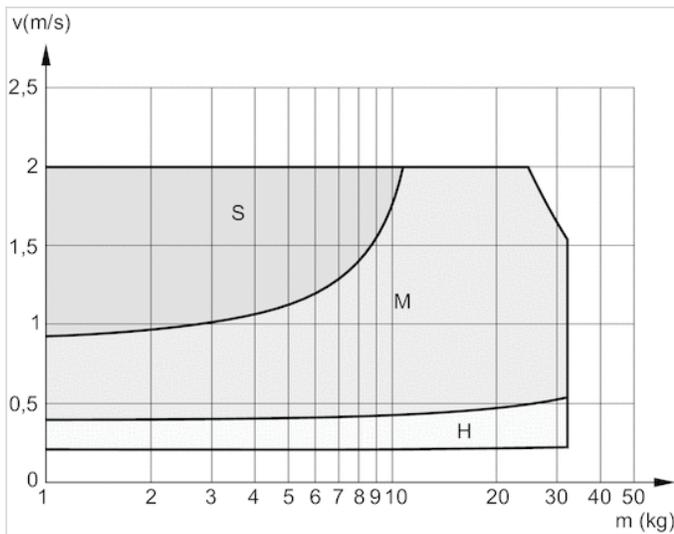
V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram Ø 25 mm



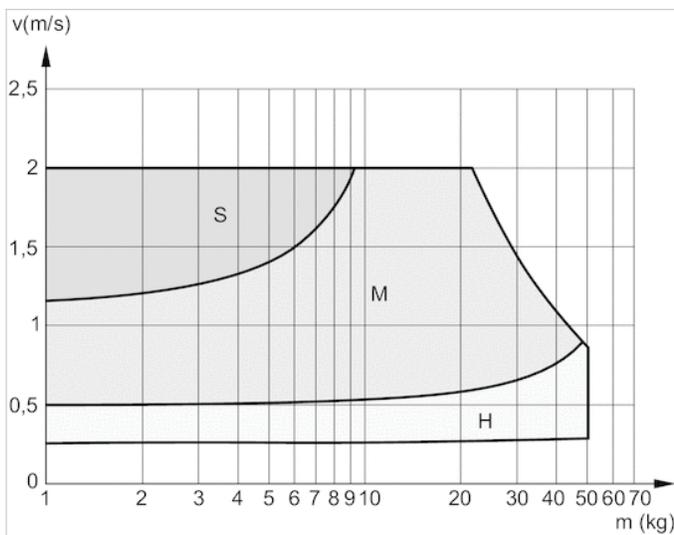
V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram \varnothing 32 mm



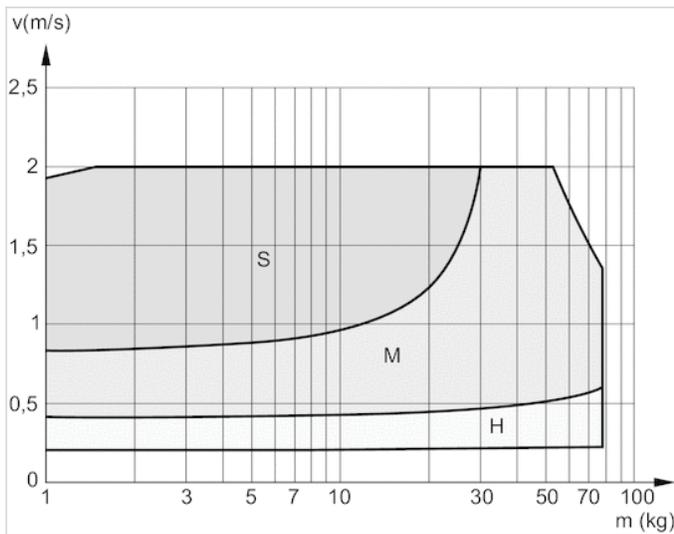
V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram \varnothing 40 mm



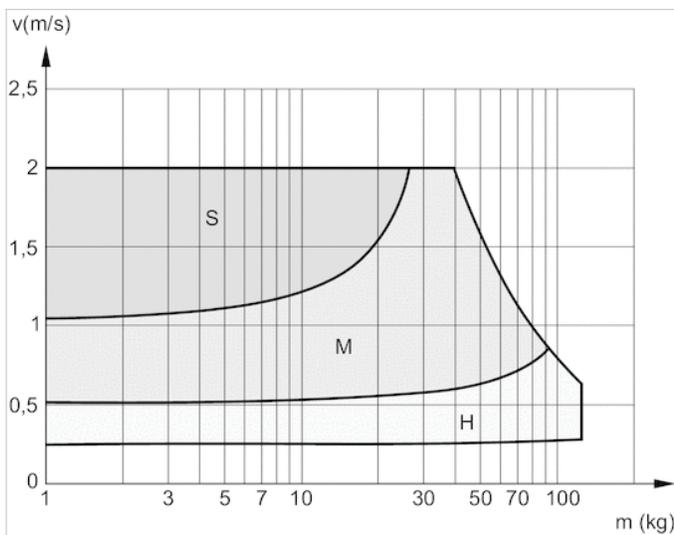
V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram \varnothing 50 mm



V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram \varnothing 63 mm



V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Holder for the shock absorber for stroke length adjustment

- Ø 16 mm, Ø 25 mm, Ø 32 mm, Ø 40 mm, Ø 50 mm, Ø 63 mm

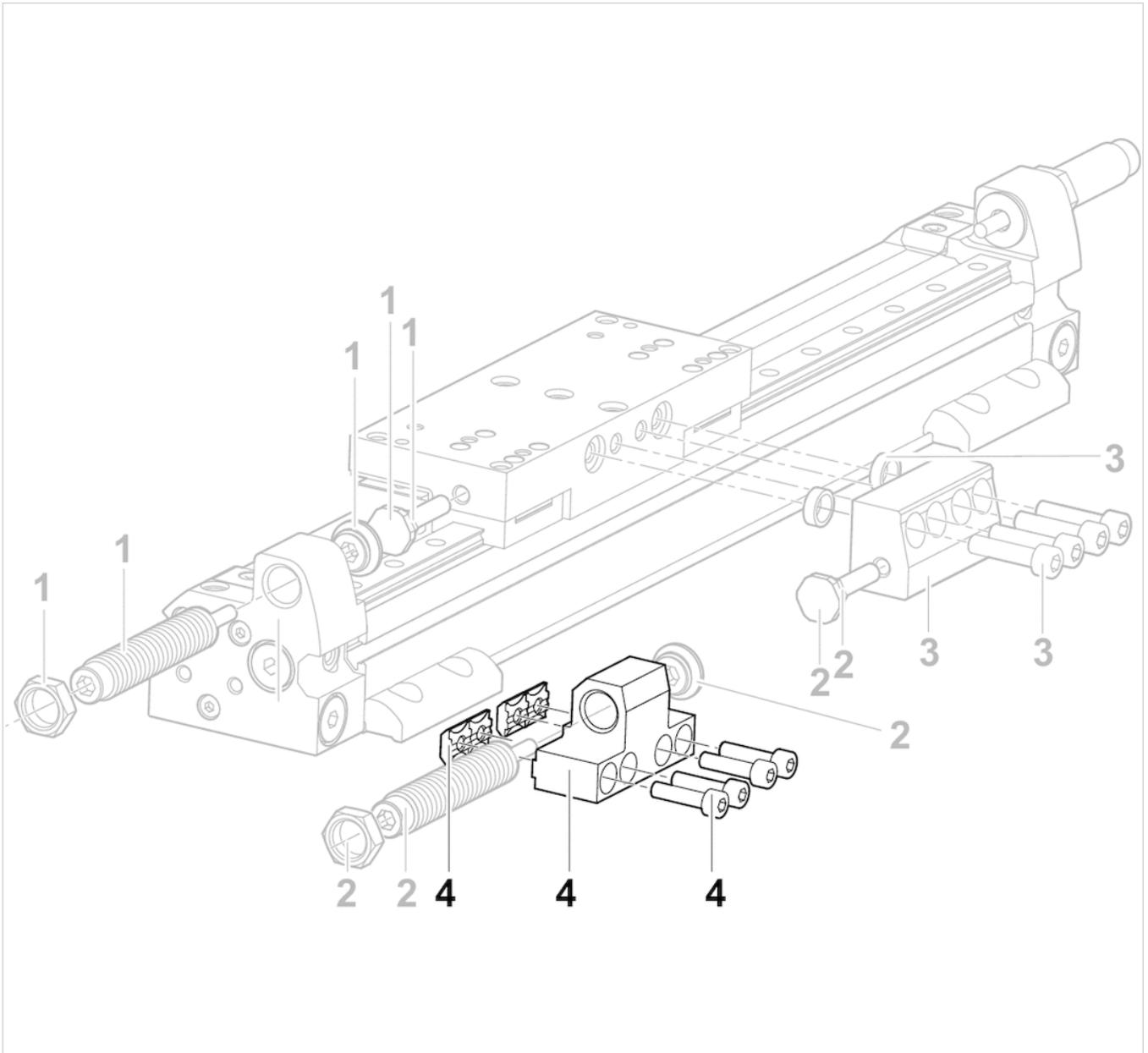
- for RTC-HD, RTC-CG, CKP, RTC-HD, RTC-SB, RTC-LB



Technical data

Part No.	for series	Diameter
R402002702	RTC-HD, RTC-CG, CKP	Ø 16 mm
R402002703	RTC-HD, RTC-CG, CKP	Ø 25 mm
R402002704	RTC-HD, RTC-CG, CKP	Ø 32 mm, Ø 40 mm
R402003397	RTC-HD	Ø 50 mm, Ø 63 mm
R412025646	RTC-SB, RTC-LB	Ø 25 mm
R412025647	RTC-SB, RTC-LB	Ø 32 mm, Ø 40 mm

Dimensions



- 1) Shock absorber kit
- 2) Shock absorber kit
- 3) Stop
- 4) Holder for shock absorber

Stop for stroke length adjustment

- Ø 16 mm, Ø 25 mm (-HD), Ø 25, 32 mm (-CG,-SB/LB), Ø 32 mm, Ø 40, Ø 50 ... 63 mm

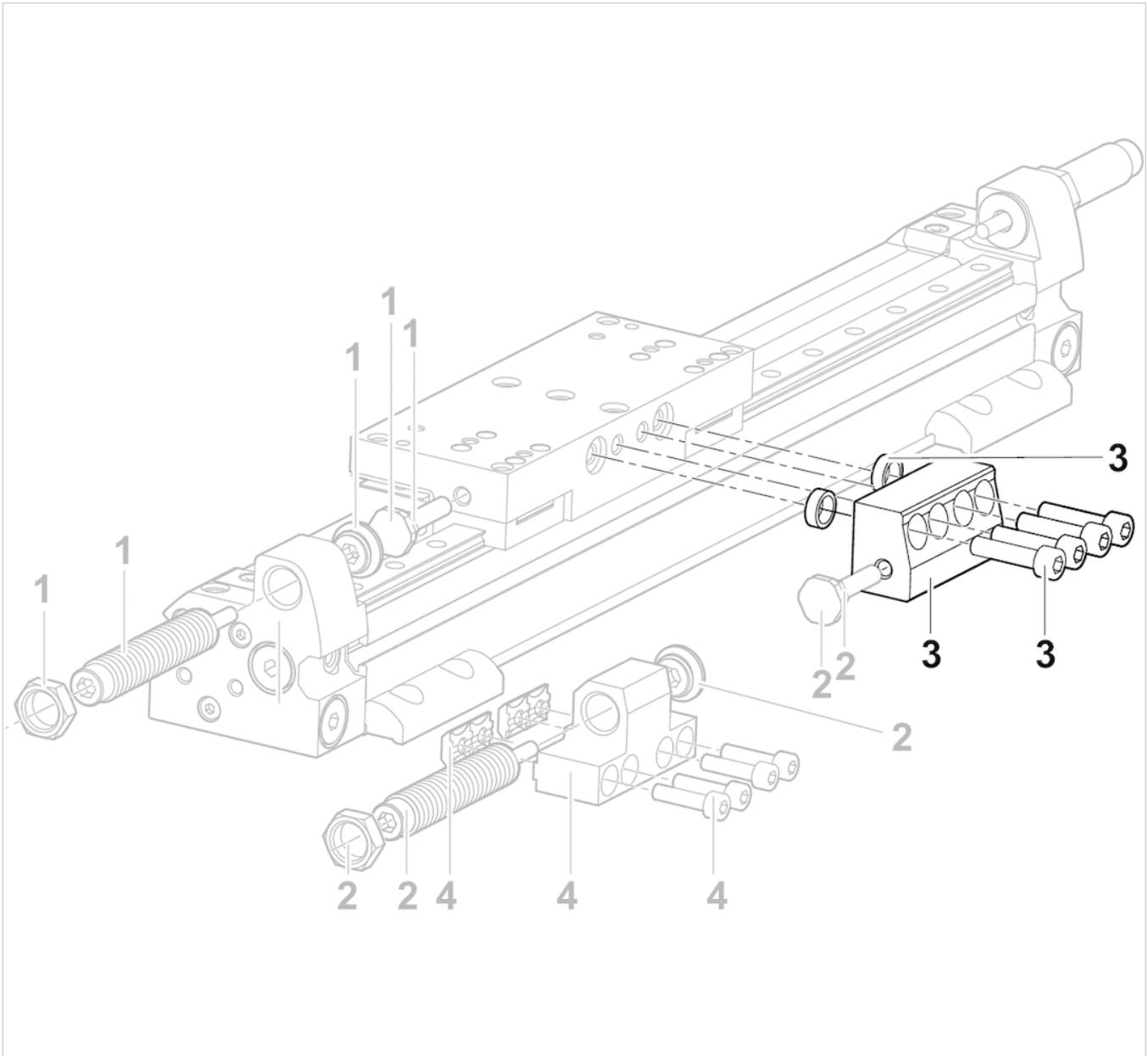
- for RTC-HD, RTC-CG, RTC-HD, RTC-CG, RTC-SB, RTC-HD, RTC-CG, RTC-SB, RTC-LB



Technical data

Part No.	for series	Diameter
R402002695	RTC-HD, RTC-CG	Ø 16 mm
R402002696	RTC-HD, RTC-CG, RTC-SB	Ø 25 mm (-HD), Ø 25, 32 mm (-CG,-SB/LB)
R402002698	RTC-HD	Ø 32 mm
R402002699	RTC-CG, RTC-SB, RTC-LB	Ø 40
R402002700	RTC-HD	Ø 40
R402002701	RTC-HD	Ø 50 ... 63 mm

Dimensions



- 1) Shock absorber kit
- 2) Shock absorber kit
- 3) Stop
- 4) Holder for shock absorber

Kit for intermediate position

- for RTC-CG, RTC-HD, CKP
- double-acting
- with magnetic piston



Weight

0,87 kg

Technical data

Part No.

R412024700

for RTC-CG (25, 32, 40 mm), RTC-HD (25, 32, 40 mm), CKP

Technical information

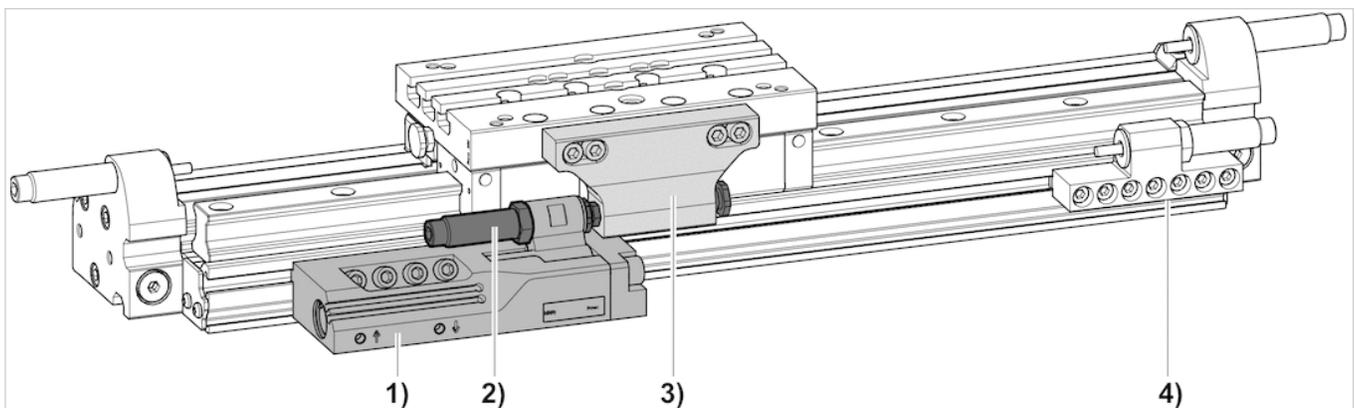
The volume per stroke is 4.6 cm³.

Returning from the stop position is only permissible when not under power.

The stopper must not be operated without a shock absorber.

Dimensions

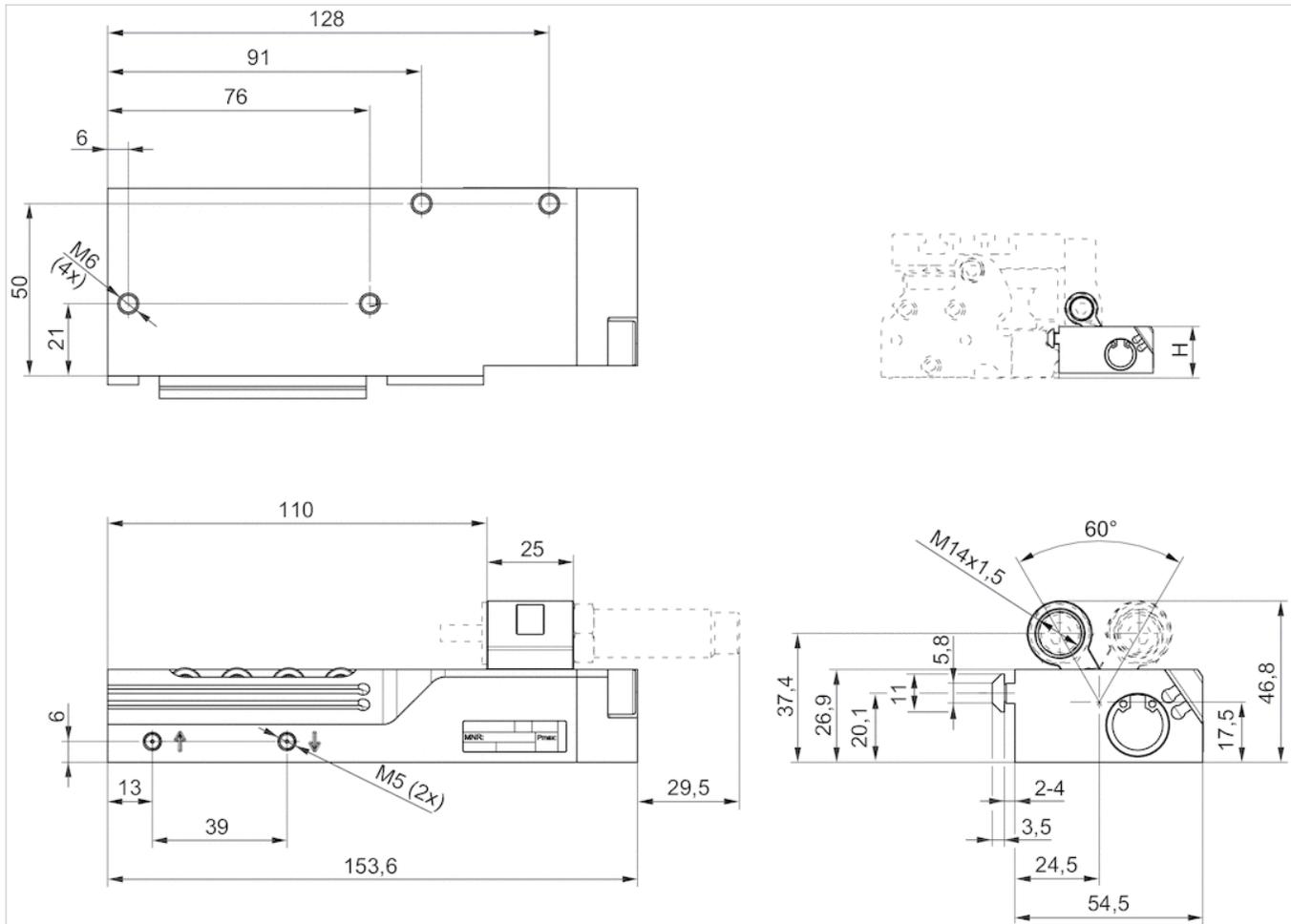
Overview drawing



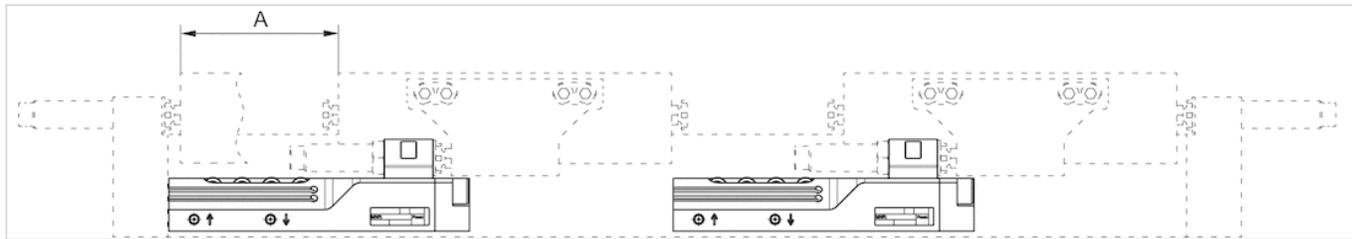
- 1) Intermediate stop
- 2) Shock absorber kit

- 3) Stop
- 4) Holder for the shock absorber: see stroke length adjustment kit for details

Dimensions



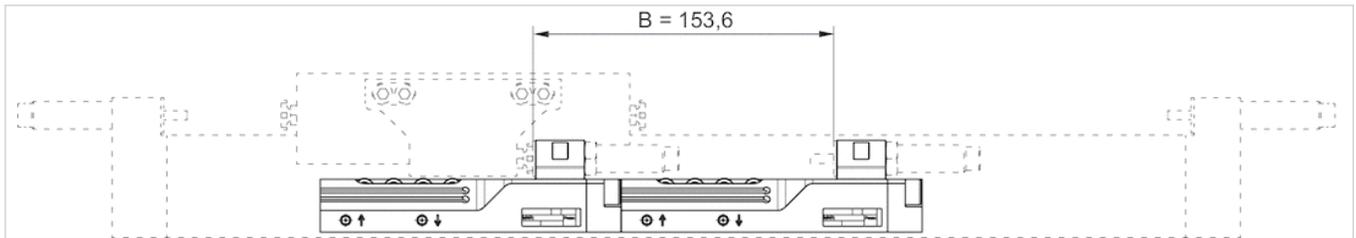
Direction of travel: left Stopper position A restricted



Direction of travel: right No restriction of the stopper position



Multiple installation Minimum stopper distance B



Dimensions

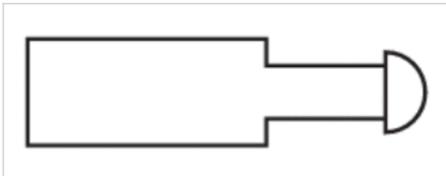
	RTC-CG25	RTC-CG32	RTC-CG40	RTC-HD25	RTC-HD32	RTC-HD40
A	92,5	80	79,5	92,5	80	79,5
H	33,5	38,5	48,5	27	30	31,5

Industrial shock absorber, Series SA2-RT

- for RTC-16, RTC-25,-32,-40, RTC-50,-63
- Cushioning self-compensating
- Mounting Lock nut
- Mounting thread M12x1, M14x1,5, M20x1,5
- SA2-RT



Ambient temperature min./max.	-10 ... 60 °C
Medium	Oil
Impact speed, min./max.	See table below
Mounting	Lock nut
Weight	See table below



Technical data

Part No.	for series	Cushioning hardness	Mounting thread	Stroke	Max. energy absorption/stroke	Max. energy absorption/hour	Effective mass me
							min./max.
R412010695	RTC-16	S = soft	M12x1	10 mm	14 Nm	30000 Nm	0,5 ... 1,8 kg
R412010696	RTC-16	M = medium	M12x1	10 mm	14 Nm	30000 Nm	1,5 ... 7,7 kg
R412010697	RTC-16	H = hard	M12x1	10 mm	14 Nm	30000 Nm	5 ... 57 kg
R412010698	RTC-25,-32,-40	S = soft	M14x1,5	14 mm	30 Nm	50000 Nm	3,5 ... 17 kg
R412010699	RTC-25,-32,-40	M = medium	M14x1,5	14 mm	30 Nm	50000 Nm	9,9 ... 76 kg
R412010700	RTC-25,-32,-40	H = hard	M14x1,5	14 mm	30 Nm	50000 Nm	62 ... 252 kg
R412010701	RTC-50,-63	S = soft	M20x1,5	13 mm	65 Nm	52000 Nm	7,5 ... 36 kg
R412010702	RTC-50,-63	M = medium	M20x1,5	13 mm	65 Nm	52000 Nm	20 ... 160 kg
R412010703	RTC-50,-63	H = hard	M20x1,5	13 mm	65 Nm	52000 Nm	130 ... 610 kg

Part No.	Return spring force	impact speed	Weight
	min./max.	min./max.	
R412010695	3,5 ... 7 N	3,5 ... 5 m/s	0,04 kg
R412010696	3,5 ... 7 N	1,9 ... 4,3 m/s	0,04 kg
R412010697	3,5 ... 7 N	0,7 ... 2,4 m/s	0,04 kg
R412010698	13 ... 23 N	1,9 ... 4,1 m/s	0,05 kg
R412010699	13 ... 23 N	0,9 ... 2,5 m/s	0,05 kg
R412010700	13 ... 23 N	0,5 ... 1 m/s	0,05 kg
R412010701	12 ... 23 N	1,9 ... 4,2 m/s	0,15 kg

Part No.	Return spring force	impact speed	Weight
	min./max.	min./max.	
R412010702	12 ... 23 N	0,9 ... 2,6 m/s	0,15 kg
R412010703	12 ... 23 N	0,5 ... 1 m/s	0,15 kg

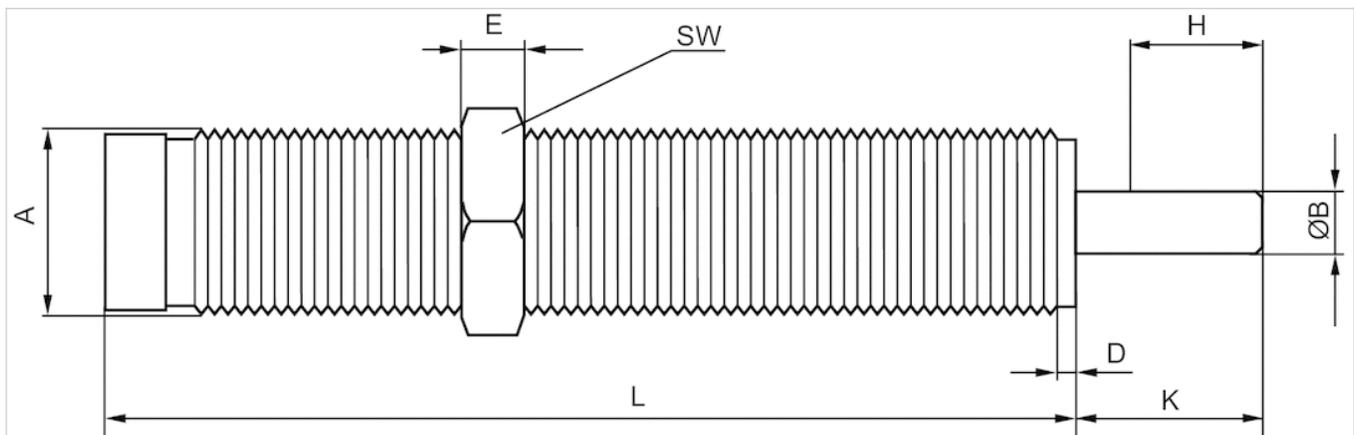
Technical information

Material

Cylinder tube	Steel, bronzed
Piston rod	Stainless steel, hardened
Lock nut	Steel, bronzed

Dimensions

Dimensions



H = stroke

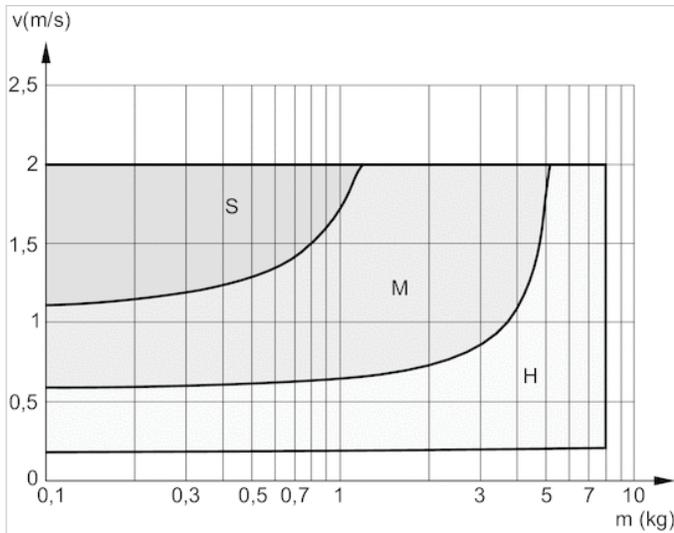
A = mounting thread

Dimensions

Part No.	Type	Mounting thread	ØB	D	E	H	K	L	SW
R412010695	SA2-RT	M12x1	4	2.5	4	10	15	52	14
R412010696	SA2-RT	M12x1	4	2.5	4	10	15	52	14
R412010697	SA2-RT	M12x1	4	2.5	4	10	15	52	14
R412010698	SA2-RT	M14x1,5	4	2.5	5	14	18.5	69	17
R412010699	SA2-RT	M14x1,5	4	2.5	5	14	18.5	69	17
R412010700	SA2-RT	M14x1,5	4	2.5	5	14	18.5	69	17
R412010701	SA2-RT	M20x1,5	6	2.5	6	13	18	75	24
R412010702	SA2-RT	M20x1,5	6	2.5	6	13	18	75	24
R412010703	SA2-RT	M20x1,5	6	2.5	6	13	18	75	24

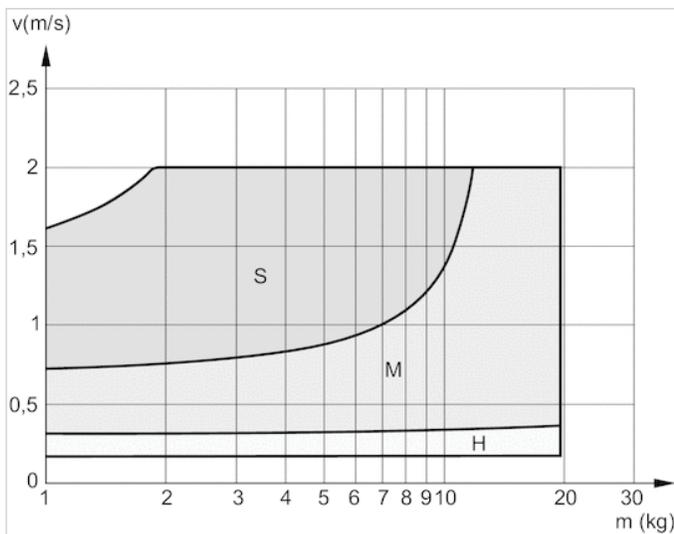
Diagrams

Cushioning diagram Ø 16 mm



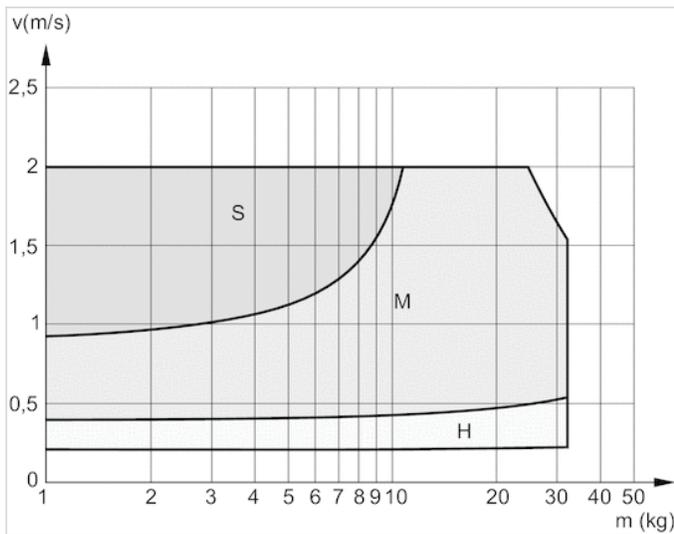
V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram Ø 25 mm



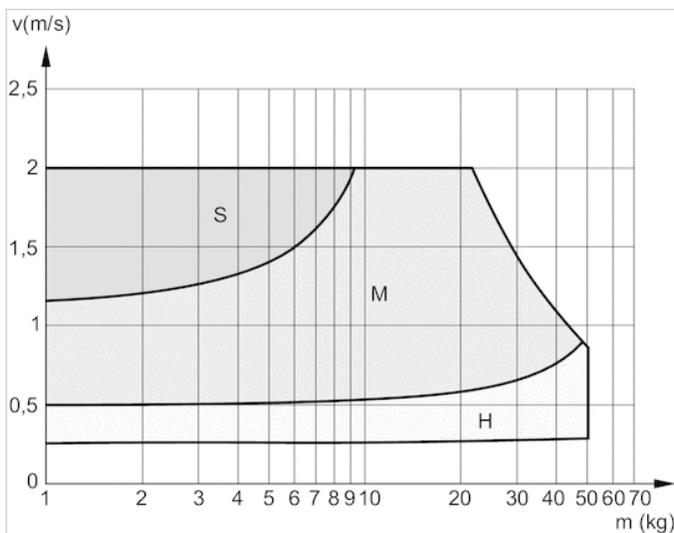
V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram \varnothing 32 mm



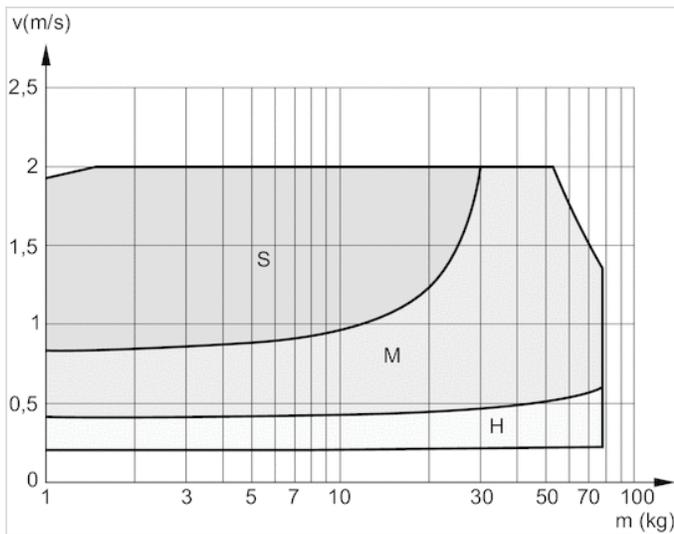
V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram \varnothing 40 mm



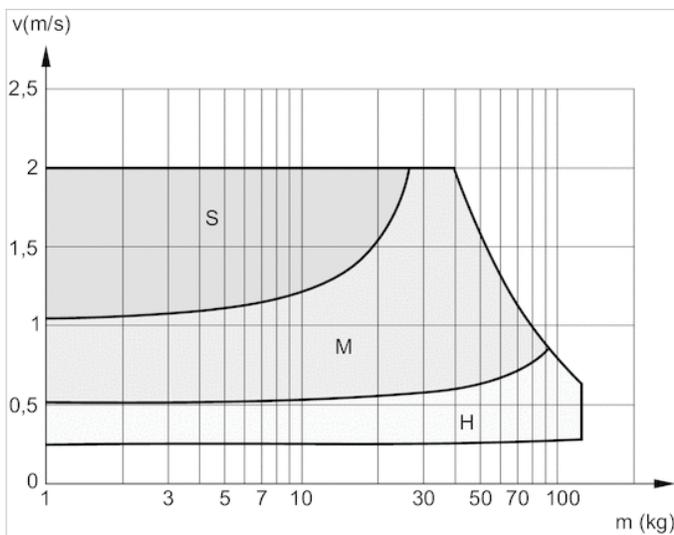
V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram \varnothing 50 mm



V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Cushioning diagram \varnothing 63 mm



V = velocity [m/s]
 M = moving mass
 S = soft
 M = medium
 H = hard

Sensor, Series ST4

- 4 mm C-slot
- with cable
- open cable ends, 3-pin
- UL certification
- Reed, electronic PNP, electronic NPN
- Direct mounting for series PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI
- Indirect mounting for series MNI, CSL-RD, ICM



Certificates	UL (Underwriters Laboratories), cULus, RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Min./max. DC operating voltage	See table below
Switching logic	NO (make contact)
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Mounting screw	Combination: slotted and hexagon socket

Technical data

Part No.		for	Type of contact	Cable length L
R412019488		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	3 m
R412019489		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	5 m
R412019680		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	3 m
R412019681		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	5 m
R412019684		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic NPN	3 m
R412019685		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic NPN	5 m

Part No.	Min./max. DC operating voltage	Voltage drop U at I _{max}	DC switching current, max.	AC switching current, max.
R412019488	5 ... 30 V DC	≤ 0,5 V	0,13 A	0,13 A
R412019489	5 ... 30 V DC	≤ 0,5 V	0,13 A	0,13 A
R412019680	10 ... 30 V DC	≤ 2,5 V	0,1 A	-
R412019681	10 ... 30 V DC	≤ 2,5 V	0,1 A	-
R412019684	10 ... 30 V DC	≤ 2,5 V	0,1 A	-
R412019685	10 ... 30 V DC	≤ 2,5 V	0,1 A	-

Part No.	Switching capacity	Version
R412019488	3 W / 3 VA	Protected against polarity reversal
R412019489	3 W / 3 VA	Protected against polarity reversal
R412019680	-	short circuit resistant, Protected against polarity reversal
R412019681	-	short circuit resistant, Protected against polarity reversal

Part No.	Switching capacity	Version
R412019684	-	short circuit resistant, Protected against polarity reversal
R412019685	-	short circuit resistant, Protected against polarity reversal

Technical information

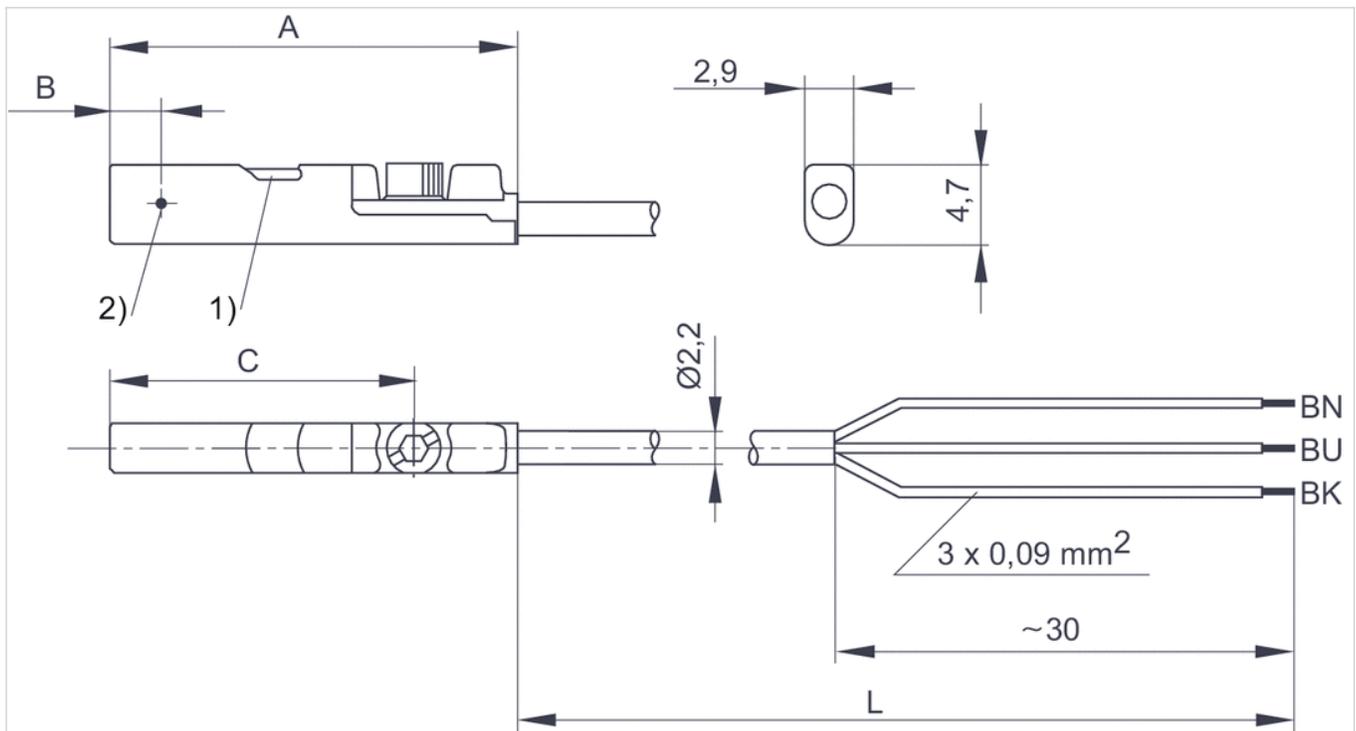
The max. switching capacity must not be exceeded.

Technical information

Material	
Housing	Polyamide, fiber-glass reinforced
Cable sheath	Polyurethane

Dimensions

Dimensions



1) LED 2) Switching point

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

Dimensions

Part No.	A	B	C
R412019488	26.3	6.3	20.3
R412019489	26.3	6.3	20.3

Part No.	A	B	C
R412019680	23.7	2.8	17.7
R412019681	23.7	2.8	17.7
R412019684	23.7	2.8	17.7
R412019685	23.7	2.8	17.7

Sensor, Series ST4

- 4 mm C-slot
- with cable
- Plug, M8, 3-pin, with knurled screw
- UL certification
- Reed, electronic PNP
- Direct mounting for series PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI
- Indirect mounting for series MNI, CSL-RD, ICM



Certificates	UL (Underwriters Laboratories), cULus, RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Min./max. DC operating voltage	See table below
Switching logic	NO (make contact)
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Mounting screw	Combination: slotted and hexagon socket

Technical data

Part No.		for	Type of contact	Cable length L
R412019490		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	0,3 m
R412019686		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	0,5 m
R412019493		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	0,3 m
R412019687		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	0,5 m

Part No.	Min./max. DC operating voltage	Voltage drop U at I _{max}	DC switching current, max.	AC switching current, max.
R412019490	5 ... 30 V DC	≤ 0,5 V	0,13 A	0,13 A
R412019686	5 ... 30 V DC	≤ 0,5 V	0,13 A	0,13 A
R412019493	10 ... 30 V DC	≤ 2,5 V	0,1 A	-
R412019687	10 ... 30 V DC	≤ 2,5 V	0,1 A	-

Part No.	Switching capacity	Version
R412019490	3 W / 3 VA	Protected against polarity reversal
R412019686	3 W / 3 VA	Protected against polarity reversal
R412019493	-	short circuit resistant, Protected against polarity reversal
R412019687	-	short circuit resistant, Protected against polarity reversal

Technical information

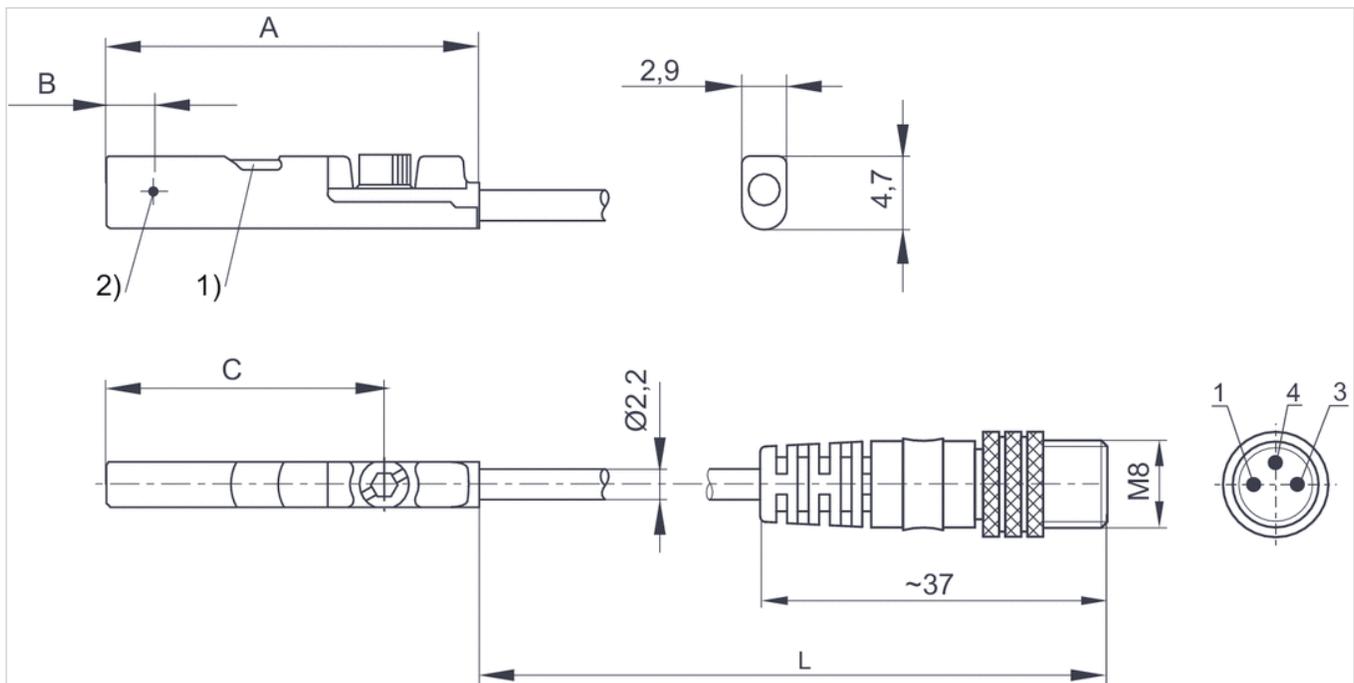
The max. switching capacity must not be exceeded.

Technical information

Material	
Housing	Polyamide, fiber-glass reinforced
Cable sheath	Polyurethane

Dimensions

Dimensions



1) LED 2) Switching point

L = cable length

Pin assignment: 1 = (+) 3 = (-) 4 = (OUT)

Dimensions

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

Sensor, Series ST4

- 4 mm C-slot
- with cable
- Plug, M8, 3-pin
- UL certification
- Reed, electronic PNP, electronic NPN
- Direct mounting for series PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI
- Indirect mounting for series MNI, CSL-RD, ICM



Certificates	UL (Underwriters Laboratories), cULus, RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Min./max. DC operating voltage	See table below
Switching logic	NO (make contact)
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Mounting screw	Combination: slotted and hexagon socket

Technical data

Part No.		for	Type of contact	Cable length L
R412019682		PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI	Reed	0,3 m
R412019683		PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI	electronic PNP	0,3 m
R412019694		PRA, SSI, GSU, RTC, CKP, GSP, MSC, MSN, RCM, CVI	electronic NPN	0,3 m

Part No.	Min./max. DC operating voltage	Voltage drop U at I _{max}	DC switching current, max.	AC switching current, max.
R412019682	5 ... 30 V DC	≤ 0,5 V	0,13 A	0,13 A
R412019683	10 ... 30 V DC	≤ 2,5 V	0,1 A	-
R412019694	10 ... 30 V DC	≤ 2,5 V	0,1 A	-

Part No.	Switching capacity	Version
R412019682	3 W / 3 VA	Protected against polarity reversal
R412019683	-	short circuit resistant, Protected against polarity reversal
R412019694	-	short circuit resistant, Protected against polarity reversal

Technical information

The max. switching capacity must not be exceeded.

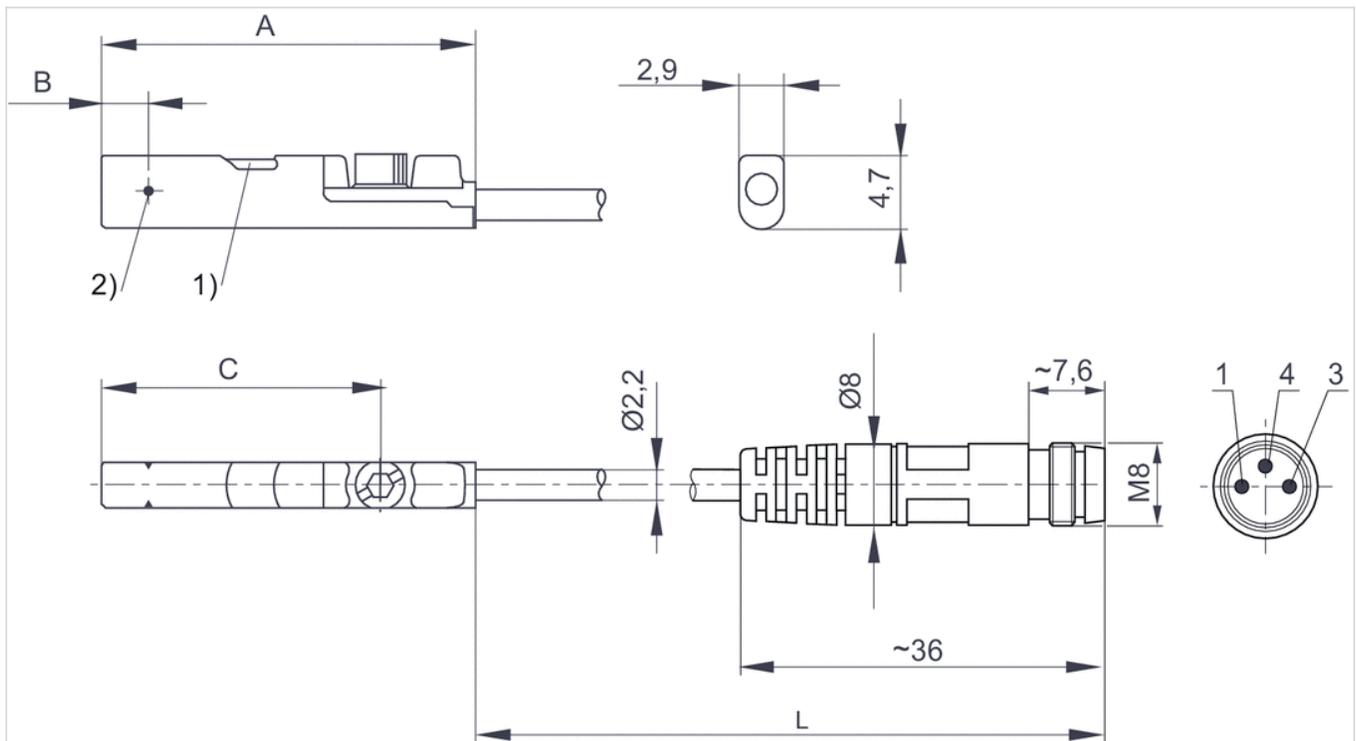
Technical information

Material

Housing	Polyamide, fiber-glass reinforced
Cable sheath	Polyurethane

Dimensions

Dimensions



1) LED 2) Switching point

L = cable length

Pin assignment: 1 = (+) 3 = (-) 4 = (OUT)

Dimensions

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

Sensor, Series ST4

- 4 mm C-slot
- with cable
- Plug, M12, 3-pin, with knurled screw
- UL certification
- Reed, electronic PNP
- Direct mounting for series PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI
- Indirect mounting for series MNI, CSL-RD, ICM



Certificates	UL (Underwriters Laboratories), cULus, RoHS
Ambient temperature min./max.	-30 ... 80 °C
Protection class	IP65, IP67
Switching point precision	±0,1 mT
Min./max. DC operating voltage	See table below
Switching logic	NO (make contact)
Display	LED
LED status display	Yellow
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms
Mounting screw	Combination: slotted and hexagon socket

Technical data

Part No.		for	Type of contact	Cable length L
R412019688		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	Reed	0,3 m
R412019689		PRA, SSI, GSU, RTC, CKP, GPC, MSC, MSN, RCM, CVI	electronic PNP	0,3 m

Part No.	Min./max. DC operating voltage	Voltage drop U at I _{max}	DC switching current, max.	AC switching current, max.
R412019688	5 ... 30 V DC	≤ 0,5 V	0,13 A	0,13 A
R412019689	10 ... 30 V DC	≤ 2,5 V	0,1 A	-

Part No.	Switching capacity	Version
R412019688	3 W / 3 VA	Protected against polarity reversal
R412019689	-	short circuit resistant, Protected against polarity reversal

Technical information

The max. switching capacity must not be exceeded.

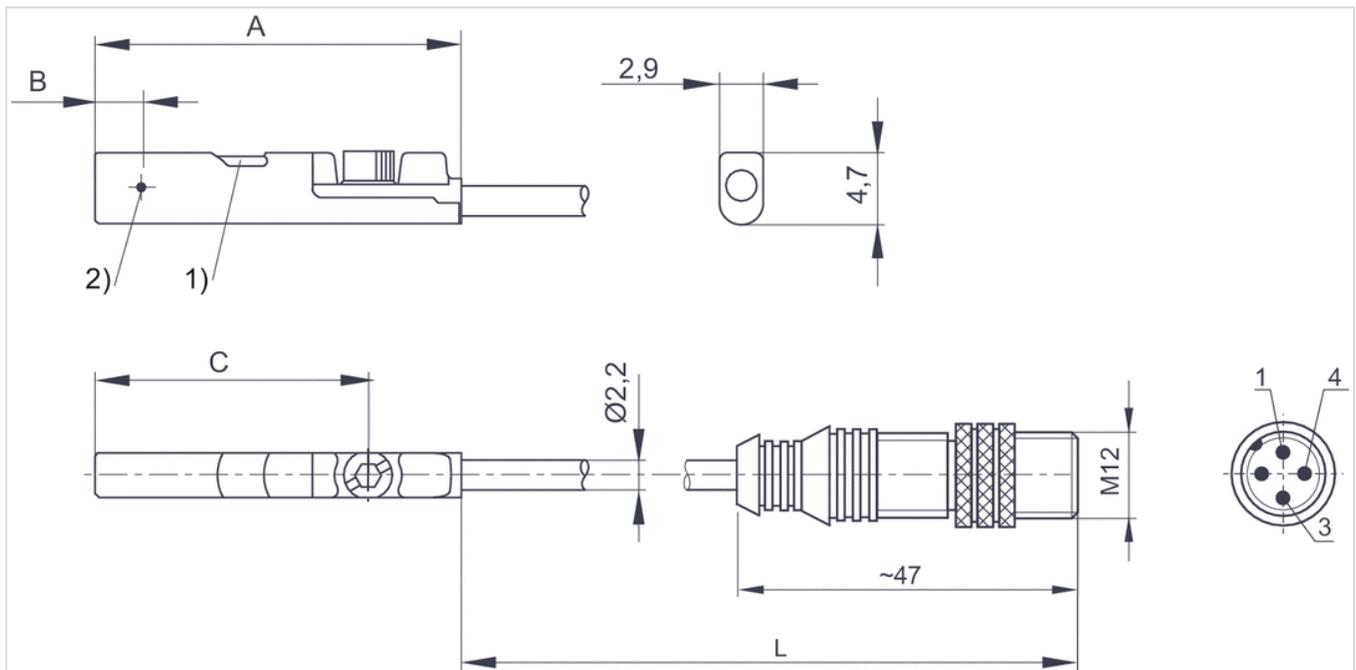
Technical information

Material

Housing	Polyamide, fiber-glass reinforced
Cable sheath	Polyurethane

Dimensions

Dimensions



1) LED 2) Switching point

L = cable length

Pin assignment: 1 = (+) 3 = (-) 4 = (OUT)

Dimensions

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

Sensors, Series SM6-AL

- with cable
- Plug, M8x1, 4-pin
- with distance measuring sensor, measurement range 107 - 1007 mm
- IO-Link
- Analog
- Indirect mounting for series PRA, ITS, RTC, CVI



Certificates	cULus
Ambient temperature min./max.	-20 ... 70 °C
Protection class	IP65, IP67
Output signal	0 - 10 V DC, 4 - 20 mA
Quiescent current (without load)	35 mA
Current signal	4 ... 20 mA
Maximum load (analog current output)	500 Ω
Residual ripple	≤ 10 %
sampling interval	1,15 ms
Resolution,max. measuring range	typ. 0,03 % FSR
Repetitive precision,max. measuring range	typ. 0,06 % FSR
Linearity deviation	0,5 mm
Sampling speed,Partial stroke	1,5 m/s
Sampling speed,Full stroke	3 m/s
Display	2 LED
Vibration resistance	10 - 55 Hz, 1 mm
Shock resistance	30 g / 11 ms

Technical data

Part No.	Type of contact	Cable length L	max. measuring range	Overall length Sensor A	Incl. number of sensor clamp pairs
R412010880	Analog	0,3 m	107 mm	109 mm	2 piece
R412010881	Analog	0,3 m	143 mm	145 mm	2 piece
R412010882	Analog	0,3 m	179 mm	181 mm	2 piece
R412010883	Analog	0,3 m	215 mm	217 mm	2 piece
R412010884	Analog	0,3 m	251 mm	253 mm	2 piece
R412010885	Analog	0,3 m	287 mm	289 mm	3 piece
R412010886	Analog	0,3 m	323 mm	325 mm	3 piece
R412010887	Analog	0,3 m	359 mm	361 mm	3 piece
R412010888	Analog	0,3 m	395 mm	397 mm	3 piece
R412010889	Analog	0,3 m	431 mm	433 mm	3 piece
R412010890	Analog	0,3 m	467 mm	469 mm	4 piece
R412010891	Analog	0,3 m	503 mm	505 mm	4 piece
R412010892	Analog	0,3 m	539 mm	541 mm	4 piece
R412010893	Analog	0,3 m	575 mm	577 mm	4 piece
R412010894	Analog	0,3 m	611 mm	613 mm	4 piece
R412010895	Analog	0,3 m	647 mm	649 mm	4 piece
R412010896	Analog	0,3 m	683 mm	685 mm	5 piece
R412010897	Analog	0,3 m	719 mm	721 mm	5 piece

Part No.	Type of contact	Cable length L	max. measuring range	Overall length Sensor A	Incl. number of sensor clamp pairs
R412010898	Analog	0,3 m	755 mm	757 mm	5 piece
R412010899	Analog	0,3 m	791 mm	793 mm	5 piece
R412010900	Analog	0,3 m	827 mm	829 mm	6 piece
R412010901	Analog	0,3 m	863 mm	865 mm	6 piece
R412010902	Analog	0,3 m	899 mm	901 mm	6 piece
R412010903	Analog	0,3 m	935 mm	937 mm	6 piece
R412010904	Analog	0,3 m	971 mm	973 mm	6 piece
R412010905	Analog	0,3 m	1007 mm	1009 mm	6 piece

Part No.	Current signal	Version
R412010880	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010881	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010882	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010883	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010884	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010885	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010886	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010887	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010888	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010889	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010890	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010891	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010892	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010893	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010894	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010895	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010896	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010897	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010898	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010899	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010900	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010901	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010902	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010903	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010904	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection
R412010905	4 ... 20 mA	short circuit resistant, Protected against polarity reversal, Overload protection

Technical information

Holders for cylinder series PRA are included in the scope of delivery. For cylinder series ITS, please order the appropriate holders separately.

FSR: Full Scale Range, max. measurement range

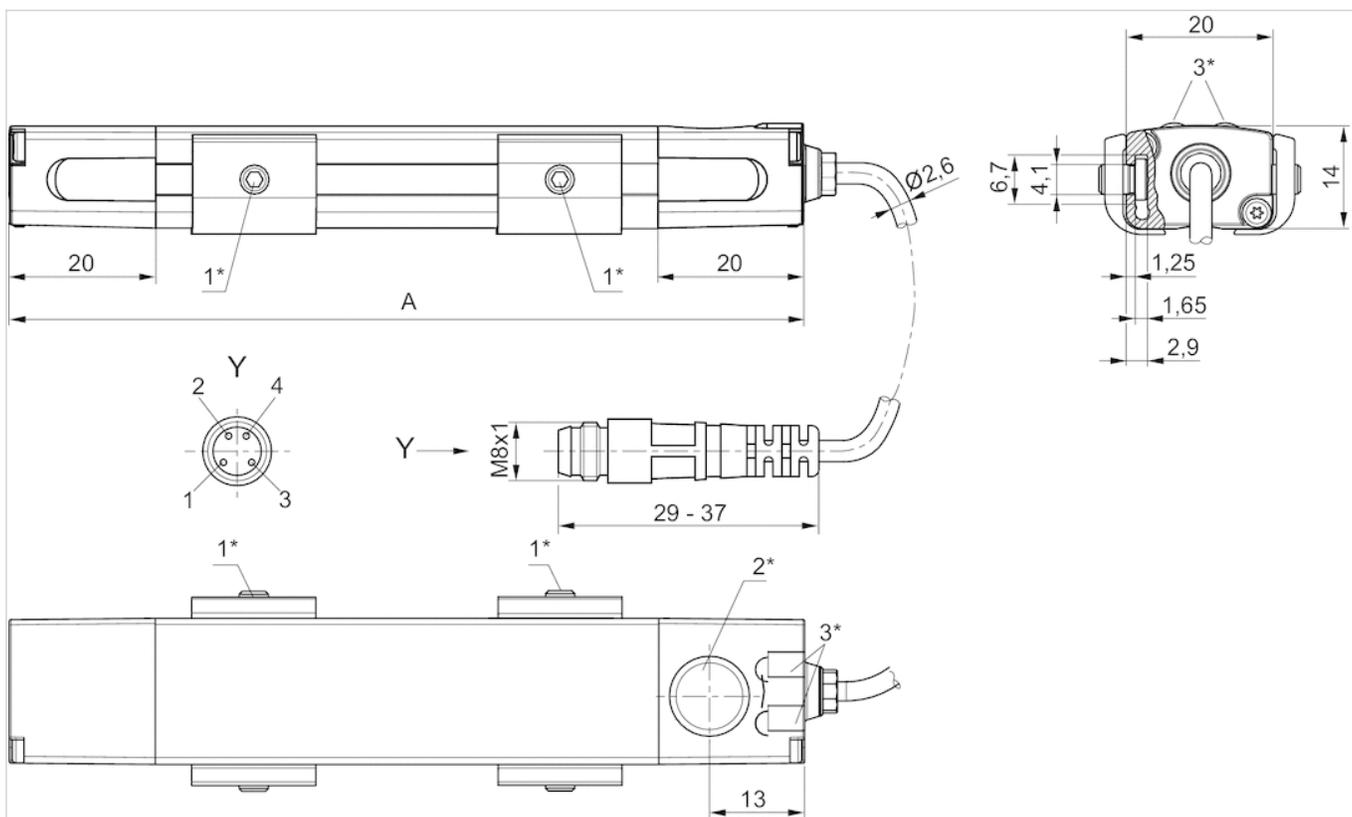
The IO-Link device description (IODD) for the SM6-AL distance measuring sensor is available for download in the Media Centre.

Technical information

Material	
Housing	Aluminum
Cable sheath	Polyurethane
End caps	Polyamide

Dimensions

Dimensions



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

A = sensor length

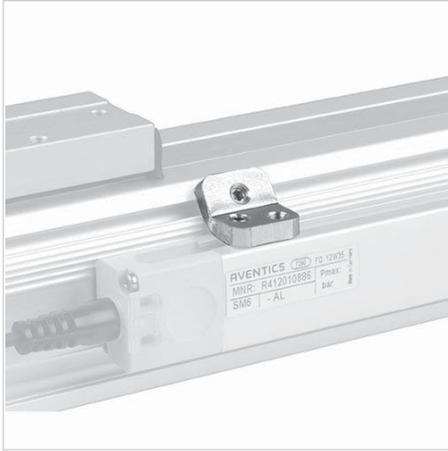
Pin assignment: 1 = (+), 2 = (OUT 1) 3 = (GND), 4 = (OUT 2/IO-Link), EN 60947-5-7

LED 1: yellow = measuring operation, red = error

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

Sensor mounting, Series CB1

- for series SM6-AL
- to mount on cylinder RTC



Weight

0,007 kg

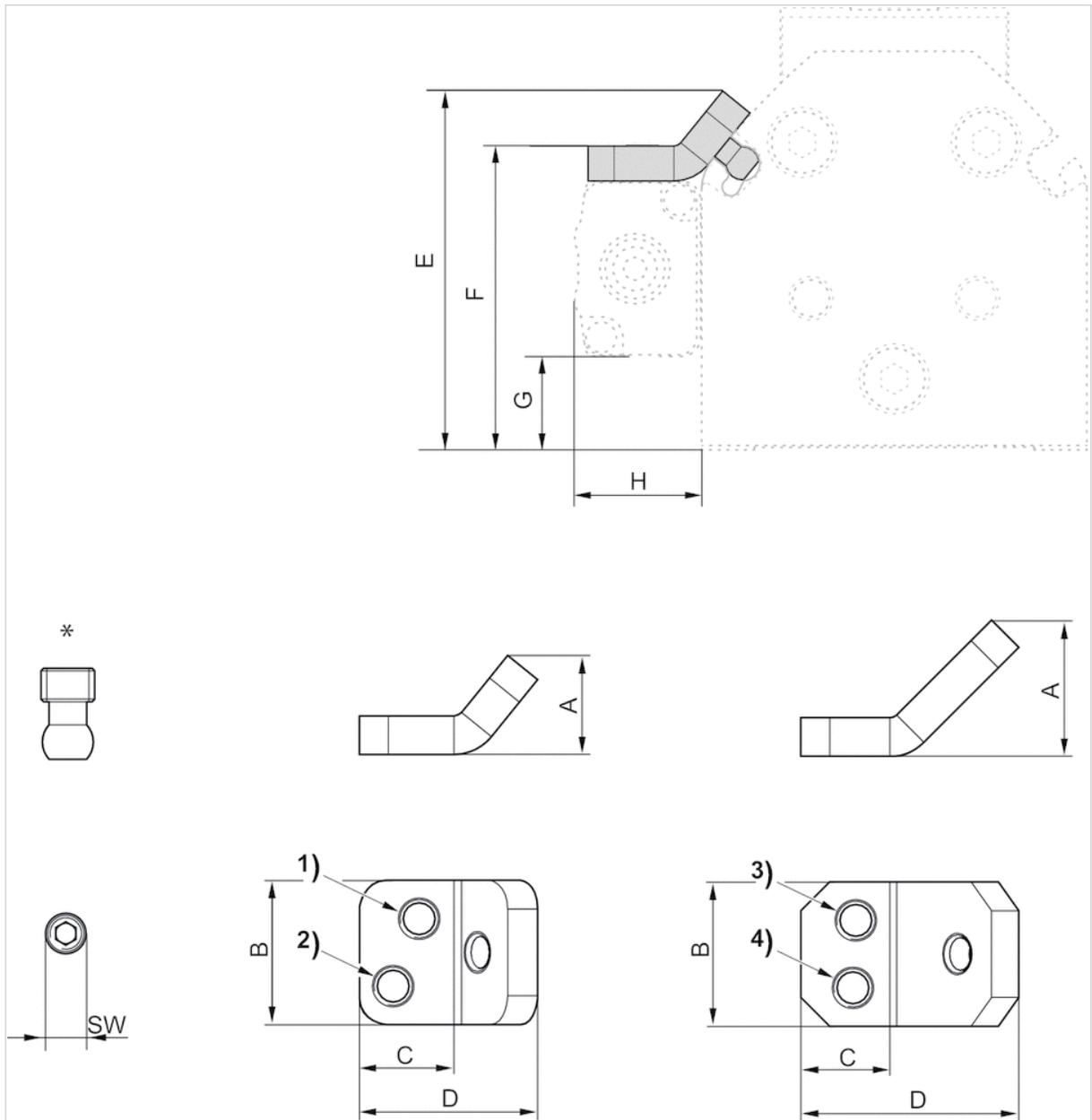
Technical data

Part No.	for series	Scope of delivery
R412022298	SM6-AL	1 piece

Technical information

Material
Aluminum

Dimensions



* Threaded pin (brass)
 2 clamp mounting sets for SM6-AL 109 - 469 mm
 3 clamp mounting sets for SM6-AL 505 - 793 mm
 4 clamp mounting sets for SM6-AL 829 - 1009 mm

Dimensions

Part No.	Piston Ø		A	B	C	D	E	F
R412022298	25324050	1)2)3)4)	10,310,314,214,2	15151515	9,89,89,29,2	18,518,522,622,6	4146,75560,6	34,740,445,250,5

G	H	SW
10,716,421,126,5	14,414,414,414,4	2222

T-groove nut

- for series CKP, GPC, RTC



Weight

See table below

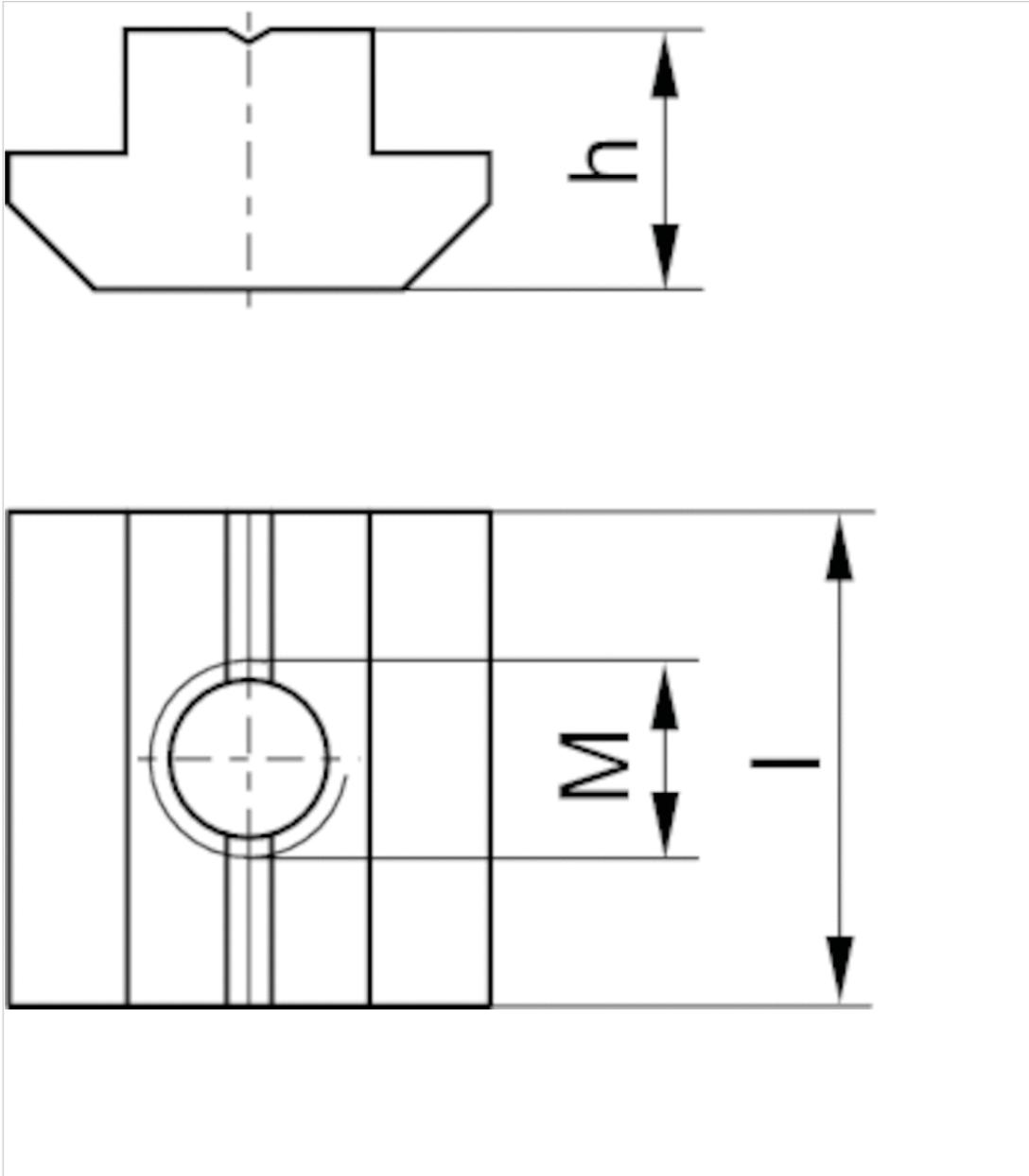
Technical data

Part No.	Type	for series	Material	Scope of delivery	Weight
3842523142	N6	CKP, GPC, RTC	Stainless steel	10 piece	0,003 kg
3842514931	N8	CKP, GPC, RTC	Steel	100 piece	0,007 kg

Technical information

Material	
Housing	Stainless steel, Steel, galvanized

Dimensions



Dimensions

Part No.	Type	M	h	l
3842523142	N6	M5	4	20
3842514931	N8	M8	6	16

For N4 grooves on CKP 16 a square nut according to DIN 557 can be used.

Round plug connector, Series CON-RD

- Socket, M8x1, 3-pin, A-coded, straight, 180°
- open cable ends
- with cable
- unshielded



Operating voltage DC, max.	36 V DC
Operational voltage AC, max.	30 V AC
Protection class	IP67
Wire cross-section	0,34 mm ²
Weight	See table below

Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length	Weight
8946201312	2,5 A	3	3,5 mm	2 m	0,066 kg
8946201332	2,5 A	3	3,5 mm	15 m	0,466 kg

Technical information

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

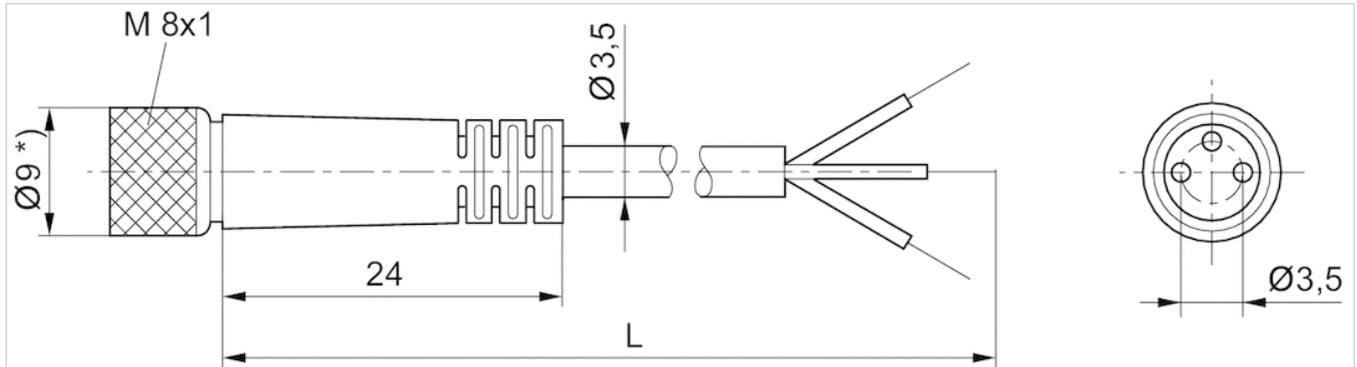
Technical information

Material

Cable sheath	Polyvinyl chloride
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Dimensions

Dimensions

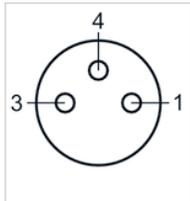


L = length

*) With 15 m cable length $\varnothing 12$

Pin assignments

Pin assignment socket



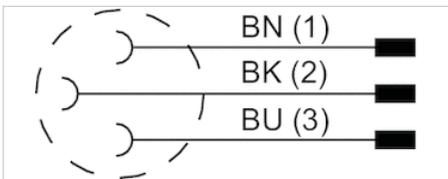
(1) BN=brown(3) BU=blue(4) BK=black

Round plug connector, Series CON-RD

- Socket, Snap Ø8, 3-pin, with detent, straight, 180°
- open cable ends
- with cable
- unshielded



Operating voltage DC, max.	48 V DC
Operational voltage AC, max.	48 V AC
Protection class	IP65
Weight	0,058 kg



Technical data

Part No.	Max. current	Number of wires	Cable-Ø	Cable length
8946016112	3 A	3	4,5 mm	2,5 m

Technical information

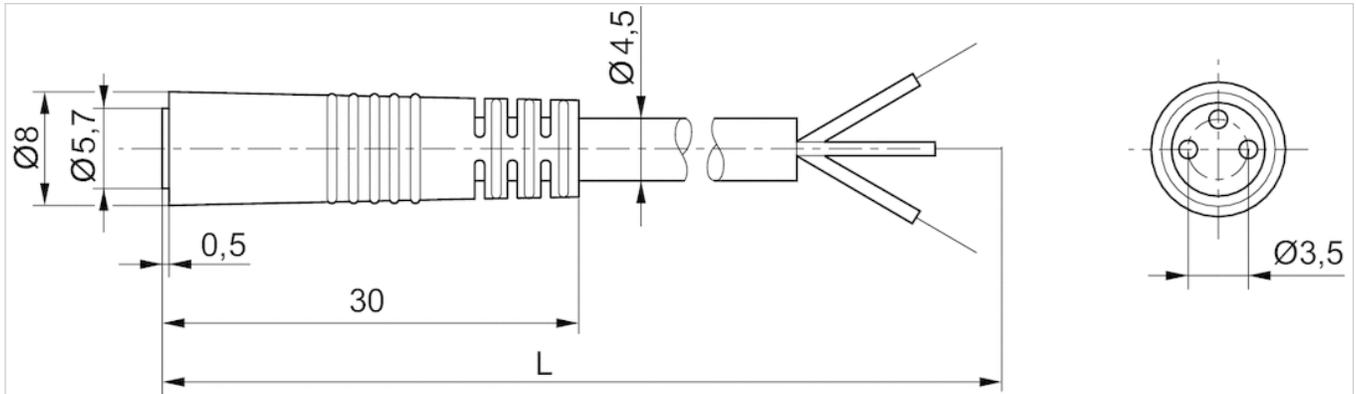
The specified protection class is only valid in assembled and tested state.

Technical information

Material	
Cable sheath	Polyvinyl chloride

Dimensions

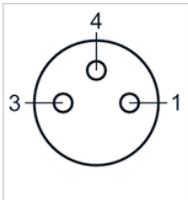
Dimensions



L = length

Pin assignments

Pin assignment socket



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

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:

- Emerson will transfer title to the Goods (excluding Software and Firmware) to Customer under Clause 4 of our Terms and Conditions of Sale*;
- Goods, Documentation and Services will conform with the Specification;
- Goods made by Emerson or its Affiliates will, under normal use and care, be free from defects in materials or workmanship; and
- 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:

- 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);
- Services:** for 90 days from completion of the Services;
- 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:

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

7.4 Exclusions from Warranty.

- 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.
- 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:
 - all costs of dismantling, freight, reinstallation and the time and expenses of Emerson Personnel for travel under Clause 7; and
 - 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.
- If Emerson relies on wrong or incomplete information supplied by Customer, all warranties are void unless Emerson agrees otherwise in writing.
- Customer alone is responsible for the selection, maintenance and use of the Goods.
- 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:

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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.