

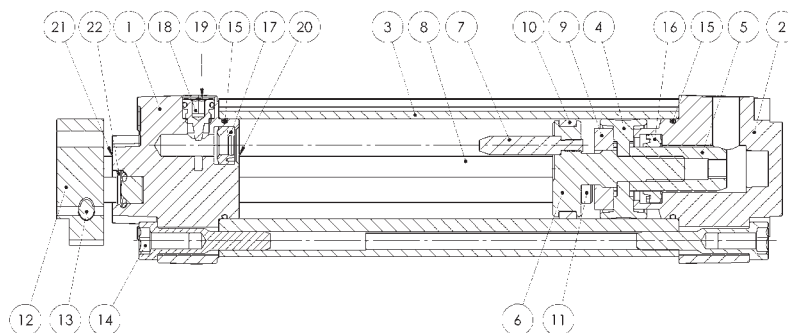
Technical Data

Product type	Cylinder with Twin Rods (not ISO)
Bore size	32 - 100 mm
Stroke length	5 - 2000 mm
Versions	Double acting
Cushioning	Adjustable air cushioning
Position sensing	Proximity sensor
Installation	ISO mountings



Operating and environmental data

Operating medium	For best possible service life and trouble-free operation dry filtered compressed air to ISO 8573-1:2010 quality 3.4.3 should be used. This specifies a dew point of + 3°C for indoor operation (a lower dew point should be selected for minus temperature operation and we recommend the use of an inline dryer) and is in line with the air quality from most standard compressors with a standard filter.
Operating pressure	1 to 10 bar
Ambient temperature	Standard temperature (option M): -20°C to +80°C High temperature (option F): -10°C to +150°C
Pre-lubricated	Further lubrication is normally not necessary. If additional lubrication is introduced it must be continued. Hydraulic oil type HLP (DIN 51524, ISO 11158). Viscosity by 40°C: 32 mm2/s (cst). Example: Shell Tellus 32 or equal.
Corrosion resistance	Material and surface treatment selected for typical industrial applications with resistance to corrosion and chemicals.

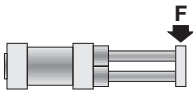


Material specification

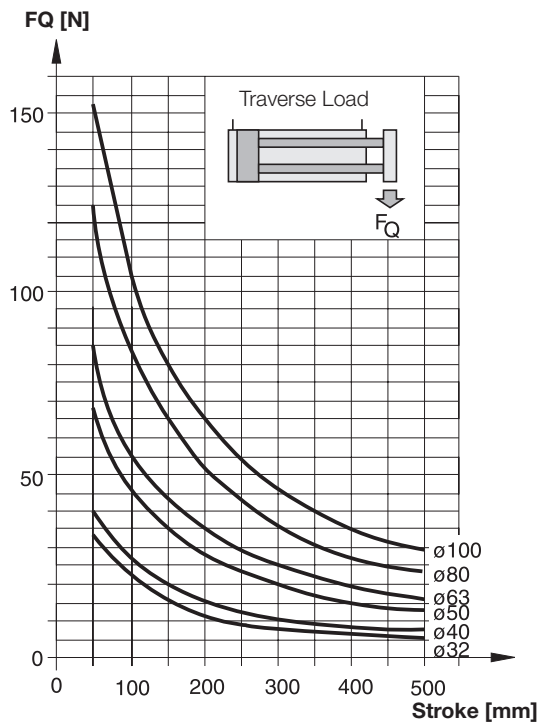
Pos	Part		Specification
1, 2	End cover		Aluminium
3	Cylinder barrel		Anodised aluminium profile
4	Piston	Standard	Nitrile rubber (NBR)
		Optional	Fluoro elastomer (FKM)
5	Sleeve		Brass
6	Support		Aluminium
7	Sleeve		Brass
8	Piston rod		Austenitic stainless steel, DIN X8 CrNiS 18-9
9	Magnet		Plastic coated magnetic material
10	Piston bearing		Polytetrafluoroethylene (PTFE)
11	Screw		Zinc plated steel
12	Front plate		Steel
13	Screw		Zinc plated steel
14	End covers screws		Zinc plated steel
15	O-ring end cover	Standard	Nitrile rubber (NBR)
		Optional	Fluoro elastomer (FKM)
16, 17	Cushioning seal	Standard	Nitrile rubber (NBR)
		Optional	Fluoro elastomer (FKM)
18	Cushioning screw		Brass
19	Cushioning retainer		Steel
	O-ring cushioning screws	Standard	Nitrile rubber (NBR)
		Optional	Fluoro elastomer (FKM)
20	Piston rods bearing		Multilayer Steel
21	Retainer		Spring Steel
22	Piston rod seal	Standard	Nitrile rubber (NBR)
		Optional	Fluoro elastomer (FKM)

Installation Instructions for Twin Rods Cylinders

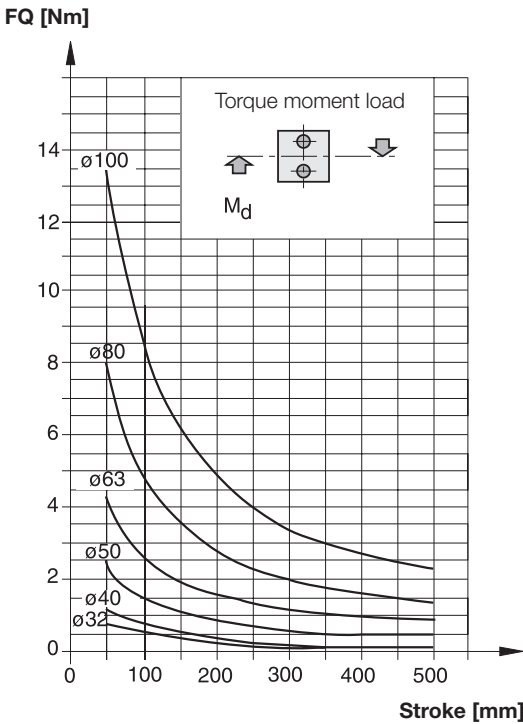
For maximum reliability and service life, Charge latérale dus should be applied as shown.



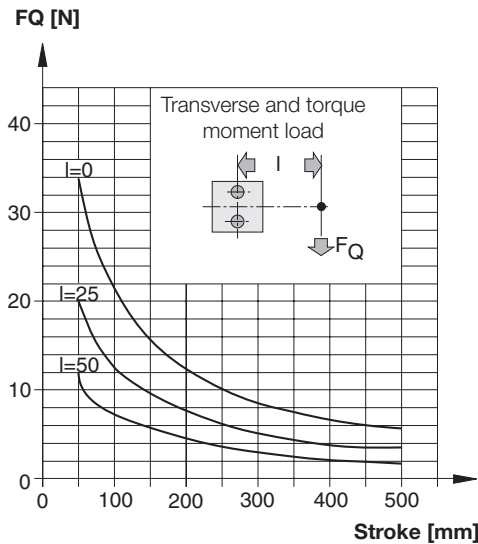
Transverse Load - Ø 32 -100 mm



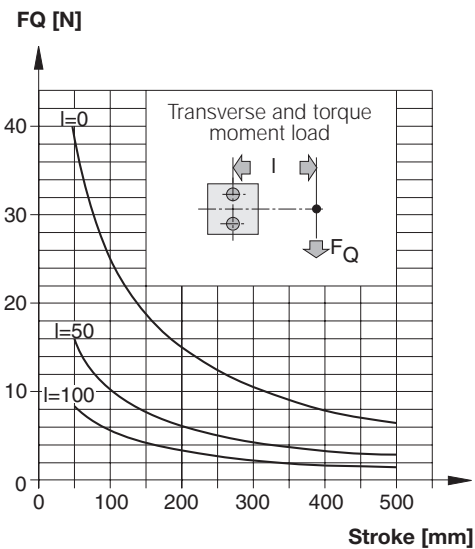
Torgue moment load - Ø 32 -100 mm



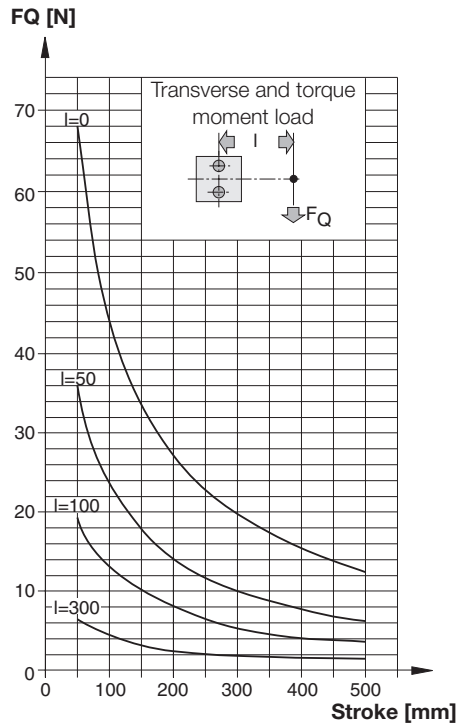
Transverse and Torque Moment Load - Ø 32 mm



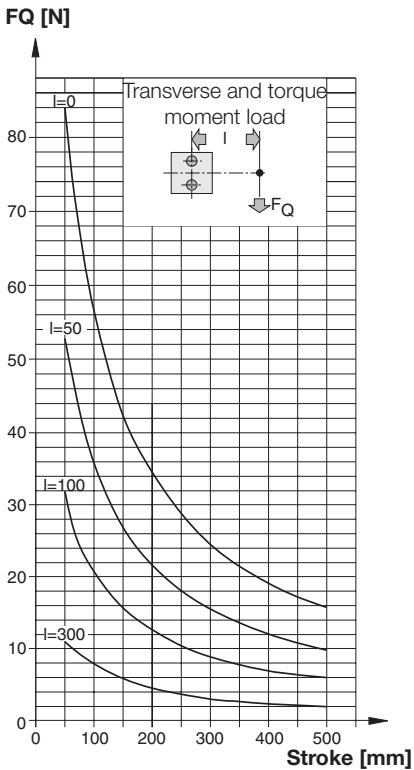
Transverse and Torque Moment Load - Ø 40 mm



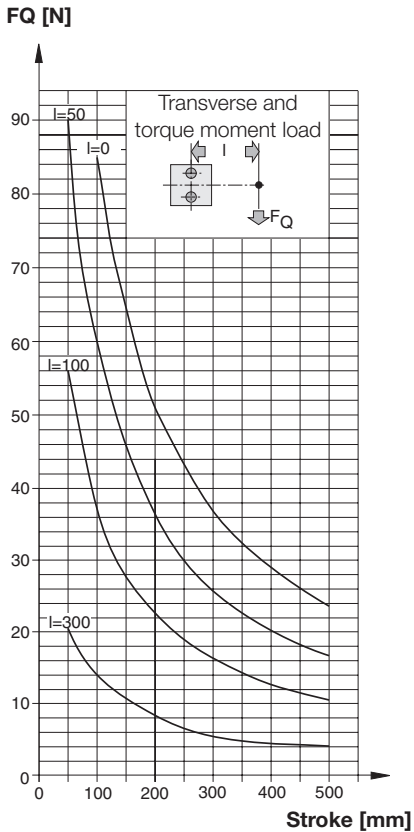
Transverse and Torque Moment Load - Ø 50 mm



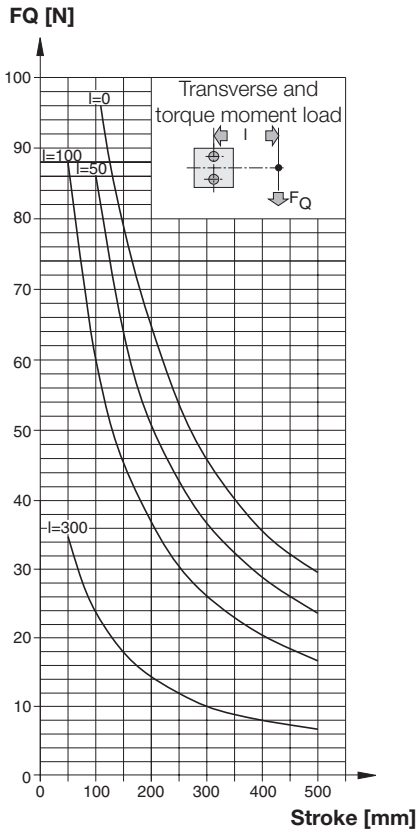
Transverse and Torque Moment Load - Ø 63 mm



Transverse and Torque Moment Load - Ø 80 mm



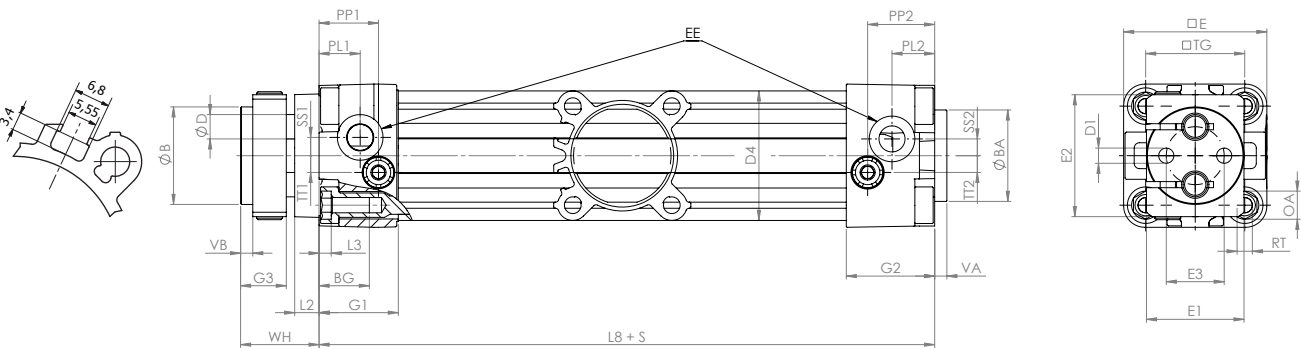
Transverse and Torque Moment Load - Ø 100 mm



Dimensions

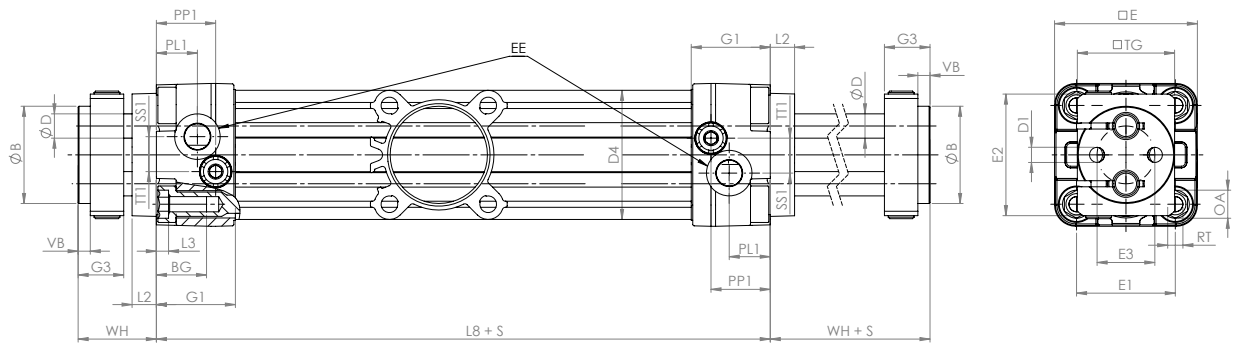
Twin-Rods smooth profile design

P1F-R



Through Twin-Rods smooth profile design

P1F-Q



Dimensions

Dimensions [mm]

Cyl.-bore [mm]	E3	ØB h9	ØBA* -0,1	BG	ØD	D1	D4	E1	E2	EE*	G1	G2	G3	VA*	VB
Ø32	19	32	30	16	8	M6	32	32	40	G1/8	26	29	15	4	4
Ø40	22.5	40	35	16	10	M8	40	40	45	G1/4	30	27	15	4	4
Ø50	30	50	40	16	12	M8	50	50	55	G1/4	34	29	18	4	4
Ø63	38	63	45	16	16	M10	63	63	70	G3/8	34	30	22	4	4
Ø80	50	80	45	16	20	M12	80	80	95	G3/8	39	34	22	4	4
Ø100	70	100	55	16	20	M12	100	100	115	G1/2	40	35	22	4	4

*Dimensions in accordance with ISO

Cyl.-bore [mm]	L3	L8	OA	PL1	PP1	PL2	PP2	RT	SS1	TT1	SS2	TT2	TG*	E*	L2	WH
Ø32	4.5	102	6	13.5	19.5	14.5	22	M6	6	5.5	5.5	5.5	32.5	47	8	26
Ø40	4.5	112	6	18.5	21.5	16	20	M6	7	8.5	6.5	8.5	38	53	12	30
Ø50	4.5	117	8	22.5	27	22	22	M8	9.5	6.5	8.5	8.5	46.5	65	13	34
Ø63	4.5	125	8	17.5	28	17.5	28	M8	10	11	10	11	56.5	75	11	36
Ø80	5.5	136	10	20.5	30	20.5	30	M10	9	11	9	11	72	95	13	38
Ø100	5.5	143	10	19	33	19	33	M10	13	14	13	14	89	115	13	38

*Dimensions in accordance with ISO

Tolerances [mm]

Cyl.-bore [mm]	WH	L8	TG	stroke tolerance		
				s ≤ 350 mm	350 mm < s ≤ 600 mm	s > 600 mm
Ø32	0 / - 0.5	± 0.3	± 0.4	+ 1.7	+ 1.9	+ 2.3
Ø40	0 / - 0.5	± 0.3	± 0.4	+ 1.7	+ 1.9	+ 2.3
Ø50	0 / - 0.5	± 0.4	± 0.4	+ 1.8	+ 2	+ 2.4
Ø63	0 / - 0.5	- 0.5 / + 0.3	± 0.4	+ 1.9	+ 2.1	+ 2.5
Ø80	0 / - 0.5	± 0.4	± 0.4	+ 1.9	+ 2.1	+ 2.5
Ø100	0 / - 0.5	± 0.5	± 0.4	+ 2.0	+ 2.2	+ 2.6

Order code

Order Instructions		P	1	F	-	R	0	3	2	M	S	X	0	1	6	0	-	0	0	0	0
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Profile/cylinder design

R	Smooth Twin-Rods
Q	Smooth Through Twin-Rods

Cylinder bore size

032	32 mm
040	40 mm
050	50 mm
063	63 mm
080	80 mm
100	100 mm

Temperature range

M	Standard Temperature -20° to +80°C
F	High Temperature -10°C to +150°C

Rod extension or trunnion mounting

0000	without
P . . .	Piston rod extension in mm
G000	Trunnion mount +90° vs. air ports
7000	Trunnion mount +0° vs. air ports
H . . .	piston rod extension in mm with trunnion +90°
8 . . .	piston rod extension in mm with trunnion +0°

Cylinder stroke

...	Stroke length in mm
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Piston style

X *	Aluminium with magnet
A	Aluminium w/o magnet

*not for high temperature range

Piston Rod material

S	Stainless steel
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