

Description

- Strokes up to 200 mm
- Piston diameter: 16 -200 mm
- Cylinders of type 57 have an extremely small overall length and are particularly suitable for short strokes
- Block cylinders offer the possibility of the direct attachment of valves as well as the direct attachment of limit switches
- A wide choice of mounting types ensure the perfect adjustment to each specific application
- Several piston rod ends may be combined with each mounting type
- Special designs are available, e.g. attachment of additional elements
- An essential advantage in maintenance is the possibility of quick and simple replacement of the piston rod seal
- Cooling can be realized in an enhanced installation length

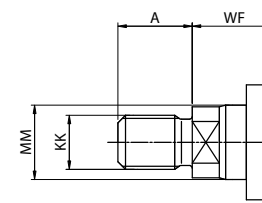
Technical data

- Operating pressure: 400 bar (40 MPa)
- Test pressure: 500 bar (50 MPa)
- Hydraulic fluid temperature range: - 20 ... + 80 °C
- Viscosity range: (20 ... 80) 10⁻⁶ m²/s
- Piston speed: ≤ 0.5 m/s
(higher speeds on request)

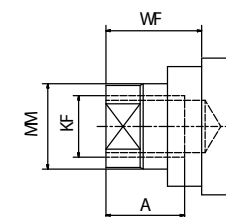
Hydraulic fluids:

- Mineral oils, HFC, HFD liquids in combination with seals made of PTFE and fluoric elastomers
- HFA and HFB liquids on request

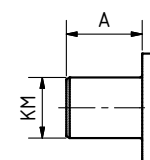
Piston rod end



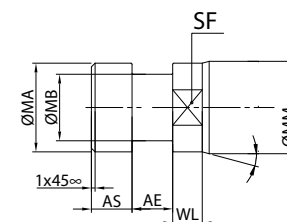
External thread, ref. no. 0
External thread, ref. no. 4



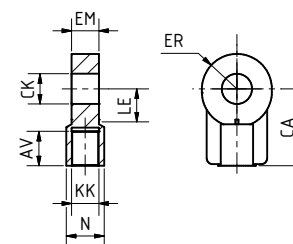
Inside thread, ref. no. 1



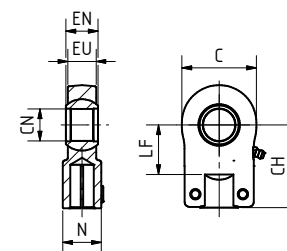
Cylindrical, ref. no. 2



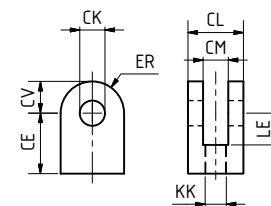
Clutch element, ref. no. 3



Plain rod eye, ref. no. 5

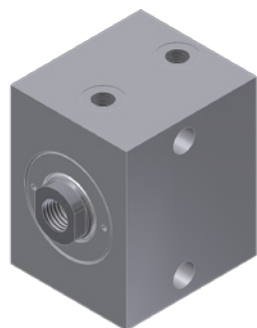


Swivel head, ref. no. 8

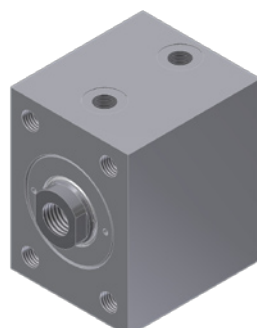


Clevis, ref. no. 9

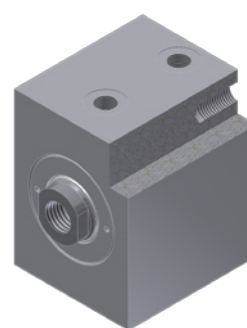
**Special design
on request!**



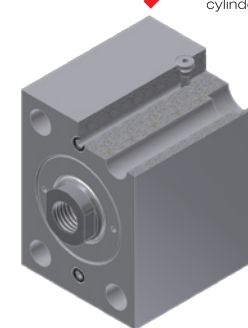
Mounting type: 02
Description: Foot mounting
ISO-des.: MS 2



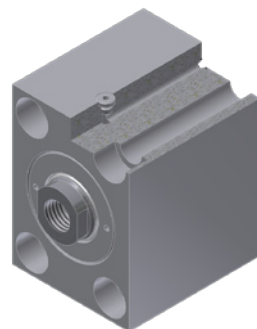
Mounting type: 11
Description: Threaded holes head end
ISO-des.: MX 5



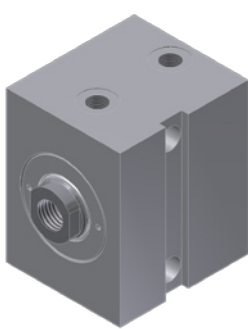
Mounting type: 12
Description: Threaded holes cap end
ISO-des.: MX 6



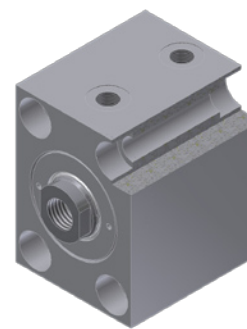
Mounting type: 13
Description: Rectangular flange head end
ISO-des.: --



Mounting type: 14
Description: Rectangular flange cap end
ISO-des.: --

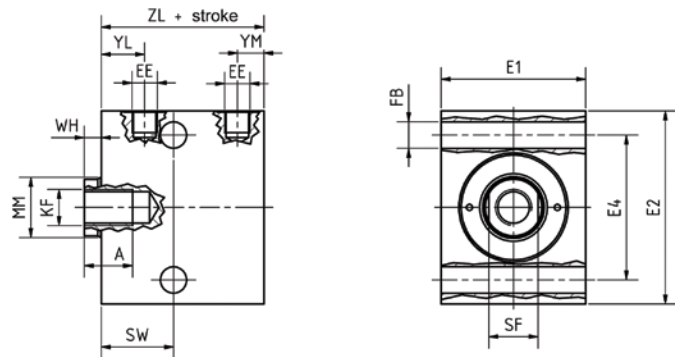


Mounting type: 22
Description: Foot mounting with fit-in key
ISO-des.: MS 2

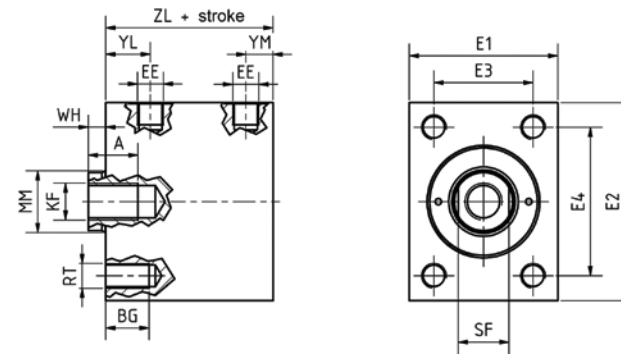


Mounting type: 43
Description: Longitudinal bores, sinks on both sides
ISO-des.: --

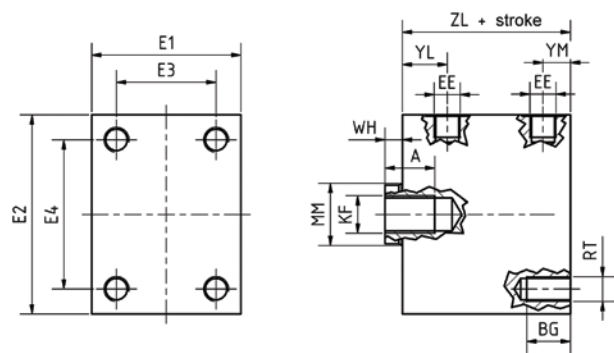
Mounting types



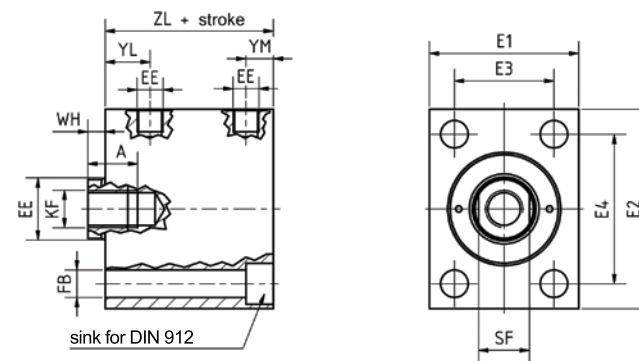
Mounting type 02: Foot mounting; ISO-des.: --



Mounting type 11: Threaded holes head end; ISO-des.: MX 5

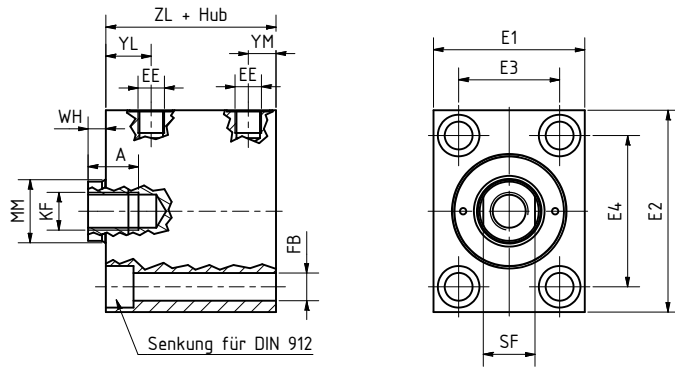


Mounting type 12: Threaded holes cap end; ISO-des.: MX 6

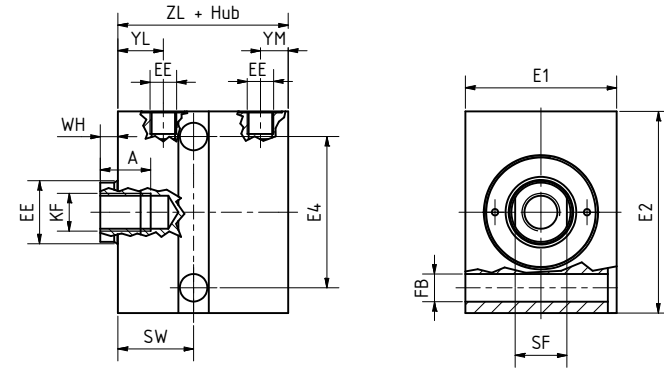


Mounting type 13: Rectangular flange head end; ISO-des.: --

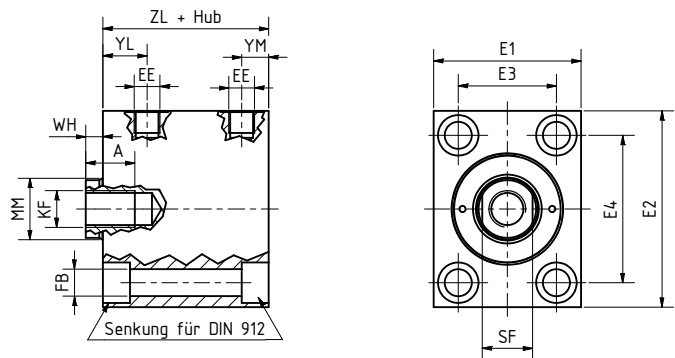
Mounting types



Mounting type 14: Rectangular flange cap end; ISO-des.: --

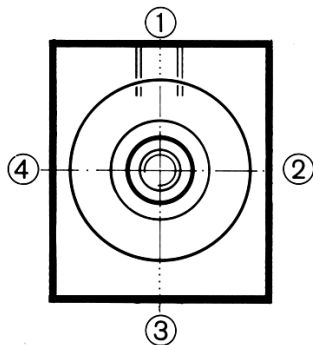


Mounting type 22: Foot mounting with fit-in key; ISO-des.: MS 2



Mounting type 43: Longitudinal bores, sinks on both sides; ISO-des.: --

Position of connections



Piston rod view

Connections: Standard position of connections is side 1 for all mounting types. Connections in different positions are available on request.

Piston rod dim.

Piston Ø	Rod end	Tol.	16	25	32	40	50	63	80	100	125	160	200
Piston rod Ø MM			10	16	20	25	32	40	50	63	80	100	125
A (l ₉)			12	15	15	25	30	40	40	60	70	80	100
KF (d ₈)			M6	M10	M12	M16	M20	M27	M30	M42	M48	M56	M72
SF (sw)			8	13	17	22	27	36	41	50	70	85	100

Rod end = piston rod ends which correspond to dimensions

Cylinder dimensions

Piston Ø	Mt.	Tol.	16	25	32	40	50	63	80	100	125	160	200											
Piston rod Ø MM			10	16	20	25	32	40	50	63	80	100	125											
Annulus area A ₁ (cm ²)			2.01	4.91	8.04	12.6	19.6	31.2	50.3	78.5	122.66	201	314											
Annulus area A ₂ (cm ²)			1.23	2.90	4.90	7.66	11.6	18.6	30.6	47.4	72.42	122.5	191.34											
Pushing force (kN / 100 bar)			2.01	4.98	8.04	12.6	19.6	31.2	50.3	78.5	126.7	201	314											
Pulling force (kN / 100 bar)			1.23	2.90	4.90	7.66	11.6	18.6	30.6	47.4	72.4	122.5	191.3											
BG	11, 12		12	16	20	20	24	32	35	50	50	55	80											
E1 (b ₁)	all		35	45	55	63	75	95	120	150	180	230	300											
E2 (b ₂)	all		60	65	75	85	100	125	160	200	230	300	380											
E3 (b ₃)	all	js13	22	30	35	40	45	65	80	108	130	160	220											
E4 (b ₄)	all	js13	40	50	55	63	76	95	120	158	180	230	300											
E5 (b ₅)	22	H11	8	10	12	12	15	20	24	28	35	42	55											
EE (d ₃)	all		G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/2	G 1/2	G 1/2	G 1/2	G 1/2	G3/4											
FB (d ₁₆)	02,13,14,43		6.6	9	11	11	14	18	22	27	33	39	52											
PA (t ₁)	22	+0.1	2	2	3	3	5	5	7	7	7	9	9											
RT	11, 12		M6	M8	M10	M10	M12	M16	M20	M24	M30	M36	M48											
SW (l ₃)	02, 22		30	33	38	40	44	50	60	64	82	90	112											
WH (l ₁)	all	±1	6	7	10	10	10	14	14	15	16	22	28											
YL (l ₄)	all	±0.5	18	19	24	26	28	28	36	35	42	57	70											
YM (l ₅)	all	±0.5	12	14	14	14	16	20	22	25	28	32	39											
ZL (L ₀)	all	+1	40	44	50	54	65	72	85	90	110	128	160											
standard stroke	all		16	50	20	50	25	50	25	50	25	50	30	63	32	80	40	100	40	100	40	100	40	100
ZL + standard stroke	all		56	90	64	94	75	100	79	104	90	115	102	135	117	165	130	190	150	210	168	228	200	260

Mt. = mounting types which correspond to dimensions

Weight

Weight (kg) m = m ₀ + (m _h / 10 x stroke)																									
Weight m ₀ at stroke = 0		0.54	0.81	1.62	1.84	3.15	6.5	10.6	15.4	29	69	234													
Weight m _h / 10 mm stroke		0.14	0.19	0.22	0.33	0.45	0.6	1.17	2.16	2.5	4.17	7.8													
Weight (kg) at standard stroke		0.8	1.2	1.2	1.8	2.2	2.7	2.7	3.5	4.3	5.4	8.3	10.3	14.3	19.6	24	37	39	54	85.6	110.7	265	312		

