

Description

- Threaded circular cylinder
- Piston diameter: 40 – 180 mm
- Without end position damping
- 4 forms of construction: foot mounting, flange in the front / back, swivel eye
- Especially made for the demands needed in the field of casting at casting machines and ingot casting machines
- With water cooling jacket and special seals for high temperatures
- Seals to be mounted: metal piston rings, rod seals as chevron seal set
- For HFC liquids each form of seal can be mounted
- High reliability and longevity by high-quality materials and accurate manufacturing

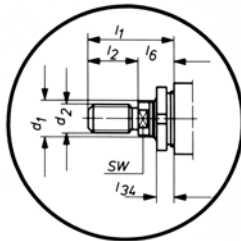
Technical data

- Operating pressure 160 bar (16 MPa); top peak pressures up to 250 bar
- Test pressure 240 bar (24 MPa)
- Hydraulic fluid temperature range: - 20 ... + 80 °C
- Viscosity range: (20 ... 80) 10⁻⁶ m_/s
- Piston velocity: ≤ 0,2 m/s (higher velocities on request)

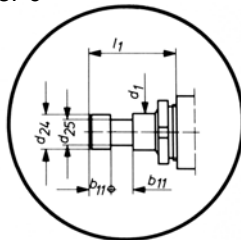
Hydraulic pressure substancesfluids:

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

Piston rod design



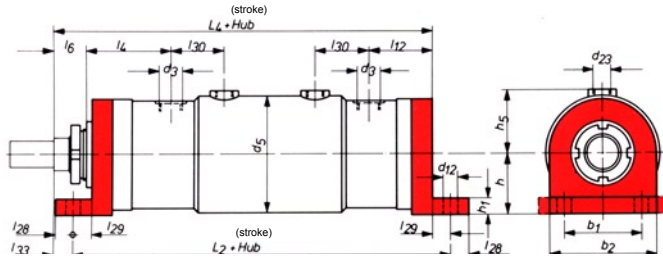
External thread,
ref. number **0**



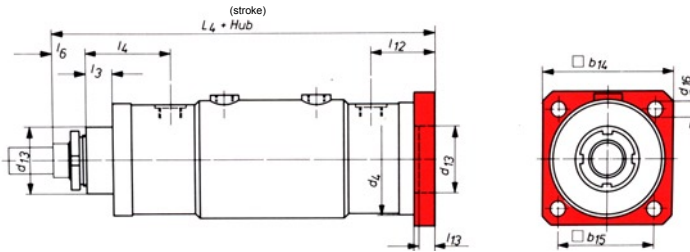
Coupling,
ref. number **3**

Forms of construction

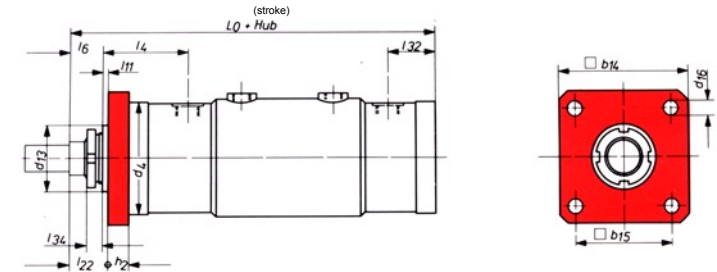
Foot mounting,
ref. number 2



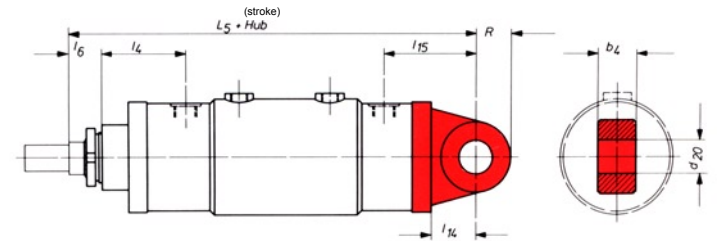
Flange in the back,
ref. number 4



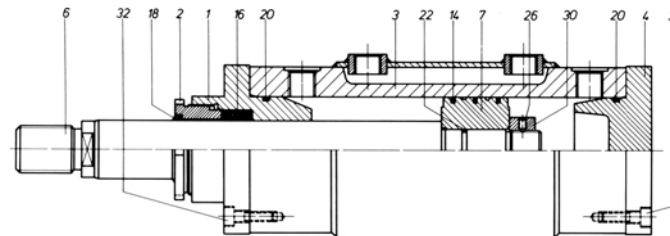
Flange in the front,
ref. number 3



Swivel eye,
ref. number 5



Parts list



For the ordering of replacement spare parts it is necessary to give a detailed specification of the type, e.g. 1 set of piston rings pos. 14 for hydraulic cylinders type 44.003.03.2.0/100/50/250/3.3.0

Quantity	Name	Pos.Number
1	Cylinder head	1
1	stuffing box	2
1	cylinder tube	3
1	cylinder cover	4
1	piston rod	6
1	piston	7
3	piston rings	14
1	seal kit	16
1	scraper ring	18
2	O-rings	20
1	O-ring	22
1	grub screw	26
1	piston nut	30
	cheese head screws	32
	cheese head screws	34

Piston-Ø	40	50	65	80	100	125	150	180
Piston rod-Ø d ₁	20	25	32	45	50	70	80	100
Piston area A ₁ (cm ²)	12,57	19,64	33,18	50,27	78,54	122,7	176,7	254,5
Annulus area A ₂ (cm ²)	9,43	14,73	25,14	34,37	58,9	84,22	126,43	175,96
d ₃	R 3/8"	R 3/8"	R 1/2"	R 1/2"	R 3/4"	R 3/4"	R 1"	R 1"
d ₄	72	84	100	128	148	170	200	230
d ₅	76	90	102	133	160	180	216	245
d ₁₂	9	11	14	16	20	26	33	39
d ₁₃	40	50	65	80	90	120	140	160
d ₁₆	9	11	14	16	20	26	33	39
d ₂₀	20	25	30	35	40	60	70	80
d ₂₃	R 1/4"	R 1/4"	R 1/4"	R 1/2"	R 1/2"	R 1/2"	R 1/2"	R 1/2"
d ₂₄	19,9	24,9	31,9	44,9	49,8	69,8	79,8	99,8
d ₂₅	14	18	24	30	35	48	58	76
L ₀	159	179	200	240	250	297	366	402
L ₂	167	190	210	251	259	322	400	452
L ₄	168	191	212	255	264	321	390	432
L ₅	185	213	238	280	302	367	446	492
l ₁	43	59	70	85	95	125	150	180
l ₂	25	34	40	50	60	80	100	120
l ₃	15	20	20	25	26	36	40	50
l ₄	57	65	66	85	78	102	117	145
l ₆	18	25	30	35	35	45	50	60
l ₁₁	3	4	4	5	6	6	8	10
l ₁₂	40	48	55	63	64	88	91	97
l ₁₃	9	12	12	15	14	24	24	30
l ₁₄	26	34	38	40	52	70	80	90
l ₁₅	57	70	81	88	102	134	147	157
l ₂₂	21	29	34	40	41	51	58	70
l ₂₈	10	14	13	14	18	24	32	36
l ₂₉	10	14	16	18	18	26	34	45
l ₃₀	41	41	43	47	54	54	61	61
l ₃₂	31	36	43	48	50	64	67	67
l ₃₃	11	15	18	22	23	25	24	25
l ₃₄	10	12	12	12	12	15	15	18

h	40	46	52	66	82	92	112	125
h ₁	12	12	13	15	25	25	30	30
h ₂	12	16	16	20	20	30	32	40
h ₅	45	50	56	74	82	92	112	130
b ₁	52	60	75	100	110	150	160	210
b ₂	72	84	100	128	148	200	220	280
b ₄	20	30	40	50	60	80	90	100
b ₁₁	12	15	20	25	30	40	50	60
b ₁₄	85	100	120	136	160	210	240	290
b ₁₅	64	74	93	106	127	158	186	220
R	20	27	30	33	43	60	70	80
SW	17	22	27	36	41	60	70	85

Type	TYP	KST	KSTH	KSTVV	BAF	BAA	DAE	DKO	MM	HUB	KDI	KSDI	EE
Example	51	0	0	8	02	2	1	050	022	0350	5	0	0

Abbr.	Types of cylinders	Types of cylinders							
TYP	Type of cylinder	41	44	46	47	48	51	55	57
KST	Rod	41	44	46	47	48	51	55	57
	0 Single	X	X	X	X	X	X	X	X
	1 Reciprocal (double rod cylinder)	X					X	X	
	2 Reciprocal, back rod small						X	X	
	3 Reciprocal, back rod big						X	X	
4 Reciprocal, back rod medium						X	X		
KSTH	Piston rod design back rod	41	44	46	47	48	51	55	57
	0 External thread	X	X	X	X	X	X	X	
	1 Internal thread	X					X	X	
	2 Cylindrical								
	4 External thread ISO 4395						X	X	
	5 Swivel head	X							
8 Swivel bearing (T.51,55: DIN 24555)	X					X	X		
KSTV	Piston rod design front rod	41	44	46	47	48	51	55	57
	0 External thread	X	X	X	X	X	X	X	
	1 Internal thread	X		X	X	X	X	X	X
	2 Cylindrical	X		X					
	3 Coupling		X						
	4 External thread ISO 4395						X	X	
	5 Swivel head	X		X	X	X	X	X	
	8 Swivel bearing (T.51,55: DIN 2455)	X		X	X	X	X	X	
BAF	Form of construction	41	44	46	47	48	51	55	57
	00 Basic construction	X		X	X	X	X	X	
	01 Threaded flange	X							
	02 Foot mounting	X	X	X			X	X	
	03 Flange in the front	X	X	X	X	X			X
	04 Flange in the back	X	X	X	X	X			
	05 Swivel eye	X	X	X	X	X	X	X	
	06 Trunnion bearing	X		X	X	X	X	X	
	08 Swivel bearing	X			X	X	X	X	
	10 Cross holes (without groove)								X
	11 Frontal fixing				X	X			
	12 Extensioned tie rod in the front						X	X	
	12 Extensioned tie rod in the back						X	X	
	13 Rectangular flange in the front			X	X	X	X	X	
	14 Rectangular flange in the back			X	X	X	X	X	
	15 Clevis mounting						X	X	
16* Trunnion on the head						X	X		
19 Extensioned tie rods on both sides						X	X		
22 Foot mounting with adjustment spring						X	X	X	
23* Rectangular flange in the front (wide)						X	X		
24 Foot plate / adjustment spring / O-ring connection						X	X		
26* Trunnion at the bottom						X	X		
33 Flange at the cylinder				X					

Abbr.	Types of cylinders	Types of cylinders							
		41	44	46	47	48	51	55	57
BAA	Type of construction	41	44	46	47	48	51	55	57
	2 Double acting	X	X	X	X	X	X	X	X
	6 Single acting with spring								X
DAE	Damping	41	44	46	47	48	51	55	57
	0 Without damping	X	X	X	X	X	X	X	X
	1 Damping in the front	X	X	X	X	X	X	X	
	2 Damping in the back	X	X	X	X	X	X	X	
3 Damping on both sides	X	X	X	X	X	X	X		
DKO	Piston diameter	41	44	46	47	48	51	55	57
	See measuring index								
MM	Piston rod diameter	41	44	46	47	48	51	55	57
	See measuring index								
HUB	Stroke	41	44	46	47	48	51	55	57
	Be careful with to buckling								
KDI	Piston seal	41	44	46	47	48	51	55	57
	0 NBR packing rings / PU packing rings	X _s	X	X	X	X	X	X	X
	2 Packing ring / Viton	X	X						
	3 Annulus piston / cast iron		X _s						
	5 Teflon / NBR	X	X	X _s	X _s	X _s	X _s	X _s	X _s
	6 Teflon / Viton	X	X	X	X	X	X	X	X
	7 Compact seal / NBR	X		X	X	X	X	X	X
KSDI	Piston rod sealing	41	44	46	47	48	51	55	57
	0 NBR packing rings / PU packing rings	X _s			X _s	X _s	X _s	X _s	X _s
	1 PU-packing ring U-seal				X	X	X	X	X
	2 Packing ring / Viton	X			X	X	X	X	X
	3 NBR seal kit		X _s	X _s					
	4 Viton-seal kit		X	X					
	5 Teflon / NBR			X	X	X	X	X	X
6 Teflon / Viton			X	X	X	X	X	X	
EE	Hydraulic connections	41	44	46	47	48	51	55	57
	0 Withworth pipe thread	X _s	X _s	X _s	X _s	X _s	X _s	X _s	X _s
	1 Metr. ISO thread	X	X	X	X	X	X	X	
	2 UNF thread	X		X	X	X	X	X	
3 Flange connection			X	X	X	X	X		

Index s = Standard version

* These types of construction are not produced !!!