HYDROPNEU
Partner für Hydraulik
Zylinder - Antriebe - Sonderlösungen

Description

- Standard cylinder in threaded, partly welded circular design
- Strokes up to 2000 mm
- Piston diameter: 12 – 200 mm
- Without end position damping
- 7 forms of construction, as single rod or double rod cylinder
- Construction of all types by screwing-on of components
- By their slim, compact design and their short overall length they can be installed perfectly even under difficult conditions. The narrow graduation of the piston diameters between 12 and 150 mm ensures high flexibility.
- The types 0-8 are available with different piston rod designs. Additionally, the single types can be combined with each other.

Technical data

- Operating pressure 125 bar (12,5 MPa)
- Hydraulic fluid temperature range: - 20 ... + 80 °C
- Viscosity range: (20 ... 80) 10^{-6} m/s
- Piston velocity: ≤ 0,5 m/s

Hydraulic pressure substancesfluids:

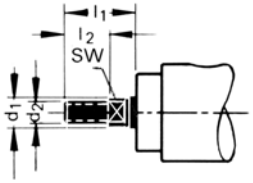
- Mineral oils, HFD liquids in combination with seals made of PTFE and fluoric elastomeres HFA, HFB and HFC liquids on request.

HYDROPNEU
Partner für Hydraulik
Zylinder - Antriebe - Sonderlösungen

Piston rod design

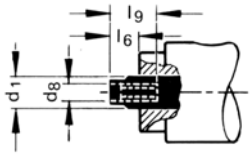
External thread

Reference number **0**



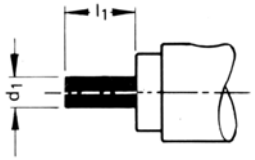
Internal thread

Reference number **1**



Cylindrical

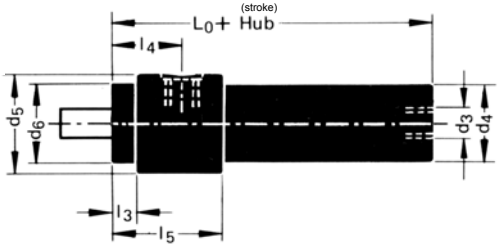
Reference number **2**



Forms of construction

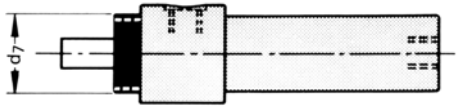
Basic type

Reference number **0**



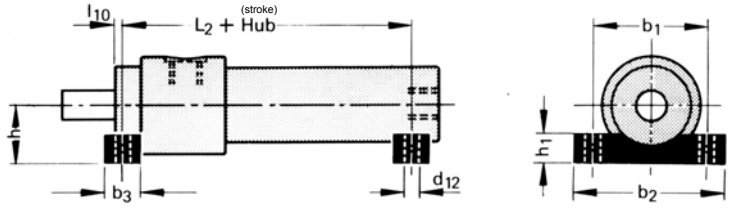
Threaded flange

Reference number **1**



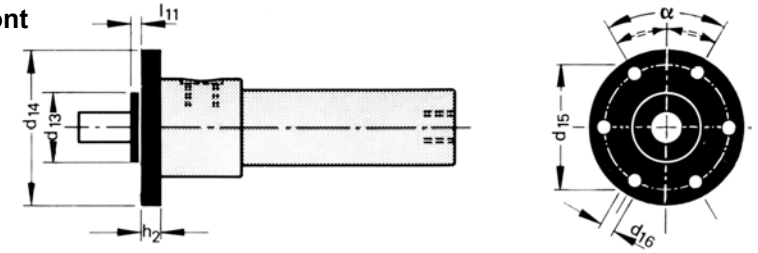
Foot mounting

Reference number **2**



Flange in the front

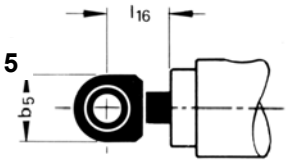
Reference number **3**



Piston rod design

Swivel eye

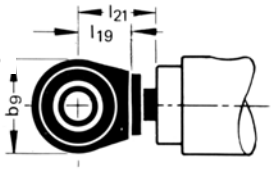
Reference number 5



for missing dimensions see form of construction

Clevis eye

Reference number 8

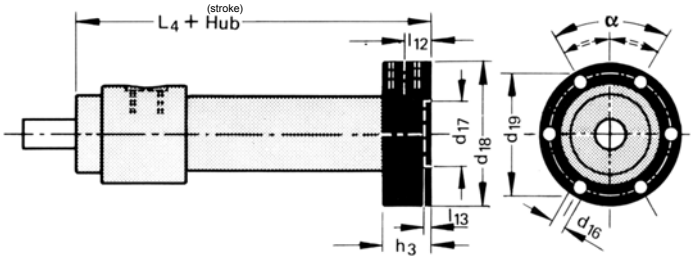


for missing dimensions see form of construction

Forms of construction

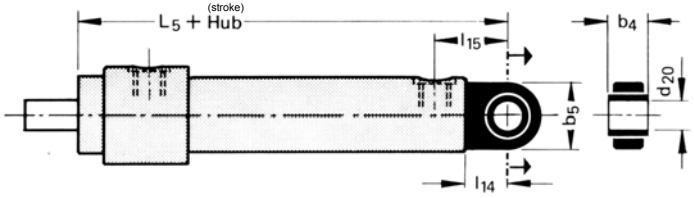
Flange in the back

Reference number 4



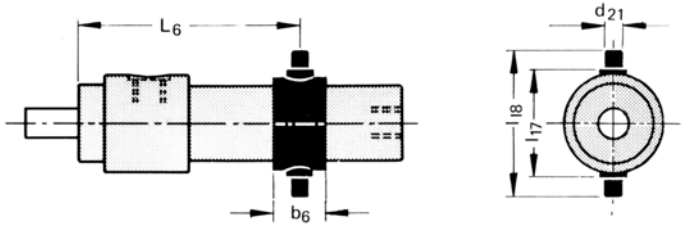
Swivel eye

Reference number 5



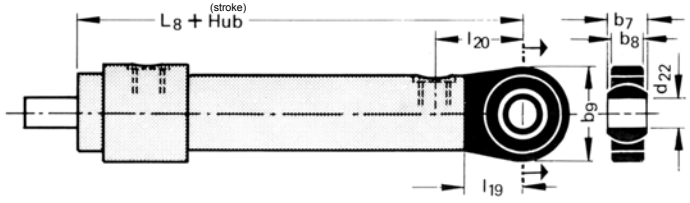
Trunnion

Reference number 6



Swivel bearing

Reference number 8



HYDROPNEU
Partner für Hydraulik
Zylinder - Antriebe - Sonderlösungen

Types, reference numbers 0-8

Kst-A = dimension belongs to piston rod design number:

Piston rod dimensions																														
Piston-Ø		**Kst-A**	**12**	**15**	**20**	**25**		**30**	**35**	**40**		**50**		**60**		**70**		**80**		**90**		**100**		**120**		**150**		**200**	
b_4		5	10	12	13	16	16	22	22	22	22	32	32	32	32	35	35	45	45	50	50	55	55	65	65	90	90	100	140
b_5		5	14	14	18	26	26	36	32	36	36	44	38	44	44	50	50	60	60	66	66	72	72	84	84	110	110	170	170
b_7		8				10	10	12	12	14	14	16	16	17	17	20	20	22	22	22	22	25	25	32	32	48	48	70	70
b_8		8				7	7	9	9	10	10	12	12	13	13	16	16	18	18	18	18	20	20	25	25	40	40	60	60
b_9		8				30	30	40	40	45	45	55	55	60	60	70	70	80	80	80	80	90	90	110	110	150	150	240	240
Piston rod-Ø d1		0	**6**	**8**	**10**	**12**	**18**	**18**	**18**	**20**	**25**	**25**	**30**	**30**	**40**	**32**	**40**	**40**	**45**	**45**	**50**	**50**	**60**	**60**	**80**	**80**	**100**	**110**	**140**
d_2		0	M5	M6	M8	M10	M14x1,5			M16x1,5	M22x1,5		M24x1,5		M26x1,5		M35x1,5		M40x1,5				M50x1,5		M72x1,5		M85x2	M80x3	M100x3
d_8		1				M8x0,75		M12x1,5		M14x1,5		M18x1,5		M22x1,5		M24x1,5		M28x1,5		M32x1,5		M35x1,5		M42x1,5		M60x1,5		M64x3	
d_9	H8	1				8,5	8,5	13	13	15	15	19	19	23	23	25	25	29	29	33	33	36	36	43	43	62	62	65	65
d_{10}		1				11,5	17	17	17	19	24	24	28	28	38	30	38	38	42	42	47	47	57	57	77	77	96	107	107
d_{11}		1				2	2,5	2,5	2,5	2,5	3	3	4	4	4	4	4	4	5	5	5	5	5	5	6	6	8	5	5
d_{20}	H7	5	6	6	8	12	12	16	16	18	18	20	20	22	22	25	25	30	30	32	32	36	36	45	45	60	60	100	100
d_{22}	H7	8				12	12	16	16	18	18	20	20	22	22	25	25	32	32	32	32	36	36	45	45	70	70	100	100
l_1		0	14	15	20	26	26	32	32	35	35	50	50	50	50	55	55	60	60	65	65	75	75	80	80	110	110	125	142
l_2		0	10	10	12	15	15	22	22	22	22	30	30	32	32	35	35	40	40	45	45	50	50	55	55	80	80	95	112
l_6		1				10	10	12	12	13	13	14	14	18	18	18	18	20	20	24	24	30	30	32	32	36	36	30	30
l_7		1				7	7	9	9	8	8	8	8	10	10	10	10	10	12	12	12	12	12	12	12	15	15	22	22
l_9		1				18	18	25	25	29	29	35	35	35	35	38	38	44	44	49	49	55	55	55	55	67	67	100	100
l_{16}		5	17	17	22	32	32	36	36	40	40	50	50	55	55	63	63	70	70	78	78	86	86	98	98	125	125	147	147
l_{19}		8				20	20	26	26	29	29	35	35	38	38	44	44	50	50	50	50	58	58	70	70	100	100	132	132
l_{21}		8				36	36	46	46	52	52	59	59	67	67	76	76	86	86	90	90	108	108	127	127	176	176	212	212
sw		0	5	6	8	10	15	15	15	17	22	22	24	24	36	27	36	36	36	36	41	41	50	50	70	70	85	90	90

HYDROPNEU
Partner für Hydraulik
Zylinder - Antriebe - Sonderlösungen

Types, reference numbers 0-8

Bf = dimension belongs to type number:

Cylinder dimensions																															
Piston-Ø		**Bf**	**12**	**15**	**20**	**25**		**30**	**35**	**40**		**50**		**60**		**70**		**80**		**90**		**100**		**120**		**150**			**200**
Piston rod-Ø d1		**0**	**6**	**8**	**10**	**12**	**18**	**18**	**18**	**20**	**25**	**25**	**30**	**30**	**40**	**32**	**40**	**40**	**45**	**45**	**50**	**50**	**60**	**60**	**80**	**80**	**100**	**110**	**140**
b_1		2				48	48	62	62	70	70	85	85	100	100	112	112	125	125	140	140	156	156	180	180	232	232		
b_2		2				65	65	80	80	92	92	110	110	130	130	145	145	156	156	178	178	195	195	230	230	290	290		
b_3		2				18	18	18	18	22	22	24	24	28	28	32	32	32	32	40	40	40	40	45	45	56	56		
b_4		5	10	12	13	16	16	22	22	22	22	32	32	32	32	35	35	45	45	50	50	55	55	65	65	90	90	100	100
b_5		5	14	14	18	26	26	32	32	36	36	38	38	44	44	50	50	60	60	66	66	72	72	84	84	110	110	170	170
b_6		6				25	25	28	28	38	38	38	38	50	50	50	50	56	56	60	60	66	66	80	80	100	100	140	140
b_7		8				10	10	12	12	14	14	16	16	17	17	20	20	22	22	22	22	25	25	32	32	48	48	70	70
b_8		8				7	7	9	9	10	10	12	12	13	13	16	16	18	18	18	18	20	20	25	25	40	40	60	60
b_9		8				30	30	40	40	45	45	55	55	60	60	70	70	80	80	80	80	90	90	110	110	150	150	240	240
d_3	normal	0	R 1/8"			R 1/8"			R 1/4"			R 3/8"				R 1/2"								R 3/4"				R 1 1/4	R 1 1/4
d_4		0	18	22	26	32	32	40	45	50	50	60	60	75	75	85	85	95	95	105	105	120	120	140	140	180	180	245	245
d_5		0	28	30	32	46	46	56	56	63	63	70	70	94	94	98	98	115	115	120	120	134	134	165	165	210	210	270	270
d_6		0	22	26	26	26	32	40	40	50	50	50	50	60	60	72	72	72	72	85	85	100	100	110	110	140	140	200	200
d_7		1	M18x1,5	M22x1,5	M26x1,5	M26x1,5	M32x1,5	M40 x1,5		M50x1,5				M60x1,5		M72x1,5				M 85x2		M 100x2							
d_{12}		2				9	9	9	9	11	11	14	14	16	16	18	18	18	18	22	22	22	22	26	26	33	33		
d_{13}	f7	3	22	26	26	26	32	40	40	50	50	50	50	60	60	72	72	72	72	85	85	100	100	110	110	140	140	200	200
d_{14}		3	48	50	58	74	74	86	92	92	92	116	116	132	132	146	146	152	152	170	170	185	185	230	230	280	280	365	365
d_{15}		3	38	40	48	60	60	72	72	78	78	96	96	112	112	126	126	132	132	148	148	162	162	200	200	248	248	315	315
d_{16}		4	4,5	4,4	4,5	6,6	6,6	6,6	6,6	6,6	6,6	9	9	9	9	9	9	9	9	11	11	14	14	16	16	18	18	26	26
d_{17}	H8	4	12	15	20	25	25	30	36	40	40	50	50	60	60	70	70	80	80	90	90	100	100	120	120	150	150	200	200
d_{18}		4	44	48	52	65	65	80	80	86	86	108	108	122	122	134	134	140	140	156	156	176	176	202	202	250	250	365	365
d_{19}		4	34	38	42	52	52	65	65	72	72	88	88	102	102	114	114	122	122	134	134	152	152	172	172	218	218	315	315
d_{20}	H7	5	6	6	8	12	12	16	16	18	18	20	20	22	22	25	25	30	30	32	32	36	36	45	45	60	60	100	100
d_{21}	f7	6				14	14	18	18	20	20	22	22	25	25	30	30	36	36	40	40	45	45	50	50	65	65	100	100
d_{22}	H7	8				12	12	16	16	18	18	20	20	22	22	25	25	32	32	32	32	36	36	45	45	70	70	100	100
h		2				22	22	28	28	32	32	38	38	45	45	52	52	57	57	64	64	70	70	85	85	110	110		
h_1		2				12	12	14	14	12	12	18	18	20	20	20	20	32	32	30	30	30	30	35	35	48	48		
h_2		3	6	8	8	8	8	9	9	11	11	12	12	14	14	16	16	20	20	21	21	24	24	28	28	30	30	42	42
h_3		4	18	18	18	18	18	22	22	27	27	27	27	34	34	34	34	34	34	34	34	45	45	45	45	50	50	42	42
Stroke	min	6				25	25	25	25	40	40	35	35	45	45	45	45	45	45	50	50	50	50	0	0	10	10	100	100
L_0		0	62	69	81	72	72	85	85	93	93	102	102	115	115	117	117	129	129	144	144	157	157	217	217	220	220	305	305
L_2		2				62	62	73	73	79	79	86	86	97	97	95	95	104	104	118	118	127	127	183	183	184	184		
L_4		4	75,5	82,5	94,5	83	83	100	100	113	113	121	121	140	140	139	139	151	151	164	164	190	190	244	244	252	252	342	342
L_5		5	84	91	109	102	102	122	122	136	136	147	147	167	167	170	170	190	190	204	204	231	231	299	299	327	327	417	417
L_6	min	6				75	75	85	85	98	98	105	105	125	125	125	125	136	136	145	145	160	160	121	121	148	148	215	215
L_8		8				105	105	128	128	142	142	158	158	178	178	184	184	202	202	214	214	246	246	317	317	362	362	437	437
l_3		0	8	10	10	10	10	12	12	14	14	16	16	18	18	20	20	25	25	26	26	30	30	34	34	36	36	47	47
l_4		0	22	25	33	21	21	25	25	32	32	35	35	41	41	42	42	42	42	46	46	55	55	59	59	73	73	96	96
l_5		0	52	57	68	55	55	62	62	70	70	77	77	91	91	90	90	98	98	105	105	115	115	119	119	138	138	190	190
l_{10}		2				1	1	3	3	3	3	4	4	4	4	4	4	9	9	6	6	10	10	11,5	11,5	8	8		
l_{11}		3	2	2	2	2	2	3	3	3	3	4	4	4	4	4	4	5	5	5	5	6	6	6	6	6	6	6	6
l_{12}		4	9	9	9	9	9	11	11	13,5	13,5	13,5	13,5	17	17	17	17	17	17	17	17	22,5	22,5	22,5	22,5	25	25		
l_{13}		4	1,5	2	2	2	2	3	3	3,5	3,5	4	4	5	5	5	5	6	6	6	6	7	7	8	8	9	9		
l_{14}		5	11	11	13	17	17	20	20	23	23	24	24	27	27	30	30	38	38	40	40	43	43	52	52	65	65	112	112
l_{15}		5	19	19	23	26	26	31	35	35	35	37	37	42	42	45	45	53	53	55	55	62	62	72	72	87	87	178	178
l_{17}		6				44	44	55	66	66	66	76	76	94	94	106	106	120	120	132	132	160	160	170	170	226	226		
l_{18}		6				64	64	79	84	92	92	102	102	126	126	146	146	164	164	192	192	220	220	230	230	330	330		
l_{19}		8				20	20	26	26	29	29	35	35	38	38	44	44	50	50	50	50	58	58	70	70	100	100		
l_{20}		8				29	29	37	37	41	41	48	48	53	53	59	59	65	65	65	65	77	77	90	90	122	122		
n x a Grad		4	3 x 120			4 x 90				6 x 60				8 x 45												10 x 36		8 x 45	

HYDROPNEU
Partner für Hydraulik
Zylinder - Antriebe - Sonderlösungen

Type classification Standard cylinders / Standard cylinders DIN/ISO

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			
	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	Xs	X	X	X	X	X	X	X
2	Packing ring / Viton	X	X						
3	Annulus piston / cast iron		Xs						
5	Teflon / NBR	X	X	Xs	Xs	Xs	Xs	Xs	Xs
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	Xs			Xs	Xs	Xs	Xs	Xs
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		Xs	Xs					
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	Xs	Xs	Xs	Xs	Xs	Xs	Xs	Xs
1	Metr. ISO thread	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 !!!