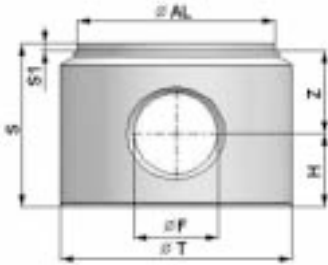


Mounting elements for hydraulic cylinders

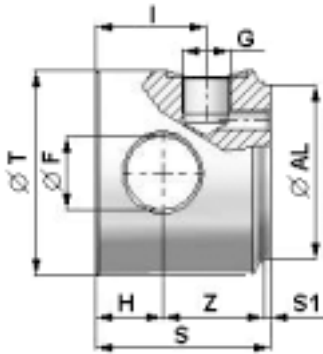
Cylinder base with bore



Code	Dia. AL	Dia. T	S	S1	Dia. F	H	Z	kg
HK CF 040 050 16	40	50	35	2	16.20	15	18	0.42
HK CF 050 060 20	50	60	45	2	20.25	20	23	0.80
HK CF 060 070 25	60	70	50	2	25.25	22.5	25.5	1.20
HK CF 070 080 25	70	80	50	2	25.25	22.5	25.5	1.60
HK CF 080 095 30	80	95	60	2	30.25	25	33	2.70
HK CF 100 115 35	100	115	70	2	35.25	30	38	4.70

Material: FE 510-A105

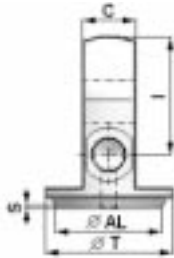
Cylinder base with bore and oil inlet



Code	Dia. AL	Dia. T	S	S1	Dia. F	H	Z	G	I	kg
HK CFE 040 050 4	40	50	50	2	16.20	15	33	1/4	30	0.60
HK CFE 050 060 6	50	60	60	2	20.25	20	38	3/8	38	1.10
HK CFE 060 070 6	60	70	60	2	25.25	23	35	3/8	38	1.40
HK CFE 070 080 6	70	80	60	2	25.25	23	35	3/8	38	1.95
HK CFE 080 095 8	80	95	75	2	30.25	25	48	1/2	47	2.50
HK CFE 100 115 8	100	115	75	2	35.25	30	43	1/2	47	4.50

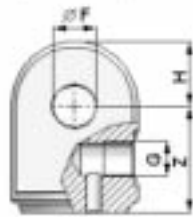
Material: FE 510-A105

Hinged cylinder base with oil inlet

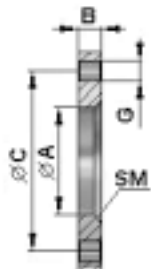


Code	Dia. AL	Dia. T	C	S	Dia. F	H	Z	G	I	kg
HK CFB 040 050 4	40	50	24.80	2	16.20	19	46	1/4	39	0.56
HK CFB 050 060 6	50	60	24.80	2	20.25	31	51	3/8	56	0.84
HK CFB 060 070 6	60	70	24.80	2	25.25	33	57	3/8	63	1.15
HK CFB 070 080 6	70	80	39.50	2	25.25	42	65	3/8	82	2.70
HK CFB 061 071 6	60	70	25.00	2	25.25	29.5	47	3/8	48	0.81

Material: FE 510

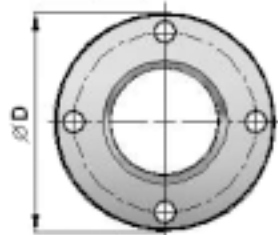


Flange



Code	Dia. A	Dia. D	B	Dia. C	G	SM	kg
HK CFLO 050 109	50	109	12.5	87	4 x dia. 11	4 x 45°	0.66
HK CFLO 060 128	60	128	14.5	105	4 x dia. 13	4 x 45°	1.09
HK CFLO 070 142	70	142	16.5	117	4 x dia. 13	5 x 45°	1.5
HK CFLO 080 162	80	162	16.5	127	4 x dia. 15	5 x 45°	1.94
HK CFLO 095 181	95	181	18.5	149	6 x dia. 17	7 x 45°	2.53
HK CFLO 115 194	115	194	24.5	162	6 x dia. 17	8 x 45°	3.47

Tolerance: Dia. A +0.2, +0.3, Material: FE 510C



Swivel journal gimbal mounting

Code	A	B	C	Dia. D	Dia. E	F	G	Dia. I	kg
HK CPB0 10 0000	70	20	110	20	50	65	30	30	0.52
HK CPB0 20 0000	80	25	130	25	60	75	35	35	0.79
HK CPB0 30 0000	100	30	160	30	70	90	45	45	1.57
HK CPB0 40 0000	110	35	180	35	80	100	50	50	2.35
HK SZ 80 (*)	132	40	212	40	95	133	50	-	3.80
HK SZ 100 (*)	160	50	260	50	115	159	61	-	5.10

Tolerance: Dia. E +0.2, +0.3

Material: FE 510C (HK CPB0) / St52 (HK SZ)

(*) Body and journal loose, must be welded together

Bush swivel journal

Code	Dia. D	Dia. F	H	kg
HK CB 16 035 030	35	16.2	30	0.18
HK CB 16 035 060	35	16.2	60	0.36
HK CB 20 040 040	40	20.3	40	0.29
HK CB 20 040 070	40	20.3	70	0.50
HK CB 25 050 050	50	25.3	50	0.56
HK CB 25 050 080	50	25.3	80	0.89
HK CB 25 050 090	50	25.3	90	1.02
HK CB 30 060 060	60	30.3	60	0.97
HK CB 30 060 110	60	30.3	110	1.79
HK CB 40 070 070	70	40.3	70	1.60
HK CB 40 070 130	70	40.3	130	2.65

Material: Steel 9SMn28

Fixed-eye swivel bearing

Code	Dia. F	S	P	U	T	kg
HK COF 16 00000	16.2	20	35	42	25	0.18
HK COF 20 00000	20.25	25	45	50	30	0.35
HK COF 25 00000	25.25	30	50	60	35	0.56
HK COF 30 00000	30.25	35	60	75	45	0.97
HK COF 35 00000	35.25	40	70	90	55	1.60

Material: FE 37

Swinging end

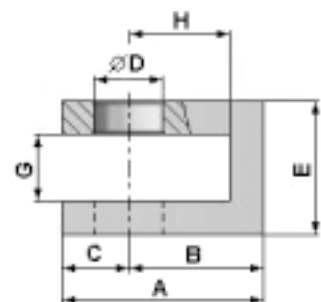
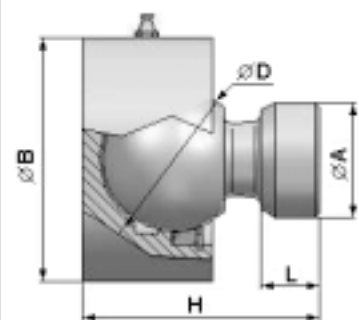
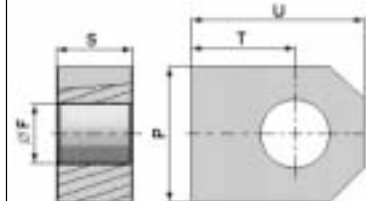
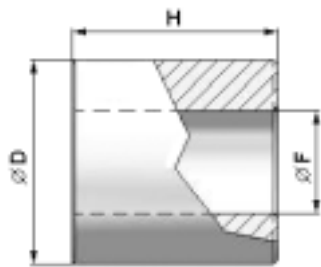
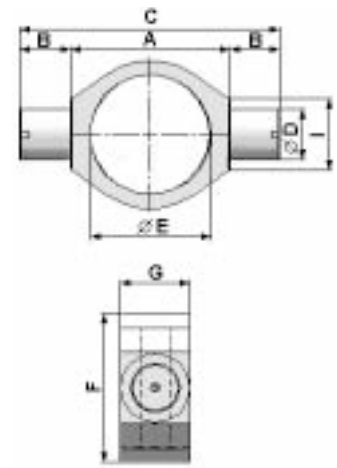
Code	Dia. D	Dia. A	Dia. B	H	L	kg
HK CSB 05 00000	50	40	85	82	20	2.2
HK CSB 06 00000	60	50	98	100	25	3.4
HK CSB 07 00000	70	60	105	115	30	4.8

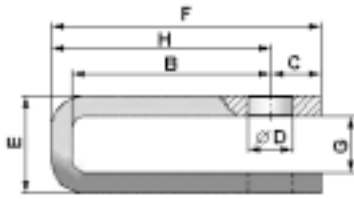
Material: Steel C46

Yoke ends, short

Code	Dia. D	A	B	H	C	E	G	Width	kg
HK CFS 00000 16	16.20	50	34	24	16	35	16	35	0.27
HK CFS 00000 20	20.25	60	40	30	20	40	20	40	0.38
HK CFS 00000 25	25.25	70	45	30	25	50	25	50	0.71
HK CFS 00000 30	30.25	80	50	35	30	60	30	60	1.10
HK CFS 00000 35	35.25	90	55	40	35	70	35	70	1.60

Material: FE 52



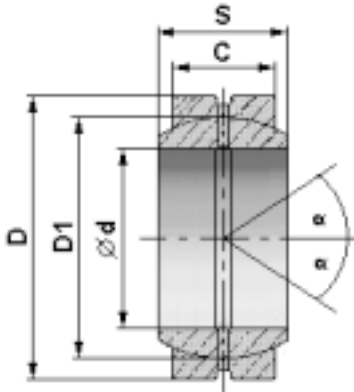


Yoke ends, long

Code	Dia. D	F	H	B	C	E	G	Profile	kg
HK CFP 4010 125	20.25	125	105	95	20	40.5	20.5	40 x 10	0.50
HK CFP 4510 067	20.25	67	40	30	27	43	23	45 x 10	1.00
HK CFP 4510 132	22.25	132	107	97	25	48	28	45 x 10	1.00
HK CFP 5015 135	26.25	135	110	95	25	52	22	50 x 15	1.30
HK CFP 5015 140	26.25	140	110	95	30	63	33	50 x 15	1.50
HK CFP 6020 175	26.25	175	145	125	30	75	35	60 x 20	3.00
HK CFP 6020 180	26.25	180	150	130	30	80	40	60 x 20	3.50

Material: FE 37

Radial pivot bearings "GE"

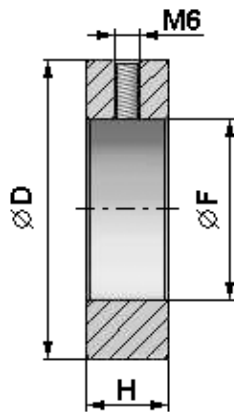


Code	Dia. D	D	S	C	D1	r	kg
HK CGE 015 0000	15	26	12	9	22	8	0.03
HK CGE 020 0000	20	35	16	12	29	9	0.06
HK CGE 025 0000	25	42	20	16	35.5	7	0.11
HK CGE 030 0000	30	47	22	18	40.7	6	0.14
HK CGE 035 0000	35	55	25	20	47	6	0.22
HK CGE 040 0000	40	62	28	22	53	7	0.30
HK CGE 045 0000	45	68	32	25	60	7	0.40
HK CGE 050 0000	50	75	35	28	66	6	0.55
HK CGE 060 0000	60	90	44	36	80	6	1.00

Standard DIN 648, Series E – ISO 6124/1

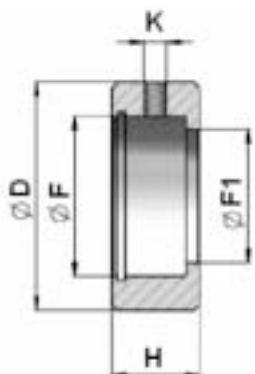
Material: Steel

Ring for pivot bearing "GE"



Code	Dia. D	Dia. F	H	kg
HK CAGE 040 026	40	26	11	0.06
HK CAGE 050 035	50	35	14	0.11
HK CAGE 069 042	69	42	19	0.34
HK CAGE 075 047	75	47	20	0.41
HK CAGE 080 055	80	55	22	0.45
HK CAGE 094 062	94	62	26	0.79

Material: FE 510-A105



Code	Dia. D	Dia. F	Dia. F1	H	K	Weight kg
HK CAGEN 040 150 15	40	26.0	22	15	M6	0.09
HK CAGEN 0501 90 20	50	35.0	29	19	M6	0.15
HK CAGEN 060 230 25	60	42.0	35	23	M6	0.26
HK CAGEN 070 280 30	70	47.0	40	28	M6	0.47
HK CAGEN 085 300 35	85	55.0	47	30	M6	0.79
HK CAGEN 095 350 40	95	62.0	53	35	M8	1.14
HK CAGEN 110 4004 5	110	68.0	60	40	M8	1.87
HK CAGEN 120 400 50	120	75.0	66	40	M8	2.18
HK CAGEN 138 500 60	138	90.0	80	50	M8	3.40

Material: FE 510-A105

Pivot yokes (agricultural machinery)

Code	A	C	M	D	E		kg
HK CSR 00 107 08	19.3	44	58	62	34 Dia.	Machined smooth	0.6
HK CSR 00 107 20	20.2	44	58	62	34 Dia.		0.6
HK CSR 00 107 25	22.2	35	50	62	26 Dia.	Rough	0.55
HK CSR 00 107 40	25.4	51	65	75	38 Dia.	Machined smooth	1.10
HK CSR 00 108 10	30.2	55	65	83	50 Dia.		1.40
HK CSR 00 108 12	35.2	35	65	83	50 Dia.		1.20
HK CSR 00 108 20	40.2	75	85	108	60 Dia.		3.35
HK CSR 00 108 40	45.2	75	85	108	60 Dia.		3.15
HK CSR 00 108 60	50.2	75	85	108	60 Dia.		2.90

Material: Steel

Code	A	E	D	M	C	N	kg
HK CSR 00 104 95	16.2	30	46	60	20	11	0.26

Material: Steel

Pivot yokes with regreasable bearings (industry)

STANDARD DIN 648, SERIES E. TYPE N

Code	d	S	l	d1	d2	S1	L	Max. admissible dynamic load kN	kg
HK CSTS 020 N 00	20	19	38	50	24	16	63	30	0.35
HK CSTS 025 N 00	25	23	45	55	29	20	72.5	48	0.53
HK CSTS 030 N 00	30	28	51	65	34	22	83.5	62	0.85
HK CSTS 035 N 00	35	30	61	83	39.5	25	102.5	80	1.50
HK CSTS 040 N 00	40	35	69	100	45	28	119	100	2.48
HK CSTS 045 N 00	45	40	77	110	50.5	32	132	127	3.45
HK CSTS 050 N 00	50	40	88	123	56	35	149.5	156	4.45
HK CSTS 060 N 00	60	50	100	140	66.5	44	170	245	7.10
HK CSTS 070 N 00	70	55	115	164	77.5	49	197	315	10.7
HK CSTS 080 N 00	80	60	141	180	89	55	231	400	15.1
HK CSTS 090 N 00(*)	90	65	150	226	98	60	263	490	23.9

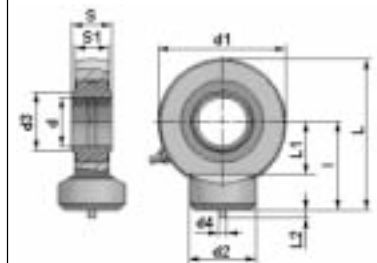
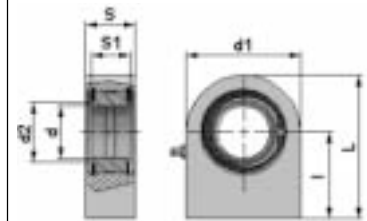
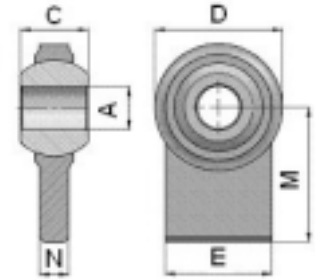
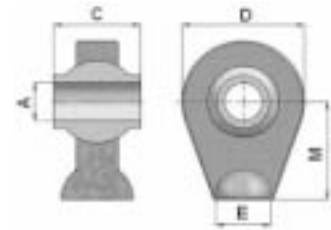
Material: Steel ST 52.3

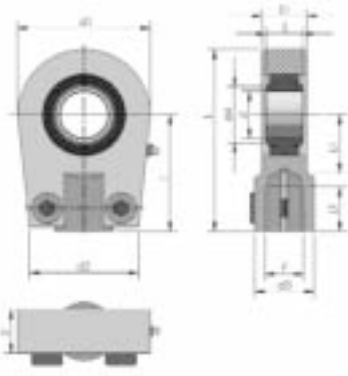
(*) not regreasable

STANDARD DIN 648, SERIES E. TYPE C

Code	d	S	l	d1	d2	d3	d4	S1	L	L1	L2	Max. ad- missible dyn. load kN	kg
HK CSTS 020 C 00	20	16	38	53	27.5	24	4	13	64.5	23	3	30	0.25
HK CSTS 025 C 00	25	20	45	64	33.5	29	4	17	77	27	4	48	0.45
HK CSTS 030 C 00	30	22	51	73	40	34	4	19	87.5	30	4	62	0.67
HK CSTS 035 C 00	35	25	61	82	47	40	4	21	102	37	4	80	0.98
HK CSTS 040 C 00	40	28	69	92	52	45	4	23	115	44	5	100	1.35
HK CSTS 045 C 00	45	32	77	102	58	51	6	27	128	48	5	127	1.93
HK CSTS 050 C 00	50	35	88	112	62	56	6	30	144	58	6	156	2.65
HK CSTS 060 C 00	60	44	100	135	70	67	6	38	167.5	68	8	245	4.60
HK CSTS 070 C 00	70	49	115	160	80	78	6	42	195	78	10	315	7.00
HK CSTS 080 C 00	80	55	141	180	95	89	6	47	231	91	10	400	11.00

Material: Steel ST 52.3





Pivot yokes with regreasable bearings, clampable

Code	d	i	S	LF	d1	d2	d3	d4	S1	S2	L	L1	F	Max. admissible dyn. load kN	kg
HK WAPR 020 U	20	50	16	17	56	46	25	24	19	17	80	25	M16 x 1.5	30	0.44
HK WAPR 025 U	25	50	20	17	56	46	25	29	23	21	80	28	M16 x 1.5	48	0.47
HK WAPR 030 U	30	60	22	23	64	50	32	34	28	26	94	30	M22 x 1.5	62	0.77
HK WAPR 035 U	35	70	25	29	78	66	40	40	30	28	112	38	M28 x 1.5	80	1.24
HK WAPR 040 U	40	85	28	36	94	76	49	45	35	33	135	45	M35 x 1.5	100	2.12
HK WAPR 050 U	50	105	35	46	116	90	61	56	40	37	168	55	M45 x 1.5	156	3.74
HK WAPR 060 U	60	130	44	59	130	120	75	67	50	46	200	65	M58 x 1.5	245	6.49
HK WAPR 070 U	70	150	49	66	154	130	86	79	55	51	232	75	M65 x 1.5	315	9.8
HK WAPR 080 U	80	170	55	81	176	160	105	89	60	55	265	80	M80 x 2	400	14.4
HK WAPR 090 U	90	210	60	101	206	180	124	98	65	60	322	90	M100 x 2	490	23.5

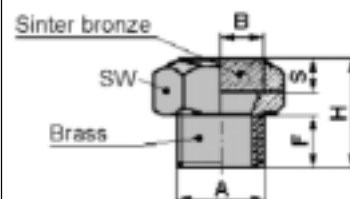
Material: Steel ST 52.3

Further sizes and types of pivot bearing available on request.

Accessories and spare parts for hydraulic cylinders

Venting and breather plug

Code	A	B	SW	F	S	H	kg
HK ASEP 03 0000	1/8"	11	13	6	4	13	0.01
HK ASEP 04 0000	1/4"	14	16	8		16	0.01
HK ASEP 06 0000	3/8"	17	19	9		18	0.02
HK ASEP 08 0000	1/2"	22	24	11		20	0.02
HK ASEP 12 0000	3/4"	28	30	13		24	0.04
HK ASEP 16 0000	1"	34	36	15		27	0.06



Piston rods – yard goods

Corrosion resistant up to 40 hours in the NSS test

Code	Diameter	Weight kg/m
HK FAC 012 L000	12	0.91
HK FAC 016 L000	16	1.58
HK FAC 018 L000	18	2.00
HK FAC 020 L000	20	2.47
HK FAC 022 L000	22	2.98
HK FAC 025 L000	25	3.95
HK FAC 028 L000	28	4.83
HK FAC 030 L000	30	5.55
HK FAC 032 L000	32	6.31
HK FAC 035 L000	35	7.55
HK FAC 036 L000	36	7.99
HK FAC 040 L000	40	9.86
HK FAC 042 L000	42	11.10
HK FAC 045 L000	45	12.50
HK FAC 050 L000	50	15.40
HK FAC 055 L000	55	18.70
HK FAC 056 L000	56	19.30
HK FAC 060 L000	60	22.30
HK FAC 063 L000	63	24.46
HK FAC 070 L000	70	30.20
HK FAC 080 L000	80	39.50
HK FAC 090 L000	90	49.91
HK FAC 100 L000	100	61.62
HK FAC 110 L000	110	74.60
HK FAC 120 L000	120	88.80
HK FAC 140 L000	140	120.80

Material: 20MnV6 hart chrome-plated 25 µm +/- 5 µm; further sizes on request

Piston rods - yard goods HIPERCHROM 200

Corrosion resistant up to 200 hours in the NSS test

Code	Diameter	Weight kg/m
HK FAC 016 HC2 L000	16	1.58
HK FAC 018 HC2 L000	18	2.00
HK FAC 020 HC2 L000	20	2.47
HK FAC 022 HC2 L000	22	2.99
HK FAC 025 HC2 L000	25	3.86
HK FAC 028 HC2 L000	28	4.84
HK FAC 030 HC2 L000	30	5.56
HK FAC 032 HC2 L000	32	6.32
HK FAC 035 HC2 L000	35	7.56
HK FAC 036 HC2 L000	36	8.00
HK FAC 040 HC2 L000	40	9.88
HK FAC 042 HC2 L000	42	10.86
HK FAC 045 HC2 L000	45	12.50
HK FAC 050 HC2 L000	50	15.43
HK FAC 055 HC2 L000	55	18.67

Continued on page 127

Material: 18MnV5 / 20MnV6; further sizes on request



Piston rods - yard goods HIPERCHROM 200


Corrosion resistant up to 200 hours in the NSS test

Code	Diameter	Weight kg/m
HK FAC 056 HC2 L000	56	19.36
HK FAC 060 HC2 L000	60	22.22
HK FAC 063 HC2 L000	63	24.50
HK FAC 070 HC2 L000	70	34.72
HK FAC 080 HC2 L000	80	39.51
HK FAC 090 HC2 L000	90	50.00
HK FAC 100 HC2 L000	100	61.73
HK FAC 110 HC2 L000	110	74.70
HK FAC 120 HC2 L000	120	88.89
HK FAC 140 HC2 L000	140	121.00

Continued from page 126

Material: 18MnV5 / 20MNV6; further sizes on request

Cylinder barrel – yard goods



Code	OD / ID	kg/m
HK FT 030 020 00	30-20	3.08
HK FT 035 025 00	35-25	3.70
HK FT 040 030 00	40-30	4.32
HK FT 042 032 00	42-32	4.56
HK FT 045 035 00	45-35	4.93
HK FT 050 040 00	50-40	5.55
HK FT 055 045 00	55-45	6.17
HK FT 060 050 00	60-50	6.78
HK FT 062 050 00	62-50	8.29
HK FT 065 050 00	65-50	10.63
HK FT 065 055 00	65-55	7.40
HK FT 070 055 00	70-55	11.56
HK FT 070 060 00	70-60	8.01
HK FT 073 063 00	73-63	8.38
HK FT 075 060 00	75-60	12.48
HK FT 075 063 00	75-63	10.21
HK FT 075 065 00	75-65	8.63
HK FT 080 065 00	80-65	13.41
HK FT 080 070 00	80-70	9.25
HK FT 082 070 00	82-70	10.25
HK FT 085 070 00	85-70	14.33
HK FT 090 075 00	90-75	15.26
HK FT 090 080 00	90-80	10.48
HK FT 092 080 00	92-80	12.72
HK FT 095 080 00	95-80	16.18
HK FT 095 085 00	95-85	13.50
HK FT 100 085 00	100-85	17.11
HK FT 100 090 00	100-90	11.71
HK FT 102 090 00	102-90	14.21
HK FT 105 090 00	105-90	18.03
HK FT 110 090 00	110-90	24.70
HK FT 115 100 00	115-100	19.88
HK FT 125 110 00	125-110	21.73
HK FT 130 110 00	130-110	29.60
HK FT 130 115 00	130-115	22.67
HK FT 135 110 00	135-110	37.80
HK FT 140 120 00	140-120	32.06
HK FT 145 120 00	145-120	33.20
HK FT 145 125 00	145-125	33.29
HK FT 150 125 00	150-125	42.40
HK FT 160 140 00	160-140	36.99
HK FT 170 140 00	170-140	57.40
HK FT 170 150 00	170-150	39.46
HK FT 180 150 00	180-150	61.10
HK FT 180 160 00	180-160	41.92
HK FT 190 160 00	190-160	64.70
HK FT 195 160 00	195-160	76.60
HK FT 210 180 00	210-180	72.10
HK FT 220 180 00	220-180	98.60
HK FT 230 200 00	230-200	79.30

Material: St52 DIN2391/C ID H8 honed, further sizes on request

Complete seal kits for standard cylinders

Seal kits to fit standard cylinders from this catalogue

Seal kits for single-acting cylinders			
Code	Diameter	Code	Diameter
HK GKG 020 030	SPOOL dia. 20	HK GKG 050 060	SPOOL dia. 50
HK GKG 025 035	SPOOL dia. 25	HK GKG 060 070	SPOOL dia. 60
HK GKG 030 040	SPOOL dia. 30	HK GKG 070 000	SPOOL dia. 70
HK GKG 035 045	SPOOL dia. 35	HK GKG 080 000	SPOOL dia. 80
HK GKG 040 050	SPOOL dia. 40	HK GKG 100 000	SPOOL dia. 100
HK GKG 045 055	SPOOL dia. 45		

Seal kits for double-acting cylinders			
Code	Piston/piston rod diameter	Code	Piston/piston rod diameter
HK GKG 0 030 016	30/16	HK GKG 0 075 045	75/45
HK GKG 0 032 020	32/20	HK GKG 0 080 030	80/30
HK GKG 0 035 020	35/20	HK GKG 0 080 035	80/35
HK GKG 0 035 022	35/22	HK GKG 0 080 040	80/40
HK GKG 0 040 020	40/20	HK GKG 0 080 045	80/45
HK GKG 0 040 022	40/22	HK GKG 0 080 050	80/50
HK GKG 0 040 025	40/25	HK GKG 0 080 055	80/55
HK GKG 0 045 022	45/22	HK GKG 0 080 060	80/60
HK GKG 0 045 025	45/25	HK GKG 0 085 035	85/35
HK GKG 0 050 020	50/20	HK GKG 0 085 040	85/40
HK GKG 0 050 025	50/25	HK GKG 0 085 050	85/50
HK GKG 0 050 030	50/30	HK GKG 0 090 040	90/40
HK GKG 0 050 035	50/35	HK GKG 0 090 045	90/45
HK GKG 0 055 025	55/25	HK GKG 0 090 050	90/50
HK GKG 0 055 030	55/30	HK GKG 0 090 060	90/60
HK GKG 0 055 035	55/35	HK GKG 0 100 040	100/40
HK GKG 0 060 025	60/25	HK GKG 0 100 045	100/45
HK GKG 0 060 030	60/30	HK GKG 0 100 050	100/50
HK GKG 0 060 035	60/35	HK GKG 0 100 055	100/55
HK GKG 0 060 040	60/40	HK GKG 0 100 060	100/60
HK GKG 0 063 030	63/30	HK GKG 0 100 070	100/70
HK GKG 0 063 035	63/35	HK GKG 0 110 045	110/45
HK GKG 0 063 040	63/40	HK GKG 0 110 050	110/50
HK GKG 0 065 030	65/30	HK GKG 0 110 060	110/60
HK GKG 0 065 035	65/35	HK GKG 0 110 070	110/70
HK GKG 0 065 040	65/40	HK GKG 0 120 050	120/50
HK GKG 0 065 045	65/45	HK GKG 0 120 060	120/60
HK GKG 0 070 025	70/25	HK GKG 0 120 070	120/70
HK GKG 0 070 030	70/30	HK GKG 0 125 060	125/60
HK GKG 0 070 035	70/35	HK GKG 0 125 070	125/70
HK GKG 0 070 040	70/40	HK GKG 0 140 070	140/70
HK GKG 0 070 045	70/45	HK GKG 0 140 080	140/80
HK GKG 0 070 050	70/50	HK GKG 0 150 070	150/70
HK GKG 0 075 030	75/30	HK GKG 0 150 080	150/80
HK GKG 0 075 035	75/35	HK GKG 0 160 080	160/80
HK GKG 0 075 040	75/40	HK GKG 0 160 090	160/90



Seal kit

Pumps

Motors

Valves

Accumulators

Coolers

Tanks

Tank access.

Filters

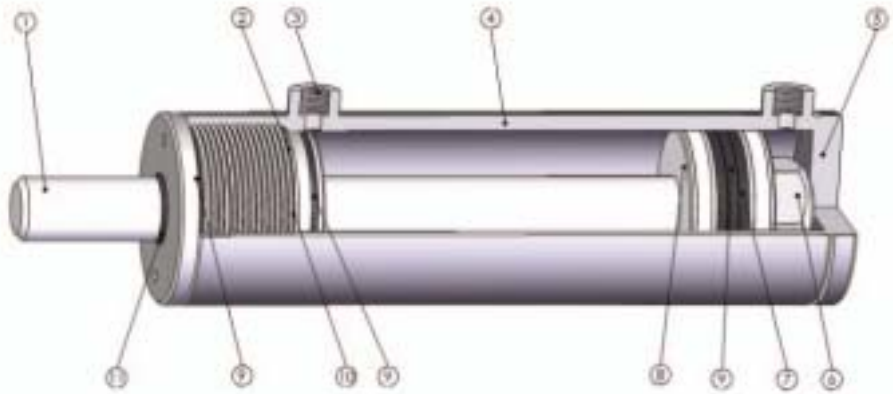
Measuring Accessories

700 bar

Cylinders

Power packs

Standard cylinders - up to 200 bar



Technical characteristics:

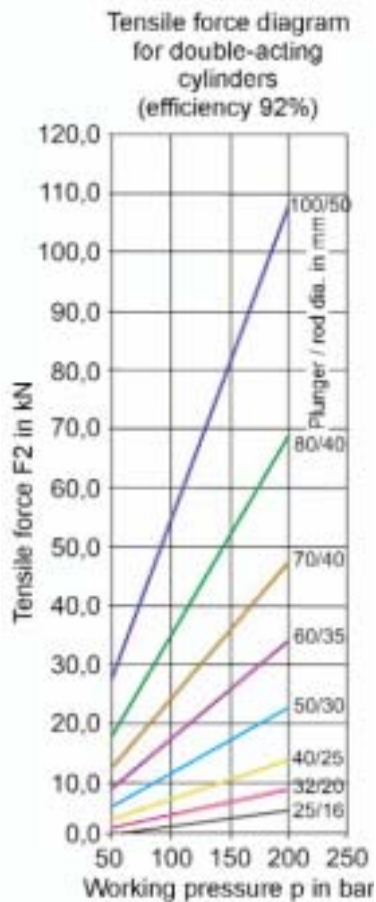
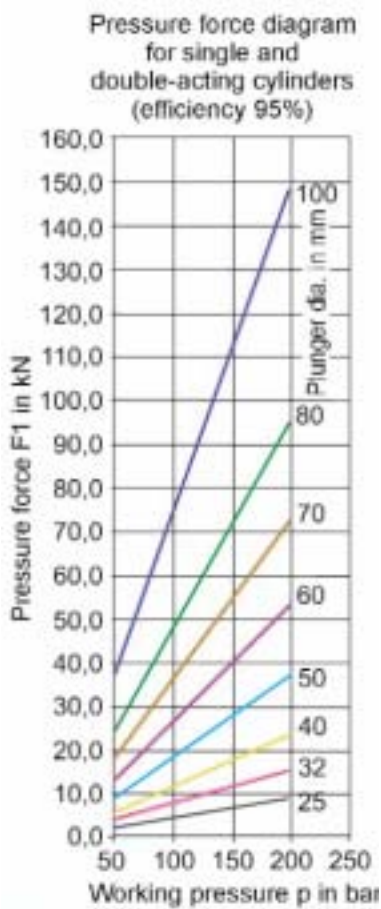
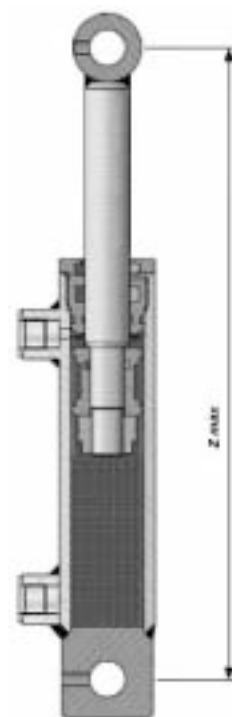
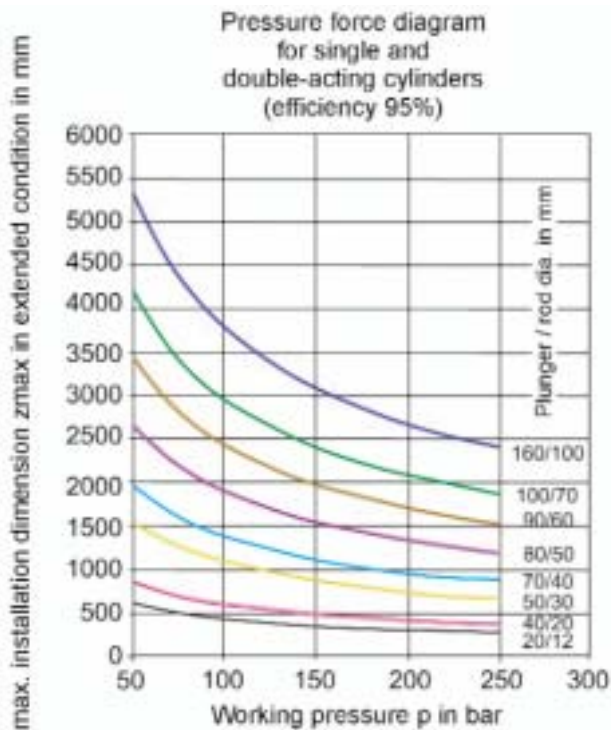
1	Piston rod	Steel 20MnV6 Chrome 25 $\mu\text{m} \pm 5$ (40 hour salt spray test to ISO 3768 - evaluation in accordance with ISO 4540 Class 9)
2	Piston rod guide	Hydraulic casting UNI 5007 G25
3	Oil filler neck	Steel 9SMn28
4	Polished cylinder barrel	St 52.3 DIN 2393-ISO H9
5	Cylinder base	FE 510-A105
6	Nut	Steel 8UNI EN20898/2
7	Gasket TPM	NBR
8	Piston	Steel 9SMn28
9	Seal OR	NBR Fluorosil Viton
10	Gasket TSE-TTS-TTI/L	NBR + fabric / polyurethane
11	Gasket GHM-GHK	NBR / polyurethane

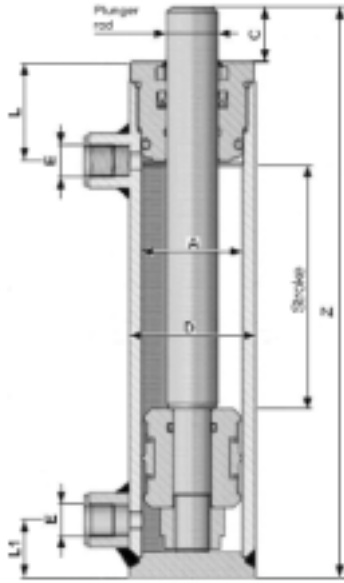
Piston speed referred to standard gaskets	max. 25 m/min - 0.42 m/sec
Piston speed to the end positions	max. 6 m/min - 0.10 m/sec
Temperature range	-25°C to +80°C
Working pressure (to DIN EN 982)	160 bar
Design pressure (to DIN EN 982)	200 bar
Test pressure (to DIN EN 982)	240 bar
Medium	HLP fluids

General description:

Our hydraulic cylinders and their components are designed for normal operation. They conform to the technical specifications in the catalogue or are designed to customers' specifications (approval drawing).

Please observe the stipulations of DIN EN 982 "Safety requirements for fluid power systems and their components" as well as specifications and safety requirements based on statutory regulations when selecting, installing and operating the cylinders.





Double-acting standard cylinders – basic type

Code	Piston dia. A	Stroke	Z	C	Dia. D	E	L	L1	Piston rod	
									dia. 20	dia. 25
									Total weight kg	Total weight kg
HK HM01 ** 0100	40	100	230	22	50	1/4"	40	22	2.27	2.75
HK HM01 ** 0150		150	280						2.67	2.95
HK HM01 ** 0200		200	330						3.05	3.39
HK HM01 ** 0250		250	380						3.45	3.85
HK HM01 ** 0300		300	430						3.85	4.32
HK HM01 ** 0350		350	480						4.27	4.79
HK HM01 ** 0400		400	530						4.65	5.26
HK HM01 ** 0450		450	580						5.08	5.72
HK HM01 ** 0500		500	630						5.49	6.20
HK HM01 25 0550		550	680						-	6.60
HK HM01 25 0600		600	730						-	7.13

** Piston rod

Code	Piston dia. A	Stroke	Z	C	Dia. D	E	L	L1	Piston rod	
									dia. 25	dia. 30
									Total weight kg	Total weight kg
HK HM02 25 0100	50	100	240	22	60	3/8"	43	22	3.29	-
HK HM02 ** 0150		150	290						3.83	4.11
HK HM02 ** 0200		200	340						4.34	4.74
HK HM02 ** 0250		250	390						4.85	5.35
HK HM02 ** 0300		300	440						5.35	5.97
HK HM02 ** 0350		350	490						5.94	6.55
HK HM02 ** 0400		400	540						6.4	7.20
HK HM02 ** 0450		450	590						7.3	7.80
HK HM02 ** 0500		500	640						7.43	8.42
HK HM02 ** 0550		550	690						8.06	9.04
HK HM02 ** 0600		600	740						8.46	9.64
HK HM02 ** 0800		800	940						10.71	12.10
HK HM02 ** 1000		1000	1140						12.87	14.57

** Piston rod



HK HM03 35 0200

Code	Piston dia. A	Stroke	Z	C	Dia. D	E	L	L1	Piston rod		
									dia. 30	dia. 35	dia. 40
									Total weight kg	Total weight kg	Total weight kg
HK HM03 ** 0100	60	100	260	23	70	3/8"	50	23	4.82	5.07	-
HK HM03 ** 0150		150	310						5.55	5.85	-
HK HM03 ** 0200		200	360						6.20	6.60	7.25
HK HM03 ** 0250		250	410						6.87	7.40	8.14
HK HM03 ** 0300		300	460						7.55	8.15	9.03
HK HM03 ** 0350		350	510						8.20	8.94	9.90
HK HM03 ** 0400		400	560						8.90	9.72	10.79
HK HM03 ** 0450		450	610						9.53	10.47	11.64
HK HM03 ** 0500		500	660						10.25	11.25	12.52
HK HM03 ** 0550		550	710						10.86	12.00	13.45
HK HM03 ** 0600		600	760						11.60	12.81	14.30
HK HM03 ** 0800		800	960						14.26	15.87	17.82
HK HM03 ** 1000		1000	1160						17.00	18.93	21.40

** Piston rod

Material: see page 129

The cylinder bases of the standard cylinders types may bulge under pressure peaks. The welding on of attachments is therefore recommended.

Double-acting standard cylinders – basic type

Code	Piston dia. A	Stroke	Z	C	Dia. D	E	L	L1	Piston rod	Piston rod
									dia. 35	dia. 40
									Total weight kg	Total weight kg
HK HM04 ** 0100	70	100	260	23	80	3/8"	50	23	6.09	6.35
HK HM04 35 0150		150	310						-	
HK HM04 ** 0200		200	360						8.30	
HK HM04 ** 0250		250	410						9.26	
HK HM04 ** 0300		300	460						10.24	
HK HM04 ** 0350		350	510						11.20	
HK HM04 ** 0400		400	560						12.80	
HK HM04 ** 0450		450	610						13.11	
HK HM04 ** 0500		500	660						14.01	
HK HM04 ** 0550		550	710						15.10	
HK HM04 ** 0600		600	760						15.99	
HK HM04 ** 0800		800	960						19.73	
HK HM04 ** 1000		1000	1160						23.51	

** Piston rod

Code	Piston dia. A	Stroke	Z	C	Dia. D	E	L	L1	Piston rod	Piston rod
									dia. 40	dia. 50
									Total weight kg	Total weight kg
HK HM05 ** 0200	80	200	380	25	92	1/2"	60	25	11.08	12.35
HK HM05 ** 0250		250	430						13.73	
HK HM05 ** 0300		300	480						15.15	
HK HM05 ** 0400		400	580						17.50	
HK HM05 ** 0500		500	680						20.71	
HK HM05 ** 0600		600	780						25.10	
HK HM05 ** 0800		800	980						29.50	
HK HM05 ** 1000		1000	1180						35.00	

** Piston rod

Code	Piston dia. A	Stroke	Z	C	Dia. D	E	L	L1	Piston rod	Piston rod
									dia. 50	dia. 60
									Total weight kg	Total weight kg
HK HM06 50 0200	100	200	410	25	115	1/2"	82	25	19.50	-
HK HM06 50 0250		250	460						-	
HK HM06 ** 0300		300	510						25.50	
HK HM06 ** 0400		400	610						29.50	
HK HM06 ** 0500		500	710						33.50	
HK HM06 ** 0600		600	810						37.50	
HK HM06 ** 0800		800	1010						46.00	
HK HM06 ** 1000		1000	1210						54.50	

** Piston rod

Material: see page 129

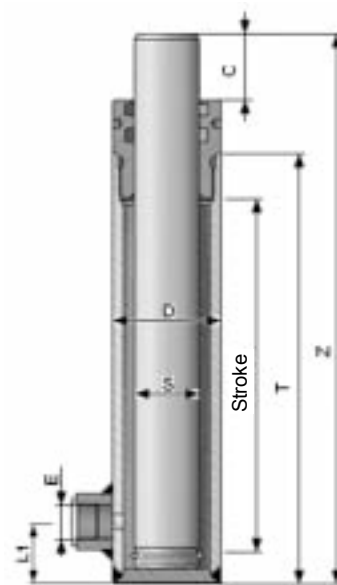
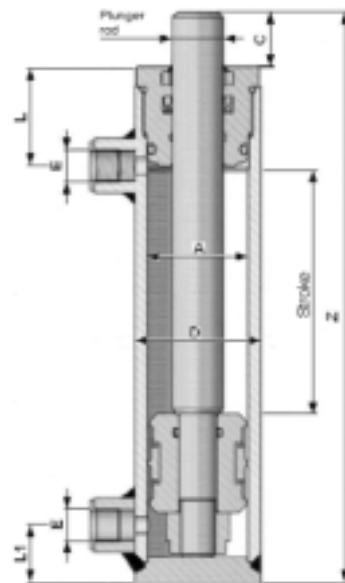
Single-acting standard cylinders (plunger cylinders) – basic type

Code	Dia. S	Stroke	Z	C	T	Dia. D	E	L1	kg
HK HT02 30 0200	30	200	326	40	256	50	3/8"	23	3.64
HK HT02 30 0250		250	376		303				4.19
HK HT02 30 0300		300	426		353				4.75
HK HT02 30 0350		350	476		403				5.31
HK HT02 30 0400		400	526		453				5.86
HK HT02 30 0500		500	626		553				6.96
HK HT03 40 0200	40	200	338	45	258	60	3/8"	26	5.64
HK HT03 40 0300		300	438		358				7.29
HK HT03 40 0400		400	538		458				8.98
HK HT03 40 0500		500	638		558				10.61
HK HT03 40 0600		600	738		658				12.28
HK HT04 50 0300	50	300	450	50	365	70	3/8"	30	10.47
HK HT04 50 0400		400	550		465				12.86
HK HT04 50 0500		500	650		565				15.14
HK HT04 50 0600		600	750		665				17.50

The cylinder bases of the standard cylinders types may bulge under pressure peaks. The welding on of attachments is therefore recommended.

HANSA/FLEX

Date: 08/2010



Pumps

Motors

Valves

Accumulators

Coolers

Tanks

Tank access.

Filters

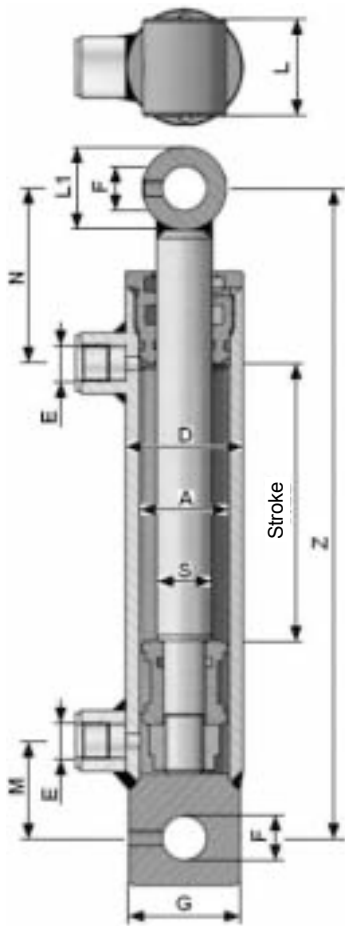
Accessories

Measuring

700 bar

Cylinders

Power packs



HK HFR2S 050 030 0200



Double-acting standard cylinders – with attachment elements

Code	Dia. D	Dia. A	Dia. S	Stroke	Z	Dia. E	M	N	L	L1	Dia. F	G	kg
HK HFR0 16 0050 (*)	35	25	16	50	160	1/4"	22	54	25	25	12.1	35	0.95
HK HFR0 16 0100 (*)				100	210								1.25
HK HFR0 16 0150 (*)				150	260								1.49
HK HFR0 16 0200 (*)	42	32	20	200	310	1/4"	35	64	35	30	16.2	40	1.77
HK HFR0 20 0050				50	205								1.70
HK HFR0 20 0100				100	255								2.10
HK HFR0 20 0150				150	305								2.40
HK HFR0 20 0200				200	355								2.77
HK HFR0 20 0250				250	405								3.11
HK HFR0 20 0300				300	455								3.48
HK HFR0 20 0400	400	555	4.18										
HK HFR0 20 0500	500	655	4.88										
HK HFR2S 040 025 0100	50	40	25	100	270	3/8"	38	105	40	35	20.25	50	3.23
HK HFR2S 040 025 0150				150	320								3.71
HK HFR2S 040 025 0200				200	370								4.16
HK HFR2S 040 025 0250				250	420								4.66
HK HFR2S 040 025 0300				300	470								5.12
HK HFR2S 040 025 0400				400	570								6.05
HK HFR2S 040 025 0500				500	670								6.99
HK HFR2S 040 025 0600				600	770								7.95
HK HFR2S 040 025 0700				700	870								8.87
HK HFR2S 040 025 0800				800	970								9.82
HK HFR2S 050 030 0100	60	50	30	100	300	3/8"	42	128	45	40	25.25	60	5.11
HK HFR2S 050 030 0150				150	350								5.74
HK HFR2S 050 030 0200				200	400								6.33
HK HFR2S 050 030 0250				250	450								6.97
HK HFR2S 050 030 0300				300	500								7.60
HK HFR2S 050 030 0400				400	600								8.83
HK HFR2S 050 030 0500				500	700								10.05
HK HFR2S 050 030 0600				600	800								11.27
HK HFR2S 050 030 0700				700	900								12.50
HK HFR2S 050 030 0800				800	1000								13.73
HK HFR2S 060 030 0100	70	60	30	100	300	3/8"	36	133	45	40	25.25	70	6.30
HK HFR2S 060 030 0150				150	350								6.97
HK HFR2S 060 030 0200				200	400								7.67
HK HFR2S 060 030 0250				250	450								8.31
HK HFR2S 060 030 0300				300	500								8.97
HK HFR2S 060 030 0350				350	550								9.66
HK HFR2S 060 030 0400				400	600								10.36
HK HFR2S 060 030 0450				450	650								10.99
HK HFR2S 060 030 0500				500	700								11.71
HK HFR2S 060 030 0600				600	800								13.10
HK HFR2S 060 030 0700	700	900	14.35										
HK HFR2S 060 035 0200	70	60	35	200	400	3/8"	36	133	45	40	25.25	70	8.00
HK HFR2S 060 035 0300				300	500								9.55
HK HFR2S 060 035 0400				400	600								11.10
HK HFR2S 060 035 0500				500	700								12.65
HK HFR2S 060 035 0600				600	800								14.20
HK HFR2S 060 035 0700				700	900								15.75

Further sizes on next page

(*) Guide housing of aluminium

Material: see page 129

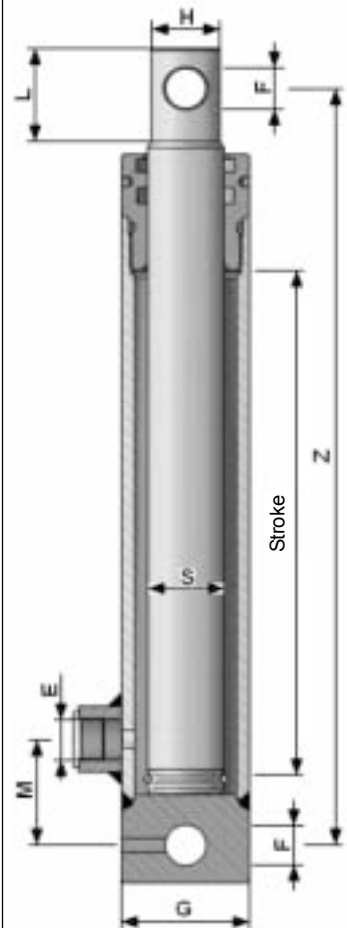
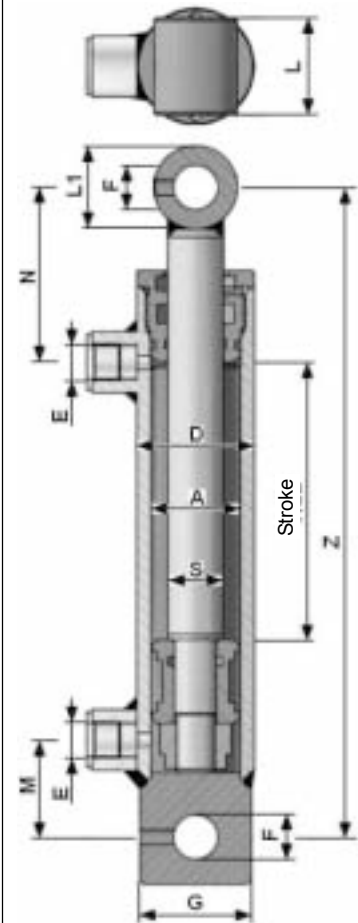
Code	Dia. D	Dia. A	Dia. S	Stroke	Z	Dia. E	M	N	L	L1	Dia. F	G	kg	Piston	Piston rod										
HK HFR2S 070 040 0200	80	70	40	200	410	3/8"	46	132	55	50	30.25	80	10.45												
HK HFR2S 070 040 0250				250	460								11.37												
HK HFR2S 070 040 0300				300	510								12.31												
HK HFR2S 070 040 0350				350	560								13.30												
HK HFR2S 070 040 0400				400	610								14.22												
HK HFR2S 070 040 0450				450	660								15.20												
HK HFR2S 070 040 0500				500	710								16.11												
HK HFR2S 070 040 0600				600	810								18.12												
HK HFR2S 070 040 0700				700	910								19.94												
HK HFR2S 080 040 0200				92	80								40	200	410	3/8"	42	130	55	50	30.25	90	13.26		
HK HFR2S 080 040 0250	250	460	14.46																						
HK HFR2S 080 040 0300	300	510	15.54																						
HK HFR2S 080 040 0350	350	560	16.72																						
HK HFR2S 080 040 0400	400	610	18.00																						
HK HFR2S 080 040 0500	500	710	20.00																						
HK HFR2S 080 040 0600	600	810	22.00																						
HK HFR2S 080 040 0700	700	910	24.00																						
HK HFR2S 100 050 0200	115	100	50			200	425	1/2"	45	141	70	60		30.25	115								26.00		
HK HFR2S 100 050 0300						300	525																30.00		
HK HFR2S 100 050 0400				400	625	34.00																			
HK HFR2S 100 050 0500				500	725	38.00																			
HK HFR2S 100 050 0700				700	925	46.00																			

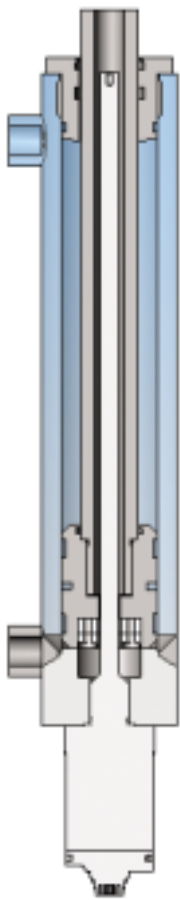
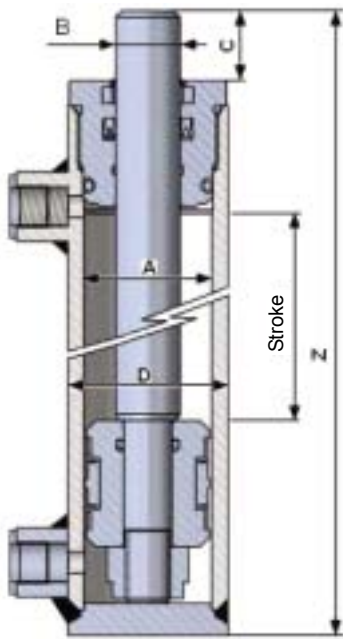
Material: see page 129

Single-acting standard cylinders (plunger cylinders) – with attachment elements

Code	Dia. S	Stroke	Z	Dia. E	M	Dia. H	L	Dia. F	Dia. G	kg
HK HFRT1 25 100	25	100	190	3/8"	40	22	35	14	40	1.63
HK HFRT1 25 150		150	240							2.04
HK HFRT1 25 200		200	290							2.44
HK HFRT1 25 250		250	340							2.85
HK HFRT1 25 300		300	390							3.26
HK HFRT2 30 200	30	200	300	3/8"	42	27	37	16	50	3.61
HK HFRT2 30 250		250	350							4.16
HK HFRT2 30 300		300	400							4.72
HK HFRT2 30 350		350	450							5.27
HK HFRT2 30 400		400	500							5.82
HK HFRT2 30 550	550	650	7.30							
HK HFRT3 40 200	40	200	330	3/8"	47	37	49	23	60	6.00
HK HFRT3 40 250		250	380							6.84
HK HFRT3 40 300		300	430							7.67
HK HFRT3 40 350		350	480							8.49
HK HFRT3 40 400		400	530							9.32
HK HFRT3 40 550		550	680							11.70
HK HFRT3 40 700	700	830	14.10							
HK HFRT4 50 300	50	300	460	3/8"	50	47	65	26	70	11.80
HK HFRT4 50 400		400	560							14.00
HK HFRT4 50 550		550	710							17.50
HK HFRT4 50 700		700	860							21.00

Material: see page 129





Cylinder with stroke measuring system

Customised cylinders – up to 200 bar

The following cylinder sizes and types are manufactured to customers' specifications. If required, 3D design data are provided.

General design:

- Metallic piston rod guide
- Single rod seal
- Inserted piston with self-locking nut and compact seal

Piston rods:

- 20MnV6, hard chrome-plated (min. 20 µm)
- VA2 or VA4 (stainless steel), hard chrome-plated (min. 20 µm)
- 20MnV6, nickel-plated (min. 30 µm) and hard chrome-plated (min. 20 µm)
- Hollow piston rod 20MnV6, hard chrome-plated (min. 20 µm) with stroke measuring system

Design of the attachment elements:

- For agricultural machinery, industry, maintenance-free, in stainless steel

Miscellaneous:

- For HLP hydraulic fluids, seal sets for other media available at short notice, piston speed 2-100 mm/s, temperature range -25 to 80°C, cylinder stroke up to 5,000 mm, depending on operating conditions/bending force
- Limitation of the working stroke by external end stops
- For consumer fittings larger than 1/2", Z increases by 20 mm

A/B Piston/rod	Z for stroke = 0	C	Dia. D	A/B Piston/rod	Z for stroke = 0	C	Dia. D
25/16	79	12	35	75/30	170	23	85
30/16	100	16	40	75/35	170	23	85
30/20	100	16	40	75/40	170	23	85
32/16	105	16	42	75/45	170	23	85
32/20	105	16	42	80/30	180	25	92
35/20	130	22	45	80/35	180	25	92
35/22	130	22	45	80/40	180	25	92
40/20	130	22	50	80/45	180	25	92
40/22	130	22	50	80/55	180	25	92
40/25	130	22	50	80/60	180	25	92
40/28	130	22	50	85/35	180	22	100
40/30	130	22	50	85/40	180	22	100
45/20	130	22	55	85/45	180	22	100
45/22	130	22	55	85/50	180	22	100
45/25	130	22	55	90/40	185	22	105
45/30	130	22	55	90/45	185	22	105
50/20	140	22	60	90/50	185	22	105
50/25	140	22	60	90/60	185	22	105
50/28	140	22	60	100/40	210	25	115
50/30	140	22	60	100/45	210	25	115
50/35	135	22	60	100/50	210	25	115
55/25	142	22	65	100/55	210	25	115
55/30	142	22	65	100/60	210	25	115
55/35	142	22	65	100/70	210	25	115
60/25	160	23	70	110/45	200	25	125
60/30	160	23	70	110/50	200	25	125
60/35	160	23	70	110/60	200	25	125
60/40	160	23	70	110/70	200	25	125
63/25	160	23	73	120/50	220	25	140
63/30	160	23	73	120/60	220	25	140
63/35	160	23	73	120/70	220	25	140
63/40	160	23	73	125/60	230	25	145
63/45	160	23	73	125/70	230	25	145
65/30	160	23	75	125/80	230	25	145
65/35	160	23	75	140/70	235	22	160
65/40	160	23	75	140/80	235	22	160
65/45	160	23	75	140/100	235	22	160
70/25	160	23	80	150/70	250	25	170
70/30	160	23	80	150/80	250	25	170
70/35	160	23	80	150/100	250	25	170
70/40	160	23	80	160/80	255	23	180
70/45	160	23	80	160/90	255	23	180
70/50	160	23	80				

Further sizes, see versions up to 250 bar on page 137

Customised cylinders, end position-damped - up to 200 bar

The following cylinder sizes and types are manufactured to customers' specifications. If required, 3D design data are provided.

General design:

- Screw type of round design with mating flange, variable end position damping, venting plug, plastic rod guide, double rod seal

Piston rods:

- 20MnV6, hard chrome-plated (min. 20 µm)
- VA2 or VA4 (stainless steel), hard chrome-plated (min. 20 µm)
- 20MnV6, nickel-plated (min. 30 µm) and hard chrome-plated (min. 20 µm)

Design of the attachment elements:

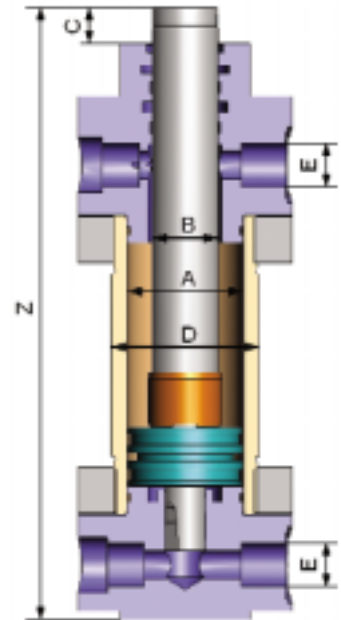
- Industry, maintenance-free, in stainless steel

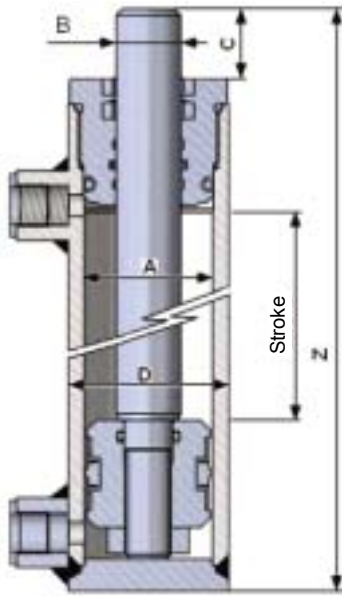
Miscellaneous:

- For HLP hydraulic fluids, seal sets for other media available at short notice, piston speed 10-1,000 mm/s, temperature range -25 to 80°C, cylinder stroke up to 3,000 mm, depending on operating conditions/bending force

Please indicate weight and speed for calculation of the kinetic energy!

A/B Piston/rod	Z for stroke = 0	C	Dia. D	E	Corresponding seal sets
50/28	210	14	65	1/2"	HK DS SPKCN 05028
63/36	229	16	80	3/4"	HK DS SPKCN 06336
80/45	255	18	95	3/4"	HK DS SPKCN 08045
100/56	305	20	120	1"	HK DS SPKCN 10056
125/70	330	22	150	1"	HK DS SPKCN 12570
125/90	330	22	150	1"	HK DS SPKCN 12590
160/90	375	24	190	1 1/4"	HK DS SPKCN 16090
160/110	375	24	190	1 1/4"	HK DS SPKCN 160110
200/110	455	26	240	1 1/4"	HK DS SPKCN 200110
200/140	455	26	240	1 1/4"	HK DS SPKCN 200140





Customised cylinders – up to 250 bar

The following cylinder sizes and types are manufactured to customers' specifications. If required, 3D design data are provided.

General design:

- Plastic piston rod guide
- Double rod seal
- Screw piston compact seal

Piston rods:

- 20MnV6, hard chrome-plated (min. 20 µm)
- VA2 or VA4 (stainless steel), hard chrome-plated (min. 20 µm)
- 20MnV6, nickel-plated (min. 30 µm) and hard chrome-plated (min. 20 µm)

Design of the

attachment elements:

- For agricultural machinery, industry, maintenance-free, in stainless steel

Miscellaneous:

- For HLP hydraulic fluids, seal sets for other media available at short notice, piston speed 2-100 mm/s, temperature range -25 to 80 °C, cylinder stroke up to 5,000 mm, depending on operating conditions/bending force
- Limitation of the working stroke by external end stops
- For consumer fittings larger than 1/2", Z increases by 20 mm

A/B Piston/rod	Z for stroke = 0	C	Dia. D
70/40	171	25	85
80/45	184	25	95
80/50	184	25	95
90/45	186	25	110
90/50	186	25	110
100/50	191	25	120
100/60	191	25	120
110/50	218	25	135
110/60	218	25	135
120/60	223	25	145
120/70	223	25	145
140/80	240	25	170
140/100	240	25	170
160/100	260	25	190
160/120	260	25	190
180/100	255	25	220
200/100	270	25	240
250/120	295	25	324