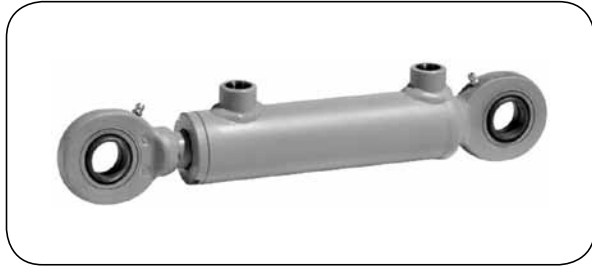


HIGH PRESSURE - hydraulic cylinders



HPA, HPE type

Material:	Carb. steel and cast iron (head)
Sealing:	PU, NBR, POM, TPE
Protective coating:	Primer (option), chromium-plated piston rod
Medium:	Hydraulic oil
Max. piston speed :	0.5 m/s
Max. working press.:	200 bar
Working temp.:	From -20°C up to +100°C

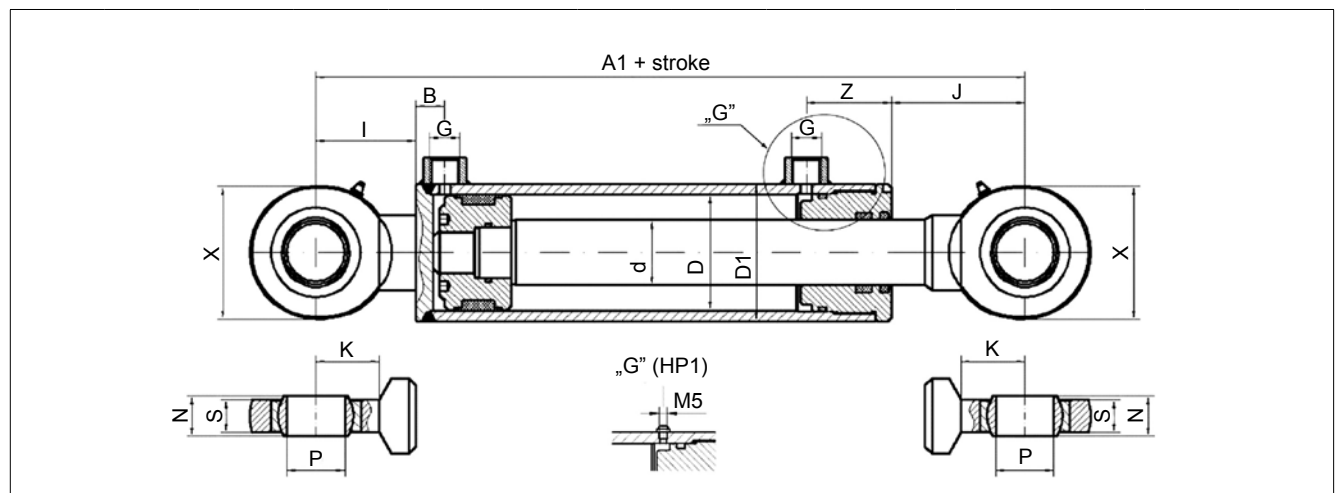
Single-acting and double-acting hydraulic cylinders are used in the hydraulic systems of cranes, jacks, construction machinery, farm machinery, etc. The single-acting cylinders are fitted with a vent. The complete HP cylinder includes mounting elements. The most frequently used mounting element is an eye (with a grease nipple): eye with a spherical plain bearing (standard) or eye with a bushing (option). The eyes are welded to the cylinder and to the piston rod. The rod end with a thread can also be fitted with a threaded eye.

Code example of a cylinder: HS-HPA1-100-60-0300

where:

- HPA1 - cylinder type
- 100 - piston diameter [mm]
- 60 - piston rod diameter [mm]
- 300 - cylinder stroke [mm]

Dimensions of HPA1 double-acting cylinder and HPE1 single-acting cylinder, both cylinder and piston rod are eye-mounted (HPE1 has a vent - detail „G” and a single head sealing):

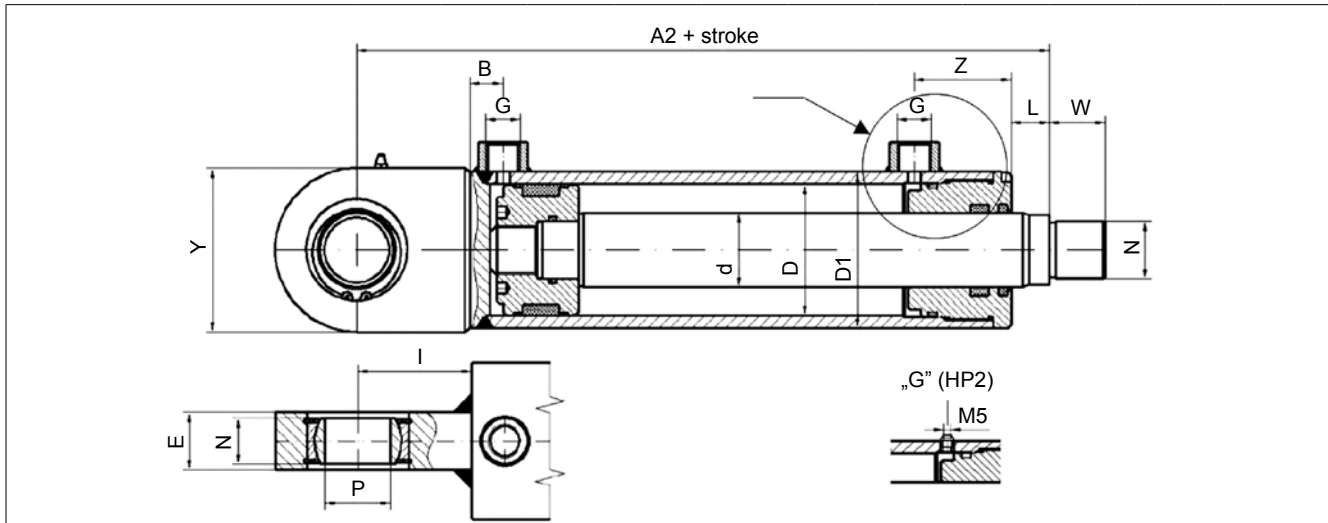


D [mm]	d [mm]	D1 [mm]	G [BSP]	B [mm]	z [mm]	A1* [mm]	I [mm]	J [mm]	P [mm]	S [mm]	N [mm]	K [mm]	X [mm]
40	25	50	3/8"	16	37	202	45	58	25	17	20	33	64
50	30	60	3/8"	17	43	219	51	66	30	19	22	37.5	73
63	36	75	1/2"	18	50	252	61	79	35	21	25	43	82
70	40	82	1/2"	18	55	264	61	81	35	21	25	43	82
80	45	95	1/2"	19	59	290	69	92	40	23	28	48	92
100	60	115	1/2"	23	79	357	88	115	50	30	35	59	112
125	70	145	3/4"	28	86	401	100	130	60	38	44	72.5	135

* - the stroke of a cylinder depends on individual needs of a customer and ranges from 1 to 2000 mm

HIGH PRESSURE - hydraulic cylinders

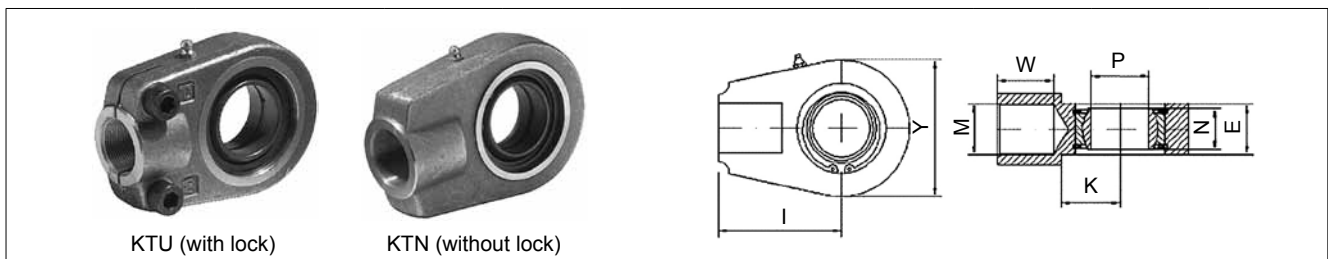
Dimensions of HPA2 double-acting cylinder and HPE2 single-acting cylinder, with an eye-mounted cylinder and threaded rod end (HPE2 has a vent - detail „G” and a single head sealing):



D [mm]	d [mm]	D1 [mm]	G [BSP]	B [mm]	z [mm]	A2* [mm]	I [mm]	P [mm]	N [mm]	E [mm]	Y [mm]	L [mm]	W [mm]	M [mm]
40	25	50	3/8"	16	37	157	45	25	20	23	55	13	15	M16x1.5
50	30	60	3/8"	17	43	168	51	30	22	28	65	15	21	M22x1.5
63	36	75	1/2"	18	50	191	61	35	25	30	83	18	27	M28x1.5
70	40	82	1/2"	18	55	203	61	35	25	30	83	20	27	M28x1.5
80	45	95	1/2"	19	59	221	69	40	28	35	100	23	34	M35x1.5
100	60	115	1/2"	23	79	269	88	50	35	40	123	27	44	M45x1.5
125	70	145	3/4"	28	86	301	100	60	44	50	140	30	57	M58x1.5

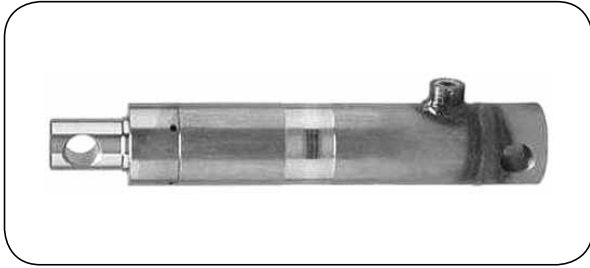
* - the stroke of a cylinder depends on individual needs of a customer and ranges from 1 to 2000 mm

Eyes with spherical plain bearings for HP cylinders with threaded rod ends



code		M [mm]	P [mm]	N [mm]	E [mm]	K [mm]	W [mm]	I [mm]	Y [mm]
KTU type	KTN type								
HS-HP-KT25U	HS-HP-KT25N	M16x1.5	25	20	23	28	17	50	56
HS-HP-KT30U	HS-HP-KT30N	M22x1.5	30	22	28	30	23	60	64
HS-HP-KT35U	HS-HP-KT35N	M28x1.5	35	25	30	38	29	70	78
HS-HP-KT40U	HS-HP-KT40N	M35x1.5	40	28	35	45	36	85	94
HS-HP-KT50U	HS-HP-KT50N	M45x1.5	50	35	40	55	46	105	116
HS-HP-KT60U	HS-HP-KT60N	M58x1.5	60	44	50	65	59	130	130

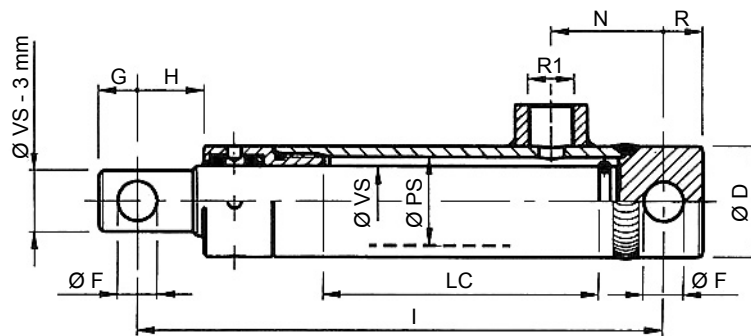
HIGH PRESSURE - hydraulic cylinders



SE 25, SE 30, SE 40 type

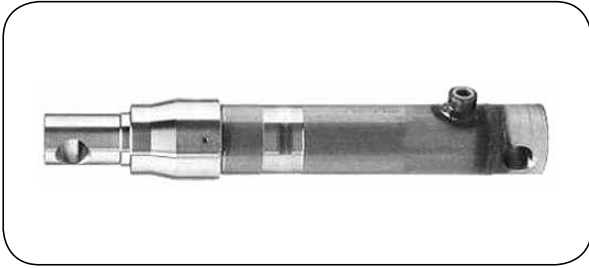
Material: Carbon steel and cast iron (head)
Sealing: PU, NBR
Protective coating: No coating, chromium-plated piston rod
Medium: Hydraulic oil
Max. working press.: 210 bar
Working temp.: From -30°C up to +110°C

Single-acting hydraulic cylinder with a threaded head, designed for high pressure hydraulic systems. Depending on the application, appropriate cylinder output force (given in kg/100 bar) and stroke LC must be selected. Seal sets are available on request.



code	Ø VS [mm]	Ø PS [mm]	Ø D [mm]	Ø F [mm]	R [mm]	R1 [BSP]	G [mm]	H [mm]	N [mm]	LC [mm]	I [mm]	kg/100 bar	weight [kg]
SE 25 type													
HS-SE25100	25	32	40	14.2	14	3/8"	14	24	40	100	190	490	1.50
HS-SE25150										150	240		2.00
HS-SE25200										200	290		2.50
HS-SE25250										250	340		3.00
HS-SE25300										300	390		3.50
SE 30 type													
HS-SE30150	30	40	50	16.4	15	3/8"	16	26	44	150	250	706	3.50
HS-SE30200										200	300		4.00
HS-SE30250										250	350		4.00
HS-SE30300										300	400		5.50
HS-SE30350										350	450		6.00
HS-SE30400										400	500		6.50
HS-SE30450										450	550		7.00
HS-SE30550										550	650		8.00
HS-SE30700										700	800		10.00
SE 40 type													
HS-SE40200	40	50	60	22.4	22	3/8"	22	32	48	200	330	1250	7.00
HS-SE40250										250	380		7.50
HS-SE40300										300	430		8.00
HS-SE40350										350	480		8.50
HS-SE40400										400	530		10.00
HS-SE40450										450	580		11.00
HS-SE40500										500	630		12.00
HS-SE40550										550	680		12.50
HS-SE40600										600	730		13.50
HS-SE40700										700	830		15.00

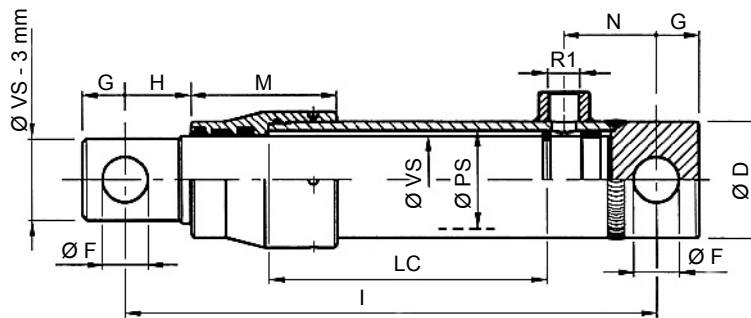
HIGH PRESSURE - hydraulic cylinders



SE 45, SE 50, SE 55, SE 60 type

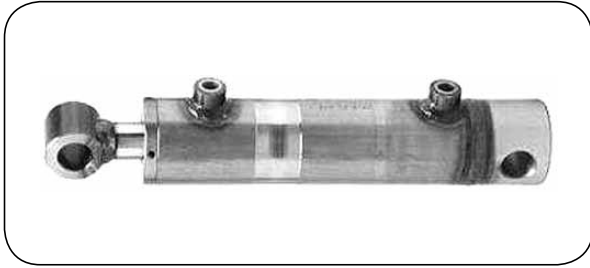
Material: Carbon steel
Sealing: PU, POM, NBR
Protective coating: No coating, chromium-plated piston rod
Medium: Hydraulic oil
Max. working press.: 210 bar
Working temp.: From -30°C up to +110°C

Single-acting hydraulic cylinder with a threaded head, designed for high pressure hydraulic systems. Depending on the application, appropriate cylinder output force (given in kg/100 bar) and stroke LC must be selected. Seal sets are available on request.



code	Ø VS [mm]	Ø PS [mm]	Ø D [mm]	Ø F [mm]	M [mm]	R1 [BSP]	G [mm]	H [mm]	N [mm]	LC [mm]	I [mm]	kg/100 bar	weight [kg]
SE 45 type													
HS-SE45200	45	50	60	23.4	75	3/8"	22	34	47	200	330	1590	8.00
HS-SE45300										300	430		10.00
HS-SE45400										400	530		12.00
HS-SE45550										550	680		15.00
HS-SE45700										700	830		18.00
SE 50 type													
HS-SE50200	50	55	65	25.5	80	3/8"	25	49	50	200	360	1960	11.50
HS-SE50300										300	460		14.00
HS-SE50400										400	560		16.00
HS-SE50550										550	710		19.50
HS-SE50700										700	860		23.00
SE 55 type													
HS-SE55300	55	60	70	25.5	95	3/8"	25	41	50	300	460	2370	15.50
HS-SE55550										550	710		22.50
HS-SE55700										700	860		26.50
SE 60 type													
HS-SE60200	60	65	75	25.5	95	3/8"	25	36	50	200	360	2820	15
HS-SE60300										300	460		18
HS-SE60400										400	560		21
HS-SE60550										550	710		25.5
HS-SE60700										700	860		30

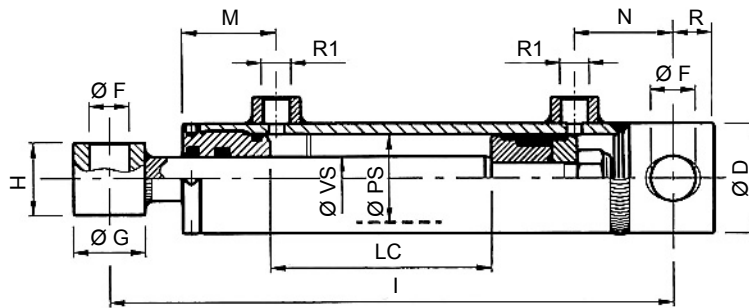
HIGH PRESSURE - hydraulic cylinders



DE 20, DE 25, DE 30 type

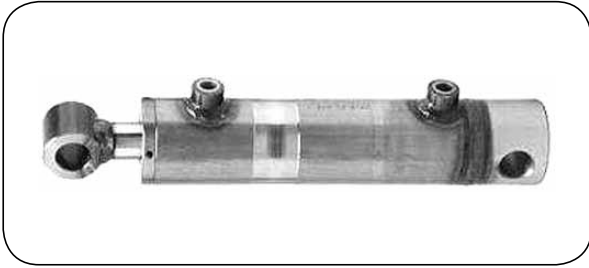
Material: Carbon steel and cast iron (head)
Sealing: PU, NBR
Protective coating: No coating, chromium-plated piston rod
Medium: Hydraulic oil
Max. working press.: 180 bar
Working temp.: From -30°C up to +110°C

Double-acting hydraulic cylinder with a threaded head, designed for high pressure hydraulic systems. Depending on the application, appropriate cylinder output force (given in kg/100 bar) and stroke LC must be selected. Seal sets are available on request.



code	Ø VS [mm]	Ø PS [mm]	Ø D [mm]	Ø F [mm]	M [mm]	R1 [BSP]	G [mm]	H [mm]	N [mm]	LC [mm]	I [mm]	kg/100 bar	weight [kg]										
DE 20 type																							
HS-DE2032050	20	32	40	16.4	43	1/4"	28	35	38	50	205	800	2.00										
HS-DE2032100										100	255		2.50										
HS-DE2032150										150	305		3.00										
HS-DE2032200										200	355		3.00										
HS-DE2032250										250	405		3.50										
HS-DE2032300										300	455		4.00										
DE 25 type																							
HS-DE2540100	25	40	50	20.5	43	3/8"	35	40	45	100	270	1250	3.50										
HS-DE2540150										150	320		4.00										
HS-DE2540200										200	370		4.50										
HS-DE2540250										250	420		5.00										
HS-DE2540300										300	470		5.50										
HS-DE2540400										400	570		6.50										
HS-DE2540500										500	670		7.50										
DE 30 (1) type																							
HS-DE3050100	30	50	60	25.5	46	3/8"	45	45	58	100	300	1960	5.50										
HS-DE3050150										150	350		6.00										
HS-DE3050200										200	400		6.50										
HS-DE3050250										250	450		7.50										
HS-DE3050300										300	500		8.00										
HS-DE3050400										400	600		9.00										
HS-DE3050500										500	700		10.50										
HS-DE3050600										600	800		11.50										
HS-DE3050700										700	900		13.00										
HS-DE3050800										800	1000		14.00										
HS-DE3050900										900	1100		15.50										
HS-DE3060100										60	70		51	51	51	3/8"	45	45	58	100	300	2820	6.50
HS-DE3060150																				150	350		7.50
HS-DE3060200																				200	400		8.00
HS-DE3060250	250	450	8.50																				
HS-DE3060300	300	500	9.50																				
HS-DE3060350	350	550	10.00																				

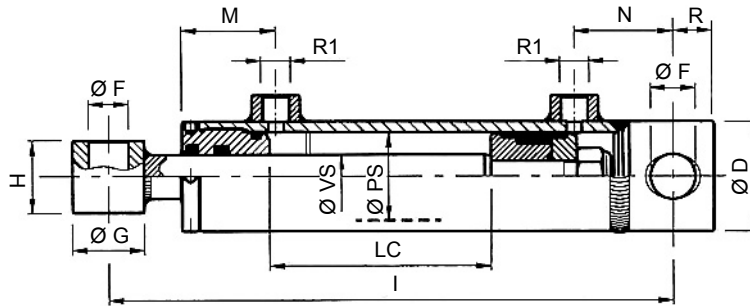
HIGH PRESSURE - hydraulic cylinders



DE 30, DE 40, DE 50, DE 70 type

Material: Carbon steel and cast iron (head)
Sealing: PU, NBR
Protective coating: No coating, chromium-plated piston rod
Medium: Hydraulic oil
Max. working press.: 180 bar
Working temp.: From -30°C up to +110°C

Double-acting hydraulic cylinder with a threaded head, designed for high pressure hydraulic systems. Depending on the application, appropriate cylinder output force (given in kg/100 bar) and stroke LC must be selected. Seal sets are available on request.



code	Ø VS [mm]	Ø PS [mm]	Ø D [mm]	Ø F [mm]	M [mm]	R1 [BSP]	G [mm]	H [mm]	N [mm]	LC [mm]	I [mm]	kg/100 bar	weight [kg]										
DE 30 (2) type																							
HS-DE3060400	30	60	70	25.5	25	51	3/8"	45	45	58	600	2820	11.00										
HS-DE3060450											650		11.50										
HS-DE3060500											700		12.00										
HS-DE3060600											800		13.50										
HS-DE3060700											900		15.00										
DE 40 type																							
HS-DE4070200	40	70	80	30.5	51	3/8"	54	55	58	200	410	3840	11.00										
HS-DE4070250										250	460		11.50										
HS-DE4070300										300	510		12.50										
HS-DE4070350										350	560		13.50										
HS-DE4070400										400	610		14.50										
HS-DE4070450										450	660		15.50										
HS-DE4070500										500	710		16.50										
HS-DE4070600										600	810		18.50										
HS-DE4070700										700	910		20.50										
HS-DE4080200										80	92		62	30.5	62	3/8"	54	55	58	200	410	5020	14.50
HS-DE4080250	250	460	15.50																				
HS-DE4080300	300	510	17.00																				
HS-DE4080350	350	560	18.00																				
HS-DE4080400	400	610	19.50																				
HS-DE4080500	500	710	21.00																				
HS-DE4080600	600	810	23.50																				
HS-DE4080700	700	910	26.00																				
DE 50 type																							
HS-DE50100300	50	100	115	30.5	81	3/8"	54	70	60			300								545	7850		29.00
HS-DE50100400										400	645	32.50											
HS-DE50100500										500	745	36.00											
HS-DE50100700										700	945	43.00											
HS-DE50100900										900	1145	50.00											
DE 70 type																							
HS-DE70120500	70	120	140	40.5	81	1/2"	70	80	65	500	770	11300	62.00										
HS-DE701201000										1000	1270		93.50										