

# Hydraulic cylinders



holmatro

**Step 1:** select one or more cylinders

Considerations:

- what is the weight of the load to be lifted?
- what is the total recommended cylinder capacity? (see page 13)
- with how many cylinders must/can the load be lifted?
- what capacity for each cylinder is required then?
- what is the required stroke length of the cylinder?
- what is the required closed height (overall dimensions) of the cylinder?
- how must the plunger return; gravity, spring, pneumatic or hydraulic?

See 'Cylinder selection table', page 23.

**Step 2:** select the proper pump

Considerations:

- select from hand , foot , pneumatically, electrically, petrol or diesel driven pumps
- hand / foot pumps: with a double-acting cylinder (hydraulic return), mount a double-acting valve on your hand pump (only possible with H/FTW \*800 B models)
- Vari pumps: dependent on whether you use a single- or double-acting cylinder, mount a single-acting or double-acting valve on the Vari pump
- what minimum tank volume of the pump is required? (see page 14)
- select a pump output corresponding with the required operating speed (see page 14)

See section 'Hydraulic pumps', page 93.

**Step 3:** select the accessories you need

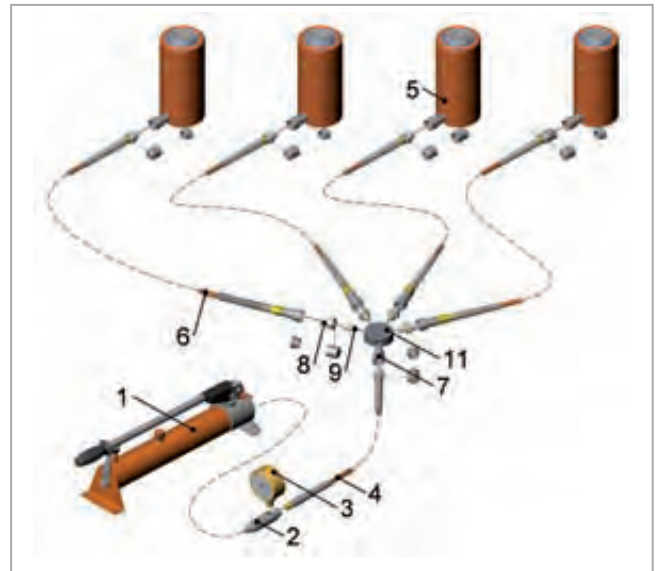
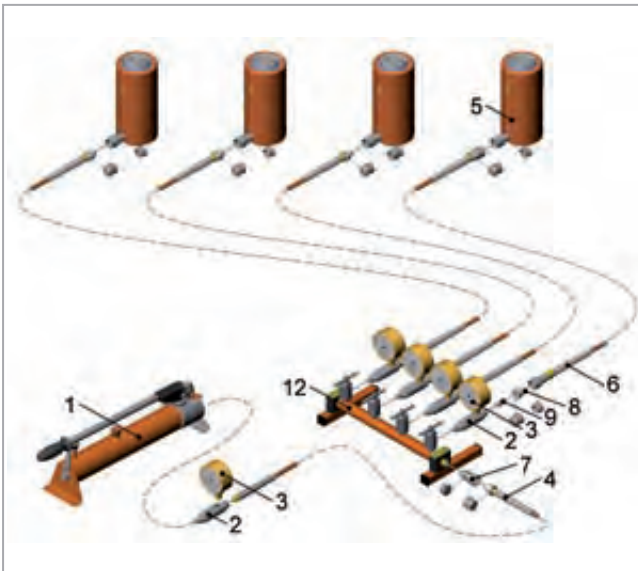
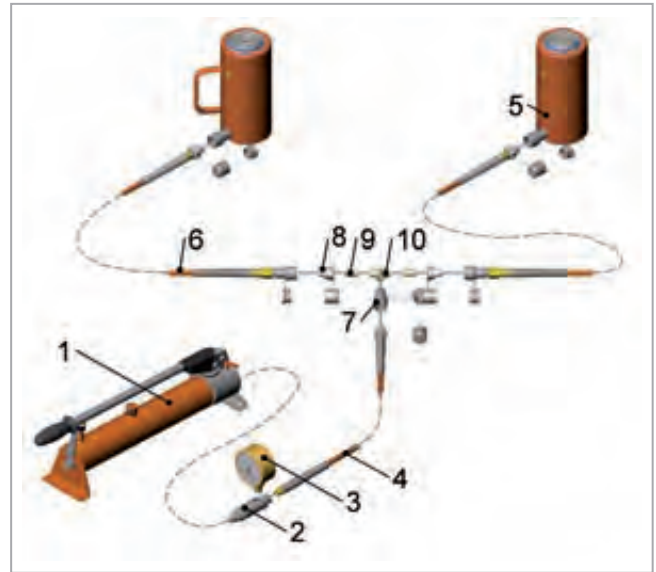
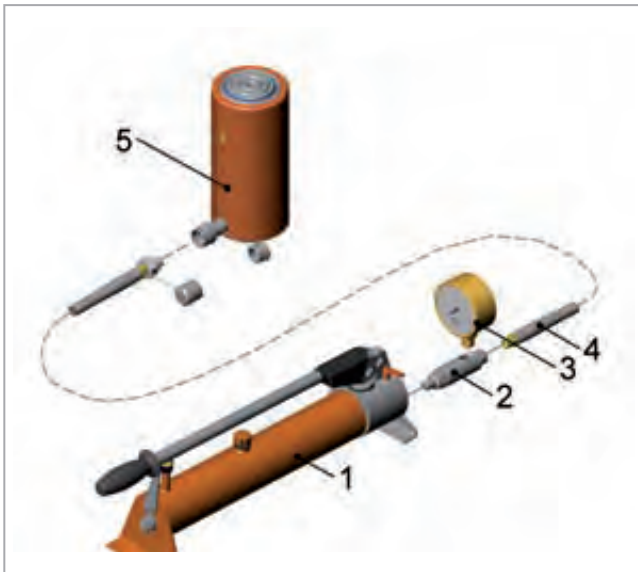
Considerations:

- choose the correct number of hoses that you need and the required length. Take the required (safe) distance between cylinders and operation (pump and/or valve block) into account
- when the system contains several cylinders controlled by one pump, we recommend you to install a valve block between the cylinders and the pump for accurate control of the oil flow to the cylinders
- select any necessary couplers, pressure gauges, valves and / or assembly material

See section 'System components', page 109.

**Any questions? Our sales department will answer them with pleasure!**

The next page shows four examples of a hydraulic cylinder system.



**Composition** of hydraulic cylinder system



no	description	art no	page
1.	hand pump HTW 1800 B	100.141.005	96
2.	pressure gauge connecting block A 108	100.181.108	113
3.	pressure gauge A 500	100.582.500	112
4.	hydraulic hose H 2 SOU	100.572.102	110
5.	single-acting cylinder		
6.	hydraulic hose VL 5 SOU	100.572.305	110
7.	High Flow coupler, female, A 118	100.181.118	111
8.	High Flow coupler, male, A 119	100.181.119	111
9.	nipple 3/8" NPT, male	100.581.101	118
10.	T-piece	100.581.106	117
11.	manifold	100.181.125	117
12.	valve block SMV 4	100.182.324	114

The Holmatro product range includes over 100 different cylinders in 15 different types and 4 different return types. A short explanation about the standard return types and the models will be given below.

## Various return types

### Gravity return

Return of the plunger by means of the load or another external force.

### Spring return

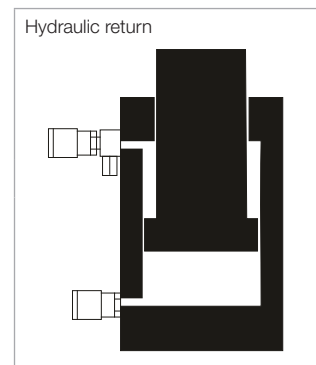
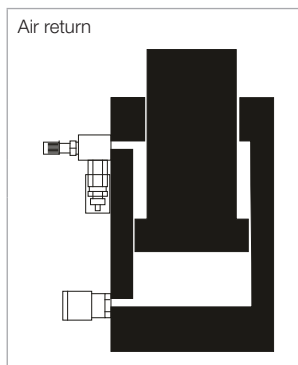
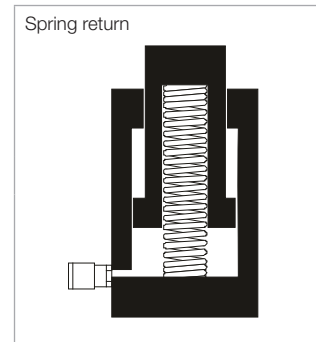
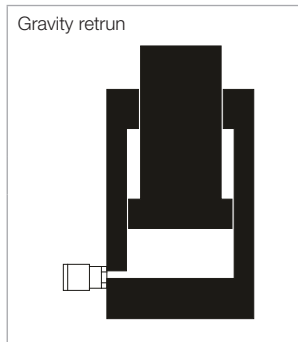
Return of the plunger by means of a spring integrated in the cylinder.

### Air return

Return of the plunger by means of a chamber filled with compressed air (6 bar) in the cylinder.

### Hydraulic return

Return of the plunger by means of hydraulic pressure. Cylinders in which the plunger hydraulically extends and returns are also called 'double-acting' cylinders.



## Various cylinder types

### Aluminium cylinders - spring return

Cylinders with up to 50% less weight than the steel equivalent, with a lifting capacity of 20 to 100 tons and a stroke length varying between 50 and 150 mm. Very suitable for lifting activities requiring frequently moving the cylinder, making a low weight essential.



### Aluminium cylinders - air return

Cylinders with unique air return by means of compressed air (6 bar), 50% less weight than steel cylinders and a lifting capacity of 50 tons. Very suitable for lifting activities requiring frequently moving the cylinder, making a low weight essential.



### Flat cylinders - short stroke, gravity return

Cylinders with a very low construction height and a lifting capacity of 5 - 150 tons. Especially developed for, among other things, adjusting heavy engines, machines, presses, etc.





**Telescopic cylinders - gravity return**

Cylinders with a very low construction height, two different capacities and stroke lengths in one cylinder. Very suitable for various adjustment activities.


**Short stroke cylinders - spring return**

Cylinders with a short stroke and a low construction height and a lifting capacity of 10 - 50 tons. Very suitable for general lifting activities.


**Cylinders (standard) - gravity return**

Cylinders with a lifting capacity of 10 - 500 tons and a stroke length varying between 50 and 300 mm. Suitable for normal to heavy lifting activities.


**Locknut cylinders - gravity return**

Cylinders with mechanical load locking, a lifting capacity of 10 - 500 tons and a stroke length of 150 mm. Suitable for sustained load because of mechanical load locking.


**Cylinders (standard) - spring return**

Cylinders with a lifting capacity of 50 - 100 tons and a stroke length varying between 50 and 250 mm. Suitable for normal to heavy lifting activities.


**Cylinders (standard) - hydraulic return**

Cylinders with a lifting capacity of 50 - 500 tons and a stroke length varying between 50 and 300 mm. Very suitable for heavy lifting activities.



**Assembly cylinders - spring return**

Cylinders specifically for assembly into a construction with a lifting capacity of 5 - 25 tons and a stroke length varying between 50 and 350 mm. Especially developed for integration in a construction using the screw thread on the housing. Adjustable to the working conditions using the mounting and/or welding rings.

**Construction cylinders - spring return**

Cylinders especially for use in combination with extension pipes and accessories, with a lifting capacity of 10 - 25 tons and a stroke length varying between 60 and 250 mm. These cylinders can be extended using pipes. Various accessories are available. This cylinder type is also suitable for assembly into a construction.

**Construction cylinders - hydraulic return**

Cylinders especially for use in combination with extension pipes and accessories, with a lifting capacity of 10 - 25 tons and a stroke length varying between 150 and 250 mm. These cylinders can be extended using pipes. Various accessories are available. This cylinder type is also suitable for assembly into a construction.

**Hollow plunger cylinders - spring return**

Cylinders with hollow plunger for both pushing and pulling, with a capacity of 5 - 110 tons and a stroke length varying between 25 and 150 mm. Especially developed for pulling using pulling rods.

**Hollow plunger cylinders - hydraulic return**

Cylinders with hollow plunger for both pushing and pulling, with a capacity of 30 - 100 tons and a stroke length varying between 100 and 200 mm. Especially developed for pulling using pulling rods.

**Pulling cylinders - spring and hydraulic return**

Cylinders with a pulling capacity of 11 - 100 tons and a stroke length of 150 mm. Especially developed for, among other things, pulling heavy objects towards each other.



**Step-cylinders - hydraulic return**

Cylinders with a step plate and enlarged saddle, a capacity of 25 - 300 tons and a stroke length varying between 125 and 200 mm. Especially developed for situations requiring vertically moving a load over quite a large distance. The cylinder moves up along with the load, thus increasing the stability while lifting.





**Custom-made cylinders**

Holmatro has a proven ability to deal with special projects. Except for the standard cylinders, you can also contact us for custom-made solutions. Examples of this are:

- other stroke length
- other overall height
- other return type
- other surface treatment
- other type of material
- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- etc.





**Selection list cylinders**


tonnage	closed height	stroke length	return	type	model	art no	page
t	mm	mm					
5	46	15	gravity	flat	<b>HFJ 5 G 1.5</b>	100.111.001	32
	157	75	spring	assembly	<b>HTJ 5 S 7.5</b>	100.112.003	54
	202	120	spring	assembly	<b>HTJ 5 S 12</b>	100.112.004	54
10	49	41 / 20	gravity	telescopic	<b>HFJ 10/30 G 4</b>	100.111.005	36
	52	15	spring	flat	<b>HFJ 10 G 1.5</b>	100.111.011	32
	107	25	spring	standaard	<b>HJ 10 S 2.5</b>	100.112.007	37
	110	50	gravity	standard	<b>HJ 10 G 5</b>	100.112.012	38
	135	50	spring	assembly	<b>HTJ 10 S 5</b>	100.112.020	54
	185	100	spring	assembly	<b>HTJ 10 S 10</b>	100.112.015	54
	202	60	spring	construction	<b>HCJ 10 S 6</b>	100.112.062	58
	255	150	spring	assembly	<b>HTJ 10 S 15 C</b>	100.112.022	54
	270	150	gravity	lock nut	<b>HJ 10 G 15 SN</b>	100.082.003	44
	292	150	spring	construction	<b>HCJ 10 S 15</b>	100.112.063	58
	305	200	spring	assembly	<b>HTJ 10 S 20</b>	100.112.097	54
	338	150	hydraulic	construction	<b>HCJ 10 H 15</b>	100.122.066	60
398	250	spring	construction	<b>HCJ 10 S 25</b>	100.112.064	58	
20	54	15	gravity	flat	<b>HFJ 20 G 1.5</b>	100.111.031	32
	102	50	gravity	standard	<b>HJ 20 G 5</b>	100.112.032	38
	140	111 / 55	gravity	telescopic	<b>HJ 20/50 G 11</b>	100.112.103	36
	164	50	spring	aluminium	<b>HAC 20 S 5</b>	100.112.150	26
	214	100	spring	aluminium	<b>HAC 20 S 10</b>	100.112.149	26
	264	150	spring	aluminium	<b>HAC 20 S 15</b>	100.112.137	26
25	116	25	spring	standaard	<b>HJ 25 S 2.5</b>	100.112.008	37
	137	50	spring	assembly	<b>HTJ 25 S 5</b>	100.112.098	56
	187	100	spring	assembly	<b>HTJ 25 S 10</b>	100.112.042	56
	237	150	spring	assembly	<b>HTJ 25 S 15 C</b>	100.112.026	56
	283	150	gravity	lock nut	<b>HJ 25 G 15 SN</b>	100.082.002	44
	323	150	spring	construction	<b>HCJ 25 S 15</b>	100.112.065	58
	350	150	hydraulic	construction	<b>HCJ 25 H 15</b>	100.122.067	60
	360	250	spring	assembly	<b>HTJ 25 S 25</b>	100.112.027	56
	460	350	spring	assembly	<b>HTJ 25 S 35</b>	100.112.028	56
	450	250	hydraulic	construction	<b>HCJ 25 H 25</b>	100.122.068	60
30	33	5	gravity	flat	<b>HFJ 30 G 0.5</b>	100.111.051	32
	48	15	gravity	flat	<b>HFJ 30 G 1.5</b>	100.111.052	32
	120	60	gravity	standard	<b>HJ 30 G 6</b>	100.112.054	38
	182	50	spring	aluminium	<b>HAC 30 S 5</b>	100.112.156	26
	232	100	spring	aluminium	<b>HAC 30 S 10</b>	100.112.155	26
	282	150	spring	aluminium	<b>HAC 30 S 15</b>	100.112.143	26
50	45	5	gravity	flat	<b>HFJ 50 G 0.5</b>	100.111.071	32
	134	25	spring	standard	<b>HJ 50 S 2.5</b>	100.112.009	37
	142	60	gravity	standard	<b>HJ 50 G 6</b>	100.112.073	38
	150	61	air	aluminium	<b>HLJ 50 A 6</b>	100.112.060	30
	152	50	spring	standard	<b>HJ 50 S 5</b>	100.112.072	46
	183	50	spring	aluminium	<b>HAC 50 S 5</b>	100.112.154	28
	196	104	air	aluminium	<b>HLJ 50 A 10</b>	100.112.059	30
	206	100	spring	standard	<b>HJ 50 S 10</b>	100.112.077	46
	233	100	spring	aluminium	<b>HAC 50 S 10</b>	100.112.153	28
	257	150	spring	standard	<b>HJ 50 S 15</b>	100.112.074	46
	282	150	gravity	standard	<b>HJ 50 G 15</b>	100.112.035	38
	282	150	hydraulic	standard	<b>HJ 50 H 15</b>	100.122.002	48

tonnage	closed height	stroke length	return	type	model	art no	page
t	mm	mm					
	283	150	spring	aluminium	<b>HAC 50 S 15</b>	100.112.144	28
	307	150	gravity	lock nut	<b>HJ 50 G 15 SN</b>	100.082.001	44
	363	250	spring	standard	<b>HJ 50 S 25</b>	100.112.076	46
	463	300	gravity	standard	<b>HJ 50 G 30</b>	100.112.036	38
	463	300	hydraulic	standard	<b>HJ 50 H 30</b>	100.122.022	48
75	347	150	gravity	standard	<b>HJ 75 G 15</b>	100.112.037	40
	347	150	hydraulic	standard	<b>HJ 75 H 15</b>	100.122.003	48
	497	300	gravity	standard	<b>HJ 75 G 30</b>	100.112.038	40
	497	300	hydraulic	standard	<b>HJ 75 H 30</b>	100.122.004	48
100	64	5	gravity	flat	<b>HFJ 100 G 0.5</b>	100.111.091	34
	74	15	gravity	flat	<b>HFJ 100 G 1.5</b>	100.111.092	34
	158	60	gravity	standard	<b>HJ 100 G 6</b>	100.112.093	40
	162	50	spring	standard	<b>HJ 100 S 5</b>	100.112.094	46
	170	50	hydraulic	standard	<b>HJ 100 H 5</b>	100.122.009	48
	226	100	spring	standard	<b>HJ 100 S 10</b>	100.112.096	46
	228	50	spring	aluminium	<b>HAC 100 S 5</b>	100.112.152	28
	278	100	spring	aluminium	<b>HAC 100 S 10</b>	100.112.151	28
	309	150	gravity	standard	<b>HJ 100 G 15</b>	100.112.039	40
	309	150	hydraulic	standard	<b>HJ 100 H 15</b>	100.122.052	48
	312	150	spring	standard	<b>HJ 100 S 15</b>	100.112.095	46
	323	150	gravity	lock nut	<b>HJ 100 G 15 SN</b>	100.082.000	44
	328	150	spring	aluminium	<b>HAC 100 S 15</b>	100.112.142	28
	497	300	gravity	standard	<b>HJ 100 G 30</b>	100.112.040	40
	497	300	hydraulic	standard	<b>HJ 100 H 30</b>	100.122.054	48
150	80	15	gravity	flat	<b>HFJ 150 G 1.5</b>	100.111.111	34
	317	150	gravity	standard	<b>HJ 150 G 15</b>	100.112.046	40
	317	150	hydraulic	standard	<b>HJ 150 H 15</b>	100.122.061	50
	363	150	gravity	lock nut	<b>HJ 150 G 15 SN</b>	100.112.136	44
	502	300	gravity	standard	<b>HJ 150 G 30</b>	100.112.047	40
	502	300	hydraulic	standard	<b>HJ 150 H 30</b>	100.122.062	50
250	385	150	gravity	lock nut	<b>HJ 250 G 15 SN</b>	100.112.083	44
200	327	150	gravity	standard	<b>HJ 200 G 15</b>	100.112.048	42
	327	150	hydraulic	standard	<b>HJ 200 H 15</b>	100.122.071	50
	507	300	gravity	standard	<b>HJ 200 G 30</b>	100.112.049	42
	507	300	hydraulic	standard	<b>HJ 200 H 30</b>	100.122.072	50
300	382	150	gravity	standard	<b>HJ 300 G 15</b>	100.112.050	42
	382	150	hydraulic	standard	<b>HJ 300 H 15</b>	100.122.084	50
	547	300	gravity	standard	<b>HJ 300 G 30</b>	100.112.099	42
	547	300	hydraulic	standard	<b>HJ 300 H 30</b>	100.122.083	50
400	402	150	gravity	standard	<b>HJ 400 G 15</b>	100.112.100	42
	402	150	hydraulic	standard	<b>HJ 400 H 15</b>	100.122.091	52
	572	300	gravity	standard	<b>HJ 400 G 30</b>	100.112.056	42
	572	300	hydraulic	standard	<b>HJ 400 H 30</b>	100.122.092	52
500	442	150	gravity	standard	<b>HJ 500 G 15</b>	100.112.139	42
	442	150	hydraulic	standard	<b>HJ 500 H 15</b>	100.122.043	52
	587	300	gravity	standard	<b>HJ 500 G 30</b>	100.112.138	42
	587	300	hydraulic	standard	<b>HJ 500 H 30</b>	100.122.038	52

**Selection list** hollow plunger cylinders



tonnage	Ø hole in plunger	closed height	stroke length	return	type	model	art no	page
t	mm	mm	mm					
5	17	87	25	spring	hollow plunger	<b>HHJ 5 S 2.5</b>	100.111.002	64
12	21	156	50	spring	hollow plunger	<b>HHJ 12 S 5</b>	100.111.021	64
	21	298	150	spring	hollow plunger	<b>HHJ 12 S 15</b>	100.111.029	64
17	27	195	50	spring	hollow plunger	<b>HHJ 17 S 5</b>	100.112.023	64
20	27	182	50	spring	hollow plunger	<b>HHJ 20 S 5</b>	100.112.033	64
	27	389	150	spring	hollow plunger	<b>HHJ 20 S 15</b>	100.112.030	64
30	33	120	50	gravity	hollow plunger	<b>HHJ 30 G 5</b>	100.111.053	66
	33	226	75	spring	hollow plunger	<b>HHJ 30 S 7.5</b>	100.112.055	66
	33	362	150	spring	hollow plunger	<b>HHJ 30 S 15</b>	100.112.034	66
	33	285	150	hydraulic	hollow plunger	<b>HHJ 30 H 15</b>	100.122.045	68
45	39	388	150	spring	hollow plunger	<b>HHJ 45 S 15</b>	100.112.061	66
60	45	272	75	spring	hollow plunger	<b>HHJ 60 S 7.5</b>	100.112.081	66
	45	334	200	hydraulic	hollow plunger	<b>HHJ 60 H 20</b>	100.122.031	68
100	54	265	100	hydraulic	hollow plunger	<b>HHJ 100 H 10</b>	100.122.051	68
	54	395	200	hydraulic	hollow plunger	<b>HHJ 100 H 20</b>	100.122.053	68
110	80	315	75	spring	hollow plunger	<b>HHJ 110 S 7.5</b>	100.112.101	66



**Aluminium cylinders - spring return - ≥ 20 ton**

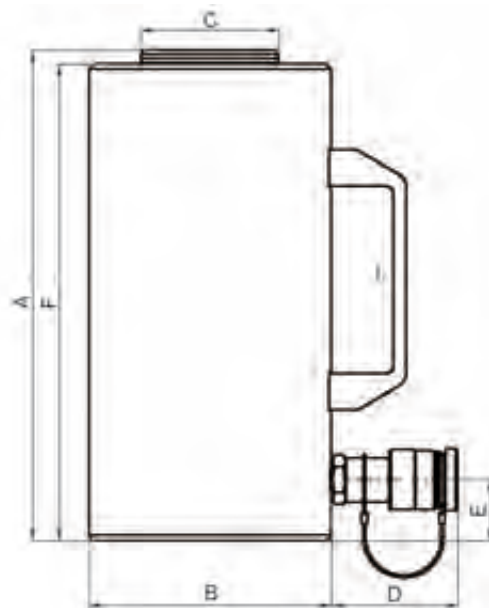


model		HAC 20 S 5	HAC 20 S 10	HAC 20 S 15	HAC 30 S 5	HAC 30 S 10	HAC 30 S 15
art no		100.112.150	100.112.149	100.112.137	100.112.156	100.112.155	100.112.143
working pressure	bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	20	20	20	30	30	30
<b>stroke length</b>	<b>mm</b>	50	100	150	50	100	150
<b>closed height</b>	<b>mm</b>	164	214	264	182	232	282
capacity	kN/t	204 / 20.8	204 / 20.8	204 / 20.8	301 / 30.7	301 / 30.7	301 / 30.7
oil content	cm <sup>3</sup>	142	283	424	209	418	629
effective pressure area	cm <sup>2</sup>	28.3	28.3	28.3	41.9	41.9	41.9
weight	kg	3.1	3.9	4.6	4.8	6.0	7.0
maintenance set	art no	100.013.099	100.013.099	100.013.099	100.013.106	100.013.106	100.013.106
recommended pump	model	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A	HTW 1800 B
pressure gauge	model	A 501	A 501	A 501	A 510	A 510	A 510

**Aluminium cylinders - spring return - ≥ 20 ton (dimensions)**



model		HAC 20 S 5	HAC 20 S 10	HAC 20 S 15	HAC 30 S 5	HAC 30 S 10	HAC 30 S 15
A	mm	164	214	264	182	232	282
B	mm	90	90	90	108	108	108
C	mm	50	50	50	60	60	60
D	mm	75	75	75	73	73	73
E	mm	26	26	26	35	35	35
F	mm	157	207	257	177	227	277
l <sub>2</sub>	-	-	l <sub>2</sub>	l <sub>2</sub>	-	l <sub>2</sub>	l <sub>2</sub>





**Specifications / important properties** ↓

- up to 50% less weight than steel models
  - easy to move and to position
- carrying handles on almost all models
- corrosion-resistant
- composite bearings
  - prevent metal-to-metal contact
  - extend the life time
  - resistant to side-loads of up to 10%
- usable in all positions
- protected against ejection of the plunger
- dirt scraper ring
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- steel plate for protection of the cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HAC 20 S 5



HAC 30 S 10



Detail plunger HAC 30 S 10

**Aluminium cylinders - spring return - ≥ 50 ton**

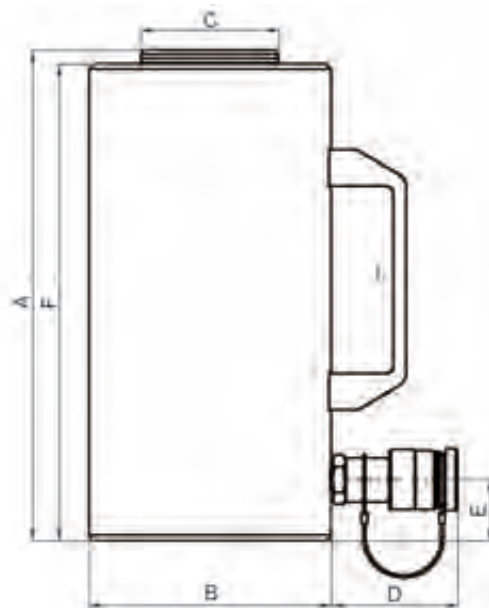


model	HAC 50 S 5	HAC 50 S 10	HAC 50 S 15	HAC 100 S 5	HAC 100 S 10	HAC 100 S 15
art no	100.112.154	100.112.153	100.112.144	100.112.152	100.112.151	100.112.142
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	50	50	50	100	100	100
<b>stroke length</b> mm	50	100	150	50	100	150
<b>closed height</b> mm	183	233	283	228	278	328
capacity kN/t	510 / 52	510 / 52	510 / 52	1031 / 105.2	1031 / 105.2	1031 / 105.2
oil content cm <sup>3</sup>	355	709	1063	716	1432	2147
effective pressure area cm <sup>2</sup>	70.9	70.9	70.9	143.1	143.1	143.1
weight kg	8.1	9.9	11.6	19.7	23.3	26.9
maintenance set art no	100.013.108	100.013.108	100.013.108	100.013.116	100.013.116	100.013.116
recommended pump model	HTS 550 A	HTW 1800 B	HTW 1800 B	HTW 1800 B	HTW 1800 B	HTW 2800 B
pressure gauge model	A 503	A 503	A 503	A 504	A 504	A 504

**Aluminium cylinders - spring return - ≥ 50 ton (dimensions)**



model	HAC 50 S 5	HAC 50 S 10	HAC 50 S 15	HAC 100 S 5	HAC 100 S 10	HAC 100 S 15
A mm	183	233	283	228	278	328
B mm	140	141	140	200	200	200
C mm	80	80	80	105	105	105
D mm	73	73	73	73	73	73
E mm	35	35	35	45	45	45
F mm	175	225	275	217	267	317
l <sub>2</sub>	-	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub> (2x)



**Specifications / important properties** ↓

- up to 50% less weight than steel models
  - easy to move and to position
- carrying handles on almost all models
- corrosion-resistant
- composite bearings
  - prevent metal-to-metal contact
  - extend the life time
  - resistant to side-loads of up to 10%
- usable in all positions
- protected against ejection of the plunger
- dirt scraper ring
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- steel plate for protection of the cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HAC 50 S 5



HAC 100 S 15



Detail plunger HAC 30 S 10

**Aluminium cylinders - air return**

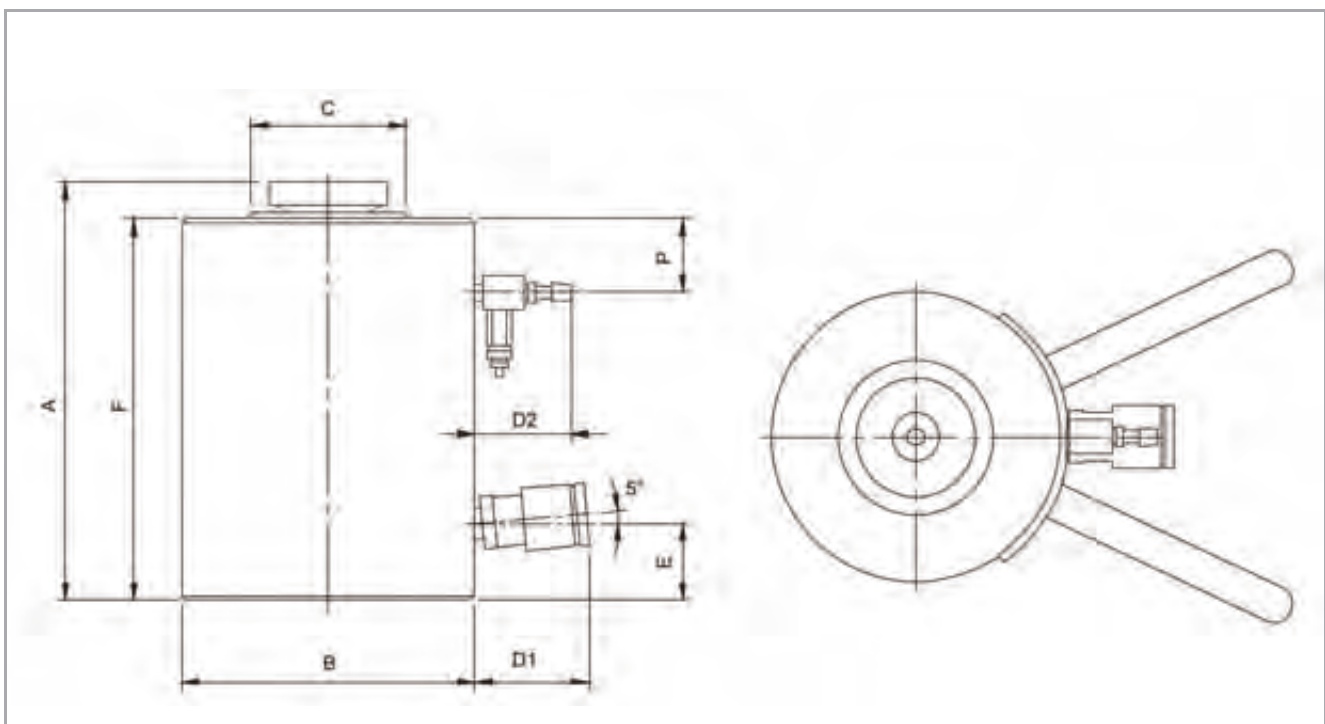


model	HLJ 50 A 6	HLJ 50 A 10
art no	100.112.060	100.112.059
working pressure bars/Mpa	720 / 72	720 / 72
<b>tonnage</b> t	50	50
<b>stroke length</b> mm	61	104
<b>closed height</b> mm	150	196
capacity kN/t	510.3 / 52	510.3 / 52
oil content cm <sup>3</sup>	432	737
effective pressure area cm <sup>2</sup>	70.9	70.9
weight kg	7	9
maintenance set art no	100.123.012	100.123.012
recommended pump model	HTS 550 A	HTW 1800 B
pressure gauge model	A 503	A 503

**Aluminium cylinders - air return (dimensions)**



model	HLJ 50 A 6	HLJ 50 A 10
A	mm 150	196
B	mm 145	145
C	mm 80	80
D <sub>1</sub> /D <sub>2</sub>	mm 70 / 60	70 / 60
E	mm 28	28
F	mm 132	178
P	mm 30	30





**Specifications / important properties** ↓

- air return
  - by means of compressed air (6 bars)
  - overpressure protection
- 50% less weight than steel cylinders
- easy to move with two standard carrying handles
- corrosion-resistant
- usable in all positions
- standard with tilting saddle for oblique load
- protected against ejection of the plunger

**Available on request** ↓

- cylinders manufactured in conformity with customer specifications

Hydraulic pumps  
Hydraulic hoses  
Pressure gauges

pag. 94  
pag. 110  
pag. 112



HLJ 50 A 6



HLJ 50 A 10



Detail air-filling valve with pressure relief valve



Detail standard tilting saddle

**Flat cylinders - gravity return -  $\geq 5$  ton**



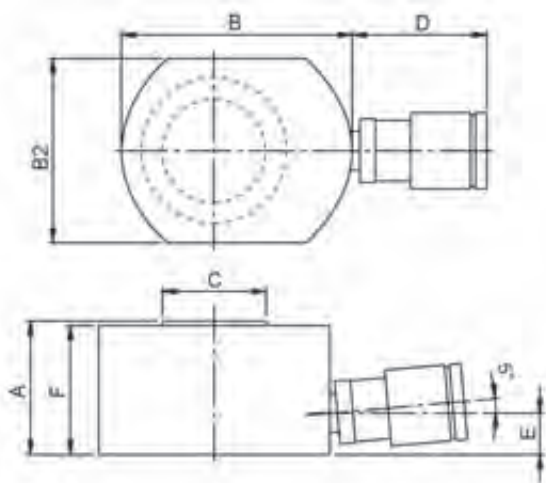
model		HFJ 5 G 1.5	HFJ 10 G 1.5	HFJ 20 G 1.5	HFJ 30 G 0.5	HFJ 30 G 1.5	HFJ 50 G 0.5
art no		100.111.001	100.111.011	100.111.031	100.111.051	100.111.052	100.111.071
working pressure	bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	5	10	20	30	30	50
<b>stroke length</b>	<b>mm</b>	15	15	15	5	15	5
<b>closed height</b>	<b>mm</b>	46	52	54	33	48	45
capacity	kN/t	47.5 / 4.8	99.3 / 10.1	203.7 / 20.8	318.2 / 32.4	318.2 / 32.4	494.5 / 50.4
oil content	cm <sup>3</sup>	10	21	42	22	66	34
effective pressure area	cm <sup>2</sup>	6.6	13.8	28.3	44.2	44.2	68.7
weight	kg	1.1	1.9	3	3.4	4.7	7.2
maintenance set	art no	100.113.001	100.113.081	100.113.241	100.013.251	100.013.251	100.013.331
recommended pump	model	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A
pressure gauge	model	A 501	A 501	A 501	A 502	A 502	A 503

**Flat cylinders - gravity return -  $\geq 5$  ton (dimensions)**

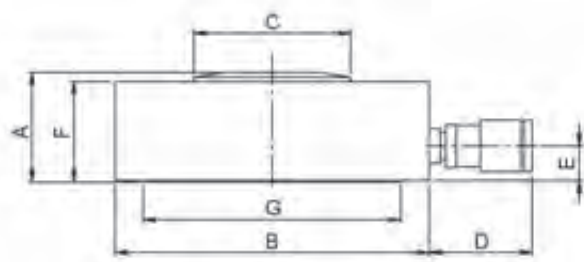


model		HFJ 5 G 1.5	HFJ 10 G 1.5	HFJ 20 G 1.5	HFJ 30 G 0.5	HFJ 30 G 1.5	HFJ 50 G 0.5
A	mm	46	52	54	33	48	45
B/B <sub>2</sub>	mm	Ø60 / 46	Ø80 / 60	Ø100 / 80	120	120	158
C	mm	20	30	45	60	60	75
D	mm	70	70	70	380	380	380
E	mm	18	20	20	15	18	18
F	mm	46	50	52	33	48	45
G	mm	-	-	-	95	95	125

(1)  $\geq 5$  ton (2)  $\geq 30$  ton



1



2

**Specifications / important properties** ↓

- compact
- lightweight
- usable in all positions
- protected against ejection of the plunger
- spherical plunger
  - prevents point load when the load is slightly tilted
  - prevents damaging the cylinder and dangerous situations
- dirt scraper ring

**Available on request** ↓

- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Hydraulic pumps  
Hydraulic hoses  
Pressure gauges

pag. 94  
pag. 110  
pag. 112



HFJ 5 G 1.5



HFJ 10 G 1.5



HFJ 30 G 0.5



Detail spherical plunger

**Flat cylinders - gravity return -  $\geq 100$  ton**

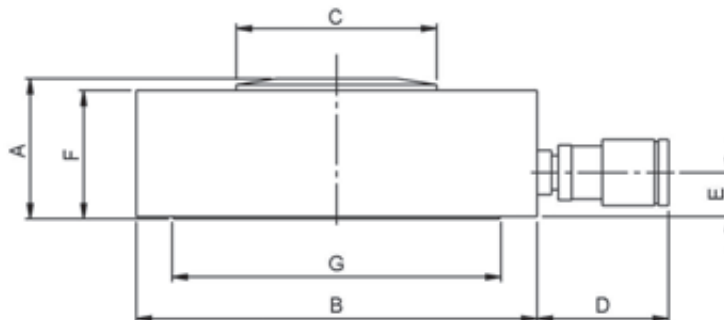


model		HFJ 100 G 0.5	HFJ 100 G 1.5	HFJ 150 G 1.5
art no		100.111.091	100.111.092	100.111.111
working pressure	bars/Mpa	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	100	100	150
<b>stroke length</b>	<b>mm</b>	5	15	15
<b>closed height</b>	<b>mm</b>	64	74	80
capacity	kN/t	1029.3 / 105	1029.3 / 105	1538.9 / 157.0
oil content	cm <sup>3</sup>	72	215	321
effective pressure area	cm <sup>2</sup>	143	143	213.8
weight	kg	15.5	18	28
maintenance set	art no	100.013.451	100.013.451	100.113.781
recommended pump	model	HTS 550 A	HTS 550 A	HTS 550 A
pressure gauge	model	A 504	A 504	A 504

**Flat cylinders - gravity return -  $\geq 100$  ton (dimensions)**



model		HFJ 100 G 0.5	HFJ 100 G 1.5	HFJ 150 G 1.5
A	mm	64	74	80
B	mm	200	200	250
C	mm	100	100	120
D	mm	80	80	80
E	mm	23	23	25
F	mm	64	74	80
G	mm	165	165	200





**Specifications / important properties** ↓

- compact
- lightweight
- usable in all positions
- protected against ejection of the plunger
- spherical plunger
  - prevents point load when the load is slightly tilted
  - prevents damaging the cylinder and dangerous situations
- dirt scraper ring

**Available on request** ↓

- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Hydraulic pumps

pag. 94

Hydraulic hoses

pag. 110

Pressure gauges

pag. 112



HFJ 100 G 0.5



HFJ 100 G 1.5

**Telescopic cylinders - gravity return**



model	HFJ 10/30 G 4	HJ 20/50 G 11
art no	100.111.005	100.112.103
working pressure bars/Mpa	720 / 72	720 / 72
<b>tonnage</b> t	10	20
<b>stroke length</b> mm	41 / 20	111 / 55
<b>closed height</b> mm	49	140
capacity kN	99.7 / 318.0	203.5 / 510.0
capacity t	10.1 / 32.4	20.7 / 52.0
oil content cm <sup>3</sup>	118	554
effective pressure area cm <sup>2</sup>	13.9 / 44.2	28.3 / 70.8
weight kg	4.5	12.5
maintenance set art no	100.113.010	100.119.225
recommended pump model	HTS 550 A	HTW 1800 B
pressure gauge model	A 500	A 500

(1) HFJ 10/30 G 4 (2) HJ 20/50 G 11



**Specifications / important properties**



- compact
- lightweight
- usable in all positions
- protected against ejection of the plunger

**Available on request**



- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading pag. 74  
 Hydraulic pumps pag. 94  
 Hydraulic hoses pag. 110  
 Pressure gauges pag. 112



HFJ 10/30 G 4



HJ 20/50 G 11

## Holmatro | Short stroke cylinders | Flat cylinders - spring return

Dynamism, ease of use and safety under all conditions. Combined in two new powerhouses which form part of Holmatro's innovative range of products. Let yourself be inspired and challenged by the hydraulic power of the short stroke cylinders and flat cylinders with spring return. The flat cylinders are an ideal solution for situations with a very restricted construction height. The short stroke cylinders have been designed for situations with a restricted construction height, which call for a short stroke. Both types of cylinders are maintenance-friendly and have been fitted with a removable return spring. Furthermore, both cylinders have been fitted with superior seals and a very strong composite bearing. This guarantees a long lifespan.



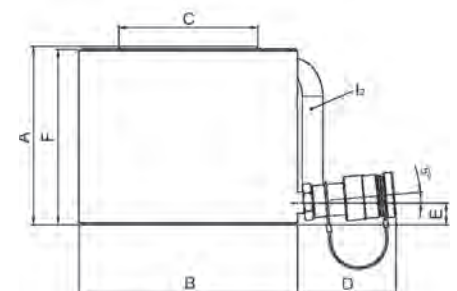
## TECHNICAL SPECIFICATIONS | Short stroke cylinders - spring return

### Short stroke cylinders - spring return

model	HSC 10 S 5	HSC 20 S 5	HSC 30 S 5	HSC 50 S 5	HSC 100 S 5
art no	100.112.164	100.112.171	100.112.176	100.112.178	100.112.172
working pressure bars	bar / Mpa 720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t 10</b>	<b>20</b>	<b>30</b>	<b>50</b>	<b>100</b>
<b>stroke length</b>	<b>mm 50</b>	<b>50</b>	<b>50</b>	<b>50</b>	<b>50</b>
<b>closed height</b>	<b>mm 100</b>	<b>103</b>	<b>106</b>	<b>117</b>	<b>141</b>
capacity	kN / t 99.8 / 10.2	203.6 / 20.8	318.1 / 32.4	510.4 / 52.0	1030.6 / 105.1
oil content	cm³ 69.3	141.4	220.9	354.4	715.7
effective pressure area	cm² 13.9	28.3	44.2	70.9	143.1
weight	kg 2.9	5.5	6.1	9.7	22.2
maintenance set	100.013.160	100.013.161	100.013.164	100.013.165	100.013.166
recommended pump	HTW 300 B	HTW 300 B	HTW 300 B	HTS 550 A	HTW 1800 B
recommended pump	HTS 500 A	HTS 500 A	HTS 500 A	HTW 700 A	HTW 2200 A
pressure gauge	A 501	A 501	A 502	A 503	A 504

### Short stroke cylinders - spring return (dimensions)

model	HSC 10 S 5	HSC 20 S 5	HSC 30 S 5	HSC 50 S 5	HSC 100 S 5
A	mm 100	103	106	117	141
B	mm 70	98	104	128	173
C	mm 36	60	62	75	110
D	mm 77	77	76	76	76
E	mm 15 (5°)	15 (5°)	19	19	24
F	mm 99	102	105	116	139
I <sub>2</sub>	mm -	-	-	-	I <sub>2</sub>



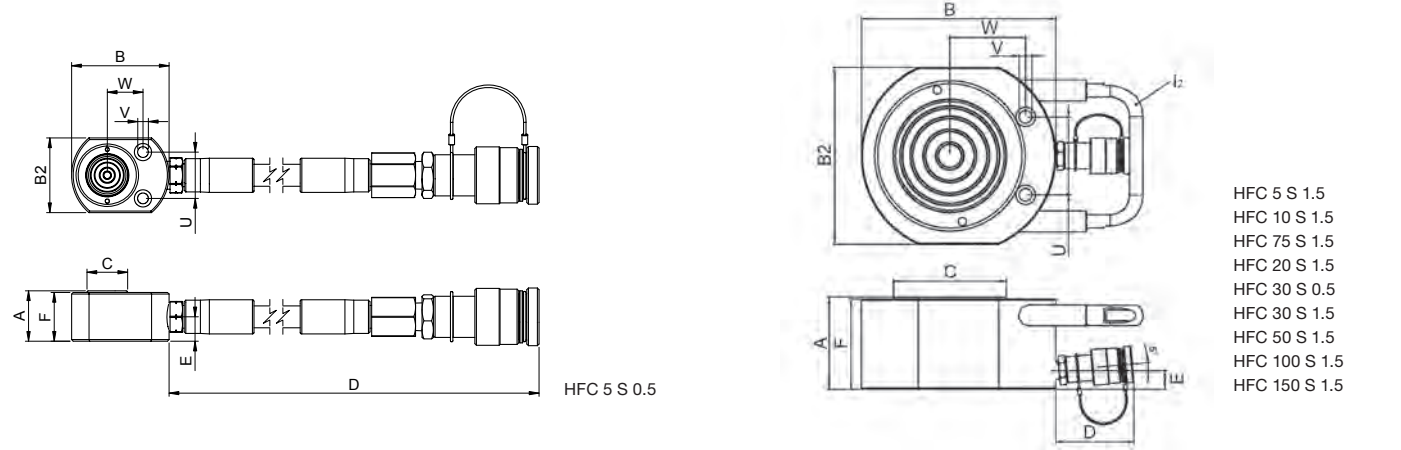
## TECHNICAL SPECIFICATIONS | Flat cylinders - spring return

### Flat cylinders - spring return

model	HFC 5 S 0.5	HFC 5 S 1.5	HFC 10 S 1.5	HFC 20 S 1.5	HFC 30 S 0.5	HFC 30 S 1.5	HFC 50 S 1.5	HFC 75 S 1.5	HFC 100 S 1.5	HFC 150 S 1.5
art no	100.112.168	100.112.181	100.112.184	100.112.185	100.112.187	100.112.186	100.112.194	100.112.193	100.112.191	100.112.175
working pressure bar / Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage t</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>20</b>	<b>30</b>	<b>30</b>	<b>50</b>	<b>75</b>	<b>100</b>	<b>150</b>
<b>stroke length mm</b>	<b>5</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>5</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>
<b>closed height mm</b>	<b>31</b>	<b>44</b>	<b>46</b>	<b>55</b>	<b>50</b>	<b>60</b>	<b>71</b>	<b>80</b>	<b>90</b>	<b>100</b>
capacity kN / t	50.9 / 5.2	50.9 / 5.2	99.8 / 10.2	203.6 / 20.8	318.1 / 30.7	318.1 / 30.7	510.4 / 52.0	747.9 / 76.2	1030.5 / 105.1	1447.6 / 147.6
oil content cm <sup>3</sup>	4	11	21	42	22	66	106	156	215	302
effective pressure area cm <sup>2</sup>	7.1	7.1	13.9	28.3	44.2	44.2	70.9	103.9	143.1	201.1
weight kg	1.2	1	1.6	2.9	3.6	4.2	7	11	18.1	25.7
maintenance set	100.013.128	100.013.128	100.013.132	100.013.134	100.013.150	100.013.150	100.013.155	100.013.156	100.013.157	100.013.158
recommended pump	HTW 300 B	HTW 300 B	HTW 300 B	HTW 300 B	HTW 300 B	HTW 300 B	HTW 300 B	HTW 300 B	HTW 300 B	HTS 550 B
recommended pump	HTS 500 A	HTS 500 A	HTS 500 A	HTS 500 A	HTS 500 A	HTS 500 A	HTS 500 A	HTS 500 A	HTS 500 A	HTW 700 A
pressure gauge	A 501	A 501	A 501	A 501	A 502	A 502	A 503	A 503	A 504	A 504

### Flat cylinders - spring return (dimensions)

model	HFC 5 S 0.5	HFC 5 S 1.5	HFC 10 S 1.5	HFC 20 S 1.5	HFC 30 S 0.5	HFC 30 S 1.5	HFC 50 S 1.5	HFC 75 S 1.5	HFC 100 S 1.5	HFC 150 S 1.5
A	31	44	46	55	50	60	71	80	90	100
B / B <sup>2</sup>	60 / 46	60 / 46	82 / 55	100 / 80	116 / 95	116 / 95	140 / 119	165 / 144	190 / 173	215 / 200
C	25	25	36	50	62	62	75	80	110	125
D / handle	385 (hose)	76	76	76	76	76	76	76	76 / 85	76 / 75
E	15	15 (5°)	19	19 (5°)	19 (5°)	19 (5°)	19 (5°)	19	19	24
F	30	43	46	54	49	59	70	79	88	98.5
I <sub>2</sub>	-	-	-	-	-	-	-	-	I <sub>2</sub>	I <sub>2</sub>
U	29	29	37	49	52	52	67	76	76	117
V	7	7	7	9	11	11	13	13	13	13
W	22	22	34	39	44	44	53	66	74	82



**Cylinders - gravity return -  $\geq 75$  ton**

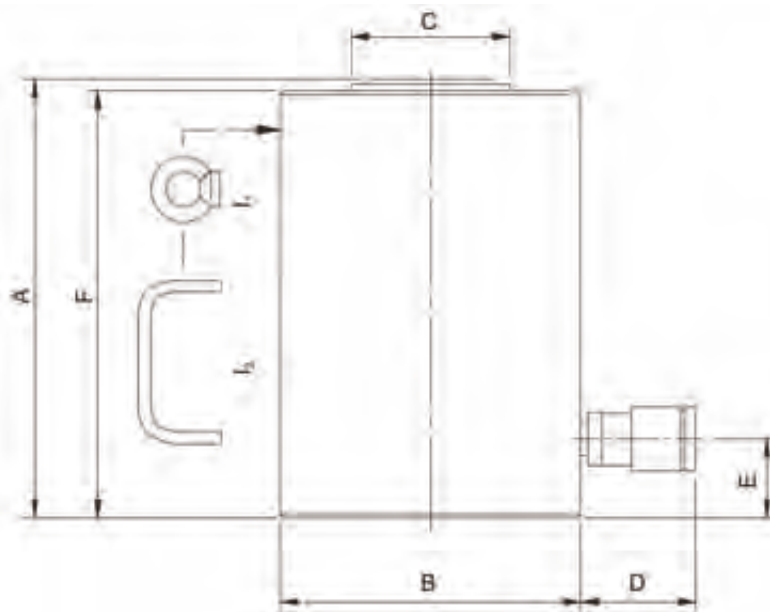


model	HJ 75 G 15	HJ 75 G 30	HJ 100 G 6	HJ 100 G 15	HJ 100 G 30	HJ 150 G 15	HJ 150 G 30
art no	100.112.037	100.112.038	100.112.093	100.112.039	100.112.040	100.112.046	100.112.047
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	75	75	100	100	100	150	150
<b>stroke length</b> mm	150	300	60	150	300	150	300
<b>closed height</b> mm	347	497	158	309	497	317	502
capacity kN/t	747.9 / 76.3	747.9 / 76.3	1029.3 / 105	1029.3 / 105	1029.3 / 105	1538.9 / 157	1538.9 / 157
oil content cm <sup>3</sup>	1559	3117	860	2145	4290	3207	6414
effective pressure area cm <sup>2</sup>	103.9	103.9	143	143	143	213.8	213.8
weight kg	46	63	29	51	82	74.6	125.3
maintenance set art no	100.123.101	100.123.101	100.113.701	100.123.141	100.123.141	100.123.201	100.123.201
recommended pump model	HTW 1800 B	HTW 5800 B	HTW 1800 B	HTW 2800 B	HTW 5800 B	HTW 5800 B	HTW 8800 B
pressure gauge model	A 503	A 503	A 504	A 504	A 504	A 504	A 504

**Cylinders - gravity return -  $\geq 75$  ton (dimensions)**



model	HJ 75 G 15	HJ 75 G 30	HJ 100 G 6	HJ 100 G 15	HJ 100 G 30	HJ 150 G 15	HJ 150 G 30
A	mm 347	497	497	158	309	317	502
B	mm 156	156	178	185	178	227	227
C	mm 80	80	105	105	105	115	115
D	mm 70	70	70	70	70	70	70
E	mm 47	47	52	27	52	57	57
F	mm 340	490	490	151	302	310	495
l <sub>1</sub> /l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>





**Specifications / important properties** ↓

- compact
- lightweight
- usable in all positions
- protected against ejection of the plunger
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HJ 100 G 6



HJ 100 G 6



**Cylinders - gravity return - ≥ 200 ton**

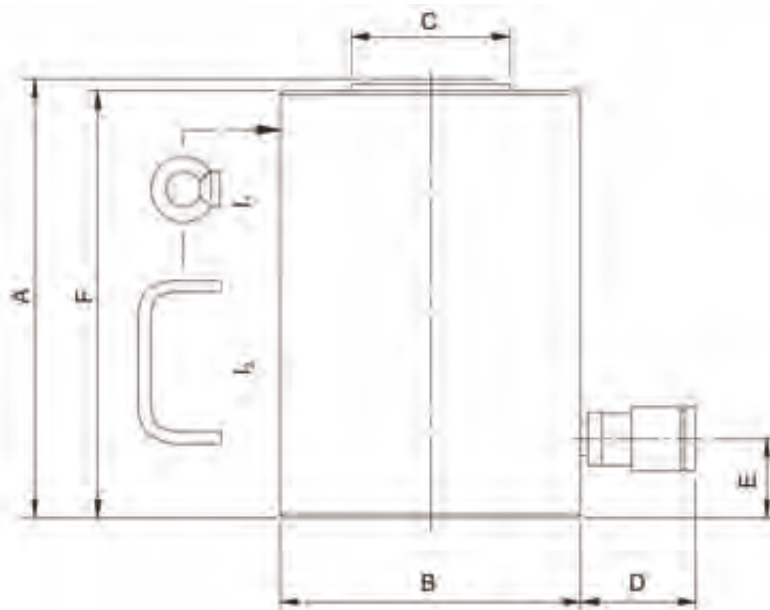


model	HJ 200 G 15	HJ 200 G 30	HJ 300 G 15	HJ 300 G 30	HJ 400 G 15	HJ 400 G 30	HJ 500 G 15	HJ 500 G 30
art nr	100.112.048	100.112.049	100.112.050	100.112.099	100.112.100	100.112.056	100.112.139	100.112.138
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	200	200	300	300	400	400	500	500
<b>stroke length</b> mm	150	300	150	300	150	300	150	300
<b>closed height</b> mm	327	507	382	547	402	572	442	587
capacity kN/t	2040.6 / 208	2040.6 / 208	2933 / 299	2933 / 299	3750 / 382	3750 / 382	4994 / 509	4994 / 509
oil content cm <sup>3</sup>	4253	8505	6225	12450	7950	15900	10605	21210
effective pressure area cm <sup>2</sup>	283.5	283.5	415	415	530	530	707	707
gewicht kg	120	184	238	257	322	408	386	511
maintenance set art no	100.123.241	100.123.241	100.123.281	100.123.281	100.123.007	100.123.007	100.123.008	100.123.008
recommended pump model	HTW 5800 B	Vari pump	Vari pump	Vari pump	Vari pump	Vari pump	Vari pump	Vari pump
pressure gauge model	A 505	A 505	A 505	A 505	A 506	A 506	A 506	A 506

**Cylinders - gravity return - ≥ 200 ton (dimensions)**



model	HJ 200 G 15	HJ 200 G 30	HJ 300 G 15	HJ 300 G 30	HJ 400 G 15	HJ 400 G 30	HJ 500 G 15	HJ 500 G 30
A	327	507	382	547	402	572	442	587
B	261	261	316	316	358	358	412	412
C	160	160	190	190	200	200	210	210
D	70	70	70	70	70	70	70	70
E	60	60	70	70	76	76	85	85
F	320	500	370	540	395	565	435	580
l <sub>1</sub> /l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>



**Specifications / important properties** ↓

- compact
- lightweight
- usable in all positions
- protected against ejection of the plunger
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HJ 300 G 15



Detail saddle seating in plunger head

**Locknut cylinders - gravity return**

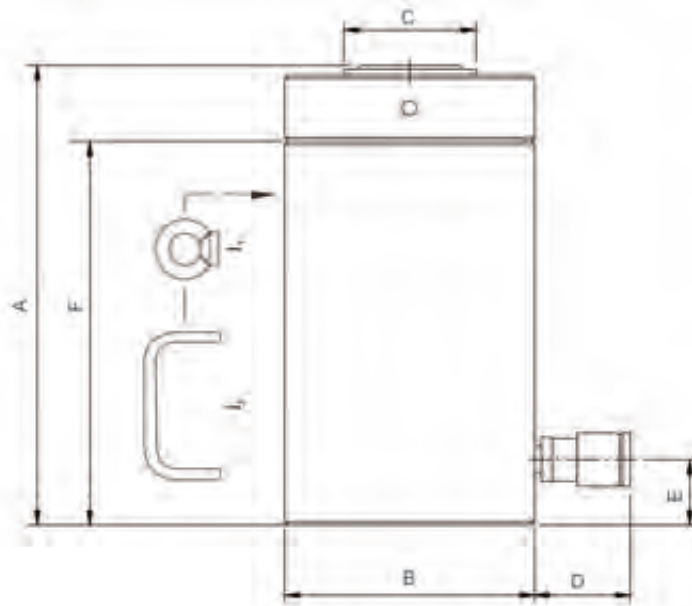


model	HJ 10 G 15 SN	HJ 25 G 15 SN	HJ 50 G 15 SN	HJ 100 G 15 SN	HJ 150 G 15 SN	HJ 250 G 15 SN
art no	100.082.003	100.082.002	100.082.001	100.082.000	100.112.136	100.112.083
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	10	25	50	100	150	250
<b>stroke length</b> mm	150	150	150	150	150	150
<b>closed height</b> mm	270	283	307	323	363	385
capacity kN/t	99.3 / 10.1	238.9 / 24.4	510.3 / 52	1029.3 / 105	1538.9 / 157	2493.8 / 254
oil content cm <sup>3</sup>	210	498	1065	2150	3207	5195
effective pressure area cm <sup>2</sup>	13.8	33.2	70.9	143	213.8	340.6
weight kg	5.9	14	34	71	101	180
maintenance set art no	100.083.013	100.083.014	100.083.015	100.083.012	100.013.084	100.013.138
recommended pump model	HTS 550 A	HTS 550 A	HTW 1800 B	HTW 2800 B	Vari pump	Vari pump
pressure gauge model	A 501	A 502	A 503	A 504	A 504	A 500

**Locknut cylinders - gravity return (dimensions)**



model	HJ 10 G 15 SN	HJ 25 G 15 SN	HJ 50 G 15 SN	HJ 100 G 15 SN	HJ 150 G 15 SN	HJ 250 G 15 SN
A mm	270	283	307	323	363	385
B mm	60	90	135	190	212	300
C mm	42	65	95	135	165	210
D mm	70	70	70	70	70	70
E mm	25	25	25	25	35	40
F mm	242	257	272	287	305	330
l <sub>1</sub> /l <sub>2</sub>	-	l <sub>2</sub>	l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>



**Specifications / important properties** ↓

- usable in all positions
- safe because of mechanical load locking
- suitable for sustained load
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HJ 10 G 15 SN



HJ 50 G 15 SN



Locknut on plunger for mechanical load locking



## Cylinders - spring return

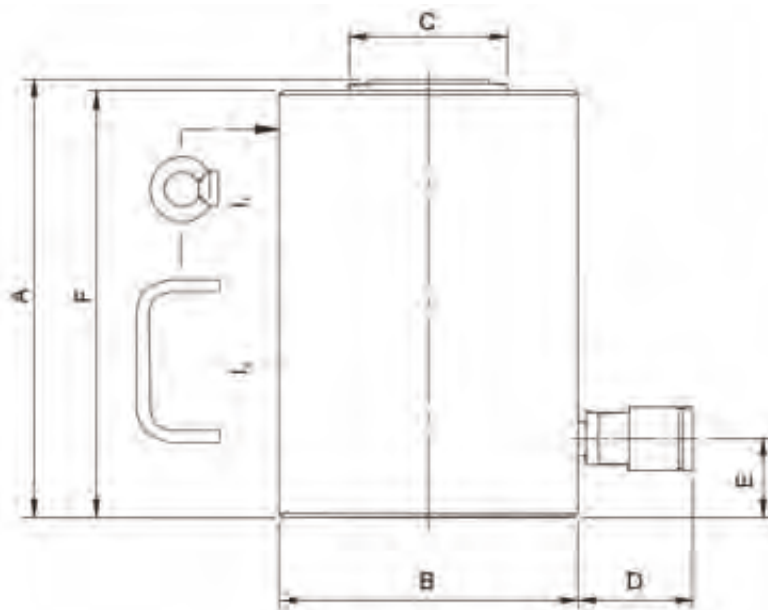


model	HJ 50 S 5	HJ 50 S 10	HJ 50 S 15	HJ 50 S 25	HJ 100 S 5	HJ 100 S 10	HJ 100 S 15
art no	100.112.072	100.112.077	100.112.074	100.112.076	100.112.094	100.112.096	100.112.095
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	50	50	50	50	100	100	100
<b>stroke length</b> mm	50	100	150	250	50	100	150
<b>closed height</b> mm	152	206	257	363	162	226	312
capacity kN/t	510.3 / 52	510.3 / 52	510.3 / 52	510.3 / 52	1029.30 / 105	1029.3 / 105	1029.3 / 105
oil content cm <sup>3</sup>	354	709	1064	1773	715	1430	2145
effective pressure area cm <sup>2</sup>	70.9	70.9	70.9	70.9	143	143	143
weight kg	14	17.4	22	30	29	40	55
maintenance set art no	100.113.561	100.113.561	100.113.561	100.113.561	100.113.721	100.113.721	100.113.721
recommended pump model	HTS 550 A	HTW 1800 B	HTW 1800 B	HTW 2800 B	HTW 1800 B	HTW 1800 B	HTW 2800 B
pressure gauge model	A 503	A 503	A 503	A 503	A 504	A 504	A 504

## Cylinders - spring return (dimensions)



model	HJ 50 S 5	HJ 50 S 10	HJ 50 S 15	HJ 50 S 25	HJ 100 S 5	HJ 100 S 10	HJ 100 S 15
A	152	206	257	363	162	226	312
B	130	130	130	130	185	185	185
C	80	80	80	80	105	105	105
D	70	70	70	70	70	70	70
E	35	35	35	38	27	27	55
F	145	200	250	356	155	220	305
l <sub>1</sub> /l <sub>2</sub>	-	-	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>



**Specifications / important properties** ↓

- compact
- usable in all positions
- protected against ejection of the plunger
- dirt scraper ring
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HJ 50 S 15



HJ 100 S 15



**Cylinders - hydraulic return - ≥ 50 ton**



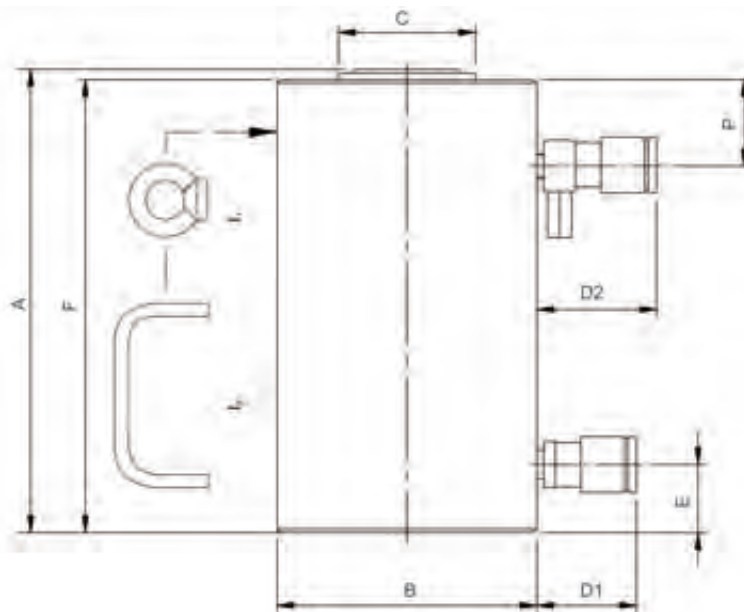
model	HJ 50 H 15	HJ 50 H 30	HJ 75 H 15	HJ 75 H 30	HJ 100 H 5	HJ 100 H 15	HJ 100 H 30
art no	100.122.002	100.122.022	100.122.003	100.122.004	100.122.009	100.122.052	100.122.054
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	50	50	75	75	100	100	100
<b>stroke length</b> mm	150	300	150	300	50	150	300
<b>closed height</b> mm	282	463	347	497	170	309	497
capacity kN/t	510.3 / 52	510.3 / 52	747.9 / 76.3	747.9 / 76.3	1029.3 / 105	1029.3 / 105	1029.3 / 105
oil content* cm <sup>3</sup>	1064 / 309	2127 / 620	1559 / 755	3117 / 1509	716 / 283	2145 / 848	4290 / 1695
effective pressure area* cm <sup>2</sup>	70.9 / 20.6	70.9 / 20.6	103.9 / 53.6	103.9 / 53.6	143.0 / 56.6	143.0 / 56.6	143.0 / 56.6
weight kg	27	44	46	63	29	53	85
maintenance set art no	100.123.061	100.123.061	100.123.101	100.123.101	100.123.141	100.123.141	100.123.141
recommended pump model	HTW 1800 B	HTW 1800 B	HTW 1800 B	HTW 2800 B	HTW 1800 B	HTW 1800 B	HTW 5800 B
pressure gauge model	A 503	A 503	A 503	A 503	A 504	A 504	A 504

**Cylinders - hydraulic return - ≥ 50 ton (dimensions)**



model	HJ 50 H 15	HJ 50 H 30	HJ 75 H 15	HJ 75 H 30	HJ 100 H 5	HJ 100 H 15	HJ 100 H 30
A	282	463	347	497	163	309	497
B	130	130	156	156	178	178	178
C	80	80	80	80	105	105	105
D <sub>1</sub> /D <sub>2</sub>	70 / 85	70 / 85	70 / 85	70 / 85	70 / 85	70 / 85	70 / 85
E	25	38	47	47	27	52	52
F	275	456	340	490	163	302	490
l <sub>1</sub> /l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>
P	70	70	83	83	52	52	70

\* = press / retract



**Specifications / important properties** ↓

- usable in all positions
- protected against ejection of the plunger
- protected against overpressure on return side
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HJ 50 H 30



HJ 100 H 15



Pressure relief valve prevents dangerous situations in case of incorrectly connected cylinders

**Cylinders - hydraulic return -  $\geq 150$  ton**



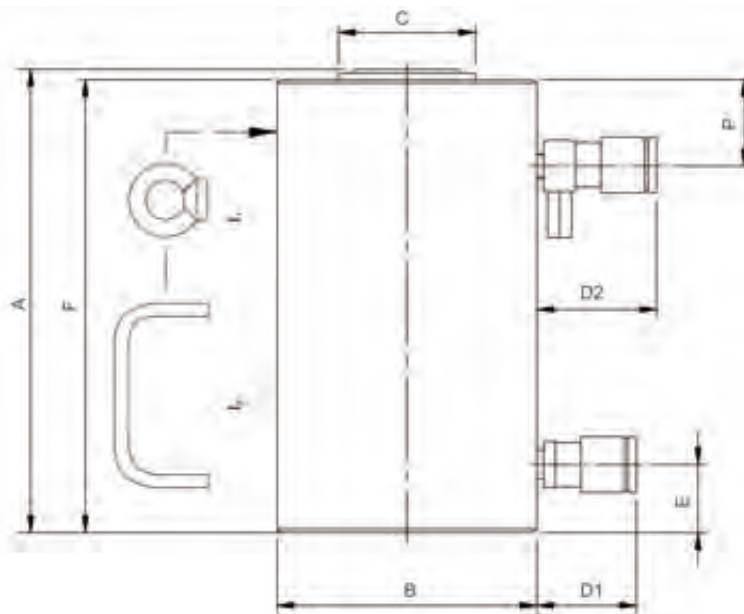
model	HJ 150 H 15	HJ 150 H 30	HJ 200 H 15	HJ 200 H 30	HJ 300 H 15	HJ 300 H 30
art no	100.122.061	100.122.062	100.122.071	100.122.072	100.122.084	100.122.083
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	150	150	200	200	300	300
<b>stroke length</b> mm	150	300	150	300	150	300
<b>closed height</b> mm	317	502	327	507	382	547
capacity kN/t	1538.9 / 157	1538.9 / 157	2040.6 / 208	2040.6 / 208	2933 / 299	2933 / 299
oil content* cm <sup>3</sup>	3207 / 1650	6414 / 3300	4253 / 1238	8505 / 2475	6225 / 1965	12450 / 3930
effective pressure area* cm <sup>2</sup>	213.8 / 110	213.8 / 110	283.5 / 82.5	283.5 / 82.5	415.5 / 131.9	415.5 / 131.9
weight kg	76	128	121	186	240	360
maintenance set art no	100.123.201	100.123.201	100.123.241	100.123.241	100.123.006	100.123.006
recommended pump model	HTW 2800 B	HTW 5800 B	HTW 5800 B	HTW 8800 B	Vari pump	Vari pump
pressure gauge model	A 504	A 504	A 505	A 505	A 505	A 505

**Cylinders - hydraulic return -  $\geq 150$  ton (dimensions)**



model	HJ 150 H 15	HJ 150 H 30	HJ 200 H 15	HJ 200 H 30	HJ 300 H 15	HJ 300 H 30
A mm	317	502	327	507	382	547
B mm	227	227	261	261	316	316
C mm	115	115	160	160	190	190
D <sub>1</sub> /D <sub>2</sub> mm	70 / 85	70 / 85	70 / 85	70 / 85	70 / 85	70 / 85
E mm	57	57	60	60	80	80
F mm	310	495	320	500	370	540
l <sub>1</sub> /l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>
P mm	55	70	60	70	75	75

\* = press / retract





**Specifications / important properties** ↓

- usable in all positions
- protected against ejection of the plunger
- protected against overpressure on return side
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HJ 100 H 30



HJ 300 H 15



Pressure relief valve prevents dangerous situations in case of incorrectly connected cylinders

**Cylinders - hydraulic return - ≥ 400 ton**



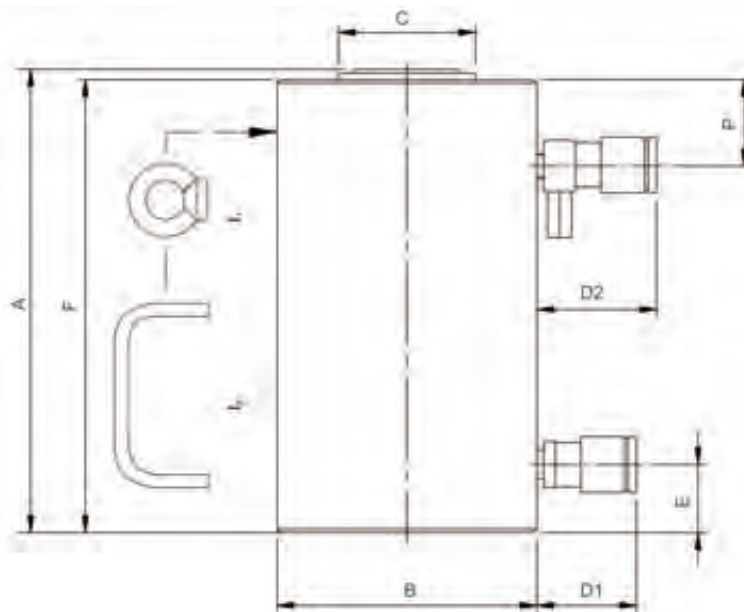
model	HJ 400 H 15	HJ 400 H 30	HJ 500 H 15	HJ 500 H 30
art no	100.122.091	100.122.092	100.122.043	100.122.038
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	400	400	500	500
<b>stroke length</b> mm	150	300	150	300
<b>closed height</b> mm	402	572	442	587
capacity kN/t	3750 / 382	3750 / 382	4994 / 509	4994 / 509
oil content* cm <sup>3</sup>	7950 / 3238	15900 / 6476	10605 / 5400	21210 / 10800
effective pressure area* cm <sup>2</sup>	530.9 / 216.7	530.9 / 216.7	707 / 360.3	707 / 360.3
weight kg	325	413	390	520
maintenance set art no	100.123.007	100.123.007	100.123.008	100.123.008
recommended pump model	Vari pump	Vari pump	Vari pump	Vari pump
pressure gauge model	A 506	A 506	A 506	A 506

**Cylinders - hydraulic return - ≥ 400 ton (dimensions)**



model	HJ 400 H 15	HJ 400 H 30	HJ 500 H 15	HJ 500 H 30
A	402	572	442	587
B	358	358	412	412
C	200	200	210	210
D <sub>1</sub> /D <sub>2</sub>	70 / 85	70 / 85	70 / 85	70 / 85
E	76	76	85	85
F	395	565	435	580
l <sub>1</sub> /l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>
P	80	80	90	90

\* = press / retract



**Specifications / important properties** ↓

- usable in all positions
- protected against ejection of the plunger
- protected against overpressure on return side
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HJ 300 H 15



HJ 300 H 15



Pressure relief valve prevents dangerous situations in case of incorrectly connected cylinders

**Assembly cylinders - spring return - ≥ 5 ton**

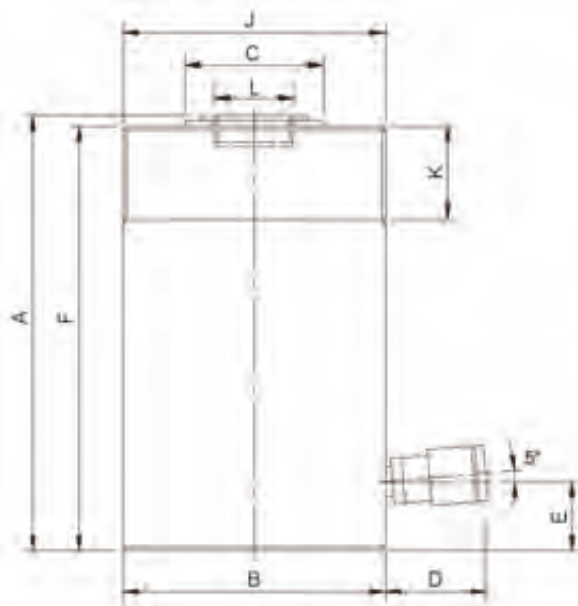


model		HTJ 5 S 7.5	HTJ 5 S 12	HTJ 10 S 5	HTJ 10 S 10	HTJ 10 S 15 C	HTJ 10 S 20
art no		100.112.003	100.112.004	100.112.020	100.112.015	100.112.022	100.112.097
working pressure	bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	5	5	10	10	10	10
<b>stroke length</b>	<b>mm</b>	75	120	50	100	150	200
<b>closed height</b>	<b>mm</b>	157	202	135	185	255	305
capacity	kN/t	47.5 / 4.8	47.5 / 4.8	99.3 / 10.1	99.3 / 10.1	99.3 / 10.1	99.3 / 10.1
oil content	cm <sup>3</sup>	50	80	69	138	207	276
effective pressure area	cm <sup>2</sup>	6.6	6.6	13.8	13.8	13.8	13.8
weight	kg	1.5	1.7	2.6	3.6	4.7	5.7
maintenance set	art no	100.113.021	100.113.021	100.113.121	100.113.121	100.113.121	100.113.121
recommended pump	model	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A
pressure gauge	model	A 501	A 501	A 501	A 501	A 501	A 501

**Assembly cylinders - spring return - ≥ 5 ton (dimensions)**



model		HTJ 5 S 7.5	HTJ 5 S 12	HTJ 10 S 5	HTJ 10 S 10	HTJ 10 S 15 C	HTJ 10 S 20
A	mm	157	202	135	185	255	305
B	mm	40	40	60	60	60	60
C	mm	25	25	38	38	38	38
D	mm	70	70	70	70	70	70
E	mm	20	20	20	20	20	20
F	mm	150	195	125	175	245	295
J	mm	M40 x 1.5	M40 x 1.5	M60 x 2	M60 x 2	M60 x 2	M60 x 2
K	mm	22	22	30	30	30	30
L	mm	-	-	M25 x 1.5	M25 x 1.5	M25 x 1.5	M25 x 1.5



**Specifications / important properties** ↓

- compact
- lightweight
- usable in all positions
- protected against ejection of the plunger
  - on cylinder housing
  - in plunger head (except HTJ 5 S 7.5 and HTJ 5 S 12)
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Assembly / welding rings	pag. 63
Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HTJ 5 S 7.5



HTJ 10 S 10



HTJ model with threads on the cylinder housing and in the plunger head



Sleeve for screw thread protection



Assembly cylinders - spring return - 25 ton

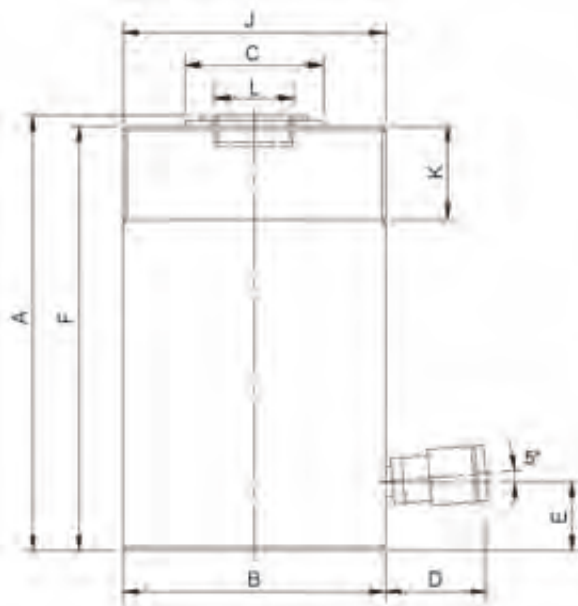


model	HTJ 25 S 5	HTJ 25 S 10	HTJ 25 S 15 C	HTJ 25 S 25	HTJ 25 S 35
art no	100.112.098	100.112.042	100.112.026	100.112.027	100.112.028
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	25	25	25	25	25
<b>stroke length</b> mm	50	100	150	250	350
<b>closed height</b> mm	137	187	237	360	460
capacity kN/t	238.9 / 24.4	238.9 / 24.4	238.9 / 24.4	238.9 / 24.4	238.9 / 24.4
oil content cm <sup>3</sup>	166	332	498	830	1162
effective pressure area cm <sup>2</sup>	33.2	33.2	33.2	33.2	33.2
weight kg	5.2	6.8	8.5	12.7	17.5
maintenance set art no	100.113.301	100.113.301	100.113.301	100.113.301	100.113.301
recommended pump model	HTS 550 A	HTS 550 A	HTS 550 A	HTW 1800 B	HTW 1800 B
pressure gauge model	A 502	A 502	A 502	A 502	A 502

Assembly cylinders - spring return - 25 ton (dimensions)



model	HTJ 25 S 5	HTJ 25 S 10	HTJ 25 S 15 C	HTJ 25 S 25	HTJ 25 S 35
A	mm 137	mm 187	mm 237	mm 360	mm 460
B	mm 85	mm 85	mm 85	mm 85	mm 85
C	mm 55	mm 55	mm 55	mm 55	mm 55
D	mm 70	mm 70	mm 70	mm 70	mm 70
E	mm 20	mm 20	mm 20	mm 20	mm 20
F	mm 130	mm 180	mm 230	mm 353	mm 453
J	mm M85 x 2	mm M85 x 2	mm M85 x 2	mm M85 x 2	mm M85 x 2
K	mm 42	mm 42	mm 42	mm 42	mm 42
L	mm M36 x 1.6	mm M36 x 1.6	mm M36 x 1.6	mm M36 x 1.6	mm M36 x 1.6



**Specifications / important properties** ↓

- compact
- lightweight
- usable in all positions
- protected against ejection of the plunger
- standard fixing thread
  - on cylinder housing
  - in plunger head
- flat saddle
  - prevents damage to the plunger
  - easy to replace with tilting saddle

**Available on request** ↓

- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

Assembly / welding rings	pag. 63
Tilting saddles for off-center loading	pag. 74
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HTJ 25 S 10



HTJ model with threads on the cylinder housing and in the plunger head



Sleeve for screw thread protection

Construction cylinders - spring return

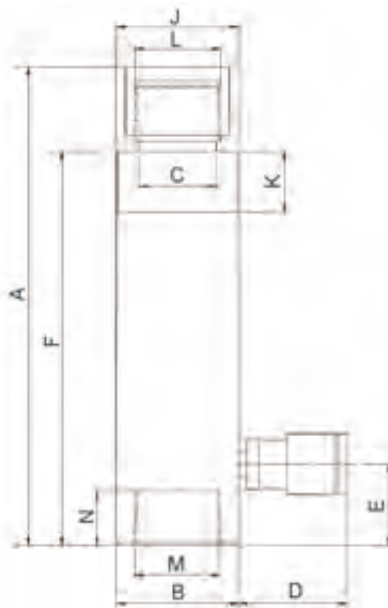


model	HCJ 10 S 6	HCJ 10 S 15	HCJ 10 S 25	HCJ 25 S 15
art no	100.112.062	100.112.063	100.112.064	100.112.065
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	10	10	10	25
<b>stroke length</b> mm	60	150	250	150
<b>closed height</b> mm	202	292	398	323
capacity kN/t	99.3 / 10.1	99.3 / 10.1	99.3 / 10.1	238.9 / 24.4
oil content cm <sup>3</sup>	83	207	345	498
effective pressure area cm <sup>2</sup>	13.8	13.8	13.8	33.2
weight kg	3.5	5.1	7.2	10.5
maintenance set art no	100.113.121	100.113.121	100.113.121	100.113.301
recommended pump model	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A
pressure gauge model	A 501	A 501	A 501	A 502

Construction cylinders - spring return (dimensions)



model	HCJ 10 S 6	HCJ 10 S 15	HCJ 10 S 25	HCJ 25 S 15
A	mm 202	292	398	323
B	mm 60	60	60	85
C	mm 38	38	38	55
D	mm 70	70	70	70
E	mm 40	40	39	42
F	mm 155	245	351	260
J	mm M60 x 2	M60 x 2	M60 x 2	M85 x 2
K	mm 30	30	30	42
L	1¼" NPT	1¼" NPT	1¼" NPT	2" NPT
M	1¼" NPT	1¼" NPT	1¼" NPT	2" NPT
N	mm 27	27	27	27



**Specifications / important properties** ↓

- compact
- lightweight
- usable in all positions
- protected against ejection of the plunger
- screw-on saddle
  - prevents damage to the plunger
  - easy to replace
- standard fixing thread
  - on plunger head
  - on cylinder housing
  - in cylinder bottom
  - designed for maximum cylinder load

**Available on request** ↓

- cylinders manufactured in conformity with customer specifications

Accessories	pag. 63
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HCJ 10 S 6



HCJ 25 S 25



Fixing thread in cylinder bottom



HCJ with fixing thread on plunger head and on cylinder housing

**Construction cylinders - hydraulic return**



model		HCJ 10 H 15	HCJ 25 H 15	HCJ 25 H 25
art no		100.122.066	100.122.067	100.122.068
working pressure	bars/Mpa	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	10	25	25
<b>stroke length</b>	<b>mm</b>	150	150	250
<b>closed height</b>	<b>mm</b>	338	350	450
capacity lifting	kN/t	99.3 / 10.1	238.9 / 24.4	238.9 / 24.4
capacity pulling	kN/t	48.9 / 5	48.9 / 5	124.5 / 12.7
oil content*	cm <sup>3</sup>	207 / 102	498 / 260	829 / 432
effective pressure area*	cm <sup>2</sup>	13.8 / 6.8	33.2 / 17.3	33.2 / 17.3
weight	kg	6.1	12.7	18.2
maintenance set	art no	100.123.001	100.123.025	100.123.025
recommended pump	model	HTW 1800 B	HTW 1800 B	HTW 1800 B
pressure gauge	model	A 501	A 502	A 502

**Construction cylinders - hydraulic return (dimensions)**



model		HCJ 10 H 15	HCJ 25 H 15	HCJ 25 H 25
A	mm	338	350	450
B	mm	60	85	85
C	mm	30	45	45
D <sub>1</sub> /D <sub>2</sub>	mm	70 / 85	70 / 85	70 / 85
E	mm	40	56	56
F	mm	287	297	397
l <sub>1</sub> /l <sub>2</sub>		-	-	l <sub>2</sub>
J	mm	M60 x 2	M85 x 2	M85 x 2
K	mm	30	40	40
L		1 1/4" NPT	2" NPT	2" NPT
M		1 1/4" NPT	2" NPT	2" NPT
N	mm	27	27	27
P	mm	48	60	60





**Specifications / important properties** ↓

- compact
- lightweight
- usable in all positions
- protected against ejection of the plunger
- screw-on saddle
  - prevents damage to the plunger
  - easy to replace
- standard fixing thread
  - on plunger head
  - on cylinder housing
  - in cylinder bottom
  - designed for maximum cylinder load

**Available on request** ↓

- cylinders manufactured in conformity with customer specifications

Accessories	pag. 63
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HCJ 10 H 15



HCJ 25 H 15



Fixing thread in cylinder bottom

**Construction cylinder set**



no	description	model	art no	quantity
	construction cylinder set, consists of:	HIK 10 U	100.062.002	
1	construction cylinder, spring return	HCJ 10 S 6	100.112.062	1
2	construction cylinder, spring return	HCJ 10 S 15	100.112.063	1
3	hydraulic wedge	HW 1000	100.562.009	1
4	extension pipe, length 125 mm	10 A1	100.181.501	1
5	extension pipe, length 250 mm	10 A2	100.181.502	1
6	extension pipe, length 500 mm	10 A3	100.181.503	1
7	extension pipe, length 750 mm	10 A4	100.101.504	1
8	connection socket	10 B	100.101.510	2
9	double nipple	10 G	100.181.515	2
10	round base plate	10 C	100.181.512	2
11	cross head	10 H	100.181.516	2
12	wedge head	10 P	100.581.525	1
13	cylinder toe	10 E	100.581.515	1
14	plunger toe	10 F	150.581.662	1
15	hand pump fitted with item no 16	HTS 550 A	100.541.022	1
16	hydraulic hose, length 2 m	H 2 SOU	100.572.102	1
17	steel storage case	-	150.581.001	1
18	screw-on saddle	10 D	100.181.091	2

**Specifications / important properties**



- construction cylinder:
  - spring return
  - compact and lightweight
  - usable in all positions
  - protected against ejection of the plunger
- weight of total set incl. storage box: 35 kg

**Available on request**



- cylinders manufactured in conformity with customer specifications

Construction cylinders

pag. 58

Accessories construction cylinders

pag. 63


HIK 10 U



**Attachments**


image	description	cylinder capacity 10 ton	cylinder capacity 25 ton
	screw-on saddle	1¼" NPT female model: 10 D art no 100.181.091	2" NPT female model: 24 D art no 100.181.092
	round base plate	1¼" NPT female model: 10 C art no 100.181.512	2" NPT female model: 25 C art no 100.181.561
	cross head	1¼" NPT female model: 10 H art no 100.181.516	2" NPT female model: 25 H art no 100.181.368
	bottom plug	1¼" NPT male model: 10 K art no 100.181.519	2" NPT male model: 25 K art no 100.181.569
	extension pipe	1¼" NPT male (2x) L = 125 mm, model: 10 A1, art no 100.181.501 L = 250 mm, model: 10 A2, art no 100.181.502 L = 500 mm, model: 10 A3, art no 100.181.503 L = 750 mm, model: 10 A4, art no 100.181.504	2" NPT male (2x) - L = 250 mm, model: 25 A2, art no 100.181.551 L = 500 mm, model: 25 A3, art no 100.181.552 L = 750 mm, model: 25 A4, art no 100.181.553
	connector	snaplock (2x) to connect two extension pipes model: 10 V, art no 100.181.530	-
	bodemstuk	1¼" NPT male - snaplock bottom piece between cylinder base and extension pipe model: 10 W, art no 100.181.531	-
	connection socket	1¼" NPT female (2x) model: 10 B art no 100.181.510	2" NPT female (2x) model: 25 B art no 100.181.560
	connection nipple	1¼" NPT male (2x) model: 10 G art no 100.181.515	2" NPT male (2x) model: 25 G art no 100.181.565
	plunger toe	1¼" NPT female, capacity max. 5 ton model: 10 F art no 150.581.662	-
	cylinder toe	M60 x 2 female, capacity max. 5 ton model 10 E art no 100.581.515	-
	wedge head	1¼" NPT female model 10 P art no 100.581.525	-

**Assembly / welding rings**


image	5 ton	10 ton	25 ton	50 ton
	M40 x 1.5 Ø68 x 22 mm art no 100.181.491	M60 x 2 Ø103 x 30 mm art no 100.181.522	M85 x 2 Ø137 x 42 mm art no 100.181.572	M130 x 2 Ø188 x 50 mm art no 100.181.591

## Hollow plunger cylinders - spring return - ≥ 5 ton



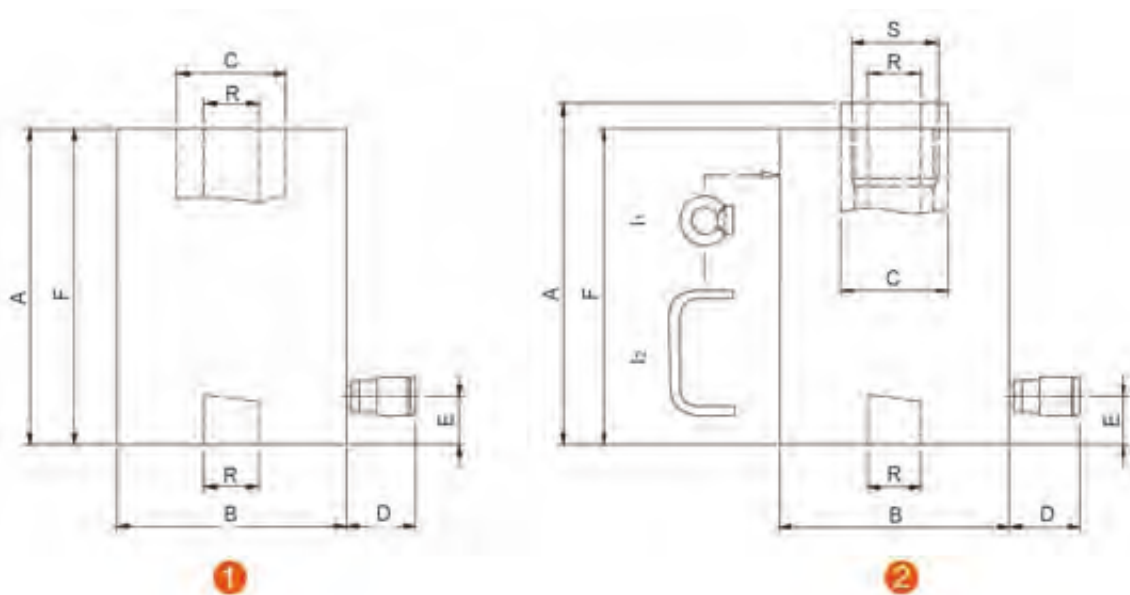
model		HHJ 5 S 2.5	HHJ 12 S 5	HHJ 12 S 15	HHJ 17 S 5	HHJ 20 S 5	HHJ 20 S 15
art no		100.111.002	100.111.021	100.111.029	100.112.023	100.112.033	100.112.030
working pressure	bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	5	12	12	17	20	20
<b>stroke length</b>	<b>mm</b>	25	50	150	50	50	150
<b>closed height</b>	<b>mm</b>	87	156	298	195	182	389
<b>return</b>		spring	spring	spring	spring	spring	spring
capacity	kN/t	54.3 / 5.5	126.7 / 12.9	126.7 / 12.9	169.6 / 17.3	223.9 / 22.8	223.9 / 22.8
oil content	cm <sup>3</sup>	19	88	264	118	156	467
effective pressure area	cm <sup>2</sup>	7.5	17.6	17.6	23.6	31.1	31.1
weight	kg	1.9	6.3	11	7.3	8.6	18
maintenance set	art no	100.113.061	100.113.221	100.113.221	100.113.015	100.113.281	100.113.281
recommended pump	model	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A	HTS 550 A
pressure gauge	model	A 507	A 507	A 507	A 500	A 507	A 507

## Hollow plunger cylinders - spring return - ≥ 5 ton (dimensions)



model		HHJ 5 S 2.5	HHJ 12 S 5	HHJ 12 S 15	HHJ 17 S 5	HHJ 20 S 5	HHJ 20 S 15
A	mm	87	156	298	195	182	389
B	mm	60	86	86	90	100	100
C	mm	28	40	40	46	50	50
D	mm	90	90	90	90	90	90
E	mm	24	27	27	31	31	31
F	mm	87	156	298	187	170	377
l <sub>1</sub> /l <sub>2</sub>	-	-	-	-	-	-	l <sub>2</sub>
R	mm	17	21	21	27	27	27
S	mm	-	-	-	M38 x 1.5	M38 x 1.5	M38 x 1.5

(1) models without saddle (2) models with saddle



**Specifications / important properties** ↓

- compact
- usable in all positions
- protected against ejection of the plunger
- hollow saddle (HHJ 17 S 5, HHJ 20 S 5 en HHJ 20 S 15)
  - prevents damage to the plunger
  - easy to replace with threaded or flat saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

**Accessories** ↓

- saddles: hollow, threaded and flat saddles
- accessories: tension rods and nuts

Accessories hollow plunger cylinders	pag. 70
Saddles	pag. 75
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HHJ 5 S 2.5



HHJ 17 S 5



Hollow plunger HHJ 30 S 7.5



HHJ 30 S 7.5 with threaded saddle + tension rod



## Hollow plunger cylinders - spring return - ≥ 30 ton



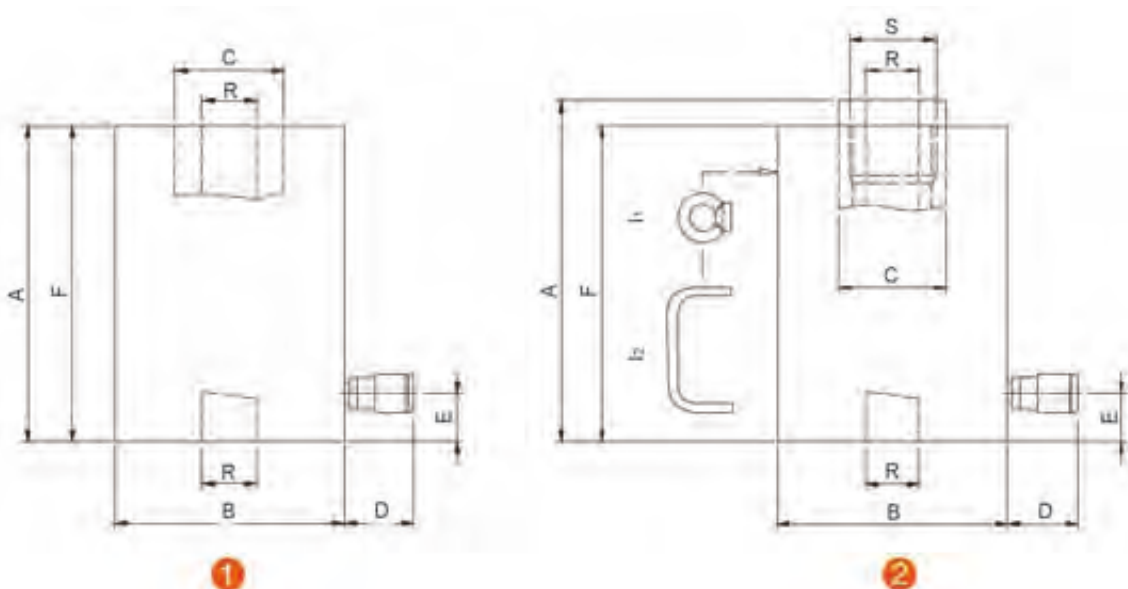
model		HHJ 30 G 5	HHJ 30 S 7.5	HHJ 30 S 15	HHJ 45 S 15	HHJ 60 S 7.5	HHJ 110 S 7.5
art no		100.111.053	100.112.055	100.112.034	100.112.061	100.112.081	100.112.101
working pressure	bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	30	30	30	45	60	110
<b>stroke length</b>	<b>mm</b>	50	75	150	150	75	75
<b>closed height</b>	<b>mm</b>	120	226	362	388	272	315
<b>return</b>		gravity	spring	spring	spring	spring	spring
capacity	kN/t	293.7 / 30	293.7 / 30	293.7 / 30	453.5 / 46.2	610.4 / 62.2	1107.8 / 113
oil content	cm <sup>3</sup>	204	306	612	945	636	1155
effective pressure area	cm <sup>2</sup>	40.8	40.8	40.8	63	84.8	153.9
weight	kg	10	15	25	35.5	34.5	78.3
maintenance set	art no	100.113.441	100.113.481	100.113.825	100.113.501	100.113.641	100.113.761
recommended pump	model	HTS 550 A	HTS 550 A	HTW 1800 B	HTW 1800 B	HTW 1800 B	HTW 1800 B
pressure gauge	model	A 508	A 508	A 508	A 508	A 508	A 509

## Hollow plunger cylinders - spring return - ≥ 30 ton (dimensions)



model		HHJ 30 G 5	HHJ 30 S 7.5	HHJ 30 S 15	HHJ 45 S 15	HHJ 60 S 7.5	HHJ 110 S 7.5
A	mm	120	226	362	388	272	315
B	mm	118	118	120	140	166	238
C	mm	70	60	60	65	80	130
D	mm	90	90	90	70	70	70
E	mm	33	33	32	36	41	40
F	mm	120	214	350	376	257	295
l <sub>1</sub> /l <sub>2</sub>	-	-	-	l <sub>1</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>1</sub>
R	mm	33	33	33	39	45	80
S	mm	-	M50 x 1.5	M50 x 1.5	M54 x 1.5	M65 x 1.5	M105 x 2

(1) models without saddle (2) models with saddle



**Specifications / important properties** ↓

- compact
- usable in all positions
- protected against ejection of the plunger
- hollow saddle (HHJ 17 S 5, HHJ 20 S 5 en HHJ 20 S 15)
  - prevents damage to the plunger
  - easy to replace with threaded or flat saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

**Accessories** ↓

- saddles: hollow, threaded and flat saddles
- accessories: tension rods and nuts

Accessories hollow plunger cylinders	pag. 70
Saddles	pag. 75
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HHJ 30 G 5



HHJ 110 S 7.5



HHJ 30 S 7.5 with threaded saddle + tension rod

### Hollow plunger cylinders - hydraulic return

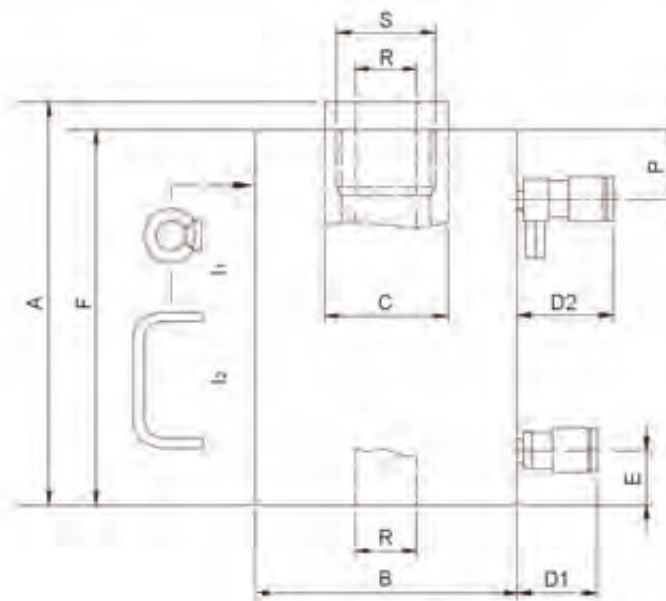


model	HHJ 30 H 15	HHJ 60 H 20	HHJ 100 H 10	HHJ 100 H 20
art no	100.122.045	100.122.031	100.122.051	100.122.053
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b> t	30	60	100	100
<b>stroke length</b> mm	150	200	100	200
<b>closed height</b> mm	285	334	265	395
capacity lifting kN/t	293.7 / 30	610.4 / 62.2	103.9 / 1018.5	103.9 / 1018.5
capacity pulling kN/t	131 / 13.4	452.4 / 46.1	72 / 706.9	72 / 706.9
oil content* cm <sup>3</sup>	613 / 274	1696 / 1256	1415 / 982	2830 / 1964
effective pressuyre area* cm <sup>2</sup>	40.8 / 18.2	84.8 / 62.8	141.5 / 98.2	141.4 / 98.2
weight kg	23	40	53	78
maintenance set art no	100.013.081	100.123.081	100.123.121	100.123.121
recommended pump model	HTW 1800 B	HTW 1800 B	HTW 1800 B	HTW 1800 B
pressure gauge model	A 508	A 508	A 509	A 509

### Hollow plunger cylinders - hydraulic return (dimensions)



model	HHJ 30 H 15	HHJ 60 H 20	HHJ 100 H 10	HHJ 100 H 20
A	mm 285	334	265	395
B	mm 120	166	210	210
C	mm 70	80	100	100
D	mm 70 / 85	70 / 85	70 / 85	70 / 85
E	mm 40	41	52	52
F	mm 275	319	245	375
l <sub>1</sub> /l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>
P	mm 50	39	55	75
R	mm 33	45	54	54
S	mm M50 x 1.5	M65 x 1.5	M72 x 2	M72 x 2



**Specifications / important properties** ↓

- compact
- usable in all positions
- protected against ejection of the plunger
- hollow saddle (with the exception of HHJ 30 G 5)
  - prevents damage to the plunger
  - easy to replace with threaded or flat saddle

**Available on request** ↓

- fixing thread on cylinder housing
- fixing holes in cylinder bottom
- cylinders manufactured in conformity with customer specifications

**Accessories** ↓

- saddles: hollow, threaded and flat saddles
- accessories: tension rods and nuts

Accessories hollow plunger cylinders	pag. 70
Saddles	pag. 75
Hydraulic pumps	pag. 94
Hydraulic hoses	pag. 110
Pressure gauges	pag. 112



HHJ 60 H 20



HHJ 60 H 20



HHJ 60 H 20 with hollow saddle



HHJ 30 S 7.5 with threaded saddle + tension rod

**Tension rods**

for cylinder	HHJ 12	HHJ 20	HHJ 30	HHJ 45	HHJ 60	HHJ 100	HHJ 110
model	HTB 12	HTB 20	HTB 30	HTB 45	HTB 60	HTB 110	HTB 110
art no	100.581.021	100.581.002	100.581.003	100.581.022	100.581.004	100.581.005	100.581.005
type of thread	¾" - 10 UNC	1" - 8 UNC	1¼" - 7 UNC	1½" - 8 UN	1" - 8 UN	2" - 8 UN	2" - 8 UN

**Nuts**

for cylinder	HHJ 12	HHJ 20	HHJ 30	HHJ 45	HHJ 60	HHJ 100	HHJ 110
model	NUT 12	NUT 20	NUT 30	NUT 45	NUT 60	NUT 110	NUT 110
art no	100.581.021	100.581.002	100.581.003	100.581.022	100.581.004	100.581.005	100.581.005
type of thread	¾" - 10 UNC	1" - 8 UNC	1¼" - 7 UNC	1½" - 8 UN	1" - 8 UN	2" - 8 UN	2" - 8 UN

**Specifications** / important properties

- high-quality tension rods and nuts
- standard length 1000 mm
- material: chrome-molybdenum steel ASTM A 193/B7, DIN 42CrMo4
- tensile strength: 863 N/mm<sup>2</sup>
- yield limit: 726 N/mm<sup>2</sup>

**Available** on request

- different lengths
- different screw-thread sizes

Tension rods + nuts



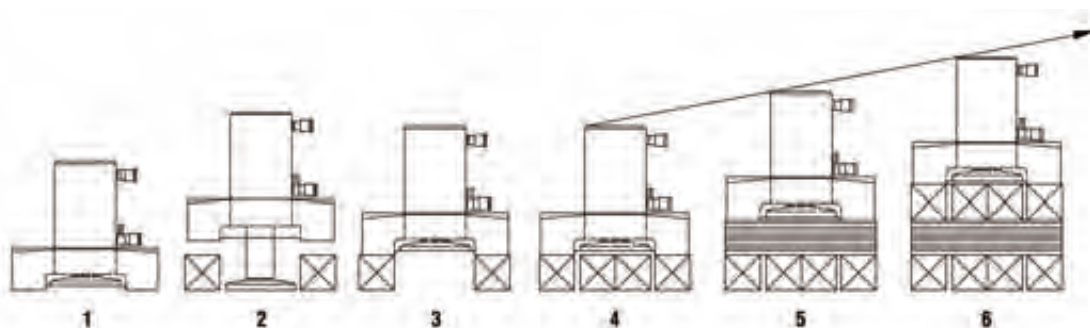


**Step cylinders**



model	customer-specific
art no	customer-specific
working pressure bars/Mpa	720 /72
<b>tonnage</b> t	25 - 300
<b>stroke length</b> mm	125 - 200
<b>return</b>	hydraulic
capacity kN	238.9 - 2933
capacity t	24.4 - 299
material	steel / aluminium
recommended pump model	Vari pump

Operating principle step cylinders



**Specifications** / important properties



- double-acting
- protected against ejection of the plunger
- lightweight construction, high lifting capacity

**Available** on request



- step cylinders with different:
  - tonnage
  - stroke length
  - step plate dimensions
- tilting saddle

Hydraulic pumps  
Hydraulic hoses  
Pressure gauges

pag. 94  
pag. 110  
pag. 112



Step cylinder

**Pulling cylinders - spring or hydraulic return**



model	HPJ 11 S 15	HPJ 30 S 15	HPJ 60 S 15	HPJ 100 H 15
art no	100.131.001	100.131.011	100.131.021	100.131.031
working pressure bars/Mpa	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage*</b> t	11 / -	30 / -	60 / -	100 / 130
<b>stroke length</b> mm	150	150	150	150
<b>return</b>	spring	spring	spring	hydraulic
capacity pulling kN/t	113 / 11.5	298.7 / 30.5	610.4 / 62.2	953.7 / 97.3
capacity lifting kN/t	- / -	- / -	- / -	1271.9 / 129.7
oil content* cm <sup>3</sup>	236 / -	623 / -	1272 / -	1988 / 2651
effective pressure area* cm <sup>2</sup>	15.7 / -	41.5 / -	84.8 / -	132.5 / 176.7
weight kg	11.5	26	45	75
maintenance set art no	100.133.001	100.133.051	100.133.101	100.133.151
recommended pump model	HTW 300 B	HTW 1800 B	EHW 1650 RC	HTW 1800 B
pressure gauge model	A 510	A 510	A 510	A 510

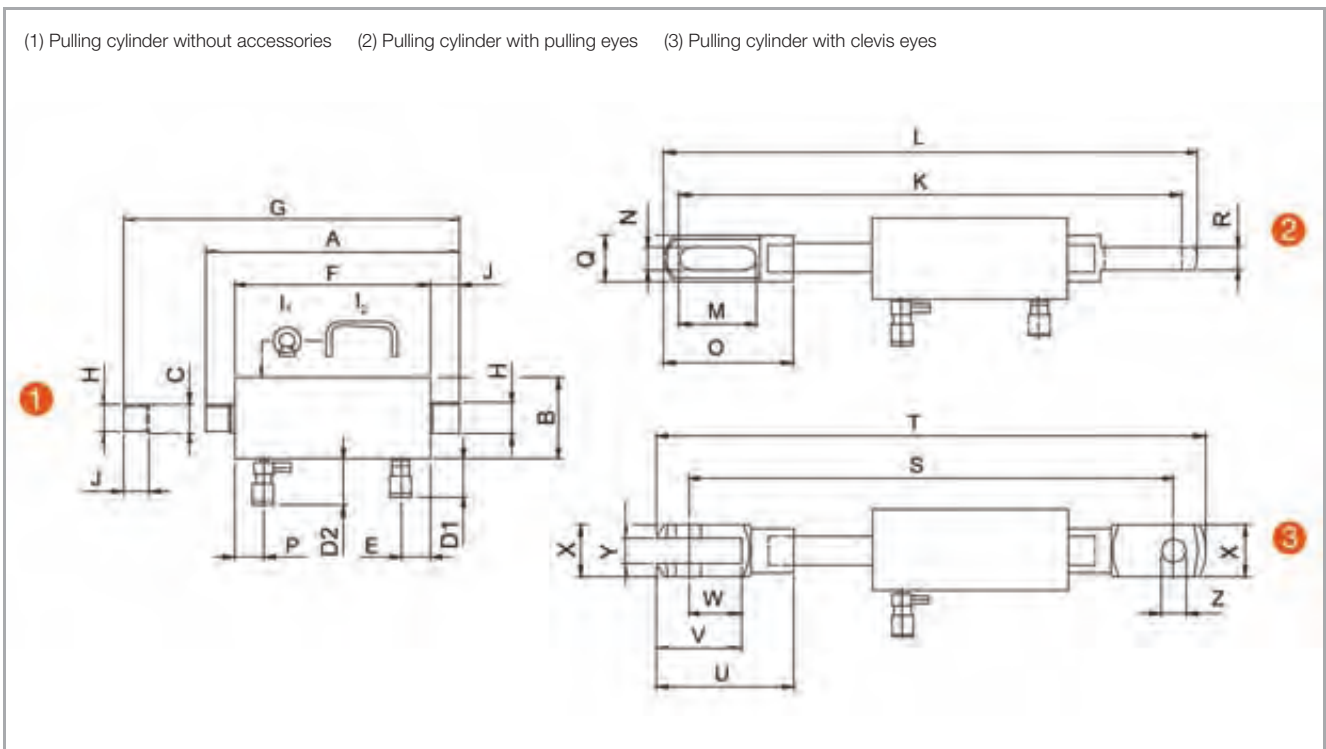
**Pulling cylinders - spring or hydraulic return (dimensions)**



model	HPJ 11 S 15	HPJ 30 S 15	HPJ 60 S 15	HPJ 100 H 15
A	mm 320	470	530	440
B	mm 92	118	157	210
C	mm 40	40	60	75
D <sub>1</sub> /D <sub>2</sub>	mm - / 85	- / 85	- / 85	70 / 85
E	mm -	-	-	57
F	mm 250	380	400	310
G	mm 470	620	680	590
H	mm M38 x 1.5	M38 x 1.5	M54 x 1.5	M72 x 2
I <sub>1</sub> /I <sub>2</sub>	-	-	-	I <sub>1</sub>
J	mm 30	40	60	60

\* = pull / push

(1) Pulling cylinder without accessories (2) Pulling cylinder with pulling eyes (3) Pulling cylinder with clevis eyes



**Accessories**


model		HPJ 11 S 15	HPJ 30 S 15	HPJ 60 S 15	HPJ 100 H 15
pulling eye	art no	100.181.051	100.181.051	100.181.052	100.181.053
clevis eye	art no	100.181.056	100.181.057	-	-
protection spring*	art no	100.581.160	100.581.160	100.581.161	100.581.162

**Accessories (dimensions)**


model		HPJ 11 S 15	HPJ 30 S 15	HPJ 60 S 15	HPJ 100 H 15
K	mm	760	890	1000	990
L	mm	810	940	1080	1110
M	mm	35	35	40	50
N	mm	120	120	150	200
O	mm	35	35	45	45
P	mm	38	44	52	57
Q	mm	200	200	260	320
R	mm	70	70	115	135
S	mm	650	828	-	-
T	mm	730	916	-	-
U	mm	160	188	-	-
V	mm	100	116	-	-
W	mm	60	72	-	-
X	mm	60	70	-	-
Y	mm	30	36	-	-
Z	mm	30	35	-	-

\* = 30 mm less stroke length

**Specifications / important properties**


- compact
- usable in all positions
- protected against ejection of the plunger
- protected against overpressure

**Available on request**


- fixing thread on cylinder housing
- cylinders manufactured in conformity with customer specifications

**Accessories**


- pulling and clevis eyes (to be ordered separately, 2 pieces per cylinder)
- protection spring (to be ordered separately)

Hydraulic pumps  
Hydraulic hoses  
Pressure gauges

pag. 94  
pag. 110  
pag. 112



HPJ 11 S 15 with pulling eyes + protection spring



HPJ 30 S 15 with clevis eyes + protection spring

**Flat saddles** for perpendicular loads



capacity cylinder	t	20	30	50	100
model		SA 20 FN	SA 30 FN	SA 50 FN	SA 100 FN
art no		100.000.646	100.000.672	100.000.678	100.000.663
diameter (G)	mm	50	60	80	105

**Stainless steel tilting saddles** for loads at a maximum angle of 5°



capacity cylinder	t	20	30	50	100
model		SA 20 TN SS	SA 30 TN SS	SA 50 TN SS	SA 100 TN SS
art no		160.000.339	160.000.550	160.000.537	160.000.525
diameter (G)	mm	45	65	65	90
additional closed height over flat saddle	mm	10	11	11	23

**Specifications** / important properties



- flat saddles
  - for perpendicular load
  - hardened
  - O-ring fastening
  - anti-skid grooves
- stainless steel tilting saddles
  - for load to a maximum angle of 5°
  - hardened
  - O-ring fastening
  - anti-skid grooves

(1) flat saddle (2) tilting saddle



**Hollow saddles**


capacity cylinder	t	17 / 20	30	45	60	100	110	110
model		S 20 A	S 35 A	S 45 A	S 60 A	S 100 A	S 110 A	S 110 SP
art no		100.181.011	100.181.014	100.181.017	100.181.020	100.181.023	100.181.026	100.181.029
diameter (G)	mm	48	58	63	78	95	125	125
diameter (R)	mm	27	33	39	45	54	80	54

**Thread saddles**


capacity cylinder	t	17 / 20	30	45	60	100	110	110
model		S 20 C	S 35 C	S 45 C	S 60 C	S 100 C	S 110 C	-
art no		100.181.013	100.181.016	100.181.019	100.181.022	100.181.025	100.181.028	-
diameter (G)	mm	48	58	63	78	95	125	-
diameter (R)	mm	1" - 8 UNC	1¼" - 7 UNC	1½" - 8 UN	1" - 8 UN	2" - 8 UN	2" - 8 UN	-

**Flat saddles**


capacity cylinder	t	17 / 20	30	45	60	100	110	110
model		S 20 B	S 35 B	S 45 B	S 60 B	S 100 B	S 110 B	-
art no		100.181.012	100.181.015	100.181.018	100.181.021	100.181.024	100.181.027	-
diameter (G)	mm	48	58	63	78	95	125	-

**Specifications / important properties**


- hollow saddle
  - standard mounted on hollow plunger cylinders
  - perfect to combine with tension rods and nuts
- threaded saddle
  - perfect to combine with tension rods
- flat saddle
  - allows for incidental use as normal cylinder

**Available on request**


- different hole sizes in hollow saddles
- different screw-thread sizes in threaded saddles

(1) hollow saddle (2) threaded saddle (3) flat saddle





**Flat saddles** for perpendicular loads

capacity cylinder	t	5	10	20 / 25 / 30	50 / 75	100 / 150	200	300 / 400 / 500
model		S 5 FN	S 10 FN	S 25 FN	S 50 FN	S 100 FN	S 200 FN	S 500 FN
art no		100.181.031	100.181.032	100.181.033	100.181.034	100.181.035	100.181.036	100.181.037
diameter (G)	mm	20	38	35	65	90	140	170

**Tilting saddles** for loads at a maximum angle of 5°

capacity cylinder	t	5	10	20 / 25 / 30	50 / 75	100 / 150	200	300 / 400 / 500
model		-	S 10 TN	S 25 TN	S 50 TN	S 100 TN	S 200 TN	S 500 TN
art no		-	100.181.041	100.181.042	100.181.043	100.181.044	100.999.040	100.999.232
diameter (G)	mm	-	35	45	65	90	140	180
additional closed height over flat saddle	mm	-	17	10	11	11	23	38

**Specifications** / important properties

- flat saddles
  - for perpendicular load
  - hardened
  - snap-lock fastening except S 200 FN and S 500 FN (bolt fastening)
  - anti-skid grooves
- tilting saddles
  - for load to a maximum angle of 5°
  - hardened
  - snap-lock fastening except S 200 TN en S 500 TN (bolt fastening)
  - anti-skid grooves

(1) flat saddle (2) tilting saddle

