

Feel the **power**



# Holmatro

Industrial Tools


# Holmatro industrial tools


## Mastering power


Holmatro products are all about the principle that only controlled power can be deployed effectively. We have expressed this vision in the slogan 'Mastering Power' which applies perfectly to both business units that together form the Holmatro Group.


Industrial Equipment is about applying and mastering high pressure power in heavy industrial applications. And with Rescue Equipment it is a matter of life and death for fire brigades and rescue organizations to work in a controlled, precise and well-thought-out way with the proper equipment.

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 Holmatro Industrial Equipment

 Holmatro Industry

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## About Holmatro

Holmatro's hydraulic equipment and systems are used for rescue, special tactics and industrial applications around the world. Still, for over 50 years after the foundation in 1967, we keep honoring our traditional Dutch roots and represent innovation, quality and support. That is why we design, develop, manufacture, and test our tools in-house. Our experience with high-pressure hydraulics enables us to seek out the boundaries of what is technically possible. This has made our tools lighter, compacter, more durable, and easier to use.

### The power of innovation

In order to maintain our leading position as a specialist in high-pressure hydraulics, we continuously invest in research and product development. It is our ambition to continue to develop innovative solutions combining extreme power with controllability, user friendliness and safety. Our product development is fully focused on finding result-oriented solutions for specific markets and applications. To achieve this, we closely work together with you, the professional user.

### Dutch quality and reliability

We have state-of-the-art production facilities in the Netherlands and the United States to ensure that the high-grade traditional Dutch quality and robustness is maintained. Work is carried out at both locations in accordance with the ISO 9001 Quality Management Standard and the SCC\* Safety Health and Environment (SHE) Checklist Contractors. Our products comply with all international standards such as the European EN 13204, EN 13731 and the American NFPA 1936. Holmatro tools are developed, manufactured and maintained in conformity with the highest quality standards of durability, side load, mechanical distortion and overpressure. As they must be resistant to the most extreme conditions, our products are thoroughly tested before they are authorized for use in practice.

SCC\*  
ISO 9001  
BUREAU VERITAS  
Certification



### 200% certainty

Holmatro's hydraulic tools and systems are manufactured using an advanced production process. They contain highly durable components, superior seals and guides, thereby contributing to a longer life span. After production or repair, a technical or maintenance employee tests all our tools. They subsequently undergo an additional test in the Quality Control department. This gives you 200% certainty.

### Service and safety

Essential to all Holmatro products is the control of immense power. You must be able to rely on that for every application under any circumstances. Applicable to all brands of hydraulic equipment is that malfunctions and defects will occasionally occur over time. Regular maintenance and correct usage are of great importance in ensuring that your equipment can continue to be employed optimally and safely during its entire operating lifespan. Holmatro can help you here. We offer an extensive service program, training and various supporting resources to work even more safely with hydraulics.

### (Inter)national sales network

Besides the headquarters in the Netherlands, Holmatro has state-of-the-art production facilities and sales offices in the Netherlands and the United States. We have sales offices in China and Poland, and representatives in Germany, Croatia, and India. Together with our global dealer network who are all fully trained at our own training center, we guarantee the same Holmatro standard of quality and a perfect after-sales service for all of our products all over the world.





### Industrial Tools

The publication you have before you is our Industrial Tools catalogue. It contains a large number of high-pressure hydraulic, pneumatic and mechanical tools. The extensive product range of Industrial Tools includes hydraulic cylinders, lifting tools, hand tools, hydraulic pumps, system components, tensioning hydraulics and propeller sets. All tools are designed for generating and controlling precision power in various industrial applications, such as shipbuilding, heavy transport, maintenance, petrochemical, offshore, construction & installation, mining and civil engineering.

#### Besides Industrial Tools, we also offer:

- **Industrial Solutions;**  
Results-oriented customized hydraulic solutions for loads that are difficult to move with standard tools. This includes challenges relating to lifting, pushing, pulling, lowering, weighing, tilting and horizontal movement.
- **Industrial Cutting Tools;**  
Cutting tools specially designed for cutting various materials. Mainly used in cable recycling, vehicles recycling, household appliances recycling and in various demolition industries.
- **Foundry Tools;**  
Foundry wedges for the nodular cast iron industry to remove feeders and risers from castings quickly and safely without damaging the casting itself, and with much less physical effort.
- **Vehicle Rescue;**  
Tools specially made for extricating victims who are trapped after road traffic accidents, involving personal vehicles, transport vehicles, public transportation or defence vehicles.
- **Disaster Response Rescue;**  
Disaster Response Rescue solutions support rescuers to generate the immense forces needed during rescue activities after natural or man-made disasters.
- **Special Tactics;**  
Tools designed for Special Tactics operations. These tools are equipped with features such as low visibility, quick and quiet operation and optimal portability.

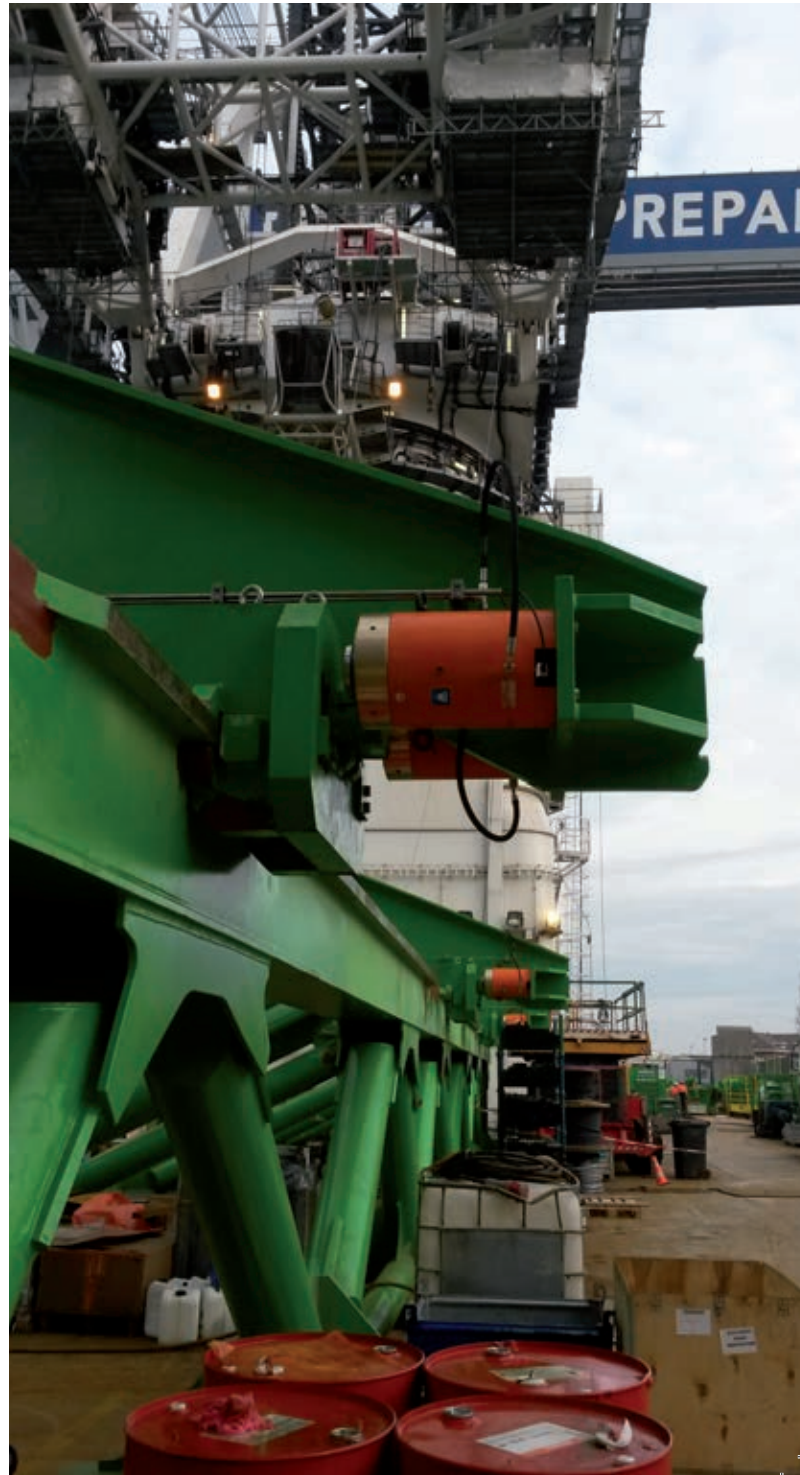
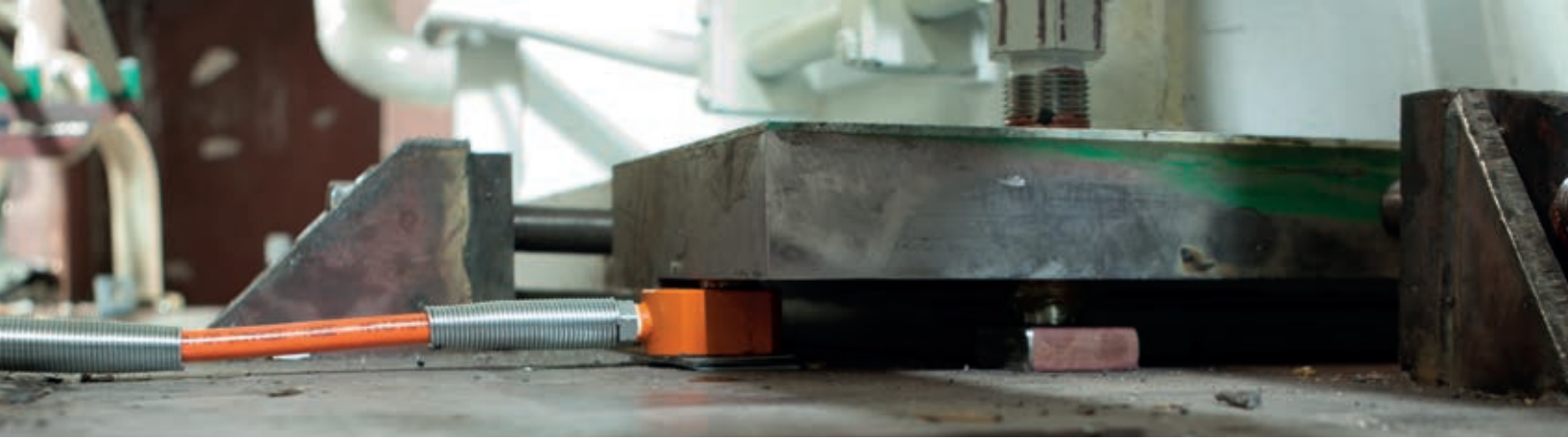


On our website you will find a selection of our customer projects. Allow us to inspire you with the selection and challenge us to come up with a solution for your specific problem.

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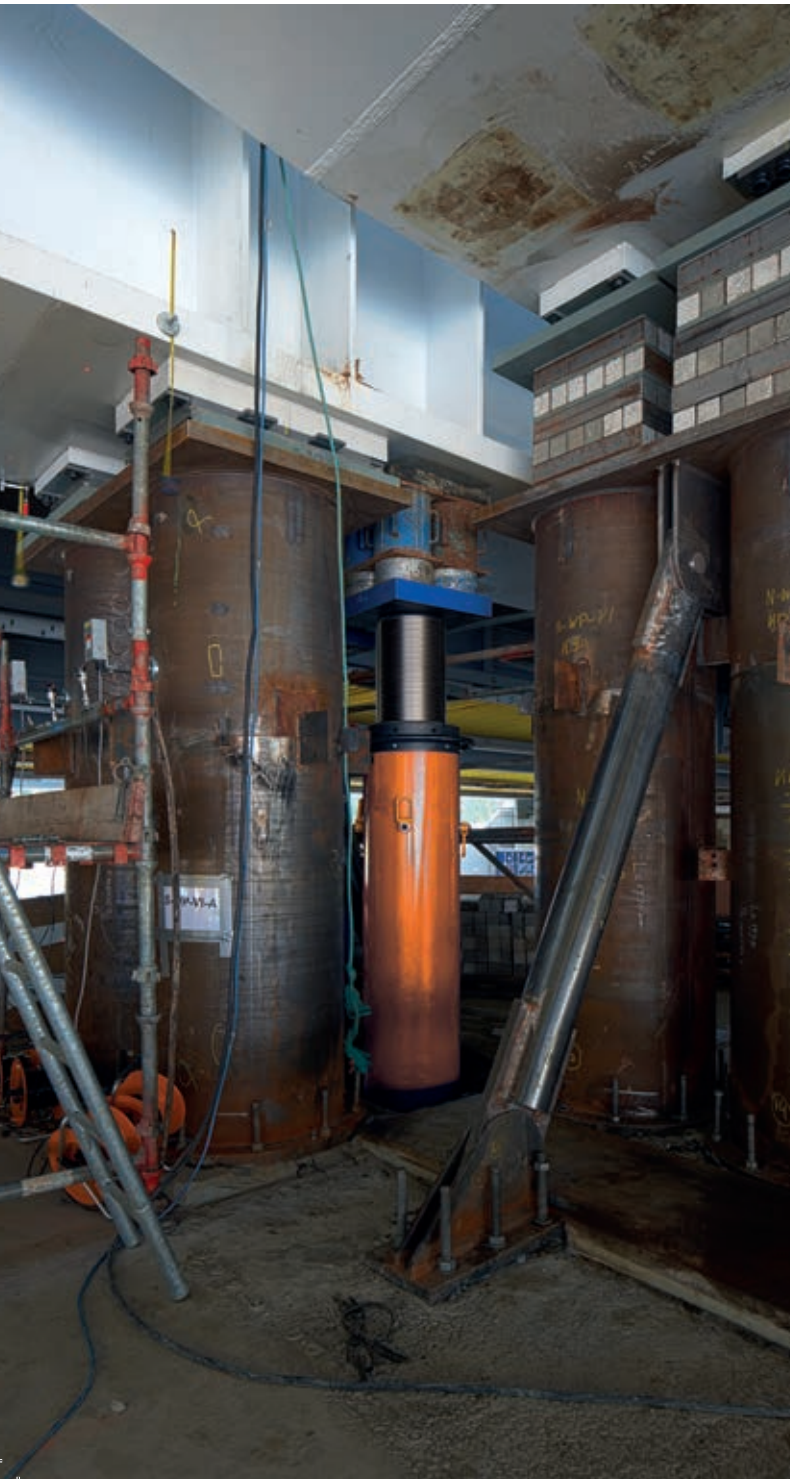
## Applications

The needs of our customers inspire us to develop new solutions for even more efficiency in generating and mastering precision power. These pages illustrate some examples of applications of our industrial tools. New applications are added every day.



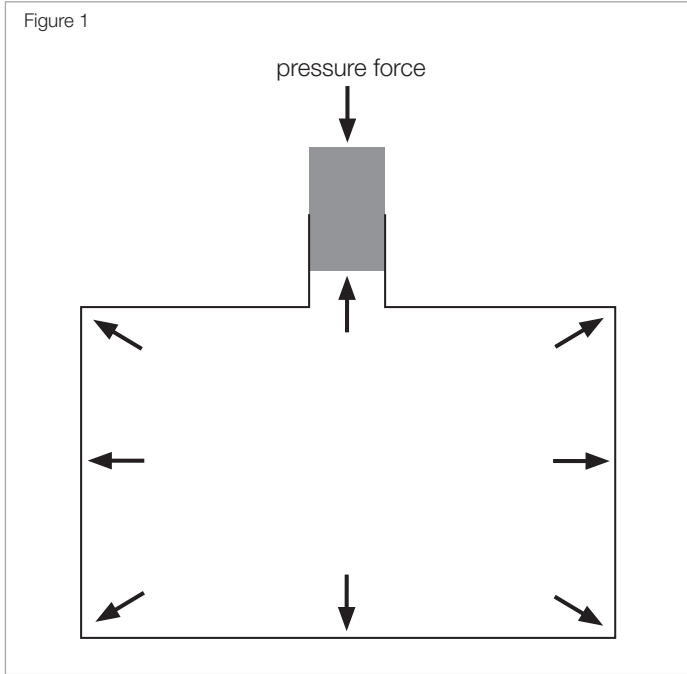


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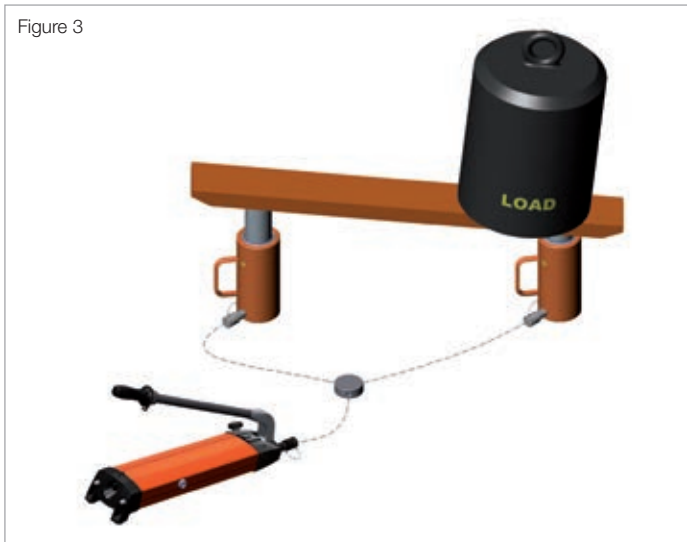
## Pascal's law

Pressure applied at any point upon a confined liquid is transmitted undiminished in all directions (Fig. 1 and 2).



According to Pascal's law, the oil flow always chooses the line of least resistance in a hydraulic system. This means that when using several hydraulic cylinders, each cylinder lifts at its own speed. When the cylinders have the same capacity, they will first start moving at the point of the lightest load and last at the point of the heaviest load (Fig. 3).

A valve block must be added to the lifting system to make sure that the oil flow can be controlled such, that all cylinders operate evenly and the load can be lifted horizontally (Fig. 4).



**Recommended total cylinder capacity**

In connection with various uncertainties as mentioned below, Holmatro recommends a system with sufficient extra capacity:

- The exact weight of the load
- The spreading of the load among the cylinders
- Possible moving of the load in case of calamities



→ **Symmetric load:**  
Recommended total cylinder capacity = 1.5 x load



→ **Asymmetric load:**  
Recommended total cylinder capacity = 2 x load

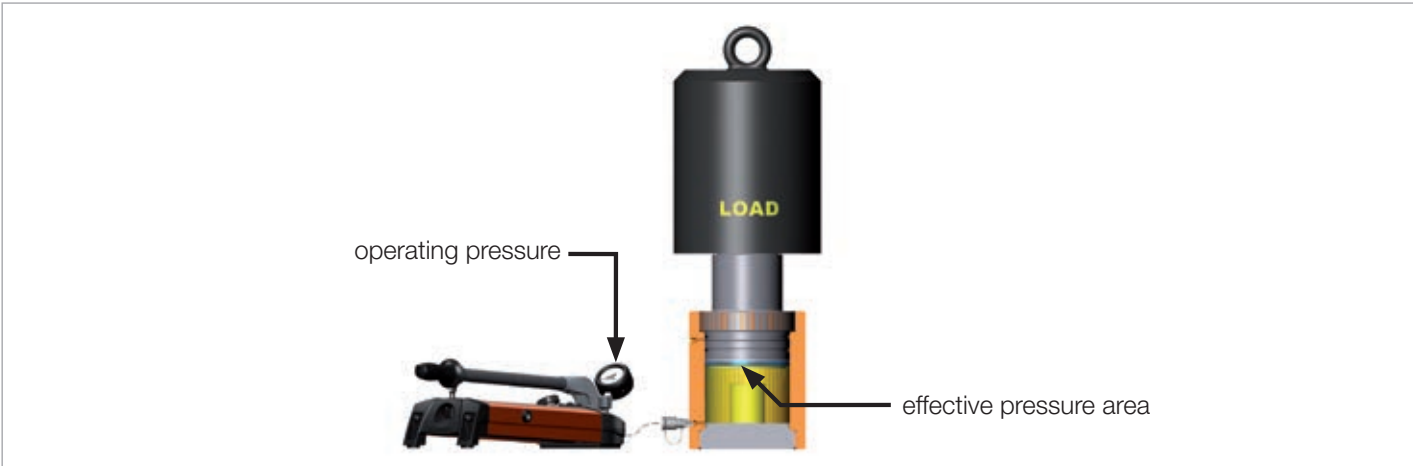
**Force of a cylinder**

The force (capacity) generated by a cylinder is equal to the hydraulic pressure multiplied by the effective pressure area of the plunger.

**Force (N) = hydraulic operating pressure (N/cm<sup>2</sup>) x effective pressure area of the plunger (cm<sup>2</sup>).**

<b>F</b>	<b>=</b>	<b>P</b>	<b>x</b>	<b>A</b>
P	=	F	/	A
A	=	F	/	P

This formula can be used for determining the force, pressure or the area when two out of three variables are known.



**Recommended total cylinder capacity**

**Minimum effective tank volume of pump = (oil volume of cylinder 1 + 2 + ...) x 1,2 (safety margin)**

**Oil volume of cylinder:**

The volume in cm<sup>3</sup> required for achieving the full stroke of the cylinder. For oil volume specifications see section 'Hydraulic cylinders'.

NB. For double-acting cylinders: Reduce the volume above the plunger section with the volume under the plunger section.



**Required operating speed**

**Operating speed =  $\frac{\text{oil volume of cylinders 1 + 2 + ...}}{\text{pump output}}$**

**Operating speed:**

With hand/foot pumps: the number of pump strokes required for fully pumping out the cylinder. With motor pumps: the number of minutes required for fully pumping out the cylinder.

**Oil volume of cylinders:**

With hand/foot pumps: the volume in cm<sup>3</sup> required for achieving the full cylinder stroke. With motor pumps: the volume in litres required for achieving the full cylinder stroke. See table on product pages.

NB. When two figures are given, only take the value for below or above the plunger part.

**Pump output:**

With hand/foot pumps: the output of the pump in cm<sup>3</sup>/stroke. With motor pumps: the output of the pump in l/min. See tables in section 'Hydraulic pumps', for the output of your pump.

**Important conversion factors**

1	bar	=	1,10197	kg/cm <sup>2</sup>
1	bar	=	14,504	psi
1	bar	=	100	kPa
1	bar	=	0,1	MPa
1	bar	=	10	N/cm <sup>2</sup>

1	kg/cm <sup>2</sup>	=	0,98066	bar
1	psi	=	0,0689	bar
1	kPa	=	0,01	bar
1	MPa	=	10	bar
1	N/cm <sup>2</sup>	=	0,1	bar

1	ton	=	9,80665	kN
1	ton	=	9806,65	N
1	ton	=	1000	kg

1	kN	=	0,1020	ton
1	N	=	0,0001	ton
1	kg	=	0,001	ton

1	cm <sup>2</sup>	=	0,155	in <sup>2</sup>
1	cm <sup>3</sup>	=	0,06102	in <sup>3</sup>
1	cm <sup>3</sup>	=	0,001	l
1	kgf	=	9,8066	N
1	kg	=	2,2046	lb

1	in <sup>2</sup>	=	6,4516	cm <sup>2</sup>
1	in <sup>3</sup>	=	16,3881	cm <sup>3</sup>
1	l	=	1000	cm <sup>3</sup>
1	N	=	0,1020	kgf
1	lb	=	0,4536	kg

Hydraulic cylinders



## 3-step plan for composing a hydraulic cylinder system

### 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?
- 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 or hydraulic?
- Is lifting in one or more steps possible?

See 'Selection list cylinders', page 20 - 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 PA \*8 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?
- Select a pump output corresponding with the required operating speed.

See section 'Hydraulic pumps', page 143



Put together hydraulic cylinder systems quickly and easily!

[holmatro.com/en/configurator](http://holmatro.com/en/configurator)



**3-step plan for composing a hydraulic cylinder system**

**Step 3**

Select the accessories you need.

Considerations:

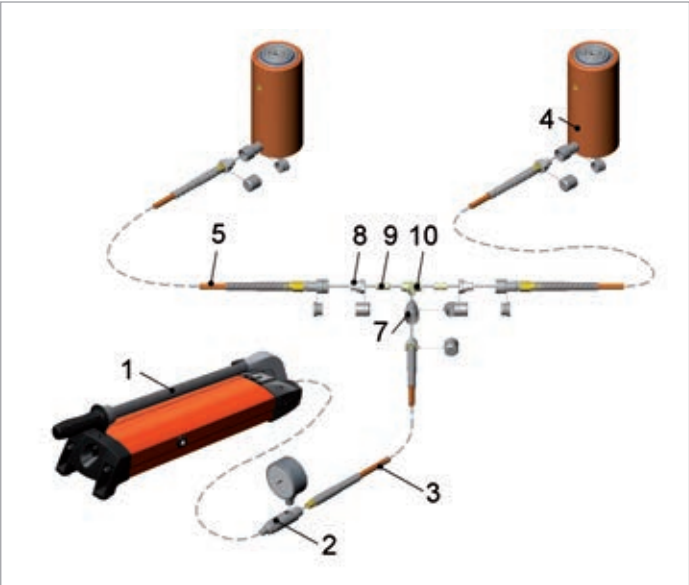
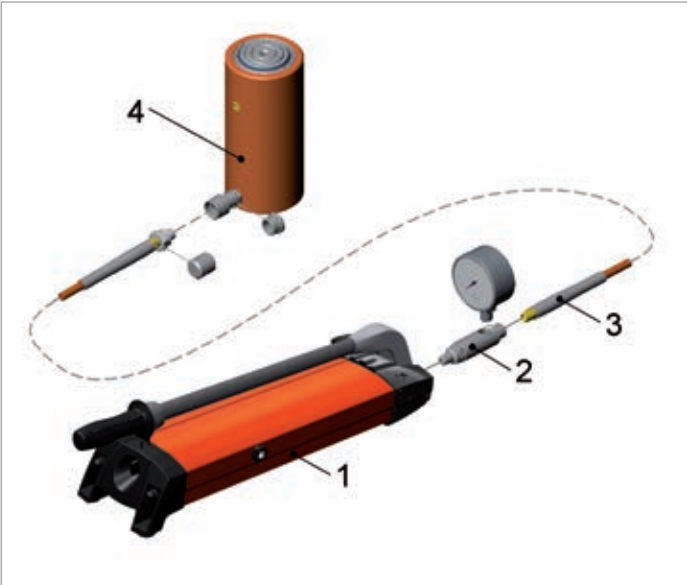
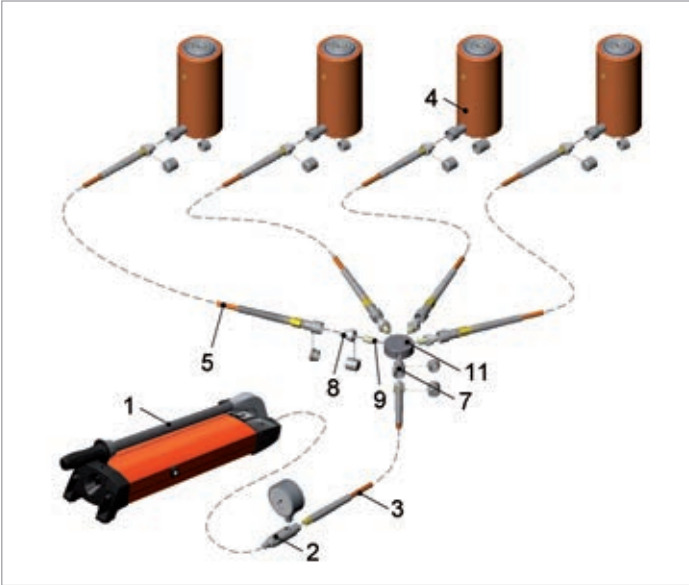
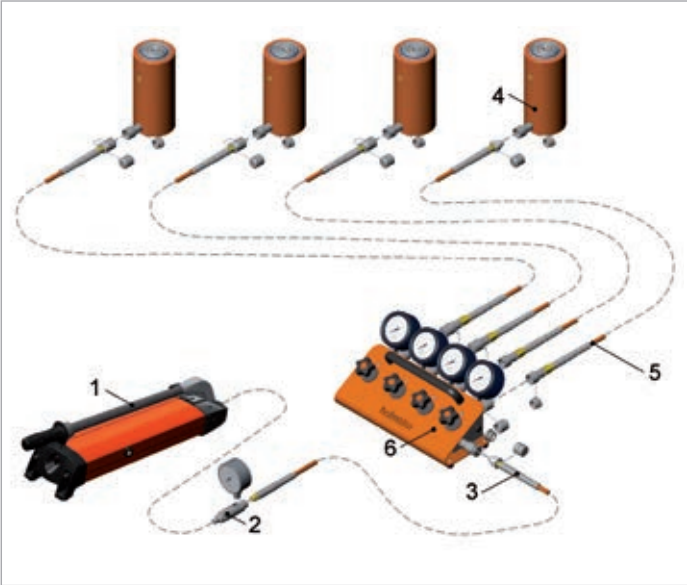
- Choose the correct number of hoses that you need and the required length. Take the required (safe) distance between cylinders and operation (pump and/or valve block) into account.
- When the system contains several cylinders controlled by one pump, we recommend you to install a FlowPanel between the 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 167.

**Four examples**

Of a hydraulic cylinder system.

no	description	art no	page
1	hand pump PA 18 H 2	100.142.035	145
2	pressure gauge set for PA *8 pumps	100.182.214	176
3	hydraulic hose H 2 SOU	100.572.102	169
4	single-acting cylinder		
5	hydraulic hose VL 5 SOU	100.572.305	170
6	valve block HMS 4 C	100.172.047	177
7	High Flow coupler, female, A 118	100.181.118	172
8	High Flow coupler, male, A 119	100.181.119	172
9	nipple 3/8" NPT, male	100.581.101	185
10	T-piece	100.001.010	182
11	manifold	100.181.125	184

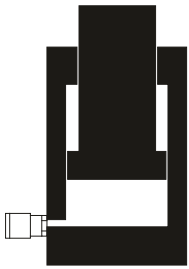


**Any questions?  
Our sales department is happy to be of assistance!**

## Holmatro cylinders

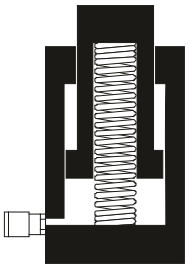
The Holmatro product range includes over 200 different cylinders in 10 different types and 3 different return types. A short explanation about the standard return types and the models will be given below.

### Various return types



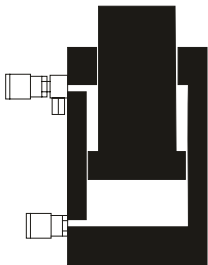
#### Gravity return

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.



#### 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

#### Multi Purpose cylinders - spring return

With a lifting capacity of 5 up to 100 tons and a stroke length varying between 25 and 450 mm the Multi Purpose cylinder range is the most extensive on the market and suitable for the most varied applications. The cylinders are fitted with base mounting holes and collar thread. There is also internal plunger thread on all models to 50 tons.



#### Aluminium cylinders - spring return & hydraulic return

The Aluminium cylinders combine the best of two worlds; They are more than 50% lighter, but are just as robust as their steel equivalent. With a lifting capacity of 20 up to 150 tons and a stroke length varying between 50 and 300 mm the cylinder range is very suitable for lifting activities requiring frequently moving the cylinder, making a low weight essential.



#### Flat cylinders - spring return

Cylinders with a very low construction height and a lifting capacity of 5 up to 150 tons. Especially developed in case of limited insertion space.



**Short Stroke cylinders - spring return**

Cylinders with a short stroke, a low construction height and a lifting capacity of 10 up to 100 tons. Very suitable for general lifting activities.



**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.



**High Tonnage cylinders - gravity return & hydraulic return**

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



**Locknut cylinders - gravity return & hydraulic return**

Cylinders with mechanical load locking, a lifting capacity of 10 up to 500 tons and a stroke length of 50, 150 or 300 mm. Because of the smart return-plunger the hydraulic return locknut cylinders are hardly higher than the gravity return locknut cylinders. All suitable for sustained load because of mechanical load locking.



**Construction cylinders - hydraulic return**

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



**Hollow Plunger cylinders - gravity return, spring return & hydraulic return**

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



**Pulling cylinders - spring return & hydraulic return**

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



**Selection list cylinders**


capacity tons	closed height mm	stroke mm	return	type	material	model	art no	page
5	31	5	spring	flat	steel	<b>HFC 5 S 0.5</b>	100.112.290	47
	44	15	spring	flat	steel	<b>HFC 5 S 1.5</b>	100.112.291	47
	105	25	spring	multi purpose	steel	<b>HGC 5 S 2.5</b>	100.112.211	27
	130	50	spring	multi purpose	steel	<b>HGC 5 S 5</b>	100.112.212	27
	155	75	spring	multi purpose	steel	<b>HGC 5 S 7.5</b>	100.112.213	27
	180	100	spring	multi purpose	steel	<b>HGC 5 S 10</b>	100.112.214	27
	206	125	spring	multi purpose	steel	<b>HGC 5 S 12.5</b>	100.112.215	27
	268	175	spring	multi purpose	steel	<b>HGC 5 S 17.5</b>	100.112.216	27
	318	225	spring	multi purpose	steel	<b>HGC 5 S 22.5</b>	100.112.217	28
10	46	15	spring	flat	steel	<b>HFC 10 S 1.5</b>	100.112.292	47
	49	21 / 20	gravity	telescopic	steel	<b>HFJ 10/30 G 4</b>	100.111.005	53
	97	25	spring	multi purpose	steel	<b>HGC 10 S 2.5</b>	100.112.218	28
	100	50	spring	short stroke	steel	<b>HSC 10 S 5</b>	100.112.300	51
	122	50	spring	multi purpose	steel	<b>HGC 10 S 5</b>	100.112.219	28
	172	100	spring	multi purpose	steel	<b>HGC 10 S 10</b>	100.112.220	28
	240	150	spring	multi purpose	steel	<b>HGC 10 S 15</b>	100.112.221	29
	270	150	gravity	lock nut	steel	<b>HJ 10 G 15 SN</b>	100.082.003	63
	290	200	spring	multi purpose	steel	<b>HGC 10 S 20</b>	100.112.222	28
	327	150	hydraulic	construction	steel	<b>HCJ 10 H 15</b>	100.122.066	69
	340	250	spring	multi purpose	steel	<b>HGC 10 S 25</b>	100.112.223	29
	390	300	spring	multi purpose	steel	<b>HGC 10 S 30</b>	100.112.224	29
	440	350	spring	multi purpose	steel	<b>HGC 10 S 35</b>	100.112.225	29
	490	400	spring	multi purpose	steel	<b>HGC 10 S 40</b>	100.112.226	29
15	123	25	spring	multi purpose	steel	<b>HGC 15 S 2.5</b>	100.112.227	29
	148	50	spring	multi purpose	steel	<b>HGC 15 S 5</b>	100.112.228	29
	198	100	spring	multi purpose	steel	<b>HGC 15 S 10</b>	100.112.229	30
	265	150	spring	multi purpose	steel	<b>HGC 15 S 15</b>	100.112.230	30
	315	200	spring	multi purpose	steel	<b>HGC 15 S 20</b>	100.112.231	30
	365	250	spring	multi purpose	steel	<b>HGC 15 S 25</b>	100.112.232	30
	415	300	spring	multi purpose	steel	<b>HGC 15 S 30</b>	100.112.233	30
	465	350	spring	multi purpose	steel	<b>HGC 15 S 35</b>	100.112.234	30
	515	400	spring	multi purpose	steel	<b>HGC 15 S 40</b>	100.112.235	31
20	55	15	spring	flat	steel	<b>HFC 20 S 1.5</b>	100.112.293	47
	103	50	spring	short stroke	steel	<b>HSC 20 S 5</b>	100.112.301	51
	140	56 / 55	gravity	telescopic	steel	<b>HJ 20/50 G 11</b>	100.112.103	53
	164	50	spring	standard	aluminium	<b>HAC 20 S 5</b>	100.112.267	37
	214	100	spring	standard	aluminium	<b>HAC 20 S 10</b>	100.112.265	37
	264	150	spring	standard	aluminium	<b>HAC 20 S 15</b>	100.112.261	37
25	138	25	spring	multi purpose	steel	<b>HGC 25 S 2.5</b>	100.112.236	31
	165	50	spring	multi purpose	steel	<b>HGC 25 S 5</b>	100.112.237	31
	215	100	spring	multi purpose	steel	<b>HGC 25 S 10</b>	100.112.238	31
	265	150	spring	multi purpose	steel	<b>HGC 25 S 15</b>	100.112.239	31
	283	150	gravity	lock nut	steel	<b>HJ 25 G 15 SN</b>	100.082.002	63
	315	200	spring	multi purpose	steel	<b>HGC 25 S 20</b>	100.112.240	31
	350	150	hydraulic	construction	steel	<b>HCJ 25 H 15</b>	100.122.067	69
	374	250	spring	multi purpose	steel	<b>HGC 25 S 25</b>	100.112.241	32
	424	300	spring	multi purpose	steel	<b>HGC 25 S 30</b>	100.112.242	32
	450	250	hydraulic	construction	steel	<b>HCJ 25 H 25</b>	100.122.068	69
	474	350	spring	multi purpose	steel	<b>HGC 25 S 35</b>	100.112.243	32
	574	450	spring	multi purpose	steel	<b>HGC 25 S 45</b>	100.112.244	32

**Selection list cylinders**


capacity tons	closed height mm	stroke mm	return	type	material	model	art no	page
30	50	5	spring	flat	steel	<b>HFC 30 S 0.5</b>	100.112.294	47
	60	15	spring	flat	steel	<b>HFC 30 S 1.5</b>	100.112.295	47
	106	50	spring	short stroke	steel	<b>HSC 30 S 5</b>	100.112.302	51
	182	50	spring	standard	aluminium	<b>HAC 30 S 5</b>	100.112.269	37
	197	50	hydraulic	standard	aluminium	<b>HAC 30 H 5</b>	100.122.086	41
	232	100	spring	standard	aluminium	<b>HAC 30 S 10</b>	100.112.268	37
	247	100	hydraulic	standard	aluminium	<b>HAC 30 H 10</b>	100.122.085	41
	282	150	spring	standard	aluminium	<b>HAC 30 S 15</b>	100.112.262	37
	297	150	hydraulic	standard	aluminium	<b>HAC 30 H 15</b>	100.122.080	41
	347	200	hydraulic	standard	aluminium	<b>HAC 30 H 20</b>	100.122.079	41
	397	250	hydraulic	standard	aluminium	<b>HAC 30 H 25</b>	100.122.103	41
	447	300	hydraulic	standard	aluminium	<b>HAC 30 H 30</b>	100.122.060	41
35	184	50	spring	multi purpose	steel	<b>HGC 35 S 5</b>	100.112.245	32
	234	100	spring	multi purpose	steel	<b>HGC 35 S 10</b>	100.112.246	32
	284	150	spring	multi purpose	steel	<b>HGC 35 S 15</b>	100.112.247	33
	334	200	spring	multi purpose	steel	<b>HGC 35 S 20</b>	100.112.248	33
50	71	15	spring	flat	steel	<b>HFC 50 S 1.5</b>	100.112.296	48
	117	50	spring	short stroke	steel	<b>HSC 50 S 5</b>	100.112.303	51
	142	60	gravity	high tonnage	steel	<b>HJ 50 G 6</b>	100.112.073	55
	176	50	spring	multi purpose	steel	<b>HGC 50 S 5</b>	100.112.249	33
	183	50	spring	standard	aluminium	<b>HAC 50 S 5</b>	100.112.271	38
	201	50	hydraulic	standard	aluminium	<b>HAC 50 H 5</b>	100.122.095	42
	226	100	spring	multi purpose	steel	<b>HGC 50 S 10</b>	100.112.250	33
	233	100	spring	standard	aluminium	<b>HAC 50 S 10</b>	100.112.270	38
	251	100	hydraulic	standard	aluminium	<b>HAC 50 H 10</b>	100.122.108	42
	276	150	spring	multi purpose	steel	<b>HGC 50 S 15</b>	100.112.251	33
	282	150	gravity	high tonnage	steel	<b>HJ 50 G 15</b>	100.112.035	55
	282	150	hydraulic	high tonnage	steel	<b>HJ 50 H 15</b>	100.122.002	59
	283	150	spring	standard	aluminium	<b>HAC 50 S 15</b>	100.112.263	38
	301	150	hydraulic	standard	aluminium	<b>HAC 50 H 15</b>	100.122.097	42
	307	150	gravity	lock nut	steel	<b>HJ 50 G 15 SN</b>	100.082.001	63
	326	200	spring	multi purpose	steel	<b>HGC 50 S 20</b>	100.112.252	33
	351	200	hydraulic	standard	aluminium	<b>HAC 50 H 20</b>	100.122.098	42
	376	250	spring	multi purpose	steel	<b>HGC 50 S 25</b>	100.112.253	34
	401	250	hydraulic	standard	aluminium	<b>HAC 50 H 25</b>	100.122.099	42
	451	300	hydraulic	standard	aluminium	<b>HAC 50 H 30</b>	100.122.100	42
	463	300	gravity	high tonnage	steel	<b>HJ 50 G 30</b>	100.112.036	55
	463	300	hydraulic	high tonnage	steel	<b>HJ 50 H 30</b>	100.122.022	59
	476	350	spring	multi purpose	steel	<b>HGC 50 S 35</b>	100.112.254	34
60	208	50	hydraulic	lock nut	steel	<b>HLC 50 H 5</b>	100.122.123	65
	327	150	hydraulic	lock nut	steel	<b>HLC 50 H 15</b>	100.122.124	65
	498	300	hydraulic	lock nut	steel	<b>HLC 50 H 30</b>	100.122.125	65
75	80	15	spring	flat	steel	<b>HFC 75 S 1.5</b>	100.112.297	48
	285	150	spring	multi purpose	steel	<b>HGC 75 S 15</b>	100.112.255	34
	347	150	gravity	high tonnage	steel	<b>HJ 75 G 15</b>	100.112.037	55
	347	150	hydraulic	high tonnage	steel	<b>HJ 75 H 15</b>	100.122.003	59
	485	350	spring	multi purpose	steel	<b>HGC 75 S 35</b>	100.112.256	34
	497	300	gravity	high tonnage	steel	<b>HJ 75 G 30</b>	100.112.038	55
	497	300	hydraulic	high tonnage	steel	<b>HJ 75 H 30</b>	100.122.004	59
100	90	15	spring	flat	steel	<b>HFC 100 S 1.5</b>	100.112.298	48

**Selection list cylinders**


capacity tons	closed height mm	stroke mm	return	type	material	model	art no	page
100	141	50	spring	short stroke	steel	<b>HSC 100 S 5</b>	100.112.304	51
	158	60	gravity	high tonnage	steel	<b>HJ 100 G 6</b>	100.112.093	55
	170	50	hydraulic	high tonnage	steel	<b>HJ 100 H 5</b>	100.122.009	59
	218	50	spring	multi purpose	steel	<b>HGC 100 S 5</b>	100.112.257	34
	225	50	spring	standard	aluminium	<b>HAC 100 S 5</b>	100.112.273	38
	246	50	hydraulic	standard	aluminium	<b>HAC 100 H 5</b>	100.122.094	43
	248	50	hydraulic	lock nut	steel	<b>HLC 100 H 5</b>	100.122.126	65
	268	100	spring	multi purpose	steel	<b>HGC 100 S 10</b>	100.112.258	34
	275	100	spring	standard	aluminium	<b>HAC 100 S 10</b>	100.112.272	38
	296	100	hydraulic	standard	aluminium	<b>HAC 100 H 10</b>	100.122.109	43
	309	150	gravity	high tonnage	steel	<b>HJ 100 G 15</b>	100.112.039	56
	309	150	hydraulic	high tonnage	steel	<b>HJ 100 H 15</b>	100.122.052	59
	318	150	spring	multi purpose	steel	<b>HGC 100 S 15</b>	100.112.259	35
	323	150	gravity	lock nut	steel	<b>HJ 100 G 15 SN</b>	100.082.000	63
	325	150	spring	standard	aluminium	<b>HAC 100 S 15</b>	100.112.264	38
	346	150	hydraulic	standard	aluminium	<b>HAC 100 H 15</b>	100.122.107	43
	370	150	hydraulic	lock nut	steel	<b>HLC 100 H 15</b>	100.122.127	65
	396	200	hydraulic	standard	aluminium	<b>HAC 100 H 20</b>	100.122.088	43
	418	250	spring	multi purpose	steel	<b>HGC 100 S 25</b>	100.112.260	35
	446	250	hydraulic	standard	aluminium	<b>HAC 100 H 25</b>	100.122.089	43
	496	300	hydraulic	standard	aluminium	<b>HAC 100 H 30</b>	100.122.090	43
	497	300	gravity	high tonnage	steel	<b>HJ 100 G 30</b>	100.112.040	56
	497	300	hydraulic	high tonnage	steel	<b>HJ 100 H 30</b>	100.122.054	60
	546	300	hydraulic	lock nut	steel	<b>HLC 100 H 30</b>	100.122.128	65
150	100	15	spring	flat	steel	<b>HFC 150 S 1.5</b>	100.112.299	48
	248	50	hydraulic	standard	aluminium	<b>HAC 150 H 5</b>	100.122.075	44
	275	50	hydraulic	lock nut	steel	<b>HLC 150 H 5</b>	100.122.129	66
	298	100	hydraulic	standard	aluminium	<b>HAC 150 H 10</b>	100.122.074	44
	317	150	gravity	high tonnage	steel	<b>HJ 150 G 15</b>	100.112.046	56
	317	150	hydraulic	high tonnage	steel	<b>HJ 150 H 15</b>	100.122.061	60
	348	150	hydraulic	standard	aluminium	<b>HAC 150 H 15</b>	100.122.073	44
	363	150	gravity	lock nut	steel	<b>HJ 150 G 15 SN</b>	100.112.136	63
	398	200	hydraulic	standard	aluminium	<b>HAC 150 H 20</b>	100.122.070	44
	400	150	hydraulic	lock nut	steel	<b>HLC 150 H 15</b>	100.122.130	66
	448	250	hydraulic	standard	aluminium	<b>HAC 150 H 25</b>	100.122.069	44
	498	300	hydraulic	standard	aluminium	<b>HAC 150 H 30</b>	100.122.064	44
	502	300	gravity	high tonnage	steel	<b>HJ 150 G 30</b>	100.112.047	56
	502	300	hydraulic	high tonnage	steel	<b>HJ 150 H 30</b>	100.122.062	60
	580	300	hydraulic	lock nut	steel	<b>HLC 150 H 30</b>	100.122.131	66
200	327	150	gravity	high tonnage	steel	<b>HJ 200 G 15</b>	100.112.048	56
	327	150	hydraulic	high tonnage	steel	<b>HJ 200 H 15</b>	100.122.071	60
	507	300	gravity	high tonnage	steel	<b>HJ 200 G 30</b>	100.112.049	56
	507	300	hydraulic	high tonnage	steel	<b>HJ 200 H 30</b>	100.122.072	60
250	317	50	hydraulic	lock nut	steel	<b>HLC 250 H 5</b>	100.122.132	66
	385	150	gravity	lock nut	steel	<b>HJ 250 G 15 SN</b>	100.112.083	63
	444	150	hydraulic	lock nut	steel	<b>HLC 250 H 15</b>	100.122.133	66
	625	300	hydraulic	lock nut	steel	<b>HLC 250 H 30</b>	100.122.134	66
300	382	150	gravity	high tonnage	steel	<b>HJ 300 G 15</b>	100.112.050	57
	382	150	hydraulic	high tonnage	steel	<b>HJ 300 H 15</b>	100.122.084	60
	547	300	gravity	high tonnage	steel	<b>HJ 300 G 30</b>	100.112.099	57

**Selection list cylinders**



capacity tons	closed height mm	stroke mm	return	type	material	model	art no	page
300	547	300	hydraulic	high tonnage	steel	<b>HJ 300 H 30</b>	100.122.083	61
400	402	150	gravity	high tonnage	steel	<b>HJ 400 G 15</b>	100.112.100	57
	402	150	hydraulic	high tonnage	steel	<b>HJ 400 H 15</b>	100.122.091	61
	572	300	gravity	high tonnage	steel	<b>HJ 400 G 30</b>	100.112.056	57
	572	300	hydraulic	high tonnage	steel	<b>HJ 400 H 30</b>	100.122.092	61
500	442	150	gravity	high tonnage	steel	<b>HJ 500 G 15</b>	100.112.139	57
	442	150	hydraulic	high tonnage	steel	<b>HJ 500 H 15</b>	100.122.043	61
	587	300	gravity	high tonnage	steel	<b>HJ 500 G 30</b>	100.112.138	57
	587	300	hydraulic	high tonnage	steel	<b>HJ 500 H 30</b>	100.122.038	61

**Cylinder System Configurator**

holmatro.com/en/configurator

**Selection list hollow plunger cylinders**



capacity tons	Ø hole in plunger mm	closed height mm	stroke mm	return	type	material	model	art no	page
5	17	87	25	spring	hollow plunger	steel	<b>HHJ 5 S 2.5</b>	100.111.002	73
12	21	156	50	spring	hollow plunger	steel	<b>HHJ 12 S 5</b>	100.111.021	73
		298	150	spring	hollow plunger	steel	<b>HHJ 12 S 15</b>	100.111.029	73
17	27	192	50	spring	hollow plunger	steel	<b>HHJ 17 S 5</b>	100.112.023	73
20	27	182	50	spring	hollow plunger	steel	<b>HHJ 20 S 5</b>	100.112.033	73
		389	150	spring	hollow plunger	steel	<b>HHJ 20 S 15</b>	100.112.030	73
30	33	120	50	gravity	hollow plunger	steel	<b>HHJ 30 G 5</b>	100.111.053	71
		226	75	spring	hollow plunger	steel	<b>HHJ 30 S 7.5</b>	100.112.055	75
		285	150	hydraulic	hollow plunger	steel	<b>HHJ 30 H 15</b>	100.122.045	77
		362	150	spring	hollow plunger	steel	<b>HHJ 30 S 15</b>	100.112.034	74
45	39	388	150	spring	hollow plunger	steel	<b>HHJ 45 S 15</b>	100.112.061	74
60	45	272	75	spring	hollow plunger	steel	<b>HHJ 60 S 7.5</b>	100.112.081	74
		334	200	hydraulic	hollow plunger	steel	<b>HHJ 60 H 20</b>	100.122.031	77
100	54	265	100	hydraulic	hollow plunger	steel	<b>HHJ 100 H 10</b>	100.122.051	77
		395	200	hydraulic	hollow plunger	steel	<b>HHJ 100 H 20</b>	100.122.053	77
110	80	315	75	spring	hollow plunger	steel	<b>HHJ 110 S 7.5</b>	100.112.101	74







**Features & benefits** ↓

- A range of 50 models with different tonnages and stroke lengths
- Collar thread and base mounting holes
- Internal plunger thread on all models to 50 tons
- Duplex Power Coating makes the plunger corrosion-resistant
- Duo Power Ring; seal and bearing for long life span
- Thread Protector protects the thread on the cylinder housing
- XL Saddle+ protects the plunger and limits eccentric loads

**Standard** supplied with ↓

- High Flow female coupler A 118
- Flat saddle

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications

Accessories	page	89
Tilting saddles	page	95
Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



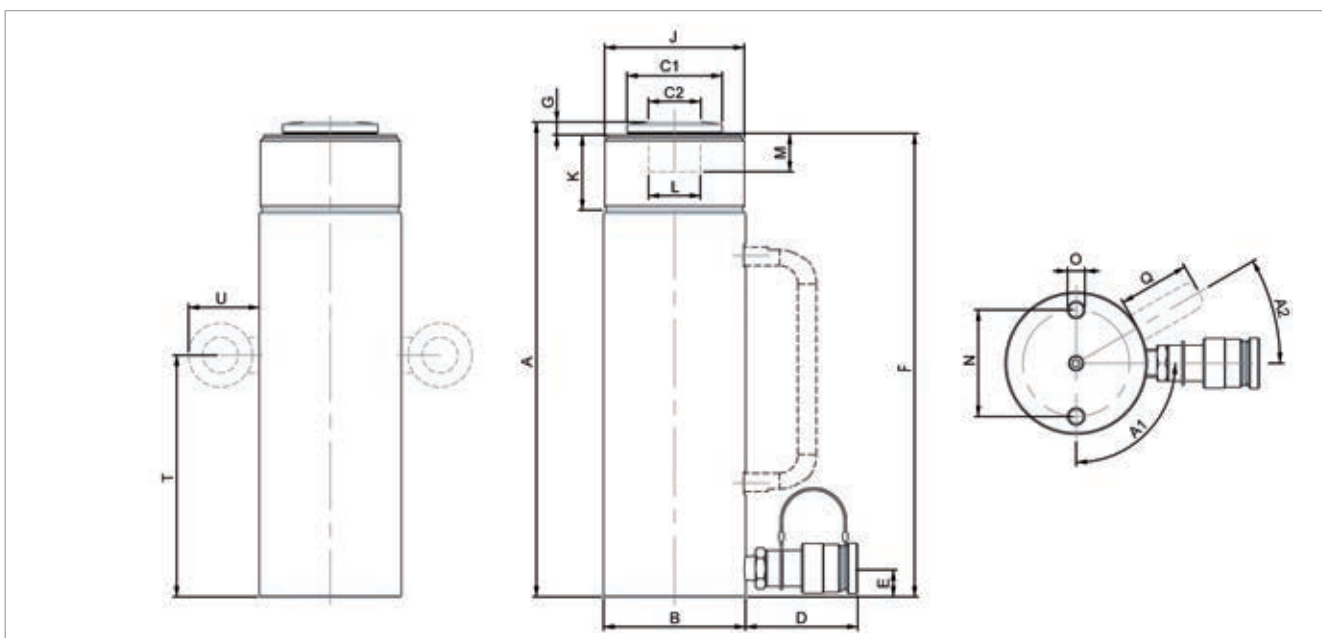
Internal plunger thread on all models to 50 tons

**Multi purpose cylinders - Spring return**


model		HGC 5 S 2.5	HGC 5 S 5	HGC 5 S 7.5	HGC 5 S 10	HGC 5 S 12.5	HGC 5 S 17.5
art no		100.112.211	100.112.212	100.112.213	100.112.214	100.112.215	100.112.216
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	5	5	5	5	5	5
<b>stroke</b>	<b>mm</b>	25	50	75	100	125	175
<b>closed height</b>	<b>mm</b>	105	130	155	180	206	268
capacity	kN/t	51 / 5.2	51 / 5.2	51 / 5.2	51 / 5.2	51 / 5.2	51 / 5.2
effective pressure area	cm <sup>2</sup>	7.1	7.1	7.1	7.1	7.1	7.1
required oil content (effective)	cc	18	35	53	71	88	124
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		multi purpose	multi purpose	multi purpose	multi purpose	multi purpose	multi purpose
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	1.1	1.3	1.5	1.7	1.8	2.3

**Multi purpose cylinders - Spring return (dimensions)**


model		HGC 5 S 2.5	HGC 5 S 5	HGC 5 S 7.5	HGC 5 S 10	HGC 5 S 12.5	HGC 5 S 17.5
dimension A	mm	105	130	155	180	206	268
dimension B	mm	40	40	40	40	40	40
dimension C1	mm	27	27	27	27	27	27
dimension C2	mm	15	15	15	15	15	15
dimension D	mm	80	80	80	80	80	80
dimension E	mm	20	20	20	20	20	20
dimension F	mm	102	127	152	177	203	265
dimension G	mm	4	4	4	4	4	4
dimension J	threadsize	1½"-16-UN	1½"-16-UN	1½"-16-UN	1½"-16-UN	1½"-16-UN	1½"-16-UN
dimension K	mm	30	30	30	30	30	30
dimension L	threadsize	¾"-16-UNF	¾"-16-UNF	¾"-16-UNF	¾"-16-UNF	¾"-16-UNF	¾"-16-UNF
dimension M	mm	20	20	20	20	20	20
dimension N	mm	25	25	25	25	25	25
dimension O	threadsize	M6x9 (2x)	M6x9 (2x)	M6x9 (2x)	M6x9 (2x)	M6x9 (2x)	M6x9 (2x)
angle A1	°	90	90	90	90	90	90

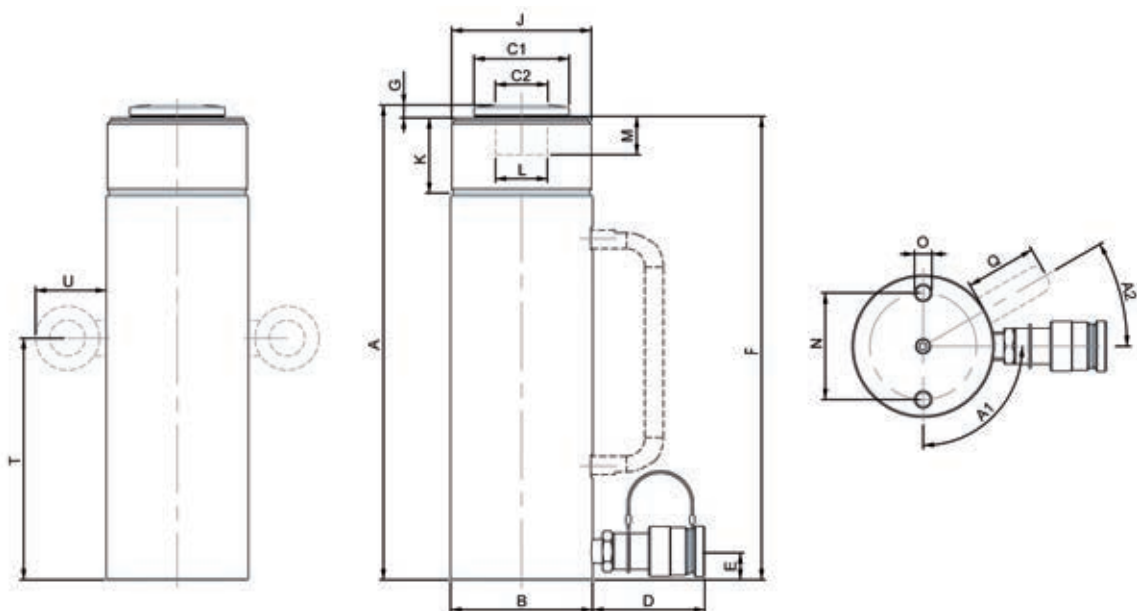


**Multi purpose cylinders - Spring return**


model		HGC 5 S 22.5	HGC 10 S 2.5	HGC 10 S 5	HGC 10 S 10	HGC 10 S 15	HGC 10 S 20
art no		100.112.217	100.112.218	100.112.219	100.112.220	100.112.221	100.112.222
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	5	10	10	10	10	10
stroke	mm	225	25	50	100	150	200
closed height	mm	318	97	122	172	240	290
capacity	kN/t	51 / 5.2	100 / 10.2	100 / 10.2	100 / 10.2	100 / 10.2	100 / 10.2
effective pressure area	cm <sup>2</sup>	7.1	13.9	13.9	13.9	13.9	13.9
required oil content (effective)	cc	159	35	69	139	208	277
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		multi purpose	multi purpose	multi purpose	multi purpose	multi purpose	multi purpose
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	2.6	2.1	2.5	3.4	4.6	5.5

**Multi purpose cylinders - Spring return (dimensions)**


model		HGC 5 S 22.5	HGC 10 S 2.5	HGC 10 S 5	HGC 10 S 10	HGC 10 S 15	HGC 10 S 20
dimension A	mm	318	97	122	172	240	290
dimension B	mm	40	60	60	60	60	60
dimension C1	mm	27	38	38	38	38	38
dimension C2	mm	15	21	21	21	21	21
dimension D	mm	80	80	80	80	80	80
dimension E	mm	20	20	20	20	20	20
dimension F	mm	315	93	118	168	236	286
dimension G	mm	4	5	5	5	5	5
dimension J	threadsize	1½"-16-UN	2¼"-14-UNS	2¼"-14-UNS	2¼"-14-UNS	2¼"-14-UNS	2¼"-14-UNS
dimension K	mm	30	31	31	31	31	31
dimension L	threadsize	¾"-16-UNF	1"-8-UNC	1"-8-UNC	1"-8-UNC	1"-8-UNC	1"-8-UNC
dimension M	mm	20	20	20	20	20	20
dimension N	mm	25	40	40	40	40	40
dimension O	threadsize	M6x9 (2x)	M8x12 (2x)	M10x15 (2x)	M8x12 (2x)	M8x12 (2x)	M8x12 (2x)
angle A1	°	90	90	90	90	90	90



**Multi purpose cylinders - Spring return**

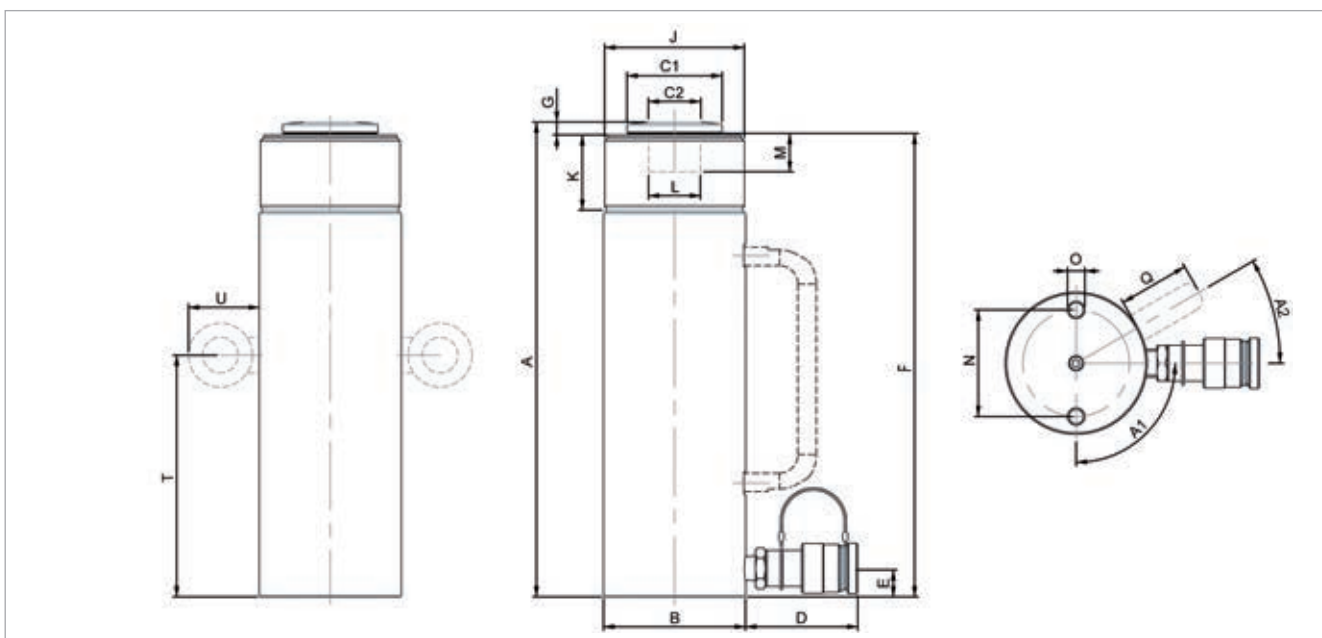


model		HGC 10 S 25	HGC 10 S 30	HGC 10 S 35	HGC 10 S 40	HGC 15 S 2.5	HGC 15 S 5
art no		100.112.223	100.112.224	100.112.225	100.112.226	100.112.227	100.112.228
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	10	10	10	10	15	15
stroke	mm	250	300	350	400	25	50
closed height	mm	340	390	440	490	123	148
capacity	kN/t	100 / 10.2	100 / 10.2	100 / 10.2	100 / 10.2	171 / 17.4	171 / 17.4
effective pressure area	cm <sup>2</sup>	13.9	13.9	13.9	13.9	23.8	23.8
required oil content (effective)	cc	346	416	485	554	59	119
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		multi purpose	multi purpose	multi purpose	multi purpose	multi purpose	multi purpose
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	6.4	7.3	8.1	9.0	3.4	3.9

**Multi purpose cylinders - Spring return (dimensions)**



model		HGC 10 S 25	HGC 10 S 30	HGC 10 S 35	HGC 10 S 40	HGC 15 S 2.5	HGC 15 S 5
dimension A	mm	340	390	440	490	123	148
dimension B	mm	60	60	60	60	70	70
dimension C1	mm	38	38	38	38	47	47
dimension C2	mm	21	21	21	21	23	23
dimension D	mm	80	80	80	80	80	80
dimension E	mm	20	20	20	20	20	20
dimension F	mm	336	386	436	486	117	142
dimension G	mm	5	5	5	5	7	7
dimension J	threadsize	2¼"-14-UNS	2¼"-14-UNS	2¼"-14-UNS	2¼"-14-UNS	2¾"-16-UN	2¾"-16-UN
dimension K	mm	31	31	31	31	31	31
dimension L	threadsize	1"-8-UNC	1"-8-UNC	1"-8-UNC	1"-8-UNC	1"-8-UNC	1"-8-UNC
dimension M	mm	20	20	20	20	27	27
dimension N	mm	40	40	40	40	48	48
dimension O	threadsize	M8x12 (2x)	M8x12 (2x)	M8x12 (2x)	M8x12 (2x)	M10x15 (2x)	M10x15 (2x)
angle A1	°	90	90	90	90	90	90

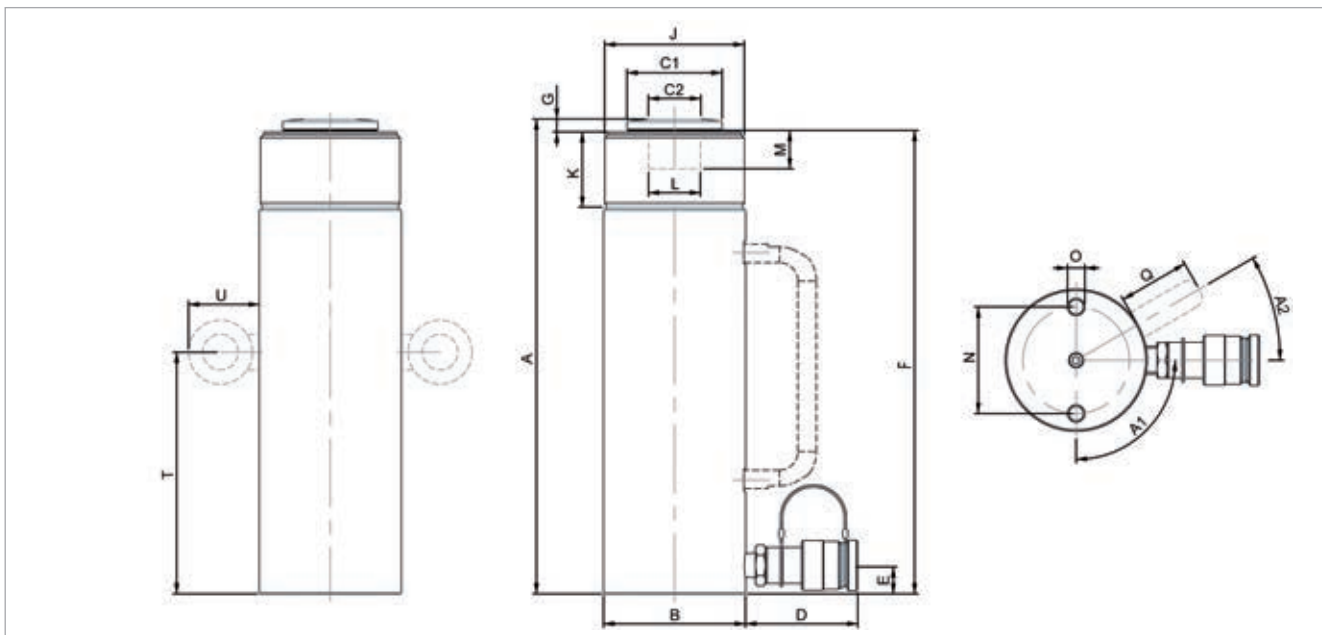


**Multi purpose cylinders - Spring return**


model		HGC 15 S 10	HGC 15 S 15	HGC 15 S 20	HGC 15 S 25	HGC 15 S 30	HGC 15 S 35
art no		100.112.229	100.112.230	100.112.231	100.112.232	100.112.233	100.112.234
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	15	15	15	15	15	15
stroke	mm	100	150	200	250	300	350
closed height	mm	198	265	315	365	415	465
capacity	kN/t	171 / 17.4	171 / 17.4	171 / 17.4	171 / 17.4	171 / 17.4	171 / 17.4
effective pressure area	cm <sup>2</sup>	23.8	23.8	23.8	23.8	23.8	23.8
required oil content (effective)	cc	238	356	475	594	713	832
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		multi purpose	multi purpose	multi purpose	multi purpose	multi purpose	multi purpose
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	4.9	6.4	7.4	8.4	9.4	10.5

**Multi purpose cylinders - Spring return (dimensions)**


model		HGC 15 S 10	HGC 15 S 15	HGC 15 S 20	HGC 15 S 25	HGC 15 S 30	HGC 15 S 35
dimension A	mm	198	265	315	365	415	465
dimension B	mm	70	70	70	70	70	70
dimension C1	mm	47	47	47	47	47	47
dimension C2	mm	23	23	23	23	23	23
dimension D	mm	80	80	80	80	80	80
dimension E	mm	20	20	20	20	20	20
dimension F	mm	192	259	309	359	409	459
dimension G	mm	7	7	7	7	7	7
dimension J	threadsize	2 3/4"-16-UN	2 3/4"-16-UN	2 3/4"-16-UN	2 3/4"-16-UN	2 3/4"-16-UN	2 3/4"-16-UN
dimension K	mm	31	31	31	31	31	31
dimension L	threadsize	1"-8-UNC	1"-8-UNC	1"-8-UNC	1"-8-UNC	1"-8-UNC	1"-8-UNC
dimension M	mm	27	27	27	27	27	27
dimension N	mm	48	48	48	48	48	48
dimension O	threadsize	M10x15 (2x)	M10x15 (2x)	M10x15 (2x)	M10x15 (2x)	M10x15 (2x)	M10x15 (2x)
angle A1	°	90	90	90	90	90	90

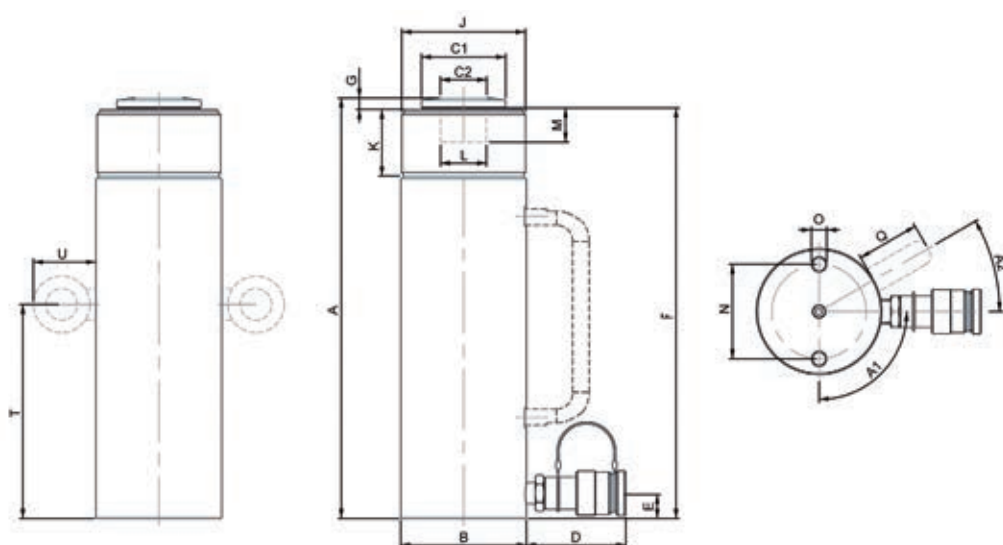


**Multi purpose cylinders - Spring return**


model		HGC 15 S 40	HGC 25 S 2.5	HGC 25 S 5	HGC 25 S 10	HGC 25 S 15	HGC 25 S 20
art no		100.112.235	100.112.236	100.112.237	100.112.238	100.112.239	100.112.240
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	15	25	25	25	25	25
stroke	mm	400	25	50	100	150	200
closed height	mm	515	138	165	215	265	315
capacity	kN/t	171 / 17.4	239 / 24.4	239 / 24.4	239 / 24.4	239 / 24.4	239 / 24.4
effective pressure area	cm <sup>2</sup>	23.8	33.2	33.2	33.2	33.2	33.2
required oil content (effective)	cc	950	83	166	332	498	664
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		multi purpose	multi purpose	multi purpose	multi purpose	multi purpose	multi purpose
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	11.5	5.5	6.4	8.0	9.7	11.3

**Multi purpose cylinders - Spring return (dimensions)**


model		HGC 15 S 40	HGC 25 S 2.5	HGC 25 S 5	HGC 25 S 10	HGC 25 S 15	HGC 25 S 20
dimension A	mm	515	138	165	215	265	315
dimension B	mm	70	85	85	85	85	85
dimension C1	mm	47	57	57	57	57	57
dimension C2	mm	23	32	32	32	32	32
dimension D	mm	80	80	80	80	80	80
dimension E	mm	20	20	20	20	20	20
dimension F	mm	509	132	159	209	259	309
dimension G	mm	7	7	7	7	7	7
dimension J	threadsize	2 3/4"-16-UN	3 5/16"-12-UN	3 5/16"-12-UN	3 5/16"-12-UN	3 5/16"-12-UN	3 5/16"-12-UN
dimension K	mm	31	55	55	55	55	55
dimension L	threadsize	1"-8-UNC	1 1/2"-16-UN	1 1/2"-16-UN	1 1/2"-16-UN	1 1/2"-16-UN	1 1/2"-16-UN
dimension M	mm	27	27	27	27	27	27
dimension N	mm	48	60	60	60	60	60
dimension O	threadsize	M10x15 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)
dimension Q	mm					50	50
angle A1	°	90	90	90	90	90	90
angle A2	°					40	40



**Multi purpose cylinders - Spring return**

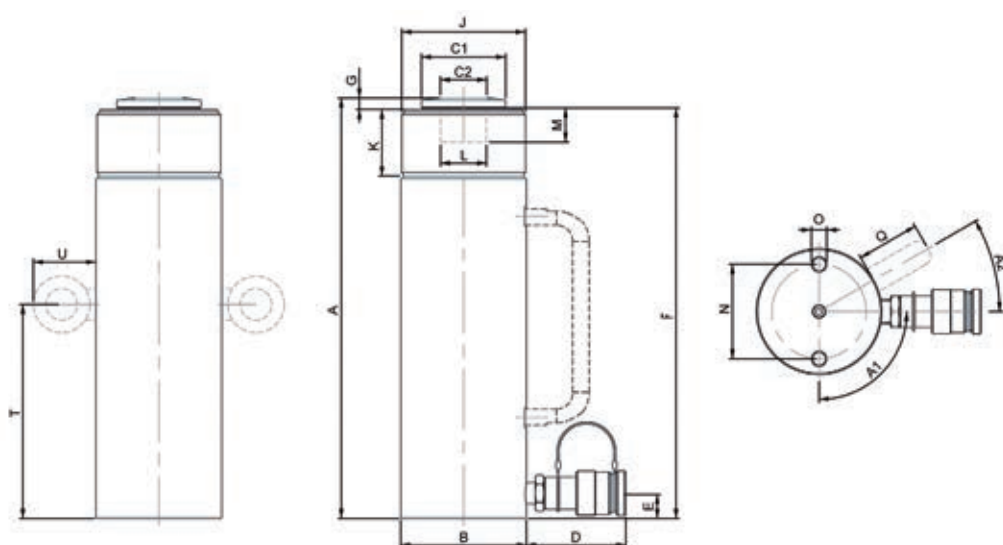


model		HGC 25 S 25	HGC 25 S 30	HGC 25 S 35	HGC 25 S 45	HGC 35 S 5	HGC 35 S 10
art no		100.112.241	100.112.242	100.112.243	100.112.244	100.112.245	100.112.246
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	25	25	25	25	35	35
stroke	mm	250	300	350	450	50	100
closed height	mm	374	424	474	574	184	234
capacity	kN/t	239 / 24.4	239 / 24.4	239 / 24.4	239 / 24.4	362 / 36.9	362 / 36.9
effective pressure area	cm <sup>2</sup>	33.2	33.2	33.2	33.2	50.3	50.3
required oil content (effective)	cc	830	996	1161	1493	251	503
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		multi purpose	multi purpose	multi purpose	multi purpose	multi purpose	multi purpose
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	13.3	14.9	16.5	19.8	9.3	11.4

**Multi purpose cylinders - Spring return (dimensions)**



model		HGC 25 S 25	HGC 25 S 30	HGC 25 S 35	HGC 25 S 45	HGC 35 S 5	HGC 35 S 10
dimension A	mm	374	424	474	574	184	234
dimension B	mm	85	85	85	85	100	100
dimension C1	mm	57	57	57	57	67	47
dimension C2	mm	32	32	32	32	37	37
dimension D	mm	80	80	80	80	80	80
dimension E	mm	20	20	20	20	20	20
dimension F	mm	368	418	468	568	176	226
dimension G	mm	7	7	7	7	9	9
dimension J	threadsize	3 5/16"-12-UN	3 5/16"-12-UN	3 5/16"-12-UN	3 5/16"-12-UN	3 7/8"-12-UN	3 7/8"-12-UN
dimension K	mm	55	55	55	55	55	55
dimension L	threadsize	1 1/2"-16-UN	1 1/2"-16-UN	1 1/2"-16-UN	1 1/2"-16-UN	1 1/2"-16-UN	1 1/2"-16-UN
dimension M	mm	27	27	27	27	27	27
dimension N	mm	60	60	60	60	75	75
dimension O	threadsize	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)
dimension Q	mm	50	50	50	50		50
angle A1	°	90	90	90	90	90	90
angle A2	°						40



**Multi purpose cylinders - Spring return**

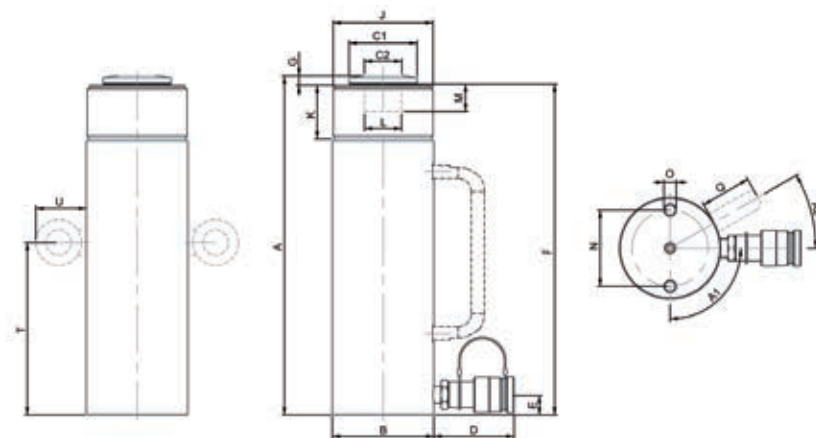


model		HGC 35 S 15	HGC 35 S 20	HGC 50 S 5	HGC 50 S 10	HGC 50 S 15	HGC 50 S 20
art no		100.112.247	100.112.248	100.112.249	100.112.250	100.112.251	100.112.252
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	35	35	50	50	50	50
<b>stroke</b>	<b>mm</b>	150	200	50	100	150	200
<b>closed height</b>	<b>mm</b>	284	334	176	226	276	326
capacity	kN/t	362 / 36.9	362 / 36.9	510 / 52	510 / 52	510 / 52	510 / 52
effective pressure area	cm <sup>2</sup>	50.3	50.3	70.9	70.9	70.9	70.9
required oil content (effective)	cc	754	1005	354	709	1063	1418
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		multi purpose	multi purpose	multi purpose	multi purpose	multi purpose	multi purpose
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	13.5	15.5	15.1	18.9	22.6	26.4

**Multi purpose cylinders - Spring return (dimensions)**



model		HGC 35 S 15	HGC 35 S 20	HGC 50 S 5	HGC 50 S 10	HGC 50 S 15	HGC 50 S 20
dimension A	mm	284	334	176	226	276	326
dimension B	mm	100	100	127	127	127	127
dimension C1	mm	47	47	82	82	82	82
dimension C2	mm	37	37	55	55	55	55
dimension D	mm	80	80	80	80	80	80
dimension E	mm	20	20	25	25	25	25
dimension F	mm	276	326	170	220	270	320
dimension G	mm	9	9	8	8	8	8
dimension J	threadsize	3 7/8"-12-UN	3 7/8"-12-UN	5"-12-UN	5"-12-UN	5"-12-UN	5"-12-UN
dimension K	mm	55	55	57	57	57	57
dimension L	mm			65	65	65	65
dimension L	threadsize	1 1/2"-16-UN	1 1/2"-16-UN				
dimension M	mm	27	27	10	10	10	10
dimension N	mm	75	75	85	85	85	85
dimension O	threadsize	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)
dimension Q	mm	50	50		50	50	
dimension T	mm						180
dimension U	mm						54
angle A1	°	90	90	90	90	90	90
angle A2	°	40			40	40	



**Multi purpose cylinders - Spring return**

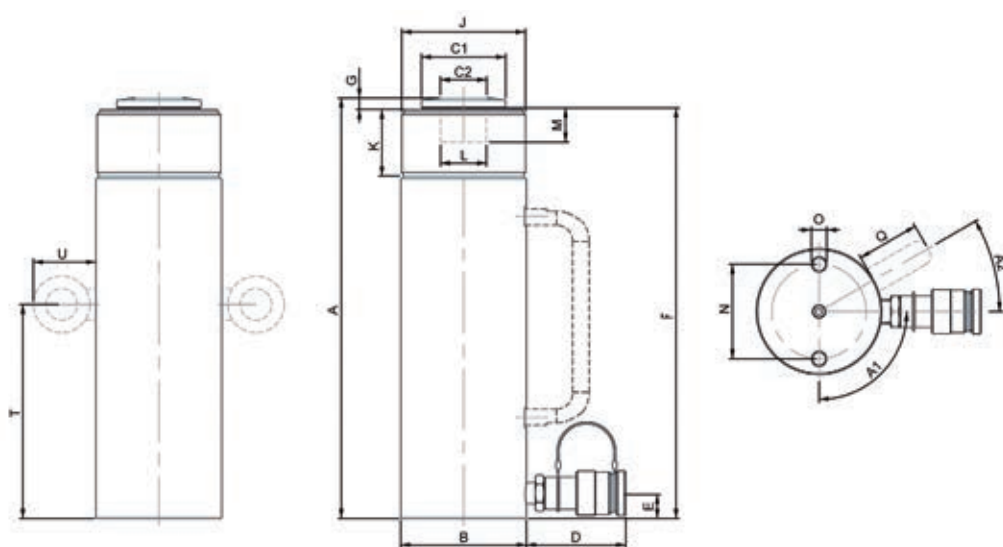


model		HGC 50 S 25	HGC 50 S 35	HGC 75 S 15	HGC 75 S 35	HGC 100 S 5	HGC 100 S 10
art no		100.112.253	100.112.254	100.112.255	100.112.256	100.112.257	100.112.258
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	50	50	75	75	100	100
<b>stroke</b>	<b>mm</b>	250	350	150	350	50	100
<b>closed height</b>	<b>mm</b>	376	476	285	485	218	268
capacity	kN/t	510 / 52	510 / 52	748 / 76.3	748 / 76.3	1031 / 105.1	1031 / 105.1
effective pressure area	cm <sup>2</sup>	70.9	70.9	103.9	103.9	143.1	143.1
required oil content (effective)	cc	1772	2481	1558	3635	716	1431
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		multi purpose	multi purpose	multi purpose	multi purpose	multi purpose	multi purpose
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	30.1	37.5	30.9	50.0	35.3	42.2

**Multi purpose cylinders - Spring return (dimensions)**



model		HGC 50 S 25	HGC 50 S 35	HGC 75 S 15	HGC 75 S 35	HGC 100 S 5	HGC 100 S 10
dimension A	mm	376	476	285	485	218	268
dimension B	mm	127	127	147	147	175	175
dimension C1	mm	82	82	97	97	117	117
dimension C2	mm	55	55	62	62	72	72
dimension D	mm	80	80	80	80	80	80
dimension E	mm	25	25	25	25	30	30
dimension F	mm	370	470	279	479	210	260
dimension G	mm	8	8	8	8	10	10
dimension J	threadsize	5"-12-UN	5"-12-UN	5 3/4"-12-UN	5 3/4"-12-UN	6 7/8"-12-UN	6 7/8"-12-UN
dimension K	mm	57	57	57	57	57	57
dimension L	mm	65	65	75	75	80	80
dimension M	mm	10	10	10	10	10	10
dimension N	mm	85	85	115	115	146	146
dimension O	threadsize	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x18 (2x)	M12x24 (4x)	M12x24 (4x)
dimension T	mm	210	255	165	260	125	150
dimension U	mm	54	54	54	54	54	54
angle A1	°	90	90	90	90	45	45



**Multi purpose cylinders - Spring return**

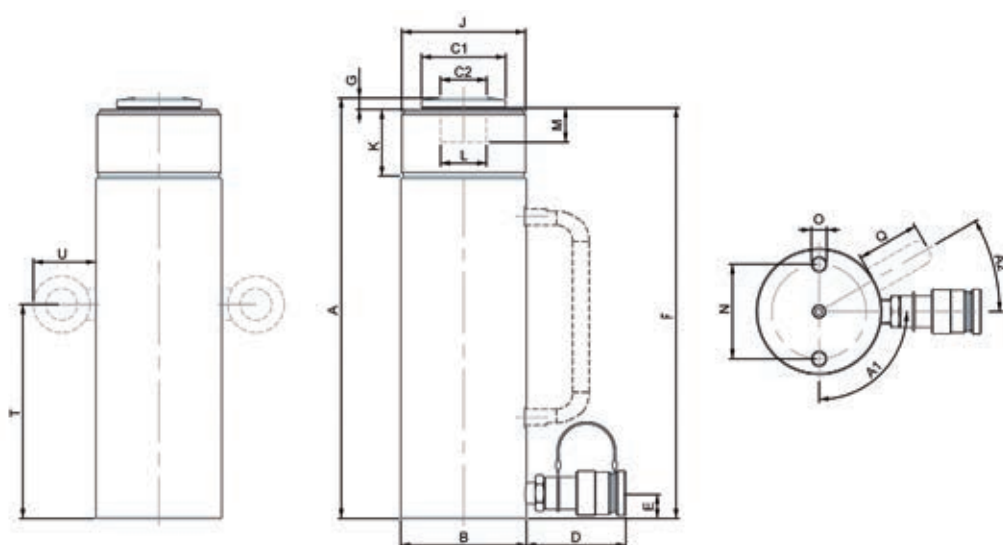


model	<b>HGC 100 S 15</b>		<b>HGC 100 S 25</b>	
art no	100.112.259		100.112.260	
max. working pressure	bar/Mpa	720 / 72	720 / 72	
<b>tonnage</b>	<b>t</b>	100	100	
<b>stroke</b>	<b>mm</b>	150	250	
<b>closed height</b>	<b>mm</b>	318	418	
capacity	kN/t	1031 / 105.1	1031 / 105.1	
effective pressure area	cm <sup>2</sup>	143.1	143.1	
required oil content (effective)	cc	2147	3579	
connection		A 118	A 118	
cylinder type		multi purpose	multi purpose	
acting type		single	single	
return type		spring	spring	
material		steel	steel	
weight, ready for use	kg	50.0	64.1	

**Multi purpose cylinders - Spring return (dimensions)**



model	<b>HGC 100 S 15</b>		<b>HGC 100 S 25</b>	
dimension A	mm	318	418	
dimension B	mm	175	175	
dimension C1	mm	117	117	
dimension C2	mm	72	72	
dimension D	mm	80	80	
dimension E	mm	30	30	
dimension F	mm	310	410	
dimension G	mm	10	10	
dimension J	threadsize	6 7/8"-12-UN	6 7/8"-12-UN	
dimension K	mm	57	57	
dimension L	mm	80	80	
dimension M	mm	10	10	
dimension N	mm	146	146	
dimension O	threadsize	M12x24 (4x)	M12x24 (4x)	
dimension T	mm	175	225	
dimension U	mm	54	54	
angle A1	°	45	45	





**Features & benefits** ↓

- 50% lighter cylinders; easy to work with and better for the welfare of your employees
- Duo Power Ring; seal, bearing and resistance to lateral loads to a maximum of 10% for a longer life span
- The plunger is specially coated with a hardened anodised layer that makes it extremely wear and corrosion resistant
- The XL Saddle optimally protects the plunger and guides the load as effectively as possible
- All cylinders meet the stringent quality requirements that Holmatro enforces for its products
- A range of more than 12 models with different tonnages and stroke lengths
- Almost all cylinders have a handle

**Standard** supplied with ↓

- High Flow female coupler A 118
- Flat saddle

**Available** on request ↓

- Collar thread
- Base mounting holes
- Steel plate for protection of the cylinder bottom
- Cylinders manufactured in conformity with customer specifications

**Additional** information ↓

Aluminium versus steel: aluminium cylinders offer an easy to handle alternative to steel. They should last a lifetime of use in average heavy duty lifting applications. However, aluminium cylinders should NOT be used in high cycle applications. Aluminium cylinders obtained from Holmatro are designed to safely withstand up to 5,000 cycles at their maximum working pressure.

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**Aluminium cylinders - Spring return**

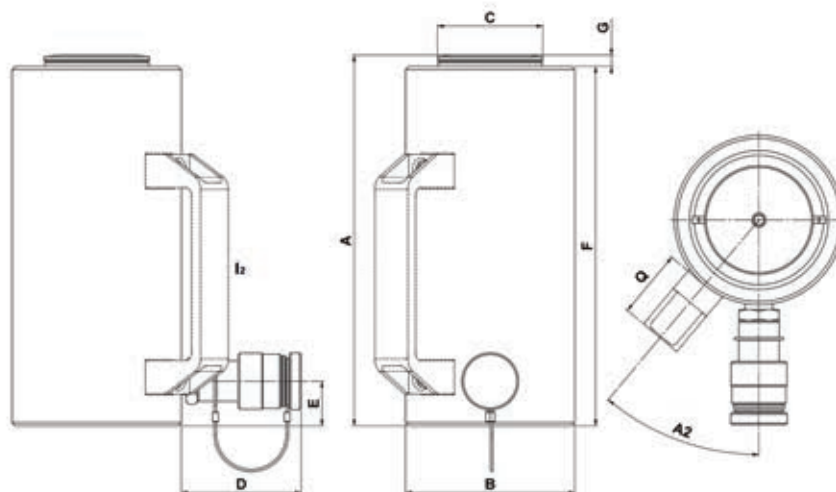


model		HAC 20 S 5	HAC 20 S 10	HAC 20 S 15	HAC 30 S 5	HAC 30 S 10	HAC 30 S 15
art no		100.112.267	100.112.265	100.112.261	100.112.269	100.112.268	100.112.262
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	20	20	20	30	30	30
stroke	mm	50	100	150	50	100	150
closed height	mm	164	214	264	182	232	282
capacity	kN/t	204 / 20.8	204 / 20.8	204 / 20.8	318.1 / 32.4	318.1 / 32.4	318.1 / 32.4
effective pressure area	cm <sup>2</sup>	28.3	28.3	28.3	44.2	44.2	44.2
required oil content (effective)	cc	141	283	424	221	442	663
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		standard	standard	standard	standard	standard	standard
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		aluminium	aluminium	aluminium	aluminium	aluminium	aluminium
weight, ready for use	kg	2.6	3.2	3.9	4.7	5.9	7.0

**Aluminium cylinders - Spring return (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
dimension A	mm	164	214	264	182	232	282
dimension B	mm	82	82	82	106	106	106
dimension C	mm	52	52	52	66	66	66
dimension D	mm	76	76	76	76	76	76
dimension E	mm	25	25	25	28	28	28
dimension F	mm	157	207	257	175	225	275
dimension G	mm	7	7	7	7	7	7
dimension Q	mm					43	43
angle A2	°					40	40
l type						l <sub>2</sub>	l <sub>2</sub>

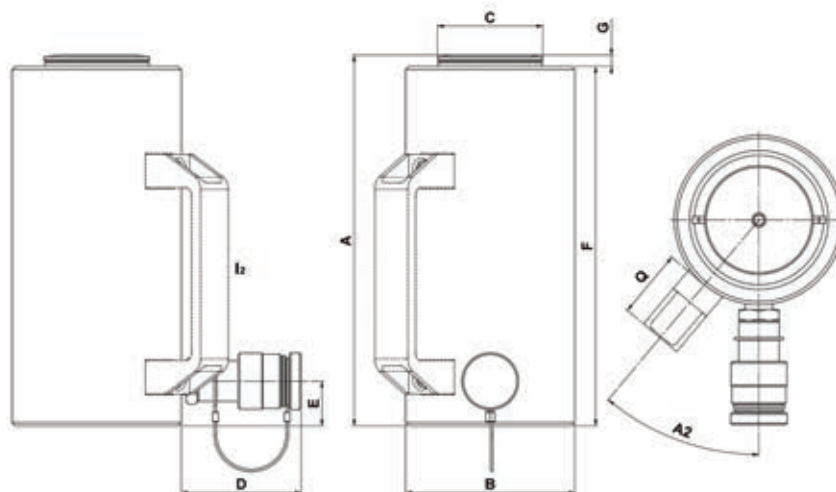


**Aluminium cylinders - Spring return**


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		100.112.271	100.112.270	100.112.263	100.112.273	100.112.272	100.112.264
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	50	50	50	100	100	100
<b>stroke</b>	<b>mm</b>	50	100	150	50	100	150
<b>closed height</b>	<b>mm</b>	183	233	283	225	275	325
capacity	kN/t	510.4 / 52	510.4 / 52	510.4 / 52	1030.6 / 105.1	1030.6 / 105.1	1030.6 / 105.1
effective pressure area	cm <sup>2</sup>	70.9	70.9	70.9	143	143	143
required oil content (effective)	cc	354	709	1063	716	1431	2147
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		standard	standard	standard	standard	standard	standard
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		aluminium	aluminium	aluminium	aluminium	aluminium	aluminium
weight, ready for use	kg	6.9	8.3	9.6	17.8	20.9	24.1

**Aluminium cylinders - Spring return (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
dimension A	mm	183	233	283	225	275	325
dimension B	mm	130	130	130	189	189	189
dimension C	mm	72	72	72	107	107	107
dimension D	mm	76	76	76	76	76	76
dimension E	mm	30	30	30	35	35	35
dimension F	mm	175	225	275	217	321	317
dimension G	mm	8	8	8	8	8	8
dimension Q	mm		44	44	44	44	44
angle A2	°		40	40	40	40	40
l type			l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>







**Features & benefits** ↓

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- The plunger is specially coated with a hardened anodised layer that makes it extremely wear and corrosion resistant
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- A range of more than 24 models with different tonnages and stroke lengths
- Almost all cylinders have a handle

**Standard** supplied with ↓

- High Flow female coupler A 118
- Flat saddle

**Available** on request ↓

- Collar thread
- Base mounting holes
- Steel plate for protection of the cylinder bottom
- Cylinders manufactured in conformity with customer specifications

**Additional** information ↓

Aluminium versus steel: aluminium cylinders offer an easy to handle alternative to steel. They should last a lifetime of use in average heavy duty lifting applications. However, aluminium cylinders should NOT be used in high cycle applications. Aluminium cylinders obtained from Holmatro are designed to safely withstand up to 5,000 cycles at their maximum working pressure.

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Pressure gauges	page	174

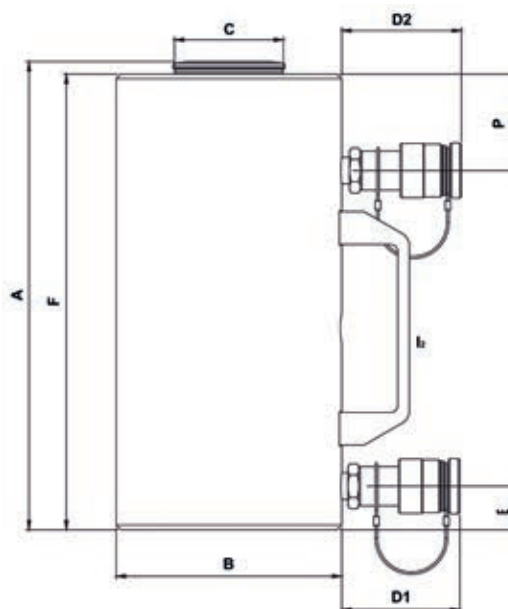


**Aluminium cylinders - Hydraulic return**


model		HAC 30 H 5	HAC 30 H 10	HAC 30 H 15	HAC 30 H 20	HAC 30 H 25	HAC 30 H 30
art no		100.122.086	100.122.085	100.122.080	100.122.079	100.122.103	100.122.060
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	30	30	30	30	30	30
stroke	mm	50	100	150	200	250	300
closed height	mm	197	247	297	347	397	447
capacity	kN/t	318.1 / 32.4	318.1 / 32.4	318.1 / 32.4	318.1 / 32.4	318.1 / 32.4	318.1 / 32.4
effective pressure area (press)	cm <sup>2</sup>	44.2	44.2	44.2	44.2	44.2	44.2
effective pressure area (retract)	cm <sup>2</sup>	11	11	11	11	11	11
required oil content (press)	cc	221	442	663	884	1105	1325
required oil content (retract)	cc	55	110	165	220	275	330
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		standard	standard	standard	standard	standard	standard
acting type		double	double	double	double	double	double
return type		hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
material		aluminium	aluminium	aluminium	aluminium	aluminium	aluminium
weight, ready for use	kg	6.9	8.5	10.2	11.6	13.2	14.7

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


model		HAC 30 H 5	HAC 30 H 10	HAC 30 H 15	HAC 30 H 20	HAC 30 H 25	HAC 30 H 30
dimension A	mm	197	247	297	347	397	447
dimension B	mm	125	125	125	125	125	125
dimension C	mm	65	65	65	65	65	65
dimension D1	mm	76	76	76	76	76	76
dimension D2	mm	76	76	76	76	76	76
dimension E	mm	28	28	28	28	28	28
dimension F	mm	191.1	241.5	291.5	341.5	391.5	441.5
dimension P	mm	72	72	72	72	72	72
l type				l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>

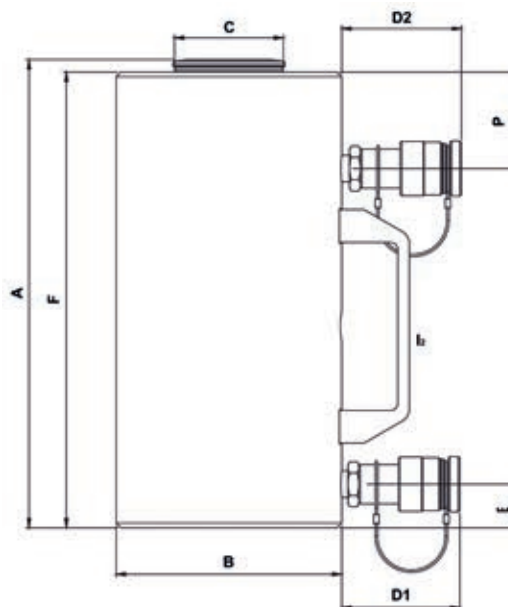


**Aluminium cylinders - Hydraulic return**


model		HAC 50 H 5	HAC 50 H 10	HAC 50 H 15	HAC 50 H 20	HAC 50 H 25	HAC 50 H 30
art no		100.122.095	100.122.108	100.122.097	100.122.098	100.122.099	100.122.100
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	50	50	50	50	50	50
stroke	mm	50	100	150	200	250	300
closed height	mm	201	251	301	351	401	451
capacity	kN/t	510.4 / 52	510.4 / 52	510.4 / 52	510.4 / 52	510.4 / 52	510.4 / 52
effective pressure area (press)	cm <sup>2</sup>	70.9	70.9	70.9	70.9	70.9	70.9
effective pressure area (retract)	cm <sup>2</sup>	32.4	32.4	32.4	32.4	32.4	32.4
required oil content (press)	cc	354	709	1063	1418	1772	2127
required oil content (retract)	cc	162	324	486	648	810	972
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		standard	standard	standard	standard	standard	standard
acting type		double	double	double	double	double	double
return type		hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
material		aluminium	aluminium	aluminium	aluminium	aluminium	aluminium
weight, ready for use	kg	9.5	11.5	13.3	15.4	17.4	19.3

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


model		HAC 50 H 5	HAC 50 H 10	HAC 50 H 15	HAC 50 H 20	HAC 50 H 25	HAC 50 H 30
dimension A	mm	201	251	301	351	401	451
dimension B	mm	145	145	145	145	145	145
dimension C	mm	70	70	70	70	70	70
dimension D1	mm	76	76	76	76	76	76
dimension D2	mm	76	76	76	76	76	76
dimension E	mm	28	28	28	28	28	28
dimension F	mm	193	243	293	343	393	443
dimension P	mm	72	72	72	72	72	72
l type			l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>

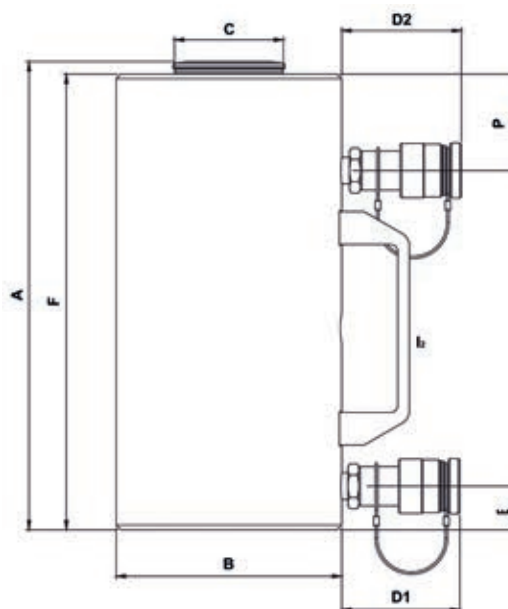


**Aluminium cylinders - Hydraulic return**


model		HAC 100 H 5	HAC 100 H 10	HAC 100 H 15	HAC 100 H 20	HAC 100 H 25	HAC 100 H 30
art no		100.122.094	100.122.109	100.122.107	100.122.088	100.122.089	100.122.090
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	100	100	100	100	100	100
stroke	mm	50	100	150	200	250	300
closed height	mm	246	296	346	396	446	496
capacity	kN/t	1030.6 / 105.1	1030.6 / 105.1	1030.6 / 105.1	1030.6 / 105.1	1030.6 / 105.1	1030.6 / 105.1
effective pressure area (press)	cm <sup>2</sup>	143.1	143.1	143.1	143.1	143.1	143.1
effective pressure area (retract)	cm <sup>2</sup>	56.5	56.5	56.5	56.5	56.5	56.5
required oil content (press)	cc	716	1431	2147	2863	3579	4294
required oil content (retract)	cc	283	565	848	1131	1414	1696
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		standard	standard	standard	standard	standard	standard
acting type		double	double	double	double	double	double
return type		hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
material		aluminium	aluminium	aluminium	aluminium	aluminium	aluminium
weight, ready for use	kg	19.7	23.0	26.8	29.9	33.2	36.6

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


model		HAC 100 H 5	HAC 100 H 10	HAC 100 H 15	HAC 100 H 20	HAC 100 H 25	HAC 100 H 30
dimension A	mm	246	296	346	396	446	496
dimension B	mm	195	195	195	195	195	195
dimension C	mm	105	105	105	105	105	105
dimension D1	mm	76	76	76	76	76	76
dimension D2	mm	76	76	76	76	76	76
dimension E	mm	35	35	35	35	35	35
dimension F	mm	235	285	335	385	435	485
dimension P	mm	72	72	72	72	72	72
l type		l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>

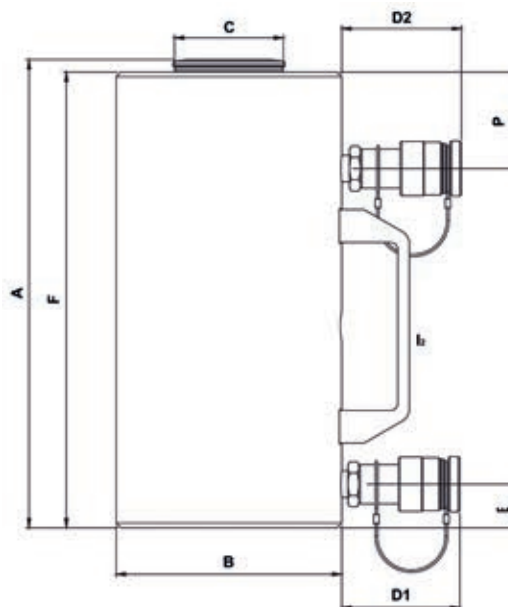


**Aluminium cylinders - Hydraulic return**


model		HAC 150 H 5	HAC 150 H 10	HAC 150 H 15	HAC 150 H 20	HAC 150 H 25	HAC 150 H 30
art no		100.122.075	100.122.074	100.122.073	100.122.070	100.122.069	100.122.064
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	150	150	150	150	150	150
stroke	mm	50	100	150	200	250	300
closed height	mm	248	298	348	398	448	498
capacity	kN/t	1539.5 / 157	1539.5 / 157	1539.5 / 157	1539.5 / 157	1539.5 / 157	1539.5 / 157
effective pressure area (press)	cm <sup>2</sup>	213.8	213.8	213.8	213.8	213.8	213.8
effective pressure area (retract)	cm <sup>2</sup>	91.1	91.1	91.1	91.1	91.1	91.1
required oil content (press)	cc	1069	2138	3207	4277	5346	6415
required oil content (retract)	cc	456	911	1367	1822	2278	2733
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		standard	standard	standard	standard	standard	standard
acting type		double	double	double	double	double	double
return type		hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
material		aluminium	aluminium	aluminium	aluminium	aluminium	aluminium
weight, ready for use	kg	27.7	32.3	38.0	41.5	46.1	50.6

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


model		HAC 150 H 5	HAC 150 H 10	HAC 150 H 15	HAC 150 H 20	HAC 150 H 25	HAC 150 H 30
dimension A	mm	248	298	348	398	448	498
dimension B	mm	235	235	235	235	235	235
dimension C	mm	125	125	125	125	125	125
dimension D1	mm	76	76	76	76	76	76
dimension D2	mm	76	76	76	76	76	76
dimension E	mm	35	35	35	35	35	35
dimension F	mm	240	290	340	390	440	490
dimension P	mm	72	72	72	72	72	72
l type		l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>







**Features & benefits** ↓

- Compact, flat version, efficient in case of limited insertion space
- Usable in all positions
- Standard provided with fixing holes for easy assembly
- Protected against ejection of the plunger
- Dirt scraper ring
  - Protects against pollution
  - Increases the life span
- Splined plunger, no saddle needed

**Standard** supplied with ↓

- High Flow female coupler A 118

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



Standard provided with fixing holes for easy assembly



Splined plunger, no saddle needed

**Flat cylinders - Spring return**

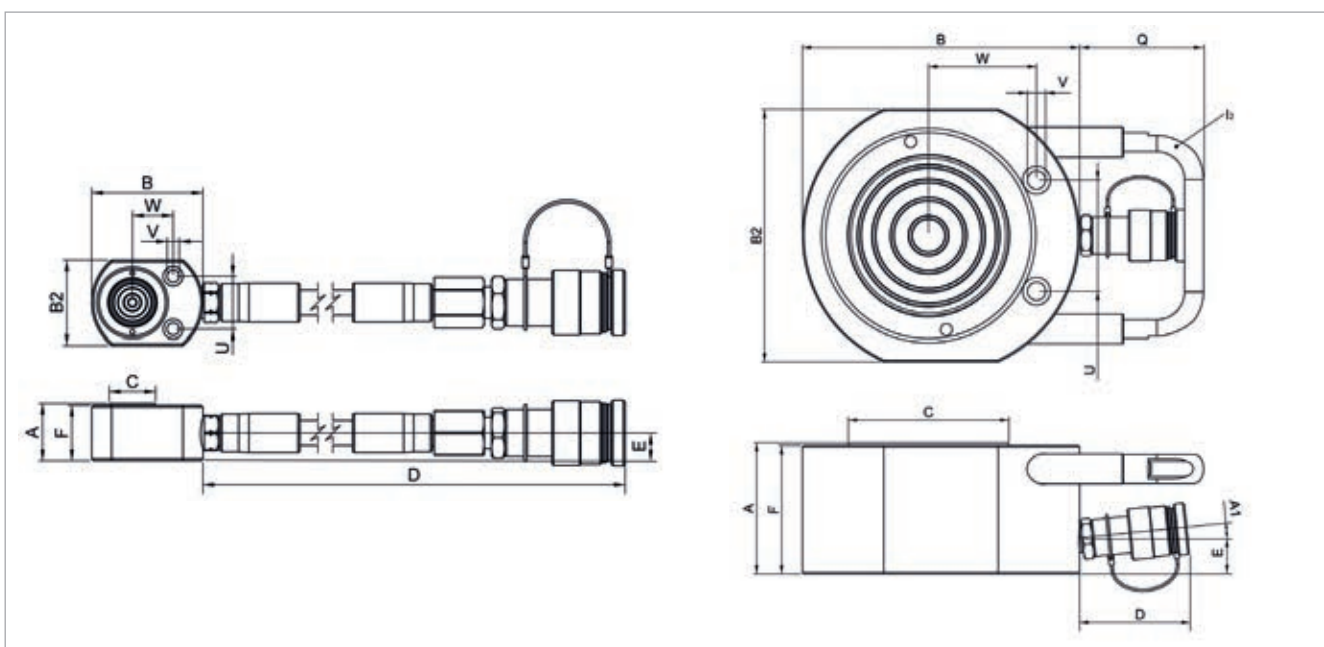


model		HFC 5 S 0.5	HFC 5 S 1.5	HFC 10 S 1.5	HFC 20 S 1.5	HFC 30 S 0.5	HFC 30 S 1.5
art no		100.112.290	100.112.291	100.112.292	100.112.293	100.112.294	100.112.295
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	5	5	10	20	30	30
<b>stroke</b>	<b>mm</b>	5	15	15	15	5	15
<b>closed height</b>	<b>mm</b>	31	44	46	55	50	60
capacity	kN/t	50.9 / 5.2	50.9 / 5.2	99.8 / 10.2	203.6 / 20.8	318.1 / 32.4	318.1 / 32.4
effective pressure area	cm <sup>2</sup>	7.1	7.1	13.9	28.3	44.2	44.2
required oil content (effective)	cc	4	11	28.8	42.4	22	66.3
connection		A 118	A 118	A 118	A 118	A 118	A 118
hose		yes					
cylinder type		flat	flat	flat	flat	flat	flat
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	1.2	1.0	1.6	2.9	3.6	4.2

**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
dimension A	mm	31	44	46	55	50	60
dimension B	mm	60	60	85	100	116	116
dimension B2	mm	46	46	55	80	95	95
dimension C	mm	25	25	36	55	62	62
dimension D	mm	362	77	76	77	77	77
dimension E	mm	15	15	19	19	19	19
dimension F	mm	30	43	46	54	48	58
dimension U	mm	29	29	37	49	52	52
dimension V	mm	7	7	7	9	11	11
dimension W	mm	55	22	34	39	44	44
angle A1	°		5		5	5	5



**Flat cylinders - Spring return**

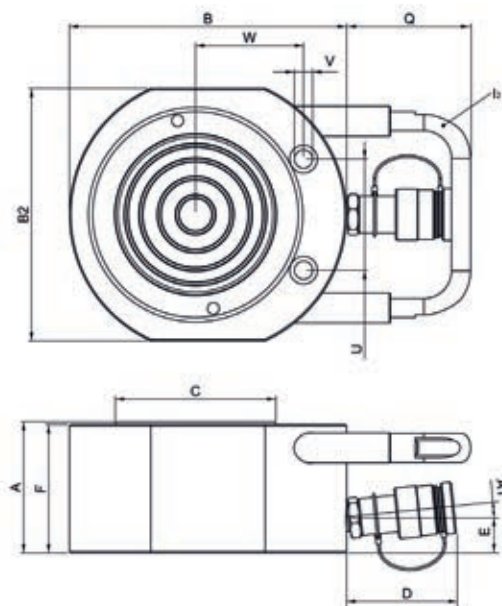


model		HFC 50 S 1.5	HFC 75 S 1.5	HFC 100 S 1.5	HFC 150 S 1.5
art no		100.112.296	100.112.297	100.112.298	100.112.299
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	50	75	100	150
<b>stroke</b>	<b>mm</b>	15	15	15	15
<b>closed height</b>	<b>mm</b>	71	80	90	100
capacity	kN/t	510.4 / 52	747.9 / 76.3	1030.5 / 105.1	1447.6 / 147.6
effective pressure area	cm <sup>2</sup>	70.9	103.9	143.1	201.1
required oil content (effective)	cc	106	156	215	302
connection		A 118	A 118	A 118	A 118
cylinder type		flat	flat	flat	flat
acting type		single	single	single	single
return type		spring	spring	spring	spring
material		steel	steel	steel	steel
weight, ready for use	kg	7.0	11.0	18.1	25.7

**Flat cylinders - Spring return (dimensions)**



model		HFC 50 S 1.5	HFC 75 S 1.5	HFC 100 S 1.5	HFC 150 S 1.5
dimension A	mm	71	80	90	100
dimension B	mm	140	165	190	215
dimension B2	mm	119	144	173	200
dimension C	mm	75	80	110	125
dimension D	mm	77	76	76	76
dimension E	mm	19	19	19	24
dimension F	mm	68	77	86	96
dimension Q	mm			85	71
dimension U	mm	67	76	76	117
dimension V	mm	13	13	13	13
dimension W	mm	53	66	74	82
angle A1	°	5			
I type				l <sub>2</sub>	l <sub>2</sub>



holmatro





**Features & benefits** ↓

- Compact, flat version, efficient in case of limited insertion space
- Usable in all positions
- Protected against ejection of the plunger
- Dirt scraper ring
  - Protects against pollution
  - Increases the life span
- Splined plunger, no saddle needed

**Standard** supplied with ↓

- High Flow female coupler A 118

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Collar thread
- Base mounting holes

Hydraulic pumps	page	143
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Pressure gauges	page	174



Splined plunger, no saddle needed



**Short stroke cylinders - Spring return**

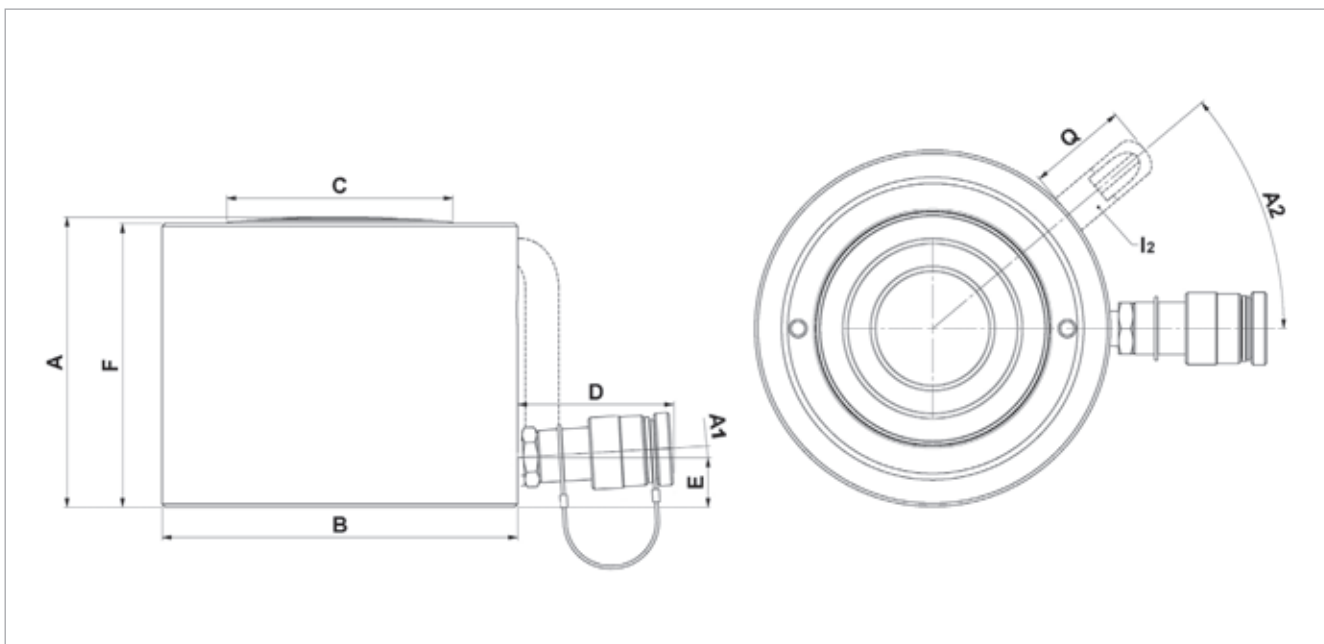


model		HSC 10 S 5	HSC 20 S 5	HSC 30 S 5	HSC 50 S 5	HSC 100 S 5
art no		100.112.300	100.112.301	100.112.302	100.112.303	100.112.304
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	10	20	30	50	100
<b>stroke</b>	<b>mm</b>	50	50	50	50	50
<b>closed height</b>	<b>mm</b>	100	103	106	117	141
capacity	kN/t	99.8 / 10.2	203.6 / 20.8	318.1 / 32.4	510.4 / 52	1030.6 / 105.1
effective pressure area	cm <sup>2</sup>	13.9	28.3	44.2	70.9	143.1
required oil content (effective)	cc	69.3	141.4	221	354	716
connection		A 118	A 118	A 118	A 118	A 118
cylinder type		short stroke	short stroke	short stroke	short stroke	short stroke
acting type		single	single	single	single	single
return type		spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel
weight, ready for use	kg	2.9	5.5	6.1	9.7	22.2

**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
dimension A	mm	100	103	106	117	141
dimension B	mm	70	98	104	128	173
dimension C	mm	36	50	62	75	110
dimension D	mm	77	77	76	76	76
dimension E	mm	15	15	19	19	24
dimension F	mm	99	102	104	116	139
dimension Q	mm					49
angle A1	°	5	5			
angle A2	°					40
l type						l <sub>2</sub>





**Features & benefits** ↓

- Compact
- Lightweight
- Usable in all positions
- Protected against ejection of the plunger

**Standard** supplied with ↓

- High Flow female coupler A 118
- HFJ 10/30 G 4 contains a 30 cm connecting hose with anti-kink spring
- HJ 20/50 G 11 contains a flat saddle

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Base mounting holes

Hydraulic pumps	page	143
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Protected against ejection of the plunger



**Telescopic cylinders - Gravity return**

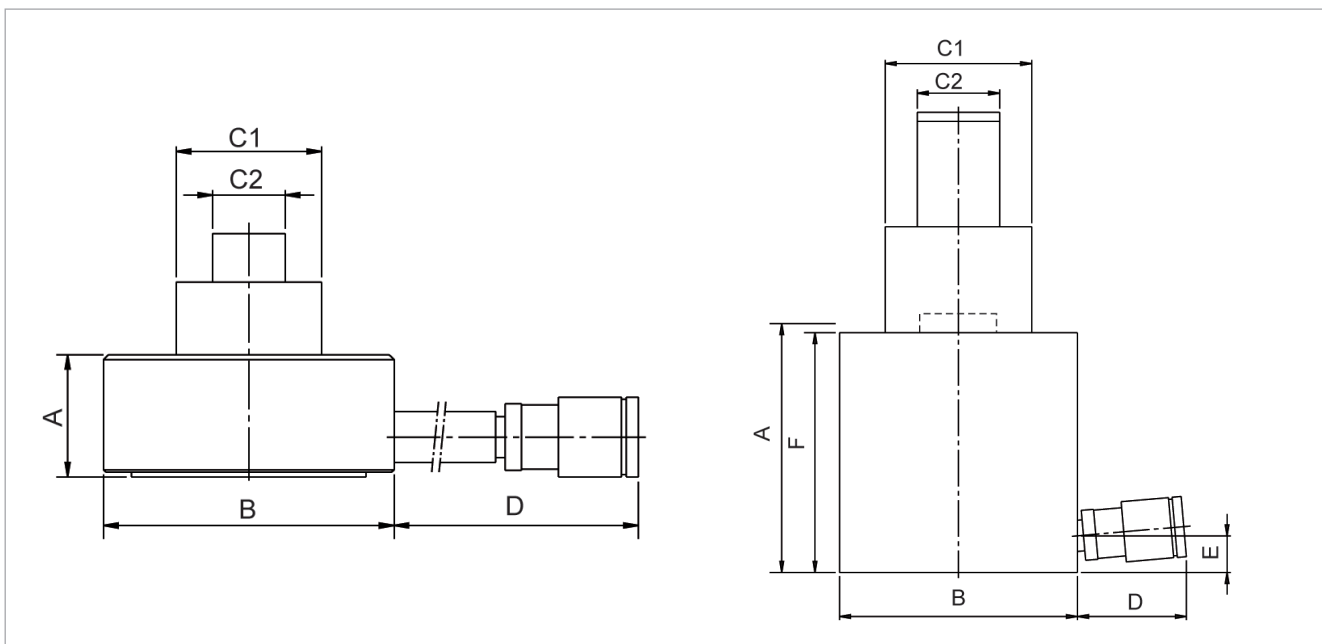


model		HFJ 10/30 G 4	HJ 20/50 G 11
art no		100.111.005	100.112.103
max. working pressure	bar/Mpa	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	10	20
<b>stroke</b>	<b>mm</b>	41	111
<b>stroke 1st plunger</b>	<b>mm</b>	21	56
<b>stroke 2nd plunger</b>	<b>mm</b>	20	55
<b>closed height</b>	<b>mm</b>	49	140
capacity 1st plunger	kN/t	318 / 32.4	510 / 52
capacity 2nd plunger	kN/t	99.7 / 10.2	203.5 / 20.8
effective pressure area 1st plunger	cm <sup>2</sup>	44.2	70.8
effective pressure area 2nd plunger	cm <sup>2</sup>	13.9	28.3
required oil content (effective)	cc	118	554
connection		A 118	A 118
hose		yes	
cylinder type		telescopic	telescopic
acting type		single	single
return type		gravity	gravity
material		steel	steel
weight, ready for use	kg	4.5	12.5

**Telescopic cylinders - Gravity return (dimensions)**



model		HFJ 10/30 G 4	HJ 20/50 G 11
dimension A	mm	49	140
dimension B	mm	120	125
dimension C1	mm	60	80
dimension C2	mm	30	45
dimension D	mm	385	70
dimension E	mm		70
dimension F	mm		131





**Features & benefits** ↓

- Usable in all positions
- Protected against ejection of the plunger
- Flat saddle
  - Prevents damage to the plunger
  - Easy to replace with tilting saddle

**Standard** supplied with ↓

- High Flow female coupler A 118
- Flat saddle

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Collar thread
- Base mounting holes

Tilting saddles	page	95
Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



Flat saddle

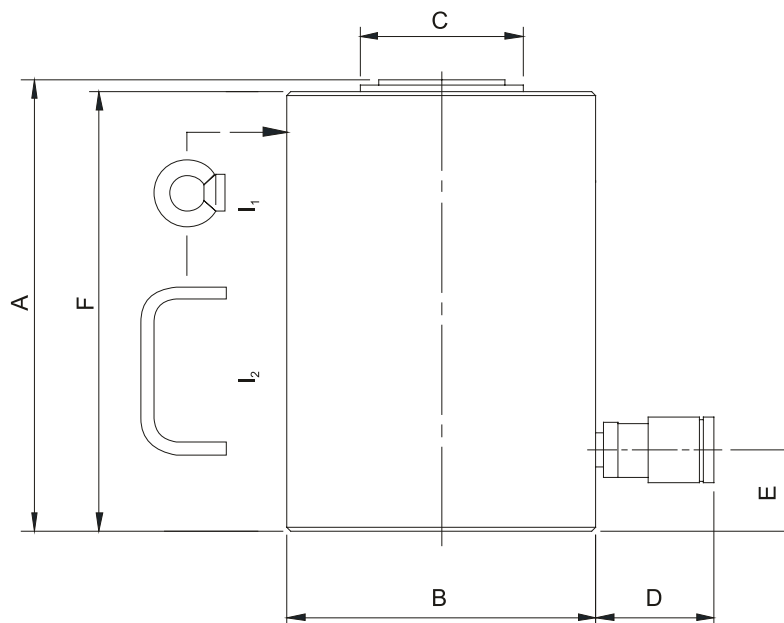


**High tonnage cylinders - Gravity return**


model		HJ 50 G 6	HJ 50 G 15	HJ 50 G 30	HJ 75 G 15	HJ 75 G 30	HJ 100 G 6
art no		100.112.073	100.112.035	100.112.036	100.112.037	100.112.038	100.112.093
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	50	50	50	75	75	100
<b>stroke</b>	<b>mm</b>	60	150	300	150	300	60
<b>closed height</b>	<b>mm</b>	142	282	463	347	497	158
capacity	kN/t	510.3 / 52	510.3 / 52	510.3 / 52	747.9 / 76.3	747.9 / 76.3	1029.3 / 105
effective pressure area	cm <sup>2</sup>	70.9	70.9	70.9	103.9	103.9	143
required oil content (effective)	cc	425	1064	2127	1559	3117	860
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		high tonnage	high tonnage	high tonnage	high tonnage	high tonnage	high tonnage
acting type		single	single	single	single	single	single
return type		gravity	gravity	gravity	gravity	gravity	gravity
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	12.5	27.0	39.5	46.0	63.0	29.0

**High tonnage cylinders - Gravity return (dimensions)**


model		HJ 50 G 6	HJ 50 G 15	HJ 50 G 30	HJ 75 G 15	HJ 75 G 30	HJ 100 G 6
dimension A	mm	142	282	463	347	497	158
dimension B	mm	130	130	130	156	156	185
dimension C	mm	80	80	80	80	80	105
dimension D	mm	70	70	70	70	70	70
dimension E	mm	20	25	38	47	47	27
dimension F	mm	135	275	456	340	490	151
I type			l <sub>2</sub>	l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>2</sub>

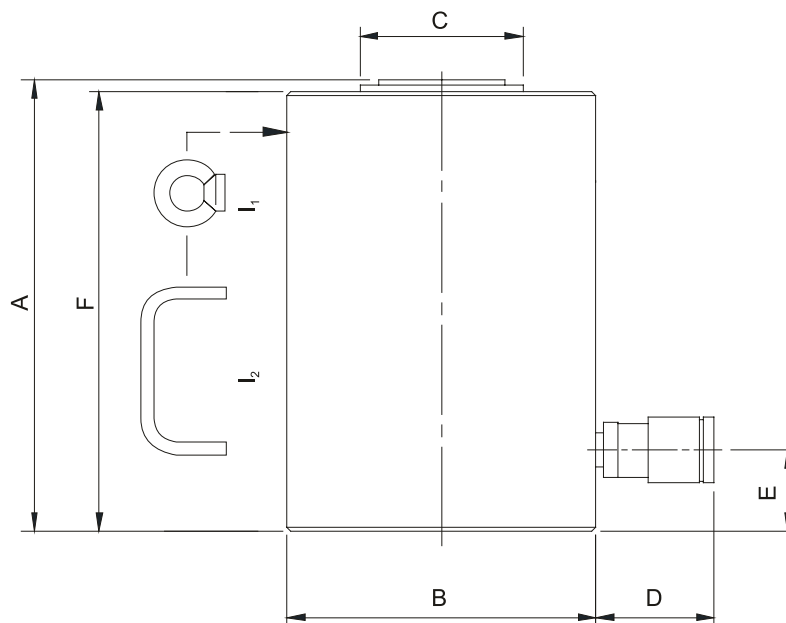


**High tonnage cylinders - Gravity return**


model		HJ 100 G 15	HJ 100 G 30	HJ 150 G 15	HJ 150 G 30	HJ 200 G 15	HJ 200 G 30
art no		100.112.039	100.112.040	100.112.046	100.112.047	100.112.048	100.112.049
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	100	100	150	150	200	200
<b>stroke</b>	<b>mm</b>	150	300	150	300	150	300
<b>closed height</b>	<b>mm</b>	309	497	317	502	327	507
capacity	kN/t	1029.3 / 105	1029.3 / 105	1538.9 / 156.9	1538.9 / 156.9	2040.6 / 208.1	2040.6 / 208.1
effective pressure area	cm <sup>2</sup>	143	143	213.8	213.8	283.5	283.5
required oil content (effective)	cc	2145	4290	3207	6414	4253	8505
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		high tonnage	high tonnage	high tonnage	high tonnage	high tonnage	high tonnage
acting type		single	single	single	single	single	single
return type		gravity	gravity	gravity	gravity	gravity	gravity
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	51.0	82.0	74.6	125.3	120.0	184.0

**High tonnage cylinders - Gravity return (dimensions)**


model		HJ 100 G 15	HJ 100 G 30	HJ 150 G 15	HJ 150 G 30	HJ 200 G 15	HJ 200 G 30
dimension A	mm	309	497	317	502	327	507
dimension B	mm	178	178	227	227	261	261
dimension C	mm	105	105	115	115	160	160
dimension D	mm	70	70	70	70	70	70
dimension E	mm	52	52	57	57	60	60
dimension F	mm	302	490	310	495	320	500
I type		I <sub>1</sub>	I <sub>1</sub>	I <sub>1</sub>	I <sub>1</sub>	I <sub>1</sub>	I <sub>1</sub>



**High tonnage cylinders - Gravity return**

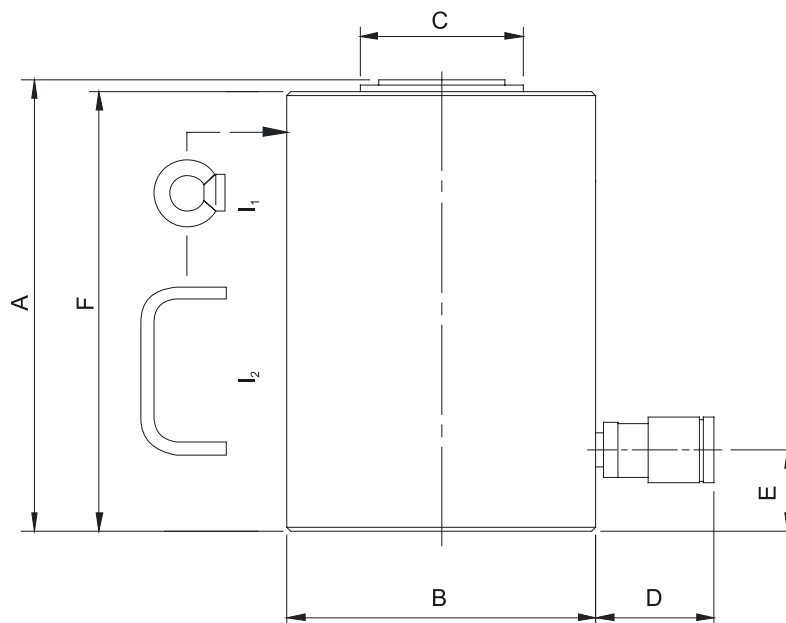


model		HJ 300 G 15	HJ 300 G 30	HJ 400 G 15	HJ 400 G 30	HJ 500 G 15	HJ 500 G 30
art no		100.112.050	100.112.099	100.112.100	100.112.056	100.112.139	100.112.138
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	300	300	400	400	500	500
<b>stroke</b>	<b>mm</b>	150	300	150	300	150	300
<b>closed height</b>	<b>mm</b>	382	547	402	572	442	587
capacity	kN/t	2933 / 299.1	2933 / 299.1	3750 / 382.4	3750 / 382.4	4994 / 509.2	4994 / 509.2
effective pressure area	cm <sup>2</sup>	415	415	530	530	707	707
required oil content (effective)	cc	6225	12450	7950	15900	10605	21210
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		high tonnage	high tonnage	high tonnage	high tonnage	high tonnage	high tonnage
acting type		single	single	single	single	single	single
return type		gravity	gravity	gravity	gravity	gravity	gravity
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	238.0	257.0	322.0	408.0	386.0	511.0

**High tonnage cylinders - Gravity return (dimensions)**



model		HJ 300 G 15	HJ 300 G 30	HJ 400 G 15	HJ 400 G 30	HJ 500 G 15	HJ 500 G 30
dimension A	mm	382	547	402	572	442	587
dimension B	mm	316	316	358	358	412	412
dimension C	mm	190	190	200	200	210	210
dimension D	mm	70	70	70	70	70	70
dimension E	mm	70	70	76	76	85	85
dimension F	mm	370	540	395	565	435	580
I type		I <sub>1</sub>	I <sub>1</sub>	I <sub>1</sub>	I <sub>1</sub>	I <sub>1</sub>	I <sub>1</sub>





**Features & benefits** ↓

- 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

**Standard** supplied with ↓

- High Flow female coupler A 118
- Flat saddle

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Collar thread
- Base mounting holes

Tilting saddles	page	95
Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



Protected against overpressure on return side



**High tonnage cylinders - Hydraulic return**

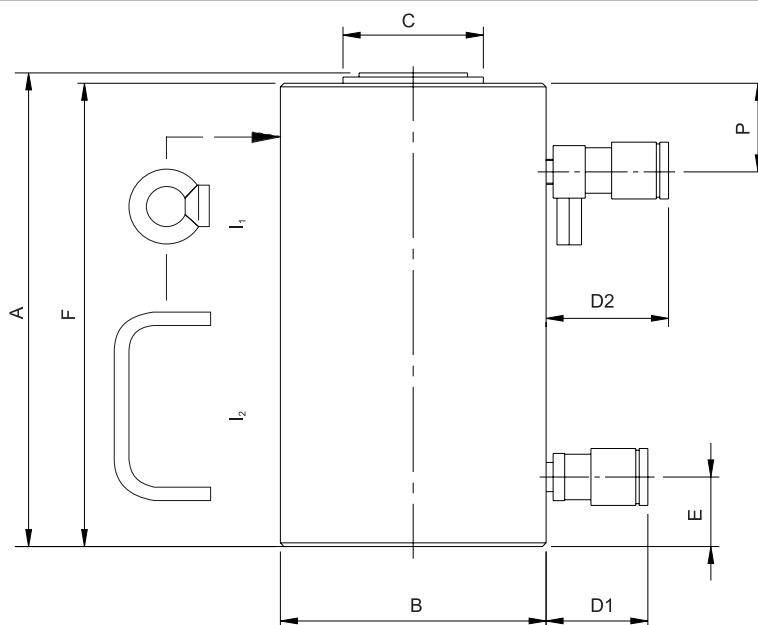


model	HJ 50 H 15	HJ 50 H 30	HJ 75 H 15	HJ 75 H 30	HJ 100 H 5	HJ 100 H 15
art no	100.122.002	100.122.022	100.122.003	100.122.004	100.122.009	100.122.052
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	50	50	75	75	100
<b>stroke</b>	<b>mm</b>	150	300	150	300	50
<b>closed height</b>	<b>mm</b>	282	463	347	497	170
capacity	kN/t	510.3 / 52	510.3 / 52	747.9 / 76.3	747.9 / 76.3	1029.3 / 105
effective pressure area (press)	cm <sup>2</sup>	70.9	70.9	103.9	103.9	143
effective pressure area (retract)	cm <sup>2</sup>	20.6	20.6	53.6	53.6	56.6
required oil content (press)	cc	1064	2127	1559	3117	716
required oil content (retract)	cc	309	620	755	1509	283
connection		A 118	A 118	A 118	A 118	A 118
cylinder type		high tonnage	high tonnage	high tonnage	high tonnage	high tonnage
acting type		double	double	double	double	double
return type		hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
material		steel	steel	steel	steel	steel
weight, ready for use	kg	27.0	44.0	46.0	63.0	29.0

**High tonnage cylinders - Hydraulic return (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
dimension A	mm	282	463	347	497	163
dimension B	mm	130	130	156	156	178
dimension C	mm	80	80	80	80	105
dimension D1	mm	70	70	70	70	70
dimension D2	mm	85	85	85	85	85
dimension E	mm	25	38	47	47	52
dimension F	mm	275	456	340	490	163
dimension P	mm	70	70	83	83	52
l type		l <sub>2</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>



**High tonnage cylinders - Hydraulic return**

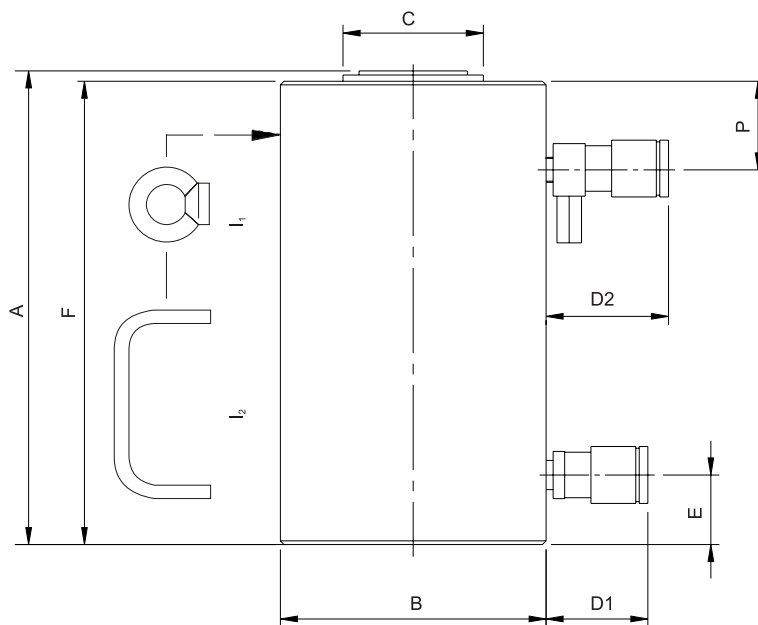


model	HJ 100 H 30	HJ 150 H 15	HJ 150 H 30	HJ 200 H 15	HJ 200 H 30	HJ 300 H 15
art no	100.122.054	100.122.061	100.122.062	100.122.071	100.122.072	100.122.084
max. working pressure	bar/Mpa 720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b> 100	150	150	200	200	300
<b>stroke</b>	<b>mm</b> 300	150	300	150	300	150
<b>closed height</b>	<b>mm</b> 497	317	502	327	507	382
capacity	kN/t 1029.3 / 105	1538.9 / 156.9	1538.9 / 156.9	2040.6 / 208.1	2040.6 / 208.1	2933 / 299.1
effective pressure area (press)	cm <sup>2</sup> 143	213.8	213.8	283.5	283.5	415.5
effective pressure area (retract)	cm <sup>2</sup> 56.6	110	110	82.5	82.5	131.9
required oil content (press)	cc 4290	3207	6414	4253	8505	6225
required oil content (retract)	cc 1695	1650	3300	1238	2475	1965
connection	A 118	A 118	A 118	A 118	A 118	A 118
cylinder type	high tonnage	high tonnage	high tonnage	high tonnage	high tonnage	high tonnage
acting type	double	double	double	double	double	double
return type	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
material	steel	steel	steel	steel	steel	steel
weight, ready for use	kg 85.0	76.0	128.0	121.0	186.0	240.0

**High tonnage cylinders - Hydraulic return (dimensions)**



model	HJ 100 H 30	HJ 150 H 15	HJ 150 H 30	HJ 200 H 15	HJ 200 H 30	HJ 300 H 15
dimension A	mm 497	317	502	327	507	382
dimension B	mm 178	227	227	261	261	316
dimension C	mm 105	115	115	160	160	190
dimension D1	mm 70	70	70	70	70	70
dimension D2	mm 85	85	85	85	85	85
dimension E	mm 52	57	57	60	60	80
dimension F	mm 490	310	495	320	500	370
dimension P	mm 70	55	70	60	70	75
l type	l <sub>r</sub>	l <sub>r</sub>	l <sub>r</sub>	l <sub>r</sub>	l <sub>r</sub>	l <sub>r</sub>

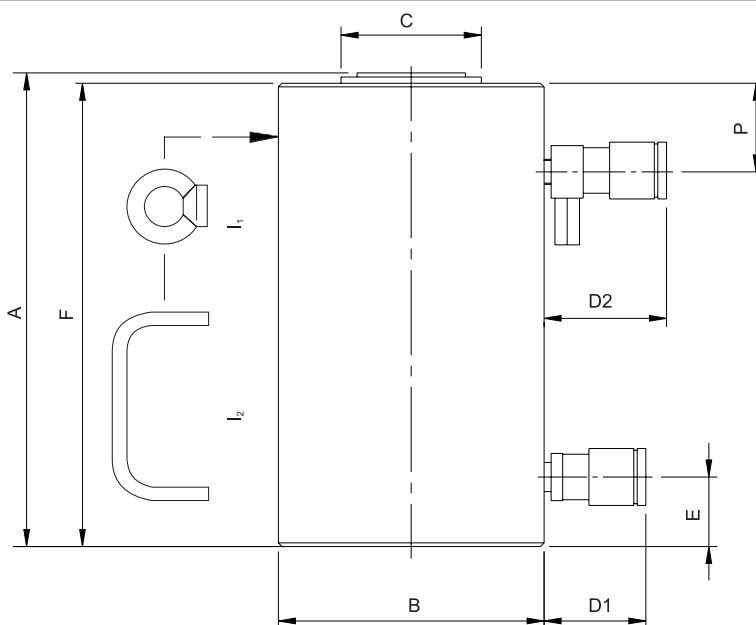


**High tonnage cylinders - Hydraulic return**


model	HJ 300 H 30	HJ 400 H 15	HJ 400 H 30	HJ 500 H 15	HJ 500 H 30
art no	100.122.083	100.122.091	100.122.092	100.122.043	100.122.038
max. working pressure	bar/Mpa 720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b> 300	400	400	500	500
<b>stroke</b>	<b>mm</b> 300	150	300	150	300
<b>closed height</b>	<b>mm</b> 547	402	572	442	587
capacity	kN/t 2933 / 299.1	3750 / 382.4	3750 / 382.4	4994 / 509.2	4994 / 509.2
effective pressure area (press)	cm <sup>2</sup> 415.5	530.9	530.9	707	707
effective pressure area (retract)	cm <sup>2</sup> 131.9	216.7	216.7	360.3	360.3
required oil content (press)	cc 12450	7950	15900	10605	21210
required oil content (retract)	cc 3930	3238	6476	5400	10800
connection	A 118	A 118	A 118	A 118	A 118
cylinder type	high tonnage	high tonnage	high tonnage	high tonnage	high tonnage
acting type	double	double	double	double	double
return type	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
material	steel	steel	steel	steel	steel
weight, ready for use	kg 360.0	325.0	413.0	390.0	520.0

**High tonnage cylinders - Hydraulic return (dimensions)**


model	HJ 300 H 30	HJ 400 H 15	HJ 400 H 30	HJ 500 H 15	HJ 500 H 30
dimension A	mm 547	402	572	442	587
dimension B	mm 316	358	358	412	412
dimension C	mm 190	200	200	210	210
dimension D1	mm 70	70	70	70	70
dimension D2	mm 85	85	85	85	85
dimension E	mm 80	76	76	85	85
dimension F	mm 540	395	565	435	580
dimension P	mm 75	80	80	90	90
l type	l <sub>r</sub>	l <sub>r</sub>	l <sub>r</sub>	l <sub>r</sub>	l <sub>r</sub>





**Features & benefits** ↓

- 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

**Standard** supplied with ↓

- High Flow female coupler A 118
- Flat saddle

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Collar thread
- Base mounting holes

Tilting saddles	page	95
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Safe because of mechanical load locking

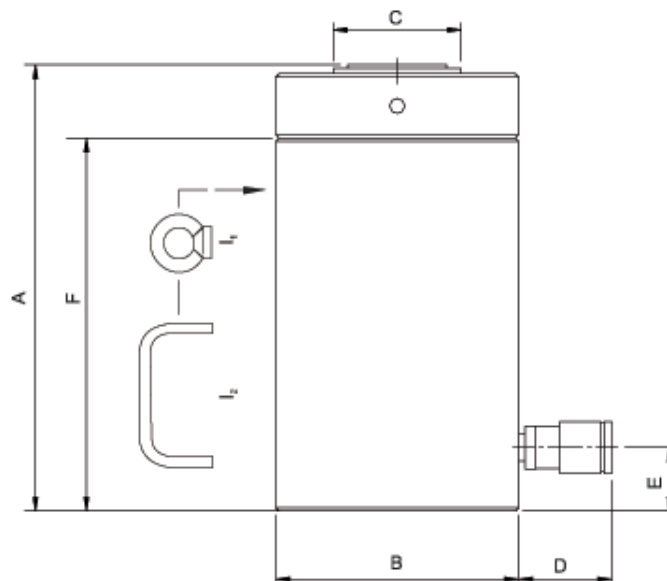


**Locknut cylinders - Gravity return**


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
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
tonnage	t	10	25	50	100	150	250
stroke	mm	150	150	150	150	150	150
closed height	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 / 156.9	2493.8 / 254.3
effective pressure area	cm <sup>2</sup>	13.8	33.2	70.9	143	213.8	340.6
required oil content (effective)	cc	210	498	1065	2150	3207	5195
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		lock nut	lock nut	lock nut	lock nut	lock nut	lock nut
acting type		single	single	single	single	single	single
return type		gravity	gravity	gravity	gravity	gravity	gravity
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	5.9	14.0	34.0	71.0	101.0	180.0

**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
dimension A	mm	270	283	307	323	363	385
dimension B	mm	60	90	135	190	212	300
dimension C	mm	42	65	95	135	165	210
dimension D	mm	70	70	70	70	70	70
dimension E	mm	25	25	25	25	35	40
dimension F	mm	242	257	272	287	305	330
I type			l <sub>2</sub>	l <sub>2</sub>	l <sub>1</sub>	l <sub>1</sub>	l <sub>1</sub>





**Features & benefits** ↓

- Extreme low closed height and a maximum side load resistance of 10%. Therefore useful for many different applications
- Double-acting for controlled lifting and lowering
- Integrated safety valves for protection against overpressure on return side
- Multiple-start and rounded thread on plunger for a quicker positioning of the locknut and easy dirt removal
- Hard chromed cylinder wall for optimal wear resistance and corrosion protection
- QPQ treated mechanical locknut with optimised grip and 4 tommy bar holes for easy locking and unlocking
- XL Saddle+: QPQ tilting saddle protects the plunger and limits eccentric loads
- Cover plate for keeping water and dirt out of the cylinder when it is stored

**Standard** supplied with ↓

- High Flow female coupler A 118
- Tilting saddle

**Available** on request ↓

- Lower closed height by using a maximum side load resistance of 5%

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



Double-acting for controlled lifting and lowering



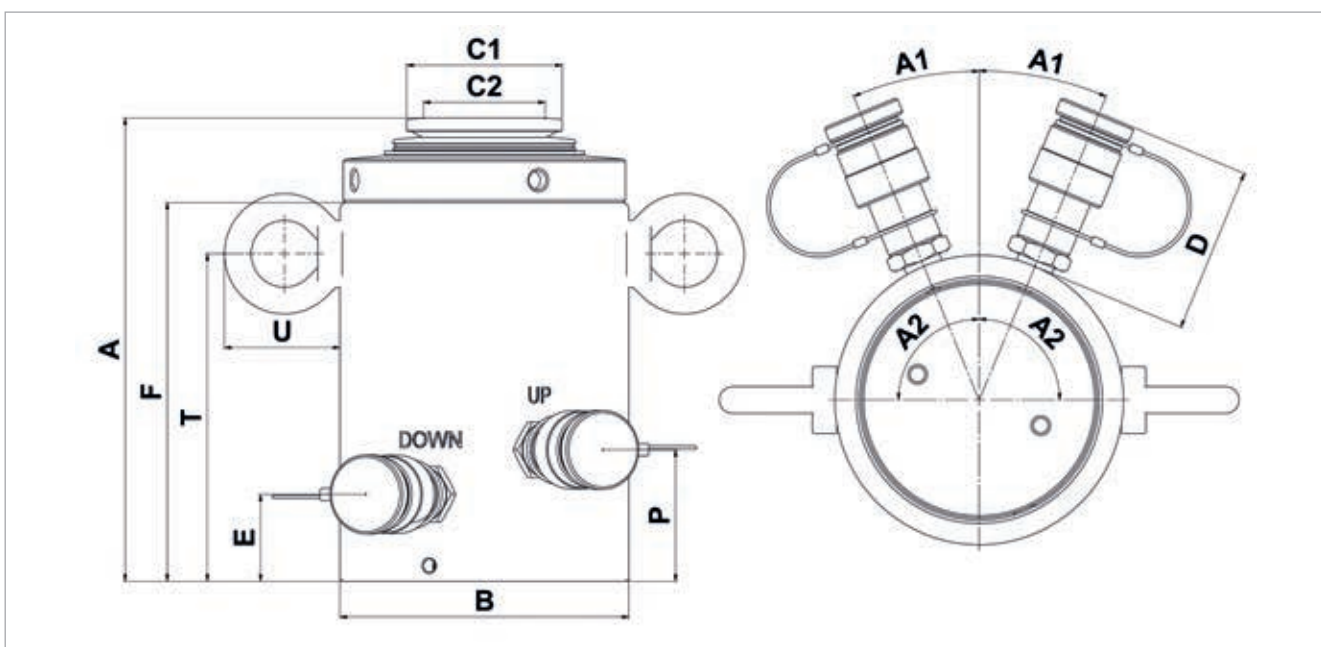
Multiple-start and rounded thread on plunger for a quicker positioning of the locknut and easy dirt removal

**Locknut cylinders - Hydraulic return**


model		HLC 50 H 5	HLC 50 H 15	HLC 50 H 30	HLC 100 H 5	HLC 100 H 15	HLC 100 H 30
art no		100.122.123	100.122.124	100.122.125	100.122.126	100.122.127	100.122.128
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	60	60	60	100	100	100
<b>stroke</b>	<b>mm</b>	50	150	300	50	150	300
<b>closed height</b>	<b>mm</b>	208	327	498	248	370	546
max. side-load resistance	%	10	10	10	10	10	10
capacity	kN/t	578 / 58.9	578 / 58.9	578 / 58.9	1001 / 102.1	1001 / 102.1	1001 / 102.1
effective pressure area (press)	cm <sup>2</sup>	80.3	80.3	80.3	139	139	139
effective pressure area (retract)	cm <sup>2</sup>	16.7	16.7	16.7	25.9	25.9	25.9
required oil content (effective)	cc	318	954	1909	566	1696	3391
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		lock nut	lock nut	lock nut	lock nut	lock nut	lock nut
acting type		double	double	double	double	double	double
return type		hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	19.5	29.5	44.0	35.0	50.0	72.5

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


model		HLC 50 H 5	HLC 50 H 15	HLC 50 H 30	HLC 100 H 5	HLC 100 H 15	HLC 100 H 30
dimension A	mm	208	327	498	248	370	546
dimension B	mm	130	130	130	160	160	160
dimension C1	mm	70	70	70	105	105	105
dimension C2	mm	55	55	55	72	72	72
dimension D	mm	75	75	75	75	75	75
dimension E	mm	39	39	39	48	48	48
dimension F	mm	170	289	460	201	323	499
dimension P	mm	58	58	58	72	72	72
dimension T	mm	115	174	260	136	198	284
dimension U	mm	54	54	54	54	54	54
angle A1	°	23	23	23	23	23	23
angle A2	°	90	90	90	90	90	90

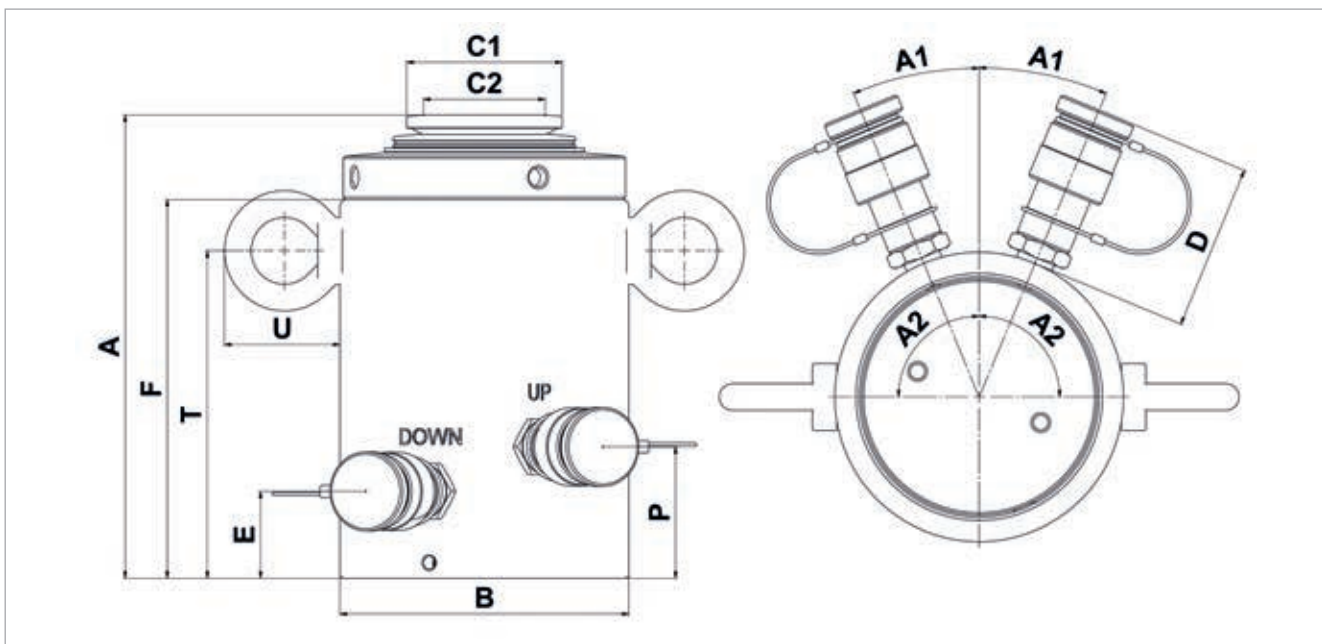


**Locknut cylinders - Hydraulic return**


model		HLC 150 H 5	HLC 150 H 15	HLC 150 H 30	HLC 250 H 5	HLC 250 H 15	HLC 250 H 30
art no		100.122.129	100.122.130	100.122.131	100.122.132	100.122.133	100.122.134
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	150	150	150	250	250	250
<b>stroke</b>	<b>mm</b>	50	150	300	50	150	300
<b>closed height</b>	<b>mm</b>	275	400	580	317	444	625
max. side-load resistance	%	10	10	10	10	10	10
capacity	kN/t	1544 / 157.4	1544 / 157.4	1544 / 157.4	2586 / 263.7	2586 / 263.7	2586 / 263.7
effective pressure area (press)	cm <sup>2</sup>	214.3	214.3	214.3	358.9	358.9	358.9
effective pressure area (retract)	cm <sup>2</sup>	37.7	37.7	37.7	75.6	75.6	75.6
required oil content (effective)	cc	883	2649	5299	1417	4251	8502
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		lock nut	lock nut	lock nut	lock nut	lock nut	lock nut
acting type		double	double	double	double	double	double
return type		hydraulic	hydraulic	hydraulic	hydraulic	hydraulic	hydraulic
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	56.3	79.0	112.9	103.0	144.0	203.0

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


model		HLC 150 H 5	HLC 150 H 15	HLC 150 H 30	HLC 250 H 5	HLC 250 H 15	HLC 250 H 30
dimension A	mm	275	400	580	317	444	625
dimension B	mm	194	194	194	245	245	245
dimension C1	mm	105	105	105	170	170	170
dimension C2	mm	72	72	72	120	120	120
dimension D	mm	75	75	75	75	75	75
dimension E	mm	58	58	58	70	70	70
dimension F	mm	221	346	526	253	380	561
dimension P	mm	83	83	83	96	96	96
dimension T	mm	146	211	296	168	230	320
dimension U	mm	54	54	54 <td>54</td> <td>54</td> <td>54</td>	54	54	54
angle A1	°	23	23	23	23	23	23
angle A2	°	90	90	90	90	90	90







**Features & benefits** ↓

- 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

**Standard** supplied with ↓

- High Flow female coupler A 118
- Flat saddle

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications

**Additional** information ↓

ATTENTION: Consult the user manual before fitting cylinder accessories to these cylinders. The maximum working pressure and total construction length is restricted when using cylinder accessories!

Accessories	page	89
Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



Screw-on saddle



Standard fixing thread

**Construction cylinders - Hydraulic return**

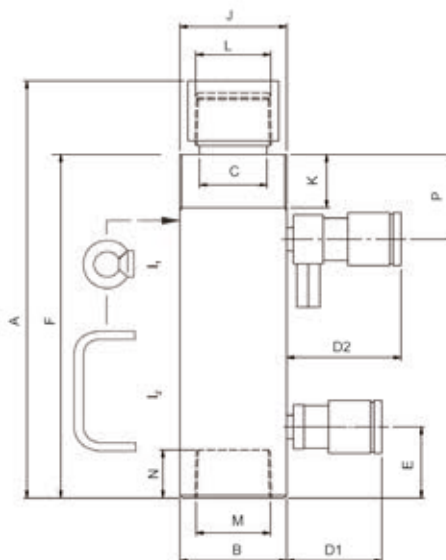


model	HCJ 10 H 15	HCJ 25 H 15	HCJ 25 H 25
art no	100.122.066	100.122.067	100.122.068
max. working pressure	bar/Mpa 720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b> 10	25	25
<b>stroke</b>	<b>mm</b> 150	150	250
<b>closed height</b>	<b>mm</b> 327	350	450
capacity	kN/t 99.3 / 10.1	238.9 / 24.4	238.9 / 24.4
effective pressure area (press)	cm <sup>2</sup> 13.8	33.2	33.2
effective pressure area (retract)	cm <sup>2</sup> 6.8	17.3	17.3
required oil content (press)	cc 207	498	829
required oil content (retract)	cc 102	260	432
connection	A 118	A 118	A 118
cylinder type	construction	construction	construction
acting type	double	double	double
return type	hydraulic	hydraulic	hydraulic
material	steel	steel	steel
weight, ready for use	kg 6.1	12.7	18.2

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



model	HCJ 10 H 15	HCJ 25 H 15	HCJ 25 H 25
dimension A	mm 327	350	450
dimension B	mm 66	85	85
dimension C	mm 30	45	45
dimension D1	mm 70	70	70
dimension D2	mm 85	85	85
dimension E	mm 40	56	56
dimension F	mm 287	297	397
dimension J	threadsize M60 x 2	M85 x 2	M85 x 2
dimension K	mm 30	40	40
dimension L	threadsize 1¼" NPT	2" NPT	2" NPT
dimension M	threadsize 1¼" NPT	2" NPT	2" NPT
dimension N	mm 27	27	27
dimension P	mm 48	60	60
I type			I <sub>2</sub>





HHJ 30 G 5

**Features & benefits** ↓

- Compact
- Usable in all positions
- Protected against ejection of the plunger

**Standard** supplied with ↓

- High Flow female coupler A 118

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Collar thread
- Base mounting holes

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



**Hollow plunger cylinders - Gravity return**

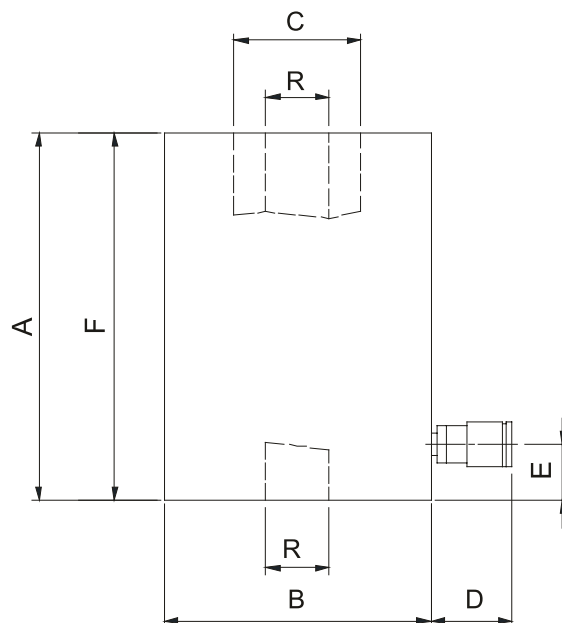


<b>model</b>	<b>HHJ 30 G 5</b>	
art no	100.111.053	
max. working pressure	bar/Mpa	720 / 72
<b>tonnage</b>	<b>t</b>	30
<b>stroke</b>	<b>mm</b>	50
<b>closed height</b>	<b>mm</b>	120
capacity	kN/t	293.7 / 29.9
effective pressure area	cm <sup>2</sup>	40.8
required oil content (effective)	cc	204
connection	A 118	
cylinder type	hollow plunger	
acting type	single	
return type	gravity	
material	steel	
weight, ready for use	kg	10.0

**Hollow plunger cylinders - Gravity return (dimensions)**



<b>model</b>	<b>HHJ 30 G 5</b>	
dimension A	mm	120
dimension B	mm	118
dimension C	mm	70
dimension D	mm	90
dimension E	mm	33
dimension F	mm	120
dimension R	mm	33





**Features & benefits** ↓

- Compact
- Usable in all positions
- Protected against ejection of the plunger
- Hollow saddle
  - Prevents damage to the plunger
  - Easy to replace with threaded or flat saddle

**Standard** supplied with ↓

- High Flow female coupler A 118
- Hollow saddle, with the exception of the HHJ 5 S 2.5, HHJ 12 S 5 and HHJ 12 S 15 cylinders

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Collar thread
- Base mounting holes

**Accessories** ↓

- Saddles: threaded and flat saddles

Thread and flat saddles	page	97
Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



Hollow saddle



**Hollow plunger cylinders - Spring return**

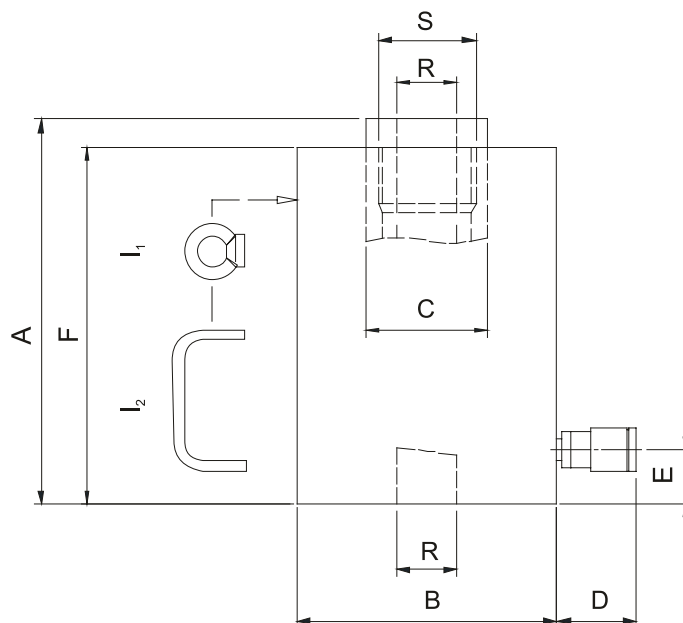


model		HHJ 5 S 2.5	HHJ 12 S 5	HHJ 12 S 15	HHJ 17 S 5	HHJ 20 S 5	HHJ 20 S 15
art no		100.111.002	100.111.021	100.111.029	100.112.023	100.112.033	100.112.030
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	5	12	12	17	20	20
<b>stroke</b>	<b>mm</b>	25	50	150	50	50	150
<b>closed height</b>	<b>mm</b>	87	156	298	192	182	389
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
effective pressure area	cm <sup>2</sup>	7.5	17.6	17.6	23.6	31.1	31.1
required oil content (effective)	cc	19	88	264	118	156	467
connection		A 118	A 118	A 118	A 118	A 118	A 118
cylinder type		hollow plunger	hollow plunger	hollow plunger	hollow plunger	hollow plunger	hollow plunger
acting type		single	single	single	single	single	single
return type		spring	spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel	steel
weight, ready for use	kg	1.9	6.3	11.0	7.3	8.6	18.0

**Hollow plunger cylinders - Spring return (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
dimension A	mm	87	156	298	192	182	389
dimension B	mm	60	86	86	90	100	100
dimension C	mm	28	40	40	46	50	50
dimension D	mm	90	90	90	90	90	90
dimension E	mm	24	27	27	31	31	31
dimension F	mm	87	156	298	178	170	377
dimension R	mm	17	21	21	27	27	27
dimension S	threadsize				M38x1,5	M38x1,5	M38x1,5
I type							I <sub>2</sub>



**Hollow plunger cylinders - Spring return**

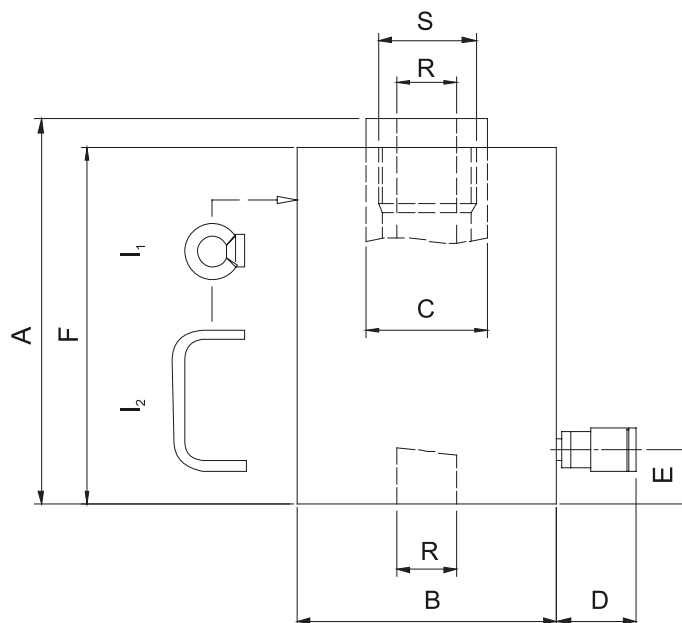


model		HHJ 30 S 7.5	HHJ 30 S 15	HHJ 45 S 15	HHJ 60 S 7.5	HHJ 110 S 7.5
art no		100.112.055	100.112.034	100.112.061	100.112.081	100.112.101
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	30	30	45	60	110
<b>stroke</b>	<b>mm</b>	75	150	150	75	75
<b>closed height</b>	<b>mm</b>	226	362	388	272	315
capacity	kN/t	293.7 / 29.9	293.7 / 29.9	453.5 / 46.2	610.4 / 62.2	1107.8 / 113
effective pressure area	cm <sup>2</sup>	40.8	40.8	63	84.8	153.9
required oil content (effective)	cc	306	612	945	636	1155
connection		A 118	A 118	A 118	A 118	A 118
cylinder type		hollow plunger	hollow plunger	hollow plunger	hollow plunger	hollow plunger
acting type		single	single	single	single	single
return type		spring	spring	spring	spring	spring
material		steel	steel	steel	steel	steel
weight, ready for use	kg	15.0	25.0	35.5	34.5	78.3

**Hollow plunger cylinders - Spring return (dimensions)**



model		HHJ 30 S 7.5	HHJ 30 S 15	HHJ 45 S 15	HHJ 60 S 7.5	HHJ 110 S 7.5
dimension A	mm	226	362	388	272	315
dimension B	mm	118	120	140	166	238
dimension C	mm	60	60	65	80	130
dimension D	mm	90	90	70	70	70
dimension E	mm	33	32	36	41	40
dimension F	mm	214	350	376	257	295
dimension R	mm	33	33	39	45	80
dimension S	threadsize	M50x1,5	M50x1,5	M54x1,5	M65x1,5	M105x2
I type			l <sub>1</sub>	l <sub>2</sub>	l <sub>2</sub>	l <sub>1</sub>







**Features & benefits** ↓

- Usable in all positions
- Protected against ejection of the plunger
- Protected against overpressure on return side
- Hollow saddle
  - Prevents damage to the plunger
  - Easy to replace with threaded or flat saddle

**Standard** supplied with ↓

- High Flow female coupler A 118 on inlet port
- High Flow female coupler with pressure relief valve A 418 on outlet port
- Hollow saddle

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Collar thread
- Base mounting holes

**Accessories** ↓

- Saddles: threaded and flat saddles

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Hollow saddle



**Hollow plunger cylinders - Hydraulic return**

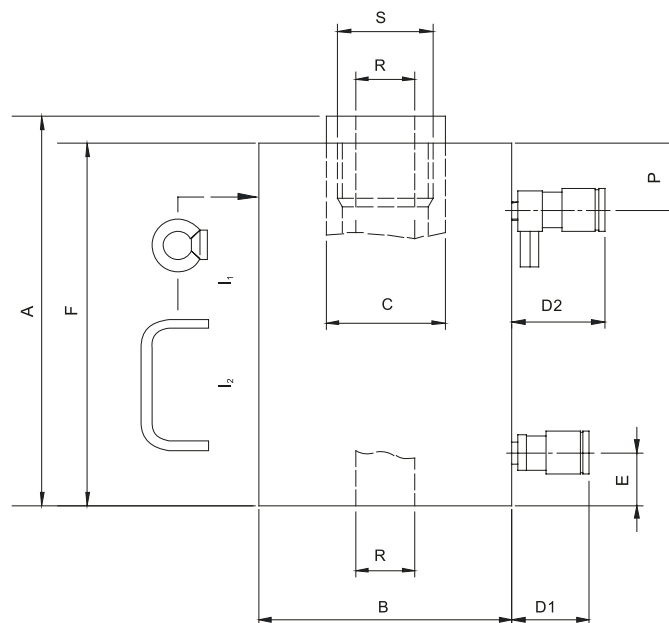


model	HHJ 30 H 15	HHJ 60 H 20	HHJ 100 H 10	HHJ 100 H 20
art no	100.122.045	100.122.031	100.122.051	100.122.053
max. working pressure	bar/Mpa 720 / 72	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b> 30	60	100	100
<b>stroke</b>	<b>mm</b> 150	200	100	200
<b>closed height</b>	<b>mm</b> 285	334	265	395
capacity (press)	kN/t 293.7 / 29.9	610.4 / 62.2	1018.5 / 103.9	1018.5 / 103.9
capacity (retract)	kN/t 131 / 13.4	452.4 / 46.1	706.9 / 72.1	706.9 / 72.1
effective pressure area (press)	cm <sup>2</sup> 40.8	84.8	141.5	141.5
effective pressure area (retract)	cm <sup>2</sup> 18.2	62.8	98.2	98.2
required oil content (press)	cc 613	1696	1415	2830
required oil content (retract)	cc 274	1256	982	1964
connection	A 118	A 118	A 118	A 118
cylinder type	hollow plunger	hollow plunger	hollow plunger	hollow plunger
acting type	double	double	double	double
return type	hydraulic	hydraulic	hydraulic	hydraulic
material	steel	steel	steel	steel
weight, ready for use	kg 23.0	40.0	53.0	78.0

**Hollow plunger cylinders - Hydraulic return (dimensions)**



model	HHJ 30 H 15	HHJ 60 H 20	HHJ 100 H 10	HHJ 100 H 20
dimension A	mm 285	334	265	395
dimension B	mm 120	166	210	210
dimension C	mm 70	80	100	100
dimension D1	mm 70	70	70	70
dimension D2	mm 85	85	85	85
dimension E	mm 40	41	52	52
dimension F	mm 275	319	245	375
dimension P	mm 50	39	55	75
dimension R	mm 33	45	54	54
dimension S	threadsize M50x1,5	M65x1,5	M72x2	M72x2
I type	I <sub>2</sub>	I <sub>2</sub>	I <sub>1</sub>	I <sub>1</sub>





**Features & benefits** ↓

- Compact
- Usable in all positions
- Protected against ejection of the plunger
- Protected against overpressure

**Standard** supplied with ↓

- High Flow female coupler with pressure relief valve A 418

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Collar thread

Pulling eyes	page	82
Clevis eyes	page	83
Protection springs	page	84
Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174

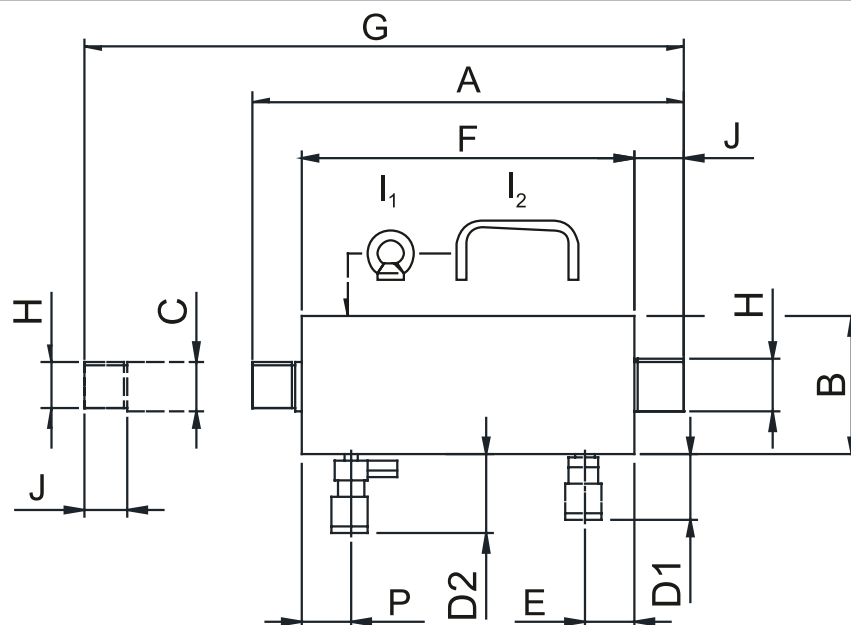


**Pulling cylinders - Spring return**


model		HPJ 11 S 15	HPJ 30 S 15	HPJ 60 S 15
art no		100.131.001	100.131.011	100.131.021
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72
<b>tonnage</b>	<b>t</b>	11	30	60
<b>stroke</b>	<b>mm</b>	150	150	150
capacity	kN/t	113 / 11.5	298.7 / 30.5	610.4 / 62.2
effective pressure area	cm <sup>2</sup>	15.7	41.5	84.8
required oil content (effective)	cc	236	623	1272
connection		A 118	A 118	A 118
cylinder type		pulling	pulling	pulling
acting type		single	single	single
return type		spring	spring	spring
material		steel	steel	steel
weight, ready for use	kg	11.5	26.0	45.0

**Pulling cylinders - Spring return (dimensions)**


model		HPJ 11 S 15	HPJ 30 S 15	HPJ 60 S 15
dimension A	mm	320	470	530
dimension B	mm	92	118	157
dimension C	mm	40	40	60
dimension D2	mm	85	85	85
dimension F	mm	250	380	400
dimension G	mm	470	620	680
dimension H	threadsize	M38x1.5	M38x1.5	M54x1.5
dimension J	mm	30	40	60
dimension P	mm	38	44	52





HPJ 100 H 15

**Features & benefits** ↓

- Compact
- Usable in all positions
- Protected against ejection of the plunger
- Protected against overpressure

**Standard** supplied with ↓

- High Flow female coupler with pressure relief valve A 418

**Available** on request ↓

- Cylinders manufactured in conformity with customer specifications
- Collar thread

**Accessories** ↓

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

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Clevis eyes	page	83
Protection springs	page	84
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**Pulling cylinders - Hydraulic return**

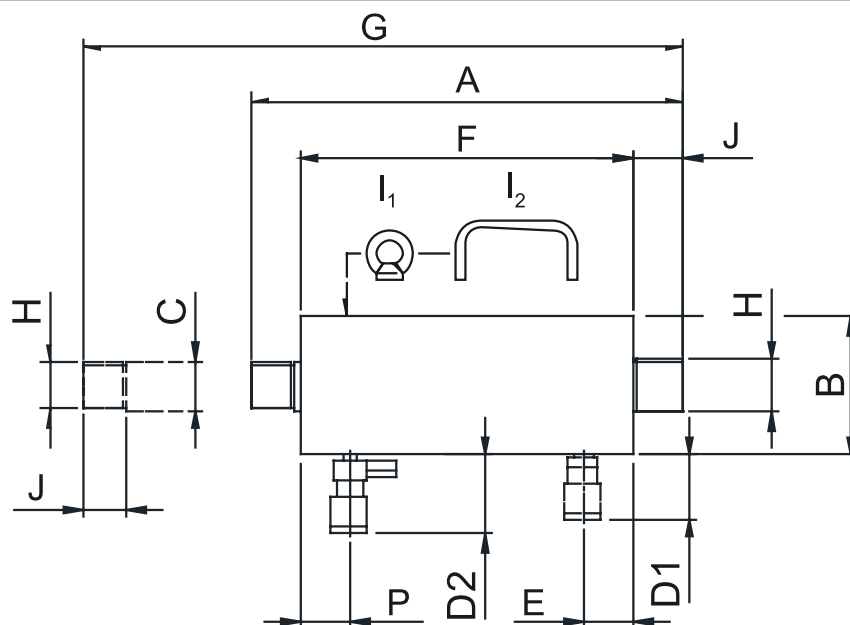


<b>model</b>	<b>HPJ 100 H 15</b>	
art no	100.122.042	
max. working pressure	bar/Mpa	720 / 72
<b>tonnage</b>	<b>t</b>	100
<b>stroke</b>	<b>mm</b>	150
capacity (press)	kN/t	1271.9 / 129.7
capacity (retract)	kN/t	953.7 / 97.3
effective pressure area (press)	cm <sup>2</sup>	176.7
effective pressure area (retract)	cm <sup>2</sup>	132.5
required oil content (press)	cc	2651
required oil content (retract)	cc	1988
connection	A 118	
cylinder type	pulling	
acting type	double	
return type	hydraulic	
material	steel	
weight, ready for use	kg	75.0

**Pulling cylinders - Hydraulic return (dimensions)**



<b>model</b>	<b>HPJ 100 H 15</b>	
dimension A	mm	462
dimension B	mm	210
dimension C	mm	75
dimension D1	mm	70
dimension D2	mm	85
dimension E	mm	57
dimension F	mm	310
dimension G	mm	612
dimension H	threadsize	M72x2
dimension J	mm	60
dimension P	mm	57
I type	I <sub>1</sub>	





HPJ 11 S 15

**Features & benefits**

- Made of milled steel
- Chemical blacked coating

**Additional information**

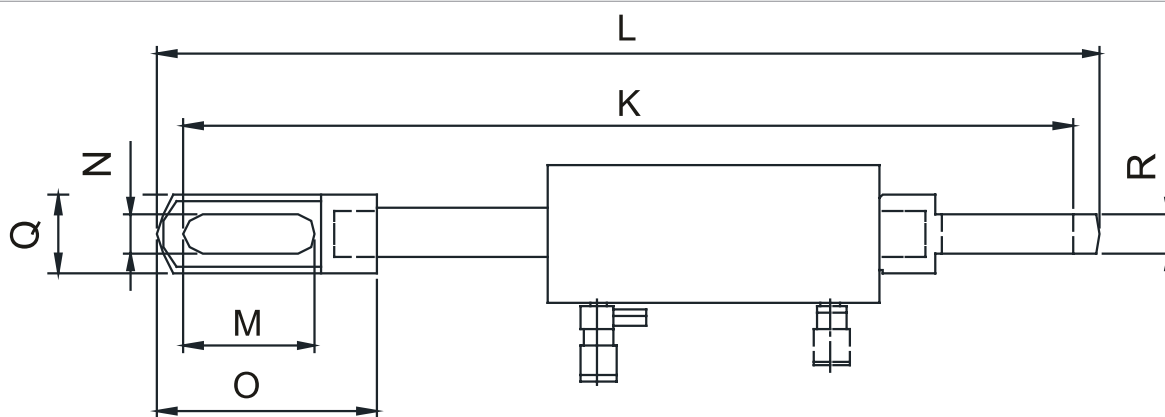
- To be ordered separately, 2 pieces per cylinder

**Pulling cylinders - Pulling eyes**

model	HPJ 11 S 15	HPJ 30 S 15	HPJ 60 S 15	HPJ 100 H 15
art no	100.181.051	100.181.051	100.181.052	100.181.053

**Pulling cylinders - Pulling eyes (dimensions)**

model	HPJ 11 S 15	HPJ 30 S 15	HPJ 60 S 15	HPJ 100 H 15
dimension K	760	890	1000	1012
dimension L	810	940	1080	1132
dimension M	120	120	150	200
dimension N	35	35	45	45
dimension O	200	200	260	320
dimension Q	70	70	115	135
dimension R	35	35	40	50





HPJ 11 S 15

**Features & benefits** ↓

- Made of milled steel
- Complete with pin and quick lock ring
- Specially suitable for use with slings

**Additional information** ↓

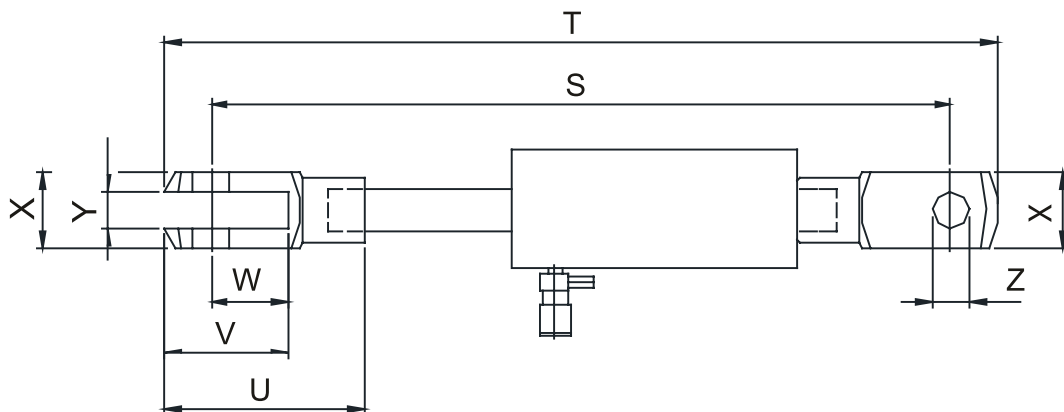
- To be ordered separately, 2 pieces per cylinder

**Pulling cylinders - Clevis eyes** ↓

model	HPJ 11 S 15	HPJ 30 S 15
art no	100.181.056	100.181.057

**Pulling cylinders - Clevis eyes (dimensions)** ↓

model	HPJ 11 S 15	HPJ 30 S 15
dimension S	mm 650	828
dimension T	mm 730	916
dimension U	mm 160	188
dimension V	mm 100	116
dimension W	mm 60	72
dimension X	mm 60	70
dimension Y	mm 30	36
dimension Z	mm 30	35





HPJ 11/30 S 15

**Features & benefits**



- Protects the plunger against dirt and welding spots

**Additional information**



- To be ordered separately

**Pulling cylinders - Protection springs**



model	HPJ 11/30 S 15	HPJ 60 S 15	HPJ 100 H 15
art no	100.581.160	100.581.161	100.581.162



HIK 10 M

**Features & benefits** ↓

- Consists of:
  - 2x Multi Purpose cylinder, 1x Hydraulic wedge
  - 4x Extension tube
  - 1x Connection socket, 1x Connection nipple
  - 1x Round base plate
  - 1x Cross head, 1x Wedge head
  - 1x Cylinder toe, 1x Plunger toe
  - 1x Plunger adapter, 1x Cylinder body adapter
  - 1x Pump with pressure gauge
  - 1x 2 meter hose with male coupler
  - 1x Storage case

**Available on request** ↓

- Cylinders manufactured in conformity with customer specifications

**Additional information** ↓

ATTENTION: Consult the user manual before fitting cylinder accessories to these cylinders. The maximum working pressure and total construction length is restricted when using cylinder accessories!

Multi purpose cylinders  
Parts

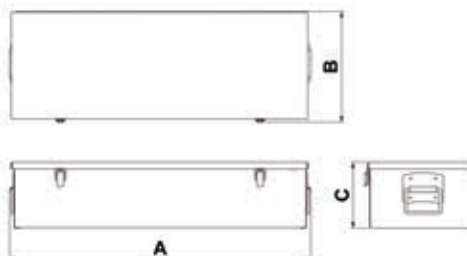
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**Multi purpose cylinder set - Set** ↓

<b>model</b>	<b>HIK 10 M</b>	
art no	100.062.003	
return type	spring	
material	steel	
weight, ready for use	kg	44.0









**Multi purpose cylinder set - Set (dimensions)** ↓

<b>model</b>	<b>HIK 10 M</b>	
dimension A	mm	782
dimension B	mm	287
dimension C	mm	171










Multi purpose cylinder set - Parts







image	description	model	art no
	High quality Multi Purpose Cylinder. Fitted with unique features that considerably lengthen its life span and service life. Offers appropriate solutions for the most varied applications. Holmatro Multi Purpose Cylinders come in 50 models and are available in different capacities and with different stroke lengths.	HGC 10 S 5	100.112.219
	High quality Multi Purpose Cylinder. Fitted with unique features that considerably lengthen its life span and service life. Offers appropriate solutions for the most varied applications. Holmatro Multi Purpose Cylinders come in 50 models and are available in different capacities and with different stroke lengths.	HGC 10 S 15	100.112.221
	Hydraulic wedge, spring return <ul style="list-style-type: none"> <li>To lift a load from a flat surface where there is a minimum insertion space available</li> <li>Highly suitable to carry out maintenance in places that are difficult to access</li> <li>Applications: lifting machines, dismantling and assembly, adjustment and alignment</li> </ul>	HW 1000	100.562.009
	Extension tube <ul style="list-style-type: none"> <li>Suitable for HGC 10 and HCJ 10 cylinders</li> <li>Length: 125 mm</li> <li>Thread size: 1 1/4" NPT male (2x)</li> <li>Max. working pressure: 360 bar</li> </ul>	125 - HGC 10 / HCJ 10	100.002.984
	Extension tube <ul style="list-style-type: none"> <li>Suitable for HGC 10 and HCJ 10 cylinders</li> <li>Length: 250 mm</li> <li>Thread size: 1 1/4" NPT male (2x)</li> <li>Max. working pressure: 360 bar</li> </ul>	250 - HGC 10 / HCJ 10	100.002.985
	Extension tube <ul style="list-style-type: none"> <li>Suitable for HGC 10 and HCJ 10 cylinders</li> <li>Length: 500 mm</li> <li>Thread size: 1 1/4" NPT male (2x)</li> <li>Max. working pressure: 360 bar</li> </ul>	500 - HGC 10 / HCJ 10	100.002.987
	Extension tube <ul style="list-style-type: none"> <li>Suitable for HGC 10 and HCJ 10 cylinders</li> <li>Length: 750 mm</li> <li>Thread size: 1 1/4" NPT male (2x)</li> <li>Max. working pressure: 360 bar</li> </ul>	750 - HGC 10 / HCJ 10	100.002.989
	Connection socket <ul style="list-style-type: none"> <li>To connect 2 extension tubes</li> <li>Suitable for HGC 10 and HCJ 10 cylinders</li> <li>Thread size: 1 1/4" NPT female (2x)</li> <li>Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.980

**Multi purpose cylinder set - Parts**


image	description	model	art no
	Connection nipple <ul style="list-style-type: none"> <li>• To connect accessories to cylinders</li> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.982
	Round base plate <ul style="list-style-type: none"> <li>• To mount on bottom side of cylinder</li> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.978
	Cross head <ul style="list-style-type: none"> <li>• To provide better grip</li> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.966
	Wedge head <ul style="list-style-type: none"> <li>• For spreading</li> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.968
	Cylinder toe <ul style="list-style-type: none"> <li>• Suitable for HGC 10 cylinders</li> <li>• Thread size: 2¼"-14 UNS female</li> <li>• Max. working pressure: 144 bar</li> </ul>	HGC 10	100.002.992
	Plunger toe <ul style="list-style-type: none"> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 144 bar</li> </ul>	HGC 10 / HCJ 10	100.002.991
	Cylinder body adapter <ul style="list-style-type: none"> <li>• Suitable for HGC 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 360 bar</li> <li>• Standard supplied with 2x bolt M8x16</li> </ul>	HGC 10	100.002.969
	Plunger Adapter <ul style="list-style-type: none"> <li>• Suitable for HGC 10 cylinders</li> <li>• Thread size: 1¼" NPT male - 1"-8 UNC male</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10	100.002.964



**Multi purpose cylinder set - Parts**








image	description	model	art no
	The PA 04 H 2 is the most compact, single acting, 2 stage hand pump in the hand pump range. The pump is ergonomically designed, has a robust, compact construction, is service- and maintenance-friendly and combines a low operating force with a high oil output. This all combined with a range of handy features makes this pump a worthwhile asset for you and your tools. This pump is ideal when you are working with smaller hydraulic tools and you want to profit from a very high oil output in the first stage (up to 45 bar) to speed things up.	PA 04 H 2	100.142.033
	Standard hose with male coupler A 119 on one side	H 2 SOU	100.572.102
	Pressure gauge set PA 04/09 pump <ul style="list-style-type: none"> <li>• 0-720 bars</li> <li>• Pointer damped with glycerine</li> <li>• Stainless steel</li> <li>• Housing Ø 63 mm</li> <li>• Including rubber protection cover</li> <li>• Connection: ¼" NPT male</li> </ul>	-	100.182.213
	Carrying storage box of hydraulic jack set HIK 10 M / HRK 10 M	-	150.581.001



**Accessories - 5 tons cylinder**


image	description	model	art no
	Aluminium base plate <ul style="list-style-type: none"> <li>• Suitable for HGC 5 and HGC 10</li> <li>• Max. working pressure: 720 bar</li> <li>• Standard supplied with 2x bolt M8x20 and 2x bolt M6x20</li> </ul>	HGC 5 / 10	100.003.004
	Assembly / Welding Ring <ul style="list-style-type: none"> <li>• Suitable for HGC 5 cylinders</li> <li>• Thread size: 1½"-16 UN</li> <li>• Max. working pressure: 720 bar</li> </ul>	HGC 5	100.182.189

**Accessories - 10 tons cylinder**


image	description	model	art no
	Plunger Adapter <ul style="list-style-type: none"> <li>• Suitable for HGC 10 cylinders</li> <li>• Thread size: 1¼" NPT male - 1"-8 UNC male</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10	100.002.964
	Cross head <ul style="list-style-type: none"> <li>• To provide better grip</li> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.966
	Wedge head <ul style="list-style-type: none"> <li>• For spreading</li> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.968
	Cylinder body adapter <ul style="list-style-type: none"> <li>• Suitable for HGC 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 360 bar</li> <li>• Standard supplied with 2x bolt M8x16</li> </ul>	HGC 10	100.002.969
	Round base plate <ul style="list-style-type: none"> <li>• To mount on bottom side of cylinder</li> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.978
	Connection socket <ul style="list-style-type: none"> <li>• To connect 2 extension tubes</li> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT female (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.980

**Accessories - 10 tons cylinder**




image	description	model	art no
	<p>Connection nipple</p> <ul style="list-style-type: none"> <li>• To connect accessories to cylinders</li> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 10 / HCJ 10	100.002.982
	<p>Extension tube</p> <ul style="list-style-type: none"> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Length: 125 mm</li> <li>• Thread size: 1¼" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	125 - HGC 10 / HCJ 10	100.002.984
	<p>Extension tube</p> <ul style="list-style-type: none"> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Length: 250 mm</li> <li>• Thread size: 1¼" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	250 - HGC 10 / HCJ 10	100.002.985
	<p>Extension tube</p> <ul style="list-style-type: none"> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Length: 500 mm</li> <li>• Thread size: 1¼" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	500 - HGC 10 / HCJ 10	100.002.987
	<p>Extension tube</p> <ul style="list-style-type: none"> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Length: 750 mm</li> <li>• Thread size: 1¼" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	750 - HGC 10 / HCJ 10	100.002.989
	<p>Aluminium base plate</p> <ul style="list-style-type: none"> <li>• Suitable for HGC 5 and HGC 10</li> <li>• Max. working pressure: 720 bar</li> <li>• Standard supplied with 2x bolt M8x20 and 2x bolt M6x20</li> </ul>	HGC 5 / 10	100.003.004
	<p>Plunger toe</p> <ul style="list-style-type: none"> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1¼" NPT female</li> <li>• Max. working pressure: 144 bar</li> </ul>	HGC 10 / HCJ 10	100.002.991
	<p>Cylinder toe</p> <ul style="list-style-type: none"> <li>• Suitable for HGC 10 cylinders</li> <li>• Thread size: 2¼"-14 UNS female</li> <li>• Max. working pressure: 144 bar</li> </ul>	HGC 10	100.002.992

**Accessories - 10 tons cylinder**


image	description	model	art no
	Cylinder toe • Suitable for HCJ 10 cylinders • Thread size: M60x2 female • Max. working pressure: 144 bar	10 E	100.002.993
	Screw-on saddle • Suitable for HGC 10 and HCJ 10 cylinders • Thread size: 1 1/4" NPT female	10 D	100.181.091
	Bottom plug • Suitable for HCJ 10 cylinders • Thread size: 1 1/4" NPT male	10 K	100.181.519
	Assembly / Welding Ring • Suitable for HGC 10 cylinders • Thread size: 2 1/4"-14 UNS • Max. working pressure: 720 bar	HGC 10	100.182.190
	Assembly / Welding Ring • Suitable for HCJ 10 cylinders • Thread size: M60x2 • Max. working pressure: 720 bar	HCJ 10	100.181.522







**Accessories - 15 tons cylinder**


image	description	model	art no
	Aluminium base plate • Suitable for HGC 15 and HGC 25 • Max. working pressure: 720 bar • Standard supplied with 2x bolt M12x30 and 2x bolt M10x30	HGC 15 / 25	100.003.005

**Accessories - 25 tons cylinder**



image	description	model	art no
	Plunger Adapter <ul style="list-style-type: none"> <li>• Suitable for HGC 25 cylinders</li> <li>• Thread size: 2" NPT male - 1½"-16 UN male</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 25	100.002.965
	Cross head <ul style="list-style-type: none"> <li>• To provide better grip</li> <li>• Suitable for HGC 25 and HCJ 25 cylinders</li> <li>• Thread size: 2" NPT female</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 25 / HCJ 25	100.002.967
	Cylinder body adapter <ul style="list-style-type: none"> <li>• Suitable for HGC 25 cylinders</li> <li>• Thread size: 2" NPT female</li> <li>• Max. working pressure: 360 bar</li> <li>• Standard supplied with 2x bolt M12x20</li> </ul>	HGC 25	100.002.970
	Round base plate <ul style="list-style-type: none"> <li>• To mount on bottom side of cylinder</li> <li>• Suitable for HGC 25 and HCJ 25 cylinders</li> <li>• Thread size: 2" NPT female</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 25 / HCJ 25	100.002.979
	Connection socket <ul style="list-style-type: none"> <li>• To connect 2 extension tubes</li> <li>• Suitable for HGC 25 and HCJ 25 cylinders</li> <li>• Thread size: 2" NPT female (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 25 / HCJ 25	100.002.981
	Connection Nipple <ul style="list-style-type: none"> <li>• To connect accessories to cylinders</li> <li>• Suitable for HGC 25 and HCJ 25 cylinders</li> <li>• Thread size: 2" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	HGC 25 / HCJ 25	100.002.983
	Extension tube <ul style="list-style-type: none"> <li>• Suitable for HGC 25 and HCJ 25 cylinders</li> <li>• Length: 250 mm</li> <li>• Thread size: 2" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	250 - HGC 25 / HCJ 25	100.002.986
	Extension tube <ul style="list-style-type: none"> <li>• Suitable for HGC 25 and HCJ 25 cylinders</li> <li>• Length: 500 mm</li> <li>• Thread size: 2" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	500 - HGC 25 / HCJ 25	100.002.988

**Accessories - 25 tons cylinder**


image	description	model	art no
	Extension tube <ul style="list-style-type: none"> <li>• Suitable for HGC 25 and HCJ 25 cylinders</li> <li>• Length: 750 mm</li> <li>• Thread size: 2" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul>	750 - HGC 25 / HCJ 25	100.002.990
	Aluminium base plate <ul style="list-style-type: none"> <li>• Suitable for HGC 15 and HGC 25</li> <li>• Max. working pressure: 720 bar</li> <li>• Standard supplied with 2x bolt M12x30 and 2x bolt M10x30</li> </ul>	HGC 15 / 25	100.003.005
	Screw-on saddle <ul style="list-style-type: none"> <li>• Suitable for HGC 25 and HCJ 25 cylinders</li> <li>• Thread size: 2" NPT female</li> </ul>	24 D	100.181.092
	Bottom plug <ul style="list-style-type: none"> <li>• Suitable for HCJ 25 cylinders</li> <li>• Thread size: 2" NPT male</li> </ul>	25 K	100.181.569
	Assembly / Welding Ring <ul style="list-style-type: none"> <li>• Suitable for HGC 25 cylinders</li> <li>• Thread size: 3 5/16"-12 UN</li> <li>• Max. working pressure: 720 bar</li> </ul>	HGC 25	100.182.193
	Assembly / Welding Ring <ul style="list-style-type: none"> <li>• Suitable for HCJ 25 cylinders</li> <li>• Thread size: M85x2</li> <li>• Max. working pressure: 720 bar</li> </ul>	HCJ 25	100.181.572

**Accessories - 50 tons cylinder**



image	description	model	art no
	Assembly / Welding Ring <ul style="list-style-type: none"><li>• Suitable for HGC 50 cylinders</li><li>• Thread size: 5"-12 UN</li><li>• Max. working pressure: 720 bar</li></ul>	HGC 50	100.182.194



**Features & benefits**



- For load to a maximum angle of 5°
- Hardened
- Anti-skid grooves

**Saddles - Tilting saddles - Multi purpose cylinders**



model	TS HGC 5	TS HGC 10	TS HGC 15	TS HGC 25	TS HGC 35	TS HGC 50
art no	100.182.151	100.182.152	100.182.153	100.182.154	100.182.155	100.182.156
cylinder tonnage	t 5	30	15	25	35	50
diameter	mm 20	30	30	45	45	70
additional height (vs flat saddle)	mm 5	5	5	7	7	9

**Saddles - Tilting saddles - Multi purpose cylinders**



model	TS HGC 75	TS HGC 100
art no	100.182.160	100.182.150
cylinder tonnage	t 75	100
diameter	mm 70	105
additional height (vs flat saddle)	mm 9	12


**Features & benefits**


- For load to a maximum angle of 5°
- Hardened
- Anti-skid grooves

**Saddles - Tilting saddles - Aluminium cylinders**


model	TS HAC 20	TS HAC 30	TS HAC 50	TS HAC 100	TS HAC 150
art no	100.182.164	100.182.163	100.182.165	100.182.159	100.182.161
cylinder tonnage	t 20	30	50	100	150
diameter	mm 45	45	70	105	105
additional height (vs flat saddle)	mm 8	8	9	12	12

**Saddles - Tilting saddles - High tonnage cylinders**


model	S 50 TN	S 100 TN	S 200 TN	S 500 TN
art no	100.181.043	100.181.044	100.999.040	100.999.232
cylinder tonnage	t 50	100	200	500
diameter	mm 65	90	140	180
additional height (vs flat saddle)	mm 11	11	23	38

**Saddles - Tilting saddles - Locknut cylinders - Gravity return**


model	S 10 TN	S 25 TN	S 50 TN	S 100 TN	S 200 TN
art no	100.181.041	100.181.042	100.181.043	100.181.044	100.999.040
cylinder tonnage	t 10	25	50	100	200
diameter	mm 35	45	65	90	140
additional height (vs flat saddle)	mm 17	10	11	11	23



**Features & benefits**



- Perfect to combine with tension rods

**Available on request**



- Different screw-thread sizes in threaded saddles

**Saddles - Thread and flat saddles - Thread saddles - Hollow plunger cylinders**



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
cylinder tonnage	t 20	30	45	60	100	110
diameter	mm 48	58	63	78	95	125
thread hole	threadsize 1" - 8 UNC	1¼" - 7 UNC	1½" - 8 UNS	1 5/8" - 8 UNS	2" - 8 UNS	2" - 8 UNS

**Saddles - Thread and flat saddles - Flat saddles - Hollow plunger cylinders**



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
cylinder tonnage	t 20	30	45	60	100	110
diameter	mm 48	58	63	78	95	125



# Lifting tools





HMJ 10 S 15 M

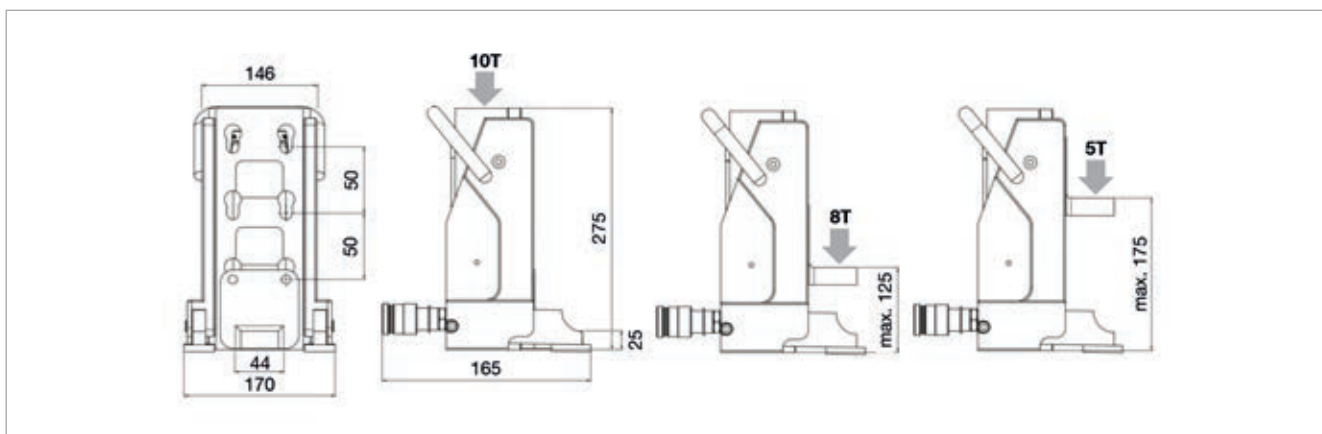
**Features & benefits** ↓

- Toe height adjustable in 3 positions: 25, 100 and 175 mm
- Protected against ejection of the plunger
- Telescopic support legs
- Duplex Power Coating makes the plunger corrosion-resistant
- Duo Power Ring; seal and bearing for long life span

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174

**Machine lift - Spring return** ↓

<b>model</b>	<b>HMJ 10 S 15 M</b>	
art no	100.062.004	
max. working pressure	bar/Mpa	720 / 72
<b>tonnage</b>	<b>t</b>	10
<b>stroke</b>	<b>mm</b>	145
<b>closed height</b>	<b>mm</b>	275
capacity (head)	kN/t	100 / 10.2
capacity (toe), min.	kN/t	49 / 5
capacity (toe), max.	kN/t	78.5 / 8
required oil content (effective)	cc	208
return type	spring	
connection	A 118	
weight, ready for use	kg	18.5





TJ 8 S 13

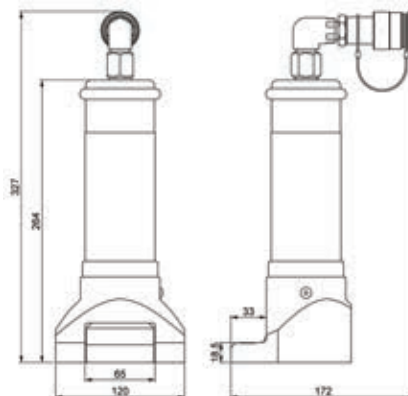
**Features & benefits** ↓

- Anti-skid profile on the toe
- Usable in all positions
- Compact construction, low weight
- Minimum tip clearance 18.5 mm
- Toe can be rotated 360°

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174

**Toe cylinder - Spring return** ↓

<b>model</b>	<b>TJ 8 S 13</b>	
art no	100.112.102	
max. working pressure	bar/Mpa	720 / 72
<b>tonnage</b>	<b>t</b>	8
<b>stroke</b>	<b>mm</b>	130
<b>closed height</b>	<b>mm</b>	319
capacity (toe), min.	kN/t	88.3 / 9
required oil content (effective)	cc	207
return type	spring	
connection	A 118	
weight, ready for use	kg	6.5





HVLW 16 S 2



**Features & benefits**



- 100% vertical lifting movement; prevents misalignment of load
- Automatic mechanical retraction of lifting plate
- Minimum insertion space of 9 mm
- Vertical lifting stroke of 20 mm at each step

**Standard supplied with**



- Safety block
- Step block
- Grease pistol
- Grease cartridge Molycote®
- Plastic carrying / storage box

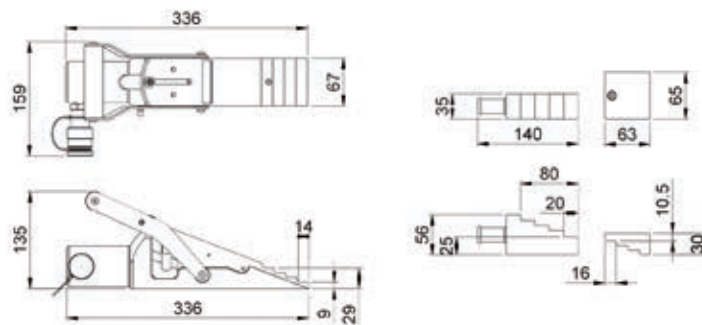
Hydraulic pumps  
Hydraulic hoses  
Pressure gauges

page 143  
page 168  
page 174

**Vertical lifting wedge - Spring return**



<b>model</b>	<b>HVLW 16 S 2</b>	
art no	100.112.104	
max. working pressure	bar/Mpa	720 / 72
<b>tonnage</b>	<b>t</b>	16
min. insertion space	mm	9
lifting stroke	mm	20
max. spreading force	kN/t	156.6 / 16
required oil content (effective)	cc	75
return type	spring	
weight, ready for use	kg	8.8





HW 1000

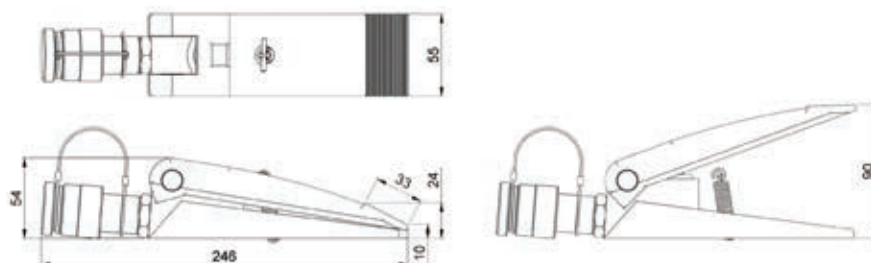
**Features & benefits** ↓

- Compact
- Lightweight
- Anti-skid profile on wedge arms
- Usable in all positions

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174

**Wedge - Spring return** ↓

model		HW 1000
art no		100.562.009
max. working pressure	bar/Mpa	720 / 72
<b>tonnage</b>	<b>t</b>	1
min. insertion space	mm	15
lifting stroke	mm	90
max. spreading force	kN/t	10 / 1
required oil content (effective)	cc	10
return type		spring
weight, ready for use	kg	2.1





HWJ 25 U

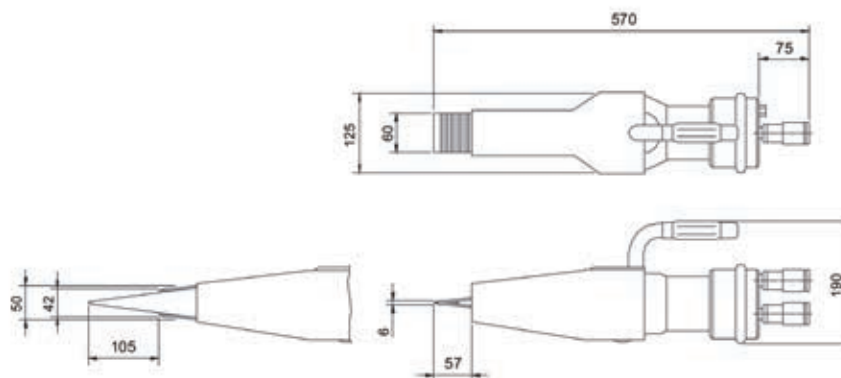
**Features & benefits** ↓

- Minimum insertion space of 6 mm
- Compact construction
- Low weight
- Anti-skid profile on wedge blades
- Usable in all positions

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174

**Wedge - Hydraulic return** ↓

model		HWJ 25 U
art no		100.102.021
max. working pressure	bar/Mpa	720 / 72
<b>tonnage</b>	<b>t</b>	24
min. insertion space	mm	6
lifting stroke	mm	51
max. spreading force	kN/t	235.4 / 24
return type		hydraulic
required oil content (press)	cc	328
required oil content (retract)	cc	217
weight, ready for use	kg	8.1





HLB 31  
art. no. 350.321.028

38  
321.030

32 M  
5 M B

holmatro

holmatro



**Features & benefits** ↓

- Clear indication of safety warnings, technical specifications and lifting height
  - To help you work safer and easier
- Center markings on all sides
  - To help you position a smaller bag onto a larger model
- Non-slip surface with interlocking profile
  - To maximize the contact area and stability of inflated lifting bags
- Reflective markings
  - For optimal visibility in the dark
- Compliant with relevant safety standards
  - Meets EN 13731 and other legislative requirements

**Standard** supplied with ↓

- Flexible integrated dust cap on air inlet

Lifting capacity / height diagrams	page	109
Air hoses	page	111
Control units	page	112
Accessories	page	114
Control sets	page	117

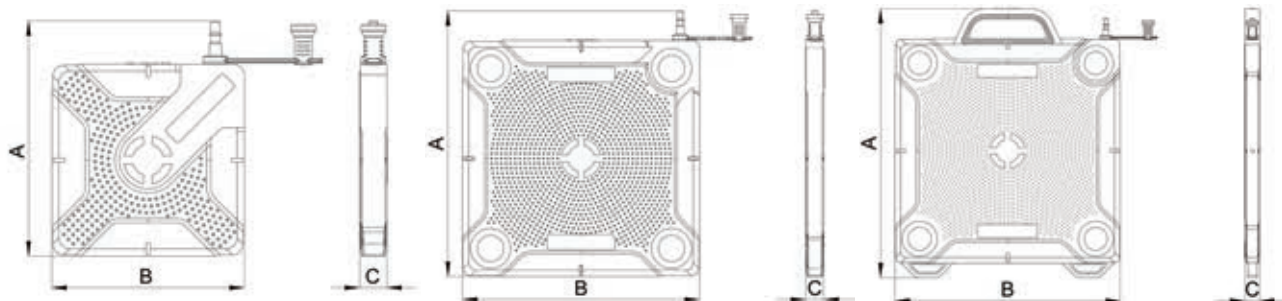


Center markings on all sides

**Lifting bags - Lifting bags**



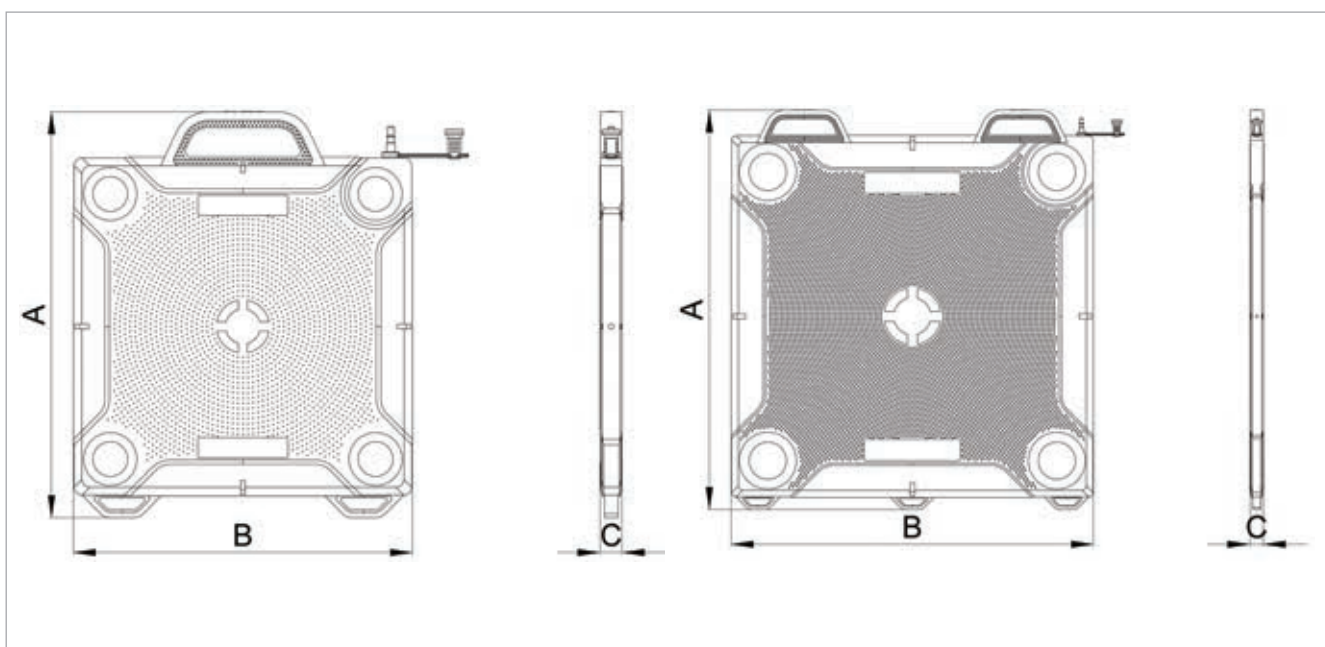
model		HLB 2	HLB 6	HLB 8	HLB 11	HLB 16	HLB 21
art no		350.321.021	350.321.022	350.321.023	350.321.025	350.321.026	350.321.027
max. working pressure	bar/Mpa	12 / 1.2	12 / 1.2	12 / 1.2	12 / 1.2	12 / 1.2	12 / 1.2
max. inflation height	mm	94	141	179	207	236	266
thickness incl. profile	mm	22	22	22	25	25	25
max. lifting capacity	kN/t	21 / 2.1	55 / 5.6	82 / 8.4	110 / 11.2	155 / 15.8	210 / 21.4
max. lifting capacity (12 bar/174 psi)	kN/t	21 / 2.1	55 / 5.6	82 / 8.4	110 / 11.2	155 / 15.8	210 / 21.4
max. lifting capacity (8 bar/116 psi)	kN/t	14 / 1.4	37 / 3.8	55 / 5.6	73 / 7.4	103 / 10.5	133 / 13.6
air content (12 bar/174 psi)	l	9.6	26.4	40	64.8	104.4	161
air content (8 bar/116 psi)	l	6.4	17.6	26.4	43.2	69.6	107.2
water content	l	0.8	2.2	3.3	5.4	8.7	13.4
connection		ISO 6150 C	ISO 6150 C	ISO 6150 C	ISO 6150 C	ISO 6150 C	ISO 6150 C
min. bursting pressure	bar/Mpa	48 / 4.8	48 / 4.8	48 / 4.8	48 / 4.8	48 / 4.8	48 / 4.8
material		reinforced with 3 aramide inlays	reinforced with 3 aramide inlays	reinforced with 3 aramide inlays	reinforced with 3 aramide inlays	reinforced with 3 aramide inlays	reinforced with 3 aramide inlays
weight, ready for use	kg	0.7	1.6	2.1	3.2	4.5	5.6
dimensions (AxBxC)	mm	200 x 160 x 22	285 x 245 x 22	335 x 295 x 22	403 x 325 x 25	467 x 390 x 25	517 x 440 x 25
temperature range	°C	-20 + 55	-20 + 55	-20 + 55	-20 + 55	-20 + 55	-20 + 55



**Lifting bags - Lifting bags**

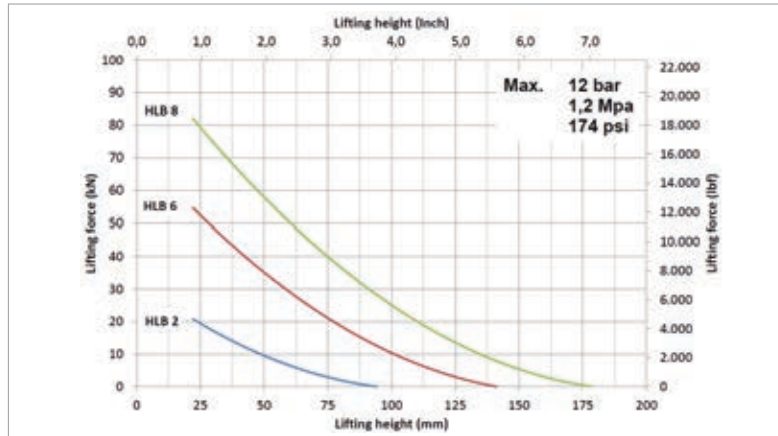


model		HLB 31	HLB 38	HLB 53	HLB 63	HLB 85	HLB 96
art no		350.321.028	350.321.030	350.321.031	350.321.032	350.321.034	350.321.033
max. working pressure	bar/Mpa	12 / 1.2	12 / 1.2	12 / 1.2	12 / 1.2	12 / 1.2	12 / 1.2
max. inflation height	mm	321	352	411	456	550	565
thickness incl. profile	mm	27	27	27	27	27	27
max. lifting capacity	kN/t	306 / 31.2	370 / 37.7	520 / 53	620 / 63.2	855 / 87.2	940 / 95.9
max. lifting capacity (12 bar/174 psi)	kN/t	306 / 31.2	370 / 37.7	520 / 53	620 / 63.2	855 / 87.2	940 / 95.9
max. lifting capacity (8 bar/116 psi)	kN/t	204 / 20.8	247 / 25.2	347 / 35.4	413 / 42.1	570 / 58.1	627 / 63.9
air content (12 bar/174 psi)	l	286	438	692	884	1415	1619
air content (8 bar/116 psi)	l	190.4	296	462	592	943	1079
water content	l	24	37	58	74	118	135
connection		ISO 6150 C	ISO 6150 C	ISO 6150 C	ISO 6150 C	ISO 6150 C	ISO 6150 C
min. bursting pressure	bar/Mpa	48 / 4.8	48 / 4.8	48 / 4.8	48 / 4.8	48 / 4.8	48 / 4.8
material		reinforced with 3 aramide inlays	reinforced with 3 aramide inlays	reinforced with 3 aramide inlays	reinforced with 3 aramide inlays	reinforced with 3 aramide inlays	reinforced with 3 aramide inlays
weight, ready for use	kg	8.6	10.0	15.0	17.0	23.0	25.0
dimensions (AxBxC)	mm	608 x 530 x 27	662 x 585 x 27	767 x 690 x 27	827 x 750 x 27	948 x 870 x 27	987 x 910 x 27
thread hole	threadsize	M6	M6	M6	M6	M6	M6
temperature range	°C	-20 + 55	-20 + 55	-20 + 55	-20 + 55	-20 + 55	-20 + 55



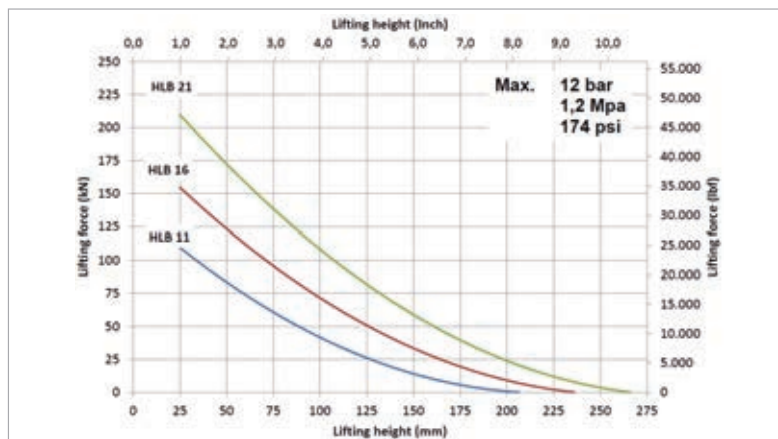
**Diagrams - HLB 12 bar**

**HLB 2, 6 and 8**



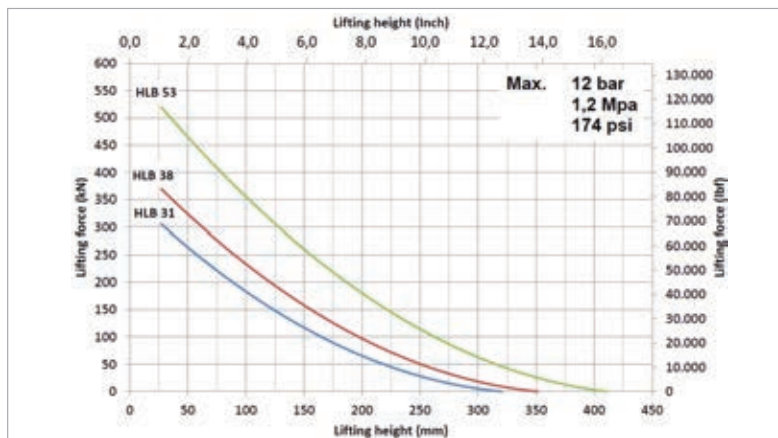
- HLB 2
- HLB 6
- HLB 8

**HLB 11, 16 and 21**



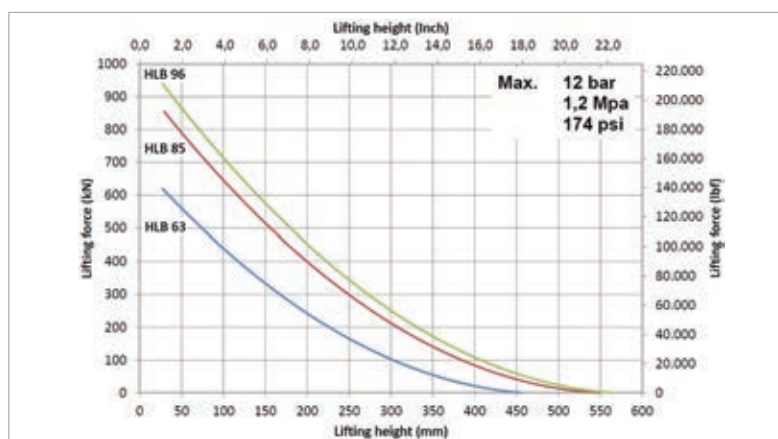
- HLB 11
- HLB 16
- HLB 21

**HLB 31, 38 and 53**



- HLB 31
- HLB 38
- HLB 53

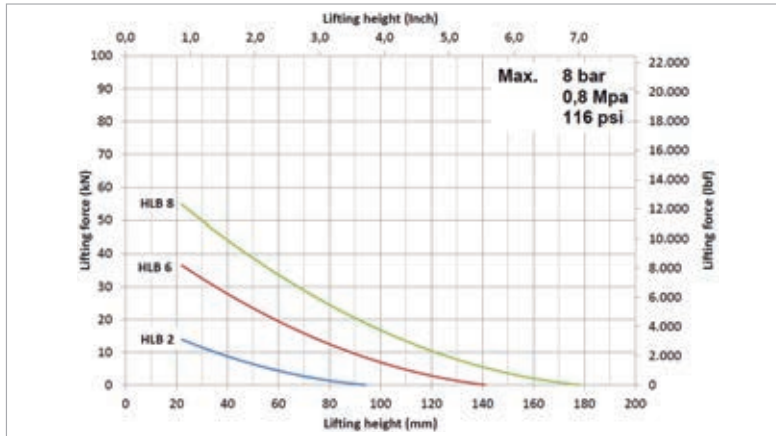
**HLB 63, 85 and 96**



- HLB 63
- HLB 85
- HLB 96

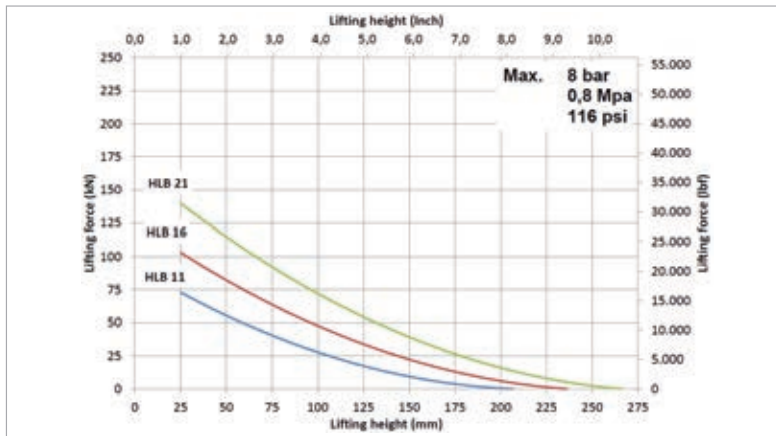
**Diagrams - HLB 8 bar**

**HLB 2, 6 and 8**



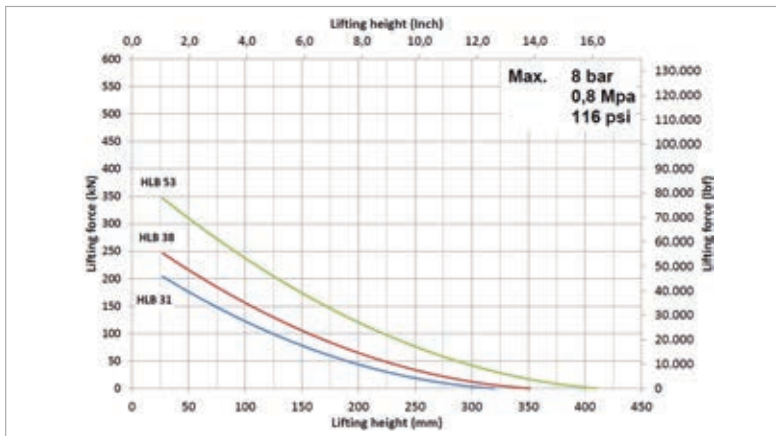
- HLB 2
- HLB 6
- HLB 8

**HLB 11, 16 and 21**



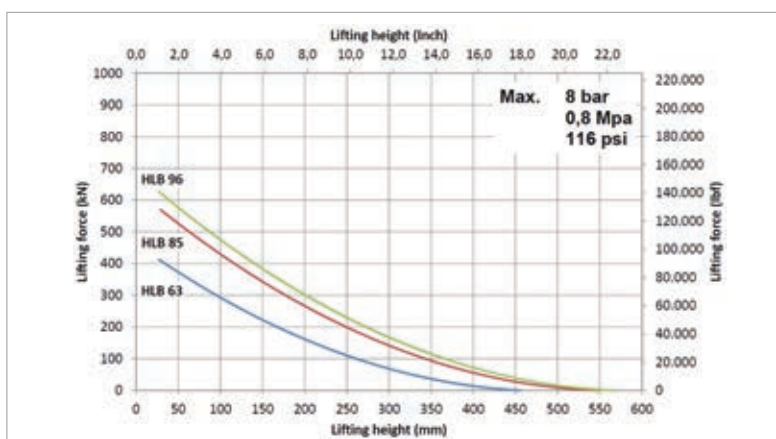
- HLB 11
- HLB 16
- HLB 21

**HLB 31, 38 and 53**



- HLB 31
- HLB 38
- HLB 53

**HLB 63, 85 and 96**





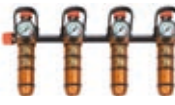


- HLB 63
- HLB 85
- HLB 96



**Lifting bags - Control units 12 bar**





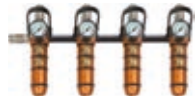


image	description	model	art no
	Control unit for operation of one or two high pressure lifting bags <ul style="list-style-type: none"> <li>• Designed for safe and controlled lifting</li> <li>• Working pressure 12 bar / 174 psi</li> </ul>	HDC 12	350.182.095
	Single control unit <ul style="list-style-type: none"> <li>• For the control of 1 high-pressure lifting bag</li> <li>• Safety valves set at 12 bar / 174 psi</li> </ul>	SCV 12	350.182.110
	Double control unit <ul style="list-style-type: none"> <li>• For the control of 2 high-pressure lifting bags</li> <li>• Safety valves set at 12 bar / 174 psi</li> </ul>	DCV 12	350.182.111
	Triple control unit <ul style="list-style-type: none"> <li>• For the control of 3 high-pressure lifting bags</li> <li>• Safety valves set at 12 bar / 174 psi</li> </ul>	TCV 12	350.182.121
	Quadruple control unit <ul style="list-style-type: none"> <li>• For the control of 4 high-pressure lifting bags</li> <li>• Safety valves set at 12 bar / 174 psi</li> </ul>	QCV 12	350.182.122











**Lifting bags - Control units 8 bar**



image	description	model	art no
	Control unit for operation of one or two high pressure lifting bags <ul style="list-style-type: none"> <li>• Designed for safe and controlled lifting</li> <li>• Working pressure 8 bar / 116 psi</li> </ul>	HDC 8	350.182.102
	Single control unit <ul style="list-style-type: none"> <li>• For the control of 1 high-pressure lifting bag</li> <li>• Safety valves set at 8.5 bars</li> </ul>	SCV 10 U	350.582.042
	Double control unit <ul style="list-style-type: none"> <li>• For the control of 2 high-pressure lifting bags</li> <li>• Safety valves set at 8.5 bars</li> </ul>	DCV 10 U	350.582.034
	Triple control unit <ul style="list-style-type: none"> <li>• For the control of 3 high-pressure lifting bags</li> <li>• Safety valves set at 8.5 bars</li> </ul>	TCV 10 U	350.582.059
	Quadruple control unit <ul style="list-style-type: none"> <li>• For the control of 4 high-pressure lifting bags</li> <li>• Safety valves set at 8.5 bars</li> </ul>	QCV 10 U	350.582.060




**Lifting bags - Accessories 12 bar**


image	description	model	art no
	Shut-off hose with safety valve for 12 bar lifting bags <ul style="list-style-type: none"> <li>• To shut off inflated high-pressure lifting bags</li> <li>• Allows you to remove the hose, controller and air source from the working area</li> <li>• With safety coupler: unlocks in two steps to release pressure before hose disconnection</li> </ul>	SOH 12	350.182.096
	Air adapter <ul style="list-style-type: none"> <li>• Female coupler, 12 bar / 174 psi</li> <li>• Male coupler, 8 bar / 116 psi</li> <li>• To connect your 12 bar lifting bag to an 8 bar lifting system</li> </ul>	AA F12 M8	350.182.107
	Air adapter <ul style="list-style-type: none"> <li>• Two male couplers, 12 bar / 174 psi</li> <li>• To connect your 12 bar lifting bag system to a 12 bar compressor system</li> </ul>	AA M12 M12	350.000.160
	Air adapter set <ul style="list-style-type: none"> <li>• Air adapter AA M12 M12</li> <li>• Air adapter AA M12 M8</li> <li>• Air adapter AA F12 M8</li> <li>• To connect 12 bar / 174 psi and 8 bar / 116 psi lifting systems</li> </ul>	AAS 12	151.000.223
	Air bottle, 300 bar, 6 litres <ul style="list-style-type: none"> <li>• For use with all air operated tools and pumps</li> </ul>	-	350.581.096
	Connection piece for two air bottles of 300 bar <ul style="list-style-type: none"> <li>• To increase the air source volume</li> </ul>	-	350.582.430
	Pressure reducer for air bottles of 300 bar <ul style="list-style-type: none"> <li>• Complete with 2 m hose</li> </ul>	PRV 12	350.182.100
	Lifting eyes set (2 pcs) <ul style="list-style-type: none"> <li>• To attach a rope for easy maneuvering of your lifting bag</li> </ul>	-	350.182.129







**Lifting bags - Accessories 12 bar**



image	description	model	art no
	Slider pads set (3 pcs) <ul style="list-style-type: none"><li>• For easy insertion of a lifting bag underneath an object</li></ul>	-	151.000.180


**Lifting bags - Accessories 8 bar**



image	description	model	art no
	<p>Shut-off hose with safety</p> <ul style="list-style-type: none"> <li>To close high-pressure lifting bags while remaining under pressure in order to use hose and air source elsewhere</li> </ul>	-	350.582.035
	<p>Air adapter</p> <ul style="list-style-type: none"> <li>Female coupler, 12 bar / 174 psi</li> <li>Male coupler, 8 bar / 116 psi</li> <li>To connect your 12 bar lifting bag to an 8 bar lifting system</li> </ul>	AA F12 M8	350.182.107
	<p>Adapter set</p> <ul style="list-style-type: none"> <li>Synthetic carrying/storage case with various adapters for connecting high pressure</li> <li>lifting bags to various air sources</li> </ul>	UAS 10	350.582.050
	<p>Air bottle, 300 bar, 6 litres</p> <ul style="list-style-type: none"> <li>For use with all air operated tools and pumps</li> </ul>	-	350.581.096
	<p>Connection piece for two air bottles of 300 bar</p> <ul style="list-style-type: none"> <li>To increase the air source volume</li> </ul>	-	350.582.430
	<p>Pressure reducer</p> <ul style="list-style-type: none"> <li>For both 200 and 300 air bottles</li> <li>Complete with hose 2 m</li> </ul>	PRV 823 AU	350.182.002


**Lifting bags - Control sets 12 bar**

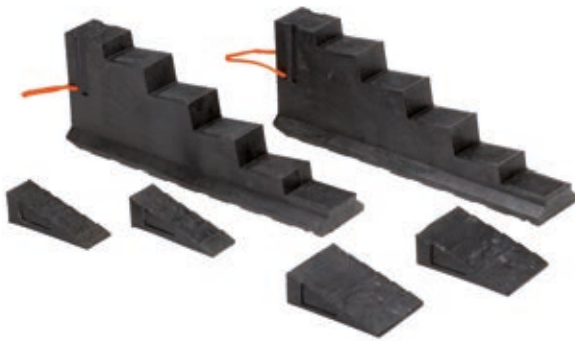


image	description	model	art no
	<p>Air control set</p> <ul style="list-style-type: none"> <li>• Synthetic carrying/storage case with control unit, hoses, shut-off hoses, pressure reducer, air adapters and connection piece for 300 bar air bottles</li> <li>• Everything you need to operate your 12 bar/ 174 psi lifting bags</li> </ul>	ACS 12	350.182.125

**Lifting bags - Control sets 8 bar**



image	description	model	art no
	<p>Air control set</p> <ul style="list-style-type: none"> <li>• Synthetic orange carrying/storage case with control unit, hoses, shut-off hose, pressure reducer and connection piece for air bottles 300 bar</li> </ul>	DCS 10 U_300	350.582.039



Set A

**Features & benefits** ↓

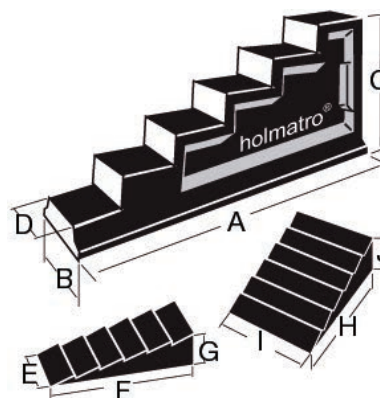
- Environment-friendly
  - Made of recycled polyethylene
  - 100% re-usable
- Longer life span than wood; virtually indestructible through one piece moulding
- Non-absorbent material; total resistance to water and oil
- Stackable; non-slip with unique surface profile design
- Extra grip due to elasticity of material under load
- Higher surface pressure allowed; supports 100 kg/cm<sup>2</sup> in all directions
- Lightweight; floats on water
- Safe; no splintering

**Standard supplied with** ↓

- 2 x 1 step chock
- 2 x 1 wedge small
- 2 x 1 wedge large

**Chocks and blocks - Set A** ↓

model	Set A	
art no	150.562.010	
weight, ready for use	kg	15.6





Set B

**Features & benefits** ↓

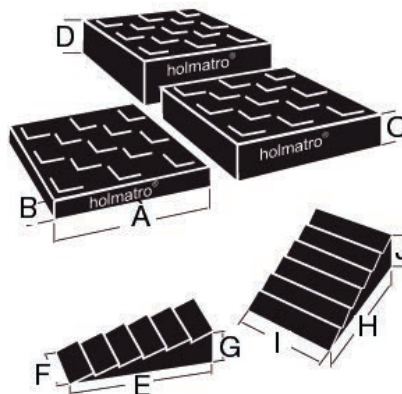
- Environment-friendly
  - Made of recycled polyethylene
  - 100% re-usable
- Longer life span than wood; virtually indestructible through one piece moulding
- Non-absorbent material; total resistance to water and oil
- Stackable; non-slip with unique surface profile design
- Extra grip due to elasticity of material under load
- Higher surface pressure allowed; supports 100 kg/cm<sup>2</sup> in all directions
- Lightweight; floats on water
- Safe; no splintering

**Standard supplied with** ↓

- 2 x 1 wedge small
- 2 x 1 wedge large
- 2 x 1 lock block low
- 2 x 1 lock block medium
- 2 x 1 lock block high

**Chocks and blocks - Set B** ↓

<b>model</b>	<b>Set B</b>	
art no	150.562.004	
weight, ready for use	kg	15.0





**Features & benefits** ↓

- Made of cast iron; resistant to continuous heavy operating conditions
- Unique ratchet handle for engagement both wheel and plunger
- Self-locking; for safe working
- Robust; can be used close to welding works and under water
- Low maintenance
- A range of 13 models with different capacities and stroke lengths
- Almost all jacks have a handle

**Standard** supplied with ↓

- Handle bar

Traversing beds  
Base plates

page 127  
page 129



**Mechanical tools - Jacks**

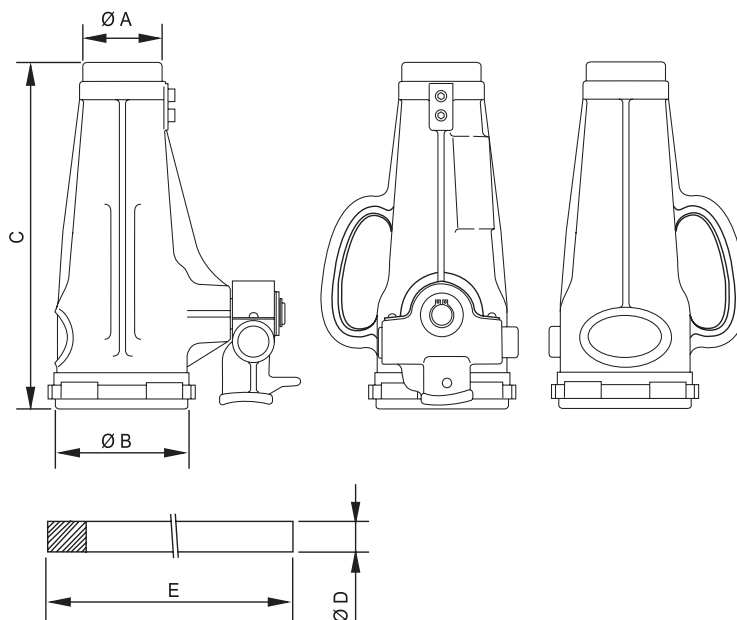


model	JJ 1015	JJ 1513	JJ 2513	JJ 2525	JJ 2533	JJ 3020
art no	200.401.001	200.401.011	200.401.021	200.102.001	200.102.005	200.102.002
tonnage	t 10	15	25	25	25	30
stroke	mm 150	125	125	250	330	200
closed height	mm 280	255	255	395	485	350
capacity	kN/t 98.1 / 10	147.2 / 15	245.3 / 25	245.3 / 25	245.3 / 25	294 / 30
weight, ready for use	kg 12.0	12.0	16.0	21.0	25.0	26.0

**Mechanical tools - Jacks (dimensions)**



model	JJ 1015	JJ 1513	JJ 2513	JJ 2525	JJ 2533	JJ 3020
dimension A	mm 65	63	77	77	77	95
dimension B	mm 108	113	127	127	127	148
dimension C	mm 280	255	255	395	485	350
dimension D	mm 25	25	25	25	25	25
dimension E	mm 600	600	700	700	700	700



**Mechanical tools - Jacks**

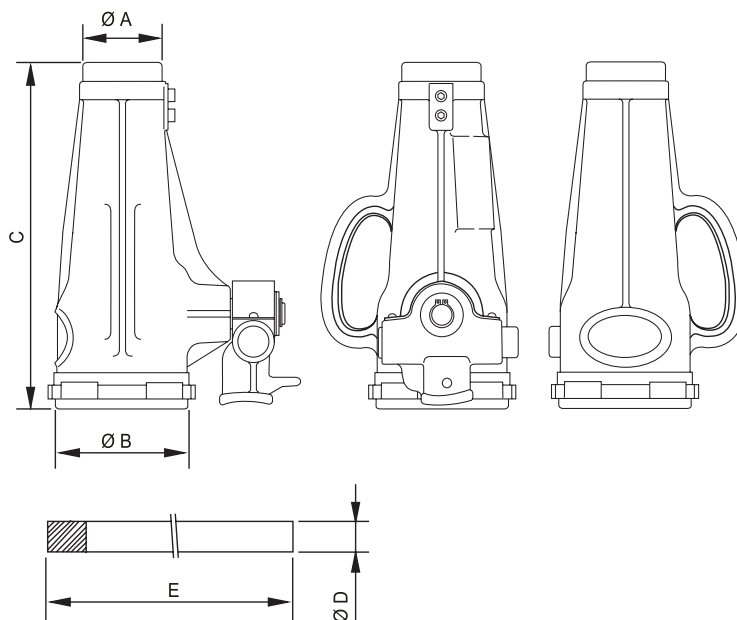


model	JJ 3513	JJ 3525	JJ 3535	JJ 5013	JJ 5025	JJ 5035
art no	200.401.031	200.102.003	200.102.006	200.401.041	200.102.004	200.102.007
tonnage	t	35	35	35	50	50
stroke	mm	130	250	350	130	250
closed height	mm	280	410	535	290	445
capacity	kN/t	343.4 / 35	343.4 / 35	343.4 / 35	490.5 / 50	490.5 / 50
weight, ready for use	kg	24.0	32.0	37.0	31.0	42.0

**Mechanical tools - Jacks (dimensions)**



model	JJ 3513	JJ 3525	JJ 3535	JJ 5013	JJ 5025	JJ 5035
dimension A	mm	87	87	87	105	105
dimension B	mm	147	147	147	166	166
dimension C	mm	280	410	535	290	445
dimension D	mm	32	32	32	32	32
dimension E	mm	700	700	700	800	800



**Mechanical tools - Jacks**

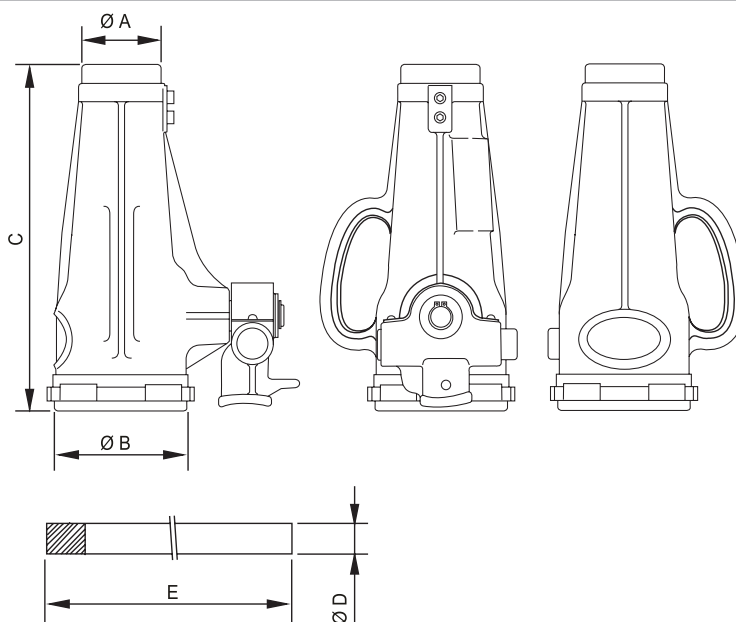


<b>model</b>	<b>JJ 10011</b>	
art no	200.401.051	
<b>tonnage</b>	<b>t</b>	100
<b>stroke</b>	<b>mm</b>	105
<b>closed height</b>	<b>mm</b>	310
capacity	kN/t	981 / 100
weight, ready for use	kg	75.0

**Mechanical tools - Jacks (dimensions)**



<b>model</b>	<b>JJ 10011</b>	
dimension A	mm	127
dimension B	mm	235
dimension C	mm	310
dimension D	mm	32
dimension E	mm	1500





**Features & benefits**



- Compact and lightweight construction; easy to work with and better for the welfare of your employees
- Special sliding pad instead of ball bearings
- Self-locking; for safe working
- Extendable handle bar
- All jacks have a handle

**Mechanical tools - Jacks - aluminium**

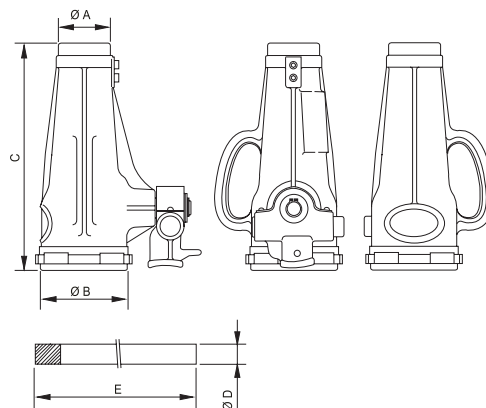


model	AJ 1008	AJ 1510	AJ 2510
art no	200.401.004	200.401.003	200.401.002
<b>tonnage</b>	<b>t</b> 10	15	25
<b>stroke</b>	<b>mm</b> 80	100	100
<b>closed height</b>	<b>mm</b> 175	200	200
capacity	kN/t 100 / 10.2	150 / 15.3	250 / 25.5
weight, ready for use	kg 6.1	6.8	9.5

**Mechanical tools - Jacks - aluminium (dimensions)**



model	AJ 1008	AJ 1510	AJ 2510
dimension A	mm 58	58	73
dimension B	mm 102	102	122
dimension C	mm 175	200	200
dimension D	mm 27	27	30
dimension E	mm 575	575	675





PL 2510

**Features & benefits**

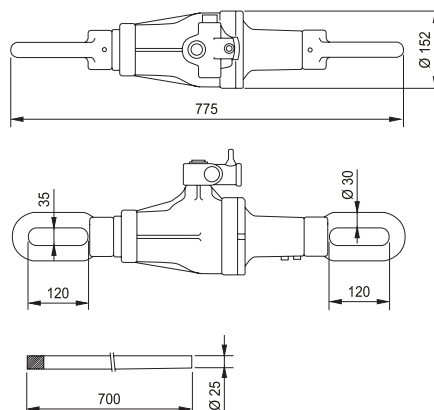


- Made of cast iron; resistant to continuous heavy operating conditions
- Unique ratchet handle for engagement both wheel and plunger
- Pulling eyes and an handle bar
- Self-locking; for safe working
- Robust; can be used close to welding works and under water
- Usable in all positions
- Low maintenance

**Mechanical tools - Pulling jack**



<b>model</b>	<b>PL 2510</b>
art no	200.421.001
<b>tonnage</b>	<b>t</b> 25
<b>stroke</b>	<b>mm</b> 100
retracted length	mm 775
capacity	kN/t 245.3 / 25
weight, ready for use	kg 32.0





NJ 0615

**Features & benefits** ↓

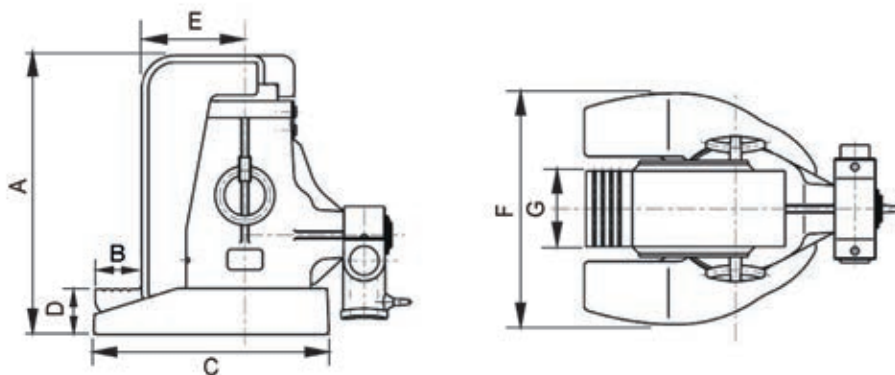
- Made of cast iron; resistant to continuous heavy operating conditions and low maintenance
- Unique ratchet handle for engagement both wheel and plunger
- Self-locking; for safe working
- Robust; can be used close to welding works and under water

**Mechanical tools - Toe jacks** ↓

model	NJ 0615	NJ 1013	NJ 1513	NJ 2513
art no	200.102.022	200.102.023	200.102.024	200.102.025
<b>tonnage</b>	<b>t</b> 6	10	15	25
<b>stroke</b>	<b>mm</b> 150	125	125	130
<b>closed height</b>	<b>mm</b> 310	290	297	332
capacity	kN/t 60 / 6.1	100 / 10.2	150 / 15.3	250 / 25.5
weight, ready for use	kg 23.0	29.0	38.0	60.0

**Mechanical tools - Toe jacks (dimensions)** ↓

model	NJ 0615	NJ 1013	NJ 1513	NJ 2513
dimension A	mm 310	290	297	332
dimension B	mm 45	50	50	55
dimension C	mm 208	227	242	280
dimension D	mm 30	40	45	55
dimension E	mm 85	93	101	123
dimension F	mm 195	210	230	275
dimension G	mm 70	75	80	90





TB 1030



**Features & benefits**



- Made of cast iron; resistant to continuous heavy operating conditions
- Screw shaft and handle bar; for easy operating
- Self-locking; for safe working
- Robust; can be used close to welding works and under water
- Low maintenance

**Additional information**



ATTENTION: Cannot be used with JJ 10011, Aluminium Mechanical jacks and Mechanical Toe jacks!

**Mechanical tools - Accessories - Traversing beds**

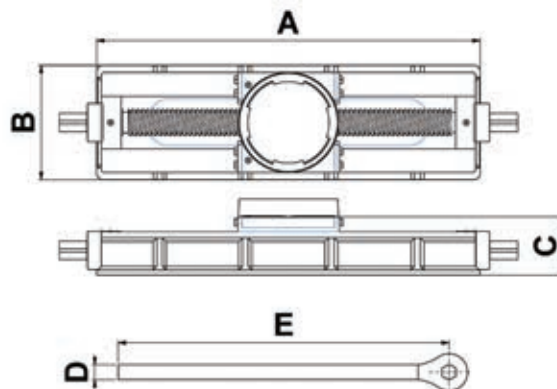


model	TB 1030	TB 1530	TB 2530	TB 2545	TB 3530	TB 3545
art no	200.102.008	200.102.009	200.102.010	200.102.011	200.102.012	200.102.013
suitable for jack	JJ 1015	JJ 1513	JJ 25**	JJ 25**	JJ 30** / JJ 35**	JJ 30** / JJ 35**
max. horizontal displacement	mm 300	300	300	450	450	450
weight, ready for use	kg 20.0	20.0	25.0	31.0	33.0	38.0

**Mechanical tools - Accessories - Traversing beds (dimensions)**



model	TB 1030	TB 1530	TB 2530	TB 2545	TB 3530	TB 3545
dimension A	mm 465	465	470	620	505	655
dimension B	mm 165	165	185	185	200	200
dimension C	mm 85	85	90	90	97	97
dimension D	mm 24	24	30	30	30	30
dimension E	mm 535	535	600	600	600	600





TB 5030

**Features & benefits** ↓

- Made of cast iron; resistant to continuous heavy operating conditions
- Screw shaft and handle bar; for easy operating
- Self-locking; for safe working
- Robust; can be used close to welding works and under water
- Low maintenance

**Additional information** ↓

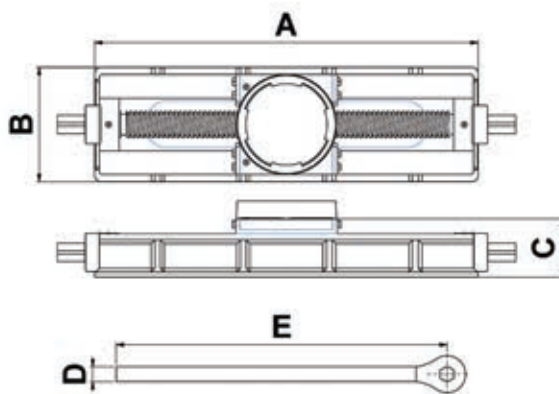
ATTENTION: Cannot be used with JJ 10011, Aluminium Mechanical jacks and Mechanical Toe jacks!

**Mechanical tools - Accessories - Traversing beds** ↓

model	TB 5030	TB 5045
art no	200.102.014	200.102.015
suitable for jack	JJ 50**	JJ 50**
max. horizontal displacement	mm 300	450
weight, ready for use	kg 43.0	66.0

**Mechanical tools - Accessories - Traversing beds (dimensions)** ↓

model	TB 5030	TB 5045
dimension A	mm 530	670
dimension B	mm 210	220
dimension C	mm 108	128
dimension D	mm 30	30
dimension E	mm 600	600





SB 10

**Features & benefits** ↓

- Made of cast iron; resistant to continuous heavy operating conditions
- Robust; can be used close to welding works and under water
- Low maintenance

**Additional information** ↓

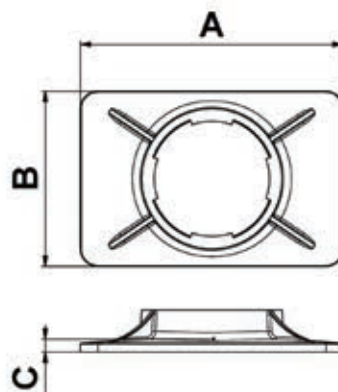
ATTENTION: Cannot be used with JJ 10011, Aluminium Mechanical jacks and Mechanical Toe jacks!

**Mechanical tools** - Accessories - Base plates ↓

model	SB 10	SB 15	SB 25	SB 35	SB 50
art no	200.102.016	200.102.017	200.102.018	200.102.020	200.102.021
suitable for jack	JJ 1015	JJ 1513	JJ 25**	JJ 30** / JJ 35**	JJ 50**
weight, ready for use	kg 2.0	5.0	7.5	9.5	20.0

**Mechanical tools** - Accessories - Base plates (dimensions) ↓

model	SB 10	SB 15	SB 25	SB 35	SB 50
dimension A	mm 220	240	300	300	400
dimension B	mm 180	190	200	220	300
dimension C	mm 10	12	15	18	19





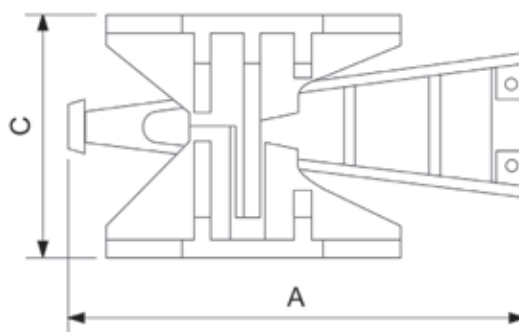
W 50

**Features & benefits** ↓

- Unloads in one go with maximum load
- Robust; resistant to continuous heavy operating conditions
- Can be used close to welding works
- Low maintenance

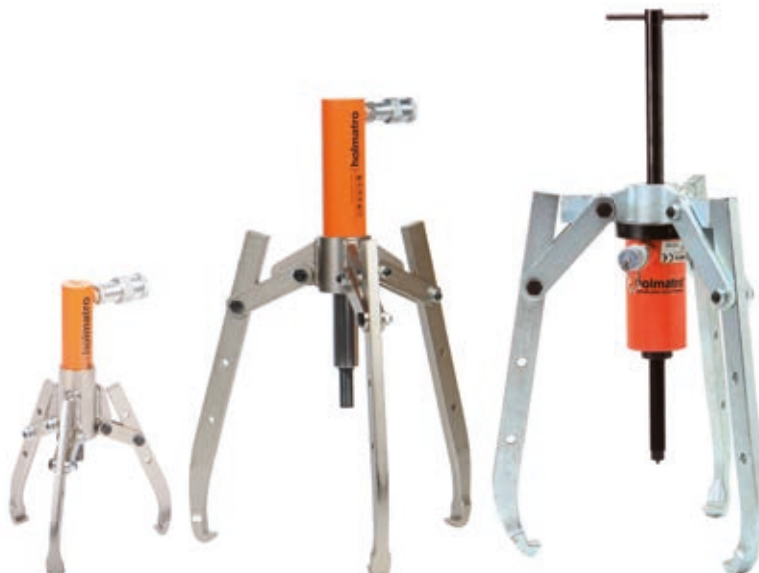
**Ship wedges** ↓

model	W 50	W 80
art no	500.501.050	500.501.080
max. height	mm 225	340
min. height	mm 200	275
capacity	kN/t 490.5 / 50	784.8 / 80
weight, ready for use	kg 29.0	64.5
dimensions (AxBxC)	mm 390 x 255 x 200	570 x 345 x 275



# Hand tools





**Features & benefits** ↓

- Adjustable for broad range of pulleys
- Compact and lightweight
- Usable in all positions

**Available on request** ↓

- Cylinders manufactured in conformity with customer specifications

**Additional information** ↓

- Puller sets can also be used in combination with cylinders having other stroke lengths

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



**Puller sets - Spring return**

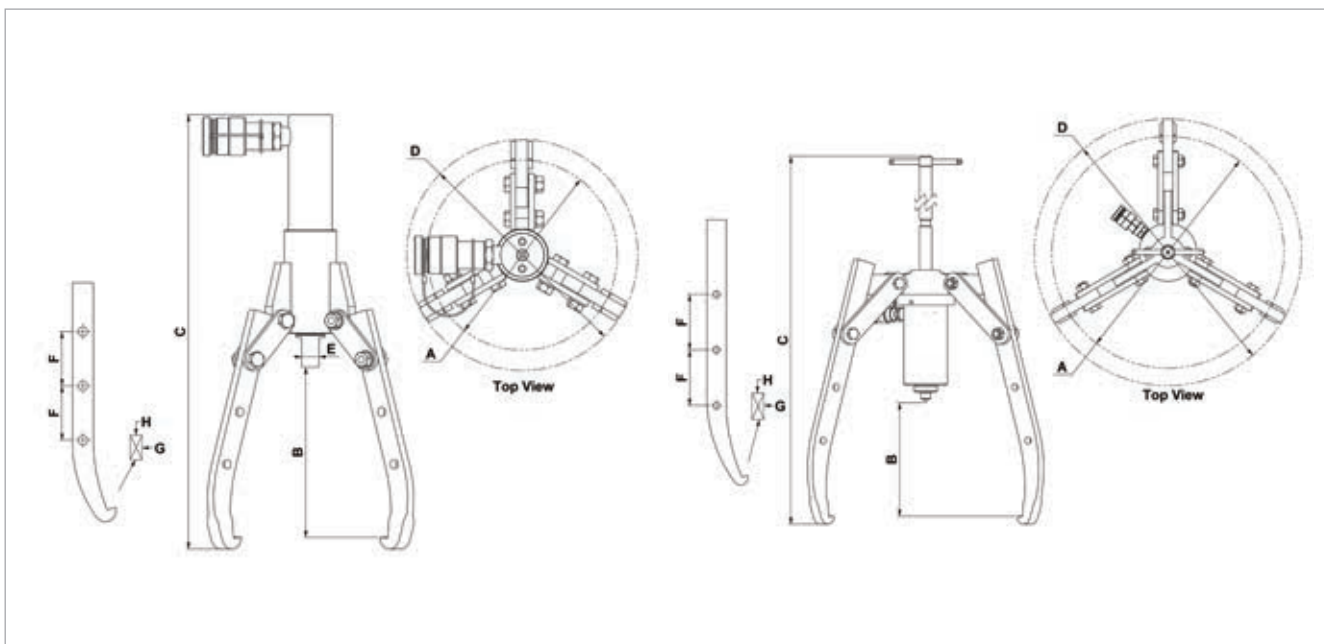


model	HP 5 M	HP 10 M	HP 17	HP 30
art no	100.012.014	100.012.015	100.562.003	100.562.004
required cylinder	HGC 5 S 12.5	HGC 10 S 15	HHJ 17 S 5	HHJ 30 S 7.5
return type	spring	spring	spring	spring
connection	A 118	A 118	A 118	A 118
weight, excl. cylinder	kg 2.3	8.4	18.5	36.5
weight, incl. cylinder	kg 4.1	13.0	27.5	51.0

**Puller sets - Spring return (dimensions)**



model	HP 5 M	HP 10 M	HP 17	HP 30
dimension A (min.)	mm 30	50	80	100
dimension A (max.)	mm 175	360	390	485
dimension B (min.)	mm 57	157	10	60
dimension B (max.)	mm 157	321	240	310
dimension C (max.)	mm 400	622	950	1200
dimension D (max.)	mm 213	417	490	630
dimension E	mm 16	19		
dimension F	mm 50	82	115	125
dimension G	mm 20	25	32	40
dimension H	mm 7	15	18	22





**Features & benefits** ↓

- Safe; no flying off parts or sparks
- Compact and lightweight
- Easy to use
- Two or more can be used for a more equal distribution of forces

**Standard** supplied with ↓

- High Flow female coupler A 118
- 60° Spreading wedge
- Plastic carrying box, including high-grade grease Molycote®

**Available** on request ↓

- Spreading wedge with 30° angle:
  - FLS 85 M, art no 100.103.009
  - FLS 170 M, art no 100.103.018
  - FLS 210 M, art no 100.182.141
- Flange spreader with opening larger than 210 mm

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



**Flange spreaders - Spring return**

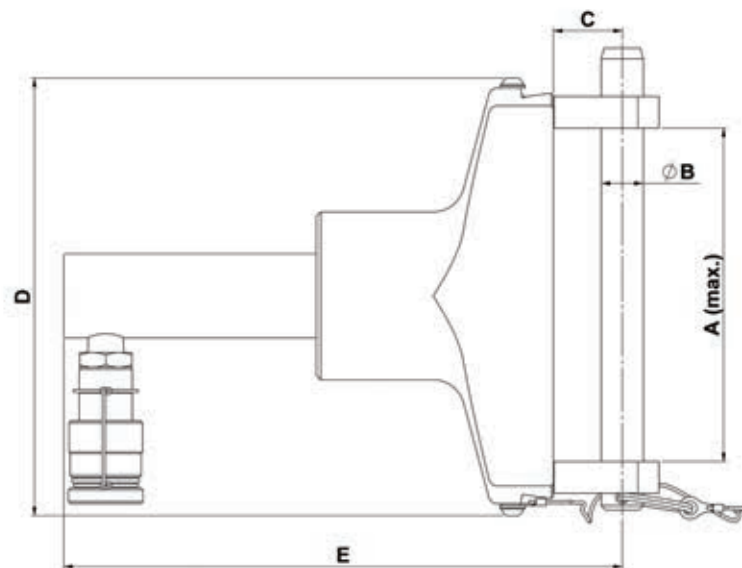


model		FLS 85 M	FLS 170 M	FLS 210 M
art no		100.012.011	100.012.012	100.012.013
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72
flange opening 30° wedge (min.)	mm	2	2	2
flange opening 30° wedge (max.)	mm	25	25	25
flange opening 60° wedge (min.)	mm	3	3	3
flange opening 60° wedge (max.)	mm	32	32	32
spreading force 30° wedge	kN/t	73.5 / 7.5	73.5 / 7.5	73.5 / 7.5
spreading force 60° wedge	kN/t	34.3 / 3.5	34.3 / 3.5	34.3 / 3.5
required oil content (effective)	cc	53	53	53
return type		spring	spring	spring
connection		A 118	A 118	A 118
weight, ready for use	kg	4.5	8.0	9.5
weight, incl. case	kg	6.3	9.5	11.0

**Flange spreaders - Spring return (dimensions)**



model		FLS 85 M	FLS 170 M	FLS 210 M
dimension A	mm	85	170	210
dimension B	mm	15	20	30
dimension C	mm	30	32.8	75
dimension D	mm	129	209	260
dimension E	mm	264	266	309





**Features & benefits** ↓

- Compact
- Lightweight
- Usable in all positions
- Safe; no flying off parts or sparks
- Adjustable blade; prevents damage to the thread

**Standard** supplied with ↓

- High Flow female coupler A 118
- Plastic carrying box, including:
  - High-grade grease Molycote®
  - Spare blade

Hydraulic pumps	page	143
Hydraulic hoses	page	168
Pressure gauges	page	174



Adjustable blade; prevents damage to the thread



**Nut splitters - Spring return**

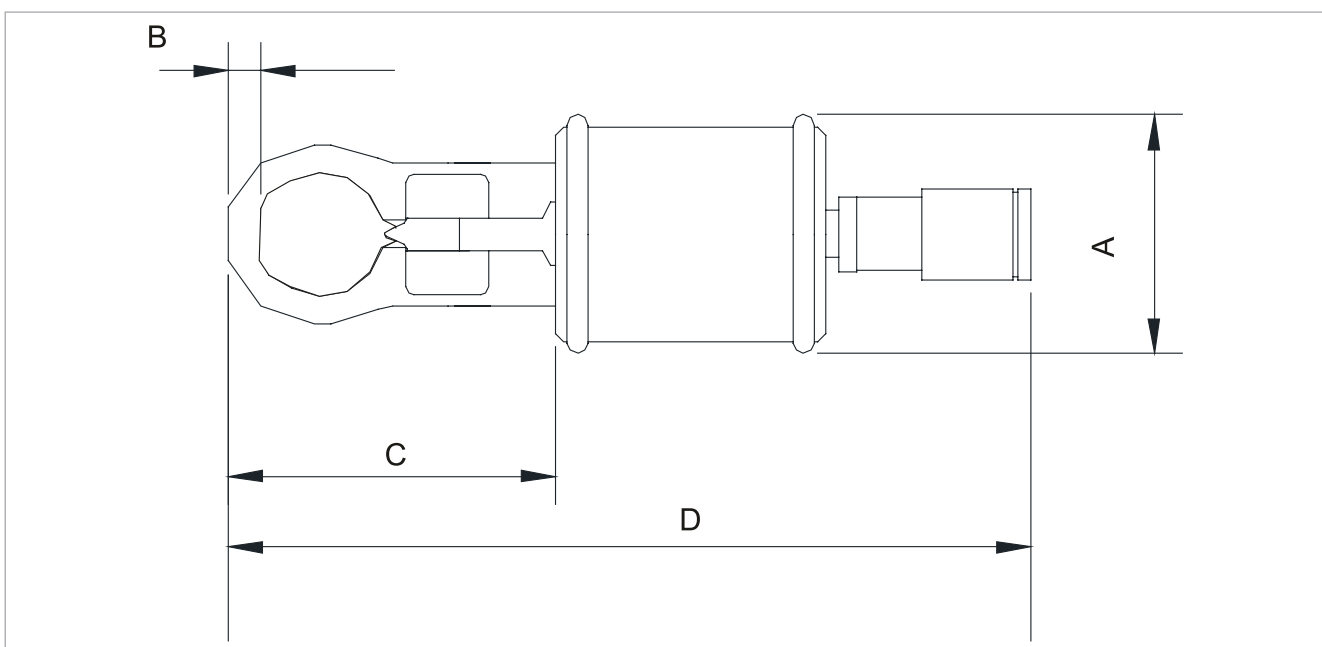


model	HNC 1536 NU	HNC 3250 U
art no	100.102.009	100.102.006
max. working pressure	bar/Mpa 720 / 72	720 / 72
min. reach bolt	M12 (1/2")	M22 (7/8")
max. reach category 8 bolt	M24 (7/8")	M33 (1 1/4")
max. reach 2H bolt	M20 (3/4")	M33 (1 1/4")
capacity	kN/t 148 / 15.1	316 / 32.2
required oil content (effective)	cc 32	57
return type	spring	spring
weight, ready for use	kg 2.9	7.2
weight, incl. case	kg 4.2	8.6
thickness cutting head	mm 23	33

**Nut splitters - Spring return (dimensions)**



model	HNC 1536 NU	HNC 3250 U
dimension A	mm 86	118
dimension B	mm 11	19
dimension C	mm 104	139
dimension D	mm 277	321





**Features & benefits** ↓

- Compact
- Lightweight
- Spark-free; safe alternative for grinding
- Quick and reliable
- Usable in all positions
- Hardened blade that can be sharpened

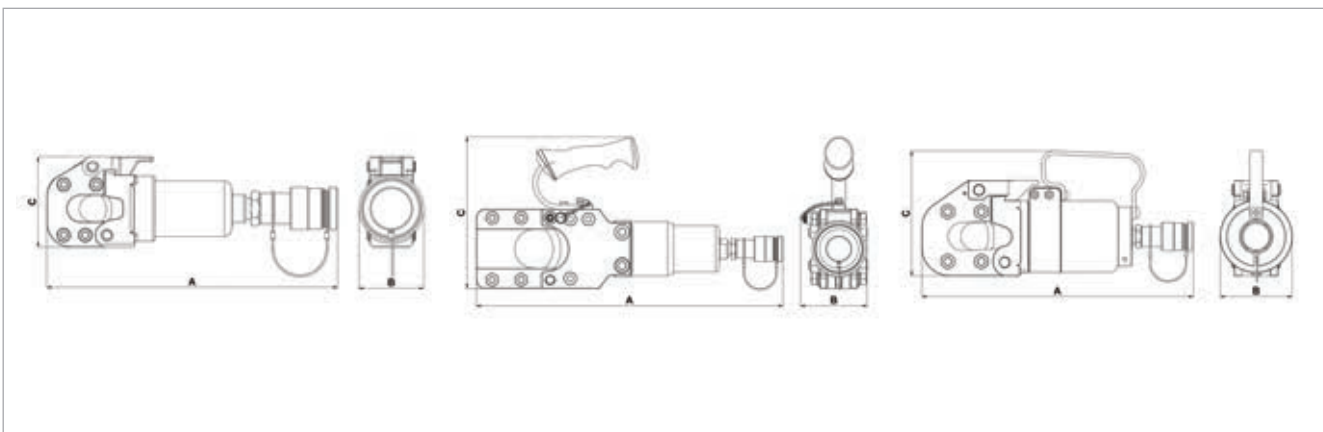
**Standard supplied with** ↓

- Carrying/storage bag

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Pressure gauges	page	174

**Steel cable cutters - Spring return** ↓

model	HWC 16 A	HWC 25 A	HWC 32 A
art no	100.012.017	100.012.018	100.012.019
cutter type	steel cable	steel cable	steel cable
max. working pressure	bar/Mpa 720 / 72	720 / 72	720 / 72
max. jaw opening	mm 20	50	32
capacity Ø steel cable 6x7	mm 16	25	32
capacity Ø steel cable 6x12	mm 20	30	32
capacity Ø steel cable 6x19	mm 20	30	32
capacity Ø solid steel	mm 13	19	25
capacity Ø reinforcing steel	mm 13	19	25
capacity Ø ground cable	mm 18	50	32
capacity	kN/t 52 / 5.3	146 / 14.9	249 / 25.4
required oil content (effective)	cc 49	106	135
return type	spring	spring	spring
weight, ready for use	kg 2.0	8.4	8.9
temperature range	°C -20 + 55	-20 + 55	-20 + 55
dimensions (AxBxC)	mm 242 x 54 x 75	425 x 91 x 210	340 x 90 x 156





**Features & benefits** ↓

- Compact
- Lightweight
- Spark-free; safe alternative for grinding
- Quick and reliable
- Usable in all positions
- Hardened blade that can be sharpened

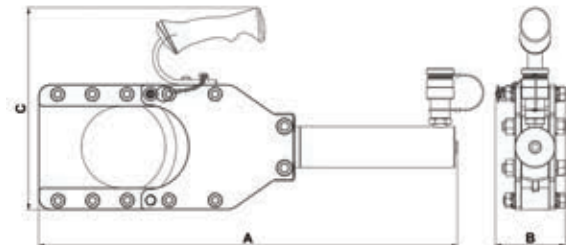
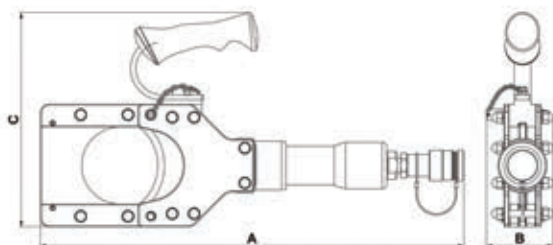
**Standard supplied with** ↓

- Carrying/storage bag

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**Power cable cutters - Spring return** ↓

model	<b>HCC 85 A</b>		<b>HCC 100 A</b>	
art no	100.012.020		100.012.021	
cutter type	power cable		power cable	
max. working pressure	bar/Mpa	720 / 72	720 / 72	
max. jaw opening	mm	85	100	
capacity Ø ground cable	mm	50	75	
capacity Ø telephone cable	mm	85	100	
capacity	kN/t	49 / 5	87 / 8,9	
required oil content (effective)	cc	65	140	
return type	spring		spring	
weight, ready for use	kg	6.8	12.7	
temperature range	°C	-20 + 55	-20 + 55	
dimensions (AxBxC)	mm	485 x 76 x 245	545 x 85 x 263	





HCC 150



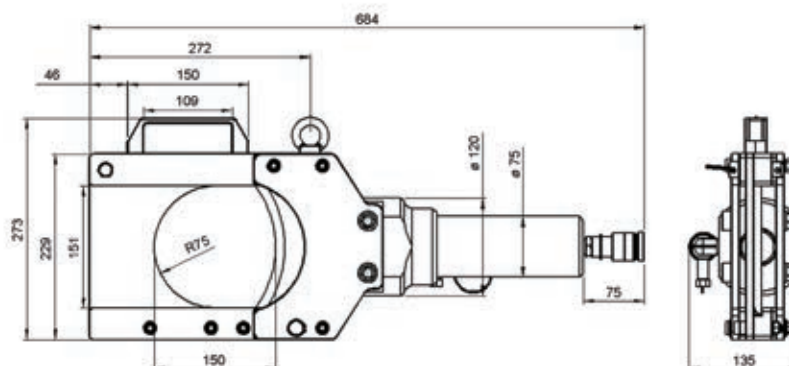
**Features & benefits** ↓

- Compact
- Lightweight
- Spark-free; safe alternative for grinding
- Quick and reliable
- Usable in all positions
- Hardened blade that can be sharpened

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**Power cable cutters - Hydraulic return** ↓

model	HCC 150	
art no	100.522.150	
cutter type	power cable	
max. working pressure	bar/Mpa	720 / 72
max. jaw opening	mm	145
capacity Ø ground cable	mm	140
capacity Ø telephone cable	mm	145
capacity	kN/t	203.6 / 20.8
required oil content (effective)	cc	452
return type	hydraulic	
weight, ready for use	kg	24.9





HPS 60 AU

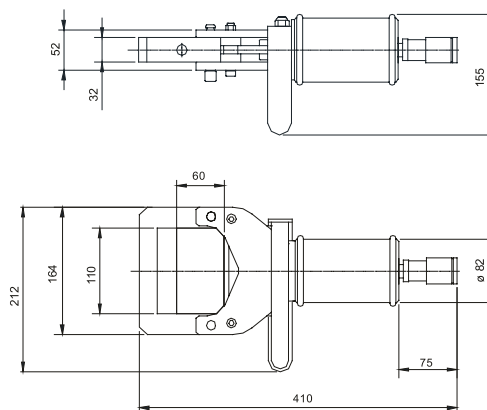
**Features & benefits** ↓

- Environmentally friendly; limits leaking of dangerous liquids
- Large squeeze surface of 60 mm; squeezes pipes with a maximum diameter of 60 mm
- Easy to install; can be opened and closed by hand very quickly without any tools
- Prevents/limits potentially dangerous situations; saves costs in case of accidents

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Hydraulic hoses	page	168
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**Pipe squeezer - Spring return** ↓

model		HPS 60 AU
art no		100.102.019
max. working pressure	bar/Mpa	720 / 72
max. outside diameter pipe	mm	60
max. wall thickness pipe	mm	4
max. squeezing force	kN/t	152.9 / 15.6
required oil content (effective)	cc	130
return type		spring
remaining opening	mm	2
weight, ready for use	kg	8.6
dimensions (LxWxH)	mm	410 x 212 x 155
temperature range	°C	-20 + 55





# Hydraulic pumps





**Features & benefits** ↓

- Ergonomic design
  - Light weight; easy to carry and operate
  - Low operating force required; minimal user effort
  - Soft-grip handles; more comfort and grip
  - Anti-slip rubber underneath; pump is stable and does not shift
  - Pump handle lock; easy and safe to carry
- Service- and maintenance-friendly; technical parts are easy to access and replace without removing the tank
- High oil output; quicker action both in the first and second stage
- Accurately adjustable pressure release valve; loads can be lowered safely and with extreme control
- Pressure gauge connection on the pump block; the pressure gauge can be directly mounted on the pump at an angle of 45 degrees, making it easily readable
- Oil level glass in the tank; easily check the oil level in both horizontal and vertical position
- Integrated filler funnel; top up oil easily and quickly without extra accessories
- Push & Unlock pump handle lock; unlocking is quick and easy with one brief push on the pump handle

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Accurately adjustable pressure release valve; loads can be lowered safely and with extreme control



Pressure gauge connection on the pump block; the pressure gauge can be directly mounted on the pump at an angle of 45 degrees, making it easily readable

**Hand pumps**

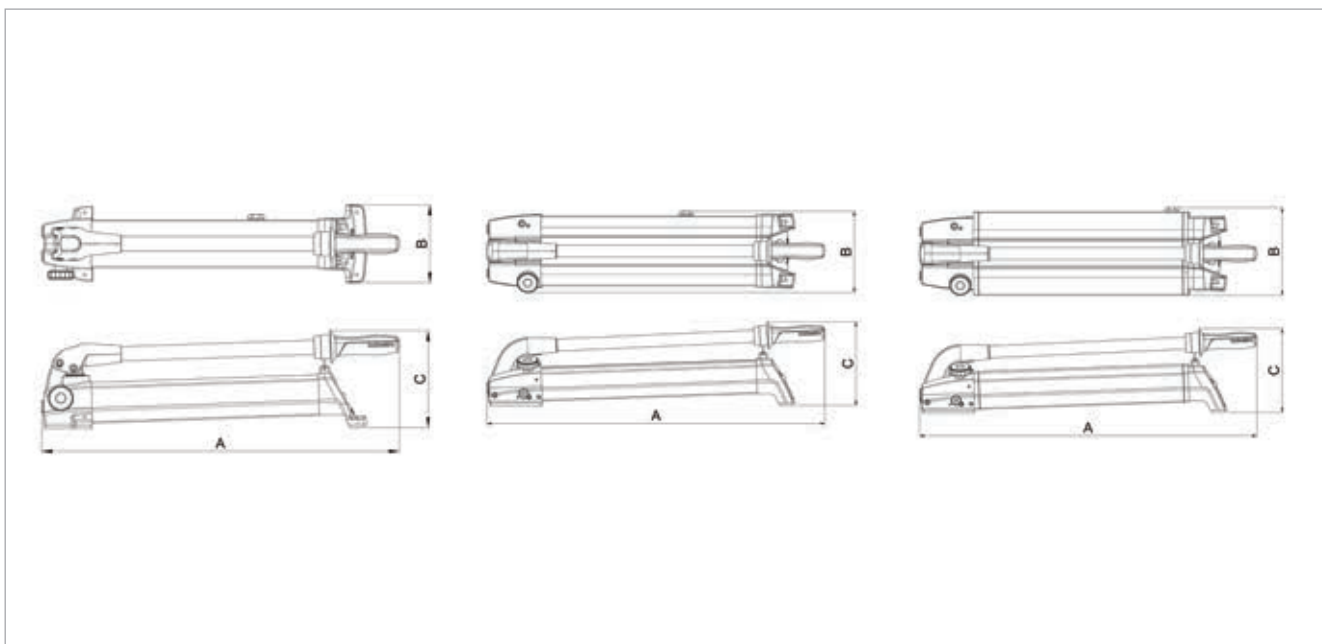


model		PA 04 H 2	PA 09 H 2	PA 18 H 2	PA 38 H 2	PA 58 H 2
art no		100.142.033	100.142.034	100.142.035	100.142.037	100.142.038
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	400	900	1800	3800	5800
capacity oil tank	cc	500	1000	1990	4150	6150
first stage output (per stroke)	cc	18.4	22	42.8	42.8	50.5
second stage output (per stroke)	cc	1.4	2.1	3.1	3.1	4
first stage pressure range	bar/Mpa	0-45 / 0-4.5	0-45 / 0-4.5	0-45 / 0-4.5	0-45 / 0-4.5	0-45 / 0-4.5
second stage pressure range	bar/Mpa	45-720 / 4.5-72	45-720 / 4.5-72	45-720 / 4.5-72	45-720 / 4.5-72	45-720 / 4.5-72
max. operating force	kg	32.0	33.0	35.0	35.0	34.0
connection		3/8" NPT female	3/8" NPT female	3/8" NPT female	3/8" NPT female	3/8" NPT female
operator type		hand	hand	hand	hand	hand
double acting optional		no	no	yes	yes	yes
weight, ready for use	kg	3.4	4.7	7.6	11.4	14.6

**Hand pumps (dimensions)**



model		PA 04 H 2	PA 09 H 2	PA 18 H 2	PA 38 H 2	PA 58 H 2
dimension A	mm	434	619	700	700	897
dimension B	mm	135	135	169	183	182
dimension C	mm	165	170	175	175	185





PA 18 F 2

**Features & benefits** ↓

- Ergonomic design
  - Light weight; easy to carry and operate
  - Low operating force required; minimal user effort
  - Anti-slip rubber underneath; pump is stable and does not shift
  - Pump handle lock; easy and safe to carry
- Service- and maintenance-friendly; technical parts are easy to access and replace without removing the tank
- High oil output; quicker action both in the first and second stage
- Accurately adjustable pressure release valve; loads can be lowered safely and with extreme control
- Pressure gauge connection on the pump block; the pressure gauge can be directly mounted on the pump at an angle of 45 degrees, making it easily readable
- Oil level glass in the tank; easily check the oil level in both horizontal and vertical position
- Integrated filler funnel; top up oil easily and quickly without extra accessories
- Push & Unlock pump handle lock; unlocking is quick and easy with one brief push on the pump handle

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Accessories	page	164
Hydraulic hoses	page	168
Pressure gauge sets	page	176
Valve blocks 'FlowPanel'	page	177



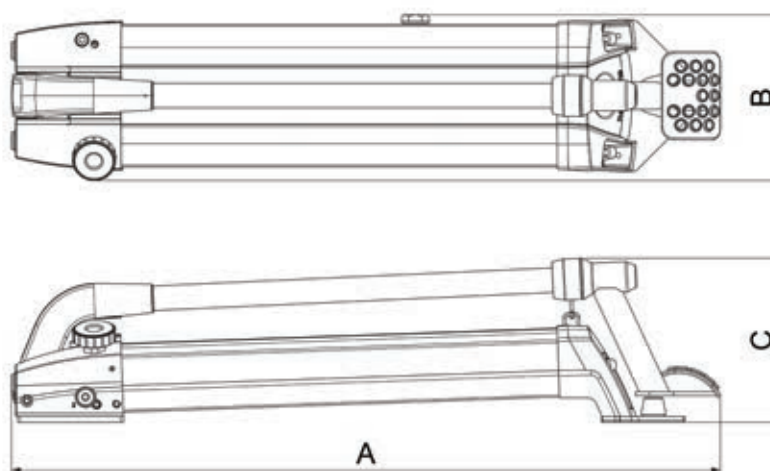
Accurately adjustable pressure release valve; loads can be lowered safely and with extreme control



Pressure gauge connection on the pump block; the pressure gauge can be directly mounted on the pump at an angle of 45 degrees, making it easily readable

<b>Foot pump</b>			↓
<b>model</b>	<b>PA 18 F 2</b>		
art no	100.142.036		
max. working pressure	bar/Mpa	720 / 72	
capacity oil tank (effective)	cc	1800	
capacity oil tank	cc	1990	
first stage output (per stroke)	cc	42.8	
second stage output (per stroke)	cc	3.1	
first stage pressure range	bar/Mpa	0-45 / 0-4.5	
second stage pressure range	bar/Mpa	45-720 / 4.5-72	
max. operating force	kg	37.0	
connection	3/8" NPT female		
operator type	foot		
double acting optional	yes		
weight, ready for use	kg	8.3	

<b>Foot pump (dimensions)</b>			↓
<b>model</b>	<b>PA 18 F 2</b>		
dimension A	mm	724	
dimension B	mm	169	
dimension C	mm	167	





AHS 1400 FS

**Features & benefits** ↓

- Usable at any place because of compact construction
- Lightweight
- Safe; when the air pressure is lost, the oil pressure is maintained
- Spark-free; suitable for explosive rooms
- Low-noise because of built-in silencer
- Energy-saving; stops as soon as the maximum pressure has been reached

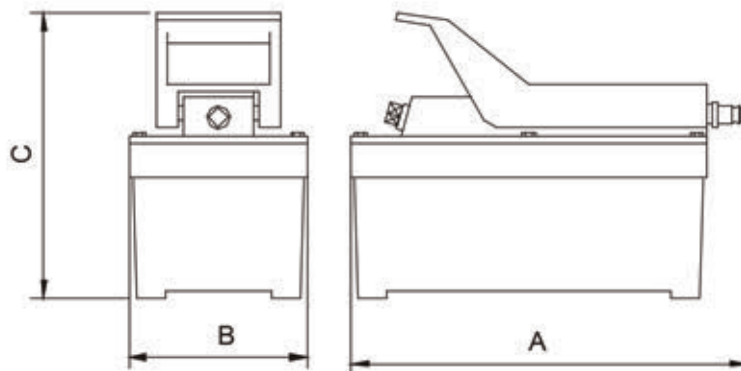
**Standard supplied with** ↓

- Compressed air connector

Hydraulic hoses	page	168
Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Compact air pump - Single-acting** ↓

model		AHS 1400 FS
art no		100.602.001
max. working pressure	bar/Mpa	720 / 72
output unloaded	cc/min	960
output loaded	cc/min	410
air consumption unloaded	l/min	700
air consumption loaded	l/min	580
capacity oil tank (effective)	cc	1400
max. air pressure	bar/Mpa	8.5 / 0.8
connection		3/8" NPT female
operator type		air
suitable for (tool type)		single acting
weight, ready for use	kg	6.5
temperature range	°C	-20 + 55
dimensions (AxBxC)	mm	282 x 128 x 200





AHS 1400 D



**Features & benefits** ↓

- Usable at any place because of compact construction
- Lightweight
- Spark-free; suitable for explosive rooms
- Low-noise because of built-in silencer
- Energy-saving; stops as soon as the maximum pressure has been reached
- Unsuitable for lifting applications, because the pump has no load holding valve

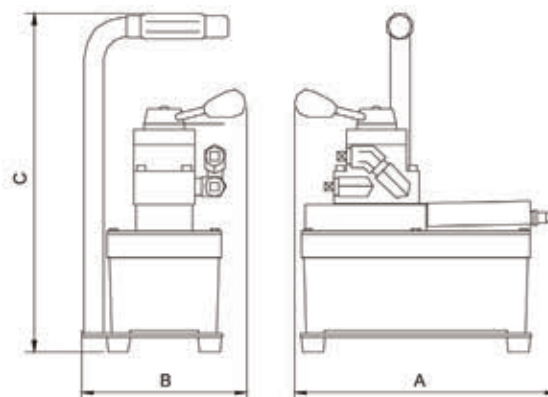
**Standard supplied with** ↓

- Compressed air connector

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Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Compact air pump - Double-acting** ↓

model		AHS 1400 D
art no		100.602.002
max. working pressure	bar/Mpa	720 / 72
output unloaded	cc/min	960
output loaded	cc/min	410
air consumption unloaded	l/min	700
air consumption loaded	l/min	580
capacity oil tank (effective)	cc	1400
max. air pressure	bar/Mpa	8.5 / 0.8
connection		3/8" NPT female
operator type		air
suitable for (tool type)		double acting
weight, ready for use	kg	9.6
temperature range	°C	-20 + 55
dimensions (AxBxC)	mm	315 x 180 x 372





EHW 1650 RC



With option 3 the pump is suitable for lifting applications

**Features & benefits** ↓

- Usable at any place because of compact construction
- Lightweight
- For both horizontal and vertical use
- Perfectly suitable for cable cutters and nut crackers
- Suitable for single-acting tools and cylinders
- With option 3 the pump is suitable for lifting applications

**Standard supplied with** ↓

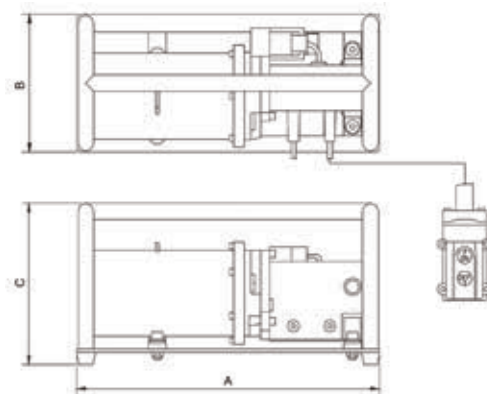
- Waterproof (IP 54) Remote Control with 2.3 m long electric cord

**Additional information** ↓

- Option 1: Needle valve for controlled oil return (art no 100.182.157)
- Option 2: Pressure gauge for reading the pressure (art no 100.182.158)
- Option 3: Needle valve and pressure gauge (art no 100.182.162)

**Compact electric pump** ↓

model		EHW 1650 RC
art no		100.551.001
max. working pressure	bar/Mpa	720 / 72
first stage output / min.	cc	2000
second stage output / min.	cc	250
capacity oil tank (effective)	cc	1650
connection		3/8" NPT female
engine		230 VAC - 0.35 kW - 50 Hz - 1 Ph
charge remote control	V	15
weight, ready for use	kg	11.6
dimensions (AxBxC)	mm	416 x 190 x 222





holmatro

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**5-step plan for selection of vari pumps**

**Step 1**

Select the power source.

- Air motor
- Electric motor (230 V - 1 ph - 50 Hz)
- Electric motor (400 V - 3 ph - 50 Hz)
- Petrol engine

**Step 2**

Select pump type.

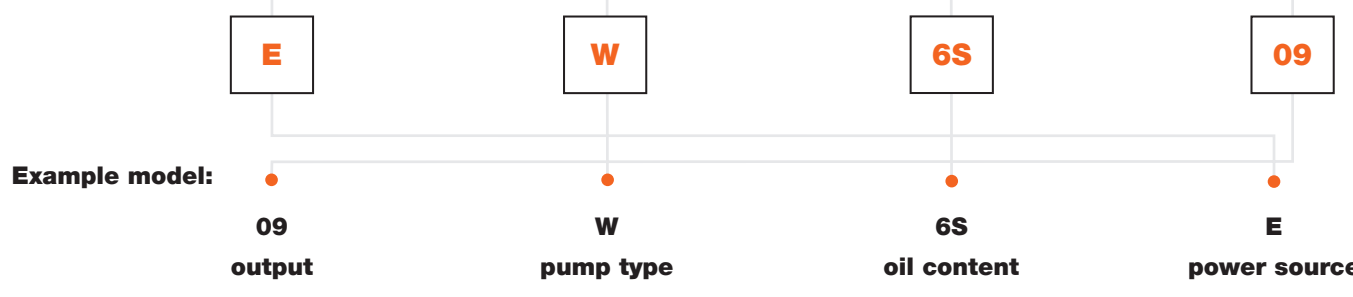
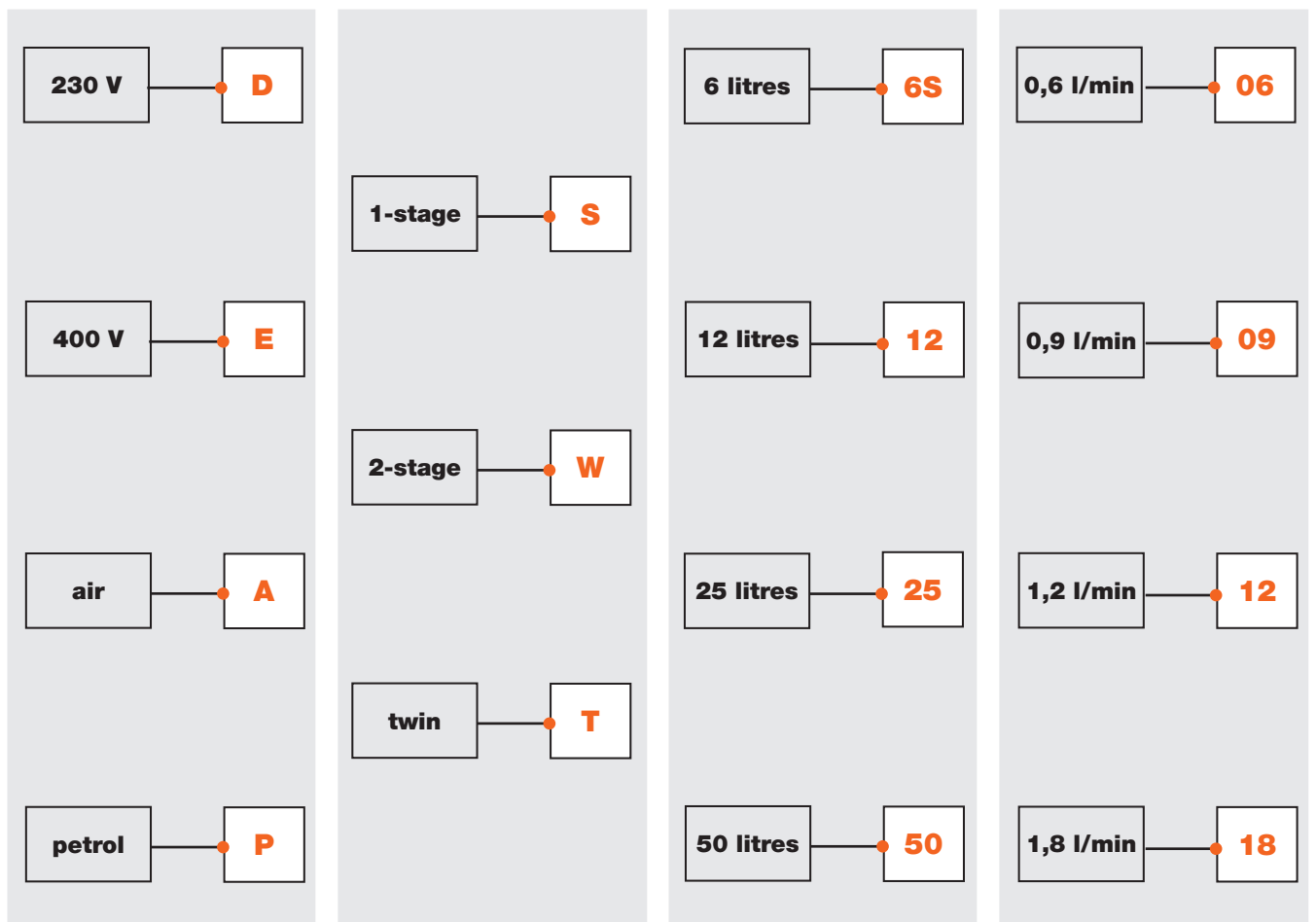
- Single-stage
- Two-stage for higher operating speed
- Twin, with 2 independant outlets

**Step 3**

Select the correct content for the oil tank.

**Step 4**

Select the correct pump output in litres per minute.



**5-step plan for selection of vari pumps**

**Step 5**

Select the correct control valve (for twin pumps 2 valves required).

For single-acting tools:

- M 311 (hand operation)

For double-acting tools:

- M 322 (hand operation)
- M 323 (hand operation with deadman's handle)
- M 325 (air-powered operation)

The following items must be additionally ordered with this valve:  
- Remote control (art no 100.161.004)

- M 326 (electromagnetic operation)

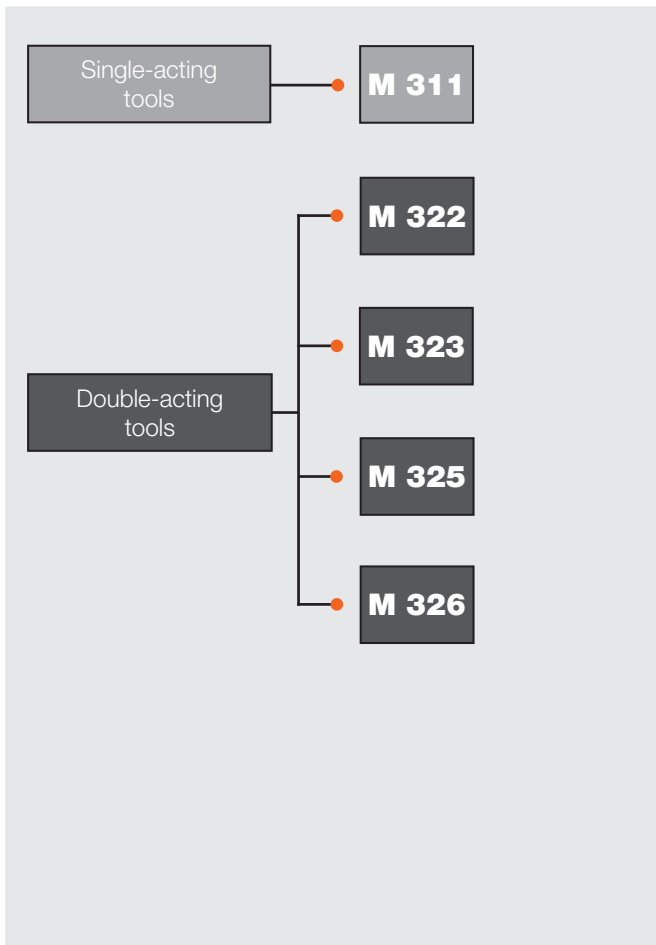
The following items must be additionally ordered with this valve:  
- Remote control (art no 100.151.060)

For use in combination with EC-vari pumps. Contact our sales department for additional information.

**You now have a functional pump**

Do not forget to specify the couplers and/or hoses

Control valves	page	163
Accessories	page	164
Hydraulic hoses	page	168
Pressure gauges	page	174



**Example model:  
09 W 6S E + M 323**





06 S 6 SD


**Features & benefits**


- Safe
  - In case of a power failure, the oil pressure is maintained
  - Protected against pressure drop by pressure-controlled non-return valve
- Excluding single-acting or double-acting control valve

**Available on request**


- Larger tank
- Other voltages / frequencies

Control valves	page	163
Accessories	page	164
Hydraulic hoses	page	168
Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Vari pumps - 230V - 1-stage**


model		06 S 6 SD	06 S 12 D	09 S 6 SD	09 S 12 D	09 S 25 D	09 S 50 D
art no		100.152.012	100.152.013	100.152.015	100.152.016	100.152.017	100.152.018
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	6000	12000	25000	50000
first stage output / min.	cc	600	600	900	900	900	900
first stage pressure range	bar/Mpa	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72
operator type		electric motor	electric motor	electric motor	electric motor	electric motor	electric motor
engine		230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph
weight, ready for use	kg	36.0	44.0	38.0	46.0	65.0	95.0
dimensions (LxWxH)	mm	400 x 300 x 411	400 x 300 x 541	400 x 300 x 541	400 x 300 x 541	500 x 380 x 541	500 x 380 x 676

**Vari pumps - 230V - 1-stage**


model		12 S 6 SD	12 S 12 D	12 S 25 D	12 S 50 D
art no		100.152.020	100.152.021	100.152.022	100.152.023
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	25000	50000
first stage output / min.	cc	1200	1200	1200	1200
first stage pressure range	bar/Mpa	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72
operator type		electric motor	electric motor	electric motor	electric motor
engine		230 VAC - 1.5 kW - 50 Hz - 1 Ph	230 VAC - 1.5 kW - 50 Hz - 1 Ph	230 VAC - 1.5 kW - 50 Hz - 1 Ph	230 VAC - 1.5 kW - 50 Hz - 1 Ph
weight, ready for use	kg	38.0	46.0	65.0	95.0
dimensions (LxWxH)	mm	400 x 300 x 441	400 x 3200 x 541	500 x 380 x 541	500 x 3800 x 676



06 W 6 SD


**Features & benefits**


- Safe
  - In case of a power failure, the oil pressure is maintained
  - Protected against pressure drop by pressure-controlled non-return valve
- Excluding single-acting or double-acting control valve

**Available on request**


- Larger tank
- Other voltages / frequencies

Control valves	page	163
Accessories	page	164
Hydraulic hoses	page	168
Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Vari pumps - 230V - 2-stage**


model		06 W 6 SD	06 W 12 D	09 W 6 SD	09 W 12 D	09 W 25 D	09 W 50 D
art no		100.152.025	100.152.026	100.152.028	100.152.029	100.152.030	100.152.031
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	6000	12000	25000	50000
first stage output / min.	cc	1600	1600	2500	2500	2500	2500
second stage output / min.	cc	600	600	900	900	900	900
first stage pressure range	bar/Mpa	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20
second stage pressure range	bar/Mpa	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72
operator type		electric motor	electric motor	electric motor	electric motor	electric motor	electric motor
engine		230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph	230 VAC - 1.1 kW - 50 Hz - 1 Ph
weight, ready for use	kg	38.0	46.0	40.0	48.0	67.0	96.0
dimensions (LxWxH)	mm	400 x 300 x 441	400 x 300 x 541	400 x 300 x 441	400 x 300 x 541	500 x 380 x 541	500 x 380 x 676

**Vari pumps - 230V - 2-stage**


model		12 W 6 SD	12 W 12 D	12 W 25 D	12 W 50 D
art no		100.152.033	100.152.034	100.152.035	100.152.036
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	25000	50000
first stage output / min.	cc	3200	3200	3200	3200
second stage output / min.	cc	1200	1200	1200	1200
first stage pressure range	bar/Mpa	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20
second stage pressure range	bar/Mpa	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72
operator type		electric motor	electric motor	electric motor	electric motor
engine		230 VAC - 1.5 kW - 50 Hz - 1 Ph	230 VAC - 1.5 kW - 50 Hz - 1 Ph	230 VAC - 1.5 kW - 50 Hz - 1 Ph	230 VAC - 1.5 kW - 50 Hz - 1 Ph
weight, ready for use	kg	40.0	48.0	67.0	96.0
dimensions (LxWxH)	mm	400 x 300 x 441	400 x 300 x 541	500 x 380 x 541	500 x 380 x 676



06 S 6 SE


**Features & benefits**


- Safe
  - In case of a power failure, the oil pressure is maintained
  - Protected against pressure drop by pressure-controlled non-return valve
- Excluding single-acting or double-acting control valve

**Available on request**


- Larger tank
- Other voltages / frequencies

Control valves	page	163
Accessories	page	164
Hydraulic hoses	page	168
Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Vari pumps - 400V - 1-stage**


model		06 S 6 SE	06 S 12 E	09 S 6 SE	09 S 12 E	09 S 25 E	12 S 6 SE
art no		100.152.038	100.152.039	100.152.041	100.152.042	100.152.043	100.152.046
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	6000	12000	25000	6000
first stage output / min.	cc	600	600	900	900	900	1200
first stage pressure range	bar/Mpa	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72
operator type		electric motor	electric motor	electric motor	electric motor	electric motor	electric motor
engine		400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.5 kW - 50 Hz - 3 Ph
weight, ready for use	kg	33.0	41.0	36.0	44.0	63.0	35.0
dimensions (LxWxH)	mm	400 x 300 x 441	400 x 300 x 541	400 x 300 x 441	400 x 300 x 541	500 x 380 x 541	400 x 300 x 441

**Vari pumps - 400V - 1-stage**


model		12 S 12 E	12 S 25 E	12 S 50 E	18 S 12 E	18 S 25 E	18 S 50 E
art no		100.152.047	100.152.048	100.152.049	100.152.050	100.152.051	100.152.052
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	12000	25000	50000	12000	25000	50000
first stage output / min.	cc	1200	1200	1200	1800	1800	1800
first stage pressure range	bar/Mpa	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72
operator type		electric motor	electric motor	electric motor	electric motor	electric motor	electric motor
engine		400 VAC - 1.5 kW - 50 Hz - 3 Ph	400 VAC - 1.5 kW - 50 Hz - 3 Ph	400 VAC - 1.5 kW - 50 Hz - 3 Ph	400 VAC - 1.5 kW - 50 Hz - 3 Ph	400 VAC - 2.2 kW - 50 Hz - 3 Ph	400 VAC - 2.2 kW - 50 Hz - 3 Ph
weight, ready for use	kg	43.0	62.0	92.0	45.0	64.0	94.0
dimensions (LxWxH)	mm	400 x 300 x 541	500 x 380 x 541	500 x 380 x 676	500 x 380 x 541	500 x 380 x 541	500 x 380 x 676



06 W 6 SE


**Features & benefits**


- Safe
  - In case of a power failure, the oil pressure is maintained
  - Protected against pressure drop by pressure-controlled non-return valve
- Excluding single-acting or double-acting control valve

**Available on request**


- Larger tank
- Other voltages / frequencies

Control valves	page	163
Accessories	page	164
Hydraulic hoses	page	168
Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Vari pumps - 400V - 2-stage**


model		06 W 6 SE	06 W 12 E	09 W 6 SE	09 W 12 E	09 W 25 E	12 W 6 SE
art no		100.152.054	100.152.055	100.152.057	100.152.058	100.152.059	100.152.062
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	6000	12000	25000	6000
first stage output / min.	cc	1600	1600	2500	2500	2500	3200
second stage output / min.	cc	600	600	900	900	900	1200
first stage pressure range	bar/Mpa	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20
second stage pressure range	bar/Mpa	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72
operator type		electric motor	electric motor	electric motor	electric motor	electric motor	electric motor
engine		400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.1 kW - 50 Hz - 3 Ph	400 VAC - 1.5 kW - 50 Hz - 3 Ph
weight, ready for use	kg	35.0	43.0	38.0	46.0	65.0	37.0
dimensions (LxWxH)	mm	400 x 300 x 441	400 x 300 x 541	400 x 300 x 441	400 x 300 x 541	500 x 380 x 541	400 x 300 x 441

**Vari pumps - 400V - 2-stage**


model		12 W 12 E	12 W 25 E	12 W 50 E	18 W 12 E	18 W 25 E	18 W 50 E
art no		100.152.063	100.152.064	100.152.065	100.152.066	100.152.067	100.152.068
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	12000	25000	50000	12000	25000	50000
first stage output / min.	cc	3200	3200	3200	5000	5000	5000
second stage output / min.	cc	1200	1200	1200	1800	1800	1800
first stage pressure range	bar/Mpa	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20
second stage pressure range	bar/Mpa	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72
operator type		electric motor	electric motor	electric motor	electric motor	electric motor	electric motor
engine		400 VAC - 1.5 kW - 50 Hz - 3 Ph	400 VAC - 1.5 kW - 50 Hz - 3 Ph	400 VAC - 1.5 kW - 50 Hz - 3 Ph	400 VAC - 2.2 kW - 50 Hz - 3 Ph	400 VAC - 2.2 kW - 50 Hz - 3 Ph	400 VAC - 2.2 kW - 50 Hz - 3 Ph
weight, ready for use	kg	45.0	64.0	94.0	47.0	96.0	96.0
dimensions (LxWxH)	mm	400 x 300 x 541	500 x 380 x 541	500 x 380 x 676	400 x 300 x 541	500 x 380 x 676	500 x 380 x 676



06 T 6 SE



**Features & benefits** ↓

- Pump with 2 separate outlets
- Safe
  - In case of a power failure, the oil pressure is maintained
  - Protected against pressure drop by pressure-controlled non-return valve
- Excluding single-acting or double-acting control valve

**Available on request** ↓

- Larger tank
- Other voltages / frequencies

Control valves	page	163
Accessories	page	164
Hydraulic hoses	page	168
Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Vari pumps - Twin - 400V - 1-stage** ↓

model		06 T 6 SE	06 T 12 E	09 T 12 E	09 T 25 E	09 T 50 E
art no		100.152.070	100.152.071	100.152.072	100.152.073	100.152.074
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	12000	25000	50000
first stage output / min.	cc	600	600	900	900	900
first stage pressure range	bar/Mpa	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72
operator type		electric motor	electric motor	electric motor	electric motor	electric motor
engine		400 VAC - 1.5 kW - 50 Hz - 3 Ph	400 VAC - 1.5 kW - 50 Hz - 3 Ph	400 VAC - 2.2 kW - 50 Hz - 3 Ph	400 VAC - 2.2 kW - 50 Hz - 3 Ph	400 VAC - 2.2 kW - 50 Hz - 3 Ph
weight, ready for use	kg	40.0	47.0	52.0	71.0	100.0
dimensions (LxWxH)	mm	400 x 300 x 441	400 x 300 x 541	400 x 300 x 541	500 x 380 x 541	500 x 380 x 676



12 S 6 SA


**Features & benefits**


- Safe
  - In case of a power failure, the oil pressure is maintained
  - Protected against pressure drop by pressure-controlled non-return valve
- Excluding single-acting or double-acting control valve

**Available on request**


- Larger tank
- Other voltages / frequencies

Control valves	page	163
Accessories	page	164
Hydraulic hoses	page	168
Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Vari pumps - Air - 1-stage - 8 bars**


model		12 S 6 SA	12 S 12 A	12 S 25 A	12 S 50 A	18 S 12 A	18 S 25 A
art no		100.162.018	100.162.019	100.162.020	100.162.022	100.162.023	100.162.024
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	25000	50000	12000	25000
first stage output / min.	cc	1300	1300	1300	1300	2000	2000
first stage pressure range	bar/Mpa	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72
operator type		air	air	air	air	air	air
engine		8 bars - 3.0 kW	8 bars - 3.0 kW	8 bars - 3.0 kW	8 bars - 3.0 kW	8 bars - 3.0 kW	8 bars - 3.0 kW
weight, ready for use	kg	33.0	41.0	60.0	89.0	42.0	62.0
dimensions (LxWxH)	mm	400 x 300 x 348	400 x 300 x 448	500 x 380 x 448	500 x 380 x 583	400 x 300 x 448	500 x 380 x 448

**Vari pumps - Air - 1-stage - 8 bars**


model		18 S 50 A
art no		100.162.025
max. working pressure	bar/Mpa	720 / 72
capacity oil tank (effective)	cc	50000
first stage output / min.	cc	2000
first stage pressure range	bar/Mpa	0-720 / 0-72
operator type		air
engine		8 bars - 3.0 kW
weight, ready for use	kg	91.0
dimensions (LxWxH)	mm	500 x 380 x 583



12 W 6 SA


**Features & benefits**


- Safe
  - In case of a power failure, the oil pressure is maintained
  - Protected against pressure drop by pressure-controlled non-return valve
- Excluding single-acting or double-acting control valve

**Available on request**


- Larger tank
- Other voltages / frequencies

Control valves	page	163
Accessories	page	164
Hydraulic hoses	page	168
Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Vari pumps - Air - 2-stage - 8 bars**


model		12 W 6 SA	12 W 12 A	12 W 25 A	12 W 50 A	18 W 12 A	18 W 25 A
art no		100.162.027	100.162.028	100.162.029	100.162.030	100.162.032	100.162.033
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	25000	50000	12000	25000
first stage output / min.	cc	3600	3600	3600	3600	5700	5700
second stage output / min.	cc	1300	1300	1300	1300	2000	2000
first stage pressure range	bar/Mpa	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20
second stage pressure range	bar/Mpa	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72
operator type		air	air	air	air	air	air
engine		8 bars - 3.0 kW	8 bars - 3.0 kW	8 bars - 3.0 kW	8 bars - 3.0 kW	8 bars - 3.0 kW	8 bars - 3.0 kW
weight, ready for use	kg	35.0	43.0	62.0	91.0	44.0	63.0
dimensions (LxWxH)	mm	400 x 300 x 348	400 x 300 x 448	500 x 380 x 448	500 x 380 x 583	400 x 300 x 448	500 x 380 x 448

**Vari pumps - Air - 2-stage - 8 bars**


model		18 W 50 A
art no		100.162.034
max. working pressure	bar/Mpa	720 / 72
capacity oil tank (effective)	cc	50000
first stage output / min.	cc	5700
second stage output / min.	cc	2000
first stage pressure range	bar/Mpa	0-200 / 0-20
second stage pressure range	bar/Mpa	200-720 / 20-72
operator type		air
engine		8 bars - 3.0 kW
weight, ready for use	kg	93.0
dimensions (LxWxH)	mm	500 x 380 x 583



12 S 6 SP

**Features & benefits**


- Safe
  - In case of a power failure, the oil pressure is maintained
  - Protected against pressure drop by pressure-controlled non-return valve
- Excluding single-acting or double-acting control valve

**Available on request**


- Larger tank

Control valves	page	163
Accessories	page	164
Hydraulic hoses	page	168
Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177

**Vari pumps - Petrol - 1-stage - 4-stroke**


model		12 S 6 SP	12 S 12 P	12 S 25 P	12 S 50 P	18 S 12 P	18 S 25 P
art no		100.162.002	100.162.003	100.162.004	100.162.005	100.162.006	100.162.007
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	25000	50000	12000	25000
first stage output / min.	cc	1300	1300	1300	1300	2000	2000
first stage pressure range	bar/Mpa	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72	0-720 / 0-72
operator type		petrol engine	petrol engine	petrol engine	petrol engine	petrol engine	petrol engine
engine		4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW
weight, ready for use	kg	35.0	43.0	62.0	91.0	44.0	64.0
dimensions (LxWxH)	mm	400 x 300 x 462	400 x 300 x 562	500 x 380 x 562	500 x 380 x 697	400 x 300 x 562	500 x 380 x 562

**Vari pumps - Petrol - 1-stage - 4-stroke**


model		18 S 50 P
art no		100.162.008
max. working pressure	bar/Mpa	720 / 72
capacity oil tank (effective)	cc	50000
first stage output / min.	cc	2000
first stage pressure range	bar/Mpa	0-720 / 0-72
operator type		petrol engine
engine		4-stroke - 4.2 HP - 3.1 kW
weight, ready for use	kg	93.0
dimensions (LxWxH)	mm	400 x 380 x 697



12 W 6 SP

**Features & benefits**


- Safe
  - In case of a power failure, the oil pressure is maintained
  - Protected against pressure drop by pressure-controlled non-return valve
- Excluding single-acting or double-acting control valve

**Available on request**


- Larger tank

Control valves	page	163
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Pressure gauges	page	174
Valve blocks 'FlowPanel'	page	177


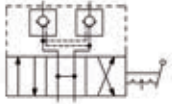
**Vari pumps - Petrol - 2-stage - 4-stroke**


model		12 W 6 SP	12 W 12 P	12 W 25 P	12 W 50 P	18 W 12 P	18 W 25 P
art no		100.162.010	100.162.011	100.162.012	100.162.013	100.162.014	100.162.015
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
capacity oil tank (effective)	cc	6000	12000	25000	50000	12000	25000
first stage output / min.	cc	3600	3600	3600	3600	5700	5700
second stage output / min.	cc	1300	1300	1300	1300	2000	2000
first stage pressure range	bar/Mpa	0-200 / 0-20	0-200 / 0-20	200-0 / 20-0	0-200 / 0-20	0-200 / 0-20	0-200 / 0-20
second stage pressure range	bar/Mpa	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72	200-720 / 20-72
operator type		petrol engine	petrol engine	petrol engine	petrol engine	petrol engine	petrol engine
engine		4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW	4-stroke - 4.2 HP - 3.1 kW
weight, ready for use	kg	37.0	45.0	64.0	93.0	46.0	65.0
dimensions (LxWxH)	mm	400 x 300 x 462	400 x 300 x 562	500 x 380 x 562	500 x 380 x 697	400 x 300 x 562	500 x 380 x 562



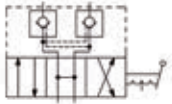

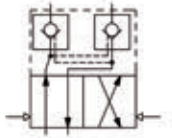


**Vari pumps - Petrol - 2-stage - 4-stroke**


model		18 W 50 P
art no		100.162.016
max. working pressure	bar/Mpa	720 / 72
capacity oil tank (effective)	cc	50000
first stage output / min.	cc	5700
second stage output / min.	cc	200
first stage pressure range	bar/Mpa	0-2000 / 0-200
second stage pressure range	bar/Mpa	200-720 / 20-72
operator type		petrol engine
engine		4-stroke - 4.2 HP - 3.1 kW
weight, ready for use	kg	95.0
dimensions (LxWxH)	mm	500 x 380 x 697




**Control valves - Hand pumps**


image	hydraulic diagram	description	model	art no
		Control valve <ul style="list-style-type: none"> <li>• Suitable for double-acting tools</li> <li>• Handle stops in each position</li> <li>• With pressure controlled non-return valves for securing the load</li> <li>• 4-way, 3-position</li> <li>• Connection: 3/8" NPT female (2x)</li> </ul>	VM 43 L	100.182.175


**Control valves - Vari pumps**


image	hydraulic diagram	description	model	art no
		Control Valve <ul style="list-style-type: none"> <li>• Suitable for single-acting tools</li> <li>• Handle stops in each position</li> <li>• 3-way, 3-position</li> <li>• Not in combination with a vari pump model (name) starting with 18 W</li> <li>• Connection 3/8" NPT female thread (2x)</li> </ul>	M 311	100.181.311
		Control Valve <ul style="list-style-type: none"> <li>• Suitable for double-acting tools</li> <li>• Handle stops in each position</li> <li>• With pressure-controlled non-return valves for securing the load</li> <li>• 4-way, 3-position</li> <li>• Connection: 3/8" NPT female (2x)</li> </ul>	M 322	100.181.322
		Control Valve <ul style="list-style-type: none"> <li>• Suitable for double-acting tools</li> <li>• Handle with dead man's function, automatically goes to "O" position</li> <li>• With pressure-controlled non-return valves for securing the load</li> <li>• 4-way, 3-position</li> <li>• Connection: 3/8" NPT female (2x)</li> </ul>	M 323	100.181.323
		Control Valve <ul style="list-style-type: none"> <li>• Suitable for double-acting tools</li> <li>• Valve with air control. Only suitable in combination with air-powered Vari pumps</li> <li>• With pressure-controlled non-return valves for securing the load</li> <li>• 4-way, 2-position</li> <li>• Connection: 3/8" NPT female (2x)</li> <li>• Remote control, art no 100.161.004 (to be ordered separately)</li> <li>• 2 buttons (lift and lower)</li> </ul>	M 325	100.181.325
		Control Valve <ul style="list-style-type: none"> <li>• Only suitable in combination with EC-version Vari pumps. Contact our sales department for additional information</li> <li>• Suitable for double-acting tools. Valve with electromagnetic control (24 VDC)</li> <li>• With non-return valves for securing the load</li> <li>• 3-position, 4-way valve</li> <li>• Connection: 3/8" NPT female (2x)</li> <li>• Remote control, art no 100.151.060 (to be ordered separately). 4 buttons (on, off, lift and lower)</li> </ul>	M 326	100.182.321
		Single/double-acting valve <ul style="list-style-type: none"> <li>• For assembly on the vari pump underneath a double-acting valve (M 322, M 323, M 324 or M 325)</li> <li>• This valve makes it possible to drive both single and double acting tools with just one pump</li> <li>• Switch with A + B function (double-acting) or A (single-acting)</li> </ul>	M304	100.172.051

**Accessories - Hand pumps**









image	description	model	art no
	Foot plate set • Suitable for PA 09 pumps	-	100.182.218
	Foot plate set • Suitable for PA 18/38 pumps	-	100.182.217
	Foot plate set • Suitable for PA 18/38 pumps including VM 43 L valve	-	100.182.219

**Accessories - Vari pumps**


image	description	model	art no
	Connecting plate • For remote or separately from the pump placing of the valves M 311, M 322, M 323, M 324 or M 325 (if necessary combined with pressure control valve M 303) • Connection: 1/4" BSP female	M 302	100.181.302
	Connecting block • For mounting couplers or hoses • To be mounted on the pump when using connecting plate M 302 instead of control valve • Provided with pressure relief valve • Connection: 1/4" BSP female (2x), 3/8" NPT female (1x) • Mounting of pressure gauge A 500 possible using nipple 100.581.104 • Mounting pressure gauge A 150 possible using nipple 100.581.128	M 301 B	100.182.088
	Pressure Control Valve • For mounting unto the Pump or unto the connecting plate M 302 (below the connecting block M 301 or below the Valves M 311, M 322, M 323, M 324 or M 325) • Pressure adjustable between 20 and 720 Bars	M 303	100.181.303
	Protection frame for 6, 12, 25 and 50 liter pumps	-	100.151.056
	Cover plate for protection frame	-	100.151.040

**Accessories - Vari pumps**



image	description	model	art no
	Carrying handle set for 6 and 12 litre pumps	-	100.151.053
	Carrying handle set for 25 and 50 litre pumps	-	100.151.054
	Set of wheels for 25 and 50 litre pumps	-	100.151.039
	Carriage-frame for 6, 12, 25 and 50 litre pumps	-	100.151.038
	Silencer for air vari pumps	HSR 0.5 U	100.182.015
	Air treatment set for air Vari pump (separately delivered)	A 181 U	100.582.181
	Air treatment set for air vari pump (to be mounted)	-	100.161.003



## System components





H 1 SO

**Features & benefits**


- Anti-kink springs on both sides
- 4:1 safety ratio

**Available on request**


- Different lengths
- Other colour

**Hydraulic hoses - Single hoses**


model	H 1 SO	H 2 SO	H 3 SO	H 4 SO	H 5 SO	H 6 SO
art no	100.571.101	100.571.102	100.571.103	100.571.104	100.571.105	100.571.106
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
color	orange	orange	orange	orange	orange	orange
hose connection A	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male
hose connection B	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male
length	m	1	2	3	4	5

**Hydraulic hoses - Single hoses**


model	H 8 SO	H 10 SO	H 15 SO	H 20 SO
art no	100.571.108	100.571.110	100.571.115	100.571.120
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72
color	orange	orange	orange	orange
hose connection A	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male
hose connection B	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male
length	m	8	10	15



H 1 SOU

**Features & benefits**


- Anti-kink springs on both sides
- 4:1 safety ratio

**Available on request**


- Different lengths
- Other colour

**Hydraulic hoses - Standard hoses**


model	H 1 SOU	H 2 SOU	H 3 SOU	H 4 SOU	H 5 SOU	H 6 SOU
art no	100.572.101	100.572.102	100.572.103	100.572.104	100.572.105	100.572.106
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
color	orange	orange	orange	orange	orange	orange
hose connection A	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male
hose connection B	A 119	A 119	A 119	A 119	A 119	A 119
length	m	1	2	3	4	5

**Hydraulic hoses - Standard hoses**


model	H 8 SOU	H 10 SOU	H 15 SOU	H 20 SOU
art no	100.572.108	100.572.110	100.572.115	100.572.120
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72
color	orange	orange	orange	orange
hose connection A	3/8" NPT male	3/8" NPT male	3/8" NPT male	3/8" NPT male
hose connection B	A 119	A 119	A 119	A 119
length	m	8	10	15



VL 1 SOU

**Features & benefits** ↓

- Anti-kink springs on both sides
- 4:1 safety ratio

**Available on request** ↓

- Different lengths
- Other colour

**Hydraulic hoses - Extension hoses** ↓

model	VL 1 SOU	VL 2 SOU	VL 3 SOU	VL 5 SOU	VL 10 SOU	VL 15 SOU
art no	100.572.301	100.572.302	100.570.294	100.572.305	100.572.310	100.572.315
max. working pressure	bar/Mpa	720 / 72	720 / 72	720 / 72	720 / 72	720 / 72
color	orange	orange	orange	orange	orange	orange
hose connection A	A 119	A 119	A 119	A 119	A 119	A 119
hose connection B	A 118	A 118	A 118	A 118	A 118	A 118
length	m	1	2	5	10	15

**Hydraulic hoses - Extension hoses** ↓

model	VL 20 SOU
art no	100.572.320
max. working pressure	bar/Mpa
color	orange
hose connection A	A 119
hose connection B	A 118
length	m



H 2 MNC

**Features & benefits** ↓

- Anti-kink protection on both sides
- 4:1 safety ratio

**Available on request** ↓

- Different lengths
- Other colour

**Hydraulic hoses - Non-conductive single hoses** ↓





model	H 2 MNC	H 5 MNC	H 10 MNC
art no	100.570.251	100.999.266	100.570.252
max. working pressure	bar/Mpa 690 / 69	690 / 69	690 / 69
color	orange	orange	orange
hose connection A	3/8" NPT male	3/8" NPT male	3/8" NPT male
hose connection B	3/8" NPT male	3/8" NPT male	3/8" NPT male
length	m 2	5	10

**Couplers**


image	description	model	art no
	High Flow Coupler, female, including steel dust cap <ul style="list-style-type: none"> <li>• Connection: 3/8" NPT, male</li> <li>• Fits: A 119</li> </ul>	A 118	100.181.118
	High Flow Coupler, male, including steel dust cap <ul style="list-style-type: none"> <li>• Connection: 3/8" NPT, female</li> <li>• Fits: A 118, A 134 N and A 418</li> </ul>	A 119	100.181.119
	High Flow Coupler, female, like A 118, with built-in pressure relief Valve <ul style="list-style-type: none"> <li>• Adjusted to ca. 750 Bars</li> <li>• Connection: 3/8" NPT, male</li> <li>• Fits: A 119</li> </ul>	A 418	100.181.418
	High flow coupler, female, like A 118, with built-in-non-return valve <ul style="list-style-type: none"> <li>• Suitable for hose rupture security</li> <li>• Not to be used with double-acting systems</li> <li>• Connection: 3/8" NPT, male</li> <li>• Fits: A 119</li> </ul>	A 134 N	100.181.434
	High Flow Coupler, female, including dust cap <ul style="list-style-type: none"> <li>• Connection: 3/8" NPT, male</li> <li>• Fits: A 119 SS</li> <li>• Material: stainless steel AISI 316</li> <li>• This coupler cannot be assembled on aluminium parts because of contact corrosion!</li> </ul>	A 118 SS	100.002.499
	High Flow Coupler, male, including dust cap <ul style="list-style-type: none"> <li>• Connection: 3/8" NPT, female</li> <li>• Fits: A 118 SS</li> <li>• Material: stainless steel AISI 316</li> <li>• This coupler cannot be assembled on aluminium parts because of contact corrosion!</li> </ul>	A 119 SS	100.002.500
	Loose steel dust cap <ul style="list-style-type: none"> <li>• With fixing thread</li> <li>• Fits: A 118</li> </ul>	A 118 SK	100.181.828
	Loose steel dust cap <ul style="list-style-type: none"> <li>• With fixing thread</li> <li>• Fits: A 119</li> </ul>	A 119 SK	100.181.829

**Couplers**



image	description	model	art no
	Loose dust cap <ul style="list-style-type: none"> <li>• With fixing thread</li> <li>• Fits: A 118 SS</li> <li>• Material: stainless steel AISI 316</li> </ul>	A 118 SK SS	100.002.503
	Loose dust cap <ul style="list-style-type: none"> <li>• With fixing thread</li> <li>• Fits: A 119 SS</li> <li>• Material: stainless steel AISI 316</li> </ul>	A 119 SK SS	100.002.504
	Relief valve <ul style="list-style-type: none"> <li>• For reducing any remnant pressure</li> <li>• Suitable for: A 118</li> </ul>	A 118	100.181.840
	Relief valve <ul style="list-style-type: none"> <li>• For reducing any remnant pressure</li> <li>• Suitable for: A 119</li> </ul>	A 119	100.181.841

**Pressure gauges - Scale division in bars**



image	description	model	art no
	Universal pressure gauge <ul style="list-style-type: none"> <li>• 0 - 720 bars</li> <li>• Pointer damped with glycerine</li> <li>• Stainless steel</li> <li>• Housing Ø 100 mm</li> <li>• Connection: ½" NPT male</li> </ul>	A 500	100.582.500
	Rubber protection cover <ul style="list-style-type: none"> <li>• Suitable for Ø 100 mm pressure gauges</li> </ul>	-	350.581.160
	Pressure gauge <ul style="list-style-type: none"> <li>• 0 - 720 bars</li> <li>• Pointer damped with glycerine</li> <li>• Stainless steel</li> <li>• Housing Ø 60 mm</li> <li>• Connection: ¼" NPT male</li> </ul>	A 150	100.581.036
	Rubber protection cover <ul style="list-style-type: none"> <li>• Suitable for Ø 60 mm pressure gauges</li> </ul>	-	350.581.152
	Pressure gauge digital <ul style="list-style-type: none"> <li>• 0 - 1000 Bars</li> <li>• Peak pressure memory</li> <li>• Connection: ¼" BSP male</li> </ul>	-	150.581.091



**Features & benefits** ↓

- Pointer damped with glycerine
- Stainless steel
- Housing Ø 100 mm
- Connection: 1/2" NPT male



**Pressure gauges - Scale division in ton** ↓

model	A 501	A 502	A 503	A 504	A 505	A 506
art no	100.582.501	100.582.502	100.582.503	100.582.504	100.582.505	100.582.506
1st scale range	t 5	25	52	105	210	509
2nd scale range	t 11	33	77	160	305	382
3rd scale range	t 21	51				
1st scale division per mark	kg 100.0	500.0	1000.0	2000.0	5000.0	10000.0
2nd scale division per mark	kg 200.0	500.0	1000.0	2000.0	5000.0	10000.0
3rd scale division per mark	kg 500.0	1000.0				
connection	1/2" NPT male	1/2" NPT male	1/2" NPT male	1/2" NPT male	1/2" NPT male	1/2" NPT male
material	stainless steel	stainless steel	stainless steel	stainless steel	stainless steel	stainless steel
housing diameter	mm 100	100	100	100	100	100

**Pressure gauges - Scale division in ton** ↓

model	A 507	A 508	A 509	A 510
art no	100.582.507	100.582.508	100.582.509	100.582.510
1st scale range	t 6	30	63	12
2nd scale range	t 12	47	104	31
3rd scale range	t 23	63		63
4th scale range	t	113		98
1st scale division per mark	kg 100.0	500.0	1000.0	200.0
2nd scale division per mark	kg 200.0	1000.0	2000.0	500.0
3rd scale division per mark	kg 500.0	1000.0		2000.0
4th scale division per mark	kg	2000.0		2000.0
connection	1/2" NPT male	1/2" NPT male	1/2" NPT male	1/2" NPT male
material	stainless steel	stainless steel	stainless steel	stainless steel
housing diameter	mm 100	100	100	100

**Pressure gauges - Pressure gauge adaptors**


image	description	model	art no
	Pressure gauge connecting block for vari pumps <ul style="list-style-type: none"> <li>• Suitable for single-acting control Valve M 311</li> <li>• Provided with: 1 x 3/8" NPT female, 1 x 3/8" NPT male and 1/2" NPT female for pressure gauge</li> <li>• Pressure gauge can be placed in an angle of 45° using Elbow, art no 100.581.240</li> </ul>	A 108	100.181.108
	Pressure gauge connecting block for vari pumps <ul style="list-style-type: none"> <li>• Suitable for double-acting control valves M 322, M 323, M 324 and M 325</li> <li>• Supplies pressure to port A or B, dependent on which is highest</li> <li>• Provided with: 1 x 1/2" NPT female</li> </ul>	M 308	100.182.308

**Pressure gauges - Pressure gauge sets**


image	description	model	art no
	Pressure gauge set PA 04/09 pump <ul style="list-style-type: none"> <li>• 0-720 bars</li> <li>• Pointer damped with glycerine</li> <li>• Stainless steel</li> <li>• Housing Ø 63 mm</li> <li>• Including rubber protection cover</li> <li>• Connection: 1/4" NPT male</li> </ul>	-	100.182.213
	Pressure gauge set PA *8 pumps <ul style="list-style-type: none"> <li>• 0-720 bars</li> <li>• Pointer damped with glycerine</li> <li>• Stainless steel</li> <li>• Housing Ø 63 mm</li> <li>• Including rubber protection cover</li> <li>• Connection: 1/4" NPT male</li> </ul>	-	100.182.214
	Pressure gauge set PA pumps <ul style="list-style-type: none"> <li>• 0-720 bars</li> <li>• Pointer damped with glycerine</li> <li>• Stainless steel</li> <li>• Housing Ø 100 mm</li> <li>• Including rubber protection cover</li> <li>• Connection: 1x 3/8" NPT female and 1x 3/8" NPT male</li> </ul>	-	100.182.215
	Pressure gauge set VM 43 L valve <ul style="list-style-type: none"> <li>• 0-720 bars</li> <li>• Pointer damped with glycerine</li> <li>• Stainless steel</li> <li>• Housing Ø 63 mm</li> <li>• Including rubber protection cover</li> <li>• Connection: 1/4" NPT male</li> </ul>	-	100.182.216
	Plug-in type gauge set <ul style="list-style-type: none"> <li>• 0-720 bars</li> <li>• Connection: couplers A 118 - A 119</li> </ul>	A 111 U	100.582.111



**Features & benefits** ↓

- Excellent control over your load; extremely accurate regulation of oil flow under high pressure
- Safe; stable construction
- Ergonomic
  - Regulator valves with comfortable rotary knobs
  - Pressure gauges that are easy to read
  - Installation on vari pump is possible for comfortable working position
  - Carry-handle positioned above centre of gravity

**Available on request** ↓

- Can be mounted on the protection frame of the Vari pumps

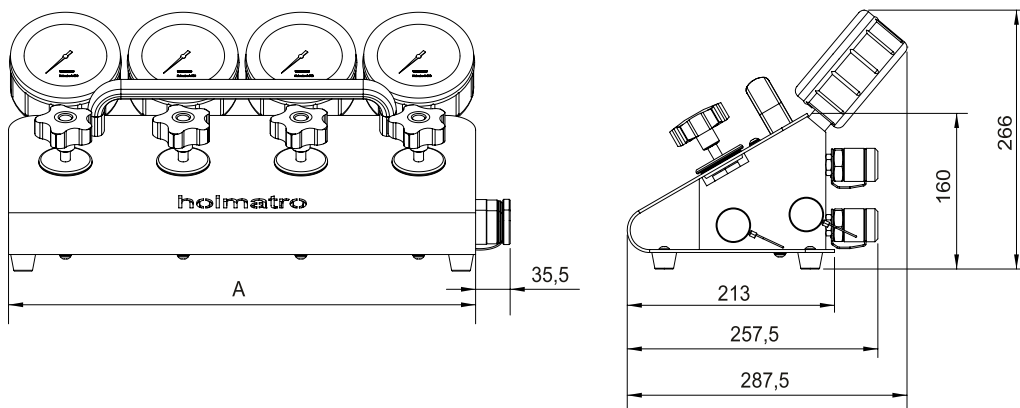
Hydraulic hoses	page	168
Couplers	page	172
Pressure gauges	page	174

**Valve blocks 'FlowPanel' - Single-acting** ↓

model	HMS 2 A	HMS 2 B	HMS 2 C	HMS 4 A	HMS 4 B	HMS 4 C
art no	100.172.048	100.172.049	100.172.050	100.172.045	100.172.046	100.172.047
number of outlet ports	2	2	2	4	4	4
couplers		yes	yes		yes	yes
pressure gauge			yes			yes
weight, ready for use	kg 6.2	7.1	9.0	12.5	13.9	17.8

**Valve blocks 'FlowPanel' - Single-acting (dimensions)** ↓

model	HMS 2 A	HMS 2 B	HMS 2 C	HMS 4 A	HMS 4 B	HMS 4 C
dimension A	mm 238	238	238	480	480	480





**Features & benefits** ↓

- Excellent control over your load; extremely accurate regulation of oil flow under high pressure
- Safe; stable construction
- Ergonomic
  - Regulator valves with comfortable rotary knobs
  - Pressure gauges that are easy to read
  - Installation on vari pump is possible for comfortable working position
  - Carry-handle positioned above centre of gravity

**Available on request** ↓

- Can be mounted on the protection frame of the Vari pumps

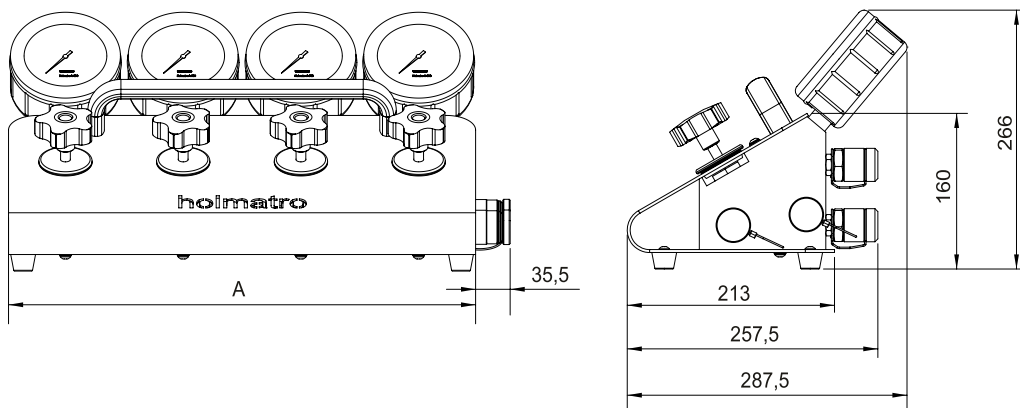
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Couplers	page	172
Pressure gauges	page	174

**Valve blocks 'FlowPanel' - Single-acting** ↓

model	HMS 6 A	HMS 6 B	HMS 6 C
art no	100.172.052	100.172.053	100.172.054
number of outlet ports	6	6	6
couplers		yes	yes
pressure gauge			yes
weight, ready for use	kg 18.5	20.5	26.6

**Valve blocks 'FlowPanel' - Single-acting (dimensions)** ↓

model	HMS 6 A	HMS 6 B	HMS 6 C
dimension A	mm 722	722	722





**Features & benefits** ↓

- Excellent control over your load; extremely accurate regulation of oil flow under high pressure
- Safe; stable construction
- Ergonomic
  - Regulator valves with comfortable rotary knobs
  - Pressure gauges that are easy to read
  - Installation on vari pump is possible for comfortable working position
  - Carry-handle positioned above centre of gravity

**Available on request** ↓

- Can be mounted on the protection frame of the Vari pumps

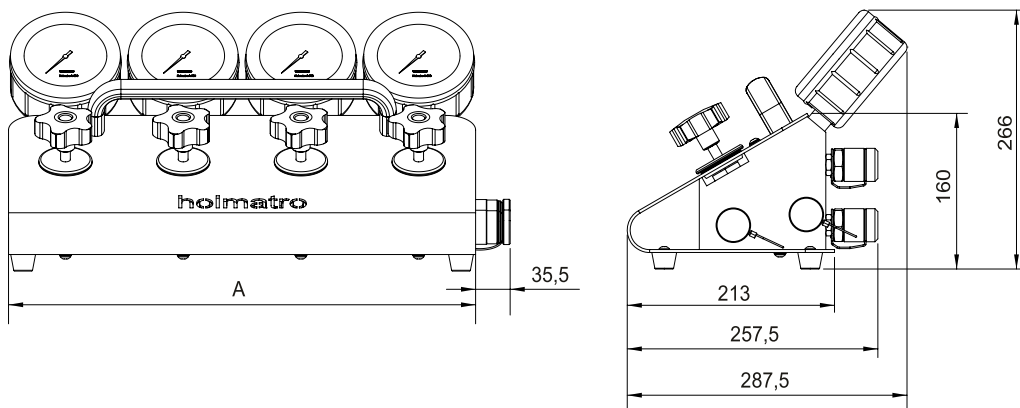
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**Valve blocks 'FlowPanel' - Double-acting** ↓

model	HMD 2 A	HMD 2 B	HMD 2 C	HMD 4 A	HMD 4 B	HMD 4 C
art no	100.172.042	100.172.043	100.172.044	100.172.039	100.172.040	100.172.041
number of outlet ports	2	2	2	4	4	4
couplers		yes	yes		yes	yes
pressure gauge			yes			yes
weight, ready for use	kg 7.2	8.1	10.0	14.2	15.6	19.7

**Valve blocks 'FlowPanel' - Double-acting (dimensions)** ↓

model	HMD 2 A	HMD 2 B	HMD 2 C	HMD 4 A	HMD 4 B	HMD 4 C
dimension A	mm 238	238	238	480	480	480





**Features & benefits** ↓

- Excellent control over your load; extremely accurate regulation of oil flow under high pressure
- Safe; stable construction
- Ergonomic
  - Regulator valves with comfortable rotary knobs
  - Pressure gauges that are easy to read
  - Installation on vari pump is possible for comfortable working position
  - Carry-handle positioned above centre of gravity

**Available on request** ↓

- Can be mounted on the protection frame of the Vari pumps

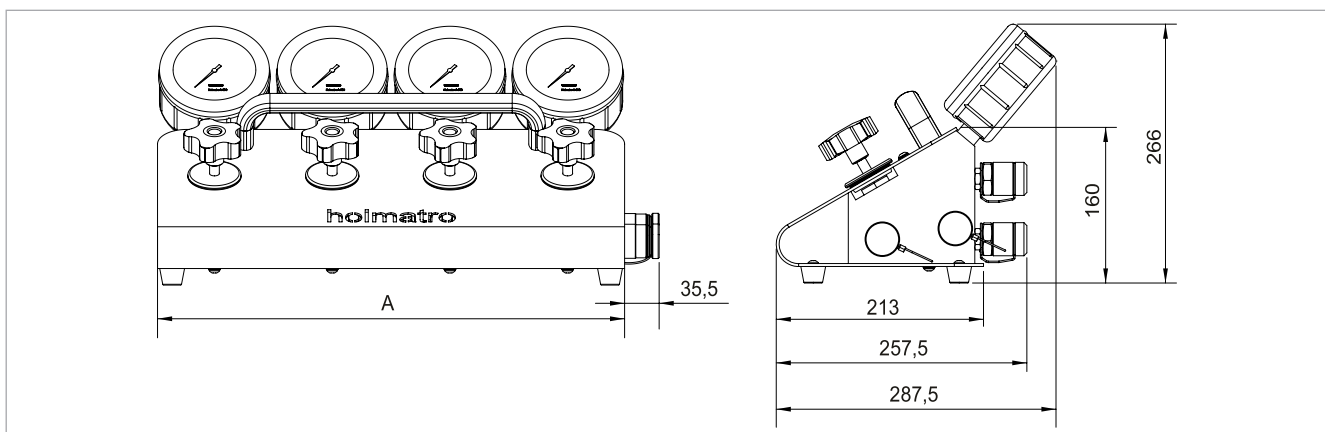
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Couplers	page	172
Pressure gauges	page	174

**Valve blocks 'FlowPanel' - Double-acting** ↓

model	HMD 6 A	HMD 6 B	HMD 6 C
art no	100.172.055	100.172.056	100.172.057
number of outlet ports	6	6	6
couplers		yes	yes
pressure gauge			yes
weight, ready for use	kg 21.0	23.0	29.1



**Valve blocks 'FlowPanel' - Double-acting (dimensions)** ↓

model	HMD 6 A	HMD 6 B	HMD 6 C
dimension A	mm 722	722	722













**Valves**

image	hydraulic diagram	description	model	art no
		Needle valve A 109 N <ul style="list-style-type: none"> <li>For accurate control of the oil flow, also under maximum pressure</li> <li>Connection: 3/8" NPT female (2x)</li> </ul>	A 109 N	100.581.609
		Ball valve <ul style="list-style-type: none"> <li>Very suitable for quick shut-off valve (open-close)</li> <li>Can be operated under maximum pressure</li> <li>Connection: 3/8" NPT female (2x)</li> </ul>	A 195	100.581.200
		Needle valve A 130 <ul style="list-style-type: none"> <li>For accurate control of the oil flow, also under maximum pressure</li> <li>Connection: 3/8" NPT male and 3/8" NPT female</li> </ul>	A 130	100.181.130
		Breaking safety (load security) valve <ul style="list-style-type: none"> <li>Protects against sudden pressure drop in the supply pipe, for example in case of hose rupture</li> <li>To be mounted between pump and cylinder as close to the cylinder as possible</li> <li>Provided with pressure relief valve, set at 830 bars</li> <li>While pumping: valve closed, safety valve active</li> <li>For relief: open valve, safety valve not active</li> <li>Connection: 3/8" NPT female and 3/8" NPT male</li> </ul>	A 110	100.181.110
		High flow coupler, female, like A 118, with built-in non-return valve <ul style="list-style-type: none"> <li>Suitable for hose rupture security</li> <li>Not to be used with double-acting systems</li> <li>Connection: 3/8" NPT, male</li> <li>Fits: A 119</li> </ul>	A 134 N	100.181.434
		Non-Return Valve <ul style="list-style-type: none"> <li>Spring-loaded</li> <li>Connection: 3/8" NPT male (2x)</li> </ul>	A 209	100.581.209
		Pressure relief valve <ul style="list-style-type: none"> <li>Set to 750 bars</li> <li>Connection: 1x 3/8" NPT female and 1x 3/8" NPT male</li> </ul>	A 135	100.181.135









**Accessories hydraulics**



image	description	model	art no
	45° elbow with 1x 1/2" NPT female and 1x 1/2" NPT male	-	100.581.240
	Adjustable pin key, complete with 4 pairs of exchangeable pins	-	100.581.132
	Cross piece with 4x 3/8" NPT female	-	100.581.139
	T-piece with 3x 3/8" NPT female	-	100.001.010
	Y-piece with 3x 3/8" NPT female	-	100.182.104
	90° Elbow with 1x 3/8" NPT female and 1x 3/8" NPT male	-	100.581.113
	90° Elbow with 2x 3/8" NPT male	-	100.581.213
	45° Elbow with 1x 3/8" NPT female and 1x 3/8" NPT male	-	100.581.114

**Accessories hydraulics**



image	description	model	art no
	90° bend with 1x 1/4" BSP female swivel Nut and 1x 1/4" BSP male	-	150.581.219
	Straight tube connector for 12 mm tube with 3/8" NPT male	-	100.581.136
	90° pipe connector for 12 mm tube with 3/8" NPT male	-	100.581.137
	Plug with 3/8" NPT	-	100.581.105
	Sealing ring for M12	-	190.593.275
	Sealing ring for 1/4" BSP	-	150.581.230
	Sealing ring for M14	-	190.593.075
	Sealing ring for M18	-	100.581.158

**Accessories hydraulics**



image	description	model	art no
	Manifold with 5 interconnected ports with 3/8" NPT female	A 125	100.181.125







**Assembly**



image	technical drawing	description	thread A	thread B	art no
		Connection socket	1/4" NPT	1/4" NPT	100.581.238
		Connection socket	1/4" NPT	1/4" BSP	150.581.228
		Connection socket	1/4" BSP	M18 x 1.5	100.181.227
		Connection socket	3/8" NPT	3/8" NPT	100.581.102
		Connection socket	3/8"NPT	M18 x 1.5	100.181.228
		Reducing bushing	1/4" NPT	3/8" NPT	100.581.128
		Reducing bushing	3/8" NPT	1/2" NPT	100.581.103
		Reducing bushing	3/8" NPT	3/4" NPT	100.581.133
		Reducing bushing	1/8" BSP	1/2" BSP	150.581.085
		Nipple	1/8" NPT	3/8" NPT	110.013.004
		Nipple	1/4" NPT	1/4" BSP	150.581.227
		Nipple	1/4" NPT	M14 x 1.5	100.581.226
		Nipple	1/4" BSP	M12 x 1.75	110.013.044
		Nipple	1/4" BSP	M14 x 1.5	100.581.211
		Nipple	1/4" BSP	M14 x 2	100.181.156
		Nipple	1/4" BSP	1/4" BSP	150.581.216
		Nipple	1/4" BSP	3/8" NPT	150.581.218
		Nipple	3/8" NPT	3/8" NPT	100.581.101
		Nipple	3/8" NPT	M14 x 2	100.181.151
		Nipple	1/2" BSP	1/2" NPT	150.581.088
		Nipple	1/4" BSP	M10 x 1	110.013.005
		Nipple	1/4" NPT	3/8" NPT	150.581.244
		Nipple	1/2" BSP	3/8"NPT	150.581.087
		Nipple	1/4" NPT	1/4" NPT	100.581.239
		Connector	1/4" BSP	1/4" NPT	100.181.223
		Connector	1/4" BSP	3/8" BSP	100.581.235
		Connector	1/4" BSP	M14 x 2	100.181.159
		Connector	3/8" NPT	1/4" BSP	150.581.217
		Connector	3/8" NPT	1/4" NPT	100.581.107
		Connector	3/8" NPT	M14 x 2	100.181.153
		Connector	1/2" NPT	3/8" NPT	100.581.104
		Connector	M14 x 1.5	3/8" NPT	100.181.129
		Connector	M14 X 1.5	1/4" BSP	150.581.058
		Connector	M18 x 1.5	3/8" NPT	100.181.154
		Connector	M18 x 1.5	1/4" BSP	100.181.157
		Connector	1/4" NPT	M10 x 1	100.181.047
		Connector	1/4" BSP	3/8" NPT	150.000.398



Oils			
image	description	model	art no
	Hydraulic oil ECO Power, DIN 51524.3 HVLP, bottle 1 litre <ul style="list-style-type: none"> <li>• Fully mineral oil</li> <li>• Optimum lubricating properties</li> <li>• Excellent protection against wear and corrosion</li> <li>• Up to 3x longer service life than the leading hydraulic oils</li> <li>• Standard oil for all Holmatro motor pumps</li> </ul>	ISO VG 36 - 1L	180.000.857
	Hydraulic oil ECO Power, DIN 51524.3 HVLP, bottle 5 litres <ul style="list-style-type: none"> <li>• Fully mineral oil</li> <li>• Optimum lubricating properties</li> <li>• Excellent protection against wear and corrosion</li> <li>• Up to 3x longer service life than the leading hydraulic oils</li> <li>• Standard oil for all Holmatro motor pumps</li> </ul>	ISO VG 36 - 5L	180.000.815
	Hydraulic oil ECO Power, DIN 51524.3 HVLP, drum 60 litres <ul style="list-style-type: none"> <li>• Fully mineral oil</li> <li>• Optimum lubricating properties</li> <li>• Excellent protection against wear and corrosion</li> <li>• Up to 3x longer service life than the leading hydraulic oils</li> <li>• Standard oil for all Holmatro motor pumps</li> </ul>	ISO VG 36 - 60L	130.103.025
	Hydraulic oil ECO Power, DIN 51524.3 HVLP, drum 208 litres <ul style="list-style-type: none"> <li>• Fully mineral oil</li> <li>• Optimum lubricating properties</li> <li>• Excellent protection against wear and corrosion</li> <li>• Up to 3x longer service life than the leading hydraulic oils</li> <li>• Standard oil for all Holmatro motor pumps</li> </ul>	ISO VG 36 - 208L	180.001.543
	Hydraulic oil ECO Power, DIN 51524.3 HVLP, bottle 1 litre <ul style="list-style-type: none"> <li>• Fully mineral oil</li> <li>• Optimum lubricating properties</li> <li>• Excellent protection against wear and corrosion</li> <li>• Up to 3x longer service life than the leading hydraulic oils</li> <li>• Standard oil for all Holmatro tools and hand pumps</li> </ul>	ISO VG 15 - 1L	100.581.051
	Hydraulic OIL ECO Power, DIN 512524.3 HVLP, bottle of 5 litres <ul style="list-style-type: none"> <li>• Fully mineral oil</li> <li>• Optimum lubricating properties</li> <li>• Excellent protection against wear and corrosion</li> <li>• Up to 3x longer service life than the leading hydraulic oils</li> <li>• Standard oil for all Holmatro tools and hand pumps</li> </ul>	ISO VG 15 - 5L	100.581.055
	Hydraulic OIL ECO Power, DIN 512524.3 HVLP, drum of 208 litres <ul style="list-style-type: none"> <li>• Fully mineral oil</li> <li>• Optimum lubricating properties</li> <li>• Excellent protection against wear and corrosion</li> <li>• Up to 3x longer service life than the leading hydraulic oils</li> <li>• Standard oil for all Holmatro tools and hand pumps</li> </ul>	ISO VG 15 - 208L	180.000.910
	Motor oil, API SJ/CH-4, bottle 0.6 litre <ul style="list-style-type: none"> <li>• Very good detergent and dispersant</li> <li>• Optimum protection against wear, corrosion and foam</li> <li>• High and stable viscosity</li> <li>• Low sulphate ash content</li> </ul>	10 W 30	150.581.103

<b>Lubricants</b> 			
<b>image</b>	<b>description</b>	<b>model</b>	<b>art no</b>
	Molykote® grease paste <ul style="list-style-type: none"> <li>• For mounting and lapping of metal parts</li> <li>• Tube 100 g</li> </ul>	-	100.581.081
	High-quality Molykote® grease <ul style="list-style-type: none"> <li>• For metal / metal combinations at slow to fast movements with medium to heavy load</li> <li>• Cartridge 400 g</li> </ul>	-	100.581.082
	Brake cleaner (degreasant) Motip® <ul style="list-style-type: none"> <li>• For cleaning and pre-treatment of surfaces</li> <li>• Spray can 500 ml</li> </ul>	-	890.000.025
	Teflon lubricating oil Sir John® <ul style="list-style-type: none"> <li>• High-quality lubricant and maintenance oil</li> <li>• Spray can 400 ml</li> </ul>	-	150.581.095
	Anti-friction coating Bel Ray® <ul style="list-style-type: none"> <li>• Dry spray coating for protection under dusty, dirty and abrasive conditions</li> <li>• Spray can 400 ml</li> </ul>	-	150.581.093



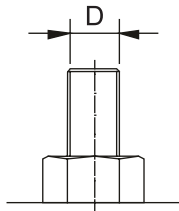
# Tensioning hydraulics



**6-step plan for selection of stud tension cylinders**

**Step 1**

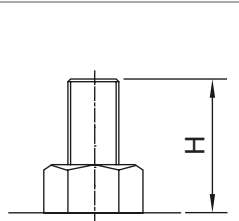
Cylinder selection by bolt diameter.



stud tension cylinder	bolt diameter - through to cylinder	
	mm	inch
HHX 14	M20 - M22	¾ - 7/8
HHX 22	M24 - M28	1 - 1 1/8
HHX 35	M30 - M34	1 1/4 - 1 3/8
HTX 50	M36 - M40	1 1/2 - 1 5/8
HTX 70	M42 - M46	1 3/4 - 1 7/8
HTX 100	M48 - M56	2 - 2 1/4
HTX 150	M60 - M68	2 1/2 - 2 3/4
HTX 180	M72 - M76	2 3/4 - 3
HTX 220	M76 - M80	3 - 3 1/4
HTX 260	M80 - M85	3 1/4 - 3 1/2

**Step 2**

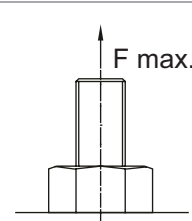
Check height of threaded rod.



minimum height of threaded rod above flange
mm
28 + D
30 + D
35 + D
55 + D
65 + D
70 + D
90 + D
90 + D
85 + D
105 + D

**Step 3**

Check stud tension force.



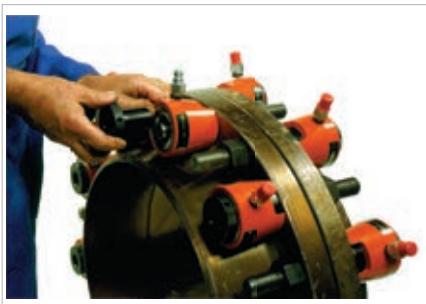
max. pulling force	
ton	kN
14	140
22	221
35	352
50	501
70	702
100	999
150	1500
180	1803
220	2174
260	2601

**Step 4**

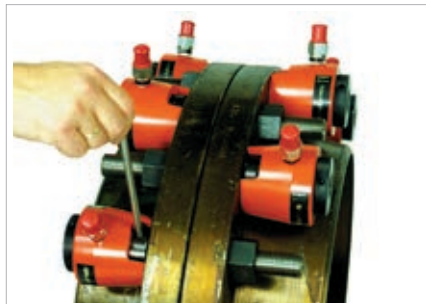
Check cylinder dimensions.

See table stud tension cylinders (pages 192-196)

**Stud tension cylinder system**



Placing cylinder and pulling nut over nut socket and bol



The tommy bar makes the nut socket (and therefore the nut) turn very easily



A complete set-up in which a cylinder has been placed on every bolt (so-called 100% occupation)

## 6-step plan for selection of stud tension cylinders

### Step 5

Assembly of a stud tension cylinder.

stud tension cylinder		cylinder bridge		pulling nut*		nut socket**		tommy bar	
model	art no	model	art no	model		model		art no	ø mm
HHX 14	110.011.101	-	-	PN 14 + THREAD		NS 14 + SLW		110.181.090	6
HHX 22	110.011.002	-	-	PN 22 + THREAD		NS 22 + SLW		110.181.091	8
HHX 35	110.011.012	-	-	PN 35 + THREAD		NS 35 + SLW		110.181.091	8
HTX 50	110.011.121	BR 50	110.181.151	PN 50 + THREAD		NS 50 + SLW		110.181.091	8
HTX 70	110.011.131	BR 70	110.181.152	PN 70 + THREAD		NS 70 + SLW		110.181.092	10
HTX 100	110.011.141	BR 100	110.181.153	PN 100 + THREAD		NS 100 + SLW		110.181.092	10
HTX 150	110.011.151	BR 150	110.181.154	PN 150 + THREAD		NS 150 + SLW		110.181.093	12
HTX 180	110.011.161	BR 180	110.181.155	PN 180 + THREAD		NS 180 + SLW		110.181.093	12
HTX 220	110.011.171	BR 220	110.181.156	PN 220 + THREAD		NS 220 + SLW		110.181.093	12
HTX 260	110.011.181	BR 260	110.181.157	PN 260 + THREAD		NS 260 + SLW		110.181.094	16

\* THREAD = thread type x pitch (e.g. M36 x 4)

\*\* SLW = key size of nut (e.g. SLW 50)

### Step 6

Additional items for connection or operation, based on the n-number of cylinders that are used in a coupled situation.

no	description	mention with order
n	Connection pieces	Connection pieces A 240 U, art no 110.582.240
n-1	Hoses between the cylinders	E.g. hose, model X 1.2 MU, art no 110.572.012 (for further specifications see section 'Hydraulic Hoses', page 200)
2	Hoses to pump and pressure gauge	E.g. hose, model X 3 MU, art no 110.572.030 (for further specifications see section 'Hydraulic Hoses', page 200)
1	Pump (hand or foot operated)	E.g. hand pump, model PAX 18 H 2, art no 110.142.005 (for further specifications see section 'Pump', page 198)
1	Pressure gauge	Pressure gauge A 148 U, art no 110.582.348 (for further specifications see section 'Couplers And Accessories', page 201)

Recommendation with respect to the number of cylinders to be used: the best result is achieved with a 100% occupation. This means that every threaded rod is fitted with a stud tension cylinder and is tensioned simultaneously. A lower occupation level is possible. However, you must take account of the fact that the force is increased evenly and in steps along the contour of the object to be tensioned.



HHX 14

**Features & benefits** ↓

- HHX-cylinders standard provided with cylinder seat
- Compact and lightweight
- Usable in all positions
- High-quality and refined chrome nickel steel
- Automatically locking quick coupler
- Pulling nut is manufactured in conformity with customer specifications based on exact thread and bolt dimensions
- Nut socket is manufactured in conformity with customer specifications based on exact key size of the nut
- Advantages compared with traditional stud tensioning methods
  - The effects of frictions are negligible; higher accuracy when tightening the bolt
  - Time-saving; several cylinders can be coupled for simultaneously tensioning several bolt connections

**Available on request** ↓

- Stud tension cylinders manufactured in conformity with customer specifications
- Extended pulling nut
- Heightened or lowered bridges (HTX)

**Accessories** ↓

- Pulling nut
- Nut socket
- Tommy bar

Pump	page	198
Hydraulic hoses	page	200
Couplers and accessories	page	201



**Stud tension cylinders - Including cylinder bridge**

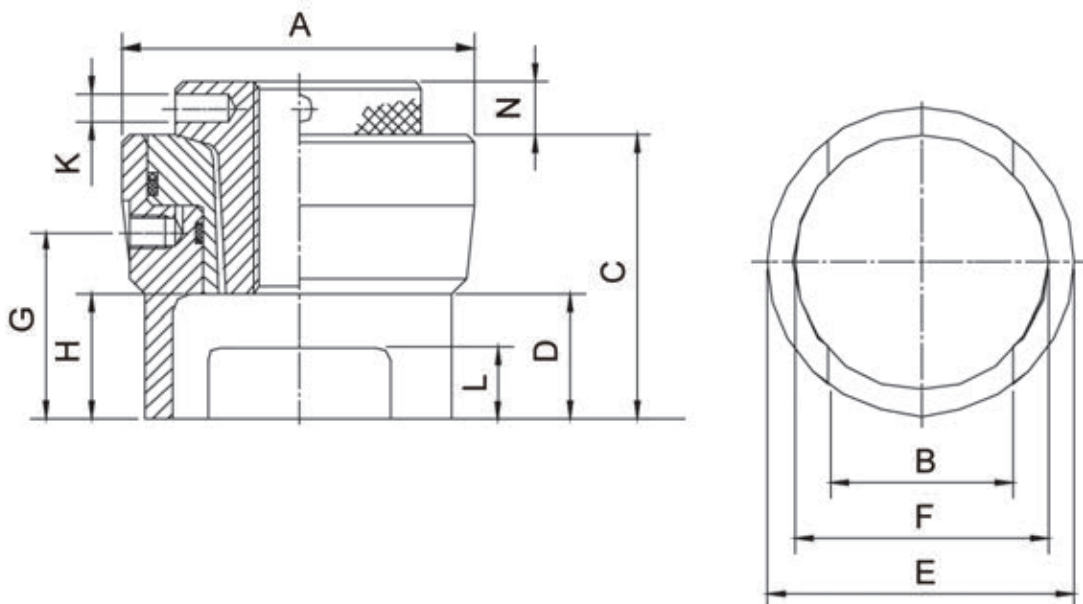


model		HHX 14	HHX 22	HHX 35
art no		110.011.101	110.011.002	110.011.012
max. working pressure	bar/Mpa	1000 / 100	1000 / 100	1000 / 100
<b>stroke</b>	<b>mm</b>	8	8	8
min. reach bolt		M20	M24	M30
max. reach bolt		M22	M28	M34
capacity	kN/t	140 / 14.3	221 / 22.5	352 / 35.9
required oil content (effective)	cc	11.2	17.7	28.2
weight, ready for use	kg	1.4	2.1	2.5

**Stud tension cylinders - Including cylinder bridge (dimensions)**



model		HHX 14	HHX 22	HHX 35
dimension A	mm	70	90	100
dimension B	mm	36	47	52
dimension C	mm	85	80	80
dimension D	mm	28	30	35
dimension E	mm	56	76	87
dimension F	mm	47	60	72
dimension G	mm	58	53	53
dimension H	mm	28	30	35
dimension K	mm	6	8	8
dimension L	mm	20	20	20
dimension N	mm	15	15	15





HTX 50

**Features & benefits** ↓

- Compact and lightweight
- Usable in all positions
- High-quality and refined chrome nickel steel
- Automatically locking quick coupler
- Pulling nut is manufactured in conformity with customer specifications based on exact thread and bolt dimensions
- Nut socket is manufactured in conformity with customer specifications based on exact key size of the nut
- Advantages compared with traditional stud tensioning methods
  - The effects of friction are negligible; higher accuracy when tightening the bolt
  - Time-saving; several cylinders can be coupled for simultaneously tensioning several bolt connections

**Available on request** ↓

- Stud tension cylinders manufactured in conformity with customer specifications
- Extended pulling nut
- Heightened or lowered bridges (HTX)

**Accessories** ↓

- Cylinder bridge
- Pulling nut
- Nut socket
- Tommy bar

Pump	page	198
Hydraulic hoses	page	200
Couplers and accessories	page	201

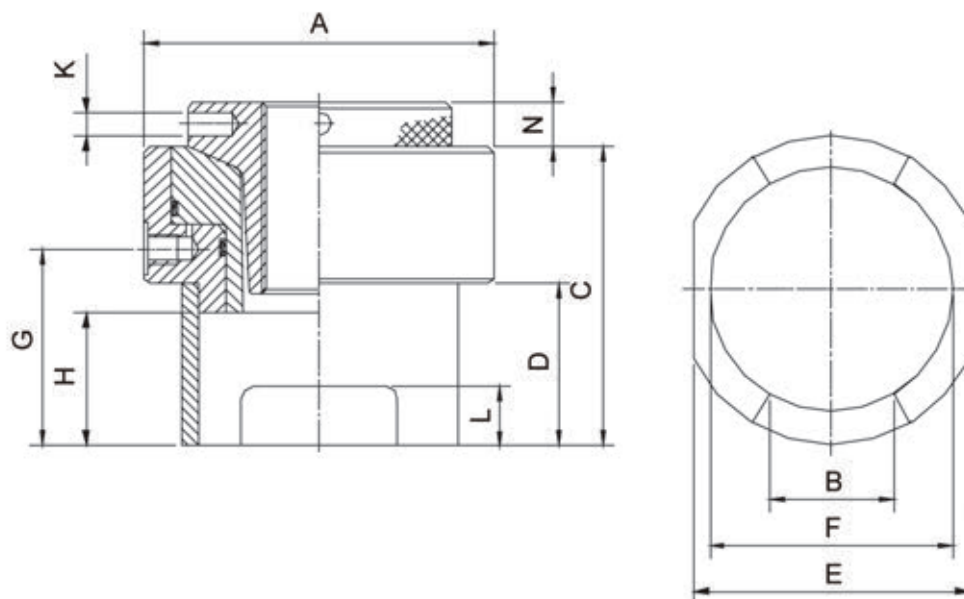


**Stud tension cylinders - Excluding cylinder bridge**


model		HTX 50	HTX 70	HTX 100	HTX 150	HTX 180	HTX 220
art no		110.011.121	110.011.131	110.011.141	110.011.151	110.011.161	110.011.171
max. working pressure	bar/Mpa	1000 / 100	1000 / 100	1000 / 100	1000 / 100	1000 / 100	1000 / 100
<b>stroke</b>	<b>mm</b>	12	12	12	12	12	12
min. reach bolt		M36	M42	M48	M60	M72	M76
max. reach bolt		M40	M46	M56	M68	M76	M80
capacity	kN/t	501 / 51.1	702 / 71.6	999 / 101.9	1500 / 153	1803 / 183.9	2174 / 221.7
required oil content (effective)	cc	60.2	84.2	120	180	216	261
weight, ready for use	kg	3.4	4.6	6.8	10.9	14.1	20.4

**Stud tension cylinders - Excluding cylinder bridge (dimensions)**


model		HTX 50	HTX 70	HTX 100	HTX 150	HTX 180	HTX 220
dimension A	mm	119	139	166	203	220	248
dimension B	mm	60	56	65	79	85	92
dimension C	mm	102	107	120	139	150	165
dimension D	mm	55	60	70	85	90	95
dimension E	mm	96	111	125	154	174	186
dimension F	mm	83	94	112	136	148	156
dimension G	mm	67	72	82	98	103	110
dimension H	mm	45	50	60	75	80	85
dimension K	mm	8	10	10	12	12	12
dimension L	mm	20	25	30	35	40	40
dimension N	mm	15	20	20	25	25	30



**Stud tension cylinders - Excluding cylinder bridge**

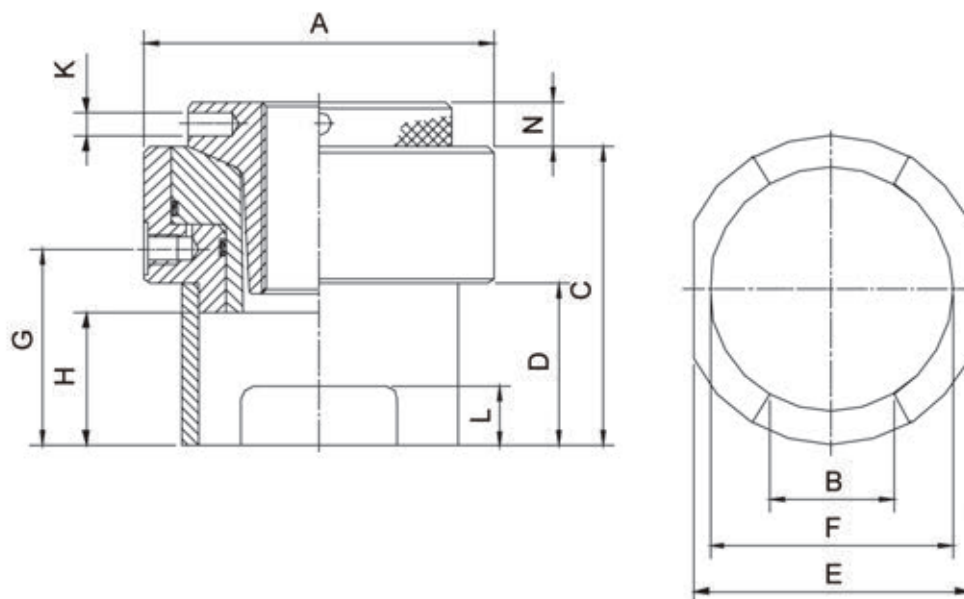


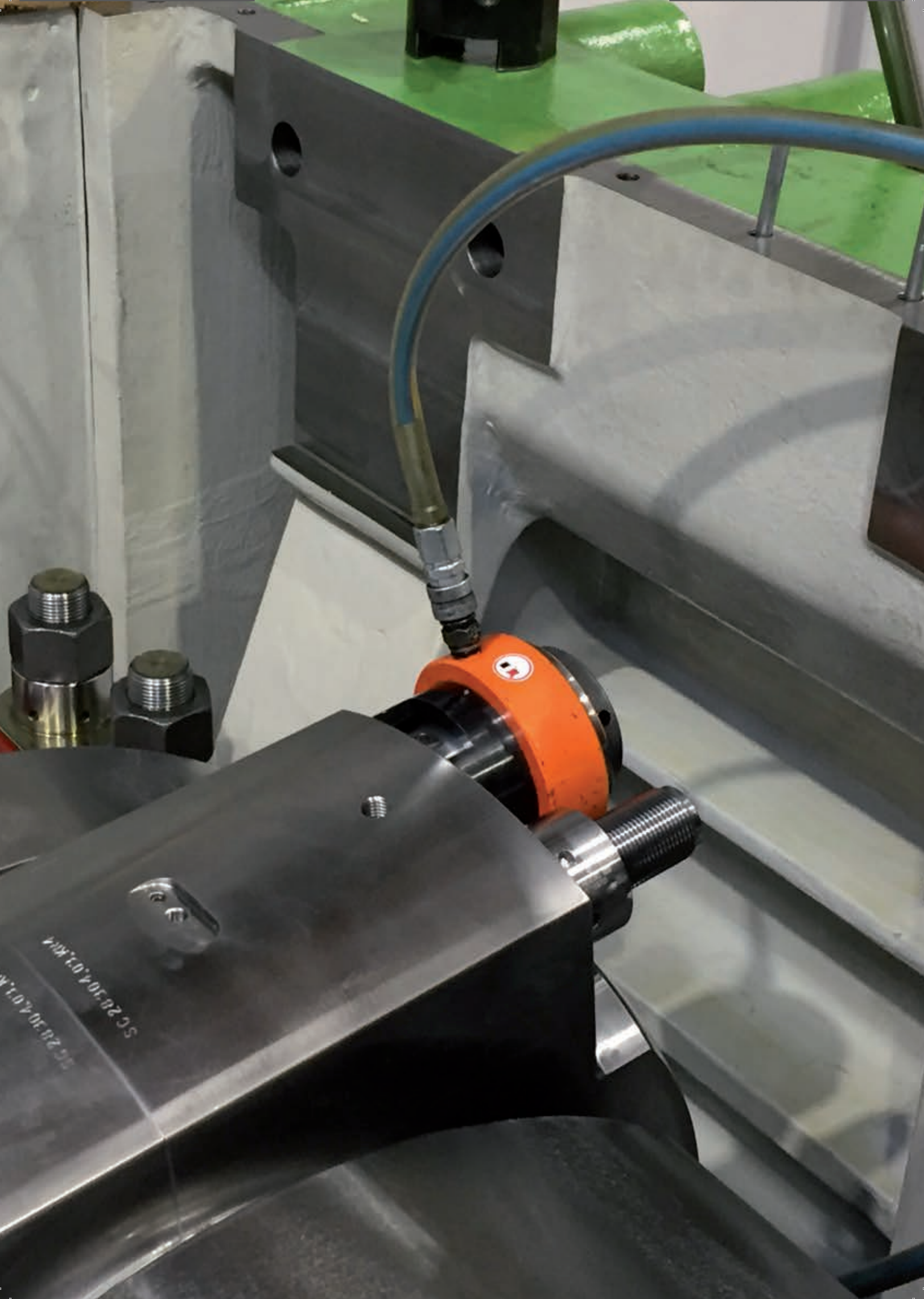
<b>model</b>	<b>HTX 260</b>	
art no	110.011.181	
max. working pressure	bar/Mpa	1000 / 100
<b>stroke</b>	<b>mm</b>	12
min. reach bolt	M80	
max. reach bolt	M85	
capacity	kN/t	2601 / 265.2
required oil content (effective)	cc	312
weight, ready for use	kg	28.0

**Stud tension cylinders - Excluding cylinder bridge (dimensions)**



<b>model</b>	<b>HTX 260</b>	
dimension A	mm	270
dimension B	mm	99
dimension C	mm	195
dimension D	mm	115
dimension E	mm	228
dimension F	mm	170
dimension G	mm	128
dimension H	mm	105
dimension K	mm	16
dimension L	mm	40
dimension N	mm	35





SC 28304.01 KM  
SC 28304.01 A



PAX 18 H 2

**Features & benefits**



- Ergonomic design
  - Light weight; easy to carry and operate
  - Low operating force required; minimal user effort
  - Soft-grip handles; more comfort and grip
  - Anti-slip rubber underneath; pump is stable and does not shift
  - Pump handle lock; easy and safe to carry
- Service- and maintenance-friendly; technical parts are easy to access and replace without removing the tank
- High oil output; quicker action both in the first and second stage
- Oil level glass in the tank; easily check the oil level in both horizontal and vertical position
- Integrated filler funnel; top up oil easily and quickly without extra accessories
- Push & Unlock pump handle lock; unlocking is quick and easy with one brief push on the pump handle

Hydraulic hoses  
Couplers and accessories

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Integrated filler funnel; top up oil easily and quickly without extra accessories

**Pump**

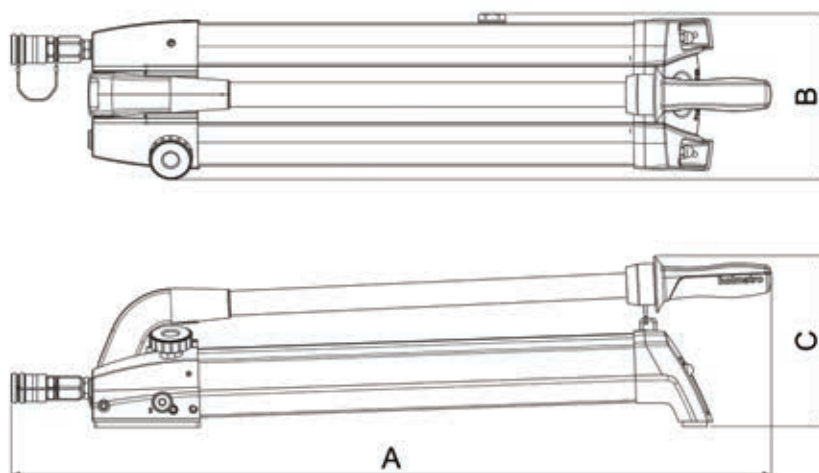


model		PAX 18 H 2
art no		110.142.005
max. working pressure	bar/Mpa	1000 / 100
capacity oil tank (effective)	cc	1800
capacity oil tank	cc	1990
first stage output (per stroke)	cc	42.8
second stage output (per stroke)	cc	2.2
first stage pressure range	bar/Mpa	0-45 / 0-4.5
second stage pressure range	bar/Mpa	45-1000 / 4.5-100
max. operating force	kg	34.0
connection		A 238
operator type		hand
weight, ready for use	kg	7.8

**Pump (dimensions)**



model		PAX 18 H 2
dimension A	mm	777
dimension B	mm	169
dimension C	mm	175





**Features & benefits**



- 4:1 safety ratio

**Hydraulic hoses - Single hoses - 1000 bars**



model	X 1.2 M	X 3 M	X 5 M
art no	110.571.012	110.571.030	110.571.050
equipped with (connector type)	single hose	single hose	single hose
max. working pressure bar/Mpa	1000 / 100	1000 / 100	1000 / 100
color	blue	blue	blue
hose connection A	¼" BSP male	¼" BSP male	¼" BSP male
length m	1.2	3	5







**Hydraulic hoses - Extension hoses - 1000 bars**



model	X 1.2 MU	X 3 MU	X 5 MU
art no	110.572.012	110.572.030	110.572.050
equipped with (connector type)	single hose	single hose	single hose
max. working pressure bar/Mpa	1000 / 100	1000 / 100	1000 / 100
color	blue	blue	blue
hose connection A	A 239	A 239	A 239
length m	1.2	3	5

**Couplers and accessories**



image	description	model	art no
	Quick coupler, female, including aluminium dust cap <ul style="list-style-type: none"> <li>• Connection: 1/4" BSP female</li> <li>• Fits: A 239</li> </ul>	A 238	150.581.238
	Quick coupler, female, including aluminium dust cap <ul style="list-style-type: none"> <li>• Connection: 1/4" BSP female</li> <li>• Fits: A 239</li> <li>• Extra lock ring</li> </ul>	A 240	150.581.240
	Quick coupler, male, including aluminium dust cap <ul style="list-style-type: none"> <li>• Connection: 1/4" BSP female</li> <li>• Fits: A 238 and A 240</li> </ul>	A 239	150.581.239
	2 Aluminium dust caps, 1 male and 1 female <ul style="list-style-type: none"> <li>• Fits: A 238, A 239 and A 240</li> </ul>	-	150.182.010
	Pressure gauge, 0-1000 bars, including protection frame <ul style="list-style-type: none"> <li>• Pressure gauge Ø 162 mm</li> <li>• Including quick coupler female, A 238</li> </ul>	A 148 U	110.582.348
	Coupling piece <ul style="list-style-type: none"> <li>• Including quick coupler female, A 238 (3x)</li> </ul>	A 240 U	110.582.240

84  
82  
80



Layer 03

17

# Propeller set





HY 100 G 1 U



**Features & benefits** ↓

- Compact
- Lightweight
- Can be adjusted to fit each propeller shaft diameter by coupling using connecting plates

**Available on request** ↓

- Cylinders manufactured in conformity with customer specifications

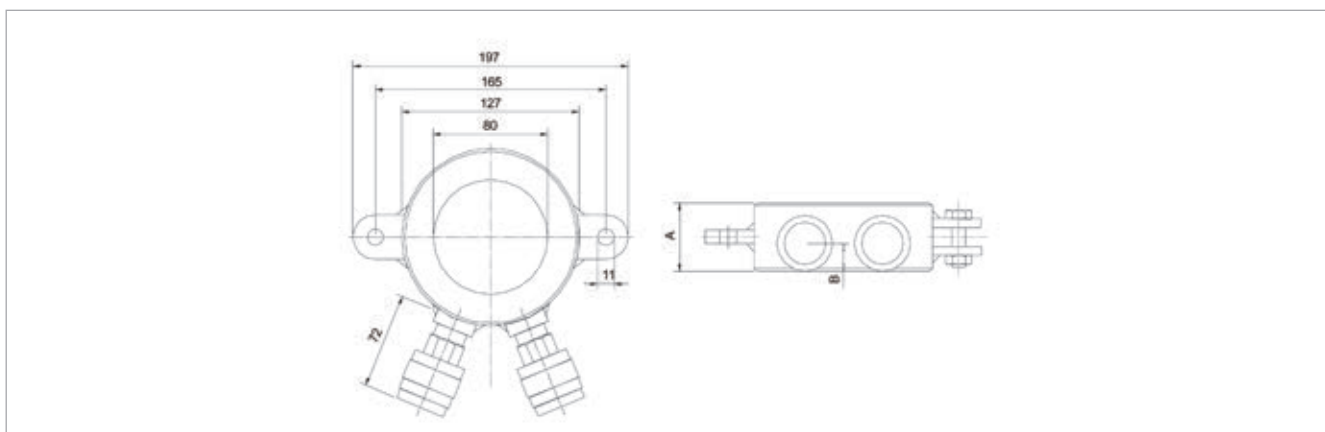
Pump	page	206
Hydraulic hoses	page	207
Couplers and accessories	page	208

**Propeller cylinders** ↓

model		HY 100 G 1 U	HY 100 G 3.5 U
art no		120.012.001	120.012.011
max. working pressure		bar/Mpa 2000 / 200	2000 / 200
<b>stroke</b>	<b>mm</b>	10	35
capacity	kN/t	1000.5 / 102	1000.5 / 102
effective pressure area	cm <sup>2</sup>	50.27	50.27
required oil content (effective)	cc	50	176
connection		Y 218 (2x)	Y 218 (2x)
acting type		single	single
return type		gravity	gravity
material		steel	steel
weight, ready for use	kg	6.0	8.1

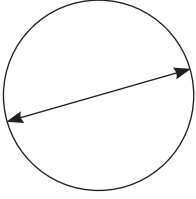
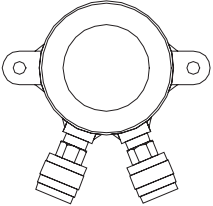
**Propeller cylinders (dimensions)** ↓

model		HY 100 G 1 U	HY 100 G 3.5 U
dimension A	mm	49	85
dimension B	mm	25	24



**Selection chart of propeller cylinders**

**Max. number of cylinders for propeller shaft**

				<i>F</i>	
propeller shaft diameter		max. number of cylinders		max. available force	
mm	inch			ton	kN
200	8	7		700	6867
250	10	8		800	7848
300	12	9		900	8829
350	14	10		1000	9810
400	16	11		1100	10791
450	18	12		1200	11772
400	20	13		1300	12753
550	22	14		1400	13734
600	24	15		1500	14715
650	26	15		1500	14715
700	28	16		1600	15696
750	30	17		1700	16677
800	32	18		1800	17658
850	34	19		1900	18639
900	36	20		2000	19650
950	38	21		2100	20601
1000	40	22		2200	21583





HTWY 2300 U



**Features & benefits**



- Compact and lightweight
- Low maintenance
- Suitable for large volumes
- Automatic transition from first to second stage
- Large pump output per stroke
- Provided with dipstick

Hydraulic hoses  
Couplers and accessories

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page 208

**Pump**



<b>model</b>		<b>HTWY 2300 U</b>
art no		120.442.001
max. working pressure	bar/Mpa	2000 / 200
capacity oil tank (effective)	cc	2300
first stage output (per stroke)	cc	31
second stage output (per stroke)	cc	1.6
first stage pressure range	bar/Mpa	0-30 / 0-3
second stage pressure range	bar/Mpa	30-2000 / 3-200
max. operating force	kg	36.0
operator type		hand
number of tool connections		1
weight, ready for use	kg	16.0



**Features & benefits**



- 3:1 safety ratio

**Hydraulic hoses - Single hoses - 2000 bars**





model	Y 1.5 MK	Y 3 MK	Y 5 MK
art no	120.570.002	120.570.004	120.570.005
equipped with (connector type)	single hose	single hose	single hose
max. working pressure bar/Mpa	2000 / 200	2000 / 200	2000 / 200
color	red	red	red
hose connection A	M26 x 1.5	M26 x 1.5	M26 x 1.5
hose connection B	M26 x 1.5	M26 x 1.5	M26 x 1.5
length m	1.5	3	5

**Hydraulic hoses - Extension hoses - 2000 bars**



model	Y 1.5 MKU	Y 3 MKU	Y 5 MKU
art no	120.570.003	120.570.006	120.570.007
max. working pressure bar/Mpa	2000 / 200	2000 / 200	2000 / 200
color	red	red	red
hose connection A	Y 219	Y 219	Y 219
hose connection B	Y 219	Y 219	Y 219
length m	1.5	3	5

**Couplers and accessories**

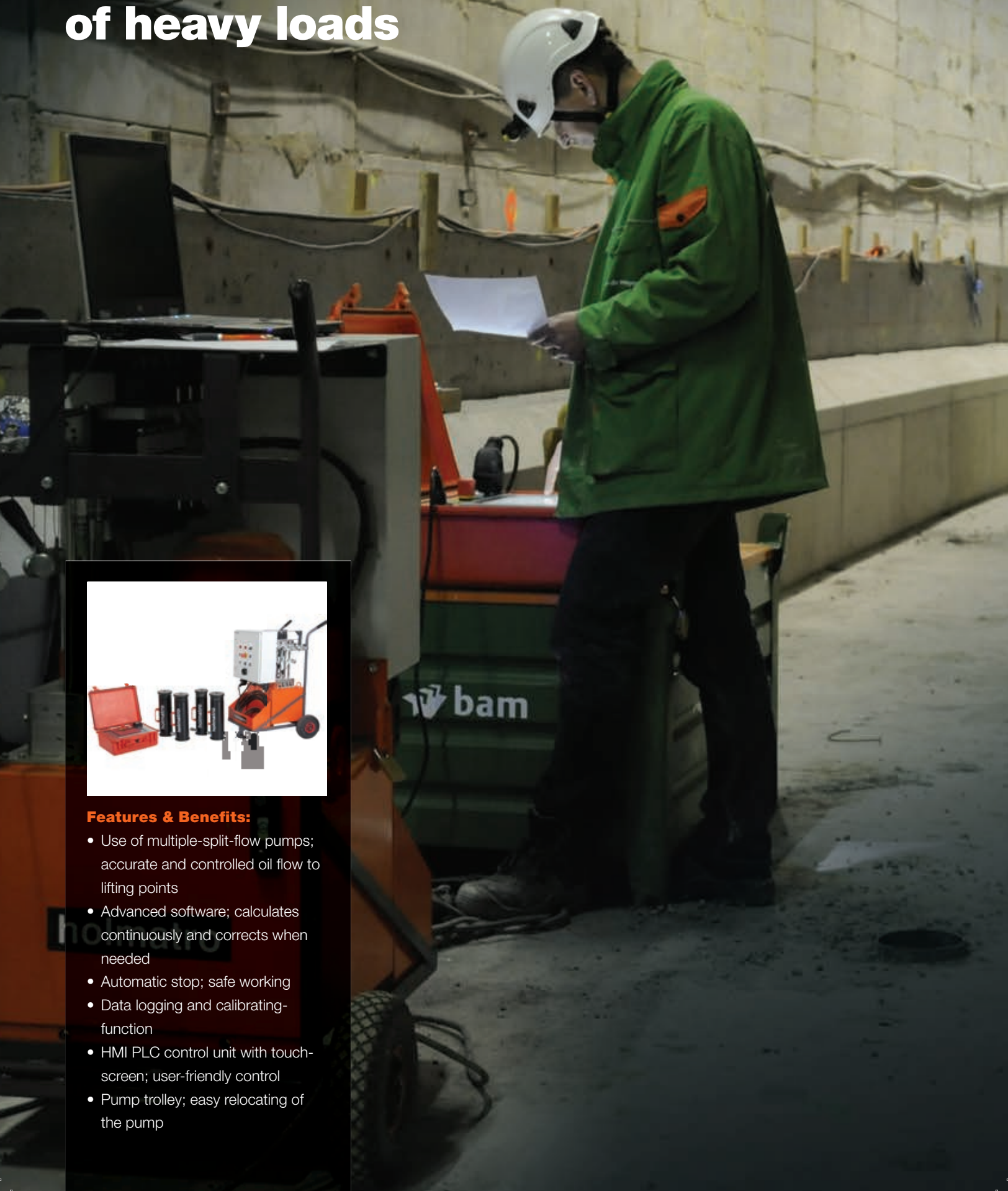

image	description	model	art no
	Coupler, female, including steel dust cap • Connection: M22 x 1.5 male • Fits: Y 219	Y 218	120.481.218
	Coupler, male, including steel dust cap • Connection: M22 x 1.5 female • Fits: Y 218	Y 219	120.481.219
	Nipple • Connection: M26 x 1.5 female - M22 x 1.5 male • For mounting Y 219 or Y 218 on loose hose	2000 bar	120.000.007
	Pressure gauge 0-2000 bar, including protection frame • Pressure gauge Ø 162 mm • Including coupler female, Y 218	Y 220 U	120.182.220
	Rotation elbow • Including coupler male, Y 219 and coupler female Y 218	Y 215 U	120.182.215
	Connecting plate • Centre to centre size: 84 mm	Y 200	120.481.200
	Suspension hook	Y 205	120.181.205

**Industrial solutions**



Synchronized positioning system

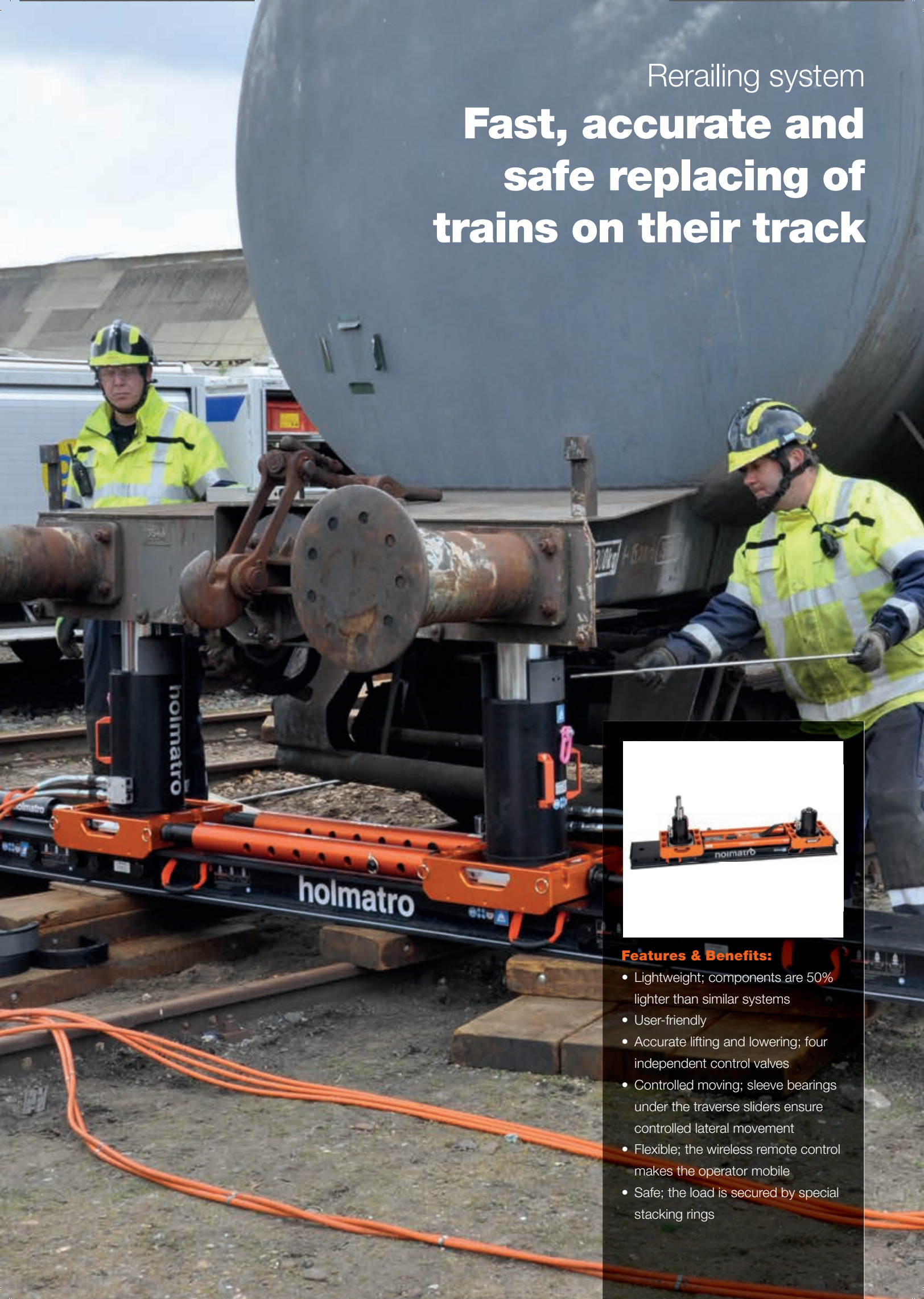
# Computer-controlled synchronized positioning of heavy loads



## Features & Benefits:

- Use of multiple-split-flow pumps; accurate and controlled oil flow to lifting points
- Advanced software; calculates continuously and corrects when needed
- Automatic stop; safe working
- Data logging and calibrating-function
- HMI PLC control unit with touch-screen; user-friendly control
- Pump trolley; easy relocating of the pump

Rerailing system  
**Fast, accurate and  
safe replacing of  
trains on their track**



**Features & Benefits:**

- Lightweight; components are 50% lighter than similar systems
- User-friendly
- Accurate lifting and lowering; four independent control valves
- Controlled moving; sleeve bearings under the traverse sliders ensure controlled lateral movement
- Flexible; the wireless remote control makes the operator mobile
- Safe; the load is secured by special stacking rings

Skidding system

# Horizontal movement of industrial objects and installations with exceptional sizes and weights



## Features & Benefits:

- Modular system; easy to adapt to different load sizes and projects
- Equal pushing and pulling capacity for controlled positioning
- Holmatro offers two modular Skidding Systems:
  - an extremely lightweight system for loads up to 200 tons
  - a system for loads up to 400 tons (assuming two skidding units are used)



Offshore wind hydraulic solutions

# Powerful systems for offshore wind



## Features & Benefits:

- Custom-made systems; designed for your specific job
- Capacity of 50 tons or more; powerful lightweight cylinders
- Corrosion-resistant; expanded life span

SEAJACKS LEVIATHAN  
PANAMA

Step cylinder set

# Larger vertical movement of heavy loads with accurate control



## Features & Benefits:

- Extra-large tilting saddle to prevent eccentric loads
- Step plate is made of 7075-T6 aluminium; reduces the weight of the tool
- Adjustable head; no stuffing material needed
- Flat face couplers; user-friendly and fail safe

Ship launching set

# Safe and extremely controllable sideways ship launches

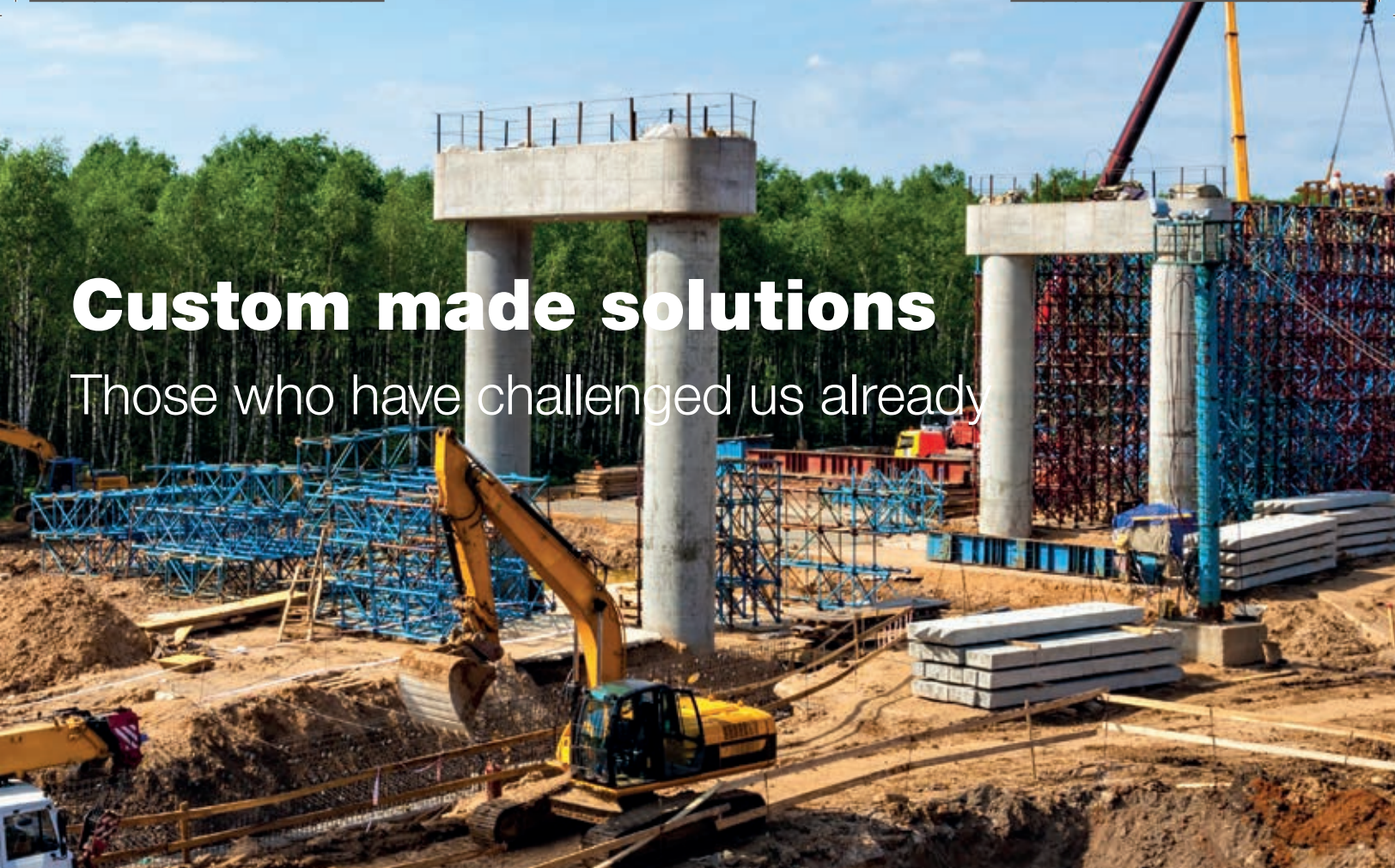


**Features & Benefits:**

- Separate oil tank and large diameter connection hose; quick and simultaneous relief
- Electrical control unit; safe and accurate control

# Custom made solutions

Those who have challenged us already



**Truck brake disc press**



**400 tons hollow plunger cylinder**



**Pulley Puller**



**Lightweight and fast lifting system**



**605 tons locknut cylinders**



**Cylinders with an extreme high side load capacity**



**500V hydraulic vari pump**



**590 tons heavy lift cylinders**

No one knows the technical challenges of your company better than you. Every day, you experience project bottlenecks and face technical limitations. With our more than 45 years of experience, we are pleased to assist you in finding a solution to your problem. Whether it involves greater efficiency in the execution of complex projects, improving safety or excelling in extreme situations: Holmatro provides the right solution.

**Are you curious about what we can do for you? Challenge us and **Feel the Power!****

**Industrial Solutions catalogue?**

→ Call **+31 (0)162-751500** or send an e-mail to **industry@holmatro.com**

Service & safety







## Holmatro Service Programme

### A Total Solution

Applicable to all brands of hydraulic equipment is that malfunctions and defects will occasionally occur over time. Regular maintenance and correct usage are of great importance in ensuring that your equipment can continue to be employed optimally and safely during its entire operating life span.

Holmatro can help you here. As a manufacturer of hydraulic equipment we are the ideal service specialist in the field. We know, how important professional maintenance is; not only for optimal functioning of the equipment, but also for the safety of the people who use it.

This is why Holmatro offers a comprehensive service programme for the following hydraulic tools from 500 to 4,000 bar:

- Industrial tools (cylinders, pumps and system components)
- Hydraulic cutters and spreaders
- Additionally we also provide a service programme for hydraulic foundry tools.



The Holmatro service programme consists of the following services:

- Periodic maintenance
- Repairs
- Testing and certification
- Training and advice

SCC\*  
ISO 9001  
BUREAU VERITAS  
Certification



**We will be happy to help you draw up a customized service solution.**



### Holmatro Testteam

At Holmatro we combine high pressure hydraulics with innovative design and material use. The result is powerful, lightweight tools. Hydraulics is a form of drive technology. Power and movement is transferred and controlled using pressurised oil.

The Holmatro Testteam gives an animated look at the possibilities and results of working with high pressure hydraulics. Let Holmatro's service engineers surprise you and watch the films on our website!

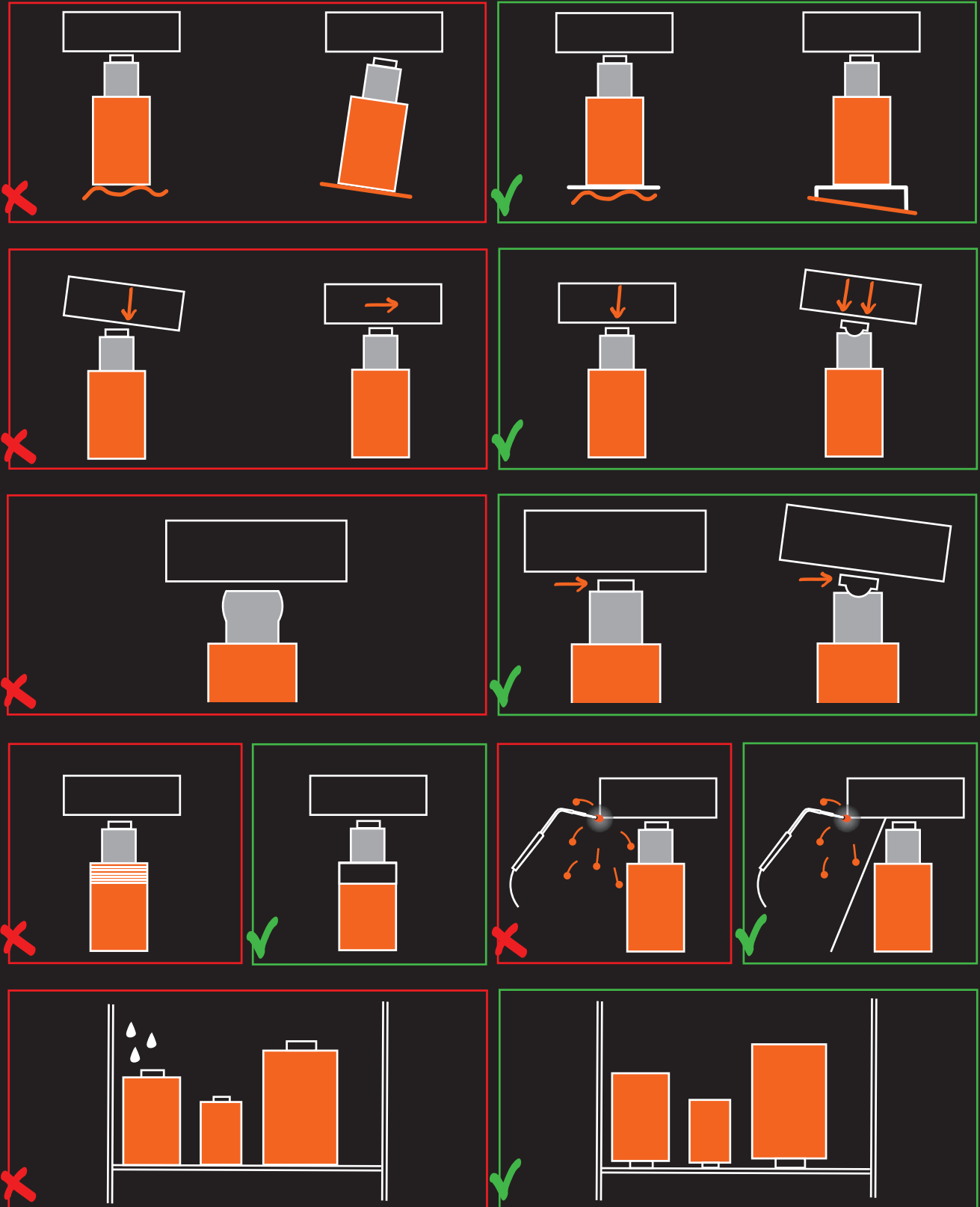


← Professional maintenance and periodic inspection is essential to guarantee the continued correct functioning of your tools.

# DO YOU FEEL THE PRESSURE TO WORK SAFE



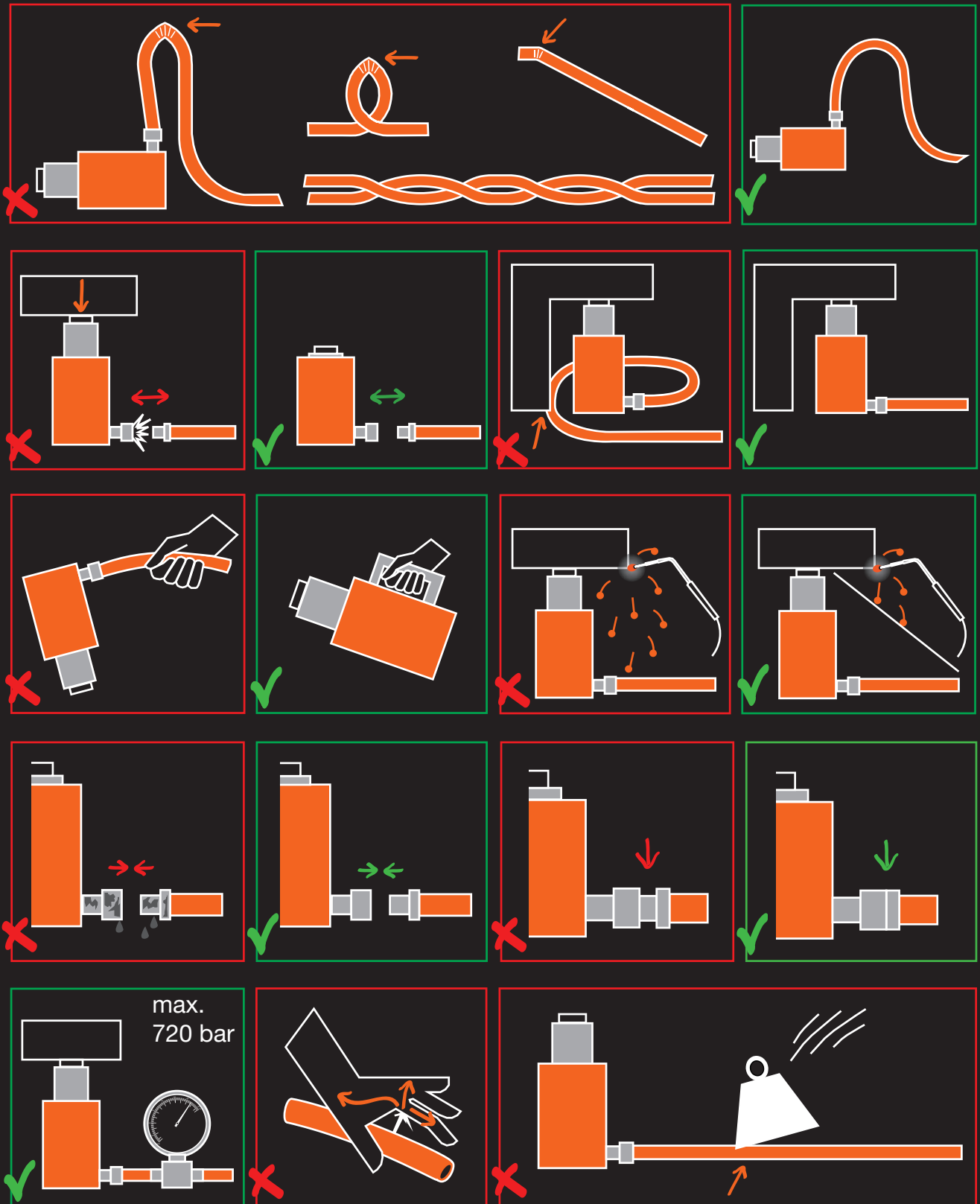
Safety Guide | **Hydraulic cylinders**



# DO YOU FEEL THE PRESSURE TO WORK SAFE



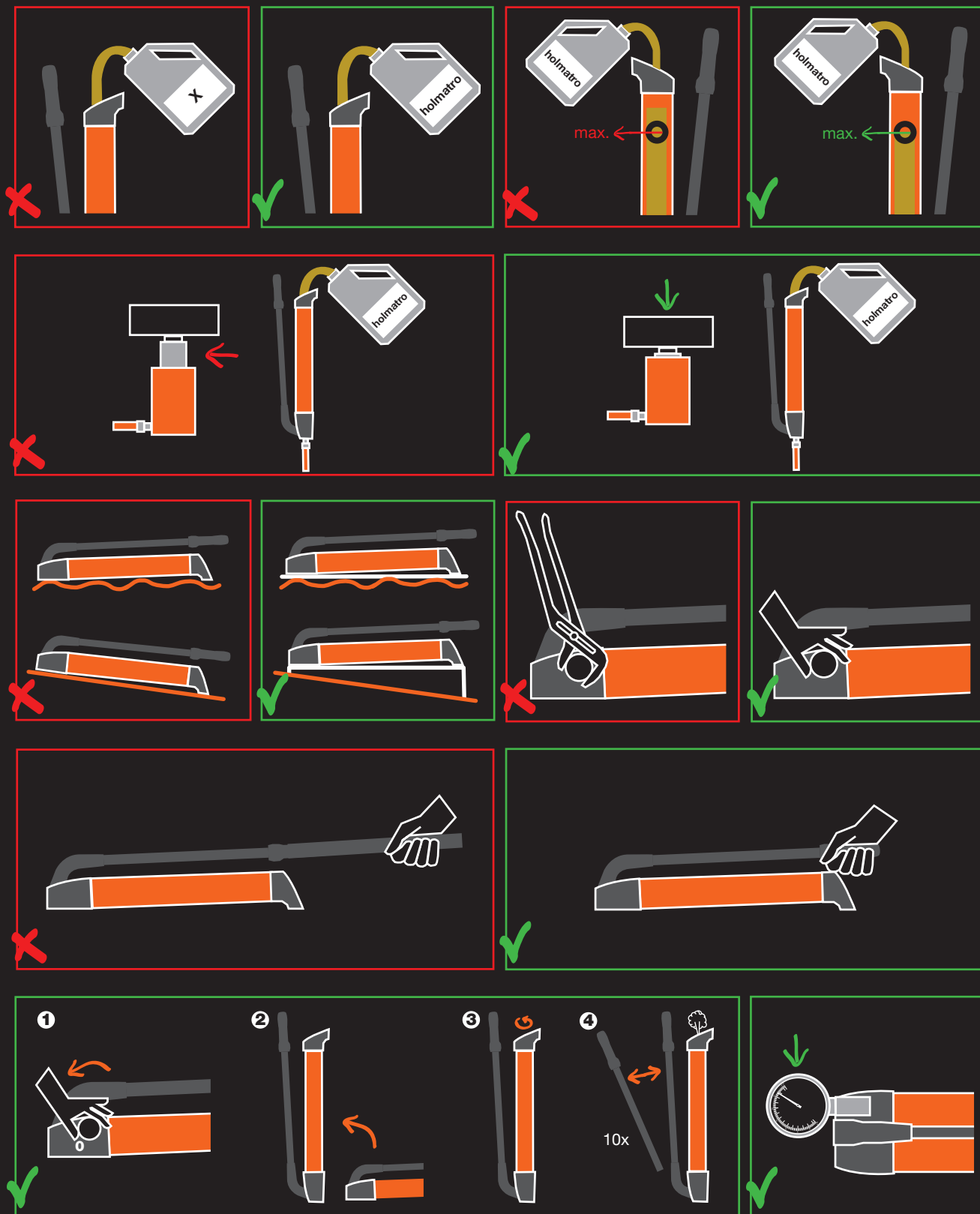
Safety Guide | **Hoses and couplers**



# DO YOU FEEL THE PRESSURE TO WORK SAFE



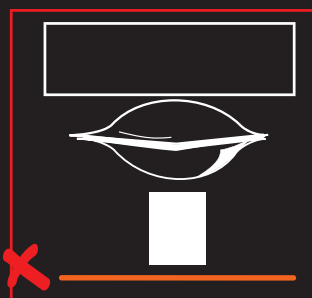
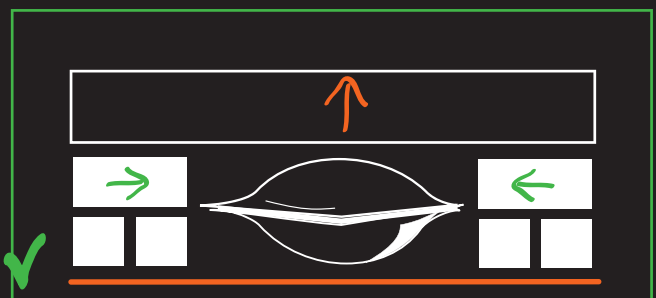
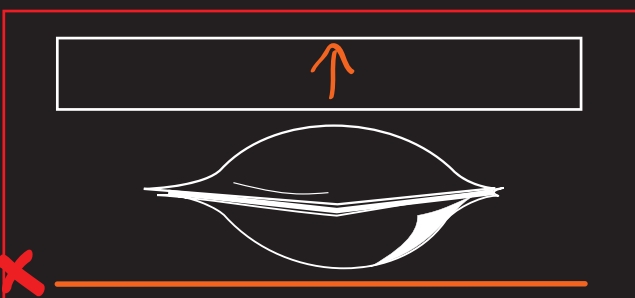
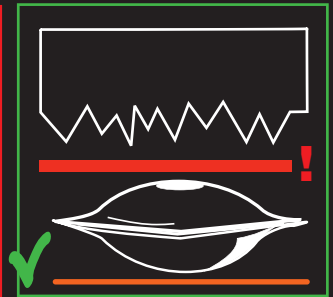
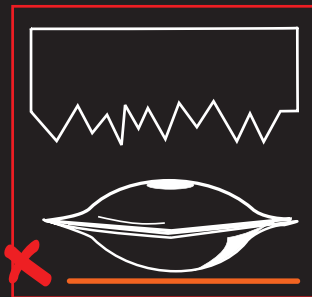
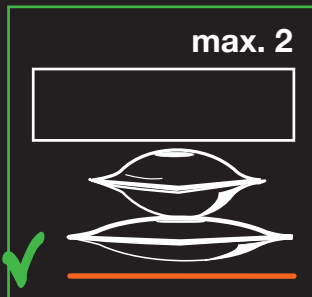
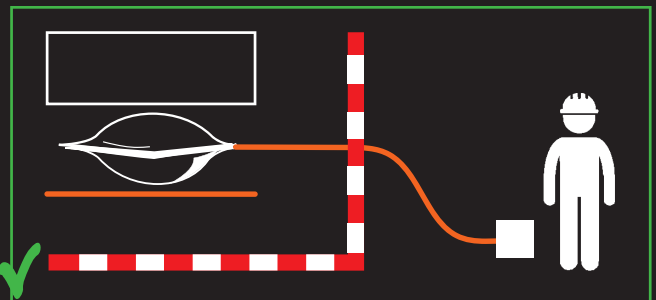
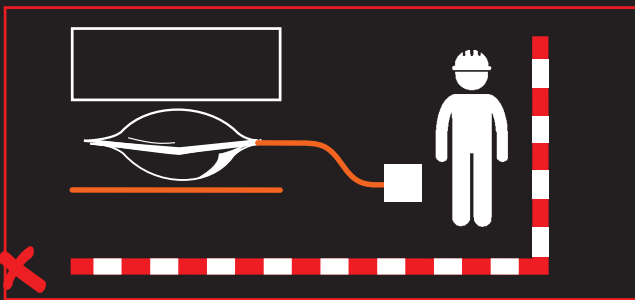
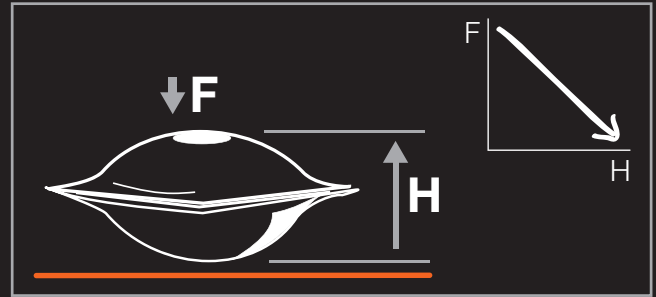
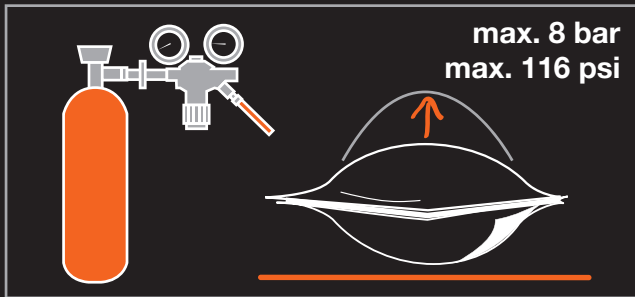
Safety Guide | **Pumps**



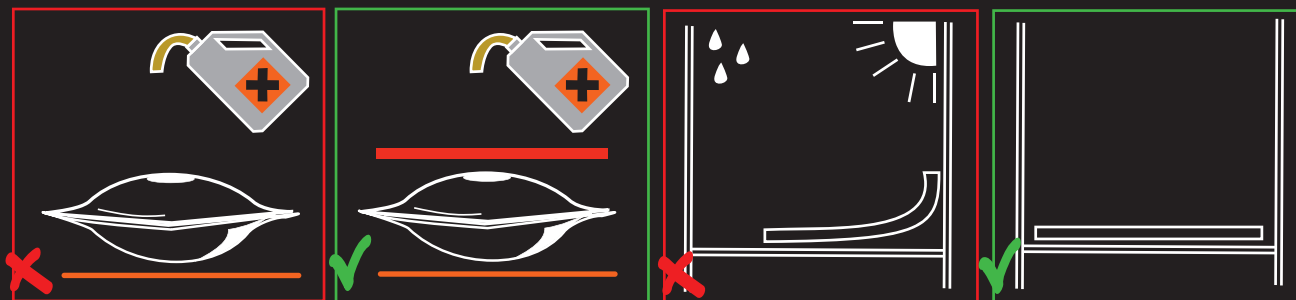
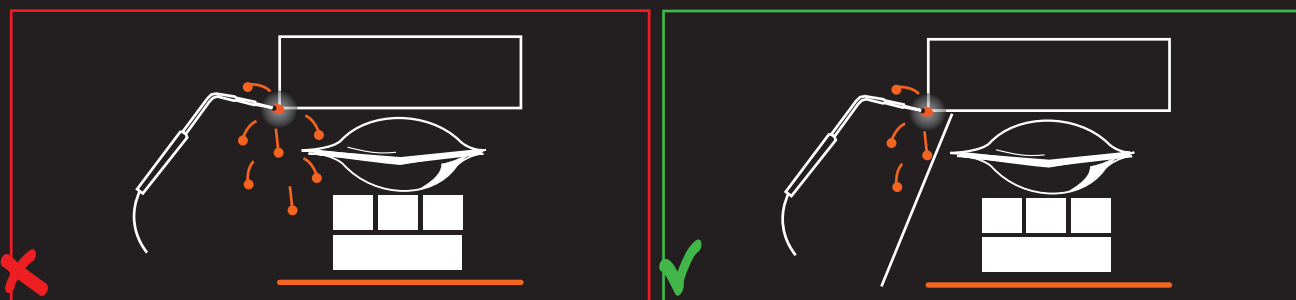
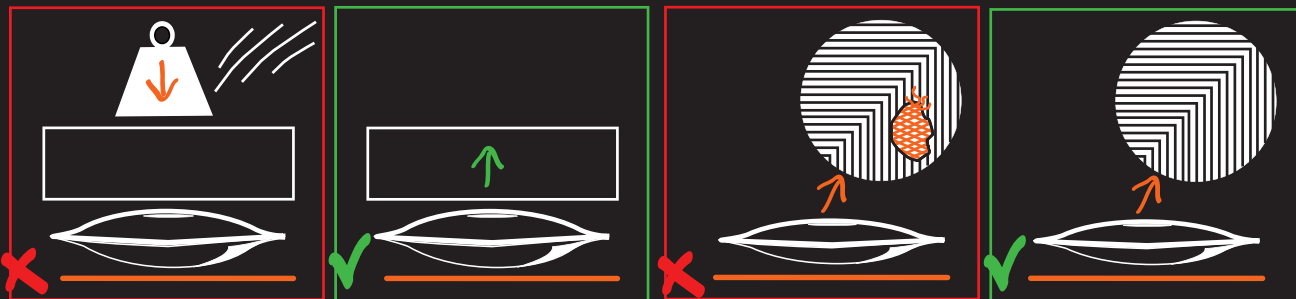
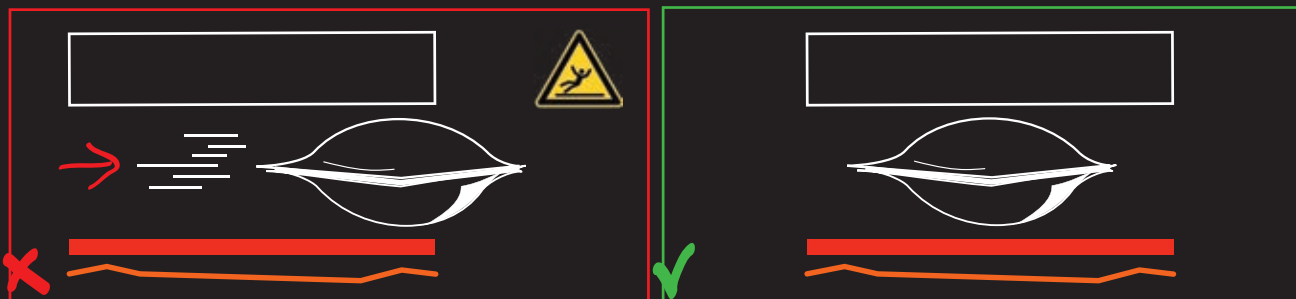
# DO YOU FEEL THE PRESSURE TO WORK SAFE



Safety Guide | **Lifting bags**



Safety Guide | **Lifting bags**









### **Holmatro Netherlands**

Raamsdonkveer, The Netherlands  
T +31 (0) 162 75 15 00  
E [industry@holmatro.com](mailto:industry@holmatro.com)

### **Holmatro USA**

Glen Burnie, U.S.A.  
T +1 410 768 9662  
E [industrial@holmatro-usa.com](mailto:industrial@holmatro-usa.com)

### **Holmatro Poland**

Warsaw, Poland  
T +48 (22) 76 10 404  
E [info@holmatro.pl](mailto:info@holmatro.pl)

### **Holmatro China**

Suzhou, China  
T +86 (512) 6380 7060  
E [china@holmatro.com](mailto:china@holmatro.com)

[www.holmatro.com](http://www.holmatro.com)



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