

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

See 'Selection list cylinders', page 22, 23, 24 and 25.

#### 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 139.


**Cylinder System  
Configurator**

Put together hydraulic cylinder systems  
**quickly and easily!**

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## 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

### Four examples

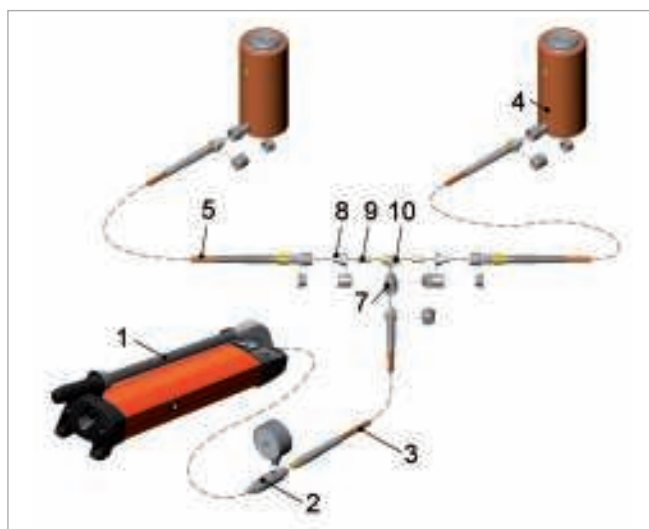
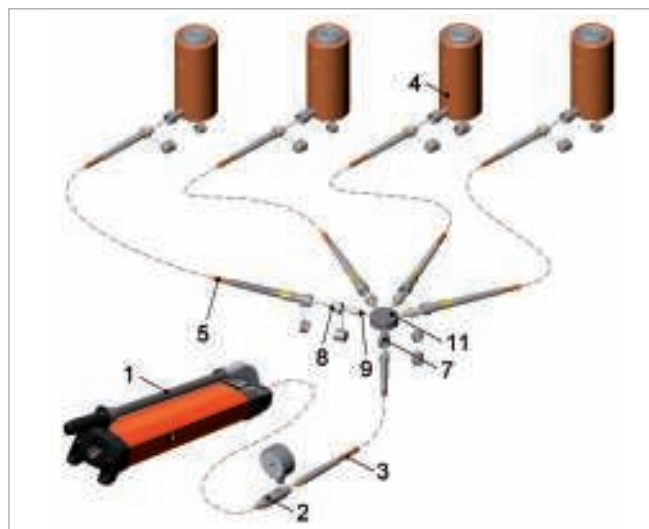
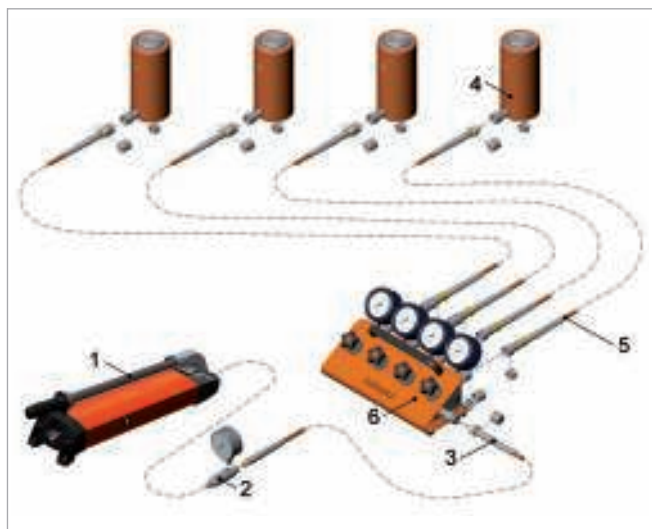
Of a hydraulic cylinder system.

| no | description                        | art no      | page |
|----|------------------------------------|-------------|------|
| 1  | hand pump PA 18 H 2                | 100.142.035 | 143  |
| 2  | pressure gauge set for PA *8 pumps | 100.182.214 | 173  |
| 3  | hydraulic hose H 2 SOU             | 100.572.102 | 167  |
| 4  | single-acting cylinder             |             |      |
| 5  | hydraulic hose VL 5 SOU            | 100.572.305 | 168  |
| 6  | valve block HMS 4 C                | 100.172.047 | 174  |
| 7  | High Flow coupler, female, A 118   | 100.181.118 | 169  |
| 8  | High Flow coupler, male, A 119     | 100.181.119 | 169  |
| 9  | nipple 3/8" NPT, male              | 100.581.101 | 182  |
| 10 | T-piece                            | 100.001.010 | 179  |
| 11 | manifold                           | 100.181.125 | 181  |

See section 'System components', page 165.

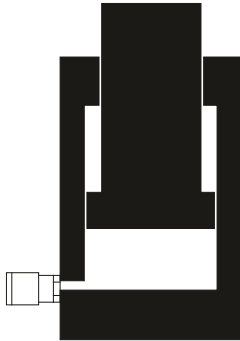
### Any questions?

Our sales department is happy to be of assistance!

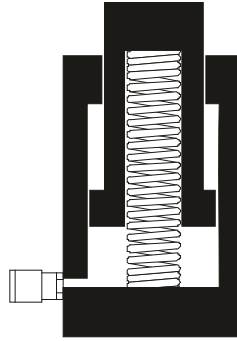


The Holmatro product range includes over 100 different cylinders in 10 different types and 4 different return types. A short explanation about the standard return types and the models will be given below.

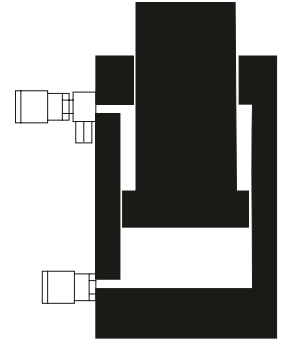
### Various return types



Gravity return



Spring return



Hydraulic return

**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<br>tons | closed height<br>mm | stroke<br>mm | return    | type          | material  | model                | art no      | page |
|------------------|---------------------|--------------|-----------|---------------|-----------|----------------------|-------------|------|
| 5                | 31                  | 5            | spring    | flat          | steel     | <b>HFC 5 S 0.5</b>   | 100.112.290 | 49   |
|                  | 44                  | 15           | spring    | flat          | steel     | <b>HFC 5 S 1.5</b>   | 100.112.291 | 49   |
|                  | 105                 | 25           | spring    | multi purpose | steel     | <b>HGC 5 S 2.5</b>   | 100.112.211 | 29   |
|                  | 130                 | 50           | spring    | multi purpose | steel     | <b>HGC 5 S 5</b>     | 100.112.212 | 29   |
|                  | 155                 | 75           | spring    | multi purpose | steel     | <b>HGC 5 S 7.5</b>   | 100.112.213 | 29   |
|                  | 180                 | 100          | spring    | multi purpose | steel     | <b>HGC 5 S 10</b>    | 100.112.214 | 29   |
|                  | 206                 | 125          | spring    | multi purpose | steel     | <b>HGC 5 S 12.5</b>  | 100.112.215 | 29   |
|                  | 268                 | 175          | spring    | multi purpose | steel     | <b>HGC 5 S 17.5</b>  | 100.112.216 | 29   |
|                  | 318                 | 225          | spring    | multi purpose | steel     | <b>HGC 5 S 22.5</b>  | 100.112.217 | 30   |
| 10               | 46                  | 15           | spring    | flat          | steel     | <b>HFC 10 S 1.5</b>  | 100.112.292 | 49   |
|                  | 49                  | 41 / 20      | gravity   | telescopic    | steel     | <b>HFJ 10/30 G 4</b> | 100.111.005 | 55   |
|                  | 97                  | 25           | spring    | multi purpose | steel     | <b>HGC 10 S 2.5</b>  | 100.112.218 | 30   |
|                  | 100                 | 50           | spring    | short stroke  | steel     | <b>HSC 10 S 5</b>    | 100.112.300 | 53   |
|                  | 122                 | 50           | spring    | multi purpose | steel     | <b>HGC 10 S 5</b>    | 100.112.219 | 30   |
|                  | 122                 | 50           | spring    | multi purpose | steel     | <b>HGC 10 S 5</b>    | 100.112.219 | 30   |
|                  | 172                 | 100          | spring    | multi purpose | steel     | <b>HGC 10 S 10</b>   | 100.112.220 | 30   |
|                  | 240                 | 150          | spring    | multi purpose | steel     | <b>HGC 10 S 15</b>   | 100.112.221 | 31   |
|                  | 240                 | 150          | spring    | multi purpose | steel     | <b>HGC 10 S 15</b>   | 100.112.221 | 31   |
|                  | 270                 | 150          | gravity   | lock nut      | steel     | <b>HJ 10 G 15 SN</b> | 100.082.003 | 65   |
|                  | 290                 | 200          | spring    | multi purpose | steel     | <b>HGC 10 S 20</b>   | 100.112.222 | 30   |
|                  | 338                 | 150          | hydraulic | construction  | steel     | <b>HCJ 10 H 15</b>   | 100.122.066 | 71   |
|                  | 340                 | 250          | spring    | multi purpose | steel     | <b>HGC 10 S 25</b>   | 100.112.223 | 31   |
|                  | 390                 | 300          | spring    | multi purpose | steel     | <b>HGC 10 S 30</b>   | 100.112.224 | 31   |
|                  | 440                 | 350          | spring    | multi purpose | steel     | <b>HGC 10 S 35</b>   | 100.112.225 | 31   |
|                  | 490                 | 400          | spring    | multi purpose | steel     | <b>HGC 10 S 40</b>   | 100.112.226 | 31   |
| 15               | 123                 | 25           | spring    | multi purpose | steel     | <b>HGC 15 S 2.5</b>  | 100.112.227 | 31   |
|                  | 148                 | 50           | spring    | multi purpose | steel     | <b>HGC 15 S 5</b>    | 100.112.228 | 31   |
|                  | 198                 | 100          | spring    | multi purpose | steel     | <b>HGC 15 S 10</b>   | 100.112.229 | 32   |
|                  | 265                 | 150          | spring    | multi purpose | steel     | <b>HGC 15 S 15</b>   | 100.112.230 | 32   |
|                  | 315                 | 200          | spring    | multi purpose | steel     | <b>HGC 15 S 20</b>   | 100.112.231 | 32   |
|                  | 365                 | 250          | spring    | multi purpose | steel     | <b>HGC 15 S 25</b>   | 100.112.232 | 32   |
|                  | 415                 | 300          | spring    | multi purpose | steel     | <b>HGC 15 S 30</b>   | 100.112.233 | 32   |
|                  | 465                 | 350          | spring    | multi purpose | steel     | <b>HGC 15 S 35</b>   | 100.112.234 | 32   |
|                  | 515                 | 400          | spring    | multi purpose | steel     | <b>HGC 15 S 40</b>   | 100.112.235 | 33   |
| 20               | 55                  | 15           | spring    | flat          | steel     | <b>HFC 20 S 1.5</b>  | 100.112.293 | 49   |
|                  | 103                 | 50           | spring    | short stroke  | steel     | <b>HSC 20 S 5</b>    | 100.112.301 | 53   |
|                  | 140                 | 111 / 55     | gravity   | telescopic    | steel     | <b>HJ 20/50 G 11</b> | 100.112.103 | 55   |
|                  | 164                 | 50           | spring    | standard      | aluminium | <b>HAC 20 S 5</b>    | 100.112.267 | 39   |
|                  | 214                 | 100          | spring    | standard      | aluminium | <b>HAC 20 S 10</b>   | 100.112.265 | 39   |
|                  | 264                 | 150          | spring    | standard      | aluminium | <b>HAC 20 S 15</b>   | 100.112.261 | 39   |
| 25               | 138                 | 25           | spring    | multi purpose | steel     | <b>HGC 25 S 2.5</b>  | 100.112.236 | 33   |
|                  | 165                 | 50           | spring    | multi purpose | steel     | <b>HGC 25 S 5</b>    | 100.112.237 | 33   |
|                  | 215                 | 100          | spring    | multi purpose | steel     | <b>HGC 25 S 10</b>   | 100.112.238 | 33   |
|                  | 265                 | 150          | spring    | multi purpose | steel     | <b>HGC 25 S 15</b>   | 100.112.239 | 33   |
|                  | 283                 | 150          | gravity   | lock nut      | steel     | <b>HJ 25 G 15 SN</b> | 100.082.002 | 65   |
|                  | 315                 | 200          | spring    | multi purpose | steel     | <b>HGC 25 S 20</b>   | 100.112.240 | 33   |
|                  | 350                 | 150          | hydraulic | construction  | steel     | <b>HCJ 25 H 15</b>   | 100.122.067 | 71   |
|                  | 374                 | 250          | spring    | multi purpose | steel     | <b>HGC 25 S 25</b>   | 100.112.241 | 34   |
|                  | 424                 | 300          | spring    | multi purpose | steel     | <b>HGC 25 S 30</b>   | 100.112.242 | 34   |
|                  | 450                 | 250          | hydraulic | construction  | steel     | <b>HCJ 25 H 25</b>   | 100.122.068 | 71   |

**Selection List Cylinders**


| capacity<br>tons | closed height<br>mm | stroke<br>mm | return    | type          | material  | model                | art no      | page |
|------------------|---------------------|--------------|-----------|---------------|-----------|----------------------|-------------|------|
| 25               | 474                 | 350          | spring    | multi purpose | steel     | <b>HGC 25 S 35</b>   | 100.112.243 | 34   |
|                  | 574                 | 450          | spring    | multi purpose | steel     | <b>HGC 25 S 45</b>   | 100.112.244 | 34   |
| 30               | 50                  | 5            | spring    | flat          | steel     | <b>HFC 30 S 0.5</b>  | 100.112.294 | 49   |
|                  | 60                  | 15           | spring    | flat          | steel     | <b>HFC 30 S 1.5</b>  | 100.112.295 | 49   |
|                  | 106                 | 50           | spring    | short stroke  | steel     | <b>HSC 30 S 5</b>    | 100.112.302 | 53   |
|                  | 182                 | 50           | spring    | standard      | aluminium | <b>HAC 30 S 5</b>    | 100.112.269 | 39   |
|                  | 197                 | 50           | hydraulic | standard      | aluminium | <b>HAC 30 H 5</b>    | 100.122.086 | 43   |
|                  | 232                 | 100          | spring    | standard      | aluminium | <b>HAC 30 S 10</b>   | 100.112.268 | 39   |
|                  | 247                 | 100          | hydraulic | standard      | aluminium | <b>HAC 30 H 10</b>   | 100.122.085 | 43   |
|                  | 282                 | 150          | spring    | standard      | aluminium | <b>HAC 30 S 15</b>   | 100.112.262 | 39   |
|                  | 297                 | 150          | hydraulic | standard      | aluminium | <b>HAC 30 H 15</b>   | 100.122.080 | 43   |
|                  | 347                 | 200          | hydraulic | standard      | aluminium | <b>HAC 30 H 20</b>   | 100.122.079 | 43   |
|                  | 397                 | 250          | hydraulic | standard      | aluminium | <b>HAC 30 H 25</b>   | 100.122.103 | 43   |
|                  | 447                 | 300          | hydraulic | standard      | aluminium | <b>HAC 30 H 30</b>   | 100.122.060 | 43   |
| 35               | 184                 | 50           | spring    | multi purpose | steel     | <b>HGC 35 S 5</b>    | 100.112.245 | 34   |
|                  | 234                 | 100          | spring    | multi purpose | steel     | <b>HGC 35 S 10</b>   | 100.112.246 | 34   |
|                  | 284                 | 150          | spring    | multi purpose | steel     | <b>HGC 35 S 15</b>   | 100.112.247 | 35   |
|                  | 334                 | 200          | spring    | multi purpose | steel     | <b>HGC 35 S 20</b>   | 100.112.248 | 35   |
| 50               | 71                  | 15           | spring    | flat          | steel     | <b>HFC 50 S 1.5</b>  | 100.112.296 | 50   |
|                  | 117                 | 50           | spring    | short stroke  | steel     | <b>HSC 50 S 5</b>    | 100.112.303 | 53   |
|                  | 142                 | 60           | gravity   | high tonnage  | steel     | <b>HJ 50 G 6</b>     | 100.112.073 | 57   |
|                  | 176                 | 50           | spring    | multi purpose | steel     | <b>HGC 50 S 5</b>    | 100.112.249 | 35   |
|                  | 183                 | 50           | spring    | standard      | aluminium | <b>HAC 50 S 5</b>    | 100.112.271 | 40   |
|                  | 201                 | 50           | hydraulic | standard      | aluminium | <b>HAC 50 H 5</b>    | 100.122.095 | 44   |
|                  | 208                 | 50           | hydraulic | lock nut      | steel     | <b>HLC 50 H 5</b>    | 100.122.123 | 67   |
|                  | 226                 | 100          | spring    | multi purpose | steel     | <b>HGC 50 S 10</b>   | 100.112.250 | 35   |
|                  | 233                 | 100          | spring    | standard      | aluminium | <b>HAC 50 S 10</b>   | 100.112.270 | 40   |
|                  | 251                 | 100          | hydraulic | standard      | aluminium | <b>HAC 50 H 10</b>   | 100.122.108 | 44   |
|                  | 276                 | 150          | spring    | multi purpose | steel     | <b>HGC 50 S 15</b>   | 100.112.251 | 35   |
|                  | 282                 | 150          | gravity   | high tonnage  | steel     | <b>HJ 50 G 15</b>    | 100.112.035 | 57   |
|                  | 282                 | 150          | hydraulic | high tonnage  | steel     | <b>HJ 50 H 15</b>    | 100.122.002 | 61   |
|                  | 283                 | 150          | spring    | standard      | aluminium | <b>HAC 50 S 15</b>   | 100.112.263 | 40   |
|                  | 301                 | 150          | hydraulic | standard      | aluminium | <b>HAC 50 H 15</b>   | 100.122.097 | 44   |
|                  | 307                 | 150          | gravity   | lock nut      | steel     | <b>HJ 50 G 15 SN</b> | 100.082.001 | 65   |
|                  | 326                 | 200          | spring    | multi purpose | steel     | <b>HGC 50 S 20</b>   | 100.112.252 | 35   |
|                  | 327                 | 150          | hydraulic | lock nut      | steel     | <b>HLC 50 H 15</b>   | 100.122.124 | 67   |
|                  | 351                 | 200          | hydraulic | standard      | aluminium | <b>HAC 50 H 20</b>   | 100.122.098 | 44   |
|                  | 376                 | 250          | spring    | multi purpose | steel     | <b>HGC 50 S 25</b>   | 100.112.253 | 36   |
|                  | 401                 | 250          | hydraulic | standard      | aluminium | <b>HAC 50 H 25</b>   | 100.122.099 | 44   |
|                  | 451                 | 300          | hydraulic | standard      | aluminium | <b>HAC 50 H 30</b>   | 100.122.100 | 44   |
|                  | 463                 | 300          | gravity   | high tonnage  | steel     | <b>HJ 50 G 30</b>    | 100.112.036 | 57   |
|                  | 463                 | 300          | hydraulic | high tonnage  | steel     | <b>HJ 50 H 30</b>    | 100.122.022 | 61   |
|                  | 476                 | 350          | spring    | multi purpose | steel     | <b>HGC 50 S 35</b>   | 100.112.254 | 36   |
|                  | 498                 | 300          | hydraulic | lock nut      | steel     | <b>HLC 50 H 30</b>   | 100.122.125 | 67   |
| 75               | 80                  | 15           | spring    | flat          | steel     | <b>HFC 75 S 1.5</b>  | 100.112.297 | 50   |
|                  | 285                 | 150          | spring    | multi purpose | steel     | <b>HGC 75 S 15</b>   | 100.112.255 | 36   |
|                  | 347                 | 150          | gravity   | high tonnage  | steel     | <b>HJ 75 G 15</b>    | 100.112.037 | 57   |
|                  | 347                 | 150          | hydraulic | high tonnage  | steel     | <b>HJ 75 H 15</b>    | 100.122.003 | 61   |
|                  | 485                 | 350          | spring    | multi purpose | steel     | <b>HGC 75 S 35</b>   | 100.112.256 | 36   |
|                  | 497                 | 300          | gravity   | high tonnage  | steel     | <b>HJ 75 G 30</b>    | 100.112.038 | 57   |

**Selection List Cylinders**


| capacity<br>tons | closed height<br>mm | stroke<br>mm | return    | type          | material  | model                 | art no      | page |
|------------------|---------------------|--------------|-----------|---------------|-----------|-----------------------|-------------|------|
| 75               | 497                 | 300          | hydraulic | high tonnage  | steel     | <b>HJ 75 H 30</b>     | 100.122.004 | 61   |
| 100              | 90                  | 15           | spring    | flat          | steel     | <b>HFC 100 S 1.5</b>  | 100.112.298 | 50   |
|                  | 141                 | 50           | spring    | short stroke  | steel     | <b>HSC 100 S 5</b>    | 100.112.304 | 53   |
|                  | 158                 | 60           | gravity   | high tonnage  | steel     | <b>HJ 100 G 6</b>     | 100.112.093 | 57   |
|                  | 170                 | 50           | hydraulic | high tonnage  | steel     | <b>HJ 100 H 5</b>     | 100.122.009 | 61   |
|                  | 218                 | 50           | spring    | multi purpose | steel     | <b>HGC 100 S 5</b>    | 100.112.257 | 36   |
|                  | 225                 | 50           | spring    | standard      | aluminium | <b>HAC 100 S 5</b>    | 100.112.273 | 40   |
|                  | 244                 | 50           | hydraulic | lock nut      | steel     | <b>HLC 100 H 5</b>    | 100.122.126 | 67   |
|                  | 246                 | 50           | hydraulic | standard      | aluminium | <b>HAC 100 H 5</b>    | 100.122.094 | 45   |
|                  | 268                 | 100          | spring    | multi purpose | steel     | <b>HGC 100 S 10</b>   | 100.112.258 | 36   |
|                  | 275                 | 100          | spring    | standard      | aluminium | <b>HAC 100 S 10</b>   | 100.112.272 | 40   |
|                  | 296                 | 100          | hydraulic | standard      | aluminium | <b>HAC 100 H 10</b>   | 100.122.109 | 45   |
|                  | 309                 | 150          | gravity   | high tonnage  | steel     | <b>HJ 100 G 15</b>    | 100.112.039 | 58   |
|                  | 309                 | 150          | hydraulic | high tonnage  | steel     | <b>HJ 100 H 15</b>    | 100.122.052 | 61   |
|                  | 318                 | 150          | spring    | multi purpose | steel     | <b>HGC 100 S 15</b>   | 100.112.259 | 37   |
|                  | 323                 | 150          | gravity   | lock nut      | steel     | <b>HJ 100 G 15 SN</b> | 100.082.000 | 65   |
|                  | 325                 | 150          | spring    | standard      | aluminium | <b>HAC 100 S 15</b>   | 100.112.264 | 40   |
|                  | 346                 | 150          | hydraulic | standard      | aluminium | <b>HAC 100 H 15</b>   | 100.122.107 | 45   |
|                  | 366                 | 150          | hydraulic | lock nut      | steel     | <b>HLC 100 H 15</b>   | 100.122.127 | 67   |
|                  | 396                 | 200          | hydraulic | standard      | aluminium | <b>HAC 100 H 20</b>   | 100.122.088 | 45   |
|                  | 418                 | 250          | spring    | multi purpose | steel     | <b>HGC 100 S 25</b>   | 100.112.260 | 37   |
|                  | 446                 | 250          | hydraulic | standard      | aluminium | <b>HAC 100 H 25</b>   | 100.122.089 | 45   |
|                  | 496                 | 300          | hydraulic | standard      | aluminium | <b>HAC 100 H 30</b>   | 100.122.090 | 45   |
|                  | 497                 | 300          | gravity   | high tonnage  | steel     | <b>HJ 100 G 30</b>    | 100.112.040 | 58   |
|                  | 497                 | 300          | hydraulic | high tonnage  | steel     | <b>HJ 100 H 30</b>    | 100.122.054 | 62   |
|                  | 542                 | 300          | hydraulic | lock nut      | steel     | <b>HLC 100 H 30</b>   | 100.122.128 | 67   |
| 150              | 100                 | 15           | spring    | flat          | steel     | <b>HFC 150 S 1.5</b>  | 100.112.299 | 50   |
|                  | 248                 | 50           | hydraulic | standard      | aluminium | <b>HAC 150 H 5</b>    | 100.122.075 | 46   |
|                  | 259                 | 50           | hydraulic | lock nut      | steel     | <b>HLC 150 H 5</b>    | 100.122.129 | 68   |
|                  | 298                 | 100          | hydraulic | standard      | aluminium | <b>HAC 150 H 10</b>   | 100.122.074 | 46   |
|                  | 317                 | 150          | gravity   | high tonnage  | steel     | <b>HJ 150 G 15</b>    | 100.112.046 | 58   |
|                  | 317                 | 150          | hydraulic | high tonnage  | steel     | <b>HJ 150 H 15</b>    | 100.122.061 | 62   |
|                  | 348                 | 150          | hydraulic | standard      | aluminium | <b>HAC 150 H 15</b>   | 100.122.073 | 46   |
|                  | 363                 | 150          | gravity   | lock nut      | steel     | <b>HJ 150 G 15 SN</b> | 100.112.136 | 65   |
|                  | 384                 | 150          | hydraulic | lock nut      | steel     | <b>HLC 150 H 15</b>   | 100.122.130 | 68   |
|                  | 398                 | 200          | hydraulic | standard      | aluminium | <b>HAC 150 H 20</b>   | 100.122.070 | 46   |
|                  | 448                 | 250          | hydraulic | standard      | aluminium | <b>HAC 150 H 25</b>   | 100.122.069 | 46   |
|                  | 498                 | 300          | hydraulic | standard      | aluminium | <b>HAC 150 H 30</b>   | 100.122.064 | 46   |
|                  | 502                 | 300          | gravity   | high tonnage  | steel     | <b>HJ 150 G 30</b>    | 100.112.047 | 58   |
|                  | 502                 | 300          | hydraulic | high tonnage  | steel     | <b>HJ 150 H 30</b>    | 100.122.062 | 62   |
|                  | 564                 | 300          | hydraulic | lock nut      | steel     | <b>HLC 150 H 30</b>   | 100.122.131 | 68   |
| 200              | 327                 | 150          | gravity   | high tonnage  | steel     | <b>HJ 200 G 15</b>    | 100.112.048 | 58   |
|                  | 327                 | 150          | hydraulic | high tonnage  | steel     | <b>HJ 200 H 15</b>    | 100.122.071 | 62   |
|                  | 507                 | 300          | gravity   | high tonnage  | steel     | <b>HJ 200 G 30</b>    | 100.112.049 | 58   |
|                  | 507                 | 300          | hydraulic | high tonnage  | steel     | <b>HJ 200 H 30</b>    | 100.122.072 | 62   |
| 250              | 292                 | 50           | hydraulic | lock nut      | steel     | <b>HLC 250 H 5</b>    | 100.122.132 | 68   |
|                  | 385                 | 150          | gravity   | lock nut      | steel     | <b>HJ 250 G 15 SN</b> | 100.112.083 | 65   |
|                  | 419                 | 150          | hydraulic | lock nut      | steel     | <b>HLC 250 H 15</b>   | 100.122.133 | 68   |
|                  | 600                 | 300          | hydraulic | lock nut      | steel     | <b>HLC 250 H 30</b>   | 100.122.134 | 68   |
| 300              | 382                 | 150          | gravity   | high tonnage  | steel     | <b>HJ 300 G 15</b>    | 100.112.050 | 59   |

**Selection List Cylinders**


| capacity<br>tons | closed height<br>mm | stroke<br>mm | return    | type         | material | model              | art no      | page |
|------------------|---------------------|--------------|-----------|--------------|----------|--------------------|-------------|------|
| 300              | 382                 | 150          | hydraulic | high tonnage | steel    | <b>HJ 300 H 15</b> | 100.122.084 | 62   |
|                  | 547                 | 300          | gravity   | high tonnage | steel    | <b>HJ 300 G 30</b> | 100.112.099 | 59   |
|                  | 547                 | 300          | hydraulic | high tonnage | steel    | <b>HJ 300 H 30</b> | 100.122.083 | 63   |
| 400              | 402                 | 150          | gravity   | high tonnage | steel    | <b>HJ 400 G 15</b> | 100.112.100 | 59   |
|                  | 402                 | 150          | hydraulic | high tonnage | steel    | <b>HJ 400 H 15</b> | 100.122.091 | 63   |
|                  | 572                 | 300          | gravity   | high tonnage | steel    | <b>HJ 400 G 30</b> | 100.112.056 | 59   |
|                  | 572                 | 300          | hydraulic | high tonnage | steel    | <b>HJ 400 H 30</b> | 100.122.092 | 63   |
| 500              | 442                 | 150          | gravity   | high tonnage | steel    | <b>HJ 500 G 15</b> | 100.112.139 | 59   |
|                  | 442                 | 150          | hydraulic | high tonnage | steel    | <b>HJ 500 H 15</b> | 100.122.043 | 63   |
|                  | 587                 | 300          | gravity   | high tonnage | steel    | <b>HJ 500 G 30</b> | 100.112.138 | 59   |
|                  | 587                 | 300          | hydraulic | high tonnage | steel    | <b>HJ 500 H 30</b> | 100.122.038 | 63   |



**Cylinder System Configurator**

Put together hydraulic cylinder systems  
quickly and easily!

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**Selection List Hollow Plunger Cylinders**


| capacity<br>tons | Ø hole in plunger<br>mm | closed height<br>mm | stroke<br>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 | 75   |
| 12               | 21                      | 156                 | 50           | spring    | hollow plunger | steel    | <b>HHJ 12 S 5</b>    | 100.111.021 | 75   |
|                  | 21                      | 298                 | 150          | spring    | hollow plunger | steel    | <b>HHJ 12 S 15</b>   | 100.111.029 | 75   |
| 17               | 27                      | 192                 | 50           | spring    | hollow plunger | steel    | <b>HHJ 17 S 5</b>    | 100.112.023 | 75   |
| 20               | 27                      | 182                 | 50           | spring    | hollow plunger | steel    | <b>HHJ 20 S 5</b>    | 100.112.033 | 75   |
|                  | 27                      | 389                 | 150          | spring    | hollow plunger | steel    | <b>HHJ 20 S 15</b>   | 100.112.030 | 75   |
| 30               | 33                      | 120                 | 50           | gravity   | hollow plunger | steel    | <b>HHJ 30 G 5</b>    | 100.111.053 | 73   |
|                  | 33                      | 226                 | 75           | spring    | hollow plunger | steel    | <b>HHJ 30 S 7.5</b>  | 100.112.055 | 77   |
|                  | 33                      | 285                 | 150          | hydraulic | hollow plunger | steel    | <b>HHJ 30 H 15</b>   | 100.122.045 | 79   |
|                  | 33                      | 362                 | 150          | spring    | hollow plunger | steel    | <b>HHJ 30 S 15</b>   | 100.112.034 | 76   |
| 45               | 39                      | 388                 | 150          | spring    | hollow plunger | steel    | <b>HHJ 45 S 15</b>   | 100.112.061 | 76   |
| 60               | 45                      | 272                 | 75           | spring    | hollow plunger | steel    | <b>HHJ 60 S 7.5</b>  | 100.112.081 | 76   |
|                  | 45                      | 334                 | 200          | hydraulic | hollow plunger | steel    | <b>HHJ 60 H 20</b>   | 100.122.031 | 79   |
| 100              | 54                      | 265                 | 100          | hydraulic | hollow plunger | steel    | <b>HHJ 100 H 10</b>  | 100.122.051 | 79   |
|                  | 54                      | 395                 | 200          | hydraulic | hollow plunger | steel    | <b>HHJ 100 H 20</b>  | 100.122.053 | 79   |
| 110              | 80                      | 315                 | 75           | spring    | hollow plunger | steel    | <b>HHJ 110 S 7.5</b> | 100.112.101 | 76   |







#### 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 | 91  |
| Tilting Saddles | page | 97  |
| Hydraulic Pumps | page | 139 |
| Hydraulic Hoses | page | 166 |
| Pressure Gauges | page | 171 |



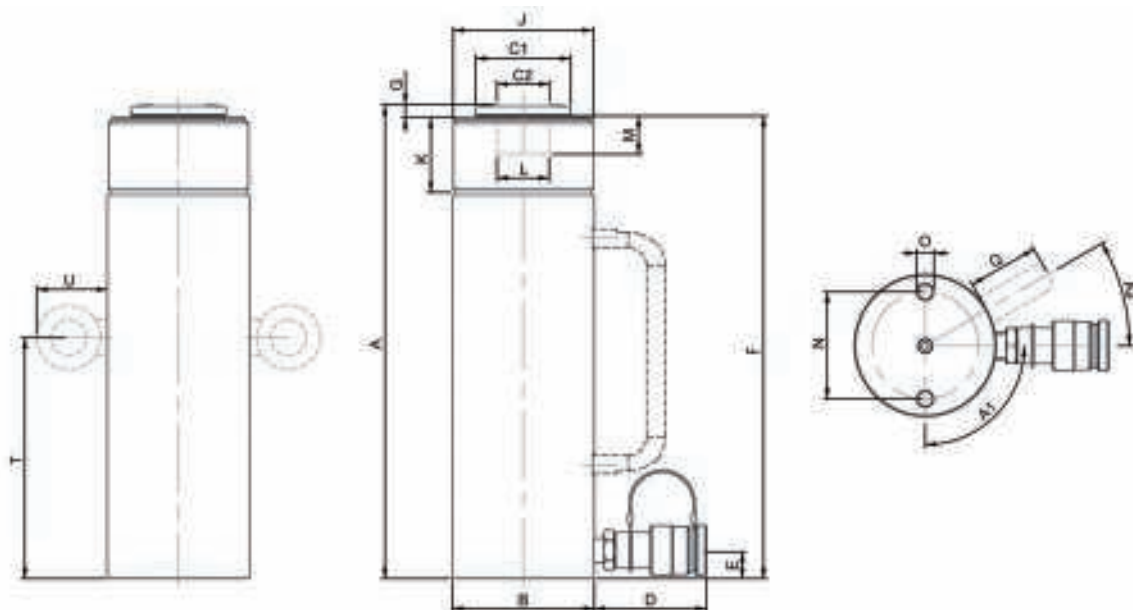
Internal plunger thread on all models to 50 tons

**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      |
| tonnage                          | t               | 5             | 5             | 5             | 5             | 5             | 5             |
| stroke length                    | mm              | 25            | 50            | 75            | 100           | 125           | 175           |
| closed height                    | mm              | 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           |

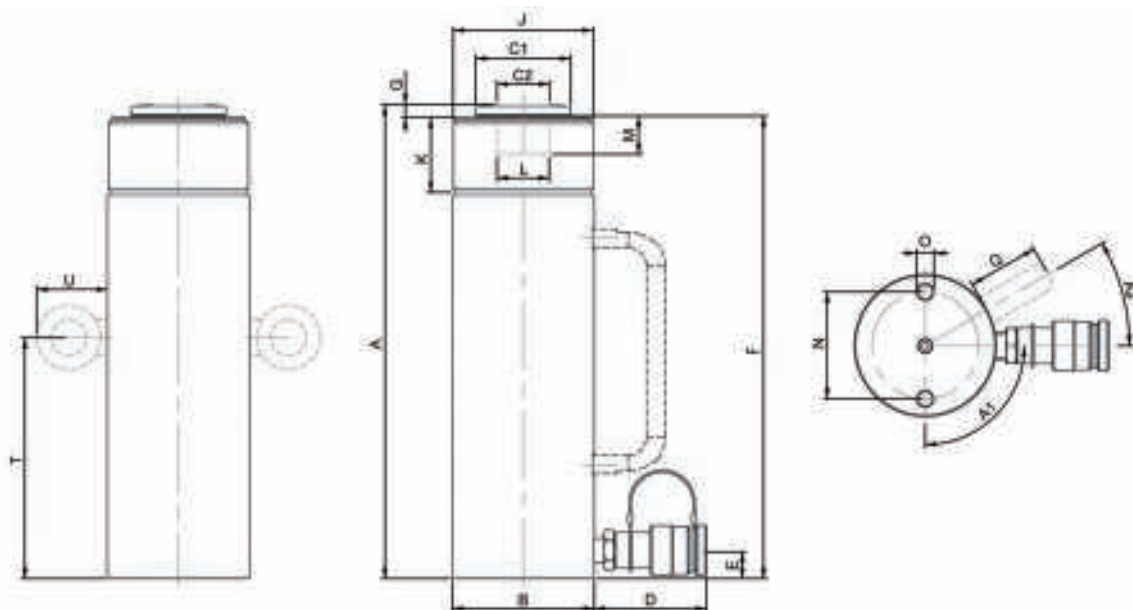


**Multi Purpose Cylinders - Spring Return**


| 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 length                    | 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          |

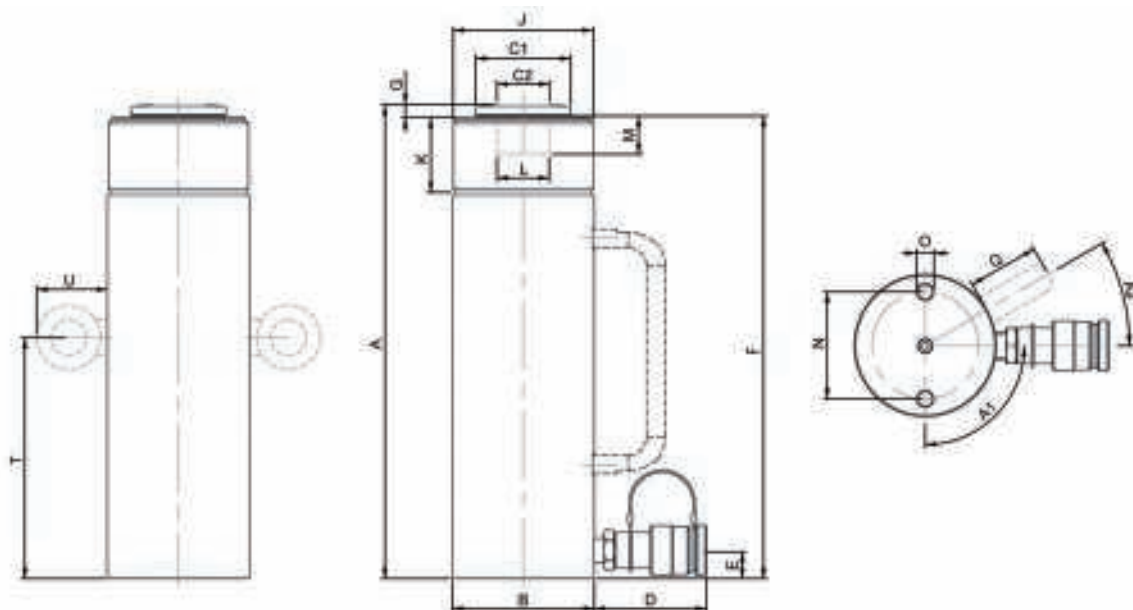


**Multi Purpose Cylinders - Spring Return**


| 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 length                    | 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 | 2 1/4"-14-UNS | 2 1/4"-14-UNS | 2 1/4"-14-UNS | 2 1/4"-14-UNS | 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         | 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           |

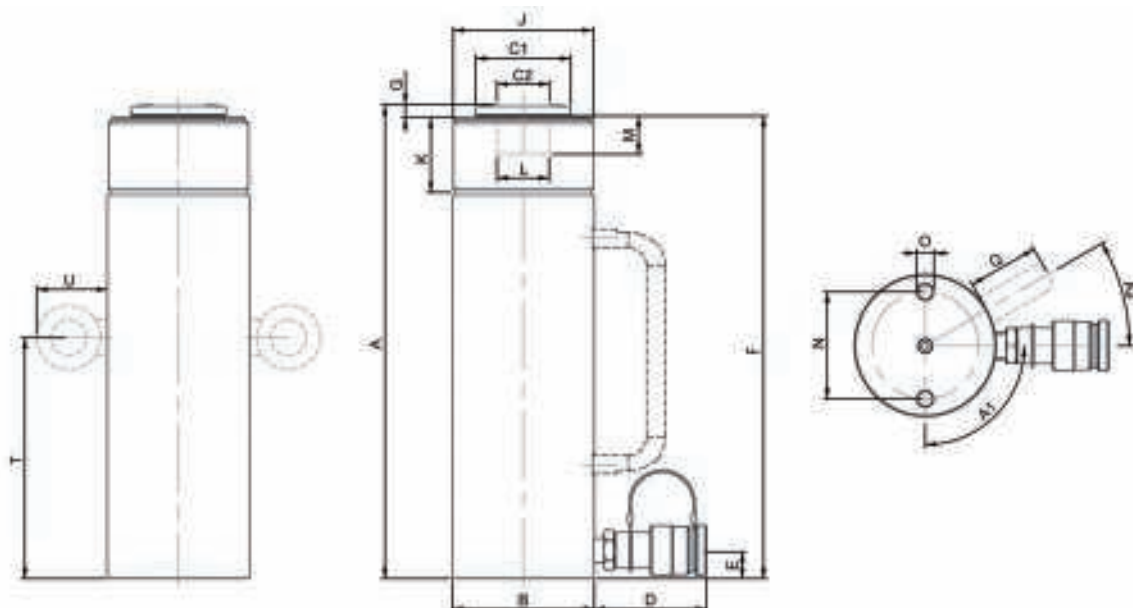


**Multi Purpose Cylinders - Spring Return**


| 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 length                    | 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           |

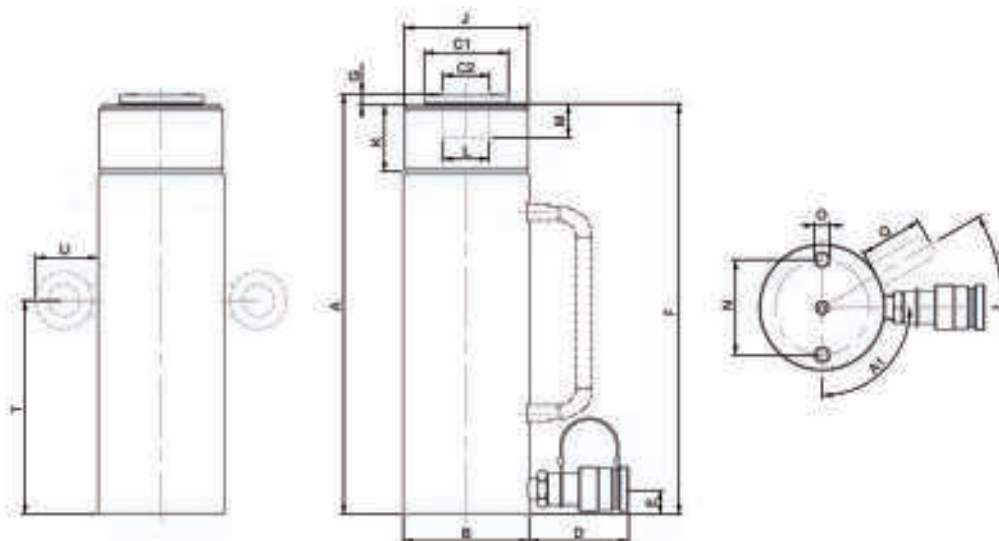


**Multi Purpose Cylinders - Spring Return**

| 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      |
| tonnage                          | t               | 15            | 25            | 25            | 25            | 25            |
| stroke length                    | mm              | 400           | 25            | 50            | 100           | 150           |
| closed height                    | mm              | 515           | 138           | 165           | 215           | 265           |
| capacity                         | kN/t            | 171 / 17.4    | 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          |
| required oil content (effective) | cc              | 950           | 83            | 166           | 332           | 498           |
| connection                       |                 | A 118         | A 118         | A 118         | A 118         | A 118         |
| cylinder type                    |                 | multi purpose | multi purpose | multi purpose | multi purpose | multi purpose |
| 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              | 11.5          | 5.5           | 6.4           | 8.0           | 9.7           |

**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           |
| dimension B  | mm          | 70           | 85            | 85            | 85            | 85            |
| dimension C1 | mm          | 47           | 57            | 57            | 57            | 57            |
| dimension C2 | mm          | 23           | 32            | 32            | 32            | 32            |
| dimension D  | mm          | 80           | 80            | 80            | 80            | 80            |
| dimension E  | mm          | 20           | 20            | 20            | 20            | 20            |
| dimension F  | mm          | 509          | 132           | 159           | 209           | 259           |
| dimension G  | mm          | 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 |
| dimension K  | mm          | 31           | 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  |
| dimension M  | mm          | 27           | 27            | 27            | 27            | 27            |
| dimension N  | mm          | 48           | 60            | 60            | 60            | 60            |
| dimension O  | threadsize  | M10x15 (2x)  | M12x18 (2x)   | M12x18 (2x)   | M12x18 (2x)   | M12x18(2x)    |
| dimension Q  | mm          |              |               |               | 50            | 50            |
| angle A1     | °           | 90           | 90            | 90            | 90            | 90            |
| angle A2     | °           |              |               |               | 40            | 40            |

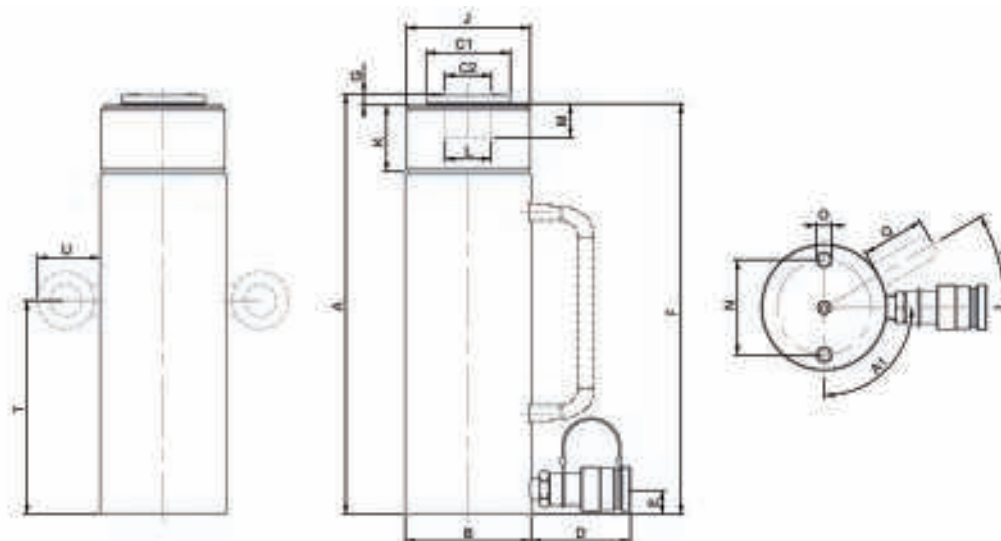




| model                            |         | HGC 25 S 25   | HGC 25 S 30   | HGC 25 S 35   | HGC 25 S 45   | HGC 35 S 5    | HGC 35 S 10   |
|----------------------------------|---------|---------------|---------------|---------------|---------------|---------------|---------------|
| art no                           |         | 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 length                    | 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          | cm²     | 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          |



| 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 | 1½"-16-UN     | 1½"-16-UN     | 1½"-16-UN     | 1½"-16-UN     | 1½"-16-UN    | 1½"-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     | °          | 0             | 0             | 0             | 0             |              | 40           |

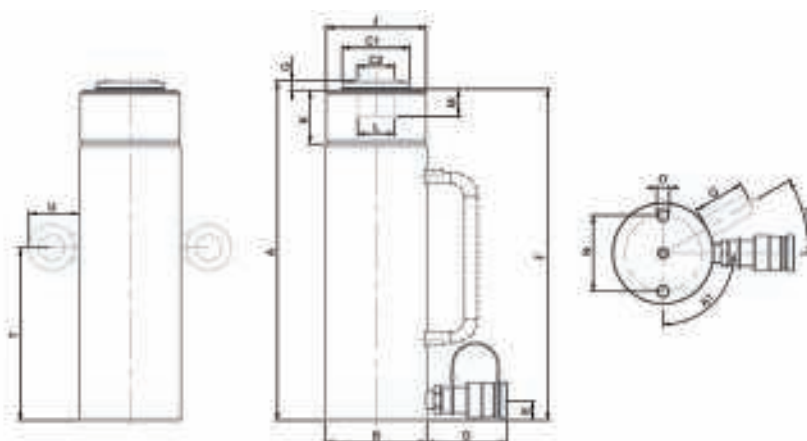


**Multi Purpose Cylinders - Spring Return**


| 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      |
| tonnage                          | t               | 35            | 35            | 50            | 50            | 50            | 50            |
| stroke length                    | mm              | 150           | 200           | 50            | 100           | 150           | 200           |
| closed height                    | mm              | 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 | 1½"-16-UN    | 1½"-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           | 0            |             | 40          | 40          |             |

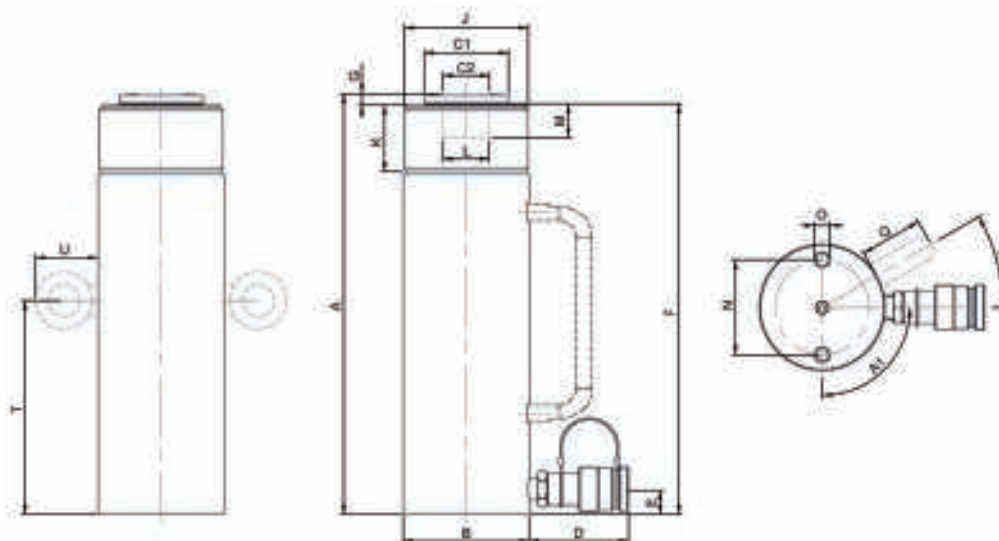


**Multi Purpose Cylinders - Spring Return**


| 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      |
| tonnage                          | t               | 50            | 50            | 75            | 75            | 100           | 100           |
| stroke length                    | mm              | 250           | 350           | 150           | 350           | 50            | 100           |
| closed height                    | mm              | 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           |

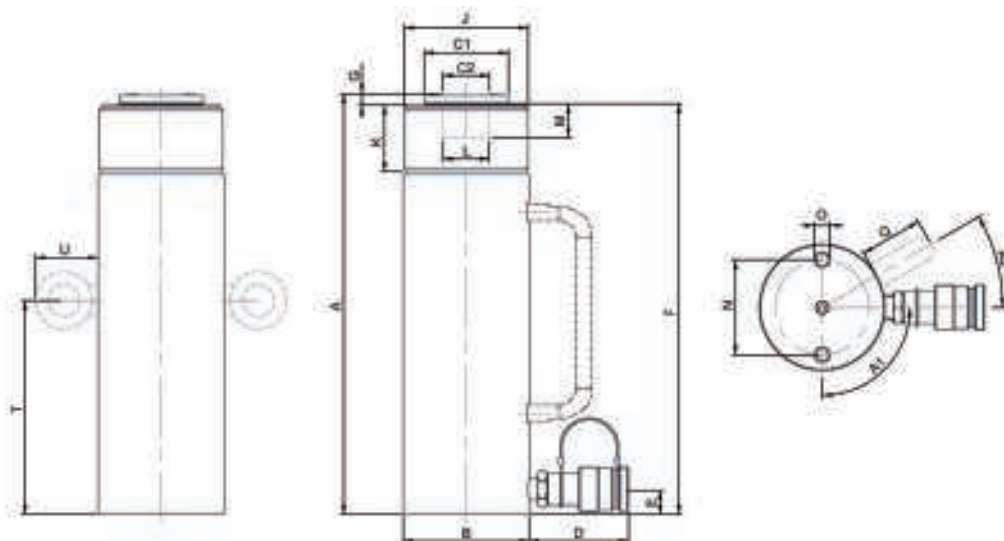


**Multi Purpose Cylinders - Spring Return**

| model                                   | HGC 100 S 15  | HGC 100 S 25  |
|-----------------------------------------|---------------|---------------|
| art no                                  | 100.112.259   | 100.112.260   |
| max. working pressure bar/Mpa           | 720 / 72      | 720 / 72      |
| tonnage t                               | 100           | 100           |
| stroke length mm                        | 150           | 250           |
| closed height mm                        | 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        | HGC 100 S 15            | HGC 100 S 25 |
|--------------|-------------------------|--------------|
| 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.

Tilting Saddles  
 Hydraulic Pumps  
 Hydraulic Hoses  
 Pressure Gauges

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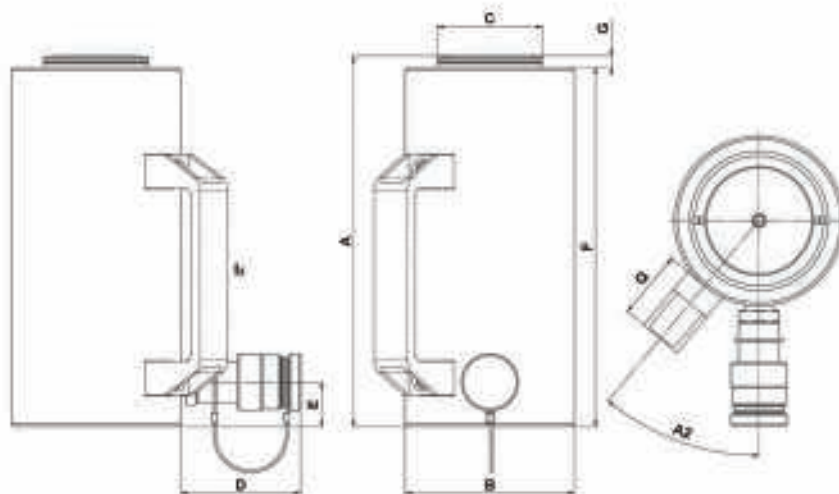


**Aluminium Cylinders - Spring Return**


| 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 length                    | 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             |
| I type      |    | -          | -           | -           | -          | l <sub>2</sub> | l <sub>2</sub> |

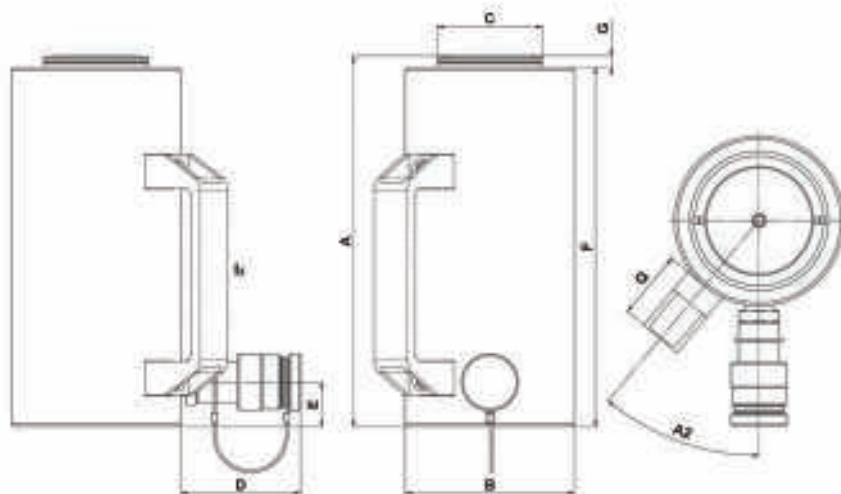


**Aluminium Cylinders - Spring Return**


| 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       |
| tonnage                          | t               | 50          | 50          | 50          | 100            | 100            | 100            |
| stroke length                    | mm              | 50          | 100         | 150         | 50             | 100            | 150            |
| closed height                    | mm              | 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             |
| I type      |    | -          | l <sub>2</sub> | l <sub>2</sub> | l <sub>2</sub> | l <sub>2</sub> | l <sub>2</sub> |






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- Flat saddle

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

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Tilting Saddles  
 Hydraulic Pumps  
 Hydraulic Hoses  
 Pressure Gauges

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## Aluminium Cylinders - Hydraulic Return

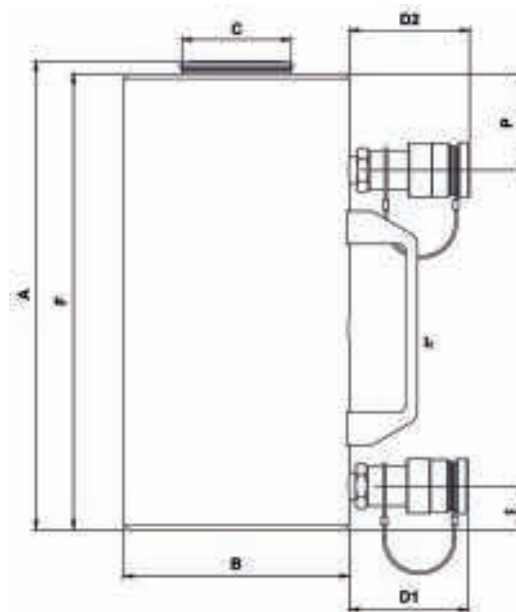


| model                             |         | HAC 30 H 5   | HAC 30 H 10  | HAC 30 H 15  | HAC 30 H 20  | HAC 30 H 25  | HAC 30 H 30  |
|-----------------------------------|---------|--------------|--------------|--------------|--------------|--------------|--------------|
| art no                            |         | 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 length                     | 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)   | cm²     | 44.2         | 44.2         | 44.2         | 44.2         | 44.2         | 44.2         |
| effective pressure area (retract) | cm²     | 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> |

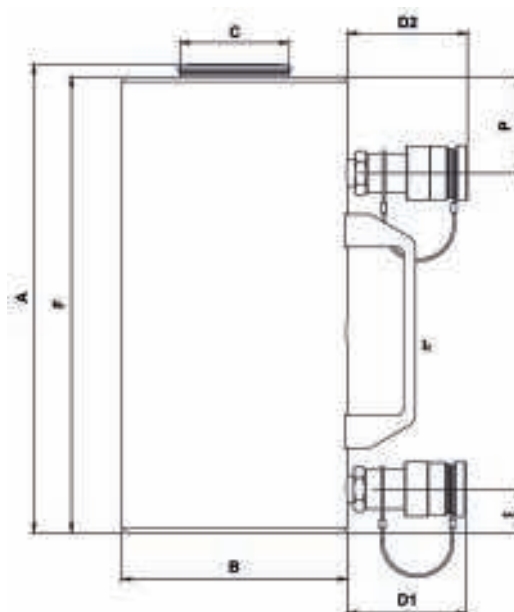


## Aluminium Cylinders - Hydraulic Return

| 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 length                  | 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        | cm <sup>2</sup> | 70.9        | 70.9        | 70.9        | 70.9        | 70.9        | 70.9        |
| 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        | 17.3        | 19.2        |

## 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             |
| I type       |    | -          | l <sub>2</sub> | l <sub>2</sub> | l <sub>2</sub> | l <sub>2</sub> | l <sub>2</sub> |

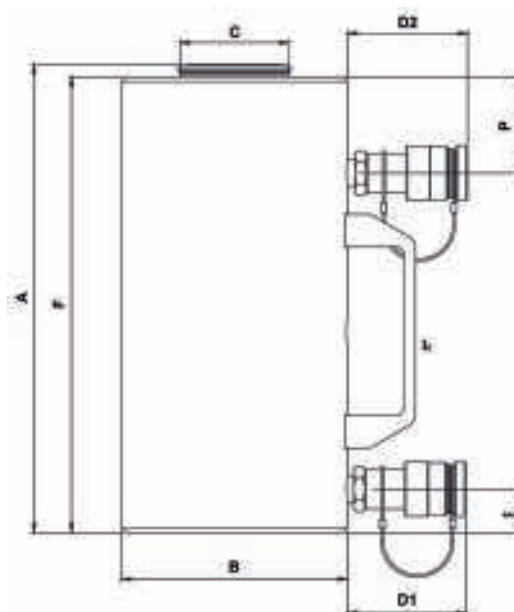


**Aluminium Cylinders - Hydraulic Return**


| 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 length                  | 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        | cm <sup>2</sup> | 143.1          | 143.1          | 143.1          | 143.1          | 143.1          | 143.1          |
| 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             |
| I 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> |

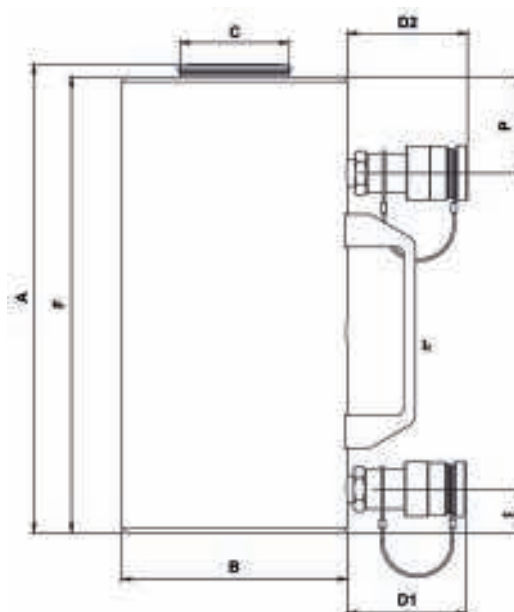


**Aluminium Cylinders - Hydraulic Return**

| 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 length                  | 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        | cm <sup>2</sup> | 213.8        | 213.8        | 213.8        | 213.8        | 213.8        | 213.8        |
| 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             |
| I 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  
Hydraulic Hoses  
Pressure Gauges

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Standard provided with fixing holes for easy assembly



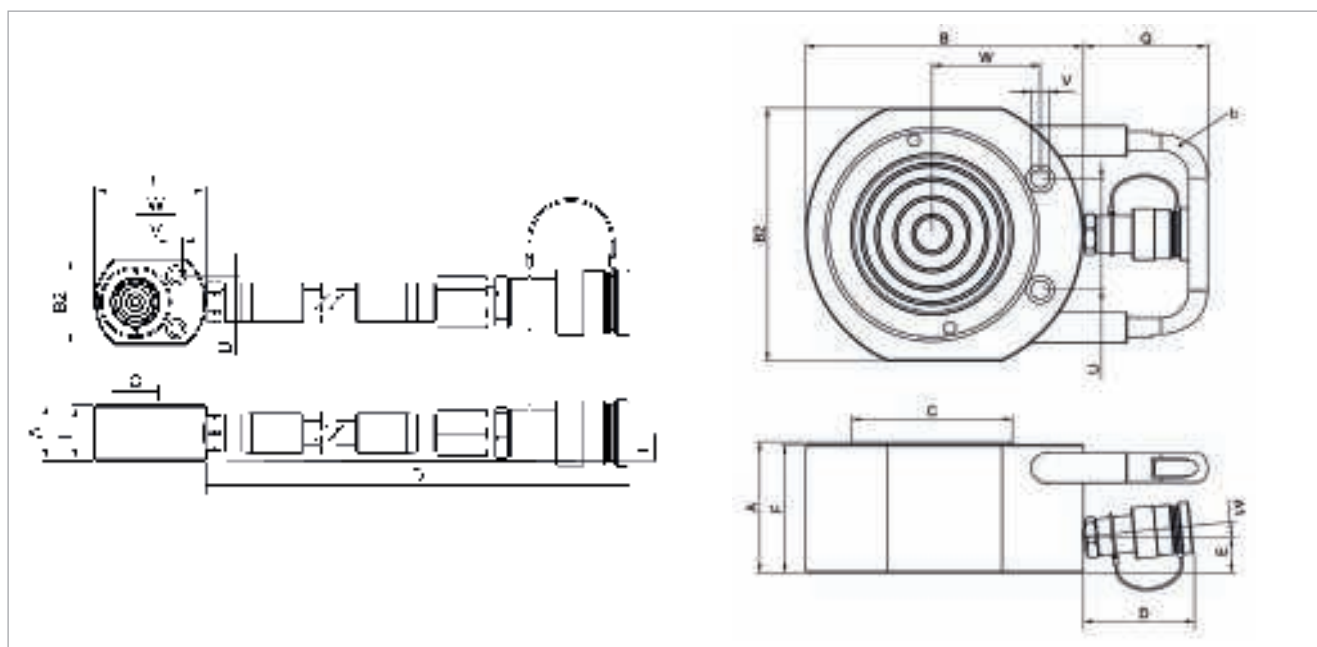
Splined plunger, no saddle needed

**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     |
| tonnage                          | t               | 5           | 5           | 10           | 20           | 30           | 30           |
| stroke length                    | mm              | 5           | 15          | 15           | 15           | 5            | 15           |
| closed height                    | mm              | 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            |

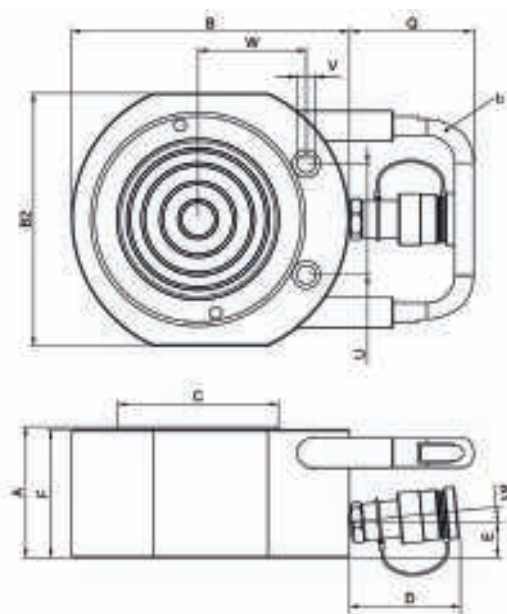


**Flat Cylinders - Spring Return**


| 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       |
| tonnage                          | t               | 50           | 75           | 100            | 150            |
| stroke length                    | mm              | 15           | 15           | 15             | 15             |
| closed height                    | mm              | 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> |







**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

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Pressure Gauges

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Splined plunger, no saddle needed

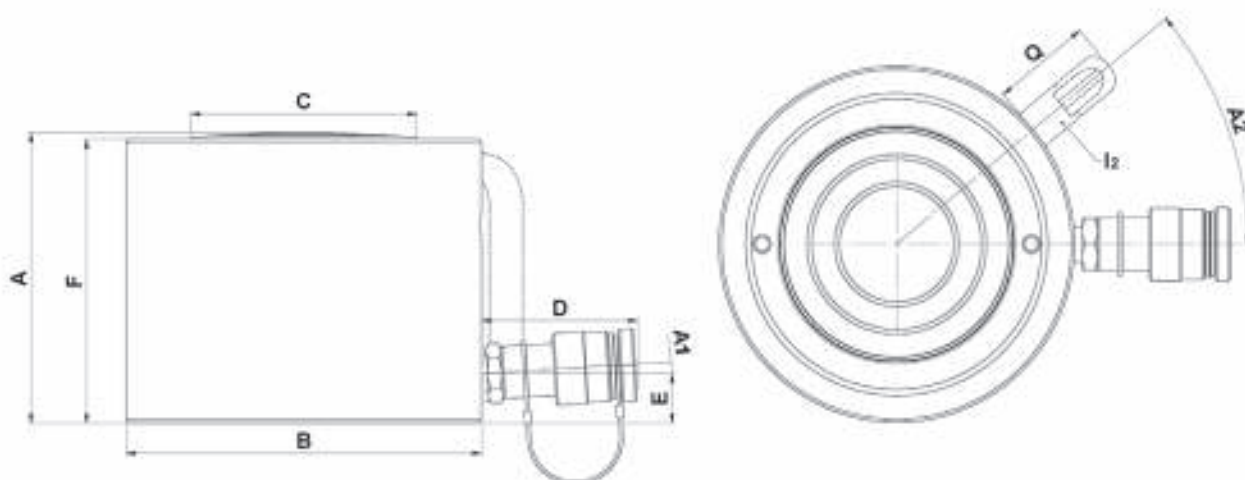


**Short Stroke Cylinders - Spring Return**

| 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       |
| tonnage t                               | 10           | 20           | 30           | 50           | 100            |
| stroke length mm                        | 50           | 50           | 50           | 50           | 50             |
| closed height mm                        | 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             |
| I type         | -          |            | -          |            | I <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

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Pressure Gauges

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Protected against ejection of the plunger

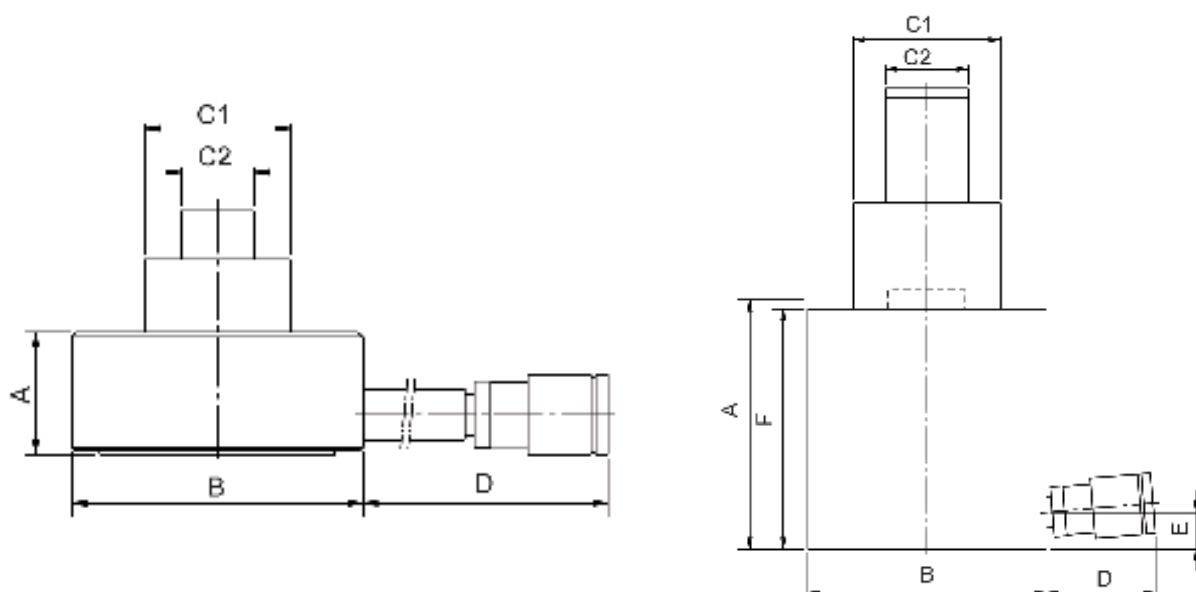


**Telescopic Cylinders - Gravity Return**


| 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      |
| tonnage t                               | 10            | 20            |
| stroke length 1st plunger mm            | 41            | 111           |
| stroke length 2nd plunger mm            | 20            | 55            |
| closed height mm                        | 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 cm² | 44.2          | 70.8          |
| effective pressure area 2nd plunger cm² | 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

|                 |          |
|-----------------|----------|
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Flat saddle



## High Tonnage Cylinders - Gravity Return

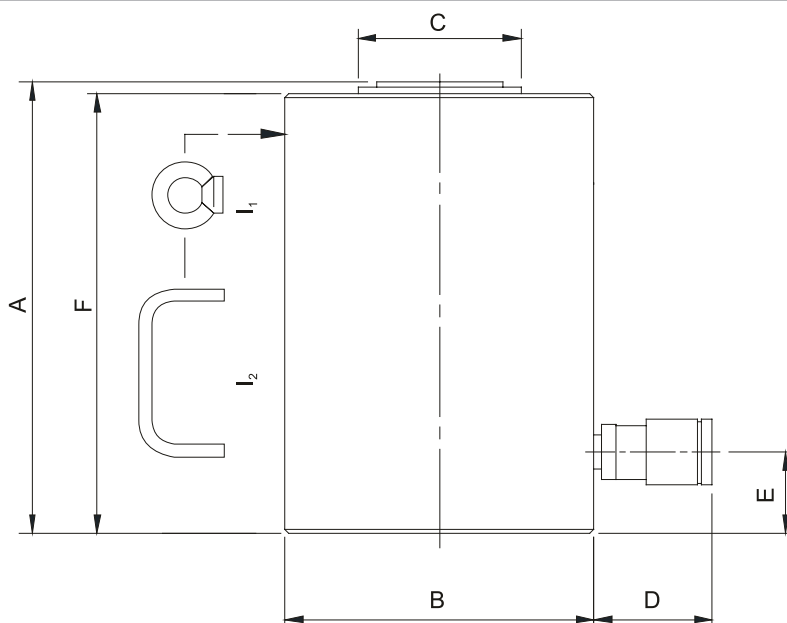


| model                            |                 | HJ 50 G 6    | HJ 50 G 15   | HJ 50 G 30   | HJ 75 G 15   | HJ 75 G 30   | HJ 100 G 6   |
|----------------------------------|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| art no                           |                 | 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     |
| tonnage                          | t               | 50           | 50           | 50           | 75           | 75           | 100          |
| stroke length                    | mm              | 60           | 150          | 300          | 150          | 300          | 60           |
| closed height                    | mm              | 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> |

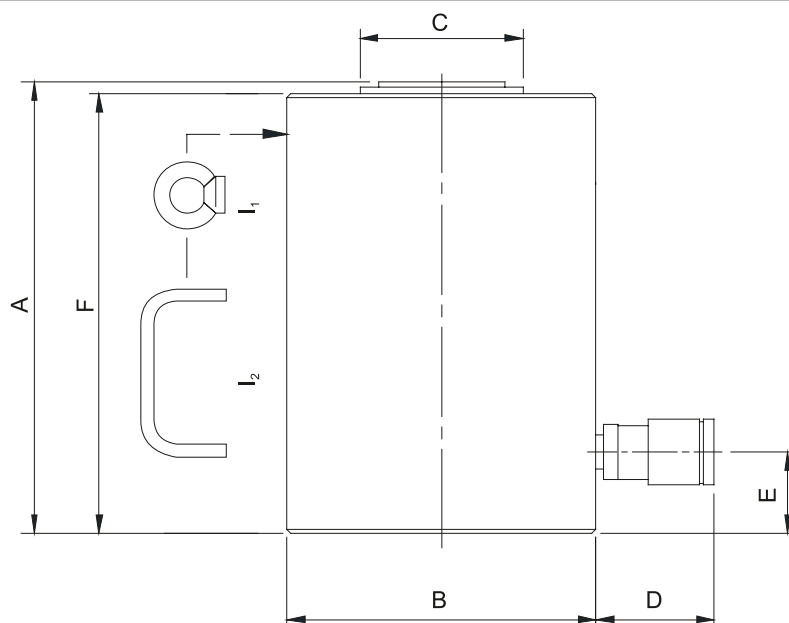


## High Tonnage Cylinders - Gravity Return

| 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       |
| tonnage t                               | 100          | 100          | 150            | 150            | 200            | 200            |
| stroke length mm                        | 150          | 300          | 150            | 300            | 150            | 300            |
| closed height mm                        | 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

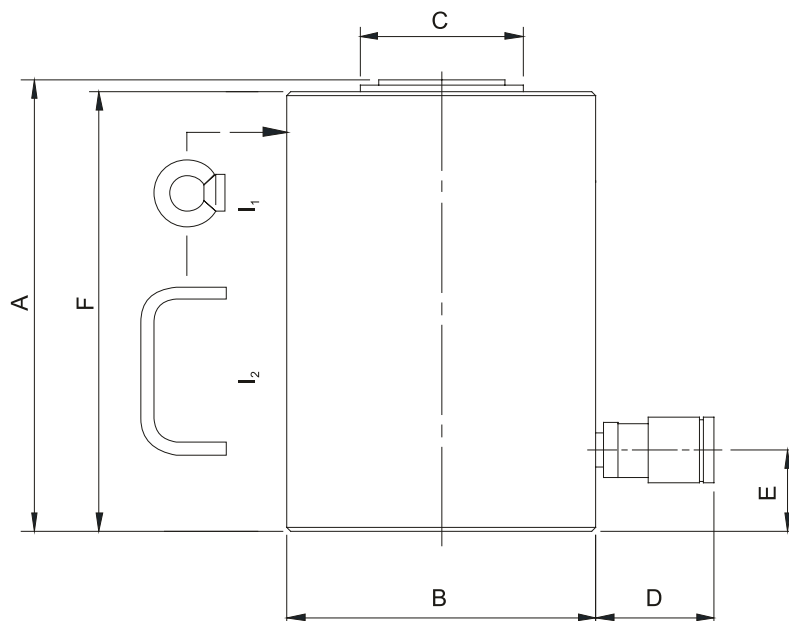


| model                            |                 | HJ 300 G 15  | HJ 300 G 30  | HJ 400 G 15  | HJ 400 G 30  | HJ 500 G 15  | HJ 500 G 30  |
|----------------------------------|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| art no                           |                 | 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     |
| tonnage                          | t               | 300          | 300          | 400          | 400          | 500          | 500          |
| stroke length                    | mm              | 150          | 300          | 150          | 300          | 150          | 300          |
| closed height                    | mm              | 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

|                 |          |
|-----------------|----------|
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Protected against overpressure on return side



## High Tonnage Cylinders - Hydraulic Return

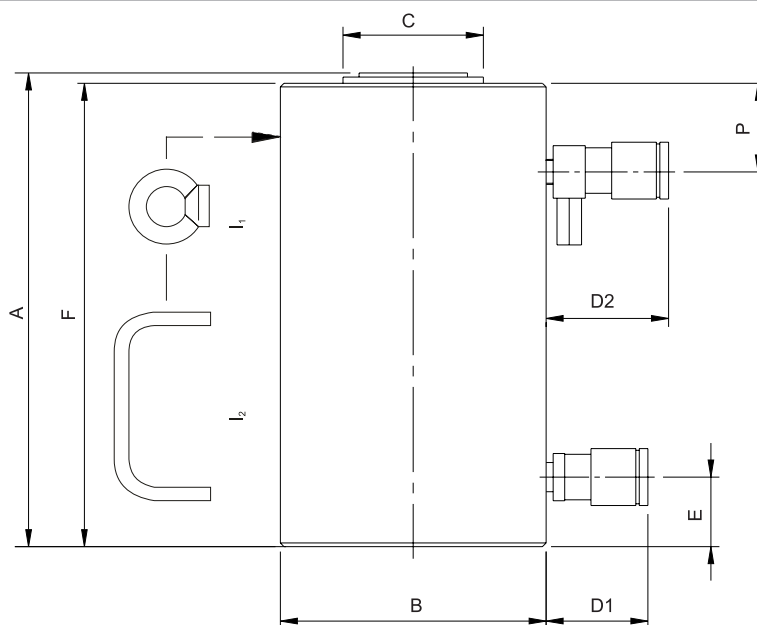


| model                             |         | HJ 50 H 15   | HJ 50 H 30   | HJ 75 H 15   | HJ 75 H 30   | HJ 100 H 5   | HJ 100 H 15  |
|-----------------------------------|---------|--------------|--------------|--------------|--------------|--------------|--------------|
| art no                            |         | 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     | 720 / 72     |
| tonnage                           | t       | 50           | 50           | 75           | 75           | 100          | 100          |
| stroke length                     | mm      | 150          | 300          | 150          | 300          | 50           | 150          |
| closed height                     | mm      | 282          | 463          | 347          | 497          | 170          | 309          |
| capacity                          | kN/t    | 510.3 / 52   | 510.3 / 52   | 747.9 / 76.3 | 747.9 / 76.3 | 1029.3 / 105 | 1029.3 / 105 |
| effective pressure area (press)   | cm²     | 70.9         | 70.9         | 103.9        | 103.9        | 143          | 143          |
| effective pressure area (retract) | cm²     | 20.6         | 20.6         | 53.6         | 53.6         | 56.6         | 56.6         |
| required oil content (press)      | cc      | 1064         | 2127         | 1559         | 3117         | 716          | 2145         |
| required oil content (retract)    | cc      | 309          | 620          | 755          | 1509         | 283          | 848          |
| 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      | 27.0         | 44.0         | 46.0         | 63.0         | 29.0         | 53.0         |

## 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            | 309            |
| dimension B  | mm | 130            | 130            | 156            | 156            | 178            | 178            |
| dimension C  | mm | 80             | 80             | 80             | 80             | 105            | 105            |
| dimension D1 | mm | 70             | 70             | 70             | 70             | 70             | 70             |
| dimension D2 | mm | 85             | 85             | 85             | 85             | 85             | 85             |
| dimension E  | mm | 25             | 38             | 47             | 47             | 27             | 52             |
| dimension F  | mm | 275            | 456            | 340            | 490            | 163            | 302            |
| dimension P  | mm | 70             | 70             | 83             | 83             | 52             | 52             |
| I type       |    | I <sub>2</sub> | I <sub>2</sub> | I <sub>2</sub> | I <sub>1</sub> | I <sub>1</sub> | I <sub>1</sub> |

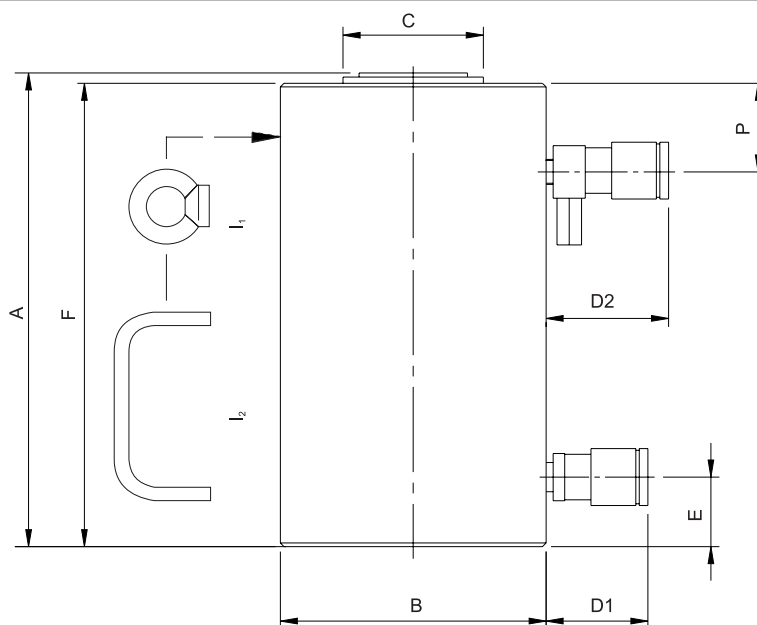


## High Tonnage Cylinders - Hydraulic Return

| 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     |
| tonnage t                                         | 100          | 150            | 150            | 200            | 200            | 300          |
| stroke length mm                                  | 300          | 150            | 300            | 150            | 300            | 150          |
| closed height mm                                  | 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             |
| 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 - Hydraulic Return

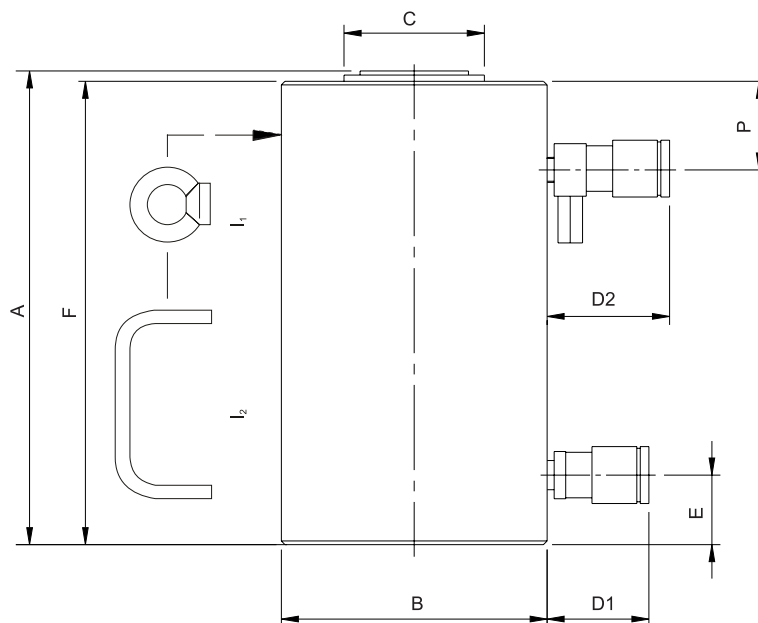


| model                                 | HJ 300 H 30  | HJ 400 H 15  | HJ 400 H 30  | HJ 500 H 15  | HJ 500 H 30  |
|---------------------------------------|--------------|--------------|--------------|--------------|--------------|
| art no                                | 100.122.083  | 100.122.091  | 100.122.092  | 100.122.043  | 100.122.038  |
| max. working pressure bar/Mpa         | 720 / 72     | 720 / 72     | 720 / 72     | 720 / 72     | 720 / 72     |
| tonnage t                             | 300          | 400          | 400          | 500          | 500          |
| stroke length mm                      | 300          | 150          | 300          | 150          | 300          |
| closed height mm                      | 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) cm²   | 415.5        | 530.9        | 530.9        | 707          | 707          |
| effective pressure area (retract) cm² | 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             |
| I type          | 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
- 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 97  |
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Safe because of mechanical load locking

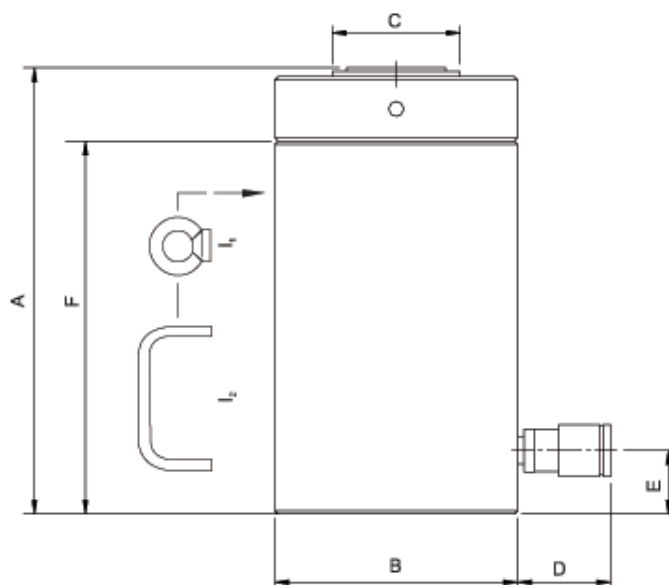


**Locknut Cylinders - Gravity Return**

| 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 length                    | 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
- Rounded thread on plunger for better nickel coating 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 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  
 Hydraulic Hoses  
 Pressure Gauges

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Double-acting for controlled lifting and lowering



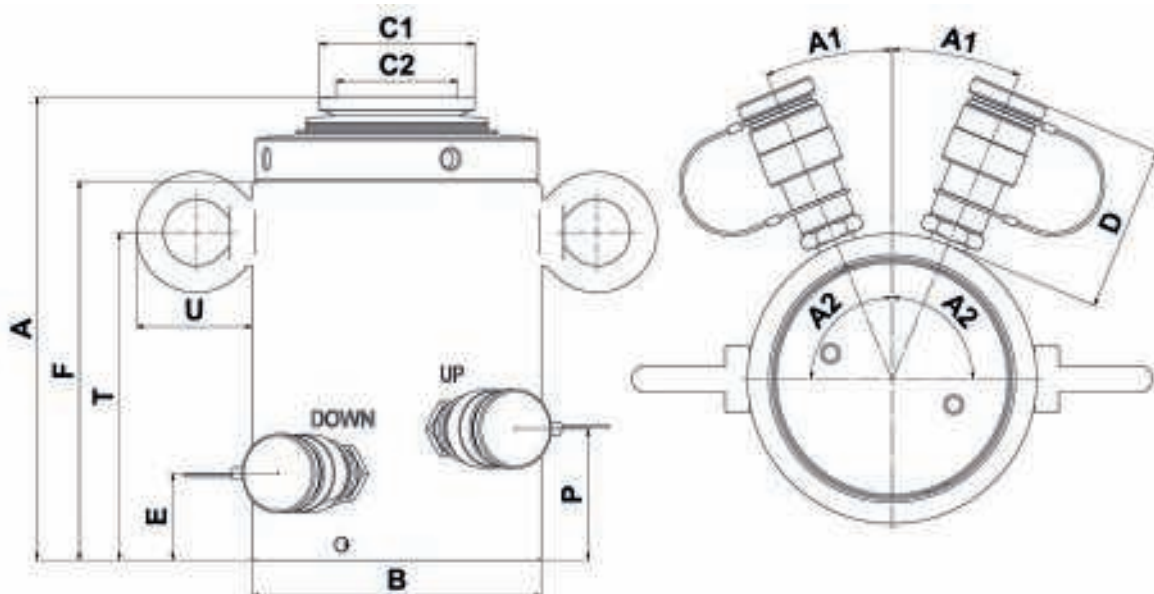
Rounded thread on plunger for better nickel coating and easy dirt removal

**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     |
| tonnage                           | t               | 50          | 50          | 50          | 100          | 100          | 100          |
| stroke length                     | mm              | 50          | 150         | 300         | 50           | 150          | 300          |
| closed height                     | mm              | 208         | 327         | 498         | 244          | 366          | 542          |
| max. side-load resistance         | %               | 10          | 10          | 10          | 10           | 10           | 10           |
| capacity                          | kN/t            | 510 / 52    | 510 / 52    | 510 / 52    | 1001 / 102.1 | 1001 / 102.1 | 1001 / 102.1 |
| effective pressure area (press)   | cm <sup>2</sup> | 77.2        | 77.2        | 77.2        | 138.9        | 138.9        | 138.9        |
| effective pressure area (retract) | cm <sup>2</sup> | 13.6        | 13.6        | 13.6        | 25.9         | 25.9         | 25.9         |
| required oil content (effective)  | cc              | 325         | 960         | 1914        | 541          | 1890         | 3412         |
| 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         | 275         | 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           |

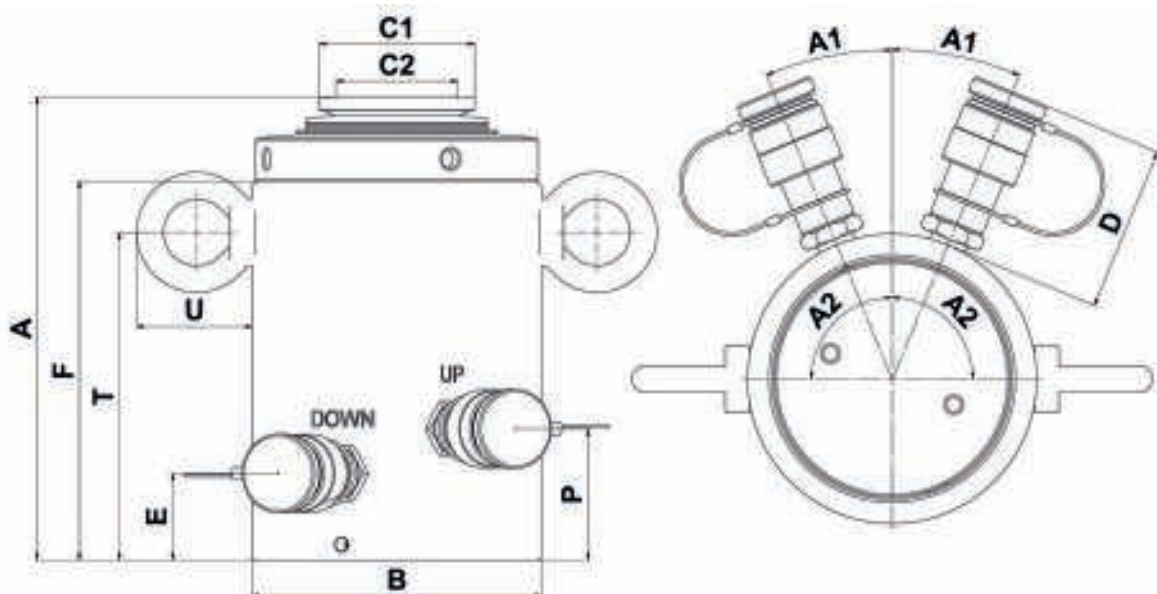


**Locknut Cylinders - Hydraulic Return**


| 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     |
| tonnage                           | t               | 150          | 150          | 150          | 250         | 250          | 250          |
| stroke length                     | mm              | 50           | 150          | 300          | 50          | 150          | 300          |
| closed height                     | mm              | 259          | 384          | 564          | 292         | 419          | 600          |
| max. side-load resistance         | %               | 10           | 10           | 10           | 10          | 10           | 10           |
| capacity                          | kN/t            | 1493 / 152.2 | 1493 / 152.2 | 1493 / 152.2 | 2618 / 267  | 2618 / 267   | 2618 / 267   |
| 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              | 876          | 2642         | 5291         | 1402        | 4236         | 8486         |
| 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         | 266          | 392          |
| dimension U  | mm | 54          | 54           | 54           | 54          | 54           | 54           |
| angle A1     | °  | 23          | 23           | 23           | 15          | 15           | 15           |
| 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 | 91  |
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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     |
| tonnage                           | t               | 10           | 25           | 25           |
| stroke length                     | mm              | 150          | 150          | 250          |
| closed height                     | mm              | 338          | 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         | 338         | 350         | 450            |
| dimension B  | mm         | 60          | 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 | 1 1/4" NPT  | 2" NPT      | 2" NPT         |
| dimension M  | threadsize | 1 1/4" 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

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Hydraulic Hoses

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Pressure Gauges

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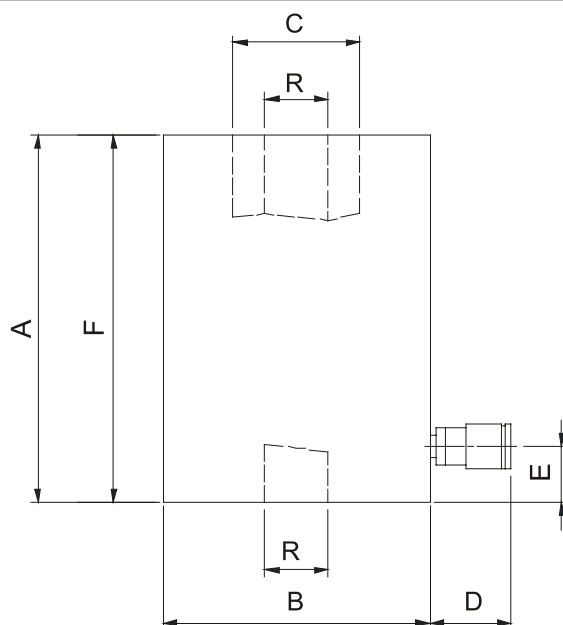


**Hollow Plunger Cylinders - Gravity Return**


|                                  |         |                |
|----------------------------------|---------|----------------|
| model                            |         | HHJ 30 G 5     |
| art no                           |         | 100.111.053    |
| max. working pressure            | bar/Mpa | 720 / 72       |
| tonnage                          | t       | 30             |
| stroke length                    | mm      | 50             |
| closed height                    | mm      | 120            |
| capacity                         | kN/t    | 293.7 / 29.9   |
| effective pressure area          | cm²     | 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

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Pressure Gauges

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Hollow saddle

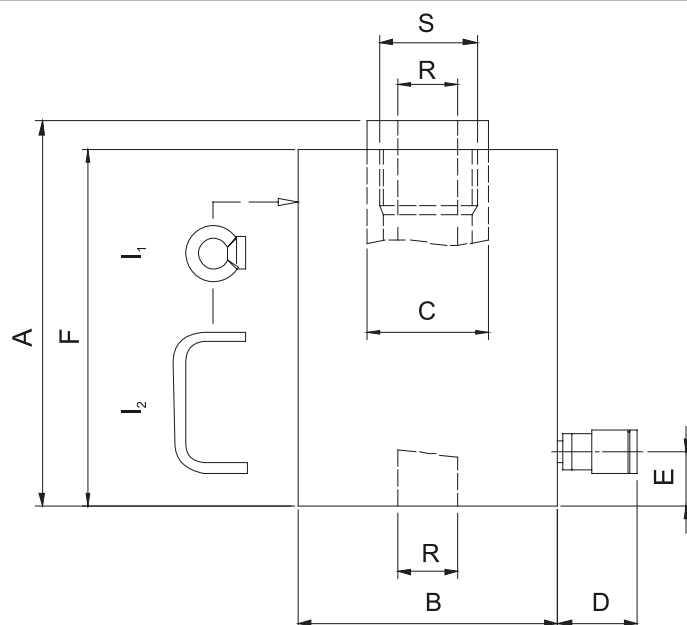


**Hollow Plunger Cylinders - Spring Return**

| 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       |
| tonnage                          | t               | 5              | 12             | 12             | 17             | 20             | 20             |
| stroke length                    | mm              | 25             | 50             | 150            | 50             | 50             | 150            |
| closed height                    | mm              | 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> |

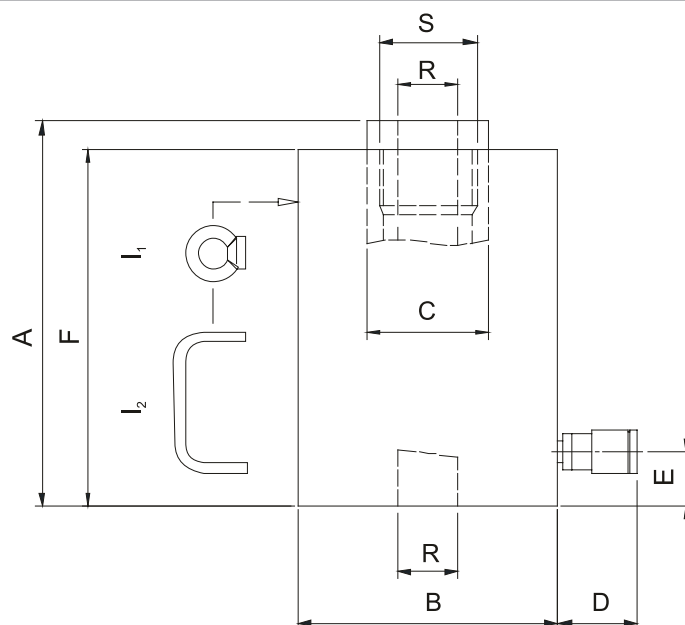


## Hollow Plunger Cylinders - Spring Return

| 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       |
| tonnage t                               | 30             | 30             | 45             | 60             | 110            |
| stroke length mm                        | 75             | 150            | 150            | 75             | 75             |
| closed height mm                        | 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                 | -            | I <sub>1</sub> | I <sub>2</sub> | I <sub>2</sub> | I <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

Thread And Flat Saddles

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Hydraulic Pumps

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Hydraulic Hoses

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Pressure Gauges

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Hollow saddle



## Hollow Plunger Cylinders - Hydraulic Return

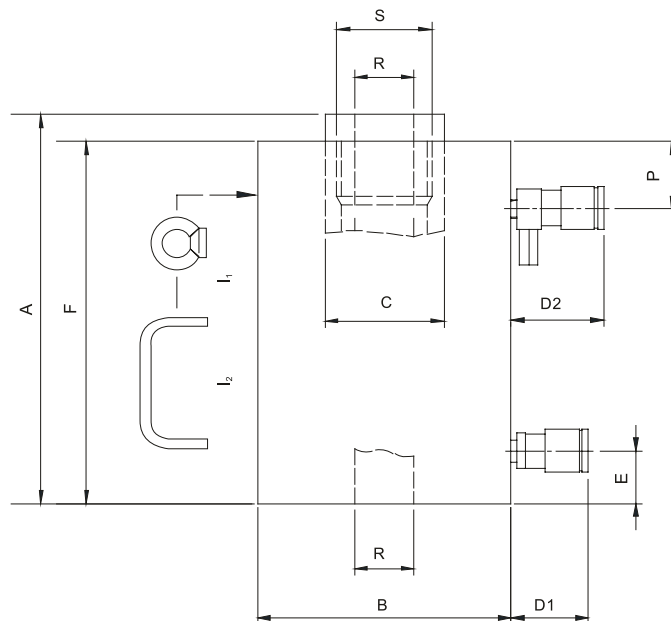


| model                                             | HHJ 30 H 15    | HHJ 60 H 20    | HHJ 100 H 10   | HHJ 100 H 20   |
|---------------------------------------------------|----------------|----------------|----------------|----------------|
| art no                                            | 100.122.045    | 100.122.031    | 100.122.051    | 100.122.053    |
| max. working pressure bar/Mpa                     | 720 / 72       | 720 / 72       | 720 / 72       | 720 / 72       |
| tonnage t                                         | 30             | 60             | 100            | 100            |
| stroke length mm                                  | 150            | 200            | 100            | 200            |
| closed height mm                                  | 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

#### 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 | 85  |
| Protection Springs | page | 86  |
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## Pulling Cylinders - Spring Return

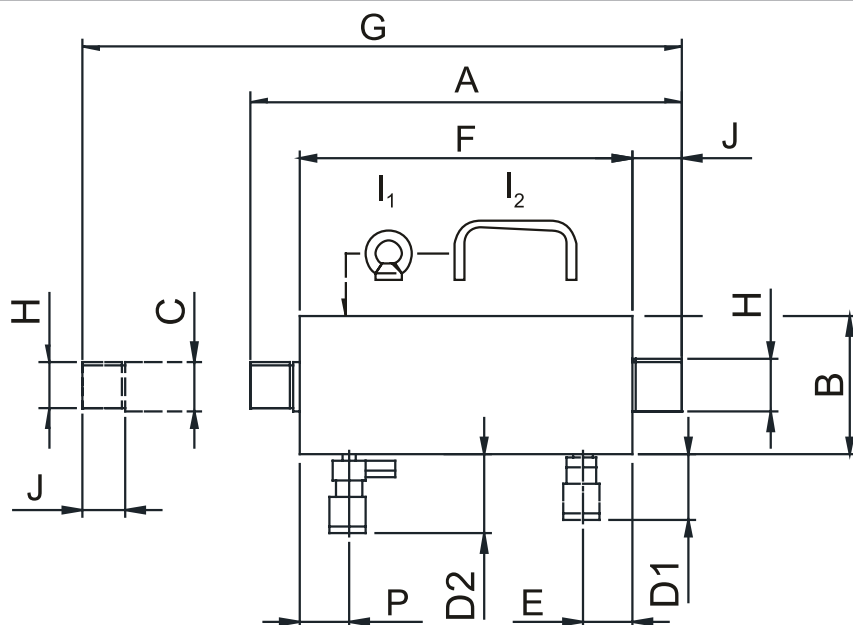


| model                               | HPJ 11 S 15 | HPJ 30 S 15  | HPJ 60 S 15  |
|-------------------------------------|-------------|--------------|--------------|
| art no                              | 100.131.001 | 100.131.011  | 100.131.021  |
| max. working pressure bar/Mpa       | 720 / 72    | 720 / 72     | 720 / 72     |
| tonnage t                           | 11          | 30           | 60           |
| stroke length mm                    | 150         | 150          | 150          |
| capacity kN/t                       | 113 / 11.5  | 298.7 / 30.5 | 610.4 / 62.2 |
| effective pressure area cm²         | 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 | M38 x 1.5   | M38 x 1.5   | M54 x 1.5   |
| 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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| Pressure Gauges    | page | 171 |



## Pulling Cylinders - Hydraulic Return

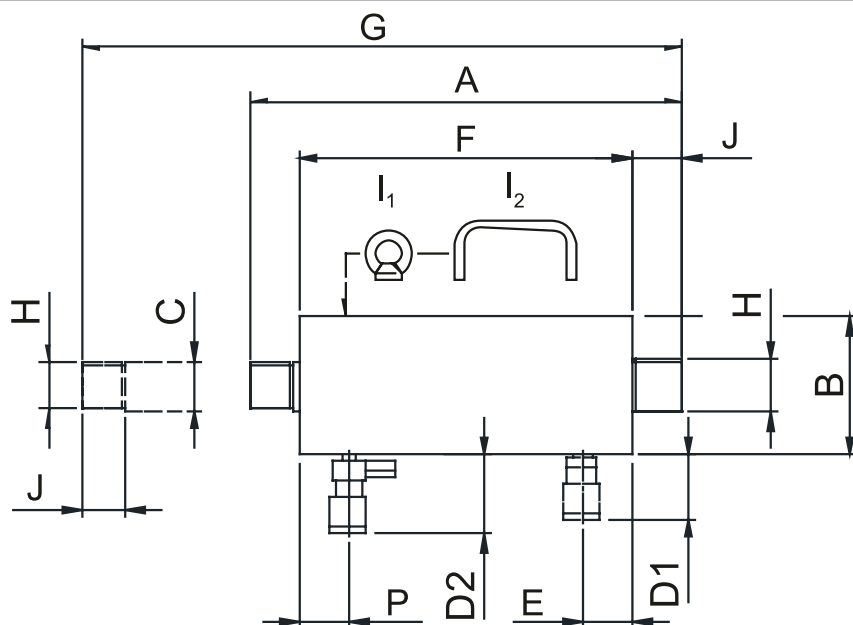


|                                   |                 |                |
|-----------------------------------|-----------------|----------------|
| model                             | HPJ 100 H 15    |                |
| art no                            | 100.122.042     |                |
| max. working pressure             | bar/Mpa         | 720 / 72       |
| tonnage                           | t               | 100            |
| stroke length                     | mm              | 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              | 1988           |
| required oil content (retract)    | cc              | 2651           |
| 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)



|              |                |         |
|--------------|----------------|---------|
| model        | HPJ 100 H 15   |         |
| 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     | M72 x 2 |
| 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**

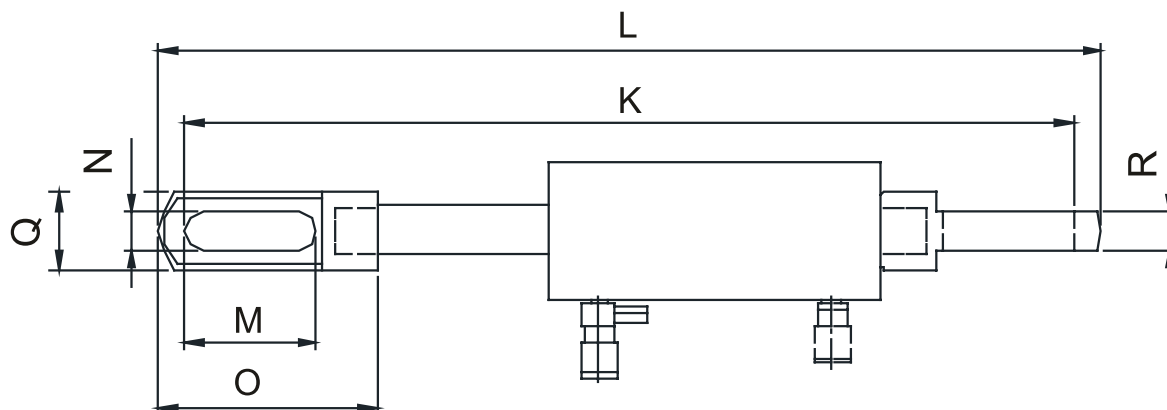
- To be ordered separately, 2 pieces per cylinder

**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 | mm | 760         | 890         | 1000        | 1012         |
| dimension L | mm | 810         | 940         | 1080        | 1132         |
| dimension M | mm | 120         | 120         | 150         | 200          |
| dimension N | mm | 35          | 35          | 45          | 45           |
| dimension O | mm | 200         | 200         | 260         | 320          |
| dimension Q | mm | 70          | 70          | 115         | 135          |
| dimension R | mm | 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**

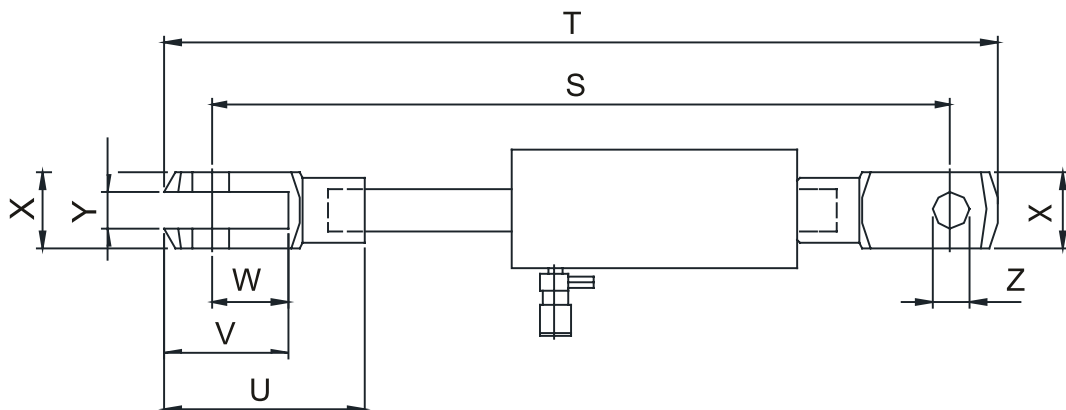
- To be ordered separately, 2 pieces per cylinder

**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

page 28  
page 88

### Multi Purpose Cylinder Set - Set

|                       |             |
|-----------------------|-------------|
| model                 | HIK 10 M    |
| art no                | 100.062.003 |
| return type           | spring      |
| material              | steel       |
| weight, ready for use | kg 44.0     |

**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 &amp; 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.<br>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: 1/4" NPT male</li> </ul>                                                                                                                                                                                                                                                                                 | -         | 100.182.213 |
|  | Carrying storage box of hydraulic jack set HRK 10 U.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | -         | 150.581.001 |



**Accessories - 5 Tons Cylinder**


| image                                                                             | description                                                                                                                                             | model      | art no      |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------|
|  | Aluminium base plate<br>• Suitable for HGC 5 and HGC 10<br>• Max. working pressure: 720 bar<br>• Standard supplied with 2x bolt M8x20 and 2x bolt M6x20 | HGC 5 / 10 | 100.003.004 |
|  | Assembly / Welding Ring<br>• Suitable for HGC 5 cylinders<br>• Thread size: 1½"-16 UN<br>• Max. working pressure: 720 bar                               | HGC 5      | 100.182.189 |
|  | Assembly / Welding Ring<br>• Suitable for HCJ 5 cylinders<br>• Thread size: M40x1.5<br>• Max. working pressure: 720 bar                                 | HCJ 5      | 100.181.491 |

**Accessories - 10 Tons Cylinder**


| image                                                                               | description                                                                                                                                                                  | model           | art no      |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
|  | Plunger Adapter<br>• Suitable for HGC 10 cylinders<br>• Thread size: 1¼" NPT male - 1"-8 UNC male<br>• Max. working pressure: 360 bar                                        | HGC 10          | 100.002.964 |
|  | Cross head<br>• To provide better grip<br>• Suitable for HGC 10 and HCJ 10 cylinders<br>• Thread size: 1¼" NPT female<br>• Max. working pressure: 360 bar                    | HGC 10 / HCJ 10 | 100.002.966 |
|  | Wedge head<br>• For spreading<br>• Suitable for HGC 10 and HCJ 10 cylinders<br>• Thread size: 1¼" NPT female<br>• Max. working pressure: 360 bar                             | HGC 10 / HCJ 10 | 100.002.968 |
|  | Cylinder body adapter<br>• Suitable for HGC 10 cylinders<br>• Thread size: 1¼" NPT female<br>• Max. working pressure: 360 bar<br>• Standard supplied with 2x bolt M8x16      | HGC 10          | 100.002.969 |
|  | Round base plate<br>• To mount on bottom side of cylinder<br>• Suitable for HGC 10 and HCJ 10 cylinders<br>• Thread size: 1¼" NPT female<br>• Max. working pressure: 360 bar | HGC 10 / HCJ 10 | 100.002.978 |

**Accessories - 10 Tons Cylinder**


| image                                                                               | description                                                                                                                                                                                                                                          | model                 | art no      |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------|
|    | 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 |
|    | 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: 1 1/4" NPT male (2x)</li> <li>• Max. working pressure: 360 bar</li> </ul> | HGC 10 / HCJ 10       | 100.002.982 |
|    | 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 &amp; 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 |
|  | 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 |
|  | Plunger toe <ul style="list-style-type: none"> <li>• Suitable for HGC 10 and HCJ 10 cylinders</li> <li>• Thread size: 1 1/4" NPT female</li> <li>• Max. working pressure: 144 bar</li> </ul>                                                         | HGC 10 / HCJ 10       | 100.002.991 |

**Accessories - 10 Tons Cylinder**


| image                                                                               | description                                                                                                                    | model  | art no      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------|-------------|
|    | Cylinder toe<br>• Suitable for HGC 10 cylinders<br>• Thread size: 2 1/4"-14 UNS female<br>• Max. working pressure: 144 bar     | HGC 10 | 100.002.992 |
|    | Cylinder toe<br>• Suitable for HCJ 10 cylinders<br>• Thread size: M60x2 female<br>• Max. working pressure: 144 bar             | 10 E   | 100.002.993 |
|    | Screw-on saddle<br>• Suitable for HCJ 10 cylinders<br>• Thread size: 1 1/4" NPT female                                         | 10 D   | 100.181.091 |
|   | Bottom plug<br>• Suitable for HCJ 10 cylinders<br>• Thread size: 1 1/4" NPT male                                               | 10 K   | 100.181.519 |
|  | Assembly / Welding Ring<br>• Suitable for HGC 10 cylinders<br>• Thread size: 2 1/4"-14 UNS<br>• Max. working pressure: 720 bar | HGC 10 | 100.182.190 |
|  | Assembly / Welding Ring<br>• Suitable for HCJ 10 cylinders<br>• Thread size: M60x2<br>• Max. working pressure: 720 bar         | HCJ 10 | 100.181.522 |

**Accessories - 15 Tons Cylinder**


| image                                                                             | description                                                                                                                                                | model       | art no      |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|
|  | Aluminium base plate<br>• Suitable for HGC 15 and HGC 25<br>• Max. working pressure: 720 bar<br>• 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<br>• Suitable for HGC 25 cylinders<br>• Thread size: 2" NPT male - 1½"-16 UN male<br>• Max. working pressure: 360 bar                                           | HGC 25                | 100.002.965 |
|   | Cross head<br>• To provide better grip<br>• Suitable for HGC 25 and HCJ 25 cylinders<br>• Thread size: 2" NPT female<br>• Max. working pressure: 360 bar                        | HGC 25 / HCJ 25       | 100.002.967 |
|  | Cylinder body adapter<br>• Suitable for HGC 25 cylinders<br>• Thread size: 2" NPT female<br>• Max. working pressure: 360 bar<br>• Standard supplied with 2x bolt M12x20         | HGC 25                | 100.002.970 |
|  | Round base plate<br>• To mount on bottom side of cylinder<br>• Suitable for HGC 25 and HCJ 25 cylinders<br>• Thread size: 2" NPT female<br>• Max. working pressure: 360 bar     | HGC 25 / HCJ 25       | 100.002.979 |
|  | Connection socket<br>• To connect 2 extension tubes<br>• Suitable for HGC 25 and HCJ 25 cylinders<br>• Thread size: 2" NPT female (2x)<br>• Max. working pressure: 360 bar      | HGC 25 / HCJ 25       | 100.002.981 |
|  | Connection Nipple<br>• To connect accessories to cylinders<br>• Suitable for HGC 25 and HCJ 25 cylinders<br>• Thread size: 2" NPT male (2x)<br>• Max. working pressure: 360 bar | HGC 25 / HCJ 25       | 100.002.983 |
|  | Extension tube<br>• Suitable for HGC 25 and HCJ 25 cylinders<br>• Length: 250 mm<br>• Thread size: 2" NPT male (2x)<br>• Max. working pressure: 360 bar                         | 250 - HGC 25 / HCJ 25 | 100.002.986 |

**Accessories - 25 Tons Cylinder**


| image                                                                               | description                                                                                                                                                | model                 | art no      |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------|
|    | Extension tube<br>• Suitable for HGC 25 and HCJ 25 cylinders<br>• Length: 500 mm<br>• Thread size: 2" NPT male (2x)<br>• Max. working pressure: 360 bar    | 500 - HGC 25 / HCJ 25 | 100.002.988 |
|    | Extension tube<br>• Suitable for HGC 25 and HCJ 25 cylinders<br>• Length: 750 mm<br>• Thread size: 2" NPT male (2x)<br>• Max. working pressure: 360 bar    | 750 - HGC 25 / HCJ 25 | 100.002.990 |
|    | Aluminium base plate<br>• Suitable for HGC 15 and HGC 25<br>• Max. working pressure: 720 bar<br>• Standard supplied with 2x bolt M12x30 and 2x bolt M10x30 | HGC 15 / 25           | 100.003.005 |
|   | Screw-on saddle<br>• Suitable for HCJ 25 cylinders<br>• Thread size: 2" NPT female                                                                         | 24 D                  | 100.181.092 |
|  | Bottom plug<br>• Suitable for HCJ 25 cylinders<br>• Thread size: 2" NPT male                                                                               | 25 K                  | 100.181.569 |
|  | Assembly / Welding Ring<br>• Suitable for HGC 25 cylinders<br>• Thread size: 3 5/16"-12 UN<br>• Max. working pressure: 720 bar                             | HGC 25                | 100.182.193 |
|  | Assembly / Welding Ring<br>• Suitable for HCJ 25 cylinders<br>• Thread size: M85x2<br>• Max. working pressure: 720 bar                                     | 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 |
|  | Assembly / Welding Ring <ul style="list-style-type: none"> <li>• Suitable for HCJ 50 cylinders</li> <li>• Thread size: M130x2</li> <li>• Max. working pressure: 720 bar</li> </ul>   | HCJ 50 | 100.181.591 |


**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**


| 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 | 1 1/4" - 7 UNC | 1 1/2" - 8 UNS | 1 5/8" - 8 UNS | 2" - 8 UNS  | 2" - 8 UNS  |

**Saddles - Thread And Flat Saddles - Flat Saddles**


| 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         |

