



**BVA**<sup>®</sup>  
HYDRAULICS

INDUSTRIAL HYDRAULIC EQUIPMENT

BVA-EN 22Q3

## The BVA Advantage

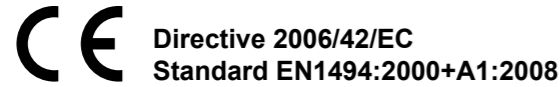
BVA Industrial Hydraulics was launched in 2005 and is centrally located in Europe in Etten-Leur, The Netherlands. BVA is one of the Shinn Fu Europe brands besides Omega Lift, Omega Mechanix and Prolift. Shinn Fu was founded in Taiwan in 1971 and began doing business in Europe in 1994. Shinn Fu has over 2,000 Employees worldwide with its headquarters in Taipei, Taiwan.

## Confidence Built on Quality

### ISO 9001

BVA products are manufactured through an International Quality Assurance System, ISO 9001 which involves consistent observation of administration, management, manufacturing, and production control. Under this system, the related operations are monitored on all aspects from purchase order to assembly line and to shipping the order.

## BVA Products comply with the following industry standards



### ASME B30.1

The cylinders comply with load testing requirements and / or the safety factor for material yield strength while still functioning properly without oil leakage.

### ANSI B40.1

BVA pressure gauges meet the criteria for grade A.

### SAE 100

BVA hydraulic hoses comply with the Material Handling Institute's specification of minimum life cycles and minimum burst pressure rating.

## BVA Limited Lifetime Warranty

BVA products are warranted to be free of defects in materials and workmanship. Any BVA product that does not conform to specification will be repaired or credited (at BVA's option) at BVA's expense for the life of the product. Contact BVA for disposition of this warranty.

This warranty does not cover ordinary wear and tear, abuse, misuse, alteration or use of improper fluids or maintenance as determined by BVA and its authorized service centers. All electric motors, gas engines, batteries and other parts or materials sold with or part of BVA products but are separately warranted by another manufacturer, are covered by that manufacturer's warranty and not the BVA Lifetime Warranty. BVA shall not be liable for consequential or incidental damage or loss.

**Repair Parts**  
We offer a large range of product replacement parts, please contact your local BVA dealer for more details.

**Contact**  
For technical support, or for questions about your product, contact your local BVA dealer.

**BVA Website**  
To view our most up-to-date catalog or view our new product, visit our website: [www.BVAhydraulics.com](http://www.BVAhydraulics.com)

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|     |                          |    |    |                         |    |     |                        |    |       |                         |    |
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| P   | Single Acting Hand Pumps | 48 | PA | All Position Air Pumps  | 51 | PAR | Rotary Air Pumps       | 54 | PE    | Torc wrench pump        | 60 |
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|    |                                       |    |     |                                |    |
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### Cylinders



### Pumps



### Combo Kits



### Valves & Accessories



### Tools & Specials



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## Cylinder Matrix Chart

**H** **C** **30** **06** **T**

1 2 3 4 5  
Cylinder Type Cylinder Options Cylinder Capacity Cylinder Stroke Suffix Code

### 1 - Cylinder Type

H Hydraulic Cylinder

### 2 - Cylinder Options

- C S/A - Hollow Hole
- D D/A - General Purpose
- DC D/A - Hollow Hole
- DG D/A - High Tonnage
- F S/A - Flat Body
- G S/A - Load Return High Tonnage
- L S/A - Low Profile
- LN S/A - Lock Nut
- LNF S/A - Lock Nut Low Profile
- P S/A - Pull
- PD Precision Double Acting
- T S/A - Threaded
- U S/A - Aluminum
- UC S/A - Aluminum Hollow Hole
- UDC D/A - Aluminum Hollow Hole
- ULN S/A - Aluminum Lock Nut

### 3 - Cylinder Capacity

| US Short Tons | US Short Tons |
|---------------|---------------|
| 02            | 2, 2.5        |
| 04            | 4             |
| 05            | 5             |
| 09            | 9             |
| 10            | 10            |
| 12            | 12            |
| 15            | 15            |
| 16            | 16            |
| 20            | 20            |
| 25            | 25            |
| 30            | 30            |
| 50            | 50            |
| 55            | 55            |
| 60            | 60            |
| 75            | 75            |
| 100           | 100           |
| 150           | 150           |
| 160           | 160           |
| 200           | 200           |
| 250           | 250           |
| 300           | 300           |
| 400           | 400           |
| 500           | 500           |
| 600           | 600           |
| 700           | 700           |
| 800           | 800           |
| 1,000         | 1,000         |
| 1,500         | 1,500         |

### 5 - Suffix Code

- T With internal Threads, HC Series only
- XT No internal Threads, HC Series only
- B Flat Body Cylinder Kit

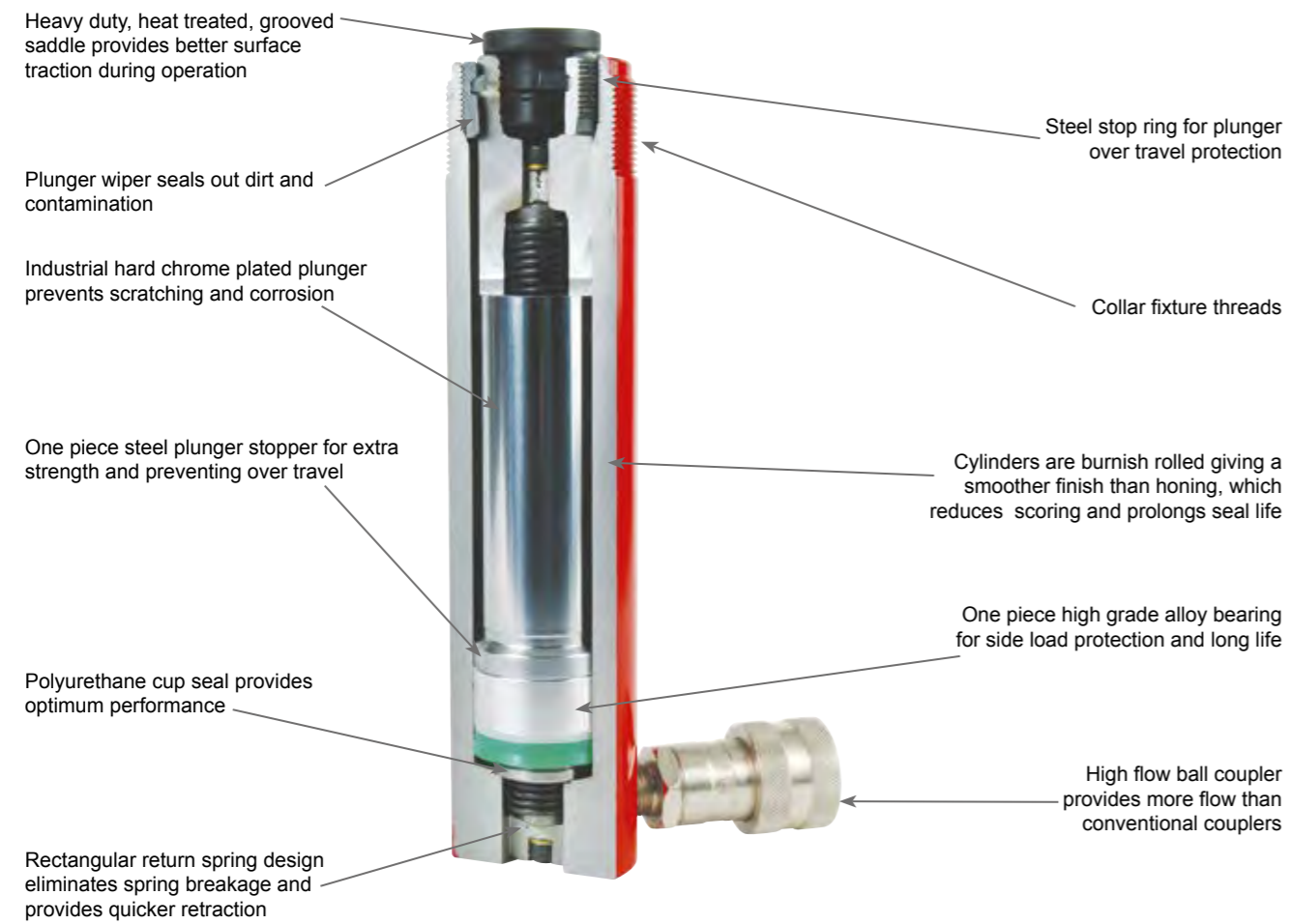
### 4 - Cylinder Stroke

|    |            |
|----|------------|
| 00 | 0.63"/16mm |
| 01 | 1"/25 mm   |
| 02 | 2"/51 mm   |
| 04 | 4"/102 mm  |
| 05 | 5"/127 mm  |
| 06 | 6"/152 mm  |
| 08 | 8"/203 mm  |
| 10 | 10"/254mm  |
| 12 | 12"/305mm  |
| 13 | 13"/330mm  |
| 14 | 14"/356mm  |
| 18 | 18"/457mm  |
| 20 | 20"/508mm  |
| 24 | 24"/610mm  |
| 32 | 32"/813mm  |

**Cylinder Accessories**  
See the assortment of accessories designed to work with our products. pg 44

**Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products. **80%**

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. pg 102



| Cylinder Series | Cylinder Type                                | Max Capacity Range (Tonne) | Max Stroke Range (mm) | Page Number / Reference Image |
|-----------------|--|----------------------------|-----------------------|-------------------------------|
| H               | Single Acting Cylinders                      | 5-100                      | 25-362                | 6-9                           |
| HD              | Double Acting Cylinders                      | 10-100                     | 155-461               | 10-13                         |
| HL              | Low Profile Cylinders                        | 10-100                     | 38-57                 | 14-15                         |
| HF              | Flat Body Cylinders                          | 5-150                      | 16                    | 16-17                         |
| HLN             | Lock Nut Cylinders                           | 50-300                     | 50-300                | 18-19                         |
| HLNF            | Low Profile Lock Nut Cylinders               | 60-250                     | 45-50                 | 20                            |
| HG              | High Tonnage Single Acting Cylinders         | 100-1000                   | 182-1114              | 22-25                         |
| HDG             | High Tonnage Double Acting Cylinders         | 100-1000                   | 50-300                | 26-29                         |
| HC              | Hollow Plunger Cylinders                     | 12-100                     | 8-155                 | 30-31                         |
| HDC             | Double Acting Plunger Hole Cylinders         | 30-150                     | 38-257                | 32-33                         |
| HU              | Aluminum Single Acting Cylinders             | 20-100                     | 50-297                | 34-35                         |
| HDU             | Aluminum Double Acting Cylinders             | 20-30                      | 50-150                | 36-37                         |
| HULN            | Lock Nut Aluminum Cylinders                  | 30-150                     | 50-254                | 38                            |
| HUC             | Single Acting Hollow Hole Aluminum Cylinders | 30-60                      | 75-152                | 39                            |
| HUDC            | Double Acting Aluminum Hollow Hole Cylinders | 30-150                     | 50-254                | 40                            |
| HT              | Threaded Cylinders                           | 10-20                      | 131-253               | 41                            |
| HP              | Pull Cylinders                               | 2.5-10                     | 127-141               | 42                            |
| HPD             | Precision Double Acting Cylinders            | 9-16                       | 1.77-3.14             | 43-44                         |

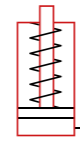
**Pumps Section** [Page 42](#)

**Pumps-Cylinder Combo's** [Page 60](#)

**Other** [Page 62](#)

# Single Acting Cylinders

H Series - General Purpose, Spring Return



### Capacity:

5 - 95 Tons

### Stroke:

25 - 362 mm

### Max. Operating Pressure:

700 BAR

### Min. - Max. Height:

92 - 838 mm

**\* Larger Tonnages**  
For tonnages that exceed 100, please refer to our HG Section  
pg 22



Single Acting Cylinder H1506 in the collapsed position with CB15 cylinder base for safety.

Single Acting Cylinder H5513 in the collapsed position ready to lift a load.

- Collar threads and base mounting holes for fixturing
- Hard chrome plated piston plunger protects against corrosion and damage
- Polyurethane U-Cup seals provide a sure seal and long life
- Solid one piece alloy steel body
- One piece aluminum alloy bearing protects against cylinder wall damage
- CH38F high flow coupler with dust cap is standard on all cylinders

**Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**HU Series – Aluminum Cylinders**  
Aluminum cylinders make a great lightweight alternative being up to 60% lighter than comparable steel models.  
pg 34



## Quick Reference Guide

| Cylinder Capacity  | Stroke (mm)        | Model Number | Collapsed Height (mm) | Oil Capacity (cc) | Weight (kg) |
|--------------------|--------------------|--------------|-----------------------|-------------------|-------------|
| 5 Tonne<br>44 kN   | 27                 | H0501        | 116                   | 16                | 1.4         |
|                    | 78                 | H0503        | 169                   | 50                | 1.5         |
|                    | 129                | H0505        | 221                   | 83                | 1.8         |
|                    | 181                | H0507        | 272                   | 116               | 2.1         |
| 10 Tonne<br>99 kN  | 232                | H0509        | 324                   | 148               | 2.5         |
|                    | 25                 | H1001        | 92                    | 36                | 1.8         |
|                    | 51                 | H1002        | 123                   | 74                | 2.3         |
|                    | 102                | H1004        | 174                   | 147               | 3.5         |
|                    | 155                | H1006        | 250                   | 218               | 4.3         |
|                    | 206                | H1008        | 301                   | 292               | 5.1         |
|                    | 257                | H1010        | 352                   | 366               | 5.9         |
| 15 Tonne<br>139 kN | 305                | H1012        | 403                   | 439               | 6.8         |
|                    | 356                | H1014        | 450                   | 515               | 7.6         |
|                    | 25                 | H1501        | 124                   | 50                | 3.1         |
|                    | 51                 | H1502        | 149                   | 103               | 3.9         |
|                    | 101                | H1504        | 200                   | 205               | 5.0         |
|                    | 152                | H1506        | 270                   | 308               | 6.7         |
|                    | 203                | H1508        | 321                   | 411               | 7.8         |
|                    | 254                | H1510        | 372                   | 515               | 9.1         |
| 25 Tonne<br>228 kN | 305                | H1512        | 423                   | 618               | 10.2        |
|                    | 356                | H1514        | 474                   | 721               | 11.4        |
|                    | 407                | H1516        | 529                   | 824               | 12.8        |
|                    | 26                 | H2501        | 143                   | 86                | 5.5         |
|                    | 51                 | H2502        | 168                   | 170               | 6.4         |
|                    | 102                | H2504        | 219                   | 339               | 8.2         |
|                    | 155                | H2506        | 272                   | 515               | 10.1        |
| 30 Tonne<br>287 kN | 206                | H2508        | 323                   | 684               | 11.9        |
|                    | 257                | H2510        | 374                   | 854               | 13.7        |
|                    | 310                | H2512        | 426                   | 1030              | 15.6        |
|                    | 362                | H2514        | 476                   | 1203              | 17.4        |
|                    | 55 Tonne<br>487 kN | 210          | H3008                 | 387               | 879         |
| 51                 |                    | H5502        | 176                   | 360               | 15.0        |
| 103                |                    | H5504        | 227                   | 730               | 18.6        |
| 159                |                    | H5506*       | 283                   | 1126              | 26.1        |
| 260                |                    | H5510*       | 385                   | 1844              | 30.6        |
| 75 Tonne<br>718 kN | 337                | H5513*       | 461                   | 2388              | 39.5        |
|                    | 156                | H7506*       | 285                   | 1620              | 33.6        |
| 95 Tonne<br>911 kN | 333                | H7513*       | 492                   | 3459              | 55.3        |
|                    | 51                 | H10002*      | 219                   | 677               | 29.9        |
|                    | 168                | H10006*      | 357                   | 2229              | 57.6        |
|                    | 260                | H10010*      | 449                   | 3453              | 69.4        |
|                    | 356                | H10014*      | 545                   | 4721              | 81.6        |

See pages 8-9 for detailed specifications.  
\* Cylinder is equipped with carrying handle.



H Series

**Cylinder Accessories**  
See the assortment of accessories designed to work with our products.  
pg 44

**Combo Kits**  
Most cylinders are available in easy to order kits: Cylinder, Gauge, Couplers, Hose and Pump.  
pg 64

**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need.  
pg 71

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared.  
pg 102

**High-Flow Couplers**  
High-Flow Coupler: CH38F is included on all models (except where specified).

**Optional Tilt-Saddles**  
Saddles tilt to a 5% maximum to adjust to the load. Match up these saddles with the following cylinders:

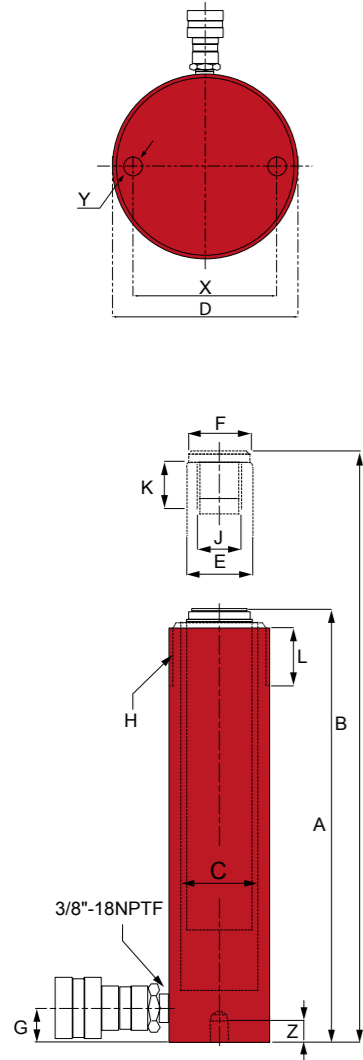
|       |   |                          |
|-------|---|--------------------------|
| SDT05 | → | H05 Cylinders            |
| SDT10 | → | H10 Cylinders            |
| SDT15 | → | H15 Cylinders            |
| SDT25 | → | H25 Cylinders            |
| SDT55 | → | H55, H75, H100 Cylinders |

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# Single Acting Cylinders

H Series - Spring Return



| Cylinder Capacity  | Stroke (mm) | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Weight (kg) |
|--------------------|-------------|--------------|--|-------------------|-------------|
| 5 Tonne<br>44 kN   | 27          | H0501        | 6.5  | 16                | 1.4         |
|                    | 78          | H0503        | 6.5  | 50                | 1.5         |
|                    | 129         | H0505        | 6.5  | 83                | 1.8         |
|                    | 181         | H0507        | 6.5  | 116               | 2.1         |
| 10 Tonne<br>99 kN  | 232         | H0509        | 6.5  | 148               | 2.5         |
|                    | 25          | H1001        | 14.4                                       | 36                | 1.8         |
|                    | 51          | H1002        | 14.4                                       | 74                | 2.3         |
|                    | 102         | H1004        | 14.4                                       | 147               | 3.5         |
|                    | 155         | H1006        | 14.4                                       | 218               | 4.3         |
|                    | 206         | H1008        | 14.4                                       | 292               | 5.1         |
|                    | 257         | H1010        | 14.4                                       | 366               | 5.9         |
| 15 Tonne<br>139 kN | 305         | H1012        | 14.4                                       | 439               | 6.8         |
|                    | 356         | H1014        | 14.4                                       | 515               | 7.6         |
|                    | 25          | H1501        | 20.3                                       | 50                | 3.1         |
|                    | 51          | H1502        | 20.3                                       | 103               | 3.9         |
|                    | 101         | H1504        | 20.3                                       | 205               | 5.0         |
|                    | 152         | H1506        | 20.3                                       | 308               | 6.7         |
|                    | 203         | H1508        | 20.3                                       | 411               | 7.8         |
|                    | 254         | H1510        | 20.3                                       | 515               | 9.1         |
|                    | 305         | H1512        | 20.3                                       | 618               | 10.2        |
|                    | 356         | H1514        | 20.3                                       | 721               | 11.4        |
| 25 Tonne<br>228 kN | 407         | H1516        | 20.3                                       | 824               | 12.8        |
|                    | 26          | H2501        | 33.2                                       | 86                | 5.5         |
|                    | 51          | H2502        | 33.2                                       | 170               | 6.4         |
|                    | 102         | H2504        | 33.2                                       | 339               | 8.2         |
|                    | 155         | H2506        | 33.2                                       | 515               | 10.1        |
|                    | 206         | H2508        | 33.2                                       | 684               | 11.9        |
|                    | 257         | H2510        | 33.2                                       | 854               | 13.7        |
|                    | 310         | H2512        | 33.2                                       | 1030              | 15.6        |
| 30 Tonne<br>287 kN | 362         | H2514        | 33.2                                       | 1203              | 17.4        |
|                    | 210         | H3008        | 41.9                                       | 879               | 18.5        |
| 50 Tonne<br>487 kN | 51          | H5502        | 70.9                                       | 360               | 15.0        |
|                    | 103         | H5504        | 70.9                                       | 730               | 18.6        |
|                    | 159         | H5506*       | 70.9                                       | 1126              | 26.1        |
|                    | 260         | H5510*       | 70.9                                       | 1844              | 30.6        |
| 75 Tonne<br>713 kN | 337         | H5513*       | 70.9                                       | 2388              | 39.5        |
|                    | 156         | H7506*       | 103.9                                      | 1620              | 33.6        |
|                    | 333         | H7513*       | 103.9                                      | 3459              | 55.3        |
| 95 Tonne<br>911 kN | 51          | H10002*      | 132.7                                      | 677               | 29.9        |
|                    | 168         | H10006*      | 132.7                                      | 2229              | 57.6        |
|                    | 260         | H10010*      | 132.7                                      | 3453              | 69.4        |
|                    | 356         | H10014*      | 132.7                                      | 4721              | 81.6        |

\* Cylinder is equipped with carrying handle.

| Model Number | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore C (mm) | Outside Dia. D (mm) | Plunger Dia. E (mm) | Saddle Dia. F (mm) | Base to Inlet Port G (mm) | Collar Thread H | Collar Thread Length L (mm) | Plunger Internal Thread J | Plunger Thread Length K (mm) | Base Mounting Hole (mm) |          |                |
|--------------|-------------------------|------------------------|----------------------|---------------------|---------------------|--------------------|---------------------------|-----------------|-----------------------------|---------------------------|------------------------------|-------------------------|----------|----------------|
|              |                         |                        |                      |                     |                     |                    |                           |                 |                             |                           |                              | Bolt Circle X           | Thread Y | Thread Depth Z |
| H0501        | 116                     | 142                    | 29                   | 38                  | 25                  | 25                 | 20                        | 1½"-16N         | 28                          | ¾"-16UNF                  | 16                           | 25                      | ¼"-20UNC | 14             |
| H0503        | 169                     | 247                    | 29                   | 38                  | 25                  | 25                 | 20                        | 1½"-16N         | 28                          | ¾"-16UNF                  | 16                           | 25                      | ¼"-20UNC | 14             |
| H0505        | 221                     | 350                    | 29                   | 38                  | 25                  | 25                 | 20                        | 1½"-16N         | 28                          | ¾"-16UNF                  | 16                           | 25                      | ¼"-20UNC | 14             |
| H0507        | 272                     | 452                    | 29                   | 38                  | 25                  | 25                 | 20                        | 1½"-16N         | 28                          | ¾"-16UNF                  | 16                           | 25                      | ¼"-20UNC | 14             |
| H0509        | 324                     | 552                    | 28                   | 38                  | 25                  | 25                 | 20                        | 1½"-16N         | 28                          | ¾"-16UNF                  | 16                           | 25                      | ¼"-20UNC | 14             |
| H1001        | 92                      | 117                    | 43                   | 58                  | 38                  | -                  | 20                        | 2¼"-14UN        | 30                          | -                         | 6                            | 40                      | ⅝"-18UNC | 14             |
| H1002        | 123                     | 174                    | 43                   | 58                  | 38                  | 35                 | 20                        | 2¼"-14UN        | 30                          | 1"-8UNC                   | 20                           | 40                      | ⅝"-18UNC | 14             |
| H1004        | 174                     | 276                    | 43                   | 58                  | 38                  | 35                 | 20                        | 2¼"-14UN        | 30                          | 1"-8UNC                   | 20                           | 40                      | ⅝"-18UNC | 14             |
| H1006        | 250                     | 401                    | 43                   | 58                  | 38                  | 35                 | 20                        | 2¼"-14UN        | 30                          | 1"-8UNC                   | 20                           | 40                      | ⅝"-18UNC | 14             |
| H1008        | 301                     | 503                    | 43                   | 58                  | 38                  | 35                 | 20                        | 2¼"-14UN        | 30                          | 1"-8UNC                   | 20                           | 40                      | ⅝"-18UNC | 14             |
| H1010        | 352                     | 605                    | 43                   | 58                  | 38                  | 35                 | 20                        | 2¼"-14UN        | 30                          | 1"-8UNC                   | 20                           | 40                      | ⅝"-18UNC | 14             |
| H1012        | 403                     | 707                    | 43                   | 58                  | 38                  | 35                 | 20                        | 2¼"-14UN        | 30                          | 1"-8UNC                   | 20                           | 40                      | ⅝"-18UNC | 14             |
| H1014        | 450                     | 806                    | 43                   | 58                  | 38                  | 35                 | 20                        | 2¼"-14UN        | 30                          | 1"-8UNC                   | 20                           | 40                      | ⅝"-18UNC | 14             |
| H1501        | 124                     | 149                    | 51                   | 70                  | 41                  | 38                 | 20                        | 2¾"-16UN        | 30                          | 1"-8UNC                   | 25                           | 48                      | ⅝"-16UNC | 13             |
| H1502        | 149                     | 200                    | 51                   | 70                  | 41                  | 38                 | 20                        | 2¾"-16UN        | 30                          | 1"-8UNC                   | 25                           | 48                      | ⅝"-16UNC | 13             |
| H1504        | 200                     | 301                    | 51                   | 70                  | 41                  | 38                 | 20                        | 2¾"-16UN        | 30                          | 1"-8UNC                   | 25                           | 48                      | ⅝"-16UNC | 13             |
| H1506        | 270                     | 422                    | 51                   | 70                  | 41                  | 38                 | 25                        | 2¾"-16UN        | 30                          | 1"-8UNC                   | 25                           | 48                      | ⅝"-16UNC | 13             |
| H1508        | 321                     | 524                    | 51                   | 70                  | 41                  | 38                 | 25                        | 2¾"-16UN        | 30                          | 1"-8UNC                   | 25                           | 48                      | ⅝"-16UNC | 13             |
| H1510        | 372                     | 626                    | 51                   | 70                  | 41                  | 38                 | 25                        | 2¾"-16UN        | 30                          | 1"-8UNC                   | 25                           | 48                      | ⅝"-16UNC | 13             |
| H1512        | 423                     | 728                    | 51                   | 70                  | 41                  | 38                 | 25                        | 2¾"-16UN        | 30                          | 1"-8UNC                   | 25                           | 48                      | ⅝"-16UNC | 13             |
| H1514        | 474                     | 830                    | 51                   | 70                  | 41                  | 38                 | 25                        | 2¾"-16UN        | 30                          | 1"-8UNC                   | 25                           | 48                      | ⅝"-16UNC | 13             |
| H1516        | 529                     | 936                    | 51                   | 70                  | 41                  | 38                 | 25                        | 2¾"-16UN        | 30                          | 1"-8UNC                   | 25                           | 48                      | ⅝"-16UNC | 13             |
| H2501        | 143                     | 169                    | 65                   | 85                  | 57                  | 50                 | 25                        | 3⅝"-12N         | 49                          | 1½"-16UNC                 | 30                           | 59                      | ½"-13UNC | 19             |
| H2502        | 168                     | 219                    | 65                   | 85                  | 57                  | 50                 | 25                        | 3⅝"-12N         | 49                          | 1½"-16UNC                 | 30                           | 59                      | ½"-13UNC | 19             |
| H2504        | 219                     | 321                    | 65                   | 85                  | 57                  | 50                 | 25                        | 3⅝"-12N         | 49                          | 1½"-16UNC                 | 30                           | 59                      | ½"-13UNC | 19             |
| H2506        | 272                     | 427                    | 65                   | 85                  | 57                  | 50                 | 25                        | 3⅝"-12N         | 49                          | 1½"-16UNC                 | 30                           | 59                      | ½"-13UNC | 19             |
| H2508        | 323                     | 529                    | 65                   | 85                  | 57                  | 50                 | 25                        | 3⅝"-12N         | 49                          | 1½"-16UNC                 | 30                           | 59                      | ½"-13UNC | 19             |
| H2510        | 374                     | 631                    | 65                   | 85                  | 57                  | 50                 | 25                        | 3⅝"-12N         | 49                          | 1½"-16UNC                 | 30                           | 59                      | ½"-13UNC | 19             |
| H2512        | 426                     | 736                    | 65                   | 85                  | 57                  | 50                 | 25                        | 3⅝"-12N         | 49                          | 1½"-16UNC                 | 30                           | 59                      | ½"-13UNC | 19             |
| H2514        | 476                     | 838                    | 65                   | 85                  | 57                  | 50                 | 25                        | 3⅝"-12N         | 49                          | 1½"-16UNC                 | 30                           | 59                      | ½"-13UNC | 19             |
| H3008        | 387                     | 597                    | 73                   | 102                 | 57                  | 50                 | 50                        | 3⅝"-12UN        | 49                          | 1½"-16UNC                 | 30                           | 56                      | ½"-13UNC | 19             |
| H5502        | 176                     | 227                    | 95                   | 127                 | 80                  | 70                 | 31                        | 5"-12UN         | 55                          | -                         | -                            | 95                      | ½"-13UNC | 19             |
| H5504        | 227                     | 330                    | 95                   | 127                 | 80                  | 70                 | 31                        | 5"-12UN         | 55                          | -                         | -                            | 95                      | ½"-13UNC | 19             |
| H5506*       | 283                     | 442                    | 95                   | 127                 | 80                  | 70                 | 31                        | 5"-12UN         | 55                          | -                         | -                            | 95                      | ½"-13UNC | 19             |
| H5510*       | 385                     | 645                    | 95                   | 127                 | 80                  | 70                 | 31                        | 5"-12UN         | 55                          | -                         | -                            | 95                      | ½"-13UNC | 19             |
| H5513*       | 461                     | 798                    | 95                   | 127                 | 80                  | 70                 | 31                        | 5"-12UN         | 55                          | -                         | -                            | 95                      | ½"-13UNC | 19             |
| H7506*       | 285                     | 466                    | 115                  | 147                 | 95                  | 70                 | 30                        | 5¾"-12UN        | 45                          | -                         | -                            | 100                     | ¾"-10UNC | 22             |
| H7513*       | 492                     | 825                    | 115                  | 147                 | 95                  | 70                 | 30                        | 5¾"-12UN        | 45                          | -                         | -                            | 100                     | ¾"-10UNC | 22             |
| H10002*      | 219                     | 270                    | 130                  | 159                 | 105                 | 70                 | 38                        | 6¼"-12UN        | 55                          | -                         | -                            | -                       | -        | -              |
| H10006*      | 357                     | 525                    | 130                  | 177                 | 105                 | 70                 | 40                        | 6⅝"-12UN        | 45                          | -                         | -                            | 140                     | ¾"-10UNC | 25             |
| H10010*      | 449                     | 709                    | 130                  | 177                 | 105                 | 70                 | 40                        | 6⅝"-12UN        | 45                          | -                         | -                            | 140                     | ¾"-10UNC | 25             |
| H10014*      | 545                     | 901                    | 130                  | 177                 | 105                 | 70                 | 40                        | 6⅝"-12UN        | 45                          | -                         | -                            | 140                     | ¾"-10UNC | 25             |

\* Cylinder is equipped with carrying handle.

H

HD

HL

HF

HLN

HLNF

HG

HDG

HC

HDC

HU

HDU

HULN

HUC

HUDC

HT

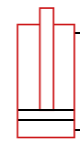
HP

HPD

Cylinder accessories

## Double Acting Cylinders

HD Series - General Purpose



**Capacity:**

10 - 100 Tonnes

**Stroke:**

155 - 461 mm

**Pressure:**

700 BAR

**Min. - Max. Height:**

331 - 1269 mm



HD10006

HD3008

- Plunger wiper seals out dirt and contamination
- High strength steel construction from gun drilled solid bar
- High flow 3/8" NPTF female couplers
- One piece high grade alloy bearing for side load protection and long life
- Ideal for pushing and pulling
- Maximum working pressure: 10,000 psi / 700 bar
- Threaded cylinders, removable saddle, thicker cylinder walls
- Retract under hydraulic power for faster operation

**80%** **Safety Practices**  
 Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.



HD cylinders can be used in pushing and pulling applications. In this photo, we see a HD cylinder set up for a pull application using a Plunger Clevis cylinder accessory



HD5513

HD7513

### Quick Selection Guide

| Cylinder Capacity       | Stroke (mm) | Model Number | Collapsed Height (mm) | Oil Capacity |           | Weight (kg) |
|-------------------------|-------------|--------------|-----------------------|--------------|-----------|-------------|
|                         |             |              |                       | Push (cc)    | Pull (cc) |             |
| 10 Tonne<br>100/33 kN   | 255         | HD1010       | 409                   | 367          | 122       | 12.1        |
|                         | 304         | HD1012       | 458                   | 438          | 146       | 13.6        |
| 30 Tonne<br>288/141 kN  | 207         | HD3008       | 389                   | 867          | 426       | 19.5        |
|                         | 368         | HD3014       | 550                   | 1542         | 758       | 27.5        |
| 50 Tonne<br>486/141 kN  | 157         | HD5506*      | 331                   | 1113         | 323       | 32.0        |
|                         | 335         | HD5513*      | 509                   | 2375         | 690       | 47.2        |
|                         | 511         | HD5520*      | 733                   | 3623         | 1053      | 66.3        |
| 75 Tonne<br>713/227 kN  | 155         | HD7506*      | 348                   | 1608         | 511       | 42.5        |
|                         | 333         | HD7513*      | 526                   | 3457         | 1099      | 62.1        |
| 100 Tonne<br>911/424 kN | 167         | HD10006*     | 357                   | 2216         | 1032      | 62.9        |
|                         | 257         | HD10010*     | 449                   | 3413         | 1591      | 76.7        |
|                         | 333         | HD10013*     | 524                   | 4419         | 2058      | 87.8        |
| 150 Tonne<br>1348/634   | 461         | HD10018*     | 687                   | 6117         | 2849      | 112.6       |
|                         | 156         | HD15006*     | 386                   | 3056         | 1439      | 78.4        |
|                         | 334         | HD15013*     | 584                   | 6546         | 3082      | 111.3       |

\* Are equipped with carrying handles.



HD Series

**HDU Series – Aluminum Cylinders**



Aluminum cylinders make a great lightweight alternative being up to 60% lighter than comparable steel models.

36 pg

**Cylinder Accessories**



See the assortment of accessories designed to work with our products.

44 pg

**Combo Kits**



Most cylinders are available in easy to order kits: Cylinder, Gauge, Couplers, Hose and Pump.

64 pg

**Related Product: Gauges**



Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need.

71 pg

**Safety Instructions**



Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared.

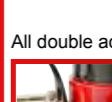
102 pg

**High-Flow Couplers**



High-Flow Coupler: CH38F is included on all models (except where specified).

**Relief Valve**



All double acting cylinders are equipped with a pressure relief valve located next to the retract port. These pressure relief valves help prevent cylinder over pressurization on the return port side of the cylinder.



# Double Acting Cylinders

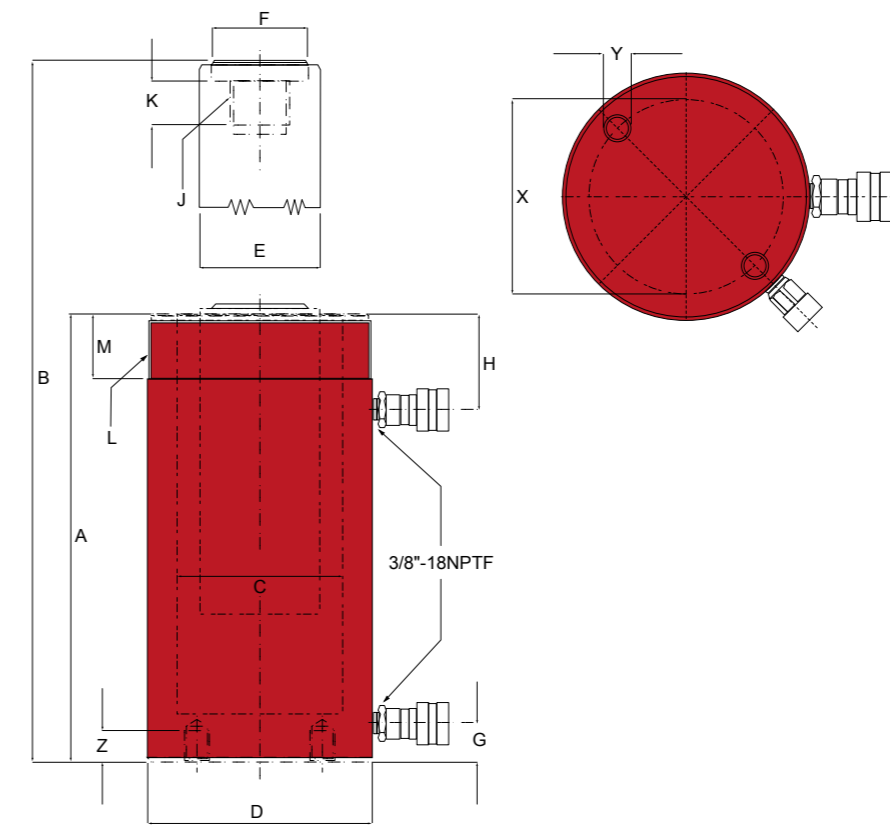
HD Series - General Purpose

**Cylinder Accessories**  
See the assortment of accessories designed to work with our products. 44  
pg

**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. 71  
pg

**Combo Kits**  
Most cylinders are available in easy to order kits: Cylinder, Gauge, Couplers, Hose and Pump. 64  
pg

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. 102  
pg



HD Series

**Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Relief Valve**  
All double acting cylinders are equipped with a pressure relief valve located next to the retract port. These pressure relief valves help prevent cylinder over pressurization on the return port side of the cylinder.

**High-Flow Couplers**  
High-Flow Coupler: CH38F is included on all models (except where specified).

| Cylinder Capacity       | Stroke (mm) | Model Number | Maximum Cylinder Capacity |              | Cylinder Effective Area |                         | Oil Capacity |           | Weight (kg) | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore Dia. C (mm) |
|-------------------------|-------------|--------------|---------------------------|--------------|-------------------------|-------------------------|--------------|-----------|-------------|-------------------------|------------------------|---------------------------|
|                         |             |              | Push (Tonne)              | Pull (Tonne) | Push (cm <sup>2</sup> ) | Pull (cm <sup>2</sup> ) | Push (cc)    | Pull (cc) |             |                         |                        |                           |
| 10 Tonne<br>100/33 kN   | 255         | HD1010       | 11.4                      | 3.8          | 14.5                    | 4.8                     | 367          | 122       | 12.1        | 409                     | 665                    | 43                        |
|                         | 304         | HD1012       | 11.4                      | 3.8          | 14.5                    | 4.8                     | 438          | 146       | 13.6        | 458                     | 762                    | 43                        |
| 30 Tonne<br>288/141 kN  | 207         | HD3008       | 32.9                      | 16.2         | 41.9                    | 20.6                    | 867          | 426       | 19.5        | 389                     | 596                    | 73                        |
|                         | 368         | HD3014       | 32.9                      | 16.2         | 41.9                    | 20.6                    | 1542         | 758       | 27.5        | 550                     | 918                    | 73                        |
| 50 Tonne<br>486/141 kN  | 157         | HD5506*      | 55.7                      | 16.2         | 70.9                    | 20.6                    | 1113         | 323       | 32.0        | 331                     | 488                    | 95                        |
|                         | 335         | HD5513*      | 55.7                      | 16.2         | 70.9                    | 20.6                    | 2375         | 690       | 47.2        | 509                     | 844                    | 95                        |
|                         | 511         | HD5520*      | 55.7                      | 16.2         | 70.9                    | 20.6                    | 3623         | 1053      | 66.3        | 733                     | 1269                   | 95                        |
| 75 Tonne<br>713/227 kN  | 155         | HD7506*      | 81.7                      | 25.9         | 103.8                   | 33                      | 1608         | 511       | 42.5        | 348                     | 503                    | 115                       |
|                         | 333         | HD7513*      | 81.7                      | 25.9         | 103.8                   | 33                      | 3457         | 1099      | 62.1        | 526                     | 859                    | 115                       |
| 100 Tonne<br>911/424 kN | 167         | HD10006*     | 104.4                     | 48.6         | 132.7                   | 61.8                    | 2216         | 1032      | 62.9        | 357                     | 524                    | 130                       |
|                         | 257         | HD10010*     | 104.4                     | 48.6         | 132.7                   | 61.8                    | 3413         | 1591      | 76.7        | 449                     | 706                    | 130                       |
|                         | 333         | HD10013*     | 104.4                     | 48.6         | 132.7                   | 61.8                    | 4419         | 2058      | 87.8        | 524                     | 857                    | 130                       |
|                         | 461         | HD10018*     | 104.4                     | 48.6         | 132.7                   | 61.8                    | 6117         | 2849      | 112.6       | 687                     | 1148                   | 130                       |
| 150 Tonne<br>1348/634   | 156         | HD15006*     | 140.1                     | 66           | 196.3                   | 92.4                    | 3065         | 1439      | 78.4        | 386                     | 542                    | 158                       |
|                         | 334         | HD15013*     | 140.1                     | 66           | 196.3                   | 92.4                    | 6546         | 3082      | 14.3        | 564                     | 898                    | 158                       |

\* Are equipped with carrying handles.

| Model Number | Outside Dia. D (mm) | Plunger Dia. E (mm) | Saddle Dia. F (mm) | Base to Inlet Port G (mm) | Top to Return Port H (mm) | Plunger Internal Thread J | Plunger Thread Length K (mm) | Collar Thread L | Collar Thread Length M (mm) | Base Mounting Hole |             |                     |
|--------------|---------------------|---------------------|--------------------|---------------------------|---------------------------|---------------------------|------------------------------|-----------------|-----------------------------|--------------------|-------------|---------------------|
|              |                     |                     |                    |                           |                           |                           |                              |                 |                             | Bolt Circle X (mm) | Thread Y    | Thread Depth Z (mm) |
| HD1010       | 73                  | 35                  | 35                 | 36                        | 53                        | 1"-8UNC                   | 25                           | 2 1/4"-14UN     | 26                          | 33                 | 3/16"-18UNC | 15                  |
| HD1012       | 73                  | 35                  | 35                 | 36                        | 53                        | 1"-8UNC                   | 25                           | 2 1/4"-14UN     | 26                          | 33                 | 3/16"-18UNC | 15                  |
| HD3008       | 101                 | 54                  | 50                 | 42                        | 74                        | 1 1/2"-16UN               | 25                           | 3 3/8"-12UN     | 49                          | 56                 | 1/2"-13UNC  | 18                  |
| HD3014       | 101                 | 54                  | 50                 | 42                        | 74                        | 1 1/2"-16UN               | 25                           | 3 3/8"-12UN     | 49                          | 56                 | 1/2"-13UNC  | 18                  |
| HD5506*      | 127                 | 80                  | 70                 | 29                        | 73                        | 1"-12UNF                  | 25                           | 5"-12UN         | 44                          | 95                 | 1/2"-13UNC  | 18                  |
| HD5513*      | 127                 | 80                  | 70                 | 29                        | 73                        | 1"-12UNF                  | 25                           | 5"-12UN         | 44                          | 95                 | 1/2"-13UNC  | 18                  |
| HD5520*      | 127                 | 80                  | 70                 | 29                        | 73                        | 1"-12UNF                  | 25                           | 5"-12UN         | 44                          | 95                 | 1/2"-13UNC  | 18                  |
| HD7506*      | 146                 | 95                  | 70                 | 30                        | 71                        | 1"-12UNF                  | 38                           | 5 3/4"-12UN     | 38                          | 102                | 3/4"-10UNC  | 23                  |
| HD7513*      | 146                 | 95                  | 70                 | 30                        | 71                        | 1"-12UNF                  | 38                           | 5 3/4"-12UN     | 38                          | 102                | 3/4"-10UNC  | 23                  |
| HD10006*     | 177                 | 95                  | 75                 | 31                        | 75                        | 1 3/4"-12UN               | 35                           | 6 7/8"-12N      | 51                          | 139                | 3/4"-10UNC  | 25                  |
| HD10010*     | 177                 | 95                  | 75                 | 31                        | 75                        | 1 3/4"-12UN               | 38                           | 6 7/8"-12N      | 51                          | 139                | 3/4"-10UNC  | 25                  |
| HD10013*     | 177                 | 95                  | 75                 | 31                        | 75                        | 1 3/4"-12UN               | 35                           | 6 7/8"-12UN     | 51                          | 139                | 3/4"-10UNC  | 25                  |
| HD10018*     | 177                 | 95                  | 75                 | 38                        | 75                        | 1 3/4"-12UN               | 35                           | 6 7/8"-12UN     | 51                          | 139                | 3/4"-10UNC  | 25                  |
| HD15006*     | 203                 | 115                 | 115                | 50                        | 84                        | 3 3/8"-16UN               | 36                           | 8"-12UN         | 60                          | 159                | 3/4"-16UNF  | 25                  |
| HD15013*     | 203                 | 115                 | 115                | 50                        | 84                        | 3 3/8"-16UN               | 36                           | 8"-12UN         | 60                          | 159                | 3/4"-16UNF  | 25                  |

\* Are equipped with carrying handles.

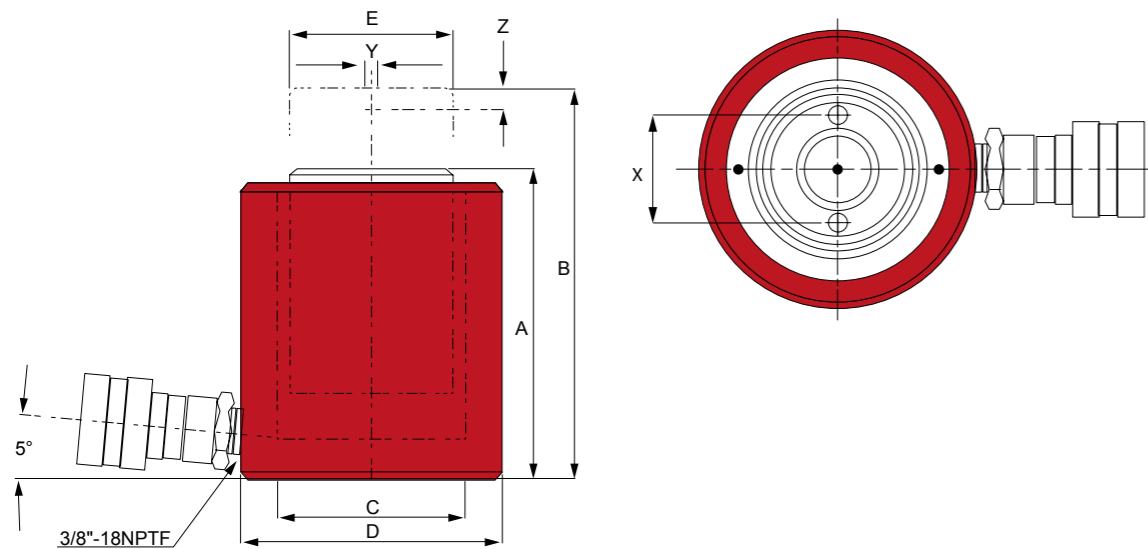
## Low Profile Cylinders

### HL Series - Low Clearance Lifting

- Compact design for use in confined spaces.
- Plunger wiper helps seal out dirt and contamination.
- Specially designed return spring provides quick retraction and extends the life of the spring.
- Hard chrome plated plunger helps prevent scratching and corrosion.
- Plunger end is grooved to reduce load slippage.
- Includes high flow coupler and dust cap.
- HL1001, HL2002, and HL3002 coupler is tilted 5° for added clearance.



HL Series



Low profile cylinders are great for confined spaces.

| Cylinder Capacity  | Stroke (mm) | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Weight (kg) |
|--------------------|-------------|--------------|--|-------------------|-------------|
| 10 Tonne<br>104 kN | 38          | HL1001       | 15.2                                       | 58                | 2.6         |
| 20 Tonne<br>194 kN | 44          | HL2002       | 28.2                                       | 125               | 5.0         |
| 30 Tonne<br>288 kN | 62          | HL3002       | 41.9                                       | 260               | 6.8         |
| 45 Tonne<br>437 kN | 60          | HL5002       | 63.7                                       | 382               | 9.9         |
| 90 Tonne<br>870 kN | 57          | HL10002      | 126.7                                      | 722               | 20.6        |



| Model Number | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore Diameter C (mm) | Outside Diameter D (mm) | Plunger Diameter E (mm) | Plunger Mounting   |          |                     |
|--------------|-------------------------|------------------------|-------------------------------|-------------------------|-------------------------|--------------------|----------|---------------------|
|              |                         |                        |                               |                         |                         | Bolt Circle X (mm) | Thread Y | Thread Depth Z (mm) |
| HL1001       | 89                      | 126                    | 44                            | 70                      | 38                      | 26                 | M4       | 8                   |
| HL2002       | 99                      | 144                    | 60                            | 92                      | 51                      | 40                 | M5       | 8                   |
| HL3002       | 117                     | 179                    | 73                            | 102                     | 64                      | 40                 | M5       | 8                   |
| HL5002       | 122                     | 182                    | 90                            | 124                     | 70                      | 40                 | M5       | 8                   |
| HL10002      | 141                     | 198                    | 127                           | 165                     | 90                      | 56                 | M8       | 3                   |

## Low Profile Cylinders Combo Kit

### Low Clearance Lifting



▲ Press truck wheel from nave with the mini-press. Fits between the chassis and wheel.

- Compact design for use in confined spaces.
- Ideal for pushing applications.
- Plunger wiper helps seal out dirt and contamination.
- Return spring ensures a quick retraction and extends the life of the spring.
- Industrial hard chrome plated plunger helps prevent scratching and corrosion.
- Includes stackable 1", 2", and 3" aluminum adapters that conveniently snap into the base of the plunger.
- Includes high flow CH38F coupler and dust cap.
- Convenient storage case.

HL Series



**Safety Practices**  
 Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Related Product: Hoses**  
 We offer a variety of hoses, fittings, lengths and materials. pg 73

**High-Flow Couplers**  
 High-Flow Coupler: CH38F is included on all models (except where specified).

| Cylinder Capacity  | Model Number | Stroke (mm) | Cylinder Effective Area (cm <sup>2</sup> ) | Collapsed Height (mm) | Extended Height w/o adapter (mm) | Internal Pressure at Capacity (BAR) | Cylinder Housing Diameter (mm) | Plunger Diameter (mm) | Weight (kg) |
|--------------------|--------------|-------------|--|-----------------------|----------------------------------|-------------------------------------|--------------------------------|-----------------------|-------------|
| 10 Tonne<br>106 kN | HL1001D      | 38          | 15.16                                      | 88                    | 126                              | 0.59                                | 70                             | 38                    | 4.5         |

### Bolt-On Tilt Saddles

Bolt-on tilt saddles are designed specifically for use with the HL Series Low Profile Cylinders and Low Profile Cylinder Kit. These saddles provide a max. 5° tilt for uneven loads.

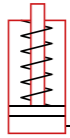
| Model Number | Height (mm) | Description                       |
|--------------|-------------|-----------------------------------|
| SDTL10       | 21          | HL1001 Cylinder Kit               |
| SDTL50       | 29          | HL2002 / HL3002 / HL5002 Cylinder |
| SDTL100      | 35          | HL10002 Cylinder                  |



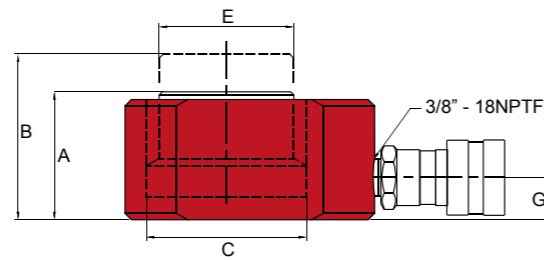
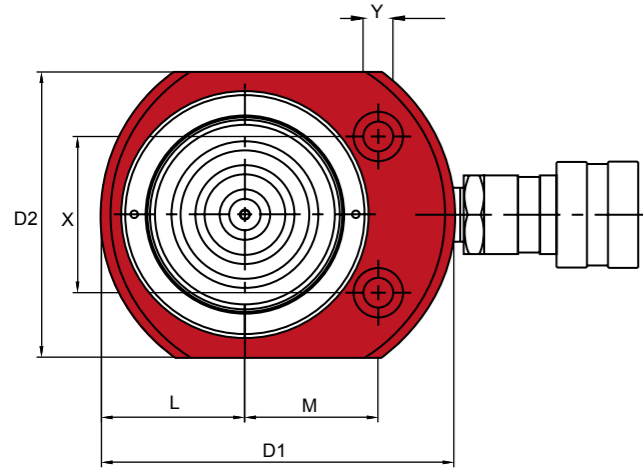
## Flat Body Cylinders

HF series - Extremely Low Lifting

- Extremely low collapsed height for applications with minimal clearance at the lift point.
- Maximum working pressure 10,000 psi / 700 bar.
- HF0503 and HF0503B include a 3/8" regular flow coupler (CR38F).



HF Series



HF5006 in the collapsed position ready to lift a load with a PA1500 foot pump.



| Cylinder Capacity   | Stroke (mm) | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Weight (kg) |
|---------------------|-------------|--------------|--|-------------------|-------------|
| 5 Tonne / 49 kN     | 16          | HF0500       | 7.1  | 11                | 0.9         |
| 5 Tonne / 49 kN     | 6           | HF0503*      | 7.1  | 4                 | 0.6         |
| 10 Tonne / 104 kN   | 11          | HF1005       | 15.2                                       | 17                | 1.5         |
| 20 Tonne / 194 kN   | 11          | HF2005       | 28.3                                       | 31                | 2.7         |
| 30 Tonne / 288 kN   | 13          | HF3005       | 41.9                                       | 54                | 4.4         |
| 45 Tonne / 437 kN   | 16          | HF5006       | 63.6                                       | 102               | 6.8         |
| 75 Tonne / 726 kN   | 16          | HF7506       | 103.9                                      | 166               | 11.5        |
| 90 Tonne / 870 kN   | 16          | HF10006      | 126.7                                      | 203               | 14.3        |
| 150 Tonne / 1359 kN | 16          | HF15006      | 197.9                                      | 316               | 24.2        |

| Model Number | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore Dia. C (mm) | Outside Dia. D1 x D2 D (mm) | Plunger Dia. E (mm) | Base to Inlet Port G (mm) | Plunger to Base L (mm) | Plunger to Mtg. Hole M (mm) | Hole Pitch X (mm) | Hole Dia. Y (mm) | Counter Bore Dia. (mm) | Counter Bore Depth (mm) |
|--------------|-------------------------|------------------------|---------------------------|-----------------------------|---------------------|---------------------------|------------------------|-----------------------------|-------------------|------------------|------------------------|-------------------------|
| HF0500       | 41                      | 57                     | 30                        | 60x40                       | 25                  | 19                        | 20                     | 22                          | 28                | 5                | 10                     | 6                       |
| HF0503*      | 32                      | 38                     | 30                        | 61x41                       | 25                  | 18                        | 20                     | 22                          | 28                | 5                | 8                      | 4                       |
| HF1005       | 43                      | 54                     | 44                        | 84x56                       | 38                  | 20                        | 28                     | 34                          | 37                | 7                | 11                     | 8                       |
| HF2005       | 51                      | 62                     | 60                        | 102x76                      | 51                  | 19                        | 39                     | 40                          | 49                | 10               | 15                     | 10                      |
| HF3005       | 59                      | 72                     | 73                        | 117x97                      | 64                  | 20                        | 48                     | 44                          | 52                | 10               | 16                     | 11                      |
| HF5006       | 67                      | 83                     | 90                        | 140x114                     | 70                  | 20                        | 57                     | 54                          | 67                | 11               | 19                     | 13                      |
| HF7506       | 80                      | 96                     | 115                       | 165x140                     | 90                  | 20                        | 70                     | 67                          | 76                | 13               | 21                     | 14                      |
| HF10006      | 86                      | 102                    | 127                       | 177x152                     | 90                  | 20                        | 76                     | 75                          | 76                | 13               | 21                     | 14                      |
| HF15006      | 100                     | 116                    | 159                       | 215x190                     | 118                 | 24                        | 3.75                   | 95                          | 117               | 13               | 21                     | 14                      |

\*HF0503 is fitted with the CR38F

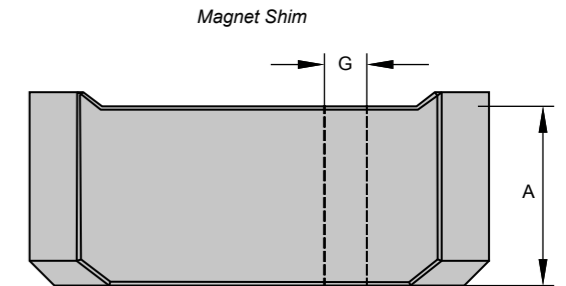
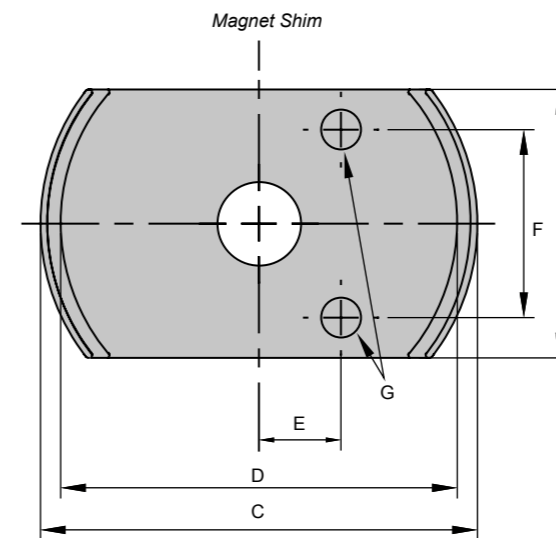
## Flat Body Cylinder Kits

HF Series - Kits

- Various height stackable magnetic adapters eliminate dangerous cribbing.
- Convenient carrying case.
- Magnetic adapters are stackable.
- U.S. Patent No.7,237,762 B2.



HF Series



**Safety Practices**  
 Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

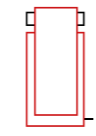
**High-Flow Couplers**  
 High-Flow Coupler: CH38F is included on all models (except where specified)

| Cylinder Capacity  | Stroke (mm) | Model Number | Cylinder Model | Oil Capacity (cc) | Collapsed Height (mm) | Weight (kg) | Adapter Dimensions |        |        |        |        |        |        |
|--------------------|-------------|--------------|----------------|-------------------|-----------------------|-------------|--------------------|--------|--------|--------|--------|--------|--------|
|                    |             |              |                |                   |                       |             | A (mm)             | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) |
| 5 Tonne<br>49 kN   | 6           | HF0503B**    | HF0503         | 4                 | 32                    | 2.5         | 4                  | 41     | 65     | 59     | 12     | 28     | 6      |
|                    |             |              |                |                   |                       |             | 11                 | 41     | 65     | 59     | 12     | 28     | 6      |
|                    |             |              |                |                   |                       |             | 23                 | 41     | 65     | 59     | 12     | 28     | 6      |
| 10 Tonne<br>104 kN | 11          | HF1005B      | HF1005         | 17                | 43                    | 4.2         | 10                 | 56     | 90     | 82     | 21     | 37     | 7      |
|                    |             |              |                |                   |                       |             | 40                 | 56     | 90     | 82     | -      | -      | -      |
| 20 Tonne<br>194 kN | 11          | HF2005B      | HF2005         | 31                | 51                    | 6.8         | 10                 | 76     | 108    | 100    | 27     | 49     | 10     |
|                    |             |              |                |                   |                       |             | 40                 | 76     | 108    | 100    | -      | -      | -      |
| 30 Tonne<br>288 kN | 13          | HF3005B      | HF3005         | 54                | 59                    | 9.5         | 10                 | 95     | 121    | 113    | 34     | 52     | 10     |
|                    |             |              |                |                   |                       |             | 40                 | 95     | 121    | 113    | -      | -      | -      |
| 45 Tonne<br>437 kN | 16          | HF5006B      | HF5006         | 102               | 67                    | 14.7        | 10                 | 114    | 150    | 141    | 41     | 67     | 11     |
|                    |             |              |                |                   |                       |             | 40                 | 114    | 150    | 141    | -      | -      | -      |

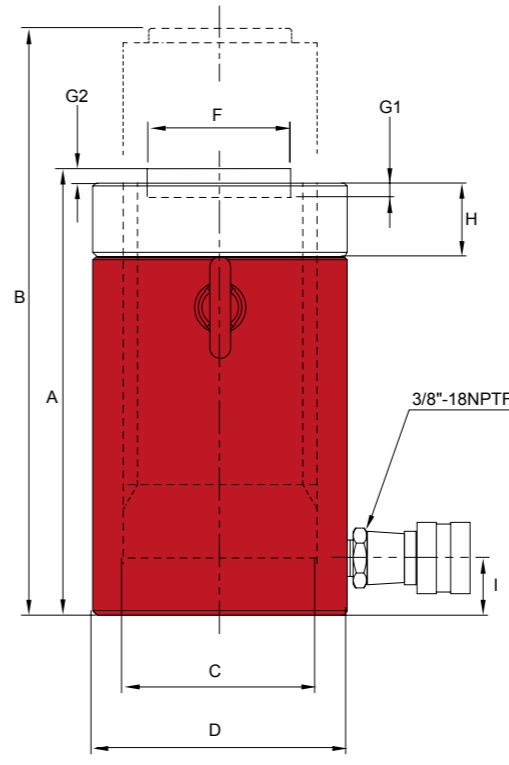
\*\*HF0503B is fitted with the coupler CR38F

# Lock Nut Cylinders

**HLN Series - Heavy Lifting with Mechanical Lock Nut**



- Capacity:**  
50 - 300 Tonnes
- Stroke:**  
50 - 300 mm
- Max. Operating Pressure:**  
700 BAR
- Min. - Max. Height:**  
165 - 845 mm  
10% sideload @ 80% capacity



**HLN Series**

**Safety Color Band**

BVA Lock nut cylinders are equipped with a yellow safety band. Do not extend the ram beyond this point as it may result in a loss of hydraulic oil and damage to the cylinder and/or load.

**80% Safety Practices**

Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

- Single acting cylinder with mechanical safety lock nut.
- Designed to support loads without hydraulic pressure.
- Overflow port prevents cylinders from over travel.
- Load return.
- Solid steel cylinder body.
- Electroless nickel plated plunger to resist corrosion and rust.
- Maximum working pressure: 10.000 psi / 700 bar.

**Optional Tilt Saddles**

|        |   |                          |
|--------|---|--------------------------|
| SDT55  | → | HLN55, HLN100 Cylinders  |
| SDT200 | → | HLN150, HLN200 Cylinders |
| SDT250 | → | HLN250                   |
| SDT300 | → | HLN300                   |

Saddles tilt to a 5° max to adjust to the load.

(42) HLN5508 lock nut cylinders lifting the Jordan Bridge in Chesapeake, VA.



| Cylinder Capacity    | Stroke (mm) | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Weight (kg) |
|----------------------|-------------|--------------|--|-------------------|-------------|
| 50 Tonne<br>487 kN   | 50          | HLN5502      | 70.9                                       | 355               | 15.4        |
|                      | 100         | HLN5504      | 70.9                                       | 709               | 20.4        |
|                      | 150         | HLN5506      | 70.9                                       | 1064              | 24.9        |
|                      | 200         | HLN5508      | 70.9                                       | 1418              | 29.9        |
|                      | 250         | HLN5510      | 70.9                                       | 1773              | 34.9        |
|                      | 300         | HLN5512      | 70.9                                       | 2127              | 39.5        |
| 100 Tonne<br>911 kN  | 50          | HLN10002     | 132.7                                      | 664               | 30.4        |
|                      | 100         | HLN10004     | 132.7                                      | 1327              | 39.0        |
|                      | 150         | HLN10006     | 132.7                                      | 1991              | 47.2        |
|                      | 200         | HLN10008     | 132.7                                      | 2654              | 55.8        |
|                      | 250         | HLN10010     | 132.7                                      | 3318              | 64.0        |
|                      | 300         | HLN10012     | 132.7                                      | 3981              | 72.6        |
| 150 Tonne<br>1380 kN | 50          | HLN15002     | 201  | 1006              | 52.6        |
|                      | 100         | HLN15004     | 201  | 2012              | 65.8        |
|                      | 150         | HLN15006     | 201  | 3018              | 78.9        |
|                      | 200         | HLN15008     | 201  | 4019              | 91.6        |
|                      | 250         | HLN15010     | 201  | 5025              | 104.8       |
|                      | 300         | HLN15012     | 201  | 6031              | 117.5       |
| 200 Tonne<br>1816 kN | 50          | HLN20002     | 264.5                                      | 1322              | 82.1        |
|                      | 100         | HLN20004     | 264.5                                      | 2645              | 98.9        |
|                      | 150         | HLN20006     | 264.5                                      | 3966              | 116.1       |
|                      | 200         | HLN20008     | 264.5                                      | 5293              | 132.9       |
|                      | 250         | HLN20010     | 264.5                                      | 6612              | 150.1       |
|                      | 300         | HLN20012     | 264.5                                      | 7934              | 166.9       |
| 250 Tonne<br>2493 kN | 50          | HLN25002     | 363.1                                      | 1815              | 114.8       |
|                      | 150         | HLN25006     | 363.1                                      | 5446              | 161.5       |
|                      | 300         | HLN25012     | 363.1                                      | 10891             | 231.3       |
| 300 Tonne<br>3119 kN | 50          | HLN30002     | 454.3                                      | 2271              | 171.9       |
|                      | 150         | HLN30006     | 454.3                                      | 6814              | 231.3       |
|                      | 300         | HLN30012     | 454.3                                      | 13628             | 320.2       |

| Model Number | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore Diameter C (mm) | Outside Diameter D (mm) | Saddle Diameter F (mm) | Depth of Plunger Hole G1 (mm) | Saddle Protrusion From Plunger G2 (mm) | Lock Nut Length H (mm) | Base to Inlet Port I (mm) |
|--------------|-------------------------|------------------------|-------------------------------|-------------------------|------------------------|-------------------------------|--|------------------------|---------------------------|
| HLN5502      | 165                     | 213                    | 94                            | 124                     | 71                     | 13                            | 2                                      | 36                     | 28                        |
| HLN5504      | 213                     | 315                    | 94                            | 124                     | 71                     | 13                            | 2                                      | 36                     | 28                        |
| HLN5506      | 264                     | 414                    | 94                            | 124                     | 71                     | 13                            | 2                                      | 36                     | 28                        |
| HLN5508      | 315                     | 513                    | 94                            | 124                     | 71                     | 13                            | 2                                      | 36                     | 28                        |
| HLN5510      | 363                     | 615                    | 94                            | 124                     | 71                     | 13                            | 2                                      | 36                     | 28                        |
| HLN5512      | 414                     | 714                    | 94                            | 124                     | 71                     | 13                            | 2                                      | 36                     | 28                        |
| HLN10002     | 188                     | 236                    | 130                           | 165                     | 71                     | 13                            | 2                                      | 46                     | 28                        |
| HLN10004     | 236                     | 338                    | 130                           | 165                     | 71                     | 13                            | 2                                      | 46                     | 28                        |
| HLN10006     | 287                     | 437                    | 130                           | 165                     | 71                     | 13                            | 2                                      | 46                     | 28                        |
| HLN10008     | 338                     | 536                    | 130                           | 165                     | 71                     | 13                            | 2                                      | 46                     | 28                        |
| HLN10010     | 386                     | 638                    | 130                           | 165                     | 71                     | 13                            | 2                                      | 46                     | 28                        |
| HLN10012     | 437                     | 737                    | 130                           | 165                     | 71                     | 13                            | 2                                      | 46                     | 28                        |
| HLN15002     | 209                     | 259                    | 160                           | 205                     | 130                    | 25                            | 2                                      | 44                     | 39                        |
| HLN15004     | 259                     | 359                    | 160                           | 205                     | 130                    | 25                            | 2                                      | 44                     | 39                        |
| HLN15006     | 309                     | 459                    | 160                           | 205                     | 130                    | 25                            | 2                                      | 44                     | 39                        |
| HLN15008     | 359                     | 559                    | 160                           | 205                     | 130                    | 25                            | 2                                      | 44                     | 39                        |
| HLN15010     | 409                     | 659                    | 160                           | 205                     | 130                    | 25                            | 2                                      | 44                     | 39                        |
| HLN15012     | 459                     | 759                    | 160                           | 205                     | 130                    | 25                            | 2                                      | 44                     | 39                        |
| HLN20002     | 243                     | 292                    | 183                           | 235                     | 130                    | 25                            | 2                                      | 50                     | 50                        |
| HLN20004     | 293                     | 393                    | 183                           | 235                     | 130                    | 25                            | 2                                      | 50                     | 50                        |
| HLN20006     | 343                     | 495                    | 183                           | 235                     | 130                    | 25                            | 2                                      | 50                     | 50                        |
| HLN20008     | 394                     | 594                    | 183                           | 235                     | 130                    | 25                            | 2                                      | 50                     | 50                        |
| HLN20010     | 442                     | 693                    | 183                           | 235                     | 130                    | 25                            | 2                                      | 50                     | 50                        |
| HLN20012     | 493                     | 793                    | 183                           | 235                     | 130                    | 25                            | 2                                      | 50                     | 50                        |
| HLN25002     | 249                     | 299                    | 215                           | 275                     | 150                    | 25                            | 2                                      | 56                     | 50                        |
| HLN25006     | 349                     | 499                    | 215                           | 275                     | 150                    | 25                            | 2                                      | 56                     | 50                        |
| HLN25012     | 499                     | 799                    | 215                           | 275                     | 150                    | 25                            | 2                                      | 56                     | 50                        |
| HLN30002     | 295                     | 345                    | 241                           | 310                     | 139                    | 25                            | 5                                      | 60                     | 59                        |
| HLN30006     | 395                     | 545                    | 241                           | 310                     | 139                    | 25                            | 5                                      | 60                     | 59                        |
| HLN30012     | 545                     | 845                    | 241                           | 310                     | 139                    | 25                            | 5                                      | 60                     | 59                        |

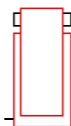
- H
- HD
- HL
- HF
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- HLNF
- HG
- HDG
- HC
- HDC
- HU
- HDU
- HULN
- HUC
- HUDC
- HT
- HP
- HPD
- Cylinder accessories



## Low Profile Lock Nut Cylinders

HLNF Series - Low Clearance Lifting with Mechanical Lock Nut

- Single acting cylinder with mechanical safety lock nut.
- Designed to support loads without hydraulic pressure.
- Low profile for confined spaces.
- 5° tilting saddle is standard.
- Maximum working pressure: 10,000 psi/700 bar.
- Equipped with CH38F high flow coupler.
- Load Return.
- Able to withstand 10% Side load @ 80% stroke



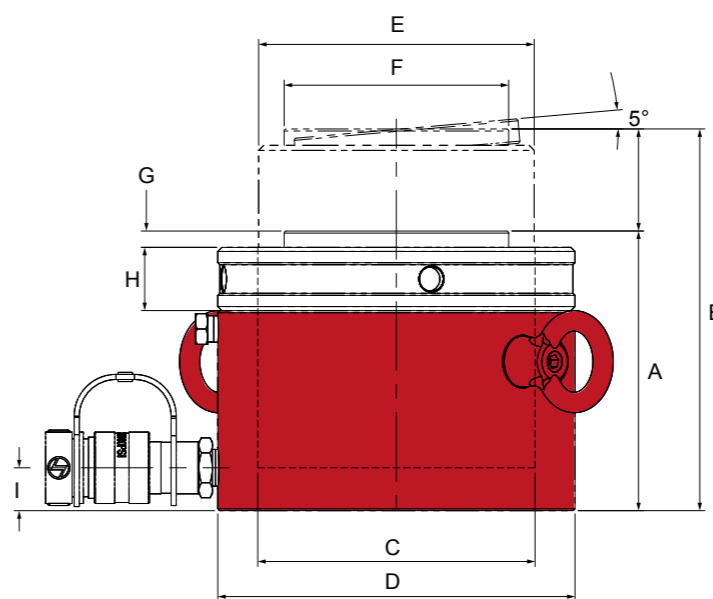
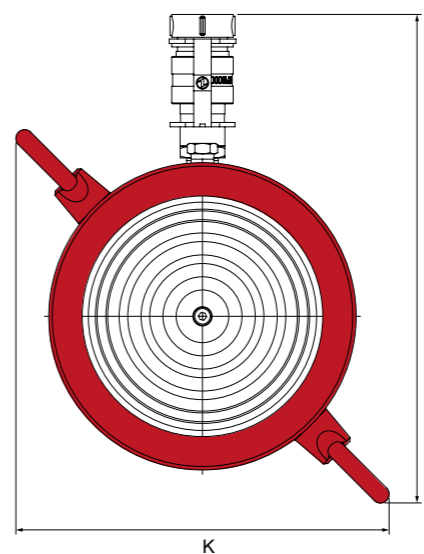
**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. 71 pg

**Safety Color Band**  
BVA Lock nut cylinders are equipped with a yellow safety band. Do not extend the ram beyond this point as it may result in a loss of hydraulic oil and damage to the cylinder and/or load.

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. 102 pg



| Cylinder Capacity    | Stroke (mm) | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Weight (kg) |
|----------------------|-------------|--------------|--|-------------------|-------------|
| 60 Tonne<br>594 kN   | 50          | HLNF6002     | 86.6                                       | 433               | 14.2        |
| 100 Tonne<br>995 kN  | 50          | HLNF10002    | 144.9                                      | 725               | 24.5        |
| 160 Tonne<br>1573 kN | 45          | HLNF16002    | 229.1                                      | 1031              | 41.3        |
| 200 Tonne<br>1947 kN | 45          | HLNF20002    | 283.6                                      | 1276              | 53.8        |
| 250 Tonne<br>2493 kN | 45          | HLNF25002    | 363.1                                      | 1634              | 70.1        |
| 400 Tonne<br>3844 kN | 45          | HLNF40002    | 559.9                                      | 2519.6            | 128.9       |



HLNF Series

**Safety Color Band**  
BVA Lock nut cylinders are equipped with a yellow safety band. Do not extend the ram beyond this point as it may result in a loss of hydraulic oil and damage to the cylinder and/or load.

**Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products. 80%

| Model Number | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore Dia. C (mm) | Outside Dia. D (mm) | Plunger Outside Thread E | Saddle Dia. F (mm) | Saddle Protrusion From Plunger G (mm) | Lock Nut Length H (mm) | Base to Inlet Port I (mm) | Coupler to Eyelet J (mm) | Eyelet to Eyelet K (mm) |
|--------------|-------------------------|------------------------|---------------------------|---------------------|--------------------------|--------------------|---------------------------------------|------------------------|---------------------------|--------------------------|-------------------------|
| HLNF6002     | 125                     | 175                    | 105                       | 140                 | TW105-4N                 | 82                 | 6                                     | 28                     | 19                        | 248                      | 188                     |
| HLNF10002    | 137                     | 187                    | 136                       | 175                 | TW135-4N                 | 110                | 8                                     | 31                     | 21                        | 278                      | 213                     |
| HLNF16002    | 148                     | 193                    | 171                       | 220                 | TW170-4N                 | 148                | 9                                     | 40                     | 27                        | 316                      | 244                     |
| HLNF20002    | 155                     | 200                    | 190                       | 245                 | TW190-4N                 | 160                | 10                                    | 43                     | 30                        | 338                      | 262                     |
| HLNF25002    | 159                     | 204                    | 215                       | 275                 | TW215-4N                 | 185                | 11                                    | 44                     | 32                        | 363                      | 283                     |
| HLNF40002    | 178                     | 223                    | 267                       | 350                 | TR267-6                  | 250                | 11                                    | 55                     | 37                        | -                        | 454                     |

H  
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HF  
HLN  
**HLNF**  
HG  
HDG  
HC  
HDC  
HU  
HDU  
HULN  
HUC  
HUDC  
HT  
HP  
HPD  
Cylinder accessories

# High Tonnage Single Acting Cylinders

HG series - Heavy Lifting, Load Return



### Capacity:

95 - 1000 Tonnes

### Stroke:

50 - 300 mm

### Max. Operating Pressure:

700 BAR

### Min. - Max. Height:

182 - 1114 mm  
10% side load @ max stroke

**Flow Control Valves**  
Control the speed of your cylinder by adding a flow control valve.  
pg 74

**Related Product: Hoses**  
We offer a variety of hoses, fittings, lengths and materials.  
pg 73

**Gas/Diesel Engine Pumps**  
These HDG cylinders pair up well with a Gas or Diesel Engine pump. We offer a variety of different flow rates, motor sizes and reservoir sizes on our gas/diesel engine pumps. Contact your local BVA dealer for more details.

- Gas engine pump will provide 700 BAR hydraulic force at remote locations.
- Industrial grade 5.5 hp. (4.1 kN) Honda gas engine or 4.6 hp. (3.5 kN) HATZ diesel engine.
- Ideal for applications where electricity isn't easily accessible.
- Two speed pump designed for rapid cylinder advance.
- Gas pump features a sturdy protective roll cage for use in the toughest environments.
- Optional electric start with Diesel Engine.

**Electric Motor Pumps**  
These HG cylinders pair up well with Electric Motor pumps. We offer a variety of different flow rates and motor sizes. Contact your local BVA dealer for more details.

- Meets OSHA regulations for sound (80dBA).
- Two speed pump designed for rapid cylinder advance.
- Internal filter screens contamination to prevent pump damage.
- All units are wired as 230 VAC 50 Hz; Optional wiring 120 VAC 50Hz.
- 100% Duty Cycle TEFC motors.
- All hand pendants are wired at 24VAC for safety.
- Full load starting capability.

## Quick Reference Guide

| Cylinder Capacity       | Stroke (mm) | Model Number | Collapsed Height (mm) | Oil Capacity (cc) | Weight (kg) |
|-------------------------|-------------|--------------|-----------------------|-------------------|-------------|
| 95 Tonne<br>911 kN      | 50          | HG10002      | 182                   | 664               | 27.7        |
|                         | 100         | HG10004      | 232                   | 1327              | 33.6        |
|                         | 150         | HG10006      | 282                   | 1991              | 39.5        |
|                         | 200         | HG10008      | 332                   | 2655              | 45.4        |
|                         | 250         | HG10010      | 382                   | 3318              | 51.7        |
| 150 Tonne<br>1348 kN    | 300         | HG10012      | 432                   | 3982              | 57.6        |
|                         | 50          | HG15002      | 196                   | 981               | 46.3        |
|                         | 100         | HG15004      | 246                   | 1963              | 55.3        |
|                         | 150         | HG15006      | 296                   | 2978              | 64.4        |
|                         | 200         | HG15008      | 346                   | 3926              | 73.5        |
| 200 Tonne<br>1815 kN    | 250         | HG15010      | 396                   | 4907              | 82.1        |
|                         | 300         | HG15012      | 446                   | 5889              | 91.6        |
|                         | 50          | HG20002      | 216                   | 1322              | 54.9        |
|                         | 150         | HG20006      | 316                   | 3989              | 91.2        |
|                         | 200         | HG20008      | 366                   | 5289              | 109.8       |
| 300 Tonne*<br>3132 kN   | 300         | HG20012      | 466                   | 7977              | 146.1       |
|                         | 50          | HG30002      | 312                   | 2281              | 184.2       |
|                         | 150         | HG30006      | 412                   | 6843              | 231.8       |
| 400 Tonne*<br>3844 kN   | 300         | HG30012      | 562                   | 13685             | 303.0       |
|                         | 50          | HG40002      | 374                   | 2800              | 269.9       |
| 500 Tonne*<br>5015 kN   | 150         | HG40006      | 474                   | 8399              | 330.2       |
|                         | 300         | HG40012      | 625                   | 17077             | 420.9       |
|                         | 50          | HG50002      | 419                   | 3653              | 401.0       |
| 600 Tonne*<br>5871 kN   | 150         | HG50006      | 519                   | 10959             | 479.9       |
|                         | 300         | HG50012      | 669                   | 21919             | 599.2       |
|                         | 50          | HG60002      | 429                   | 4277              | 474.0       |
| 800 Tonne*<br>8075 kN   | 150         | HG60006      | 529                   | 12829             | 565.2       |
|                         | 250         | HG60010      | 629                   | 21383             | 655.6       |
|                         | 300         | HG60012      | 679                   | 25662             | 700.8       |
| 1000 Tonne*<br>10062 kN | 50          | HG80002      | 474                   | 5881              | 741.2       |
|                         | 150         | HG80006      | 574                   | 17649             | 868.2       |
|                         | 300         | HG80012      | 724                   | 35281             | 1057.8      |
| 1000 Tonne*<br>10062 kN | 50          | HG100002     | 564                   | 7329              | 1061.9      |
|                         | 150         | HG100006     | 664                   | 21991             | 1212.9      |
|                         | 300         | HG100012     | 814                   | 43966             | 1438.8      |

\*Available on request: no stock item



### HG Series

**80% Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Optional Tilt-Saddles**  
Saddles tilt to a 5% maximum to adjust to the load. View our cylinder accessories page to figure out what saddle best fits these cylinders.  
pg 45

**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need.  
pg 71

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared.  
pg 102

**High-Flow Couplers**  
High-Flow Coupler: CH38F is included on all models (except where specified).

H

HD

HL

HF

HLN

HLNF

HG

HDG

HC

HDC

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HT

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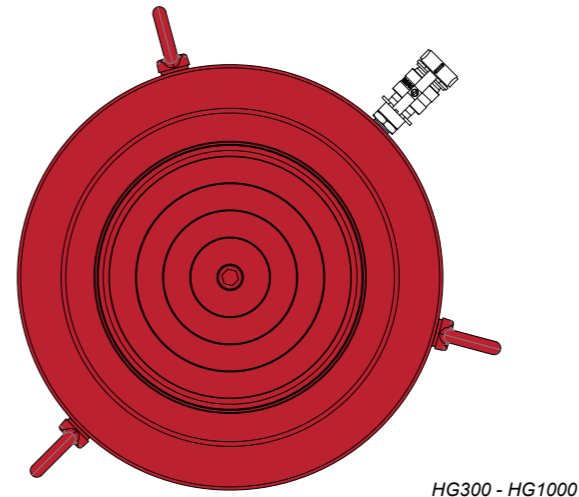
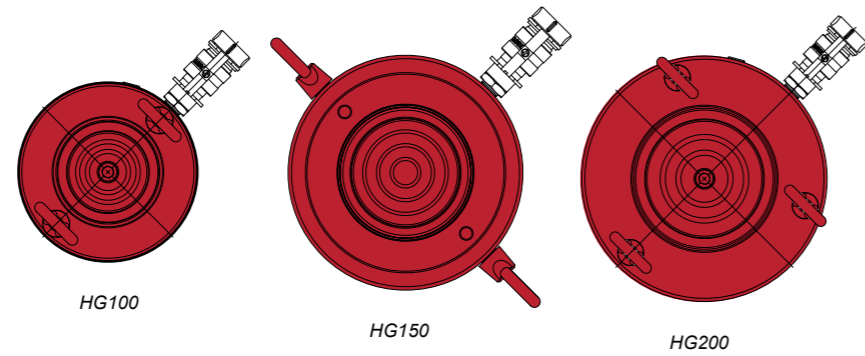
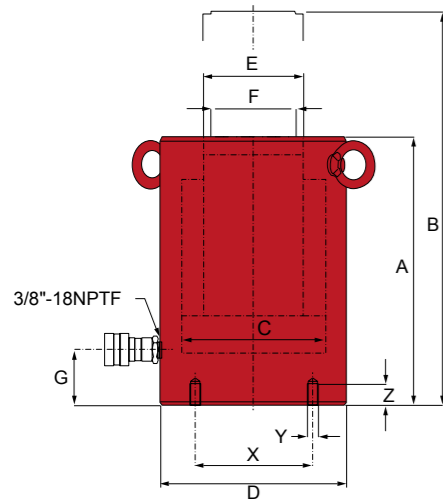
HPD

Cylinder accessories



# High Tonnage Single Acting Cylinders

HG Series - Heavy Lifting, Load Return



HG Series

**80%** **Safety Practices**

Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Optional Tilt-Saddles**

Saddles tilt to a 5% maximum to adjust to the load. View our cylinder accessories page to figure out what saddle best fits these cylinders. pg 45

**High-Flow Couplers**

High-Flow Coupler: CH38F is included on all models (except where specified).

**Related Product: Gauges**

Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. pg 71

**Safety Instructions**

Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. pg 102

| Cylinder Capacity       | Stroke (mm) | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Weight (kg) |
|-------------------------|-------------|--------------|--|-------------------|-------------|
| 95 Tonne<br>911 kN      | 50          | HG10002      | 132.7                                      | 664               | 27.7        |
|                         | 100         | HG10004      | 132.7                                      | 1327              | 33.6        |
|                         | 150         | HG10006      | 132.7                                      | 1991              | 39.5        |
|                         | 200         | HG10008      | 132.7                                      | 2655              | 45.4        |
|                         | 250         | HG10010      | 132.7                                      | 3318              | 51.7        |
|                         | 300         | HG10012      | 132.7                                      | 3982              | 57.6        |
| 150 Tonne<br>1348 kN    | 50          | HG15002      | 196.3                                      | 981               | 46.3        |
|                         | 100         | HG15004      | 196.3                                      | 1963              | 55.3        |
|                         | 150         | HG15006      | 196.3                                      | 2978              | 64.4        |
|                         | 200         | HG15008      | 196.3                                      | 3926              | 73.5        |
|                         | 250         | HG15010      | 196.3                                      | 4907              | 82.1        |
|                         | 300         | HG15012      | 196.3                                      | 5889              | 91.6        |
| 200 Tonne<br>1815 kN    | 50          | HG20002      | 264.4                                      | 1322              | 54.9        |
|                         | 150         | HG20006      | 264.4                                      | 3989              | 91.2        |
|                         | 200         | HG20008      | 264.4                                      | 5289              | 109.8       |
|                         | 300         | HG20012      | 264.4                                      | 7977              | 146.1       |
| 300 Tonne*<br>3132 kN   | 50          | HG30002      | 456.2                                      | 2281              | 184.2       |
|                         | 150         | HG30006      | 456.2                                      | 6843              | 231.8       |
|                         | 300         | HG30012      | 456.2                                      | 13685             | 303.0       |
| 400 Tonne*<br>3844 kN   | 50          | HG40002      | 559.9                                      | 2800              | 269.9       |
|                         | 150         | HG40006      | 559.9                                      | 8399              | 330.2       |
|                         | 300         | HG40012      | 559.9                                      | 17077             | 420.9       |
| 500 Tonne*<br>5015 kN   | 50          | HG50002      | 730.6                                      | 3653              | 401.0       |
|                         | 150         | HG50006      | 730.6                                      | 10959             | 479.9       |
|                         | 300         | HG50012      | 730.6                                      | 21919             | 599.2       |
| 600 Tonne*<br>5871 kN   | 50          | HG60002      | 855.3                                      | 4277              | 474.0       |
|                         | 150         | HG60006      | 855.3                                      | 12829             | 565.2       |
|                         | 250         | HG60010      | 855.3                                      | 21383             | 655.6       |
|                         | 300         | HG60012      | 855.3                                      | 25662             | 700.8       |
| 800 Tonne*<br>8075 kN   | 50          | HG80002      | 1176.3                                     | 5881              | 741.2       |
|                         | 150         | HG80006      | 1176.3                                     | 17649             | 868.2       |
|                         | 300         | HG80012      | 1176.3                                     | 35281             | 1057.8      |
| 1000 Tonne*<br>10062 kN | 50          | HG100002     | 1465.7                                     | 7329              | 1061.9      |
|                         | 150         | HG100006     | 1465.7                                     | 21991             | 1212.9      |
|                         | 300         | HG100012     | 1465.7                                     | 43966             | 1438.8      |

\* Available on request: no stock item

| Model Number | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore Dia. C (mm) | Outside Dia. D (mm) | Plunger Dia. E (mm) | Saddle Dia. F (mm) | Base To Inlet Port G (mm) | Base Mounting Holes |               |                     |
|--------------|-------------------------|------------------------|---------------------------|---------------------|---------------------|--------------------|---------------------------|---------------------|---------------|---------------------|
|              |                         |                        |                           |                     |                     |                    |                           | Bolt Circle X (mm)  | Thread Size Y | Thread Depth Z (mm) |
| HG10002      | 182                     | 232                    | 130                       | 165                 | 95                  | 75                 | 54                        | 95                  | M12           | 22                  |
| HG10004      | 232                     | 332                    | 130                       | 165                 | 95                  | 75                 | 54                        | 95                  | M12           | 22                  |
| HG10006      | 282                     | 432                    | 130                       | 165                 | 95                  | 75                 | 54                        | 95                  | M12           | 22                  |
| HG10008      | 332                     | 532                    | 130                       | 165                 | 95                  | 75                 | 54                        | 95                  | M12           | 22                  |
| HG10010      | 382                     | 632                    | 130                       | 165                 | 95                  | 75                 | 54                        | 95                  | M12           | 22                  |
| HG10012      | 432                     | 732                    | 130                       | 165                 | 95                  | 75                 | 54                        | 95                  | M12           | 22                  |
| HG15002      | 196                     | 246                    | 158                       | 205                 | 110                 | 94                 | 61                        | 130                 | M12           | 22                  |
| HG15004      | 246                     | 346                    | 158                       | 205                 | 110                 | 94                 | 61                        | 130                 | M12           | 22                  |
| HG15006      | 296                     | 446                    | 158                       | 205                 | 110                 | 94                 | 61                        | 130                 | M12           | 22                  |
| HG15008      | 346                     | 546                    | 158                       | 205                 | 110                 | 94                 | 61                        | 130                 | M12           | 22                  |
| HG15010      | 396                     | 646                    | 158                       | 205                 | 110                 | 94                 | 61                        | 130                 | M12           | 22                  |
| HG15012      | 446                     | 746                    | 158                       | 205                 | 110                 | 94                 | 61                        | 130                 | M12           | 22                  |
| HG20002      | 216                     | 266                    | 183                       | 235                 | 135                 | 113                | 67                        | 165                 | M12           | 20                  |
| HG20006      | 316                     | 466                    | 183                       | 235                 | 135                 | 113                | 67                        | 165                 | M12           | 20                  |
| HG20008      | 366                     | 566                    | 183                       | 235                 | 135                 | 113                | 67                        | 165                 | M12           | 20                  |
| HG20012      | 466                     | 766                    | 183                       | 235                 | 135                 | 113                | 67                        | 165                 | M12           | 20                  |
| HG30002      | 312                     | 362                    | 241                       | 310                 | 197                 | 177                | 101                       | 180                 | M16           | 36                  |
| HG30006      | 412                     | 562                    | 241                       | 310                 | 197                 | 177                | 101                       | 180                 | M16           | 36                  |
| HG30012      | 562                     | 862                    | 241                       | 310                 | 197                 | 177                | 101                       | 180                 | M16           | 36                  |
| HG40002      | 374                     | 424                    | 267                       | 350                 | 216                 | 196                | 114                       | 205                 | M16           | 36                  |
| HG40006      | 474                     | 625                    | 267                       | 350                 | 216                 | 196                | 114                       | 205                 | M16           | 36                  |
| HG40012      | 625                     | 930                    | 267                       | 350                 | 216                 | 196                | 114                       | 205                 | M16           | 36                  |
| HG50002      | 419                     | 469                    | 305                       | 400                 | 248                 | 228                | 114                       | 250                 | M24           | 38                  |
| HG50006      | 519                     | 669                    | 305                       | 400                 | 248                 | 228                | 114                       | 250                 | M24           | 38                  |
| HG50012      | 669                     | 969                    | 305                       | 400                 | 248                 | 228                | 114                       | 250                 | M24           | 38                  |
| HG60002      | 429                     | 479                    | 330                       | 430                 | 267                 | 247                | 114                       | 275                 | M24           | 38                  |
| HG60006      | 529                     | 679                    | 330                       | 430                 | 267                 | 247                | 114                       | 275                 | M24           | 38                  |
| HG60010      | 629                     | 879                    | 330                       | 430                 | 267                 | 247                | 114                       | 275                 | M24           | 38                  |
| HG60012      | 679                     | 979                    | 330                       | 430                 | 267                 | 247                | 114                       | 275                 | M24           | 38                  |
| HG80002      | 474                     | 524                    | 387                       | 505                 | 317                 | 297                | 149                       | 330                 | M24           | 38                  |
| HG80006      | 574                     | 724                    | 387                       | 505                 | 317                 | 297                | 149                       | 330                 | M24           | 38                  |
| HG80012      | 724                     | 1024                   | 387                       | 505                 | 317                 | 297                | 149                       | 330                 | M24           | 38                  |
| HG100002     | 564                     | 614                    | 432                       | 560                 | 343                 | 323                | 174                       | 375                 | M24           | 38                  |
| HG100006     | 664                     | 814                    | 432                       | 560                 | 343                 | 323                | 174                       | 375                 | M24           | 38                  |
| HG100012     | 814                     | 1114                   | 432                       | 560                 | 343                 | 323                | 174                       | 375                 | M24           | 38                  |

# High Tonnage Double Acting Cylinders

HDG Series - Heavy Lifting



### Capacity:

95 - 1000 Tonnes

### Stroke:

50 - 300 mm

### Max. Operating Pressure:

700 BAR

### Min. - Max. Height:

182 - 1114 mm  
Side load 10% @ max stroke

**Flow Control Valves**  
Control the speed of your cylinder by adding a flow control valve. pg 74

**Related Product: Hoses**  
We offer a variety of hoses, fittings, lengths and materials. pg 73

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. pg 102

- Cylinders are burnish rolled creating a smoother finish than honing
- Industrial hard chrome plated plunger prevents scratching and corrosion
- Base mounting holes standard on all models
- Plunger wiper seals out dirt and contamination
- High strength steel construction from gun drilled solid bar
- High flow 3/8" NPTF couplers
- Maximum working pressure: 10,000 psi / 700 bar
- Custom sizes are available upon request

### Gas/Diesel Engine Pumps

These HDG cylinders pair up well with a Gas or Diesel Engine pump. We offer a variety of different flow rates, motor sizes and reservoir sizes on our gas/diesel engine pumps. Contact your local BVA dealer for more details.



- Gas engine pump will provide 700 BAR hydraulic force at remote locations.
- Industrial grade 5.5 hp. (4.1 kN) Honda gas engine or 4.6 hp. (3.5 kN) HATZ diesel engine.
- Ideal for applications where electricity isn't easily accessible.
- Two speed pump designed for rapid cylinder advance.
- Gas pump features a sturdy protective roll cage for use in the toughest environments.
- Optional electric start with Diesel Engine.

### Electric Motor Pumps

These HDG cylinders pair up well with Electric Motor pumps. We offer a variety of different flow rates and motor sizes on our electric motor pumps. Contact your local BVA dealer for more details.



- Meets OSHA regulations for sound (80dBA).
- Two speed pump designed for rapid cylinder advance.
- Internal filter screens contamination to prevent pump damage.
- All units are wired as 240 VAC 50 Hz; Optional wiring: 115VAC 50Hz.
- 100% Duty Cycle TEFC motors.
- All hand pendants are wired at 24VAC for safety.
- Full load starting capability.

## Quick Reference Guide

| Cylinder Capacity            | Stroke (mm) | Model Number | Collapsed Height (mm) | Oil Capacity (cc) | Weight (kg) |
|------------------------------|-------------|--------------|-----------------------|-------------------|-------------|
| 95 Tonne<br>911/419 kN       | 50          | HDG10002     | 182                   | 664               | 27.7        |
|                              | 100         | HDG10004     | 232                   | 1327              | 33.6        |
|                              | 150         | HDG10006     | 282                   | 1991              | 39.5        |
|                              | 200         | HDG10008     | 332                   | 2655              | 45.4        |
|                              | 250         | HDG10010     | 382                   | 3318              | 51.7        |
| 150 Tonne<br>1348/695 kN     | 300         | HDG10012     | 432                   | 3982              | 57.6        |
|                              | 50          | HDG15002     | 196                   | 981               | 46.3        |
|                              | 100         | HDG15004     | 246                   | 1963              | 55.3        |
|                              | 150         | HDG15006     | 296                   | 2978              | 64.4        |
|                              | 200         | HDG15008     | 346                   | 3926              | 73.5        |
| 200 Tonne<br>1816/833 kN     | 250         | HDG15010     | 396                   | 4907              | 82.1        |
|                              | 300         | HDG15012     | 446                   | 5889              | 91.6        |
|                              | 50          | HDG20002     | 216                   | 1322              | 54.9        |
|                              | 150         | HDG20006     | 316                   | 3989              | 91.2        |
|                              | 200         | HDG20008     | 366                   | 5289              | 109.8       |
| 300 Tonne*<br>3132/1039 kN   | 300         | HDG20012     | 466                   | 7977              | 146.1       |
|                              | 50          | HDG30002     | 312                   | 2281              | 184.2       |
|                              | 150         | HDG30006     | 412                   | 6843              | 231.8       |
| 400 Tonne*<br>3844/1352 kN   | 300         | HDG30012     | 562                   | 13685             | 303.0       |
|                              | 50          | HDG40002     | 374                   | 2800              | 269.9       |
|                              | 150         | HDG40006     | 474                   | 8399              | 330.2       |
| 500 Tonne*<br>5016/1700 kN   | 305         | HDG40012     | 625                   | 17077             | 420.9       |
|                              | 50          | HDG50002     | 419                   | 3653              | 401.0       |
|                              | 150         | HDG50006     | 519                   | 10959             | 479.9       |
| 600 Tonne*<br>5871/2028 kN   | 300         | HDG50012     | 669                   | 21919             | 599.2       |
|                              | 50          | HDG60002     | 429                   | 4277              | 474.0       |
|                              | 150         | HDG60006     | 529                   | 12829             | 565.2       |
| 800 Tonne*<br>8073/2657 kN   | 250         | HDG60010     | 629                   | 21383             | 630.0       |
|                              | 300         | HDG60012     | 679                   | 25662             | 700.8       |
|                              | 50          | HDG80002     | 474                   | 5881              | 741.2       |
| 1000 Tonne*<br>10057/3719 kN | 150         | HDG80006     | 574                   | 17649             | 868.2       |
|                              | 300         | HDG80012     | 724                   | 35281             | 1057.8      |
|                              | 50          | HDG100002    | 564                   | 7329              | 1061.9      |
|                              | 150         | HDG100006    | 664                   | 21991             | 1212.9      |
|                              | 300         | HDG100012    | 814                   | 43966             | 1438.8      |

\* Available on request

See next pages (pg.34-35) to view more detailed stats on High Tonnage Double Acting Cylinders.



### HDG Series

**80% Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Optional Tilt-Saddles**  
Saddles tilt to a 5% maximum to adjust to the load. View our cylinder accessories page to figure out what saddle best fits these cylinders. pg 45

**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. pg 71

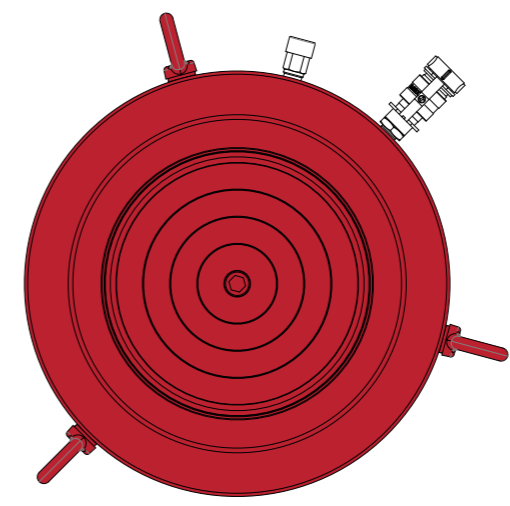
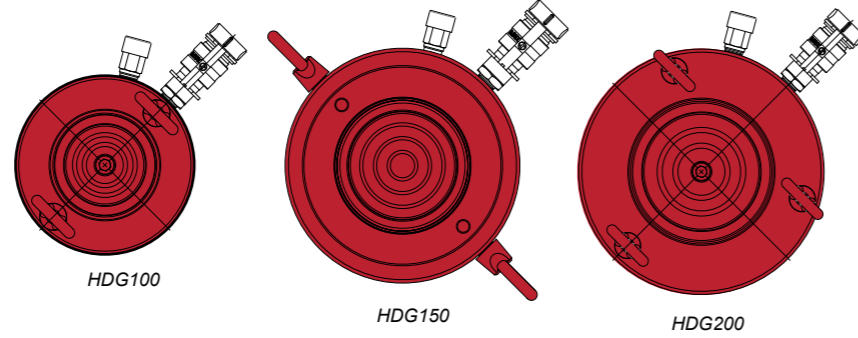
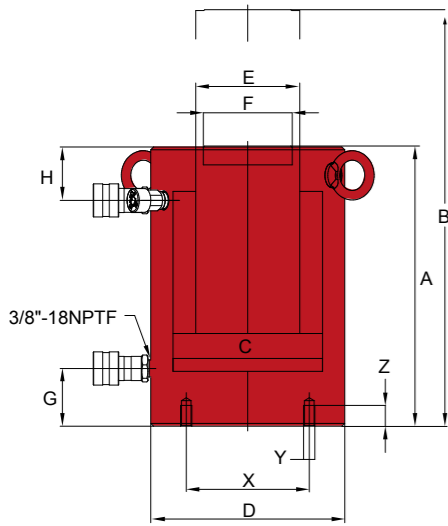
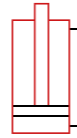
**High-Flow Couplers**  
High-Flow Coupler: CH38F is included on all models (except where specified).

**Relief Valve**  
All double acting cylinders are equipped with a pressure relief valve located next to the retract port. These pressure relief valves help prevent cylinder over pressurization on the return port side of the cylinder.



# High Tonnage Double Acting Cylinders

HDG Series - Heavy Lifting



HDG Series

**80%** **Safety Practices**

Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Relief Valve**

All double acting cylinders are equipped with a pressure relief valve located next to the retract port. These pressure relief valves help prevent cylinder over pressurization on the return port side of the cylinder.

**Optional Tilt-Saddles**

Saddles tilt to a 5% maximum to adjust to the load. View our cylinder accessories page to figure out what saddle best fits these cylinders.

**Safety Instructions**

Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared.

**High-Flow Couplers**

High-Flow Coupler: CH38F is included on all models (except where specified).

| Cylinder Capacity            | Stroke (mm)                | Model Number | Maximum Cylinder Capacity (Tonne) |       | Cylinder Effective Area (cm <sup>2</sup> ) |       | Oil Capacity (cc) |       | Weight (kg) |
|------------------------------|----------------------------|--------------|-----------------------------------|-------|--|-------|-------------------|-------|-------------|
|                              |                            |              | Push                              | Pull  | Push                                       | Pull  | Push              | Pull  |             |
| 95 Tonne<br>911/419 kN       | 50                         | HDG10002     | 92.9                              | 43.3  | 132.7                                      | 61.9  | 664               | 309   | 27.7        |
|                              | 100                        | HDG10004     | 92.9                              | 43.3  | 132.7                                      | 61.9  | 1327              | 618   | 33.6        |
|                              | 150                        | HDG10006     | 92.9                              | 43.3  | 132.7                                      | 61.9  | 1991              | 928   | 39.5        |
|                              | 200                        | HDG10008     | 92.9                              | 43.3  | 132.7                                      | 61.9  | 2655              | 1237  | 45.4        |
|                              | 250                        | HDG10010     | 92.9                              | 43.3  | 132.7                                      | 61.9  | 3318              | 1546  | 51.7        |
| 150 Tonne<br>1348/695 kN     | 50                         | HDG15002     | 137.4                             | 70.9  | 196.3                                      | 101.3 | 981               | 506   | 46.3        |
|                              | 100                        | HDG15004     | 137.4                             | 70.9  | 196.3                                      | 101.3 | 1963              | 1013  | 55.3        |
|                              | 150                        | HDG15006     | 137.4                             | 70.9  | 196.3                                      | 101.3 | 2978              | 1447  | 64.4        |
|                              | 200                        | HDG15008     | 137.4                             | 70.9  | 196.3                                      | 101.3 | 3926              | 2025  | 73.5        |
|                              | 250                        | HDG15010     | 137.4                             | 70.9  | 196.3                                      | 101.3 | 4907              | 2531  | 82.1        |
| 200 Tonne<br>1816/833 kN     | 50                         | HDG20002     | 185.2                             | 84.9  | 264.5                                      | 121.3 | 1322              | 606   | 54.9        |
|                              | 150                        | HDG20006     | 185.2                             | 84.9  | 264.5                                      | 121.3 | 3989              | 1905  | 91.2        |
|                              | 200                        | HDG20008     | 185.2                             | 84.9  | 264.5                                      | 121.3 | 5289              | 2426  | 109.8       |
|                              | 300                        | HDG20012     | 185.2                             | 84.9  | 264.5                                      | 121.3 | 7977              | 3809  | 146.1       |
|                              | 300 Tonne*<br>3132/1039 kN | 50           | HDG30002                          | 319.3 | 106.0                                      | 456.2 | 151.4             | 2281  | 757         |
| 150                          |                            | HDG30006     | 319.3                             | 106.0 | 456.2                                      | 151.4 | 6843              | 2270  | 231.8       |
| 300                          |                            | HDG30012     | 319.3                             | 106.0 | 456.2                                      | 151.4 | 13685             | 4541  | 303.0       |
| 400 Tonne*<br>3844/1352 kN   | 50                         | HDG40002     | 391.9                             | 137.8 | 559.9                                      | 196.9 | 2800              | 967   | 269.9       |
|                              | 150                        | HDG40006     | 391.9                             | 137.8 | 559.9                                      | 196.9 | 8399              | 2902  | 330.2       |
|                              | 305                        | HDG40012     | 391.9                             | 137.8 | 559.9                                      | 196.9 | 17077             | 6004  | 420.9       |
| 500 Tonne*<br>5016/1700 kN   | 50                         | HDG50002     | 511.5                             | 173.4 | 730.7                                      | 247.7 | 3653              | 1238  | 401.0       |
|                              | 150                        | HDG50006     | 511.5                             | 173.4 | 730.7                                      | 247.7 | 10959             | 3713  | 479.9       |
|                              | 300                        | HDG50012     | 511.5                             | 173.4 | 730.7                                      | 247.6 | 21919             | 7427  | 599.2       |
| 600 Tonne*<br>5871/2028 kN   | 50                         | HDG60002     | 598.7                             | 206.8 | 855.3                                      | 295.4 | 4277              | 1477  | 474.0       |
|                              | 150                        | HDG60006     | 598.7                             | 206.8 | 855.3                                      | 295.4 | 12829             | 4431  | 565.2       |
|                              | 250                        | HDG60010     | 598.7                             | 206.8 | 855.3                                      | 295.4 | 19422             | 6643  | 630.0       |
|                              | 300                        | HDG60012     | 598.7                             | 206.8 | 855.3                                      | 295.4 | 25662             | 8862  | 700.8       |
| 800 Tonne*<br>8073/2657 kN   | 50                         | HDG80002     | 823.2                             | 271.0 | 1176                                       | 387.1 | 5881              | 1935  | 741.2       |
|                              | 150                        | HDG80006     | 823.2                             | 271.0 | 1176                                       | 387.1 | 17649             | 5806  | 868.2       |
|                              | 300                        | HDG80012     | 823.2                             | 271.0 | 1176                                       | 387.1 | 35281             | 11611 | 1057.8      |
| 1000 Tonne*<br>10062/3719 kN | 50                         | HDG100002    | 1025.0                            | 379.3 | 1465                                       | 541.8 | 7329              | 2709  | 1061.9      |
|                              | 150                        | HDG100006    | 1025.0                            | 379.3 | 1465                                       | 541.8 | 21991             | 8126  | 1212.9      |
|                              | 300                        | HDG100012    | 1025.0                            | 379.3 | 1465                                       | 541.8 | 43966             | 16252 | 1438.8      |

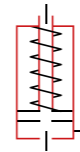
\* Available on request: no stock item

| Model Number | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore Dia. C (mm) | Outside Dia. D (mm) | Plunger Dia. E (mm) | Saddle Dia. F (mm) | Base To Inlet Port G (mm) | Top To Retract Port H (mm) | Base Mounting Holes |             |                     |
|--------------|-------------------------|------------------------|---------------------------|---------------------|---------------------|--------------------|---------------------------|----------------------------|---------------------|-------------|---------------------|
|              |                         |                        |                           |                     |                     |                    |                           |                            | Bolt Circle X (mm)  | Thread Size | Thread Depth Z (mm) |
| HDG10002     | 182                     | 232                    | 130                       | 165                 | 95                  | 75                 | 54                        | 48                         | 95                  | M12         | 22                  |
| HDG10004     | 232                     | 332                    | 130                       | 165                 | 95                  | 75                 | 54                        | 48                         | 95                  | M12         | 22                  |
| HDG10006     | 282                     | 432                    | 130                       | 165                 | 95                  | 75                 | 54                        | 48                         | 95                  | M12         | 22                  |
| HDG10008     | 332                     | 532                    | 130                       | 165                 | 95                  | 75                 | 54                        | 48                         | 95                  | M12         | 22                  |
| HDG10010     | 382                     | 632                    | 130                       | 165                 | 95                  | 75                 | 54                        | 48                         | 95                  | M12         | 22                  |
| HDG10012     | 432                     | 732                    | 130                       | 165                 | 95                  | 75                 | 54                        | 48                         | 95                  | M12         | 22                  |
| HDG15002     | 196                     | 246                    | 158                       | 205                 | 110                 | 94                 | 61                        | 56                         | 130                 | M12         | 22                  |
| HDG15004     | 246                     | 346                    | 158                       | 205                 | 110                 | 94                 | 61                        | 56                         | 130                 | M12         | 22                  |
| HDG15006     | 296                     | 446                    | 158                       | 205                 | 110                 | 94                 | 61                        | 56                         | 130                 | M12         | 22                  |
| HDG15008     | 346                     | 546                    | 158                       | 205                 | 110                 | 94                 | 61                        | 56                         | 130                 | M12         | 22                  |
| HDG15010     | 396                     | 646                    | 158                       | 205                 | 110                 | 94                 | 61                        | 56                         | 130                 | M12         | 22                  |
| HDG15012     | 446                     | 746                    | 158                       | 205                 | 110                 | 94                 | 61                        | 56                         | 130                 | M12         | 22                  |
| HDG20002     | 216                     | 266                    | 183                       | 235                 | 135                 | 113                | 67                        | 56                         | 165                 | M12         | 20                  |
| HDG20006     | 316                     | 466                    | 183                       | 235                 | 135                 | 113                | 67                        | 56                         | 165                 | M12         | 20                  |
| HDG20008     | 366                     | 566                    | 183                       | 235                 | 135                 | 113                | 67                        | 56                         | 165                 | M12         | 20                  |
| HDG20012     | 466                     | 766                    | 183                       | 235                 | 135                 | 113                | 67                        | 56                         | 165                 | M12         | 20                  |
| HDG30002     | 312                     | 362                    | 241                       | 310                 | 197                 | 177                | 101                       | 75                         | 180                 | M16         | 36                  |
| HDG30006     | 412                     | 562                    | 241                       | 310                 | 197                 | 177                | 101                       | 75                         | 180                 | M16         | 36                  |
| HDG30012     | 562                     | 862                    | 241                       | 310                 | 197                 | 177                | 101                       | 75                         | 180                 | M16         | 36                  |
| HDG40002     | 374                     | 424                    | 267                       | 350                 | 216                 | 196                | 114                       | 105                        | 205                 | M16         | 36                  |
| HDG40006     | 474                     | 625                    | 267                       | 350                 | 216                 | 196                | 114                       | 105                        | 205                 | M16         | 36                  |
| HDG40012     | 625                     | 925                    | 267                       | 350                 | 216                 | 196                | 114                       | 105                        | 205                 | M16         | 36                  |
| HDG50002     | 419                     | 469                    | 305                       | 400                 | 248                 | 228                | 114                       | 135                        | 250                 | M24         | 38                  |
| HDG50006     | 519                     | 669                    | 305                       | 400                 | 248                 | 228                | 114                       | 135                        | 250                 | M24         | 38                  |
| HDG50012     | 669                     | 969                    | 305                       | 400                 | 248                 | 228                | 114                       | 135                        | 250                 | M24         | 38                  |
| HDG60002     | 429                     | 479                    | 330                       | 430                 | 267                 | 247                | 114                       | 135                        | 275                 | M24         | 38                  |
| HDG60006     | 529                     | 679                    | 330                       | 430                 | 267                 | 247                | 114                       | 135                        | 275                 | M24         | 38                  |
| HDG60010     | 629                     | 879                    | 330                       | 430                 | 267                 | 247                | 114                       | 135                        | 275                 | M24         | 38                  |
| HDG60012     | 679                     | 979                    | 330                       | 430                 | 267                 | 247                | 114                       | 135                        | 275                 | M24         | 38                  |
| HDG80002     | 474                     | 524                    | 387                       | 505                 | 317                 | 297                | 149                       | 135                        | 330                 | M24         | 38                  |
| HDG80006     | 574                     | 724                    | 387                       | 505                 | 317                 | 297                | 149                       | 135                        | 330                 | M24         | 38                  |
| HDG80012     | 724                     | 1024                   | 387                       | 505                 | 317                 | 297                | 149                       | 135                        | 330                 | M24         | 38                  |
| HDG100002    | 564                     | 614                    | 432                       | 560                 | 343                 | 323                | 174                       | 170                        | 375                 | M24         | 38                  |
| HDG100006    | 664                     | 814                    | 432                       | 560                 | 343                 | 323                | 174                       | 170                        | 375                 | M24         | 38                  |
| HDG100012    | 814                     | 1114                   | 432                       | 560                 | 343                 | 323                | 174                       | 170                        | 375                 | M24         | 38                  |

H  
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HLNF  
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HDG  
HC  
HDC  
HU  
HDU  
HULN  
HUC  
HUDC  
HT  
HP  
HPD  
Cylinder accessories

# Hollow Plunger Cylinders

HC Series



**Capacity:**  
12-100 Tonnes

**Stroke:**  
8 - 155 mm

**Max. Operating Pressure:**  
700 BAR

**Min. - Max. Height:**  
60 - 486 mm



Here is a HC6006T in a pulling application.

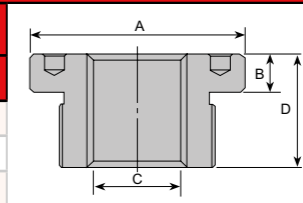


- Ideal for pulling and pushing applications.
- Heavy duty compression spring.
- Dual wipers help prevent contamination.
- Collar thread protector.
- High flow coupler with dust cap.
- XT cylinders do not have internal plunger threads.
- 60 and 100 Tonne models are equipped with carrying handles.

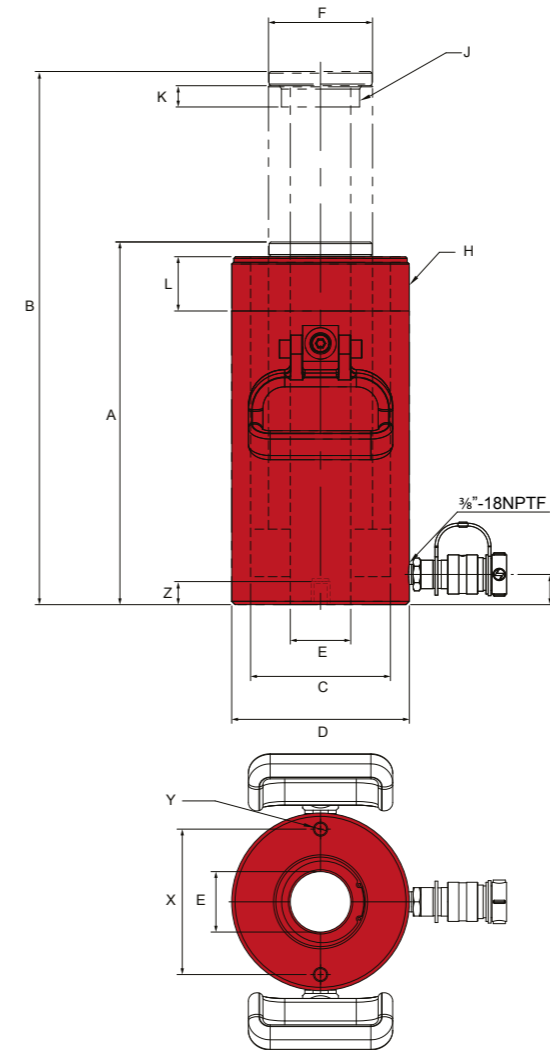
| Cylinder Capacity   | Stroke (mm) | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Weight (kg) | Collapsed Height A (mm) | Extended Height B (mm) | Bore Dia. C (mm) | O.D. D (mm) |
|---------------------|-------------|--------------|--|-------------------|-------------|-------------------------|------------------------|------------------|-------------|
| 12 Tonne<br>129 kN  | 8           | HC1201T      | 18.8                                       | 15                | 1.5         | 60                      | 68                     | 49               | 70          |
|                     | 41          | HC1202       | 18.8                                       | 77                | 2.6         | 121                     | 162                    | 49               | 70          |
|                     | 41          | HC1202XT     | 18.8                                       | 77                | 2.6         | 121                     | 162                    | 49               | 70          |
|                     | 76          | HC1203XT     | 18.8                                       | 143               | 3.9         | 184                     | 260                    | 49               | 70          |
| 20 Tonne<br>217 kN  | 51          | HC2002T      | 31.6                                       | 161               | 7.2         | 162                     | 213                    | 64               | 100         |
|                     | 154         | HC2006T      | 31.6                                       | 487               | 13.4        | 306                     | 460                    | 64               | 100         |
| 30 Tonne<br>280 kN  | 64          | HC3002T      | 40.8                                       | 261               | 10.4        | 179                     | 243                    | 72               | 114         |
|                     | 155         | HC3006T      | 40.8                                       | 634               | 19.5        | 331                     | 486                    | 72               | 114         |
| 60 Tonne<br>578 kN  | 76          | HC6003T*     | 84.2                                       | 641               | 29.8        | 248                     | 324                    | 104              | 159         |
|                     | 152         | HC6006T*     | 84.2                                       | 1282              | 36.8        | 324                     | 477                    | 104              | 159         |
| 100 Tonne<br>980 kN | 76          | HC10003T*    | 142.8                                      | 1087              | 51.4        | 254                     | 330                    | 135              | 213         |

\* Cylinder is fitted with carrying handles.

| Optional threaded hollow saddles |                  |                        |              |    |
|----------------------------------|------------------|------------------------|--------------|----|
| Cylinder Model Number            | Saddle Model Nr. | Saddle Dimensions (mm) |              |    |
|                                  |                  | A                      | B            | C  |
| HC20XXT                          | APS20            | 55                     | 1" - 8UNC    | 10 |
| HC30XXT                          | APS30            | 63                     | 1¼" - 7UNC   | 10 |
| HC60XXT                          | APS60            | 92                     | 1½" - 5,5UNC | 13 |



All HC-cylinders are standard equipped with smooth hollow saddles (except the HC1201T and HC1202)



| Model Number | Plunger     |             |                   |                               | Collar Thread |               | Base to Inlet Port G (mm) | Base Mounting Hole |          |                     |
|--------------|-------------|-------------|-------------------|-------------------------------|---------------|---------------|---------------------------|--------------------|----------|---------------------|
|              | I.D. E (mm) | O.D. F (mm) | Internal Thread J | Internal Thread Length K (mm) | Diameter H    | Length L (mm) |                           | Bolt Circle X (mm) | Thread Y | Thread Depth Z (mm) |
| HC1201T      | 19          | 35          | ¾"-16UN           | 16                            | 2¾"-16N       | 46            | 14                        | 51                 | ¾"-18UNC | 9                   |
| HC1202       | 19          | 35          | ¾"-16UN           | 16                            | 2¾"-16N       | 46            | 15                        | 51                 | ¾"-18UNC | 9                   |
| HC1202XT     | 19          | 35          | -                 | -                             | 2¾"-16N       | 46            | 15                        | 51                 | ¾"-18UNC | 9                   |
| HC1203XT     | 19          | 35          | -                 | -                             | 2¾"-16N       | 46            | 19                        | 51                 | ¾"-18UNC | 9                   |
| HC2002T      | 27          | 55          | 1-⅞"-16UN         | 19                            | 3⅞"-12N       | 38            | 19                        | 83                 | ¾"-16UNC | 9                   |
| HC2006T      | 27          | 55          | 1-⅞"-16UN         | 19                            | 3⅞"-12N       | 38            | 19                        | 83                 | ¾"-16UNC | 9                   |
| HC3002T      | 33          | 63          | 1-13/16"-16UN     | 22                            | 4½"-12N       | 42            | 23                        | 92                 | ¾"-16UNC | 14                  |
| HC3006T      | 33          | 63          | 1-13/16"-16UN     | 22                            | 4½"-12N       | 42            | 23                        | 92                 | ¾"-16UNC | 14                  |
| HC6003T*     | 54          | 93          | 2¾"-16UN          | 19                            | 6¼"-12N       | 49            | 27                        | 130                | ½"-13UNC | 14                  |
| HC6006T*     | 54          | 93          | 2¾"-16UN          | 19                            | 6¼"-12N       | 49            | 27                        | 130                | ½"-13UNC | 14                  |
| HC10003T*    | 79          | 125         | 4"-16UN           | 25                            | 8⅞"-12N       | 60            | 27                        | 178                | ⅝"-11UNC | 19                  |

\* Cylinder is fitted with carrying handles



HC Series

### Safety Practices

**80%** Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Combo Kits** Most cylinders are available in easy to order kits: cylinder, gauge, couplers, hose and pump.

**Related Product: Gauges** Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need.

**Safety Instructions** Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared.

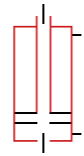
**High-Flow Couplers** High-Flow Coupler: CH38F is included on all models (except where specified).

H  
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HC  
HDC  
HU  
HDU  
HULN  
HUC  
HUDC  
HT  
HP  
HPD  
Cylinder accessories



# Double Acting Hollow Plunger Cylinders

HDC Series



**Capacity:**  
30 - 150 Tonnes

**Stroke:**  
38 - 257 mm

**Max. Operating Pressure:**  
700 BAR

**Min. - Max. Height:**  
165 - 718 mm

**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. pg 71

**Combo Kits**  
Most cylinders are available in easy to order kits: Cylinder, Gauge, Couplers, Hose and Pump. pg 64

**Related Product: Hoses**  
We offer a variety of hoses, fittings, lengths and materials. pg 73

- Ideal for pushing and pulling applications.
- Dual wipers help prevent contamination.
- CH38F - 3/8" high flow female coupler.
- Hard chrome coated plunger prevents rust and corrosion.
- Hardened steel seat.

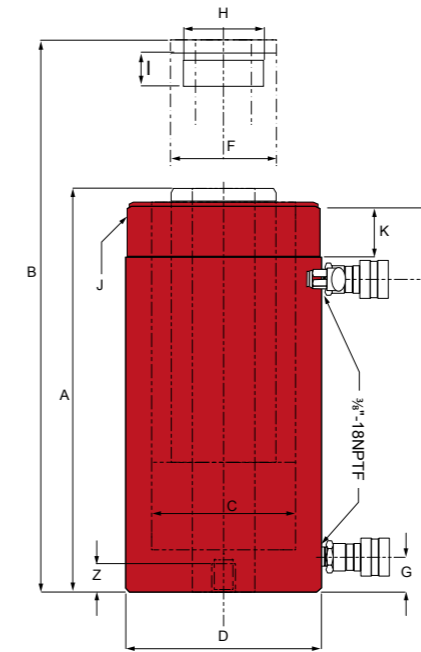
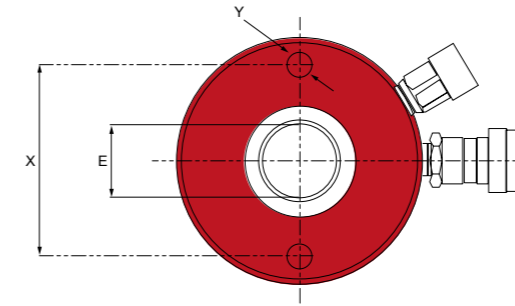
| Cylinder Capacity    |                    | Stroke (mm) | Model Number | Oil Capacity |           | Cylinder Effective area |                         | Col-lapsed Height (mm) | Extended Height (mm) | Center Hole I.D. (mm) | Plunger O.D. (mm) | Weight (kg) |
|----------------------|--------------------|-------------|--------------|--------------|-----------|-------------------------|-------------------------|------------------------|----------------------|-----------------------|-------------------|-------------|
| Push                 | Pull               |             |              | Push (cc)    | Pull (cc) | Push (cm <sup>2</sup> ) | Pull (cm <sup>2</sup> ) |                        |                      |                       |                   |             |
| 30 Tonne<br>280 kN   | 18 Tonne<br>176 kN | 178         | HDC3007      | 492          | 328       | 40,84                   | 25,57                   | 331                    | 509                  | 33                    | 63                | 19.5        |
|                      |                    | 257         | HDC3010      | 1051         | 658       | 40,84                   | 25,57                   | 432                    | 689                  | 33                    | 63                | 25.7        |
| 60 Tonne<br>578 kN   | 40 Tonne<br>385 kN | 89          | HDC6003*     | 750          | 500       | 84,23                   | 56,14                   | 248                    | 337                  | 54                    | 92                | 29.8        |
|                      |                    | 165         | HDC6006*     | 1390         | 926       | 84,23                   | 56,14                   | 324                    | 489                  | 54                    | 92                | 36.8        |
|                      |                    | 257         | HDC6010*     | 2165         | 1443      | 84,23                   | 56,14                   | 438                    | 695                  | 54                    | 92                | 51.0        |
| 100 Tonne<br>981 kN  | 64 Tonne<br>625 kN | 38          | HDC10001     | 545          | 347       | 142,94                  | 91,11                   | 165                    | 203                  | 79                    | 125               | 33.4        |
|                      |                    | 76          | HDC10003*    | 1089         | 694       | 142,94                  | 91,11                   | 254                    | 330                  | 79                    | 125               | 51.4        |
|                      |                    | 152         | HDC10006*    | 2169         | 1388      | 142,94                  | 91,11                   | 343                    | 495                  | 79                    | 125               | 69.5        |
|                      |                    | 257         | HDC10010*    | 3679         | 2345      | 142,94                  | 91,11                   | 461                    | 718                  | 79                    | 125               | 90.2        |
| 145 Tonne<br>1407 kN | 75 Tonne<br>733 kN | 203         | HDC15008*    | 4247         | 2170      | 204,99                  | 106,81                  | 349                    | 552                  | 79                    | 150               | 108.5       |

\* Are equipped with carrying handles.

Optional threaded hollow saddles

| Cylinder Model Number | Saddle Model Nr. | Saddle Dimensions (mm) |                 |    |
|-----------------------|------------------|------------------------|-----------------|----|
|                       |                  | A                      | B               | C  |
| HC20XXT               | APS20            | 55                     | 1" - 8UNC       | 10 |
| HC30XXT               | APS30            | 63                     | 1 1/4" - 7UNC   | 10 |
| HC60XXT               | APS60            | 92                     | 1 3/8" - 5,5UNC | 13 |

All HC-cylinders are standard equipped with smooth hollow saddles (except the HC1201T and HC1202)



HDC Series

**80% Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Relief Valve**  
All double acting cylinders are equipped with a pressure relief valve located next to the retract port. These pressure relief valves help prevent cylinder over pressurization on the return port side of the cylinder.

**High-Flow Couplers**  
High-Flow Coupler: CH38F is included on all models (except where specified).

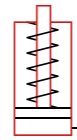
**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. pg 102

| Model Number | Min. Height A (mm) | Max. Height B (mm) | Dia. of Center Tube C (mm) | O.D. D (mm) | I.D. E (mm) | O.D. F (mm) | Base to Inlet Port G (mm) | Top to Return Port L (mm) | Internal Thread H | Internal Thread Length I (mm) | Collar Thread |               | Base Mounting Hole |            |                     |
|--------------|--------------------|--------------------|----------------------------|-------------|-------------|-------------|---------------------------|---------------------------|-------------------|-------------------------------|---------------|---------------|--------------------|------------|---------------------|
|              |                    |                    |                            |             |             |             |                           |                           |                   |                               | Dia. J (mm)   | Length K (mm) | Bolt Circle X (mm) | Thread Y   | Thread Depth Z (mm) |
| HDC3007      | 331                | 509                | 85                         | 114         | 33          | 63          | 23                        | 60                        | 1 1/8"-16UN       | 24                            | 4 1/2"-12N    | 42            | 92                 | 3/8"-16UNC | 14                  |
| HDC3010      | 432                | 689                | 85                         | 114         | 33          | 63          | 23                        | 60                        | 1 1/8"-16UN       | 24                            | 4 1/2"-12N    | 42            | 92                 | 3/8"-16UNC | 14                  |
| HDC6003*     | 248                | 337                | 125                        | 159         | 54          | 92          | 27                        | 67                        | 2 3/4"-16UN       | 21                            | 6 1/4"-12N    | 49            | 130                | 1/2" 13UNC | 14                  |
| HDC6006*     | 324                | 489                | 125                        | 159         | 54          | 92          | 27                        | 67                        | 2 3/4"-16UN       | 21                            | 6 1/4"-12N    | 49            | 130                | 1/2" 13UNC | 14                  |
| HDC6010*     | 438                | 695                | 125                        | 159         | 54          | 92          | 27                        | 67                        | 2 3/4"-16UN       | 21                            | 6 1/4"-12N    | 49            | 130                | 1/2" 13UNC | 14                  |
| HDC10001     | 165                | 203                | 165                        | 213         | 79          | 125         | 27                        | 44                        | 4"-16UN           | 27                            | -             | -             | 178                | 3/8" 11UNC | 19                  |
| HDC10003*    | 254                | 330                | 165                        | 213         | 79          | 125         | 27                        | 86                        | 4"-16UN           | 27                            | 8 3/8"-12N    | 60            | 178                | 3/8" 11UNC | 19                  |
| HDC10006*    | 343                | 495                | 165                        | 213         | 79          | 125         | 27                        | 86                        | 4"-16UN           | 27                            | 8 3/8"-12N    | 60            | 178                | 3/8" 11UNC | 19                  |
| HDC10010*    | 461                | 718                | 165                        | 213         | 79          | 125         | 27                        | 86                        | 4"-16UN           | 27                            | 8 3/8"-12N    | 60            | 178                | 3/8" 11UNC | 19                  |
| HDC15008*    | 349                | 552                | 190                        | 248         | 79          | 150         | 38                        | 60                        | 4 1/4"-12N        | 35                            | -             | -             | -                  | -          | -                   |

\* Are equipped with carrying handles.

# Aluminum Single Acting Cylinders

HU Series - General Purpose, Spring Return, Lightweight

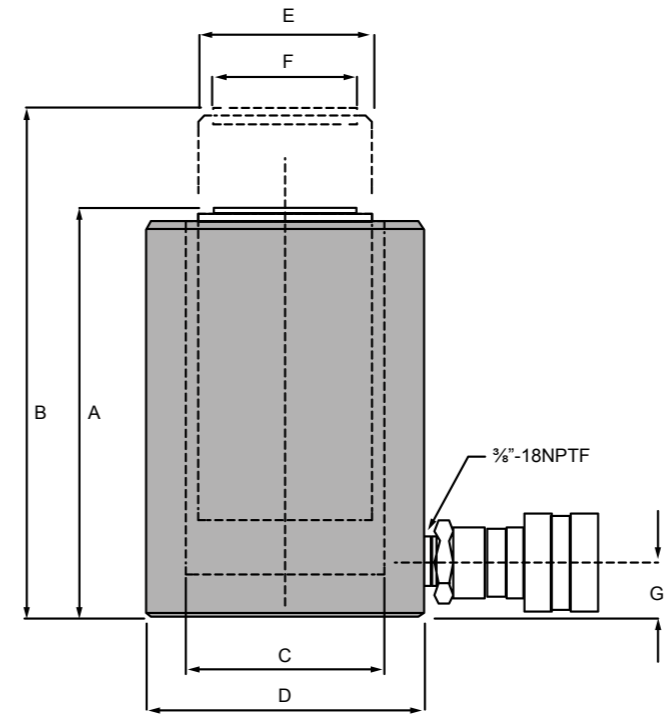


**Capacity:**  
20 - 95 Tonnes

**Stroke:**  
50 - 254 mm

**Max. Operating Pressure:**  
700 BAR

**Min. - Max. Height:**  
174 - 636 mm



HU Series

**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. pg 71

**Related Product: Hoses**  
We offer a variety of hoses, fittings, lengths and materials. pg 73

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. pg 102

- Lightweight aluminum alloy construction.
- Up to 60% lighter than comparable tonnage steel cylinders.
- Convenient carry handle on 50 and 95 Tonne models.
- Hard anodized aluminum plunger provides extra protection against corrosion and wear.
- Integral steel protective plate.
- Maximum working pressure: 10,000 psi / 700 bar.

**Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**High-Flow Couplers**  
High-Flow Coupler: CH38F is included on all models (except where specified).

## Aluminum vs. Steel Cylinders

Aluminum cylinders provide a great alternative to the traditional steel cylinder in many applications. Being up to 60% lighter in weight, Aluminum cylinders are easier portable and reduce user fatigue and strain. However, due to the finite properties of Aluminum vs. Steel, these cylinders should NOT be used in high cycle applications. The BVA Aluminum cylinders are designed for a maximum safety rating of 5,000 cycles. Under normal lifting applications this should provide a long service life.



Aluminum Cylinders



Steel Cylinders

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• 60% lighter in weight than steel.</li> <li>• Easier portable and reduces user fatigue.</li> <li>• Not to be used for high cycle applications.</li> <li>• Under normal conditions, the maximum rated safety cycle life is 5,000 cycles.</li> <li>• Base of the cylinder contains a steel plate*.</li> </ul> | <ul style="list-style-type: none"> <li>• Much heavier than aluminum cylinders.</li> <li>• Low portability on heavier cylinders which creates user fatigue and strain.</li> <li>• Will out-perform aluminum cylinders in higher cycle applications.</li> <li>• Can exceed aluminum cylinders maximum safety cycle life of 5,000 cycles.</li> </ul> |
|---|---|

\*The base of the cylinders contain a steel plate with mounting holes that are designed to protect the cylinder from damage and should NOT be used in fixturing applications and ONLY be used to attach larger base mounting plates for lifting stability. They are NOT designed to withstand the full ratings of the cylinders.

| Cylinder Capacity  | Stroke (mm) | Model Number | Cylinder Effective Area (cm²) | Oil Capacity (cc) | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore Dia. C (mm) | Outside Dia. D (mm) | Plunger Dia. E (mm) | Saddle Dia. F (mm) | Base to Inlet Port G (mm) | Weight (kg) |
|--------------------|-------------|--------------|-------------------------------|-------------------|-------------------------|------------------------|---------------------------|---------------------|---------------------|--------------------|---------------------------|-------------|
| 20 Tonne<br>214 kN | 50          | HU2002T      | 31.2                          | 156               | 174                     | 224                    | 63                        | 85                  | 51                  | 40                 | 27                        | 3.0         |
|                    | 100         | HU2004T      | 31.2                          | 312               | 224                     | 324                    | 63                        | 85                  | 51                  | 40                 | 27                        | 3.7         |
|                    | 150         | HU2006T      | 31.2                          | 468               | 274                     | 424                    | 63                        | 85                  | 51                  | 40                 | 27                        | 4.4         |
| 30 Tonne<br>303 kN | 50          | HU3002T      | 44.2                          | 221               | 181                     | 231                    | 75                        | 100                 | 60                  | 40                 | 34                        | 4.7         |
|                    | 100         | HU3004T      | 44.2                          | 442               | 231                     | 331                    | 75                        | 100                 | 60                  | 40                 | 34                        | 5.4         |
|                    | 150         | HU3006T      | 44.2                          | 663               | 281                     | 431                    | 75                        | 100                 | 60                  | 40                 | 34                        | 6.1         |
| 50 Tonne<br>487 kN | 50          | HU5502T*     | 70.9                          | 354               | 186                     | 236                    | 95                        | 130                 | 80                  | 70                 | 30                        | 7.6         |
|                    | 100         | HU5504T*     | 70.9                          | 709               | 236                     | 336                    | 95                        | 130                 | 80                  | 70                 | 30                        | 10.3        |
|                    | 150         | HU5506T*     | 70.9                          | 1063              | 286                     | 436                    | 95                        | 130                 | 80                  | 70                 | 30                        | 11.6        |
|                    | 200         | HU5508T*     | 70.9                          | 1418              | 336                     | 536                    | 95                        | 130                 | 80                  | 70                 | 30                        | 12.3        |
|                    | 250         | HU5510T*     | 70.9                          | 1772              | 386                     | 636                    | 95                        | 130                 | 80                  | 70                 | 30                        | 14.2        |
| 95 Tonne<br>911 kN | 51          | HU10002T*    | 132.7                         | 665               | 221                     | 271                    | 130                       | 180                 | 110                 | 70                 | 46                        | 16.3        |
|                    | 102         | HU10004T*    | 132.7                         | 1328              | 271                     | 371                    | 130                       | 180                 | 110                 | 70                 | 46                        | 19.5        |
|                    | 152         | HU10006T*    | 132.7                         | 1992              | 321                     | 471                    | 130                       | 180                 | 110                 | 70                 | 46                        | 23.1        |
|                    | 202         | HU10008T*    | 132.7                         | 2655              | 371                     | 571                    | 130                       | 180                 | 110                 | 70                 | 46                        | 30.8        |

\* Are equipped with carrying handles.



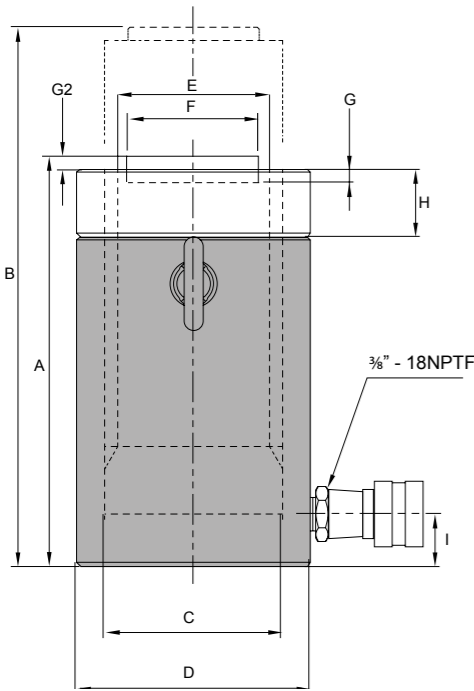


## Lock Nut Aluminum Cylinders

HULN Series - Heavy Lifting w/ Mechanical Lock Nut

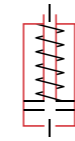


- Single acting cylinder with mechanical safety lock nut
- Designed to support loads without hydraulic pressure
- Overflow port prevents cylinders from over travel
- Spring return
- Lightweight aluminum cylinder body
- Steel saddle
- Hard anodized rod to resist corrosion and rust
- Maximum working pressure: 10,000 psi / 700 bar



**80%** **Safety Practices**  
 Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

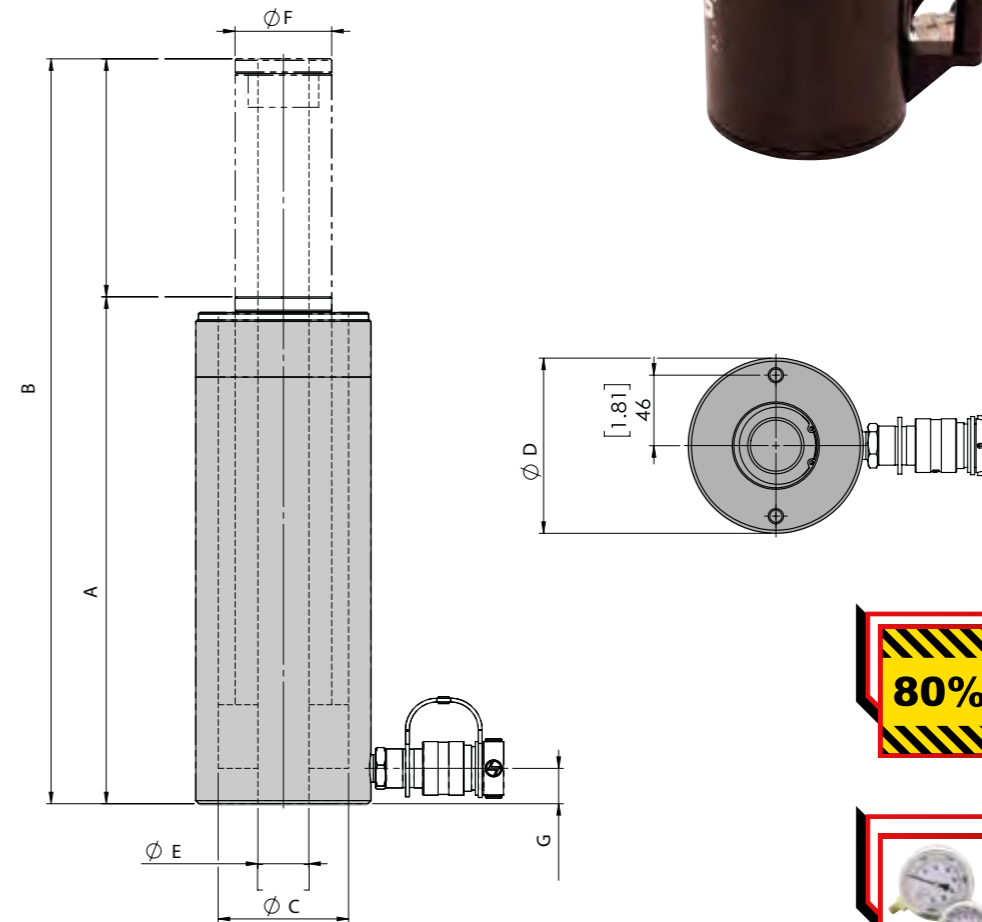
| Cylinder Capacity    | Model Number | Stroke (mm) | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Collapsed height A (mm) | Extended Height B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) | H (mm) | I (mm) | Weight (kg) |
|----------------------|--------------|-------------|--|-------------------|-------------------------|------------------------|--------|--------|--------|--------|--------|--------|--------|-------------|
| 30 Tonne<br>228 kN   | HULN3002     | 50          | 41.9                                       | 213               | 196                     | 247                    | 73     | 114    | 64     | 51     | 3      | 32     | 38     | 6.8         |
|                      | HULN3004     | 101         | 41.9                                       | 426               | 247                     | 349                    | 73     | 114    | 64     | 51     | 3      | 32     | 38     | 8.1         |
|                      | HULN3006     | 152         | 41.9                                       | 639               | 298                     | 450                    | 73     | 114    | 64     | 51     | 3      | 32     | 38     | 9.5         |
|                      | HULN3008     | 203         | 41.9                                       | 852               | 349                     | 552                    | 73     | 114    | 64     | 51     | 3      | 32     | 38     | 11.3        |
|                      | HULN3010     | 254         | 41.9                                       | 1065              | 400                     | 654                    | 73     | 114    | 64     | 51     | 3      | 32     | 38     | 13.6        |
| 50 Tonne<br>489 kN   | HULN5002     | 50          | 71.2                                       | 355               | 206                     | 256                    | 95     | 140    | 79     | 64     | 3      | 38     | 38     | 9.5         |
|                      | HULN5004     | 101         | 71.2                                       | 710               | 257                     | 358                    | 95     | 140    | 79     | 64     | 3      | 38     | 38     | 11.7        |
|                      | HULN5006     | 152         | 71.2                                       | 1064              | 307                     | 460                    | 95     | 140    | 79     | 64     | 3      | 38     | 38     | 13.6        |
|                      | HULN5008     | 203         | 71.2                                       | 1418              | 358                     | 562                    | 95     | 140    | 79     | 64     | 3      | 38     | 38     | 15.8        |
|                      | HULN5010     | 254         | 71.2                                       | 1773              | 409                     | 664                    | 95     | 140    | 79     | 64     | 3      | 38     | 38     | 18.12       |
| 100 Tonne<br>916 kN  | HULN10002    | 50          | 133.4                                      | 664               | 212                     | 263                    | 130    | 203    | 108    | 89     | 3      | 44     | 38     | 20.4        |
|                      | HULN10004    | 101         | 133.4                                      | 1327              | 263                     | 365                    | 130    | 203    | 108    | 89     | 3      | 44     | 38     | 23.5        |
|                      | HULN10006    | 152         | 133.4                                      | 1991              | 301                     | 453                    | 130    | 203    | 108    | 89     | 3      | 44     | 38     | 27.2        |
|                      | HULN10008    | 203         | 133.4                                      | 2655              | 365                     | 568                    | 130    | 203    | 108    | 89     | 3      | 44     | 38     | 31.7        |
|                      | HULN10010    | 254         | 133.4                                      | 3318              | 415                     | 670                    | 130    | 203    | 108    | 89     | 3      | 44     | 38     | 36.2        |
| 150 Tonne<br>1359 kN | HULN15002    | 50          | 197.9                                      | 993               | 238                     | 288                    | 159    | 254    | 127    | 114    | 3      | 44     | 38     | 29.9        |
|                      | HULN15004    | 101         | 197.9                                      | 1986              | 288                     | 390                    | 159    | 254    | 127    | 114    | 3      | 44     | 38     | 36.2        |
|                      | HULN15006    | 152         | 197.9                                      | 2979              | 339                     | 492                    | 159    | 254    | 127    | 114    | 3      | 44     | 38     | 43.0        |
|                      | HULN15008    | 203         | 197.9                                      | 3972              | 390                     | 594                    | 159    | 254    | 127    | 114    | 3      | 44     | 38     | 48.0        |
|                      | HULN15010    | 254         | 197.9                                      | 4965              | 441                     | 695                    | 159    | 254    | 127    | 114    | 3      | 44     | 38     | 56.6        |



## Single Acting Hollow Hole Aluminum Cylinders

HUC Series - Lightweight, Spring Return

- Light weight for easy handling.
- Ideal for pulling and pushing applications.
- Heavy duty compression spring.
- Dual wipers help prevent contamination.
- Collar thread protector.
- High flow coupler with dust cap.
- Equipped with carrying handles.



**80%** **Safety Practices**  
 Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Related Product: Gauges**  
 Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. pg 71

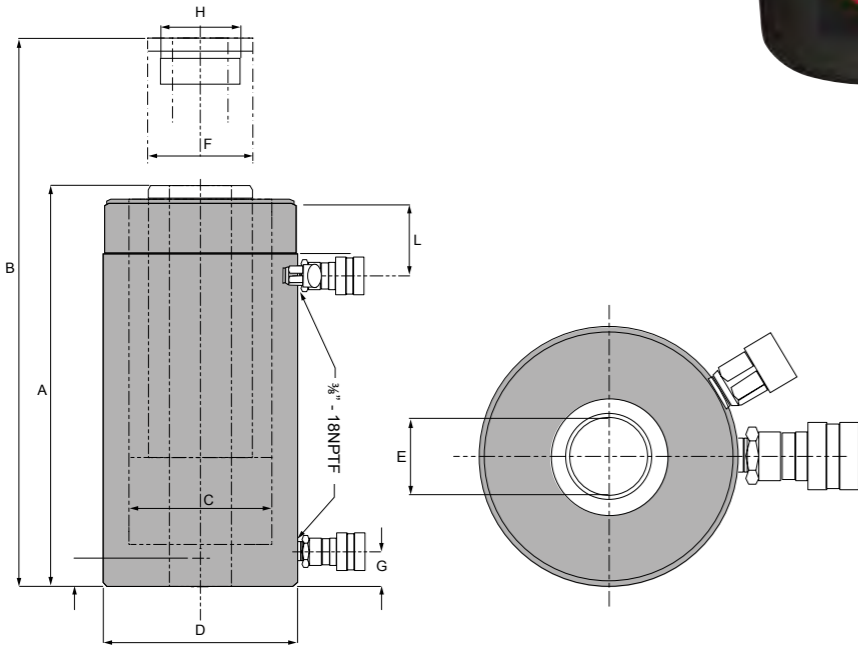
| Cylinder Capacity | Model Number | Stroke (mm) | Effective Area (cm <sup>2</sup> ) | Oil Capacity (cm <sup>3</sup> ) | Collapsed Height A (mm) | Extended Height B (mm) | Bore Diameter C (mm) | Outer Diameter D (mm) | Cylinder hole E (mm) | Punger diameter F (mm) | Base to inlet port G (mm) | Weight (kg) |
|-------------------|--------------|-------------|-----------------------------------|---------------------------------|-------------------------|------------------------|----------------------|-----------------------|----------------------|------------------------|---------------------------|-------------|
| 30 Tonne          | HUC3003T     | 75          | 46.5                              | 360.5                           | 220                     | 295                    | 98                   | 139                   | 32.3                 | 55                     | 254                       | 9.9         |
| 30 Tonne          | HUC3006T     | 152         | 46.5                              | 721.0                           | 296                     | 448                    | 98                   | 139                   | 32.3                 | 55                     | 254                       | 13.6        |
| 60 Tonne          | HUC6003T     | 75          | 79.3                              | 606.3                           | 260                     | 335                    | 133                  | 190                   | 54                   | 76                     | 254                       | 19.0        |
| 60 Tonne          | HUC6006T     | 152         | 79.3                              | 1212.6                          | 336                     | 488                    | 133                  | 190                   | 54                   | 76                     | 254                       | 24.9        |



## Double Acting Aluminum Hollow Hole Cylinders

HUDC Series - Lightweight

- Lightweight for easy handling.
- Ideal for pushing and pulling applications.
- Dual wipers help prevent contamination.
- CH38F - 3/8" high flow female coupler.
- Hard chrome coated plunger prevents rust and corrosion.
- Hardened steel seat.



**Safety Instructions**  
 Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. 102 pg

**Relief Valve**  
 All double acting cylinders are equipped with a pressure relief valve located next to the retract port. These pressure relief valves help prevent cylinder over pressurization on the return port side of the cylinder.

| Cylinder Capacity | Model Number | Stroke (mm) | Effective Area (cm <sup>2</sup> ) |       | Oil Capacity (cm <sup>3</sup> ) |      | Collapsed Height A (mm) | Extended Height B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) | L (mm) | Weight (kg) |
|-------------------|--------------|-------------|-----------------------------------|-------|---------------------------------|------|-------------------------|------------------------|--------|--------|--------|--------|--------|--------|-------------|
|                   |              |             | Push                              | Pull  | Push                            | Pull |                         |                        |        |        |        |        |        |        |             |
| 30 Tonne          | HUDC3002     | 50          | 40.97                             | 13.03 | 208                             | 67   | 180                     | 230                    | 72,2   | 139,7  | 38     | 59,7   | 51     | 51     | 9,1         |
|                   | HUDC3004     | 101         | 40.97                             | 13.03 | 416                             | 133  | 231                     | 332                    | 72,2   | 139,7  | 38     | 59,7   | 51     | 51     | 11,3        |
|                   | HUDC3006     | 152         | 40.97                             | 13.03 | 624                             | 200  | 282                     | 434                    | 72,2   | 139,7  | 38     | 59,7   | 51     | 51     | 13,6        |
|                   | HUDC3010     | 254         | 40.97                             | 13.03 | 1040                            | 332  | 384                     | 638                    | 72,2   | 139,7  | 38     | 59,7   | 51     | 51     | 18,1        |
| 50 Tonne          | HUDC5002     | 50          | 66.45                             | 22.12 | 337                             | 112  | 180                     | 230                    | 92,0   | 190,5  | 54     | 75,1   | 51     | 51     | 15          |
|                   | HUDC5004     | 100         | 66.45                             | 22.12 | 675                             | 225  | 231                     | 331                    | 92,0   | 190,5  | 54     | 75,1   | 51     | 51     | 18,6        |
|                   | HUDC5006     | 152         | 66.45                             | 22.12 | 1013                            | 337  | 282                     | 434                    | 92,0   | 190,5  | 54     | 75,1   | 51     | 51     | 22,6        |
|                   | HUDC5010     | 254         | 66.45                             | 22.12 | 1689                            | 563  | 384                     | 638                    | 92,0   | 190,5  | 54     | 75,1   | 51     | 51     | 29,5        |
| 75 Tonne          | HUDC7502     | 50          | 98.25                             | 40.13 | 499                             | 203  | 245                     | 295                    | 111,9  | 228,6  | 70     | 86,0   | 64     | 51     | 23,5        |
|                   | HUDC7504     | 100         | 98.25                             | 40.13 | 998                             | 407  | 295                     | 395                    | 111,9  | 228,6  | 70     | 86,0   | 64     | 51     | 31,8        |
|                   | HUDC7506     | 152         | 98.25                             | 40.13 | 1497                            | 611  | 346                     | 498                    | 111,9  | 228,6  | 70     | 86,0   | 64     | 51     | 38,6        |
|                   | HUDC7510     | 254         | 98.25                             | 40.13 | 2495                            | 1019 | 448                     | 702                    | 111,9  | 228,6  | 70     | 86,0   | 64     | 51     | 45,3        |
| 100 Tonne         | HUDC10002    | 50          | 139.29                            | 48.45 | 707                             | 246  | 257                     | 307                    | 133,2  | 279,4  | 89     | 107,6  | 64     | 51     | 42,1        |
|                   | HUDC10004    | 100         | 139.29                            | 48.45 | 1415                            | 492  | 308                     | 408                    | 133,2  | 279,4  | 89     | 107,6  | 64     | 51     | 49          |
|                   | HUDC10006    | 152         | 139.29                            | 48.45 | 2123                            | 738  | 359                     | 511                    | 133,2  | 279,4  | 89     | 107,6  | 64     | 51     | 56          |
|                   | HUDC10010    | 254         | 139.29                            | 48.45 | 3539                            | 1230 | 461                     | 715                    | 133,2  | 279,4  | 89     | 107,6  | 64     | 64     | 65          |
| 150 Tonne         | HUDC15002    | 50          | 193.55                            | 70.96 | 1004                            | 295  | 257                     | 307                    | 157,0  | 304    | 89     | 125,0  | 64     | 51     | 52,1        |
|                   | HUDC15004    | 100         | 193.55                            | 70.96 | 2008                            | 590  | 308                     | 408                    | 157,0  | 304    | 89     | 125,0  | 64     | 51     | 61,2        |
|                   | HUDC15006    | 152         | 193.55                            | 70.96 | 3012                            | 885  | 359                     | 511                    | 157,0  | 304    | 89     | 125,0  | 64     | 51     | 71,6        |
|                   | HUDC15010    | 254         | 193.55                            | 70.96 | 5021                            | 1475 | 461                     | 715                    | 157,0  | 304    | 89     | 125,0  | 64     | 64     | 81,6        |



## Threaded Cylinders

HT Series

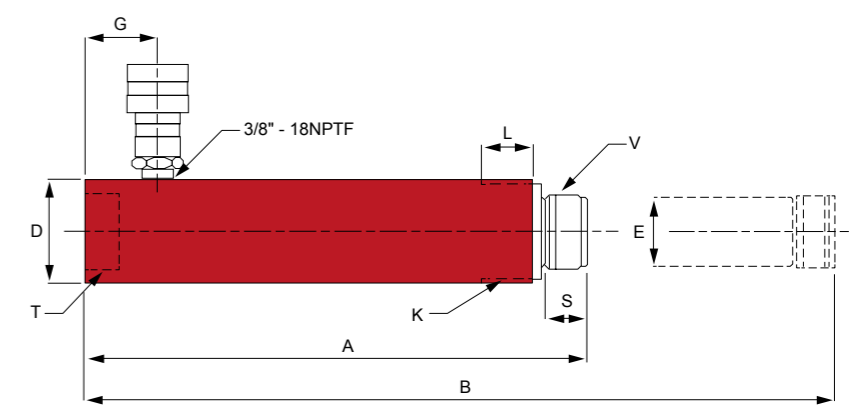
- Ideal for frame pulling machines.
- Threaded plunger and base.
- Single acting cylinders with spring return.
- Removable threaded Plunger adapter for attaching accessories to plunger end and base.
- Maximum working pressure: 10,000 psi / 700 bar.



HT Series

**80% Safety Practices**  
 Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Combo Kits**  
 Most cylinders are available in easy to order kits: cylinder, gauge, couplers, hose and pump. 64 pg



| Cylinder Capacity  | Stroke (mm) | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Collapsed Height A (mm) | Extended Height B (mm) | Weight (kg) |
|--------------------|-------------|--------------|--|-------------------|-------------------------|------------------------|-------------|
| 10 Tonne<br>100 kN | 151         | HT1006       | 14.5                                       | 218               | 291                     | 442                    | 4.8         |
|                    | 253         | HT1010       | 14.5                                       | 365               | 393                     | 646                    | 6.4         |
| 20 Tonne<br>228 kN | 131         | HT2005       | 33.2                                       | 421               | 299                     | 430                    | 10.0        |

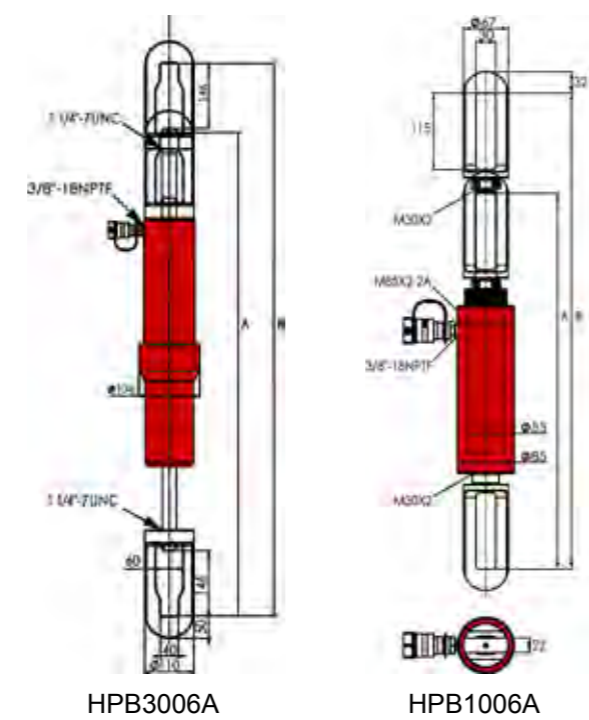
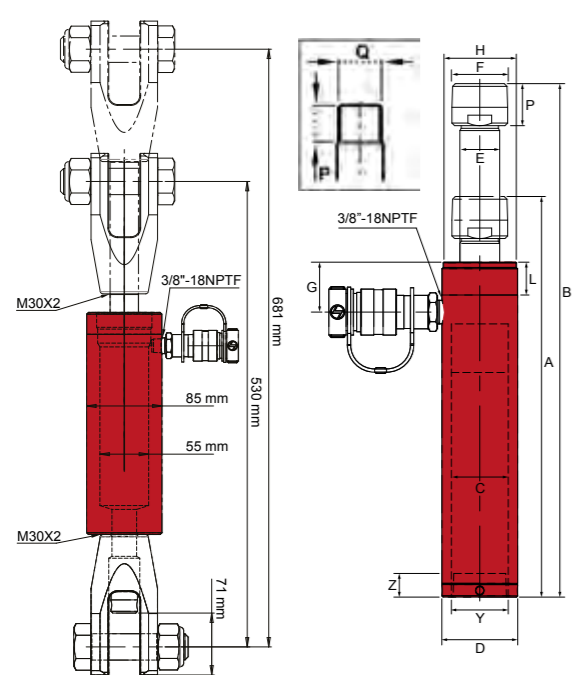
| Model Number | Outside Dia. D (mm) | Plunger Dia. E (mm) | Base to Inlet Port G (mm) | Collar K     | Collar Thread Length L (mm) | Saddle Height S (mm) | Base Threads T    | Plunger Threads V |
|--------------|---------------------|---------------------|---------------------------|--------------|-----------------------------|----------------------|-------------------|-------------------|
| HT1006       | 57                  | 38                  | 42                        | 2 1/4" -14UN | 29                          | 24                   | 1 1/4" -11.5 NPSM | 1 1/4" -11.5 NPSM |
| HT1010       | 57                  | 38                  | 42                        | 2 1/4" -14UN | 29                          | 24                   | 1 1/4" -11.5 NPSM | 1 1/4" -11.5 NPSM |
| HT2005       | 85                  | 57                  | 47                        | 3 1/2" -12UN | 50                          | 36                   | 2" -11.5 NPTF     | 2" -11.5 NPTF     |



### Pull Cylinders

HP Series - High-Tonnage Pulling

- High strength steel construction
- One piece high grade alloy bearing for side load protection and longer life
- Polyurethane cup seal provides optimum performance
- External plunger threads and Internal base threads
- Used for pulling and tensioning
- Maximum working pressure: 10,000 psi / 700 bar
- Spring extend return

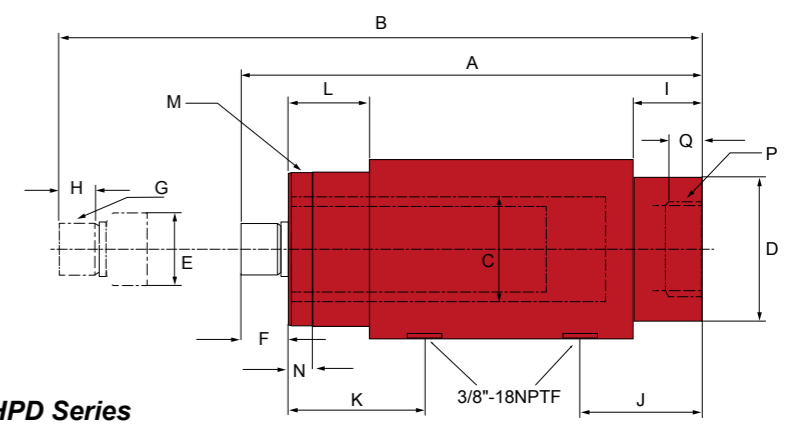


| Cylinder Capacity | Stroke (mm) | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Collapsed Height A (mm) | Extended Height B (mm) | Outside Dia. D (mm) | Cylinder Bore Dia. C (mm) | Top to Inlet Port G (mm) | Collar   |                      |
|-------------------|-------------|--------------|--|-------------------|-------------------------|------------------------|---------------------|---------------------------|--------------------------|----------|----------------------|
|                   |             |              |  |                   |                         |                        |                     |                           |                          | Thread H | Thread Length L (mm) |
| 2.5 Tonne / 25 kN | 127         | HP0205       | 3.6  | 46                | 268                     | 395                    | 48                  | 29                        | 42                       | 1½"-16UN | 25                   |
| 5 Tonne / 51 kN   | 141         | HP0505       | 7.4  | 104               | 303                     | 444                    | 57                  | 43                        | 38                       | 2¼"-14UN | 25                   |
| 10 Tonne / 108 kN | 151         | HP1006       | 15.7                                       | 237               | 299                     | 450                    | 85                  | 55                        | 38                       | M85x2    | 25                   |
| 10 Tonne / 108 kN | 150.6       | HPB1006A     | -  | 236.74            | 565                     | 715.6                  | 85                  | 55                        | -                        | -        | -                    |
| 30 Tonne / 285 kN | 154.5       | HPB3006A     | -  | 633.02            | 1085                    | 1239.5                 | 114.3               | 85                        | -                        | -        | -                    |

| Model Number | Adapter       |               | Plunger     |                      | Base Mounting Hole |              | Weight (kg) | Optional Clevis |
|--------------|---------------|---------------|-------------|----------------------|--------------------|--------------|-------------|-----------------|
|              | Thread F (mm) | Length P (mm) | Dia. E (mm) | Thread Length K (mm) | Thread Y           | Depth Z (mm) |             |                 |
| HP0205       | ¾"-14NPTF     | 29            | 19          | 19                   | M16 x 1.5          | ¾"-14NPTF    | 18          | CP02            |
| HP0505       | 1¼"-11.5NPTF  | 32            | 30          | 24                   | M28 x 1.5          | 1¼"-11.5NPTF | 24          | CP05            |
| HP1006       | -             | -             | 32          | 26                   | M30 x 2            | M30x2        | 25          | CP10            |
| HPB1006A     | -             | -             | -           | -                    | -                  | -            | -           | 12.0            |
| HPB3006A     | -             | -             | -           | -                    | -                  | -            | -           | 47.4            |

### Precision Double Acting Cylinders

HPD Series - High-Cycle Fixtured Application



\*Note: Precision double acting cylinders do not come with couplers.

- Provides hydraulic power for both extend and retract
- Designed for high cycle production applications
- High strength steel construction from gun drilled solid bar
- Plunger wiper seals keep dirt and contamination out
- Clevis eye attachments are available
- Maximum working pressure: 10,000 psi / 700 bar

**Related Product: Hoses**

We offer a variety of hoses, fittings, lengths and materials.

pg 73

| Cylinder Capacity | Stroke (mm) | Model Number | Push Effective Area (cm <sup>2</sup> ) | Pull Effective Area (cm <sup>2</sup> ) | Collapsed Height A (mm) | Extended Height B (mm) | Cylinder Bore Dia. C (mm) | Outside Dia. D (mm) |
|-------------------|-------------|--------------|--|--|-------------------------|------------------------|---------------------------|---------------------|
| 8 Tonne / 78 kN   | 155         | HPD0906      | 11.4                                   | 6.5                                    | 350                     | 505                    | 38                        | 64                  |
|                   | 257         | HPD0910      | 11.4                                   | 6.5                                    | 452                     | 709                    | 38                        | 64                  |
| 15 Tonne / 139 kN | 159         | HPD1606      | 20.3                                   | 10.1                                   | 389                     | 548                    | 51                        | 76                  |
|                   | 260         | HPD1610      | 20.3                                   | 10.1                                   | 490                     | 750                    | 51                        | 76                  |

| Model Number | Plunger     |                   |          |                      | Base to Inlet Port J (mm) | Top to Return Port K (mm) | Collar        |          |                      |                    | Weight (kg) |                                |
|--------------|-------------|-------------------|----------|----------------------|---------------------------|---------------------------|---------------|----------|----------------------|--------------------|-------------|--------------------------------|
|              | Dia. E (mm) | Protrusion F (mm) | Thread G | Thread Length H (mm) |                           |                           | Length L (mm) | Thread M | Thread Length N (mm) | Int. Base Thread P |             | Int. Base Thread Length Q (mm) |
| HPD0906      | 25          | 25                | ¾"-16N   | 19                   | 38                        | 56                        | 38            | 2"-12N   | 15                   | 1-½"-18N           | 35          | 6.6                            |
| HPD0910      | 25          | 25                | ¾"-16N   | 19                   | 38                        | 56                        | 38            | 2"-12N   | 15                   | 1-½"-18N           | 35          | 8.4                            |
| HPD1606      | 36          | 29                | 1½"-12N  | 25                   | 54                        | 73                        | 54            | 2½"-16N  | 25                   | 2-¾"-16N           | 41          | 10.0                           |
| HPD1610      | 36          | 29                | 1½"-12N  | 25                   | 54                        | 73                        | 54            | 2½"-16N  | 25                   | 2-¾"-16N           | 41          | 12.8                           |

#### Accessories for HPD Cylinder

By attaching these accessories to a HPD cylinder, you gain the ability for pull applications. For use with the 8 or 15 Tonne HPD cylinders only.

Base Mounting - CEBN

Flange Mounting - CEFN

Retainer Nut - CEN

Clevis Eye - CED

| Dimensions (mm) |          |       |          |      |      |       |         |
|-----------------|----------|-------|----------|------|------|-------|---------|
| Model Number    | A        | B     | C        | D    | E    | F     | G       |
| CEBN09          | 50.8     | 101.6 | 73.2     | 13.5 | 25.4 | 82.5  | 44.5    |
| CEBN16          | 66.8     | 130   | 95.5     | 19.5 | 35   | 101.6 | 52.3    |
| CEFN09          | 50.8     | 121   | 98.6     | 10   | 25.4 | -     | -       |
| CEFN16          | 66.8     | 143   | 115.8    | 13.5 | 35   | -     | -       |
| CEN09           | 2"-12N   | 76    | 63.5     | 7    | 12.7 | -     | -       |
| CEN16           | 2-¾"-16N | 92    | 79.2     | 7    | 19   | -     | -       |
| CED09           | 25       | 23    | 1-½"-18N | 19   | 33   | 24    | ¾"-16N  |
| CED16           | 32       | 28    | 2-¾"-16N | 25   | 48   | 30    | 1½"-12N |



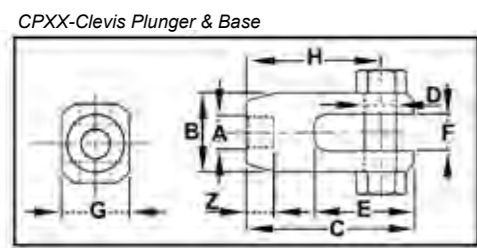
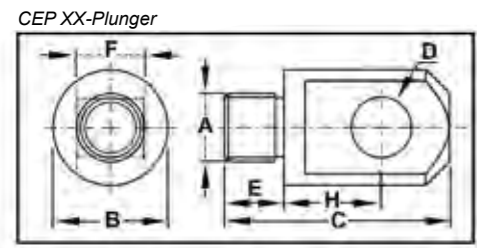
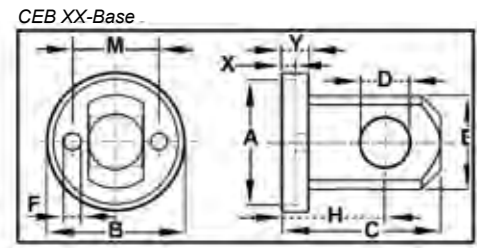
### Cylinder Lifting Handles

- Designed for easy carrying cylinders.
- Provides better control when positioning cylinder.
- Easy installation.

| Model Number | For Cylinders                                   |
|--------------|---|
| LH25T34      | H2504 through H2514                             |
| LH30T40      | H3008, HD3008, HD3014, HC2002T, HC2006T, HU30XX |
| LH30T45      | HC3002T, HC3006T, HDC3007, HDC3010              |
| LH55T49      | HLN5504 through HLN5512                         |



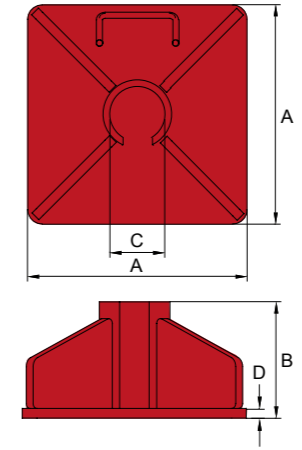
### Clevis and Tangs



| Model Number | Cylinder Series  | Model Number | Dimensions (mm)                |      |     |    |    |    |      |      |      |    |     |      |   |
|--------------|------------------|--------------|--------------------------------|------|-----|----|----|----|------|------|------|----|-----|------|---|
|              |                  |              | A                              | B    | C   | D  | E  | F  | G    | H    | M    | X  | Y   | Z    |   |
| CEP05        | Plunger          | 5            | 3/4"-16UNF                     | 29   | 57  | 16 | 16 | 14 | -    | 25.5 | -    | -  | -   | -    |   |
| CEP10        |                  | 10 + 15      | 1"-8UNC                        | 43   | 84  | 22 | 19 | 25 | -    | 39.7 | -    | -  | -   | -    |   |
| CEP15        |                  | 10 + 15      | 1"-8UNC                        | 43   | 84  | 22 | 19 | 25 | -    | 39.7 | -    | -  | -   | -    |   |
| CEP25        |                  | 25           | 1 1/2"-16                      | 57   | 97  | 32 | 22 | 38 | -    | 42.8 | -    | -  | -   | -    |   |
| CEB05        | Base             | 5            |                                | 38.6 | 44  | 54 | 16 | 29 | 6.5  | -    | 38.0 | 26 | 6.4 | 12.7 | - |
| CEB10        |                  | 10           |                                | 58.0 | 63  | 73 | 22 | 43 | 8.2  | -    | 47.6 | 38 | 6.4 | 12.7 | - |
| CEB15        |                  | 15           |                                | 70.4 | 76  | 73 | 22 | 43 | 9.7  | -    | 47.6 | 48 | 6.4 | 12.7 | - |
| CEB25        |                  | 25           |                                | 86.2 | 95  | 86 | 32 | 57 | 14.3 | -    | 54.0 | 58 | 6.4 | 12.7 | - |
| CP02*        | "Plunger & Base" | Only HP0205  | Male 3/4"-14NPT Female M16X1,5 | 40   | 85  | 16 | 55 | 20 | 40   | 65   | -    | -  | -   | 22   |   |
| CP05*        |                  | Only HP0505  | Male 1 1/4"-NPT Female M28X1,5 | 48   | 100 | 20 | 70 | 20 | 48   | 75   | -    | -  | -   | 25   |   |
| CP10*        |                  | Only HP1006  | M30x2                          | 75   | 160 | 30 | 95 | 35 | 65   | 128  | -    | -  | -   | 27   |   |

\* 2-pc set with an adaptor

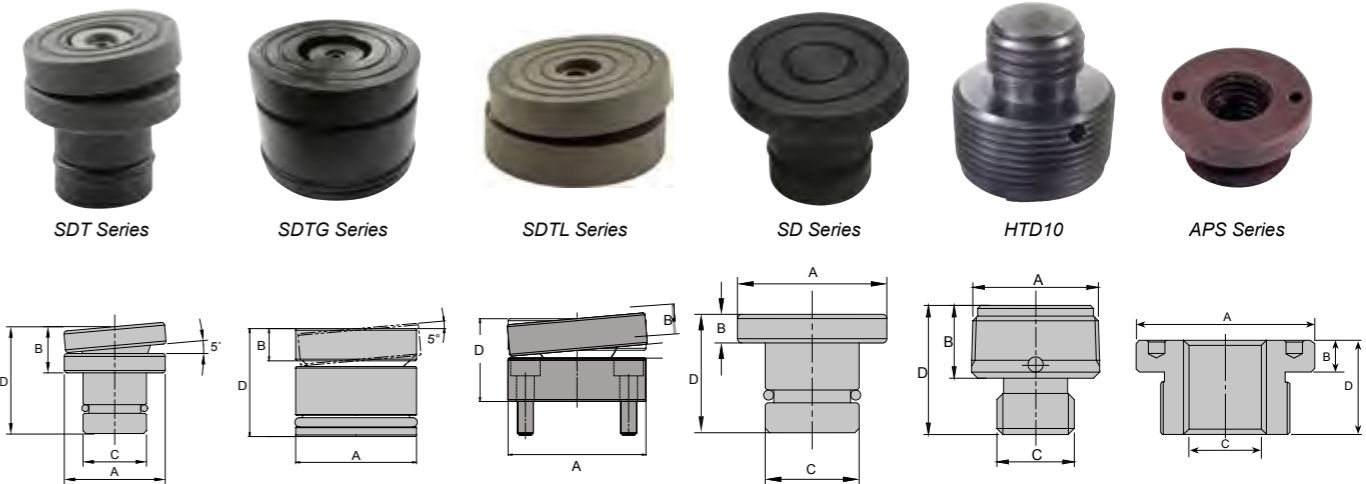
### Cylinder Bases



| Model Number | For use with Cylinder Series | Dimensions (mm) |     |     |    |
|--------------|------------------------------|-----------------|-----|-----|----|
|              |                              | A               | B   | C   | D  |
| CB05         | H05 (Except H0501)           | 200             | 118 | 39  | 8  |
| CB10         | H10 (except H1001)           | 230             | 120 | 58  | 10 |
| CB15         | H15                          | 254             | 122 | 70  | 12 |
| CB25         | H25                          | 280             | 126 | 87  | 16 |
| CB55         | H55                          | 304             | 162 | 132 | 12 |

### Cylinder Saddles

Grooved, Tilt, and Threaded



**Safety Instructions**  
 Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared.

| Saddle Type     | Model Number | For Cylinder(s)   | Dimensions (mm) |      |                 |      |
|-----------------|--------------|---|-----------------|------|-----------------|------|
|                 |              |   | A               | B    | C               | D    |
| Tilt            | SDT05        | H05   | 25              | 17   | 17              | 31   |
|                 | SDT10        | H10*  | 35              | 16.2 | 22              | 37.2 |
|                 | SDT15        | H15   | 38              | 18.9 | 22              | 39.9 |
|                 | SDT25        | H25 / H3008   | 50              | 18.6 | 35.5            | 40.6 |
|                 | SDT55        | H55, HD55, H75, HD75, H100, HU55, HU100, HLN55 and HLN100 | 70              | 21.4 | 71              | 32.8 |
|                 | SDT200       | HLN150 and HLN200   | 130             | 28.8 | 130             | 45   |
|                 | SDT250       | HLN250  | 150             | 29.5 | 150             | 46   |
|                 | SDT300       | HLN300  | 195             | 83.8 | 139             | 100  |
|                 | SDTG100      | HG100 and HDG100  | 75              | 20   | -               | 67   |
|                 | SDTG150      | HG150 and HDG150  | 94              | 19.5 | -               | 68.8 |
|                 | SDTG200      | HG200 and HDG200  | 113             | 28   | -               | 82.5 |
|                 | SDTL10       | HL1001  | 35              | 10   | -               | 21   |
|                 | SDTL50       | HL2002, HL3002, HL5002                                    | 50              | 14   | -               | 29   |
|                 | SDTL100      | HL10002   | 71              | 18   | -               | 35   |
| Grooved         | SD05         | H05   | 25              | 6    | 17              | 20.5 |
|                 | SD10         | H10*  | 35              | 6    | 22              | 27   |
|                 | SD15         | H15   | 38              | 7    | 22              | 30   |
|                 | SD25         | H25   | 50              | 6.5  | 35.5            | 29   |
| Threaded        | HTD10        | HT1006, HT1010 and HP0505 H1002-H1014, HD1010-HD1012      | 1 1/4"-11.5NPT  | 26.5 | 1"- 8UNC        | 45   |
| Hollow threaded | APS20        | HC20  | 55              | 10   | 1"- 8UNC        | 20.5 |
|                 | APS30        | HC30  | 63              | 10   | 1 1/4" - 7UNC   | 27   |
|                 | APS60        | HC60  | 92              | 13   | 1 1/8" - 5.5UNC | 30   |

\* Except H1001

H  
HD  
HL  
HF  
HLN  
HLNF  
HG  
HDG  
HC  
HDC  
HU  
H DU  
HULN  
HUC  
HUDC  
HT  
HP  
HPD

## Hand Pump Matching Chart

### Hand Pumps

- Match up the stroke length to the capacity of your cylinder to find the suggested hand pump to go with your cylinder.

| Stroke (mm)                          | Capacity         |                    |                    |                    |                    |                    |                    |                    |
|--------------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
|                                      | 5 Tonne<br>45 kN | 10 Tonne<br>101 kN | 15 Tonne<br>141 kN | 25 Tonne<br>232 kN | 30 Tonne<br>287 kN | 50 Tonne<br>495 kN | 75 Tonne<br>726 kN | 95 Tonne<br>929 kN |
| 25.4                                 | 1.00             | 2.24               | 3.14               | 5.14               | 6.49               | 10.99              | 16.10              | 20.57              |
| 50.8                                 | 2.00             | 4.48               | 6.28               | 10.28              | 12.98              | 21.98              | 32.20              | 41.14              |
| 76.2                                 | 3.00             | 6.72               | 9.42               | 15.42              | 19.47              | 32.97              | 48.30              | 61.71              |
| 101.6                                | 4.00             | 8.96               | 12.56              | 20.56              | 25.96              | 43.96              | 64.40              | 82.28              |
| 127.0                                | 5.00             | 11.20              | 15.70              | 25.70              | 32.45              | 54.95              | 80.50              | 102.85             |
| 152.4                                | 6.00             | 13.44              | 18.84              | 30.84              | 38.94              | 65.94              | 96.60              | 123.42             |
| 177.8                                | 7.00             | 15.68              | 21.98              | 35.98              | 45.43              | 76.93              | 112.70             | 143.99             |
| 203.2                                | 8.00             | 17.92              | 25.12              | 41.12              | 51.92              | 87.92              | 128.80             | 164.56             |
| 228.6                                | 9.00             | 20.16              | 28.26              | 46.26              | 58.41              | 98.91              | 144.90             | 185.13             |
| 254.0                                | 10.00            | 22.40              | 31.40              | 51.40              | 64.90              | 109.90             | 161.00             | 205.70             |
| 304.8                                | 12.00            | 26.88              | 37.68              | 61.68              | 77.80              | 131.88             | 193.20             | 246.84             |
| 330.2                                | 13.00            | 29.12              | 40.82              | 66.82              | 84.37              | 142.87             | 209.30             | 267.41             |
| 355.6                                | 14.00            | 31.36              | 43.96              | 71.96              | 90.86              | 153.86             | 225.40             | 287.98             |
| Suggested*<br>Hand<br>Pump<br>Models | P350<br>P601S    | P1000<br>P1201     |                    | P2301<br>P2301M    |                    | P4301              |                    | P8701<br>P8701M    |




















\*The suggested pump model is based on oil capacity requirements of the cylinder.

## Matching Chart

### Air, Electric and Gas Engine Pumps

- Match up the stroke length and capacity of the cylinder to find the suggested pump to work with your application.

| Stroke (mm)   | Capacity         |                    |                    |                          |                    |                    |                                   |                    |
|---|------------------|--------------------|--------------------|--------------------------|--------------------|--------------------|-----------------------------------|--------------------|
|   | 5 Tonne<br>45 kN | 10 Tonne<br>101 kN | 15 Tonne<br>141 kN | 25 Tonne<br>232 kN       | 30 Tonne<br>287 kN | 50 Tonne<br>495 kN | 75 Tonne<br>726 kN                | 95 Tonne<br>929 kN |
| 25.4  | 1.00             | 2.24               | 3.14               | 5.14                     | 6.49               | 10.99              | 16.10                             | 20.57              |
| 50.8  | 2.00             | 4.48               | 6.28               | 10.28                    | 12.98              | 21.98              | 32.20                             | 41.14              |
| 76.2  | 3.00             | 6.72               | 9.42               | 15.42                    | 19.47              | 32.97              | 48.30                             | 61.71              |
| 101.6   | 4.00             | 8.96               | 12.56              | 20.56                    | 25.96              | 43.96              | 64.40                             | 82.28              |
| 127   | 5.00             | 11.20              | 15.70              | 25.70                    | 32.45              | 54.95              | 80.50                             | 102.85             |
| 152.4   | 6.00             | 13.44              | 18.84              | 30.84                    | 38.94              | 65.94              | 96.60                             | 123.42             |
| 177.8   | 7.00             | 15.68              | 21.98              | 35.98                    | 45.43              | 76.93              | 112.70                            | 143.99             |
| 203.2   | 8.00             | 17.92              | 25.12              | 41.12                    | 51.92              | 87.92              | 128.80                            | 164.56             |
| 228.6   | 9.00             | 20.16              | 28.26              | 46.26                    | 58.41              | 98.91              | 144.90                            | 185.13             |
| 254   | 10.00            | 22.40              | 31.40              | 51.40                    | 64.90              | 109.90             | 161.00                            | 205.70             |
| 304.8   | 12.00            | 26.88              | 37.68              | 61.68                    | 77.80              | 131.88             | 193.20                            | 246.84             |
| 330.2   | 13.00            | 29.12              | 40.82              | 66.82                    | 84.37              | 142.87             | 209.30                            | 267.41             |
| 355.6   | 14.00            | 31.36              | 43.96              | 71.96                    | 90.86              | 153.86             | 225.40                            | 287.98             |
| Suggested<br>Air/Electric/<br>Gas<br>Pump<br>Models | PA600            | PA1500<br>PA2000   |                    | PA3801<br>PA7550<br>PE30 |                    |                    | PE40<br>PE50<br>PD70/PG70<br>PE60 |                    |

| Power Source    | Pump Type                                | Page Number / Reference Image  |       |
|-----------------|--|--|-------|
| <b>Manual</b>   | Single Speed Metal Hand Pump (P-Series)  | <br><br><br><br><br>             | 48-49 |
|                 | Two Speed Metal Hand Pumps (P-Series)    |  |       |
|                 | Two Speed Aluminum Hand Pumps (P-Series) |  |       |
|                 | Double Acting Hand Pumps (P-Series)      |  |       |
|                 | Foot Pump (P57-Series)                   |  |       |
|                 | 50                                       |  |       |
| <b>Air</b>      | All-Direction Air Pump (PA-Series)       | <br><br><br><br>   | 51    |
|                 | Air Pumps (PA-Series)                    |  |       |
|                 | Double Acting Air Pump (PA-Series)       |  |       |
|                 | Remote Control Air Pump (PA-Series)      |  |       |
|                 | Rotary Air Pumps (PAR-Series)            |  |       |
| 54              |  |  |       |
| <b>Electric</b> | Universal Motor Pumps (PU-Series)        | <br><br><br><br><br> | 55    |
|                 | Single Phase Electric Pumps              |  |       |
|                 | PE30 0.5 HP Electric Pumps               |  |       |
|                 | PE40 1 HP Electric Pumps                 |  |       |
|                 | PE50 1.5 HP Electric Pumps               |  |       |
|                 | PE60 3 HP Electric Pumps                 |  |       |
| 61              |  |  |       |
| <b>Gas</b>      | PG70 5.5 HP Gas Engine Pump              | <br>   | 62-63 |
|                 | PD70 4.6 HP HATZ Diesel Engine Pump      |  |       |

**Control Valves and Accessories**

Page 64 ▶

**Pumps-Cylinder Combo's**

Page 65 ▶



# Hand Pumps

Aluminum and Steel

## P Series

**Combo Kits**  
Most hand pumps are available in easy to order kits; Pump, Gauge, Couplers, Hose and Cylinder pg 64

**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. pg 71

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. pg 102

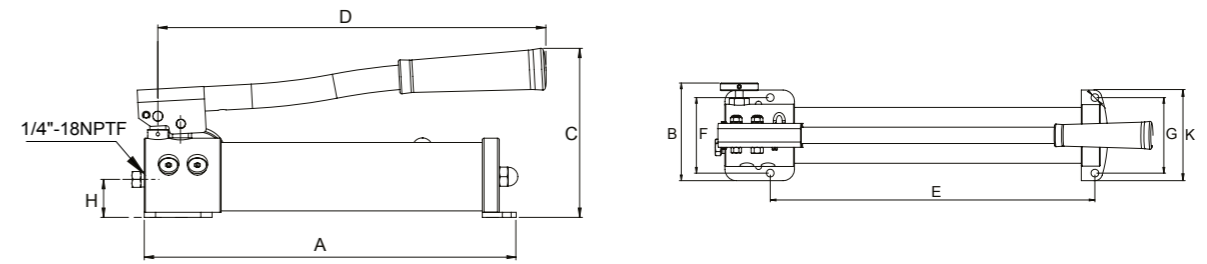
**Product Information**

- Metal reservoirs resist cracking.
- Internal pressure relief valve for overload protection.
- Perfect for use with cylinders and hydraulic tools or OEM applications.
- Two-Speed pumps reduce user fatigue and increase productivity.

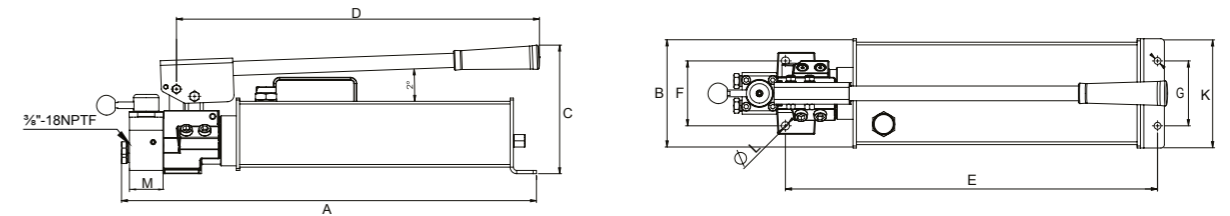
**CE**



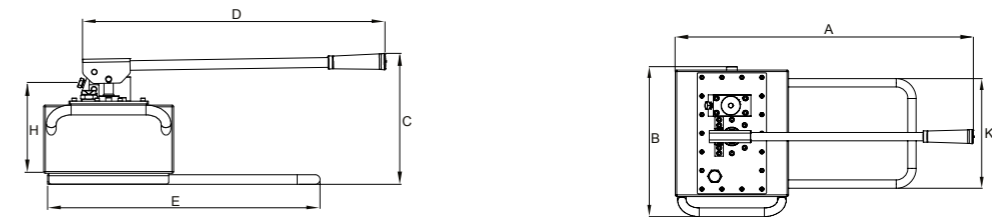
### P350, P352, P1000, P601S, P1201



### P2301(M), P2801(M), P4301(M)



### P8701, P8701M



| Model Number                        | Usable Oil Capacity (cc) | Oil Outlet Port | Pressure Rating/Oil Displacement per Stroke |                                | Piston Stroke (mm) | Handle Operating Force (N) | Reservoir Construction |
|-------------------------------------|--------------------------|-----------------|---|--------------------------------|--------------------|----------------------------|------------------------|
|                                     |                          |                 | 1 <sup>st</sup> Stage (BAR/cc)              | 2 <sup>nd</sup> Stage (BAR/cc) |                    |                            |                        |
| <b>Single Speed - Single Acting</b> |                          |                 |   |                                |                    |                            |                        |
| P601S                               | 600                      | 3/8"-18 NPTF    | -   | 700/2.5                        | 20                 | 485                        | Steel                  |
| <b>2-Speed - Single Acting</b>      |                          |                 |   |                                |                    |                            |                        |
| P350*                               | 350                      | 1/4"-18 NPTF    | 14/3  | 700/0.8                        | 10                 | 391                        | Aluminum               |
| P352                                | 352                      | 3/8"-18 NPTF    | 14/3  | 700/0.8                        | 10                 | 391                        | Aluminum               |
| P1000                               | 1000                     | 3/8"-18 NPTF    | 14/13.3                                     | 700/2.3                        | 21                 | 440                        | Aluminum               |
| P1201                               | 1100                     | 3/8"-18 NPTF    | 14/13.3                                     | 700/2.3                        | 27                 | 440                        | Steel                  |
| P2301                               | 2200                     | 3/8"-18 NPTF    | 14/13.3                                     | 700/2.3                        | 21                 | 440                        | Steel                  |
| P2801                               | 2870                     | 3/8"-18 NPTF    | 30/46                                       | 700/3.9                        | 27                 | 468                        | Steel                  |
| P4301                               | 4100                     | 3/8"-18 NPTF    | 14/13.3                                     | 700/2.3                        | 21                 | 440                        | Steel                  |
| P8701                               | 7800                     | 3/8"-18 NPTF    | 20 /120                                     | 700/4.7                        | 43                 | 400                        | Steel                  |
| <b>2-Speed - Double Acting</b>      |                          |                 |   |                                |                    |                            |                        |
| P2301M                              | 2200                     | 3/8"-18 NPTF    | 14/13.3                                     | 700/2.3                        | 21                 | 440                        | Steel                  |
| P2801M                              | 2700                     | 3/8"-18 NPTF    | 14/13.3                                     | 700/2.3                        | 21                 | 440                        | Steel                  |
| P4301M                              | 4100                     | 3/8"-18 NPTF    | 30/46                                       | 700/3.9                        | 27                 | 468                        | Steel                  |
| P8701M                              | 7800                     | 3/8"-18 NPTF    | 20/120                                      | 700/4.7                        | 43                 | 400                        | Steel                  |

\*CA3814 not included. Needs to be ordered separately

| Model Number                        | Dimensions (mm) |     |     |     |     |     |     |       |     |     |    |    | Weight w/Oil (kg) |
|-------------------------------------|-----------------|-----|-----|-----|-----|-----|-----|-------|-----|-----|----|----|-------------------|
|                                     | A               | B   | C   | D   | E   | F   | G   | H     | J   | K   | L  | M  |                   |
| <b>Single Speed - Single Acting</b> |                 |     |     |     |     |     |     |       |     |     |    |    |                   |
| P601S                               | 506             | 148 | 160 | 530 | 542 | 100 | 95  | 32    | 115 | 115 | 12 | -  | 5.9               |
| <b>2-Speed - Single Acting</b>      |                 |     |     |     |     |     |     |       |     |     |    |    |                   |
| P350*                               | 360             | 98  | 160 | 360 | 303 | 75  | 65  | 32    | 85  | 85  | 8  | -  | 3                 |
| P352                                | 360             | 98  | 160 | 360 | 306 | 75  | 65  | 32    | 85  | 85  | 8  | -  | 3                 |
| P1000                               | 584             | 124 | 175 | 576 | 430 | 100 | 100 | 32    | 120 | 120 | 10 | -  | 6.2               |
| P1201                               | 586             | 135 | 182 | 580 | 540 | 95  | 95  | 44    | 115 | 115 | 10 | -  | 9.3               |
| P2301                               | 609             | 135 | 173 | 563 | 573 | 95  | 90  | 44    | 120 | 110 | 10 | -  | 12.6              |
| P2801                               | 674             | 135 | 183 | 661 | 592 | 89  | 89  | 35    | 120 | 135 | 7  | -  | 13.8              |
| P4301                               | 586             | 160 | 195 | 565 | 545 | 95  | 95  | 44    | 120 | 160 | 10 | -  | 17.1              |
| P8701                               | 771             | 388 | 295 | 684 | -   | -   | -   | 210   | -   | 284 | -  | -  | 34.5              |
| <b>2-Speed - Double Acting</b>      |                 |     |     |     |     |     |     |       |     |     |    |    |                   |
| P2301M                              | 696             | 120 | 173 | 552 | 573 | 95  | 90  | 41/27 | 120 | 110 | 10 | 50 | 14.7              |
| P2801M                              | 724             | 135 | 183 | 652 | 592 | 89  | 89  | 39/36 | 120 | 135 | 7  | 50 | 14.7              |
| P4301M                              | 619             | 160 | 196 | 552 | 545 | 95  | 95  | 39/36 | 120 | 160 | 10 | 50 | 19                |
| P8701M                              | 771             | 388 | 295 | 684 | -   | -   | -   | 210   | -   | 284 | -  | -  | 35.1              |

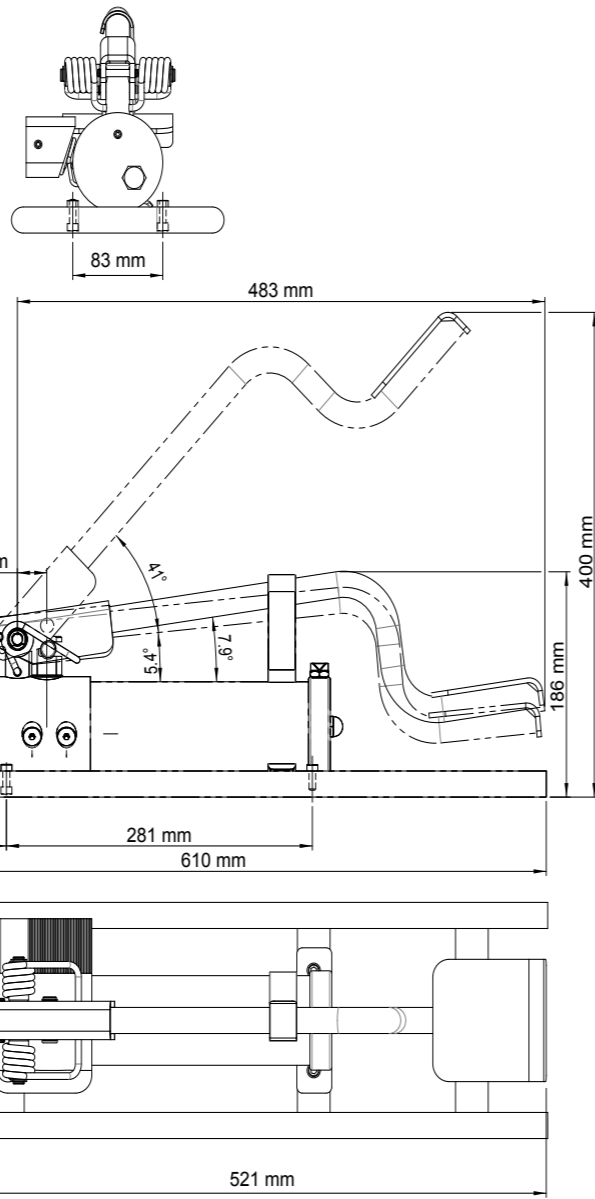
\* CA3814 adapter excluded

## Foot Pump

P57 Series - 10,000 PSI



P570FP



**80%** **Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**HF Kits**  
Consider using our portable HF kits in conjunction with this pump. pg 19

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. pg 100

**High-Flow Couplers**  
High-Flow Coupler: CH38F is included on all models (except where specified).

**Related Product: Nut Splitters**

The nut splitters pair up with this portable foot pump. Our hydraulic nut splitters come in a spacious tool box so its easy to carry around from site-to-site. This tool box is large enough to hold small cylinders, saddles, spacers or whatever tool you need to bring with you to your next job site.

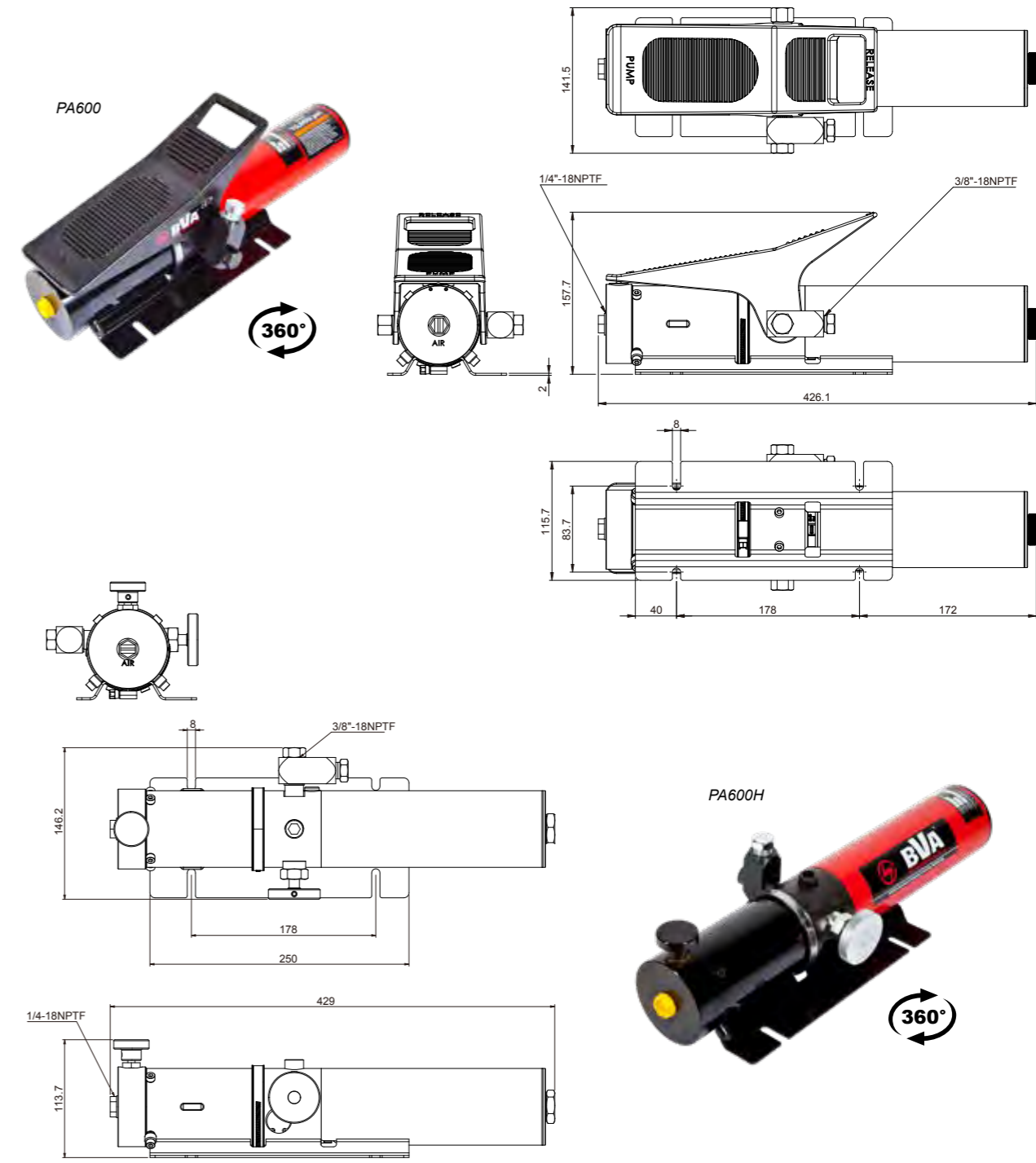
| Model Number | Bolt Range | Hexagon Nut Range |
|--------------|------------|-------------------|
| NS1319       | 6-12       | 13-19             |
| NS1924       | 12-16      | 19-24             |
| NS2432       | 16-22      | 24-32             |
| NS3241       | 22-27      | 32-41             |
| NS4150       | 27-33      | 41-50             |
| NS5060       | 33-39      | 50-60             |
| NS6075       | 39-48      | 60-75             |

pg 84

| Model Number | Usable Oil (cc) | Oil Outlet Port | Pressure Rating (BAR) |           | Oil Displacement per Stroke (cc) |           | Max. Handle Effort (kg) | Piston Stroke (mm) | Weight (kg) |
|--------------|-----------------|-----------------|-----------------------|-----------|----------------------------------|-----------|-------------------------|--------------------|-------------|
|              |                 |                 | 1st Stage             | 2nd Stage | "1st Stage"                      | 2nd Stage |                         |                    |             |
| P570FP       | 500             | 3/8"-18 NPTF    | 13.8                  | 690       | 13                               | 2         | 57.7                    | 21                 | 8.2         |

## All Position Aluminium Pumps

- Pump can work in any position.
- Mounting plate allows the pump to be securely fastened.



| Model Number         | Usable Oil Capacity (cc)* | Oil Outlet Port | Output Flow Rate |              | Input Air Pressure Required (BAR) | Air Consumption (L/min) | Reservoir Construction |
|----------------------|---------------------------|-----------------|------------------|--------------|-----------------------------------|-------------------------|------------------------|
|                      |                           |                 | No Load (L/min)  | Load (L/min) |                                   |                         |                        |
| <b>Single Acting</b> |                           |                 |                  |              |                                   |                         |                        |
| PA600                | 600                       | 3/8"-18 NPTF    | 1.00             | 0.15         | 8.0 - 14.0                        | 220                     | Aluminum               |
| PA600H               | 600                       | 3/8"-18 NPTF    | 1.00             | 0.15         | 8.0 - 14.0                        | 220                     | Aluminum               |

\* Oil capacity varies by position. Pump can be mounted outlet up or down

For sizes: PA600 & PA600H - Page 49

Manual Pumps

Air Pumps

Rotary Air pumps

Electric Pumps

Torc wrench pump

3 Phase Pump

Gas/ Diesel Pumps

Pump & Cylinder sets

1500 BAR

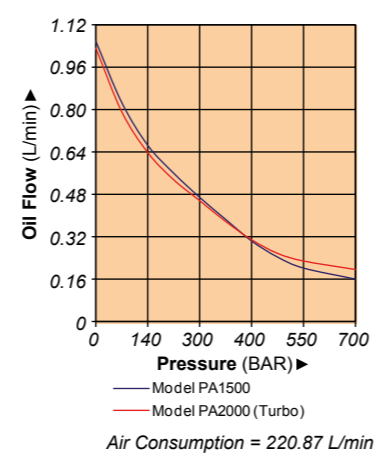


**Air Pumps**

**Air Actuated Power**



**PA Series**



**Product Information**

- Metal reservoirs resist cracking
- US Patent No. 5,946,912, a built in bypass device protects the hydraulic system from over pumping damage
- A compact yet powerful Air Turbo Motor US Patent No. 5,341,723
- Suggested air inlet range: 110-175 psi / 7.6-12.1 bar
- Maximum working pressure: 10,000 psi / 700 Bar

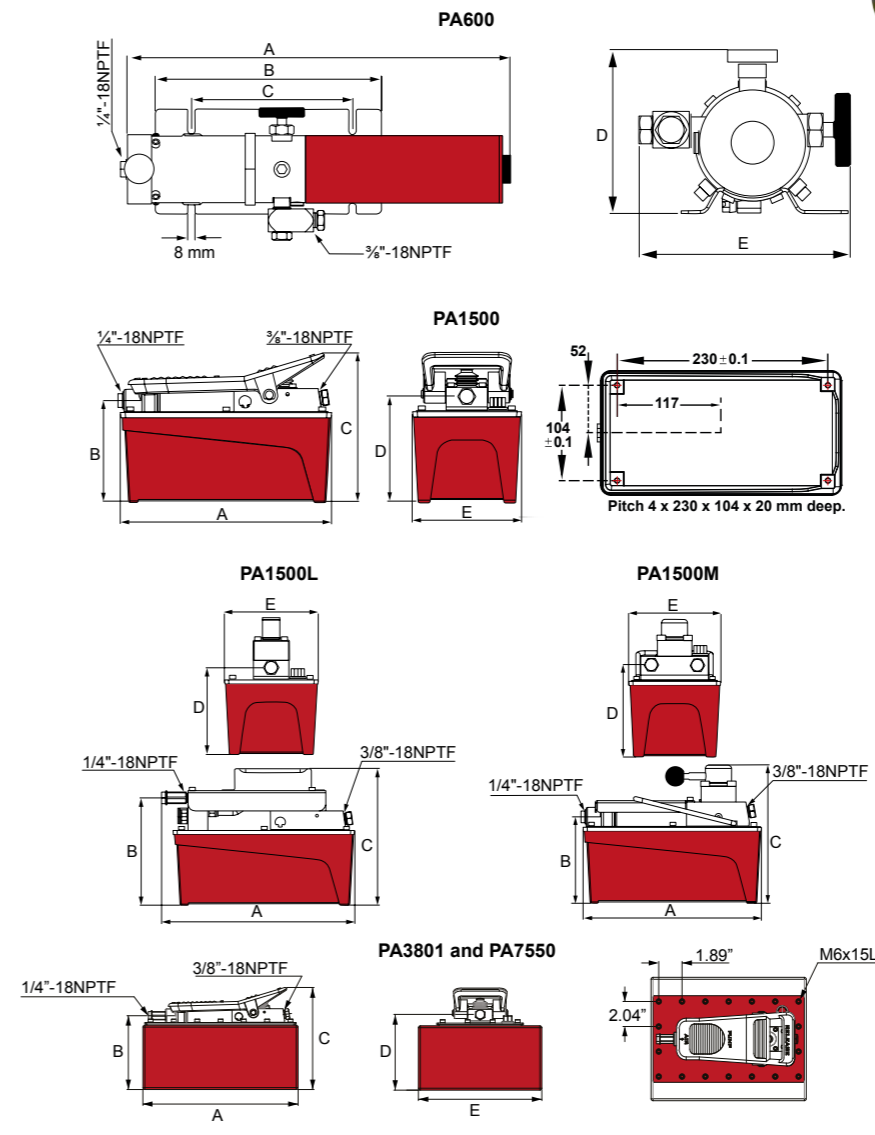
**CE**

**PA1500A Pressure Adjustment**

PA1500A Pressure can be adjusted externally from 1,000 psi / 70 Bar to 10,000 psi / 700 Bar.

| Model Number         | Usable Oil Capacity (cc) | Oil Outlet Port | Output Flow Rate |              | Input Air Pressure Required (BAR)*** | Air Consumption (L/min) | Reservoir Construction |
|----------------------|--------------------------|-----------------|------------------|--------------|--------------------------------------|-------------------------|------------------------|
|                      |                          |                 | No Load (L/min)  | Load (L/min) |                                      |                         |                        |
| <b>Single Acting</b> |                          |                 |                  |              |                                      |                         |                        |
| PA600                | 600                      | 3/8"-18 NPTF    | 1.00             | 0.15         | 8.0 - 14.0                           | 220                     | Aluminum               |
| PA600H               | 600                      | 3/8"-18 NPTF    | 1.00             | 0.15         | 8.0 - 14.0                           | 220                     | Aluminum               |
| PA1500               | 1500                     | 3/8"-18 NPTF    | 1.08             | 0.18         | 8.0 - 14.0                           | 220                     | Aluminum               |
| PA1500A (*)          | 1500                     | 3/8"-18 NPTF    | 1.08             | 0.18         | 8.0 - 14.0                           | 220                     | Aluminum               |
| PA1500L (**)         | 1500                     | 3/8"-18 NPTF    | 1.00             | 0.16         | 8.0 - 14.0                           | 220                     | Aluminum               |
| PA1500LA (**)(**)    | 1500                     | 3/8"-18 NPTF    | 1.08             | 0.18         | 8.0 - 14.0                           | 220                     | Aluminum               |
| PA2000               | 2000                     | 3/8"-18 NPTF    | 1.07             | 0.20         | 8.0 - 14.0                           | 220                     | Aluminum               |
| PA3801               | 3800                     | 3/8"-18 NPTF    | 1.07             | 0.18         | 8.0 - 14.0                           | 220                     | Steel                  |
| PA3801L (**)         | 3800                     | 3/8"-18 NPTF    | 1.00             | 0.16         | 8.0 - 14.0                           | 220                     | Steel                  |
| PA7550               | 7550                     | 3/8"-18 NPTF    | 1.07             | 0.18         | 8.0 - 14.0                           | 220                     | Steel                  |
| PA7550L (**)         | 7550                     | 3/8"-18 NPTF    | 1.07             | 0.18         | 8.0 - 14.0                           | 220                     | Steel                  |
| <b>Double Acting</b> |                          |                 |                  |              |                                      |                         |                        |
| PA1500M              | 1500                     | 3/8"-18 NPTF    | 1.08             | 0.18         | 8.0 - 14.0                           | 220                     | Aluminum               |
| PA3801M              | 3800                     | 3/8"-18 NPTF    | 1.07             | 0.18         | 8.0 - 14.0                           | 220                     | Steel                  |
| PA7550M              | 7550                     | 3/8"-18 NPTF    | 1.07             | 0.18         | 8.0 - 14.0                           | 220                     | Steel                  |

\* This unit is equipped with an external pressure adjustment (70-700 bar)  
 \*\*These pumps are equipped with a hand held air powered pendant  
 \*\*\* Air active pressure for oil operating 0-700 bar



**Air Pump Combo**

PA1500 air pumps are available in easy to order kits: pump, gauge, coupler, hose and cylinder

pg 60

**Related Product: Hoses**

We offer a variety of hoses, fittings, lengths and materials.

pg 73

| Model Number         | Base Mounting Holes | Dimensions (mm) |     |     |     |     | Weight w/Oil (kg) |
|----------------------|---------------------|-----------------|-----|-----|-----|-----|-------------------|
|                      |                     | A               | B   | C   | D   | E   |                   |
| <b>Single Acting</b> |                     |                 |     |     |     |     |                   |
| PA600                | yes                 | 426             | 250 | 178 | 157 | 142 | 6.4               |
| PA600H               | yes                 | 426             | 250 | 178 | 114 | 146 | 5.7               |
| PA1500               | yes                 | 263             | 127 | 185 | 131 | 136 | 8.2               |
| PA1500A (*)          | yes                 | 263             | 127 | 185 | 131 | 136 | 8.2               |
| PA1500L (**)         | yes                 | 278             | 160 | 204 | 130 | 136 | 8.8               |
| PA1500LA (**)(**)    | yes                 | 263             | 127 | 185 | 131 | 136 | 8.2               |
| PA2000               | yes                 | 292             | 152 | 203 | 132 | 151 | 9.1               |
| PA3801               | no                  | 329             | 129 | 187 | 133 | 187 | 12.3              |
| PA3801L (**)         | no                  | 329             | 205 | 207 | 132 | 187 | 13.8              |
| PA7550               | no                  | 329             | 153 | 211 | 156 | 255 | 16.3              |
| PA7550L (**)         | no                  | 329             | 153 | 211 | 156 | 255 | 16.3              |
| <b>Double Acting</b> |                     |                 |     |     |     |     |                   |
| PA1500M              | yes                 | 267             | 127 | 203 | 136 | 136 | 8.7               |
| PA3801M              | no                  | 329             | 129 | 204 | 135 | 187 | 10.9              |
| PA7550M              | no                  | 329             | 153 | 229 | 161 | 255 | 18.1              |

\* Unit is equipped with an external pressure adjustment (70-700 bar)  
 \*\*These pumps are equipped with a hand held air powered pendant

## Rotary Air Pumps

PUAR Series - 10,000 PSI Rated

**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. pg 71

**Related Product: Hoses**  
We offer a variety of hoses, fittings, lengths and materials. pg 73

**Will be delivered without Hydraulic Oil**



PUARD1701

PUARM4003

PUARD1703

PUAR Series



PU20M4N01C

## Universal Motor Pumps

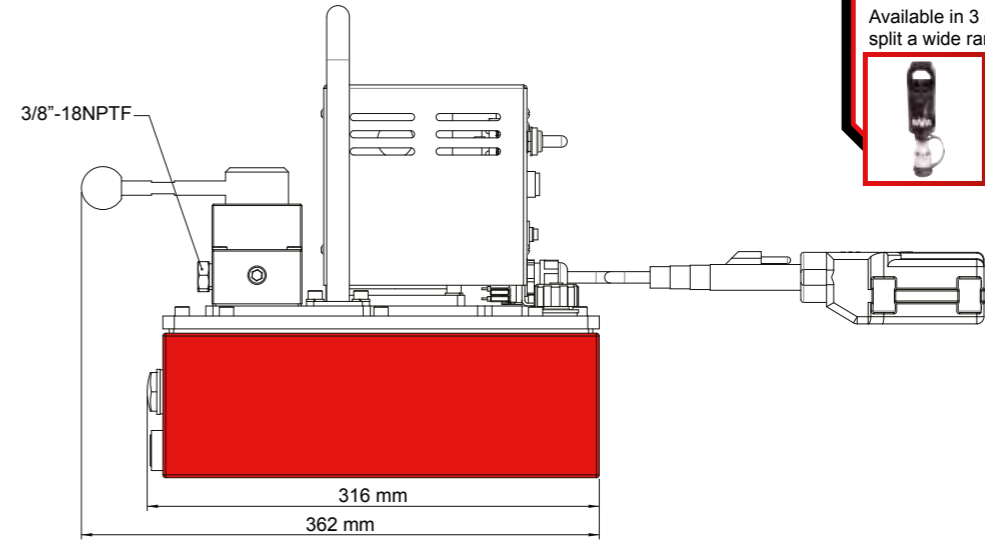
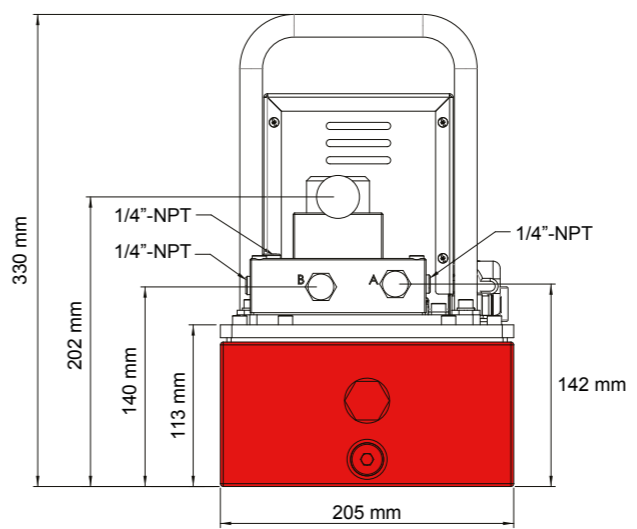
PU Series - Light-Weight Pumps

- Portable, light weight and compact design.
- Universal Motor, starts under full load and is available in either 120VAC 50/60 HZ or 240VAC 50/60HZ.
- 3mt 24 VAC pendant control for safety.
- Weighs only 17 kg. with oil.
- External pressure adjustment is available.
- Designed for intermittent duty operation.
- Gauge port on control valve.
- Reservoir Capacity 3.8L

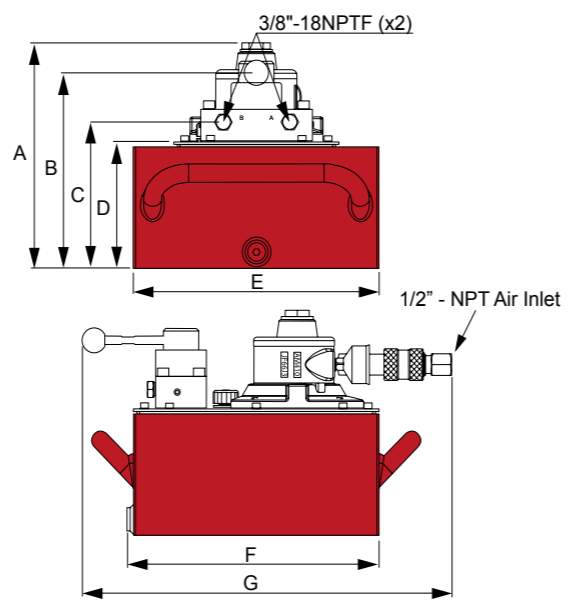
**Hydraulic Gear Pullers**  
5, 10, 15, 25 & 50 Tonne Hydraulic Gear Pullers have a safety cage design to help keep the jaws tight to the gear and prevent slippage that can cause injury. Pair these with BVA's PU20M3N01B Lightweight e-pump for portability. pg 83

**Flange Spreaders**  
BVA's Pin Type Flange Spreaders are available in both 5 & 10 Tonne models and well suited for most environments. For portability and speed the PU20M4N01B would be an ideal choice. pg 85

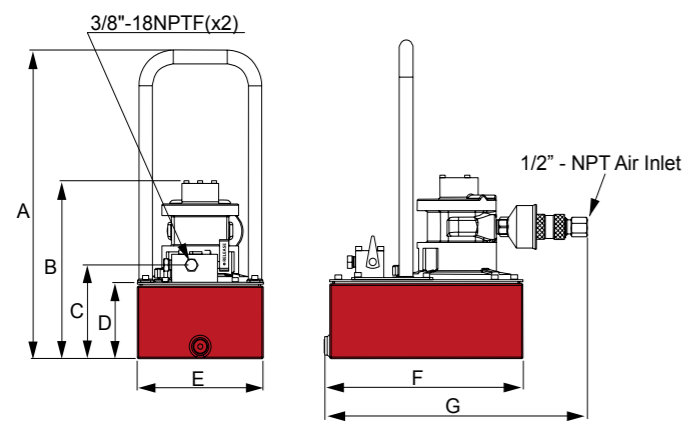
**Hydraulic Nut Splitters**  
Available in 3 models, each nut splitter can split a wide range of nut sizes thereby reducing the number of splitters needed. The BVA PU20DMP01B dump style pump functions well with these splitters. pg 86



PUAR1703 and PUAR4003



PUARD1701



| Used with Cylinder | Motor Size (hp) | Usable Oil Capacity (cc) | Model Number | Pressure Rating (BAR) | Pressure Rating             |                             | Oil Output Flow Rate          |                               | Valve Type  | Valve Function      | Air Pressure Range (BAR) |
|--------------------|-----------------|--------------------------|--------------|-----------------------|-----------------------------|-----------------------------|-------------------------------|-------------------------------|-------------|---------------------|--------------------------|
|                    |                 |                          |              |                       | 1 <sup>st</sup> Stage (BAR) | 2 <sup>nd</sup> Stage (BAR) | 1 <sup>st</sup> Stage (L/min) | 2 <sup>nd</sup> Stage (L/min) |             |                     |                          |
| Single Acting      | 1.7             | 3800                     | PUARD1701    | 700                   | 48.30                       | 700                         | 5.13                          | 0.36                          | Dump        | Advance/Return      | 4.14~5.52                |
|                    | 1.7             | 11400                    | PUARD1703    | 700                   | 48.30                       | 700                         | 5.13                          | 0.36                          | Dump        | Advance/Return      | 4.14~5.52                |
|                    | 4               | 11400                    | PUARD4003    | 700                   | 48.30                       | 700                         | 7.62                          | 1.15                          | Dump        | Advance/Return      | 4.14~0.69                |
|                    | 1.7             | 11400                    | PUAR1703     | 700                   | 48.30                       | 700                         | 6.83                          | 0.36                          | Manual PUW3 | Advance/Hold/Return | 4.14~5.52                |
|                    | 4               | 11400                    | PUAR4003     | 700                   | 48.30                       | 700                         | 8.39                          | 1.15                          | Manual PUW3 | Advance/Hold/Return | 4.14~0.69                |
| Double Acting      | 1.7             | 11400                    | PUARM1703    | 700                   | 48.30                       | 700                         | 6.83                          | 0.36                          | Manual PUW4 | Advance/Hold/Return | 4.14~5.52                |
|                    | 4               | 11400                    | PUARM4003    | 700                   | 48.30                       | 700                         | 8.39                          | 1.15                          | Manual PUW4 | Advance/Hold/Return | 4.14~0.69                |

| Model Number | Air Consumption (L/min) | Max Sound Level (dBA) | Dimensions (mm) |     |     |     |     |     |     | Weight (kg) |
|--------------|-------------------------|-----------------------|-----------------|-----|-----|-----|-----|-----|-----|-------------|
|              |                         |                       | A               | B   | C   | D   | E   | F   | G   |             |
| PUARD1701    | 1246                    | 93                    | 485             | 239 | 147 | 120 | 205 | 313 | 404 | 19.1        |
| PUARD1703    | 1246                    | 93                    | -               | 304 | 212 | 185 | 305 | 313 | 456 | 24.5        |
| PUARD4003    | 2690                    | 100                   | -               | 344 | 212 | 185 | 305 | 313 | 467 | 29.9        |
| PUAR1703     | 1246                    | 93                    | 303             | 267 | 209 | 185 | 305 | 313 | 459 | 24.9        |
| PUAR4003     | 2690                    | 100                   | 344             | 267 | 209 | 185 | 305 | 313 | 470 | 30.4        |
| PUARM1703    | 1246                    | 93                    | 303             | 267 | 209 | 185 | 305 | 313 | 459 | 24.9        |
| PUARM4003    | 269                     | 100                   | -               | 344 | 209 | 185 | 305 | 313 | 470 | 26.9        |

| Valve Function            | Flow Rate             |       |                       |     | Motor Size | Voltage 50/60 Hz |            | Weight (kg) | Length (mm) | Width (mm) | Height (mm) |
|---------------------------|-----------------------|-------|-----------------------|-----|------------|------------------|------------|-------------|-------------|------------|-------------|
|                           | 1 <sup>st</sup> Stage |       | 2 <sup>nd</sup> Stage |     |            | 120 VAC          | 240 VAC    |             |             |            |             |
|                           | L/min                 | BAR   | L/min                 | BAR |            | Model #          | Model #    |             |             |            |             |
| 3W/3P Advance/Hold Return | 2.18                  | 62~76 | 0.46                  | 700 | 1.0 Hp     | PU20M3N01B       | PU20M3N01C | 16.8        | 362         | 205        | 300         |
| 4W/3P Advance/Hold/Return | 2.18                  | 62~76 | 0.46                  | 700 | 1.0 Hp     | PU20M4N01B       | PU20M4N01C | 16.8        | 362         | 205        | 300         |



## Electric Pumps

PE30, PE40, PE50 and PE60 Series - Single Phase

- Meets OSHA regulations for sound (80dBA).
- 2 Stage pumps provide fast run up before the high pressure stage.
- Suction strainers screen out contamination to prevent pump damage.
- All units are wired as 240 VAC 50 Hz , and are IP54 rated.
- All hand pendants are wired 24 VAC for safety , and are IP65 rated.
- Starts under full load.



PE40M4U02D



PEW03 Optional

| Use with Cylinder Type | Flow Rate             |     |                       |     | Motor Size |
|------------------------|-----------------------|-----|-----------------------|-----|------------|
|                        | 1 <sup>st</sup> Stage |     | 2 <sup>nd</sup> Stage |     |            |
|                        | L/min                 | BAR | L/min                 | BAR |            |

| Manual Valve                         |                            |  |      |    |      |     |        |
|--------------------------------------|----------------------------|--|------|----|------|-----|--------|
|                                      | 3W/3P Advance /Hold Return |  | 4.20 | 24 | 0.24 | 700 | 0.5 Hp |
|                                      |                            |  | 4.20 | 48 | 0.49 | 700 | 1.0 Hp |
|                                      |                            |  | 6.40 | 48 | 0.83 | 700 | 1.5 Hp |
|                                      |                            |  | 7.10 | 48 | 1.50 | 700 | 3 Hp   |
|                                      | 4W/3P Advance /Hold/Return |  | 4.20 | 24 | 0.24 | 700 | 0.5 Hp |
|                                      |                            |  | 4.20 | 48 | 0.49 | 700 | 1.0 Hp |
|                                      |                            |  | 6.40 | 48 | 0.83 | 700 | 1.5 Hp |
|                                      |                            |  | 7.10 | 48 | 1.50 | 700 | 3 Hp   |
| Manual Valve w/3 meter Motor Pendant |                            |  |      |    |      |     |        |
|                                      | 3W/3P Advance /Hold Return |  | 4.20 | 24 | 0.24 | 700 | 0.5 Hp |
|                                      |                            |  | 4.20 | 48 | 0.49 | 700 | 1.0 Hp |
|                                      |                            |  | 6.40 | 48 | 0.83 | 700 | 1.5 Hp |
|                                      |                            |  | 7.10 | 48 | 1.50 | 700 | 3 Hp   |
|                                      | 4W/3P Advance /Hold/Return |  | 4.20 | 24 | 0.24 | 700 | 0.5 Hp |
|                                      |                            |  | 4.20 | 48 | 0.49 | 700 | 1.0 Hp |
|                                      |                            |  | 6.40 | 48 | 0.83 | 700 | 1.5 Hp |
|                                      |                            |  | 7.10 | 48 | 1.50 | 700 | 3 Hp   |
| Solenoid Valve w/3 meter Pendant     |                            |  |      |    |      |     |        |
|                                      | 3W/3P Advance /Hold Return |  | 4.20 | 24 | 0.24 | 700 | 0.5 Hp |
|                                      |                            |  | 4.20 | 48 | 0.49 | 700 | 1.0 Hp |
|                                      |                            |  | 6.40 | 48 | 0.83 | 700 | 1.5 Hp |
|                                      |                            |  | 7.10 | 48 | 1.50 | 700 | 3 Hp   |
|                                      | 4W/3P Advance /Hold/Return |  | 4.20 | 24 | 0.24 | 700 | 0.5 Hp |
|                                      |                            |  | 4.20 | 48 | 0.49 | 700 | 1.0 Hp |
|                                      |                            |  | 6.40 | 48 | 0.83 | 700 | 1.5 Hp |
|                                      |                            |  | 7.10 | 48 | 1.50 | 700 | 3 Hp   |



PE50M4U03D



PE30M4U01D



PE40S4U02D



PE60M4U15D

### PE Series

**80%** **Safety Practices**  
 Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

| Usable Oil Capacity                  |               |                |                |               |
|--------------------------------------|---------------|----------------|----------------|---------------|
| 1 Gal / 3.8 L                        | 2 Gal / 7.6 L | 3 Gal / 11.4 L | 5 Gal / 19.4 L | 16 Gal / 60 L |
| Model Number                         | Model Number  | Model Number   | Model Number   | Model Number  |
| Manual Valve                         |               |                |                |               |
| PE30M3U01D                           | PE30M3U02D    | PE30M3U03D     | -              | -             |
| -                                    | PE40M3U02D    | PE40M3U03D     | PE40M3U05D     | PE40M3U15D    |
| -                                    | -             | PE50M3U03D     | PE50M3U05D     | PE50M3U15D    |
| -                                    | -             | -              | PE60M3U05D     | PE60M3U15D    |
| PE30M4U01D                           | PE30M4U02D    | PE30M4U03D     | -              | -             |
| -                                    | PE40M4U02D    | PE40M4U03D     | PE40M4U05D     | PE40M4U15D    |
| -                                    | -             | PE50M4U03D     | PE50M4U05D     | PE50M4U15D    |
| -                                    | -             | -              | PE60M4U05D     | PE60M4U15D    |
| Manual Valve w/3 meter Motor Pendant |               |                |                |               |
| PE30W3U01D                           | PE30W3U02D    | PE30W3U03D     | -              | -             |
| -                                    | PE40W3U02D    | PE40W3U03D     | PE40W3U05D     | PE40W3U15D    |
| -                                    | -             | PE50W3U03D     | PE50W3U05D     | PE50W3U15D    |
| -                                    | -             | -              | PE60W3U05D     | PE60W3U15D    |
| PE30W4U01D                           | PE30W4U02D    | PE30W4U03D     | -              | -             |
| -                                    | PE40W4U02D    | PE40W4U03D     | PE40W4U05D     | PE40W4U15D    |
| -                                    | -             | PE50W4U03D     | PE50W4U05D     | PE50W4U15D    |
| -                                    | -             | -              | PE60W4U05D     | PE60W4U15D    |
| Solenoid Valve w/3 meter Pendant     |               |                |                |               |
| PE30S3U01D                           | PE30S3U02D    | PE30S3U03D     | -              | -             |
| -                                    | PE40S3U02D    | PE40S3U03D     | PE40S3U05D     | PE40S3U15D    |
| -                                    | -             | PE50S3U03D     | PE50S3U05D     | PE50S3U15D    |
| -                                    | -             | -              | PE60S3U05D     | PE60S3U15D    |
| PE30S4U01D                           | PE30S4U02D    | PE30S4U03D     | -              | -             |
| -                                    | PE40S4U02D    | PE40S4U03D     | PE40S4U05D     | PE40S4U15D    |
| -                                    | -             | PE50S4U03D     | PE50S4U05D     | PE50S4U15D    |
| -                                    | -             | -              | PE60S4U05D     | PE60S4U15D    |

# Electric Pumps

Electric Power Source



**Pump Accessories**  
See the assortment of accessories designed to work with these pumps. pg 62

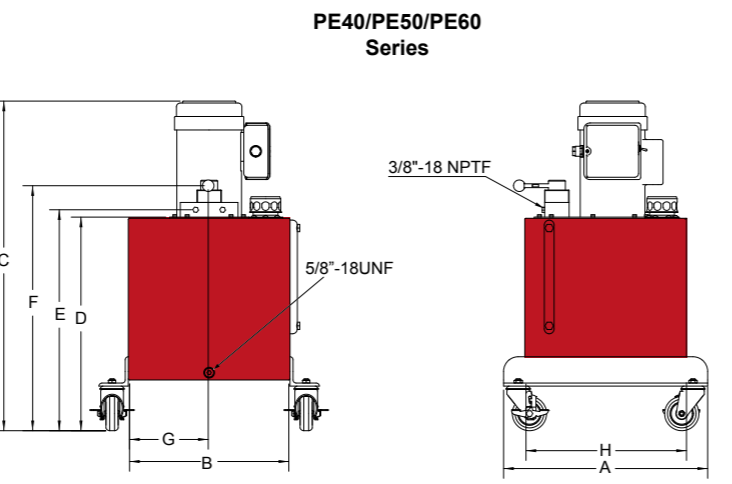
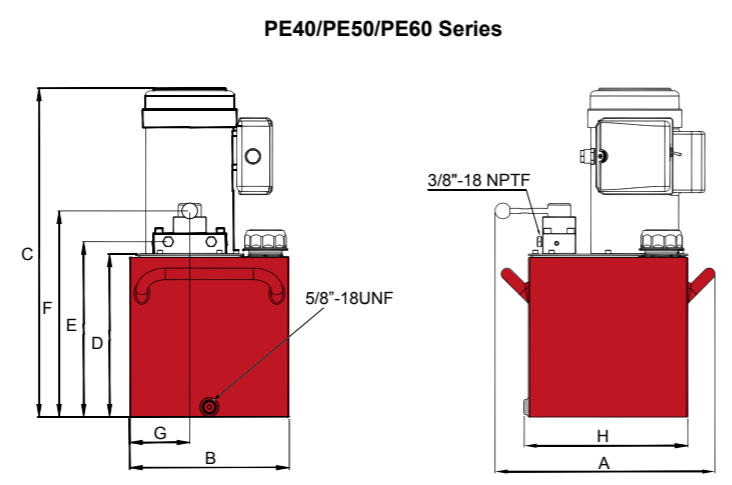
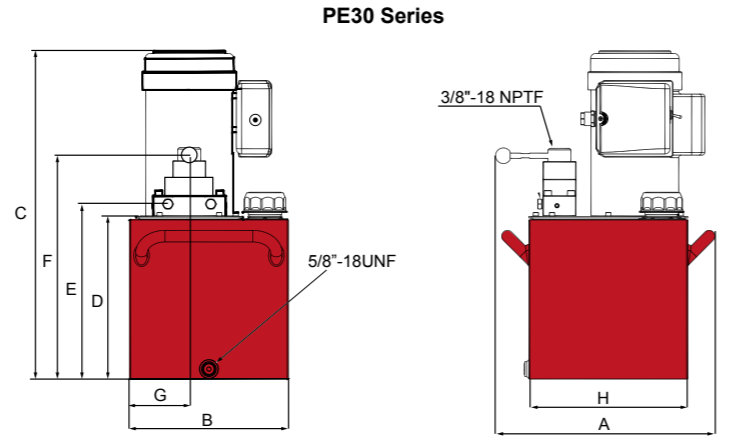
**80% Safety Practices**  
Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. pg 102

**Pressure Settings**  
Custom pressure settings available upon request. Contact your local BVA dealer.

**Reservoir Sizing**  
Recommended reservoir sizing is Extended Cylinder + Hose Volume Oil Capacity x 1.3

**Will be delivered without Hydraulic Oil**



## Single Phase Pump Matrix Chart

If you don't see a pump that would fit your application needs, you can custom build a pump to your desired specifications. Use this Pump Matrix Chart as a guide for creating your very own custom built Electric Pump. For assistance in building your pump, call your local BVA Representative.

**P | E | 30 | S4U | 02 | A**

**1** Product Type    **2** Motor Type    **3** Flow Group    **4** Valve Type /Operation    **5** Reservoir Size    **6** Voltage

**1 - Product Type**  
P Pump

**2 - Motor Type**  
E Induction Electric Motor, TEFC

**3 - Flow Group**  
30 4.2/0.24 L/min @ 25/700 BAR, ½ Hp (0.37 kW)  
40 4.2/0.49 L/min @ 48/700 BAR, 1 Hp (0.75 kW)  
50 6.4/0.83 L/min @ 48/700 BAR, 1.5 Hp (1.12 kW)  
60 7.1/1.5 L/min @ 48/700 BAR, 3 Hp (2.24 kW)

**4 - Valve Type/Operation**  
CURM Pump Mounted Manifold Block - Pressure & Return Ports Only  
M2U Manual Valve 3W/2P  
M3U Manual Valve 3W/3P  
M4U Manual Valve 4W/3P  
M3LU Manual Valve 3W/3P w/Locking Plate  
M4LU Manual Valve 4W/3P w/Locking Plate  
W2U Manual Valve 3W/2P w/3 meter Motor Control Pendant  
W3U Manual Valve 3W/3P w/3 meter Motor Control Pendant  
W4U Manual Valve 4W/3P w/3 meter Motor Control Pendant  
W3LU Manual Valve 3W/3P w/Locking Plate and 3 meter Motor Control Pendant  
W4LU Manual Valve 4W/3P w/Locking Plate and 3 meter Motor Control Pendant  
S3U Solenoid Valve 3W/3P (Spool Type)  
S4U Solenoid Valve 4W/3P (Spool Type)

**5 - Reservoir Size**  
01 1 Gallon / 3.8 L  
02 2 Gallons / 7.6 L  
03 3 Gallons / 11.4 L  
05 5 Gallons / 19.4 L  
15 15 Gallons / 60 L (Including castors)

**6 - Voltage**  
A 120V 1 ph 50 Hz  
D 230V 1 ph 50 Hz - European Plug



PE Series

**Ordering Example**  
**PE30M4N01D**  
After reviewing this model number, we know that the pump has the following specifications:  
- Electric power source  
- ½ Hp (0.37 kW) flow group  
- Manual Valve 4W/3P  
- 1 gallon/3.8 L reservoir tank

PE30M4U01D

**Related Product: Gauges**  
Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. pg 71

**Related Product: Footpedals**  
These can be used with all pumps equipped with solenoid valves. pg 66

**Related Product: Hoses**  
We offer a variety of hoses, fittings, lengths and materials. pg 73

**Safety Instructions**  
Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared. pg 102

**Will be delivered without Hydraulic Oil**

| Reservoir Size (L) | Dimensional Table (mm) |     |     |     |     |     |     |     | Pump Weight by Series* (kg) |      |      |      |
|--------------------|------------------------|-----|-----|-----|-----|-----|-----|-----|-----------------------------|------|------|------|
|                    | A                      | B   | C   | D   | E   | F   | G   | H   | PE30                        | PE40 | PE50 | PE60 |
| 3.8                | 419                    | 301 | 485 | 119 | 145 | 305 | 206 | 315 | 30.5                        | -    | -    | -    |
| 7.6                | 421                    | 321 | 455 | 152 | 175 | 335 | 114 | 315 | 32                          | 35   | -    | -    |
| 11.4               | 421                    | 325 | 502 | 183 | 208 | 267 | 114 | 315 | 34                          | 36.7 | 41.3 | -    |
| 19.4               | 421                    | 325 | 654 | 312 | 335 | 394 | 114 | 315 | -                           | 39   | 41   | 47.3 |
| 60                 | 531                    | 419 | 879 | 561 | 587 | 645 | 211 | 419 | -                           | 64   | 70   | 76   |

\* Pump weights include oil.

Not all options are available in all configurations. Table is for reference only. Please consult your local BVA dealer if you want to order a custom pump or if you have questions.

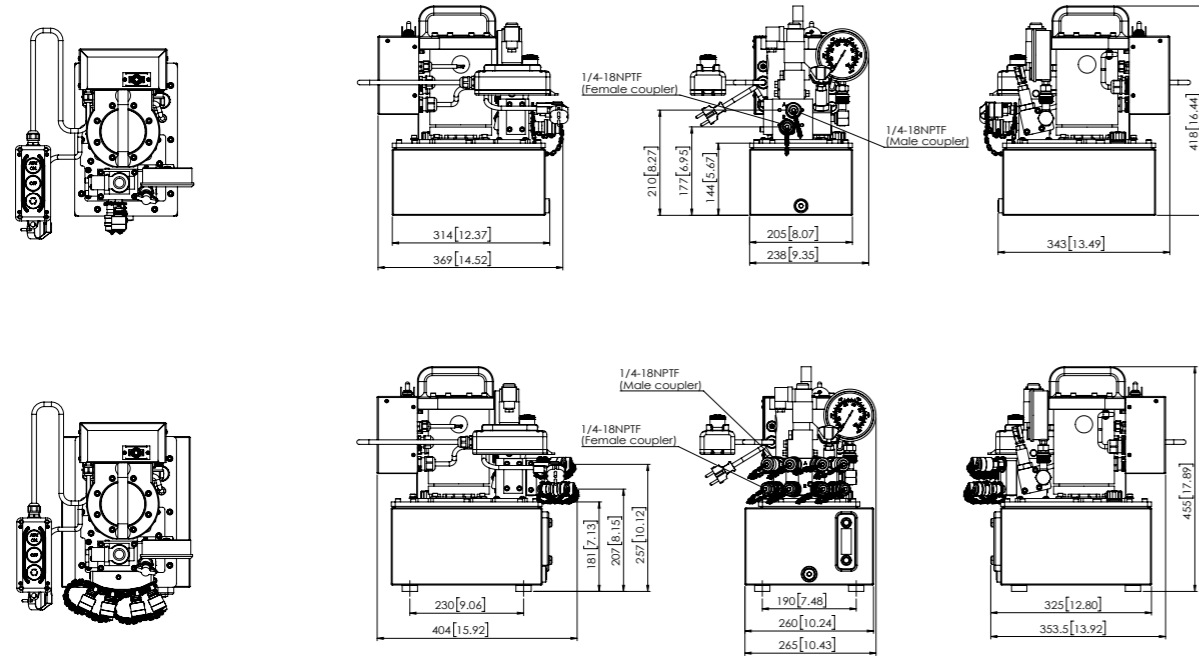


## Torc wrench pump

- Torq 1 or up to 4 separate wrenches simultaneously.
- With integrated manometer.
- Pendant operated.
- Rollcage optional.
- Optional heat exchanger / system filter.



PU55T4W025C



| Model Number | Usable Oil Capacity (Liter) | Output Flow Rate (L / Min) |         |         | Motor Voltage   | Pump Dimension  | Current Draw @10,000 PSI (Amp) | Noise Level (dBA) | Weight (w/Oil, kg.) |
|--------------|-----------------------------|----------------------------|---------|---------|-----------------|-----------------|--------------------------------|-------------------|---------------------|
|              |                             | 48 BAR                     | 450 BAR | 700 BAR |                 |                 |                                |                   |                     |
| PU55T1W025B  | 9,4                         | 7,2                        | 1,3     | 1,1     | 120VAC, 50/60HZ | 350 mm (Length) | 23                             | 90                | 32,1                |
| PU55T1W025C  | 9,4                         | 7,2                        | 1,2     | 1       | 240VAC, 50/60HZ | 265 mm (Width)  | 11                             | 90                | 31,7                |
| PU55T4W025B  | 9,4                         | 7,2                        | 1,3     | 1,1     | 120VAC, 50/60HZ | 455 mm (Height) | 23                             | 90                | 34,4                |
| PU55T4W025C  | 9,4                         | 7,2                        | 1,2     | 1       | 240VAC, 50/60HZ |                 | 11                             | 90                | 34                  |

## 3-Phase Electric Pumps

380V Electric power



PE60M4U06W

- All hand pendants are wired with 24 VAC.
- Quiet operation meets OSHA regulations (80dBA).
- 2 speed operation allows for faster cylinder advance.
- Full load starting capacities.
- Internal suction strainer keeps contamination from damaging pump.
- Rugged durable design meets the demands of industrial applications.
- Precision components to minimize wear and improve overall dependability.
- Reservoirs equipped with sight level gauges.
- PE60 Models are standard as 380 VAC 50 Hz.

### 3-Phase Pump Matrix Chart

If you don't see a pump that would fit your application needs, you can custom build a pump to your desired specifications. Use this Pump Matrix Chart as a guide for creating your very own custom built Electric Pump. For assistance in building your pump, call your local BVA Representative.

**P E 60 M4U 06 W**

1 Product Type    2 Motor Type    3 Flow Group    4 Valve Type /Operation    5 Reservoir Size    6 Voltage

#### 1 - Product Type

P Pump

#### 2 - Motor Type

E Induction Electric Motor, TEFC

#### 3 - Flow Group

60 6300 cc/min @ 48 BAR  
1330 cc/min @ 700 BAR, 3.0 Hp

#### 4 - Valve Type/Operation

**CURM** Pump Mounted Manifold Block - Pressure & Return Ports Only  
**M2U** Manual Valve 3W/2P  
**M3U** Manual Valve 3W/3P  
**M4U** Manual Valve 4W/3P  
**W3U** Manual Valve 3W/3P w. 3 meter Motor Control Pendant  
**W4U** Manual Valve 4W/3P w. 3 meter Motor Control Pendant  
**S4U** Solenoid Valve 4W/3P (Spool Type)

#### 5 - Reservoir Size

06 6 Gallons / 22.7 L

#### 6 - Voltage

W 380-415V 3 ph 50 Hz

#### Safety Instructions

Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared.

**Pressure Settings**  
 Custom pressure settings available upon request. Contact your local BVA dealer.

**80% Safety Practices**  
 Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

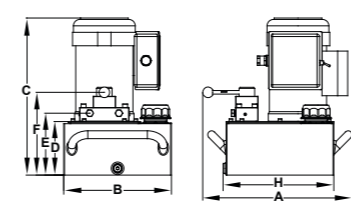
**Will be delivered without Hydraulic Oil**

**Pump Accessories**  
 See the assortment of accessories designed to work with these pumps. [pg 62](#)

**Related Product: Gauges**  
 Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need. [pg 71](#)

**Related Product: Hoses**  
 We offer a variety of hoses, fittings, lengths and materials. [pg 73](#)

| Model Number    | Valve Type | Valve Function   | Motor Voltage (volts) | Sound Level (dBA) | Motor Size (kW) | Usable Oil Capacity (L) | Pressure Rating (BAR) |                       | Oil Output Flow Rate (L) |                       | Current Draw (Amp) |
|-----------------|------------|------------------|-----------------------|-------------------|-----------------|-------------------------|-----------------------|-----------------------|--------------------------|-----------------------|--------------------|
|                 |            |                  |                       |                   |                 |                         | 1 <sup>st</sup> Stage | 2 <sup>nd</sup> Stage | 1 <sup>st</sup> Stage    | 2 <sup>nd</sup> Stage |                    |
| <b>380 Volt</b> |            |                  |                       |                   |                 |                         |                       |                       |                          |                       |                    |
| PE60M4U06W      | Manual     | 4-Way 3-Position | 380                   | 80                | 2.24            | 22.7                    | 48                    | 700                   | 6.3                      | 1.33                  | 4.5                |
| PE60S4N06W      | Solenoid   | 4-Way 3-Position | 380                   | 80                | 2.24            | 22.7                    | 48                    | 700                   | 6.3                      | 1.33                  | 4.5                |



| Model Number    | Dimensions (mm) |     |     |     |     |     |     | Weight (kg) |
|-----------------|-----------------|-----|-----|-----|-----|-----|-----|-------------|
|                 | A               | B   | C   | D   | E   | F   | H   |             |
| <b>380 Volt</b> |                 |     |     |     |     |     |     |             |
| PE60M4U06W      | 524             | 376 | 583 | 224 | 247 | 307 | 436 | 62          |
| PE60S4N02W      | 524             | 376 | 583 | 224 | 247 | 307 | 436 | 62          |

## Gas and Diesel Pumps

PG/PD Series - Portable Power



PG70M4U05



PD70M4U05



**Will be delivered without Hydraulic Oil**



### Safety Practices

Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.



### Related Product: Gauges

Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need.



### Related Product: Hoses

We offer a variety of hoses, fittings, lengths and materials.



### Safety Instructions

Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared.

### Gas Pumps



- Gas engine pumps will provide 10,000 psi at remote locations
- Industrial grade 5.5 Honda Gas Engine
- Ideal for applications at remote locations
- Two speed pump designed for rapid cylinder advance
- Gas pump features a sturdy protective roll cage for use in the toughest environments
- Manual control valve for use with single or double acting cylinders or tools

### Diesel Pumps



- Diesel engine pumps will provide 10,000 psi at remote locations
- Industrial grade 4.6 hp / 3.5 kN HATZ Diesel engine
- Locking solenoid control valve for use with single or double acting cylinders or tools
- Two speed pump designed for rapid cylinder advance
- Pump features a sturdy protective roll cage for use in the toughest environments
- Ideal for application when diesel fuel in remote environments is required
- Optional: electric start

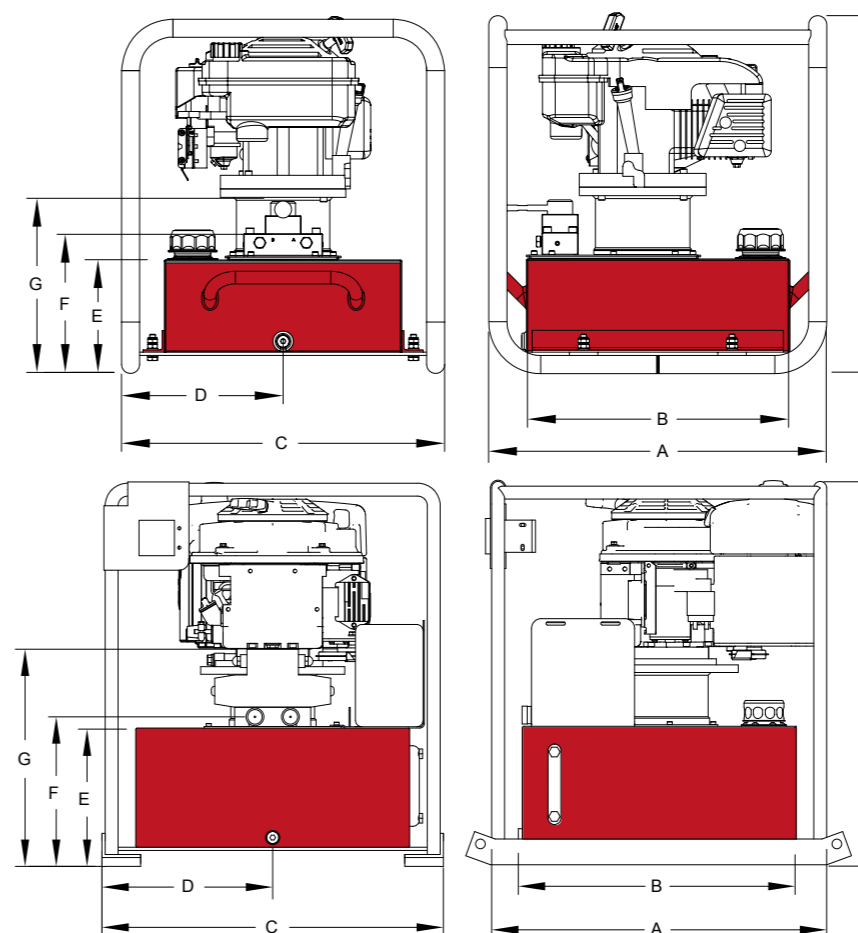
## Gas and Diesel Pumps

PG/PD Series



PG70M3U05

PD70M4U05



### Safety Practices

Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.



### Related Product: Gauges

Reduce the risk of overloading your product by using a gauge. A variety of graduations and types to suit any need.



### Related Product: Hoses

We offer a variety of hoses, fittings, lengths and materials.



### Safety Instructions

Visit our DO'S and DON'TS section to review the best methods of operation. Always be prepared.

| Valve Function            | Valve Type                 |                               | 7.4 Gal / 19.4 L | Flow Rate             |       |                       |       |
|---------------------------|----------------------------|-------------------------------|------------------|-----------------------|-------|-----------------------|-------|
|                           |                            |                               |                  | 1 <sup>st</sup> Stage |       | 2 <sup>nd</sup> Stage |       |
|                           |                            |                               |                  | Model Number          | L/min | BAR                   | L/min |
| 3W/3P Advance/Hold Return | Manual                     | 7.4 Gal Gas - 5.5 Hp Honda    | PG70M3U05        | 7.0                   | 48.3  | 1.6                   | 700   |
|                           | Solenoid (only for Diesel) | 12.2 Gal Diesel - 4.6 Hp HATZ | PD70M3U05        | 9.8                   | 48.3  | 3.3                   | 700   |
| 4W/3P Advance/Hold Return | Manual                     | 7.4 Gal Gas - 5.5 Hp Honda    | PG70M4U05        | 7.0                   | 48.3  | 1.6                   | 700   |
|                           | Solenoid (only for Diesel) | 12.2 Gal Diesel - 4.6 Hp HATZ | PD70M4U05        | 9.8                   | 48.3  | 3.3                   | 700   |

| Model Number*       | Dimensions (mm) |     |     |     |     |     | Weight** (Kg) |
|---------------------|-----------------|-----|-----|-----|-----|-----|---------------|
|                     | A               | B   | C   | D   | E   | H   |               |
| <b>Gas Pumps</b>    |                 |     |     |     |     |     |               |
| PG70xxx05           | 952             | 469 | 572 | 286 | 208 | 627 | 73.5          |
| <b>Diesel Pumps</b> |                 |     |     |     |     |     |               |
| PD70xxx10           | 830             | 593 | 686 | 343 | 304 | 828 | 149.2         |

\* "xxx" in the model number refers to the type of valve you may use on the gas/diesel engine pump. Refer to your local BVA dealer or the Matrix Chart (on page 58) to build your own pump.  
\*\* Pump weights include oil.



## Combinations

### Pump and Cylinder Sets

**Each set includes:**

- 1/4" ID 2 meter Hydraulic Hose.
- 3/8" High Flow Male Coupler.
- 63 mm Diameter Wet Gauge.



We see here our combo kit SA15-3002L getting set up to lift a load. This combo kit includes a HL3002 cylinder, PA1500 air pump, CS3814 hose, CH38M coupler set, CF3814 gauge adapter and a GBW1460 pressure gauge.

## Combinations

### Pump and Cylinder Sets



| Single Acting Cylinder Type | Cylinder           |              |             |                       | Hand Pump P352 | Hand Pump P1000 | Hand Pump P2301 | Air Pump PA1500 |
|-----------------------------|--------------------|--------------|-------------|-----------------------|----------------|-----------------|-----------------|-----------------|
|                             | Capacity           | Model Number | Stroke (mm) | Collapsed Height (mm) |                |                 |                 |                 |
| General Purpose Cylinders   | 5 Tonne<br>44 kN   | H0505        | 129         | 221                   | SP352-0505     | -               | -               | -               |
|                             | 10 Tonne<br>99 kN  | H1002        | 51          | 123                   | -              | SP10-1002       | -               | SA15-1002       |
|                             |                    | H1004        | 102         | 174                   | -              | SP10-1004       | -               | SA15-1004       |
|                             |                    | H1006        | 155         | 250                   | -              | SP10-1006       | -               | SA15-1006       |
|                             |                    | HT1006       | 151         | 291                   | -              | SP10-1006T      | -               | SA15-1006T      |
|                             |                    | H1010        | 257         | 352                   | -              | SP10-1010       | -               | SA15-1010       |
|                             |                    | HT1010       | 253         | 393                   | -              | SP10-1010T      | -               | SA15-1010T      |
|                             | 15 Tonne<br>139 kN | H1504        | 101         | 200                   | -              | SP10-1504       | -               | SA15-1504       |
|                             |                    | H1506        | 152         | 270                   | -              | SP10-1506       | -               | SA15-1506       |
|                             | 25 Tonne<br>228 kN | H2502        | 51          | 168                   | -              | SP10-2502       | -               | SA15-2502       |
|                             |                    | H2504        | 102         | 219                   | -              | SP10-2504       | -               | SA15-2504       |
|                             |                    | H2506        | 155         | 272                   | -              | SP10-2506       | -               | SA15-2506       |
|                             |                    | H2508        | 206         | 323                   | -              | -               | SP23-2508       | SA15-2508       |
|                             |                    | H2514        | 362         | 476                   | -              | -               | SP23-2514       | SA15-2514       |
|                             | 50 Tonne<br>487 kN | H5506        | 159         | 283                   | -              | -               | SP23-5506       | SA15-5506       |
| 100 Tonne<br>911 kN         | H10002             | 51           | 219         | -                     | -              | SP23-10002      | -               |                 |
| Flat Body Cylinders         | 5 Tonne<br>49 kN   | HF0503*      | 6           | 32                    | SP352-0503F    | -               | -               | -               |
|                             |                    | HF0503B *    | 6           | 32                    | SP352-0503B    | -               | -               | -               |
|                             | 10 Tonne<br>104 kN | HF1005       | 11          | 43                    | SP352-1005F    | -               | -               | -               |
|                             |                    | HF1005B      | 11          | 43                    | SP352-1005B    | -               | -               | -               |
|                             | 20 Tonne<br>194 kN | HF2005       | 11          | 51                    | SP352-2005F    | -               | -               | -               |
|                             |                    | HF2005B      | 11          | 51                    | SP352-2005B    | -               | -               | -               |
|                             | 30 Tonne<br>288 kN | HF3005       | 13          | 59                    | SP352-3005F    | -               | -               | -               |
|                             |                    | HF3005B      | 13          | 59                    | SP352-3005B    | -               | -               | -               |
|                             | 45 Tonne<br>437 kN | HF5006       | 16          | 67                    | SP352-5006F    | -               | -               | -               |
|                             |                    | HF5006B      | 16          | 67                    | SP352-5006B    | -               | -               | -               |
| 75 Tonne<br>726 kN          | HF7506             | 16           | 80          | SP352-7506F           | -              | -               | -               |                 |
| 90 Tonne<br>870 kN          | HF10006            | 16           | 86          | SP352-10006F          | -              | -               | -               |                 |
| 150 Tonne<br>1359 kN        | HF15006            | 16           | 100         | -                     | SP10-15006F    | -               | -               |                 |

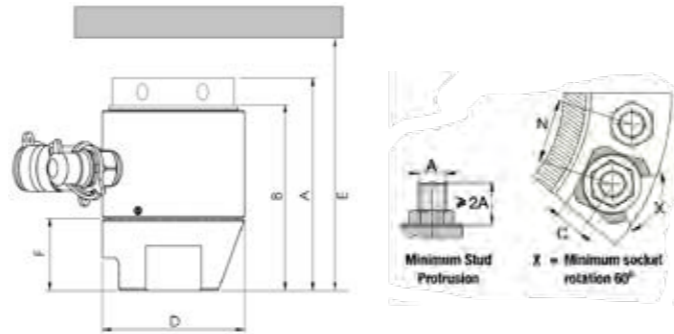
\* Fitted with CR38F coupler

| Single Acting Cylinder Type | Cylinder            |          |             |                       | Hand Pump P352 | Hand Pump P1000 | Hand Pump P2301 | Air Pump PA1500 |
|-----------------------------|---------------------|----------|-------------|-----------------------|----------------|-----------------|-----------------|-----------------|
|                             | Capacity            | Model    | Stroke (mm) | Collapsed Height (mm) |                |                 |                 |                 |
| Hollow Hole Cylinders       | 12 Tonne<br>129 kN  | HC1201T  | 8           | 60                    | SP352-1201T    | -               | -               | -               |
|                             |                     | HC1202   | 41          | 121                   | SP352-1202T    | -               | -               | -               |
|                             |                     | HC1202XT | 41          | 121                   | SP352-1202XT   | -               | -               | -               |
|                             |                     | HC1203XT | 76          | 184                   | -              | SP10-1203XT     | -               | -               |
|                             | 20 Tonne<br>217 kN  | HC2002T  | 51          | 162                   | -              | SP10-2002T      | -               | SA15-2002T      |
|                             | 30 Tonne<br>280 kN  | HC3002T  | 64          | 179                   | -              | SP10-3002T      | -               | SA15-3002T      |
|                             |                     | HC3006T  | 155         | 331                   | -              | SP10-3006T      | -               | SA15-3006T      |
|                             | 60 Tonne<br>578 kN  | HC6003T  | 76          | 248                   | -              | SP10-6003T      | -               | SA15-6003T      |
|                             |                     | HC6006T  | 152         | 324                   | -              | -               | SP23-6006T      | SA15-6006T      |
|                             | 100 Tonne<br>980 kN | HC10003T | 76          | 254                   | -              | -               | SP23-10003T     | SA15-10003T     |
| Low Profile Cylinders       | 10 Tonne<br>104 kN  | HL1001   | 38          | 89                    | SP352-1001L    | SP10-1001L      | -               | SA15-1001L      |
|                             | 10 Tonne<br>104 kN  | HL1001D  | 38          | 89                    | SP352-1001LD   | SP10-1001LD     | -               | SA15-1001LD     |
|                             | 20 Tonne<br>194 kN  | HL2002   | 44          | 99                    | SP352-2002L    | SP10-2002L      | -               | SA15-2002L      |
|                             | 30 Tonne<br>288 kN  | HL3002   | 62          | 117                   | SP352-3002L    | SP10-3002L      | -               | SA15-3002L      |
|                             | 45 Tonne<br>437 kN  | HL5002   | 60          | 122                   | -              | SP10-5002L      | -               | SA15-5002L      |
|                             | 90 Tonne<br>870 kN  | HL10002  | 57          | 141                   | -              | SP10-10002L     | SP23-10002L     | SA15-10002L     |
| Lock Nut Cylinders          | 50 Tonne<br>487 kN  | HLN5502  | 50          | 165                   | -              | -               | SP23-5502LN     | SA15-5502LN     |
|                             |                     | HLN5504  | 100         | 213                   | -              | -               | SP23-5504LN     | SA15-5504LN     |
|                             |                     | HLN5506  | 150         | 264                   | -              | -               | SP23-5506LN     | SA15-5506LN     |
| Aluminum Cylinders          | 30 Tonne<br>303 kN  | HU3002T  | 50          | 181                   | SP352-3002U    | -               | -               | SA15-3002U      |
|                             |                     | HU3006T  | 150         | 281                   | -              | SP10-3006U      | -               | SA15-3006U      |
|                             | 50 Tonne<br>487 kN  | HU5506T  | 150         | 286                   | -              | -               | SP23-5006U      | SA15-5006U      |

# 1500 BAR Bolt tensioner

## Pump and Cylinder Sets

- Fiveload cells from M16 to M105 or from 5/8"-11UN to 3 1/4"-8UN
- Twin ports for quick connection of multiple tools
- Only one size of bridge per size of load cell
- Detachable and rotational bridge simplifies tool positioning
- Full bridge window - increased access to socket
- Piston stroke indicator
- Black surface treatment protects against corrosion
- Anti-slip grip for more secure handling
- Universal and multi-use tool
- GT-Series Tensioners comply to Machine Directive 2006/42/CE



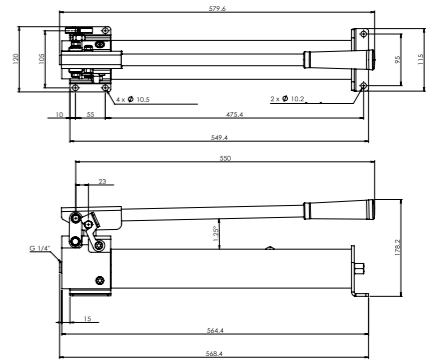
| Adaptor Kit Model Number                         | Thread Size | Bridge Model Number / Cylinder Effective area (mm) / Max load capacity (kN) | Dimensions (mm) |     |    |     |     |    |     | Load Cell and Bridge Weight | Weight** (Kg) |
|--|-------------|---|-----------------|-----|----|-----|-----|----|-----|-----------------------------|---------------|
|  |             |   | A               | B   | C  | D   | E   | F  | N   |                             |               |
| TB401 Hydraulic Topside Bolt Tensioner M16-M30   |             |   |                 |     |    |     |     |    |     |                             |               |
| TB401-01620                                      | M16 x 2     | TB401<br>1508 mm <sup>2</sup><br>226,2 kN                                   | 135             | 113 | 27 | 86  | 243 | 44 | 57  | 3,4                         | 1,7           |
| TB401-01825                                      | M18 x 2.5   |   | 135             | 113 | 27 | 86  | 243 | 44 | 58  | 3,4                         | 1,6           |
| TB401-02025                                      | M20 x 2.5   |   | 135             | 113 | 27 | 86  | 243 | 44 | 59  | 3,4                         | 1,5           |
| TB401-02430                                      | M24 x 3     |   | 135             | 113 | 27 | 86  | 243 | 44 | 61  | 3,4                         | 1,4           |
| TB401-02730                                      | M27 x 3     |   | 135             | 113 | 27 | 86  | 243 | 44 | 64  | 3,4                         | 1,3           |
| TB401-03035                                      | M30 x 3.5   |   | 135             | 113 | 27 | 86  | 243 | 44 | 66  | 3,4                         | 1,2           |
| TB401-0625U11                                    | 5/8" 11UN   |   | 135             | 113 | 27 | 86  | 243 | 44 | 57  | 3,4                         | 1,7           |
| TB401-0750U10                                    | 5/8" 11UN   |   | 135             | 113 | 27 | 86  | 243 | 44 | 59  | 3,4                         | 1,5           |
| TB401-0875U09                                    | 7/8" 9UN    |   | 135             | 113 | 27 | 86  | 243 | 44 | 62  | 3,4                         | 1,4           |
| TB401-1000U08                                    | 1" 8UN      |   | 135             | 113 | 27 | 86  | 243 | 44 | 64  | 3,4                         | 1,3           |
| TB401-1125U08                                    | 1-1/8" 8UN  | 135   | 113             | 27  | 86 | 243 | 44  | 66 | 3,4 | 1,1                         |               |
| TB402 Hydraulic Topside Bolt Tensioner M30 ~ M39 |             |   |                 |     |    |     |     |    |     |                             |               |
| TB402-03035                                      | M30 x 3.5   | TB402<br>2889 mm <sup>2</sup><br>433,35 kN                                  | 136             | 111 | 35 | 107 | 226 | 41 | 75  | 4,7                         | 2,7           |
| TB402-03335                                      | M33 x 3.5   |   | 136             | 111 | 35 | 107 | 226 | 41 | 76  | 4,7                         | 2,5           |
| TB402-03640                                      | M36 x 4     |   | 136             | 111 | 35 | 107 | 226 | 41 | 79  | 4,7                         | 2,3           |
| TB402-03940                                      | M39 x 4     |   | 136             | 111 | 35 | 107 | 226 | 41 | 82  | 4,7                         | 2,0           |
| TB402-1125U08                                    | 1-1/8" 8UN  |   | 136             | 111 | 35 | 107 | 226 | 41 | 74  | 4,7                         | 2,7           |
| TB402-1250U08                                    | 1-1/4" 8UN  |   | 136             | 111 | 35 | 107 | 226 | 41 | 76  | 4,7                         | 2,5           |
| TB402-1375U08                                    | 1-3/8" 8UN  |   | 136             | 111 | 35 | 107 | 226 | 41 | 79  | 4,7                         | 2,3           |
| TB402-1500U08                                    | 1-1/2" 8UN  |   | 136             | 111 | 35 | 107 | 226 | 41 | 82  | 4,7                         | 2,1           |
| TB403 Hydraulic Topside Bolt Tensioner M39 ~ M52 |             |   |                 |     |    |     |     |    |     |                             |               |
| TB403-03940                                      | M39 x 4     | TB403<br>5035 mm <sup>2</sup><br>755,25 kN                                  | 160             | 126 | 46 | 138 | 256 | 56 | 96  | 8,1                         | 5,8           |
| TB403-04245                                      | M42 x 4.5   |   | 160             | 126 | 46 | 138 | 256 | 56 | 98  | 8,1                         | 5,5           |
| TB403-04545                                      | M45 x 4.5   |   | 160             | 126 | 46 | 138 | 256 | 56 | 101 | 8,1                         | 5,1           |
| TB403-04850                                      | M48 x 5     |   | 160             | 126 | 46 | 138 | 256 | 56 | 104 | 8,1                         | 4,8           |
| TB403-05250                                      | M52 x 5     |   | 160             | 126 | 46 | 138 | 256 | 56 | 107 | 8,1                         | 4,3           |
| TB403-1500U08                                    | 1-1/2" 8UN  |   | 160             | 126 | 46 | 138 | 256 | 56 | 95  | 8,1                         | 5,8           |
| TB403-1625U08                                    | 1-5/8" 8UN  |   | 160             | 126 | 46 | 138 | 256 | 56 | 98  | 8,1                         | 5,4           |
| TB403-1750U08                                    | 1-3/4" 8UN  |   | 160             | 126 | 46 | 138 | 256 | 56 | 101 | 8,1                         | 5,1           |
| TB403-1875U08                                    | 1-7/8" 8UN  |   | 160             | 126 | 46 | 138 | 256 | 56 | 104 | 8,1                         | 4,7           |
| TB403-2000U08                                    | 2" 8UN      |   | 160             | 126 | 46 | 138 | 256 | 56 | 106 | 8,1                         | 4,3           |

| Adaptor Kit Model Number                         | Thread Size | Bridge Model Number / Cylinder Effective area (mm) / Max load capacity (kN) | Dimensions (mm) |     |    |     |     |    |     | Load Cell and Bridge Weight | Weight** (Kg) |
|--|-------------|---|-----------------|-----|----|-----|-----|----|-----|-----------------------------|---------------|
|  |             |   | A               | B   | C  | D   | E   | F  | N   |                             |               |
| TB404 Hydraulic Topside Bolt Tensioner M52 ~ M68 |             |   |                 |     |    |     |     |    |     |                             |               |
| TB404-05250                                      | M52 x 5     | TB404<br>9627 mm <sup>2</sup><br>1444,05 kN                                 | 180             | 141 | 62 | 174 | 281 | 71 | 121 | 14,2                        | 10,8          |
| TB404-05655                                      | M56 x 5.5   |   | 180             | 141 | 62 | 174 | 281 | 71 | 124 | 14,2                        | 10,2          |
| TB404-06055                                      | M60 x 5.5   |   | 180             | 141 | 62 | 174 | 281 | 71 | 127 | 14,2                        | 9,5           |
| TB404-06460                                      | M64 x 6     |   | 180             | 141 | 62 | 174 | 281 | 71 | 129 | 14,2                        | 8,9           |
| TB404-06860                                      | M68 x 6     |   | 180             | 141 | 62 | 174 | 281 | 71 | 132 | 14,2                        | 8,2           |
| TB404-2000U08                                    | 2" 8UN      |   | 180             | 141 | 62 | 174 | 281 | 71 | 120 | 14,2                        | 10,8          |
| TB404-2250U08                                    | 2-1/4" 8UN  |   | 180             | 141 | 62 | 174 | 281 | 71 | 126 | 14,2                        | 9,8           |
| TB404-2500U08                                    | 2-1/2" 8UN  |   | 180             | 141 | 62 | 174 | 281 | 71 | 132 | 14,2                        | 8,6           |
| TB405 Hydraulic Topside Bolt Tensioner M68 ~ M80 |             |   |                 |     |    |     |     |    |     |                             |               |
| TB405-06860                                      | M68 x 6     | TB405<br>15186 mm <sup>2</sup><br>2277,9 kN                                 | 202             | 157 | 78 | 210 | 302 | 86 | 148 | 23,4                        | 17,4          |
| TB405-07260                                      | M72 x 6     |   | 202             | 157 | 78 | 210 | 302 | 86 | 149 | 23,4                        | 16,5          |
| TB405-07660                                      | M76 x 6     |   | 202             | 157 | 78 | 210 | 302 | 86 | 152 | 23,4                        | 15,6          |
| TB405-08060                                      | M80 x 6     |   | 202             | 157 | 78 | 210 | 302 | 86 | 155 | 23,4                        | 14,7          |
| TB405-2500U08                                    | 2-1/2" 8UN  |   | 202             | 157 | 78 | 210 | 302 | 86 | 148 | 23,4                        | 17,9          |
| TB405-2750U08                                    | 2-3/4" 8UN  |   | 202             | 157 | 78 | 210 | 302 | 86 | 153 | 23,4                        | 16,4          |
| TB405-3000U08                                    | 3" 8UN      |   | 202             | 157 | 78 | 210 | 302 | 86 | 158 | 23,4                        | 14,9          |
| TB405-3250U08                                    | 3-1/4" 8UN  |   | 202             | 157 | 78 | 210 | 302 | 86 | 161 | 23,4                        | 13,2          |

## 1500 Bar Handpump



P1020HP



| Model Number                   | Usable Oil Capacity (cc) | Oil Outlet Port | Pressure Rating/Oil Displacement per Stroke |            | Piston Stroke (mm) | Handle Operating Force (N) | Reservoir Construction | Weight (kg) |
|--------------------------------|--------------------------|-----------------|---|------------|--------------------|----------------------------|------------------------|-------------|
|                                |                          |                 | A   | B          |                    |                            |                        |             |
| <b>2-Speed - Single Acting</b> |                          |                 |   |            |                    |                            |                        |             |
| P1020HP                        | 1000                     | G 1/4"          | 20 / 15,3                                   | 1500 / 1,2 | 24                 | 406                        | Aluminum               | 7,3         |

## Couplers and hoses



| Type            | Model Number | Length (mm)             | Connection            | Max working pressure (Bar) | Min burst pressure (Bar) | Temperature range |
|-----------------|--------------|-------------------------|-----------------------|----------------------------|--------------------------|-------------------|
| Coupler Male    | CQH14M       | 38,0                    | G 1/4" Female         | 1500                       | 3000                     | -30°C / +100°C    |
| Coupler Male    | CQH14F       | 61,3                    | G 1/4" Female         | 1500                       | 3000                     | -30°C / +100°C    |
| Connector       | CQH14-ADP    | 26,0                    | G 1/4" Male           | 1500                       | 3000                     | -30°C / +100°C    |
| Pressure washer | CQH14-WASHER | 20,6                    | -                     | 1500                       | 3000                     | -30°C / +100°C    |
| 1500Bar Hose    | CSH1414-XXX  | 1000~10000 (on request) | CQH14M/F (on request) | 1500                       | 3750                     | -10°C / +70°C     |

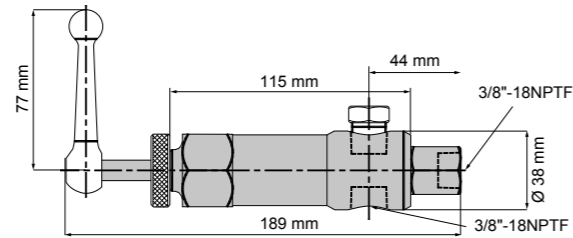


## Flow Control Valves

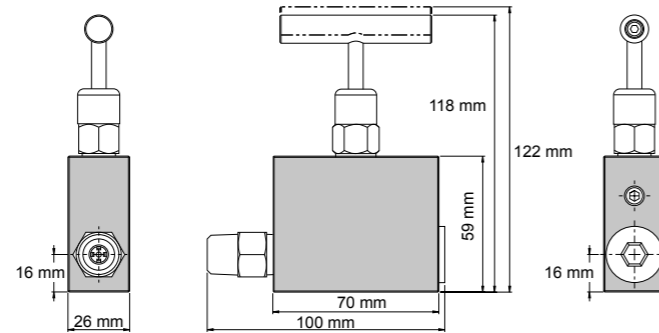
700 BAR Rated



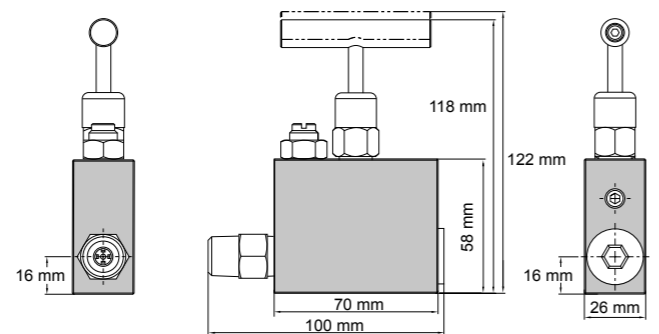
CVR3



CVL3



CVLS3



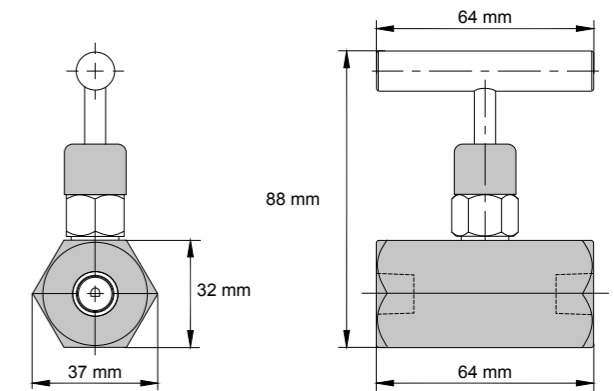
| Valve Type                  | Model Number | Ports       | Applications   | Hydraulic Symbol |
|-----------------------------|--------------|-------------|--|------------------|
| Pressure Relief Valve       | CVR3         | 3/8"-18NPTF | Controls pressure developed by the pump in hydraulic loop. By-pass occurs when preset pressure reaches 0-10,000 PSI. Turn clockwise to increase pressure, counter-clockwise to decrease.             |                  |
|                             | CVR3/H       | 3/8"-18NPTF | Same as CVR3, but return line hose / 1 meter length is included.   |                  |
| Manual Operated Check Valve | CVL3         | 3/8"-18NPTF | Mounted in line with a cylinder and will hold pressure in the cylinder in the event of pressure loss in the system. Pressure is manually released.   |                  |
|                             | CVLS3        | 3/8"-18NPTF | Mounted in line with a cylinder and will hold pressure in the cylinder in the event of pressure loss in the system. This model is equipped with high-pressure bypass. Pressure is manually released. |                  |

## Flow Control Valves

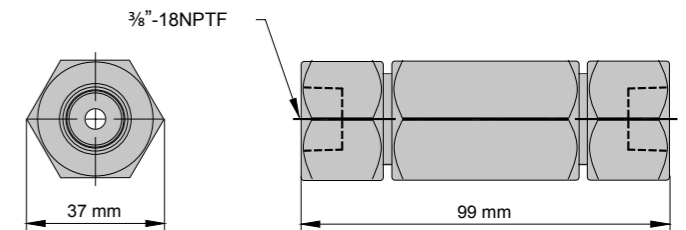
700 BAR Rated



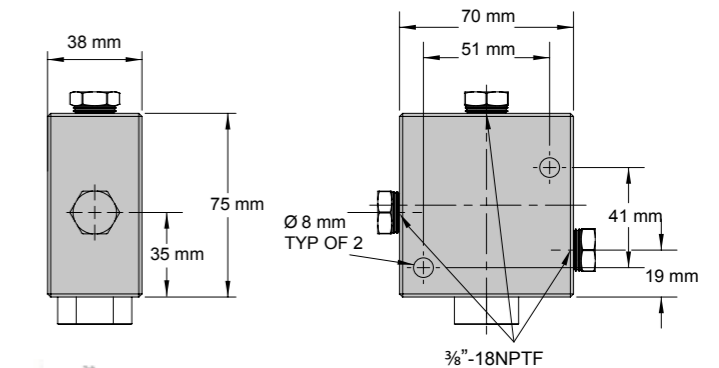
CVN1 and CVN3



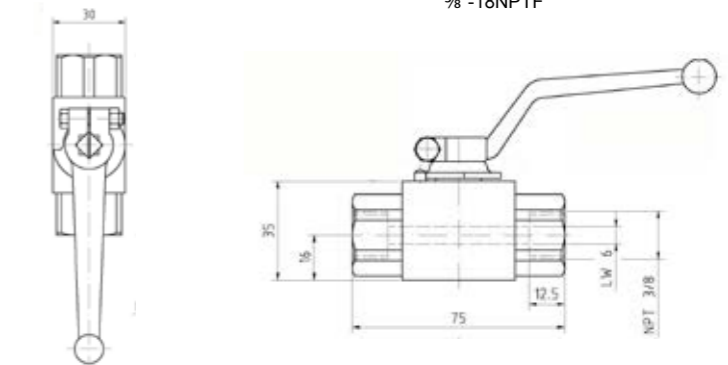
CVC3



CVP3



CVB



| Valve Type                 | Model Number | Ports       | Applications   | Hydraulic Symbol |
|----------------------------|--------------|-------------|--|------------------|
| Needle Valve               | CVN1         | 1/4"-18NPTF | Controls cylinder speed and acts as temporary shut-off valve for load holding.   |                  |
|                            | CVN3         | 3/8"-18NPTF |  |                  |
| Check Valve                | CVC3         | 3/8"-18NPTF | Allows flow in one direction only.   |                  |
| Pilot Operated Check Valve | CVP3         | 3/8"-18NPTF | Mounted in line with a cylinder which will hold pressure in the event of pressure loss in the system. Most often used on double-acting cylinders with pilot port, receiving pressure from a tee off of the cylinder retracting line. Pilot pressure ratio 15% or 6.5:1 |                  |
| Ball valve holding         | CVB          | 3/8"-18NPT  | Temporary shut off valve for load  |                  |

Flow control valves

Manifolds

mano-meters adapters

Hydraulic oil

Pressure adjustment

Foot pedal

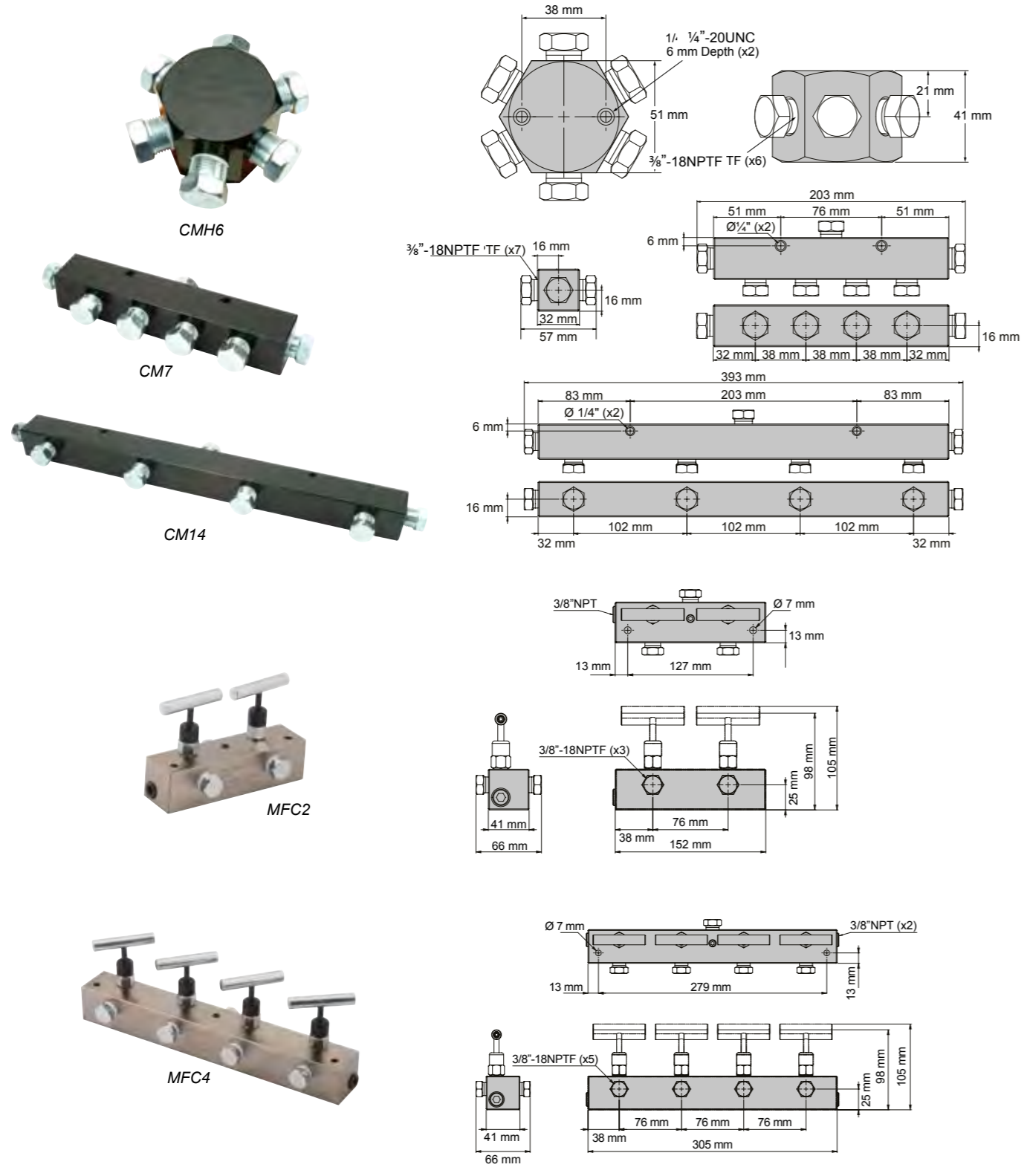
Couplers

Hoses

Valves

Fittings

**Manifolds**  
700 BAR Rated



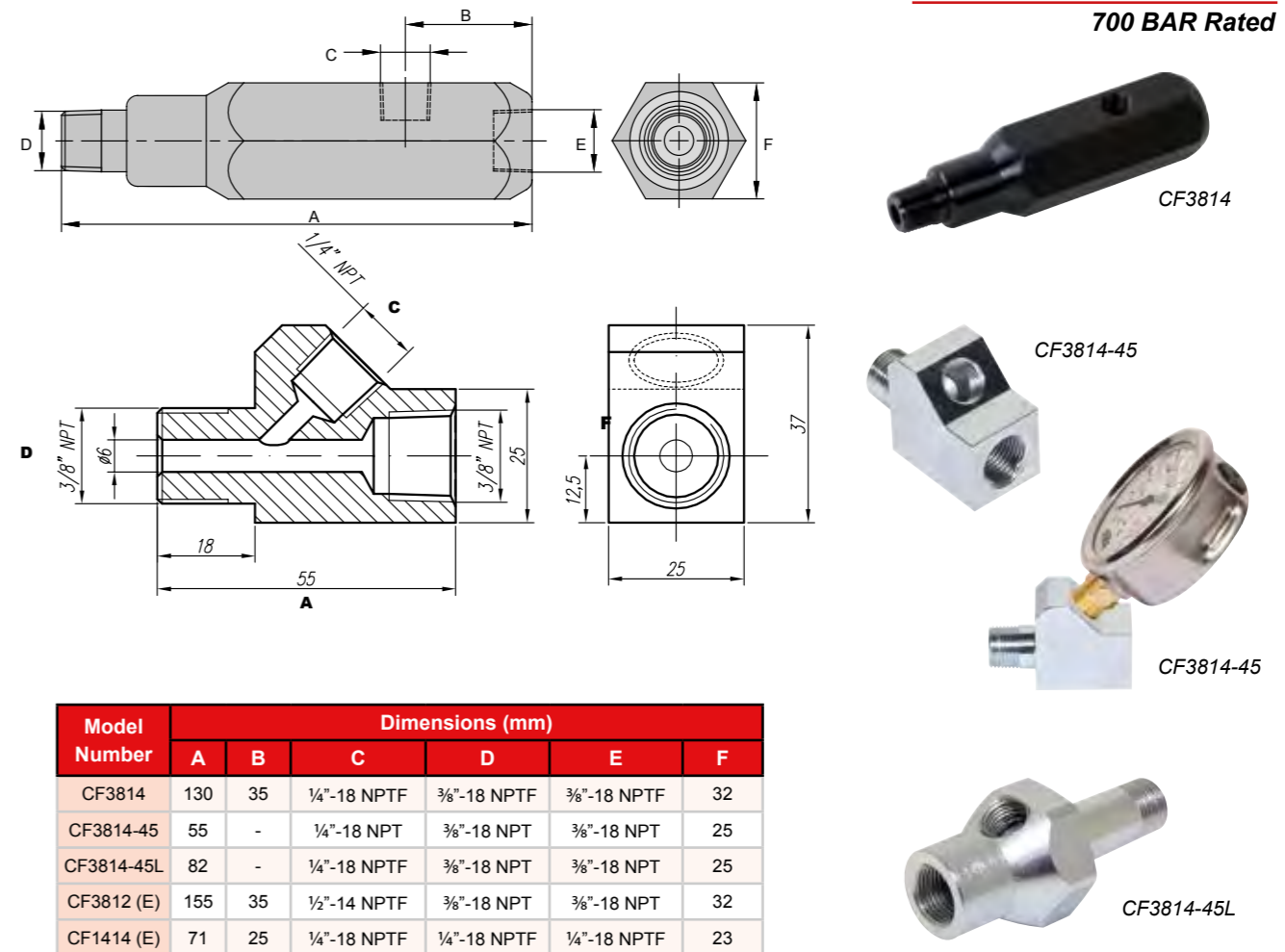
| Manifold Type                    | Model Number | Number of Ports | Port Size   | Mounting Holes |
|----------------------------------|--------------|-----------------|-------------|----------------|
| 6-Port Hexagon Manifold          | CMH6         | 6               | 3/8"-18NPTF | 1/4"-20UNC     |
| 7" Long Manifold                 | CM7          | 7               | 3/8"-18NPTF | 1/4"-20UNC     |
| 14" Long Manifold                | CM14         | 7               | 3/8"-18NPTF | 1/4"-20UNC     |
| Manifold with Two Needle Valves  | MFC2         | 2               | 3/8"-18NPTF | 7mm Dia.       |
| Manifold with Four Needle Valves | MFC4         | 4               | 3/8"-18NPTF | 7mm Dia.       |

**Hydraulic Pressure Gauge**



| Model Number | Face Dia. (mm) | Thread (in)  | Material  | Pressure Range |        | Graduation             |                        |                        |                        |
|--------------|----------------|--------------|-----------|----------------|--------|------------------------|------------------------|------------------------|------------------------|
|              |                |              |           | (psi)          | (bar)  | Major Graduation (psi) | Minor Graduation (psi) | Major Graduation (bar) | Minor Graduation (bar) |
| GBW1460      | 63             | 1/4"-18 NPTF | Brass     | 0-14500        | 0-1000 | 1000                   | 500                    | 100                    | 20                     |
| GBW12100     | 105            | 1/2"-18 NPTF | Brass     | 0-15000        | 0-1000 | 1000                   | 500                    | 100                    | 20                     |
| GSW1460      | 63             | 1/4"-18 NPTF | Stainless | 0-10000        | 0-700  | 1000                   | 500                    | 100                    | 20                     |
| GD1480       | 80             | 1/4"-18 NPTF | Stainless | 0-10000        | 0-700  | -                      | -                      | -                      | -                      |

**Gauge Adapter**  
700 BAR Rated



| Model Number | Dimensions (mm) |    |              |              |              |    |
|--------------|-----------------|----|--------------|--------------|--------------|----|
|              | A               | B  | C            | D            | E            | F  |
| CF3814       | 130             | 35 | 1/4"-18 NPTF | 3/8"-18 NPTF | 3/8"-18 NPTF | 32 |
| CF3814-45    | 55              | -  | 1/4"-18 NPT  | 3/8"-18 NPT  | 3/8"-18 NPT  | 25 |
| CF3814-45L   | 82              | -  | 1/4"-18 NPTF | 3/8"-18 NPT  | 3/8"-18 NPT  | 25 |
| CF3812 (E)   | 155             | 35 | 1/2"-14 NPTF | 3/8"-18 NPT  | 3/8"-18 NPT  | 32 |
| CF1414 (E)   | 71              | 25 | 1/4"-18 NPTF | 1/4"-18 NPTF | 1/4"-18 NPTF | 23 |



## Hydraulic Oil

- Recommended for all BVA cylinders and pumps

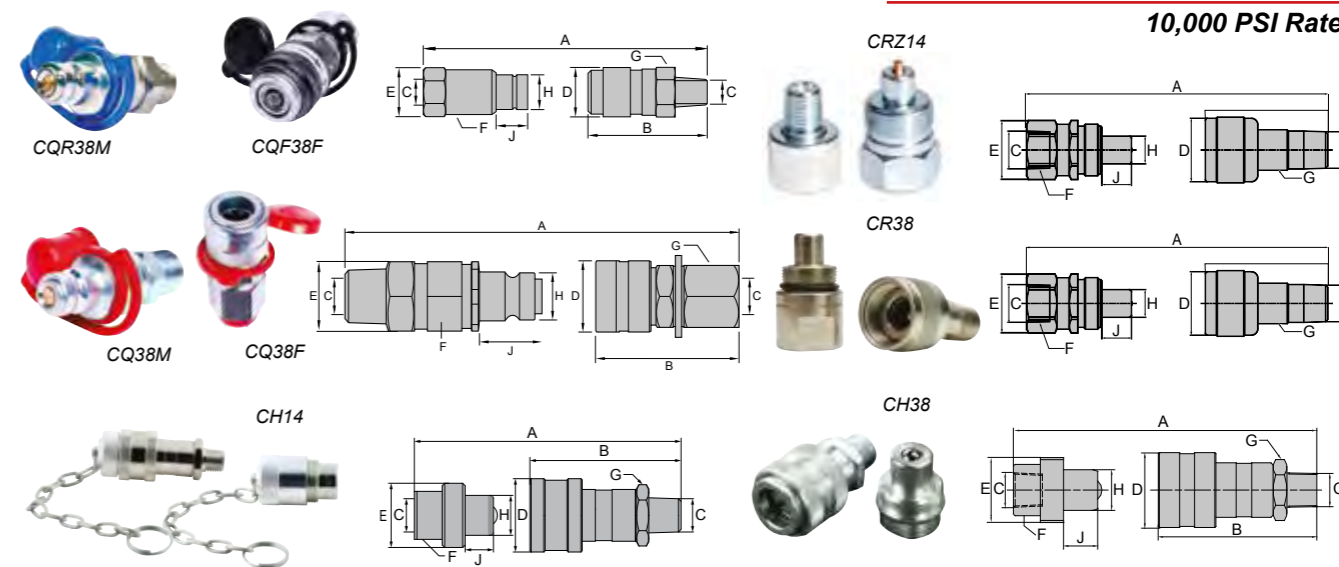
| Volume (L) | Model Number | Viscosity Index | Viscosity @ 40°C (mm²/S) | Viscosity @ 100°C (mm²/S) | Viscosity Grade, ISO | Flash Point (°C) | Pour Point (°C) |
|------------|--------------|-----------------|--------------------------|---------------------------|----------------------|------------------|-----------------|
| 5          | HV155        | 159             | 15                       | 3.89                      | 15                   | 160              | -57             |
| 5          | HV465        | x               | 46                       | x                         | 46                   | x                | x               |
| 5          | HV685        | 152             | 68                       | 11                        | 68                   | 230              | -42             |

\* adv. HV685 for electric pump, HV155 for air / hand pump.



## Hydraulic Couplers

10,000 PSI Rated



## External Pressure Adjustment

Sandwich Mounted

| Model Number | Pressure Adj. Range (BAR) | Interval (BAR) | Suitable Model                  |
|--------------|---------------------------|----------------|---------------------------------|
| PW-AS1       | 70                        | 3.5            | PE Series, 3.8 L. Reservoir     |
| PW-AS2       | ~                         |                | PE Series, 7.6 L (+). Reservoir |
| PW-AS3       | 700                       |                | PU20 Series Pump                |



- Pressure can be adjusted externally (70-700 bar)
- Works with single and double acting cylinders

## Pressure Switch

CVS1

- Automatically shuts off electric pump when predetermined system pressure is reached

| Model Number | Adjustable Pressure Range | Electrical Rating | Port Size   | Weight (kg) |
|--------------|---------------------------|-------------------|-------------|-------------|
| CVS1         | 69-700.35 BAR             | 15 amp @ 250V max | 1/4"-18NPTF | 0.6         |



## Foot Pedals

Single or Double

- Hands free pump operation
- Can be used with all pumps equipped with solenoid valves

FP1 for standard electric pumps on/off  
FP2 for solenoid pumps push/pull

Foot controls with 3 meter cord.  
(This option replaces the hand controls on solenoid equipped models.)



## Coupler Dust Cover

- Keeps contaminants out of the system

| Model Number | Coupler Compatibility |
|--------------|-----------------------|
| CDC38        | CH38, CH38F, CH38M    |

| Max Flow Capacity (l/min) | Coupler Type         | Model Numbers |           |             | Dimensions (mm) |      |             |      |    |      |      |      |      |
|---------------------------|----------------------|---------------|-----------|-------------|-----------------|------|-------------|------|----|------|------|------|------|
|                           |                      | Complete Set  | Male Half | Female Half | A*              | B    | C           | D    | E  | F    | G    | H    | J    |
| 35                        | High-Flow Coupler    | CH38          | CH38M     | CH38F       | 86              | 72   | 3/8"-18NPTF | 35   | 30 | 19   | 25.4 | 19   | 16   |
| 10                        | Regular-Flow Coupler | CR38          | CR38M     | CR38F       | 80              | 56   | 3/8"-18NPTF | 30   | 27 | 19   | 19   | 12.6 | 13.5 |
| 8                         | High-Flow Coupler    | CH14          | CH14M     | CH14F       | 72              | 60   | 1/4"-18NPTF | 29   | 25 | 19   | 21   | 15.8 | 11.4 |
| 6                         | Quick Connection     | CQ38          | CQ38M     | CQ38F       | 105             | 61   | 3/8"-18NPTF | 28   | 25 | 22   | 24   | 15.6 | 20   |
| 6                         | Hose Rupture Nipple  | -             | CQR38M    | -           | 116             | -    | 3/8"-18NPTF | -    | 25 | 22   | -    | 15.6 | 20   |
| 5.3                       | Flat Face Coupler    | -             | -         | CQF38F      | 116             | 71   | 3/8"-18NPTF | 30   | -  | -    | 24   | -    | -    |
|                           | Regular-Flow Coupler | CRZ14         | CRZ14M    | CRZ14F      | 61              | 43.5 | 1/4"-18NPTF | 20.5 | 21 | 38.1 | 15   | 10   | 9    |

\* Value A is total length when male and female couplers are connected.

## Hydraulic Hoses

Hose Exceeds DIN 20022-1 & SAE 100R9 Specifications

- Rubber Bend Restrictors.
- High Working Pressure.
- Optimum Flexibility.
- Light Weight.
- Temperature Range: from -40°C up to +100 °C.



| Model Number | Length (cm) | I.D. Ø        | Hose End Fittings | Operating Pressure (BAR) | Bursting Pressure (BAR) | Bend Radius (mm) | Oil Volume (cc) | Weight (kg) |
|--------------|-------------|---------------|-------------------|--------------------------|-------------------------|------------------|-----------------|-------------|
| CS3814-1     | 100         | 6.35mm / 1/4" | 3/8" - 18NPTF     | 700                      | 2800                    | 50               | 34              | 0.5         |
| CS3814-2     | 200         | 6.35mm / 1/4" | 3/8" - 18NPTF     | 700                      | 2800                    | 50               | 67              | 0.8         |
| CS3814-3     | 300         | 6.35mm / 1/4" | 3/8" - 18NPTF     | 700                      | 2800                    | 50               | 100             | 1.1         |
| CS3814-4     | 400         | 6.35mm / 1/4" | 3/8" - 18NPTF     | 700                      | 2800                    | 50               | 133             | 1.3         |
| CS3814-6     | 600         | 6.35mm / 1/4" | 3/8" - 18NPTF     | 700                      | 2800                    | 50               | 200             | 1.9         |
| CS3814-10    | 1000        | 6.35mm / 1/4" | 3/8" - 18NPTF     | 700                      | 2800                    | 50               | 332             | 3           |
| CS3838-2     | 200         | 9.5mm / 3/8"  | 3/8" - 18NPTF     | 700                      | 2800                    | 150              | 158             | 0.8         |

\* Available in other lengths on request

## Solenoid Valves

### Pump Mounted

- Pump mounted solenoid kits convert your manual pump to an electrically controlled pump.



| Use With Cylinder | Model Number | Valve Type       | Valve Function        | Hydraulic Symbol | Schematic Flow path | Weight (kg) |
|-------------------|--------------|------------------|-----------------------|------------------|---------------------|-------------|
| Single Acting     | PWS3         | Solenoid 196 VDC | Advance/ Hold/ Return |                  |                     | 3.4         |
| Double Acting     | PWS4         | Solenoid 196 VDC | Advance/ Hold/ Return |                  |                     | 3.9         |

## Pressure Control Valve

### PPC-1/PPC-2

- Modular valve with one or two cartridges.
- Excellent pressure adjustment over the entire operating range.
- PPC-1 and PPC-2 are only compatible with Solenoid Valves
- The extended mounting screws are not included



| Valve                  | Model Number   | Hydraulic Symbol |
|------------------------|----------------|------------------|
| Pressure Control Valve | PPC-1<br>PPC-2 |                  |
| Flow Control Valve     | PFC            |                  |



## Flow Control Valve

- Throttle check valves



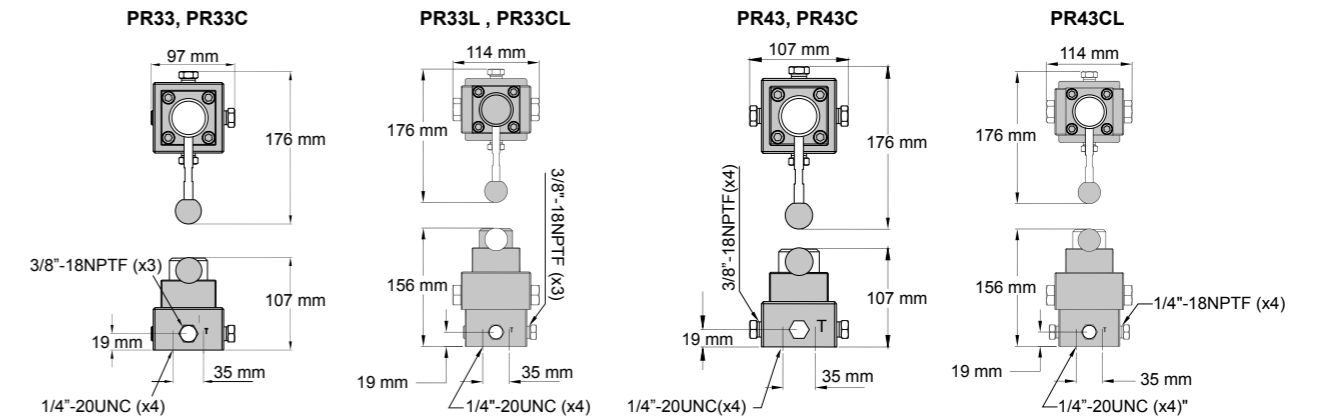
## Pump Mounted Manifold Block

### CMRU2

- Converts BVA pumps with mounted valves for use with remote mounted valves
- 4 mounting bolts

## Remote Mounted Directional Control Valves

Not to be used with Hand Pumps



| Valve Operation | Valve Type                         | Use w/ Cylinder | Model Number | Hydraulic Symbol | Schematic Flow path | Weight (kg) |
|-----------------|------------------------------------|-----------------|--------------|------------------|---------------------|-------------|
| Manual          | 3-Way, 3 Position, Tandem center   |                 | PR33         |                  |                     | 1.59        |
|                 |                                    |                 | PR33C        |                  |                     | 1.59        |
|                 |                                    |                 | PR33L        |                  |                     | 2.59        |
|                 |                                    |                 | PR33CL       |                  |                     | 2.59        |
|                 | 4-Way, 3 Position, Tandem center   |                 | PR43         |                  |                     | 1.59        |
|                 |                                    |                 | PR43L        |                  |                     | 2.59        |
|                 |                                    |                 | PR43C        |                  |                     | 1.59        |
|                 |                                    |                 | PR43CL       |                  |                     | 2.59        |
| Double Acting   | 3 Position, Tandem center, Locking |                 | PR43         |                  |                     | 1.59        |
|                 |                                    |                 | PR43L        |                  |                     | 2.59        |
|                 |                                    |                 | PR43C        |                  |                     | 1.59        |
|                 |                                    |                 | PR43CL       |                  |                     | 2.59        |

All valves have a detent in the center position.

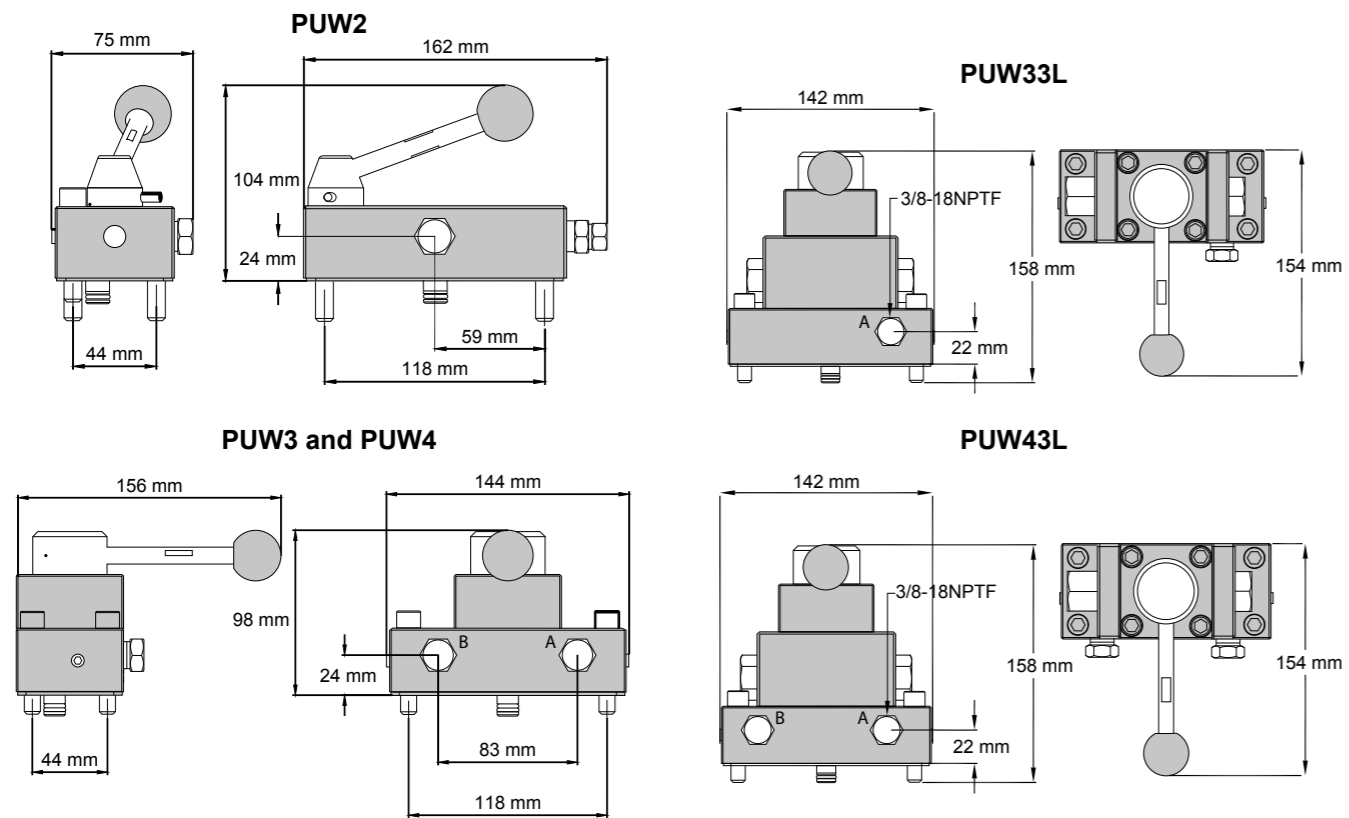


# Pump Mounted Valves

For PU, PE, PD and PG pumps

# Fittings

700 BAR Rated



| Valve Operation | Valve Type                                | Use w/ Cylinder | Model Number | Hydraulic Symbol | Schematic Flow path | Weight (kg) |
|-----------------|---|-----------------|--------------|------------------|---------------------|-------------|
| Manual          | 3-Way, 2-Position                         | Single Acting   | PUW2         |                  |                     | 1.81        |
|                 | 3-way, 3-Position, Tandem center          | Single Acting   | PUW3         |                  |                     | 1.81        |
|                 | 4-Way, 3-Position, Tandem center          | Double Acting   | PUW4         |                  |                     | 1.36        |
|                 | 3-Way, 3-Position, Tandem center, Locking | Single Acting   | PUW33L       |                  |                     | 2.72        |
|                 | 4-Way, 3-Position, Tandem center, Locking | Double Acting   | PUW43L       |                  |                     | 2.72        |

| Fitting Type               | Model Number   | Dimensions           |        |    |                       | Display Image         |  |
|----------------------------|--|----------------------|--------|----|-----------------------|-----------------------|--|
|                            |  | A (mm)               | B (mm) | C  | D                     |                       |  |
| <b>Adapters</b>            |  |                      |        |    |                       |                       |  |
|                            | Adapter<br>1/2"-14NPTF - Female<br>3/8"-18NPTF - Male      | FT108                | 43     | 29 | Male<br>3/8"-18NPTF   | Female<br>1/2"-14NPTF |  |
|                            | Adapter<br>1/2"-14NPTF - Female<br>1/4"-18NPTF - Male      | FT118                | 43     | 29 | Male<br>1/4"-18NPTF   | Female<br>1/2"-14NPTF |  |
|                            | Fitting  | CA3814               | 35     | 23 | Male<br>1/4"-18NPTF   | Female<br>3/8"-18NPTF |  |
| <b>Bushings/Connectors</b> |  |                      |        |    |                       |                       |  |
|                            | Bushing  | CB1438               | 22     | 17 | Male<br>3/8"-18NPTF   | Female<br>1/4"-18NPTF |  |
|                            | 2 way 45° Connector<br>Street Elbow, 3/8" to 3/8"-<br>NPTF | FT045                | 28     | 22 | Male<br>3/8"-18NPTF   | Female<br>3/8"-18NPTF |  |
|                            | 2 way 90° Connector<br>Street Elbow, 3/8" to 3/8"-<br>NPTF | FT101<br>+<br>FT101e | 28     | 22 | Male<br>3/8"-18NPTF   | Female<br>3/8"-18NPTF |  |
|                            | 2 way 90° Connector<br>Elbow, 3/8" to<br>3/8" - NPTF       | FT107                | 48     | 26 | Female<br>3/8"-18NPTF | Female<br>3/8"-18NPTF |  |
|                            | 3 Way Connector<br>3/8" to 3/8" - NPTF                     | FT106                | 46     | 26 | Female<br>3/8"-18NPTF | Female<br>3/8"-18NPTF |  |
|                            | 4 Way Connector<br>Cross, 3/8" to<br>3/8" - NPTF           | FT105                | 36     | 26 | Female<br>3/8"-18NPTF | Female<br>3/8"-18NPTF |  |
| <b>Couplings</b>           |  |                      |        |    |                       |                       |  |
|                            | Coupling Reducing<br>Connector, 3/8" to 1/4" - NPTF        | FT102                | 30     | 26 | Female<br>1/4"-18NPTF | Female<br>3/8"-18NPTF |  |
|                            | Coupling Reducing<br>Connector, 1/2" to 3/8" - NPTF        | FT112                | 48     | 29 | Female<br>1/2"-14NPTF | Female<br>3/8"-18NPTF |  |
|                            | Coupling 3/8" to 3/8" - NPTF                               | FT103                | 30     | 26 | Female<br>3/8"-18NPTF | Female<br>3/8"-18NPTF |  |
| <b>Hex Nipples</b>         |  |                      |        |    |                       |                       |  |
|                            | Male Connector Hex<br>Nipple, 1/4" to 1/4" - NPTF          | FT104                | 38     | 17 | Male<br>1/4"-18NPTF   | Male<br>1/4"-18NPTF   |  |
|                            | Male Connector Hex<br>Nipple, 3/8" to 3/8" - NPTF          | FT114                | 38     | 19 | Male<br>3/8"-18NPTF   | Male<br>3/8"-18NPTF   |  |
|                            | Male Connector Hex<br>Nipple, 1/4" to 3/8" - NPTF          | FT124                | 37     | 19 | Male<br>1/4"-18NPTF   | Male<br>3/8"-18NPTF   |  |

## Hydraulic Manual Press

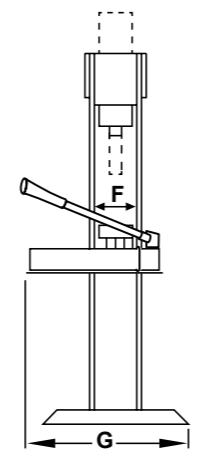
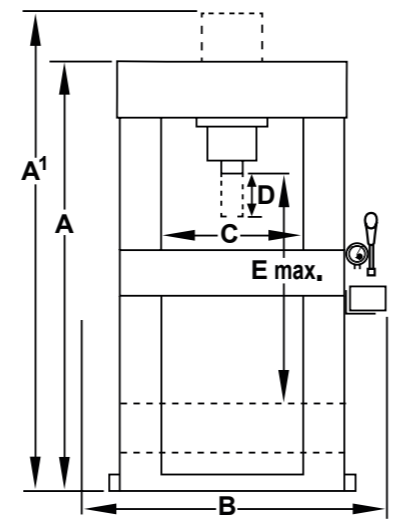
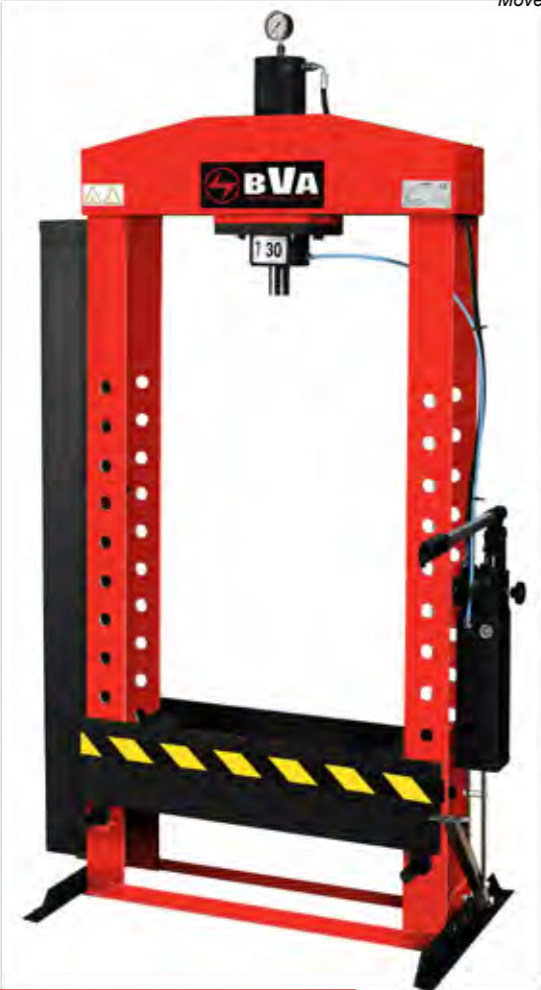
With easy system for the lifting of the work table

- The contra weight allows an effortless and fast positioning of the work table (↑↓).
- Designed and developed to relieve the operator from physical stress during lifting of the work table.
- Supplied with double speed pump, with 200mm long stroke hydraulic cylinder.
- Pump can be operated by hand, or by use of the foot pump lever.
- The pistons are made of chromium plated steel.
- Moveable ram

| Model Number | Capacity  | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | W (mm) | L (mm) | Weight (kg) |
|--------------|-----------|--------|--------|--------|--------|--------|--------|--------|-------------|
| SMS3108      | 30 Tonne  | 2050   | 1100   | 710    | 200    | 1150   | 150    | 650    | 300         |
| SMS5108      | 50 Tonne  | 2130   | 1200   | 810    | 200    | 1150   | 180    | 750    | 400         |
| SMS10108     | 100 Tonne | 2300   | 1530   | 1020   | 200    | 1000   | 265    | 850    | 950         |



Moveable Cylinder



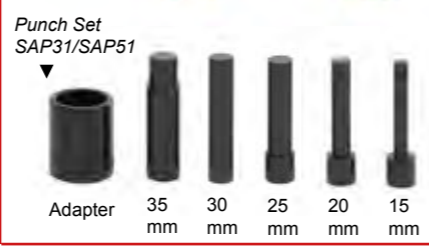
### Optional Items



Open Safety Guard SAG51



Closed Safety Guard SAG51



Punch Set SAP31/SAP51

- Adapter
- 35 mm
- 30 mm
- 25 mm
- 20 mm
- 15 mm

**80%** Safety Practices

Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.

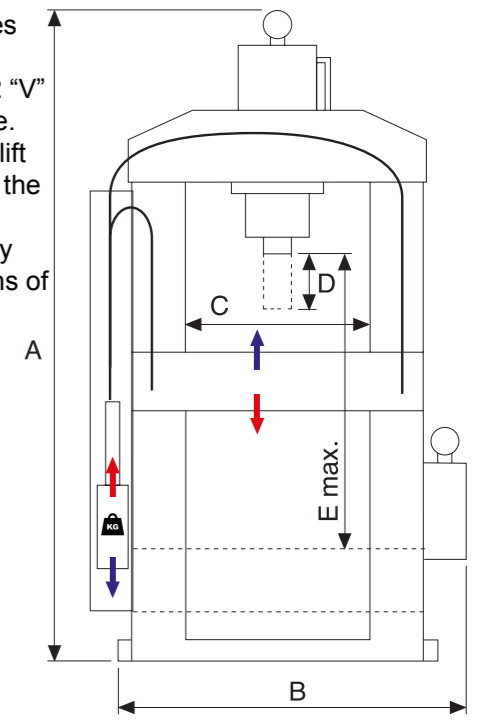
## Hydraulic Electrical Press

Electrical Press with Remote Control



SED10013

- New series of electrical presses with double acting cylinder.
- All presses are supplied with 2 "V" Arbor Plates and a punch plate.
- A moveable ram and winch to lift the work table is included with the presses.
- Remote control operation: easy and flexible operation by means of the remote control.



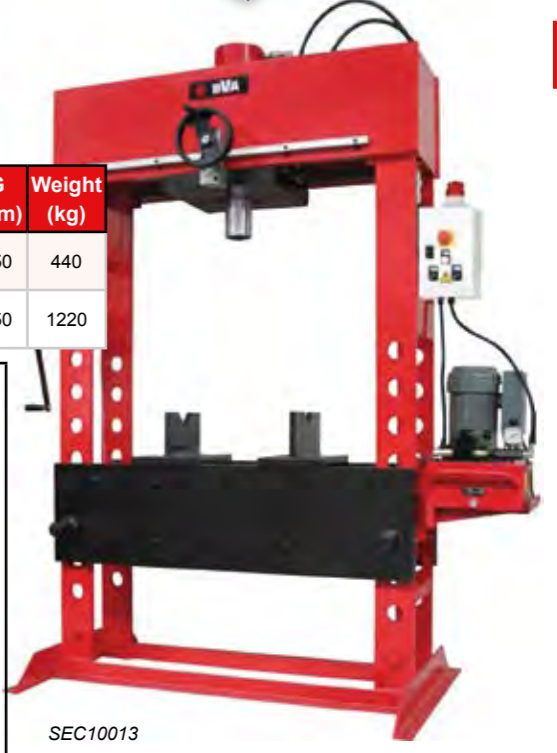
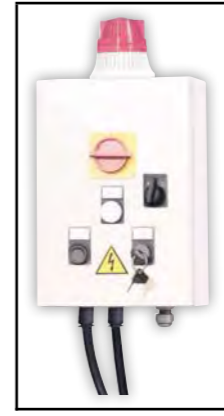
| Model Number | Capacity  | Cylinder | Pump   | A (mm) | A1 (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) | Weight (kg) |
|--------------|-----------|----------|--------|--------|---------|--------|--------|--------|--------|--------|--------|-------------|
| SED5513      | 50 Tonne  | HD5513   | PE0501 | 2000   | 2160    | 1580   | 785    | 335    | 1260   | 180    | 750    | 440         |
| SED10013     | 100 Tonne | HD10013  | PE1002 | 2100   | 2210    | 1900   | 1025   | 333    | 1150   | 270    | 850    | 1220        |

### Electrical Press

Operating by: "Two" - hands

- Safe two hands operation.
- Flashing warning light - when operating.

| Model Number | Capacity  | Cylinder | Pump   | A (mm) | A1 (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) | Weight (kg) |
|--------------|-----------|----------|--------|--------|---------|--------|--------|--------|--------|--------|--------|-------------|
| SEC5513      | 50 Tonne  | HD5513   | PE0501 | 2000   | 2160    | 1580   | 785    | 335    | 1260   | 180    | 750    | 440         |
| SEC10013     | 100 Tonne | HD10013  | PE1002 | 2100   | 2210    | 1900   | 1025   | 333    | 1150   | 270    | 850    | 1220        |



SEC10013



Punch Plate



Winch



Arbor Plates

Hydraulic press

Manual Puller

Hydraulic puller

Bolt puller kingpin press

Pad Eye tester

Valve Seat Puller

Spreader

Nut splitter

Mini Jacks Toe jacks

Bottle jacks

Impact sockets / Support pads

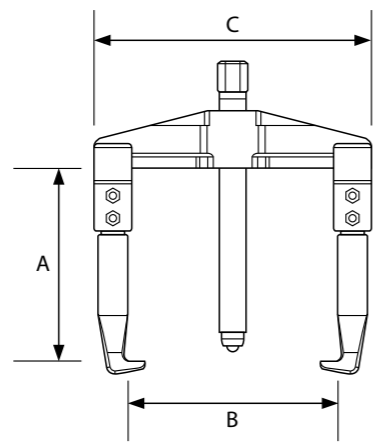


## 2 Leg Adjustable Puller

### Manual Pullers

- Adjustable in width.

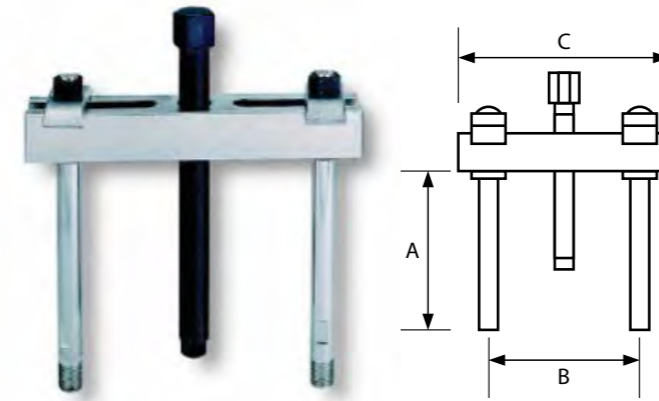
| Model Number | Capacity | A (mm) | B (mm) | C (mm) | Weight (kg) |
|--------------|----------|--------|--------|--------|-------------|
| AMP120310    | 3 Tonne  | 100    | 95     | 134    | 1.1         |
| AMP120315    | 3 Tonne  | 100    | 135    | 176    | 1.3         |
| AMP120720    | 7 Tonne  | 150    | 160    | 223    | 3.5         |
| AMP120725    | 7 Tonne  | 155    | 190    | 250    | 3.6         |
| AMP121230    | 12 Tonne | 205    | 240    | 325    | 7.5         |
| AMP121235    | 12 Tonne | 200    | 350    | 425    | 9           |
| AMP121240    | 12 Tonne | 200    | 510    | 585    | 15          |
| AMP121550    | 15 Tonne | 225    | 640    | 717    | 23          |



## Push Puller

### Manual Pullers

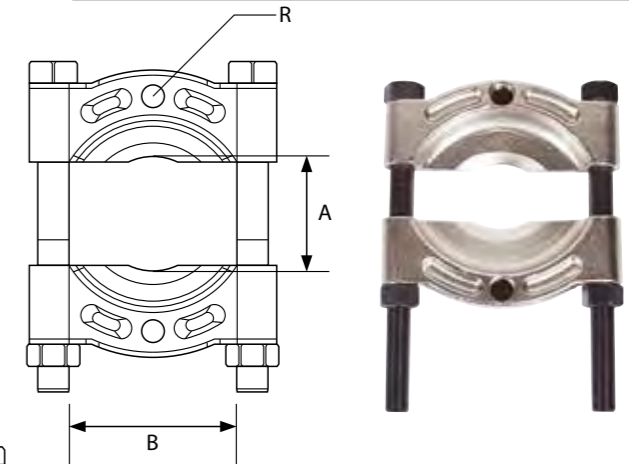
| Model Number | A (mm) | B Max. (mm) | B Min. (mm) | C (mm) | Weight (kg) |
|--------------|--------|-------------|-------------|--------|-------------|
| AMP221102    | 120    | 110         | 46          | 122    | 1           |
| AMP221103    | 120    | 140         | 46          | 156    | 1.1         |
| AMP221110    | 190    | 195         | 62          | 210    | 3.4         |
| AMP221130    | 225    | 445         | 173         | 475    | 12          |



## Splitters

### Manual Pullers

| Model Number | A Max. (mm) | A Min. (mm) | B (mm) | R    | Weight (kg) |
|--------------|-------------|-------------|--------|------|-------------|
| APS1202      | 60          | 4           | 60     | 3/8" | 0.7         |
| APS1203      | 80          | 6           | 80     | 3/8" | 1.3         |
| APS1204      | 110         | 10          | 110    | 5/8" | 2.7         |

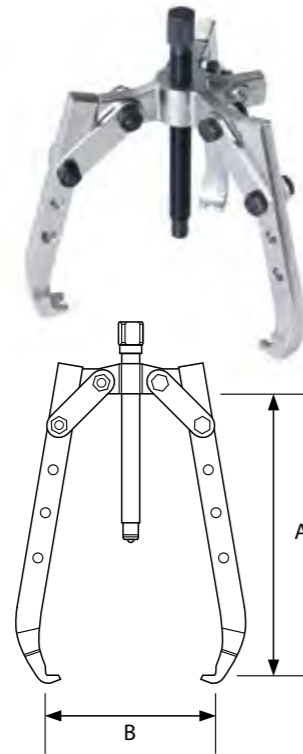


## 2/3 Leg Puller

### Manual Pullers

- Can be used with either 2 or 3 jaws.
- The extra long jaws are adjustable in 4 positions.
- The jaws have a special cut-out to pull.

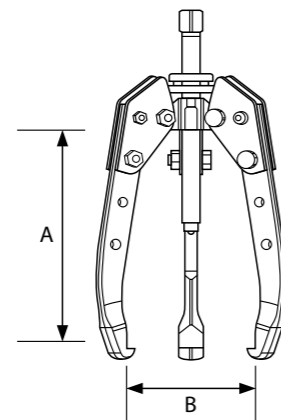
| Model Number | Capacity (Tonne) | A (mm) | B (mm) | Weight (kg) |
|--------------|------------------|--------|--------|-------------|
| AMP230110    | 1                | 120    | 125    | 0.7         |
| AMP230410    | 4                | 210    | 220    | 2.1         |
| AMP230710    | 7                | 270    | 280    | 3.7         |
| AMP230810    | 8                | 270    | 330    | 4.0         |



## 2/3 Leg Puller Self-Centering

### Manual Pullers

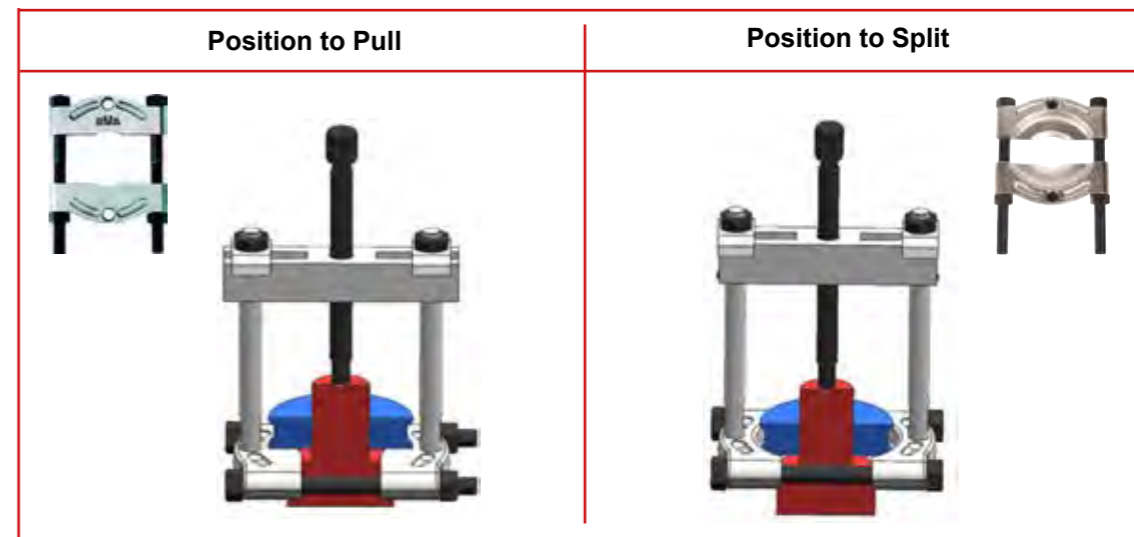
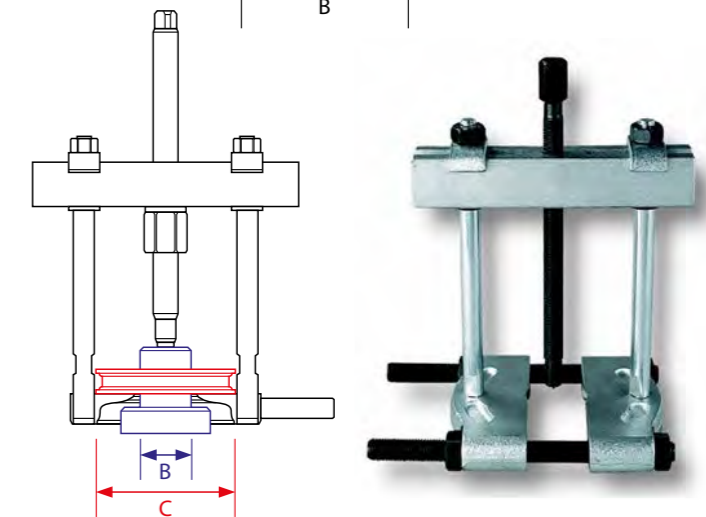
| Model Number | Capacity (Tonne) | A (mm) | B (mm) | Weight (kg) |
|--------------|------------------|--------|--------|-------------|
| AMPC230110   | 1                | 120    | 125    | 0.8         |
| AMPC230410   | 4                | 210    | 220    | 2.1         |
| AMPC230710   | 7                | 270    | 280    | 6.7         |



## Splitters Set

### Manual Pullers

| Model Number | A (mm) | B (mm) | C (mm) |
|--------------|--------|--------|--------|
| AMP320202    | 100    | 55     | 90     |
| AMP320303    | 100    | 80     | 130    |
| AMP321004    | 152    | 108    | 175    |

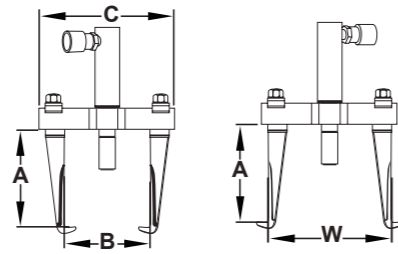


Note: Be sure to use the correct position for the required action in order to avoid damaging the Splitter-Set.

## Puller 2 Leg

Hydraulic Pullers (Excluding Cylinder)

- Pullers for Single Acting Cylinders.

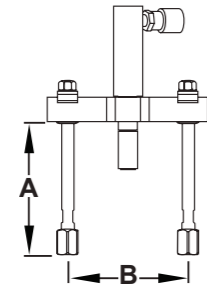


AP(L) 1205

| Model Number | Cylinder (Optional) | Capacity (Tonne) | A (mm) | B Min. (mm) | B Max. (mm) | W (mm) | W (mm) | C (mm) | Weight (kg) |
|--------------|---------------------|------------------|--------|-------------|-------------|--------|--------|--------|-------------|
| AP1205       | H0503               | 5                | 160    | 60          | 200         | 175    | 270    | 260    | 8.5         |
| APL1205      | H0503               | 5                | 220    | 60          | 200         | 175    | 270    | 260    | 9.0         |



AP2205

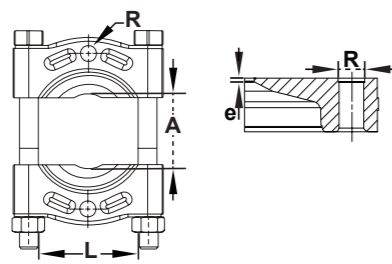


| Model Number | Cylinder (Optional) | Capacity (Tonne) | A (mm) | B Min. (mm) | B Max. (mm) | Weight (kg) |
|--------------|---------------------|------------------|--------|-------------|-------------|-------------|
| AP2205       | H0503               | 5                | 190    | 82          | 250         | 7.8         |

| Model Number | A Min. (mm) | A Max. (mm) | L (mm) | R (mm) | e (mm) | Weight (kg) |
|--------------|-------------|-------------|--------|--------|--------|-------------|
| APS1204      | 10          | 110         | 110    | 15.9   | 2.5    | 2.8         |
| APS1206      | 12          | 134         | 155    | 15.9   | 2.0    | 5.7         |



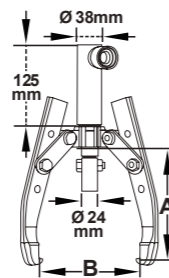
APS1204



AP2205 + APS1204

## Puller 2/3 Leg

| Model Number | Cylinder (Optional) | Capacity (Tonne) | A (mm) | B Max. (mm) | Weight (kg) |
|--------------|---------------------|------------------|--------|-------------|-------------|
| AP1305       | H0503               | 5                | 225    | 240         | 3.5         |
| AP1310       | H1004               | 10               | 400    | 350         | 9.5         |



AP1305

## Puller Kit

(Excluding Cylinder)

Content:

- 2/3 Leg Puller
- 2 Leg Puller
- Extensions for 2 Leg Puller
- Splitter

| Puller Kit | Capacity (Tonne) | Components     |              |                 |          | Weight (kg) |
|------------|------------------|----------------|--------------|-----------------|----------|-------------|
|            |                  | 2/3 Leg Puller | 2 Leg Puller | Extension Set   | Splitter |             |
| APK1005    | 5                | AP1305         | APL1205      | APE1108+APE1118 | APS1204  | 18          |



AP1305



APS1204



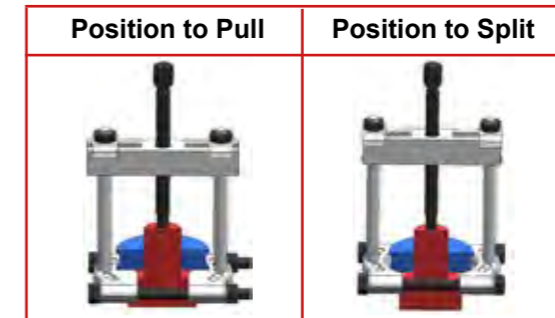
APE1118



APE1108



APL1205

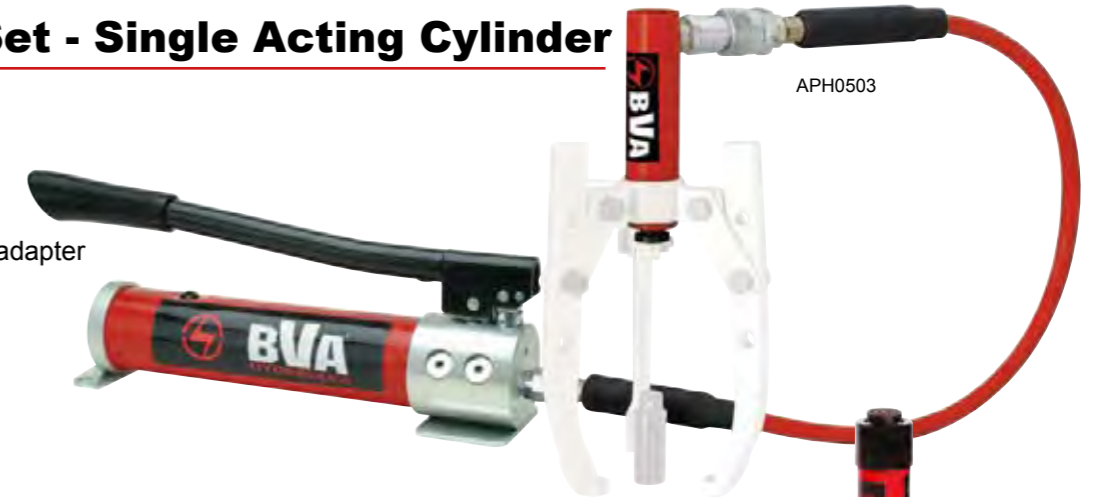


Note: Be sure to use the correct position for the required action in order to avoid damaging the Splitter-Set.

## Hydraulic Set - Single Acting Cylinder

Content:

- Handpump P350
- Cylinder H0503
- Gauge and Gauge adapter
- Adapter
- Hose
- Fitting and Coupler



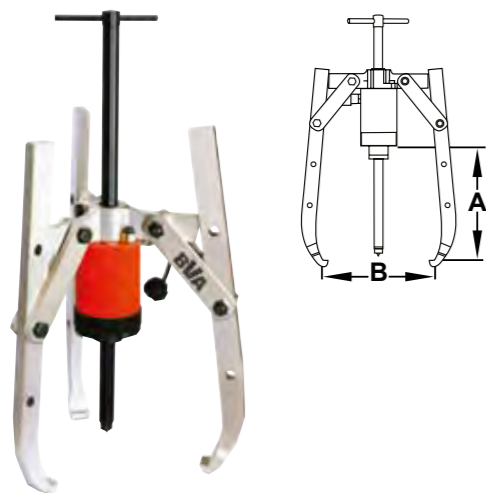
APH0503

| Hydraulic Set | Capacity (Tonne) | Components |         |                  |          |         |          | Weight (kg) |
|---------------|------------------|------------|---------|------------------|----------|---------|----------|-------------|
|               |                  | Handpump   | Fitting | Gauge + Adapter  | Hose     | Coupler | Cylinder |             |
| APH0503       | 5                | P350       | CA3814  | GBW1460 + CF3814 | CS3814-2 | CH38-M  | H0503    | 8           |



### Puller 2/3 and 3 Leg

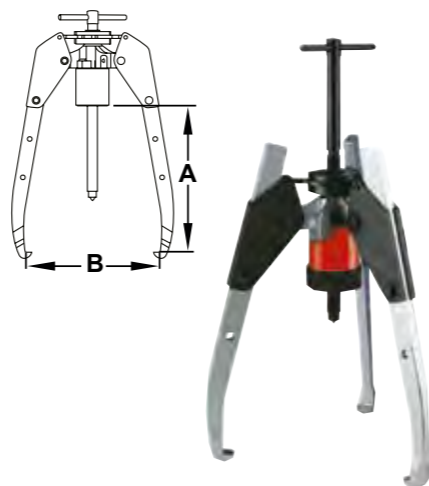
(Excluding cylinder and APS threaded saddle)



| Model Number | Cylinder + APS saddle (Optional) | Capacity (Tonne) | Legs | A (mm) | B Max. (mm) | Weight (kg) |
|--------------|----------------------------------|------------------|------|--------|-------------|-------------|
| AP2310       | HC1202                           | 10               | 2/3  | 315    | 350         | 9           |
| AP2320       | HC2002T                          | 20               | 3    | 320    | 480         | 23          |
| AP2330       | HC3002T                          | 30               | 3    | 410    | 650         | 40          |
| AP2360       | HC6003T                          | 60               | 3    | 710    | 980         | 87          |
| APL2310      | HC1202                           | 10               | 2/3  | 400    | 410         | 10          |
| APL2320      | HC2002T                          | 20               | 3    | 435    | 540         | 26          |
| APL2330      | HC3002T                          | 30               | 3    | 535    | 720         | 46          |
| APL2360      | HC6003T                          | 60               | 3    | 860    | 1080        | 96          |

### Self-Centering Puller 2/3 and 3 Leg

| Model Number | Cylinder + APS saddle (Optional) | Capacity (Tonne) | Legs | A (mm) | B Max. (mm) | Weight (kg) |
|--------------|----------------------------------|------------------|------|--------|-------------|-------------|
| APC2310      | HC1202                           | 10               | 2/3  | 315    | 350         | 14          |
| APC2320      | HC2002T                          | 20               | 3    | 320    | 480         | 33          |
| APC2330      | HC3002T                          | 30               | 3    | 410    | 650         | 56          |
| APC2360      | HC6003T                          | 60               | 3    | 710    | 980         | 122         |
| APC2399      | HC10003T                         | 100              | 3    | 1000   | 1600        | 322         |
| APLC2310     | HC1202                           | 10               | 2/3  | 400    | 405         | 16          |
| APLC2320     | HC2002T                          | 20               | 3    | 435    | 540         | 36          |
| APLC2330     | HC3002T                          | 30               | 3    | 535    | 720         | 62          |
| APLC2360     | HC6003T                          | 60               | 3    | 860    | 1080        | 131         |



| Application |                 |
|-------------|-----------------|
| Splitter    | Internal Puller |
|             |                 |

| Puller Kit | Incl. 3-Leg Puller | Incl. Self-Centering 3-Leg Puller | Capacity (Tonne) |
|------------|--------------------|-----------------------------------|------------------|
| APK1010    | APK1110            | APK1210                           | 10               |
| APK1020    | APK1120            | APK1220                           | 20               |
| APK1030    | APK1130            | APK1230                           | 30               |
| APK1060    | APK1160            | APK1260                           | 60               |
| APK1099    | -                  | APK1299                           | 100              |

### Puller Kit

(Excluding Cylinder)

Content:

- 2 Leg Puller
- Extension Legs
- Splitter
- Internal Puller
- Joining Nuts
- Point Protection
- 2/3 Leg Puller (optional)



### Hydraulic Set- Hollow Cylinder

Content:

- Handpump
- Hollow Cylinder
- Gauge and Gauge adapter
- Adapter
- Hose
- Fitting and Coupler



| Model Number | Capacity (Tonne) |          |                  |          |         |          |        | Weight (kg) |
|--------------|------------------|----------|------------------|----------|---------|----------|--------|-------------|
|              |                  | Handpump | Gauge + Adapter  | Hose     | Coupler | Cylinder | Saddle |             |
| APHC1202     | 10               | P352     | GBW1460 + CF3814 | CS3814-2 | CH38-M  | HC1202   | -      | 10          |
| APHC2002     | 20               | P352     | GBW1460 + CF3814 | CS3814-2 | CH38-M  | HC2002T  | APS20  | 15          |
| APHC3002     | 30               | P352     | GBW1460 + CF3814 | CS3814-2 | CH38-M  | HC3002T  | APS30  | 18          |
| APHC6003     | 60               | P1000    | GBW1460 + CF3814 | CS3814-2 | CH38-M  | HC6003T  | APS60  | 46          |
| APHC10003    | 100              | P2301    | GBW1460 + CF3814 | CS3814-2 | CH38-M  | HC10003T | -      | 73          |

Hydraulic press

Manual Puller

Hydraulic puller

Bolt puller kingpin press

Pad Eye tester

Valve Seat Puller

Spreader

Nut splitter

Mini Jacks Toe jacks

Bottle jacks

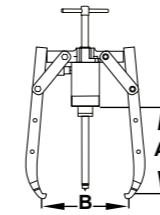
Impact sockets / Support pads

## Composition Hydraulic Puller Kits

(Excluding Hydraulics) See also page 79

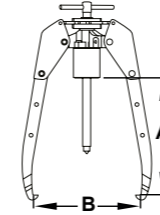
| Model Number | Capacity (Tonne) |                                    |                     |              |                   |          |                 |              |                  | Weight (kg) |
|--------------|------------------|------------------------------------|---------------------|--------------|-------------------|----------|-----------------|--------------|------------------|-------------|
|              |                  | 3 or 2/3 Leg Puller Self-Centering | 3 or 2/3 Leg Puller | 2 Leg Puller | 2x Extender Set   | Splitter | Internal Puller | Joining Nuts | Point Protection |             |
| APK1010      | 10               |                                    |                     | AP2210       | APE1120 + APE1146 | APS1204  | API1210         | AJN05        | APP10            | 35          |
| APK1020      | 20               |                                    |                     | AP2220       | APE1220 + APE1252 | APS1206  | API1220         | AJN10        | APP20            | 60          |
| APK1030      | 30               |                                    |                     | AP2230       | APE1333 + APE1358 | APS1210  | API1230         | AJN30        | APP30            | 120         |
| APK1060*     | 60               |                                    |                     | AP2250       | APE1550 + APE1582 | APS1210D | API1250         | AJN50        | APP30            | 215         |
| APK1061*     | 60               |                                    |                     | AP2250       | APE1550 + APE1582 | APS1212  | API1250         | AJN50        | APP30            | 230         |
| APK1110      | 10               |                                    | AP2310 (2/3 Leg)    | AP2210       | APE1120 + APE1146 | APS1204  | API1210         | AJN05        | APP10            | 44          |
| APK1120      | 20               |                                    | AP2320 (3 Leg)      | AP2220       | APE1220 + APE1252 | APS1206  | API1220         | AJN10        | APP20            | 83          |
| APK1130      | 30               |                                    | AP2330 (3 Leg)      | AP2230       | APE1333 + APE1358 | APS1210  | API1230         | AJN30        | APP30            | 160         |
| APK1160*     | 60               |                                    | AP2360 (3 Leg)      | AP2250       | APE1550 + APE1582 | APS1210D | API1250         | AJN50        | APP30            | 302         |
| APK1161*     | 60               |                                    | AP2360 (3 Leg)      | AP2250       | APE1550 + APE1582 | APS1212  | API1250         | AJN50        | APP30            | 317         |
| APK1210      | 10               | APC2310 (2/3 Leg)                  |                     | AP2210       | APE1120 + APE1146 | APS1204  | API1210         | AJN05        | APP10            | 50          |
| APK1220      | 20               | APC2320 (3 Leg)                    |                     | AP2220       | APE1220 + APE1252 | APS1206  | API1220         | AJN10        | APP20            | 93          |
| APK1230      | 30               | APC2330 (3 Leg)                    |                     | AP2230       | APE1333 + APE1358 | APS1210  | API1230         | AJN30        | APP30            | 177         |
| APK1260*     | 60               | APC2360 (3 Leg)                    |                     | AP2250       | APE1550 + APE1582 | APS1210D | API1250         | AJN50        | APP30            | 349         |
| APK1261*     | 60               | APC2360 (3 Leg)                    |                     | AP2250       | APE1550 + APE1582 | APS1212  | API1250         | AJN50        | APP30            | 364         |

\* Available on request: no stock item



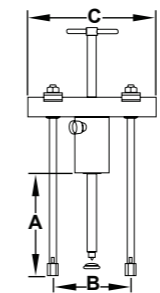
| Model Number | Capacity (Tonne) | A (mm) | B Min. (mm) | B Max. (mm) | Weight (kg) |
|--------------|------------------|--------|-------------|-------------|-------------|
| AP2310       | 10               | 315    | 50          | 350         | 9           |
| AP2320       | 20               | 320    | 70          | 480         | 23          |
| AP2330       | 30               | 410    | 90          | 650         | 40          |
| AP2360       | 60               | 710    | 120         | 980         | 87          |

## 3 Leg Pullers



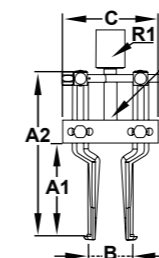
| Model Number | Capacity (Tonne) | A (mm) | B Min. (mm) | B Max. (mm) | Weight (kg) |
|--------------|------------------|--------|-------------|-------------|-------------|
| APC2310      | 10               | 315    | 50          | 350         | 14          |
| APC2320      | 20               | 320    | 70          | 480         | 33          |
| APC2330      | 30               | 410    | 90          | 650         | 56          |
| APC2360      | 60               | 710    | 120         | 980         | 122         |

## 3 Leg Self-Centering Pullers



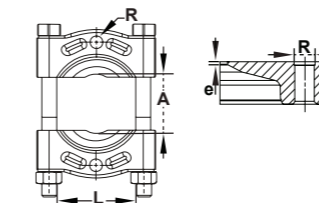
| Model Number | Capacity (Tonne) | A (mm) | B Min. (mm) | B Max. (mm) | C (mm) | Weight (kg) |
|--------------|------------------|--------|-------------|-------------|--------|-------------|
| AP2210       | 10               | 300    | 115         | 260         | 280    | 7.5         |
| AP2220       | 20               | 265    | 140         | 345         | 370    | 18.5        |
| AP2230       | 30               | 284    | 180         | 440         | 480    | 37          |
| AP2250       | 50               | 447    | 220         | 580         | 615    | 70.5        |

## 2 Leg Pullers



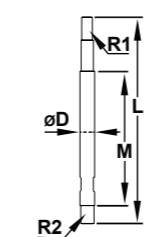
| Model Number | A1 (mm) | A2 (mm) | B Min. (mm) | B Max. (mm) | C   | R1              | R2       | Weight (kg) |
|--------------|---------|---------|-------------|-------------|-----|-----------------|----------|-------------|
| API1210      | 115     | 237     | 40          | 145         | 133 | 3/4" UNF 16h    | 5/8" 14h | 2.0         |
| API1220      | 115     | 237     | 40          | 145         | 133 | 1" UNF 8h       | 5/8" 14h | 2.4         |
| API1230      | 150     | 310     | 60          | 240         | 202 | 1 1/4" UNF 7 h  | 1" 14h   | 6.0         |
| API1250      | 150     | 310     | 60          | 240         | 202 | 1 5/8" UNS 5.5h | 1" 14h   | 6.4         |

## Internal Pullers



| Model Number | A Min. (mm) | A Max. (mm) | L (mm) | R (mm) | e (mm) | Weight (kg) |
|--------------|-------------|-------------|--------|--------|--------|-------------|
| APS1204      | 10          | 110         | 110    | 15.9   | 2.5    | 2.8         |
| APS1206      | 12          | 134         | 155    | 15.9   | 2      | 5.7         |
| APS1210      | 17          | 250         | 260    | 25.4   | 4      | 28.5        |
| APS1210D     | 17          | 250         | 260    | 31.8   | 4      | 28.5        |
| APS1212      | 35          | 300         | 300    | 31.8   | 4.5    | 43.5        |

## Splitters



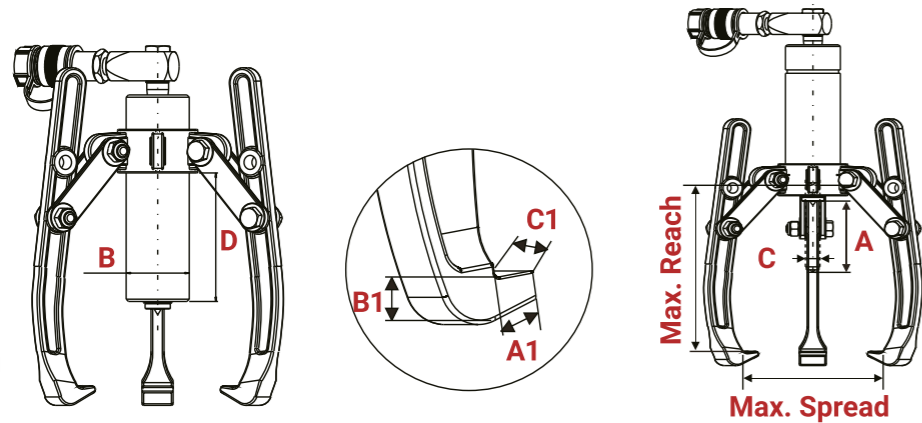
| Model Number | L (mm) | M (mm) | Ø D (mm) | R1           | R2           |
|--------------|--------|--------|----------|--------------|--------------|
| APE1120      | 209    | 106    | 25       | 3/4" - 16h   | 5/8" - 18h   |
| APE1220      | 209    | 89     | 25       | 3/4" - 16h   | 5/8" - 18h   |
| APE1333      | 328    | 158    | 32       | 1" - 14h     | 1" - 14h     |
| APE1550      | 504    | 292    | 42       | 1 1/4" - 12h | 1 1/4" - 12h |
| APE1146      | 460    | 357    | 25       | 3/4" - 16h   | 5/8" - 18h   |
| APE1252      | 515    | 395    | 25       | 3/4" - 16h   | 5/8" - 18h   |
| APE1358      | 582    | 412    | 32       | 1" - 14h     | 1" - 14h     |
| APE1582      | 820    | 608    | 42       | 1 1/4" - 12h | 1 1/4" - 12h |

## Leg Extensions



## Hydraulic Gear Pullers

- Forged high strength puller body, with integral safety valve & red warning line.
- Heat treated forged alloy steel components with manganese phosphate coating for increased corrosion & wear resistance and extend working life. 120% rated capacity for jaws.
- Can be ordered with or without complete hydraulic set.
- Material lifetime warranty.
- Supplied with protective carrying case.
- 2 or 3 Jaw puller can be used for multiple pulling applications. (2 Jaw where space is constricted).



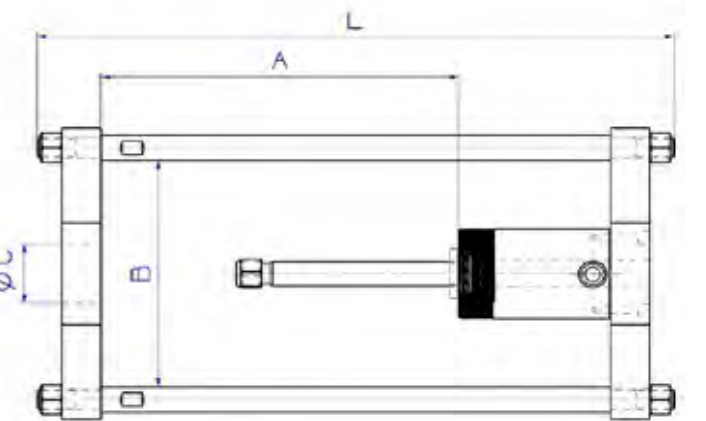
| Model Number | Capacity (Tonne) | Stroke (mm) | Eff Area (cm <sup>2</sup> ) | Max. Reach (mm) | Max. Speed (mm) | Tip (mm) |    |     | Jaw Tip (mm) |    |    | Net. Weight (kg) |
|--------------|------------------|-------------|-----------------------------|-----------------|-----------------|----------|----|-----|--------------|----|----|------------------|
|              |                  |             |                             |                 |                 | B        | C  | D   | A1           | B1 | C1 |                  |
| HGPT06       | 6                | 70          | 8.04                        | 245             | 330             | 45       | 23 | 91  | 13           | 10 | 22 | 5.4              |
| HGPT12       | 12               | 85          | 14.45                       | 260             | 375             | 60       | 28 | 118 | 14           | 10 | 29 | 9.5              |
| HGPT20       | 20               | 111         | 28.26                       | 350             | 520             | 80       | 40 | 162 | 20           | 27 | 33 | 23               |
| HGPT30       | 30               | 111         | 42                          | 435             | 550             | 98       | 50 | 155 | 20           | 27 | 38 | 35.3             |
| HGPT50       | 50               | 143         | 71.22                       | 635             | 1000            | 127      | 79 | 235 | 43           | 16 | 32 | 110              |



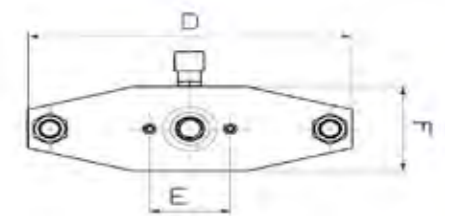
## Bolt Puller/King Pin Press

30 Tonne & 60 Tonne (Excluding Cylinder)

Bolt Puller/King Pin Press (excluding hydraulics). Ideal for pushing King Pin and Stub Axle Pin replacement. Mobile and easy to use in the field or workshop.



| Model Number | A (mm) | B (mm) | Ø C (mm) | D (mm) | E (mm) | F (mm) | L (mm) | Weight (kg) |
|--------------|--------|--------|----------|--------|--------|--------|--------|-------------|
| AP2239       | 420    | 288    | 75       | 370    | 92.1   | 118    | 750    | 36          |
| AP2269       | 475    | 398    | 98       | 520    | 130.2  | 170    | 900    | 97          |



Hydraulic Set is not included  
We recommend the following set:

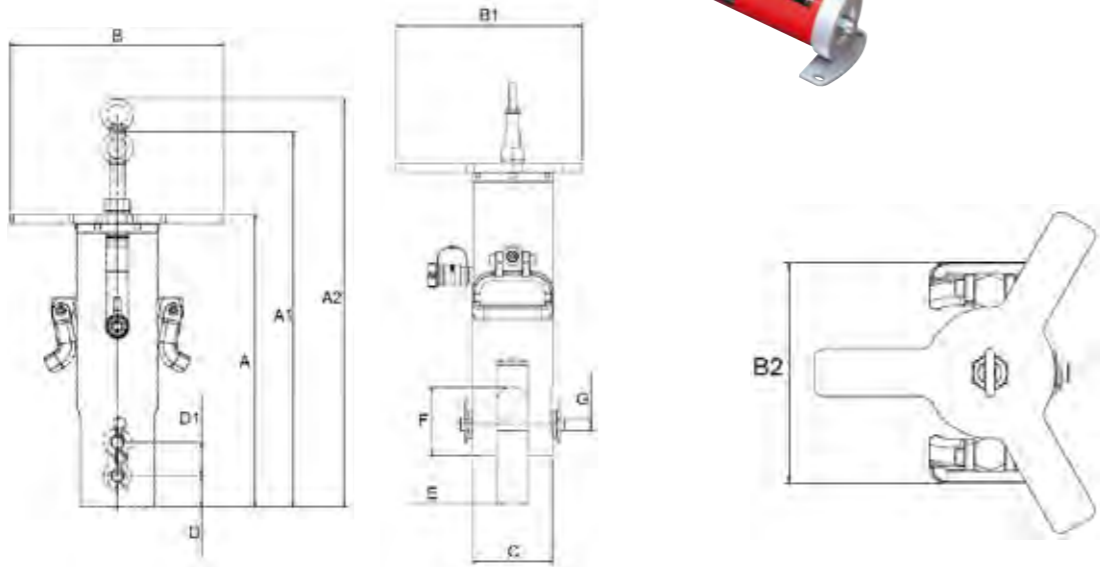
| Model Number | Capacity (Tonne) | Handpump | Fittings | Gauge + Adapter  | Hose    | Coupler | Cylinder | Saddle | Weight (kg) |
|--------------|------------------|----------|----------|------------------|---------|---------|----------|--------|-------------|
|              |                  |          |          |                  |         |         |          |        |             |
| APHC3002     | 30               | P350     | CA3814   | GBW1460 + CF3814 | C3814-2 | CH38-M  | HC3002T  | APS30  | 18          |
| APHC6003     | 60               | P1000    | -        | GBW1460 + CF3814 | C3814-2 | CH38-M  | HC6003T  | APS60  | 46          |

## Pad Eye Tester

20,30 & 60 Tonne (Including hydraulic set)



- Test lifting/anchor points in upright, horizontal or inverted applications.
- Available in 20, 30 and 60 ton.
- Including pump, hose, connectors and load specific manometer.
- Packed in wooden crate for easy storage.
- Equipped with lifting handles for easy handling.
- Versatile applications and easy to use.



| Model Number | Capacity Tonne | A   | A1  | A2  | B   | B1  | B2  | C   | D  | D1 | E  | F   | G  |
|--------------|----------------|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|----|
| CT3220T      | 20             | 470 | 602 | 656 | 343 | 300 | 235 | 130 | 50 | 54 | 50 | 110 | 20 |
| CT3230T      | 30             | 531 | 682 | 746 | 343 | 300 | 256 | 150 | 50 | 64 | 60 | 120 | 25 |
| CT3260T      | 60             | 630 | 802 | 869 | 343 | 300 | 308 | 202 | 50 | 67 | 65 | 150 | 40 |

## Valve Seat Puller

Frac Pump Maintenance



- Pump kit to operate HVSP Series cylinders. Part number: SP12-CSG4
- Pump kit includes: P1201, CS3814-2, CH38M, GBW1460 and CF3814

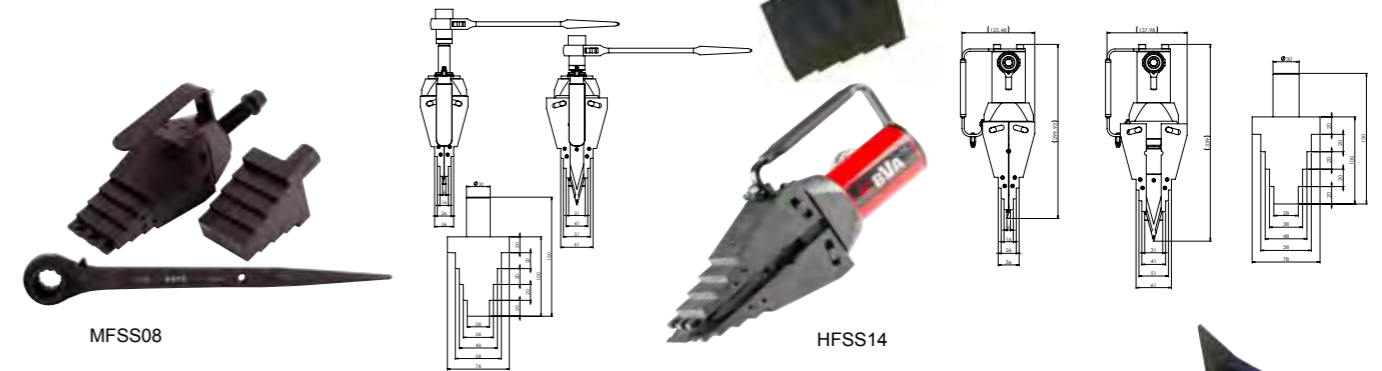
| Cylinder Capacity (tonne) | Model Number | Center Hole ID (mm) | Stroke (mm) | Collapsed Height (mm) | Weight (kg) |
|---------------------------|--------------|---------------------|-------------|-----------------------|-------------|
| 120                       | HVSP120      | 54                  | 15.4        | 92                    | 27.9        |
| 125                       | HVSP125      | 54                  | 15.4        | 92                    | 24.5        |

## Flange Spreader

Pin Type (Including Cylinder)

- Designed for heavy duty industrial environment
- Adjustable jaw width for a wide range of applications and easy use
- Spare wedge attachment is included

| Capacity           | Model Number | Stroke (mm) | Oil Capacity (cc) | Maximum Flange Thickness (mm) |
|--------------------|--------------|-------------|-------------------|-------------------------------|
| 5 Tonne<br>45 kN   | HFS05        | 25          | 16                | 51 X 58                       |
| 10 Tonne<br>101 kN | HFS10        | 51          | 74                | 51 X 91                       |

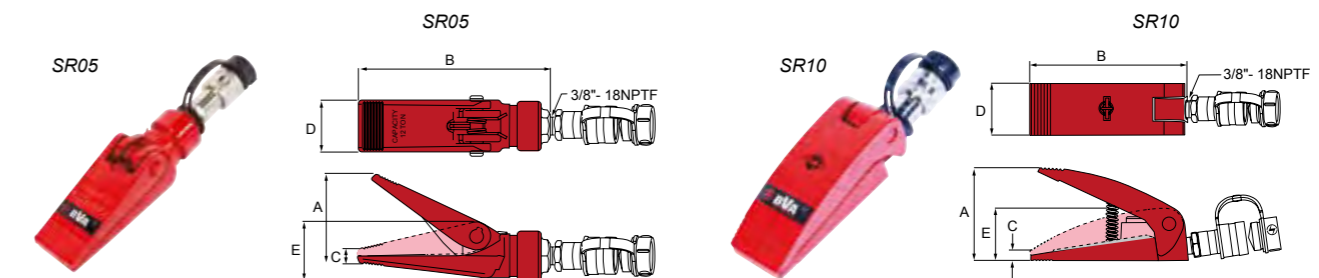


| Model Number | Type       | "Maximum Spreading Force | Spreading Distance Maximum* (mm) | Flange Dimensions Minimum Access Gap A (mm) | Jaw Width (mm) | Tool Weight (kg) | Oil Capacity (CC) |
|--------------|------------|--------------------------|----------------------------------|---|----------------|------------------|-------------------|
| MFSS08       | Mechanical | 78                       | 80                               | 6   | 60             | 6.2              | N/A               |
| HFSS14       | Hydraulic  | 137                      | 80                               | 6   | 60             | 10.2             | 74                |

\* Using CFSS02 stepped blocks.

## Spreaders

- Designed to work in confined work spaces
- Ideal for wedging, prying and opening
- High strength forged steel
- Spring return for easy operation



| Cylinder Capacity   | Model Number | Cylinder Effective Area (cm <sup>2</sup> ) | Oil Capacity (cc) | Dimensions (mm) |     |    |    |    | Weight (kg) |
|---------------------|--------------|--|-------------------|-----------------|-----|----|----|----|-------------|
|                     |              |  |                   | A               | B   | C  | D  | E  |             |
| 0.5 Tonne<br>4.9 kN | SR05         | 7.87                                       | 10                | 90              | 192 | 13 | 52 | 60 | 2.2         |
| 1 Tonne<br>9.8 kN   | SR10         | 7.03                                       | 14                | 99              | 167 | 12 | 55 | 56 | 2.3         |

Hydraulic press

Manual Puller

Hydraulic puller

Bolt puller kingpin press

Pad Eye tester

Valve Seat Puller

Spreader

Nut splitter

Mini Jacks Toe jacks

Bottle jacks

Impact sockets / Support pads



## Hydraulic Nut Splitter Case

**Compact and Heavy Duty**

- Spacers include a straight chisel with a 60/40 angle, and works on all type of materials, including stainless steel
- Chisel can be re-sharpened multiple times
- The aluminum flight case also includes one spare blade

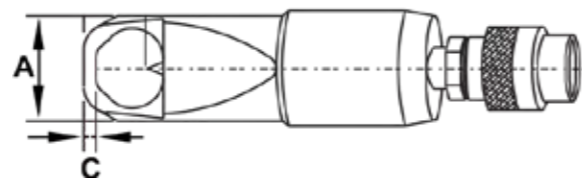
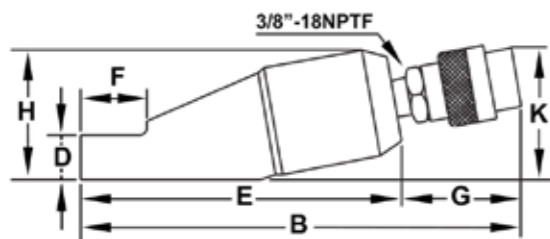


**Our Recommendation**

This combination kit will work well with this foot pump



P570FP



| Model Number | Capacity (Tonne) | Bolt Range | Hexagon Nut Range (mm) | Oil Capacity (cc) | Dimensions (mm) |     |    |    |     |     |    |     | Replacement Blade Model Number | Weight (kg) |     |
|--------------|------------------|------------|------------------------|-------------------|-----------------|-----|----|----|-----|-----|----|-----|--------------------------------|-------------|-----|
|              |                  |            |                        |                   | A               | B   | C  | D  | E   | F   | G  | H   |                                |             | K   |
| NS1319       | 6                | M6-M12     | 13-19                  | 11                | 40              | 190 | 7  | 19 | 121 | 28  | 55 | 48  | 57                             | NSB1319     | 1   |
| NS1924       | 10               | M12-M16    | 19-24                  | 17                | 54              | 217 | 10 | 26 | 146 | 40  | 55 | 62  | 60                             | NSB1924     | 2   |
| NS2432       | 15               | M16-M22    | 24-32                  | 40                | 64              | 245 | 13 | 29 | 178 | 51  | 55 | 72  | 71                             | NSB2432     | 3.2 |
| NS3241       | 21               | M22-M27    | 32-41                  | 62                | 75              | 260 | 17 | 36 | 205 | 66  | 55 | 88  | 77                             | NSB3241     | 4.7 |
| NS4150       | 34               | M27-M33    | 41-50                  | 123               | 94              | 310 | 21 | 45 | 244 | 74  | 55 | 105 | 90                             | NSB4150     | 8.5 |
| NS5060*      | 49               | M33-M39    | 50-60                  | 191               | 106             | 335 | 23 | 54 | 289 | 90  | 55 | 128 | 100                            | NSB5060     | 13  |
| NS6075*      | 93               | M39-M48    | 60-75                  | 650               | 156             | 410 | 26 | 72 | 365 | 110 | 55 | 181 | 124                            | NSB6075     | 34  |

\* Available on request. (no stock item)

## BVA Bag

- Very practical for service people.
- For easy and comfortable carry/transport of the equipment to the place of work while keeping your hands free.



## Mini Jacks

**Compact**

- Low profile mini jack
- Compact and lightweight
- Convenient for storage



These mini jacks are lightweight and will fit in the palm of your hand.



Interchangeable saddle on model J11050 and J11055

| Capacity          | Model Number | Minimum Height (mm) | Maximum Height (mm) | Hydraulic Lifting (mm) | Base Size (L x W) (mm) | Weight (kg) |
|-------------------|--------------|---------------------|---------------------|------------------------|------------------------|-------------|
| 5 Tonne / 49 kN   | J11050       | 60                  | 80                  | 20                     | 124 x 116              | 2.1         |
| 5 Tonne / 49 kN   | J11055       | 85                  | 123                 | 38                     | 124 x 116              | 2.4         |
| 10 Tonne / 99 kN  | J11100       | 122                 | 163                 | 41                     | 125 x 112              | 5.7         |
| 20 Tonne / 199 kN | J11200       | 130                 | 171                 | 41                     | 137 x 122              | 7.6         |

## Toe Jacks

**Low Height**

- Heat treated and chrome plated medium-carbon steel cylinder.
- Chrome plated plunger improves longer seal life and optimum performance.
- U.S. Patented by-pass device protects hydraulic system from over travel damage.
- Hydraulic system is protected from internal damage by a patented by-pass mechanism (U.S. Patent No. 5946912).

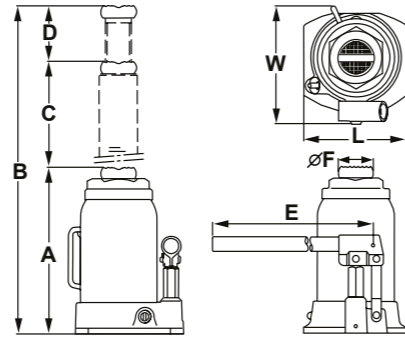


| Capacity          | Model Number | Toe Saddle       |                  | Head Saddle      |                  | Hydraulic Lifting (mm) | Base Size (L x W) (mm) | Weight (kg) |
|-------------------|--------------|------------------|------------------|------------------|------------------|------------------------|------------------------|-------------|
|                   |              | Min. Height (mm) | Max. Height (mm) | Min. Height (mm) | Max. Height (mm) |                        |                        |             |
| 3 Tonne / 29 kN   | J13060       | 15               | 147              | 229              | 358              | 130                    | 152 x 112              | 16.4        |
| 6 Tonne / 59 kN   | J13120       | 23               | 152              | 267              | 396              | 130                    | 279 x 191              | 24.9        |
| 10 Tonne / 99 kN  | J13200       | 28               | 160              | 279              | 409              | 130                    | 295 x 229              | 38.1        |
| 15 Tonne / 149 kN | J13300       | 28               | 168              | 333              | 472              | 130                    | 318 x 274              | 52.9        |

## Manual Bottle Jacks



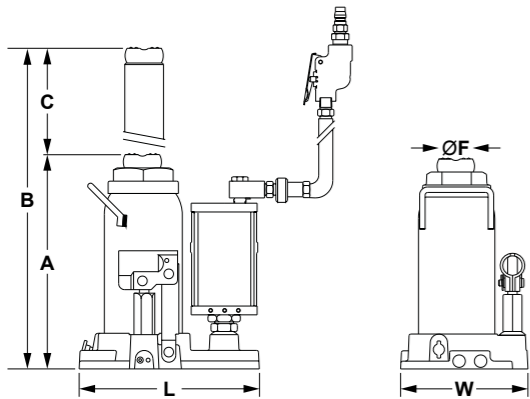
- With easy adjustable extension screw [12-20 Tons].
- With rubber removable carry ring for easy storage of pump handle [2-20 Tons].
- Safety valve against over-loading.
- Bottle Jacks 8 Ton and more are supplied with a carry grip.



| Model Number | Capacity           | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | L (mm) | W (mm) | Weight (kg) |
|--------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------------|
| 1412000      | 12 Tons<br>119 kN  | 241    | 469    | 150    | 78     | 345    | 42     | 138    | 106    | 7.4         |
| 1420000      | 20 Tons<br>199 kN  | 249    | 475    | 150    | 76     | 452    | 76     | 160    | 150    | 12.9        |
| 10500        | 50 Tons<br>498 kN  | 305    | 483    | 178    | -      | 593    | 79     | 275    | 198    | 50.4        |
| 10990        | 100 Tons<br>996 kN | 305    | 461    | 156    | -      | 600    | 113    | 305    | 238    | 90.6        |

## Air operated bottle jacks

- 20 - 30 Ton
- 8 - 12 bar suggested air pressure for optimal performance.



| Model Number | Capacity          | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | L (mm) | W (mm) | Weight (kg) |
|--------------|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|-------------|
| 18202C       | 20 Tons<br>199 kN | 247    | 477    | 130    | 100    | 600    | 48     | 216    | 184    | 17          |
| 18206C       | 20 Tons<br>199 kN | 245    | 478    | 80     | 153    | 600    | 52     | 230    | 173    | 17.6        |
| 17302C       | 30 Tons<br>298 kN | 280    | 458    | 180    | -      | 965    | 62     | 210    | 210    | 27.5        |

## Maintenance Kits

4, 10 Ton



- Sets are portable for ease of use on the job site
- Custom fitted, rugged blow molded storage case
- 10 ton set has wheels for easy transport
- Designed for pushing, spreading, pressing and more



| Capacity         | Pump Capacity (BAR) | Model Number | Plunger               |                      |                                   | Number of Attachments | Weight (kg) |
|------------------|---------------------|--------------|-----------------------|----------------------|-----------------------------------|-----------------------|-------------|
|                  |                     |              | Collapsed Height (cm) | Extended Height (mm) | Effective Area (cm <sup>2</sup> ) |                       |             |
| 4 Tons<br>39 kN  | 552                 | 50040        | 70.97                 | 258                  | 6.44                              | 14                    | 21          |
| 10 Tons<br>98 kN | 700                 | 50100        | 87.94                 | 324                  | 15.56                             | 13                    | 36.7        |

\* When extension tubes and/or offset attachments are used, the capacity is reduced.

Hydraulic press

Manual Puller

Hydraulic puller

Bolt puller  
kingpin press

Pad Eye tester

Valve Seat Puller

Spreader

Nut splitter

Mini Jacks  
Toe jacks

Bottle jacks

Impact sockets /  
Support pads



## Impact sockets

- All our Impact Sockets are manufactured with UNI-ISO 1174 & DIN 3121 standards.
- Manufactured with only high alloy steel.
- Special sockets on request available.



| Model                  | Model Number | Drive  | mm             |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |    |
|------------------------|--------------|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|
|                        |              |        | 17             | 19             | 22             | 24             | 27             | 30             | 32             | 33             | 36             | 41             | 46             | 50             | 55             | 60             | 65             | 70             | 75             | 80             | 85             | 90 |
| Standard Socket Metric | BSD34-(mm)   | 3/4"   | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              |                |                |                |                |                |                |    |
|                        | BSD100-(mm)  | 1"     |                | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x  |
|                        | BSD112-(mm)  | 1 1/2" |                |                |                |                |                |                | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x              | x  |
|                        | BSD212-(mm)  | 2 1/2" |                |                |                |                |                |                |                |                |                |                |                |                | x              | x              | x              | x              | x              | x              | x              | x  |
| Long Socket Metric     | BSD34-(mm)L  | 3/4"   | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>2</sup> |                |                |                |                |                |                |    |
|                        | BSD100-(mm)L | 1"     |                | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>1</sup> | x <sup>3</sup> | x <sup>3</sup> | x <sup>4</sup> | x <sup>4</sup> | x <sup>4</sup> | x <sup>5</sup> | x <sup>5</sup> | x <sup>6</sup> | x <sup>6</sup> | x <sup>6</sup> |    |
|                        | BSD112-(mm)L | 1 1/2" |                |                |                |                |                |                |                |                | x <sup>7</sup> | x <sup>7</sup> | x <sup>7</sup> | x <sup>7</sup> | x <sup>7</sup> | x <sup>7</sup> | x <sup>8</sup> | x <sup>8</sup> | x <sup>8</sup> | x <sup>9</sup> | x <sup>9</sup> |    |

| Model                  | Model Number | Drive  | mm              |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |     |     |     |     |     |
|------------------------|--------------|--------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----|-----|-----|-----|-----|-----|
|                        |              |        | 95              | 100             | 105             | 110             | 115             | 120             | 125             | 130             | 135             | 140             | 145             | 150             | 155             | 160             | 165 | 170 | 175 | 180 | 185 | 190 |
| Standard Socket Metric | BSD34-(mm)   | 3/4"   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |     |     |     |     |     |
|                        | BSD100-(mm)  | 1"     | x               | x               |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |     |     |     |     |     |
|                        | BSD112-(mm)  | 1 1/2" | x               | x               | x               | x               | x               | x               | x               | x               | x               | x               | x               | x               | x               |                 |     |     |     |     |     |     |
|                        | BSD212-(mm)  | 2 1/2" | x               | x               | x               | x               | x               | x               | x               | x               | x               | x               | x               | x               | x               | x               | x   | x   | x   | x   | x   | x   |
| Long Socket Metric     | BSD34-(mm)L  | 3/4"   |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |     |     |     |     |     |
|                        | BSD100-(mm)L | 1"     | x <sup>6</sup>  | x <sup>7</sup>  |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |     |     |     |     |     |     |
|                        | BSD112-(mm)L | 1 1/2" | x <sup>10</sup> | x <sup>10</sup> | x <sup>10</sup> | x <sup>11</sup> | x <sup>11</sup> | x <sup>11</sup> | x <sup>11</sup> | x <sup>11</sup> | x <sup>12</sup> | x <sup>12</sup> | x <sup>12</sup> | x <sup>12</sup> | x <sup>12</sup> | x <sup>12</sup> |     |     |     |     |     |     |

Length of Socket (mm) x<sup>1</sup> 100 x<sup>2</sup> 110 x<sup>3</sup> 115 x<sup>4</sup> 125 x<sup>5</sup> 135 x<sup>6</sup> 140 x<sup>7</sup> 150 x<sup>8</sup> 170 x<sup>9</sup> 180 x<sup>10</sup> 190 x<sup>11</sup> 200 x<sup>12</sup> 210

Imperial sizes, Allen Sockets or Reducer Sockets are available on request  
size and dimensions are available on request



| Model                  | Model Number  | Drive  | Length in Inch/mm |         |         |         |         |         |         |  |
|------------------------|---------------|--------|-------------------|---------|---------|---------|---------|---------|---------|--|
|                        |               |        | 7"/175            | 10"/250 | 12"/300 | 13"/330 | 15"/380 | 18"/455 | 24"/610 |  |
| Standard Socket Metric | BSD34-(Inch)  | 3/4"   | x                 | x       |         | x       |         |         |         |  |
|                        | BSD100-(Inch) | 1"     | x                 | x       |         | x       |         |         |         |  |
|                        | BSD112-(Inch) | 1 1/2" |                   | x       |         |         | x       | x       |         |  |
|                        | BSD212-(Inch) | 2 1/2" |                   |         | x       |         |         | x       | x       |  |

## Support Pads

Stability solutions



The support pads are outrigger pads used for mobile cranes, truck mounted cranes, aerial working platforms, concrete pumps, containers, hydraulic jacks etc.

Its purpose is to spread the weight over a larger surface offering better support while also protecting the surface.

| Support Pads   | Model Number | Grip | Dimension (mm)   | Weight (kg) | Capacity (Tonne) |
|--|--------------|------|------------------|-------------|------------------|
|  | SP 44410     | 1    | 400 x 400 x 40   | 6           | 10               |
|  | SP 55415     | 1    | 500 x 500 x 40   | 9           | 15               |
|  | SP 66420     | 1    | 600 x 600 x 40   | 14          | 20               |
|  | SP 66625     | 1    | 600 x 600 x 60   | 20          | 25               |
|  | SP 1010650*  | 2    | 1000 x 1000 x 60 | 58          | 50               |

Other sizes/capacities available on request.

\* Not standard stock item.

## Support Pads

Stability solutions

- Ecological
- Light weight
- Easy to handle
- High durability
- High flexibility
- Water-repellent
- Nearly unbreakable
- No rusting
- No Rotting

**80%** Safety Practices

Good industry practice recommends not exceeding 80% of maximum rated capacities of all our products.



# Pumps / Cylinders Operation and Speed Chart

# Selection Worksheet

▼ Complete the following information to select the right products:

| NUMBER OF STROKE PER CM OF CYLINDER PLUNGER TRAVEL |         |      |          |      |          |      |          |      |          |      |          |      |          |      |          |      |
|--|---------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|
| Model Number                                       | 5 Tonne |      | 10 Tonne |      | 15 Tonne |      | 25 Tonne |      | 30 Tonne |      | 50 Tonne |      | 75 Tonne |      | 95 Tonne |      |
|  | No load | Load | No load  | Load | No load  | Load | No load  | Load | No load  | Load | No load  | Load | No load  | Load | No load  | Load |
| <b>POWER SOURCE: MANUAL</b>                        |         |      |          |      |          |      |          |      |          |      |          |      |          |      |          |      |
| P601S  | 3       | 3    | 6        | 6    | 9        | 9    | 14       | 14   | 17       | 17   | 29       | 29   | 42       | 42   | 54       | 54   |
| P350   | 2       | 8    | 5        | 18   | 7        | 25   | 11       | 41   | 13       | 52   | 22       | 87   | 32       | 127  | 41       | 162  |
| P1000  | 1       | 3    | 2        | 7    | 2        | 9    | 3        | 15   | 4        | 19   | 6        | 31   | 8        | 46   | 11       | 58   |
| P1201  | 1       | 3    | 2        | 7    | 2        | 9    | 3        | 15   | 4        | 19   | 6        | 31   | 8        | 46   | 11       | 58   |
| P2301/P2301M                                       | 1       | 3    | 2        | 7    | 2        | 9    | 3        | 15   | 4        | 19   | 6        | 31   | 8        | 45   | 10       | 58   |
| P4301/P4301M                                       | 1       | 3    | 2        | 7    | 2        | 9    | 3        | 15   | 4        | 19   | 6        | 31   | 8        | 46   | 11       | 58   |
| P8701/P8701M                                       | 0.1     | 1.4  | 0.2      | 3.4  | 0.2      | 4.3  | 0.3      | 7    | 0.4      | 9    | 0.6      | 15   | 0.8      | 22   | 1.1      | 28   |

| SECONDS PER CM OF CYLINDER PLUNGER TRAVEL                     |         |      |          |      |          |      |          |      |          |      |          |      |          |      |          |      |
|---|---------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|----------|------|
| Model Number  | 5 Tonne |      | 10 Tonne |      | 15 Tonne |      | 25 Tonne |      | 30 Tonne |      | 50 Tonne |      | 75 Tonne |      | 95 Tonne |      |
|   | No load | Load | No load  | Load | No load  | Load | No load  | Load | No load  | Load | No load  | Load | No load  | Load | No load  | Load |
| <b>POWER SOURCE: AIR (BASED ON 7 BAR AIR PRESSURE)</b>        |         |      |          |      |          |      |          |      |          |      |          |      |          |      |          |      |
| PA600/PA600H  | 0.4     | 2.6  | 0.9      | 5.8  | 1.2      | 8.1  | 2        | 13.3 | 2.5      | 16.8 | 4.2      | 28.3 | 6.2      | 41.6 | 8        | 53.1 |
| PA1500  | 0.4     | 2.1  | 0.9      | 4.8  | 1.2      | 6.8  | 2        | 11.1 | 2.5      | 14   | 4.2      | 23.6 | 6.2      | 34.6 | 8        | 44.2 |
| PA1500M   | 0.4     | 2.6  | 0.9      | 5.8  | 1.2      | 8.1  | 2        | 13.3 | 2.5      | 16.8 | 4.2      | 28.3 | 6.2      | 41.6 | 8        | 53.1 |
| PA2000  | 0.4     | 2.6  | 0.8      | 5.8  | 1.1      | 8.1  | 1.9      | 13.3 | 2.3      | 16.8 | 4        | 28.3 | 5.8      | 41.6 | 7.4      | 53.1 |
| PA3801/PA3801M  | 0.4     | 2.6  | 0.8      | 5.8  | 1.1      | 8.1  | 1.9      | 13.3 | 2.3      | 16.8 | 4        | 28.3 | 5.8      | 41.6 | 7.4      | 53.1 |
| PA1500L/PA3801L   | 0.4     | 2.3  | 1        | 5.4  | 1.4      | 7.6  | 2.2      | 12.5 | 2.8      | 15.7 | 4.7      | 26.6 | 6.9      | 39   | 8.8      | 49.8 |
| PA7550/PA7550M  | 0.4     | 2.6  | 0.8      | 5.8  | 1.1      | 8.1  | 1.9      | 13.3 | 2.3      | 16.8 | 4        | 28.3 | 5.8      | 41.6 | 7.4      | 53.1 |
| <b>POWER SOURCE: ELECTRIC (SPEED BASED ON 50HZ)</b>           |         |      |          |      |          |      |          |      |          |      |          |      |          |      |          |      |
| PE30S...  | 0.1     | 1.5  | 0.2      | 3.3  | 0.2      | 4.6  | 0.4      | 7.6  | 0.5      | 9.6  | 0.9      | 16.2 | 1.3      | 23.8 | 1.6      | 30.4 |
| PE40S...  | 0.1     | 0.7  | 0.2      | 1.7  | 0.2      | 2.4  | 0.4      | 3.9  | 0.5      | 4.9  | 0.9      | 8.2  | 1.3      | 12.1 | 1.6      | 15.4 |
| PE50S...  | 0.1     | 0.5  | 0.1      | 1    | 0.2      | 1.5  | 0.3      | 2.4  | 0.4      | 3    | 0.7      | 5.1  | 1        | 7.5  | 1.2      | 9.5  |
| PE60S...  | 0.05    | 0.2  | 0.1      | 0.6  | 0.2      | 0.8  | 0.3      | 1.3  | 0.3      | 1.6  | 0.5      | 2.7  | 0.8      | 4    | 1        | 5.1  |
| PE30M...  | 0.1     | 1.6  | 0.2      | 3.5  | 0.3      | 5    | 0.5      | 8.1  | 0.6      | 10.2 | 1.1      | 17.3 | 1.6      | 25.3 | 2        | 32.4 |
| PE40M...  | 0.09    | 0.8  | 0.2      | 1.8  | 0.3      | 2.5  | 0.5      | 4    | 0.6      | 5.1  | 1        | 8.6  | 1.5      | 12.7 | 1.9      | 16.2 |
| PE50M...  | 0.06    | 0.5  | 0.1      | 1.1  | 0.2      | 1.5  | 0.3      | 2.4  | 0.4      | 3.1  | 0.7      | 5.2  | 1        | 7.6  | 1.3      | 9.7  |
| PE60M...  | 0.05    | 0.3  | 0.1      | 0.6  | 0.2      | 0.8  | 0.3      | 1.3  | 0.4      | 1.7  | 0.6      | 2.9  | 0.9      | 4.2  | 1.1      | 5.4  |
| <b>POWER SOURCE: ROTARY AIR (BASED ON 7 BAR AIR PRESSURE)</b> |         |      |          |      |          |      |          |      |          |      |          |      |          |      |          |      |
| PARD17--  | 0.04    | 1    | 0.1      | 2.4  | 0.1      | 3.3  | 0.2      | 5.4  | 0.3      | 6.8  | 0.5      | 11.5 | 0.7      | 16.8 | 0.9      | 21.5 |
| PARD40--  | 0.03    | 0.3  | 0.1      | 0.8  | 0.1      | 1.1  | 0.1      | 1.7  | 0.2      | 2.2  | 0.3      | 3.7  | 0.4      | 5.4  | 0.5      | 6.9  |
| PAR17--   | 0.04    | 1    | 0.1      | 2.4  | 0.1      | 3.3  | 0.2      | 5.4  | 0.3      | 6.8  | 0.4      | 11.5 | 0.6      | 16.8 | 0.8      | 21.5 |
| PAR40--   | 0.03    | 0.3  | 0.1      | 0.8  | 0.1      | 1.1  | 0.1      | 1.7  | 0.2      | 2.2  | 0.3      | 3.7  | 0.4      | 5.4  | 0.5      | 6.9  |
| <b>POWER SOURCE: GASOLINE</b>                                 |         |      |          |      |          |      |          |      |          |      |          |      |          |      |          |      |
| PG5505/PD3505   | 0.03    | 0.2  | 0.1      | 0.5  | 0.1      | 0.8  | 0.2      | 1.2  | 0.2      | 1.6  | 0.4      | 2.7  | 0.5      | 3.9  | 0.7      | 5    |

| Cylinder Selection | Question:                      | Tips/help   | Data                 | Model Number         |
|--------------------|--------------------------------|---|----------------------|----------------------|
|                    | Total force required (tonne):  | Total load  | <input type="text"/> |                      |
|                    | Number of cylinders required:  | Number of lifting points  | <input type="text"/> |                      |
|                    | Force per cylinder (tonne):    | Should be 80% of total cylinder capacity                            | <input type="text"/> |                      |
|                    | Stroke required:               | Plunger travel  | <input type="text"/> |                      |
|                    | Single or double-acting (D/A): | D/A used when pull force is required, or retract speed is critical! | <input type="text"/> |                      |
|                    | Type of plunger required:      | Hollow or solid   | <input type="text"/> |                      |
|                    | Collapsed height required:     |   | <input type="text"/> |                      |
|                    | Optional saddle required:      | Tilt, Grooved, Flat   | <input type="text"/> |                      |
|                    | Cylinder base:                 | Improves stability  | <input type="text"/> |                      |
|                    | Selected cylinder model:       |   |                      | <input type="text"/> |

| Pump Selection | Available power source:  | Hand Pump  | Electric or Compressed Air Pump          |                      |
|----------------|--|--|--|----------------------|
|                | <input type="checkbox"/> Manual <input type="checkbox"/> Battery <input type="checkbox"/> Electric <input type="checkbox"/> Compressed Air <input type="checkbox"/> Petrol |  |  |                      |
|                | The three most commonly selected pumps are hand pumps, electric pumps and air-driven pumps. Gas powered pumps, however can be selected in the same way.                    | Not for high cycle applications                          | Need for portability:                    | <input type="text"/> |
|                |  | Use 4-way valve for D/A applications                     | Required useable oil capacity:           | <input type="text"/> |
|                |  | Check speed chart on page 92 for number of stroke per cm | 1,2 x oil capacity                       |                      |
|                |  |  | high cycle = 2 x oil capacity            |                      |
|                |  |  | Available Voltage:                       | <input type="text"/> |
|                |  |  | Lifting speed (Important/not important): | <input type="text"/> |
|                |  |  | Type of control:                         | <input type="text"/> |
|                |  |  | Type of actuation/function:              | <input type="text"/> |
|                | Selected Pump:   |  |  | <input type="text"/> |

| System Components | Number of hoses and length required: | Manifold or Tee-fitting: |
|-------------------|--------------------------------------|--------------------------|
|                   | Selected Hoses:                      | <input type="text"/>     |
|                   |                                      | <input type="text"/>     |
|                   |                                      | <input type="text"/>     |
|                   |                                      | <input type="text"/>     |
|                   |                                      | <input type="text"/>     |
|                   |                                      | <input type="text"/>     |
|                   |                                      | <input type="text"/>     |
|                   |                                      | <input type="text"/>     |
|                   |                                      | <input type="text"/>     |
|                   |                                      | <input type="text"/>     |



**BVA Cross Reference Chart\***

Compatibility Check

| Tonne                          | BVA         | Enerpac     | Power Team | Hi-Force | Tonne                        | BVA      | Enerpac  | Power Team | Hi-Force |
|--------------------------------|-------------|-------------|------------|----------|------------------------------|----------|----------|------------|----------|
| <b>Single Acting Cylinders</b> |             |             |            |          |                              |          |          |            |          |
| 5                              | H0500       | RC-50       | -          | HFS51    | 50                           | H5502    | RC-502   | C552C      | HSS502   |
|                                | H0501       | RC-51       | C51C       | HSS51    |                              | H5504    | RC-504   | C554C      | HSS504   |
|                                | H0503       | RC-53       | C53C       | HSS53    |                              | H5506    | RC-506   | C556C      | HSS506   |
|                                | H0505       | RC-55       | C55C       | HSS55    |                              | H5513    | RC-5013  | C5513C     | HSS5013  |
|                                | H0507       | RC-57       | C57C       | HSS57    | 75                           | H7506    | RC-756   | C756C      | HSS756   |
|                                | H0509       | RC-59       | C59C       | HSS59    |                              | H7513    | RC-7513  | C7513C     | -        |
| 10                             | H1001       | RC-101      | C101C      | HSS101   | 100                          | H10006   | RC-1006  | C1006C     | HSS1006  |
|                                | H1002       | RC-102      | C102C      | HSS102   |                              | H10010   | RC-10010 | C10010C    | HSS10010 |
|                                | H1004       | RC-104      | C104C      | HSS104   | <b>Threaded Cylinders</b>    |          |          |            |          |
|                                | H1006       | RC-106      | C106C      | HSS106   | 10                           | HT1006   | -        | C106CBT    | -        |
|                                | H1008       | RC-108      | C108C      | HSS108   |                              | HT1010   | -        | C1010CBT   | -        |
|                                | H1010       | RC-1010     | C1010C     | HSS1010  | <b>Aluminum Cylinders</b>    |          |          |            |          |
| H1012                          | RC-1012     | C1012C      | HSS1012    | 20       | HU2002T                      | RAC-202  | RA202    | -          |          |
| H1014                          | RC-1014     | C1014C      | -          |          | HU2004T                      | RAC-204  | RA204    | -          |          |
| 15                             | H1501       | RC-151      | C151C      |          | -                            | HU2006T  | RAC-206  | RA206      | -        |
|                                | H1502       | RC-152      | C152C      | HSS152   | 30                           | HU3002T  | RAC-302  | RA302      | -        |
|                                | H1504       | RC-154      | C154C      | HSS154   |                              | HU3004T  | RAC-304  | RA304      | -        |
|                                | H1506       | RC-156      | C156C      | HSS156   | HU3006T                      | RAC-306  | RA306    | HAS306     |          |
|                                | H1508       | RC-158      | C158C      | -        | 50                           | HU5002T  | RAC-502  | RA552      | -        |
|                                | H1510       | RC-1510     | C1510C     | HSS1510  |                              | HU5004T  | RAC-504  | RA554      | -        |
| H1512                          | RC-1512     | C1512C      | -          | HU5006T  |                              | RAC-506  | RA556    | HAS506     |          |
| H1514                          | RC-1514     | C1514C      | -          | HU5010T  | RAC-5010                     | RA5510   | -        |            |          |
| 25                             | H2501       | RC-251      | C251C      | -        | 700                          | HU10002T | RAC-1002 | RA1002     | -        |
|                                | H2502       | RC-252      | C252C      | HSS252   |                              | HU10006T | RAC-1006 | RA1006     | HAS1006  |
|                                | H2504       | RC-254      | C254C      | HSS254   | <b>Low Profile Cylinders</b> |          |          |            |          |
|                                | H2506       | RC-256      | C256C      | HSS256   | 10                           | HL1001   | RCS-101  | RSS101     | HLS101   |
|                                | H2508       | RC-258      | C258C      | HSS258   |                              | HL2002   | RCS-201  | RSS202     | HLS201   |
|                                | H2510       | RC-2510     | C2510C     | HSS2510  | 30                           | HL3002   | RCS-302  | RSS302     | HLS302   |
| H2512                          | RC-2512     | C2512C      | -          | 50       | HL5002                       | RCS-502  | RSS502   | HLS502     |          |
| H2514                          | RC-2514     | C2514C      | HSS2514    | 100      | HL10002                      | RCS-1002 | RSS1002  | HLS1002    |          |
| 30                             | H3008       | RC-308      | -          | HSS308   | <b>Flat Body Cylinders</b>   |          |          |            |          |
|                                | 5           | HF0500      | -          | RLS50    | -                            |          |          |            |          |
|                                |             | HF0503      | RSM-50     | -        | HPS50                        |          |          |            |          |
|                                | 10          | HF0503B kit | -          | -        | -                            |          |          |            |          |
| HF1005                         |             | RSM-100     | RLS100     | HPS100   |                              |          |          |            |          |
|                                | HF1005B kit | -           | -          | -        |                              |          |          |            |          |

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 Enerpac® is a registered trademark of the Actuant Corporation.  
 Power Team® is a registered trademark of SPX Corporation.  
 Simplex® is registered of the Actuant Corporation.

**BVA Cross Reference Chart\***

Compatibility Check

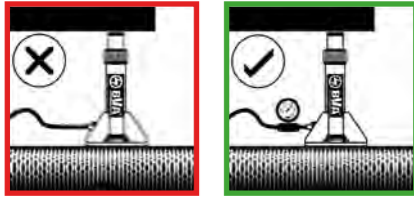
| Tonne                        | BVA         | Enerpac   | Power Team | Hi-Force | Tonne             | BVA        | Enerpac  | Power Team | Hi-Force |
|------------------------------|-------------|-----------|------------|----------|-------------------|------------|----------|------------|----------|
| 20                           | HF2005      | RSM-200   | RLS200     | HPS200   | 10                | HD1010     | RR-1010  | RD1010     | -        |
|                              | HF2005B kit | -         | -          | -        |                   | HD1012     | RR-1012  | -          | -        |
| 30                           | HF3005      | RSM-300   | RLS300     | HPS300   | 30                | HD3008     | RR-308   | -          | -        |
|                              | HF3005B kit | -         | -          | -        |                   | HD3014     | RR-3014  | RD2514     | -        |
| 50                           | HF5006B     | RSM-500   | RLS500S    | HPS500   | 55                | HD5506     | RR-506   | RD556      | HDA5506  |
| 75                           | HF7506      | RSM-750   | RLS750S    | HPS700   |                   | HD5513     | RR-5013  | RD5513     | HDA5513  |
| 100                          | HF10006     | RSM-1000  | RLS1000S   | HPS1000  |                   | HD5520     | RR-5020  | RD5518     | -        |
| 150                          | HF15006     | RSM-1500  | RLS1500S   | HPS1500  | 75                | HD7506     | RR-756   | -          | -        |
| <b>Pull Cylinders</b>        |             |           |            |          |                   | HD7513     | RR-7513  | -          | -        |
| 2                            | HP0205      | BRC-25    | RP25       | -        | 100               | HD10006    | RR-1006  | RD1006     | HDA1006  |
| 5                            | HP0505      | BRC-46    | RP55       | -        |                   | HD10013    | RR-10013 | RD10013    | HDA10013 |
| 10                           | HP1006      | BRC-106   | -          | -        | <b>Hand Pumps</b> |            |          |            |          |
| <b>Hollow Hole Cylinders</b> |             |           |            |          | P601S             | P-39       | P12      | HP110      |          |
| 12                           | HC1201T     | RCH-120   | RH120      | HHS101   | P1201S            | P-391      | P55      | -          |          |
|                              | HC1202T     | RCH-121   | RH121      | HHS102   | P350              | P-142      | -        | HP211      |          |
|                              | HC1202XT    | RCH-1211  | RH121T     | -        | P1000             | P-392      | P59      | HP212      |          |
| 20                           | HC2002T     | RCH-202   | RH202      | HHS202   | P1201             | P-77/P-80  | -        | -          |          |
|                              | HC2006T     | RCH-206   | RH206      | HHS206   | P2301             | P-80       | P159     | HP227      |          |
| 30                           | HC3002T     | RCH-302   | RH302      | HHS302   | P4301             | P-801      | P157     | HP257      |          |
|                              | HC3006T     | RCH-306   | RH306      | HHS306   | P8701             | P-462      | P460     | HP245      |          |
| 60                           | HC6003T     | RCH-603   | RH603      | HHS603   | P2301M            | P-84       | P157D    | -          |          |
|                              | HC6006T     | RCH-606   | RH606      | HHS606   | P8701M            | P-464      | P460D    | HP245D     |          |
| 100                          | HC10003T    | RCH-1003  | RH1003     | HHS1003  | P240L             | P-18       | -        | -          |          |
| <b>Lock Nut Cylinders</b>    |             |           |            |          | <b>Air Pumps</b>  |            |          |            |          |
| 50                           | HLN5502     | CLL-502   | R552L      | HFG502   | PA600             | PA-133     | PA9      | -          |          |
|                              | HLN5504     | CLL-504   | -          | -        | PA600H            | -          | PA9H     | -          |          |
|                              | HLN5506     | CLL-506   | R556L      | HFG504   | PA1500            | -          | PA6      | -          |          |
|                              | HLN5508     | CLL-508   | -          | -        | PA1500L           | PARG-1102N | PA6R     | -          |          |
|                              | HLN5510     | CLL-5010  | R5510L     | HFG506   | PA1500M           | -          | PA6DM    | -          |          |
|                              | HLN5512     | CLL-5012  | -          | -        | PA2000            | PATG-1102N | -        | AHP1120    |          |
| 100                          | HLN10002    | CLL-1002  | R1002L     | -        | PA3801            | PATG-1105N | PA6-1    | AHP1121    |          |
|                              | HLN10004    | CLL-1004  | -          | HFG1004  | PA3801L           | -          | -        | AHP1141    |          |
|                              | HLN10006    | CLL-1006  | R1006L     | HFG1006  | PUR1703           | -          | PA174    | -          |          |
|                              | HLN10008    | CLL-1008  | -          | -        | PUR4003           | ZA4310MX   | PA462    | -          |          |
|                              | HLN10010    | CLL-10010 | R10010L    | -        | PURD1701          | -          | PA172    | -          |          |
|                              | HLN10012    | CLL-10012 | -          | -        | PURD1703          | -          | PA174    | -          |          |

\*For comparison purposes only. Products are not identical. To view complete cross over list go to [www.BVAhydraulics.com](http://www.BVAhydraulics.com)

## Safety Instructions

### Industry Safety Standards

#### General

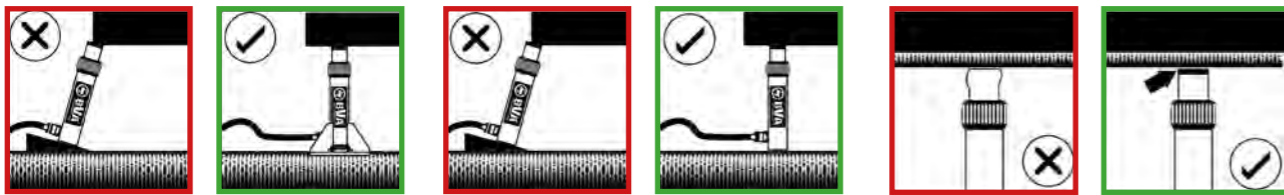


Do not override the factory setting of relief valves. Always use a gauge to check system pressure.

### Safety Instructions

- Read and understand all printed materials provided with and on this cylinder
- Do not exceed rated capacities
- Use only on hard level surface capable of sustaining the load
- Do not connect actuators to pumps with higher pressure ratings
- Always inspect hoses and connections for damage prior to use
- Keep hands and feet clear of work area
- LIFTING DEVICE ONLY! Immediately after lifting, support the load with appropriate means
- Use only manufacturer approved hydraulic fluid
- A flow-restricting component shall not be present between the relief valve and the tank
- No alterations shall be made to this cylinder
- Failure to meet these markings may result in injury and/or property damage
- Each double-acting cylinder shall be fitted with a relief valve on the retract circuit, which bleeds off the smaller effective area of the cylinder

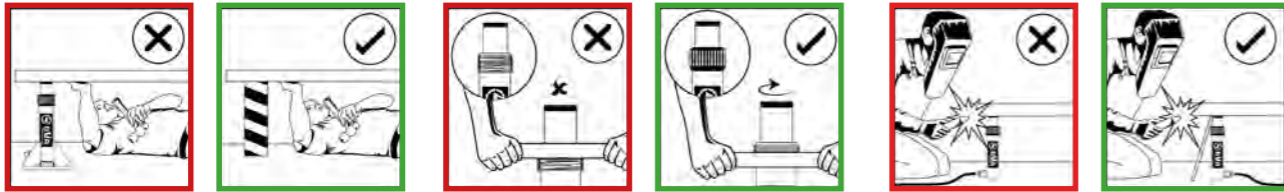
#### Cylinders



Provide a solid support for the entire cylinder base area. Use cylinder base attachment for more stability.

The entire cylinder saddle must be in contact with the load. Movement of the cylinder must be parallel with the movement of the load.

Do not use cylinder without saddle. This will cause plunger to "mushroom" Saddles distribute load evenly on the plunger.

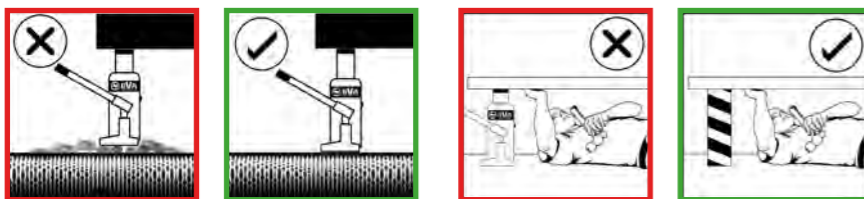


As with jacks, never place any part of your body under the load. Load must be on cribbing before venturing under.

Always protect cylinder threads for use with attachments.

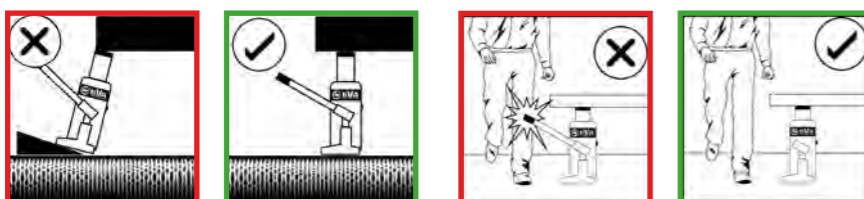
Keep hydraulic equipment away from open fire and temperatures above 150°F (65°C).

#### Jacks



Provide a level and solid support for the entire jack base area.

Never place any part of your body under the load. Ensure the load is solidly supported before venturing under.



The entire jack saddle must be in contact with load. Movement of the load must be in the same direction as jack plunger.

Remove the jack handle when not in use.

### 80% Rule

Good industry practice recommends not exceeding 80% of maximum rated capacities.

- Use only on hard, level surfaces capable of sustaining the load.
- Immediately after lifting, support the load with appropriate means
- Failure to meet these warnings may result in personal injury as well as property damage.

### Hydraulic Pump Safety Instructions

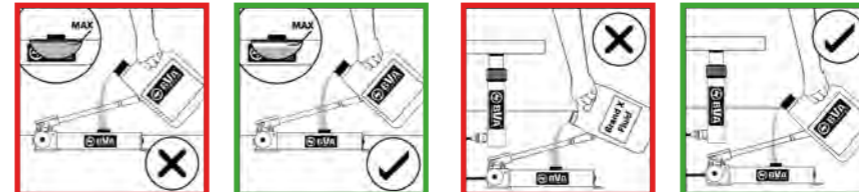
- READ AND UNDERSTAND ALL WARNINGS, INSTRUCTIONS AND OWNER'S MANUAL INFORMATION BEFORE ATTEMPTING TO USE THIS EQUIPMENT
- Burst hazard exists if hose or connection pressure exceeds rated pressure.
- Do not exceed the rated capacity of this device. Monitor pressure and load at all times.
- Verify load with calibrated load cell and indicator, accurate pressure gauge or equivalent devices.
- Inspect hoses and connections for damage prior to use. Never attempt to grasp a leaking pressurized hose.
- Release the hydraulic pressure before disconnecting hoses or couplers, and before servicing the pump or accessory.
- Immediately after lifting, support the load with appropriate means. Never rely on hydraulic pressure to support a load.
- Wear protective clothing and eye protection that meets ANSI Z87.1 and OSHA standards when operating this equipment.
- Ensure that the chosen application is stable to work on and around.
- Do not subject the pump and its components to shock loads.
- Do not connect to applications which can return more oil to the reservoir than the pump reservoir can hold.
- Ensure that the rated pressure of all applications and fittings is equal to or greater than the rated pressure of this pump.
- Keep hydraulic equipment away from flames and heat.
- No alterations shall be made to this device.
- Failure to meet these warnings may result in personal injury as well as property damage.

#### Pumps



Do not use handle extender. Hand pumps should be easy to operate when used correctly.

Close release valve finger tight. Using force will damage the valve.



Fill pump only to recommended level. Fill only when connected cylinder is fully retracted.

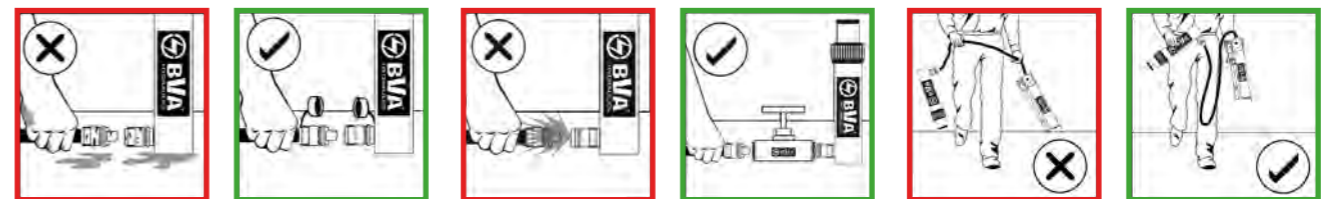
Use only genuine BVA hydraulic oil. The wrong fluid can destroy your seals and pump and will render your warranty null and void.

### Electric Pump Safety Instructions

#### TO AVOID ELECTROCUTION HAZARD:

- Owner/Operator must read, understand and follow all printed material provided with this device before use.
- Connect ONLY to properly grounded electrical source. Connect to GFI outlet ONLY! For use in dry locations.
- Avoid the use of extension cords. If used, extension cord lengths up to 7 meter shall be SJT-14X3 or heavier. For cords up to 15 meter, use SJT-12X3 or heavier.
- For extension cord lengths up to 30 meter, use SJT-10X3 or heavier. NEVER use a 3 prong adapter.
- Do not operate this device in an explosive atmosphere or in the presence of conductive liquids.

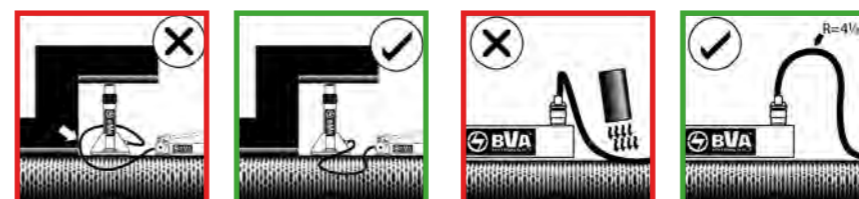
#### Hoses and Couplers



Clean both coupler parts before connecting. Use dust caps when coupler parts are not connected.

Detach cylinder only when fully retracted or use shut-off valves or safety valves to lock-in cylinder pressure.

Don't lift hydraulic equipment by the hoses.



Keep hoses away from the area beneath loads.

Do not kink hoses. Bending radius should be at least 4 1/2". Do not drive over or drop heavy objects on the hoses.





## Maintaining Your Equipment

Ensure a longer life span of your equipment

### Hydraulic Fluids

- Use only BVA Hydraulic Oil P/N's; HV155 or HV685 for pumps and cylinders.

### Air Line Lubricants

- Use Class 1 Turbine Oil (ISO VG32) for Air Line Lubricant

### Hydraulic and Pneumatic Filtration

- Hydraulic fluid must be kept clean, cool and free of water.
- Use Hydraulic Filtration to provide fluid which meets ISO 17/15/12 cleanliness levels.
- Air Line Filtration for solid particulate contamination removal: Use BVA P/N; FRL-145, 5uM Pneumatic Filter.
- Air Line Water Removal; Use BVA P/N; AD-145, Ambient Dryer.

### Proper Operation of Equipment

- Refer to individual Product Owner's Manuals and BVA Catalogs for general information, specifications, safety, set up, operation, maintenance, trouble shooting, storage and warnings for all BVA products.

## Formulas

| Key to Measurements     |                         |                             |                        |
|-------------------------|-------------------------|-----------------------------|------------------------|
| Weight:                 |                         | Length                      |                        |
| 1 pound (lb.)           | =0.4536 kg              | 1 in                        | =25.4 mm               |
| 1 kg                    | =2.205 lbs              | 1 mm                        | =0.039 in              |
| 1 Tonne (short ton, US) | =2,000 lbs              | 1 in <sup>2</sup>           | =6.452 cm <sup>2</sup> |
| 1 Tonne (metric)        | =2,205 lbs              | 1 cm <sup>2</sup>           | =0.155 in <sup>2</sup> |
| Volume:                 |                         | Pressure:                   |                        |
| 1 in <sup>3</sup>       | =16.387 cm <sup>3</sup> | 1 psi (lb/in <sup>2</sup> ) | =0.69 bar              |
| 1 cm <sup>3</sup>       | =0.061 in <sup>3</sup>  | 1 bar                       | =14.5 psi              |
| 1 liter                 | =61.02 in <sup>3</sup>  | 1 kPa                       | =0.145 psi             |
|                         | =0.264 gal(US)          |                             |                        |
| 1 gal (US, liquid)      | =3.785 liter            | Temperature:                |                        |
|                         | =231 in <sup>3</sup>    | 0°F                         | =(0°C x 1.8) + 32      |
|                         | =3,785 cm <sup>3</sup>  | 0°C                         | =(0°F - 32) ÷ 1.8      |

### Cylinder Plunger Speed

$$\text{Formula} \rightarrow V = \frac{A}{Q} \times 60$$

$$\text{Cylinder Plunger Speed (sec/cm}^2\text{)} = \frac{\text{Cylinder Effective Area (cm}^2\text{)}}{\text{Pump Flow Rate (cm}^3\text{/min)}} \times \frac{60 \text{ (sec)}}{1 \text{ (min)}}$$

### Force

$$\text{Formula} \rightarrow F = P \times A$$

$$\text{Force (kg)} = \text{Hydraulic Working Pressure (kg/cm}^2\text{)} \times \text{Cylinder Effective Area (cm}^2\text{)}$$

### Cylinder Oil Capacity

$$\text{Formula} \rightarrow C = A \times L$$

$$\text{Oil Capacity (cm}^3\text{)} = \text{Cylinder Effective Area (cm}^2\text{)} \times \text{Cylinder Stroke (cm)}$$

### 1/4" Hose Oil Capacity

$$\text{Formula} \rightarrow C = \frac{\text{Internal Diameter (mm}^2\text{)}}{4} \times \pi \times \text{Length of Hose (m)}$$

$$\text{Oil Capacity (cm}^3\text{)} = 33 \times \text{Length of Hose (m)}$$

### 3/8" Hose Oil Capacity

$$\text{Formula} \rightarrow C = \frac{\text{Internal Diameter (mm}^2\text{)}}{4} \times \pi \times \text{Length of Hose (m)}$$

$$\text{Oil Capacity (cm}^3\text{)} = 72 \times \text{Length of Hose (m)}$$

### Cylinder Effective Area

$$\text{Formula} \rightarrow A = \pi \times \frac{D^2}{4}$$

$$\text{Cylinder Effective Area} = \pi \times \frac{\text{(Cylinder Bore Diameter)}^2}{4}$$

$$\pi = 3.14159265359$$

| A    |              |
|------|--------------|
| AMP  | 80           |
| AP   | 82 + 89      |
| APC  | 84           |
| APE  | 86 - 87      |
| APH  | 77 - 83      |
| APHC | 79 - 85 + 89 |
| API  | 81 - 87      |
| APK  | 83 + 85      |
| APL  | 82 - 84      |
| APLC | 78 - 84      |
| APP  | 80 - 86      |
| APS  | 81 - 83 + 87 |

| B       |    |
|---------|----|
| BVA Bag | 92 |

| C          |         |
|------------|---------|
| CA         | 77      |
| CB         | 45 + 77 |
| CDC        | 72      |
| CEB        | 44      |
| CEBN / CED | 43      |
| CEFN / CEN | 43      |
| CEP        | 44      |
| CF         | 71      |
| CH         | 73      |
| CM         | 70      |
| CMH        | 70      |
| CMRU       | 74      |
| CP         | 42      |
| CQ         | 73      |
| CQF        | 73      |
| CQH        | 76      |
| CQR        | 73      |
| CR         | 73      |
| CS         | 73      |
| CSH        | 67      |
| CVC        | 69      |
| CVL        | 69      |
| CVLS       | 69      |
| CVN        | 68      |

|     |    |
|-----|----|
| CVP | 68 |
| CVS | 72 |
| CT  | 90 |
| CVR | 68 |

| F  |    |
|----|----|
| FP | 72 |
| FT | 77 |

| G   |    |
|-----|----|
| GBW | 71 |
| GD  | 71 |
| GSW | 71 |

| H |       |
|---|-------|
| H | 6 - 9 |

|      |         |
|------|---------|
| HC   | 30 - 31 |
| HD   | 10 - 13 |
| HDC  | 32 - 33 |
| HDG  | 26 - 39 |
| HDU  | 36 - 37 |
| HF   | 16 - 17 |
| HFS  | 91      |
| HFSS | 91      |
| HG   | 22 - 25 |
| HGPT | 88      |
| HL   | 14 - 15 |
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**BVA in action**



**About BVA**

Shinn Fu Corporation was originally founded as Shinn Fu Auto Supply Company Ltd. by Mr. Michael Hung in 1971 based in Taipei, Taiwan. Shinn Fu has grown into the global leader of hydraulic lifting equipment in the automotive aftermarket. The insistence of producing and offering only the highest quality products has earned Shinn Fu a reputation for exceptional quality in the market.

Started in 1972, Shinn Fu Corporation started manufacturing hydraulic products for the professional and consumer markets. In 2004 the company began manufacturing for the industrial market with BVA Hydraulics. In 2009, due to substantial growth in the industrial market, the company expanded its facilities in Kansas City, MO to better service the North American market.

Shinn Fu Europe B.V. (SFE) was established in 1994 in The Netherlands. With the objective of promoting and distributing Shinn Fu's products in the markets of Europe, Middle East and Northern Africa, SFE launched the Omega Lifting Equipment program in 1994. Since then, Omega has won the market's recognition.

Shinn-Chia Machinery & Foundry (Kunshan) Co., Ltd., a state-of-the-art Foundry, was established in June 1996, began with the casting production in July 1997, and added with the CNC machining processing operations in December 2000. Shinn-Chia is privately owned by the Shinn Fu Group (Taiwan) at [www.shinnfu.com](http://www.shinnfu.com).

In order to provide the customers with excellent after-sales service, Shinn Fu has established worldwide branch offices in the USA, Canada, Australia, Hong Kong, Japan and Europe. SFE maintains the following brands: BVA Hydraulics™, Omega Lift Equipment®, Omega Mechanix and Pro-Lift® (<http://www.sftglobal.com/>).

**www.BVAhydraulics.com for latest BVA information**

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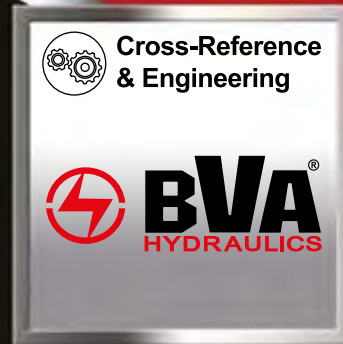






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## Contact Information

### Europe

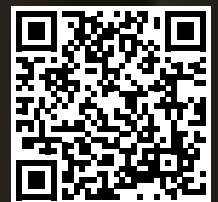
Shinn Fu Europe BV.

**Address:** Munnikenheiweg 50,  
4879 NG Etten-Leur,  
The Netherlands

**Email:** [sales.eu@bvahydraulics.com](mailto:sales.eu@bvahydraulics.com)

**Tel:** +31 (0)165-583300

**Fax:** +31 (0)165-583310



Online Catalog

## Global Locations

### Canada

Shinn Fu Canada

**Address:** 6355 Shawson Dr.  
Unit 1 Mississauga,  
Ontario L5T 1S7 Canada

**Tel:** 1-905-362-2277

**Fax:** 1-905-362-2280

**Email:** [sales@shinnfucanada.ca](mailto:sales@shinnfucanada.ca)

### United States of America

Shinn Fu America

**Address:** 10939 N. Pomona Ave.  
Kansas City, MO 64153

**Tel:** 888-332-6419

816-891-6390

**Fax:** 816-448-2142

**Email:** [sales@bvahydraulics.com](mailto:sales@bvahydraulics.com)

### Australia

Shinn Fu Australia

**Address:** 15 Viewtech Place  
Rowville, Victoria  
3178, Australia

**Tel:** 61-3-9755-8277

**Fax:** 61-3-9755-8219

**Email:** [sales@sfaa.com.au](mailto:sales@sfaa.com.au)

### Taiwan

Shinn Fu Corporation Headquarters

**Address:** 7F., No.408 Ruei Gaung Rd  
Nei Hu District Taipei City  
114 Taiwan R.O.C

**Tel:** 886-2-8751-7888

**Fax:** 886-2-8741-7999

**Email:** [sales@shinnfu.com](mailto:sales@shinnfu.com)