



## Double Acting Cylinders

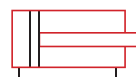
HD Series - General Purpose



HD20013



HD3008



### Capacity:

10 - 500 Tons

### Stroke:

5.90 - 24.00 Inches

### Pressure:

10,000 psi

### Min. - Max. Height:

10.56 - 60.13 Inches



- Rod 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



### Safety Practices

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



### Clevis and Tangs

Install a clevis or a tang to your double acting cylinder for a pulling application.

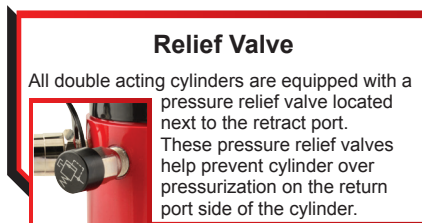
pg 34

HD cylinders can be used in pushing and pulling applications. In this photo, we see a HD2506 HD cylinder set up for a pull application using a Rod Clevis cylinder accessory ▶





HD20024



#### 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.



HD2506

With a variety of tonnage and sizes, you can apply our cylinders to a large variety of applications. Custom tonnages and stroke lengths are available upon request.

## Quick Selection Guide

| Cylinder Capacity (tons) | Stroke (in) | Model Number | Collapsed Height (in) | Oil Capacity |            | Weight (lbs) |
|--------------------------|-------------|--------------|-----------------------|--------------|------------|--------------|
|                          |             |              |                       | Push (in³)   | Pull (in³) |              |
| 10                       | 10.04       | HD1010       | 16.12                 | 22.41        | 7.47       | 26.7         |
|                          | 11.97       | HD1012       | 18.03                 | 26.71        | 8.90       | 30.0         |
| 25                       | 5.90        | HD2506       | 10.56                 | 30.35        | 15.81      | 24.8         |
| 30                       | 8.15        | HD3008       | 15.31                 | 52.93        | 26.02      | 43.0         |
|                          | 14.49       | HD3014       | 21.65                 | 94.09        | 46.26      | 60.6         |
| 55                       | 6.18        | HD5506*      | 13.03                 | 67.93        | 19.74      | 70.5         |
|                          | 13.19       | HD5513*      | 20.04                 | 144.94       | 42.11      | 104.0        |
|                          | 20.12       | HD5520*      | 28.86                 | 221.09       | 64.24      | 146.2        |
| 75                       | 6.10        | HD7506*      | 13.70                 | 98.10        | 31.21      | 93.7         |
|                          | 13.11       | HD7513*      | 20.71                 | 210.93       | 67.06      | 136.8        |
| 100                      | 6.57        | HD10006*     | 14.06                 | 135.23       | 62.98      | 138.6        |
|                          | 10.13       | HD10010*     | 17.67                 | 208.30       | 97.10      | 169.2        |
|                          | 13.11       | HD10013*     | 20.63                 | 269.66       | 125.58     | 193.6        |
|                          | 18.15       | HD10018*     | 27.05                 | 373.31       | 173.86     | 248.3        |
| 200                      | 6.00        | HD20006      | 16.94                 | 265.28       | 135.00     | 325.0        |
|                          | 13.00       | HD20013      | 23.94                 | 574.78       | 293.00     | 440.0        |
|                          | 24.02       | HD20024      | 36.13                 | 1061.00      | 528.00     | 616.0        |
| 300                      | 6.00        | HD30006      | 19.13                 | 425.56       | 228.00     | 441.0        |
| 500                      | 6.00        | HD50006      | 22.75                 | 678.92       | 378.00     | 953.0        |

See pages (pg.14-15) for detailed specifications.



HD 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 69

#### Cylinder Accessories



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

pg 34

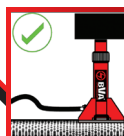
#### Combo Kits



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

pg 64

#### Safety Instructions



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

pg 92

#### High-Flow Couplers



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

#### HUD Series – Aluminum Cylinders



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

pg 16



## Double Acting Cylinders

### HD Series - General Purpose



**Cylinder Accessories**

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

pg 34



**Related Product: Gauges**

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

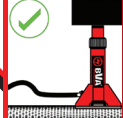
pg 69



**Combo Kits**

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pg 64



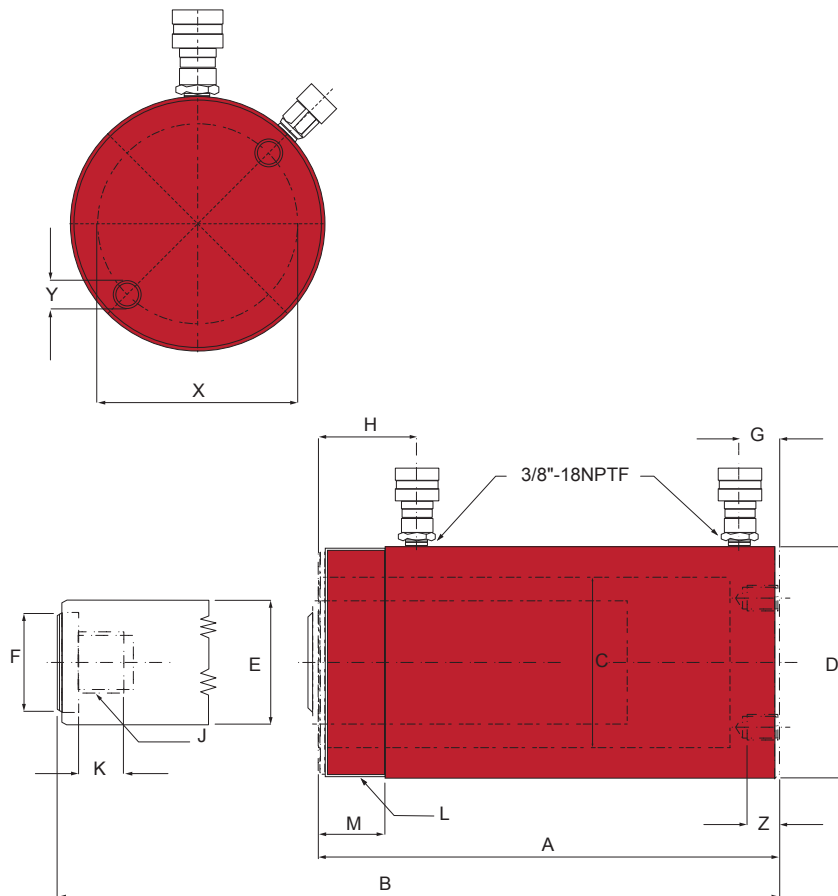
**Safety Instructions**

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pg 92



| Cylinder Capacity (tons) | Stroke (in) | Model Number | Maximum Cylinder Capacity |            | Cylinder Effective Area |                         | Oil Capacity            |                         | Weight (lbs) | Collapsed Height A (in) | Extended Height B (in) | Cylinder Bore Dia. C (in) |
|--------------------------|-------------|--------------|---------------------------|------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------|-------------------------|------------------------|---------------------------|
|                          |             |              | Push (ton)                | Pull (ton) | Push (in <sup>2</sup> ) | Pull (in <sup>2</sup> ) | Push (in <sup>3</sup> ) | Pull (in <sup>3</sup> ) |              |                         |                        |                           |
| 10                       | 10.04       | HD1010       | 11.40                     | 3.80       | 2.24                    | 0.74                    | 22.41                   | 7.47                    | 26.7         | 16.12                   | 26.19                  | 1.69                      |
|                          | 11.97       | HD1012       | 11.40                     | 3.80       | 2.24                    | 0.74                    | 26.71                   | 8.90                    | 30.0         | 18.03                   | 30.00                  | 1.69                      |
| 25                       | 5.90        | HD2506       | 25.70                     | 13.39      | 5.14                    | 2.68                    | 30.35                   | 15.81                   | 24.8         | 10.56                   | 16.46                  | 2.56                      |
| 30                       | 8.15        | HD3008       | 32.90                     | 16.20      | 6.49                    | 3.19                    | 52.93                   | 26.02                   | 43.0         | 15.31                   | 23.46                  | 2.87                      |
|                          | 14.49       | HD3014       | 32.90                     | 16.20      | 6.49                    | 3.19                    | 94.09                   | 46.26                   | 60.6         | 21.65                   | 36.14                  | 2.87                      |
| 55                       | 6.18        | HD5506*      | 55.70                     | 16.20      | 10.99                   | 3.19                    | 67.93                   | 19.74                   | 70.5         | 13.03                   | 19.21                  | 3.74                      |
|                          | 13.19       | HD5513*      | 55.70                     | 16.20      | 10.99                   | 3.19                    | 144.94                  | 42.11                   | 104.0        | 20.04                   | 33.23                  | 3.74                      |
|                          | 20.12       | HD5520*      | 55.70                     | 16.20      | 10.99                   | 3.19                    | 221.09                  | 64.24                   | 146.2        | 28.86                   | 49.98                  | 3.74                      |
| 75                       | 6.10        | HD7506*      | 81.70                     | 25.90      | 16.09                   | 5.12                    | 98.10                   | 31.21                   | 93.7         | 13.70                   | 19.80                  | 4.53                      |
|                          | 13.11       | HD7513*      | 81.70                     | 25.90      | 16.09                   | 5.12                    | 210.93                  | 67.06                   | 136.8        | 20.71                   | 33.82                  | 4.53                      |
| 100                      | 6.57        | HD10006*     | 104.40                    | 48.60      | 20.57                   | 9.58                    | 135.23                  | 62.98                   | 138.6        | 14.06                   | 20.63                  | 5.12                      |
|                          | 10.13       | HD10010*     | 104.40                    | 48.60      | 20.57                   | 9.58                    | 208.30                  | 97.10                   | 169.2        | 17.67                   | 27.80                  | 5.12                      |
|                          | 13.11       | HD10013*     | 104.40                    | 48.60      | 20.57                   | 9.58                    | 269.66                  | 125.58                  | 193.6        | 20.63                   | 33.74                  | 5.12                      |
|                          | 18.15       | HD10018*     | 104.40                    | 48.60      | 20.57                   | 9.58                    | 373.31                  | 173.86                  | 248.3        | 27.05                   | 45.20                  | 5.12                      |
| 200                      | 6.57        | HD20006      | 221.00                    | 112.50     | 44.21                   | 22.50                   | 265.28                  | 135.00                  | 325.0        | 16.94                   | 22.94                  | 7.50                      |
|                          | 13.11       | HD20013      | 221.00                    | 112.50     | 44.21                   | 22.50                   | 574.78                  | 293.00                  | 440.0        | 23.94                   | 36.94                  | 7.50                      |
|                          | 24.00       | HD20024      | 221.00                    | 112.50     | 44.21                   | 22.50                   | 1061.00                 | 528.00                  | 616.0        | 36.13                   | 60.13                  | 7.50                      |
| 300                      | 6.57        | HD30006      | 354.60                    | 190.00     | 70.93                   | 38.00                   | 425.56                  | 228.00                  | 441.0        | 19.13                   | 25.13                  | 9.50                      |
| 500                      | 6.57        | HD50006      | 565.70                    | 315.00     | 113.15                  | 63.00                   | 678.92                  | 378.00                  | 953.0        | 22.75                   | 28.75                  | 12.00                     |



### 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).

| Model Number | Outside Dia. D (in) | Rod Dia. E (in) | Saddle Dia. F (in) | Base to Adv. Port G (in) | Top to Return Port H (in) | Rod Internal Thread J (in) | Rod Thread Length K (in) | Collar Thread L (in) | Collar Thread Length M (in) | Base Mounting Hole |               |                     |
|--------------|---------------------|-----------------|--------------------|--------------------------|---------------------------|----------------------------|--------------------------|----------------------|-----------------------------|--------------------|---------------|---------------------|
|              |                     |                 |                    |                          |                           |                            |                          |                      |                             | Bolt Circle X (in) | Thread Y (in) | Thread Depth Z (in) |
| HD1010       | 2.87                | 1.38            | 1.38               | 1.42                     | 2.09                      | 1"-8                       | 0.98                     | 2¼"-14               | 1.02                        | 1.30               | ⅝"-18         | 0.60                |
| HD1012       | 2.87                | 1.37            | 1.38               | 1.42                     | 2.09                      | 1"-8                       | 0.98                     | 2¼"-14               | 1.02                        | 1.30               | ⅝"-18         | 0.60                |
| HD2506       | 3.62                | 1.77            | 1.50               | 0.98                     | 1.93                      | 1"-8                       | 1.18                     | 3⅝"-12               | 0.98                        | 2.30               | ½"-13         | 0.70                |
| HD3008       | 3.98                | 2.13            | 1.97               | 1.65                     | 2.91                      | 1½"-16                     | 0.98                     | 3⅝"-12               | 1.93                        | 2.20               | ½"-13         | 0.70                |
| HD3014       | 3.98                | 2.13            | 1.97               | 1.65                     | 2.91                      | 1½"-16                     | 0.98                     | 3⅝"-12               | 1.93                        | 2.20               | ½"-13         | 0.70                |
| HD5506*      | 5.00                | 3.14            | 2.76               | 1.14                     | 2.87                      | 1"-12                      | 0.98                     | 5"-12                | 1.73                        | 3.70               | ½"-13         | 0.70                |
| HD5513*      | 5.00                | 3.14            | 2.76               | 1.14                     | 2.87                      | 1"-12                      | 0.98                     | 5"-12                | 1.73                        | 3.70               | ½"-13         | 0.70                |
| HD5520*      | 5.00                | 3.14            | 2.76               | 1.14                     | 2.87                      | 1"-12                      | 0.98                     | 5"-12                | 1.73                        | 3.70               | ½"-13         | 0.70                |
| HD7506*      | 5.75                | 3.75            | 2.76               | 1.18                     | 2.80                      | 1"-12                      | 1.50                     | 5¾"-12               | 1.50                        | 4.00               | ¾"-10         | 0.90                |
| HD7513*      | 5.75                | 3.75            | 2.76               | 1.18                     | 2.80                      | 1"-12                      | 1.50                     | 5¾"-12               | 1.50                        | 4.00               | ¾"-10         | 0.90                |
| HD10006*     | 6.97                | 3.75            | 2.95               | 1.22                     | 2.95                      | 1¾"-12                     | 1.38                     | 6⅞"-12               | 1.97                        | 5.47               | ¾"-10         | 0.98                |
| HD10010*     | 6.97                | 3.74            | 2.95               | 1.22                     | 2.95                      | 1¾"-12                     | 1.50                     | 6⅞"-12               | 2.01                        | 5.50               | ¾"-10         | 0.98                |
| HD10013*     | 6.97                | 3.75            | 2.95               | 1.22                     | 2.95                      | 1¾"-12                     | 1.38                     | 6⅞"-12               | 1.97                        | 5.47               | ¾"-10         | 0.98                |
| HD10018*     | 6.97                | 3.75            | 2.95               | 1.50                     | 2.95                      | 1¾"-12                     | 1.38                     | 6⅞"-12               | 1.97                        | 5.47               | ¾"-10         | 0.98                |
| HD20006      | 9.75                | 5.25            | 5.25               | 2.25                     | 3.81                      | -                          | -                        | -                    | -                           | 5.00               | 1-8           | 1.00                |
| HD20013      | 9.75                | 5.25            | 5.25               | 2.25                     | 3.81                      | 2½"-12                     | 2.50                     | 9¾"-12               | 2.13                        | 5.00               | 1-8           | 1.00                |
| HD20024      | 9.75                | 5.25            | 5.25               | 3.38                     | 4.00                      | 2½"-12                     | 2.50                     | 9¾"-12               | 2.13                        | 5.00               | 1-8           | 1.00                |
| HD30006      | 12.25               | 6.50            | 6.50               | 3.50                     | 4.50                      | 2½"-12                     | 3.25                     | 12¼"-12              | 2.31                        | 6.25               | 1¼-7          | 1.75                |
| HD50006      | 15.63               | 8.00            | 8.00               | 4.75                     | 6.00                      | 3¼"-12                     | 4.25                     | 15⅝"-8               | 3.13                        | 8.00               | 1¼-5          | 2.12                |

\* 55-100 ton cylinders are equipped with carrying handles.