



BUILT TO LAST



TABLE OF CONTENTS

| | |
|---|------|
| Warranty | 3 |
| Basic System Set Ups | 4 |
| Cylinders | 5-26 |
| Single Acting Cylinders | 5 |
| Double Acting Cylinders | 8 |
| Lock Nut Cylinders | 10 |
| Low Profile Lock Nut Cylinders | 12 |
| Aluminum Cylinders | 13 |
| Hollow Hole Cylinders | 14 |
| Double Acting Hollow Hole Cylinders | 15 |
| Flat Body Cylinders | 16 |
| Flat Body Cylinder Kits | 17 |
| Low Profile Cylinders | 18 |
| Low Profile Cylinder Kits | 19 |
| Load Cells | 19 |
| High Tonnage Single Acting Cylinders | 20 |
| High Tonnage Double Acting Cylinders (HDG Series) | 22 |
| High Tonnage Double Acting Cylinders (HD Series) | 24 |
| Pull Cylinders | 25 |
| Threaded Cylinders | 25 |
| Precision Double Acting Cylinders | 26 |
| Cylinder Accessories | 27 |
| Cylinder Lifting Handles | 27 |
| Clevis and Tangs | 27 |
| Bases | 28 |
| Saddles | 28 |
| Pump / Cylinder Combo | 29 |
| Pumps | 30 |
| Metal Air Pumps | 31 |
| Double Acting Air Pump | 32 |
| Remote Control Air Pumps | 32 |
| Rotary Air Pumps | 33 |
| All Position Air Pumps | 34 |
| Single Speed Metal Hand Pumps | 35 |
| Low Pressure Hand Pumps | 36 |
| Two Speed Aluminum Hand Pumps All Direction Hand Pump | 36 |
| Two Speed Aluminum Hand Pumps | 37 |

| | |
|---|----|
| Two Speed Metal Hand Pumps | 38 |
| Double Acting Hand Pump | 39 |
| Electric Pumps | 40 |
| Electric Pumps with Locking Manual Valve | 42 |
| Electric Pumps with Pendant Switch | 44 |
| Electric Pumps with Locking Manual Valve and Pendant Switch | 46 |
| Electric Pumps with Locking Solenoid Valve | 48 |
| Electric Pump with Auto Return Valve | 50 |
| 3 Phase Electric Motor Pumps | 52 |
| Gas Pump with Honda Engines | 52 |
| Gas Pump with Solenoid Valve and Honda Engines | 53 |
| Diesel Pump with Solenoid Valve and Hatz Engines | 54 |
| Maintenance Kits | 55 |
| Flange Spreaders | 55 |
| Spreaders | 55 |
| Shop Presses & Accessories | 56 |
| Jacks | 60 |
| Manual Bottle Jacks | 60 |
| Air / Manual Bottle Jacks | 60 |
| Toe Jacks | 60 |
| Mini Jacks | 61 |
| Bead Breaker | 61 |
| Accessories | 62 |
| Flow Control Valves | 62 |
| Manifolds | 63 |
| Pressure Gauges | 64 |
| Gauge Adapter | 64 |
| Hydraulic Oil | 64 |
| Solenoid Valve | 64 |
| Pump Mounted Manifold Block | 65 |
| Plastic Dust Cover | 65 |
| Foot Pedal | 65 |
| Hydraulic Couplers | 66 |
| Hydraulic Hoses and Hose Sets | 66 |
| Pump Mounted Valves | 67 |
| Remote Mounted Directional Control Valves | 68 |
| Fittings | 69 |
| BVA Cross Reference Chart | 70 |
| Safety Instructions | 71 |

MODEL NUMBER INDEX

| | | | | | |
|------|------------|------------------------|------------------|------------------------|-------------|
| AP | A 59 | CVP 62 | HT 25, 28, 70 | J22 61 | PESML 48 |
| | | CVR 62 | HTD 28 | J50 55 | PEW 44 |
| | C | CVS 65 | HU 13, 70 | J72 19 | PEWL 46 |
| CA | 69 | F | I | L | PEWM 44 |
| CB | 28, 69 | F 64 | IAP 56 | LC 19 | PEWML 46 |
| CDC | 65 | FCMH 63 | IAPD 56 | LCH 19 | PG 52 |
| CEB | 27 | FT 69 | IAPDR 58 | LH 27 | PGSL 53 |
| CED | 27 | G | IAPR 58 | M | PGSML 53 |
| CEP | 27 | GD 64 | IEP 56 | MFC 63 | PR 68 |
| CF | 64 | GW 64 | IEPD 56 | P | PS 64 |
| CFS | 66 | H | IEPDR 58 | P 29,35-39,71 | PW 67 |
| CH | 66 | H 5-7,27-29,70 | IEPDRS 58 | PA 29,31-32,71 | S |
| CM | 63 | HC 14,27,29, 70 | IEPDS 56 | PAR 33,71 | SA 29 |
| CMH | 63 | HD 8-9,24,27-28, 70 | IEPR 58 | PARD 33,71 | SAL 29 |
| CMR | 65 | HDC 15,27 | IEPRS 58 | PARM 33 | SD 28 |
| CP | 27 | HDG 22,28 | IEPS 56 | PDSL 54 | SDT 28 |
| CR | 66 | HF 16-17, 29, 70 | IMP 56 | PDSML 54 | SDTG 28 |
| CRZ | 66 | HFS 55 | IMPD 56 | PE 40 | SP 29 |
| CS | 29, 59, 66 | HG 20,28 | IMPR 58 | PED 50 | SR 55 |
| CT | 66 | HL 18, 29, 70 | J | PEDS 50 | |
| CVC | 62 | HLN 10, 27-28, 70 | J10 60 | PEL 42 | |
| CVM | 62 | HLNF 12 | J11 61 | PELM 42 | |
| CVMS | 62 | HP 25,27, 70 | J13 60 | PEM 40 | |
| CVN | 62 | HPD 26 | J18 60 | PESL 48 | |

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 of the production of BVA products from the purchase order, the assembly line, to shipping the order from the distribution center.

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 and without oil leakage. (Except HPD and HLN series)

• ANSI B40.1

Under ANSI standards, BVA pressure gauges meet 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 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. Simply 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 dealers. All electric motors, gas engines, batteries and other parts or materials sold with or part of BVA products but that 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 whatsoever.

Repair parts available

CYLINDER MODEL NUMBER MATRIX

HDC3006T*

H DC 30 06 T

Letter Postscript

- T - BVA factory designation
- B - Flat body cylinder kits with magnetic base mounted adaptors
- XT - No internal ram threads, HC models only

Cylinder Stroke

- 00 - .63" stroke
- 01 - 1" stroke
- 04 - 4" stroke
- 06 - 6" stroke
- 10 - 10" stroke, etc.
- HF & HL cylinder stroke lengths vary by capacity
- Stroke lengths are approximate

Cylinder Capacity

| | | | |
|-----------------|--------------|----------------|----------------|
| 02 - 2, 2½ tons | 15 - 15 tons | 50 - 50 tons | 150 - 150 tons |
| 04 - 4 tons | 16 - 16 tons | 60 - 60 tons | 200 - 200 tons |
| 05 - 5 tons | 20 - 20 tons | 75 - 75 tons | 300 - 300 tons |
| 09 - 9 tons | 25 - 25 tons | 25 - 25 tons | |
| 10 - 10 tons | 30 - 30 tons | 100 - 100 tons | |

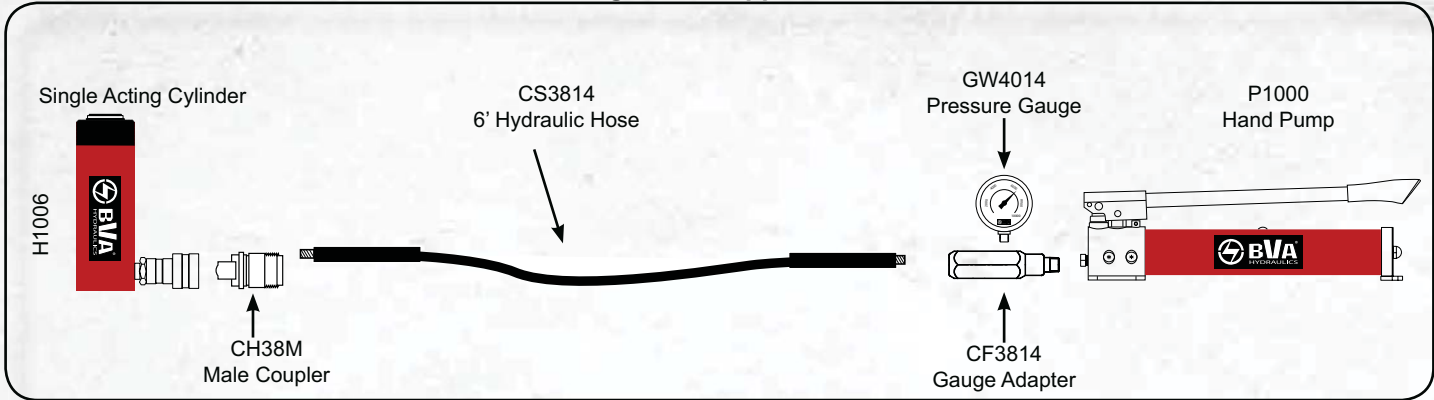
Cylinder Options

| | |
|---|--|
| C - Hollow hole cylinder | L - Low profile cylinders |
| D - Double acting cylinder | LN - Lock nut cylinder |
| DC - Double acting hollow hole cylinder | LNF - Low profile lock nut cylinders |
| F - Flat body cylinders | P - Pull cylinders |
| G - High tonnage cylinders | PD - Precision double acting cylinders |
| DG - Double acting high tonnage | T - Threaded cylinders |
| U - Aluminum cylinders | |

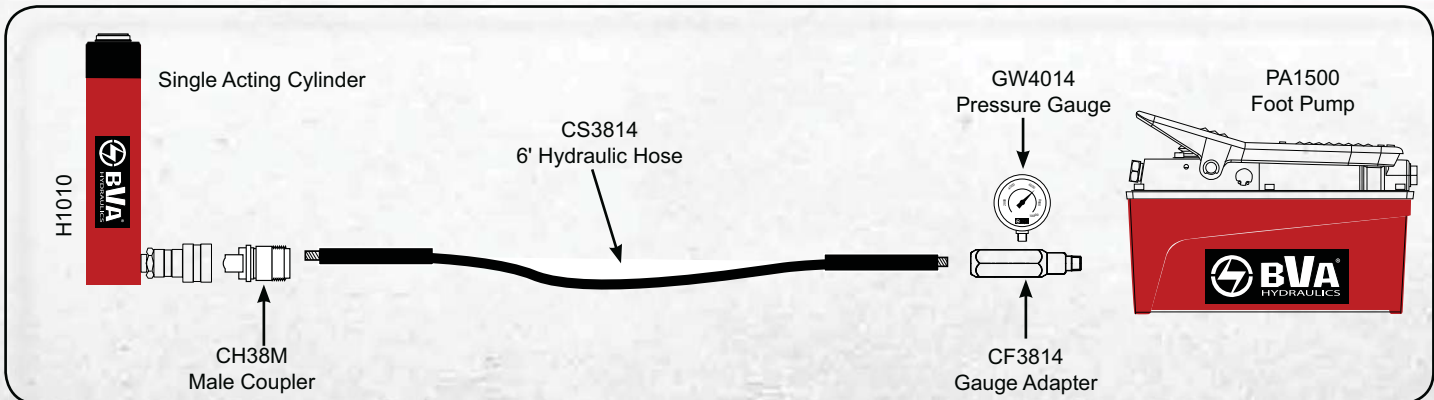
Hydraulic Cylinders

* Not all combinations of tonnage and stroke are available. Please refer to the appropriate section of this catalog for available options or call (888) 332-6419

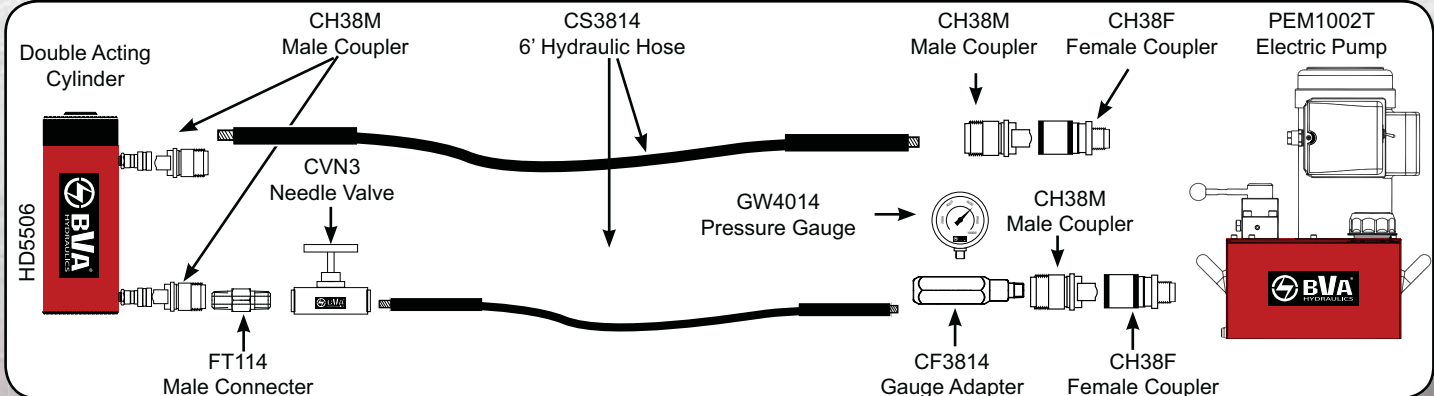
Single Push Application



Single Acting Cylinder with longer strokes



Double Acting Cylinder Set-up



SINGLE ACTING CYLINDERS

- 42 Models
- Rod wiper seals out dirt and contamination
- Collar fixture threads and thread protection cover
- Two base mounting holes on most models
- High strength steel construction from gun drilled solid bar
- One piece high grade alloy bearing for side load protection and long life
- Polyurethane cup seal provides for optimum performance
- Industrial hard chrome plated rod helps prevent rust and corrosion
- Solid steel cylinder body
- Heavy duty return spring provides quicker retraction
- Ideal for lifting and pressing
- Maximum working pressure: 10,000 psi / 700 bar
- H5506, H5513, and all 75 and 100 ton cylinders are equipped with carrying handles



**High-Flow Coupler: CH38F
Included on all models**

*H0203 comes with CRZ14F



THE BVA ADVANTAGE

Heavy duty, heat treated, grooved saddle provides better surface traction during operation

Rod wiper seals out dirt and contamination

Industrial hard chrome plated rod prevents scratching and corrosion

One piece steel rod stopper for extra strength and prevents over travel

Polyurethane cup seal provides optimum performance

Rectangular return spring design results in even distribution of the load, eliminating spring breakage and creating quicker retraction

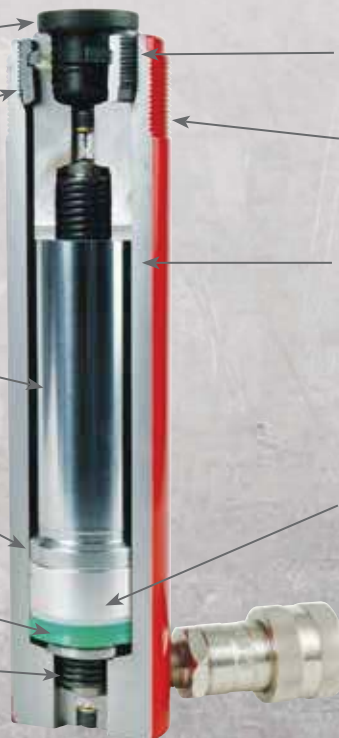
Steel stop ring for rod over travel protection

Collar fixture threads

Cylinders are burnish rolled for a smooth precision mirror finish, which reduces scoring and prolongs seal life

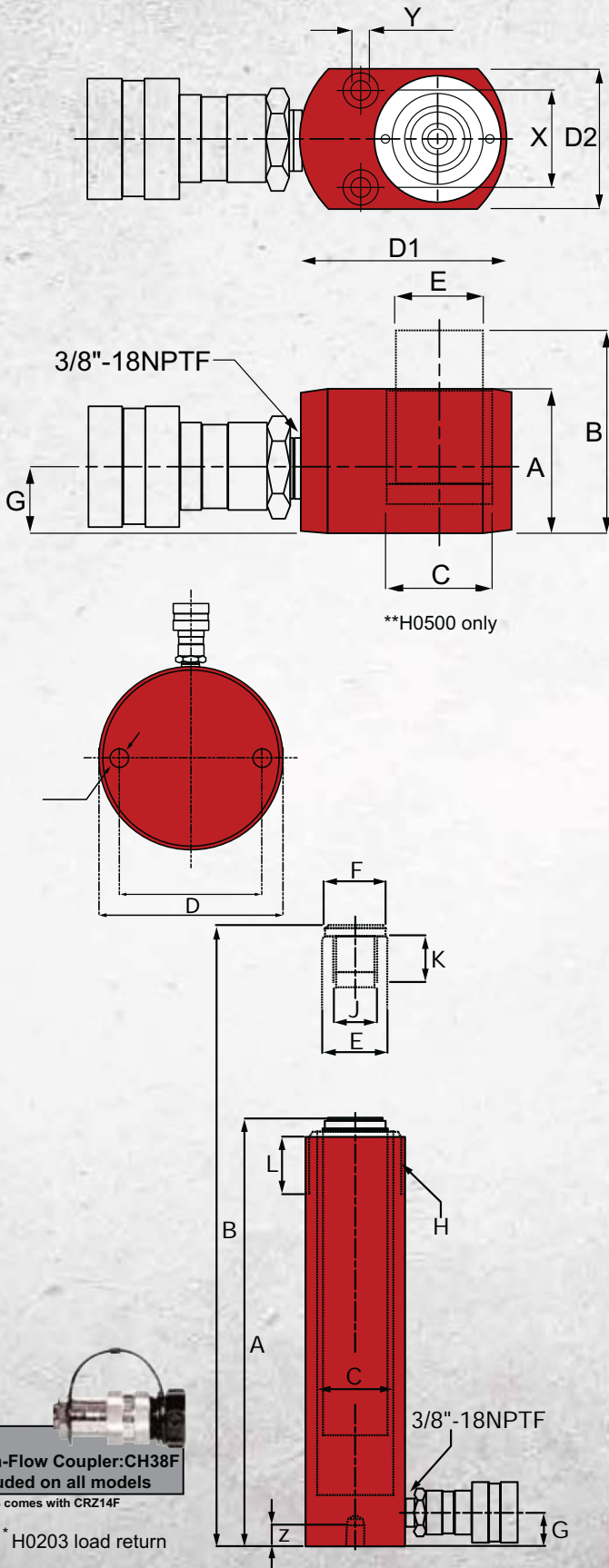
One piece high grade alloy bearing for side load protection and long life

High flow ball coupler provides more flow than conventional couplers



- **BVA Lifetime Warranty • Repair Parts Available**
- **All Cylinders Are Tested to Exceed Industrial Standards**

SINGLE ACTING CYLINDERS



High-Flow Coupler: CH38F
Included on all models

*H0203 comes with CRZ14F

* H0203 load return

± Cylinder is equipped with carrying handle

| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Internal Pressure at Capacity (psi) | Oil Capacity (in ³) | Weight (Lbs) | |
|--------------------------|-------------|--------------|--|-------------------------------------|---------------------------------|--------------|------|
| 2 | 3.07 | H0203* | 0.76 | 5,263 | 2.28 | 2 | |
| 5 | 0.63 | H0500** | 1.1 | 9,091 | 0.69 | 1.85 | |
| | 1 | H0501 | 1.0 | 10,000 | 1 | 3.1 | |
| | 3.07 | H0503 | 1.0 | 10,000 | 3.07 | 3.17 | |
| | 5.08 | H0505 | 1.0 | 10,000 | 5.08 | 3.93 | |
| | 7.09 | H0507 | 1.0 | 10,000 | 7.09 | 4.7 | |
| 10 | 9 | H0509 | 1.0 | 10,000 | 9.03 | 5.5 | |
| | 0.98 | H1001 | 2.24 | 8,928 | 2.19 | 3.92 | |
| | 2.01 | H1002 | 2.24 | 8,928 | 4.5 | 4.96 | |
| | 4.02 | H1004 | 2.24 | 8,928 | 9.0 | 7.67 | |
| | 5.94 | H1006 | 2.24 | 8,928 | 13.3 | 9.45 | |
| | 7.95 | H1008 | 2.24 | 8,928 | 17.81 | 11.33 | |
| | 9.96 | H1010 | 2.24 | 8,928 | 22.31 | 13.07 | |
| | 11.97 | H1012 | 2.24 | 8,928 | 26.81 | 15.04 | |
| 15 | 14.02 | H1014 | 2.24 | 8,928 | 31.4 | 16.65 | |
| | 0.98 | H1501 | 3.14 | 9,554 | 3.07 | 6.9 | |
| | 2.01 | H1502 | 3.14 | 9,554 | 6.31 | 8.53 | |
| | 3.98 | H1504 | 3.14 | 9,554 | 12.49 | 11.13 | |
| | 5.98 | H1506 | 3.14 | 9,554 | 18.77 | 14.83 | |
| | 7.99 | H1508 | 3.14 | 9,554 | 25.08 | 17.33 | |
| | 10 | H1510 | 3.14 | 9,554 | 31.4 | 19.97 | |
| 25 | 12.01 | H1512 | 3.14 | 9,554 | 37.71 | 22.54 | |
| | 14.02 | H1514 | 3.14 | 9,554 | 44.02 | 25.22 | |
| | 1.02 | H2501 | 5.15 | 9,708 | 5.25 | 12.06 | |
| | 2.01 | H2502 | 5.15 | 9,708 | 10.35 | 14 | |
| | 4.02 | H2504 | 5.15 | 9,708 | 20.7 | 18.03 | |
| | 6.1 | H2506 | 5.15 | 9,708 | 31.41 | 22.23 | |
| | 8.11 | H2508 | 5.15 | 9,708 | 41.77 | 26.27 | |
| | 10.12 | H2510 | 5.15 | 9,708 | 52.12 | 30.3 | |
| 30 | 12.2 | H2512 | 5.15 | 9,708 | 62.83 | 34.27 | |
| | 14.25 | H2514 | 5.15 | 9,708 | 73.39 | 38.3 | |
| | 8.27 | H3008 | 6.49 | 9,245 | 53.67 | 40.72 | |
| | 55 | 2.01 | H5502 | 10.98 | 10,018 | 21.97 | 33 |
| | | 4.06 | H5504 | 10.98 | 10,018 | 44.57 | 41 |
| | | 6.26 | H5506 ± | 10.98 | 10,018 | 68.73 | 57.5 |
| 10.25 | | H5510 | 10.98 | 10,018 | 112.55 | 67.4 | |
| 13.27 | | H5513 ± | 10.98 | 10,018 | 145.7 | 87 | |
| 75 | 6.14 | H7506 ± | 16.1 | 9,316 | 98.85 | 74 | |
| | 13.11 | H7513 ± | 16.1 | 9,316 | 211.07 | 122 | |
| 100 | 2.01 | H10002A ± | 20.58 | 9,718 | 41.34 | 66 | |
| | 6.61 | H10006 ± | 20.58 | 9,718 | 136.03 | 127 | |
| | 10.24 | H10010 ± | 20.58 | 9,718 | 210.74 | 153 | |

| Model Number | Collapsed Height A (in) | Extended Height B (in) | Cylinder Bore C (in) | Outside Diameter D (in) | Rod Diameter E (in) | Saddle Diameter F (in) | Base to Inlet Port G (in) | Collar Thread H (in) | Collar Thread Length L (in) | Rod Internal Thread J (in) | Rod Thread Length K (in) | Base Mounting Hole | | |
|--------------|-------------------------|------------------------|----------------------|-------------------------|---------------------|------------------------|---------------------------|----------------------|-----------------------------|----------------------------|--------------------------|--------------------|---------------|---------------------|
| | | | | | | | | | | | | Bolt Circle X (in) | Thread Y (in) | Thread Depth Z (in) |
| H0203* | 5.39 | 8.46 | 1 | 1.31 | 0.87 | 1 | 0.46 | 1¼"-16 | 0.54 | - | - | - | - | - |
| H0500** | 1.63 | 2.26 | 1.18 | L2.37xW1.59xH1.63 | 0.98 | - | 0.75 | - | - | - | - | 1.1 | - | - |
| H0501 | 4.58 | 5.58 | 1.13 | 1.50 | 1.0 | 0.98 | 0.79 | 1½"-16 | 1.1 | ¾"-16UNF | 0.63 | 1.0 | ¼"-20UNC | 0.55 |
| H0503 | 6.65 | 9.72 | 1.13 | 1.50 | 1.0 | 0.98 | 0.79 | 1½"-16 | 1.1 | ¾"-16UNF | 0.63 | 1.0 | ¼"-20UNC | 0.55 |
| H0505 | 8.7 | 13.78 | 1.13 | 1.50 | 1.0 | 0.98 | 0.79 | 1½"-16 | 1.1 | ¾"-16UNF | 0.63 | 1.0 | ¼"-20UNC | 0.55 |
| H0507 | 10.71 | 17.8 | 1.13 | 1.50 | 1.0 | 0.98 | 0.79 | 1½"-16 | 1.1 | ¾"-16UNF | 0.63 | 1.0 | ¼"-20UNC | 0.55 |
| H0509 | 12.75 | 21.75 | 1.12 | 1.5 | 1.0 | 0.98 | 0.79 | 1½"-16 | 1.1 | ¾"-16UNF | 0.63 | 1.0 | ¼"-20UNC | 0.55 |
| H1001 | 3.62 | 4.6 | 1.69 | 2.26 | 1.49 | - | 0.77 | 2¼"-14 | 1.18 | 10-24UNC | 0.24 | 1.56 | 5/16"-18UNC | 0.55 |
| H1002 | 4.84 | 6.85 | 1.69 | 2.26 | 1.49 | 1.38 | 0.77 | 2¼"-14 | 1.18 | 1"-8UNC | 0.79 | 1.56 | 5/16"-18UNC | 0.55 |
| H1004 | 6.85 | 10.87 | 1.69 | 2.26 | 1.49 | 1.38 | 0.77 | 2¼"-14 | 1.18 | 1"-8UNC | 0.79 | 1.56 | 5/16"-18UNC | 0.55 |
| H1006 | 9.84 | 15.78 | 1.69 | 2.26 | 1.49 | 1.38 | 0.77 | 2¼"-14 | 1.18 | 1"-8UNC | 0.79 | 1.56 | 5/16"-18UNC | 0.55 |
| H1008 | 11.85 | 19.8 | 1.69 | 2.26 | 1.49 | 1.38 | 0.77 | 2¼"-14 | 1.18 | 1"-8UNC | 0.79 | 1.56 | 5/16"-18UNC | 0.55 |
| H1010 | 13.86 | 23.82 | 1.69 | 2.26 | 1.49 | 1.38 | 0.77 | 2¼"-14 | 1.18 | 1"-8UNC | 0.79 | 1.56 | 5/16"-18UNC | 0.55 |
| H1012 | 15.87 | 27.84 | 1.69 | 2.26 | 1.49 | 1.38 | 0.77 | 2¼"-14 | 1.18 | 1"-8UNC | 0.79 | 1.56 | 5/16"-18UNC | 0.55 |
| H1014 | 17.72 | 31.74 | 1.69 | 2.26 | 1.49 | 1.38 | 0.77 | 2¼"-14 | 1.18 | 1"-8UNC | 0.79 | 1.56 | 5/16"-18UNC | 0.55 |
| H1501 | 4.88 | 5.86 | 2.0 | 2.75 | 1.63 | 1.5 | 0.77 | 2¼"-16 | 1.18 | 1"-8UNC | 0.98 | 1.88 | ¾"-16UNC | 0.51 |
| H1502 | 5.87 | 7.88 | 2.0 | 2.75 | 1.63 | 1.5 | 0.77 | 2¼"-16 | 1.18 | 1"-8UNC | 0.98 | 1.88 | ¾"-16UNC | 0.51 |
| H1504 | 7.87 | 11.85 | 2.0 | 2.75 | 1.63 | 1.5 | 0.77 | 2¼"-16 | 1.18 | 1"-8UNC | 0.98 | 1.88 | ¾"-16UNC | 0.51 |
| H1506 | 10.63 | 16.61 | 2.0 | 2.75 | 1.63 | 1.5 | 0.98 | 2¼"-16 | 1.18 | 1"-8UNC | 0.98 | 1.88 | ¾"-16UNC | 0.51 |
| H1508 | 12.64 | 20.63 | 2.0 | 2.75 | 1.63 | 1.5 | 0.98 | 2¼"-16 | 1.18 | 1"-8UNC | 0.98 | 1.88 | ¾"-16UNC | 0.51 |
| H1510 | 14.65 | 24.65 | 2.0 | 2.75 | 1.63 | 1.5 | 0.98 | 2¼"-16 | 1.18 | 1"-8UNC | 0.98 | 1.88 | ¾"-16UNC | 0.51 |
| H1512 | 16.65 | 28.66 | 2.0 | 2.75 | 1.63 | 1.5 | 0.98 | 2¼"-16 | 1.18 | 1"-8UNC | 0.98 | 1.88 | ¾"-16UNC | 0.51 |
| H1514 | 18.66 | 32.68 | 2.0 | 2.75 | 1.63 | 1.5 | 0.98 | 2¼"-16 | 1.18 | 1"-8UNC | 0.98 | 1.88 | ¾"-16UNC | 0.51 |
| H2501 | 5.63 | 6.65 | 2.56 | 3.35 | 2.24 | 1.97 | 0.98 | 3-5/16"-12 | 1.93 | 1½"-16 | 1.18 | 2.31 | ½"-13UNC | 0.75 |
| H2502 | 6.61 | 8.62 | 2.56 | 3.35 | 2.24 | 1.97 | 0.98 | 3-5/16"-12 | 1.93 | 1½"-16 | 1.18 | 2.31 | ½"-13UNC | 0.75 |
| H2504 | 8.62 | 12.64 | 2.56 | 3.35 | 2.24 | 1.97 | 0.98 | 3-5/16"-12 | 1.93 | 1½"-16 | 1.18 | 2.31 | ½"-13UNC | 0.75 |
| H2506 | 10.71 | 16.81 | 2.56 | 3.35 | 2.24 | 1.97 | 0.98 | 3-5/16"-12 | 1.93 | 1½"-16 | 1.18 | 2.31 | ½"-13UNC | 0.75 |
| H2508 | 12.72 | 20.83 | 2.56 | 3.35 | 2.24 | 1.97 | 0.98 | 3-5/16"-12 | 1.93 | 1½"-16 | 1.18 | 2.31 | ½"-13UNC | 0.75 |
| H2510 | 14.72 | 24.84 | 2.56 | 3.35 | 2.24 | 1.97 | 0.98 | 3-5/16"-12 | 1.93 | 1½"-16 | 1.18 | 2.31 | ½"-13UNC | 0.75 |
| H2512 | 16.77 | 28.97 | 2.56 | 3.35 | 2.24 | 1.97 | 0.98 | 3-5/16"-12 | 1.93 | 1½"-16 | 1.18 | 2.31 | ½"-13UNC | 0.75 |
| H2514 | 18.74 | 32.99 | 2.56 | 3.35 | 2.24 | 1.97 | 0.98 | 3-5/16"-12 | 1.93 | 1½"-16 | 1.18 | 2.31 | ½"-13UNC | 0.75 |
| H3008 | 15.24 | 23.51 | 2.87 | 4.0 | 2.24 | 1.97 | 1.97 | 3-5/16"-12 | 1.93 | 1½"-16 | 1.18 | 2.2 | - | - |
| H5502 | 6.93 | 8.94 | 3.74 | 5.0 | 3.15 | 2.76 | 1.22 | 5"-12 | 2.17 | - | - | 3.75 | ½"-13UNC | 0.75 |
| H5504 | 8.94 | 13 | 3.74 | 5.0 | 3.15 | 2.76 | 1.22 | 5"-12 | 2.17 | - | - | 3.75 | ½"-13UNC | 0.75 |
| H5506 | 11.14 | 17.4 | 3.74 | 5.0 | 3.15 | 2.76 | 1.22 | 5"-12 | 2.17 | - | - | 3.75 | ½"-13UNC | 0.75 |
| H5510 | 15.16 | 25.41 | 3.74 | 5.0 | 3.15 | 2.76 | 1.22 | 5"-12 | 2.17 | - | - | 3.75 | ½"-13UNC | 0.75 |
| H5513 | 18.15 | 31.42 | 3.74 | 5.0 | 3.15 | 2.76 | 1.22 | 5"-12 | 2.17 | - | - | 3.75 | ½"-13UNC | 0.75 |
| H7506 | 11.22 | 17.36 | 4.53 | 5.79 | 3.74 | 2.76 | 1.18 | 5¾"-12 | 1.77 | - | - | - | - | - |
| H7513 | 19.37 | 32.48 | 4.53 | 5.79 | 3.74 | 2.76 | 1.18 | 5¾"-12 | 1.77 | - | - | 3.94 | 21/32"-10UNC | 0.85 |
| H10002A | 8.62 | 10.63 | 5.12 | 6.25 | 4.13 | 2.76 | 1.5 | 6¼"-12 | 2.17 | - | - | - | - | - |
| H10006 | 14.06 | 20.67 | 5.12 | 6.97 | 4.13 | 2.76 | 1.57 | 6¾"-12 | 1.77 | - | - | 5.5 | 3/4"-10UNC | 1 |
| H10010 | 17.68 | 27.92 | 5.12 | 6.97 | 4.13 | 2.76 | 1.57 | 6¾"-12 | 1.77 | - | - | 5.5 | 3/4"-10UNC | 1 |

DOUBLE ACTING CYLINDERS

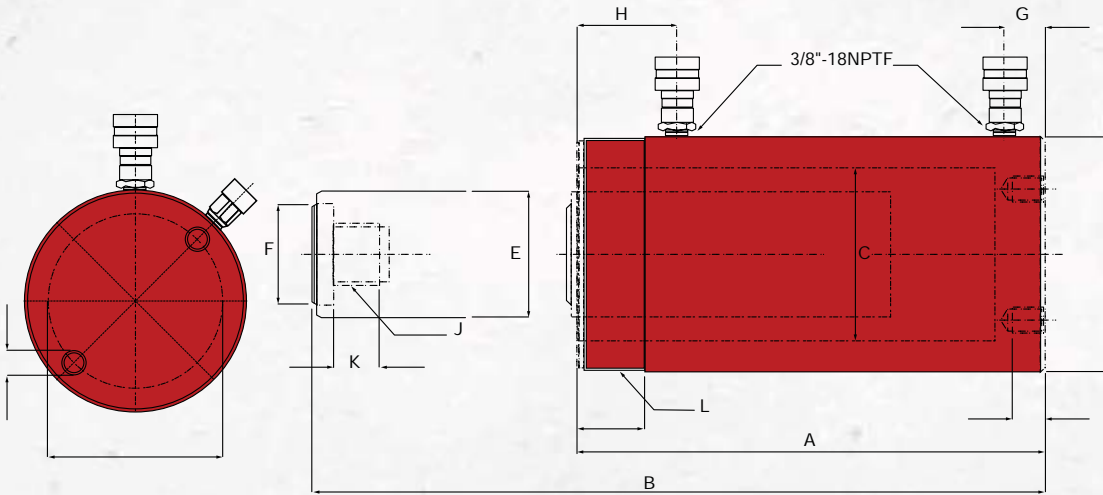
- Rod wiper seals out dirt and contamination
- High strength steel construction from gun drilled solid bar
- High flow 3/8" NPTF couplers
- One piece high grade alloy bearing for side load protection and long life
- Ideal for pushing and pulling
- Maximum working pressure: 10,000 psi / 700 bar
- Retract under hydraulic power for faster operation
- 55-100 Tons models are equipped with carrying handles



High-Flow Coupler:CH38F
Included on all models



HD cylinders can be used in pushing and pulling applications



| 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 ²) | Pull (in ²) | Push (in ²) | Pull (in ²) | | | | |
| 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 | 25.7 | 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 ± | 104.4 | 48.6 | 20.57 | 9.58 | 208.3 | 97.1 | 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 |

± Cylinder is equipped with carrying handle

| 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 | 1.3 | 5/16"-18 | 0.6 |
| HD1012 | 2.87 | 1.37 | 1.38 | 1.42 | 2.09 | 1"-8 | 0.98 | 2¼"-14 | 1.02 | 1.3 | 5/16"-18 | 0.6 |
| HD2506 | 3.62 | 1.77 | 1.50 | 0.98 | 1.93 | 1"-8 | 1.18 | 3-5/16"-12 | 0.98 | 2.3 | ½"-13 | 0.7 |
| HD3008 | 3.98 | 2.13 | 1.97 | 1.65 | 2.91 | 1½"-16 | 0.98 | 3-5/16"-12 | 1.93 | 2.2 | ½"-13 | 0.7 |
| HD3014 | 3.98 | 2.13 | 1.97 | 1.65 | 2.91 | 1½"-16 | 0.98 | 3-5/16"-12 | 1.93 | 2.2 | ½"-13 | 0.7 |
| HD5506 | 5.00 | 3.14 | 2.76 | 1.14 | 2.87 | 1"-12 | 0.98 | 5"-12 | 1.73 | 3.7 | ½"-13 | 0.7 |
| HD5513 | 5.00 | 3.14 | 2.76 | 1.14 | 2.87 | 1"-12 | 0.98 | 5"-12 | 1.73 | 3.7 | ½"-13 | 0.7 |
| HD5520 | 5.00 | 3.14 | 2.76 | 1.14 | 2.87 | 1"-12 | 0.98 | 5"-12 | 1.73 | 3.7 | ½"-13 | 0.7 |
| HD7506 | 5.75 | 3.75 | 2.76 | 1.18 | 2.80 | 1"-12 | 1.50 | 5¾"-12 | 1.50 | 4 | ¾"-10 | 0.9 |
| HD7513 | 5.75 | 3.75 | 2.76 | 1.18 | 2.80 | 1"-12 | 1.50 | 5¾"-12 | 1.50 | 4 | ¾"-10 | 0.9 |
| HD10006 | 6.97 | 3.75 | 2.95 | 1.22 | 2.95 | 1¼"-12 | 1.38 | 6⅝"-12 | 1.97 | 5.47 | ¾"-10 | 0.98 |
| HD10010 | 6.97 | 3.74 | 2.95 | 1.22 | 2.95 | 1¼"-12 | 1.50 | 6⅝"-12 | 2.01 | 5.5 | ¾"-10 | 0.98 |
| HD10013 | 6.97 | 3.75 | 2.95 | 1.22 | 2.95 | 1¼"-12 | 1.38 | 6⅝"-12 | 1.97 | 5.47 | ¾"-10 | 0.98 |
| HD10018 | 6.97 | 3.75 | 2.95 | 1.50 | 2.95 | 1¼"-12 | 1.38 | 6⅝"-12 | 1.97 | 5.47 | ¾"-10 | 0.98 |

LOCK NUT CYLINDERS

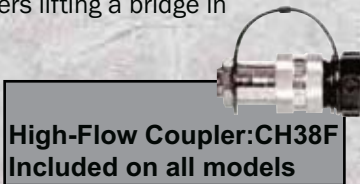
- Single acting cylinder with mechanical safety lock nut
- Designed to support load for extended periods without hydraulic pressure
- Overflow port prevents cylinders from over travel
- Load return
- Solid steel cylinder body
- Ideal for lifting and holding loads
- Chrome rods to resist corrosion and rust
- Maximum working pressure: 10,000 psi / 700 bar



(42) HLN5508 cylinders lifting the Jordan Bridge in Cheasapeake, VA.

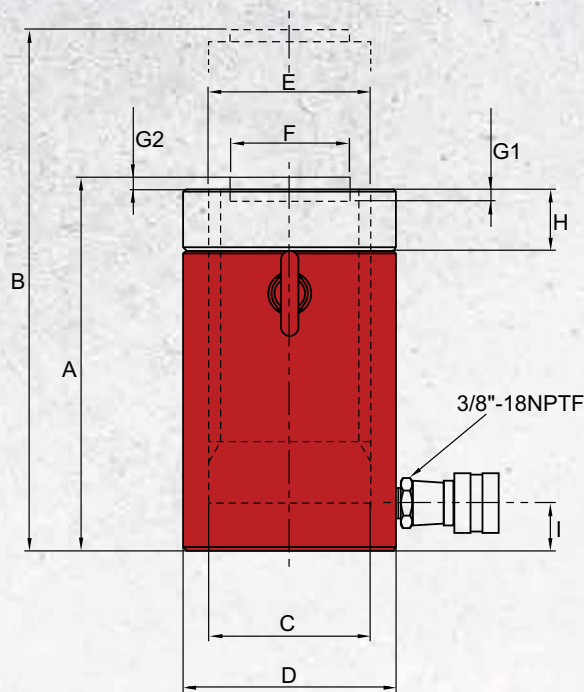


Lock Nut Cylinders lifting a bridge in Chandler, AZ



**High-Flow Coupler: CH38F
Included on all models**

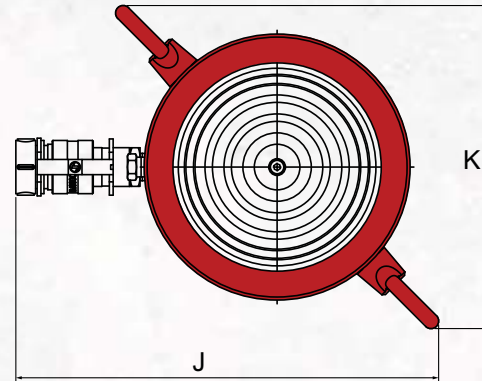
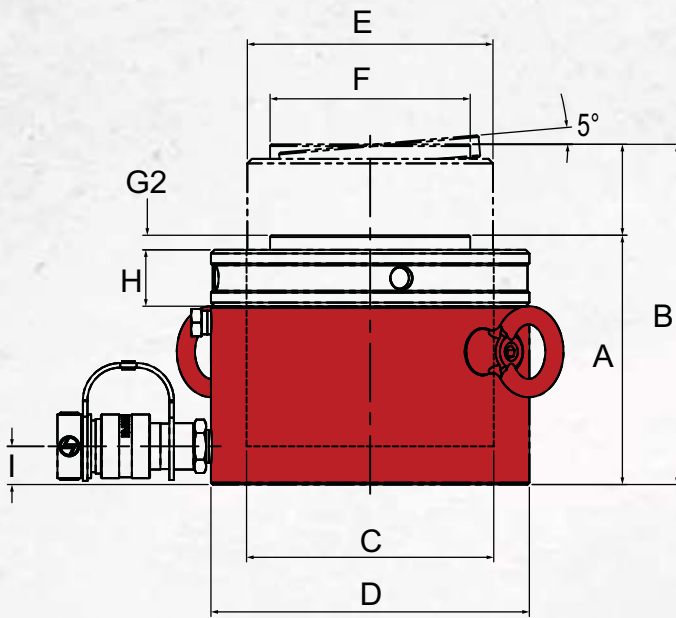
| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Oil Capacity (in ³) | Weight (lbs) |
|--------------------------|-------------|--------------|--|---------------------------------|--------------|
| 55 | 1.97 | HLN5502 | 10.99 | 21.65 | 34.0 |
| | 3.94 | HLN5504 | 10.99 | 43.27 | 44.5 |
| | 5.91 | HLN5506 | 10.99 | 64.90 | 55.1 |
| | 7.87 | HLN5508 | 10.99 | 86.54 | 65.9 |
| | 9.84 | HLN5510 | 10.99 | 108.17 | 76.5 |
| | 11.81 | HLN5512 | 10.99 | 129.80 | 87.1 |
| 100 | 1.97 | HLN10002 | 20.57 | 40.49 | 67.2 |
| | 3.94 | HLN10004 | 20.57 | 80.98 | 85.8 |
| | 5.91 | HLN10006 | 20.57 | 121.48 | 104.3 |
| | 7.87 | HLN10008 | 20.57 | 161.97 | 122.6 |
| | 9.84 | HLN10010 | 20.57 | 202.46 | 141.1 |
| | 11.81 | HLN10012 | 20.57 | 242.95 | 159.6 |
| 150 | 1.97 | HLN15002 | 31.16 | 61.39 | 116.4 |
| | 3.94 | HLN15004 | 31.16 | 122.79 | 145.0 |
| | 5.91 | HLN15006 | 31.16 | 184.18 | 173.6 |
| | 7.87 | HLN15008 | 31.16 | 245.27 | 202.1 |
| | 9.84 | HLN15010 | 31.16 | 306.66 | 230.7 |
| | 11.81 | HLN15012 | 31.16 | 368.05 | 259.3 |
| 200 | 1.97 | HLN20002 | 41.0 | 80.7 | 181.0 |
| | 5.91 | HLN20006 | 41.0 | 242.0 | 256.0 |
| | 7.87 | HLN20008 | 41.0 | 323.0 | 293.0 |
| | 9.84 | HLN20010 | 41.0 | 403.5 | 331.0 |



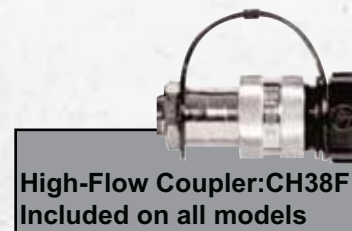
| Model Number | Collapsed Height A (in) | Extended Height B (in) | Cylinder Bore Diameter C (in) | Outside Diameter D (in) | Rod Outside Thread E | Saddle Diameter F (in) | Depth of Rod Hole G1 (in) | Saddle Protrusion From Rod G2 (in) | Lock Nut Length H (in) | Base to Inlet Port I (in) |
|--------------|-------------------------|------------------------|-------------------------------|-------------------------|----------------------|------------------------|---------------------------|------------------------------------|------------------------|---------------------------|
| HLN5502 | 6.50 | 8.40 | 3.70 | 4.90 | TW95-6N | 2.80 | 0.51 | 0.08 | 1.40 | 1.10 |
| HLN5504 | 8.40 | 12.40 | 3.70 | 4.90 | TW95-6N | 2.80 | 0.51 | 0.08 | 1.40 | 1.10 |
| HLN5506 | 10.40 | 16.30 | 3.70 | 4.90 | TW95-6N | 2.80 | 0.51 | 0.08 | 1.40 | 1.10 |
| HLN5508 | 12.40 | 20.20 | 3.70 | 4.90 | TW95-6N | 2.80 | 0.51 | 0.08 | 1.40 | 1.10 |
| HLN5510 | 14.30 | 24.20 | 3.70 | 4.90 | TW95-6N | 2.80 | 0.51 | 0.08 | 1.40 | 1.10 |
| HLN5512 | 16.30 | 28.10 | 3.70 | 4.90 | TW95-6N | 2.80 | 0.51 | 0.08 | 1.40 | 1.10 |
| HLN10002 | 7.40 | 9.30 | 5.10 | 6.50 | TW130-4N | 2.80 | 0.51 | 0.08 | 1.80 | 1.10 |
| HLN10004 | 9.30 | 13.30 | 5.10 | 6.50 | TW130-4N | 2.80 | 0.51 | 0.08 | 1.80 | 1.10 |
| HLN10006 | 11.30 | 17.20 | 5.10 | 6.50 | TW130-4N | 2.80 | 0.51 | 0.08 | 1.80 | 1.10 |
| HLN10008 | 13.30 | 21.10 | 5.10 | 6.50 | TW130-4N | 2.80 | 0.51 | 0.08 | 1.80 | 1.10 |
| HLN10010 | 15.20 | 25.10 | 5.10 | 6.50 | TW130-4N | 2.80 | 0.51 | 0.08 | 1.80 | 1.10 |
| HLN10012 | 17.20 | 29.00 | 5.10 | 6.50 | TW130-4N | 2.80 | 0.51 | 0.08 | 1.80 | 1.10 |
| HLN15002 | 8.23 | 10.20 | 6.30 | 8.07 | TW160-4N | 5.12 | 0.51 | 0.08 | 1.73 | 1.54 |
| HLN15004 | 10.20 | 14.13 | 6.30 | 8.07 | TW160-4N | 5.12 | 0.51 | 0.08 | 1.73 | 1.54 |
| HLN15006 | 12.17 | 18.07 | 6.30 | 8.07 | TW160-4N | 5.12 | 0.51 | 0.08 | 1.73 | 1.54 |
| HLN15008 | 14.13 | 22.01 | 6.30 | 8.07 | TW160-4N | 5.12 | 0.51 | 0.08 | 1.73 | 1.54 |
| HLN15010 | 16.10 | 25.94 | 6.30 | 8.07 | TW160-4N | 5.12 | 0.51 | 0.08 | 1.73 | 1.54 |
| HLN15012 | 18.07 | 29.88 | 6.30 | 8.07 | TW160-4N | 5.12 | 0.51 | 0.08 | 1.73 | 1.54 |
| HLN20002 | 9.57 | 11.5 | 7.22 | 9.25 | TW183.5-4N | 5.12 | | 0.08 | 1.97 | 1.97 |
| HLN20006 | 13.50 | 19.5 | 7.22 | 9.25 | TW183.5-4N | 5.12 | | 0.08 | 1.97 | 1.97 |
| HLN20008 | 15.50 | 23.4 | 7.22 | 9.25 | TW183.5-4N | 5.12 | | 0.08 | 1.97 | 1.97 |
| HLN20010 | 17.40 | 27.3 | 7.22 | 9.25 | TW183.5-4N | 5.12 | | 0.08 | 1.97 | 1.97 |

Low Profile Lock Nut Cylinders

- Single acting cylinder with mechanical safety lock nut
- Designed to support load for an extended period of time
- Low profile for confined spaces
- 5° tilting saddle is standard
- Maximum working pressure: 10,000 psi/700 bar
- Equipped with CH38F high flow coupler



| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Oil Capacity (in ³) | Weight (lbs) |
|--------------------------|-------------|--------------|--|---------------------------------|--------------|
| 60 | 1.97 | HLNF6002 | 13.42 | 26.42 | 31.3 |
| 100 | 1.97 | HLNF10002 | 22.47 | 44.23 | 54.1 |
| 160 | 1.77 | HLNF16002 | 35.51 | 62.91 | 91 |
| 200 | 1.77 | HLNF20002 | 43.95 | 77.86 | 118.6 |



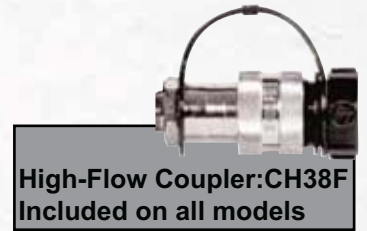
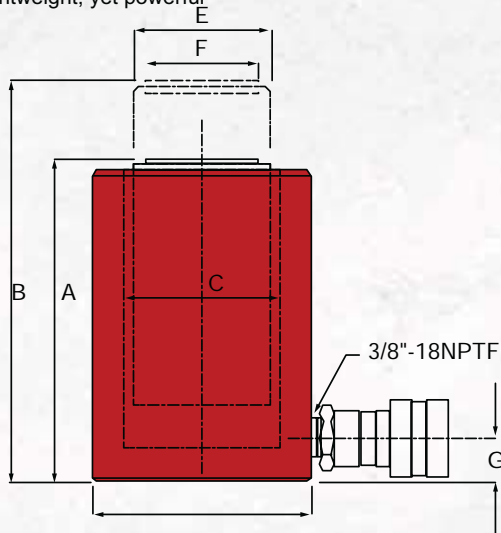
| Model Number | Collapsed Height A (in) | Extended Height B (in) | Cylinder Bore Diameter C (in) | Outside Diameter D (in) | Rod Outside Thread E | Saddle Diameter F (in) | Saddle Protrusion From Rod G2 (in) | Lock Nut Length H (in) | Base to Inlet Port I (in) | Coupler to Eyelet J (in) | Eyelet to Eyelet K (in) |
|--------------|-------------------------|------------------------|-------------------------------|-------------------------|----------------------|------------------------|------------------------------------|------------------------|---------------------------|--------------------------|-------------------------|
| HLNF6002 | 4.92 | 6.89 | 4.13 | 5.51 | TW105-4N | 3.23 | 0.24 | 1.10 | 0.75 | 9.78 | 7.39 |
| HLNF10002 | 5.39 | 7.36 | 5.35 | 6.89 | TW135-4N | 4.33 | 0.31 | 1.22 | 0.83 | 10.95 | 8.37 |
| HLNF16002 | 5.83 | 7.60 | 6.72 | 8.66 | TW170-4N | 5.83 | 0.35 | 1.57 | 1.06 | 12.46 | 9.62 |
| HLNF20002 | 6.10 | 7.87 | 7.48 | 9.66 | TW190-4N | 6.30 | 0.39 | 1.69 | 1.18 | 13.30 | 10.31 |

ALUMINUM CYLINDERS

- Lightweight aluminum alloy construction
- Up to 60 percent lighter than comparable tonnage steel cylinders
- Convenient carry handle
- Hard anodized aluminum rod provides extra protection against corrosion and wear
- Steel protective plate on cylinder base
- Maximum working pressure: 10,000 psi / 700 bar



Lightweight, yet powerful

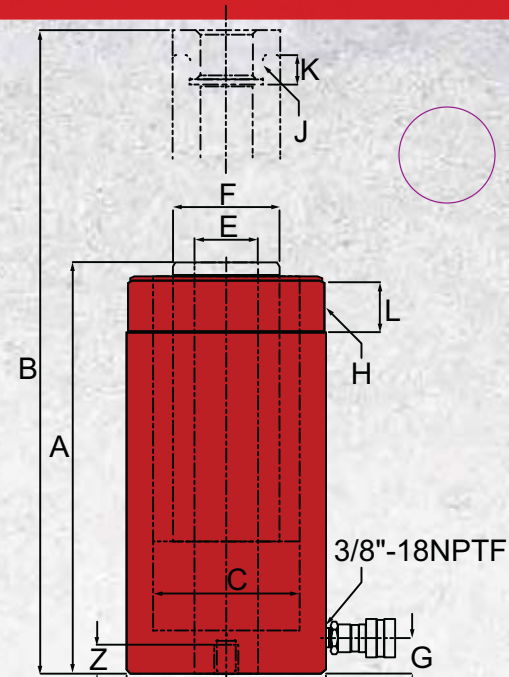
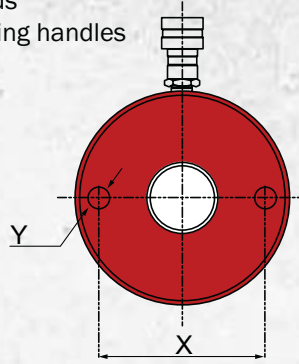


High-Flow Coupler:CH38F
Included on all models

| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Internal Pressure at Capacity (psi) | Oil Capacity (in ³) | Col-lapsed Height A (in) | Extended Height B (in) | Cylinder Bore Dia. C (in) | Outside Dia. D (in) | Rod Dia. E (in) | Saddle Dia. F (in) | Base to Inlet Port G (in) | Weight (lbs) |
|--------------------------|-------------|--------------|--|-------------------------------------|---------------------------------|--------------------------|------------------------|---------------------------|---------------------|-----------------|--------------------|---------------------------|--------------|
| 20 | 1.97 | HU2002T | 4.83 | 10,000 | 9.51 | 6.85 | 8.82 | 2.48 | 3.35 | 2.00 | 1.56 | 1.08 | 7.4 |
| | 3.94 | HU2004T | 4.83 | 10,000 | 19.02 | 8.82 | 12.76 | 2.48 | 3.35 | 2.00 | 1.56 | 1.08 | 8.5 |
| | 5.91 | HU2006T | 4.83 | 10,000 | 28.53 | 10.79 | 16.69 | 2.48 | 3.35 | 2.00 | 1.56 | 1.08 | 9.6 |
| 30 | 2.00 | HU3002T | 6.50 | 9,231 | 13.00 | 6.50 | 8.50 | 2.90 | 4.50 | 2.50 | 2.00 | 1.50 | 11.0 |
| | 4.00 | HU3004T | 6.50 | 9,231 | 26.00 | 8.50 | 12.50 | 2.90 | 4.50 | 2.50 | 2.00 | 1.50 | 14.0 |
| | 6.00 | HU3006T | 6.50 | 9,231 | 39.00 | 10.50 | 16.50 | 2.90 | 4.50 | 2.50 | 2.00 | 1.50 | 17.0 |
| 50 | 2.00 | HU5002T | 11.00 | 9,091 | 22.00 | 6.50 | 8.50 | 3.70 | 5.50 | 3.10 | 2.50 | 150 | 17.0 |
| | 4.00 | HU5004T | 11.00 | 9,091 | 44.00 | 8.50 | 12.50 | 3.70 | 5.50 | 3.10 | 2.50 | 150 | 21.0 |
| | 6.00 | HU5006T | 11.00 | 9,091 | 66.00 | 10.50 | 16.50 | 3.70 | 5.50 | 3.10 | 2.50 | 150 | 25.0 |
| | 10.00 | HU5010T | 11.00 | 9,091 | 110.00 | 14.50 | 24.50 | 3.70 | 5.50 | 3.10 | 2.50 | 150 | 34.0 |
| 75 | 4.00 | HU7504 | 15.00 | 10,000 | 60.00 | 8.50 | 12.50 | 4.40 | 6.50 | 3.90 | 3.00 | 150 | 29.0 |
| | 6.00 | HU7506 | 15.00 | 10,000 | 90.00 | 10.50 | 16.50 | 4.40 | 6.50 | 3.90 | 3.00 | 150 | 35.0 |
| 100 | 2.00 | HU10002 | 20.70 | 9,662 | 41.40 | 6.50 | 8.50 | 5.10 | 8.00 | 4.30 | 3.50 | 150 | 36.0 |
| | 4.00 | HU10004 | 20.70 | 9,662 | 82.80 | 8.50 | 12.50 | 5.10 | 8.00 | 4.30 | 3.50 | 150 | 43.0 |
| | 6.00 | HU10006 | 20.70 | 9,662 | 124.40 | 10.50 | 16.50 | 5.10 | 8.00 | 4.30 | 3.50 | 150 | 51.0 |
| | 10.00 | HU10010 | 20.70 | 9,662 | 207.0 | 14.50 | 24.50 | 5.10 | 8.00 | 4.30 | 3.50 | 150 | 68.0 |

HOLLOW HOLE CYLINDERS

- Minimum leak risk
- 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 come with internal rod threads
- 60 and 100 Ton models are equipped with carrying handles



| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Internal Pressure at Capacity (psi) | Oil Cap. (in ³) | Weight (lbs) | Min. Height A (in) | Max. Height B (in) | Bore Dia C (in) | O.D. D (in) |
|--------------------------|-------------|--------------|--|-------------------------------------|-----------------------------|--------------|--------------------|--------------------|-----------------|-------------|
| 12 | 0.31 | HC1201T* | 2.91 | 8,236 | 0.89 | 3.3 | 2.36 | 2.67 | 1.92 | 2.76 |
| | 1.61 | HC1202T* | 2.91 | 8,236 | 4.70 | 6.2 | 4.74 | 6.36 | 1.92 | 2.76 |
| | 1.61 | HC1202XT* | 2.91 | 8,236 | 4.70 | 6.2 | 4.74 | 6.36 | 1.92 | 2.76 |
| | 2.99 | HC1203XT | 2.91 | 8,236 | 8.72 | 8.6 | 7.24 | 10.24 | 1.92 | 2.76 |
| 20 | 2.01 | HC2002T | 4.90 | 8,167 | 9.83 | 15.9 | 6.38 | 8.39 | 2.5 | 3.92 |
| | 6.06 | HC2006T | 4.90 | 8,167 | 29.70 | 29.5 | 12.05 | 18.11 | 2.5 | 3.92 |
| 30 | 2.52 | HC3002T | 6.32 | 9,488 | 15.93 | 22.9 | 7.05 | 9.57 | 2.84 | 4.50 |
| | 6.11 | HC3006T | 6.32 | 9,488 | 38.67 | 43.0 | 13.02 | 19.13 | 2.84 | 4.50 |
| 60 | 3.00 | HC6003T ± | 13.05 | 9,195 | 39.10 | 65.7 | 9.77 | 12.77 | 4.08 | 6.25 |
| | 6.00 | HC6006T ± | 13.05 | 9,195 | 78.25 | 81.1 | 12.76 | 18.76 | 4.08 | 6.25 |
| 100 | 3.00 | HC10003T ± | 22.13 | 9,036 | 66.31 | 113.3 | 10.00 | 13.00 | 5.31 | 8.39 |



± Cylinder are equipped with carrying handles

| Model Number | Rod | | | | Collar Thread | | Base to Inlet Port G (in) | Base Mounting Hole | | |
|--------------|-------------|-------------|------------------------|-------------------------------|---------------|--------------|---------------------------|--------------------|---------------|---------------------|
| | I.D. E (in) | O.D. F (in) | Internal Thread J (in) | Internal Thread Length K (in) | Dia. H (in) | Lgth. L (in) | | Bolt Circle X (in) | Thread Y (in) | Thread Depth Z (in) |
| HC1201T* | 0.77 | 1.38 | 3/4"-16UN | 0.63 | 2 3/4"-16 | 1.81 | 0.57 | 2.00 | 5/16"-18UNC | 0.35 |
| HC1202T* | 0.77 | 1.38 | 3/4"-16UN | 0.63 | 2 3/4"-16 | 1.81 | 0.59 | 2.00 | 5/16"-18UNC | 0.35 |
| HC1202XT* | 0.77 | 1.38 | - | - | 2 3/4"-16 | 1.81 | 0.59 | 2.00 | 5/16"-18UNC | 0.35 |
| HC1203XT | 0.77 | 1.38 | - | - | 2 3/4"-16 | 1.81 | 0.75 | 2.00 | 5/16"-18UNC | 0.35 |
| HC2002T | 1.06 | 2.15 | 1-9/16"-16UN | 0.75 | 3 7/8"-12 | 1.50 | 0.75 | 3.25 | 3/8"-16UNC | 0.37 |
| HC2006T | 1.06 | 2.15 | 1-9/16"-16UN | 0.75 | 3 7/8"-12 | 1.50 | 0.75 | 3.25 | 3/8"-16UNC | 0.37 |
| HC3002T | 1.31 | 2.48 | 1-13/16"-16UN | 0.87 | 4 1/2"-12 | 1.66 | 0.91 | 3.62 | 3/8"-16UNC | 0.55 |
| HC3006T | 1.31 | 2.48 | 1-13/16"-16UN | 0.87 | 4 1/2"-12 | 1.66 | 0.91 | 3.62 | 3/8"-16UNC | 0.55 |
| HC6003T | 2.13 | 3.66 | 2 3/4"-16UN | 0.75 | 6 1/4"-12 | 1.91 | 1.06 | 5.12 | 1/2"-13UNC | 0.55 |
| HC6006T | 2.13 | 3.66 | 2 3/4"-16UN | 0.75 | 6 1/4"-12 | 1.91 | 1.06 | 5.12 | 1/2"-13UNC | 0.55 |
| HC10003T | 3.11 | 4.92 | 4"-16UN | 0.98 | 8 3/8"-12 | 2.38 | 1.06 | 7.01 | 5/8"-11UNC | 0.75 |

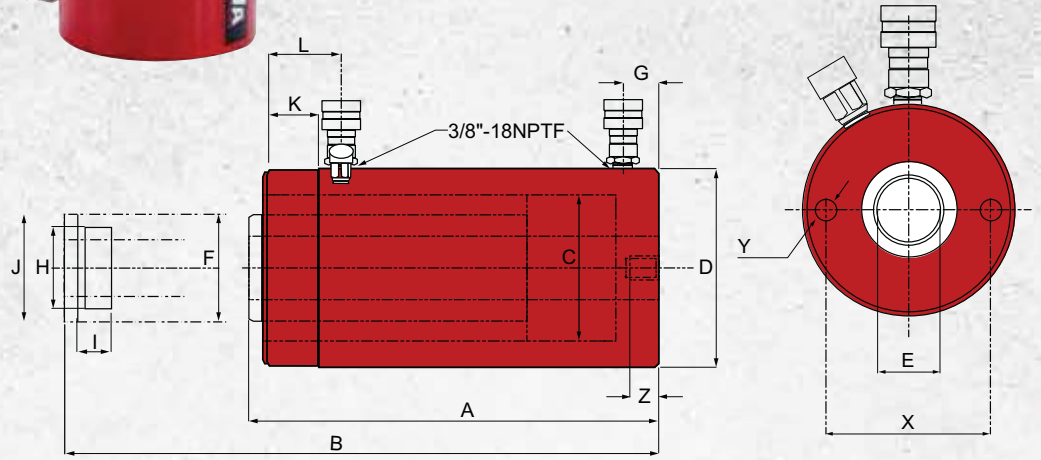
*except HC1201T, HC1202T, and HC1202XT come with CRZ14F

DOUBLE ACTING HOLLOW HOLE CYLINDERS

- Ideal for pushing and pulling applications.
- Dual wipers help prevent contamination
- Collar thread protector
- 3/8" high flow female coupler.



**High-Flow Coupler:CH38F
Included on all models**



| Cylinder Capacity | | Stroke (in) | Mode Number | Oil Capacity | | Collapsed Height (in) | Extended Height (in) | Center Hole I.D. (in) | Rod O.D (in) | Max. Pressure (PSI) | Product Weight (Lbs.) |
|-------------------|------------|-------------|-------------|-------------------------|-------------------------|-----------------------|----------------------|-----------------------|--------------|---------------------|-----------------------|
| Push (ton) | Pull (ton) | | | Push (in ³) | Pull (in ³) | | | | | | |
| 30 | 20 | 7.00 | HDC3007 | 44.31 | 27.74 | 13.02 | 20.02 | 1.31 | 2.48 | 10,000 | 43.0 |
| | | 10.13 | HDC3010 | 64.15 | 40.16 | 17.00 | 27.13 | 1.31 | 2.48 | 10,000 | 56.7 |
| 60 | 44 | 3.50 | HDC6003 | 45.75 | 30.49 | 9.77 | 13.28 | 2.13 | 3.62 | 10,000 | 65.7 |
| | | 6.50 | HDC6006 | 84.81 | 56.53 | 12.76 | 19.26 | 2.13 | 3.62 | 10,000 | 81.1 |
| | | 10.12 | HDC6010 | 132.10 | 88.04 | 17.25 | 27.37 | 2.13 | 3.62 | 10,000 | 112.4 |
| 100 | 71 | 1.50 | HDC10001 | 33.23 | 21.18 | 6.50 | 8.00 | 3.11 | 4.92 | 10,000 | 73.7 |
| | | 3.00 | HDC10003 | 66.47 | 42.37 | 10.00 | 13.00 | 3.11 | 4.92 | 10,000 | 113.3 |
| | | 6.00 | HDC10006 | 132.39 | 84.73 | 13.49 | 19.49 | 3.11 | 4.92 | 10,000 | 153.2 |
| | | 10.13 | HDC10010 | 224.52 | 143.11 | 18.14 | 28.27 | 3.11 | 4.92 | 10,000 | 198.9 |
| 150 | 82.8 | 8.00 | HDC15008 | 259.19 | 132.44 | 13.75 | 21.75 | 3.94 | 5.91 | 10,000 | 239.2 |

| Mode Number | Min. Height A (in) | Max. Height B (in) | Dia. of Center Tube C (in) | O.D D (in) | I.D. E(in) | O.D. F (in) | Base to Inlet Port G (in) | Top to Return Port L (in) | Internal Thread H (in) | Internal Thread Length I (in) | Collar Thread | | Base Mounting Hole | | |
|-------------|--------------------|--------------------|----------------------------|------------|------------|-------------|---------------------------|---------------------------|------------------------|-------------------------------|---------------|---------------|--------------------|---------------|---------------------|
| | | | | | | | | | | | Dia. J (in) | Length K (in) | Bolt Circle X (in) | Thread Y (in) | Thread Depth Z (in) |
| HDC3007 | 13.02 | 20.02 | 3.35 | 4.50 | 1.31 | 2.48 | 0.91 | 2.38 | 1 13/16"-16UN | 0.94 | 4 1/2"-12 | 1.66 | 3.62 | 3/8"-16UNC | 0.55 |
| HDC3010 | 17.00 | 27.13 | 3.35 | 4.50 | 1.31 | 2.48 | 0.91 | 2.38 | 1 13/16"-16UN | 0.94 | 4 1/2"-12 | 1.66 | 3.62 | 3/8"-16UNC | 0.55 |
| HDC6003 | 9.77 | 13.28 | 4.92 | 6.25 | 2.13 | 3.62 | 1.06 | 2.64 | 2 3/4"-16UN | 0.83 | 6 1/4"-12 | 1.91 | 5.12 | 1/2" 13UNC | 0.55 |
| HDC6006 | 12.76 | 19.26 | 4.92 | 6.25 | 2.13 | 3.62 | 1.06 | 2.64 | 2 3/4"-16UN | 0.83 | 6 1/4"-12 | 1.91 | 5.12 | 1/2" 13UNC | 0.55 |
| HDC6010 | 17.25 | 27.37 | 4.92 | 6.25 | 2.13 | 3.62 | 1.06 | 2.64 | 2 3/4"-16UN | 0.83 | 6 1/4"-12 | 1.91 | 5.12 | 1/2" 13UNC | 0.55 |
| HDC10001 | 6.50 | 8.00 | 6.50 | 8.39 | 3.11 | 4.92 | 1.06 | 1.75 | 4"- 16UN | 1.06 | - | - | 7.01 | 5/8" 11UNC | 0.75 |
| HDC10003 | 10.00 | 13.00 | 6.50 | 8.39 | 3.11 | 4.92 | 1.06 | 3.39 | 4"- 16UN | 1.06 | 8 3/8"-12 | 2.38 | 7.01 | 5/8" 11UNC | 0.75 |
| HDC10006 | 13.49 | 19.49 | 6.50 | 8.39 | 3.11 | 4.92 | 1.06 | 3.39 | 4"- 16UN | 1.06 | 8 3/8"-12 | 2.38 | 7.01 | 5/8" 11UNC | 0.75 |
| HDC10010 | 18.14 | 28.27 | 6.50 | 8.39 | 3.11 | 4.92 | 1.06 | 3.39 | 4"- 16UN | 1.06 | 8 3/8"-12 | 2.38 | 7.01 | 5/8" 11UNC | 0.75 |
| HDC15008 | 13.75 | 21.75 | 7.48 | 9.75 | 3.94 | 5.91 | 1.50 | 2.38 | - | - | - | - | - | - | - |

FLAT BODY CYLINDERS

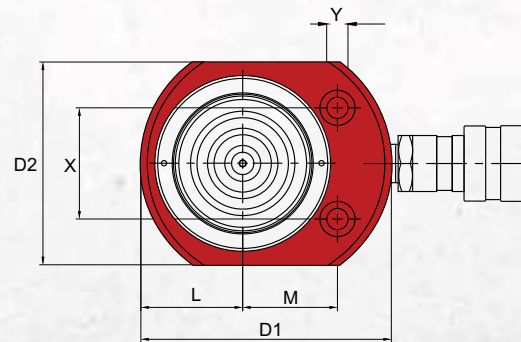
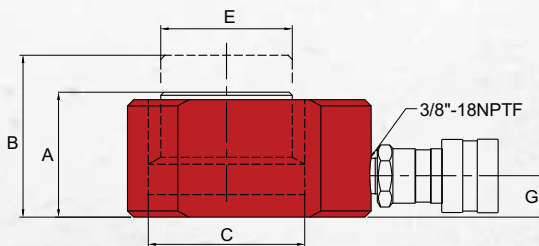
- Made of high quality steel
- Extremely low collapsed height for applications with minimal clearance at the lift point
- Maximum working pressure 10,000 psi / 700 bar
- HF0503 and HF0503B come with 3/8" regular flow coupler



**High-Flow Coupler:CH38F
Included on all models**

*except HF0503 comes with CR38F

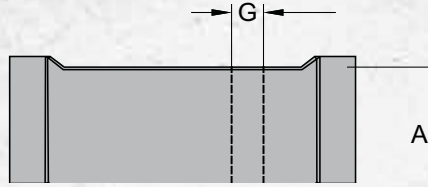
| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Pressure at Capacity | Oil Capacity (in ³) | Weight (lbs) |
|--------------------------|-------------|--------------|--|----------------------|---------------------------------|--------------|
| 5 | 0.24 | HF0503* | 1.10 | 9,090 | 0.26 | 1.3 |
| 10 | 0.43 | HF1005 | 2.36 | 8,470 | 1.01 | 3.3 |
| 20 | 0.43 | HF2005 | 4.38 | 9,130 | 1.88 | 5.9 |
| 30 | 0.51 | HF3005 | 6.49 | 9,240 | 3.31 | 9.7 |
| 50 | 0.63 | HF5006 | 9.86 | 10,140 | 6.21 | 14.9 |
| 75 | 0.63 | HF7506 | 16.1 | 9,320 | 10.14 | 25.4 |
| 100 | 0.63 | HF10006 | 19.64 | 10,180 | 12.37 | 31.5 |
| 150 | 0.63 | HF15006 | 30.67 | 9,780 | 19.32 | 53.4 |



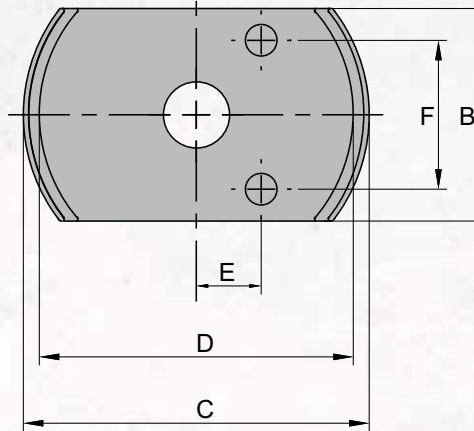
| Model Number | Col-lapsed Height A (in) | Ex-tended Height B (in) | Cylinder Bore Dia. C (in) | Outside Dim. D1 x D2 (in) | Rod Dia. E (in) | Base to Port G (in) | Rod to Base L (in) | Rod to Mtg. Hole M (in) | Hole Pitch X (in) | Hole Dia. Y (in) | Counter Bore Dia. (in) | Counter Bore Depth (in) |
|--------------|--------------------------|-------------------------|---------------------------|---------------------------|-----------------|---------------------|--------------------|-------------------------|-------------------|------------------|------------------------|-------------------------|
| HF0503* | 1.26 | 1.50 | 1.18 | 2.4x1.6 | 0.98 | 0.69 | 0.80 | 0.87 | 1.12 | 0.2 | 0.31 | 0.17 |
| HF1005 | 1.69 | 2.12 | 1.73 | 3.3x2.2 | 1.50 | 0.77 | 1.12 | 1.32 | 1.44 | 0.28 | 0.42 | 0.31 |
| HF2005 | 2.01 | 2.44 | 2.36 | 4.0x3.0 | 2.00 | 0.75 | 1.54 | 1.56 | 1.94 | 0.40 | 0.59 | 0.39 |
| HF3005 | 2.31 | 2.82 | 2.87 | 4.6x3.8 | 2.50 | 0.79 | 1.88 | 1.75 | 2.06 | 0.40 | 0.63 | 0.44 |
| HF5006 | 2.64 | 3.27 | 3.54 | 4.5x4.5 | 2.76 | 0.79 | 2.25 | 2.13 | 2.62 | 0.43 | 0.75 | 0.50 |
| HF7506 | 3.13 | 3.76 | 4.53 | 6.5x5.5 | 3.54 | 0.77 | 2.75 | 2.63 | 3.00 | 0.51 | 0.83 | 0.56 |
| HF10006 | 3.37 | 4.00 | 5.00 | 7.0x6.0 | 3.54 | 0.79 | 3.00 | 2.94 | 3.00 | 0.51 | 0.83 | 0.56 |
| HF15006 | 3.94 | 4.57 | 6.25 | 8.5x7.5 | 4.65 | 0.94 | 3.75 | 3.25 | 4.62 | 0.51 | 0.83 | 0.56 |

FLAT BODY CYLINDER KITS

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



Magnet shim



**High-Flow Coupler:CH38F
Included on all models**

*except HF0503B come with CR38F

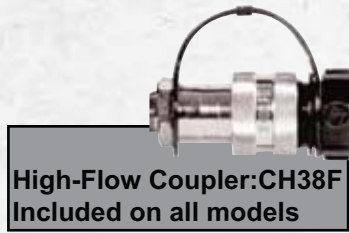
| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Model | Oil Capacity (in ³) | Collapsed Height (in) | Adapter | Adapter Dimensions | | | | | | | Weight (lbs) |
|--------------------------|-------------|--------------|----------------|---------------------------------|-----------------------|---------|--------------------|--------|--------|--------|--------|--------|--------|--------------|
| | | | | | | | A (in) | B (in) | C (in) | D (in) | E (in) | F (in) | G (in) | |
| 5 | 0.24 | HF0503B* | HF0503 | 0.26 | 1.26 | I | 0.17 | 1.61 | 2.56 | 2.32 | 0.48 | 1.10 | 0.24 | 5.5 |
| | | | | | | II | 0.42 | 1.61 | 2.56 | 2.32 | 0.48 | 1.10 | 0.24 | 5.5 |
| | | | | | | III | 0.92 | 1.61 | 2.56 | 2.32 | 0.48 | 1.10 | 0.24 | 5.5 |
| | | | | | | IV | 1.17 | 1.61 | 2.56 | 2.32 | 0.48 | 1.10 | 0.24 | 5.5 |
| 10 | 0.43 | HF1005B | HF1005 | 1.02 | 1.69 | I | 0.39 | 2.20 | 3.54 | 3.23 | 0.81 | 1.46 | 0.28 | 9.2 |
| | | | | | | II | 0.79 | 2.20 | 3.54 | 3.23 | - | - | - | 9.2 |
| | | | | | | III | 1.57 | 2.20 | 3.54 | 3.23 | - | - | - | 9.2 |
| 20 | 0.43 | HF2005B | HF2005 | 1.90 | 2.01 | I | 0.39 | 2.99 | 4.25 | 3.94 | 1.08 | 1.93 | 0.39 | 15.0 |
| | | | | | | II | 0.79 | 2.99 | 4.25 | 3.94 | - | - | - | 15.0 |
| | | | | | | III | 1.57 | 2.99 | 4.25 | 3.94 | - | - | - | 15.0 |
| 30 | 0.51 | HF3005B | HF3005 | 3.32 | 2.31 | I | 0.39 | 3.75 | 4.76 | 4.45 | 1.32 | 2.06 | 0.39 | 21.0 |
| | | | | | | II | 0.79 | 3.75 | 4.76 | 4.45 | - | - | - | 21.0 |
| | | | | | | III | 1.57 | 3.75 | 4.76 | 4.45 | - | - | - | 21.0 |
| 50 | 0.63 | HF5006B | HF5006 | 3.32 | 2.31 | I | 0.39 | 4.49 | 5.89 | 5.57 | 1.61 | 2.62 | 0.43 | 32.32 |
| | | | | | | II | 0.79 | 4.49 | 5.89 | 5.57 | - | - | - | 32.32 |
| | | | | | | III | 1.57 | 4.49 | 5.89 | 5.57 | - | - | - | 32.32 |

LOW PROFILE CYLINDERS

- Compact design for use in confined spaces
- Rod wiper helps seal out dirt and contamination
- Specially designed return spring provides quick retraction and extends the life of the spring
- Industrial hard chrome plated rod helps prevent scratching and corrosion
- Rod end is grooved to reduce load slippage
- Includes high flow coupler and dust cap
- HL1001, HL2002, and HL3002 coupler is tilted upward for added clearance
- Maximum working pressure: 10,000 psi / 700 bar



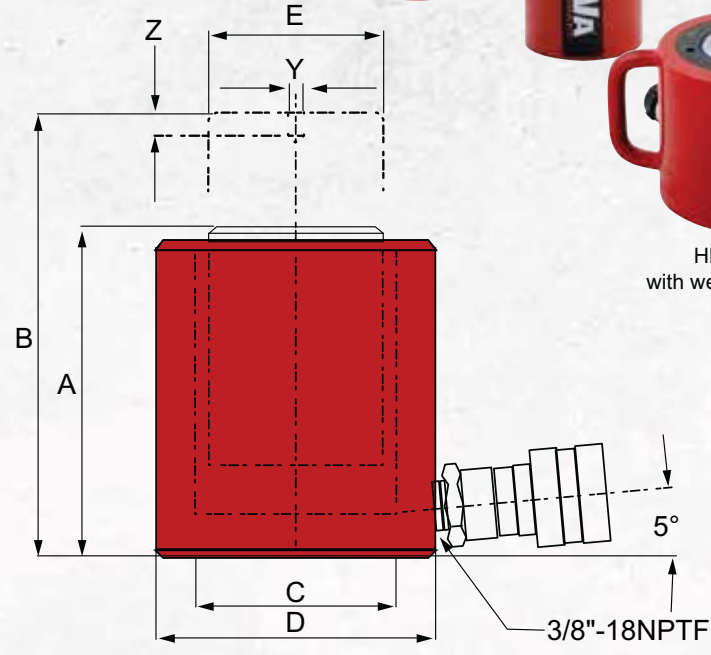
HL10002 with welded handle



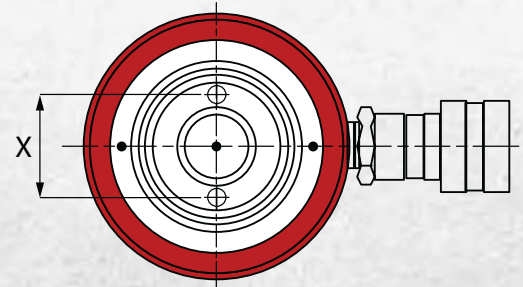
High-Flow Coupler:CH38F Included on all models



Low profile cylinders are great for confined spaces



| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Internal Pressure at Capacity (psi) | Oil Capacity (in ³) | Weight (lbs) |
|--------------------------|-------------|--------------|--|-------------------------------------|---------------------------------|--------------|
| 10 | 1.50 | HL1001 | 2.35 | 8,511 | 3.53 | 5.7 |
| 20 | 1.75 | HL2002 | 4.37 | 9,153 | 7.65 | 11.0 |
| 30 | 2.44 | HL3002 | 6.49 | 9,245 | 15.84 | 15.0 |
| 50 | 2.36 | HL5002 | 9.87 | 10,132 | 23.29 | 21.8 |
| 100 | 2.24 | HL10002 | 19.64 | 10,183 | 44.07 | 45.4 |



| Model Number | Collapsed Height A (in) | Extended Height B (in) | Cylinder Bore Diameter C (in) | Outside Diameter D (in) | Rod Diameter E (in) | Rod Mounting | | |
|--------------|-------------------------|------------------------|-------------------------------|-------------------------|---------------------|--------------------|---------------|---------------------|
| | | | | | | Bolt Circle X (in) | Thread Y (mm) | Thread Depth Z (in) |
| HL1001 | 3.48 | 4.98 | 1.73 | 2.75 | 1.50 | 1.03 | M4 | 0.32 |
| HL2002 | 3.90 | 5.65 | 2.36 | 3.63 | 2.00 | 1.56 | M4 | 0.32 |
| HL3002 | 4.61 | 7.05 | 2.87 | 4.00 | 2.50 | 1.56 | M5 | 0.32 |
| HL5002 | 4.80 | 7.17 | 3.54 | 4.88 | 2.76 | 1.56 | M5 | 0.32 |
| HL10002 | 5.55 | 7.80 | 5.00 | 6.50 | 3.54 | 2.19 | M8 | 0.10 |

LOW PROFILE CYLINDER KIT

- Compact design for use in confined spaces
- Ideal for pushing applications
- Rod wiper helps seal out dirt and contamination
- Specially designed return spring ensures a quick retraction and extends the life of the spring
- Industrial hard chrome plated rod helps prevent scratching and corrosion
- Includes stackable 1", 2", and 3" aluminum adapters that conveniently snap into the base of the rod
- Includes high flow ball coupler and dust cap
- Convenient storage case to keep cylinder and adapters together



High-Flow Coupler: CH38F
Included on all models

| Cylinder Capacity | Model Number | Stroke | Cylinder Effective Area | Collapsed Height | Extended Height without adapter | Internal Pressure at Capacity | Cylinder Housing Dia. | Rod Dia. | Weight (lbs) |
|-------------------|--------------|--------|-------------------------|------------------|---------------------------------|-------------------------------|-----------------------|----------|--------------|
| 10 Ton | J72101 | 1.5" | 2.35 in ² | 3.48" | 4.98" | 8,511 PSI | 2.75" | 1.50" | 10 Lbs. |

LOAD CELLS

- Hydraulic load cells are available with either a direct mounted scale or the gauge attached to a 6' hose
- Designed for load testing



| Type | Model Number | Maximum Capacity Lbs. |
|------------------------|--------------|-----------------------|
| Directly Mounted Scale | LC1001 | 20,000 |
| | LC2002 | 40,000 |
| | LC5002 | 100,000 |
| | LC10002 | 200,000 |
| With Hydraulic Hose | LCH1001 | 20,000 |
| | LCH2002 | 40,000 |
| | LCH5002 | 100,000 |
| | LCH10002 | 200,000 |

HIGH TONNAGE SINGLE ACTING CYLINDERS

- Cylinders are burnish rolled for a smooth precision mirror finish.
- Rod wiper seals out dirt and contamination
- Base mounting holes on all models
- Load return
- High strength steel construction from gun drilled solid bar
- High flow 3/8" NPTF couplers
- Polyurethane cup seal provides optimum performance
- Industrial hard chrome plated rod helps prevent rust and corrosion
- Solid steel cylinder body provides strength for high tonnage applications
- Maximum working pressure: 10,000 psi / 700 bar

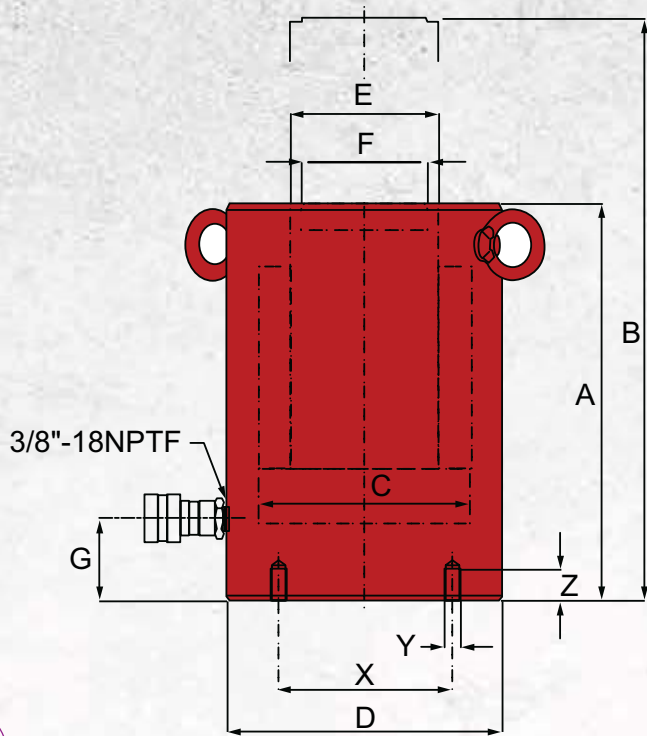


Load Return

| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Internal Pressure at Capacity (psi) | Oil Capacity (in ³) | Weight (lbs) |
|--------------------------|-------------|--------------|--|-------------------------------------|---------------------------------|--------------|
| 100 | 1.97 | HG10002 | 20.57 | 9723 | 40.5 | 61.0 |
| | 3.94 | HG10004 | 20.57 | 9723 | 81.00 | 74.1 |
| | 7.87 | HG10006 | 20.57 | 9723 | 121.5 | 87.3 |
| | 9.84 | HG10008 | 20.57 | 9723 | 161.99 | 100.4 |
| | 11.81 | HG10012 | 20.57 | 9723 | 242.99 | 126.7 |
| 150 | 1.97 | HG15002 | 30.43 | 9862 | 59.89 | 102.4 |
| | 3.94 | HG15004 | 30.43 | 9862 | 119.78 | 122.0 |
| | 5.91 | HG15006 | 30.43 | 9862 | 179.68 | 141.8 |
| | 7.87 | HG15008 | 30.43 | 9862 | 239.57 | 161.6 |
| | 9.84 | HG15010 | 30.43 | 9862 | 299.46 | 181.4 |
| 200 | 11.81 | HG15012 | 30.43 | 9862 | 359.35 | 201.7 |
| | 1.97 | HG20002 | 40.99 | 9761 | 80.68 | 121.0 |
| | 5.91 | HG20006 | 40.99 | 9761 | 242.05 | 201.0 |
| | 7.87 | HG20008 | 40.99 | 9761 | 322.73 | 242.0 |
| | 11.81 | HG20012 | 40.99 | 9761 | 484.10 | 322.0 |



High-Flow Coupler:CH38F
Included on all models



| Model Number | Collapsed Height A (in) | Extended Height B (in) | Cylinder Bore Diameter C (in) | Outside Diameter D (in) | Rod Diameter E (in) | Saddle Diameter F (in) | Base to Inlet Port G (in) | Base Mounting Hole | | |
|--------------|-------------------------|------------------------|-------------------------------|-------------------------|---------------------|------------------------|---------------------------|--------------------|---------------|---------------------|
| | | | | | | | | Bolt Circle X (in) | Thread Y (mm) | Thread Depth Z (in) |
| HG10002 | 7.17 | 9.13 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 3.74 | M12 | 0.87 |
| HG10004 | 9.13 | 13.07 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 3.74 | M12 | 0.87 |
| HG10006 | 11.10 | 17.01 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 3.74 | M12 | 0.87 |
| HG10008 | 13.07 | 20.94 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 3.74 | M12 | 0.87 |
| HG10012 | 17.01 | 28.82 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 3.74 | M12 | 0.87 |
| HG15002 | 7.72 | 9.69 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 5.12 | M12 | 0.87 |
| HG15004 | 9.69 | 13.62 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 5.12 | M12 | 0.87 |
| HG15006 | 11.65 | 17.56 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 5.12 | M12 | 0.87 |
| HG15008 | 13.62 | 21.50 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 5.12 | M12 | 0.87 |
| HG15010 | 15.59 | 25.43 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 5.12 | M12 | 0.87 |
| HG15012 | 17.56 | 29.37 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 5.12 | M12 | 0.87 |
| HG20002 | 8.50 | 10.47 | 7.22 | 9.25 | 5.31 | 4.45 | 2.62 | 6.5 | M12 | 0.87 |
| HG20006 | 12.44 | 18.35 | 7.22 | 9.25 | 5.31 | 4.45 | 2.62 | 6.5 | M12 | 0.87 |
| HG20008 | 14.41 | 22.28 | 7.22 | 9.25 | 5.31 | 4.45 | 2.62 | 6.5 | M12 | 0.87 |
| HG20012 | 18.35 | 30.16 | 7.22 | 9.25 | 5.31 | 4.45 | 2.62 | 6.5 | M12 | 0.87 |

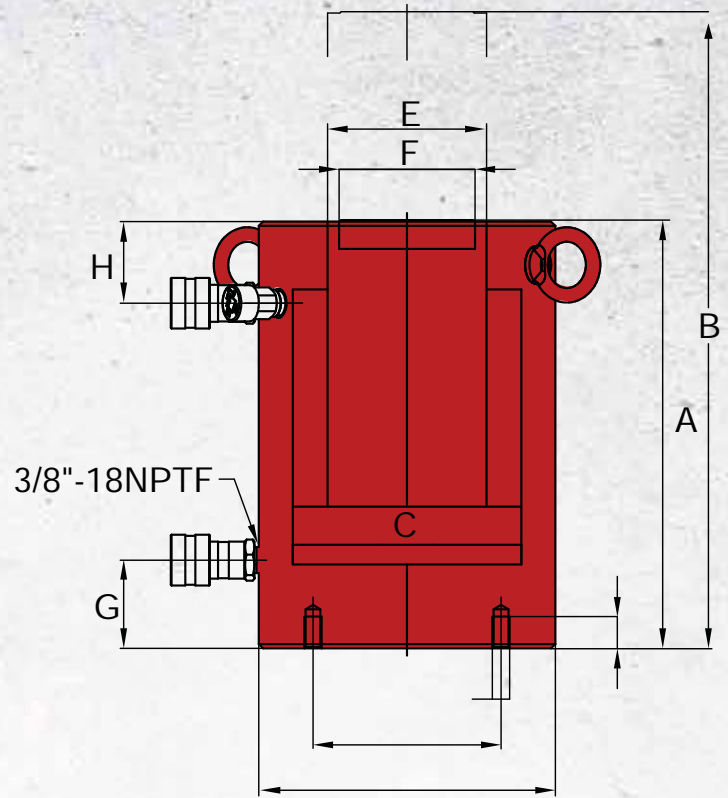
HIGH TONNAGE DOUBLE ACTING CYLINDERS (HDG Series)

- Cylinders are burnish rolled for a smooth precision mirror finish
- Industrial hard chrome plated rod prevents scratching and corrosion
- Base mounting holes standard on all models
- Rod 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



**High-Flow Coupler:CH38F
Included on all models**

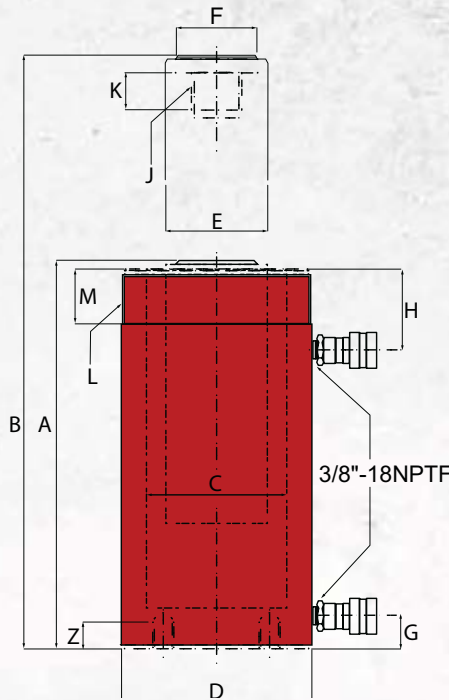
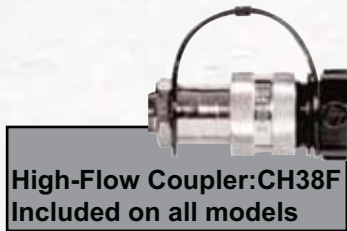
| Cylinder Capacity (tons) | Stroke (in) | Model Number | Maximum Cylinder Capacity | | Cylinder Effective Area | | Oil Capacity | | Weight (lbs) |
|--------------------------|-------------|--------------|---------------------------|------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------|
| | | | Push (ton) | Pull (ton) | Push (in ²) | Pull (in ²) | Push (in ³) | Pull (in ³) | |
| 100 | 1.97 | HDG10002 | 102.86 | 47.93 | 20.57 | 9.59 | 40.50 | 18.87 | 61.0 |
| | 3.94 | HDG10004 | 102.86 | 47.93 | 20.57 | 9.59 | 81.00 | 37.74 | 74.1 |
| | 5.91 | HDG10006 | 102.86 | 47.93 | 20.57 | 9.59 | 121.50 | 56.61 | 87.3 |
| | 7.87 | HDG10008 | 102.86 | 47.93 | 20.57 | 9.59 | 161.99 | 75.49 | 100.4 |
| | 9.84 | HDG10010 | 102.86 | 47.93 | 20.57 | 9.59 | 202.49 | 94.36 | 113.6 |
| | 11.81 | HDG10012 | 102.86 | 47.93 | 20.57 | 9.59 | 242.99 | 113.23 | 126.7 |
| 150 | 1.97 | HDG15002 | 152.11 | 78.49 | 30.43 | 15.70 | 59.89 | 30.90 | 102.4 |
| | 3.94 | HDG15004 | 152.11 | 78.49 | 30.43 | 15.70 | 119.78 | 61.79 | 122.0 |
| | 5.91 | HDG15006 | 153.90 | 75.00 | 30.43 | 14.96 | 181.75 | 88.32 | 141.8 |
| | 7.87 | HDG15008 | 152.11 | 78.49 | 30.43 | 15.70 | 239.57 | 123.59 | 161.6 |
| | 9.84 | HDG15010 | 152.11 | 78.49 | 30.43 | 15.70 | 299.46 | 154.48 | 181.4 |
| | 11.81 | HDG15012 | 152.11 | 78.49 | 30.43 | 15.70 | 359.35 | 185.38 | 201.7 |
| 200 | 1.97 | HDG20002 | 204.92 | 94.02 | 40.99 | 18.80 | 80.68 | 37.01 | 121.0 |
| | 5.91 | HDG20006 | 206.10 | 98.00 | 40.99 | 19.68 | 243.40 | 116.23 | 201.0 |
| | 7.87 | HDG20008 | 204.92 | 94.02 | 40.99 | 18.80 | 322.73 | 148.03 | 242.0 |
| | 11.81 | HDG20012 | 206.10 | 98.00 | 40.99 | 19.68 | 486.79 | 232.46 | 322 |
| 300 | 5.91 | HDG30006 | 353.60 | 117.00 | 70.71 | 23.46 | 417.56 | 138.55 | 511 |
| 400 | 11.81 | HDG40012 | 433.90 | 150.00 | 86.79 | 29.99 | 1025.00 | 354.18 | 928 |
| 500 | 5.91 | HDG50006 | 566.30 | 192.00 | 113.25 | 38.37 | 668.77 | 226.61 | 1,058 |



| Model Number | Col-lapsed Height A (in) | Extend-ed Height B (in) | Cylinder Bore Dia. C (in) | Outside Dia. D (in) | Rod Dia. E (in) | Sad-dle Dia. F (in) | Base to Adv. Port G (in) | Top to Return Port H (in) | Base Mounting Hole | | |
|--------------|--------------------------|-------------------------|---------------------------|---------------------|-----------------|---------------------|--------------------------|---------------------------|--------------------|---------------|---------------------|
| | | | | | | | | | Bolt Circle X (in) | Thread Y (mm) | Thread Depth Z (in) |
| HDG10002 | 7.17 | 9.13 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 1.89 | 3.74 | M12 | 0.87 |
| HDG10004 | 9.13 | 13.07 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 1.89 | 3.74 | M12 | 0.87 |
| HDG10006 | 11.10 | 17.01 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 1.89 | 3.74 | M12 | 0.87 |
| HDG10008 | 13.07 | 20.94 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 1.89 | 3.74 | M12 | 0.87 |
| HDG10010 | 15.04 | 24.88 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 1.89 | 3.74 | M12 | 0.87 |
| HDG10012 | 17.01 | 28.82 | 5.12 | 6.50 | 3.74 | 2.95 | 2.13 | 1.89 | 3.74 | M12 | 0.87 |
| HDG15002 | 7.72 | 9.69 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 2.22 | 5.12 | M12 | 0.87 |
| HDG15004 | 9.69 | 13.62 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 2.22 | 5.12 | M12 | 0.87 |
| HDG15006 | 11.65 | 17.56 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 2.22 | 5.12 | M12 | 0.87 |
| HDG15008 | 13.62 | 21.50 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 2.22 | 5.12 | M12 | 0.87 |
| HDG15010 | 15.59 | 25.43 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 2.22 | 5.12 | M12 | 0.87 |
| HDG15012 | 17.56 | 29.37 | 6.22 | 8.07 | 4.33 | 3.70 | 2.40 | 2.22 | 5.12 | M12 | 0.87 |
| HDG20002 | 8.50 | 10.47 | 7.22 | 9.25 | 5.31 | 4.45 | 2.62 | 2.22 | 6.50 | M12 | 0.87 |
| HDG20006 | 12.44 | 18.35 | 7.24 | 9.25 | 5.31 | 4.45 | 2.62 | 2.22 | 6.50 | M12 | 0.87 |
| HDG20008 | 14.41 | 22.28 | 7.22 | 9.25 | 5.31 | 4.45 | 2.62 | 2.22 | 6.50 | M12 | 0.87 |
| HDG20012 | 18.35 | 30.16 | 7.24 | 9.25 | 5.31 | 4.45 | 2.62 | 2.22 | 6.50 | M12 | 0.87 |
| HDG30006 | 16.22 | 22.13 | 9.49 | 12.20 | 7.76 | 6.97 | 3.98 | 2.95 | 7.09 | M16 | 1.42 |
| HDG40012 | 24.59 | 36.40 | 10.51 | 13.78 | 8.50 | 7.72 | 4.49 | 4.13 | 8.07 | M16 | 1.42 |
| HDG50006 | 20.43 | 26.34 | 12.01 | 15.75 | 9.76 | 8.98 | 4.49 | 5.31 | 9.84 | M24 | 1.50 |

HIGH TONNAGE DOUBLE ACTING CYLINDERS (HD Series)

- Rod wiper seals out dirt and contamination
- High strength steel construction from gun drilled solid bar
- High flow 3/8" NPTF 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 (than HDG series)

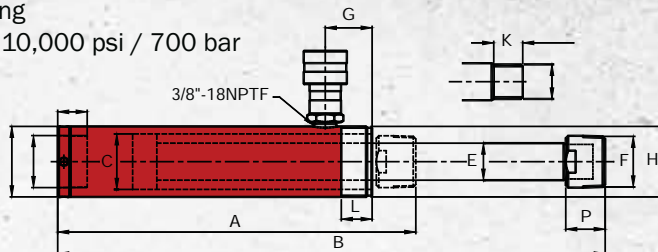
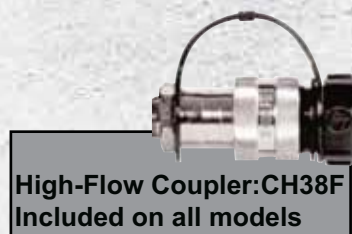


| Cylinder Capacity (tons) | Stroke (in) | Model Number | Maximum Cylinder Capacity | | Cylinder Effective Area | | Oil Capacity | | Collapsed Height A (in) | Extended Height B (in) | Cylinder Bore Dia. C (in) | Outside Dia. D (in) |
|--------------------------|-------------|--------------|---------------------------|------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|---------------------------|---------------------|
| | | | Push (ton) | Pull (ton) | Push (in ²) | Pull (in ²) | Push (in ³) | Pull (in ³) | | | | |
| 200 | 6.00 | HD20006 | 221.00 | 112.50 | 44.21 | 22.50 | 265.28 | 135.00 | 16.94 | 22.94 | 7.50 | 9.75 |
| | 13.00 | HD20013 | 221.00 | 112.50 | 44.21 | 22.50 | 574.78 | 293.00 | 23.13 | 36.13 | 7.50 | 9.75 |
| | 24.00 | HD20024 | 221.00 | 112.50 | 44.21 | 22.50 | 1061.00 | 528.00 | 36.13 | 60.13 | 7.50 | 9.75 |
| 300 | 6.00 | HD30006 | 354.60 | 190.00 | 70.93 | 38.00 | 425.56 | 228.00 | 19.13 | 25.13 | 9.50 | 12.25 |
| 500 | 6.00 | HD50006 | 565.70 | 315.00 | 113.15 | 63.00 | 678.92 | 378.00 | 22.75 | 28.75 | 12.00 | 15.63 |

| Model Number | Rod Dia. E (in) | Saddle Dia. F (in) | Base to Adv. Port G (in) | Top to Return Port H (in) | Collar Thread L (in) | Collar Thread Length M (in) | Rod Internal Thread J (in) | Rod Thread Length K (in) | Base Mounting Hole | | | Weight (lbs) |
|--------------|-----------------|--------------------|--------------------------|---------------------------|----------------------|-----------------------------|----------------------------|--------------------------|--------------------|---------------|---------------------|--------------|
| | | | | | | | | | Bolt Circle X (in) | Thread Y (in) | Thread Depth Z (in) | |
| HD20006 | 5.25 | 5.25 | 2.25 | 3.81 | - | - | - | - | 5.00 | 1-8 | 1.00 | 325.00 |
| HD20013 | 5.25 | 5.25 | 2.25 | 3.81 | 9¼-12 | 2.13 | 2½-12 | 2.50 | 5.00 | 1-8 | 1.00 | 440.00 |
| HD20024 | 5.25 | 5.25 | 3.38 | 4.00 | 9¼-12 | 2.13 | 2½-12 | 2.50 | 5.00 | 1-8 | 1.00 | 616.00 |
| HD30006 | 6.50 | 6.50 | 3.50 | 4.50 | 12¼-12 | 2.31 | 2½-12 | 3.25 | 6.25 | 1¼-7 | 1.75 | 441.00 |
| HD50006 | 8.00 | 8.00 | 4.75 | 6.00 | 15⅝-8 | 3.13 | 3¼-12 | 4.25 | 8.00 | 1¾-5 | 2.12 | 953.00 |

PULL CYLINDERS

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



| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Internal Pressure at Capacity (psi) | Oil Capacity (in ³) | Collapsed Height A (in) | Extended Height B (in) | Outside Diameter D (in) | Cylinder Bore Diameter C (in) | Top to Inlet Port G (in) | Collar | |
|--------------------------|-------------|--------------|--|-------------------------------------|---------------------------------|-------------------------|------------------------|-------------------------|-------------------------------|--------------------------|----------|----------------------|
| | | | | | | | | | | | Thread H | Thread Length L (in) |
| 2.5 | 5.00 | HP0205 | 0.56 | 7,905 | 2.78 | 10.55 | 15.55 | 1.89 | 1.13 | 1.65 | 1½"-16 | 0.98 |
| 5 | 5.55 | HP0505 | 1.14 | 8,772 | 6.34 | 11.93 | 17.48 | 2.25 | 1.69 | 1.50 | 2¼"-14 | 1.00 |
| 10 | 5.95 | HP1006 | 2.44 | 7,663 | 14.48 | 11.75 | 17.70 | 3.35 | 2.17 | 1.50 | M85x2 | 1.00 |

| Model Number | Adapter | | Rod | | | Base Mounting Hole | | Weight (lbs) |
|--------------|---------------|---------------|-------------|----------------------|---------------|--------------------|--------------|--------------|
| | Thread F (in) | Length P (in) | Dia. E (in) | Thread Length K (in) | Thread Q (mm) | Thread Y | Depth Z (in) | |
| HP0205 | ¾"-14NPTF | 1.13 | 0.75 | 0.76 | M16 x 1.5 | ¾"-14NPTF | 0.72 | 6.4 |
| HP0505 | 1¼"-11.5NPTF | 1.25 | 1.18 | 0.93 | M28 x 1.5 | 1¼"-11.5NPTF | 0.95 | 9.3 |
| HP1006 | - | - | 1.26 | 1.02 | M30 x 2 | M30x2 | 0.98 | 20.9 |

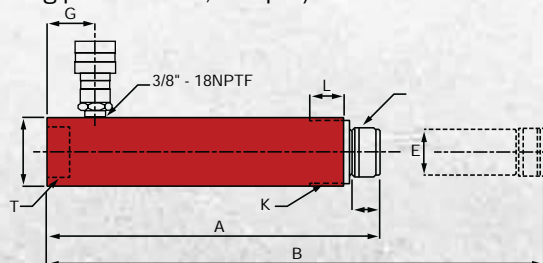
THREADED CYLINDERS

- Ideal for frode pulling machine
- High quality threaded single acting cylinders
- Spring return
- Removable threaded Rod adapter allows for the use of a variety of threaded attachments
- Used to attach accessories to rod end and base
- Maximum working pressure: 10,000 psi / 700 bar

Threaded base allows for easy installation of attachments and mounting applications



| Cylinder Capacity (tons) | Stroke (in) | Model Number | Cylinder Effective Area (in ²) | Internal Pressure at Capacity (psi) | Oil Capacity (in ³) |
|--------------------------|-------------|--------------|--|-------------------------------------|---------------------------------|
| 4 | 5.07 | HT0405* | 1.00 | 10,120 | 5.00 |
| 10 | 5.95 | HT1006 | 2.24 | 8,928 | 13.33 |
| | 9.96 | HT1010 | 2.24 | 8,928 | 22.30 |
| 20 | 5.16 | HT2005 | 5.14 | 10,741 | 25.70 |



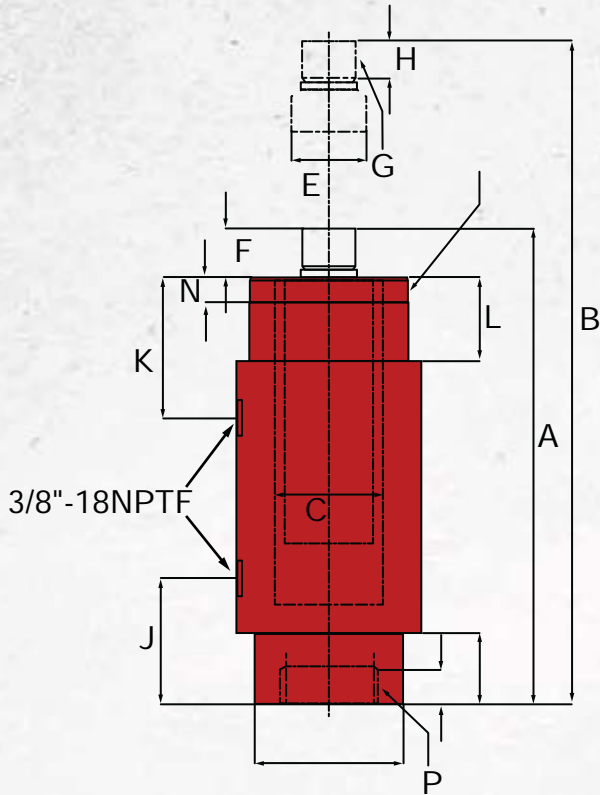
High-Flow Coupler: CH38F
Included on all models

*HT0405 come with CRZ14F

| Collapsed Height A (in) | Extended Height B (in) | Outside Dia. D (in) | Rod Dia. E (in) | Base to Inlet Port G (in) | Collar K | Collar Thread Length L (in) | Saddle Height S (in) | Base Threads T (in) | Rod Threads V (in) | Weight (lbs) |
|-------------------------|------------------------|---------------------|-----------------|---------------------------|---------------|-----------------------------|----------------------|---------------------|--------------------|--------------|
| 10.31 | 15.39 | 1.5 | 1.33 | 1.33 | 1.5"-16UNF | 0.94 | 1.00 | ¾" - 14 NPSM | ¾" - 14 NPTF | 5.0 |
| 11.46 | 17.41 | 2.26 | 1.49 | 1.67 | 2.25"-14UNC | 1.13 | 0.94 | 1.25" -11.5 NPSM | 1.25" -11.5 NPSM | 10.6 |
| 15.47 | 25.43 | 2.26 | 1.49 | 1.67 | 2.25"-14UNC | 1.13 | 0.94 | 1.25" -11.5 NPSM | 1.25" -11.5 NPSM | 14.1 |
| 11.77 | 16.93 | 3.35 | 2.24 | 1.85 | 3-3/8"-12~UNC | 1.98 | 1.40 | 2" -11.5 NPSM | 2" -11.5 NPSM | 22.0 |

PRECISION DOUBLE ACTING CYLINDERS

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



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

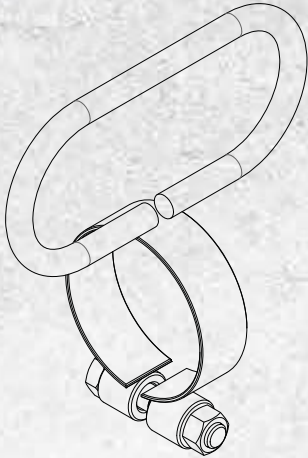
| Cylinder Capacity (tons) | Model Number | Push Effective Area (in ²) | Pull Effective Area (in ²) | Collapsed Height A (in) | Extended Height B (in) | Cylinder Bore Dia. C (in) | Outside Dia. D (in) |
|--------------------------|--------------|--|--|-------------------------|------------------------|---------------------------|---------------------|
| 9 | HPD0906 | 1.77 | 1.01 | 13.78 | 19.88 | 1.50 | 2.52 |
| | HPD0910 | 1.77 | 1.01 | 17.80 | 27.91 | 1.50 | 2.52 |
| 16 | HPD1606 | 3.14 | 1.56 | 15.31 | 21.57 | 2.00 | 2.99 |
| | HPD1610 | 3.14 | 1.56 | 19.29 | 29.53 | 2.00 | 2.99 |



| Model Number | Rod | | | | Base to Adv. Port J (in) | Top to Return Port K (in) | Collar | | | | | Weight (lbs) |
|--------------|-------------|-------------------|---------------|----------------------|--------------------------|---------------------------|---------------|---------------|----------------------|-------------------------|--------------------------------|--------------|
| | Dia. E (in) | Protrusion F (in) | Thread G (in) | Thread Length H (in) | | | Length L (in) | Thread M (in) | Thread Length N (in) | Int. Base Thread P (in) | Int. Base Thread Length Q (in) | |
| HPD0906 | 0.98 | 0.98 | 3/4"-16 | 0.75 | 1.50 | 2.20 | 1.50 | 2"-12 | 0.60 | 1-11/16"-18 | 1.37 | 14.6 |
| HPD0910 | 0.98 | 0.98 | 3/4"-16 | 0.75 | 1.50 | 2.20 | 1.50 | 2"-12 | 0.60 | 1-11/16"-18 | 1.37 | 18.5 |
| HPD1606 | 1.42 | 1.16 | 1 1/8"-12 | 0.98 | 2.12 | 2.87 | 2.12 | 2 5/8"-16 | 0.98 | 2-3/16"-16 | 1.61 | 22.0 |
| HPD1610 | 1.42 | 1.16 | 1 1/8"-12 | 0.98 | 2.12 | 2.87 | 2.12 | 2 5/8"-16 | 0.98 | 2-3/16"-16 | 1.61 | 28.2 |

CYLINDER ACCESSORIES

CYLINDER LIFTING HANDLES



- Designed for ease of carrying
- Provides better control for positioning cylinder

| Model Number | For Cylinders |
|--------------|---|
| LH25T34 | H2504 through H2514 |
| LH30T40 | H3008, HD3008, HD3014, HC2002T, HC2006T |
| LH30T45 | HC3002T, HC3006T, HD3007, HDC3010 |
| LH55T49 | HLN5504 through HLN5512 |

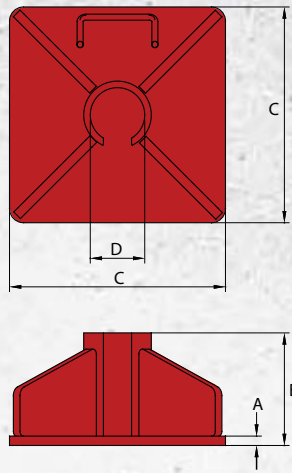
CLEVIS AND TANGS



| Application | For use with Cylinder Capacity (tons) | Model Number | Dimensions (in) | | | | | | |
|-------------|---------------------------------------|--------------|-----------------|------|-------------|------|------|------|-----------|
| | | | A | B | C | D | E | F | G |
| Rod | 5 | CEP05 | 3/4"-16UNF | 1.13 | 2.25 | 0.63 | 0.62 | 0.56 | - |
| | 10 | CEP10 | 1"-8UNC | 1.69 | 3.31 | 0.88 | 0.75 | 1.00 | - |
| | 15 | CEP15 | 1"-8UNC | 1.69 | 3.31 | 0.88 | 0.75 | 1.00 | - |
| | 25 | CEP25 | 1 1/2"-16 | 2.25 | 3.81 | 1.25 | 0.87 | 1.50 | - |
| Base | 5 | CEB05 | 1.52 | 1.75 | 2.13 | 0.63 | 0.26 | 1.13 | - |
| | 10 | CEB10 | 2.28 | 2.50 | 2.87 | 0.88 | 1.69 | 0.32 | - |
| | 15 | CEB15 | 2.77 | 3.00 | 2.87 | 0.88 | 1.69 | 0.38 | - |
| | 25 | CEB25 | 3.40 | 3.75 | 3.37 | 1.25 | 2.25 | 0.56 | - |
| Rod & Base | 9 | CED09 | 1 | 1 | 1-11/16"-18 | 0.75 | 1.31 | 0.94 | 3/4"-16 |
| | 16 | CED16 | 1.25 | 1 | 2-3/16"-16 | 1 | 1.88 | 1.19 | 1 1/8" 12 |
| | HP1006 only | CP10* | M30x2 | 2.95 | 6.30 | 1.18 | 3.74 | 1.38 | 2.56 |

* 2-pc set with an adapter

BASES



| For use with Cylinder Capacity (tons) | Model Number | Dimensions (in) | | | |
|--|-----------------|--------------------|------|-------|------|
| | | A | B | C | D |
| 5 | CB05 | 0.32 | 4.65 | 7.87 | 1.54 |
| 10 | CB10 | 0.39 | 4.72 | 9.06 | 2.28 |
| 15 | CB15 | 0.47 | 4.80 | 10.00 | 2.76 |
| 25 | CB25 | 0.63 | 4.96 | 11.02 | 3.41 |

SADDLES



SD SERIES



SDT10



HTD10

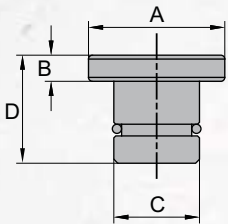


FIGURE #1

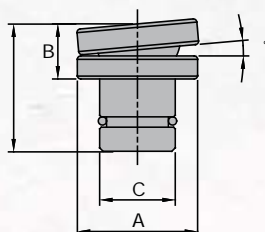


FIGURE #2

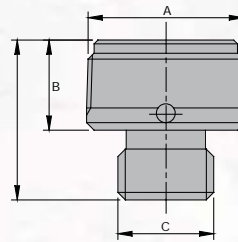


FIGURE #3

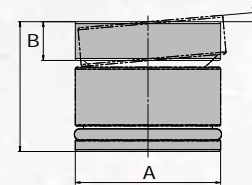


FIGURE #4

| Saddle Type | Model Number | Capacity (ton) | For Cylinder(s) | Dimensions (in) | | | | Figure Number |
|----------------|-----------------|----------------|--|-----------------|------|---------|------|------------------|
| | | | | A | B | C | D | |
| Tilt | SDT05 | 5 | H05 | 0.98 | 1.22 | - | 0.63 | 2 |
| | SDT10 | 10 | H10 | 1.38 | 1.50 | - | 0.74 | 2 |
| | SDT15 | 15 | H15 | 1.50 | 1.57 | - | 0.73 | 2 |
| | SDT25 | 25 | H25 | 1.97 | 1.6 | - | 1.29 | 2 |
| | SDT55 | 55-100 | H55, HD55, H75, HD75, H100, HLN55 and HLN100 | 2.80 | 1.29 | 0.67 | 0.51 | 2 |
| | SDTG100 | 100 | HG100/HDG100 | 2.95 | 2.64 | 1.71 | 0.79 | 4 |
| | SDTG150 | 150 | HG150/HDG150 | 3.70 | 2.71 | 1.77 | 0.77 | 4 |
| | SDTG200 | 200 | HG200/HDG200 | 4.45 | 3.25 | 1.95 | 1.10 | 4 |
| | SDT200 | 200 | HLN 150/HLN200 | 5.12 | 1.77 | 1.02 | 0.53 | 4 |
| Grooved | SD05 | 5 | H05 | 0.98 | 0.81 | - | 0.24 | 1 |
| | SD10 | 10 | H10 | 1.38 | 1.06 | - | 0.24 | 1 |
| | SD15 | 15 | H15 | 1.50 | 1.18 | - | 0.28 | 1 |
| | SD25 | 25 | H25 | 1.97 | 1.14 | - | 0.28 | 1 |
| Threaded | HTD10 | 10 | HT1006 & HT1010 | 1 1/4"-11.5NPTF | 0.95 | 1"-8UNC | 1.77 | 3 |

PUMP / CYLINDER COMBO

• Each combo set includes all components need to power connect and monitor system pressure

Each Set Includes:

- 3/8", 6 Foot Hydraulic Hose (CS3838)
- Gauge Adapter (CF3814)
- 4" Wet Gauge (GW4014)
- 3/8" High Flow Male Coupler (CH38M)
- Cylinder (see chart below)
- Pump (see chart below)



| Type | Combo Capacity (Ton) | Cylinder | | | Combo Model Number | | | | | | |
|------------------------------------|----------------------|----------|-------------|-----------------------|--------------------|-------------|-------------|---------------|---------------|--------------|--|
| | | Model | Stroke (in) | Collapsed Height (in) | With Hand Pump | | | With Air Pump | | | |
| | | | | | Model P350 | Model P1000 | Model P2001 | Model PA1500 | Model PA1500L | Model PA3801 | |
| Single Acting Cylinders | 5 | H0505 | 5.08 | 8.70 | SP3-0505 | | | | | | |
| | 10 | H1002 | 2.01 | 4.84 | | SP10-1002 | | | SA15-1002 | | |
| | | H1004 | 4.02 | 6.85 | | | SP10-1004 | | SA15-1004 | | |
| | | H1006 | 5.94 | 9.84 | | | SP10-1006 | | SA15-1006 | SAL15-1006 | |
| | | H1010 | 9.96 | 13.86 | | | SP10-1010 | | SA15-1010 | SAL15-1010 | |
| | | HT1006 | 5.95 | 11.46 | | | SP10-1006T | | SA15-1006T | SAL15-1006T | |
| | | HT1010 | 9.96 | 15.47 | | | SP10-1010T | | SA15-1010T | SAL15-1010T | |
| | 15 | H1504 | 3.86 | 8.66 | | | SP10-1504 | | SA15-1504 | | |
| | | H1506 | 5.87 | 10.67 | | | SP10-1506 | | SA15-1506 | | |
| | 25 | H2502 | 2.01 | 6.82 | | | SP10-2502 | | SA15-2502 | | |
| | | H2504 | 3.94 | 8.78 | | | SP10-2504 | | SA15-2504 | | |
| | | H2506 | 5.94 | 10.79 | | | SP10-2506 | | SA15-2506 | | |
| | | H2508 | 7.95 | 12.80 | | | | SP20-2508 | SA15-2508 | | |
| | | | H2514 | 14.25 | 18.74 | | | SP20-2514 | SA15-2514 | | |
| 55 | H5506 | 6.25 | 11.13 | | | | SP20-5506 | SA15-5506 | | | |
| 100 | H10006 | 6.63 | 13.25 | | | | | | | SA38-10006 | |
| Single Acting Flat Body Cylinder | 5 | HF0503B | 0.24 | 1.26 | SP3-0503B | | | | | | |
| | 10 | HF1005B | 0.43 | 1.69 | SP3-1005B | | | | | | |
| Single Acting Hollow Hole Cylinder | 12 | HC1201T | 0.31 | 2.36 | SP3-1201T | | | | | | |
| | | HC1202XT | 1.61 | 4.74 | SP3-1202XT | | | | | | |
| | | HC1203XT | 2.99 | 7.24 | | SP10-1203XT | | | | | |
| | 20 | HC2002T | 2.01 | 6.38 | | SP10-2002T | | SA15-2002T | | | |
| | 30 | HC3006T | 6.11 | 13.02 | | SP10-3006T | | SA15-3006T | | | |
| | 100 | HC10003T | 3.00 | 10.00 | | | SP20-10003T | | SA15-10003T | | |
| Single Acting Low Profile Cylinder | 60 | HC6003T | 3.00 | 9.77 | | SP10-6003T | | SA15-6003T | | | |
| | 50 | HL5002 | 2.36 | 4.80 | | SP10-5002L | | SA15-5002L | | | |
| 100 | HL10002 | 2.24 | 5.55 | | SP10-10002L | | SA15-10002L | | | | |

HYDRAULIC PUMPS

HAN P P A P P ELN BE AT

PA1 L

PA1 L

| | |
|-------|------|
| A - E | 1 -1 |
| B - | |
| H - H | |
| L - | |
| M - | |
| S - | H |

Z

| | | |
|------------|--------------|-------------|
| 350 - 1 3 | 1500 - 1 3 | 3801 - 31 3 |
| 601 - 3 3 | 2000 - 1 1 3 | 4301 - 3 |
| 1000 - 1 3 | 2001 - 1 3 | 7550 - 3 |
| 1201 - 3 | 2301 - 1 8 3 | 8701 - 3 |

P T

| |
|---------|
| A - A |
| AR - |
| ARD - A |

H P



ELECT CP P ELN BE AT

PE 1 3T- 3

PE 1 3 T - 3

| |
|-------------------|
| - 230V50 3 Hz |
| - FP2 F PE L PE L |
| - FP1 F PE PE |
| - W PE L PE L |
| - 15 -1 PE PE L |
| - 3 |
| - A 1 P |

TEC

T -

Z

| | | |
|-------|-------|---|
| 1 - 1 | - | △ |
| - | 1 - 1 | |
| 3 - 3 | 1 - 1 | |
| - | - | |

1 P

| |
|----------|
| - 18 |
| 1 - 1 3 |
| 1 - 1 1 |
| 3 - 3 11 |

| |
|------------|
| - |
| - P 1 |
| L - L C PE |
| L - H 1 |
| - A |
| - |

T

PE - E

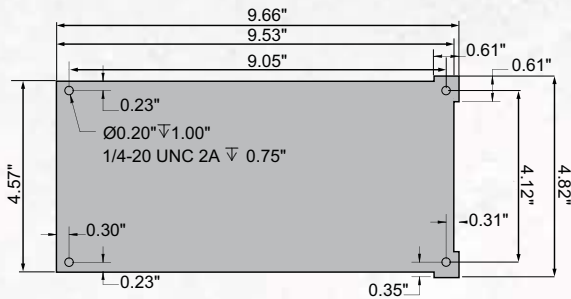
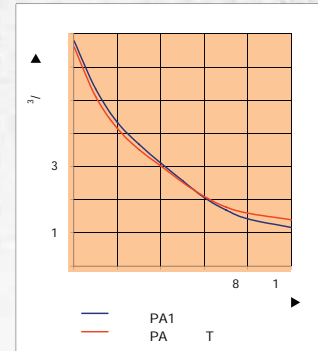
P C E F G H J K L N P N A
T 3 Hz
△ For 3 Phase motors only



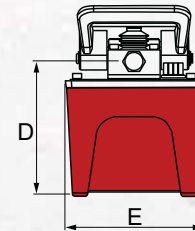
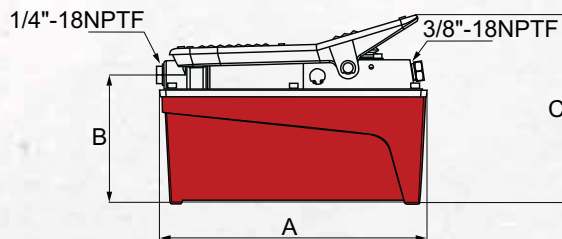
METAL AIR PUMPS

- High strength reinforced alloy reservoir is lightweight and corrosion resistant
- U.S. Patent No.5,946,912, a built-in by-pass device protects hydraulic system from over pumping damage
- A compact yet powerful Air Turbo Motor U.S. Patent No.5,341,723 is equipped to raise the load to the desired height efficiently, effortlessly, and safely
- Suggested air pressure range: 110-175 psi / 7.5-12 bar
- Dust cover protection for the release control valve
- Maximum working pressure: 10,000 psi / 700 bar

Flow Rate@ 110 PSI Air Pressure



Air pumps can be used in a variety of industrial settings



| Used with Cylinder | Usable Oil Capacity (in ³) | Model Number | Pressure Rating (psi) | Oil Output Flow Rate (in ³ /min) | | Input Air Pressure Range (psi) | Dimensions (in) | | | | | Weight (lbs) |
|--------------------|--|--------------|-----------------------|---|------|--------------------------------|-----------------|------|------|------|------|--------------|
| | | | | No Load | Load | | A | B | C | D | E | |
| Single Acting | 91.5 | PA1500A± | 10,000 | 66 | 11 | 110-175 | 10.35 | 5.00 | 7.28 | 5.16 | 5.35 | 18.1 |
| | 91.5 | PA1500 | 10,000 | 66 | 11 | 110-175 | 10.35 | 5.00 | 7.28 | 5.16 | 5.35 | 18.1 |
| | 91.5 | PA1500B* | 10,000 | 66 | 11 | 110-175 | 10.35 | 5.00 | 7.28 | 5.16 | 5.35 | 18.1 |
| | 122.1 | PA2000 | 10,000 | 65 | 12 | 110-175 | 11.57 | 6.02 | 7.91 | 6.18 | 5.98 | 20.1 |
| | 231.9 | PA3801 | 10,000 | 65 | 11 | 110-175 | 12.64 | 5.08 | 7.36 | 5.24 | 7.36 | 27.1 |
| | 231.9 | PA3801-HP12 | 12,000 | 65 | 9 | 110-145 | 2.64 | 5.08 | 7.36 | 5.24 | 7.36 | 27.1 |
| | 460.6 | PA7550 | 10,000 | 65 | 11 | 110-175 | 12.64 | 5.00 | 8.31 | 6.14 | 8.43 | 36.0 |

* Note: PA1500B comes with base mounting holes.
± External pressure adjustment 1,000-10,000 psi

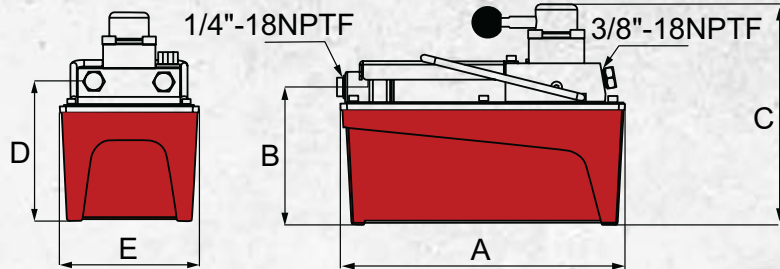
DOUBLE ACTING AIR PUMP

- High strength metal reservoir is durable and corrosion resistant.
- Suggested air pressure range: 110-175 psi (7.5 - 12 bar)
- Maximum working pressure: 10,000 psi (700 bar)



PA1500M

- PA1500M offers a 4-way control valve for operation of double acting cylinders



| Used with Cylinder | Usable Oil Capacity (in ³) | Model Number | Pressure Rating (psi) | Oil Output Flow Rate (in ³ /min) | | Input Air Pressure Range (psi) | Dimensions (in) | | | | | Weight (lbs) |
|--------------------|--|--------------|-----------------------|---|------|--------------------------------|-----------------|------|------|------|-------|--------------|
| | | | | No Load | Load | | A | B | C | D | E | |
| Double Acting | 91.5 | PA1500M | 10,000 | 66 | 11 | 110-175 | 10.51 | 5.00 | 7.99 | 5.35 | 5.35 | 19.1 |
| | 231.9 | PA3801M | 10,000 | 65 | 11 | 110-175 | 12.64 | 5.04 | 8.03 | 5.31 | 7.36 | 65.0 |
| | 460.6 | PA7550M | 10,000 | 65 | 11 | 110-175 | 12.64 | 5.98 | 9.02 | 6.34 | 10.04 | 40.0 |

REMOTE CONTROL AIR PUMPS

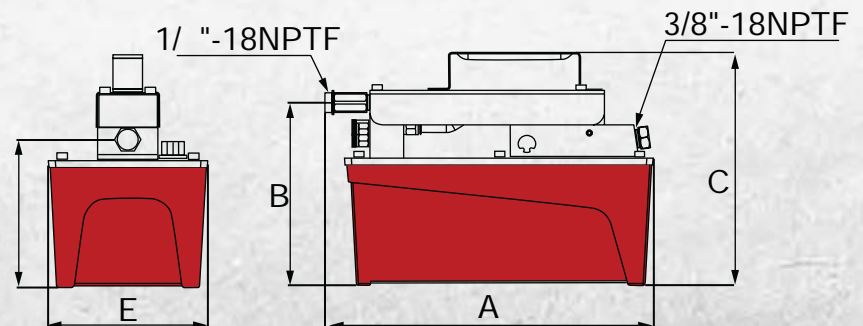
- 10 ft. hand held remote allows user to operate the air pump from a safe distance
- Air pump comes with convenient carry handle



PA1500L



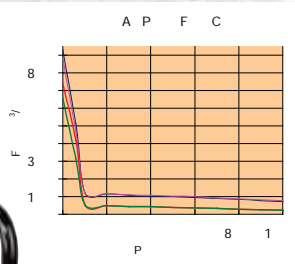
PA3801L



| Used with Cylinder | Usable Oil Capacity (in ³) | Model Number | Pressure Rating (psi) | Oil Output Flow Rate (in ³ /min) | | Input Air Pressure Range (psi) | Dimensions (in) | | | | | Weight (lbs) |
|--------------------|--|--------------|-----------------------|---|------|--------------------------------|-----------------|------|------|------|------|--------------|
| | | | | No Load | Load | | A | B | C | D | E | |
| Single Acting | 91.5 | PA1500L | 10,000 | 61 | 10 | 110-175 | 10.98 | 6.30 | 8.03 | 5.12 | 5.35 | 19.4 |
| | 231.9 | PA3801L | 10,000 | 61 | 10 | 110-175 | 12.64 | 6.42 | 8.15 | 5.20 | 7.36 | 30.4 |

ROTARY AIR PUMPS

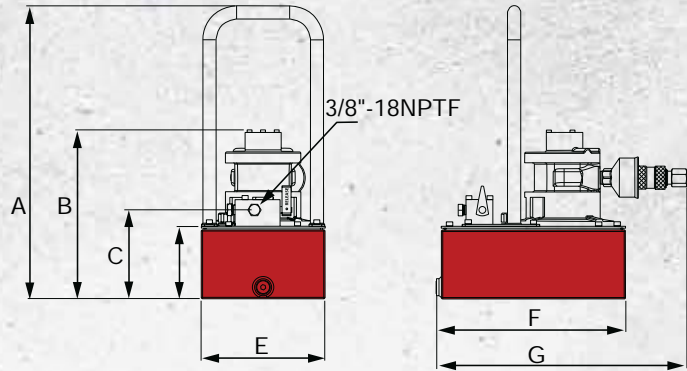
- Two speed operation for fast cylinder advance and improved productivity
- Models available with auto return valve
- Internal relief valves for overload protection
- Ideal for application in areas where combustible material or gases are present



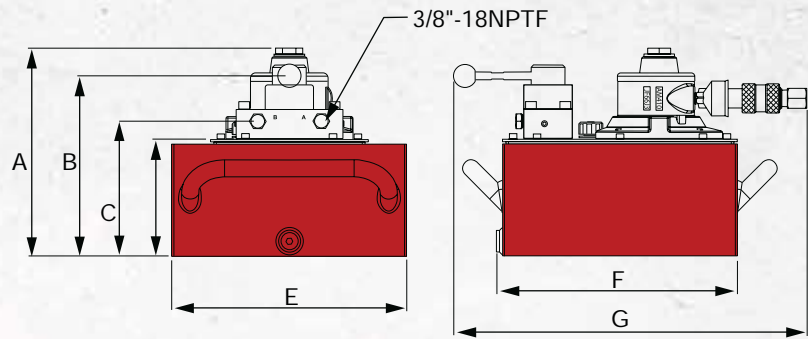
PARD1703



PAR4003



PARD1703



PAR4003

| Used with Cylinder | Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Pressure Rating (psi) | Pressure Rating | | Oil Output Flow Rate | | Valve Type | Valve Function | Air pressure range (psi) |
|--------------------|-----------------|---------------------------|--------------|-----------------------|-----------------|-----------------|----------------------------------|----------------------------------|------------|---------------------|--------------------------|
| | | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³ /min) | 2nd Stage (in ³ /min) | | | |
| Single Acting | 1.7 | 1 | PARD1701 | 10,000 | 700 | 10,000 | 313 | 22 | Dump | Advance/Return | 60 ~ 80 |
| | 1.7 | 3 | PARD1703 | 10,000 | 700 | 10,000 | 313 | 22 | Dump | Advance/Return | 60 ~ 80 |
| | 1.7 | 3 | PAR1703 | 10,000 | 700 | 10,000 | 417 | 22 | Manual PW3 | Advance/Hold/Return | 60 ~ 80 |
| | 4 | 1 | PARD4001 | 10,000 | 700 | 10,000 | 465 | 70 | Dump | Advance/Return | 60 ~ 100 |
| | 4 | 3 | PARD4003 | 10,000 | 700 | 10,000 | 465 | 70 | Dump | Advance/Return | 60 ~ 100 |
| | 4 | 3 | PAR4003 | 10,000 | 700 | 10,000 | 512 | 70 | Manual PW3 | Advance/Hold/Return | 60 ~ 100 |
| Double Acting | 1.7 | 3 | PARM1703 | 10,000 | 700 | 10,000 | 417 | 22 | Manual PW4 | Advance/Hold/Return | 60 ~ 80 |
| | 4 | 3 | PARM4003 | 10,000 | 700 | 10,000 | 512 | 70 | Manual PW4 | Advance/Hold/Return | 60 ~ 100 |

| Model Number | Air Consumption (cfm) | Sound Level (dBA) | Dimensions (in) | | | | | | | Weight (lbs) |
|--------------|-----------------------|-------------------|-----------------|-------|------|------|-------|-------|-------|--------------|
| | | | A | B | C | D | E | F | G | |
| PARD1701 | 44 | 93 | 19.10 | 9.39 | 5.79 | 4.72 | 8.07 | 12.34 | 15.90 | 42 |
| PARD1703 | 44 | 93 | - | 11.95 | 8.35 | 7.28 | 12.01 | 12.34 | 17.96 | 54 |
| PAR1703 | 44 | 93 | 11.94 | 10.53 | 8.21 | 7.28 | 12.01 | 12.34 | 18.08 | 55 |
| PARD4001 | 95 | 100 | 19.10 | 11.00 | 5.79 | 4.72 | 8.07 | 12.34 | 16.34 | 54 |
| PARD4003 | 95 | 100 | - | 13.56 | 8.35 | 7.28 | 12.01 | 12.34 | 18.4 | 66 |
| PAR4003 | 95 | 100 | 13.55 | 10.53 | 8.21 | 7.28 | 12.01 | 12.34 | 18.52 | 67 |
| PARM1703 | 44 | 93 | 11.94 | 10.53 | 8.21 | 7.28 | 12.01 | 12.34 | 18.08 | 55 |
| PARM4003 | 95 | 100 | 13.55 | 10.53 | 8.21 | 7.28 | 12.1 | 12.34 | 18.52 | 67 |



ALL POSITION AIR PUMPS

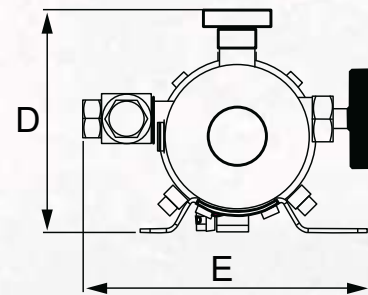
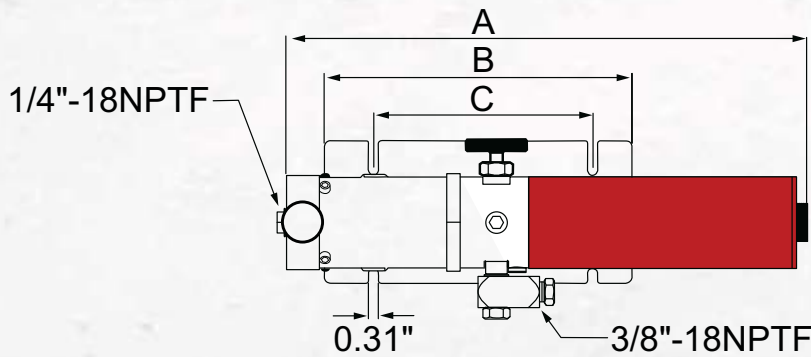
- Pump can work in any position
- Mounting plate allows for the pump to be securely fastened
- Hydraulic port swivels for easy connection



PA600



PA600H



| Used with Cylinder | Usable Oil Capacity (in ³) | Model Number | Pressure Rating (psi) | Oil Output Flow Rate (in ³ /min) | | Input Air Pressure Range (psi) | Weight (lbs) |
|--------------------|--|--------------|-----------------------|---|------|--------------------------------|--------------|
| | | | | No Load | Load | | |
| Single Acting | 36.6 | PA600 | 10,000 | 61 | 9 | 110-175 | 14.1 |
| | 36.6 | PA600H | 10,000 | 61 | 9 | 110-175 | 12.5 |

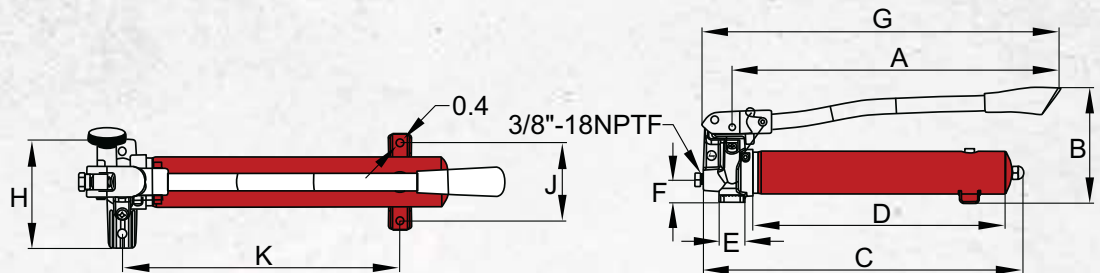
| Model Number | Dimensions (in) | | | | |
|--------------|-----------------|------|------|------|------|
| | A | B | C | D | E |
| PA600 | 16.77 | 9.84 | 7.01 | 6.18 | 5.59 |
| PA600H | 16.77 | 9.84 | 7.01 | 4.49 | 5.75 |

SINGLE SPEED METAL HAND PUMPS

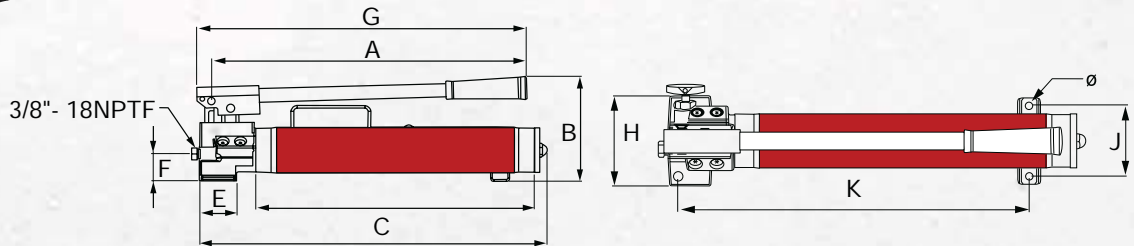
- All metal reservoirs resist cracks and leaks
- Internal pressure relief valve for overload protection
- Wireless option for pumps
- Solid metal valve release knob



P601S



P1201S

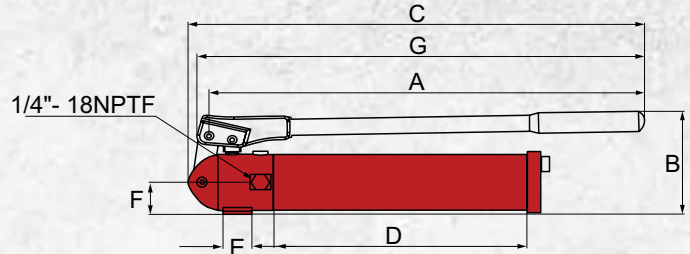
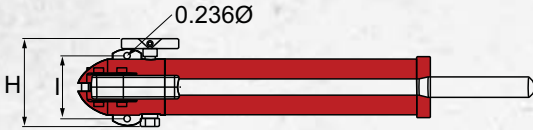


| Used with Cylinder | Pump Type | Usable Oil Capacity (in ³) | Model Number | Pressure Rating (psi) | Oil Displacement per Stroke | Max. Operating Force (lbs) | Piston Stroke (in) | Oil Outlet Port | Weight (lbs) |
|--------------------|--------------|--|--------------|-----------------------|-----------------------------|----------------------------|--------------------|-----------------|--------------|
| Single Acting | Single Speed | 36.5 | P601S | 10,000 | 0.15 | 109 | 0.79 | 3/8"-18NPTF | 13.0 |
| | | 67.0 | P1201S | 10,000 | 0.13 | 89 | 0.82 | 3/8"-18NPTF | 20.0 |

| Model Number | Dimensions (in) | | | | | | | | | |
|--------------|-----------------|------|-------|-------|------|------|-------|------|------|-------|
| | A | B | C | D | E | F | G | H | J | K |
| P601S | 18.94 | 6.46 | 19.53 | 15.35 | 1.57 | 1.26 | 20.79 | 5.20 | 3.74 | 14.45 |
| P1201S | 21.73 | 6.73 | 23.07 | 3.74 | 1.06 | 1.73 | 21.73 | 5.31 | 3.74 | 18.27 |

LOW PRESSURE HAND PUMP

- Lightweight and portable for use with punch drivers
- Rugged steel pump with chrome handle
- Single speed
- Mounting bracket for easy, permanent mounting
- Maximum working pressure 7,200 psi



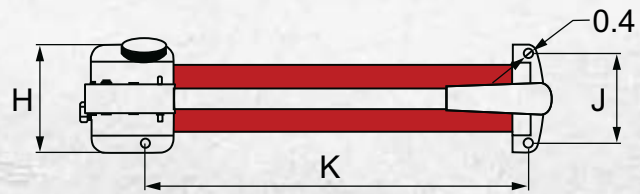
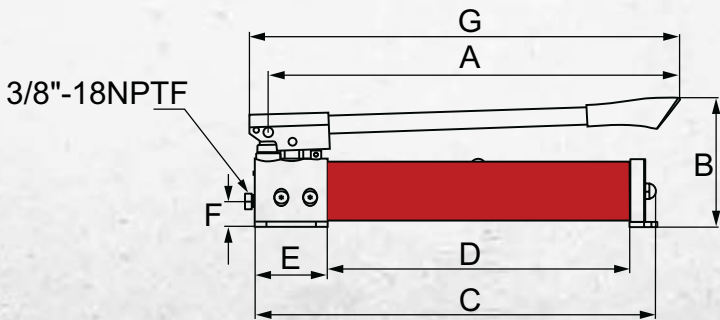
| Used with Cylinder | Pump Type | Usable Oil Capacity (in ³) | Model Number | Pressure Rating (psi.) | Oil Displacement per Stroke (in ³) | Max. Operating Force (lbs) | Piston Stroke (in) | Oil Outlet Port | Weight (lbs) |
|--------------------|---------------------------|--|--------------|------------------------|--|----------------------------|--------------------|-----------------|--------------|
| Single Acting | Low Pressure Single Speed | 14.7 | P240L | 7,200 | 0.09 | 55.7 | 0.63 | 1/4" - 18 NPTF | 9.02 |

| Model Number | Dimensions (in) | | | | | | | | | |
|--------------|-----------------|-------|-------|-------|------|-------|--------|------|-------|--|
| | A | B | C | D | E | F | G | H | J | |
| P240L | 14.80 | 4.250 | 15.45 | 8.675 | 1.00 | 12.50 | 15.250 | 3.50 | 2.437 | |



TWO SPEED ALUMINUM ALL DIRECTION HAND PUMP

- Lightweight aluminum alloy for easy handling
- Pump will operate in all positions for ease of use
- Can be securely mounted on equipment
- Solid metal valve release knob



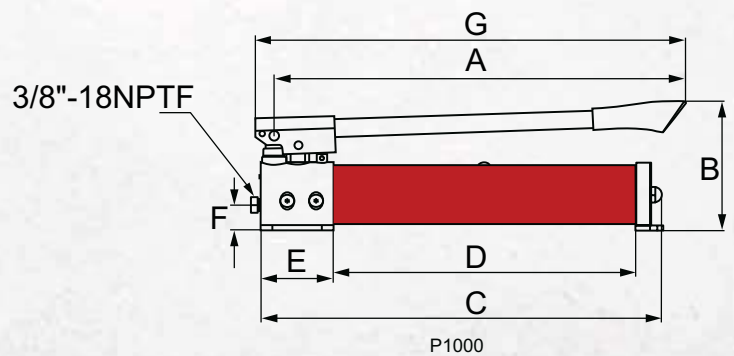
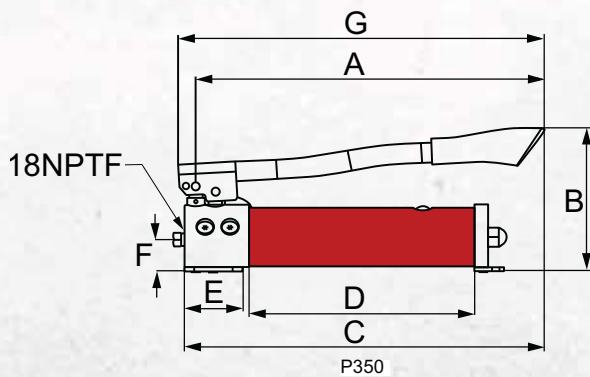
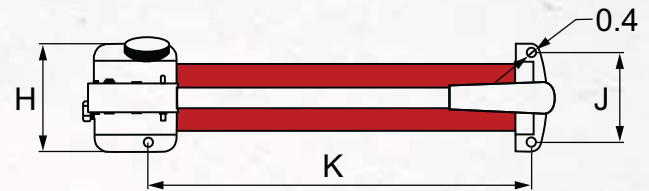
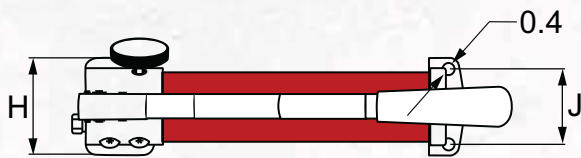
| Used with Cylinder | Pump Type | Usable Oil Capacity (in ³) | Model Number | Pressure Rating | | Oil Displacement per Stroke | | Max. Operating Force (lbs) | Piston Stroke (in) | Oil Outlet Port | Weight (lbs) |
|--------------------|-----------|--|--------------|-----------------|-----------------|------------------------------|------------------------------|----------------------------|--------------------|-----------------|--------------|
| | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³) | 2nd Stage (in ³) | | | | |
| Single Acting | Two Speed | 53-62* | P1000AD | 200 | 10,000 | 0.81 | 0.14 | 99 | 0.82 | 3/8" - 18NPTF | 13.7 |

| Model Number | Dimensions (in) | | | | | | | | | | |
|--------------|-----------------|------|-------|-------|------|------|-------|------|------|-------|--|
| | A | B | C | D | E | F | G | H | J | K | |
| P1000AD | 21.77 | 6.34 | 23.03 | 14.96 | 3.59 | 1.26 | 19.96 | 4.88 | 3.94 | 16.93 | |

*Oil capacity varies by positioning, capacity range: 53-62

TWO SPEED ALUMINUM HAND PUMPS

- Lightweight aluminum alloy for easy handling
- Two speed operation increases productivity and reduces user fatigue
- Internal pressure relief valve for overload protection
- Wireless option for pumps
- Solid metal valve release knob

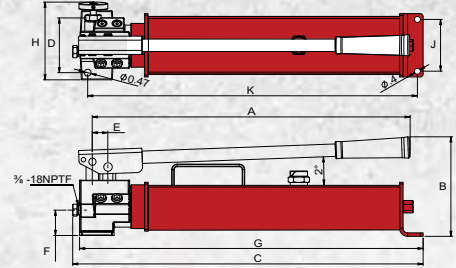


| Used with Cylinder | Pump Type | Usable Oil Capacity (in ³) | Model Number | Pressure Rating | | Oil Displacement per Stroke | | Max. Operating Force (lbs) | Piston Stroke (in) | Oil Outlet Port | Weight (lbs) |
|--------------------|-----------|--|--------------|-----------------|-----------------|------------------------------|------------------------------|----------------------------|--------------------|-----------------|--------------|
| | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³) | 2nd Stage (in ³) | | | | |
| Single Acting | Two Speed | 21.4 | P350 | 200 | 10,000 | 0.18 | 0.05 | 88 | 0.38 | 1/4"-18NPTF | 6.6 |
| | | 61.0 | P1000 | 200 | 10,000 | 0.81 | 0.14 | 99 | 0.82 | 3/8"-18NPTF | 13.7 |

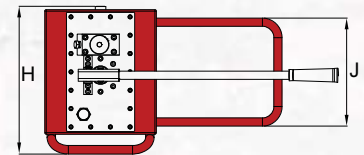
| Model Number | Dimensions (in) | | | | | | | | | |
|--------------|-----------------|------|-------|-------|------|------|-------|------|------|-------|
| | A | B | C | D | E | F | G | H | J | K |
| P350 | 13.43 | 5.91 | 13.89 | 9.09 | 2.36 | 1.34 | 14.13 | 3.35 | 2.56 | - |
| P1000 | 21.77 | 6.34 | 23.03 | 14.96 | 3.59 | 1.26 | 19.96 | 4.88 | 3.94 | 16.93 |

TWO SPEED METAL HAND PUMPS

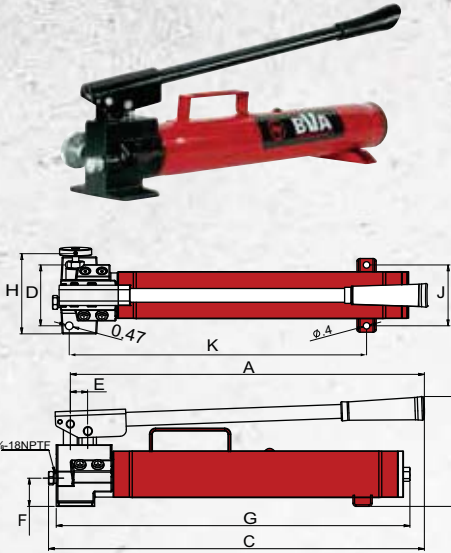
- All metal reservoirs resist cracks and leaks
- Two speed operation increases productivity and reduces user fatigue
- Internal pressure relief valve for over load protection
- Load release valve for single acting cylinder usage
- Large oil capacity to power a wide range of cylinders and tools



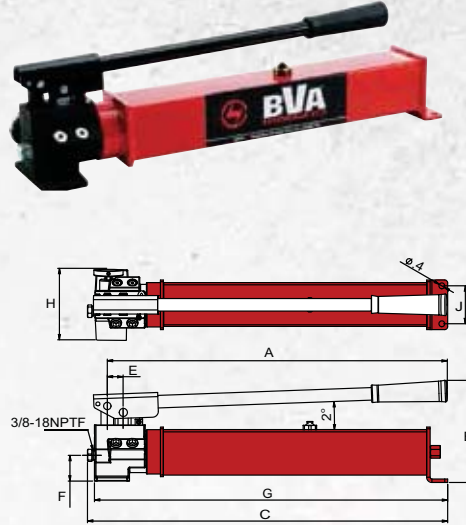
P2301



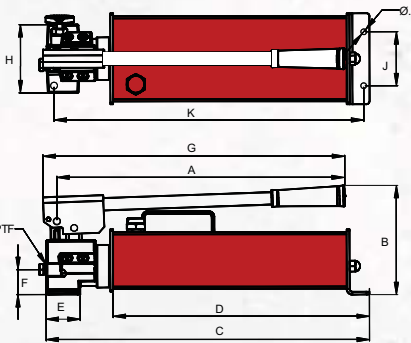
P8701



P1201



P2001



P4301

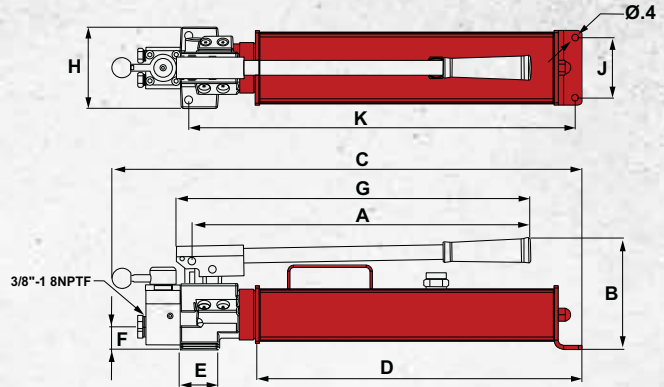


| Used with Cylinder | Pump Type | Usable Oil Capacity (in ³) | Model Number | Pressure Rating | | Oil Displacement per Stroke | | Max. Operating Force (lbs) | Piston Stroke (in) | Oil Outlet Port | Weight (lbs) |
|--------------------|-----------|--|--------------|-----------------|-----------------|------------------------------|------------------------------|----------------------------|--------------------|-----------------|--------------|
| | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³) | 2nd Stage (in ³) | | | | |
| Single Acting | Two Speed | 67.0 | P1201 | 200 | 10,000 | 0.81 | 0.14 | 99 | 0.82 | 3/8"-18NPTF | 20.5 |
| | | 122.0 | P2001 | 200 | 10,000 | 0.81 | 0.14 | 95 | 0.82 | 3/8"-18NPTF | 24.2 |
| | | 128.0 | P2301 | 200 | 10,000 | 0.81 | 0.14 | 99 | 0.82 | 3/8"-18NPTF | 27.7 |
| | | 250.0 | P4301 | 200 | 10,000 | 0.81 | 0.14 | 99 | 0.82 | 3/8"-18NPTF | 37.6 |
| | | 476.0 | P8701 | 290 | 10,000 | 7.71 | 0.29 | 143 | 1.69 | 3/8"-18NPTF | 76.0 |

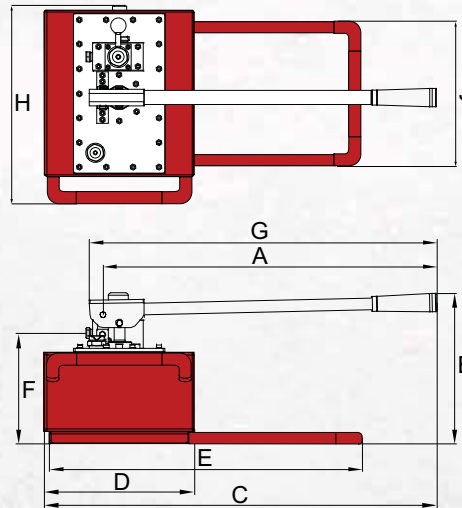
| Model Number | Dimensions (in) | | | | | | | | | | |
|--------------|-----------------|-------|-------|-------|-------|------|-------|-------|-------|-------|--|
| | A | B | C | D | E | F | G | H | J | K | |
| P1201 | 21.73 | 6.73 | 23.07 | 3.74 | 1.06 | 1.73 | 21.73 | 4.92 | 3.74 | 18.27 | |
| P2001 | 22.91 | 6.89 | 24.29 | - | 1.06 | 1.73 | 23.82 | 4.80 | 2.56 | - | |
| P2301 | 21.73 | 6.81 | 23.98 | 3.74 | 1.06 | 1.73 | 23.50 | 5.31 | 3.54 | 22.56 | |
| P4301 | 21.73 | 7.68 | 22.87 | 3.74 | 1.06 | 1.73 | 22.40 | 5.31 | 3.74 | 21.46 | |
| P8701 | 25.79 | 11.61 | 30.35 | 11.54 | 24.17 | 8.25 | 26.94 | 15.24 | 11.18 | - | |

DOUBLE ACTING HAND PUMPS

- 4-way control valve for operation of double acting cylinders
- Large oil capacities to power a wide range of cylinders and tools
- Two speed operation increases productivity and reduces user fatigue



P2301M



P8701M

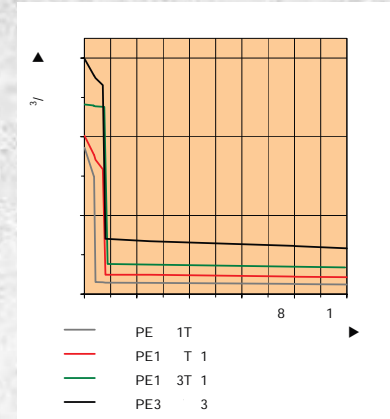
| Used with Cylinder | Pump Type | Usable Oil Capacity (in ³) | Model Number | Pressure Rating | | Oil Displacement per Stroke | | Max. Operating Force (lbs) | Piston Stroke (in) | Oil Outlet Port | Weight (lbs) |
|--------------------|-----------|--|--------------|-----------------|-----------------|------------------------------|------------------------------|----------------------------|--------------------|-----------------|--------------|
| | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³) | 2nd Stage (in ³) | | | | |
| Double Acting | Two Speed | 128.0 | P2301M | 200 | 10,000 | 0.81 | 0.14 | 99 | 0.82 | 3/8"-18NPTF | 32.3 |
| | | 476.0 | P8701M | 290 | 10,000 | 7.31 | 0.29 | 143 | 1.67 | 3/8"-18NPTF | 77.4 |

| Model Number | Dimensions (in) | | | | | | | | | |
|--------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | A | B | C | D | E | F | G | H | J | K |
| P2301M | 25.45 | 6.81 | 27.44 | 3.74 | 1.06 | 25.93 | 21.73 | 4.72 | 3.54 | 22.56 |
| P8701M | 25.79 | 11.61 | 30.35 | 11.54 | 24.17 | 8.25 | 26.94 | 15.24 | 11.18 | - |

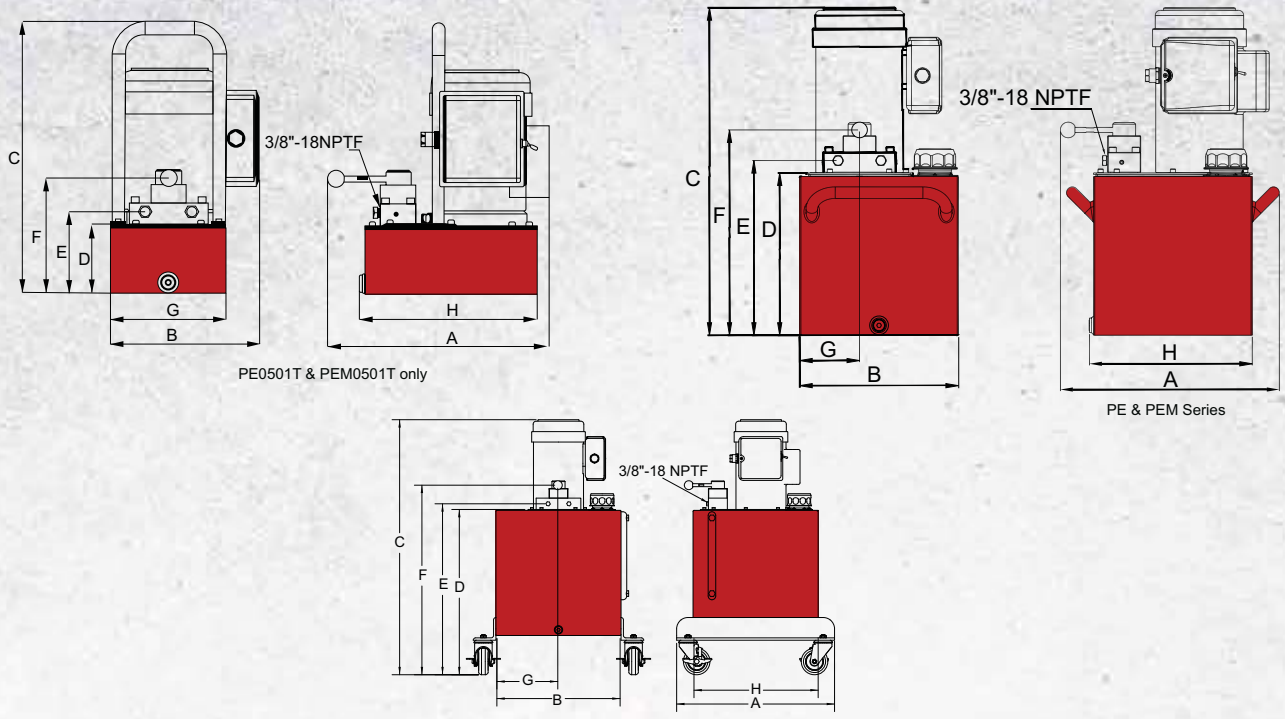
ELECTRIC PUMPS

- Quiet operation meets OSHA regulations (80dBA)
- 2 speed operation allows for faster cylinder advance
- Full load starting capacities
- Internal filter keeps contamination from damaging pump
- Rugged durable design meets the demands of industrial applications
- Precision components to minimize wear and improve overall dependability
- 50 Hertz motors optional

*Positive locking valve available please refer to page 42



| Use with Cylinder | Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Pressure Rating | | Oil Output Flow Rate | | Valve Type | Valve Function | Current Draw (amps) | Motor Voltage (volts) | Weight (lbs) |
|-------------------|-----------------|---------------------------|--------------|-----------------|-----------------|----------------------|---------------------|-------------------|-----------------------|---------------------|-----------------------|--------------|
| | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in³/min) | 2nd Stage (in³/min) | | | | | |
| Single Acting | 0.5 | 1.0 | PE0501T | 350 | 10,000 | 293 | 18 | 3-way, 3-position | Advance/ Hold/ Return | 9 | 115 | 59.5 |
| | 1.0 | 2.0 | PE1002T | 700 | 10,000 | 397 | 37 | | | 12 | 115 | 70.5 |
| | 1.5 | 3.0 | PE1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 88.5 |
| | 1.5 | 5.0 | PE1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 94.0 |
| | 1.5 | 10.0 | PE1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 116.0 |
| | 1.5 | 15.0 | PE1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 127.0 |
| | 1.5 | 25.0 | PE1525T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 148.0 |
| | 3.0 | 5.0 | PE3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 101.0 |
| | 3.0 | 10.0 | PE3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 123.0 |
| | 3.0 | 15.0 | PE3015T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 134.0 |
| Double Acting | 0.5 | 1.0 | PEM0501T | 350 | 10,000 | 293 | 18 | 4-way, 3-position | Advance/ Hold/ Return | 9 | 115 | 59.5 |
| | 1.0 | 2.0 | PEM1002T | 700 | 10,000 | 397 | 37 | | | 12 | 115 | 70.5 |
| | 1.5 | 3.0 | PEM1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 88.5 |
| | 1.5 | 5.0 | PEM1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 94.0 |
| | 1.5 | 10.0 | PEM1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 116.0 |
| | 1.5 | 15.0 | PEM1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 127.0 |
| | 1.5 | 25.0 | PEM1525T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 148.0 |
| | 3.0 | 5.0 | PEM3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 101.0 |
| | 3.0 | 10.0 | PEM3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 123.0 |
| | 3.0 | 15.0 | PEM3015T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 134.0 |
| 3.0 | 25.0 | PEM3025T | 700 | 10,000 | 592 | 110 | 17 | 230 | 155.0 | | | |



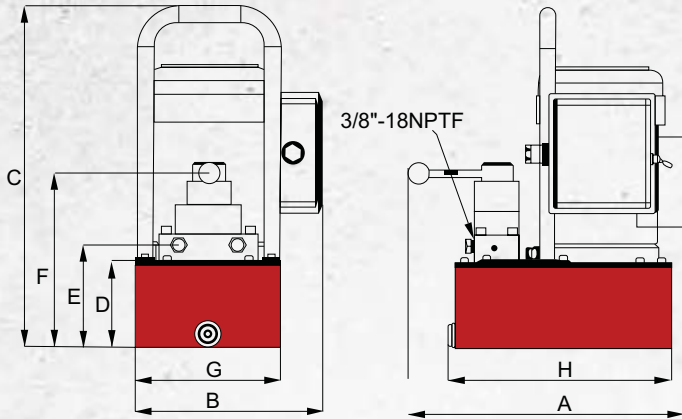
PE0501T & PEM0501T only

PE & PEM Series

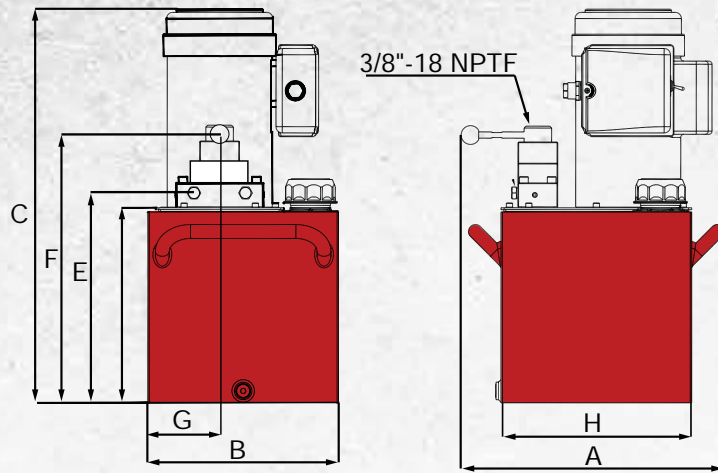
| Model Number | Dimensions (in) | | | | | | | |
|--------------|-----------------|-------|-------|-------|-------|-------|-------|-------|
| | A | B | C | D | E | F | G | H |
| PE0501T | 14.92 | 10.28 | 19.09 | 4.72 | 5.67 | 7.99 | 8.07 | 12.36 |
| PE1002T | 16.65 | 12.01 | 17.83 | 5.94 | 6.89 | 9.21 | 4.53 | 12.36 |
| PE1503T | 16.65 | 12.01 | 19.72 | 7.24 | 8.19 | 10.51 | 4.53 | 12.36 |
| PE1505T | 16.57 | 12.01 | 24.78 | 12.28 | 13.21 | 15.53 | 4.53 | 12.32 |
| PE1510T | 20.87 | 16.54 | 31.48 | 18.98 | 19.93 | 22.25 | 8.27 | 16.54 |
| PE1515T | 20.87 | 16.54 | 34.63 | 22.13 | 23.08 | 25.40 | 8.27 | 16.54 |
| PE1525T/ | 25.59 | 21.26 | 34.63 | 22.13 | 23.08 | 25.40 | 10.63 | 21.26 |
| PE3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.23 | 15.51 | 4.53 | 12.36 |
| PE3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 22.25 | 8.27 | 16.54 |
| PE3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.08 | 25.40 | 8.27 | 16.54 |
| PE3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 25.40 | 10.63 | 21.26 |
| PEM0501T | 14.92 | 10.28 | 19.09 | 4.72 | 5.67 | 7.99 | 8.07 | 12.36 |
| PEM1002T | 16.65 | 12.01 | 17.83 | 5.94 | 6.89 | 9.21 | 4.53 | 12.36 |
| PEM1503T | 16.65 | 12.01 | 19.72 | 7.24 | 8.19 | 10.51 | 4.53 | 12.36 |
| PEM1505T | 16.57 | 12.01 | 24.78 | 12.28 | 13.21 | 15.53 | 4.53 | 12.32 |
| PEM1510T | 20.87 | 16.54 | 31.48 | 18.98 | 19.93 | 22.25 | 8.27 | 16.54 |
| PEM1515T | 20.87 | 16.54 | 34.63 | 22.13 | 23.08 | 25.40 | 8.27 | 16.54 |
| PEM1525T | 25.59 | 21.26 | 34.63 | 22.13 | 23.08 | 25.40 | 10.63 | 21.26 |
| PEM3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.23 | 15.51 | 4.53 | 12.36 |
| PEM3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 22.25 | 8.27 | 16.54 |
| PEM3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.08 | 25.40 | 8.27 | 16.54 |
| PEM3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 25.40 | 10.63 | 21.26 |

ELECTRIC PUMPS with LOCKING MANUAL VALVE

- Quiet operations meets OSHA regulations (80 dBA)
- 2 speed operation allows for faster cylinder advance
- Locking plate for positive load holding
- Internal filter keeps contamination from damaging the pump
- Precision components to minimize wear and improve overall dependability
- All pumps on this page are single phase electric motors
- 50 Hertz motors optional



| Use with Cylinders | Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Pressure Rating | | Oil Output Flow Rate | | Valve Type | Valve Function | Current Draw (amps) | Motor Voltage (volts) | Weight (lbs) |
|--------------------|-----------------|---------------------------|--------------|-----------------|-----------------|----------------------------------|----------------------------------|-------------------|-----------------------|---------------------|-----------------------|--------------|
| | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³ /min) | 2nd Stage (in ³ /min) | | | | | |
| Single Acting | 0.5 | 1 | PEL0501T | 350 | 10,000 | 293 | 18 | 3-way, 3-position | Advance/ Hold/ Return | 9 | 115 | 65.9 |
| | 0.5 | 2 | PEL0502T | 350 | 10,000 | 293 | 18 | | | 9 | 115 | 65.9 |
| | 1.0 | 2 | PEL1002T | 700 | 10,000 | 311 | 37 | | | 12 | 115 | 69.7 |
| | 1.5 | 3 | PEL1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 77 |
| | 1.5 | 5 | PEL1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 94.8 |
| | 1.5 | 10 | PEL1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 102.4 |
| | 1.5 | 15 | PEL1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 122.4 |
| | 1.5 | 25 | PEL1525T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 133.4 |
| | 3.0 | 5 | PEL3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 154.4 |
| | 3.0 | 10 | PEL3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 129.4 |
| Double Acting | 3.0 | 15 | PEL3015T | 700 | 10,000 | 592 | 110 | 4-way, 3-position | Advance/ Hold/ Return | 17 | 230 | 140.4 |
| | 3.0 | 25 | PEL3025T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 161.4 |
| | 0.5 | 1 | PEML0501T | 700 | 10,000 | 293 | 18 | | | 9 | 115 | 65.9 |
| | 0.5 | 2 | PEML0502T | 700 | 10,000 | 293 | 18 | | | 9 | 115 | 65.9 |
| | 1.0 | 2 | PEML1002T | 700 | 10,000 | 311 | 37 | | | 12 | 115 | 69.7 |
| | 1.5 | 3 | PEML1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 77 |
| | 1.5 | 5 | PEML1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 94.8 |
| | 1.5 | 10 | PEML1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 102.4 |
| | 1.5 | 15 | PEML1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 122.4 |
| | 1.5 | 25 | PEML1525T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 133.4 |
| | 3.0 | 5 | PEML3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 154.4 |
| | 3.0 | 10 | PEML3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 129.4 |
| | 3.0 | 15 | PEML3015T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 140.4 |
| | 3.0 | 25 | PEML3025T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 161.4 |



| Model Number | Dimensions (in) | | | | | | | |
|--------------|-----------------|-------|-------|-------|-------|-------|-------|-------|
| | A | B | C | D | E | F | G | H |
| PEL0501T | 14.92 | 10.28 | 19.09 | 4.72 | 5.67 | 7.43 | 8.07 | 12.36 |
| PEL0502T | 17.33 | 12.01 | 20.36 | 5.78 | 6.89 | 14.92 | 4.51 | 12.36 |
| PEL1002T | 16.65 | 12.01 | 17.83 | 5.94 | 6.89 | 8.65 | 4.53 | 12.36 |
| PEL1503T | 16.65 | 12.01 | 19.72 | 7.24 | 8.19 | 9.95 | 4.53 | 12.36 |
| PEL1505T | 16.57 | 12.01 | 24.78 | 12.28 | 13.21 | 14.97 | 4.53 | 12.36 |
| PEL1510T | 20.87 | 16.54 | 31.48 | 18.98 | 19.93 | 21.69 | 8.27 | 16.54 |
| PEL1515T | 20.87 | 16.54 | 34.63 | 22.13 | 23.08 | 24.84 | 8.27 | 16.54 |
| PEL1525T | 25.59 | 21.26 | 34.63 | 22.13 | 23.08 | 24.84 | 10.63 | 21.26 |
| PEL3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.25 | 15.01 | 4.53 | 12.36 |
| PEL3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 21.69 | 8.27 | 16.54 |
| PEL3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.08 | 24.84 | 8.27 | 16.54 |
| PEL3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 24.84 | 10.63 | 21.26 |
| PEML0501T | 14.92 | 10.28 | 19.09 | 4.72 | 5.67 | 7.43 | 8.07 | 12.36 |
| PEML0502T | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.76 | 0.00 | 0.00 |
| PEML1002T | 16.65 | 12.01 | 34.63 | 5.94 | 6.89 | 8.65 | 4.53 | 12.36 |
| PEML1503T | 16.65 | 12.01 | 34.63 | 7.24 | 8.19 | 9.95 | 4.53 | 12.36 |
| PEML1505T | 16.57 | 12.01 | 26.54 | 12.28 | 13.21 | 14.97 | 4.53 | 12.36 |
| PEML1510T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 21.69 | 8.27 | 16.54 |
| PEML1515T | 20.87 | 16.54 | 36.39 | 22.13 | 23.08 | 24.84 | 8.27 | 16.54 |
| PEML1525T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 24.84 | 10.63 | 21.26 |
| PEML3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.25 | 15.01 | 4.53 | 12.36 |
| PEML3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 21.69 | 8.27 | 16.54 |
| PEML3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.08 | 24.84 | 8.27 | 16.54 |
| PEML3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 24.84 | 10.63 | 21.26 |

ELECTRIC PUMPS with PENDANT SWITCH

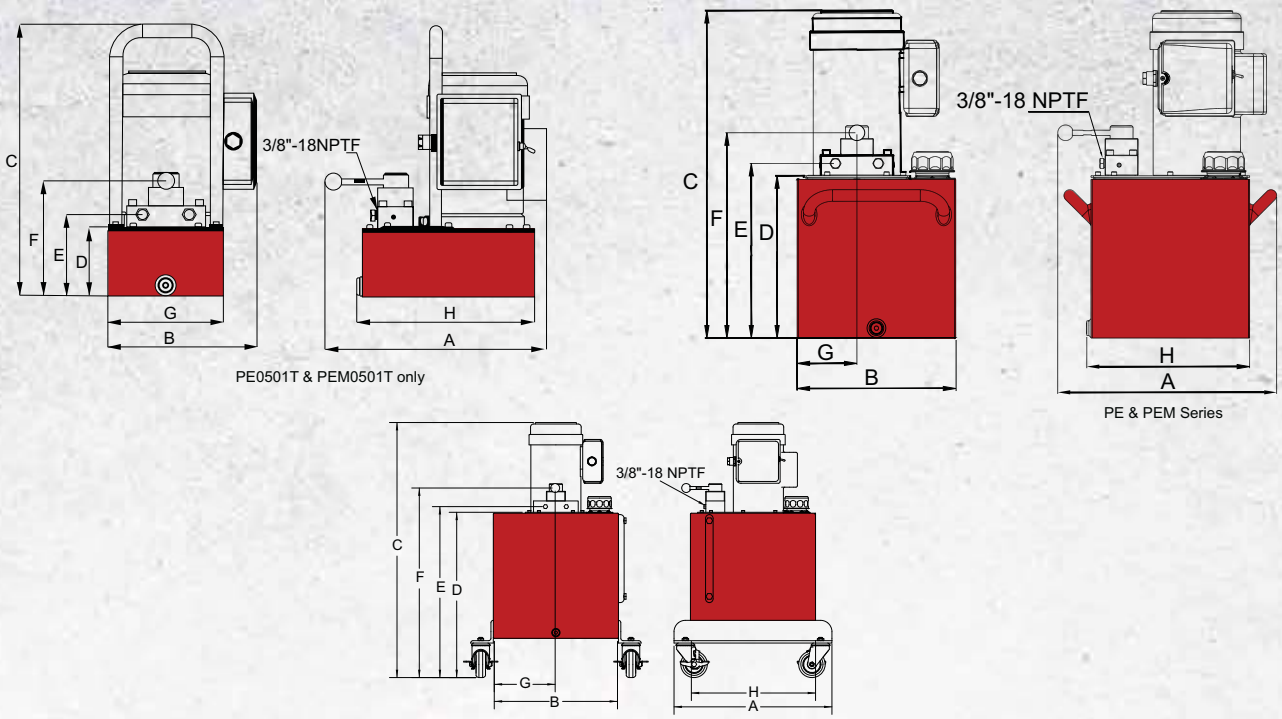
- Quiet operation meets OSHA regulations (80dBA)
- 2 speed operation allows for faster cylinder advance
- Full load starting capacities
- Internal filter keeps contamination from damaging pump
- 10 ft. hand held pendant switch allows user to turn on/off motor
- All pumps are single phase
- Pumps come with manual valve
- Toggle switch only turns on/off motor
- 50 Hertz motors optional



Electric pumps can be used in a variety of industrial settings



| Use with Cylinder | Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Pressure Rating | | Oil Output Flow Rate | | Valve Type | Valve Function | Current Draw (amps) | Motor Voltage (volts) | Weight (lbs) |
|-------------------|-----------------|---------------------------|--------------|-----------------|-----------------|----------------------------------|----------------------------------|-------------------|-----------------------|---------------------|-----------------------|--------------|
| | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³ /min) | 2nd Stage (in ³ /min) | | | | | |
| Single Acting | 0.5 | 1.0 | PEW0501T | 350 | 10,000 | 293 | 18 | 3-way, 3-position | Advance/ Hold/ Return | 9 | 115 | 59.5 |
| | 1.0 | 2.0 | PEW1002T | 700 | 10,000 | 397 | 37 | | | 12 | 115 | 70.5 |
| | 1.5 | 3.0 | PEW1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 88.5 |
| | 1.5 | 5.0 | PEW1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 94.0 |
| | 1.5 | 10.0 | PEW1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 116.0 |
| | 1.5 | 15.0 | PEW1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 127.0 |
| | 1.5 | 25.0 | PEW1525T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 148.0 |
| | 3.0 | 5.0 | PEW3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 101.0 |
| | 3.0 | 10.0 | PEW3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 123.0 |
| | 3.0 | 15.0 | PEW3015T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 134.0 |
| Double Acting | 3.0 | 25.0 | PEW3025T | 700 | 10,000 | 592 | 110 | 4-way, 3-position | Advance/ Hold/ Return | 17 | 230 | 155.0 |
| | 0.5 | 1.0 | PEWM0501T | 350 | 10,000 | 293 | 18 | | | 9 | 115 | 59.5 |
| | 1.0 | 2.0 | PEWM1002T | 700 | 10,000 | 397 | 37 | | | 12 | 115 | 70.5 |
| | 1.5 | 3.0 | PEWM1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 88.5 |
| | 1.5 | 5.0 | PEWM1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 94.0 |
| | 1.5 | 10.0 | PEWM1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 116.0 |
| | 1.5 | 15.0 | PEWM1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 127.0 |
| | 1.5 | 25.0 | PEWM1525T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 148.0 |
| | 3.0 | 5.0 | PEWM3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 101.0 |
| | 3.0 | 10.0 | PEWM3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 123.0 |
| 3.0 | 15.0 | PEWM3015T | 700 | 10,000 | 592 | 110 | 17 | 230 | 134.0 | | | |
| 3.0 | 25.0 | PEWM3025T | 700 | 10,000 | 592 | 110 | 17 | 230 | 155.0 | | | |



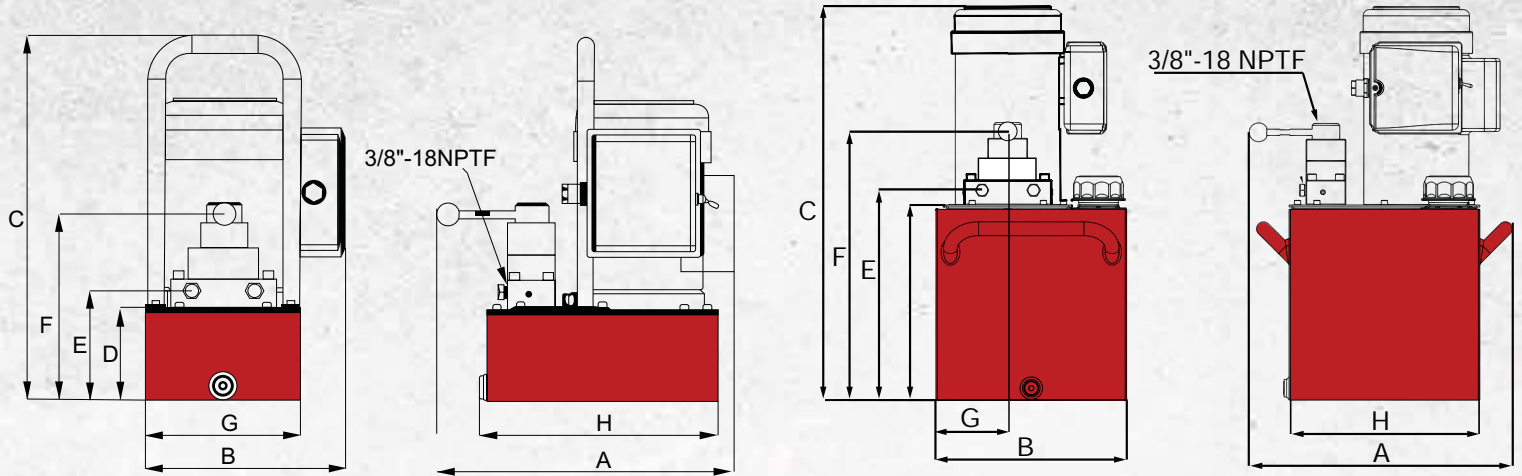
| Model Number | Dimensions (in) | | | | | | | |
|--------------|-----------------|-------|-------|-------|-------|-------|-------|-------|
| | A | B | C | D | E | F | G | H |
| PEW0501T | 14.92 | 10.28 | 19.09 | 4.72 | 5.67 | 7.99 | 8.07 | 12.36 |
| PEW1002T | 16.65 | 12.01 | 17.83 | 5.94 | 6.89 | 9.21 | 4.53 | 12.36 |
| PEW1503T | 16.65 | 12.01 | 19.72 | 7.24 | 8.19 | 10.51 | 4.53 | 12.36 |
| PEW1505T | 16.57 | 12.01 | 24.78 | 12.28 | 13.21 | 15.53 | 4.53 | 12.32 |
| PEW1510T | 20.87 | 16.54 | 31.48 | 18.98 | 19.93 | 22.25 | 8.27 | 16.54 |
| PEW1515T | 20.87 | 16.54 | 34.63 | 22.13 | 23.08 | 25.40 | 8.27 | 16.54 |
| PEW1525T | 25.59 | 21.26 | 34.63 | 22.13 | 23.08 | 25.40 | 10.63 | 21.26 |
| PEW3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.23 | 15.51 | 4.53 | 12.36 |
| PEW3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 22.25 | 8.27 | 16.54 |
| PEW3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.08 | 25.40 | 8.27 | 16.54 |
| PEW3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 25.40 | 10.63 | 21.26 |
| PEWM0501T | 14.92 | 10.28 | 19.09 | 4.72 | 5.67 | 7.99 | 8.07 | 12.36 |
| PEWM1002T | 16.65 | 12.01 | 17.83 | 5.94 | 6.89 | 9.21 | 4.53 | 12.36 |
| PEWM1503T | 16.65 | 12.01 | 19.72 | 7.24 | 8.19 | 10.51 | 4.53 | 12.36 |
| PEWM1505T | 16.57 | 12.01 | 24.78 | 12.28 | 13.21 | 15.53 | 4.53 | 12.32 |
| PEWM1510T | 20.87 | 16.54 | 31.48 | 18.98 | 19.93 | 22.25 | 8.27 | 16.54 |
| PEWM1515T | 20.87 | 16.54 | 34.63 | 22.13 | 23.08 | 25.40 | 8.27 | 16.54 |
| PEWM1525T | 25.59 | 21.26 | 34.63 | 22.13 | 23.08 | 25.40 | 10.63 | 21.26 |
| PEWM3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.23 | 15.51 | 4.53 | 12.36 |
| PEWM3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 22.25 | 8.27 | 16.54 |
| PEWM3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.08 | 25.40 | 8.27 | 16.54 |
| PEWM3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 25.40 | 10.63 | 21.26 |

ELECTRIC PUMPS with LOCKING MANUAL VALVE and PENDANT SWITCH

- Quiet operation meets OSHA regulations (80 dBA)
- 2 speed operation allows for faster cylinder advance
- Full load starting capacities
- Internal filter keeps contamination from damaging the pump
- Precision components to minimize wear and improve overall dependability
- All pumps on this page are single phase electric motors
- 10 foot hand held pendant switch allows user to turn the motor on/off
- 50 Hertz motors optional



| Use with Cylinders | Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Pressure Rating | | Oil Output Flow Rate | | Valve Type | Valve Function | Current Draw (amps) | Motor Voltage (volts) | Weight (lbs) |
|--------------------|-----------------|---------------------------|--------------|-----------------|-----------------|----------------------------------|----------------------------------|-------------------|-----------------------|---------------------|-----------------------|--------------|
| | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³ /min) | 2nd Stage (in ³ /min) | | | | | |
| Single Acting | 0.5 | 1 | PEWL0501T | 350 | 10,000 | 293 | 18 | 3-way, 3-position | Advance/ Hold/ Return | 9 | 115 | 65.9 |
| | 0.5 | 2 | PEWL0502T | 350 | 10,000 | 293 | 18 | | | 9 | 115 | 65.9 |
| | 1.0 | 2 | PEWL1002T | 700 | 10,000 | 311 | 37 | | | 12 | 115 | 69.7 |
| | 1.5 | 3 | PEWL1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 77 |
| | 1.5 | 5 | PEWL1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 94.8 |
| | 1.5 | 10 | PEWL1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 102.4 |
| | 1.5 | 15 | PEWL1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 122.4 |
| | 1.5 | 25 | PEWL1525T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 133.4 |
| | 3.0 | 5 | PEWL3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 154.4 |
| | 3.0 | 10 | PEWL3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 129.4 |
| | 3.0 | 15 | PEWL3015T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 140.4 |
| Double Acting | 3.0 | 25 | PEWL3025T | 700 | 10,000 | 592 | 110 | 4-way, 3-position | Advance/ Hold/ Return | 17 | 230 | 161.4 |
| | 0.5 | 1 | PEWML0501T | 700 | 10,000 | 293 | 18 | | | 9 | 115 | 65.9 |
| | 0.5 | 2 | PEWML0502T | 700 | 10,000 | 293 | 18 | | | 9 | 115 | 65.9 |
| | 1.0 | 2 | PEWML1002T | 700 | 10,000 | 311 | 37 | | | 12 | 115 | 69.7 |
| | 1.5 | 3 | PEWML1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 77 |
| | 1.5 | 5 | PEWML1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 94.8 |
| | 1.5 | 10 | PEWML1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 102.4 |
| | 1.5 | 15 | PEWML1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 122.4 |
| | 1.5 | 25 | PEWML1525T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 133.4 |
| | 3.0 | 5 | PEWML3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 154.4 |
| | 3.0 | 10 | PEWML3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 129.4 |
| | 3.0 | 15 | PEWML3015T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 140.4 |
| | 3.0 | 25 | PEWML3025T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 161.4 |



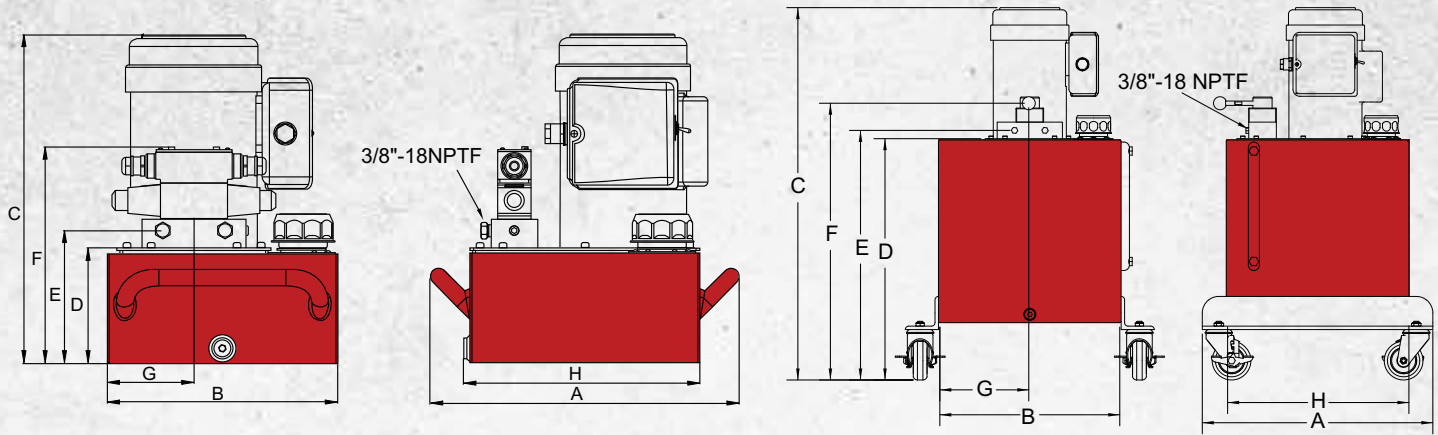
| Model Number | Dimensions (in) | | | | | | | |
|--------------|-----------------|--------|-------|-------|-------|-------|-------|-------|
| | A | B | C | D | E | F | G | H |
| PEWL0501T | 14.92 | 10.28 | 19.09 | 4.72 | 5.67 | 7.43 | 8.07 | 12.36 |
| PEWL0502T | 17.88 | 12.01 | 20.36 | 5.93 | 6.89 | 14.92 | 4.51 | 12.36 |
| PEWL1002T | 16.65 | 12.01 | 17.83 | 5.94 | 6.89 | 8.65 | 4.53 | 12.36 |
| PEWL1503T | 16.65 | 12.01 | 19.72 | 7.24 | 8.19 | 9.95 | 4.53 | 12.36 |
| PEWL1505T | 16.57 | 12.01 | 24.78 | 12.28 | 13.21 | 14.97 | 4.53 | 12.36 |
| PEWL1510T | 20.87 | 16.54 | 31.48 | 18.98 | 19.93 | 21.69 | 8.27 | 16.54 |
| PEWL1515T | 20.87 | 16.554 | 34.63 | 22.13 | 23.08 | 24.84 | 8.27 | 16.54 |
| PEWL1525T | 25.59 | 21.26 | 34.63 | 22.13 | 23.08 | 24.84 | 10.63 | 21.26 |
| PEWL3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.25 | 15.01 | 4.53 | 12.36 |
| PEWL3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 21.69 | 8.27 | 16.54 |
| PEWL3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.08 | 24.84 | 8.27 | 16.54 |
| PEWL3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 24.84 | 10.63 | 21.26 |
| PEWML0501T | 14.92 | 10.28 | 19.09 | 4.72 | 5.67 | 7.43 | 8.07 | 12.36 |
| PEWML0502T | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.76 | 0.00 | 0.00 |
| PEWML1002T | 16.65 | 12.01 | 34.63 | 5.94 | 6.89 | 8.65 | 4.53 | 12.36 |
| PEWML1503T | 16.65 | 12.01 | 34.63 | 7.24 | 8.19 | 9.95 | 4.53 | 12.36 |
| PEWML1505T | 16.57 | 12.01 | 26.54 | 12.28 | 13.21 | 14.97 | 4.53 | 12.36 |
| PEWML1510T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 21.69 | 8.27 | 16.54 |
| PEWML1515T | 20.87 | 16.554 | 36.39 | 22.13 | 23.08 | 24.84 | 8.27 | 16.54 |
| PEWML1525T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 24.84 | 10.63 | 21.26 |
| PEWML3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.25 | 15.01 | 4.53 | 12.36 |
| PEWML3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.93 | 21.69 | 8.27 | 16.54 |
| PEWML3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.08 | 24.84 | 8.27 | 16.54 |
| PEWML3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.08 | 24.84 | 10.63 | 21.26 |

ELECTRIC PUMPS with LOCKING SOLENOID VALVE

- Locking valve provides positive load holding
- Quiet operation meets OSHA regulations (80dBA)
- Ideal for applications where a remote control is required
- 2 speed operation allows for faster cylinder advance
- Full load starting capabilities
- Internal filter keeps contamination from damaging pump
- 10 ft. hand held remote controls the solenoid valve
- Wireless hand held remote option is available
- 50 Hertz motors optional



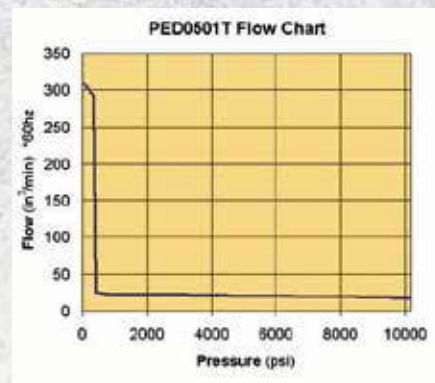
| Use with Cylinder | Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Pressure Rating | | Oil Output Flow Rate | | Valve Type | Valve Function | Current Draw (amps) | Motor Voltage (volts) | Weight (lbs) |
|-------------------|-----------------|---------------------------|--------------|-----------------|-----------------|----------------------------------|----------------------------------|-------------------|-----------------------------|---------------------|-----------------------|--------------|
| | | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³ /min) | 2nd Stage (in ³ /min) | | | | | |
| Single Acting | 0.5 | 1.0 | PESL0501T | 350 | 10,000 | 293 | 18 | 3-Way, 3-Position | Advance/ Hold/ Return | 9 | 115 | 61.5 |
| | 0.5 | 2.0 | PESL0502T | 700 | 10,000 | 293 | 18 | | | 9 | 115 | 65.3 |
| | 1.0 | 2.0 | PESL1002T | 700 | 10,000 | 311 | 37 | | | 12 | 115 | 72.6 |
| | 1.5 | 3.0 | PESL1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 90.4 |
| | 1.5 | 5.0 | PESL1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 98.0 |
| | 1.5 | 10.0 | PESL1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 118.0 |
| | 1.5 | 15.0 | PESL1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 129.0 |
| | 1.5 | 25.0 | PESL1525T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 150.0 |
| | 3.0 | 5.0 | PESL3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 101.0 |
| | 3.0 | 10.0 | PESL3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 125.0 |
| | 3.0 | 15.0 | PESL3015T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 136.0 |
| | 3.0 | 25.0 | PESL3025T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 157.0 |
| Double Acting | 0.5 | 1.0 | PESML0501T | 350 | 10,000 | 293 | 18 | 4-Way, 3-Position | Advance/ Hold/ Return | 9 | 115 | 61.5 |
| | 0.5 | 2.0 | PESML0502T | 700 | 10,000 | 293 | 18 | | | 9 | 115 | 65.3 |
| | 1.0 | 2.0 | PESML1002T | 700 | 10,000 | 311 | 37 | | | 12 | 115 | 72.6 |
| | 1.5 | 3.0 | PESML1503T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 90.4 |
| | 1.5 | 5.0 | PESML1505T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 98.0 |
| | 1.5 | 10.0 | PESML1510T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 118.0 |
| | 1.5 | 15.0 | PESML1515T | 700 | 10,000 | 476 | 61 | | | 17 | 115 | 129.0 |
| | 1.5 | 25.0 | PESML1525T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 150.0 |
| | 3.0 | 5.0 | PESML3005T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 101.0 |
| | 3.0 | 10.0 | PESML3010T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 125.0 |
| | 3.0 | 15.0 | PESML3015T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 136.0 |
| | 3.0 | 25.0 | PESML3025T | 700 | 10,000 | 592 | 110 | | | 17 | 230 | 157.0 |



| Model Number | Dimensions (in) | | | | | | | |
|--------------|-----------------|-------|-------|-------|-------|-------|-------|-------|
| | A | B | C | D | E | F | G | H |
| PESL0501T | 12.74 | 10.26 | 19.10 | 4.72 | 5.65 | 11.96 | 8.07 | 12.36 |
| PESL0502T | 17.88 | 12.01 | 20.36 | 5.94 | 6.89 | 13.18 | 4.51 | 12.36 |
| PESL1002T | 17.88 | 12.01 | 17.88 | 5.94 | 6.89 | 13.18 | 4.51 | 12.36 |
| PESL1503T | 17.88 | 12.01 | 17.88 | 7.24 | 8.19 | 14.48 | 4.51 | 12.36 |
| PESL1505T | 16.10 | 12.01 | 17.13 | 12.28 | 13.23 | 19.52 | 4.51 | 12.36 |
| PESL1510T | 20.87 | 16.54 | 31.48 | 18.98 | 19.89 | 26.38 | 8.27 | 16.54 |
| PESL1515T | 20.87 | 16.54 | 34.63 | 22.13 | 23.04 | 29.53 | 8.27 | 16.54 |
| PESL1525T | 25.59 | 21.26 | 34.63 | 22.13 | 23.04 | 29.53 | 10.63 | 21.26 |
| PESL3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.23 | 15.51 | 4.53 | 12.36 |
| PESL3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.89 | 26.38 | 8.27 | 16.54 |
| PESL3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.04 | 29.53 | 8.27 | 16.54 |
| PESL3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.04 | 29.53 | 10.63 | 21.26 |
| PESML0501T | 12.74 | 10.26 | 19.10 | 4.72 | 5.65 | 11.96 | 8.07 | 12.36 |
| PESML0502T | 12.74 | 10.26 | 19.10 | 4.72 | 5.65 | 11.96 | 8.07 | 12.36 |
| PESML1002T | 17.88 | 12.01 | 17.88 | 5.98 | 6.90 | 13.16 | 4.51 | 12.36 |
| PESML1503T | 17.88 | 12.01 | 17.88 | 5.98 | 6.90 | 13.16 | 4.51 | 12.32 |
| PESML1505T | 16.10 | 12.01 | 17.13 | 5.98 | 6.90 | 13.16 | 4.51 | 12.36 |
| PESML1510T | 20.87 | 16.54 | 31.48 | 18.98 | 19.89 | 26.38 | 8.27 | 16.54 |
| PESML1515T | 20.87 | 16.54 | 34.63 | 22.13 | 23.04 | 29.53 | 8.27 | 16.54 |
| PESML1525T | 25.59 | 21.26 | 34.63 | 22.13 | 23.04 | 29.53 | 10.63 | 21.26 |
| PESL3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.23 | 15.51 | 4.53 | 12.36 |
| PESML3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.89 | 26.38 | 8.27 | 16.54 |
| PESML3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.04 | 29.53 | 8.27 | 16.54 |
| PESML3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.04 | 29.53 | 10.63 | 21.26 |

ELECTRIC PUMPS with AUTO RETURN VALVE

- Quiet operation meets OSHA regulations (80dBA)
- Best suited for punching, crimping, and cutting applications
- 2 speed operation allows for faster cylinder advance
- Full load starting capabilities
- Internal filter keeps contamination from damaging pump
- Rugged durable design meets the demands of industrial applications
- 10 ft. remote pendant switch to control motor on/off
- PED series includes 10' remote pendant motor on/off control
- PEDS series includes solenoid valve control

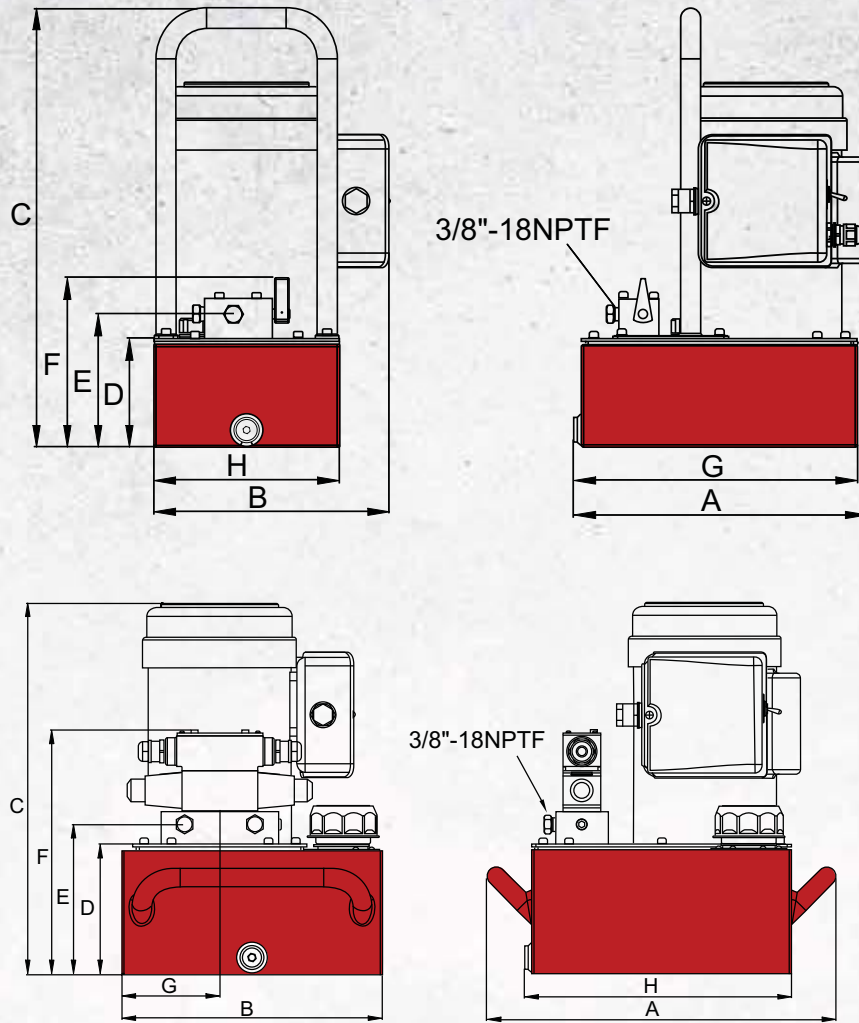


PED0501T



PEDS503T

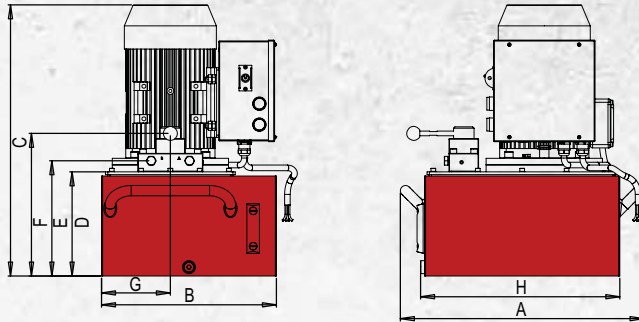
| Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Pressure Rating | | Oil Output Flow Rate | | Valve Type | Valve Function | Current Draw (amps) | Motor Voltage (volts) | Sound Level (dBA) | Weight (lbs) |
|-----------------|---------------------------|--------------|-----------------|-----------------|----------------------------------|----------------------------------|-------------------|----------------|---------------------|-----------------------|-------------------|--------------|
| | | | 1st Stage (psi) | 2nd Stage (psi) | 1st Stage (in ³ /min) | 2nd Stage (in ³ /min) | | | | | | |
| 0.5 | 1 | PED0501T | 350 | 10,000 | 293 | 18 | 2-Way, 2 Position | Advance/Return | 9 | 115 | 80 | 61.5 |
| 0.5 | 1 | PEDS0501T | 350 | 10,000 | 293 | 18 | 3-Way, 2 Position | Advance/Return | 9 | 115 | 80 | 61.5 |
| 0.5 | 2 | PEDS0502T | 350 | 10,000 | 293 | 18 | 3-Way, 2 Position | Advance/Return | 9 | 115 | 80 | 61.5 |
| 1 | 2 | PEDS1002T | 700 | 10,000 | 397 | 37 | 3-Way, 2 Position | Advance/Return | 12 | 115 | 80 | 72.6 |
| 1.5 | 3 | PEDS1503T | 700 | 10,000 | 476 | 61 | 3-Way, 2 Position | Advance/Return | 17 | 115 | 80 | 90.4 |
| 1.5 | 5 | PEDS1505T | 700 | 10,000 | 476 | 61 | 3-Way, 2 Position | Advance/Return | 17 | 115 | 80 | 98 |
| 1.5 | 10 | PEDS1510T | 700 | 10,000 | 476 | 61 | 3-Way, 2 Position | Advance/Return | 17 | 115 | 80 | 118 |
| 1.5 | 15 | PEDS1515T | 700 | 10,000 | 476 | 61 | 3-Way, 2 Position | Advance/Return | 17 | 115 | 80 | 129 |
| 1.5 | 25 | PEDS1525T | 700 | 10,000 | 476 | 61 | 3-Way, 2 Position | Advance/Return | 17 | 115 | 80 | 150 |
| 3 | 5 | PEDS3005T | 700 | 10,000 | 592 | 110 | 3-Way, 2 Position | Advance/Return | 17 | 230 | 80 | 105 |
| 3 | 10 | PEDS3010T | 700 | 10,000 | 592 | 110 | 3-Way, 2 Position | Advance/Return | 17 | 230 | 80 | 125 |
| 3 | 15 | PEDS3015T | 700 | 10,000 | 592 | 110 | 3-Way, 2 Position | Advance/Return | 17 | 230 | 80 | 136 |
| 3 | 25 | PEDS3025T | 700 | 10,000 | 592 | 110 | 3-Way, 2 Position | Advance/Return | 17 | 230 | 80 | 157 |



| Model Number | Dimensions (in) | | | | | | | |
|--------------|-----------------|-------|-------|-------|-------|-------|-------|-------|
| | A | B | C | D | E | F | G | H |
| PED0501T | 12.76 | 10.28 | 19.10 | 4.72 | 5.79 | 7.36 | 12.36 | 12.36 |
| PEDS0501T | 12.74 | 10.26 | 19.10 | 4.72 | 5.65 | 11.96 | 8.07 | 12.36 |
| PEDS0502T | 17.88 | 12.01 | 20.36 | 5.94 | 6.89 | 13.18 | 4.51 | 12.36 |
| PEDS1002T | 17.88 | 12.01 | 17.88 | 5.94 | 6.89 | 13.18 | 4.51 | 12.36 |
| PEDS1503T | 17.88 | 12.01 | 17.88 | 7.24 | 8.19 | 14.48 | 4.51 | 12.36 |
| PEDS1505T | 16.10 | 12.01 | 17.13 | 12.28 | 13.23 | 19.52 | 4.51 | 12.36 |
| PEDS1510T | 20.87 | 16.54 | 31.48 | 18.98 | 19.89 | 26.38 | 8.27 | 16.54 |
| PEDS1515T | 20.87 | 16.54 | 34.63 | 22.13 | 23.04 | 29.53 | 8.27 | 16.54 |
| PEDS1525T | 25.59 | 21.26 | 34.63 | 22.13 | 23.04 | 29.53 | 10.63 | 21.26 |
| PEDS3005T | 16.54 | 12.01 | 26.54 | 12.28 | 13.23 | 15.51 | 4.53 | 12.36 |
| PEDS3010T | 20.87 | 16.54 | 33.24 | 18.98 | 19.89 | 26.38 | 8.27 | 16.54 |
| PEDS3015T | 20.87 | 16.54 | 36.39 | 22.13 | 23.04 | 29.53 | 8.27 | 16.54 |
| PEDS3025T | 25.59 | 21.26 | 36.39 | 22.13 | 23.04 | 29.53 | 10.63 | 21.26 |

3 PHASE ELECTRIC MOTOR PUMPS

- Quiet operation meets OSHA regulations (80dba)
- 2 speed operation allows for faster cylinder advance
- Full load starting capacities
- Internal filter keeps contamination from damaging pump
- Rugged durable design meets the demands of industrial applications
- Precision components to minimize wear and improve overall dependability
- Motor can accept 50 Hz or 60 Hz electricity

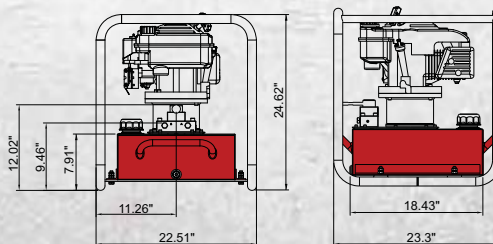


| Model Number | Dimensions (in) | | | | | | | |
|--------------|-----------------|-------|-------|------|------|-------|------|-------|
| | A | B | C | D | E | F | G | H |
| PE3006T-3 | 20.63 | 14.80 | 22.95 | 8.82 | 9.75 | 16.04 | 5.83 | 16.87 |
| PESL3006T-3 | 20.63 | 14.80 | 22.95 | 8.82 | 9.75 | 16.04 | 5.83 | 16.87 |
| PEM3006T-3 | 20.63 | 14.80 | 22.95 | 8.82 | 9.75 | 16.04 | 5.83 | 16.87 |
| PESML3006T-3 | 20.63 | 14.80 | 22.95 | 8.82 | 9.75 | 16.04 | 5.83 | 16.87 |

| Use with Cylinder | Motor Size (hp) | Electrical Supply (Phase) | Usable Oil Capacity (gal) | Model Number | Pressure Rating (psi) | | Oil Output Flow Rate (in ³ /min) | | Valve Type | Valve Function | Current Draw (amps) | Motor Voltage (volts) | Weight (lbs) |
|-------------------|-----------------|---------------------------|---------------------------|--------------|-----------------------|-----------|---|-----------|-------------------|-----------------------|---------------------|-----------------------|--------------|
| | | | | | 1st Stage | 2nd Stage | 1st Stage | 2nd Stage | | | | | |
| Single Acting | 3.0 | 3 | 6 | PE3006T-3 | 700 | 10,000 | 592 | 110 | 3-way, 3-position | Advance/ Hold/ Return | 4-10 | 220 V 50-60 Hz | 137 |
| | 3.0 | 3 | 6 | PESL3006T-3 | 700 | 10,000 | 592 | 110 | | | | | 139 |
| Double Acting | 3.0 | 3 | 6 | PEM3006T-3 | 700 | 10,000 | 592 | 110 | 4-way, 3-position | Advance/ Hold/ Return | 4-10 | 220 V 50-60 Hz | 137 |
| | 3.0 | 3 | 6 | PESML3006T-3 | 700 | 10,000 | 592 | 110 | | | | | 139 |

GAS PUMP with HONDA ENGINE

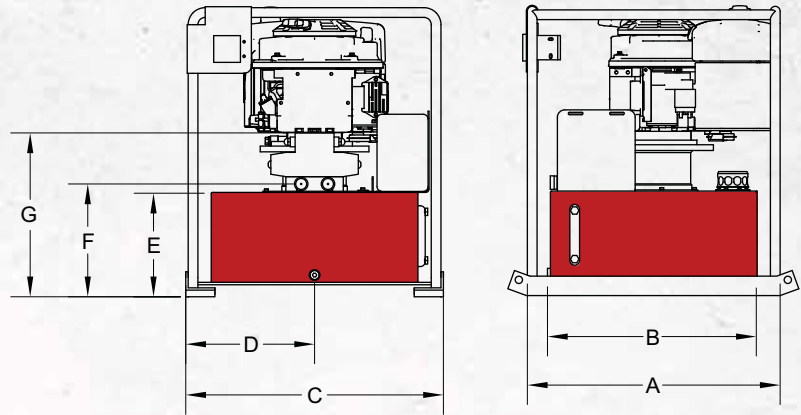
- Gas engine pump will provide 10,000 psi. hydraulic force at remote locations
- Industrial grade 5.5 hp Honda gas engine
- Manual control valve for use with single or double acting cylinders or tools
- Two speed pump designed for rapid cylinder advance
- Gas pump features a sturdy protective roll cage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



| Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Max. Pressure Output (psi) | Pressure Rating (psi) | | Oil Output Flow Rate (in ³ /min) | | Valve Type | Valve Function | Rotation Speed (rpm) | Sound Level (dBA) | Weight (lbs) |
|-----------------|---------------------------|--------------|----------------------------|-----------------------|-----------|---|-----------|-------------------|-----------------------|----------------------|-------------------|--------------|
| | | | | 1st Stage | 2nd Stage | 1st Stage | 2nd Stage | | | | | |
| 5.5 | 5 | PG5505 | 10,000 | 700 | 10,000 | 427 | 100 | 3 way, 3 position | Advance/ Hold/ Return | 3,600 | 93 | 121.2 |
| 5.5 | 5 | PGM5505 | 10,000 | 700 | 10,000 | 427 | 100 | 4 way, 3 position | Advance/ Hold/ Return | 3,600 | 93 | 121.2 |

GAS PUMP with SOLENOID VALVE and HONDA ENGINE

- Gas engine pump will provide 10,000 psi. hydraulic force at remote locations
- Industrial grade 10.2 hp Honda gas engine
- Ideal for applications when a remote control is required
- Two speed pump designed for rapid cylinder advance
- Gas pump features a sturdy protective roll cage for use in the toughest environments



| Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Max. Pressure Output (psi) | Pressure Rating (psi) | | Valve Type | Valve Function | Rotation Speed (rpm) | Sound Level (dBA) | Weight (lbs) |
|-----------------|---------------------------|--------------|----------------------------|-----------------------|-----------|-------------------|-----------------------|----------------------|-------------------|--------------|
| | | | | 1st Stage | 2nd Stage | | | | | |
| 10.2 | 5 | PGSL1005 | 10,000 | 700 | 10,000 | 3 way, 3 position | Advance/ Hold/ Return | 3,600 | 93 | 194 |
| 10.2 | 5 | PGSML1005 | 10,000 | 700 | 10,000 | 4 way, 3 position | Advance/ Hold/ Return | 3,600 | 93 | 194 |
| 10.2 | 10 | PGSL1010 | 10,000 | 700 | 10,000 | 3 way, 3 position | Advance/ Hold/ Return | 3,600 | 93 | 223 |
| 10.2 | 10 | PGSML1010 | 10,000 | 700 | 10,000 | 4 way, 3 position | Advance/ Hold/ Return | 3,600 | 93 | 223 |
| 10.2 | 15 | PGSL1015 | 10,000 | 700 | 10,000 | 3 way, 3 position | Advance/ Hold/ Return | 3,600 | 93 | 252 |
| 10.2 | 15 | PGSML1015 | 10,000 | 700 | 10,000 | 4 way, 3 position | Advance/ Hold/ Return | 3,600 | 93 | 252 |

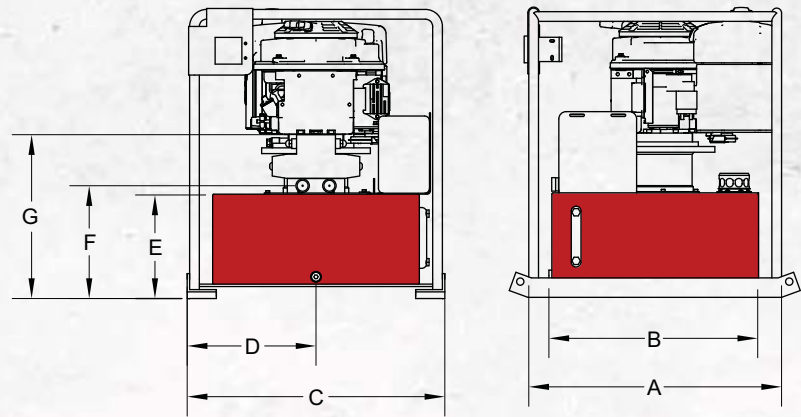
| Oil Output Flow Rate | |
|----------------------|-----------------------|
| PSI | In ³ /Min. |
| no load | 1,070 |
| 1,000 | 592 |
| 5,000 | 256 |
| 10,000 | 200 |

| Model Number | Dimensions (in) | | | | | | |
|--------------|-----------------|-------|-------|-------|-------|-------|--------|
| | A | B | C | D | E | F | G |
| PGSL1005 | 26.57 | 21.5 | 20.94 | 10.47 | 11.50 | 12.43 | 15.47 |
| PGSML1005 | 26.57 | 21.5 | 20.94 | 10.47 | 11.50 | 12.43 | 18.74 |
| PGSL1010 | 28.25 | 23.37 | 27 | 13.5 | 12 | 12.93 | 17.375 |
| PGSML1010 | 28.5 | 23.37 | 27 | 13.5 | 12 | 12.93 | 19.765 |
| PGSL1015 | 28.25 | 23.37 | 27 | 13.5 | 12 | 12.93 | 17.375 |
| PGSML1015 | 28.25 | 23.37 | 27 | 13.5 | 12 | 12.93 | 19.765 |

DIESEL PUMP with SOLENOID VALVE AND HATZ ENGINE



- Pump will provide 10,000 psi. hydraulic force at remote locations
- Industrial grade 7.3 hp HATZ Diesel engine
- Locking solenoid control valve for use with single or double acting cylinders or tools
- 10 ft. hand remote controls the solenoid valve
- 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 and/or remote control is required
- Manual valve is available



| Motor Size (hp) | Usable Oil Capacity (gal) | Model Number | Max. Pressure Output (psi) | Pressure Rating (psi) | | Oil Output Flow Rate (in ³ /min) | | Valve Type | Valve Function | Rotation Speed (rpm) | Fuel Tank Size | dBA @ 7 m | Weight (lbs) |
|-----------------|---------------------------|--------------|----------------------------|-----------------------|-----------|---|-----------|------------|-----------------------|----------------------|----------------|-----------|--------------|
| | | | | 1st Stage | 2nd Stage | 1st Stage | 2nd Stage | | | | | | |
| 7.3 | 5 | PDSL7305 | 10,000 | 700 | 10,000 | 600 | 200 | Solenoid | Advance/ Hold/ Return | 3,600 | 5L/1.32gal | 76 | 215 |
| 7.3 | 5 | PDSML7305 | 10,000 | 700 | 10,000 | 600 | 200 | Solenoid | Advance/ Hold/ Return | 3,600 | 5L/1.32gal | 76 | 215 |
| 7.3 | 10 | PDSL7310 | 10,000 | 700 | 10,000 | 600 | 200 | Solenoid | Advance/ Hold/ Return | 3,600 | 5L/1.32gal | 76 | 249 |
| 7.3 | 10 | PDSML7310 | 10,000 | 700 | 10,000 | 600 | 200 | Solenoid | Advance/ Hold/ Return | 3,600 | 5L/1.32gal | 76 | 249 |
| 7.3 | 15 | PDSL7315 | 10,000 | 700 | 10,000 | 600 | 200 | Solenoid | Advance/ Hold/ Return | 3,600 | 5L/1.32gal | 76 | 283 |
| 7.3 | 15 | PDSML7315 | 10,000 | 700 | 10,000 | 600 | 200 | Solenoid | Advance/ Hold/ Return | 3,600 | 5L/1.32gal | 76 | 283 |

| Model Number | Dimensions (in) | | | | | | |
|--------------|-----------------|-------|-------|-------|-------|-------|--------|
| | A | B | C | D | E | F | G |
| PDSL7305 | 26.57 | 21.5 | 20.94 | 10.47 | 11.50 | 12.43 | 15.47 |
| PDSML7305 | 26.57 | 21.5 | 20.94 | 10.47 | 11.50 | 12.43 | 18.74 |
| PDSL7310 | 28.25 | 23.37 | 27 | 13.5 | 12 | 12.93 | 17.375 |
| PDSML7310 | 28.25 | 23.37 | 27 | 13.5 | 12 | 12.93 | 19.765 |
| PDSL7315 | 28.25 | 26 | 27 | 13.5 | 12 | 12.93 | 17.375 |
| PDSML7315 | 28.25 | 26 | 27 | 13.5 | 12 | 12.93 | 19.765 |

MAINTENANCE KITS

- Sets are portable for easy use in the plant or on the job site
- Custom fitted, rugged blow molded storage case
- 10 ton set has wheel for easy movement
- Designed for applications of pushing, spreading, pressing, and more



| Capacity (tons) | Pump Capacity (psi) | Model Number | Rod | | | Number of attachments | Weight (lbs) |
|-----------------|---------------------|--------------|-------------------------------------|------------------------------------|-----------------------------------|-----------------------|--------------|
| | | | Collapsed Height (in ²) | Extended Height (in ³) | Effective Area (in ²) | | |
| 4 | 8,000 | J50040 | 11.00 | 15.75 | 0.998 | 14 | 46.0 |
| 10 | 10,000 | J50100 | 13.63 | 19.75 | 2.411 | 13 | 81.0 |
| 20 | 10,000 | J50200 | 11.77 | 16.93 | 5.14 | 16 | 206.0 |

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

FLANGE SPREADERS

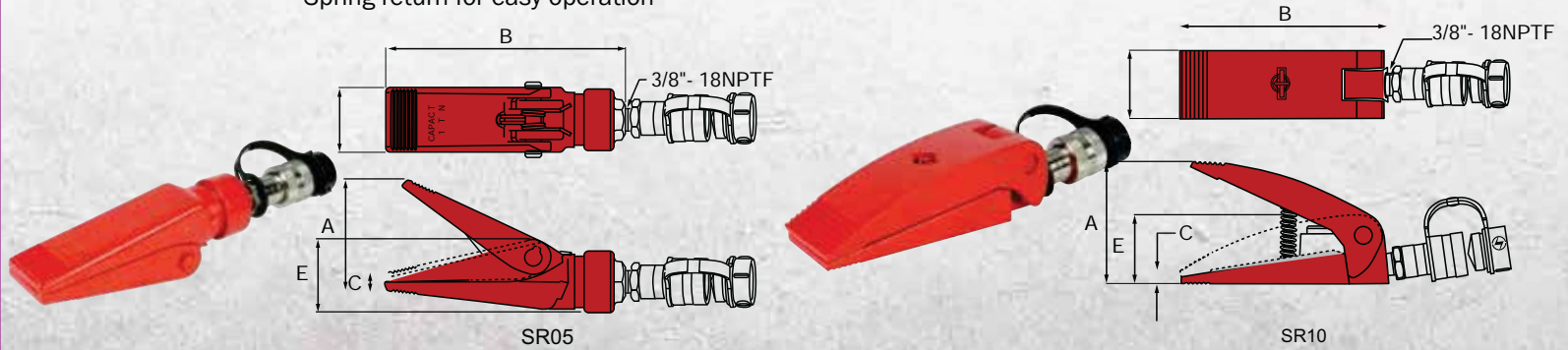
- Designed for heavy duty industrial environment
- Adjustable jaw width for a wide range of applications and ease of use
- Easily transported
- Can be used with any single acting pump



| Model Number | Capacity (tons) | Stroke (in.) | Oil Capacity (in.) ³ | Maximum Flange Thickness (in.) |
|--------------|-----------------|--------------|---------------------------------|--------------------------------|
| HFS05 | 5 | 1.00 | 1.00 | 2 X 2.3 |
| HFS10 | 10 | 2.01 | 4.50 | 2 X 3.6 |

SPREADERS

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



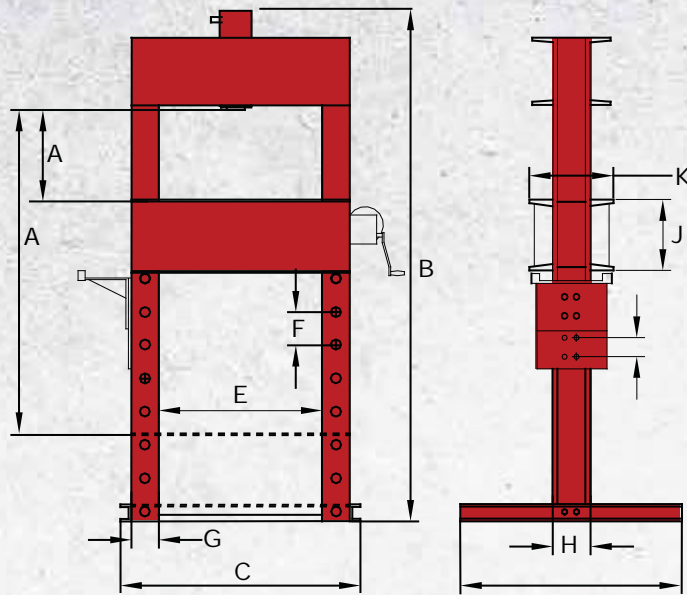
| Cylinder Capacity (tons) | Model Number | Cylinder Effective Area (in ²) | Oil Capacity (in ³) | Dimensions (in) | | | | | Weight (lbs) |
|--------------------------|--------------|--|---------------------------------|-----------------|------|------|------|------|--------------|
| | | | | A | B | C | D | E | |
| 0.5 | SR05 | 1.22 | 0.58 | 3.54 | 7.57 | 0.51 | 2.05 | 2.36 | 4.8 |
| 1 | SR10 | 1.09 | 0.86 | 3.90 | 6.57 | 0.47 | 2.17 | 2.20 | 5.1 |

25/55/100 TON SHOP PRESSES

- Heavy steel welded construction
- Multi-position bed for work height adjustment
- Ideal for the removal or installation of gears, universal joints, pulleys, wrist pins, and other press jobs
- Excellent for bending, bonding, or straightening applications



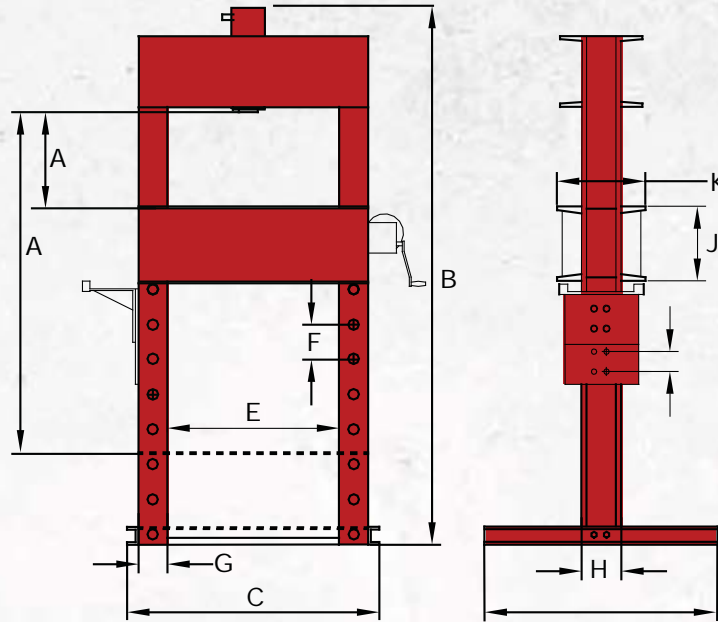
| Capacity (Tons) | Model Number | Pump Type | Pump Model | Cylinder Model | Cylinder Stroke (In) | Bed Positions | Press Dimensions (H X L X W) | Working Space (Min - Max) (in) |
|----------------------|--------------|-------------------|------------|----------------|----------------------|---------------|------------------------------|--------------------------------|
| Single Acting | | | | | | | | |
| 25 | IMP2506 | Manual | P1000 | H2506 | 6 | 8 | 71" X 48" X 28" | 4.5" X 47.25" |
| | IAP2506 | Air | PA1500 | H2506 | 6 | 8 | 71" X 48" X 28" | 4.5" X 47.25" |
| | IEP2506 | Electric | PEW0501T | H2506 | 6 | 8 | 71" X 48" X 28" | 4.5" X 47.25" |
| | IMP2514 | Manual | P2001 | H2514 | 14 | 8 | 71" X 48" X 28" | 4.5" X 47.25" |
| | IAP2514 | Air | PA2000 | H2514 | 14 | 8 | 71" X 48" X 28" | 4.5" X 47.25" |
| | IEP2514 | Electric | PEW0501T | H2514 | 14 | 8 | 71" X 48" X 28" | 4.5" X 47.25" |
| | IEPS2514 | Electric/Solenoid | PESL0501T | H2514 | 14 | 8 | 71" X 48" X 28" | 4.5" X 47.25" |
| 55 | IMP5506 | Manual | P2301 | H5506 | 6 | 9 | 79" X 56" X 30" | 14" X 55.5" |
| | IAP5506 | Air | PA1500 | H5506 | 6 | 9 | 79" X 56" X 30" | 14" X 55.5" |
| | IEP5506 | Electric | PEW0501T | H5506 | 6 | 9 | 79" X 56" X 30" | 14" X 55.5" |
| | IAP5513 | Air | PA3801 | H5513 | 13 | 9 | 79" X 56" X 30" | 14" X 55.5" |
| | IEP5513 | Electric | PEW0501T | H5513 | 13 | 9 | 79" X 56" X 30" | 14" X 55.5" |
| 100 | IMP10010 | Manual | P8701 | H10010 | 10 | 8 | 89" X 63" X 30" | 11.25" X 51" |
| | IAP10010 | Air | PA7550 | H10010 | 10 | 8 | 89" X 63" X 30" | 11.25" X 51" |
| | IEP10010 | Electric | PEW1002T | H10010 | 10 | 8 | 89" X 63" X 30" | 11.25" X 51" |
| | IEPS10010 | Electric/Solenoid | PESL1002T | H10010 | 10 | 8 | 89" X 63" X 30" | 11.25" X 51" |
| Double Acting | | | | | | | | |
| 25 | IMPD2506 | Manual | P2301M | HD2506 | 6 | 6 | 71" X 48" X 28" | 4.5" X 47.25" |
| | IAPD2506 | Air | PA3801M | HD2506 | 6 | 6 | 71" X 48" X 28" | 4.5" X 47.25" |
| | IEPD2506 | Electric | PEWM0501T | HD2506 | 6 | 6 | 71" X 48" X 28" | 4.5" X 47.25" |
| | IEPDS2506 | Electric/Solenoid | PESML0501T | HD2506 | 6 | 6 | 71" X 48" X 28" | 4.5" X 47.25" |
| 55 | IEPD5513 | Electric | PEWM1002T | HD5513 | 13 | 9 | 79" X 56" X 30" | 14" X 55.5" |
| 100 | IEPD10010 | Electric | PEWM1002T | HD10010 | 10 | 8 | 89" X 63" X 30" | 11.25" X 51" |
| | IEPDS10010 | Electric/Solenoid | PESML1002T | HD10010 | 10 | 8 | 89" X 63" X 30" | 11.25" X 51" |



| Model Number | Dimensions (in) | | | | | | | | | | | | Weight (lbs) |
|----------------------|-----------------|----------|----|----|----|------|---|---|-----|---|----|------|--------------|
| | A (Min.) | A (Max.) | B | C | D | E | F | G | H | I | J | K | |
| Single Acting | | | | | | | | | | | | | |
| IMP2506 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IAP2506 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IEP2506 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IMP2514 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IAP2514 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IEP2514 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IEPS2514 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IMP5506 | 14.0 | 55.5 | 79 | 56 | 30 | 35.4 | 6 | 4 | 9 | 3 | 10 | 14.8 | 760 |
| IAP5506 | 14.0 | 55.5 | 79 | 56 | 30 | 35.4 | 6 | 4 | 9 | 3 | 10 | 14.8 | 760 |
| IEP5506 | 14.0 | 55.5 | 79 | 56 | 30 | 35.4 | 6 | 4 | 9 | 3 | 10 | 14.8 | 760 |
| IAP5513 | 14.0 | 55.5 | 79 | 56 | 30 | 35.4 | 6 | 4 | 9 | 3 | 10 | 14.8 | 760 |
| IEP5513 | 14.0 | 55.5 | 79 | 56 | 30 | 35.4 | 6 | 4 | 9 | 3 | 10 | 14.8 | 760 |
| IMP10010 | 14.0 | 55.5 | 79 | 56 | 30 | 35.4 | 6 | 4 | 9 | 3 | 10 | 14.8 | 770 |
| IAP10010 | 11.3 | 51.0 | 89 | 63 | 30 | 35.5 | 8 | - | 10 | - | 12 | 16.0 | 1,550 |
| IEP10010 | 14.0 | 55.5 | 79 | 56 | 30 | 35.4 | 6 | 4 | 9 | 3 | 10 | 14.8 | 770 |
| IEPS10010 | 11.3 | 51.0 | 89 | 63 | 30 | 35.5 | 8 | - | 10 | - | 12 | 16.0 | 1,550 |
| Double Acting | | | | | | | | | | | | | |
| IMPD2506 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IAPD2506 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IEPD2506 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IEPDS2506 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IEPD5513 | 4.5 | 47.25 | 71 | 48 | 28 | 30 | 6 | 3 | 6.5 | 3 | 6 | 11.5 | 560 |
| IEPD10010 | 14.0 | 55.5 | 79 | 56 | 30 | 35.4 | 6 | 4 | 9 | 3 | 10 | 14.8 | 770 |
| IEPDS10010 | 11.3 | 51.0 | 89 | 63 | 30 | 35.5 | 8 | - | 10 | - | 12 | 16.0 | 1,550 |

55 TON SHOP PRESS WITH MOVABLE WORK HEAD

- Heavy steel welded construction
- Cylinder moves from side to side and locks into position
- Multi-position bed for work height adjustment
- Pump, cylinder, hose and fittings are included



| Capacity (Tons) | Model Number | Pump Type | Pump Model | Cylinder Model | Cylinder Stroke (In) | Bed Positions | Press Dimensions (H X L X W) | Working Space (Min - Max) (in) |
|-----------------|--------------|-------------------|------------|----------------|----------------------|---------------|------------------------------|--------------------------------|
| Single Acting | | | | | | | | |
| 55 | IMPR5506 | Manual | P2001 | H5506 | 6 | 7 | 78" X 46.5" X 30" | 15.38" X 51.38" |
| | IAPR5506 | Air | PA2000 | H5506 | 6 | 7 | 78" X 46.5" X 30" | 15.38" X 51.38" |
| | IEPR5506 | Electric | PEW0501T | H5506 | 6 | 7 | 78" X 46.5" X 30" | 15.38" X 51.38" |
| | IAPR5513 | Air | PA2000 | H5513 | 13 | 7 | 85" X 46.5" X 30" | 15.38" X 51.38" |
| | IEPR5513 | Electric | PEW0501T | H5513 | 13 | 7 | 85" X 46.5" X 30" | 15.38" X 51.38" |
| | IEPRS5513 | Electric/Solenoid | PESL0501T | H5513 | 13 | 7 | 85" X 46.5" X 30" | 15.38" X 51.38" |
| Double Acting | | | | | | | | |
| 55 | IAPDR5506 | Air | PA3801M | HD5506 | 6 | 7 | 78" X 46.5" X 30" | 15.38" X 51.38" |
| | IEPDR5513 | Electric | PEWM1002T | HD5513 | 13 | 7 | 85" X 46.5" X 30" | 15.38" X 51.38" |
| | IEPDRS5513 | Electric/Solenoid | PESML1002T | HD5513 | 13 | 7 | 85" X 46.5" X 30" | 15.38" X 51.38" |

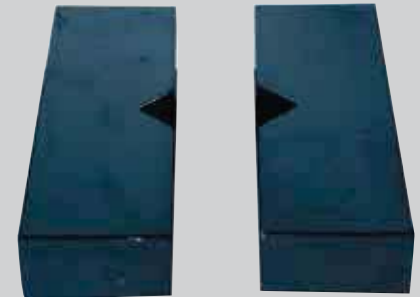
25 TON SHOP PRESS ACCESSORIES

CS25 includes:

- 300-002-229 • Rod forcing cap
- 300-002-807 • V push adapter
- 300-002-953 • Threaded adapter
- 300-002-510 • ¾" push adapter
- 300-002-511 • 1" push adapter
- AP25 • Arbor plates (in pairs)



100 TON SHOP PRESS ACCESSORY



AP100 • ARBOR PLATES
(IN PAIRS)

55 TON SHOP PRESS ACCESSORIES

CS55 includes:

- 400-002-230 • Rod forcing cap
- 400-002-368 • Threaded adapter
- 400-002-757 • 1½" push adapter
- 400-002-756 • 1¼" push adapter
- 400-002-808 • V push adapter
- AP55 • Arbor plates (in pairs)



| Model Number | Dimensions (in) | | | | | | | | | | | | Weight (lbs) |
|---------------|-----------------|----------|----|------|----|-------|---|---|---|---|----|----|--------------|
| | A (Min.) | A (Max.) | B | C | D | E | F | G | H | I | J | K | |
| Single Acting | | | | | | | | | | | | | |
| IMPR5506 | 15.38 | 51.38 | 78 | 46.5 | 30 | 35.75 | 6 | 4 | 9 | 3 | 10 | 15 | 955 |
| IAPR5506 | 15.38 | 51.38 | 78 | 46.5 | 30 | 35.75 | 6 | 4 | 9 | 3 | 10 | 15 | 950 |
| IEPR5506 | 15.38 | 51.38 | 78 | 46.5 | 30 | 35.75 | 6 | 4 | 9 | 3 | 10 | 15 | 1015 |
| IAPR5513 | 15.38 | 51.38 | 85 | 46.5 | 30 | 35.75 | 6 | 4 | 9 | 3 | 10 | 15 | 991 |
| IEPR5513 | 15.38 | 51.38 | 85 | 46.5 | 30 | 35.75 | 6 | 4 | 9 | 3 | 10 | 15 | 1048 |
| IEPRS5513 | 15.38 | 51.38 | 85 | 46.5 | 30 | 35.75 | 6 | 4 | 9 | 3 | 10 | 15 | 1050 |
| Double Acting | | | | | | | | | | | | | |
| IAPDR5506 | 15.38 | 51.38 | 78 | 46.5 | 30 | 35.75 | 6 | 4 | 9 | 3 | 10 | 15 | 955 |
| IEPDR5513 | 15.38 | 51.38 | 85 | 46.5 | 30 | 35.75 | 6 | 4 | 9 | 3 | 10 | 15 | 1020 |
| IEPDRS5513 | 15.38 | 51.38 | 85 | 46.5 | 30 | 35.75 | 6 | 4 | 9 | 3 | 10 | 15 | 1022 |

MANUAL BOTTLE JACKS

- Hydraulic system is protected from internal damage by a patented by-pass mechanism, U.S. Patent No.5,946,912
- Machined and polished cylinders with die-cut threads provide non-abrasive leak-free, durable performance
- Fabricated from hard-cast steel with heat-treated critical stress areas
- Unique cross-type forged release valve assures positive load control
- A wide, rugged base provides stability and strength

| Capacity (ton) | Model Number | Min. Height (in) | Max. Height (in) | Hydraulic Lifting (in) | Extension Screw (in) | Base Size Length (in) | Base Size Width (in) | Weight (lbs) |
|----------------|--------------|------------------|------------------|------------------------|----------------------|-----------------------|----------------------|--------------|
| 12 | J10125 | 9½ | 18½ | 6 | 3½ | 5¼ | 5½ | 17.5 |
| | J10129 | 6 | 10½ | 3 | 1½ | 5¼ | 5½ | 14.9 |
| 20 | J10205 | 9½ | 18½ | 6 | 3½ | 6¼ | 5½ | 27.5 |
| | J10209 | 6½ | 11¼ | 3½ | 1½ | 6¼ | 5½ | 21.8 |
| 30 | J10300 | 11 | 18 | 7 | - | 8½ | 6½ | 53.5 |
| 50 | J10500 | 9½ | 13½ | 4½ | - | 10½ | 7½ | 103.5 |



AIR/MANUAL BOTTLE JACKS

- Effortless air operation will greatly reduce operator fatigue and speed up the efficiency of industrial work
- A compact yet powerful air turbo motor U.S. Patent No. 5,341,723 is equipped to raise the load to the desired height efficiently, effortlessly, and safely
- Hydraulic system is protected from internal damage by a patented by-pass mechanism, U.S. Patent No.5,946,912
- Versatile "Quick Connector" design provides for easy removal of air hose from air motor allowing compact storage or remote operation
- All air bottle jacks have chrome plated rods



| Capacity (ton) | Model Number | Min. Height (in) | Max. Height (in) | Hydraulic Lifting (in) | Extension Screw (in) | Base Size Length (in) | Base Size Width (in) | Input Air Pressure Range (psi) | Weight (lbs) |
|----------------|--------------|------------------|------------------|------------------------|----------------------|-----------------------|----------------------|--------------------------------|--------------|
| 12 | J18122 | 9½ | 18½ | 5½ | 3½ | 7½ | 6½ | 110-175 | 28.6 |
| 20 | J18202 | 9¾ | 18¾ | 5½ | 3½ | 8¼ | 7¼ | 110-175 | 37.4 |
| 30 | J18302 | 11 | 18 | 7 | - | 10¼ | 8¼ | 110-175 | 60.5 |
| 50 | J18502 | 12 | 19 | 7 | - | 10½ | 7-¾ | 110-175 | 128.5 |
| 100 | J18992* | 12 | 18½ | 6½ | - | 12½ | 9-¾ | 110-175 | 205.9 |

*AIR OPERATED ONLY

TOE JACKS

- Heat treated and chrome plated medium-carbon steel cylinder
- Chrome plated rod promotes longer seal life and optimum performance
- U.S. Patented by-pass device protects hydraulic system from over traveling damage
- Hydraulic system is protected from internal damage by a patented by-pass mechanism, U.S. Patent No.5,946,912



| Capacity (tons) | Model Number | Toe Saddle | | Head Saddle | | Hydraulic Lifting (in) | Base Size (L x W) (in) | Weight (lbs) |
|-----------------|--------------|------------------|------------------|------------------|------------------|------------------------|------------------------|--------------|
| | | Min. Height (in) | Max. Height (in) | Min. Height (in) | Max. Height (in) | | | |
| 3 | J13060 | 0.62 | 5.75 | 9.0 | 14.12 | 5.12 | 6.00 x 4.37 | 36.1 |
| 6 | J13120 | 0.88 | 6.00 | 10.50 | 15.63 | 5.13 | 11.00 x 7.50 | 55.0 |
| 10 | J13200 | 1.13 | 6.25 | 11.00 | 16.13 | 5.13 | 11.63 x 9.00 | 84.0 |
| 15 | J13300 | 1.13 | 6.63 | 13.13 | 18.63 | 5.50 | 12.50 x 10.75 | 116.6 |

MINI JACKS

- Low profile mini jack
- Pocket size and lightweight
- Convenient for storage

Interchangeable saddle
on model J11050 and J11055



J11100



| Capacity (tons) | Model Number | Minimum Height (in) | Maximum Height (in) | Hydraulic Lifting (in) | Base Size (L x W) (in) | Weight (lbs) |
|-----------------|--------------|---------------------|---------------------|------------------------|------------------------|--------------|
| 5 | J11050 | 2.37 | 3.13 | 0.76 | 4.13 x 4.00 | 4.6 |
| 5 | J11055 | 3.37 | 4.88 | 1.51 | 4.13 x 4.00 | 5.3 |
| 10 | J11100 | 4.75 | 6.25 | 1.63 | 4.88 x 4.38 | 12.5 |
| 20 | J11200 | 5.13 | 6.75 | 1.63 | 5.38 x 4.75 | 16.7 |

BEAD BREAKER

- 5" opening
- Works on single rimmed wheels
- Constructed from rugged steel
- Works with any 10,000 PSI pump
- Hydraulic pressure does all the unseating
- Light weight and portable



J22910

| Capacity | Model | Maximum Rod Size | Hydraulic Oil Capacity | Product Size | Weight (lbs) |
|----------|--------|------------------|------------------------|------------------|--------------|
| 5 Ton | J22910 | 26" | 250 mL | 17½" X 5½" X 12" | 36 |

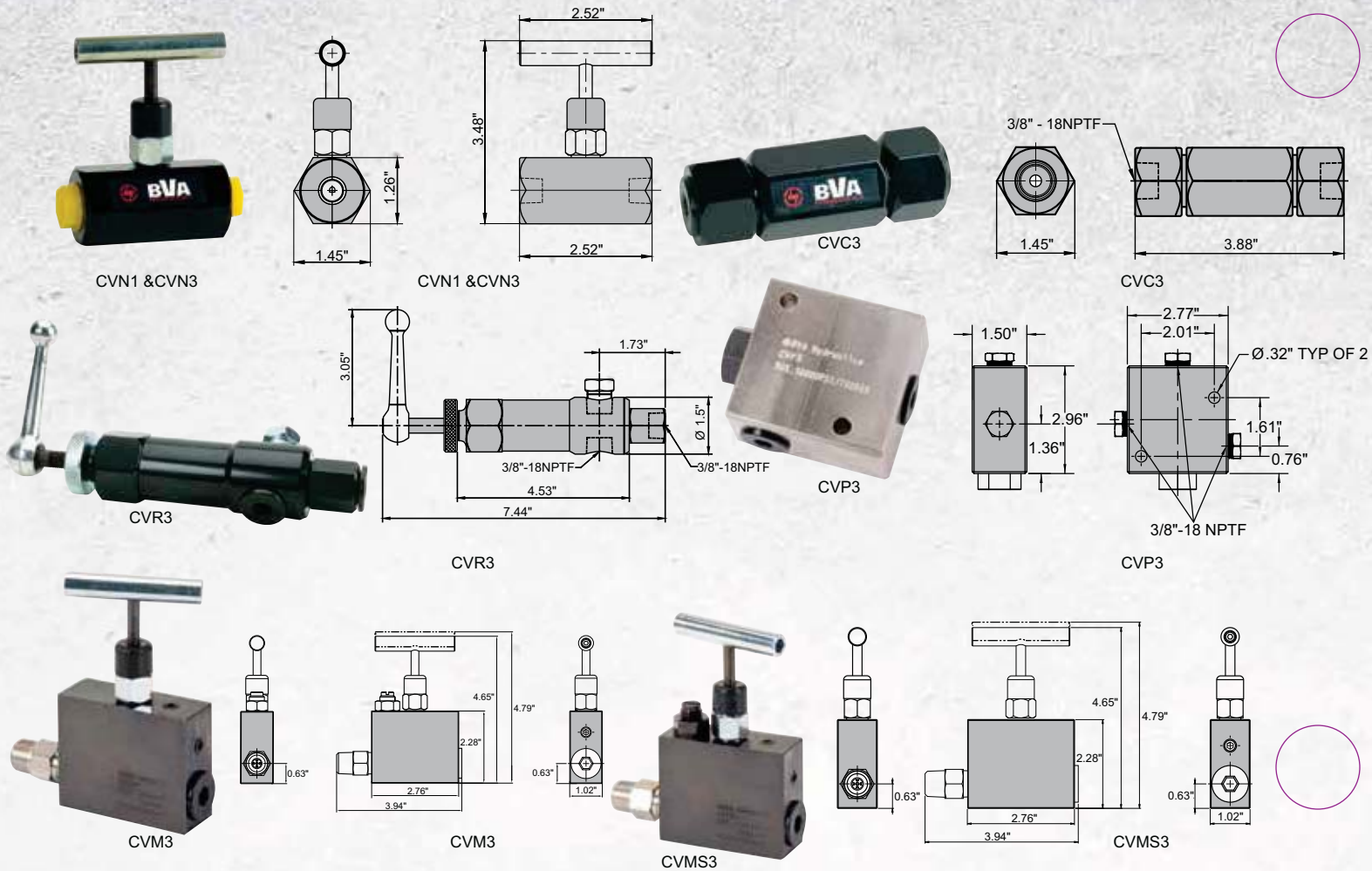
J22953 Bead Breaker Combo

Includes:

- J22910 Bead breaker
- PA1500 Metal air pump
- CS3838C Hydraulic hose
- CH38 Hydraulic coupler set



FLOW CONTROL VALVES



| Valve Type | Model Number | Ports | Application | 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 to a cylinder and will hold pressure in cylinder 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 | |
| Pressure Relief Valve | CVR3 | 3/8"-18NPTF | Controls pressure developed by the pump in hydraulic loop. By-pass occurs when pre-set pressure is reached. Turns clockwise to increase pressure, counter clockwise to decrease | |
| Manual Operated Check Valve | CVM3 | 3/8"-18NPTF | Mounted in line to a cylinder and will hold pressure in the cylinder in the event of pressure loss in the system. Pressure is manually released. | |
| | CVMS3 | 3/8"-18NPTF | Mounted in line to 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. | |

MANIFOLDS

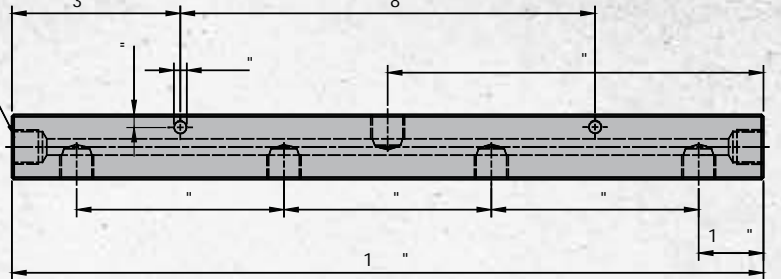
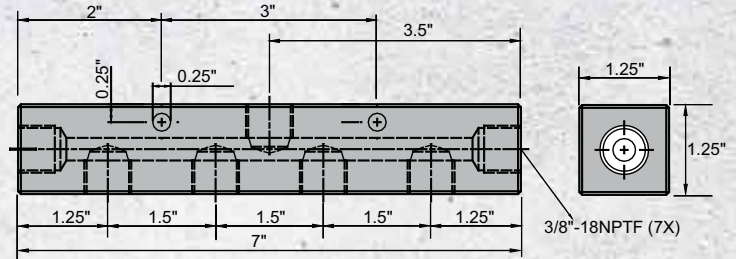
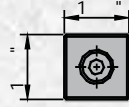
CM7



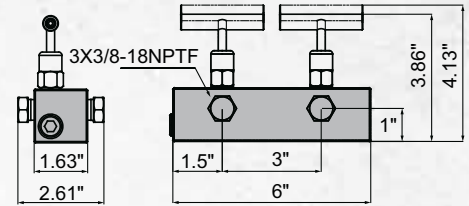
CM14



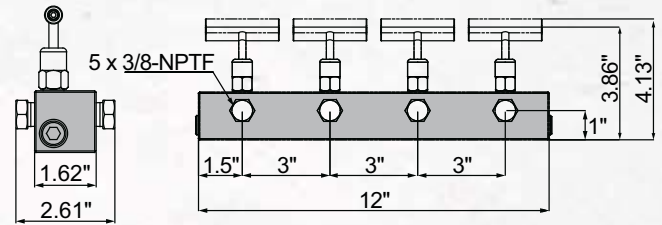
3/8" -18NPTF



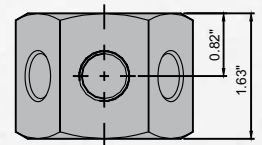
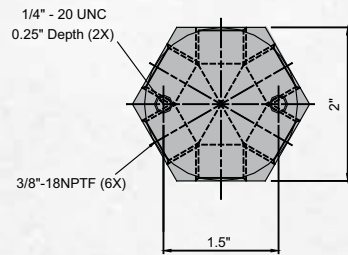
MFC2



MFC4



CMH6



FCMH6

- Controls the flow of 5 hydraulic hoses from one central location
- Sturdy design for long product life
- Convenient carry handle

FCMH6



| Manifold Type | Model Number | Number of Ports | Port Size | Mounting Hole |
|----------------------------------|--------------|-----------------|-------------|---------------|
| 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 | 3 | 3/8"-18NPTF | 4.4 |
| Manifold with Four Needle Valves | MFC4 | 5 | 3/8"-18NPTF | 10.1 |
| Spider Valves | FCMH6 | 6 | 3/8"-18NPTF | - |

HYDRAULIC PRESSURE GAUGE

| Gauge Type | Model Number | Face Diameter (in) | Thread (in) | Pressure Range | | Graduation | | | |
|------------|--------------|--------------------|-------------|----------------|-------|------------------------|------------------------|------------------------|------------------------|
| | | | | (psi) | (bar) | Major Graduation (psi) | Minor Graduation (psi) | Major Graduation (bar) | Minor Graduation (bar) |
| Dry | GD2514 | 2.50 | 1/4"-18NPTF | 0-10,000 | 0-700 | 1,000 | 200 | 100 | 10 |
| | GD4014 | 4.00 | | | | 2,000 | 100 | | |
| Wet | GW2514 | 2.50 | | | | 1,000 | 200 | | |
| | GW4014 | 4.00 | | | | 2,000 | 100 | | |

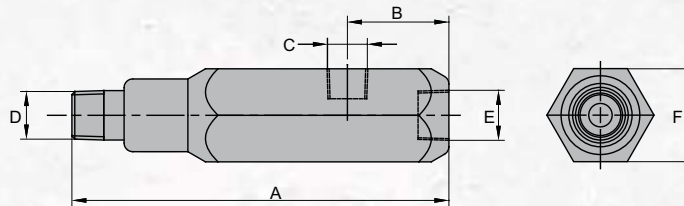


PRESSURE & WEIGHT GAUGES

- Gauge indicates hydraulic pressure and weight
- Pressure and weight gauges can be ordered for all BVA cylinders
- Call if the cylinder is not listed

| Model Number | Gauge Type | Face Diameter (in) | Use with Cylinders | Thread |
|---------------|------------|--------------------|-------------------------------------|---------------|
| GW2514-0100LB | WET | 2.50 | H0501 THROUGH H0509 | 1/4" - 18NPTF |
| GW2514-0224LB | WET | 2.50 | H1001 THROUGH H1014, HD1010, HD1012 | 1/4" - 18NPTF |
| GW2514-0314LB | WET | 2.50 | H1501 THROUGH H1514 | 1/4" - 18NPTF |
| GW2514-0515LB | WET | 2.50 | H2501 THROUGH H2514 | 1/4" - 18NPTF |

GAUGE ADAPTER



| Model Number | Dimensions (in) | | | | | |
|--------------|-----------------|------|-------------|-------------|-------------|------|
| | A | B | C | D | E | F |
| CF3814 | 5.12 | 1.38 | 1/4"-18NPTF | 3/8"-18NPTF | 3/8"-18NPTF | 1.25 |

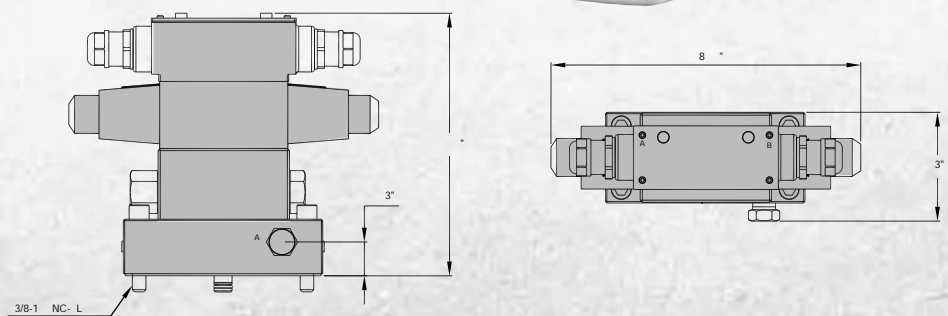
HYDRAULIC OIL

- Recommended for all
- BVA cylinders and pumps

| Volume (gal) | Model Number | Viscosity Index (min) | Viscosity @ 100°F (S.U.S.) | Viscosity @ 210°F (S.U.S.) | ASTM Grade | Flash Point (°F) | Pour Point (°F) | API Gravity |
|--------------|--------------|-----------------------|----------------------------|----------------------------|------------|------------------|-----------------|-------------|
| 1 | F01 | 144 | 234 | 53 | 215 | 356 | -49 | 30.8 |



SOLENOID VALVE



| Use With Cylinder | Model Number | Valve Type | Valve Function | Hydraulic Symbol | Schematic Flow path | | | Weight (lbs) |
|-------------------|--------------|-----------------|-----------------------|------------------|---------------------|--|--|--------------|
| Single Acting | PS33L | Solenoid 115VAC | Advance/ Hold/ Return | | | | | 7.0 |
| Double Acting | PS43L | Solenoid 115VAC | Advance/ Hold/ Return | | | | | 7.0 |

PUMP MOUNTED MANIFOLD BLOCK

- Converts BVA pumps with pump mounted valves for use with remote mounted valves
- Comes with 4 mounting screws



CMR2

PRESSURE SWITCH



CVS1

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

| Model Number | Adjustable Pressure Range | Electrical Rating | Port Size | Weight (lbs) |
|--------------|---------------------------|-------------------|-----------|--------------|
| CVS1 | 1,000~10,150 psi | 15 amp @ 250V max | ¼"-18NPTF | 1.32 |



PLASTIC DUST COVER

- Works with CH38
- Helps keep hydraulic oil clean for long equipment life

CDC38

PUMP ACCESSORIES

FOOT PEDAL (-FP2)

- For hands free pump operation
- Can be used with all pumps equipped with solenoid valves.

FOOT CONTROLS ON 10' CORD. THIS OPTION REPLACES THE HAND CONTROLS ON PESL AND PESML MODELS.



FP2

WIRELESS HAND HELD CONTROL (-W)

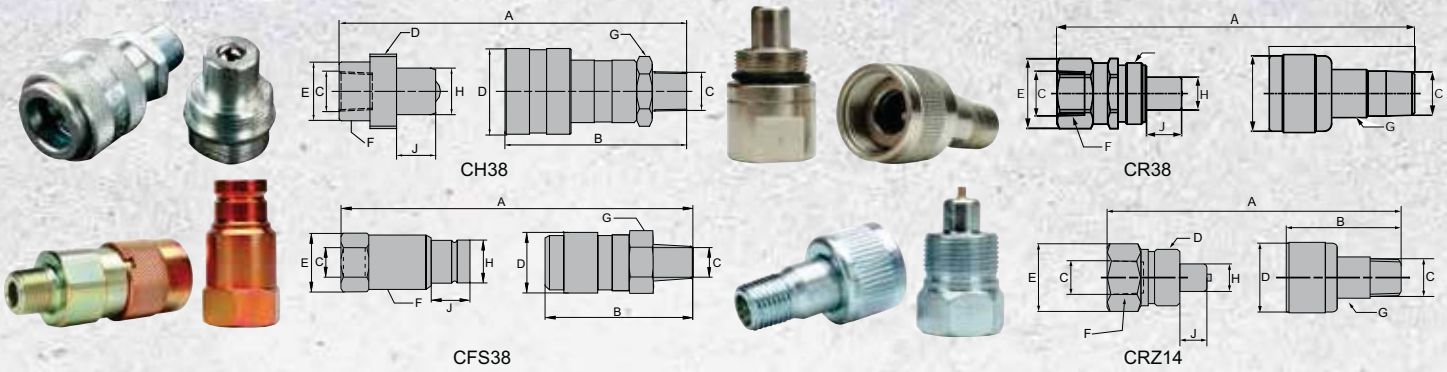
- Allows for increase mobility and safety
- Nominal range of 325 feet (greater with line of sight)
- Batteries last 100 hours with continuous keypress (2 AAA batteries)
- For hands free pump operation
- Can be used with all pumps equipped with solenoid valves

EXTERNAL PRESSURE ADJUSTMENT (-AS)

- Pressure can be adjusted externally (10,000 psi max)
- Works with single and double acting cylinders
- Can only be used with solenoid valves

| Options | Description | Example ordering: |
|---------|---|-------------------|
| -FP2 | Foot controls on 10' cord. This option replaces the hand controls on PESL and PESML models. | PESML3006T-3-FT2 |
| -W | Wireless hand held control | PGSL1010-W |
| -AS | External pressure adjustment | PESL1002T-AS |

HYDRAULIC COUPLERS



| Coupler Type | Model Number | | | Dimensions (in) | | | | | | | | |
|----------------------|--------------|-----------|-------------|-----------------|------|-------------|------------|------|------|------|------|------|
| | Complete Set | Male Half | Female Half | A* | B | C | D | E | F | G | H | J |
| High-Flow Coupler | CH38 | CH38M | CH38F | 3.35 | 2.84 | 3/8"-18NPTF | 1-3/16"-16 | 1.10 | 0.94 | 1.00 | 0.75 | 0.63 |
| Flush-Face Coupler | CFS38 | CFS38M | CFS38F | 4.36 | 2.85 | 3/8"-18NPTF | 1.19 | 1.21 | 1.06 | 1.12 | 0.79 | 0.63 |
| Regular-Flow Coupler | CR38 | CR38M | CR38F | 3.15 | 2.20 | 3/8"-18NPTF | 15/16"-20 | 1.04 | 0.94 | 0.73 | 0.50 | 0.53 |
| Zinc Coupler | CRZ14 | CRZ14M | CRZ14F | 2.42 | 1.67 | 1/4"-18NPTF | 13/16"-20 | 0.95 | 0.83 | 0.58 | 0.39 | 0.35 |

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

HYDRAULIC HOSE



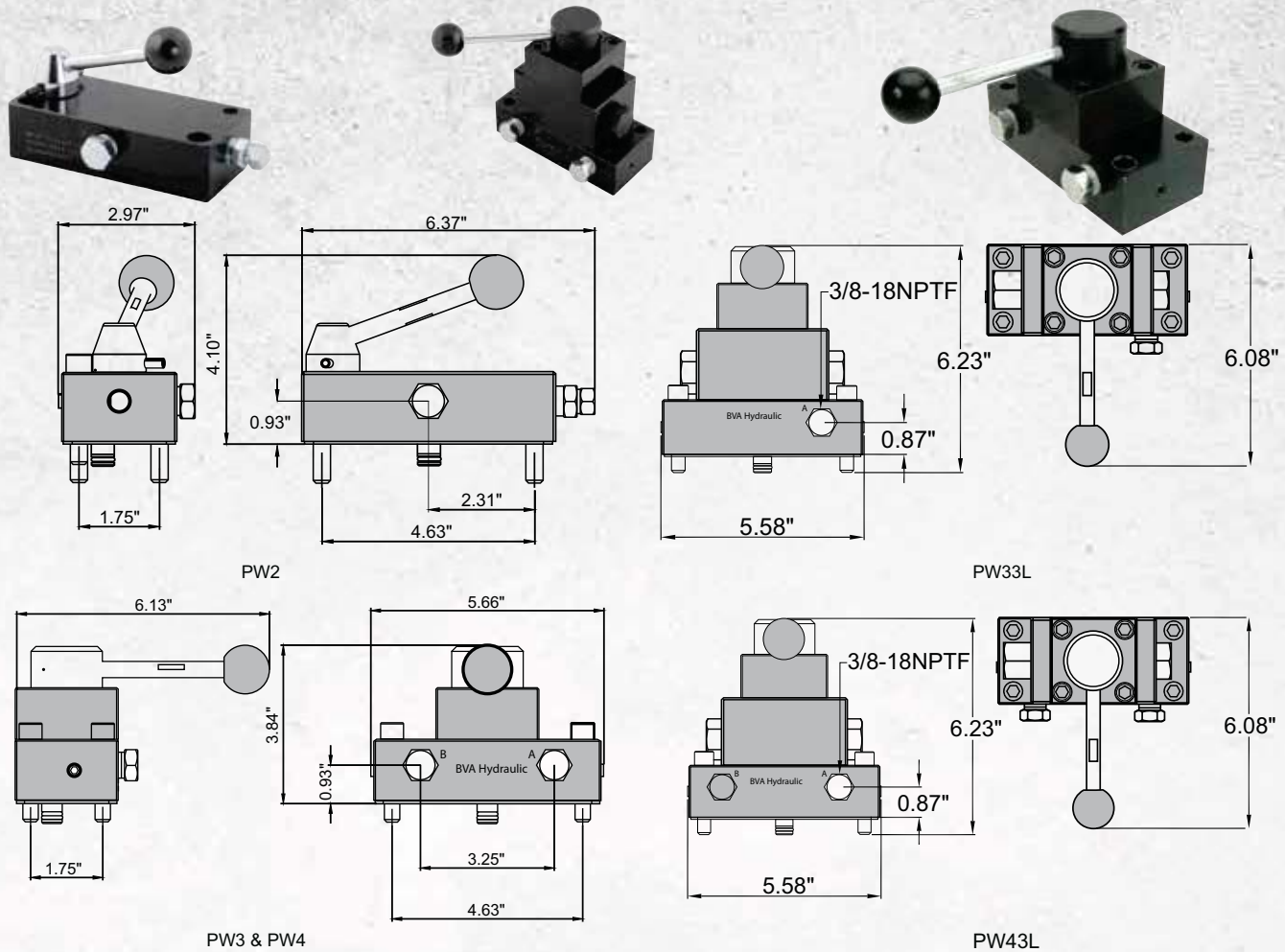
| Hose I.D. (in) | Model Number | | Hose End Fittings | Operating Pressure (psi) | Hose Length (ft) | Hose Oil Capacity (in ³) |
|----------------|--------------|----------------|-------------------|--------------------------|------------------|--------------------------------------|
| | Rubber | Thermo-Plastic | | | | |
| 1/4" | CS1414 | - | 1/4"-18NPTF | 10,000 | 6 | 3.53 |
| | CS3814 | CT3814 | 3/8"-18NPTF | 10,000 | 6 | 3.53 |
| | CS3814A | - | 3/8"-18NPTF | 10,000 | 2 | 1.18 |
| | CS3814B | CT3814B | 3/8"-18NPTF | 10,000 | 3 | 1.77 |
| | CS3814C | CT3814C | 3/8"-18NPTF | 10,000 | 10 | 5.89 |
| | CS3814D | CT3814D | 3/8"-18NPTF | 10,000 | 20 | 11.78 |
| 3/8" | CS3814G | CT3814E | 3/8"-18NPTF | 10,000 | 30 | 17.76 |
| | CS1438 | - | 1/4"-18NPTF | 10,000 | 6 | 8.08 |
| | CS3838 | CT3838 | 3/8"-18NPTF | 10,000 | 6 | 7.95 |
| | CS3838C | CT3838C | 3/8"-18NPTF | 10,000 | 10 | 13.25 |
| | CS3838D | CT3838D | 3/8"-18NPTF | 10,000 | 20 | 26.51 |
| | CS3838E | CT3838E | 3/8"-18NPTF | 10,000 | 30 | 39.76 |
| | CS3838F | - | 3/8"-18NPTF | 10,000 | 50 | 66.25 |

HOSE SETS



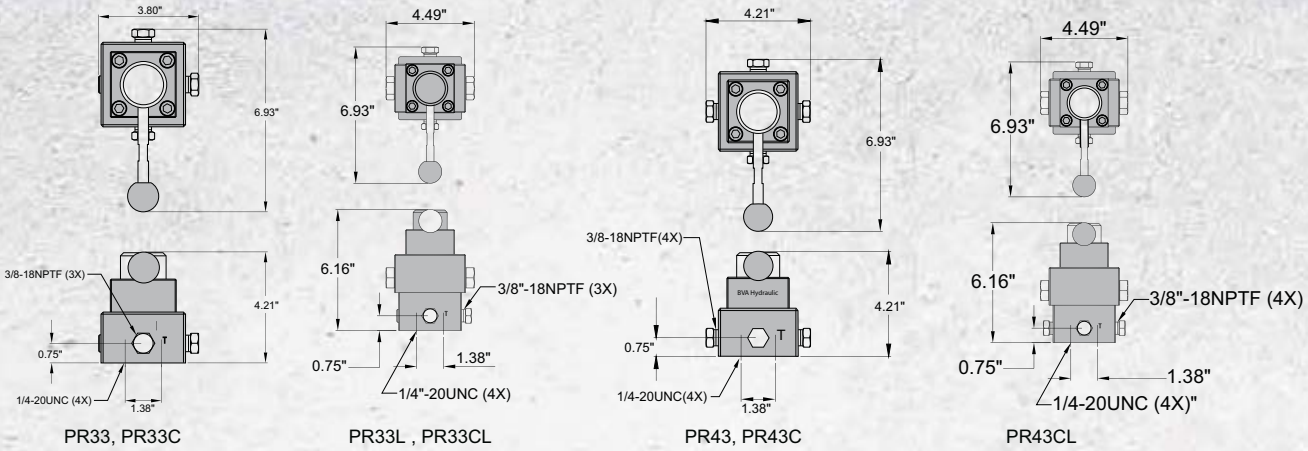
| Hose I.D. (in) | Hose Model | Hose Length (ft) | Coupler | | |
|------------------------|------------|------------------|----------|-----------|----------|
| | | | CH38M | CR38M | CRZ14M |
| 1/4" Rubber | CS3814B | 3 | CS3814BM | CS3814BRM | - |
| | CS3814 | 6 | CS3814M | - | CS3814QM |
| | CS3814C | 10 | CS3814CM | CS3814CRM | - |
| | CS3814D | 20 | CS3814DM | CS3814DRM | - |
| 3/8" Rubber | CS3838 | 6 | CS3838M | - | - |
| | CS3838C | 10 | CS3838CM | - | - |
| | CS3838D | 20 | CS3838DM | - | - |
| | CS3838E | 30 | CS3838CM | - | - |
| | CS3838F | 50 | CS3838FM | - | - |
| 1/4" Thermo Plastic | CT3814 | 6 | CT3814M | - | - |
| | CT3814C | 10 | CT3814CM | - | - |

PUMP MOUNTED VALVES



| Valve Operation | Valve Type | Use with Cylinder | Model Number | Hydraulic Symbol | Schematic Flow path | | | Weight (lbs) |
|-----------------|---|-------------------|--------------|------------------|---------------------|--|---|--------------|
| Manual | 2-Way, 2-Position | Single Acting | PW2 | | | | - | 4 |
| | 3-way, 3-Position, Tandem center | Single Acting | PW3 | | | | | 4 |
| | 4-Way, 3-Position, Tandem center | Double Acting | PW4 | | | | | 3 |
| | 3-Way, 3-Position, Tandem center, Locking | Single Acting | PW33L | | | | | 5.95 |
| | 4-Way, 3-Position, Tandem center, Locking | Double Acting | PW43L | | | | | 5.95 |

REMOTE MOUNTED DIRECTIONAL CONTROL VALVES



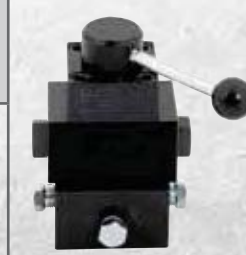
| Valve Operation | Valve Type | Use With Cylinder | Model Number | Hydraulic Symbol | Schematic Flow path | | | Weight (lbs) |
|-----------------|---|-------------------|--------------|------------------|---------------------|--|--|--------------|
| Manual | 3-Way, 3 Position, Tandem center | Single Acting | PR33 | | | | | 3.53 |
| | 3-Way, 3 Position, Closed center | | PR33C | | | | | 3.53 |
| | 3-Way, 3 Position, Tandem center, Locking | | PR33L | | | | | 5.73 |
| | 3-Way, 3 Position, Closed center, Locking | | PR33CL | | | | | 5.73 |
| | 4-Way, 3 Position, Tandem center | | PR43 | | | | | 3.53 |
| | 4-Way, 3 Position, Tandem center, Locking | | PR43L | | | | | 5.73 |
| Manual | 4-Way, 3 Position, Closed center | Double Acting | PR43C | | | | | 3.53 |
| | 4-Way, 3 Position, Tandem, Closed center, Locking | | PR43CL | | | | | 5.73 |



PR33


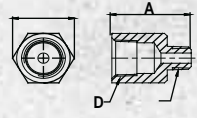

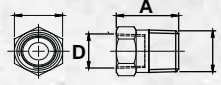

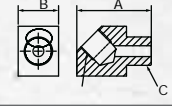

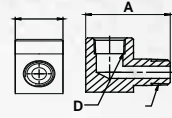

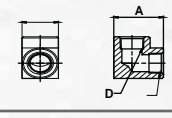

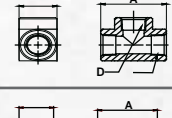

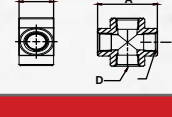

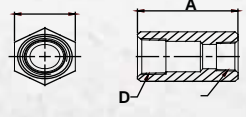

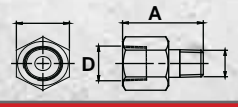

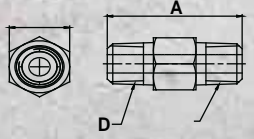


PR43C



PR43L

FITTINGS

| Fitting Type | Model Number | Dimension | | | | | |
|---|---|-----------|--------|------|--------------------|--------------------|---|
| | | A (in) | B (in) | C | D | | |
| Adaptors | | | | | | | |
|  | Adaptor 1/2"-14 Female 3/8"-18 Male - NPTF | FT108 | 1.69 | 1.14 | Male 3/8"-18NPTF | Female 1/2"-14NPTF |  |
| | Adaptor 1/2"-14 Female 1/4"-18 Male - NPTF | FT118 | 1.69 | 1.14 | Male 1/4"-18NPTF | Female 1/2"-14NPTF | |
| Bushings | | | | | | | |
|  | Bushing | CB1438 | 0.87 | 0.67 | Male 3/8"-18NPTF | Female 1/4"-18NPTF |  |
| | Bushing | CB1412 | 1.10 | 0.87 | Male 1/2"-18NPTF | Female 1/4"-18NPTF | |
| | Bushing | CB3812 | 1.10 | 0.87 | Male 1/2"-18NPTF | Female 3/8"-18NPTF | |
| Connectors | | | | | | | |
|  | 2 way 45° Connector Street Elbow, 3/8" to 3/8"-NPTF | FT045 | 1.89 | 1.02 | Male 3/8"-18NPTF | Female 3/8"-18NPTF |  |
|  | 2 way 90° Connector Street Elbow, 3/8" to 3/8"-NPTF | FT101 | 1.81 | 1.02 | Male 3/8"-18NPTF | Female 3/8"-18NPTF |  |
|  | 2 way 90° Connector Elbow, 3/8" to 3/8" - NPTF | FT107 | 1.40 | 1.02 | Female 3/8"-18NPTF | Female 3/8"-18NPTF |  |
|  | 3 Way Connector 3/8" to 3/8" - NPTF | FT106 | 1.77 | 1.02 | Female 3/8"-18NPTF | Female 3/8"-18NPTF |  |
|  | 4 Way Connector Cross, 3/8" to 3/8" - NPTF | FT105 | 1.77 | 1.02 | Female 3/8"-18NPTF | Female 3/8"-18NPTF |  |
| Couplings | | | | | | | |
|  | Coupling Reducing Connector, 3/8" to 1/4"-NPTF | FT102 | 1.18 | 1.02 | Female 1/4"-18NPTF | Female 3/8"-18NPTF |  |
| | Coupling Reducing Connector, 1/2" to 3/8" - NPTF | FT112 | 1.89 | 1.14 | Female 1/2"-14NPTF | Female 3/8"-18NPTF | |
| | Coupling 3/8" to 3/8" - NPTF | FT103 | 1.18 | 1.02 | Female 3/8"-18NPTF | Female 3/8"-18NPTF | |
| Fitting | | | | | | | |
|  | Fitting | CA3814 | 1.38 | 0.91 | Male 1/4"-18NPTF | Female 3/8"-18NPTF |  |
| Male Connectors | | | | | | | |
|  | Male Connector Hex Nipple, 1/4" to 1/4" - NPTF | FT104 | 1.50 | 0.67 | Male 1/4"-18NPTF | Male 1/4"-18NPTF |  |
| | Male Connector Hex Nipple, 3/8" to 3/8" - NPTF | FT114 | 1.50 | 0.75 | Male 3/8"-18NPTF | Male 3/8"-18NPTF | |
| | Male Connector Hex Nipple, 1/4" to 3/8" - NPTF | FT124 | 1.45 | 0.75 | Male 1/4"-18NPTF | Male 3/8"-14NPTF | |

BVA CROSS REFERENCE CHART

| Ton | BVA | ENERPAC | Power Team | Simplex |
|--------------------------------|--------|----------|------------|---------|
| Single Acting Cylinders | | | | |
| 5 | H0500 | RC-50 | - | R50 |
| | H0501 | RC-51 | C51C | R51 |
| | H0503 | RC-53 | C53C | R53 |
| | H0505 | RC-55 | C55C | R55 |
| | H0507 | RC-57 | C57C | R57 |
| | H0509 | RC-59 | C59C | R59 |
| 10 | H1001 | RC-101 | C101C | R101 |
| | H1002 | RC-102 | C102C | R102 |
| | H1004 | RC-104 | C104C | R104 |
| | H1006 | RC-106 | C106C | R106 |
| | H1008 | RC-108 | C108C | R108 |
| | H1010 | RC-1010 | C1010C | R1010 |
| | H1012 | RC-1012 | C1012C | R1012 |
| | H1014 | RC-1014 | C1014C | R1014 |
| 15 | H1501 | RC-151 | C151C | - |
| | H1502 | RC-152 | C152C | R152 |
| | H1504 | RC-154 | C154C | R154 |
| | H1506 | RC-156 | C156C | R156 |
| | H1508 | RC-158 | C158C | - |
| | H1510 | RC-1510 | C1510C | R1510 |
| | H1512 | RC-1512 | C1512C | - |
| | H1514 | RC-1514 | C1514C | R1514 |
| 25 | H2501 | RC-251 | C251C | R251 |
| | H2502 | RC-252 | C252C | R252 |
| | H2504 | RC-254 | C254C | R254 |
| | H2506 | RC-256 | C256C | R256 |
| | H2508 | RC-258 | C258C | R258 |
| | H2510 | RC-2510 | C2510C | R2510 |
| | H2512 | RC-2512 | C2512C | R2512 |
| | H2514 | RC-2514 | C2514C | R2514 |
| 30 | H3008 | RC-308 | - | R308 |
| | H5502 | RC-502 | C552C | R552 |
| | H5504 | RC-504 | C554C | R554 |
| | H5506 | RC-506 | C556C | R556 |
| 55 | H5513 | RC-5013 | C5513C | R5513 |
| | H7506 | RC-756 | C756C | R756 |
| | H7513 | RC-7513 | C7513C | R7513 |
| 75 | H10006 | RC-1006 | C1006C | R1006 |
| | H10010 | RC-10010 | C10010C | R10010 |

| Ton | BVA | ENERPAC | Power Team | Simplex |
|------------------------------|-------------|-----------|------------|----------|
| Threaded Cylinders | | | | |
| 10 | HT1006 | - | C106CBT | - |
| | HT1010 | - | C1010CBT | - |
| Aluminum Cylinders | | | | |
| 30 | HU3002 | RAC-302 | RA302 | - |
| | HU3004 | RAC-304 | RA304 | - |
| | HU3006 | RAC-306 | RA306 | RAS306B |
| 50 | HU5002 | RAC-502 | RA552 | RAS502A |
| | HU5004 | RAC-504 | RA554 | - |
| | HU5006 | RAC-506 | RA556 | RAS508A |
| | HU5010 | RAC-5010 | RA5510 | - |
| 75 | HU7504 | - | - | - |
| | HU7506 | - | - | - |
| 100 | HU10002 | RAC-1002 | RA1002 | RAS1002A |
| | HU10006 | RAC-1006 | RA1006 | RAS1008A |
| | HU10010 | RAC-10010 | - | - |
| Low Profile Cylinders | | | | |
| 10 | HL1001 | RCS-101 | RSS101 | RLS101 |
| 20 | HL2002 | RCS-201 | RSS202 | RLS201 |
| 30 | HL3002 | RCS-302 | RSS302 | RLS302 |
| 50 | HL5002 | RCS-502 | RSS502 | RLS502 |
| 100 | HL10002 | RCS-1002 | RSS1002 | RLS1002 |
| Flat Body Cylinders | | | | |
| 5 | HF0503 | RSM-50 | RLS50 | - |
| | HF0503B kit | - | - | - |
| 10 | HF1005 | RSM-100 | RLS100 | RFS10 |
| | HF1005B kit | - | - | - |
| 20 | HF2005 | RSM-200 | RLS200 | RFS20 |
| | HF2005B kit | - | - | - |
| 30 | HF3005 | RSM-300 | RLS300 | RFS30 |
| | HF3005B kit | - | - | - |
| 50 | HF5006B | RSM-500 | RLS500S | RFS50 |
| 75 | HF7506 | RSM-750 | RLS750S | RFS75 |
| 100 | HF10006 | RSM-1000 | RLS1000S | RFS100 |
| 150 | HF15006 | RSM-1500 | RLS1500S | RFS150 |
| Pull Cylinders | | | | |
| 2 | HP0205 | BRC-25 | RP25 | RP25 |
| 5 | HP0505 | BRC-46 | RP55 | RP55 |
| 10 | HP1006 | BRC-106 | - | - |
| Ton | BVA | ENERPAC | Power Team | Simplex |

| Hollow Hole Cylinders | | | | |
|--------------------------------|----------|-----------|---------|----------|
| 12 | HC1201T | RCH-120 | RH120 | RC120 |
| | HC1202T | RCH-121 | RH121 | RC121 |
| | HC1202XT | RCH-1211 | RH121T | RC1211 |
| | HC1203XT | RCH-123 | RH123 | RC123 |
| 20 | HC2002T | RCH-202 | RH202 | RC202 |
| | HC2006T | RCH-206 | RH206 | RC206 |
| 30 | HC3002T | RCH-302 | RH302 | RC302 |
| | HC3006T | RCH-306 | RH306 | RC306 |
| 60 | HC6003T | RCH-603 | RH603 | RC603 |
| | HC6006T | RCH-606 | RH606 | RC606 |
| 100 | HC10003T | RCH-1003 | RH1003 | RC1003 |
| Lock Nut Cylinders | | | | |
| 55 | HLN5502 | CLL-502 | R552L | RLN502 |
| | HLN5504 | CLL-504 | - | - |
| | HLN5506 | CLL-506 | R556L | RLN506 |
| | HLN5508 | CLL-508 | - | - |
| | HLN5510 | CLL-5010 | R5510L | RLN5010 |
| | HLN5512 | CLL-5012 | - | - |
| 100 | HLN10002 | CLL-1002 | R1002L | RLN1002 |
| | HLN10004 | CLL-1004 | - | - |
| | HLN10006 | CLL-1006 | R1006L | RLN1006 |
| | HLN10008 | CLL-1008 | - | - |
| | HLN10010 | CLL-10010 | R10010L | RLN10010 |
| | HLN10012 | CLL-10012 | - | - |
| Double Acting Cylinders | | | | |
| 10 | HD1010 | RR-1010 | RD1010 | RDA1010 |
| | HD1012 | RR-1012 | - | - |
| 30 | HD3008 | RR-308 | - | RDA308 |
| | HD3014 | RR-3014 | RD2514 | RDA3014 |
| 55 | HD5506 | RR-506 | RD556 | RDA556 |
| | HD5513 | RR-5013 | RD5513 | RDA5512 |
| | HD5520 | RR-5020 | RD5518 | RDA5523 |
| 75 | HD7506 | RR-756 | - | - |
| | HD7513 | RR-7513 | - | - |
| 100 | HD10006 | RR-1006 | RD1006 | RDA1006 |
| | HD10013 | RR-10013 | RD10013 | RDA10012 |

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For comparison purposes only. Products are not identical.

| BVA | ENERPAC | Power Team | Simplex |
|-------------------|------------|------------|-------------|
| Hand Pumps | | | |
| P601S | P-39 | P12 | P41 |
| P1201S | P-391 | P55 | - |
| P350 | P-142 | - | - |
| P1000 | P-392 | P59 | P60 |
| P2001 | P-80 | P157 | P140 P82 |
| P2301 | P-80 | P159 | P82 |
| P4301 | P-801 | P157 | P230 |
| P8701 | P-462 | P460 | P461 |
| P2301M | P-84 | P157D | P230D |
| P8701M | P-464 | P460D | P461D |
| P240L | P-18 | - | - |
| Air Pumps | | | |
| PA600 | PA-133 | PA9 | - |
| PA600H | - | PA9H | - |
| PA1500 | - | PA6 | GA90 |
| PA1500L | PARG-1102N | PA6R | GA90R |
| PA1500M | - | PA6DM | - |
| PA2000 | PATG-1102N | - | - |
| PA3801 | PATG-1105N | PA6-1 | GA9230 |
| PA3801L | - | - | GA9230R |
| PARD1701 | - | PA172 | - |
| PARD1703 | - | PA174 | - |

To view complete cross over list go to www.bvahydraulics.com

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| Key to measurements | | Other measurements: | |
|-----------------------|-------------------------|-----------------------------|------------------------|
| Weight: | | 1 in = 25.4 mm | |
| 1 pound (lb.) | =0.4536 kg | 1 mm | =0.039 in |
| 1 kg | =2.205 lbs | 1 in ² | =6.452 cm ² |
| 1 ton (short, US) | =2000 lbs | 1 cm ² | =0.155 in ² |
| 1 ton (metric) | =2205 lbs | Pressure: | |
| Volume: | | 1 psi (lb/in ²) | =0.69 bar |
| 1 in ³ | =16.387 cm ³ | 1 bar | =14.5 psi |
| 1 cm ³ | =0.061 in ³ | 1 kPa | =0.145 psi |
| 1 liter | =61.02 in ³ | Temperature: | |
| =0.264 gal (US) | | 0°F | =(0°C x 1.8)+32 |
| 1 gal (US, liquid) | =3.785 liter | 0°C | =(0°F - 32) ÷ 1.8 |
| =231 in ³ | | | |
| =3785 cm ³ | | | |

Cylinder Rod Speed

$$\text{Formula } V = A / Q$$

$$\text{Cylinder Rod Speed (sec/in)} = \frac{\text{Cylinder Effective Area (in}^2\text{)}}{\text{Oil Output Flow Rate (in}^3\text{/min)}} \times \frac{60 \text{ (sec)}}{1 \text{ (min)}}$$

Force

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

$$\text{Force (lbs)} = \frac{\text{Hydraulic Working Pressure (lb/in}^2\text{)}}{\text{Cylinder Effective Area (in}^2\text{)}}$$

Cylinder Oil Capacity

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

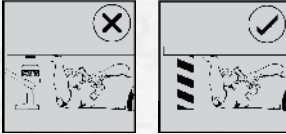
Cylinder Effective Area

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

where, $\pi = 3.14159$

SAFETY FIRST!

- Study, understand, and follow all instructions before operating this device.
- Do not exceed rated capacity. Use only on hard, level surfaces.
- Immediately after lifting, support the load with appropriate means.
- Failure to heed these markings may result in personal injury and/or property damage

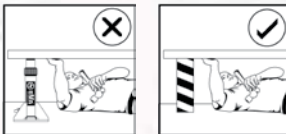


▲ Never place any part of your body under the load. Ensure the load is on a solid support before venturing under.

Cylinders

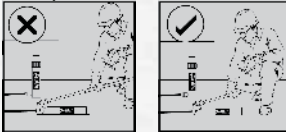


▲ Provide a solid support for the entire cylinder base area. Use cylinder base attachment for more stability.

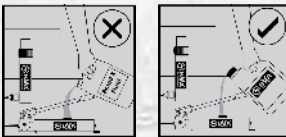


▲ As with jacks, never place any part of your body under the load. Load must be on cribbing before venturing under.

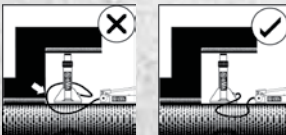
Pumps



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



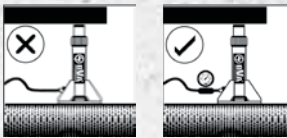
▲ Use only genuine BVA hydraulic oil. The wrong fluid can destroy your seals and pump and will render your warranty null and void.



▲ Keep hoses away from the areas beneath loads.

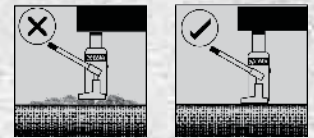
SAFETY INSTRUCTIONS

General

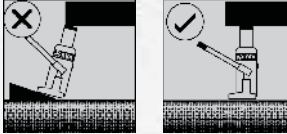


▲ Do not override the factory setting of relief valves. Always use a gauge to check system pressure.

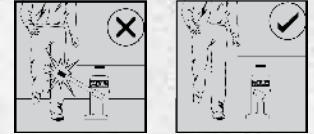
Jacks



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



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



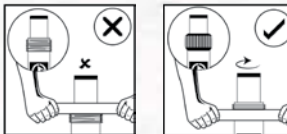
▲ Remove the jack handle when it is not being used.



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



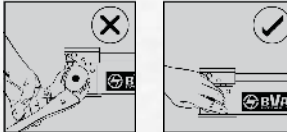
▲ Do not use cylinder without saddle. This will cause rod to "mushroom" Saddles distribute load evenly on the rod.



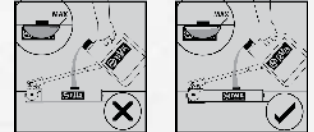
▲ Always protect cylinder threads for use with attachments.



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

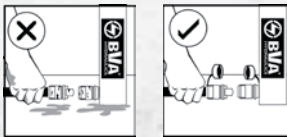


▲ Close release valve finger tight. Using force will damage the valve.

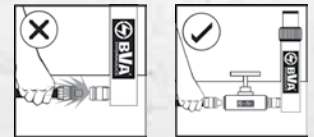


▲ Fill pump only to recommended level. Fill only when connected cylinder is fully retracted.

Hoses and Couplers



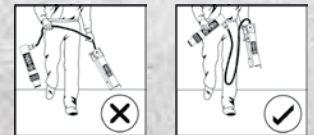
▲ Clean both coupler parts before connecting. Use dust caps when coupler parts are not connected.



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



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



▲ Don't lift hydraulic equipment by the hoses.



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