



HIGH PRESSURE HYDRAULICS

PUMPS | CYLINDERS | HIGH FORCE TOOLS



Since 2001, PowerX International, LLC has been collaborating with its customers to design and supply hydraulic products and systems. PowerX was founded by fluid power industry experts. We have the technical expertise to help guide you through any of your hydraulic system and application needs.

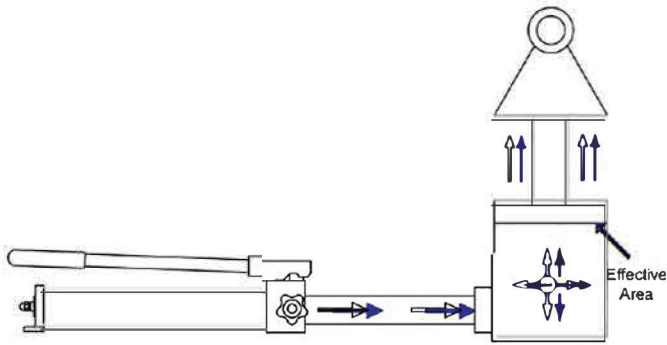
Specializing in mobile and high pressure hydraulic cylinders and pumps, our mission is to work closely with our customers to develop innovative solutions at an affordable price. At PowerX, we believe in Quality, Commitment and Value.

Our products are engineered to last. At PowerX we put all of our products through a rigorous battery of tests to ensure they withstand the toughest environments. Whether you are using them on a construction site, inside a mine, on an oil platform or in your factory, you can rely on PowerX products to perform at a high level every time.

Our manufacturing network and facilities are world class and employ lean manufacturing concepts, are **ISO-9000 certified**, and are on the cutting edge of machining and automation. This, coupled with our experienced engineering team, allows us to manufacture tight tolerance components to sophisticated hydraulic systems.

Our products meet or exceed the following industry standards: **ASME B30.1**, **ASME B40.1** and **SAE 100**. All of our products are backed by our lifetime warranty against any manufacturing defects.





The basic hydraulic system consists of a cylinder, pump and hose. Pumps can be powered manually, air or electric driven.



Formula for Calculations of Output Force:

$$\frac{\text{psi} \times \text{Cylinder Effective Area} \times \text{No. of Cylinders}}{2,000} = \text{Tons}$$

Formula for Calculations of Lifting Speed:

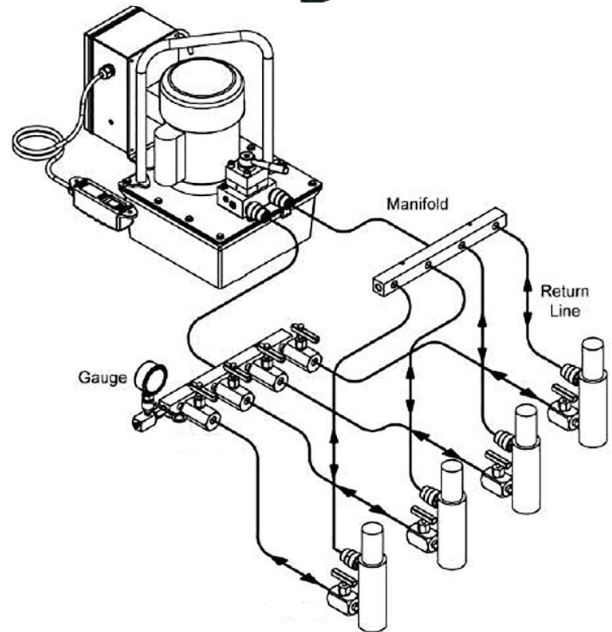
$$\frac{\text{Pump Flow Per Minute}}{\text{Cylinder Effective Area} \times \text{No. of Cylinders}} = \frac{\text{in./min.}}{\text{Piston Travel}}$$

FLOW: Created by the pump.

PRESSURE: Created by resistance to flow.

FORCE: The amount of force a hydraulic cylinder can generate is equal to hydraulic pressure times the effective area of the cylinder. (Effective area is the surface area of the piston face in square inches.) For multiple cylinder systems, multiply the effective area times the number of cylinders times pressure to determine system force.

SPEED: When using a "power pump" the speed at which your cylinder will lift is determined by dividing the pump's flow by the cylinder's effective area.



Hydraulic systems can be built to meet various application requirements. Creating a circuit which includes a manifold block with integrated needle valves for flow control is one way to individually control cylinders in a multi-point lift system.



1. CHOOSE THE RIGHT CYLINDER.



You must know the weight of what you intend to lift and choose a cylinder with at least 20% more capacity. Be aware of possible load shift requiring more capacity at the particular lifting point.

2. CHECK EACH COMPONENT BEFORE SETTING



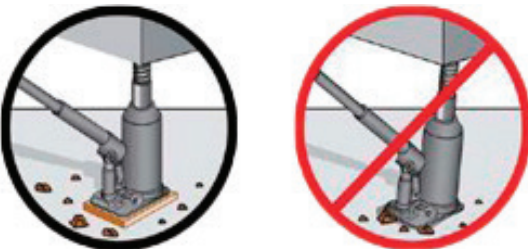
Check each component before you set up your hydraulic system. Do not use damaged or worn components. Please contact your nearest PowerX distributor, or contact the PowerX factory if your components are worn.

3. SAFETY INSTRUCTIONS.



Read all warning labels and instructions. Operating instructions must be understood before using equipment. Never remove labels from equipment. Replace missing, worn, or damaged labels. Always wear safety goggles and protective clothing when using hydraulic equipment.

4. EACH JACK OR RAM MUST BE FULLY SUPPORTED AT THE BASE.



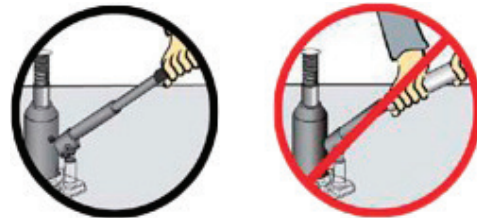
Every jack or cylinder, whether used individually or in a system, should be completely supported on a solid, firm, non-sliding foundation capable of supporting the load.

5. FILL OIL RESERVOIRS WITH CYLINDER RETRACTED.



Only fill pump to recommended level, and fill only when connected cylinder is fully retracted.

6. KNOW HOW YOUR HYDRAULICS WORK.



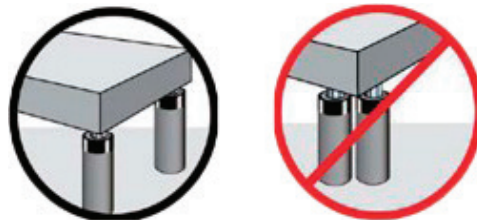
Do not use extensions or cheater bars on hydraulic jacks or hand pumps to raise a load.

7. CENTER THE LOAD ON THE LIFTING POINT.



The load must be centered on the cylinder, or equally distributed on multiple cylinders. Off center loading can result in the cylinder slipping out and loss of the load.

8. WHEN USING MULTIPLE CYLINDERS, DISTRIBUTE THE LOAD EVENLY.



For multiple cylinder lifts, you must be able to determine the location and number of lifting points that will allow the load to be evenly distributed to all the cylinders. This is called load balance. Size, center of gravity, and load geometry must be considered in order to correctly determine load balance.

Safety Guidelines

9. BLOCK OR CRIB YOUR LOAD AS IT RAISES



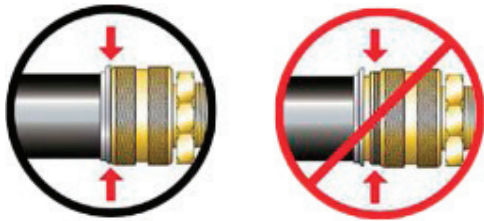
Place blocking or cribbing under the loads as you raise it. Each time you raise it higher, insert more blocking. Position yourself in a manner that will keep you clear of the load, and will not allow your hands or other body parts between the load and the cribbing.

10. DO NOT USE CYLINDERS AS PERMANENT SUPPORTS.



Hydraulic cylinders are not meant to be used as permanent supports, but are designed to lift and lower. If you need to hold the load for any length of time, cribbing or locknut cylinders should be used.

11. HYDRAULIC CONNECTIONS.



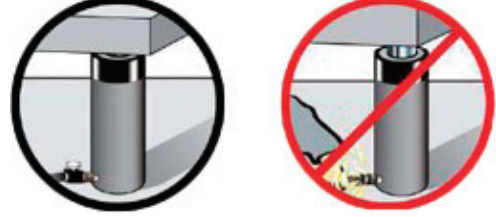
When making connections with quick couplers, make sure the couplings are fully engaged. Threaded connections such as fittings, gauges, etc. must be securely tightened and leak free. Never use excessive tightening force that may distort the fittings or strip the thread profile.

12. AVOID EXTREME HEAT OR WELD SPLATTER.



Weld splatter will damage plunger rods and hoses. Hydraulic fluid can ignite if vaporized or exposed to high temperatures.

13. HYDRAULIC DISCONNECTIONS.



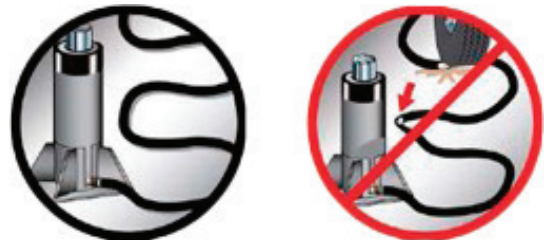
Never attempt to disconnect hydraulic hoses, fittings or couplers under pressure. Unload the cylinder, open the release screw on the hand pump and shift or open all hydraulic controls several times. If system includes a gauge, double check the gauge to insure pressure has been completely released.

14. DO NOT CARRY OR DRAG PUMPS AND CYLINDERS BY THEIR HOSES



Dragging or carrying cylinders or pumps by a connected hose can damage the couplers and hoses. Using damaged couplers and hoses can be dangerous.

15. KEEP HYDRAULIC HOSES FREE OF OBSTRUCTIONS.



Do not drop sharp or heavy objects on hose. Keep hose out of heavy traffic areas. This will cause internal damage to hose wire strands. Applying pressure to a damaged hose may cause it to rupture. Avoid sharp bends and kinks when routing hydraulic hoses.

		Single Acting Cylinders																							
		C5 (ALL STROKES)	C10 (All Strokes)	C15-2	C15-4	C15-6	C15-8	C15-10	C15-12	C15-14	C25-1	C15-2	C25-4	C25-6	C25-8	C25-10	C25-12	C25-14	C25-2	C55-4	C55-6	C55-10	C55-13	C100-6	C100-10
Hand Pump	P21L	●	*	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P37	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P43	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P61L	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P122	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P122HF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P427	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Air Hydraulic Pump	PA9-37	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA9-61	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-98B	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-98C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-98R	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-122	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-231	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Electric Pump	PE28x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PE39x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PE59x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

* 10", 12" and 14" strokes are not recommended

		Automotive Cyl.						Flat Cylinders								Low Profile Cyl.					Hole Thru Cylinders							
		CA5-5	C10-6	CA10-10	CA25-6	CA25-10	CA25-14	CF5	CF10	CF20	CF30	CF50	CF75	CF100	CF150	CL10-1	CL20-2	CL30-2	CL50-2	CL100-2	CH20-2	CH30-2	CH30-6	CH60-3	CH60-6	CH100-3	CH100-6	CH100-10
Hand Pump	P37	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P43	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P61L	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P122	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P122HF	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	P427	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Air Hydraulic Pump	PA9-37	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA9-61	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-98B	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-98C	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-98R	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-122	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PA6-231	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Electric Pump	PE28x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PE39x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	PE59x	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

		Double Acting Cylinder										
		CD10-6	CD10-10	C10-12	CD30-8	CD30-14	CD55-6	CD55-13	CD80-6	CD80-13	CD100-6	CD100-13
Hand Pump	P122DL	●	●	●	●	●	●	●	●	●	●	●
	P427D	●	●	●	●	●	●	●	●	●	●	●
Air Hydraulic Pump	PA6-122D	●	●	●	●	●	●	●	●	●	●	●
	PA6-231D	●	●	●	●	●	●	●	●	●	●	●
	PA6-460D	●	●	●	●	●	●	●	●	●	●	●
Electric Pump	PE28x	●	●	●	●	●	●	●	●	●	●	●
	PE39x	●	●	●	●	●	●	●	●	●	●	●
	PE59x	●	●	●	●	●	●	●	●	●	●	●

Take the guesswork out of your pump and cylinder combination decisions. Use our simple guide for which pump and cylinder combinations are right for your job.

Generally Recommended	●
Marginal, Check Requirements	●
Not Recommended for Most Applications	●



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ELECTRIC PUMPS

Part Number	Motor Size (hp)	1st Stage Flow (in ³ /min)	2nd Stage Flow (in ³ /min)	Use with Cylinder	Valve Type	Valve Function	Reservoir Capacity		
PE283	1.6	350	28	Single Acting	3W3P Manual	Advance Hold Return	2 gal 3 gal 5 gal 10 gal		
PE393	1.6	550	39						
PE593	1.6		59						
PE1133	3.0	605	113						
PE284	1.6	350	28	Double Acting	4W3P Manual				
PE394	1.6	550	39						
PE594	1.6		59						
PE1134	3.0	605	113						

**See next page for pump options*

DESCRIPTION

- Designed in the USA. Low noise level meets OSHA standards (83 dba).
- Two stage hydraulic system – 10,000 PSI/700 Bar capacity – first stage gerotor pump, second stage radial piston pump.
- Interchangeable control valves (2, 3, or 4-way) and reservoirs.
- One piece motor and valve mounting plate with an integral high flow unloading system.
- External adjustable relief valve for pre-setting maximum operation pressure (2,000 PSI - 10,000 PSI range).
- Standard motors are universal type, single phase, 12,000 RPM, 115/230 V, 50/60 Hz; (other motors by request)



Pump with Solenoid Valve Control



PE 1134



Pump with Manual Control



Pump with Pendant Control

Our pumps are fully customizable to your desired specifications. Use this matrix as a guide in creating your own custom-built electric pump.

If you are looking for a pump with an output flow of 59 cu.in./min, with a manually operated 3 position 4-way valve, controlled by an on/off switch mounted on the universal electric motor, with a 3-gallon reservoir the model number would be a: **PE594-03MB-16F-C-01**

Other electrical and motor control options are available upon request. For assistance, please call your local PowerX distributor.

		PE	59	4-03	M	B	-	16	F	-	C	-	01														
Pneumatic Powered	PA	Pump	High Pressure Displacement **	Valve	Valve Actuator	Electric Controls								Series	01 Design Series												
Electric Powered	PE																										
Gas Engine Powered	PG																										
28 Cu.In. / Min.	28	High Pressure Displacement **												Reservoir Size	A No Reservoir												
39 Cu.In. / Min.	39														B 2 Gallon w/handles and feet (1 gallon of usable oil)												
59 Cu.In. / Min.	59														C 3 Gallon w/handles and feet (2 gallon of usable oil)												
113 Cu.In. / Min.	113	Valve													D 6 Gallon w/handles (5 gallon of useable oil)												
No Valving	0-00														E 10 Gallon w/handles (9 gallon of useable oil)												
Port only manifold (no valve)	0-01	Valve	Valve	Valve	Valve	Valve	Valve	Valve	Valve	Valve	Valve	Valve	Valve	Motor frequency and frame type †	A No Electric Motor												
3 way, 2 position	3-02														B 110/220 VAC, 60 Hz, 1Ø, 1800 RPM, TEFC												
3 way, 3 position, tandem center	3-03														C 110/220 VAC, 50 Hz, 1Ø, 1500 RPM, TEFC												
4 way, 3 position, tandem center	4-03	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator		D 110/220 VAC, 60 Hz, 1Ø, 1800 RPM, TENV												
Manual	M														E 110/220 VAC, 50 Hz, 1Ø, 1500 RPM, TENV												
Solenoid*	S														F 115 VAC, 50/60 Hz, 1Ø, 12,000 RPM, TEFC												
Manual load holding	ML	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Valve Actuator	Motor Size *	G 230 VAC, 50/60 Hz, 1Ø, 12,000 RPM, TEFC												
Solenoid load holding	SL														H 480 VAC, 50/60 Hz, 3Ø, 1760 RPM, TEFC												
No power cord or controls	A														00 No Electric Motor												
Power cord and switch only, US*	B	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls		05 0.5 HP												
Power cord with single push button pendant, 24VAC pendant control Remote/Off **†	C														07 0.75 HP (Optional for the PE28 pump)												
Power cord (w/o plug) and switch only*	D														10 1.0 HP (Optional for the PE39 pump)												
Power cord (w/o plug) and switch with single push button 24VAC pendant control*	E	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls		15 1.5 HP (Optional for the PE59 pump)												
Power cord single push button pendant, 24VAC pendant control. Remote, Off, Run Control*	F														16 1.6 HP (Standard for the PE28, PE39 and PE59 pump)												
Power cord with dual push button pendant, 24VAC pendant control for 3 positions valves with solenoids*	G														30 3.0 HP (Standard for the PE113 pump)												
Power cord and switch with single push button foot pendant*	H	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls	Electric Controls														

		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M	B	-	16	F	-	C	-	01		
		PE	59	4-03	M										



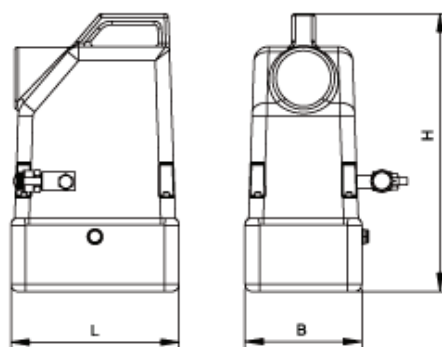
* Not available on PA or PG models

† Consult PowerX International for additional voltages

** At 1725 rpm

COMPACT ELECTRIC PUMP

Part Number	Motor Size (hp)	Pressure Rating (psi)		Flow Rate in ³ /min		Usable Oil Capacity in ³	Dimensions			Weight (lbs.)
		1 st Stage	2 nd Stage	1 st Stage	2 nd Stage		L (in)	B (in)	H (in)	
PEC42	0.5	300	10,000	305	42	122	8.3	5.7	13.0	24



DESCRIPTION

- These portable pumps are best suited to power small to medium size single-acting cylinders or hydraulic tools.
- Light weight and portable.
- Large easy-carry handle for maximum portability.
- Two-speed operation reduces cycle times for improved productivity.
- High strength molded shroud protects motor and electrical components from moisture, dirt and damage.
- All valves are 3 position for Advance-Hold-Retract.
- Control pendant allows remote valve operation for operator safety.
- Internal pressure relief valve prevents overloading.
- Oil level glass for oil level monitoring.
- Each pump comes with 5 ft hose and 3/8 NPTF quick coupler with dust cap.

TORQUE WRENCH PUMPS



TWP-4SC



TWP-4SC

DESCRIPTION

- Low noise level that meets OSHA standards.
- Simple adjustable relief valve which can be adjusted anywhere from 2,000 PSI — 10,000 PSI.
- Electric solenoid valve with remote. Allowing shifting of the electric valve with fingertip control, resulting in less operator fatigue and operation at a safer distance.
- Two different tooling capacities:
 - Single tool operation
 - Up to 4 tool operation
- Additional package options:
 - A durable cage to protect against harsh operating conditions and ease of transportation.
 - A continuous cooling system with a cage to ensure job completion without overheating and ease of transportation.

Part Number	Motor Description	Pressure Rating (psi)		Pump Capacity (in ³ /min)		Manifold & Tooling Capacity		Reservoir Size (Gal)	Usable Oil (Gal)	Package	Weight (without oil)
		1st Stage	2nd Stage	1st Stage	2nd Stage	2-Port	8-Port				
TWP-1	1.6 HP 115/230 Volts 50/60 Hz 1 PH 12000 RPM Universal Type	500	10,000	550	39	1 Tool	—	2	1.6	Pump	81 lbs.
TWP-1S										Pump with Saftey Cage	88 lbs.
TWP-1SC										Pump with Saftey Cage & Cooling System	93 lbs.
TWP-4	1.6 HP 115/230 Volts 50/60 Hz 1 PH 12000 RPM Universal Type	500	10,000	550	39	—	4 Tool	2	1.6	Pump	81 lbs.
TWP-4S										Pump with Saftey Cage	88 lbs.
TWP-4SC										Pump with Saftey Cage & Cooling System	93 lbs.

SMALL BATTERY PUMP**PART NUMBER: PB-40L**

- Battery: 18V
- Reservoir: 46 in³
- Usable Oil: 45 in³
- Weight: 12 lbs.
- Packaging Size (in): 12.6 x 12.6 x 7.9
- Supplied with 6 ft high pressure hoses and 3/8" couplers.
- Supplied with 18V/4.0Ah battery (2 pcs) and charger (1 pc).

**DESCRIPTION**

- 18-Volt Battery provides maximum battery performance.
- Lightweight design with carrying handles for portability.
- 3 work modes optional for crimping, cutting and punching applications.
- LED status display allows real-time monitoring of the system pressure.
- 18V powerful battery delivers exceptional speed and run time.
- Solenoid valve with pendant allows remote control for operator safety.
- High strength molded shroud protects pump from contamination and damage.
- Built-in safety relief valve prevents overload.

**Battery Pump with Hand Pendant and Battery****Charging Station and Batteries Included**

Ultra High Pressure Hand Pumps

HAND PUMPS

Part Number	Pressure Rating (psi)		Usable Oil Capacity (in ³)	Reservoir Capacity (in ³)	Oil Volume/Stroke (in ³)		Reservoir Construction	Use with Cylinder	Weight (lbs.)
	1st Stage	2nd Stage			1st Stage	2nd Stage			
P61L-40K	200	40,000	61	61	0.79	0.04	aluminum	S/A	12
P122L-22K		22,000	122	122	0.79	0.06	aluminum	S/A	15
P61L-15K		15,000	46	61	0.79	0.10	aluminum	S/A	8

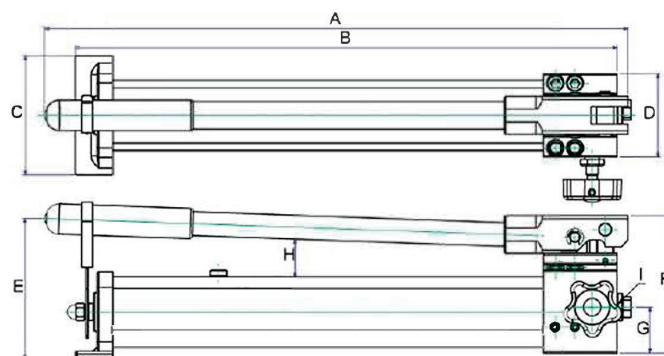
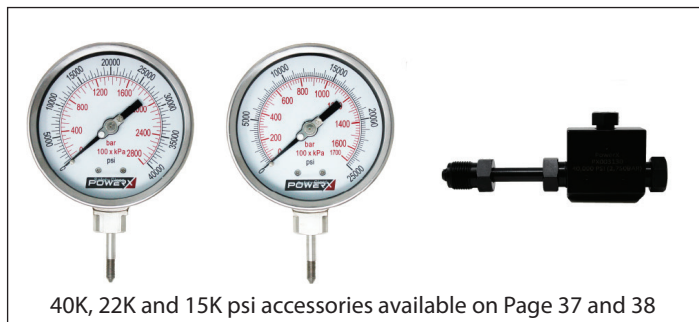


DESCRIPTION

- Rugged aluminum alloy construction with low handle efforts
- Lightweight design for easy portability
- Pressure relief valves for overload protection
- Provides ultra high pressure application at a light weight

DIMENSIONS

Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)
P61L-40K	24.4	19.2	3.1	5.5	4.3	6.2	1.0	1.5
P122L-22K	27.5	24.8	5.9	4.0	6.0	6.2	1.9	1.5
P61L-15K	21.2	19.7	4.3	3.0	5.7	5.0	1.7	1.5



HAND PUMPS

Part Number	Pressure Rating (psi)		Usable Oil Capacity (in ³)	Reservoir Capacity (in ³)	Oil Volume/Stroke (in ³)		Reservoir Construction	Use with Cylinder	Weight (lbs.)
	1st Stage	2nd Stage			1st Stage	2nd Stage			
P21L	200	10,000	21	31	0.79	0.10	aluminum	S/A	5
P37		10,000	34	46	0.79	0.17	steel	S/A	17
P43	-	10,000	39	52	-	0.20	steel	S/A	17
P61L	200	10,000	46	61	0.79	0.10	aluminum	S/A	9
P122		10,000	110	128	0.79	0.17	steel	S/A	28
P122DL		10,000	99	122	0.79	0.14	aluminum	D/A	16
P122HF	400	10,000	122	153	2.4	0.17	steel	S/A	26
P213		10,000	213	213	1.8	0.20	steel	S/A	36
P427		10,000	427	427	6.89	0.24	steel	S/A	55
P427D		10,000	427	427	6.89	0.24	steel	D/A	60



P43



P61L



P122



P122DL

DESCRIPTION

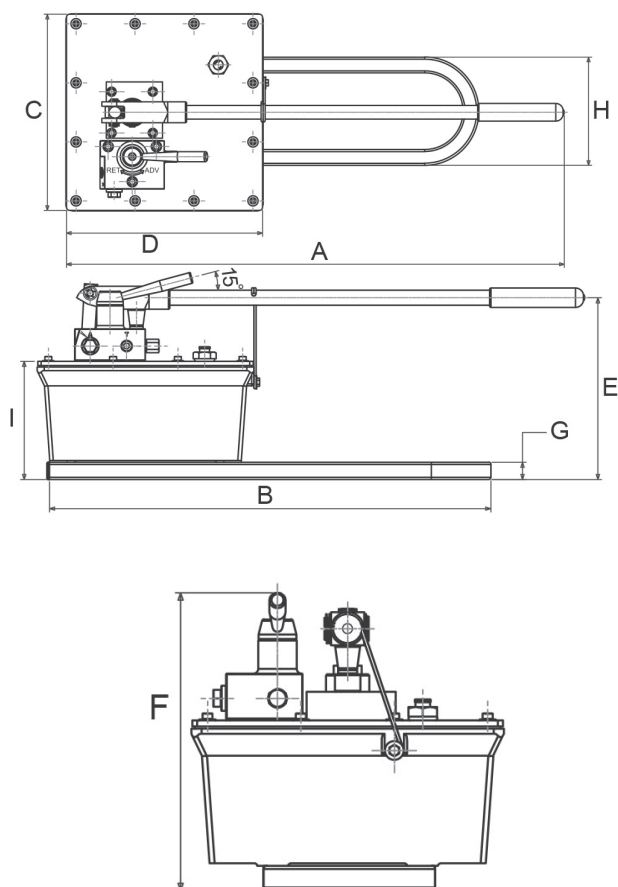
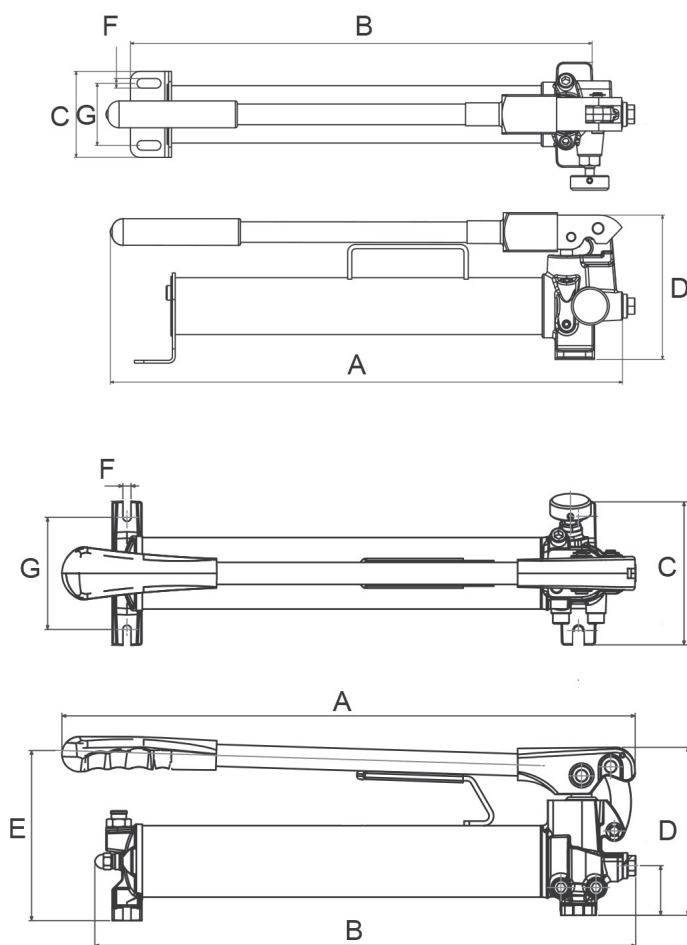
- Rugged steel or aluminum alloy body construction and low handle efforts.
- Both single and two speed models available for single and double acting cylinders.
- Connect to double acting cylinders with no need for additional control valve or adapters needed.
- Pressure relief valves for overload protection.
- Load release valve for single acting cylinder usage.



P427



P427D



DIMENSIONS

Part Number	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)
P21L	15.40	14.21	4.81	4.99	5.11	N/A	N/A	N/A	N/A
P37	21.32	20.28	5.92	5.81	5.59	N/A	N/A	N/A	N/A
P43	25.12	21.91	5.93	5.81	5.66	N/A	N/A	N/A	N/A
P61L	21.21	19.70	4.81	5.00	5.13	N/A	N/A	N/A	N/A
P122	23.00	21.60	5.80	6.63	7.60	0.41	4.00	N/A	N/A
P122DL	24.00	22.80	5.60	5.30	5.30	N/A	N/A	N/A	N/A
P122HF	24.92	22.26	5.91	7.68	8.74	0.31	4.80	N/A	N/A
P213	24.90	20.80	5.70	6.80	7.40	0.40	3.20	N/A	N/A
P427	30.98	25.00	12.20	12.20	10.28	11.73	0.98	6.73	6.69
P427D	30.98	25.00	12.20	12.20	10.28	11.73	0.98	6.73	6.69



PA9 shown with optional air fitting

PA9 SERIES

AIR OVER HYDRAULIC PUMPS - PA9 SERIES

Part Number	Pressure Rating (psi)	Usable Oil (in ³)	Flow Rate in ³ /min		Reservoir Construction	Use with Cylinder	Weight (lbs.)
			No Load	At Load			
PA9-37	10,000	37	132	16	aluminum alloy	S/A	12
PA9-61		61					16

AIR OVER HYDRAULIC PUMPS - PA6 SERIES

Part Number	Pressure Rating (psi)	Usable Oil (in ³)	Flow Rate in ³ /min		Reservoir Construction	Use with Cylinder	Weight (lbs.)
			No Load	At Load			
PA6-98B	3,500	98	82	48	cast aluminum	S/A	16
PA6-98C	10,000	98		13	cast aluminum		16
PA6-122		122		13	aluminum alloy		20
PA6-98R		98					23
PA6-231		231				32	
PA6-122D		122				D/A	22
PA6-231D		231					32
PA6-460D		460					44

DESCRIPTION

- Air Hydraulic Turbo speed operation offering high flow at high pressure.
- Air pressure range 40-170 PSI.
- PA9 with mounting plate to be securely fastened.
- PA9 pumps can work in horizontal or vertical position.
- PA9 Hydraulic port swivels for easy connection
- Pressure relief valve for overload protection.



PA6-98C



PA6-98R



PA6 SERIES

AIR OVER HYDRAULIC PUMPS - PA11 SERIES

Part Number	Pressure Rating (psi)	Usable Oil (in ³)	Flow Rate in ³ /min		Reservoir Construction	Use with Cylinder	Weight (lbs.)
			No Load	At Load			
PA11-122	3,200	122	143	44	aluminum alloy	S/A	20
PA11-98R		98					23
PA11-231		231					32
PA11-122D		122				D/A	22
PA11-231D		231					32
PA11-460D		460					44

DESCRIPTION

- Air Hydraulic Turbo speed operation offering high flow at high pressure.
- Air pressure range 40-170 PSI.
- Pressure relief valve for overload protection.



PA11 SERIES



PA11-98R

TOE JACKS

Part Number	Capacity (tons)	Stroke (in)	Min Height (in)	Max. Handle Effort (lbs.)	Weight (lbs.)
JT2-5	2	4.73	0.67	76.4	18
JT5-5	5	4.73	1.06	49.5	49
JT10-6	10	5.71	1.22	56.2	78



DESCRIPTION

- Low toe height to fit in tight spaces.
- 5T and 10T models with swivel sockets allow access in close quarters.
- Self contained for versatility.
- Low handle operation for ease of operation.
- For structural moving, rigging, machine lifting, forklift service and more.

BOTTLE JACKS

Part Number	Capacity (tons)	Stroke (in)	Min - Max Height (in)	Ext Screw Length (in)	Saddle Dia. (in)	Weight (lbs.)
JB5-5	5	4.66	7.88 – 15.25	2.75	1.13	8
JBL12-4	12	3.44	6.97 – 13.38	3.00	1.67	14
JB12-6	12	5.75	9.50 – 18.38	3.13	1.50	17
JBL20-4	20	3.31	7.22 – 12.00	1.50	2.06	22
JB20-7	20	6.22	10.67 – 16.88	-	2.38	27
JB30-7	30	6.25	11.06 – 17.31	-	2.41	40

DESCRIPTION

- Heavy steel construction, cylinder, oil reservoir and pump housing are welded to the hydraulic base.
- Chrome plated rod. Pump piston is heat treated and hard chrome plated.
- Equipped with an internal load limiting device. The automatic by-pass system prevents ram over-travel.
- Operates in vertical, angled, or horizontal position.
- Load tested to 150% capacity, easy to repair.



FLAT BODY CYLINDERS

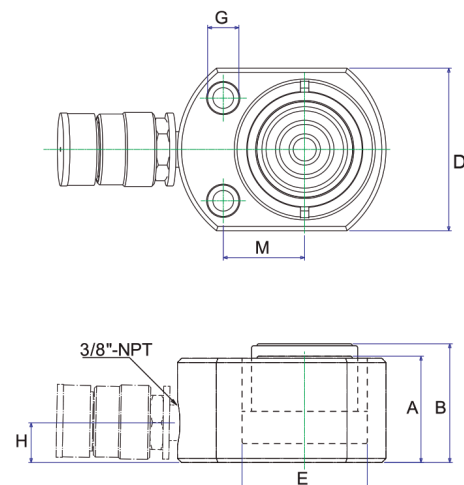


Part Number	Capacity (tons)	Stroke (in)	Oil Capacity (in ³)	(A) Collapsed Height (in)	(B) Extended Height (in)	(D) Outside Dia. (in)
CF5	5	0.25	0.25	1.28	1.53	2.31 X 1.63
CF10	10	0.44	0.98	1.69	2.13	3.25 X 2.19
CF20	20	0.44	1.95	2.03	2.47	4.00 X 3.00
CF30	30	0.50	3.25	2.31	2.81	4.63 X 3.75
CF50	50	0.63	6.07	2.63	3.25	5.50 X 4.50
CF75	75	0.63	10.03	3.13	3.75	6.50 X 5.50
CF100	100	0.63	12.39	3.38	4.00	7.00 X 6.00
CF150	150	0.67	19.34	3.94	4.61	8.86 X 7.68

Part Number	(E) Rod Diameter (in)	Cylinder Bore (in)	Effective Area (in ²)	(H) Base to Adv. Port (in)	Rod to Base (in)	(M) Rod to Mount Hole (in)	(G) Hole Dia (in)	Weight (lbs.)
CF5	1.00	1.13	0.99	0.63	0.81	0.88	0.20	3
CF10	1.50	1.69	2.24	0.75	1.09	1.34	0.28	4
CF20	2.00	2.38	4.43	0.75	1.56	1.56	0.40	7
CF30	2.50	2.88	6.51	0.75	1.88	1.75	0.40	10
CF50	2.75	3.50	9.63	0.75	2.25	2.13	0.47	15
CF75	3.25	4.50	15.92	0.75	2.75	2.63	0.53	25
CF100	3.63	5.00	19.67	0.75	3.00	2.94	0.53	32
CF150	6.50	6.25	30.70	0.91	3.38	3.35	0.53	58

DESCRIPTION

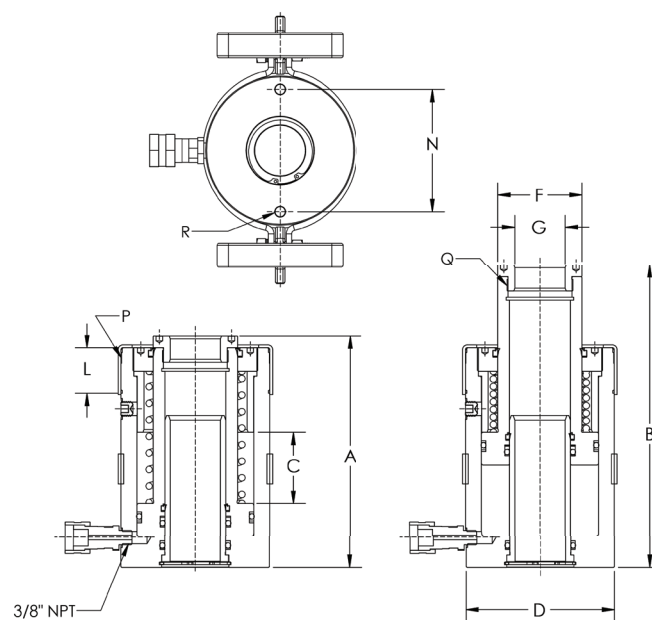
- Low profile, high tonnage steel construction.
- Single acting heavy duty spring return.
- Grooved rod end.
- 3/8" NPTF port with high flow coupler and dust cap.
- Durable exterior finish and ANSI B30.1 compliant.
- Mounting holes permit easy fixturing.
- Cylinders roll burnished for extended seal life.



CENTER HOLE CYLINDERS

Part Number	Capacity (tons)	(C) Stroke (in)	Oil Capacity (in ³)	(A) Collapsed Height (in)	(B) Extended Height (in)	(D) Outside Dia. (in)	(F) Rod Dia. (in)	(G) Center Hole Dia. (in)	(L) Thread Length (in)	Weight (lbs)
CH12-0	12	0.31	0.9	2.36	2.68	2.72	1.38	0.77	1.18	6
CH12-2	12	2	4.8	4.72	6.38	2.72	1.38	0.77	1.18	6
CH12-3	12	3	8.7	7.24	10.24	2.72	1.38	0.77	1.18	9
CH20-2	20	2	8.9	6.38	8.35	3.88	2.13	1.06	1.5	18
CH20-6	20	6	10.3	12.10	18.20	3.88	2.13	1.06	1.5	32
CH30-2	30	2	25.3	7.01	9.53	4.50	2.50	1.31	1.65	24
CH30-6	30	6	45.3	12.99	19.11	4.50	2.50	1.31	1.65	42
CH60-3	60	3	41.4	9.75	12.74	6.25	3.50	2.12	1.91	69
CH60-6	60	6	83.4	12.74	18.77	6.25	3.50	2.12	1.91	78
CH100-3	100	3	66.3	10.00	13.00	8.38	5.00	3.11	2.38	113
CH100-6	100	6	132.8	23.42	29.33	8.38	5.00	3.11	2.38	157

Part Number	(N) Bolt Circle (in)	(P) Outside Collar Thread	(Q) Rod Thread	(R) Bolt Threads
CH12-0	-	2-3/4"-16	-	5/16"-18
CH12-2	-	2-3/4"-16	3/4"-16	5/16"-18
CH12-3	2	2-3/4"-16	-	5/16"-18
CH20-2	3.25	3-7/8"-12	1-9/16"-16	3/8"-16
CH20-6	2.35	3-7/8"-12	1-9/16"-16	3/8"-16
CH30-2	3.62	4-1/2"-12	1-13/16"-16	3/8"-16
CH30-6	3.62	4-1/2"-12	1-13/16"-16	3/8"-16
CH60-3	5.13	6-1/4"-12	2-3/4"-16	3/8"-16
CH60-6	5.13	6-1/4"-12	2-3/4"-16	3/8"-16
CH100-3	7	8-3/8"-12	4"-16	9/16"-12
CH100-6	7	8-3/8"-12	4"-16	9/16"-12



DESCRIPTION

- Single acting, steel construction, heavy duty spring return.
- Threaded collar, threaded rod & base mounting holes for easy fixturing.
- 3/8" NPTF port with high flow coupler and dust cap.
- Hollow chrome plated rod design allows for both, pull and push forces.
- Durable exterior finish and ANSI B30.1 compliant.
- Cylinders roll burnished for extended seal life.



AUTOMOTIVE CYLINDERS

Part Number	Capacity (tons)	Stroke (in)	Oil Capacity (in ³)	Collapsed Height (in)	Extended Height (in)	Outside Dia. (in)	Collar Thread	Thread Length (in)
CA5-5	5	5	4.97	9.28	14.28	1.50	1-1/2"-16	1.13
CA10-6	10	6	13.70	9.75	15.88	2.25	2-1/4"-14	1.13
CA10-10	10	10	22.65	13.75	23.88	2.25	2-1/4"-14	1.13
CA25-6	25	6	32.23	11.50	17.50	3.35	3-5/16"-12	1.94
CA25-14	25	14	73.49	19.80	33.80	3.35	3-5/16"-12	1.94

Part Number	Rod Diameter (in)	Bore Diameter (in)	Effective Area (in ²)	Base Hole Thread	Rod End Internal Thread	Weight (lbs.)
CA5-5	1.00	1.13	0.99	3/4"-14 NPT	3/4" - 16	4
CA10-6	1.50	1.69	2.24	1-1/4"-11-1/2 NPT	1" - 8	10
CA10-10	1.50	1.69	2.24	1-1/4"-11-1/2" NPT	1" - 8	14
CA25-6	2.25	2.56	5.16	2" - 11-1/2 NPT	1-1/2" - 16	22
CA25-14	2.25	2.56	5.16	2" - 11-1/2 NPT	1-1/2" - 16	39

DESCRIPTION

- Single acting with heavy duty spring return.
- Collar and base threads accommodate accessories and adapters.
- 3/8" NPTF port with high flow coupler and dust cap.
- Durable exterior finish and ANSI B30.1 compliant.
- Rod end saddle, available as an option.
- Cylinders roll burnished for extended seal life.



LOW PROFILE (SHORT) CYLINDERS

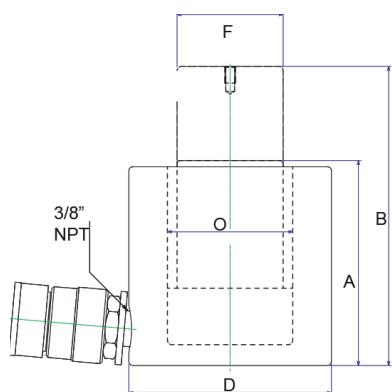
Part Number	Capacity (tons)	Stroke (in)	Oil Capacity (in ³)	(A) Collapsed Height (in)	(B) Extended Height (in)	(D) Outside Diameter (in)	(F) Rod Diameter (in)
CL10-1	10	1.50	3.35	3.50	4.97	2.75	1.50
CL20-2	20	1.75	7.77	3.88	5.63	3.63	2.00
CL30-2	30	2.44	15.85	4.63	7.06	4.00	2.50
CL50-2	50	2.38	22.91	5.02	7.19	4.88	2.75
CL100-2	100	2.50	44.25	5.56	7.81	6.50	3.63
CL150-2*	150	2.36	73.54	6.38	8.74	8.07	5.00
CL200-2*	200	2.36	103.65	6.70	9.06	9.72	5.91

Part Number	(O) Bore Diameter (in)	Effective Area (in²)	Bolt Circle (in)	Thread	Thread Depth (in)	Weight (lbs.)
CL10-1	1.69	2.43	1.03	M4	0.32	9
CL20-2	2.38	4.44	0.94	M5	0.32	11
CL30-2	2.88	6.50	1.42	M5	0.38	15
CL50-2	3.50	9.62	1.56	M6	0.38	24
CL100-2	5.00	19.67	2.19	M8	0.40	44
CL150-2*	6.30	31.16	N/A	N/A	N/A	88
CL200-2*	7.48	43.92	N/A	N/A	N/A	132

*Load return

DESCRIPTION

- Single acting, steel construction, heavy duty spring return.
- Angled coupler on CL10, CL20 and CL30 allows for more compact, low profile design.
- Protective saddle with mounting holes.
- 3/8" NPTF port with high flow coupler and dust cap.
- Durable exterior finish and ANSI B30.1 compliant.
- Cylinders roll burnished for extended seal life.



Single Acting Aluminum Cylinders

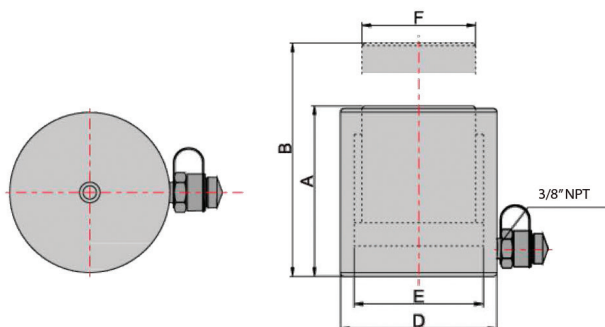
SINGLE ACTING ALUMINUM CYLINDERS

Part Number	Capacity (tons)	Stroke (in)	Effective Area (in ²)	Oil Capacity (in ³)	(A) Collapsed Height (in)	(B) Extended Height (in)	(D) Outside Dia. (in)	(E) Inside Dia. (in)	(F) Piston Rod Dia. (in)	Weight (lbs.)
CAL10-2	10	2	6.3	33.5	5.6	7.6	2.4	1.8	1.5	3
CAL10-4	10	4	6.3	66.5	7.6	11.5	2.4	1.8	1.5	4
CAL10-6	10	6	6.3	100	9.5	15.4	2.4	1.8	1.5	5
CAL20-2	20	2	11.1	61.8	6.4	8.3	3.3	2.4	2.0	7
CAL20-4	20	4	11.1	122.4	8.3	12.3	3.3	2.4	2.0	8
CAL20-6	20	6	11.1	183.1	10.3	16.2	3.3	2.4	2.0	10
CAL30-2	30	2	17.4	94.5	6.8	8.7	4.3	3.0	2.4	11
CAL30-4	30	4	17.4	186.6	8.7	12.7	4.3	3.0	2.4	14
CAL30-6	30	6	17.4	278.3	10.7	16.6	4.3	3.0	2.4	17
CAL50-2	50	2	27.9	153.9	7.2	9.1	5.5	3.7	3.1	19
CAL50-4	50	4	27.9	303.2	9.1	13.1	5.5	3.7	3.1	23
CAL50-6	50	6	27.9	452.4	11.1	17.0	5.5	3.7	3.1	28
CAL50-10	50	10	27.9	750.8	15.1	25.1	5.5	3.7	3.1	37
CAL100-2	100	2	56.3	308.3	8.1	10.2	7.1	5.3	4.3	38
CAL100-4	100	4	56.3	603.9	10.1	14.1	7.1	5.3	4.3	45
CAL100-6	100	6	56.3	899.6	12.1	18.0	7.1	5.3	4.3	51
CAL100-10	100	10	56.3	1490.8	16.1	26.1	7.1	5.3	4.3	64

150 ton and above cylinders are available upon request.

DESCRIPTION

- Lightweight for maximum portability.
- Aluminum body resists sparking in explosive environments.
- Hard-coated aluminum piston rod and cylinder bore resist wear and corrosion.
- Single acting, spring return.
- 3/8" NPTF port with high flow coupler and dust cap.
- Durable exterior finish and ANSI B30.1 compliant.
- Each cylinder has a flat grooved saddle. Tilt saddle is available on request.

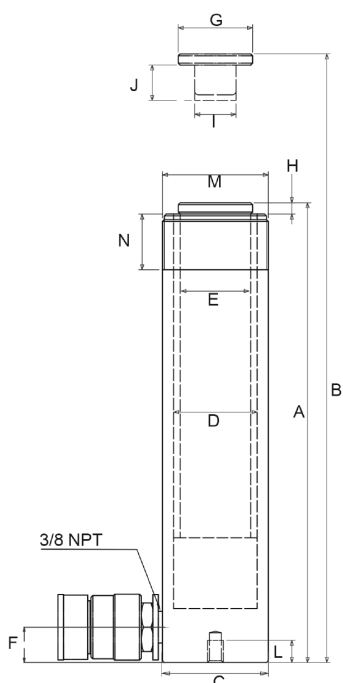


SINGLE ACTING CYLINDERS



DESCRIPTION

- Single acting with heavy duty spring return.
- Steel construction and chrome plated rod.
- Collar threads with protective cover & base mounting holes.
- 3/8" NPTF port with high flow coupler and dust cap.
- Durable exterior finish and ANSI B30.1 compliant.
- Cylinders roll burnished for extended seal life.



Part Number	Capacity (tons)	Stroke (in)	Oil Capacity (in ³)	(A) Collapsed Height (in)	(B) Extended Height (in)	(C) Outside Dia. (in)	Collar Thread
C5-1	5	1	0.99	4.34	5.34	1.50	1-1/2"-16
C5-3		3	2.98	6.50	9.50		
C5-5		5	4.97	8.50	13.55		
C5-7		7	6.96	10.75	17.80		
C5-9		9	9.07	12.75	21.93		
C10-1	10	1	2.24	3.62	4.62	2.25	2-1/4"-14
C10-2		2	4.75	4.86	6.91		
C10-4		4	9.23	6.85	10.88		
C10-6		6	13.70	9.86	15.76		
C10-8		8	17.89	11.85	19.80		
C10-10		10	22.65	13.85	23.80		
C10-12		12	26.81	15.87	27.83		
C10-14		14	31.40	17.72	31.75		
C15-2	15	2	6.28	5.88	7.88	2.75	2-3/4"-16
C15-4		4	12.57	7.88	11.88		
C15-6		6	18.85	10.69	16.54		
C15-8		8	25.13	12.69	20.55		
C15-10		10	31.42	14.69	24.59		
C15-12		12	37.70	16.69	28.69		
C15-14		14	43.98	18.69	32.69		
C25-1	25	1	5.25	5.40	6.44	3.35	3-5/16"-12
C25-2		2	10.31	6.83	8.84		
C25-4		4	20.63	8.78	12.74		
C25-6		6	32.23	10.79	16.95		
C25-8		8	42.55	12.80	20.77		
C25-10		10	52.86	14.80	24.78		
C25-12		12	63.18	16.73	28.98		
C25-14		14	73.49	18.74	33.00		
C55-2	55	2	22.09	6.94	8.94	5.00	5"-12
C55-4		4	44.18	8.96	12.94		
C55-6		6	69.00	11.13	17.38		
C55-10		10	110.82	15.10	25.15		
C55-13		13	146.34	18.13	31.38		
C100-6	100	6	136.67	14.06	20.69	6.99	6-7/8"-12
C100-10		10	211.45	17.69	27.94		

Single Acting Cylinders

(N) Thread Length (in)	(E) Rod Dia. (in)	(D) Bore Dia. (in)	Effective Area (in ²)	(F) Base to Advance Port (in)	(G) Saddle Dia. (in)	(I) Rod Internal Thread	(J) Rod Thread Length (in)	Bolt Circle (in)	Thread	Thread Depth (in)	Weight (lbs.)
1.13	1.00	1.13	0.99	0.75	1.00	3/4"-16	0.56	1.00	1/4"-20	0.56	2
											3
											4
											5
											6
1.13	1.50	1.69	2.24	0.75	1.50	1"-8	0.75	1.56	5/16"-18	0.50	4
											5
											7
											9
											11
											13
											15
											17
1.19	1.63	2.00	3.14	0.98	1.57	1"-8	1.00	1.88	3/8"-16	0.50	9
											11
											15
											18
											21
											23
											25
1.94	2.25	2.56	5.16	1.00	2.00	1-1/2"-16	1.00	2.31	1/2"-13	0.75	12
											14
											18
											22
											26
											31
											35
											39
1.75	3.13	3.75	11.04	1.38	3.15	-	-	3.75	1/2"-13	0.75	33
											39
											45
											65
											83
1.75	4.13	5.13	20.63	1.57	4.13	-	-	5.50	3/4"-10	1.00	130
											160

LOCK NUT CYLINDERS

Part Number	Capacity (tons)	Stroke (in)	Effective Area (in ²)	Oil Capacity (in ³)	(A) Collapsed Height (in)	(B) Extended Height (in)	(D) Outside Dia. (in)
CLL10-2	10	2	6.3	35.4	5.6	7.6	2.7
CLL10-4	10	4	6.3	67.3	7.6	11.6	2.7
CLL10-6	10	6	6.3	100.4	9.6	15.5	2.7
CLL20-2	20	2	11.1	66.14	5.8	7.8	3.3
CLL20-4	20	4	11.1	124.4	7.8	11.7	3.3
CLL20-6	20	6	11.1	183.9	9.8	15.7	3.3
CLL30-2	30	2	17.4	97.6	6.1	8.11	4.1
CLL30-4	30	4	17.4	187.0	8.1	12.0	4.1
CLL30-6	30	6	17.4	278.0	10.1	16.0	4.1
CLL50-2	50	2	27.9	159.8	6.5	8.4	4.8
CLL50-4	50	4	27.9	304.3	8.4	12.4	4.8
CLL50-6	50	6	27.9	451.6	10.4	16.3	4.8
CLL100-2	100	2	56.3	313.8	7.3	9.3	6.6
CLL100-4	100	4	56.3	609.5	9.3	13.2	6.6
CLL100-6	100	6	56.3	905.1	11.3	17.2	6.6
CLL150-2	150	2	84.1	459.8	8.2	10.2	8.2
CLL150-4	150	4	84.1	894.9	10.2	14.1	8.2
CLL150-6	150	6	84.1	1329.5	12.1	18.1	8.2

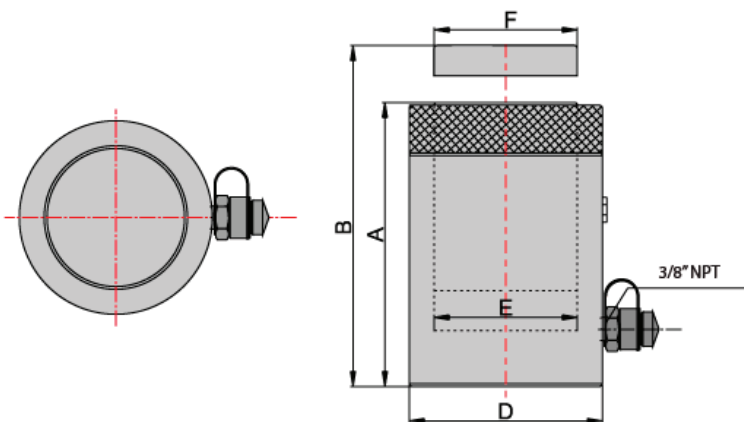
*200 ton and above cylinders are available upon request.

DESCRIPTION

- Mechanical lock to support load. Overflow port prevents piston from being overextended.
- Safety lock nut for mechanical load holding.
- Overflow port functions as a stroke limiter.
- High strength alloy steel for durability.
- Chrome plated piston resists wear and corrosion.
- Baked enamel finish for increased corrosion resistance.
- 3/8" NPTF port with high flow coupler and dust cap.
- Durable exterior finish and ANSI B30.1 compliant.
- Each cylinder has a flat grooved saddle. Tilt saddle is available on request.
- 10-200 ton cylinders are spring return. 250 ton and above are load return.

Single Acting Lock Nut Cylinders

(E) Inside Dia. (in)	(F) Piston Rod Dia. (in)	Locknut Height (in)	Weight (lbs.)	Handle
1.8	1.8	1.1	9	
1.8	1.8	1.1	12	✓
1.8	1.8	1.1	15	✓
2.4	2.4	1.2	15	
2.4	2.4	1.2	20	✓
2.4	2.4	1.2	25	✓
3.0	3.0	1.3	20	✓
3.0	3.0	1.3	28	✓
3.0	3.0	1.3	34	✓
3.7	3.7	1.3	32	✓
3.7	3.7	1.4	42	✓
3.7	3.7	1.4	52	✓
5.3	5.3	1.4	67	Eye Bolts
5.3	5.3	1.7	86	Eye Bolts
5.3	5.3	1.7	105	Eye Bolts
6.5	6.5	1.7	119	Eye Bolts
6.5	6.5	1.7	147	Eye Bolts
6.5	6.5	1.7	175	Eye Bolts



DOUBLE ACTING CYLINDERS

Part Number	Push Capacity (tons)	Pull Capacity (tons)	Stroke (in)	Oil Capacity Push (in ³)	Oil Capacity Pull (in ³)	(A) Collapsed Height (in)	(B) Extended Height (in)	(D) Outside Diameter (in)
CD10-6	10	4	6.00	13.50	4.60	12.10	18.10	2.88
CD10-10	10	4	10.00	22.33	8.00	16.13	26.13	2.88
CD10-12	10	4	12.00	26.80	9.00	18.00	30.00	2.88
CD25-6	24.5	7	6.25	30.68	8.42	12.47	18.72	4.00
CD30-8	30	15	8.25	53.67	25.00	15.25	23.50	4.00
CD30-14	30	15	14.50	92.70	43.00	21.63	36.13	4.00
CD55-6	55	17	6.13	67.77	21.00	13.06	19.19	5.00
CD55-13	55	17	13.13	145.17	44.00	20.06	33.19	5.00
CD80-6	80	24	6.13	97.58	29.00	13.66	19.79	6.30
CD80-13	80	24	13.13	209.00	64.00	20.69	33.81	6.30
CD100-6	100	48	6.63	136.93	63.00	14.06	20.69	7.00
CD100-13	100	48	13.00	271.17	126.00	20.63	33.75	7.00

DESCRIPTION

- Double acting, allows for both, push and pull forces.
- Ability to control cylinder speed in both extension and retraction. (Additional components required).
- Steel construction and chrome plated rod.
- 10T to 100 T capacity with 6" to 14-1/2" stroke.
- Collar threads for easy fixturing.
- 3/8" NPTF port with high flow coupler and dust cap.
- Durable exterior finish and ANSI B30.1 compliant.
- Cylinders roll burnished for extended seal life.

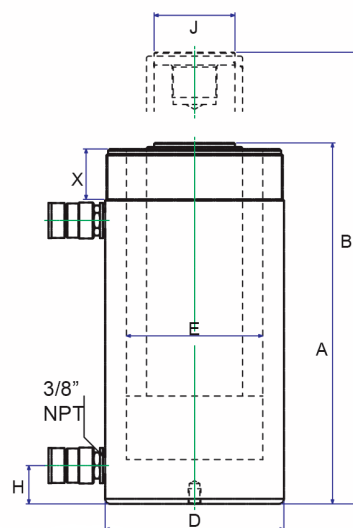


Double Acting Cylinders

(X) Collar Thread (in)	(E) Bore Diameter (in)	(J) Rod Diameter (in)	Effective Area Push (in ²)	Effective Area Pull (in ²)	(H) Base to Advance Port (in)	Bolt Circle (in)	Thread	Thread Depth (in)	Weight (lbs.)
						Base Mounting Holes			
2-1/4"–14	1.69	1.38	2.23	0.80	1.44	–	–	–	20
2-1/4"–14	1.69	1.38	2.23	0.80	1.44	–	–	–	28
2-1/4"–14	1.69	1.38	2.23	0.80	1.44	–	–	–	31
4"–12	2.50	2.13	4.91	1.35	1.00	–	–	–	40
3-5/16"–12	2.88	2.13	6.51	3.00	1.44	–	–	–	40
3-5/16"–12	2.88	2.13	6.51	3.00	1.56	–	–	–	64
5"–12	3.75	3.13	11.06	3.40	1.13	–	–	–	67
5"–12	3.75	3.13	11.06	3.40	1.13	–	–	–	115
5-3/4"–12	4.72	3.75	15.92	4.90	1.19	–	–	–	92
5-3/4"–12	4.72	3.75	15.92	4.90	1.19	–	–	–	150
6-7/8"–12	5.13	3.75	20.65	9.60	2.50	5.5	3/4"–10	1	135
6-7/8"–12	5.13	3.75	20.65	9.60	2.50	5.5	3/4"–10	1	205



For 150 ton cylinders and up, see page 29



HIGH TONNAGE DOUBLE ACTING CYLINDERS

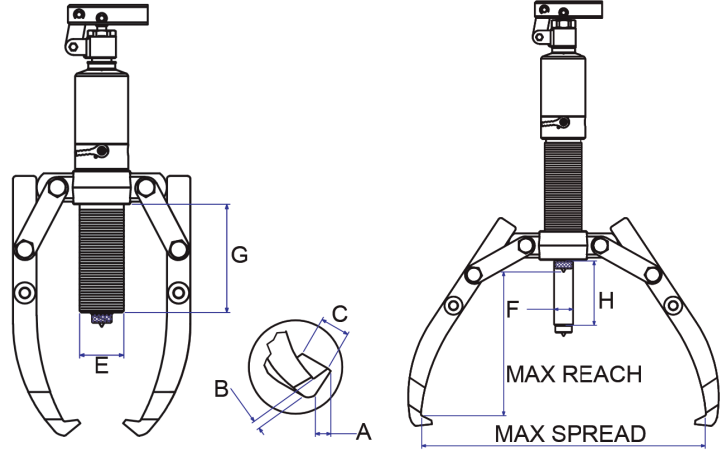
Part Number	Push Capacity (tons)	Stroke (in)	Oil Capacity (in ³)	Retracted Height (in)
CD150-2	150	2	60	7.75
CD150-6	150	6	182	11.75
CD150-12	150	12	360	17.75
CD200-2	200	2	81	8.50
CD200-6	200	6	244	12.50
CD200-8	200	8	323	14.50
CD200-12	200	12	487	18.50
CD250-6	250	6	333	13.25
CD250-12	250	12	667	19.25
CD300-2	300	2	140	12.50
CD300-6	300	6	418	16.50
CD300-12	300	12	836	22.50
CD400-6	400	6	513	18.75
CD400-12	400	12	1043	24.75
CD500-2	500	2	223	16.75

HIGH TONNAGE SINGLE ACTING LOAD RETURN CYLINDERS

Part Number	Capacity (tons)	Stroke (in)	Oil Capacity (in ³)	Retracted Height (in)
C150-6	150	6	182	11.65
C150-10	150	10	303	15.65
C150-12	150	12	364	17.65
C200-6	200	6	244	12.50
C200-12	200	12	487	18.50
C250-2	250	2	112	9.50
C250-6	250	6	336	13.50
C250-12	250	12	671	19.50
C300-2	300	2	140	12.50
C300-6	300	6	418	16.50
C300-12	300	12	836	22.50
C400-2	400	2	171	14.75
C400-6	400	6	513	18.75
C400-12	400	12	1026	24.75
C500-2	500	2	223	16.50



Hydraulic Pullers



DESCRIPTION

- Ideal for pulling a wide variety of parts, including bearings, bushings, wheels, gears and pulleys.
- The self-contained hydraulic pump saves space. A separate hose and pump are not needed to operate.
- Includes a 2 and 3 jaw puller, cross head puller, bearing attachment and all associated hardware.
- Safety release valve to prevent overloading.
- Five position adjustable handle allows for better positioning in tight areas.
- Easy to carry blow molded case for component storage.



HYDRAULIC PULLER KITS

Part Number	Capacity (Tons)	Reach (Max. in)	Spread (Max. in)	Stroke (in)	Pump Tip (in)				Jaw Tip (in)			Weight (lbs.)
				H	E	F	G	A	B	C		
HPK4	4	7.28	10.04	2.36	1.65	0.87	3.31	0.43	0.24	0.87	30	
HPK8	8	9.05	13.78	3.35	1.97	0.98	4.80	0.43	0.39	0.98	45	
HPK12	12	10.63	14.76	3.35	2.36	1.10	4.65	0.55	0.39	1.14	83	
HPK20*	20	14.17	20.47	4.37	3.15	1.57	6.34	0.79	1.06	1.30	44	
HPK30*	30	14.17	21.65	4.37	3.86	1.97	6.10	0.79	1.06	1.50	66	

***20 ton and 30 ton kits do not have bearing attachments**

PORTABLE POWER PACKS



DESCRIPTION

- Snap together design for fast and easy assembly and disassembly.
- Tool components forged for rigidity and durability.
- 10,000 psi single speed pump with automatic overload system.
- Easy to carry blow molded case for components storage.
- Available in both 4 ton and 10 ton capacity kits.

Each MRK4 4 Ton Power Pack Contains:

- | | |
|--------------------------------|----------------------------|
| • (1) Hydraulic Pump | • (1) Spreader Plunger Toe |
| • (1) 6 Foot Hose | • (1) Spreader Ram Toe |
| • (1) 4 Ton 4" Stroke Cylinder | • (1) Flex Head |
| • (1) 1/2 Ton Spreader | • (1) Serrated Saddle |
| • (4) Extension Tubes | • (1) Blow Molded Case |
| • (1) Male Connector | |
| • (1) Flat Base | |
| • (1) 90 Degree "V" Base | |
| • (1) Wedge Head | |

Each MRK10 10 Ton Power Pack Contains:

- | | |
|---------------------------------|----------------------------|
| • (1) Hydraulic Pump | • (1) Spreader Plunger Toe |
| • (1) 6 Foot Hose | • (1) Spreader Ram Toe |
| • (1) 10 Ton 6" Stroke Cylinder | • (1) Flex Head |
| • (1) 1/2 Ton Spreader | • (1) Serrated Saddle |
| • (4) Extension Tubes | • (1) Blow Molded Case |
| • (1) Male Connector | |
| • (1) Flat Base | |
| • (1) 90 Degree "V" Base | |
| • (1) Wedge Head | |

HYDRAULIC SPREADERS

Part Number	Spread (in)		Capacity (tons)	Weight (lbs.)
	Min. (A)	Max. (B)		
PXFS14-ST	0.24	3.19	14	23
PXFS15-FL	0.24	0.63	15	7
PXFS15-ST	0.24	0.63	15	7
PXFS25-FL	0.31	1.00	25	17
PXHS-1000	1.30	11.90	1	25
PXHS-0750	1.00	3.00	1	5



PXFS15-FL

PXFS15-ST

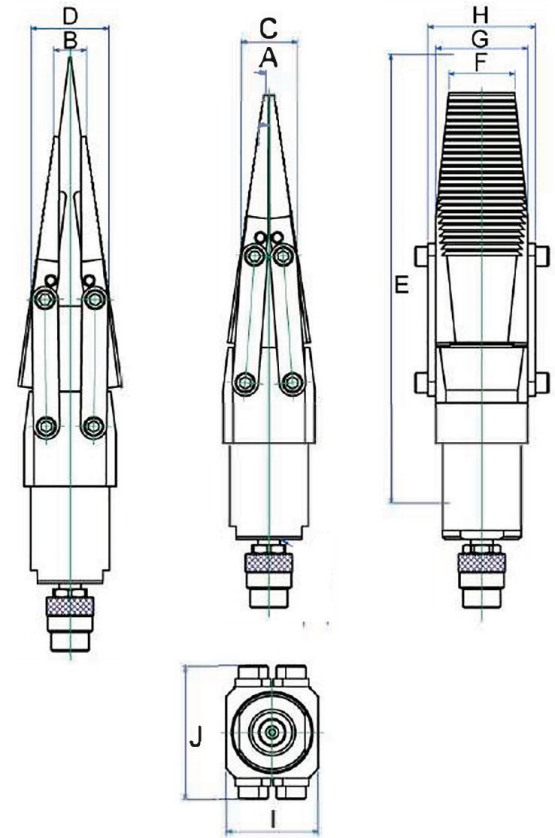
PXFS25-FL



PXFS14-ST

PXHS-1000

PXHS-0750



DESCRIPTION

- Compact design will optimize use in low clearance applications
- Lightweight for increased portability
- Manufactured from high quality hardened steel

DIMENSIONS

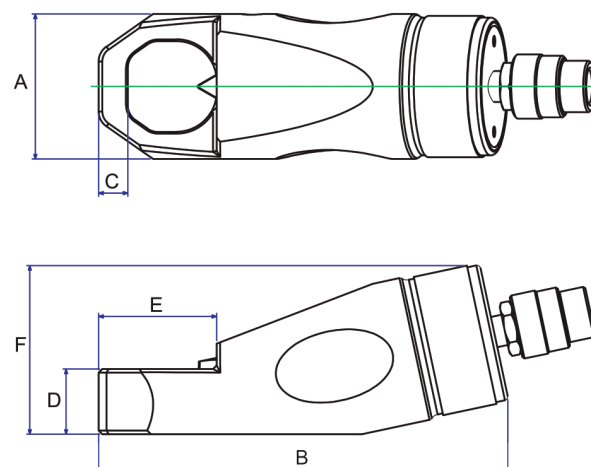
Part Number	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)	J (in)
PXFS14-ST	1.3	1.4	11.1	2.3	2.5	2.5	2.5	3.6
PXFS15-FL	1.4	1.8	9.1	1.2	1.8	2.2	2.5	2.5
PXFS15-ST	1.4	1.8	9.1	1.2	1.8	2.2	2.5	2.5
PXFS25-FL	1.7	2.3	13.5	2.0	2.8	3.2	2.8	4.0
PXHS-1000	6.6	6.6	19.2	2.4	2.4	2.4	2.4	6.6
PXHS-0750	1.0	2.1	8.8	2.1	2.1	2.1	2.1	2.1

NUT SPLITTERS

Part Number	Hexagon Nut Range (in)	Bolt Range	Capacity (Ton)	Oil Capacity (in ³)	Dimensions						Weight (lbs.)
					A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	
PXNS1924	.75 – .94	.44 – .56	10	1.22	2.36	6.58	0.39	0.98	1.57	2.68	5
PXNS2432	.94 – 1.13	.56 – .75	15	3.66	2.76	7.01	0.51	1.18	2.05	2.99	7
PXNS3241	1.13 – 1.56	.75 – 1.00	20	4.88	3.15	8.90	0.59	1.42	2.56	3.66	9
PXNS4150	1.61 – 1.97	1.06 – 1.29	35	9.45	3.78	9.6	0.83	1.77	2.99	4.17	18
PXNS5060	1.97 – 2.36	1.29 – 1.54	50	14.65	4.17	10.59	0.94	2.17	3.62	4.92	25

DESCRIPTION

- Compact design for use in confined spaces.
- All models feature a rugged one-piece cutting frame coupled to a heavy-duty hydraulic cylinder.
- Specially designed “tool steel” cutter blade cuts the nut with accuracy and precision.
- Unique angled head design to keep contact with the nut during operation.
- Angled cutter blade with radius produces greater resistance for cutting and splitting.
- Our nut splitters include a spare blade, a spare set screw and the wrench used to secure the chisel.

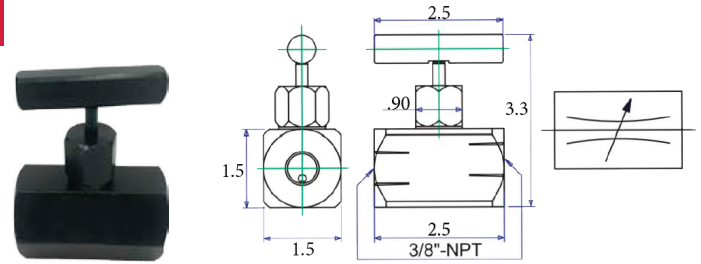


Recommended Pump and Accessories



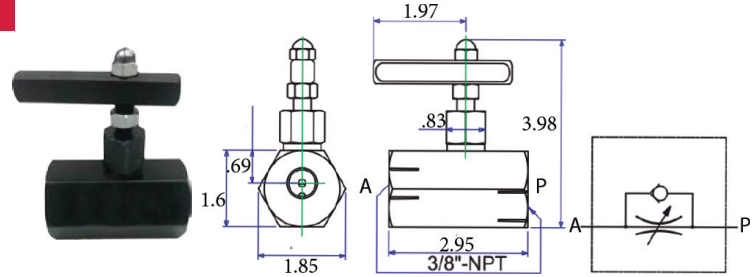
Part Number: VNO-33

- Used for normal flow control
- Can be used as a shut off valve
- Maximum working pressure : 10,000 psi / 700 Bar
- 1/4 NPT needle valve available on request



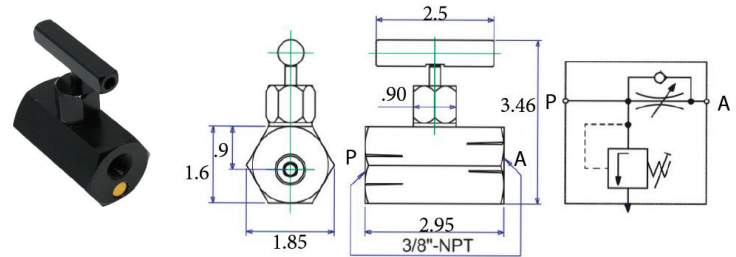
Part Number: VNC-33

- Used for precise metering of flow
- Bypass flow control in return direction
- Temporary shut off only
- Maximum working pressure : 10,000 psi / 700 Bar



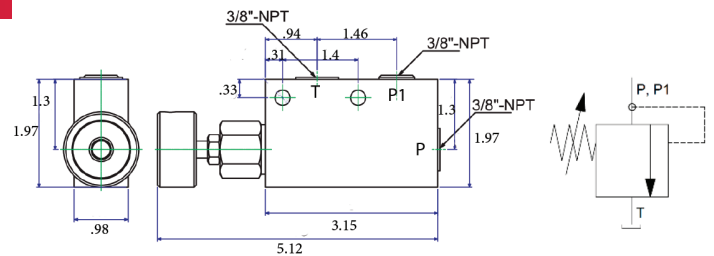
Part Number: VNR-33

- Needle valve style load holding
- Bypass flow control in return direction
- Built in pressure relief valve
- Maximum working pressure : 10,000 psi / 700 Bar



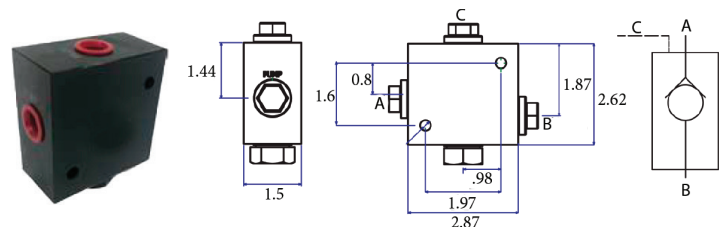
Part Number: VRO-33

- Inline pressure relief valve
- Adjustable from 100 - 10,000 psi
- Built in pressure relief valve
- Maximum working pressure : 10,000 psi / 700 Bar



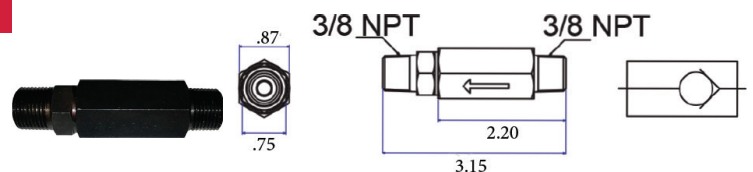
Part Number: VCP-33

- Inline pilot operated check valve
- 3/8 NPT female threads
- Maximum working pressure : 10,000 psi / 700 Bar



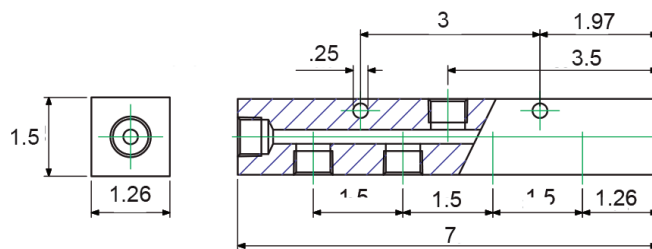
Part Number: VCO-33

- Inline check valve
- 3/8 NPT male threads
- Maximum working pressure : 10,000 psi / 700 Bar



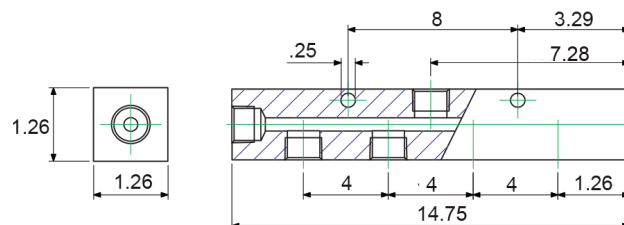
Part Number: FRM-3-7

- 7 X 3/8 NPT manifold block.
- Ideal as return manifold or when gauges are not required.
- Maximum working pressure : 10,000 psi / 700 Bar.



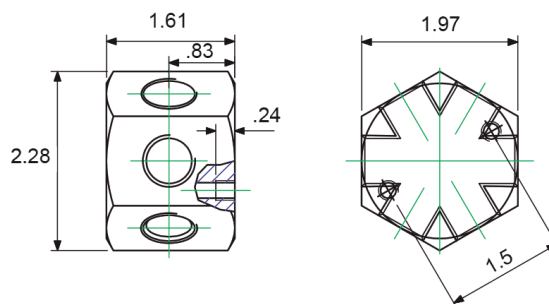
Part Number: FRM-3-14

- 7 X 3/8 NPT manifold block.
- Larger gap between ports ideal for use with gauges.
- Maximum working pressure : 10,000 psi / 700 Bar.



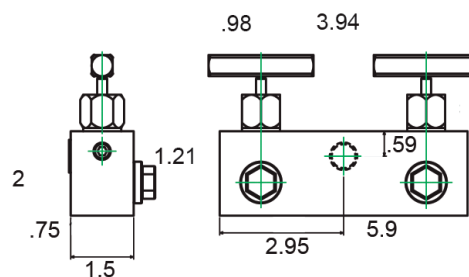
Part Number: FRM-6

- 6 X 3/8 NPT manifold block.
- Hex design to allow for multiple angle connection.
- Maximum working pressure : 10,000 psi / 700 Bar.



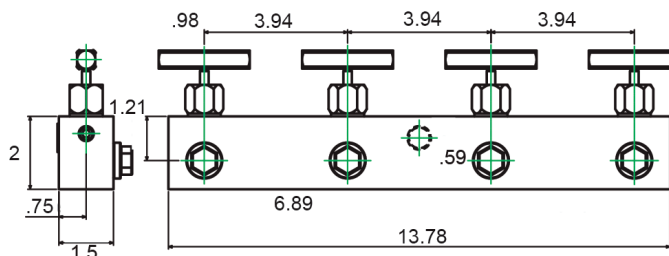
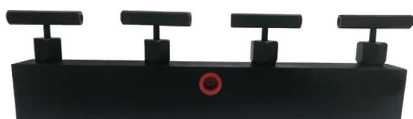
Part Number: VMN-2-3

- 3 X 3/8 NPT ports.
- Built in needle valves for 2 outlet flow control.
- Maximum working pressure : 10,000 psi / 700 Bar.



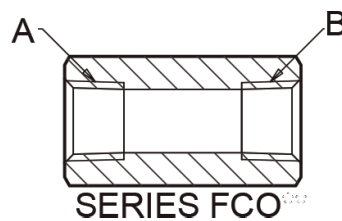
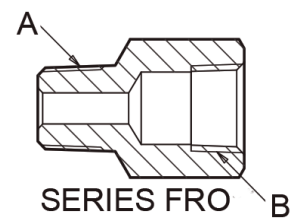
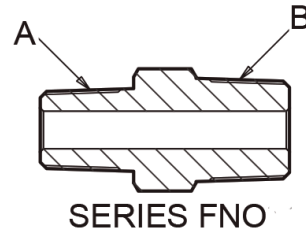
Part Number: VMN-4-3

- 5 X 3/8 NPT manifold block.
- Built in needle valves for 4 outlet flow control.
- Maximum working pressure : 10,000 psi / 700 Bar.



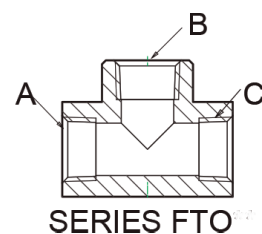
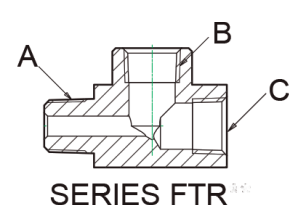
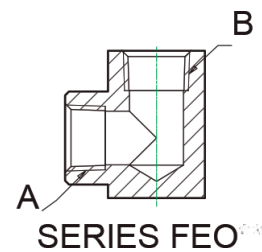
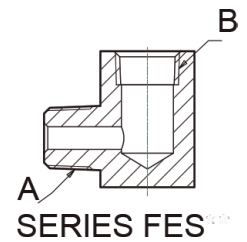
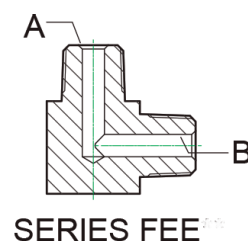
STRAIGHT CONNECTORS

Part Number	(A)		(B)	
	Thread	Type	Thread	Type
FNO-33	3/8 NPT	Male	3/8 NPT	Male
FNO-22	1/4 NPT	Male	1/4 NPT	Male
FNO-23	1/4 NPT	Male	3/8 NPT	Male
FRO-23	1/4 NPT	Male	3/8 NPT	Female
FRO-32	3/8 NPT	Male	1/4 NPT	Female
FCO-33	3/8 NPT	Female	3/8 NPT	Female
FCO-22	1/4 NPT	Female	1/4 NPT	Female
FCO-23	1/4 NPT	Female	3/8 NPT	Female



ELBOW AND TEE CONNECTORS

Part Number	(A)		(B)		(C)	
	Thread	Type	Thread	Type	Thread	Type
FEE-33	3/8 NPT	Male	3/8 NPT	Male	—	—
FES-33	3/8 NPT	Male	3/8 NPT	Female	—	—
FEO-33	3/8 NPT	Female	3/8 NPT	Female	—	—
FTR-333	3/8 NPT	Male	3/8 NPT	Female	3/8 NPT	Female
FTO-222	1/4 NPT	Female	1/4 NPT	Female	1/4 NPT	Female
FTO-333	3/8 NPT	Female	3/8 NPT	Female	3/8 NPT	Female



PRESSURE GAUGES

Part Number	Face Diameter (in)	Port Size, Mount & Fill	Pressure Range (psi)	Pressure Range (bar)
GV25L	2.5	1/4" NPT, Lower & liq. fill	0 – 10,000	0 – 700
GV40L	4		0 – 10,000	0 – 700
GV40L-25	4	Cone (1/4" - 28 LH), Lower	0 – 25,000	0 – 1,500
GV40L-40	4		0 – 40,000	0 – 2,800



HYDRAULIC HOSES

Part Number	Diameter (in)	Length (ft)	Operating Pressure (psi)
HA25-3	1/4	3	10,000
HA25-6	1/4	6	
HA25-10	1/4	10	
HA25-20	1/4	20	
HA38-4	3/8	4	
HA38-6	3/8	6	
HA38-10	3/8	10	
HA38-20	3/8	20	
HA38-50	3/8	50	



DESCRIPTION

- Hoses are MSHA approved.
- Neoprene cover is resistant to abrasion, oil, and weather.
- Temperature range of -40° to +250°F.

HIGH FLOW COUPLERS

Part Number	Size	Operating Pressure (psi)	Type
HFC-F-375	3/8"	10,000	Female
HFC-M-375	3/8"	10,000	Male
HFC-375	3/8"	10,000	Set



DESCRIPTION

- Designed for higher flow capacities and lower pressure losses than standard couplers.
- Threaded union design allows for fast component changes.
- Couplers permit safe separation at zero psi, with minimal oil loss.

CONE FITTING "T" ASSEMBLY

Part Number	Parts	Length (in)
PX003130	3/4-16 M x 1/4-28 LH FM x 3/8-24 LH FM	5.8



DESCRIPTION

- Designed for ultra high pressure applications, up to 40,000 psi.

GAUGE ADAPTOR

Part Number	Overall Size (in)	Part Size NPT
FGA-332-S26	2.5 x 1 x 1	3/8", 3/8", 1/4"
FGA-332-S45	4.5 x 1 x 1	3/8", 3/8", 1/4"
FGA-332-H30	3 x 1 x 1	3/8", 3/8", 1/4"

FGA-332-S45

FGA-332-H30

FGA-332-S26



DESCRIPTION

- Designed for high pressure applications, up to 10,000 psi.
- Stainless steel construction.

PREMIUM HYDRAULIC FLUID

Part Number	UoM	Package	Weight (lbs)
PL-1	Bottle	1 gallon	8
PL-4	Case	4 – 1 gallon	30

DESCRIPTION

- Premium hydraulic fluid made from virgin oil stock.
- Resists thermal breakdown.
- Superior anti-wear protections.
- Designed to meet the most stringent requirements of all major manufactures of hydraulic equipment.



PART NUMBER: PXSP SERIES

- Maximum working pressure: 10,000 psi / 700 Bar
- Custom sizes available
- Daylight 50T: 29 X 42 in
- Daylight 100T: 31 X 32 in
- Daylight 150T: 39 X 35 in
- Daylight 200T: 39 X 36 in
- Pump and cylinder matched for optimal operation

FEATURES

- Durable, high quality welded frame
- Fully adjustable bed
- Pendant controlled electric pump on all presses
- Worm screw adjustment for lateral cylinder positioning
- V blocks / press plate included on models up to 100 t

OPTIONS

- Pump available with solenoid valve or manual valve
- 115V and 220V options available
- Electric, air and hand pump options available
- Single and double acting models available
- Press guards

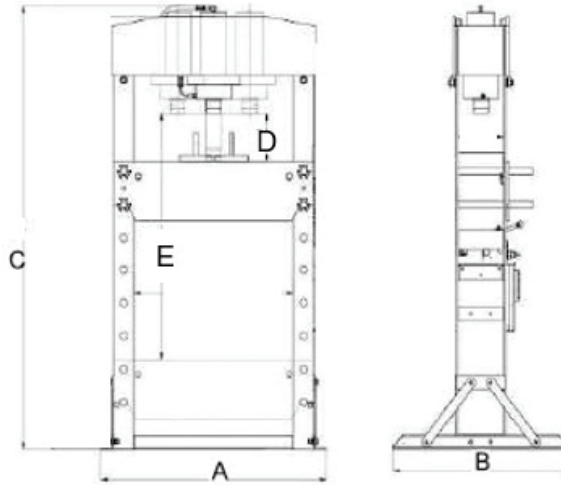


DIMENSIONS

Part Number	Tons	Cylinder Stroke (in)	Single Acting	Double Acting	115V	220V	Valve Type		Pump to Cylinder speed No load / Load (sec / in)
							Manual	Solenoid	
PXSP50	50	6	√		√		√		1.2 / 17.3
PXSP50D	50	6		√	√		√		1.2 / 17.3
PXSP50DS	50	6		√	√			√	1.2 / 17.3
PXSP100D	100	13		√	√		√		2.3 / 21.4
PXSP100DS1	100	13		√	√			√	2.3 / 21.4
PXSP100DS2	100	13		√		√		√	2.3 / 21.4
PXSP150DS1	150	13		√	√			√	3.3 / 30.6
PXSP150DS2	150	13		√		√		√	3.3 / 30.6
PXSP200DS	200	13		√		√		√	4.4 / 41.4

*Assumes PE39 for 50 ton and PE59 for 100 ton or higher.

H-Frame Presses



SPECIFICATIONS

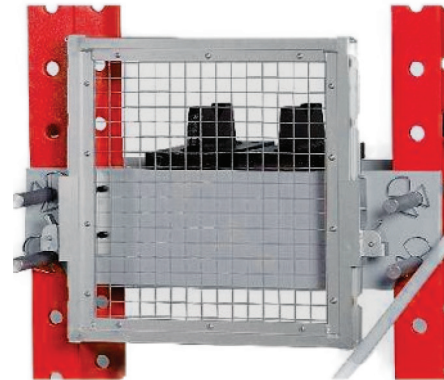
Part Number	Tons	A (in)	B (in)	C (in)	Working Height	
					D (min) (in)	E (max) (in)
PXSP50	55	40.8	31.5	72.2	3.1	41.7
PXSP100	100	47.2	39	73.4	4.4	32
PXSP150	150	57.2	39.2	82.2	2.5	35
PXSP200	200	57.6	39.2	83	3.7	36.1

OPTIONAL ACCESSORIES

PRESS GUARD

Part Number	Applied Model	Length A (in)	Width B (in)
PG50	PXSP55	24.6	26.6
PG100	PXSP100	28.7	30.5
PG150	PXSP150	24.8	38.9

**Contact us for 200 ton or clear guard options*



PRESS PINS

Pin Set	Part Number	Capacity (ton)	Dia. A (in)	Dia. B (in)	Length C (in)	Net Weight (lbs)	Gross Weight (lbs)
PPS-025	PP336	2	0.4	1.0	2.0	17	18
	PP327	3	0.5	1.0	2.4		
	PP328	8	0.6	1.0	2.4		
	PP329	12	0.7	1.0	3.3		
	PP330	14	0.8	1.0	3.3		
	PP331	16	0.9	1.0	3.3		
	PP332	18	1.0	1.0	4.3		
	PP333	20	1.2	1.0	4.3		



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