

SPX[®]

➤ Power Team

**Professional Grade High Performance
Hydraulic Products, Systems and Tools**



HYDRAULIC PUMPS ▪ CYLINDERS ▪ JACKS ▪ PULLERS ▪ TOOLS

PT0910-MSL05 r2 Catalog



INFRASTRUCTURE | PROCESS SOLUTIONS | DIAGNOSTIC SYSTEMS

Our Company

POWER TEAM is a product brand of **SPX**, a global, Fortune 500, multi-industry company with more than \$5 billion in annual revenue based in the United States in Charlotte, North Carolina.

SPX is a manufacturing leader with operations in more than 35 countries and approximately 18,000 associates worldwide, bringing to market solutions that benefit society while delivering value-added, bottom-line results to customers across five broad-based categories: power and energy, vehicle and transit, infrastructure, food and beverage and industrial processes. SPX is traded on the New York Stock Exchange.

Global Reach

An expanding world population and emerging middle class are driving increased demand for energy and high quality food. SPX is a leading global supplier of engineered technologies that support these critical needs of modern societies, providing innovative solutions to the worldwide food and beverage and power and energy markets. With a market presence that spans the globe, SPX has operations in more than 35 countries and more than 50 percent of our annual revenue is generated outside North America.

SPX Brands

Wherever and whenever companies have critical business needs, there is an SPX brand ready to help meet the challenge.

SPX markets more than 100 brands around the world. These brands serve a wide range of markets — automotive, oil and gas, power and utilities, food and beverage, broadcast and telecommunications, mining, pharmaceutical, HVAC and more.

Many are widely recognized, well-respected names across many industries and are considered category leaders.

SPX, a Global, Multi-Industry Supplier of Engineered Solutions driven by Innovation in the following segments:-

➤ Thermal Equipment

- with an emphasis on **power** and **energy**.
- meeting demands for increased power generation from multiple sources.

➤ Flow Technology

- focused largely on **food** and **beverage** and other **power** and **energy** applications.

➤ Industrial Products and Services

- focused on **power** and **energy** and niche segments.
- developed reliable technologies, components and equipment in **infrastructure** building and offered efficient solutions in **industrial processes**.

SPX Hydraulic Technologies is part of **SPX Corporation**.

NYSE symbol: **SPW**

spx.com

SPX HYDRAULIC TECHNOLOGIES is a unit of SPX Corporation (U.S.A.), and a global manufacturer & sole owner of the **POWER TEAM** trade mark with over 85 years' experience in high performance, professional grade, 10,000psi (700bar) high-pressure hydraulic cylinders, pumps, pullers, jacks, tools & equipment.

POWER TEAM products are used throughout the world serving a broad range of customers for applications in industry, construction, bridge equipment manufacturers, mining, rigging, quarrying, steel mills, shipbuilding/repairing, marine projects, oil & gas, power plants, maintenance & repair (MRO), aerospace and many other industries requiring hydraulic & maintenance tools.

SPX - POWER TEAM is a well-renowned and one of the top leading brand in high pressure hydraulic tools & equipment serving industrial customers worldwide fully backed by our 'Lifetime Marathon Warranty'.

- Our head office & U.S. manufacturing facility is located at 5885 11th Street, Rockford, Illinois 61109, U.S.A.
- Our **SPX** brand torque wrenches, bolt tensioners & nut splitters are manufactured by our factory in U.K.
- Our SPX global sales and distribution centers are strategically located in U.S.A., the Netherlands, Singapore & China.

Quality

SPX maintains high-quality standards in all phases of design, procurement, manufacturing, sales and service of **POWER TEAM** brand solutions. We are committed to continuous quality improvement, customer satisfaction and the reduction of total costs, and regularly employ innovation, efficiency and in-depth multi-industry knowledge to meet our customers' specific needs. **POWER TEAM** is certified to the **ISO 9000 Quality Management system**.

World-wide Distribution Network

The **POWER TEAM** brand is sold through a worldwide network of stocking industrial distributors. Service is available throughout the world at authorized Power Team Hydraulic Service Centers.

For more details of our company & businesses, please refer to the following websites:-

SPX Corporation:

www.spx.com

SPX Hydraulic Technologies (Business Unit):

www.spxhydraulictech.com

Product Groups

Existing Brand Identity

POWER TEAM®

Professional Grade High Performance
Hydraulic Products, Systems and Tools.

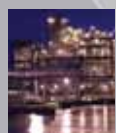
www.powerteam.com

New Brand Identity

>Power Team®



>Bolting Systems®



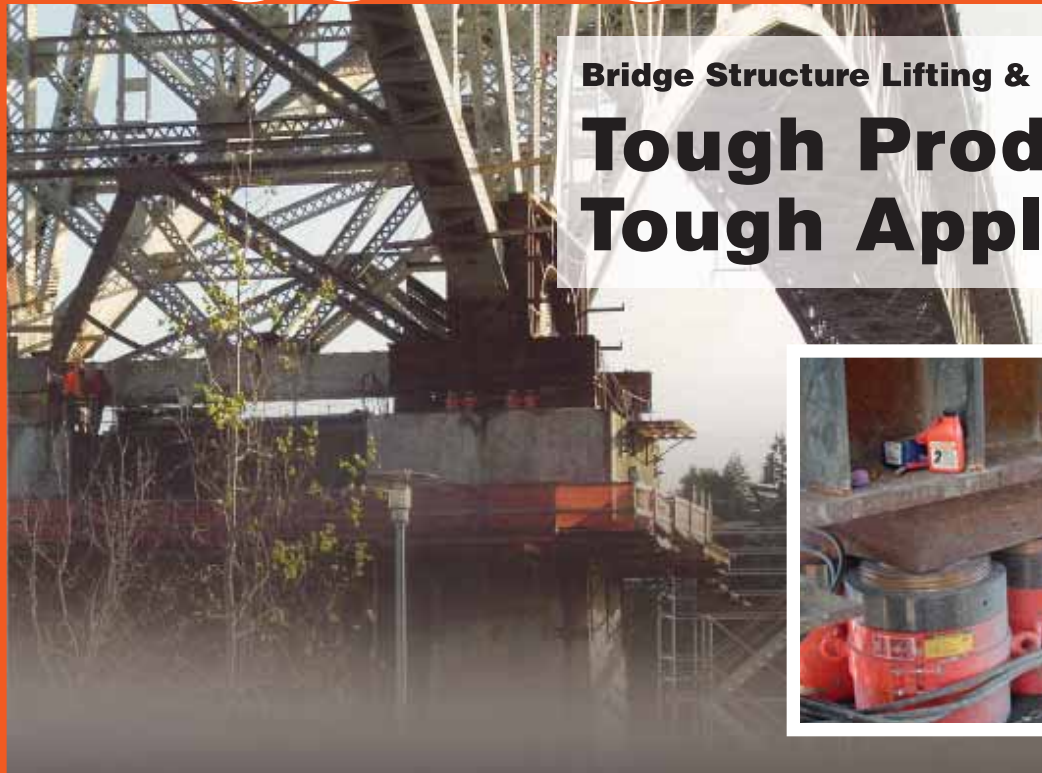
Topside & Subsea Hydraulic Torque Wrenches,
Bolt Tensioners & Nut Splitters for Oil & Gas and
Power Generation Industries.



Hydraulic Torque Wrenches, Bolt Tensioners
(Foundation & Up-Tower) & Electric Pumps
specially for Wind Power Applications.

www.spxboltingsystems.com

ABOUT POWER TEAM



Bridge Structure Lifting & Support

Tough Products for Tough Applications



Hydraulic Pumps

- Electric, Air, and Gas Powered
- Hand Pumps
- Valves, hoses and accessories

Hydraulic Cylinders

- Rams
- Standard
- Construction
- Industrial
- High Tonnage
- Pancake
- Aluminum
- Pulling

Jacks

- Lifting Jacks
- Inflatable Jacks
- Post-Tensioning Jacks

Tools

- Torque Wrenches
- Hydraulic Presses
- Flange Spreaders
- Nut Splitters
- Gear Pushers/Pullers
- Bearing Maintenance Pushers/Pullers

Shop Equipment

- Shop Presses
- Floor Cranes
- Load Rotors

Power Team. Over 85 years experience in supplying Professional Grade high-pressure Hydraulic Pumps, Cylinders, Jacks, Pullers & Tools.

A Heritage of Innovation

Since 1924, we've been instrumental in the development of innovative high force hydraulic power products, systems and tools. And many of our products are known as the industry standard for rugged construction, reliability, and long service life. Today, we provide a full range of professional grade products and services around the globe.

Power Team Quality

Power Team Products are built tough with strict ISO 9000 manufacturing processes and are covered by a Lifetime Marathon Warranty*.

Power Team is registered for the coveted ISO 9001 : 2000 international quality standard.

Global Distribution and Service

Wherever your job is in the world, the Power Team network of distributors and service centers assures local product, parts and service availability.

*See Warranty page for coverage details. (See page 163)

Tonnages are specified as U.S. Short Tons in this catalogue unless otherwise stated.

(1 U.S. Short Ton = 0.907 Metric Tonne)

Every effort has been made to assure the accuracy of product descriptions in this catalogue at the time of printing. SPX Hydraulic Technologies reserves the right to modify or discontinue products without prior notice.

PROFESSIONAL
HYDRAULIC PUMPS,
CYLINDERS, JACKS,
PULLERS & TOOLS



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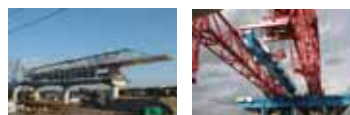
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CYLINDER SELECTION

Choosing The Right Cylinder

Step 1 Select the hydraulic cylinder that best suits the application (See page 11-32).

Step 2 Select the hydraulic pump, with valve option, that best matches the cylinder and application (See page 33-67).

Step 3 Select the hydraulic accessories you need (See page 68-84).

CONSIDERATIONS:

1. What push or pull tonnage is required per cylinder in your application? (Rule of thumb; Always choose a cylinder with a tonnage rating of 20% or more than what is required to lift the load.)
2. What is the push or pull stroke length required?
3. Does the cylinder need to push, pull or both? (Single-acting cylinders extend the piston under hydraulic pressure; double-acting cylinders extend and retract the piston under pressure.)
4. Does the application require multiple cylinders?
5. Is the application stationary, or must the components be light in weight for easy portability?
6. Do you need to extend a rod or cable through the center of the cylinder for the application, as in a tensioning operation?
7. Does the application require that the cylinder fit within limited-clearance work areas?
8. Does the application require that the cylinder be "dead-ended" at the end of its work stroke?
9. Will the cylinder need to withstand off-center loads? Cylinders with swivel caps are available.
10. Does the application require that the lifted load be supported for extended periods of time? Locking collars are ideal for such jobs, as are cribbing blocks.
11. Is corrosion resistance required? Our unique "Power Tech" surface treatment is standard on many Power Team cylinders, and optional on many of our cylinders which feature steel construction.
12. Will the application involve high cycles (over 2,500 in the cylinders lifetime)? Our "RD", "RH", "RP" and "C" series cylinders are ideal choices.

ONLY POWER TEAM PROVIDES THE "POWER TECH" SURFACE TREATMENT:

- High corrosion and wear resistance, anti-galling properties.
- Significantly increases the life expectancy of a cylinder.
- Retains lubricants, prevents bronze and other materials from sticking to surface.
- Increases fatigue strength and impact strength.
- Increases surface yield and tensile strength.
- Provides improved abrasion and scratch resistance.
- Causes no appreciable dimensional change.
- 56 Rc minimum surface hardness.
- Passes ASTM B117-85 100 hour salt spray corrosion resistance tests.

The "Power Tech" surface treatment is standard on the gland nut, cylinder body and piston/piston rod of the following cylinders: RLS50, RLS100, RLS200, RLS300, RLS500S, RLS750S, RLS1000S, RLS1500S, and RSS1002.

NOTE (1): "Bronze plating" may be used in place of the "Power Tech" surface finish for the piston/piston rod of any of the above cylinders. The "Power Tech" surface treatment is standard on the standpipe of all "RH" series single and double-acting cylinders. The "Power Tech" surface treatment is standard on the piston/piston rod of the RT172, RT302 and RT503 cylinders.

NOTE (2): "QPQ-coated" may be used in place of "Power Tech" surface finish for the piston/piston rod & body of selected cylinders. The "QPQ-coated" surface provides higher resistance to abrasion and reduce friction, prolonging cylinder life and quality.

WHAT TYPE OF CYLINDER DO YOU NEED?

1. To determine a cylinder's force capacity:

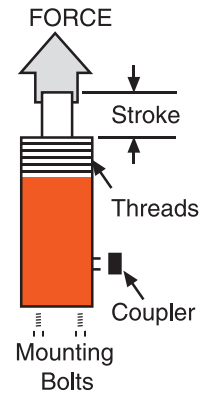
$$\text{FORCE (kg)} = \text{Cylinder Effective Area (cm}^2\text{)} \times \text{Pressure from Pump (kg/cm}^2\text{)}$$

2. To determine oil capacity of a cylinder:

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

3. To determine reservoir capacity needed for a multiple cylinder system:

$$\text{USABLE OIL} = \text{Oil Cap. of Cyl. (cm}^3\text{)} \times \text{Number of Cyl. in System}$$



Note: For double-acting cylinders, oil in rod end of cylinder must be subtracted to determine capacity.

4. To determine no. of strokes of a handpump:

$$\frac{\text{Cylinder Effective Area (cm}^2\text{)} \times \text{Stroke (cm)}}{\text{Pump Displacement (cm}^3\text{/stroke)}}$$

5. To determine piston travel rate (cm/min) of a power-driven pump:

$$\frac{\text{Pump Oil Flow (cm}^3\text{/min)}}{\text{Cylinder Effective Area (cm}^2\text{)}}$$

6. Time (min) taken to move cylinder piston to full stroke of a power-driven pump:

$$\frac{\text{Total Cylinder Displacement (cm}^3\text{)}}{\text{Pump Displacement (cm}^3\text{/min)}}$$

Conversion

Volume:	1 litre	= 1000 cm ³
	1 U.S. gallon	= 231 in ³
Mass:	1 short tons	= 2,000 lbs
	1 metric tonne	= 2204.6 lbs
	1 metric tonne	= 1000 kg
Pressure:	10,000 psi	= 689 bar
		= 703 kg/cm ²

Metric to Imperial Conversion

Length:	1 mm	= 0.0394 in
Area:	1 cm ²	= 0.1550 in ²
Volume:	1 cm ³	= 0.06102 in ³
Volume:	1 litre	= 0.2642 U.S. gallon
Mass:	1 kg (10N)	= 2.2046 lb
Power:	1 kW	= 1.341 hp
Pressure:	1 kg/cm ²	= 14.219 psi
Pressure:	1 bar	= 14.5038 psi
Torque:	1 Nm	= 0.7376 ft.lb

Torque & Puller

Choosing the Right Tool

Tool

The Questions you need to ask.

CHOOSING THE RIGHT TORQUE WRENCH

1. Are there work area space/access issues or tool size limitations?
2. How far from the stationary object will the reaction arm be placed? (Reaction arm must rest against stationary object for support)
3. Single acting or double acting tool?
4. What size bolts need to be loosened or tightened?
5. What is torque requirement for the application?
6. Based on torque value, how much pressure required? (pressure setting for pump)
7. What type of pump to power the tool – electric, air, hand?



CHOOSING THE RIGHT PULLER

1. Mechanical puller or hydraulic puller? (page 133-136 and page 140-153)
2. Does the job require a two jaw puller or a three jaw puller?
3. How much force is needed to complete the pull?
4. How much reach is needed?
5. How much spread is needed?



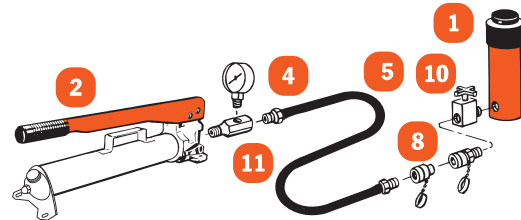
HYDRAULIC CIRCUITS

Pumps, Cylinders, Controls

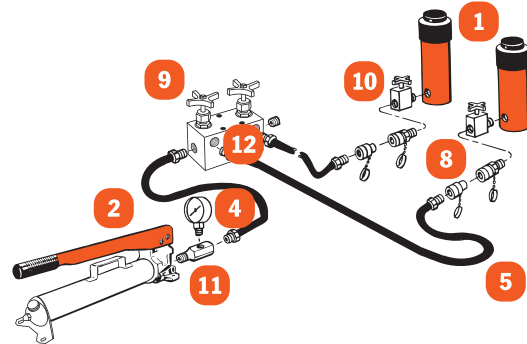
These are just a few basic systems possible with Power Team hydraulic components. Countless applications are possible: In presses, for lifting or jacking applications or in production or maintenance setups. The pump shown is a typical handpump or electric/hydraulic unit. Air or gas driven/hydraulic pumps are available.

- 1** Cylinder – applies hydraulic force.
- 2** Pump – a device for converting mechanical energy to fluid energy.
- 3** Directional valve – controls the direction of hydraulic fluid in the system.
- 4** Gauge – measures Bar pressure (or Psi-Pounds per Square Inch) and/or force.
- 5** Hose – transports hydraulic fluid.
- 6** Manifold – allows distribution of hydraulic fluid from one source to several cylinders. (No. 9617)
- 7** Swivel Connector – allows proper alignment of valves and/or gauges. Used when units being connected cannot be rotated. (No. 10469)
- 8** Quick Coupling – “hose half” and “cylinder half” couplings are used for quick connection and fluid flow check when separated. (No. 9797 and 9798)
- 9** Shut-Off Valve – regulates the flow of hydraulic fluid to or from cylinders. (No. 9642 or 9644)
- 10** Load-Lowering Valve – allows metered lowering of cylinder and provides safety when prolonged load holding is required. (No. 9596)
- 11** Tee Gauge Adapter – allows for installation of pressure/tonnage gauge anywhere in the hydraulic system. (No. 9670)
- 12** Pipe Plug – for blocking unused ports within the system. (No. 10909)

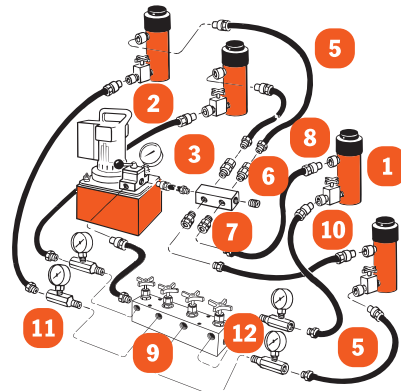
Basic single-acting system with a hand pump, gauge, hose and single-acting cylinder.



Basic single-acting system with a hand pump, gauge, hose, multiple shut-off valves, load-lowering valves and multiple cylinders.



Basic double-acting system with an electric/hydraulic pump, shut-off valves, load-lowering valves and multiple double-acting cylinders.



CYLINDERS

FROM 2 TO 1,140 U.S. SHORT TONS

SUPERIOR FEATURES OF POWER TEAM HYDRAULIC CYLINDERS:

We build our own cylinders in our ISO 9001 registered manufacturing facility. All Power Team cylinders are date-coded. Maximum pressure rating and capacity are stamped on the cylinder. All cylinders comply to the demanding ASME B30.1 standard and are proof tested to 125% of capacity before leaving our factory. Some other features included:

- Cylinder bores are roller burnished to harden the surface and make it smoother, increasing seal life by 30%.
- Base mounting holes withstand full capacity of the cylinder.
- Typical cylinder burst pressures range from 1700 to 2400 bar.
- Cylinders with gland nuts may be "dead-ended" at 700 bar. Cylinders

are assembled and tested by certified assemblers.

- Eddy current and mag particle inspection detects flaws in the steel.
- Cylinder bodies are solid steel, not welded like some competitive cylinders.
- Material is removed from surface, to assure that any flaws are removed.



<p>Page C SERIES...12-15 General Purpose Cylinders & Mounting Accessories</p> 	<p>Page RD SERIES...22, 23 Double-Acting, Hydraulic-Return</p> 
<p>Page RLS SERIES...16 Low Profile Cylinders</p> 	<p>Page R SERIES...24-27 Single-Acting, Load Return Double-Acting, Hydraulic Return</p> 
<p>Page RSS SERIES...17 Shorty Cylinders</p> 	<p>Page RL SERIES...28-30 Locking Collar (Steel) Single-Acting, Load-Return (Aluminum) Single-Acting, Spring-Return</p> 
<p>Page RH SERIES...18-19 Center Hole Cylinders</p> 	<p>Page PLC SERIES...31 Locking Collar, Pancake Single Acting, Load-Return</p> 
<p>Page RT SERIES...20 Center Hole Power-twin® Cylinders</p> 	<p>Page CBT SERIES...32 Threaded End Cylinders</p> 
<p>Page RA SERIES...21 Aluminum Cylinders</p> 	<p>Page RP SERIES...32 Pull Cylinders</p> 

GENERAL PURPOSE

C Series Cylinders

5 - 100 Ton

Single-Acting, Spring-Return

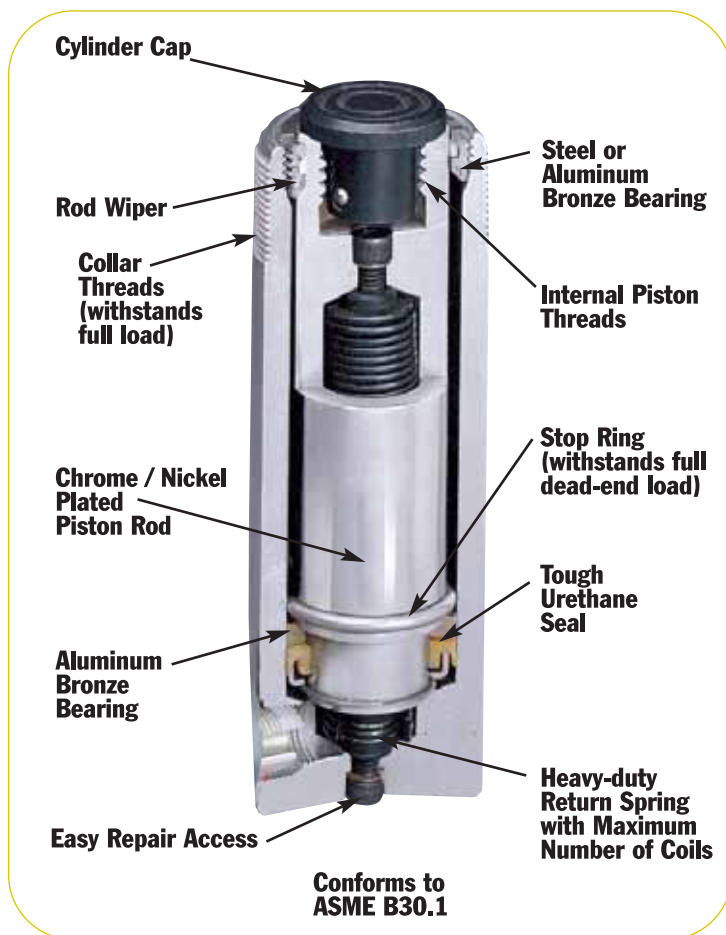
700 bar (10,000 psi)



CYLINDERS

RUGGED, HIGH QUALITY CYLINDER USED FOR LIFTING AND PRESSING

- Aluminum bronze bearing reduces wear caused by off-center loads.
- Maximum sized springs speed piston return and increase spring life.
- Solid steel cylinder body for durability.
- Chrome plated / Nickel plated piston rod resists wear and corrosion.
- Wide range of accessories available to thread onto piston rod, collar, or onto cylinder base (See page 14, 15).
- Base mounting holes standard on 5 through 55 ton cylinders; optional on 75 and 100 ton cylinders.
- A 3/8" NPTF female half coupler is standard.

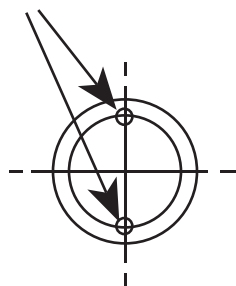


C106C



C756C

Base mounting holes

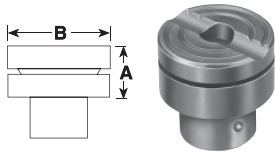


BASE MOUNTING HOLES FOR "C" CYLINDERS

Cylinder Tonnage	No. Holes	Thread Size	Thread Depth (mm)	Bolt Circle Diameter (mm)
5	2†	1/4-20	9.5	25.4
10		5/16-18	12.7	39.7
15		3/8-16		47.6
25		1/2-13	19.1	58.7
55				95.3
*Optional 75	4	3/4-10	25.4	114.3
*Optional 100		1-8		120.7

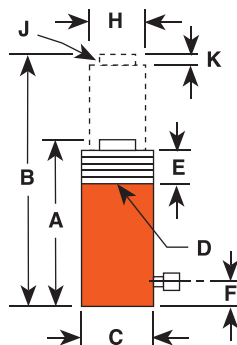
* Consult Factory (45° from coupler)

† 90° from coupler.



Swivel Cap
(Optional)

Cylinder Tonnage	Part No.	A (mm)	B (mm)
10 or 15	350144	22,4	30,1
25	350145	28,7	50,8
55 or 75	350376	31,8	71,4
100	351574	48,5	88,1



CYLINDERS



Cyl. Cap. (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm³)	A	B	C	D	E	F	H	J	K	Bore Dia. (mm)	Cylinder Effective Area (cm²)	Metric	
				Re-tracted Height (mm)	Ex-tended Height (mm)	Outside Dia. (mm)	Collar Thread (in.)	Piston Collar Thread Length (mm)	Base to Port (mm)	Piston Rod Dia. (mm)	Piston Rod Int. Thread (in.) and Depth (mm)	Rod Protru-sion (mm)			Tons at 700 (bar)	Weight (kg)
5	25,4	C51C	18	110,3	138,1	38,1	1 1/2-16	28,6	19,1	25,4	3/4-16 x 15,9	6,4	28,6	6,4	4,5	1,0
	82,6	C53C	52	165,1	247,7	38,1	1 1/2-16	28,6	19,1	25,4	3/4-16 x 15,9	6,4	28,6	6,4	4,5	1,5
	133,4	C55C	85	215,9	349,3	38,1	1 1/2-16	28,6	19,1	25,4	3/4-16 x 15,9	6,4	28,6	6,4	4,5	1,8
	184,2	C57C	118	273,1	457,2	38,1	1 1/2-16	28,6	19,1	25,4	3/4-16 x 15,9	6,4	28,6	6,4	4,5	2,3
	235,0	C59C	151	323,9	558,8	38,1	1 1/2-16	28,6	19,1	25,4	3/4-16 x 15,9	6,4	28,6	6,4	4,5	2,6
10	25,4	C101C	36	92,1	117,5	57,2	2 1/4-14	28,6	19,1	38,1	1-8 x 19,1	6,4	42,8	14,4	10,2	1,8
	54,0	C102C	79	120,7	174,6	57,2	2 1/4-14	28,6	19,1	38,1	1-8 x 19,1	6,4	42,8	14,4	10,2	2,3
	104,8	C104C	151	171,5	276,2	57,2	2 1/4-14	28,6	19,1	38,1	1-8 x 19,1	6,4	42,8	14,4	10,2	3,0
	155,6	C106C	225	247,7	403,2	57,2	2 1/4-14	28,6	19,1	38,1	1-8 x 19,1	6,4	42,8	14,4	10,2	4,3
	206,4	C108C	362	298,5	504,8	57,2	2 1/4-14	28,6	19,1	38,1	1-8 x 19,1	6,4	42,8	14,4	10,2	5,0
	257,2	C1010C	370	349,3	606,4	57,2	2 1/4-14	28,6	19,1	38,1	1-8 x 19,1	6,4	42,8	14,4	10,2	5,9
	308,0	C1012C	444	400,1	708,0	57,2	2 1/4-14	28,6	19,1	38,1	1-8 x 19,1	6,4	42,8	14,4	10,2	6,6
	358,8	C1014C	518	450,9	809,6	57,2	2 1/4-14	28,6	19,1	38,1	1-8 x 19,1	6,4	42,8	14,4	10,2	7,3
15	406,4	C1016C	592	520,7	927,1	57,2	2 1/4-14	28,6	19,1	38,1	1-8 x 19,1	6,4	42,8	14,4	10,2	8,4
	25,4	C151C	51	123,8	149,2	69,9	2 3/4-16	28,6	19,1	44,5	1-8 x 19,1	6,4	50,8	20,3	14,2	3,4
	54,0	C152C	110	149,2	203,2	69,9	2 3/4-16	28,6	19,1	44,5	1-8 x 19,1	6,4	50,8	20,3	14,2	4,0
	104,8	C154C	211	200,0	304,8	69,9	2 3/4-16	28,6	19,1	44,5	1-8 x 19,1	6,4	50,8	20,3	14,2	5,2
	155,6	C156C	315	271,4	427,0	69,9	2 3/4-16	28,6	19,1	44,5	1-8 x 19,1	6,4	50,8	20,3	14,2	6,9
	206,4	C158C	418	322,2	528,6	69,9	2 3/4-16	28,6	19,1	44,5	1-8 x 19,1	6,4	50,8	20,3	14,2	8,1
	257,2	C1510C	521	373,0	630,2	69,9	2 3/4-16	28,6	19,1	44,5	1-8 x 19,1	6,4	50,8	20,3	14,2	9,4
	308,0	C1512C	625	423,8	731,8	69,9	2 3/4-16	28,6	19,1	44,5	1-8 x 19,1	6,4	50,8	20,3	14,2	10,5
25	358,8	C1514C	728	474,6	833,4	69,9	2 3/4-16	28,6	19,1	44,5	1-8 x 19,1	6,4	50,8	20,3	14,2	11,8
	406,4	C1516C	824	522,3	928,7	69,9	2 3/4-16	28,6	19,1	44,5	1-8 x 19,1	6,4	50,8	20,3	14,2	12,8
	25,4	C251C	84	139,7	165,1	85,7	3 5/16-12	49,2	25,4	57,2	1 1/2-16 x 25,4	9,5	65,1	33,2	23,4	5,4
	50,8	C252C	169	165,1	215,9	85,7	3 5/16-12	49,2	25,4	57,2	1 1/2-16 x 25,4	9,5	65,1	33,2	23,4	6,3
	101,6	C254C	338	215,9	317,5	85,7	3 5/16-12	49,2	25,4	57,2	1 1/2-16 x 25,4	9,5	65,1	33,2	23,4	8,0
	158,8	C256C	528	273,1	431,8	85,7	3 5/16-12	49,2	25,4	57,2	1 1/2-16 x 25,4	9,5	65,1	33,2	23,4	9,8
	209,6	C258C	697	323,9	533,4	85,7	3 5/16-12	49,2	25,4	57,2	1 1/2-16 x 25,4	9,5	65,1	33,2	23,4	11,6
	260,4	C2510C	865	374,4	635,0	85,7	3 5/16-12	49,2	25,4	57,2	1 1/2-16 x 25,4	9,5	65,1	33,2	23,4	13,3
55	311,2	C2512C	1.036	425,5	736,0	85,7	3 5/16-12	49,2	25,4	57,2	1 1/2-16 x 25,4	9,5	65,1	33,2	23,4	15,0
	362,0	C2514C	1.205	476,3	838,2	85,7	3 5/16-12	49,2	25,4	57,2	1 1/2-16 x 25,4	9,5	65,1	33,2	23,4	16,7
	50,8	C552C	362	174,6	225,4	127,0	5-12	55,6	34,9	79,4	None	3,2	95,3	71,2	50,1	14,7
	108,0	C554C	769	231,8	339,7	127,0	5-12	55,6	34,9	79,4	None	3,2	95,3	71,2	50,1	18,7
	158,8	C556C	1.131	282,6	441,3	127,0	5-12	55,6	34,9	79,4	None	3,2	95,3	71,2	50,1	23,1
	260,4	C5510C	1.853	384,2	644,5	127,0	5-12	55,6	34,9	79,4	None	3,2	95,3	71,2	50,1	30,4
	336,6	C5513C	2.398	460,4	796,9	127,0	5-12	55,6	34,9	79,4	None	3,2	95,3	71,2	50,1	35,3
75	155,6	C756C	1.596	314,3	469,9	146,1	5 3/4-12	44,5	31,8	95,3	None	3,2	114,3	102,6	72,1	33,3
	333,4	C7513C	3.421	492,1	825,5	146,1	5 3/4-12	44,5	31,8	95,3	None	3,2	114,3	102,6	72,1	49,6
100	50,8	C1002C	675	219,1	269,9	158,8	6 1/4-12	57,2	41,3	104,8	None	3,2	130,2	133,0	93,6	28,5
	168,3	C1006C	2.245	336,6	504,8	158,8	6 1/4-12	57,2	41,3	104,8	None	3,2	130,2	133,0	93,6	41,2
	260,4	C10010C	3.467	428,6	689,0	158,8	6 1/4-12	57,2	41,3	104,8	None	3,2	130,2	133,0	93,6	51,2

Base mounting holes: see page 12.

ACCESSORIES

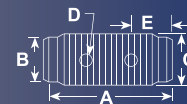
C Series Mounting Accessories



CYLINDERS



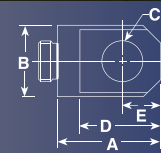
Threaded Connector



Cylinder Tons	Part No.	A (mm)	B (mm)	C (in)	D (mm)	E
5	25748	44,5	22,4	$\frac{3}{4}$ 14 NSPM	4,8	12,7
10	25664	41,4	36,6	1 $\frac{1}{4}$ 11 $\frac{1}{2}$ NSPM	7,9	14,2
25	25654	57,2	54,1	2-11 $\frac{1}{2}$ NSPM	9,7	16

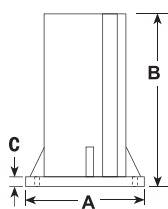


Piston Clevis



Cylinder Tons	Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (in)
5	350095	44,5	28,7	16	36,6	16	$\frac{3}{4}$ 16
10 or 15*	350094	65	42,9	22,4	58,7	25,4	1-8
25**	420059	74,7	57,2	31,8	68,3	31,8	1 $\frac{1}{2}$ 16

* Can be used with RD106, RD1010 Cylinder.
** Can be used with RD256, RD2514 Cylinder.



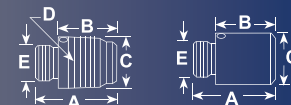
Support Base

Cylinder Tons	Order	A (mm)	B (mm)	C (mm)
10	420062	177,8	127	11,2
25	420063	177,8	127	11,2



Threaded Adapter

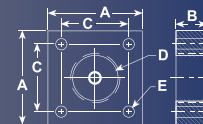
Plain Adapter



Cylinder Tons	Part No.	A (mm)	B (mm)	C (mm)	D (in)	E (in)
5	202178 (threaded)	41,4	28,7	26,9	$\frac{3}{4}$ 14 NPT	$\frac{3}{4}$ 16 UNF-2A
10 or 15	202179 (threaded)	46,0	26,9	41,4	1 $\frac{1}{4}$ 11 $\frac{1}{2}$ NPT	1-8 UNC-2A
25	202180 (threaded)	69,9	47,8	60,5	2-11 $\frac{1}{2}$ NPT	1 $\frac{1}{2}$ 16 UN-2A
10 or 15	350724 (plain)	50,8	31,8	37,6	-	1-8 UNC-2A
25	350723 (plain)	54,1	31,8	57,2	-	1 $\frac{1}{2}$ 16 UN-2A



Cylinder Mounting Plate



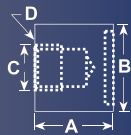
Cylinder Tons	Part No.	A (mm)	B (mm)	C (mm)	D (in)	E (mm)
5	350099	76,2	25,4	54,1	1 $\frac{1}{2}$ 16 UN-2B	8,6
10	350100	88,9	25,4	66,8	2 $\frac{1}{4}$ 14 UNS-2B	8,6
15	350184	88,9	25,4	66,8	2 $\frac{3}{4}$ 16 UN-2B	8,6
25	420064	127	50,8	93	3 $\frac{5}{16}$ 12 UN-2B	16,8

Extension Rod

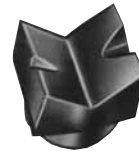
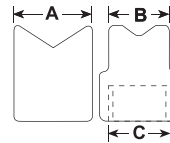


Cylinder Tons	Part No.	A (mm)	B (mm)	C (in)	D (mm)	E (mm)
5	350895	127	22,4	$\frac{3}{4}$ -14 NPT	8,4	50,8
5	38908	254	22,4	$\frac{3}{4}$ -14 NPT	8,4	50,8
5	350896	457,2	22,4	$\frac{3}{4}$ -14 NPT	8,4	50,8
10	350897	127	36,6	1 $\frac{1}{4}$ -11 $\frac{1}{2}$ NPT	8,4	50,8
10	38909	254	36,6	1 $\frac{1}{4}$ -11 $\frac{1}{2}$ NPT	8,4	50,8
10	350898	457,2	36,6	1 $\frac{1}{4}$ -11 $\frac{1}{2}$ NPT	8,4	50,8

Cylinder Base Attachment



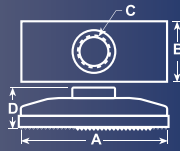
Cylinder Tons	Part No.	A (mm)	B (mm)	C (in)	D (mm/in)
5†	208380	41,4	44,5	$\frac{3}{4}$ -14 NPSM	7,1 Dia. (No.2) 1/4-20 UNC x 3/4" Lg. Socket Head Cap Screws
10†	208381	47,8	63,5	1 $\frac{1}{4}$ -11 $\frac{1}{2}$ NPSM	8,6 Dia. (No.2) 5/16-18 UNC x 3/4" Lg. Socket Head Cap Screws
25†	208382	60,5	98,6	2-11 $\frac{1}{2}$ NPSM	13,5 Dia. (No.2) $\frac{1}{2}$ -13 UNC x 1" Lg. Socket Head Cap Screws



90° "V" Base

Cylinder Tons	Part No.	A (mm)	B (mm)	C (in)
5	25388*	35,1	26,9	$\frac{3}{4}$ -14 NPSM
10	25395*	54,1	54,1	1 $\frac{1}{4}$ -11 $\frac{1}{2}$ NPSM

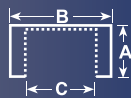
Cylinder Flat Base



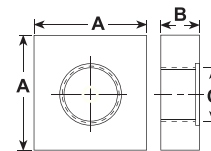
Cylinder Tons	Part No.	A (mm)	B (mm)	C (in)	D (mm)
5	25750*	114,3	63,5	$\frac{3}{4}$ -14 NPSM	34
10	32325*	166,6	88,9	1 $\frac{1}{4}$ -11 $\frac{1}{2}$ NPSM	36,6

Smooth Saddle

Serrated Saddle



Cylinder Tons	Part No.	A (mm)	B (mm)	C (in)
5	25746* (serrated)	28,7	33,3	$\frac{3}{4}$ -14 NPSM
10 or 15	31772* (serrated)	28,7	50,8	1 $\frac{1}{4}$ -11 $\frac{1}{2}$ NPSM
25	31776* (serrated)	33,3	76,2	2-11 $\frac{1}{2}$ NPSM
5	351575* (plain)	28,7	33,3	$\frac{3}{4}$ -14 NPSM
10	24016* (plain)	28,7	50,8	1 $\frac{1}{4}$ -11 $\frac{1}{2}$ NPSM
25	351576* (plain)	33,3	76,2	2-11 $\frac{1}{2}$ NPSM



Plunger Base

Cylinder Tons	Part No.	A (mm)	B (mm)	C (in)
25	25652	152,4	31,8	2-11 $\frac{1}{2}$ NPSM

Body Clevis†



Cylinder Tons	Part No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
5	350096	52,3	28,7	16	16	14,2	6,4
10	350097	76,2	42,9	22,4	25,4	25,4	6,4
15	350098	77,7	42,9	22,4	25,4	25,4	6,4
25	420061	90,4	57,2	31,8	31,8	38,1	6,4

* Items require threaded adapter when used with "C" series cylinders. They may be used on threaded "CBT" cylinders without the use of an adapter.

† Mounting screws are included.



LOW PROFILE

RLS Series Cylinders
5 - 150 Ton
Single-Acting, Spring-Return
700 bar (10,000 psi)



CYLINDERS

IDEAL FOR CONFINED AREAS FROM 41 TO 101,6 MM CLEARANCE.

- Cylinder body, piston and gland nut "Power Tech" treated for corrosion and abrasion resistance (See page 8).
- Standard domed piston rod (5-30 ton) or swivel cap (50-150 ton) minimize effects of off-center loading.
- Unique heavy duty spring provides fast piston return.
- A 9796 3/8" NPTF female half coupler is standard with each cylinder (the RLS50 has a 3/8" coupler which is not angled). Oil ports are 3/8" NPTF.
- Couplers on all cylinders, except RLS50, are angled upward for extra clearance.



RLS100

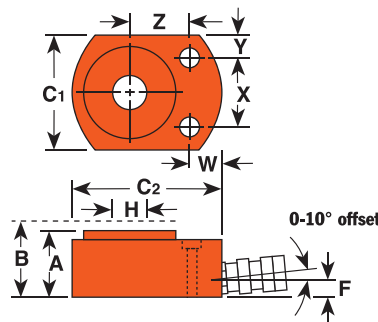
MOUNTING HOLES FOR "RLS" CYLINDERS

RLS50	8,6mm C'bore x 6,4mm deep, 5,6mm thru hole	RLS500S	17,8mm C'bore x 12,7mm deep, 11,9mm thru hole
RLS100	10,7mm C'bore x 8,7mm deep, 7,1mm thru hole	RLS750S	20,3mm C'bore x 14,2mm deep, 13,5mm thru hole
RLS200	15,5mm C'bore x 10,4mm deep, 10,4mm thru hole	RLS1000S	20,3mm C'bore x 14,2mm deep, 13,5mm thru hole
RLS300	15,5mm C'bore x 11,2mm deep, 10,4mm thru hole	RLS1500S	20,6mm C'bore x 14,2mm deep, 13,5mm thru hole



RLS1000S

ASME B30.1
700 bar



				A Re-tracted	B Ex-tended	C1 & C2 Outside	F Base to Port	H Piston Rod Prod.	W	X	Y	Z	Metric Tons at 700 bar			
Cyl. Cap. (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm³)	Height (mm)	Height (mm)	Dia. (mm)	(mm)	Dia. (mm)	Mounting Hole Location (mm)				Bore Dia. (mm)	Cyl. Eff. Area (cm²)	Weight (kg)	
5	14,3	RLS50	10	41,3	55,6	41,3x65,1	19,1	15,9	19,1	28,6	6,4	25,4	28,6	6,4	4,5	1,0
10	11,1	RLS100	17	44,5	55,6	55,6x82,6	15,9	19,1	17,5	36,5	9,5	33,3	42,9	14,4	10,1	1,5
20	11,1	RLS200	33	50,8	61,9	76,2x101,6	16,7	28,6	18,3	49,2	13,5	39,7	60,3	28,6	20,1	2,5
30	12,7	RLS300	53	58,7	71,4	95,3x114,3	18,3	34,9	20,6	52,4	21,4	44,5	73,0	41,9	29,5	3,9
50	15,9	RLS500S	99	66,7	82,6	114,3x139,7	21,4	44,5	23,8	66,7	23,8	54,0	88,9	62,1	43,6	6,3
75	15,9	RLS750S	163	79,4	95,3	140,5x165,1	25,4	54,0	23,8	76,2	32,1	65,9	114,3	102,6	72,2	10,6
100	15,9	RLS1000S	202	85,7	101,6	152,4x177,8	25,4	63,5	20,6	76,2	38,1	71,4	127,0	126,6	89,1	13,6
150	14,3	RLS1500S	282	101,6	115,9	190,5x215,9	33,3	76,2	33,3	117,5	36,5	79,4	158,8	197,9	139,2	23,6

Note: RLS Series cylinders may be supplied with QPQ-coating on its pistons & bodies (See page 8).

SHORTY

RSS Series Cylinders

10 - 250 Ton

Single-Acting, Spring-Return
& Double-Acting
700 bar (10,000 psi)

IDEAL FOR CONFINED AREAS FROM 89 TO 290,5 MM CLEARANCE.

- Power Tech piston rods and gland nuts resist scoring and corrosion.
- Heavy duty return spring (except for double-acting models) provides fast piston return & low collapsed height.
- Coupler on 10 thru 50 ton models is angled upward 5° for added clearance.
- Grooved piston top keeps load from sliding.
- Cylinders can be “dead-ended” at full capacity.
- Removable carrying handles on 100 ton and 250 ton models.

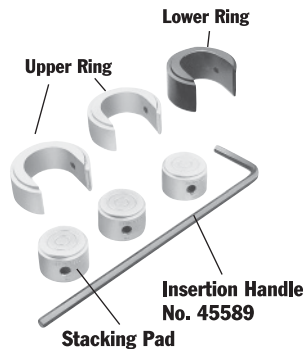


RSS302

ASME B30.1
700 bar



Cribbing blocks are shown in a 30 ton RSS302 “Shorty” cylinder.



Convert Power Team “Shorty” cylinders to mechanical cribbing devices; more stable than timber or other awkward, makeshift methods. Ideal for lifting applications such as structure moving. Reduce cribbing time dramatically.

In effect, increases the stroke of the cylinder; stacking pads act as cylinder extensions:

1. Extend cylinder and insert lower supporting ring.
2. Retract cylinder, insert a stacking pad.
3. Extend cylinder again; pad increases cylinder stroke.
4. Repeat process until all rings and pads are used.

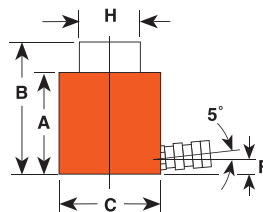
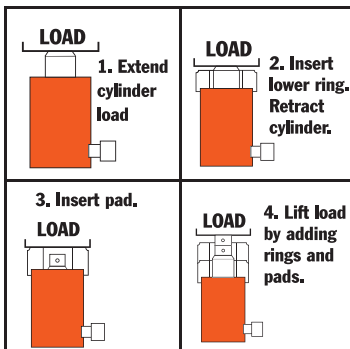
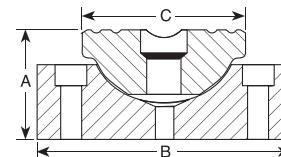
Each cribbing block set includes rings, pads and insertion handle (Optional).

No. **CB30** — Cribbing block set for use with No. RSS302; 30 ton cylinder.

No. **CB50** — Cribbing block set for use with No. RSS502; 50 ton cylinder.

No. **CB100** — Cribbing block set for use with No. RSS1002; 100 ton cylinder.

No. **45589** — Insertion handle is used for inserting rings and pads.



SWIVEL CAPS FOR “RSS”,

Reduce the effects of off center loading. Tilts up to 5°.
(Available as optional)

Use with Cyl. No.	Swivel Cap Order No.	Weight (kg)	A (mm)	B (mm)	C (mm)
RSS101	350320	0,2	25,4	36,5	36,5
RSS202	350321	0,6	34,9	54	54
RSS302	350322	0,7	34,9	63,5	54
RSS502	350331	1,2	36,5	82,6	54
RSS1002	350332	3,0	46	111,1	85,7

					A	B	C	F	H				
Cyl. Capacity (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm³)		Retracted Height (mm)	Extended Height (mm)	Outside Dia. (mm)	Base to Port (mm)	Piston Rod Dia. (mm)	Bore Dia. (mm)	Cylinder Effective Area (cm²)	Metric Tons at 700 (bar)	Weight (kg)
			Push	Return									
10	38,1	RSS101	56	–	88,9	127,0	69,9	15,9	38,1	42,9	14,4	10,2	2,7
20	44,5	RSS202	126	–	95,3	139,7	90,5	15,9	54,8	60,3	28,6	20,0	4,5
30	61,9	RSS302	259	–	117,5	179,4	101,6	15,9	63,5	73,0	41,9	29,5	6,7
50	60,3	RSS502	374	–	127,0	187,3	123,8	19,1	79,4	88,9	62,0	43,6	10,5
100	57,2	RSS1002	725	–	139,7	196,9	168,3	23,8	111,1	127,0	126,6	89,1	21,4
100	38,1	RSS1002D†	482	212	144,5	182,6	174,6	23,8 *	95,3	127,0	126,6	89,1	24,7
250	76,2	RSS2503	2,469	–	290,5	366,7	250,8	46,0	139,7	203,2	323,9	227,8	99,7

*Cylinder top to port is 40 mm

†Double-acting

Note: RSS Series cylinders (except RSS1002D & RSS2503) may be supplied with QPQ-coating on its pistons & bodies (See page 8).

CENTER HOLE

RH Series Cylinders

10 - 100 Ton

Single-Acting, Spring-Return

700 bar (10,000 psi)



CYLINDERS



10, 20, 100 Ton
Single-Acting Models
Feature Plain Collar



IDEAL FOR PULLING AND TENSION- ING OF CABLES, ANCHOR BOLTS, FORCING SCREWS, ETC.

- Interchangeable piston head inserts provide versatility of application.
- 12, 20*, 30*, 50, 60 Ton Single-Acting Models Feature Threaded Collar
- Withstands full "dead-end" loads.
- Plated piston rod resists wear and corrosion.
- Corrosion resistant standpipe has "Power Tech" treatment.
- All cylinders except RH120 are furnished with a 9796 3/8" NPT female half coupler.
- Aluminum cylinder body and piston are featured on the RHA306 cylinder.



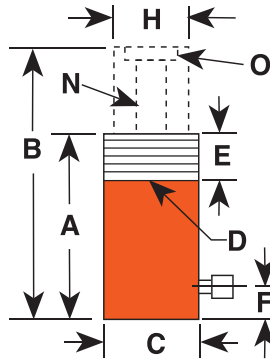
ASME B30.1
700 bar

* Model RH203 and RHA306 do not feature the collar thread. See the chart below.



HEAD INSERTS FOR RH SERIES CYLINDERS (OPTIONAL)

For Use With:	Threaded Insert Order No.
RH102, RH108	28632 3/4"-16
RH203	28612 1"-8
RH302, RH306	38904 1 1/4"-7
RH303	28644 1 1/4"-7
RH503	38855 1 5/8"-5 1/2
RH603, RH605 RH606	34251 1 5/8"-5 1/2



Cyl. Cap. (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm ³)	A Re-tracted Height (mm)	B Ex-tended Height (mm)	C Outside Dia. (mm)	D Collar Thread (in.)	E Collar Thread Length (mm)	F Base to Port (mm)	H Piston Rod Dia. (mm)	N Center Hole Dia. (mm)	O Insert Thread and Size (in.)	Mounting Holes (in.) & Bolt Circle (mm)	Cylinder Effective Area (cm ²)	Metric Tons at 700 bar	Weight (kg)
10	63,5	RH102 [†]	91	134,9	198,4	76,2	None	None	25,4	52,4	19,4	1 3/4-12	3/4 - 20 x 60,3	14,3	10,0	4,1
10	203,2	RH108 [†]	290	287,3	490,5	76,2	None	None	25,4	52,4	19,4	1 3/4-12	3/4 - 20 x 60,3	14,3	10,0	8,5
12	7,9	RH120 **	14	55,6	63,5	69,9	2 3/4-16	31,8	9,5	34,9	17,5	3/4-16	5/16 - 18 x 50,8	17,8	12,5	1,4
12	41,3	RH121	74	122,2	163,5	69,9	2 3/4-16	31,8	25,4	34,9	20,2	None	None	17,8	12,5	3,0
12	41,3	RH121T **	74	122,2	163,5	69,9	2 3/4-16	31,8	25,4	34,9	17,5	3/4-16	None	17,8	12,5	3,0
12	76,2	RH123	136	184,2	260,4	69,9	2 3/4-16	20,6	25,4	34,9	20,6	None	None	17,8	12,5	4,0
20	50,8	RH202	155	155,6	206,4	98,4	3 7/8-12	38,1	25,4	54,0	27,4	1 9/16-16	3/8 - 16 x 82,5	30,4	21,4	7,3
20	76,2	RH203 [†]	193	154,0	230,2	101,6	None	None	25,4	69,9	26,6	2 1/4-12	3/8 - 16 x 82,5	25,3	17,8	9,1
20	152,4	RH206	465	308,0	460,4	98,4	3 7/8-12	38,1	25,4	54,0	27,4	1 9/16-16	3/8 - 16 x 82,5	30,4	21,4	13,7
30	63,5	RH302	260	158,8	222,3	120,7	4 3/4-12	38,1	29,4	82,6	32,9	2 3/4-12	7/16 - 20 x 92,1	40,9	28,8	11,6
30	149,2	RHA306 [†]	625	283,4	432,6	130,2	None	None	31,8	82,6	32,5	2 5/8-8	None	40,9	28,8	9,9
30	152,4	RH306	625	247,7	400,1	120,7	4 3/4-12	38,1	29,4	82,6	32,5	2 3/4-12	7/16 - 20 x 92,1	40,9	28,8	17,7
50	76,2	RH503	534	181,0	257,2	152,4	6-12	50,8	31,8	104,8	42,5	3 1/4-12	5/8 - 18 x 120,6	70,0	49,3	21,2
60	76,2	RH603 *	607	235,0	311,2	158,8	6 1/2-12	63,5	25,4	91,3	54,0	3-12	1/2 - 13 x 130,2	79,4	55,9	27,2
60	152,4	RH606 *	1,211	311,2	463,6	158,8	6 1/2-12	63,5	25,4	91,3	54,0	3-12	1/2 - 13 x 130,2	79,4	55,9	35,4
100	76,2	RH1003 [†]	1,014	254,0	330,2	212,7	None	None	31,8	127,0	79,4	4 1/8-12	None	133,0	93,5	52,2

* Supplied with carrying handles.

Aluminum

** RH120 and RH121T do not have an internal threaded insert, but do have a 3/4-16 internal thread. The RH120 inlet port is 1/4" NPTF.

[†]RH102, RH108, RH203, RHA306 & RH1003 with plain collar.

CENTER HOLE

RH Series Cylinders
30 - 200 Ton
Double-Acting
700 bar (10,000 psi)

IDEAL FOR PULLING AND TENSIONING.

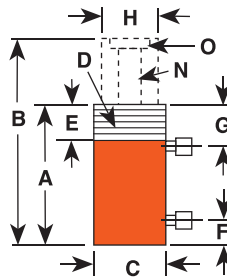
- Interchangeable piston head inserts provide versatility of application (See page 18).
- Built-in safety feature prevents over-pressurization of the retract circuit.
- Plated piston rod resists wear; superior packings provide high cycle life without leakage.
- Corrosion-resistant standpipe has "Power Tech" treatment (See page 8).
- Each cylinder has 9796 $\frac{3}{8}$ " NPTF female half couplers. The 60 ton thru 200 ton models are equipped with removable carrying handles.



30, 60, 100, 150, 200 Ton Double-Acting Models Feature Plain Collar

ASME B30.1
700 bar

CYLINDERS



30, 60, 100 Ton Double-Acting Models Feature Threaded Collar

Cyl. Cap. (Tons)	Stroke (mm)		Order No.	Oil Cap. (cm ³)		A Re-tracted Height (mm)	B Ex-tended Height (mm)	C Outside Dia. (mm)	D Collar Thread (in.)	E Collar Thread Length (mm)	F Base to Port (mm)	G Cylinder to Rod (mm)	H Piston Rod Dia. (mm)	N Center Hole Dia. (mm)	O Insert Thread Size (in.)	Mounting Holes (in.) and Bolt Circle (mm)	Cylinder Effective Area (cm ²)		Metric Tons at 700 bar		Weight (kg)
	Push	Pull		Push	Pull												Push	Pull	Push	Pull	
30	15	76,2	RH303	289	167	179,4	255,6	120,7	None	None	25,4	41,3	63,5	32,5	2-12	$\frac{9}{16}$ -16 x 92,1	38,0	21,8	26,8	15,3	13,5
30	15	152,4	RH306D	580	333	281,0	433,4	120,7	None	None	25,4	41,3	63,5	32,5	2-12	$\frac{7}{16}$ -20 x 92,1	38,0	21,8	26,8	15,3	20,4
30	20	257,2	RH3010	1,082	672	438,2	695,3	114,3	$\frac{1}{2}$ -12	41	44,5	81,0	60,3	33,3	$\frac{1}{2}$ -16	None	42,2	26,1	29,7	18,3	27,7
60	25	101,6	RH604D	807	338	241,3	342,9	177,8	None	None	39,7	57,2	101,6	54,0	3-12	$\frac{1}{2}$ -13 x 130,2	79,4	33,2	55,8	25,1	16,2
60	25	127,0	RH605*	1,009	423	241,3	368,3	165,9	None	None	25,4	44,5	101,6	54,0	3-12	$\frac{1}{2}$ -13 x 130,2	79,4	33,2	55,8	25,1	33,1
60	40	257,2	RH6010*	2,181	1,427	458,8	716,0	158,8	$\frac{1}{2}$ -12	47,6	54,0	81,8	92,1	54,4	3-16	None	84,8	55,4	59,6	38,9	54,5
100	45	38,1	RH1001	526	233	165,1	203,2	212,7	None	None	31,8	58,7	127,0	79,8	4-16	$\frac{5}{8}$ -11 x 177,8	138,0	60,8	97,0	42,7	38,6
100	50	152,4	RH1006*	1,971	1,076	314,3	466,7	184,2	None	None	37,3	59,1	111,1	52,4	None	$\frac{1}{2}$ -13 x 139,7	129,2	70,5	90,8	49,6	43,1
100	45	257,2	RH10010*	3,552	1,556	495,3	752,5	215,9	$\frac{1}{2}$ -12	57	63,5	91,7	139,7	79,8	$\frac{1}{2}$ -12	None	138,0	60,8	97,0	42,7	109,0
150	70	127,0	RH1505*	2,475	1,207	311,2**	438,2	215,9	None	None	37,3	68,3	139,7	65,1	None	None	194,1	94,8	136,9	66,8	67,2
150	75	203,2	RH1508*	3,929	2,086	349,3	552,5	247,7	None	None	39,3	61,1	152,4	80,2	5-12	None	193,2	102,6	135,9	72,1	103,1
200	75	203,2	RH2008*	5,307	2,093	408,0	611,2	273,1	None	None	57,2	81,8	190,5	103,2	6-12	$\frac{1}{2}$ -12 x 198,1	260,9	102,9	183,5	72,4	142,0

* Supplied with carrying handles.

** Measured with 19 mm high serrated insert installed.

Aluminum

CENTER HOLE

RT Series Cylinders
17¹/₂ - 100 Ton
Single-Acting, Spring-Return
& Double-Acting
700 bar (10,000 psi)



CYLINDERS



RT 302

IDEAL FOR PULLING AND PRESSING.

- A proven design; used throughout industry for over 40 years.
- Cylinders withstand full “dead-end” loads.
- Compact design; ideal for applications in which space is limited.
- Basic head can be changed from a tapped hole to plain hole by simply changing insert.
- Pistons have “Power Tech” treatment for corrosion and abrasion resistance.



Quick-Change Inserts

“QUICK CHANGE” HEAD INSERTS FOR RT SERIES CYLINDERS

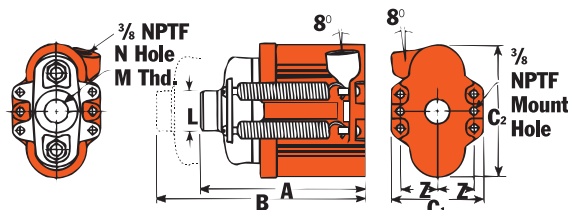
For Use With:	Threaded Order No.*	Plain Order No.
RT172	21669	21714
RT302	21873	21872
RT503	22274	22275
RT1004	24197	24196

* Provided with cylinder

Switch from a tapped hole to a plain hole quickly with these cylinder head inserts. They are held in place with a socket screw. Plain hole permits use of a speed nut for readjusting cylinder after extension.



Dimensions for reference only. Single-Acting, Spring-Return Cylinders



Cyl Capacity (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm³)		A Re-tracted Height (mm)	B Ex-tended Height (mm)	C1 Out-side Dia. (mm)	C2 Out-side Dia. (mm)	L Load Cap Dia. (mm)	M Load Cap Thread (in.)	N Center Hole Dia. (mm)	Z Mounting Hole Location (mm)	Cyl Mounting Hole (mm)	Metric Eff. Area (cm²)	Tons at 700 bar	Weight (kg)
Push			Push Return													
17,5	50,8	RT172	116	-	174,6	225,4	95,3	146,1	44,5	1-8	27,0	38,1	8,7	22,8	16,1	6,6
30	63,5	RT302	258	-	214,3	277,8	108,0	190,5	57,2	1 1/4-7	32,9	46,0	11,9	40,5	28,5	12,8
50	76,2	RT503	482	-	268,3	344,5	149,2	238,1	73,0	1 5/8-5 1/2	42,5	60,3	16,7	63,3	44,5	25,4
100	123,8	RT1004**	1.583	1.037	384,2	508,0	266,7	336,6	120,7	2 1/2-8	65,1	73,0	19,8	124,1*	87,3	72,6

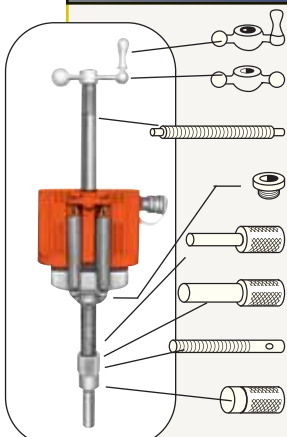
* Push side only for RT1004 double-acting cylinder.

** The RT1004 has a bypass when full stroke is reached, preventing over-pressurization of the cylinder.

NOTE: Each cylinder complete with threaded cylinder head insert, cylinder half coupler and cylinder attaching screws.

“CENTER-HOLE” CYLINDER ACCESSORIES (OPTIONAL)

To use with Cyl. No.	Order Set No.	RT172, RH203	RT302, RH302 RH303, RH306	RT503, RH503, RH603 RH605, RH606	RT1004
		RHA20	RHA30	RHA50	RHA100
1 Speed Crank	1	24814	27198	29595	303785
2 Speed Nut	2	302482	302483	33439	34136
		1"-8 thd.	1 1/4"-7 thd.	1 5/8"-5 1/2" thd.	2 1/2"-8 thd.
3 Adjusting Screw	3	32118	34758	32698	32699
		1"-8 x 508 mm Lg.	1 1/4"-7 x 609,6 mm Lg.	1 5/8"-5 1/2" x 762 mm Lg.	2 1/2"-8 x 869,9 mm Lg.
4 Threaded Insert	4	Order threaded insert for RH series cylinders with the accessory set (See page 18). Threaded insert supplied with RT series cylinders.			
5 Pushing Adapter	5	201923	34510	34755	-
		1"-8 x 12,7 mm dia. shank	1 1/4"-7 x 19,1mm dia. shank	1 5/8"-5 1/2 x 25,4 mm dia. shank	
6 Pushing Adapter	6	201454	34511	34756	-
		1"-8 x 19,5 mm dia. shank	1 1/4"-7 x 25,4 mm dia. shank	1 5/8"-5 1/2 x 31,7 mm dia. shank	
7 Jack Screw	7	24813	25931	32701	32702
		1"-8 x 177,8 mm Lg.	1 1/4"-7 x 228,6 mm Lg.	1 5/8"-5 1/2 x 279,4 mm Lg.	2 1/2"-8 x 406,4 mm Lg.
8 Screw Cap	8	28228	28229	28230	-
		1"-8 x 38,1 mm dia.	1 1/4"-7 x 44,4 mm dia.	1 5/8"-5 1/2 x 57,1 mm dia.	



ALUMINUM

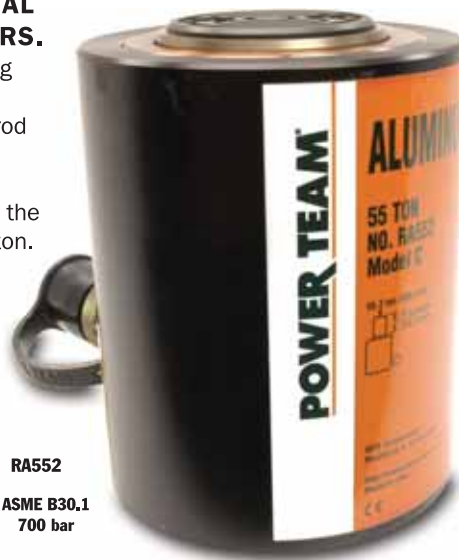
RA Series Cylinders

20 - 100 Ton

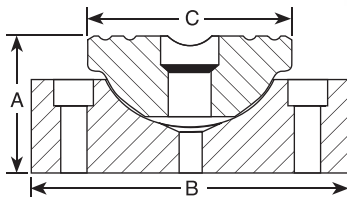
Single-Acting, Spring-Return
700 bar (10,000 psi)

HALF THE WEIGHT OF EQUAL CAPACITY STEEL CYLINDERS.

- Aluminum body resists sparking in explosive environments.
- Hard-coated aluminum piston rod and cylinder bore resist wear and corrosion.
- Grooved piston top helps keep the load from sliding on top of piston.
- Designed for jacking and other non-production operations.

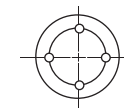
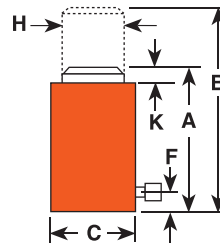


RA552
ASME B30.1
700 bar



SWIVEL CAPS reduce the effects of off center loading. Tilts up to 5°. (Available as optional)

Cylinder Tonnage	Swivel Cap Order No.	"RA" Cylinders			
		Wt. (kg.)	A (mm)	B (mm)	C (mm)
55	350376	0,9	31,8	71,4	71,4
100	350984	2,5	49,2	79,4	95,3



Base Mtg. Holes (4) at 45° from coupler (RA556, RA5510)
3/8"-16 x 114,3mm Dia. B.C.
Depth = 12,7 mm

Cyl. Cap. (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm³)	A	B	C	F	H	K	Bore Dia. (mm)	Cylinder Effective Area (cm²)	Metric Tons at 700 bar	Weight. (kg)
				Retracted Ht. (mm)	Extended Ht. (mm)	Outside Dia. (mm)	Base to Port (mm)	Piston Rod Dia. (mm)	Piston Rod Protrusion (mm)				
20	54,0	RA202	154	161,9	215,9	95,3	31,8	50,8	7,9	60,3	28,6	20,1	3,5
	104,8	RA204	300	212,7	317,5	95,3	31,8	50,8	7,9	60,3	28,6	20,1	4,2
	155,6	RA206	445	263,5	419,1	95,3	31,8	50,8	7,9	60,3	28,6	20,1	5,1
30	54,0	RA302	226	187,3	241,3	108,0	31,8	63,5	9,5	73,0	41,9	29,4	5,0
	104,8	RA304	439	238,1	342,9	108,0	31,8	63,5	9,5	73,0	41,9	29,4	5,9
	155,6	RA306	652	288,9	444,5	108,0	31,8	63,5	9,5	73,0	41,9	29,4	6,8
55	54,0	RA552	386	171,5	225,4	133,4	34,9	79,4	6,4	95,3	71,2	50,1	7,3
	104,8	RA554	746	222,3	327,0	133,4	34,9	79,4	6,4	95,3	71,2	50,1	8,9
	155,6	RA556*	1.109	273,1	428,6	133,4	34,9	79,4	6,4	95,3	71,2	50,1	10,9
	254,0	RA5510*	1.811	384,2	638,2	133,4	34,9	79,4	6,4	95,3	71,2	50,1	14,4
100	54,0	RA1002	718	196,9	250,8	187,3	30,2	104,8	3,2	130,2	133,0	93,5	15,1
	158,8	RA1006*	2.116	298,5	457,2	187,3	30,2	104,8	3,2	130,2	133,0	93,5	22,6

* Equipped with carrying handles.

DOUBLE ACTING

RD Series Cylinders

10 - 500 Ton

Double-Acting, Hydraulic-Return
700 bar (10,000 psi)

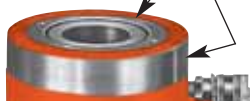


CYLINDERS

HIGH TONNAGE PREMIUM DESIGN FOR HIGH CYCLE LIFE.

- High tonnage premium design for high cycle life.
- Perfect for bridge lifting, building reconstruction, shipyard, utility and mining equipment maintenance.
- Aluminum bronze overlay bearings provide long life.
- Chrome plated piston rod resists corrosion.
- Load cap snaps out to expose internal piston rod threads for pulling applications; threads withstand full tonnage.
- Grooved ring pattern in load cap helps guard against load slippage.
- Each cylinder has two 9796 3/8" NPTF female half couplers.
- Built-in safety relief valve prevents over-pressurization of the retract circuit.
- Feature mounting holes and collar threads.

Threads withstand full load.



Features of RD Series Cylinders



RD10013

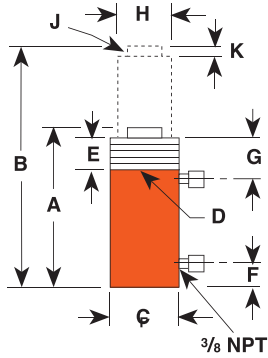


RD300



RD556

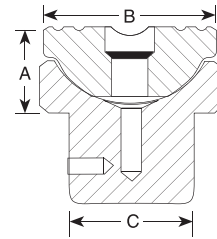
ASME B30.1
700 bar



SWIVEL CAPS FOR "RD" CYLINDERS

Reduce the effects of off center loading.
Tilts up to 5 degrees.
(Available as optional)

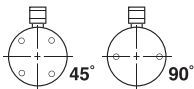
Cylinder Tonnage	Swivel Cap Order No.	Weight (kg)	A (mm)	B (mm)	C (mm)
10	350144	0,4	22,2	36,5	21,8
25	350145	0,6	28,6	54	36,5
55	351325	1,9	61,9	63,5	39,3
100	351324	5,1	75,0	95,3	67,5
150	351334	5,8	66,7	111,1	77,8



CYLINDERS

Cyl. Cap . Stroke Order Oil Capacity (Tons) (mm) No. (cm³)						A B C D E F G H J K										Load Cap Bore Cyl. Eff. Metric Tons Weight (mm) (mm) Area (cm²) at 700 bar (kg)						
						Re-tracted Height (mm)	Ex-tended Height (mm)	Out-side Dia. (mm)	Collar Thread Size (in.)	Thread Length Thread (mm)	Base to Port trusion (mm)	Cylinder Piston Top to Port (mm)	Piston Rod Dia. (mm)	Rod Int. (in) and Depth (mm)	Piston Rod Pro-trusion (mm)							
Push Pull		Push Pull														Push Pull		Push Pull				
10	4	158,8	RD106	228	90	296,9	455,6	76,2	2 3/4-12	41,3	25,4	63,5	33,3	1-8 x 25,4	6,4	34,9	42,9	14,4	5,7	10,2	4,0	10,0
10	4	254,0	RD1010	366	144	398,5	652,5	76,2	2 3/4-12	41,3	25,4	63,5	33,3	1-8 x 25,4	6,4	34,9	42,9	14,4	5,7	10,2	4,0	12,7
25	8	158,8	RD256	528	166	314,3	473,1	101,6	4-12	41,3	25,4	63,5	54,0	1 1/2-16 x 25,4	9,5	54,0	65,1	33,2	10,4	23,4	7,3	18,1
25	8	362,0	RD2514	1.205	376	517,5	879,5	101,6	4-12	41,3	25,4	63,5	54,0	1 1/2-16 x 25,4	9,5	54,0	65,1	33,2	10,4	23,4	7,3	29,5
55	28	158,8	RD556	1.132	577	329,4	488,2	127,0	5-12	41,3	33,3	63,5	66,7	1 11/16-8 x 30,2	15,9	66,7	95,3	71,2	36,3	50,1	25,6	27,9
55	28	333,4	RD5513	2.376	1.212	504,0	837,4	127,0	5-12	41,3	33,3	63,5	66,7	1 11/16-8 x 30,2	15,9	66,7	95,3	71,2	36,3	50,1	25,6	40,9
55	28	460,4	RD5518	3280	1.673	657,2	1.117,6	127,0	5-12	41,3	33,3	63,5	66,7	1 11/16-8 x 30,2	15,9	66,7	95,3	71,2	36,3	50,1	25,6	64,5
80	44	333,4	RD8013	3421	1.901	517,5	850,9	146,1	5 3/8-12	41,3	38,1	63,5	76,2	2-1/2 x 38,1	14,3	73,0	114,3	102,6	57,0	72,1	40,1	53,6
100	44	168,3	RD1006	2.242	959	350,0	518,3	174,6	6 7/8-12	41,3	38,1	63,5	98,4	2 3/4-12 x 29,4	15,9	98,4	130,2	133,1	57,0	93,5	40,1	57,2
100	44	333,4	RD10013	4.440	1.902	515,1	848,5	174,6	6 7/8-12	41,3	38,1	63,5	98,4	2 3/4-12 x 29,4	15,9	98,4	130,2	133,1	57,0	93,5	40,1	82,2
100	44	511,2	RD10020	6.809	2.919	718,3	1.229,5	174,6	6 7/8-12	41,3	38,1	63,5	98,4	2 3/4-12 x 29,4	15,9	98,4	130,2	133,1	57,0	93,5	40,1	118,0
150	73	168,3	RD1506	3.334	1.606	377,8	546,1	209,6	8 1/8-12	41,3	50,8	63,5	114,8	3 1/8 x 38,1	20,6	114,3	158,8	197,9	95,3	139,1	66,9	85,4
150	73	333,4	RD15013	6.604	3.180	542,9	876,3	209,6	8 1/8-12	41,3	50,8	63,5	114,8	3 1/8 x 38,1	20,6	114,3	158,8	197,9	95,3	139,1	66,9	123,5
150	73	460,4	RD15018	9.132	4.392	673,9	1.134,3	209,6	8 1/8-12	41,3	50,8	63,5	114,8	3 1/8 x 38,1	19,1	114,3	158,8	197,9	95,3	139,1	66,9	170,7
200	113	168,3	RD2006	4.485	2.457	406,4	574,7	241,3	9 1/2-12	41,3	63,5	68,3	123,8	3 1/8 x 57,1	27,0	114,3	184,2	266,3	145,9	187,2	102,6	118,9
200	113	333,4	RD20013	8.886	4.869	571,5	904,9	241,3	9 1/2-12	41,3	63,5	68,3	123,8	3 1/8 x 57,1	27,0	114,3	184,2	266,3	145,9	187,2	102,6	161,6
200	113	460,4	RD20018	12.270	6.722	723,9	1.184,3	241,3	9 1/2-12	41,3	63,5	68,3	123,8	3 1/8 x 57,1	27,0	114,3	184,2	266,3	145,9	187,2	102,6	200,7
300	147	152,4	RD3006	5.920	2.903	488,9	591,3	273,1	10 1/2-12	60,3	85,7	85,7	158,8	2 1/2-12 x 82,5	28,6	174,6	222,3	387,8	190,0	272,7	133,6	172,5
300	147	330,2	RD30013	12.825	6.281	630,2	960,4	273,1	10 1/2-12	60,3	85,7	85,7	158,8	2 1/2-12 x 82,5	28,6	174,6	222,3	387,8	190,0	272,7	133,6	296,9
400	186	152,4	RD4006	7.724	4.051	489,7	642,1	320,7	12 1/2-8	69,9	97,6	97,6	184,2	3-12 x 92,2	31,8	198,4	254,0	506,6	240,3	356,2	169,0	265,6
400	186	330,2	RD40013	16.744	8.790	667,5	997,7	320,7	12 1/2-8	69,9	97,6	97,6	184,2	3-12 x 92,2	31,8	198,4	254,0	506,6	240,3	356,2	169,0	349,6
500	245	152,4	RD5006	9.774	4.838	522,3	674,7	374,7	14 3/8-8	79,4	105,6	105,6	203,2	3 1/2-12 x 107,9	38,1	215,9	285,8	641,1	317,0	450,8	222,8	371,8
500	245	330,2	RD50013	21.189	10.480	700,1	1.030,3	374,7	14 3/8-8	79,4	105,6	105,6	203,2	3 1/2-12 x 107,9	38,1	215,9	285,8	641,1	317,0	450,8	222,8	495,8

NOTE: Base mounting holes are standard on all RD cylinders. Orientation of base mounting holes to coupler. Orientation on RD300, RD400 & RD500 series is random.



BASE MOUNTING HOLES FOR "RD" CYLINDERS

Tonnage	10	25	55	80	100	150	200	300	400	500
No. of Holes	2	4	4	4	4	4	4	4	4	6
Thread Size	3/8"-16	1/2"-13	5/8"-11	5/8"-11	3/4"-10	1"-8	1 1/4"-7	1 1/4"-7	1 1/2"-12	1 3/8"-12
Depth (mm)	16	19	22	22	25	25	32	44	48	51
B.C. Dia.	51	70	89	114	140	152	165	159	184	203
Orientation	90°	45°	45°	45°	45°	45°	45°	Random	Random	Random

HIGH TONNAGE

R Series Cylinders (Steel)
55 to 1140 Ton
Single-Acting, Load-Return
700 bar (10,000 psi)

RxxxxC Series



CYLINDERS



R2802C

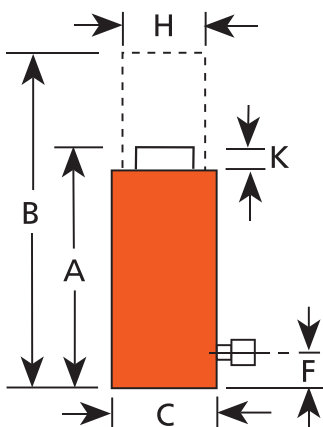


R1502C

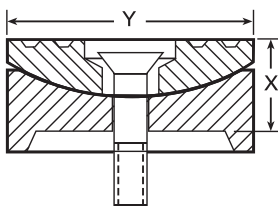
- High-tonnage, single-acting hydraulic cylinders.
- Visible indicator band alerts when stroke limit is reached; overflow port ("weep hole") stroke limiter prevents piston from being overextended.
- Alloy heat treated piston and body for reliability and strength.
- Hard chrome / nickel plated piston rod increase corrosion resistance and give superior bearing qualities.
- Each cylinder has one 3/8" NPTF female half coupler (9796).
- Comply with ASME B30.1
- Recommended to use with Swivel Caps (Optional)
- Base mounting holes are optional unless specified.

Cylinder Cap. (Tons)	Stroke		Cylinder Order No.	Oil Capacity (cu. cm.)	A	B	C	F	H	K
	(inch)	(mm)			Retracted Height (mm)	Extended Height (mm)	Outside Diameter (mm)	Base to Port (mm)	Piston Rod Diameter (mm)	Piston Rod Protrusion (mm)
55	2	50.8	R552C	362	125.4	176.2	127.0	25.4	95.3	3.2
55	4	101.6	R554C	725	176.2	277.8	127.0	25.4	95.3	3.2
55	6	152.4	R556C	1,087	227.0	379.4	127.0	25.4	95.3	3.2
55	8	203.2	R558C	1,449	277.8	481.0	127.0	25.4	95.3	3.2
55	10	254.0	R5510C	1,812	328.6	582.6	127.0	25.4	95.3	3.2
100	2	50.8	R1002C	676	139.7	190.5	165.1	25.4	130.2	3.2
100	4	101.6	R1004C	1,353	190.5	292.1	165.1	25.4	130.2	3.2
100	6	152.4	R1006C	2,029	241.3	393.7	165.1	25.4	130.2	3.2
100	8	203.2	R1008C	2,705	292.1	495.3	165.1	25.4	130.2	3.2
100	10	254.0	R10010C	3,382	342.9	596.9	165.1	25.4	130.2	3.2
100	12	304.8	R10012C	4,058	393.7	698.5	165.1	25.4	130.2	3.2
150	2	50.8	R1502C	1,006	161.9	212.7	204.8	31.8	158.8	3.2
150	4	101.6	R1504C	2,012	212.7	314.3	204.8	31.8	158.8	3.2
150	6	152.4	R1506C	3,018	263.5	415.9	204.8	31.8	158.8	3.2
150	8	203.2	R1508C	4,025	314.3	517.5	204.8	31.8	158.8	3.2
150	10	254.0	R15010C	5,031	365.1	619.1	204.8	31.8	158.8	3.2
150	12	304.8	R15012C	6,037	415.9	720.7	204.8	31.8	158.8	3.2
200	2	50.8	R2002C	1,354	190.5	241.3	235.0	41.3	184.2	3.2
200	4	101.6	R2004C	2,707	241.3	342.9	235.0	41.3	184.2	3.2
200	6	152.4	R2006C	4,061	292.1	444.5	235.0	41.3	184.2	3.2
200	8	203.2	R2008C	5,415	342.9	546.1	235.0	41.3	184.2	3.2
200	10	254.0	R20010C	6,769	393.7	647.7	235.0	41.3	184.2	3.2
200	12	304.8	R20012C	8,122	444.5	749.3	235.0	41.3	184.2	3.2
280	2	50.8	R2802C	1,860	209.5	260.3	276.2	47.6	215.9	3.2
280	4	101.6	R2804C	3,720	260.3	361.9	276.2	47.6	215.9	3.2
280	6	152.4	R2806C	5,579	311.1	463.5	276.2	47.6	215.9	3.2
280	8	203.2	R2808C	7,439	351.9	555.1	276.2	47.6	215.9	3.2
280	10	254.0	R28010C	9,299	412.7	666.7	276.2	47.6	215.9	3.2
280	12	304.8	R28012C	11,159	463.5	768.3	276.2	47.6	215.9	3.2
355	2	50.8	R3552C	2,323	231.8	282.6	298.5	54.0	241.3	3.2
355	4	101.6	R3554C	4,646	282.6	384.2	298.5	54.0	241.3	3.2
355	6	152.4	R3556C	6,969	333.4	485.8	298.5	54.0	241.3	3.2
355	8	203.2	R3558C	9,292	384.2	587.4	298.5	54.0	241.3	3.2
355	10	254.0	R35510C	11,616	435.0	689.0	298.5	54.0	241.3	3.2
355	12	304.8	R35512C	13,939	485.8	790.6	298.5	54.0	241.3	3.2
430	2	50.8	R4302C	2,838	263.5	314.3	330.2	63.5	266.7	3.2
430	4	101.6	R4304C	5,676	314.3	415.9	330.2	63.5	266.7	3.2
430	6	152.4	R4306C	8,514	365.1	517.5	330.2	63.5	266.7	3.2
430	8	203.2	R4308C	11,352	415.9	619.1	330.2	63.5	266.7	3.2
430	10	254.0	R43010C	14,190	466.7	720.7	330.2	63.5	266.7	3.2
430	12	304.8	R43012C	17,028	517.5	822.3	330.2	63.5	266.7	3.2
565	2	50.8	R5652C	3,707	292.1	342.9	377.8	69.9	304.8	3.2
565	4	101.6	R5654C	7,413	342.9	444.5	377.8	69.9	304.8	3.2
565	6	152.4	R5656C	11,120	393.7	546.1	377.8	69.9	304.8	3.2
565	8	203.2	R5658C	14,827	444.5	647.7	377.8	69.9	304.8	3.2
565	10	254.0	R56510C	18,533	495.3	749.3	377.8	69.9	304.8	3.2
565	12	304.8	R56512C	22,240	546.1	850.9	377.8	69.9	304.8	3.2
660	6	152.4	*R6606C	13,051	464.8	617.2	419.1		330.2	
880			*R8806C	17,375	508.0	660.4	495.3		381.0	
1,140			*R11406C	22,317	551.2	703.6	571.5		431.8	

* '-QC1 Special Cylinders' complete with wear rings, integral swivel cap & base mounting holes.
Stroke available in 2" (50.8mm) increment up to 12" (304.8mm). Consult factory for details.



The HEAVY LIFTER Single-Acting Solution



Recommendation

Use Swivel Caps (Optional) to reduce the effects of off-center loading.

- Tilts up to 5°.
- Radial grooves on top of cap reduce load slippage.
- Notch across face of each cap helps keep loads having a protruding or round shaped centered.

CYLINDERS



Cylinder Order No.	Bore Diameter (mm)	Effective Area (cm ²)	Metric Tons at 690 bar	Weight (kg)	Swivel Cap Order No. (Optional)	X	Y	Retracted Ht. (Cap & Cyl.) (mm)	Weight (Cap & Cyl.) (kg)
						Swivel Cap Protrusion (mm)	Swivel Cap Diameter (mm)		
R552C	95.3	71.2	50.1	12.3	420866	25.4	71.4	150.8	13.1
R554C	95.3	71.2	50.1	17.5	420866	25.4	71.4	201.6	18.3
R556C	95.3	71.2	50.1	22.7	420866	25.4	71.4	252.4	23.5
R558C	95.3	71.2	50.1	27.9	420866	25.4	71.4	303.2	28.7
R5510C	95.3	71.2	50.1	32.7	420866	25.4	71.4	354.0	33.5
R1002C	130.2	133.1	93.6	23.6	420866	25.4	71.4	165.1	24.4
R1004C	130.2	133.1	93.6	32.0	420866	25.4	71.4	215.9	32.8
R1006C	130.2	133.1	93.6	40.4	420866	25.4	71.4	266.7	41.2
R1008C	130.2	133.1	93.6	48.8	420866	25.4	71.4	317.5	49.6
R10010C	130.2	133.1	93.6	57.2	420866	25.4	71.4	368.3	58.0
R10012C	130.2	133.1	93.6	65.6	420866	25.4	71.4	419.1	66.4
R1502C	158.8	197.9	139.1	41.8	420867	38.1	130.2	200.0	45.8
R1504C	158.8	197.9	139.1	55.2	420867	38.1	130.2	250.8	59.2
R1506C	158.8	197.9	139.1	68.6	420867	38.1	130.2	301.6	72.6
R1508C	158.8	197.9	139.1	82.0	420867	38.1	130.2	352.4	86.0
R15010C	158.8	197.9	139.1	95.3	420867	38.1	130.2	403.2	99.3
R15012C	158.8	197.9	139.1	108.7	420867	38.1	130.2	454.0	112.7
R2002C	184.2	266.3	187.2	65.8	420867	38.1	130.2	228.6	69.8
R2004C	184.2	266.3	187.2	83.1	420867	38.1	130.2	279.4	87.1
R2006C	184.2	266.3	187.2	100.3	420867	38.1	130.2	330.2	104.3
R2008C	184.2	266.3	187.2	117.6	420867	38.1	130.2	381.0	121.6
R20010C	184.2	266.3	187.2	134.8	420867	38.1	130.2	431.8	138.8
R20012C	184.2	266.3	187.2	152.1	420867	38.1	130.2	482.6	156.1
R2802C	215.9	366.0	257.3	91.2	420868	44.5	149.2	254.0	97.3
R2804C	215.9	366.0	257.3	113.7	420868	44.5	149.2	304.8	119.8
R2806C	215.9	366.0	257.3	136.1	420868	44.5	149.2	355.6	142.2
R2808C	215.9	366.0	257.3	158.6	420868	44.5	149.2	396.4	164.7
R28010C	215.9	366.0	257.3	181.0	420868	44.5	149.2	457.2	187.1
R28012C	215.9	366.0	257.3	203.5	420868	44.5	149.2	508.0	209.6
R3552C	241.3	457.2	321.4	137.1	420869	69.9	195.3	301.7	153.9
R3554C	241.3	457.2	321.4	167.1	420869	69.9	195.3	352.5	183.9
R3556C	241.3	457.2	321.4	197.0	420869	69.9	195.3	403.3	213.8
R3558C	241.3	457.2	321.4	226.8	420869	69.9	195.3	454.1	243.6
R35510C	241.3	457.2	321.4	256.5	420869	69.9	195.3	504.9	273.3
R35512C	241.3	457.2	321.4	286.3	420869	69.9	195.3	555.7	303.1
R4302C	266.7	558.5	392.6	199.8	420870	79.4	225.4	342.9	223.4
R4304C	266.7	558.5	392.6	238.2	420870	79.4	225.4	393.7	261.8
R4306C	266.7	558.5	392.6	276.5	420870	79.4	225.4	444.5	300.1
R4308C	266.7	558.5	392.6	314.9	420870	79.4	225.4	495.3	338.5
R43010C	266.7	558.5	392.6	353.2	420870	79.4	225.4	546.1	376.8
R43012C	266.7	558.5	392.6	391.6	420870	79.4	225.4	596.9	415.2
R5652C	304.8	729.5	512.8	289.7	420871	92.1	250.8	384.2	325.1
R5654C	304.8	729.5	512.8	339.6	420871	92.1	250.8	435.0	375.0
R5656C	304.8	729.5	512.8	389.5	420871	92.1	250.8	485.8	424.9
R5658C	304.8	729.5	512.8	439.5	420871	92.1	250.8	536.6	474.9
R56510C	304.8	729.5	512.8	489.4	420871	92.1	250.8	587.4	524.8
R56512C	304.8	729.5	512.8	539.4	420871	92.1	250.8	638.2	574.8
*R6606C	330.2	856.3	600.0	472.0			254.0	464.8	472.0
*R8806C	381.0	1,140.1	800.0	718.1			292.1	508.0	718.1
*R11406C	431.8	1,464.4	1,000.0	1,031.8			317.5	551.2	1,031.8

HIGH TONNAGE

R Series Cylinders (Steel)

100 to 1140 Ton

Double-Acting, Hydraulic-Return

700 bar (10,000 psi)

RxxxxD Series



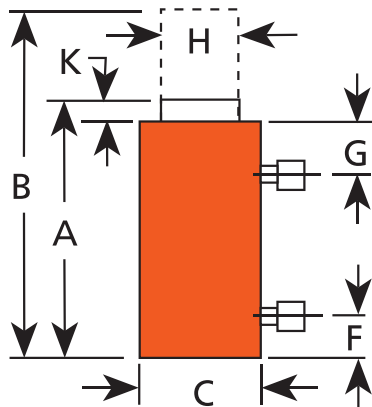
CYLINDERS



- High-tonnage, double-acting hydraulic cylinders for positive return.
- Cylinders come standard with swivel caps to reduce the effects of off-center loading.
- Cylinders may be "dead-ended" without damage.
- Hard chrome / nickel plated, heat treated piston rod reduces wear on piston and gland nut.
- Built-in safety relief valve prevents over-pressurization of the retract circuit.
- Each cylinder has two 3/8" NPTF female half couplers (9796).
- Comply with ASME B30.1
- Base mounting holes are optional unless specified.

					A	B	C	F	G	
Cylinder Cap.	Stroke		Cylinder Order No.	Oil Capacity		Retracted Height	Extended Height	Outside Diameter	Base to Port	Cyl Top to Port
(Tons)	(inch)	(mm)		Push (cm³)	Return (cm³)	(mm)	(mm)	(mm)	(mm)	(mm)
100	2	50.8	R1002D	676	314	168.7	219.5	165.1	25.4	56.0
100	4	101.6	R1004D	1,353	628	219.5	321.1	165.1	25.4	56.0
100	6	152.4	R1006D	2,029	942	270.3	422.7	165.1	25.4	56.0
100	8	203.2	R1008D	2,705	1,256	321.1	524.3	165.1	25.4	56.0
100	10	254.0	R10010D	3,382	1,570	371.9	625.9	165.1	25.4	56.0
100	12	304.8	R10012D	4,058	1,884	422.7	727.5	165.1	25.4	56.0
150	2	50.8	R1502D	1,006	485	188.9	239.7	204.8	31.8	57.2
150	4	101.6	R1504D	2,012	970	239.7	341.3	204.8	31.8	57.2
150	6	152.4	R1506D	3,018	1,455	290.5	442.9	204.8	31.8	57.2
150	8	203.2	R1508D	4,025	1,940	341.3	544.5	204.8	31.8	57.2
150	10	254.0	R15010D	5,031	2,424	392.1	646.1	204.8	31.8	57.2
150	12	304.8	R15012D	6,037	2,909	442.9	747.7	204.8	31.8	57.2
200	2	50.8	R2002D	1,354	644	206.8	257.6	235.0	41.3	58.7
200	4	101.6	R2004D	2,707	1,287	257.6	359.2	235.0	41.3	58.7
200	6	152.4	R2006D	4,061	1,931	308.4	460.8	235.0	41.3	58.7
200	8	203.2	R2008D	5,415	2,575	359.2	562.4	235.0	41.3	58.7
200	10	254.0	R20010D	6,769	3,219	410.0	664.0	235.0	41.3	58.7
200	12	304.8	R20012D	8,122	3,862	460.8	765.6	235.0	41.3	58.7
280	2	50.8	R2802D	1,860	772	233.8	284.6	276.3	47.6	65.5
280	4	101.6	R2804D	3,720	1,544	284.6	386.2	276.3	47.6	65.5
280	6	152.4	R2806D	5,579	2,317	335.4	487.8	276.3	47.6	65.5
280	8	203.2	R2808D	7,439	3,089	386.2	589.4	276.3	47.6	65.5
280	10	254.0	R28010D	9,299	3,861	437.0	691.0	276.3	47.6	65.5
280	12	304.8	R28012D	11,159	4,633	487.8	792.6	276.3	47.6	65.5
355	2	50.8	R3552D	2,323	776	288.9	339.7	298.5	54.0	69.9
355	4	101.6	R3554D	4,646	1,553	339.7	441.3	298.5	54.0	69.9
355	6	152.4	R3556D	6,969	2,329	390.5	542.9	298.5	54.0	69.9
355	8	203.2	R3558D	9,292	3,105	441.3	644.5	298.5	54.0	69.9
355	10	254.0	R35510D	11,616	3,881	492.1	746.1	298.5	54.0	69.9
355	12	304.8	R35512D	13,939	4,658	542.9	847.7	298.5	54.0	69.9
430	2	50.8	R4302D	2,838	978	312.7	363.5	330.2	63.5	75.0
430	4	101.6	R4304D	5,676	1,956	363.5	465.1	330.2	63.5	75.0
430	6	152.4	R4306D	8,514	2,934	414.3	566.7	330.2	63.5	75.0
430	8	203.2	R4308D	11,352	3,913	465.1	668.3	330.2	63.5	75.0
430	10	254.0	R43010D	14,190	4,891	515.9	769.9	330.2	63.5	75.0
430	12	304.8	R43012D	17,028	5,869	566.7	871.5	330.2	63.5	75.0
565	2	50.8	R5652D	3,707	1,259	345.3	396.1	377.8	69.9	81.4
565	4	101.6	R5654D	7,413	2,517	396.1	497.7	377.8	69.9	81.4
565	6	152.4	R5656D	11,120	3,776	446.9	599.3	377.8	69.9	81.4
565	8	203.2	R5658D	14,827	5,035	497.7	700.9	377.8	69.9	81.4
565	10	254.0	R56510D	18,533	6,294	548.5	802.5	377.8	69.9	81.4
565	12	304.8	R56512D	22,240	7,552	599.3	904.1	377.8	69.9	81.4
660	6	152.4	*R6606D	13,051	4,537	520.7	673.1	419.1		
880			*R8806D	17,375	6,255	563.9	716.3	495.3		
1,140			*R11406D	22,317	8,244	607.1	759.5	571.5		

* '-QC1 Special Cylinders' complete with wear rings, integral swivel cap & base mounting holes.
Stroke available in 2" (50.8mm) increment up to 12" (304.8mm). Consult factory for details.



The HEAVY LIFTER Double-Acting Solution



Cylinder Order No.	H	K	Bore Diameter (mm)	Effective Area Push (cm ²)	Metric Tons at 690 bar Push	Weight (Kg)
	Piston Rod Diameter (mm)	Piston Rod Protrusion (mm)				
R1002D	95.3	7.1	130.2	133.1	93.6	24.5
R1004D	95.3	7.1	130.2	133.1	93.6	30.0
R1006D	95.3	7.1	130.2	133.1	93.6	36.8
R1008D	95.3	7.1	130.2	133.1	93.6	39.9
R10010D	95.3	7.1	130.2	133.1	93.6	49.0
R10012D	95.3	7.1	130.2	133.1	93.6	58.2
R1502D	114.3	7.5	158.8	197.9	139.1	43.1
R1504D	114.3	7.5	158.8	197.9	139.1	52.4
R1506D	114.3	7.5	158.8	197.9	139.1	61.7
R1508D	114.3	7.5	158.8	197.9	139.1	71.0
R15010D	114.3	7.5	158.8	197.9	139.1	80.3
R15012D	114.3	7.5	158.8	197.9	139.1	89.6
R2002D	133.4	8.7	184.2	266.3	187.2	61.7
R2004D	133.4	8.7	184.2	266.3	187.2	73.3
R2006D	133.4	8.7	184.2	266.3	187.2	84.9
R2008D	133.4	8.7	184.2	266.3	187.2	96.7
R20010D	133.4	8.7	184.2	266.3	187.2	108.5
R20012D	133.4	8.7	184.2	266.3	187.2	120.3
R2802D	165.1	10.3	215.9	366.0	257.3	99.4
R2804D	165.1	10.3	215.9	366.0	257.3	117.1
R2806D	165.1	10.3	215.9	366.0	257.3	134.8
R2808D	165.1	10.3	215.9	366.0	257.3	152.8
R28010D	165.1	10.3	215.9	366.0	257.3	170.7
R28012D	165.1	10.3	215.9	366.0	257.3	188.7
R3552D	196.9	11.1	241.3	457.2	321.4	147.0
R3554D	196.9	11.1	241.3	457.2	321.4	169.1
R3556D	196.9	11.1	241.3	457.2	321.4	191.1
R3558D	196.9	11.1	241.3	457.2	321.4	213.2
R35510D	196.9	11.1	241.3	457.2	321.4	235.2
R35512D	196.9	11.1	241.3	457.2	321.4	257.3
R4302D	215.9	11.9	266.7	558.5	392.6	199.3
R4304D	215.9	11.9	266.7	558.5	392.6	226.3
R4306D	215.9	11.9	266.7	558.5	392.6	253.3
R4308D	215.9	11.9	266.7	558.5	392.6	279.4
R43010D	215.9	11.9	266.7	558.5	392.6	305.5
R43012D	215.9	11.9	266.7	558.5	392.6	331.6
R5652D	247.7	13.9	304.8	729.5	512.8	281.0
R5654D	247.7	13.9	304.8	729.5	512.8	315.7
R5656D	247.7	13.9	304.8	729.5	512.8	350.4
R5658D	247.7	13.9	304.8	729.5	512.8	385.4
R56510D	247.7	13.9	304.8	729.5	512.8	420.4
R56512D	247.7	13.9	304.8	729.5	512.8	455.4
*R6606D	266.7		330.2	856.3	600.0	492.0
*R8806D	304.8		381.0	1,140.1	800.0	745.4
*R11406D	342.9		431.8	1,464.4	1,000.0	1,071.0

Pump/Valve Selection

- Use pump with 4-way directional control valve to operate double-acting cylinder/s.



RD Series

- For high tonnage & higher cycle applications, opt for POWER TEAM 'RD' Series double-acting cylinders. (See page 22 & 23)



An Unequal Load Distribution

- Precision Synchronous Lift & Lowering System for lifting unequal load from 4 to 80 jacking points. Consult factory for details. (See page 156)

LOCKING COLLAR HIGH TONNAGE

R Series Cylinders (Steel)
55 to 1140 Ton
Single-Acting, Load-Return
700 bar (10,000 psi)

RxxxxL Series



CYLINDERS



Locking Collar feature permits non-hydraulic support of load

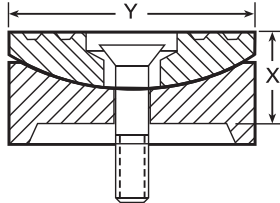
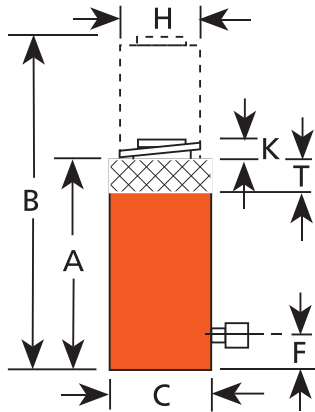


- High-tonnage, locking collar, single-acting hydraulic cylinders.
- Safe & positive mechanical lock to support load.
- Support lifted load for extended periods of time with hydraulic pressure released.
- Visible indicator band alerts when stroke limit is reached; overflow port ("weep hole") stroke limiter prevents piston from being overextended.
- All cylinders feature hard chrome / nickel plated pistons to resist corrosion and abrasion.
- Each cylinder has one 3/8"NPTF female half coupler (9796).
- Comply with ASME B30.1
- Recommended to use with Swivel Caps (Optional)
- Base mounting holes are optional unless specified.

Cylinder Cap. (Tons)	Stroke		Cylinder Order No.	Oil Capacity (cm ³)	A	B	C	F	H	K	T
	(inch)	(mm)			Retracted Height (mm)	Extended Height (mm)	Outside Diameter (mm)	Base to Port (mm)	Piston Rod Diameter (mm)	Piston Rod Protrusion (mm)	Nut Thickness (mm)
55	2	50.8	R552L	362	161.9	212.7	125.4	25.4	95.3	3.2	36.5
55	4	101.6	R554L	725	212.7	314.3	125.4	25.4	95.3	3.2	36.5
55	6	152.4	R556L	1,087	263.5	415.9	125.4	25.4	95.3	3.2	36.5
55	8	203.2	R558L	1,449	314.3	517.5	125.4	25.4	95.3	3.2	36.5
55	10	254.0	R5510L	1,812	365.1	619.1	125.4	25.4	95.3	3.2	36.5
100	2	50.8	R1002L	676	184.2	235.0	165.1	25.4	130.2	3.2	44.5
100	4	101.6	R1004L	1,353	235.0	336.6	165.1	25.4	130.2	3.2	44.5
100	6	152.4	R1006L	2,029	285.8	438.2	165.1	25.4	130.2	3.2	44.5
100	8	203.2	R1008L	2,705	336.6	539.8	165.1	25.4	130.2	3.2	44.5
100	10	254.0	R10010L	3,382	387.4	641.4	165.1	25.4	130.2	3.2	44.5
100	12	304.8	R10012L	4,058	438.2	743.0	165.1	25.4	130.2	3.2	44.5
150	2	50.8	R1502L	1,006	206.4	257.2	204.8	31.8	158.8	3.2	44.5
150	4	101.6	R1504L	2,012	257.2	358.8	204.8	31.8	158.8	3.2	44.5
150	6	152.4	R1506L	3,018	308.0	460.4	204.8	31.8	158.8	3.2	44.5
150	8	203.2	R1508L	4,025	358.8	562.0	204.8	31.8	158.8	3.2	44.5
150	10	254.0	R15010L	5,031	409.6	663.6	204.8	31.8	158.8	3.2	44.5
150	12	304.8	R15012L	6,037	460.4	765.2	204.8	31.8	158.8	3.2	44.5
200	2	50.8	R2002L	1,354	241.3	292.1	235.0	41.3	184.2	3.2	50.8
200	4	101.6	R2004L	2,707	292.1	393.7	235.0	41.3	184.2	3.2	50.8
200	6	152.4	R2006L	4,061	342.9	495.3	235.0	41.3	184.2	3.2	50.8
200	8	203.2	R2008L	5,415	393.7	596.9	235.0	41.3	184.2	3.2	50.8
200	10	254.0	R20010L	6,769	444.5	698.5	235.0	41.3	184.2	3.2	50.8
200	12	304.8	R20012L	8,122	495.3	800.1	235.0	41.3	184.2	3.2	50.8
280	2	50.8	R2802L	1,860	247.7	298.5	276.2	47.6	215.9	3.2	57.2
280	4	101.6	R2804L	3,720	298.5	400.1	276.2	47.6	215.9	3.2	57.2
280	6	152.4	R2806L	5,579	349.3	501.7	276.2	47.6	215.9	3.2	57.2
280	8	203.2	R2808L	7,439	400.1	603.3	276.2	47.6	215.9	3.2	57.2
280	10	254.0	R28010L	9,299	450.9	704.9	276.2	47.6	215.9	3.2	57.2
280	12	304.8	R28012L	11,159	501.7	806.5	276.2	47.6	215.9	3.2	57.2
355	2	50.8	R3552L	2,323	292.1	342.9	298.5	54.0	241.3	3.2	60.3
355	4	101.6	R3554L	4,646	342.9	444.5	298.5	54.0	241.3	3.2	60.3
355	6	152.4	R3556L	6,969	393.7	546.1	298.5	54.0	241.3	3.2	60.3
355	8	203.2	R3558L	9,292	444.5	647.7	298.5	54.0	241.3	3.2	60.3
355	10	254.0	R35510L	11,616	495.3	749.3	298.5	54.0	241.3	3.2	60.3
355	12	304.8	R35512L	13,939	546.1	850.9	298.5	54.0	241.3	3.2	60.3
430	2	50.8	R4302L	2,838	333.4	384.2	330.2	63.5	266.7	3.2	69.9
430	4	101.6	R4304L	5,676	384.2	485.8	330.2	63.5	266.7	3.2	69.9
430	6	152.4	R4306L	8,514	435.0	587.4	330.2	63.5	266.7	3.2	69.9
430	8	203.2	R4308L	11,352	485.8	689.0	330.2	63.5	266.7	3.2	69.9
430	10	254.0	R43010L	14,190	536.6	790.6	330.2	63.5	266.7	3.2	69.9
430	12	304.8	R43012L	17,028	587.4	892.2	330.2	63.5	266.7	3.2	69.9
565	2	50.8	R5652L	3,707	371.2	422.0	377.8	69.9	304.8	3.2	79.4
565	4	101.6	R5654L	7,413	422.0	523.6	377.8	69.9	304.8	3.2	79.4
565	6	152.4	R5656L	11,120	473.1	625.5	377.8	69.9	304.8	3.2	79.4
565	8	203.2	R5658L	14,827	523.9	727.1	377.8	69.9	304.8	3.2	79.4
565	10	254.0	R56510L	18,533	574.7	828.7	377.8	69.9	304.8	3.2	79.4
565	12	304.8	R56512L	22,240	625.5	930.3	377.8	69.9	304.8	3.2	79.4
660	6	152.4	*R6606L	13,051	553.7	706.1	419.1		330.2		88.9
880			*R8806L	17,375	609.6	762.0	495.3		381.0		101.6
1,140			*R11406L	22,317	665.5	817.9	571.5		431.8		114.3

* '-QC1 Special Cylinders' complete with wear rings, integral swivel cap & base mounting holes.
Stroke available in 2" (50.8mm) increment up to 12" (304.8mm). Consult factory for details.

POSITIVE MECHANICAL LOCK to Support Load



Recommendation

Use Swivel Caps (Optional) to reduce the effects of off-center loading.

- Tilts up to 5°.
- Radial grooves on top of cap reduce load slippage.
- Notch across face of each cap helps keep loads having a protruding or round shaped centered.



CYLINDERS

Cylinder Order No.	Bore Diameter (mm)	Effective Area (cm ²)	Metric Tons at 690 bar	Weight (kg)	Swivel Cap Order No. (Optional)	X	Y	Retracted Ht. (Cap & Cyl.) (mm)	Weight (Cap & Cyl.) (kg)
						Swivel Cap Protrusion (mm)	Swivel Cap Diameter (mm)		
R552L	95.3	71.2	50.1	15.3	420866	25.4	71.4	187.3	16.1
R554L	95.3	71.2	50.1	20.8	420866	25.4	71.4	238.1	21.6
R556L	95.3	71.2	50.1	26.3	420866	25.4	71.4	288.9	27.1
R558L	95.3	71.2	50.1	31.3	420866	25.4	71.4	339.7	32.1
R5510L	95.3	71.2	50.1	36.3	420866	25.4	71.4	390.5	37.1
R1002L	130.2	133.1	93.6	30.0	420866	25.4	71.4	209.6	30.8
R1004L	130.2	133.1	93.6	38.4	420866	25.4	71.4	260.4	39.2
R1006L	130.2	133.1	93.6	46.8	420866	25.4	71.4	311.2	47.6
R1008L	130.2	133.1	93.6	55.7	420866	25.4	71.4	362.0	56.5
R10010L	130.2	133.1	93.6	64.5	420866	25.4	71.4	412.8	65.3
R10012L	130.2	133.1	93.6	73.4	420866	25.4	71.4	463.6	74.2
R1502L	158.8	197.9	139.1	53.0	420867	38.1	130.2	244.5	57.0
R1504L	158.8	197.9	139.1	66.7	420867	38.1	130.2	295.3	70.7
R1506L	158.8	197.9	139.1	80.4	420867	38.1	130.2	346.1	84.4
R1508L	158.8	197.9	139.1	94.1	420867	38.1	130.2	396.9	98.1
R15010L	158.8	197.9	139.1	107.8	420867	38.1	130.2	447.7	111.8
R15012L	158.8	197.9	139.1	121.5	420867	38.1	130.2	498.5	125.5
R2002L	184.2	266.3	187.2	83.1	420867	38.1	130.2	279.4	87.1
R2004L	184.2	266.3	187.2	100.4	420867	38.1	130.2	330.2	104.4
R2006L	184.2	266.3	187.2	117.6	420867	38.1	130.2	381.0	121.6
R2008L	184.2	266.3	187.2	134.9	420867	38.1	130.2	431.8	138.9
R20010L	184.2	266.3	187.2	152.1	420867	38.1	130.2	482.6	156.1
R20012L	184.2	266.3	187.2	169.4	420867	38.1	130.2	533.4	173.4
R2802L	215.9	366.0	257.3	118.5	420868	44.5	149.2	292.2	124.6
R2804L	215.9	366.0	257.3	140.8	420868	44.5	149.2	343.0	146.9
R2806L	215.9	366.0	257.3	163.0	420868	44.5	149.2	393.8	169.1
R2808L	215.9	366.0	257.3	185.6	420868	44.5	149.2	444.6	191.7
R28010L	215.9	366.0	257.3	208.1	420868	44.5	149.2	495.4	214.2
R28012L	215.9	366.0	257.3	230.7	420868	44.5	149.2	546.2	236.8
R3552L	241.3	457.2	321.4	173.0	420869	69.9	195.3	362.0	189.8
R3554L	241.3	457.2	321.4	202.8	420869	69.9	195.3	412.8	219.6
R3556L	241.3	457.2	321.4	232.5	420869	69.9	195.3	463.6	249.3
R3558L	241.3	457.2	321.4	262.3	420869	69.9	195.3	514.4	279.1
R35510L	241.3	457.2	321.4	292.0	420869	69.9	195.3	565.2	308.8
R35512L	241.3	457.2	321.4	321.8	420869	69.9	195.3	616.0	338.6
R4302L	266.7	558.5	392.6	252.4	420870	79.4	225.4	412.8	276.0
R4304L	266.7	558.5	392.6	290.8	420870	79.4	225.4	463.6	314.4
R4306L	266.7	558.5	392.6	329.2	420870	79.4	225.4	514.4	352.8
R4308L	266.7	558.5	392.6	367.6	420870	79.4	225.4	565.2	391.2
R43010L	266.7	558.5	392.6	405.9	420870	79.4	225.4	616.0	429.5
R43012L	266.7	558.5	392.6	444.3	420870	79.4	225.4	666.8	467.9
R5652L	304.8	729.5	512.8	368.2	420871	92.1	250.8	463.3	403.6
R5654L	304.8	729.5	512.8	418.1	420871	92.1	250.8	514.1	453.5
R5656L	304.8	729.5	512.8	468.0	420871	92.1	250.8	565.2	503.4
R5658L	304.8	729.5	512.8	518.0	420871	92.1	250.8	616.0	553.4
R56510L	304.8	729.5	512.8	568.0	420871	92.1	250.8	666.8	603.4
R56512L	304.8	729.5	512.8	618.0	420871	92.1	250.8	717.6	653.4
*R6606L	330.2	856.3	600.0	568.3			254.0	553.7	568.3
*R8806L	381.0	1,140.1	800.0	871.8			292.1	609.6	871.8
*R11406L	431.8	1,464.4	1,000.0	1,262.0			317.5	665.5	1,262.0

Note: Supported loads not to exceed the rated capacity of the cylinders. Not intended to support additional dynamic loads, such as those applied by moving vehicles.

LOCKING COLLAR

RL Series Cylinders - Aluminum

55 & 100 Ton
Single-Acting, Spring-Return
700 bar (10,000 psi)



POSITIVE MECHANICAL LOCK TO SUPPORT LOAD.

- Supports lifted load for extended periods of time with hydraulic pressure released.
- At half the weight of steel cylinders of comparable capacity, aluminum cylinders are ideal when portability is a key factor.
- Feature carrying handle.

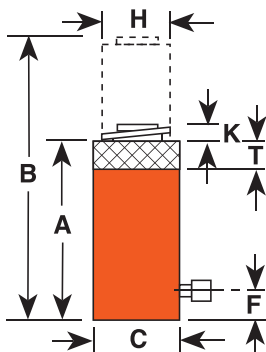
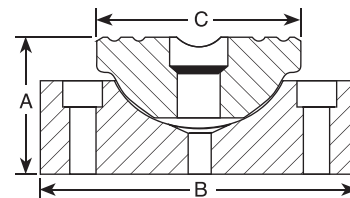
RA1006L

ASME B30.1
700 bar



Locking collar feature
permits non-hydraulic
support of load.

RA556L



SWIVEL CAPS reduce the effects of
off center loading. Tilts up to 5°.
(Available as optional)

Cylinder Tonnage	Swivel Cap Order No.	Wt. (kg.)	A (mm)	B (mm)	C (mm)
55	Q99-1000	0,9	31,8	63,2	71,4

Cyl. Cap. Stroke (Tons) (mm)	Order No.	Oil Cap. (cm³)	A Retracted Ht. (mm)	B Extended Ht. (mm)	C Outside Dia. (mm)	F Base to Port (mm)	H Piston Rod Dia. (mm)	K Piston Rod Protrusion (mm)	T Nut Thickness (mm)	Bore Dia. (mm)	Cylinder Effective Area (cm²)	Metric Tons at 700 bar	Weight (kg)
55	155,5 RA556L	1.109	317,5	473,1	133,4	34,9	82,6	12,7	38,1	95,3	71,2	50,1	13,4
100	158,8 RA1006L	2.116	339,7	498,5	187,3	30,2	114,3	6,4	38,1	130,2	133,0	93,5	29,1

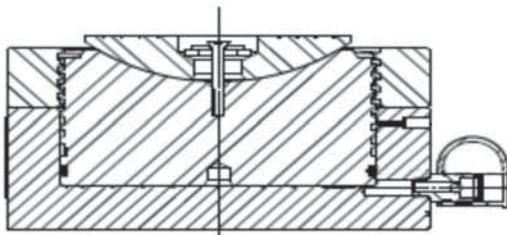
Note: Supported loads not to exceed the rated capacity of the cylinders. Not intended to support additional dynamic loads, such as those applied by moving vehicles.

PANCAKE LOCKING COLLAR

PLC Series Cylinders
67 - 565 Ton
Single-Acting, Load-Return
700 bar (10,000 psi)

POSITIVE MECHANICAL LOCK TO SUPPORT LOAD. IDEAL FOR CONFINED AREA APPLICATIONS.

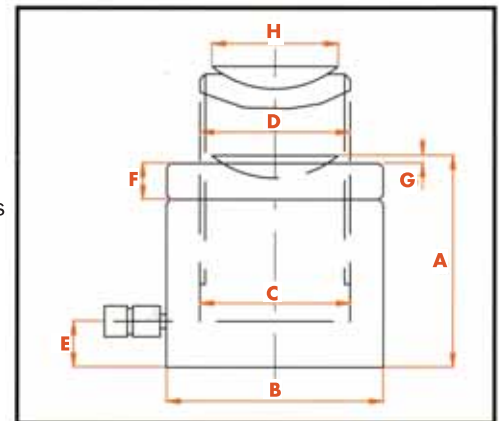
- Compact design - for use where space is limited
- Locking collar designed to support lifted load for extended periods of time with hydraulic pressure released
- Overflow port ("weep hole") prevents piston from being overextended under load.
- Special coating improves corrosion and abrasion resistance
- Cylinders come standard with hardened caps. Swivel caps reduce the effects of off-center loading and improves performance under side load.
- Equipped with 3/8" NPTF female half couplers



Integral Swivel Cap reduces the effects of off center loading.

Tilts up to 5 degrees.

Radial grooves on top of cap reduce load slippage.



Cyl. Cap. (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm³)	A		B		D Piston Rod Dia (mm)	F Nut Thickness (mm)	C Bore Dia. (mm)	Cylinder Effective Area (cm²)	Metric Tons at 700 bar	Weight (kg)
				Retracted Ht. (mm)	Extended Ht. (mm)	Outside Dia. (mm)							
67	50.8	PLC672	437	125.7	176.5	147.3		104.4	24.1	104.7	86.09	61	15.0
110	50.8	PLC1102	745	137.7	188.5	177.8		136.7	30.5	136.7	146.66	103	26.0
180	50.8	PLC1802	1,176	153.9	204.7	228.6		171.7	38.1	171.7	231.55	163	44.0
220	50.8	PLC2202	1,448	160.8	211.6	254.0		190.5	40.6	190.5	285.02	200	57.0
280	50.8	PLC2802	1,860	164.8	215.6	279.4		215.9	41.9	215.9	366.10	257	75.0
430	45	PLC4302	2,514	183.9	228.9	355.6		266.7	55.5	266.7	558.65	393	134.0
565	45	PLC5652	3,283	197.9	242.9	406.4		304.8	59.7	304.8	729.66	513	189.0

THREADED END

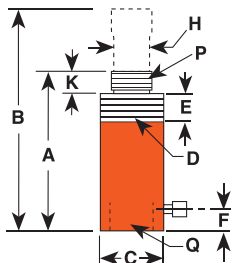
CBT Series Cylinders

5 - 25 Tons

Single-Acting, Spring-Return
700 bar (10,000 psi)



CYLINDERS



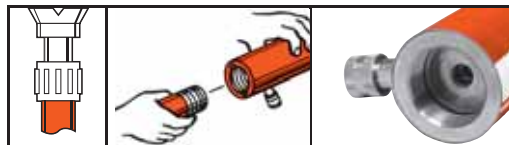
THREADED PISTON ROD END AND BASE THREADS

ACCOMMODATE ACCESSORIES AND ADAPTERS.

- Threaded cylinder collars, piston rod ends, and internal base threads simplify mounting.
- Plated piston rod resists wear and corrosion.
- A 9796 3/8" NPTF female half coupler is standard with each cylinder; oil port threads are 3/8" NPTF.

C2514CBT

ASME B30.1
700 bar



Cyl. Cap. (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm ³)	A Re-tracted Height (mm)	B Ex-tended Height (mm)	C Outside Dia. (mm)	D Collar Thread (in.)	E Collar Thread Length (mm)	F Base to Port (mm)	H Piston Rod Dia. (in.)	K Piston Rod Protrusion (mm)	P Piston Rod Thread (NPT)	Q Internal Base Thread (NPSM) (in.)	Bore Dia. (mm)	Cyl. Eff. Area (cm ²)	Metric Tons at 700 bar	Weight (kg)
5	133,4	C55CBT	85	266,7	400,1	38,1	1 1/2-16	28,6	47,6	25,4	28,6	3/4-14	3/4-14	28,6	6,4	4,5	2,0
	155,6	C106CBT	228	292,1	447,7	57,2	2 1/4-14	28,6	42,9	38,1	27,0	1 1/4-11 1/2	1 1/4-11 1/2	27,0	14,4	10,2	4,7
10	257,2	C1010CBT	375	393,7	650,9	57,2	2 1/4-14	28,6	42,9	38,1	27,0	1 1/4-11 1/2	1 1/4-11 1/2	27,0	14,4	10,2	6,3
	158,8	C256CBT	528	339,7	498,5	85,7	3 5/16-12	49,2	47,6	57,2	47,6	2-11 1/2	2-11 1/2	47,6	33,3	23,4	11,1
25	362,0	C2514CBT	1205	542,9	904,9	85,7	3 5/16-12	49,2	47,6	57,2	47,6	2-11 1/2	2-11 1/2	47,6	33,3	23,4	18,2

PULLING

RP Series Cylinders

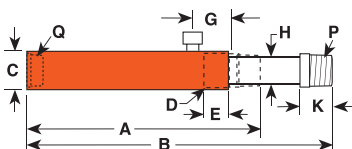
2 & 5 Ton Single-Acting, Spring-Return
700 bar (10,000 psi)

DESIGNED FOR PULLING AND TENSIONING.

- Heavy duty compression spring provides long cycle life and rapid extension of piston.
- Spring automatically extends piston rod when pump pressure is released.



Cyl. Cap. (Tons)	Stroke (mm)	Order No.	Oil Cap. (cm ³)	A Re-tracted Height (mm)	B Ex-tended Height (mm)	C Outside Dia. (mm)	D Collar Thread (in.)	E Collar Thread Length (mm)	G Cylinder Top to Port (mm)	H Piston Rod Dia. (mm)	K Piston Rod Protrusion (mm)	P Piston Rod Thread (NPTF)	Q Base Thread (NPTF)	Bore Dia. (mm)	Cyl. Eff. Area (cm ²)	Metric Tons at 700 bar Pull	Weight (kg)
2	127,0	RP25	45	242,9	379,9	44,5	1 1/2-16	25,4	42,9	19,1	25,4	3/4-14	3/4-14	28,6	3,5	2,5	1,8
5	139,7	RP55	102	301,6	441,3	57,2	2 1/4-14	25,4	42,9	30,2	34,9	1 1/4-11 1/2	1 1/4-11 1/2	42,9	7,3	5,1	5



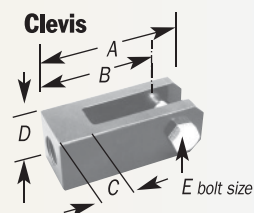
Clevis ORDERING INFORMATION (optional)

Use with Cyl No.	Order No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
RP25	421057*	130,3	109,5	33,3	50,8	19,1
RP55	421056**	152,4	127,0	38,1	63,5	22,4

* For base mounting, extension rod 351106 is required.

** For base mounting, extension rod 351075 is required.

Clevis



PUMPS

HIGH PERFORMANCE HYDRAULIC PUMPS

<p>Page PUMP SELECTION...34-36</p>	<p>Page HB44...47 Intensifier</p> 	<p>Page PE55...56, 57 Vanguard® Electric Hydraulic</p> 
<p>Page P SERIES...37-39 Hand Pumps</p> 	<p>Page PE10, PR10...48, 49 Electric / Battery</p> 	<p>Page PQ60...58 Quiet Electric Hydraulic</p> 
<p>Page PA6, PA6D...40, 41 Air Hydraulic</p> 	<p>Page PE17...50 Electric Hydraulic</p> 	<p>Page PQ120...59 Quiet Electric Hydraulic</p> 
<p>Page PA60...42 Air Hydraulic</p> 	<p>Page PE18...51 Vanguard Jr.® Electric Hydraulic</p> 	<p>Page PE400...60 Electric Hydraulic</p> 
<p>Page PA9...43 Air Hydraulic</p> 	<p>Page PE21...52 Electric Hydraulic</p> 	<p>Page PG30/55...61 Gasoline Driven</p> 
<p>Page PA17...44 Air Hydraulic</p> 	<p>Page PED25...53 Electric Hydraulic</p> 	<p>Page PG120-PG400...62, 63 Gasoline Driven</p> 
<p>Page PA46/55...45 Air Hydraulic</p> 	<p>Page PE30...54 Electric Hydraulic</p> 	<p>Page PUMP ACCESSORIES...64-67</p> 
<p>Page PA50...46 Air Hydraulic</p> 	<p>Page PE46...55 Electric Hydraulic</p> 	

PUMPS



PUMP SELECTION

High Performance
Choose the Right Pump



Manually-operated Hydraulic Pumps
(Hand Pumps)



Air/Hydraulic Pumps



Electric/Hydraulic Pumps



Gasoline-driven Hydraulic Pumps

Step 1 – Select the hydraulic cylinder that best suits the application (See page 11-32).

Step 2 – Select the series of hydraulic pump with adequate oil output and reservoir capacity to power cylinder(See page 35, 37-63).

Check speed/selection chart, consult factory. (See page 36)

Step 3 – Select pump within series with the valve option that is best suited to the cylinder and application (See page 76-81, 84).

CONSIDERATIONS:

What maximum system operating pressure (bar) is required? What volume of oil delivery is required? (For manual pumps, cm³ of oil per handle stroke; for powered pumps, l/min. of oil).

Is a single- or 2-speed pump required?

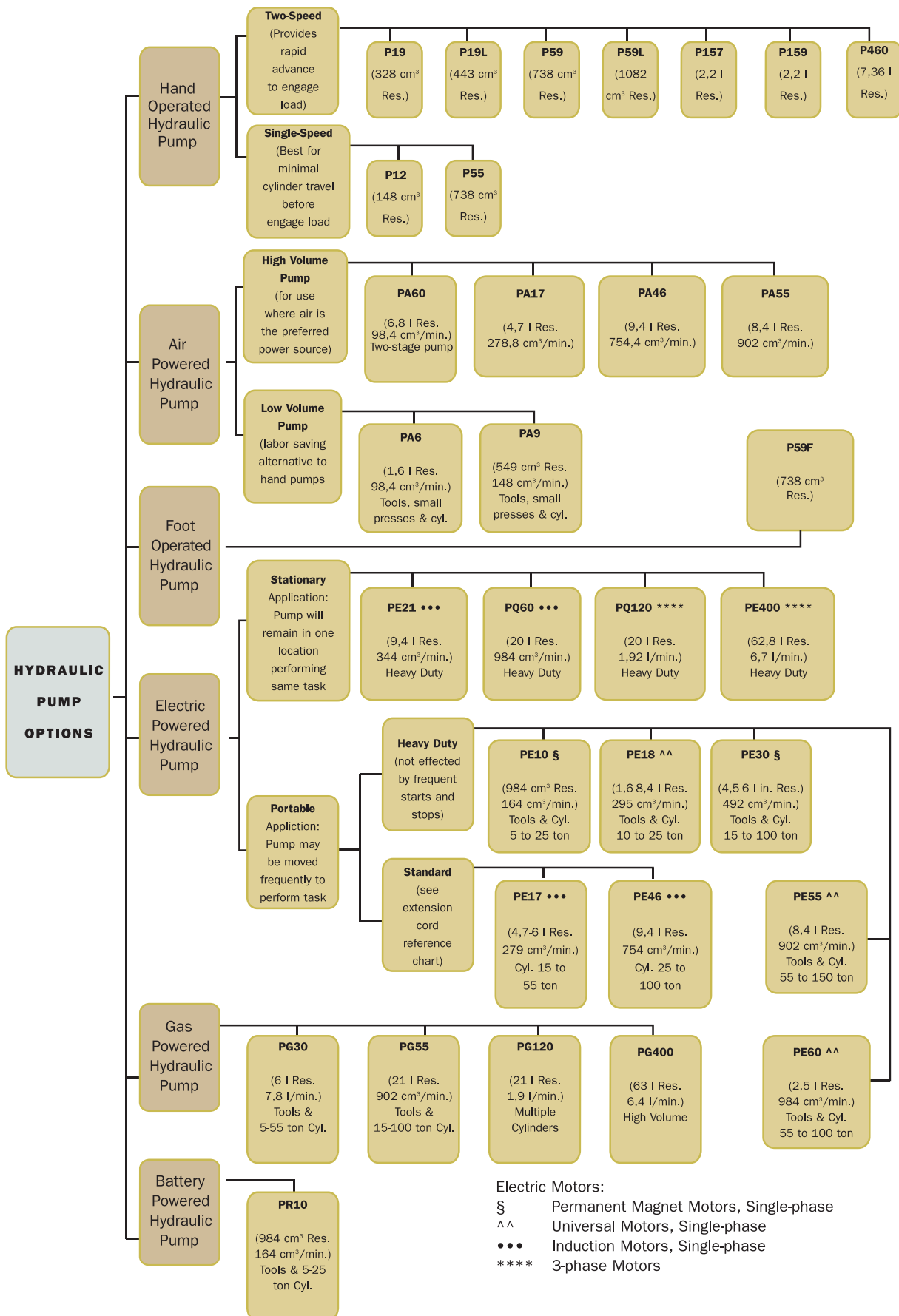
(2-speed pumps deliver high oil volume at low pressure for rapid cylinder piston advance, then shift to the high pressure, low volume stage under load).

What is the preferred source of power?

- a) Manual (hand or foot operated). Provides portability, can be used where electricity or shop air are not available.
 - b) Air/Hydraulic. Uses shop air or a portable air compressor. Ideal for use in petrochemical, mines or other inflammable or explosive environments.
 - c) Electric /Hydraulic. What voltage is available? Is a battery operated pump preferred?
 - d) Gasoline Engine/Hydraulic. Powers high-output pumps at remote job sites where air or electricity are unavailable.
- Is portability of the pump a factor to consider?
 - Will the pump be used intermittently, or will it need to provide high-cycle operation? Does the application require that the pump be capable of starting under load?
 - Is fluid heat build-up a factor in your application? High cycle applications may require a larger capacity oil reservoir for cooling. Also, if you are using large displacement cylinders, the reservoir capacity must be sufficient to fully extend the piston of the cylinder.
 - Will the application require large displacement or multiple cylinders? Reservoir size and pump output levels will be factors to consider.
 - Does the working environment require a pump having a low operating noise (dBA) level?
 - Must the pump operate in a spark-free environment?

PUMP SELECTION

700 bar (10,000 psi)



PUMP CAPACITY

Selection Chart Choosing the Right Pump and Cylinder

The following guidelines are for general lifting and construction applications. Hydraulic tools, pullers and presses may fall outside these

recommendations. Always check to see that the pump's "usable reservoir capacity" exceeds the cylinder(s) oil capacity.

Generally
Recommended









Marginal
Check Requirements



Not Recommended for
most applications



700 bar Maximum
Working Pressure

	Page No.	PRESSURE STAGE ▼	Cylinder Capacity (Tons)															
			5	10	15	20	25	30	55	75	100	150	200	300	400	500		
 PUMPS	37	P12‡	Single	14	32	44	65	72	93									
	37	P55‡	Single	6	14	19	28	31	40	71								
	38	P19/	Low	4	8	10	15	17	21									
		P19L	High	13	30	42	59	68	86									
	38	P59F	Low	1,8	4,1	5,7	8	9	12	20	29							
			High	8	17	24	3	48	50	85	122							
	38	P59(L)‡	Low	1,5	3,2	4,7	7	7,7	9,7	16,7	23,9							
	39	P157‡	High	6	14	19	28	31	40	71	101							
	39	P159‡	Low	,5	1	1,3	1,9	2,2	2,8	5	7	9	13	18				
	39	P300‡	High	7	15	21	30	34	43	77	110	143	200	250				
	39	P460‡	Low	,1	,3	,6	,6	,7	,9	1,5	2,2	2,8	4,2	5,6	8,4	11,2		
			High	3,3	7,7	9	14	17,5	22	37	55	71	105	143	213	284		
	48	PE10	Low	,5	1,2	1,6	2,2	2,6	3,2	5,5								
			High	6	13,4	18,9	27	31	39	66,2								
	50	PE17‡	Low	,2	,5	,7	,9	1,1	1,4	2,3	3,3	4,3	6,5	8,7				
			High	3,5	7,9	10,9	16	18	23	39	56,3	73	109	146				
	51	PE18	Low	,4	,8	1,2	1,6	1,8	2,3	3,9	5,7	7,3	10,8	14,6	21,9	29,2		
			High	3,3	7,5	10,3	15	17	21	37	53	69	102	136	207	276		
	52	PE21‡	Low	,2	,5	,7	1,0	1,1	1,4	2,5	3,6	4,6	6,8	9,2	13,8	18,4		
			High	2,8	6,4	9	13	15	19	32	45,5	59	88	118	177	236		
	53	PED25	Low	,2	,4	,6	,9	1,0	1,3	2,2	3,2	4,1	6,1	8,3	12,0	15,7	19,9	
			High	2,4	5,4	7,5	10,6	12,4	15,6	26,5	38,2	49,5	73,6	99,1	144,3	188,5	238,6	
	54	PE30‡	Low	,2	,45	,6	,9	1	1,3	2,2	3,2	4,1	6					
			High	2	4,5	6	9	10	13	22	32	41	60					
	55	PE46‡	Low	,1	,3	,4	,5	,6	,7	1,3	1,8	2,4	3,5	4,7	7,2	9,6		
			High	1,3	2,9	4,1	5,9	6,8	8,6	14	22	28	42	56	84	112		
	56-57	PE55‡	Low	,1	,2	,3	,4	,4	,6	,9	1,4	1,8	2,6	3,5	5,4	7,2		
		PE60‡	High	1,1	2,4	3,4	4,8	5,6	7,1	12	17,8	23	34	45	69	92		
	58	PQ60	Low	,1	,2	,3	,4	,4	,5	,9	1,3	1,7	2,5	3,4	5,1	6,8	8,5	
			High	1	2,2	3,3	4,4	5,2	6,5	11	16,2	21	31	41	63	84	105	
	59	PQ120	Low	,1	,2	,3	,4	,4	,5	,9	1,3	1,7	2,5	3,4	5,1	6,8	8,5	
			High	,5	1,1	1,6	2,2	2,6	3,2	5,5	7,7	10	15	21	30	40	50	
	60	PE400	Low	,1	,1	,2	,2	,3	,3	,6	8	1	1,5	2,1	3	4	5	
			High	,1	,3	,4	,6	,7	,9	1,6	2,2	2,9	4,4	5,9	8,7	11,6	14,5	
	40-41	PA6‡	Single	10	22,4	31	44,4	51,3	65,2	-	-	-	-	-	-	-	-	-
	43	PA9‡	Single	10	22,4	31	44,4	51,3	65,2	-	-	-	-	-	-	-	-	-
	44	PA17‡	Low	,2	,5	,7	,9	1,1	1,4	2,3	3,3	4,3	6,5	8,7	-	-	-	-
			High	3,5	7,9	10,9	16	18	23	39	56	73	109	146				
	45	PA46‡	Low	,1	,3	,4	,5	,6	,7	1,3	2	2,4	3,5	4,7	7,2	9,6		
			High	1,3	2,9	4,1	5,9	6,8	8,6	14	22	28	42	56	84	112		
	45	PA55‡	Low	,1	,3	,4	,6	,7	,9	1,5	2,2	2,8	4,1	5,5	8,4	11,2		
			High	1,1	2,4	3,4	4,8	5,6	7,1	12	18	23	34	45	69	92		
	61	PG30	Low	,3	,7	1	1,3	1,6	2	3,3	4,8	6,2	9,3	12,4	18,1	-	-	-
			High	2	4,5	6,3	8,9	10,3	13	22	31,8	41,3	61,4	83	121	-	-	-
	61	PG55‡	Low	,1	,3	,4	,6	,7	,8	1,4	2	2,6	3,9	5,2	7,6	9,9	12,5	
			High	1,1	2,5	3,5	4,9	5,6	7,1	12,1	17,3	22,5	33,5	45	66	86	109	
	62-63	PG120‡	Low	,1	,3	,4	,6	,7	,8	1,4	2	2,6	3,9	5,2	7,6	9,9	12,5	
			High	,5	1,0	1,5	2,0	2,4	3,0	5,1	7,3	9,5	14,2	19,1	27,8	36,3	46,0	
	62-63	PG400	Low	,1	,1	,2	,2	,3	,3	,6	,8	1,0	1,5	2,0	3,0	3,8	4,9	
			High	,2	,3	,5	,7	,8	1,0	1,7	2,4	3,1	4,6	6,2	9,0	11,8	15,0	

‡ Some Power Team pumps are available in special configurations not listed in this catalog. Power Team can "Assemble to order" pumps with special seals, voltages, valves, relief valve settings, etc. For your special requirements please consult your local distributor or the Power Team factory.

* Hand Pumps = Number of strokes required to move piston 25,4 mm.

† Air, Electric and Gasoline Engine/Hydraulic pumps = Number of seconds required to move piston 25,4 mm.

HAND PUMP

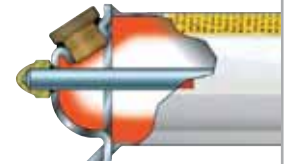
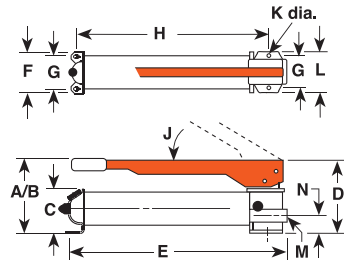
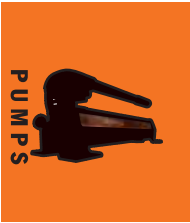
BEST SUITED FOR APPLICATIONS WHERE THERE IS LITTLE OR NO FREE TRAVEL.

- All metal construction, won't burn through in welding environments.
- Formed metal handle provides less flex, and reduces operator fatigue.
- Convenient fill port on P23 and P55 allows pumps to be filled in a horizontal or vertical position.
- Fill cap seal acts as safety valve preventing over-pressurizing of reservoir.
- Relief valve inboard of check valve prevents loads from drifting down.
- Large valve knob gives added control for slowly metering loads down.
- Carrying handle on P55.

Hydraulic P Series
197 to 902 cm³ Reservoir
Single-Speed, Single-Acting
700 bar (10,000 psi)
except P23 (210 bar)



P55 Hand Pump on an aircraft towbar



Power Team hand pumps, with the angled fill port, have a built in "relief valve" protection system. This system is designed to protect over-pressurization of the reservoir from sudden back pressure. This system also works as a seal to prevent oil leaks.

Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (deg.)	K (mm)	L (mm)	M (in)	N (mm)
P12	101,6	—	—	101,6	342,9	85,7	55,6	—	45°	4,8	85,7	3/8-NPTF	28,6
* P23	158,8	330,2	88,9	141,3	346,1	108,0	82,6	261,6	38°	7,9	120,7	3/8-NPTF	41,3
* The P23 pump maximum pressure is 210 bar only.													
P55	165,1	533,4	88,9	141,3	584,2	108,0	82,6	501,7	38°	7,9	120,7	3/8-NPTF	41,3

For Use With	Order No.	Volume & Pressure					Handle Effort (kg)	Reservoir		Oil Port (in)	Product Weight (kg)
		Speed	Volume per Stroke (cm ³)	Maximum Pressure (bar)				Oil Capacity (cm ³)	Usable Oil Capacity (cm ³)		
Single Acting	P12	1	—	1,1	—	700	34	197	148	3/8-NPTF	2,6
	P23	1	—	2,6	—	210	32	390	333	3/8-NPTF	5,5
Cylinders*	P55	1	—	2,6	—	700	66	902	738	3/8-NPTF	7,2

LP = Low Pressure
HP = High Pressure

* Pump includes 2-Way Valve

HAND PUMP

Hydraulic P Series
400 to 1131 cm³ Reservoir
Two-Speed, Single-Acting
700 bar (10,000 psi)

Lightweight
Aluminium
Design



P59
(Hand-operated)



P59F
(Foot-operated)

PUMP AUTOMATICALLY SHIFTS INTO THE HIGH PRESSURE LIFT STAGE UPON CONTACT WITH THE LOAD.

- All metal construction won't burn through in welding environments.
- Two-speed reduces handle strokes so you work faster and easier.
- Formed metal handle provides less flex, and reduces operator fatigue.
- Convenient fill port allow pumps to be filled in a horizontal or vertical position.
- Relief valve inboard of check valve prevents loads from drifting down.
- Large valve knob gives added control for slowly metering loads down.
- Carrying handle (except P19).

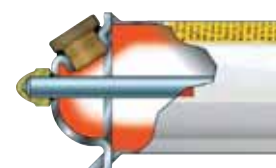
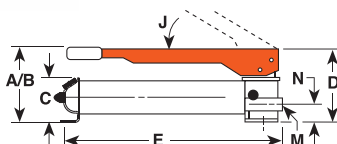
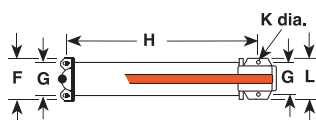
700 bar

Link design reduces handle effort by 40%

P59L



P19



Power Team hand pumps, with the angled fill port, have a built in "relief valve" protection system. This system is designed to protect over-pressurization of the reservoir from sudden back pressure. This system also works as a seal to prevent oil leaks.

Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (deg.)	K (mm)	L (mm)	M (in)	N (mm)
P19	139,7	371,5	73,0	115,9	347,7	101,6	82,6	281,0	53°	7,9	101,6	³ / ₈ -NPTF	35,7
P19L	141,5	—	—	—	347	104,1	82,6	281,0	40°	7,9	104,1	³ / ₈ -NPTF	—
P59	177,8	533,4	88,9	127,0	584,2	108,0	82,6	501,7	38°	7,9	120,7	³ / ₈ -NPTF	41,3
P59L	177,6	—	—	—	533,4	120,7	82,6	501,7	50°	7,9	120,7	³ / ₈ -NPTF	—
P59F	88,9	425,5	88,9	152,4	590,6	108,0	82,6	514,4	—	7,9	114,3	³ / ₈ -NPTF	42,9

For Use With	Order No.	Volume & Pressure					Handle Effort (kg)	Reservoir		Oil Port (in)	Product Weight (kg)
		Speed	Volume per Stroke (cm³)		Maximum Pressure (bar)			Oil Capacity (cm³)	Usable Oil Capacity (cm³)		
			LP	HP	LP	HP					
*Single Acting Cylinders	P19	2	5,0	1,2	22	700	45	400	328	³ / ₈ -NPTF	3,0
	**P19L	2	4,1	0,9	70	700	37	475	443	³ / ₈ -NPTF	2,3
	P59	2	10,9	2,6	22	700	66	902	738	³ / ₈ -NPTF	7,8
	**P59L	2	12	2,6	59	700	44	1131	1082	³ / ₈ -NPTF	4,1
	^^P59F	2	9,0	2,1	22	700	55	902	738	³ / ₈ -NPTF	6,4

LP = Low Pressure
HP = High Pressure

* Pump includes 2-Way Valve

^^ Foot-operated

** Lightweight Aluminium Hand Pumps

HAND PUMP

Hydraulic P Series
2,5 l to 9,5 l Reservoir
Two-Speed, Single-
and Double-Acting
700 bar (10,000 psi)



P157/P159



P300



P460

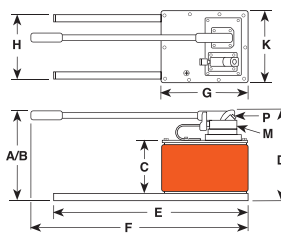
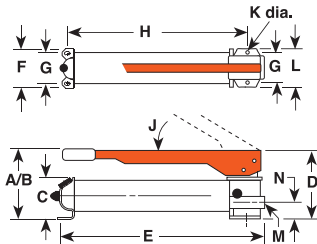
PUMP AUTOMATICALLY SHIFTS INTO THE HIGH PRESSURE LIFT STAGE UPON CONTACT WITH THE LOAD.

- Rugged all metal construction for strength and durability that won't burn through in welding environments.
- Heavy-duty, formed metal handle provides less flex, and less operator fatigue than round or composite handles.
- Convenient fill port allows pumps on P157 and P159 to be filled in a horizontal or vertical position.
- Fill cap seal acts as safety valve to prevent over-pressurizing of reservoir.
- Relief valve inboard of check valve prevents loads from drifting down.
- Large valve knob gives added control for slowly metering loads down.
- Carrying handle

700 bar



P300 hand pump and 10 ton cylinders used for a vehicle lift.



FK59
FK159B

Foot pump conversion kit

No. FK59 - Foot pump conversion kit for use on P55/P59 pumps. Wt., 2,7 kg

No. FK159B - Foot pump conversion kit for use on P157/P159 and P300/P300D pumps. Wt., 2,7kg.

Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (deg.)	K (mm)	L (mm)	M (in)	N (mm)	P
P157/P159	197	521	123,8	175	578	98,4	76,2	502	39°	7,9	95,3	3/8-NPTF	57,2	—
P300	210	533	114,3	175	575	215,9	190,5	526	39°	7,9	95,3	3/8-NPTF	57,2	—
P460	283	787	171,5	289	610	743	279,4	229	80°	241,3	—	3/8-NPTF	—	1/4 NPTF

For Use With	Order No.	Speed	Volume & Pressure		Maximum Pressure (bar)		Reservoir Handle Effort (kg)	Oil Capacity (cm³)	Usable Oil Capacity (cm³)	Oil Port (in)	Product Weight (kg)
			LP	HP	LP	HP					
* Single-Acting Cylinders	P157	2	10,7	2,6	97	700	64	2491	2245	3/8-NPTF	11,8
	P159	2	42,6	2,6	22	700	64	2491	2245	3/8-NPTF	11,8
	P300	2	42,6	2,6	22	700	64	5700	5081	3/8-NPTF	25,1
	P460	2	120,5	4,8	22	700	41	9500	7539	3/8-NPTF	24,9
** Double-Acting Cylinders	P157D	2	10,7	2,6	97	700	64	2491	2245	3/8-NPTF	13,1
	P159D	2	42,6	2,6	22	700	64	2491	2245	3/8-NPTF	12,7
	P300D	2	42,6	2,6	22	700	64	5700	5081	3/8-NPTF	25,9
	P460D	2	120,5	4,8	22	700	41	9500	7539	3/8-NPTF	26,3

LP = Low Pressure
HP = High Pressure

* Pump includes 2-Way Valve
** Pump includes 4-Way Valve

AIR PUMP

Hydraulic **PA6** Series

98 cm³/min.

Single-Acting

700 bar (10,000 psi)

COMPACT, LIGHTWEIGHT AND PORTABLE. SINGLE-SPEED PUMPS DESIGNED TO DRIVE SINGLE-ACTING CYLINDERS.

- The power unit of choice for major manufacturers of auto body, frame straighteners and other equipment.
- Operate at 3-8 bar shop air pressure, 570 l/min at 7 bar (20 cfm at 100psi).
- Internal relief valve protects circuit components, air inlet filter protects motor.
- Serviceable pump motor is not a "throw away", providing economical repair.
- Permanently vented reservoir cap.
- dBA 85 at 700 bar.



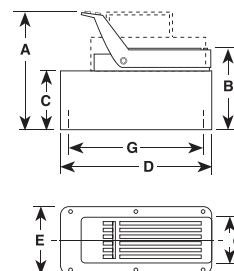
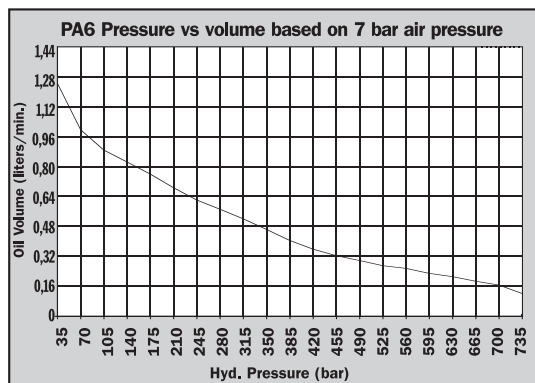
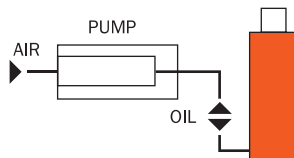
PA6



700 bar

PA6M-1

Typical Set-up Hook-up for single-acting cylinders



Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	G (mm)
PA6	197	149	111	241	127	102 x 229
PA6A	197	149	111	241	127	102 x 229
PA6AM	197	149	111	241	127	102 x 229
PA6M	197	149	111	241	127	102 x 229
PA6R	197	149	111	241	127	102 x 229
PA6RM	197	149	111	241	127	102 x 229
PA6M-1	200	152	111	321	187	—
PA6AM-2	254	197	171	292	241	203 x 254
PA6-2	260	203	178	292	241	130 x 181

Description	Order No.	Air Supply Req'd (bar)	Cap. (l)	Reservoir Usable (l)	Oil Port (in)	Prod. Wt. (kg)
Base model pump with high density polyethylene reservoir.	PA6	3-8	1,7	1,6	3/8-NPTF	6,3
PA6 with externally adjustable relief valve.	PA6A	3-8	1,7	1,6	3/8-NPTF	6,8
PA6A with metal reservoir.	PA6AM	3-8	1,7	1,6	3/8-NPTF	7,7
PA6, except has metal reservoir.	PA6M	3-8	1,7	1,6	3/8-NPTF	8,2
PA6 with 3,7m remote control.	PA6R	3-8	1,7	1,6	3/8-NPTF	9,3
PA6R, except has metal reservoir.	PA6RM	3-8	1,7	1,6	3/8-NPTF	9,8
PA6, except has 3,8 l metal reservoir.	PA6M-1	3-8	3,8	3,0	3/8-NPTF	10,7
PA6, except has 7,6 l, high density polyethylene reservoir.	PA6-2	3-8	7,6	7,3	3/8-NPTF	11,1
PA6, except has 9,5 l metal reservoir.	PA6M-2	3-8	9,5	9,1	3/8-NPTF	14,5

AIR PUMP

Hydraulic **PA6D** Series
98 cm³/min.
Double-Acting
700 bar (10,000 psi)



PA6D

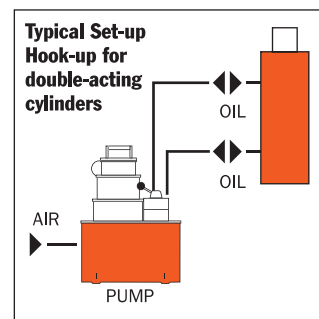
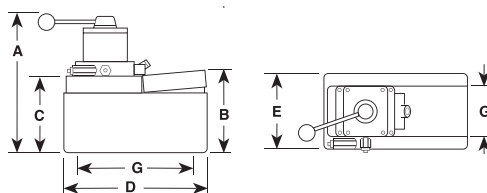
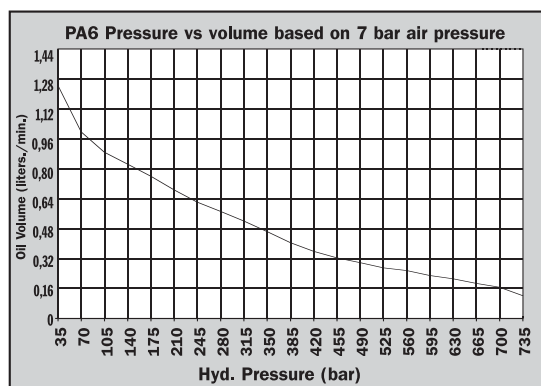


700 bar

PA6DM-1

COMPACT, LIGHTWEIGHT AND PORTABLE SINGLE-SPEED PUMP FOR DRIVING DOUBLE-ACTING CYLINDERS.

- Operate at 3 - 8 bar shop air pressure, 570 l/min at 7 bar (20 cfm at 100psi).
- Internal relief valve protects circuit components, air inlet filter protects motor.
- Serviceable pump motor is not a "throw away", providing economical repair.
- Permanently vented reservoir cap.
- dBA 85 at 700 bar for all PA6 pumps.



Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	G (mm)
PA6D	264	149	111	241	127	102 x 229
PA6DM	264	149	111	241	127	102 x 229
PA6DM-1	279	146	111	321	187	—
PA6D2	324	203	178	287	235	130 x 181
PA6DM-2	318	197	171	292	241	203 x 254

Description	Order No.	Valve No.	Air Supply Req'd (bar)	Reservoir Cap. (l)	Reservoir Usable (l)	Oil Port (in)	Prod. Wt (kg)
Base model pump with high density polyethylene reservoir.	PA6D	9504, 3-way/4-way	3 - 8	1,7	1,6	3/8-NPTF	8,3
PA6D, except has metal reservoir.	PA6DM	9504, 3-way/4-way	3 - 8	1,7	1,6	3/8-NPTF	9,2
PA6D, except has 3,8 l metal reservoir.	PA6DM-1	9504, 3-way/4-way	3 - 8	3,8	3,0	3/8-NPTF	12,7
PA6D, except has 7,6 l, high density polyethylene reservoir.	PA6D2	9504, 3-way/4-way	3 - 8	7,6	7,3	3/8-NPTF	13,0
PA6D, except has 9,5 l metal reservoir.	PA6DM-2	9504, 3-way/4-way	3 - 8	9,5	9,1	3/8-NPTF	16,4

AIR PUMP

Hydraulic PA60 Series

98 cm³/min

Two-Speed

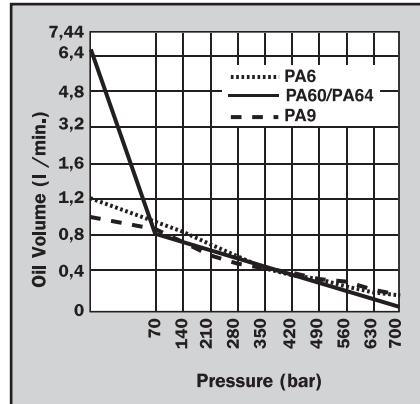
700 bar (10,000 psi)

TWO-SPEED PUMP FOR RAPID OIL DELIVERY AT LOW PRESSURE QUICKLY ADVANCES CYLINDER OR TOOL.

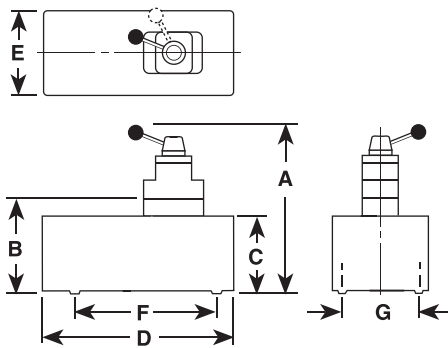
- Equipped with air pressure regulator, air filter and lubricator.
- Serviceable air motor for economical repair.
- Internal relief valve protects circuit components.
- Permanently vented reservoir cap.



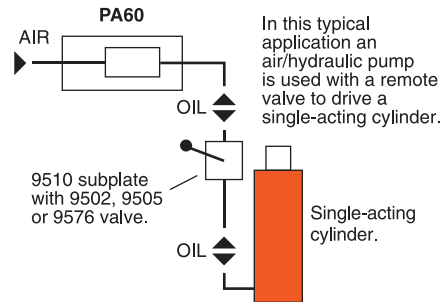
PA60



PA64



Typical Set-up



Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Max. Pressure Output bar	Oil Del. * (l/min)				
									0 bar	7 bar	70 bar	350 bar	700 bar
PA60	—	240	206	362	244	181	130	700	6,24	5,6	0,8	0,19	0,1
PA64	362	—	206	362	244	181	130	700	6,24	5,6	0,8	0,19	0,1

* Typical delivery. Actual flow will vary with field conditions.

Description	Order No.	Valve No.	Valve Function	Air Supply Req'd bar	Reservoir Cap. (l)	Usable (l)	Oil Port (in)	Prod. Wt (kg)
For use with remote valves.	PA60	Manifold	—	3 - 8	7,6	6,8	3/8-NPTF	24,5
For use with single- or double-acting cylinders.	PA64	9507, 3-way/4-way	Advance Hold Return	3 - 8	7,6	6,8	3/8-NPTF	24,5

Notes: Air inlet port 1/4" NPTF. Requires 570 l/min at 7 bar (20 cfm at 100psi) shop air pressure at the pump.

AIR PUMP

Hydraulic **PA9** Series
148 cm³/min.
Single-Acting
700 bar (10,000 psi)



PA9
Foot Control

700 bar



PA9H
Hand Control

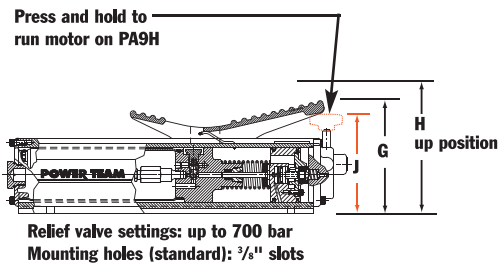
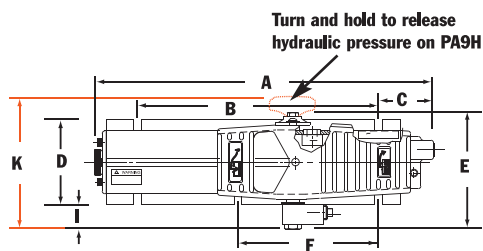
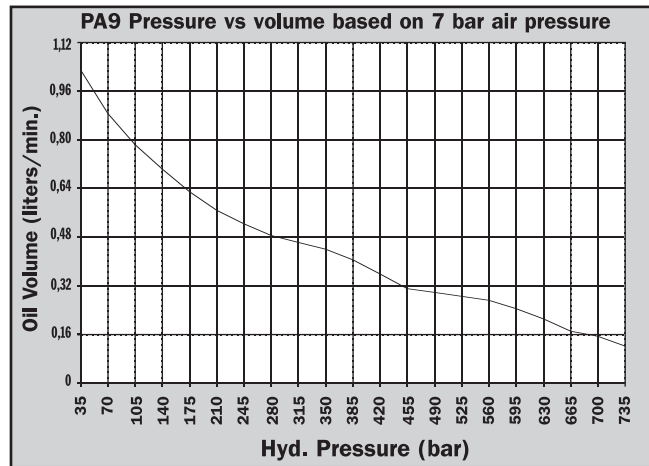
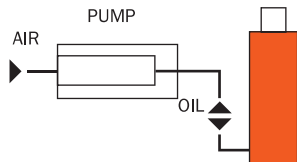
IDEAL FOR POWERING SINGLE-ACTING CYLINDERS AND PORTABLE HYDRAULIC TOOLS.

- Easier to operate than a hand pump, giving you the speed you need at an affordable price.
- Easy and economical to service; not a "throw away" unit.
- Unique bladder design for all-position operation and storage.
- Operates on 3 - 8 bar shop air, at 570 l/min (20 cfm).
- Hard-coat anodized aluminum housing.
- Oil filler with integral safety relief minimizes chance of damage to reservoir bladder if overfilling occurs.
- dBA 80 at 700 bar for all PA9 pumps.

PA9 Foot Control



Typical Set-up Hook-up for single-acting cylinders



Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)
PA9	432	305	71,4	108	149	178	142	178	28,2	—	—
PA9H	432	305	71,4	108	—	178	—	178	28,2	122	170

For Use with Cyl. Type	Order No.	Air Supply Req'd (bar)	Reservoir Cap. (cm ³)	Usable (cm ³)	Oil Port (in)	Max. Pressure Output (bar)	Prod. Wt. (kg)
Single-Acting	PA9	3 - 8	574	549	³ / ₈ -NPTF	700	6,8
Single-Acting	PA9H	3 - 8	574	549	³ / ₈ -NPTF	700	6,8

AIR PUMP

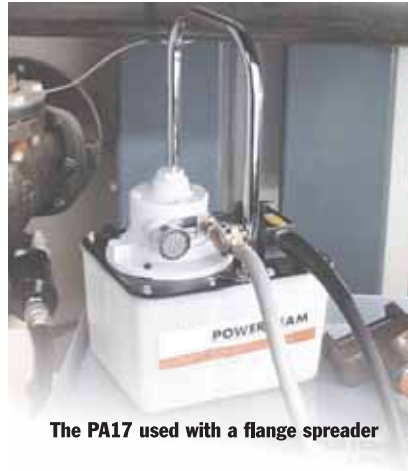
Hydraulic **PA17** Series
279 cm³/min.
Two-Speed
700 bar (10,000 psi)

ROTARY-STYLE AIR MOTOR. USE WHERE AIR IS PREFERRED SOURCE OF ENERGY, WHERE ELECTRICITY IS UNAVAILABLE OR SPARKS ARE A CONCERN.

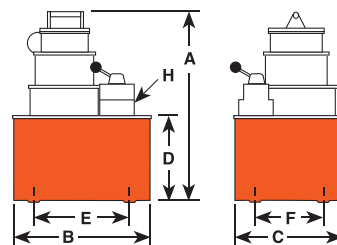
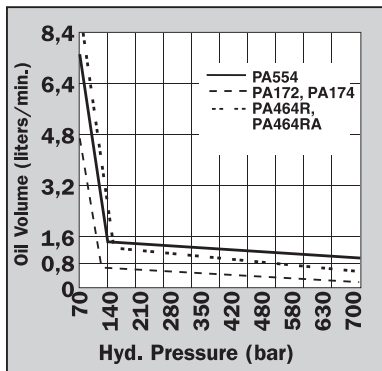
- Two-speed operation for high speed cylinder advance.
- Durable 7.6 liter (two gallon) thermoplastic reservoir. (Metal reservoir conversion kits are available.)
- Features air motor capable of starting under full load.



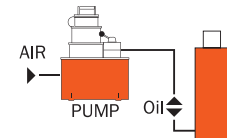
PA172



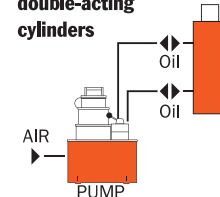
The PA17 used with a flange spreader



**Typical Set-up
Hook-up for single-acting cylinders**



**Typical Set-up
Hook-up for double-acting cylinders**



Pump No.								Max. Pressure Output bar	Oil Del. * (l/min)				
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	H (mm)		0 bar	7 bar	70 bar	350 bar	700 bar
PA172	359	289	235	178	181	130	3/8-NPTF	700	4,6	3,8	0,4	0,4	0,3
PA174	359	289	235	178	181	130	3/8-NPTF	700	4,6	3,8	0,4	0,4	0,3

* Typical delivery. Actual flow will vary with field conditions.

For use with Cyl. Type	Description	Order No.	Valve No.	Valve Function	Air Supply Req'd bar	Reservoir Cap. (l)	Usable (l)	Prod. Wt (kg)
Single-Acting	Base model pump with 7.6 liter 2 gallon thermoplastic reservoir.	PA172	9517, 2-way	Advance/Return*	3 - 8	7,6	4,7	18,1
Single- and Double Acting	PA172, except has 9500 valve for use with single- or double-acting cylinders.	PA174	9500, 4-way	Advance Hold Return*	3 - 8	7,6	4,7	18,6

Note: Requires 570 l/min at 6 bar (20 cfm at 80psi) shop air pressure at the pump. dBA 85/90 at 700 bar.

* Holds pressure in advance position when valve motor is shut off, in return position with motor running. Pump will build pressure when motor is shut off, oil returns to reservoir.

AIR PUMP

Hydraulic **PA46/55** Series
754 to 902 cm³/min.
Two-Speed
700 bar (10,000 psi)



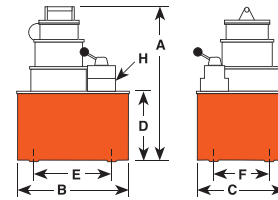
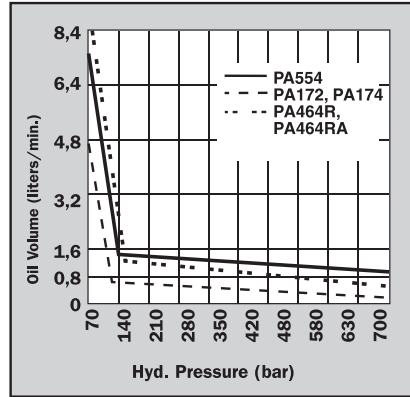
PA462



PA464R

ROTARY-STYLE AIR MOTOR. USE WHERE AIR IS THE PRE- FERRED SOURCE OF ENERGY.

- 2.2 kW (3 hp) motor starting under full load.
- Two-speed operation for rapid cylinder advance.
- Models available with full remote control over advance and return (except PA554).
- Tandem center valve holds the load when pump is shut off.



Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	H (mm)	Max. Pressure Output bar	Oil Del. * (l/min)				
									0 bar	7 bar	70 bar	350 bar	700 bar
PA462	381	292	241	178	254	203	3/8 NPTF	700	7,4	7,2	0,8	0,8	0,7
PA464	381	292	241	178	254	203	3/8 NPTF	700	7,4	7,2	0,8	0,8	0,7
PA464R	381	292	241	178	254	203	3/8 NPTF	700	7,4	7,2	0,8	0,8	0,7
PA464RA	381	292	241	178	254	203	3/8 NPTF	700	7,4	7,2	0,8	0,8	0,7
PA554	483	292	241	178	254	203	3/8 NPTF	700	7,4	7,2	1,3	1,1	0,9

* Typical delivery. Actual flow will vary with field conditions.

Note: Four mounting holes 1/2" - 20

For use with CyL Type	Description	Order No.	Valve No.	Valve Function	Air Supply Req'd bar	Reservoir Cap. (l)	Usable (l)	Prod. Wt (kg)
Single-Acting	Base model pump with 9,5 l steel reservoir.	PA462	9584, 2-way	Advance/Hold/Return	3 - 8	9,5	9,4	27,2
Single- and Double Acting	PA462, except has 9500 valve capable of running 2 single-acting cylinders or one double-acting cylinder.	PA464	9500, 4-way	Advance/Hold/Return*	3 - 8	9,5	9,4	27,6
Single- and Double Acting	PA462 with air actuated valve for full remote control over advance and return. Includes 3,7m remote control.	PA464R†	9594, 4-way	Advance/Hold/Return	3 - 8	9,5	9,4	35,3
Single- and Double Acting	PA464R except, has automatic dump feature. 7,6 m remote control.	PA464RA**†	9594, 4-way	Advance/Hold/Return*	3 - 8	9,5	9,4	35,8
Single- and Double Acting	High performance pump with 9,5 l steel reservoir.	PA554	9500, 4-way	Advance/Hold/Return*	3 - 8	9,5	8,4	22,2

Note: Requires 1417 l/min at 6 bar (50 cfm at 80psi) shop air pressure at the pump. dBA 85/90 at 700 bar.

* Holds when motor is shut-off and valve is in "advance" position.

† The PA464RA has an "automatic dump" feature. Pressure is not held when operator releases "advance" or "return" button. PA464R will "hold" only in the "advance" position with the motor shut off.

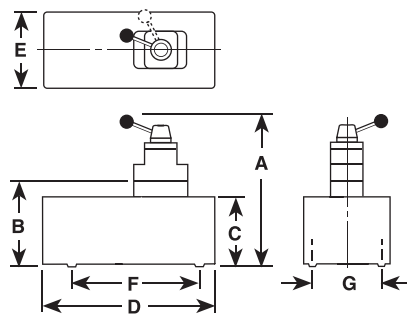
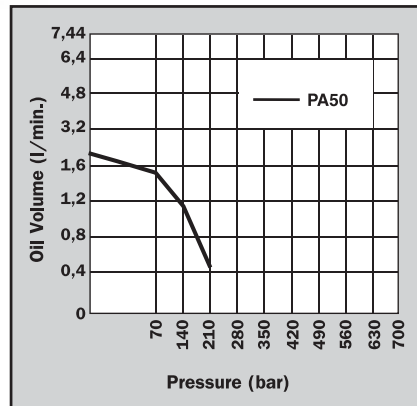
** Not to be used for lifting.

AIR PUMP

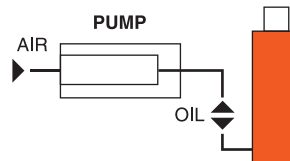
Hydraulic **PA50** Series
460 cm³/min.
Low Pressure
220 bar (3190 psi) max.

SINGLE-SPEED, LOW PRESSURE (220 BAR) OUTPUT PUMPS.

- Serviceable air motor for economical repair.
- Air inlet filter protects motor. Filter in outlet port protects against contaminated systems.
- Assorted reservoirs to suit your application's requirements.



Typical Set-up
Hook-up for single-acting cylinders



Pump No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Max. Pressure Output bar	Oil Del. * (l/min)			
									0 bar	7 bar	70 bar	220 bar
PA50, PS50R												
PA50M, PA50RM	197	149	111	241	127	—	102 x 229	220	2,05	1,76	1,41	0,45 †
PA50R2	260	203	178	292	241	—	130 x 181	220	2,05	1,76	1,41	0,45 †
PA50D	264	149	111	241	127	229	102	220	2,05	1,76	1,41	0,45 †

* Typical delivery. Actual flow will vary with field conditions.

† PA50 Series measured at 220 bar.

For use with Cyl. Type	Description	Order No.	Valve No.	Air Supply Req'd bar	Reservoir Cap. (l)	Reservoir Usable (l)	Oil Port (in)	Prod. Wt (kg)
Single-Acting	Base model pump with high density polyethylene reservoir.	PA50	—	3 - 8	1,7	1,6	3/8-NPTF	6,4
Single-Acting	PA50, except has metal reservoir.	PA50M	—	3 - 8	1,7	1,6	3/8-NPTF	7,3
Single-Acting	PA50, except has 3.7 meter 12 foot remote control.	PA50R	—	3 - 8	1,7	1,6	3/8-NPTF	8,4
Single-Acting	PA50R, except has metal reservoir.	PA50RM	—	3 - 8	1,7	1,6	3/8-NPTF	9,3
Single-Acting	PA50R, except has 7.6 liter reservoir 2 gallon reservoir.	PA50R2	—	3 - 8	7,6	7,3	3/8-NPTF	12,9
Single- and Double Acting	PA50, except designed to operate either single- or double-acting systems. Valve function: Advance/Return.	PA50D	9504, 3-way/4-way	3 - 8	1,7	1,6	3/8-NPTF	8,3

Notes: Air inlet port 1/4" NPTF. Requires 570 l/min at 7 bar (20 cfm at 100psi) shop air pressure at the pump.

INTENSIFIER

Hydraulic HB44 Series

Pressure ratio 5:1
700 bar (10,000 psi)

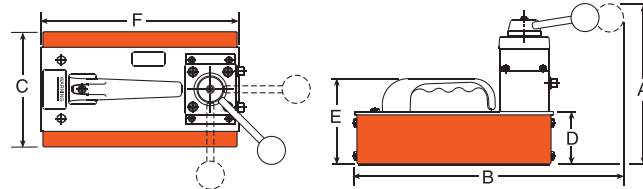
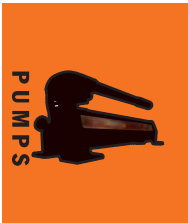
CONVERTS LOW-PRESSURE PORTABLE HYDRAULIC PUMPS OR ON-BOARD HYDRAULIC SYSTEMS, INTO HIGH PRESSURE POWER SOURCES.

- Applications include utilities, railroads, construction, riggers and others.
- Operates single- or double-acting cylinders, jacks, and tools such as crimpers, spreaders, cable cutters, or tire tools. Version for use with double-acting torque wrenches available.
- May be used to operate two separate, single-acting tools (with integral valves) independently, without need for additional manifold.
- Compact and rugged for use inside a utility vehicle aerial bucket or stowing in a vehicle.
- Control valve included. Other Power Team valves available as an option to suit your specific application, if needed; consult factory.
- No reservoir level to maintain; uses low pressure system as oil supply.
- Has 3/8" NPTF ports; compatible with standard fittings for low and high pressure systems.



HB443

700 bar



Pump No.	Output Flow at 700 bar	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Prod. Wt. (kg)
HB44-Series	0,7 l/min.	210	368	156	70	114	267	7,2

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Output Flow Valve Function	Input Flow Range (l/min)	Input Flow Pressure (bar)	Output Flow Range (l/min)
Single-Acting	Hydraulic intensifier for single-acting systems	HB443	3-Way 3-Position	9520*	Advance Hold Return	0 -38	20 - 138	0 - 9,5
Single-Acting/ Double-Acting	Hydraulic intensifier for double-acting systems	HB444	4-Way 3-Position	9506*	Advance Hold Return	0 -38	20 - 138	0 - 9,5
Double-Acting	Hydraulic intensifier for double-acting torque wrench tools	HB445-RR	4-Way 3-Position	—	Advance Hold Return	0 -38	20 - 138	0 - 9,5

† For maximum efficiency, recommended input flow is 19 l/min at a maximum pressure of 140 bar. Higher flows and/or pressures must be compensated for at the system pump (e.g., relief valve, variable flow devices, etc.).

* Posi-Check® valve design, "Posi-Check®" guards against pressure loss when valve is shifted from "advance" position to "hold" position.

ELECTRIC/ BATTERY PUMP

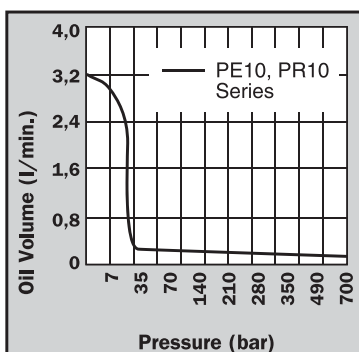
Hydraulic **PE10 Series**
Up to 25 Ton Quarter Horse®
Two-Speed
700 bar (10,000 psi)

700 bar



HIGH PERFORMANCE IN COM- PACT PACKAGE, ELECTRIC AND BATTERY POWERED MODELS FOR POWERING TOOLS AND CYLINDERS UP TO 25 TON.

- Portable power source for hydraulic cylinders, and tools.
- 0.19 kW ($\frac{1}{4}$ hp) permanent magnet motor starts easily under load, even with reduced voltage conditions.
- Battery-operated models have 2,4 m power cord with alligator clips to connect to any 12 volt battery.
- Optional rechargeable battery pack with shoulder strap for maximum portability.
- Pump typically delivers 15 minutes of continuous operation at 700 bar on a single battery.
- Pump can be operated in any position.
- 24 volt hand and foot switches available for all AC powered models.
- High-impact housing with flame-retardant construction.
- Base mounting holes for fixed installations.



For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Control Switch	Motor	Reservoir Usable Cap. (l)
Single-Acting	Base model pump with 0,19 kW motor. Bladder type reservoir.	PE102-220	2-Way/ Auto. Dump	9561	Advance Return (Auto.)*	Rocker Type off, Momentary on	0,19 kW, 220/230V 50/60 Hz, Single Phase	1
Single-Acting	Base model pump with 0,19 kW motor. Bladder type reservoir with automatic dump valve	PE102A-220	Auto. Dump	9562	Advance Return	Rocker Type off, Momentary on	0,19 kW, 220/230V 50/60 Hz, Single Phase	1
Single-Acting	PE102-220, except requires 12 volt DC.	PR102	2-Way/ Auto. Dump	9561	Advance Return (Auto.)*	Rocker Type off, Momentary on	0,19 kW, 12V†	1
Single-Acting	PE102A-220, except requires 12 volt DC.	PR102A	Auto. Dump	9562	Advance Return**	Rocker Type off, Momentary on	0,19 kW, 12V†	1
Single-Acting/ Double-Acting	Base model pump has 4-way valve for operating double-acting systems.	PE104-220	4-Way	9563	Advance Hold Return	Rocker Type off, Momentary on	0,19 kW, 220/230V 50/60 Hz, Single Phase	1
Single-Acting/ Double-Acting	PE104-220, except requires 12 volt DC.	PR104	4-Way	9563	Advance Hold Return	Rocker Type off, Momentary on	0,19 kW, 12V†	1

* "Advance" position holds pressure with motor shut off. "Return" position advances cylinder with motor running and returns cylinder with motor shut off.

** Cylinder advances with motor running and automatically returns with motor shut off.

† Comes with an 2,4 m. alligator clip cord for 12 volt DC use.

Available with 115V, 60 Hz motor (to order, remove suffix "-220" behind pump order number).



PR104

700 bar



The Quarter Horse pump has a maximum operating pressure of 700 bar, which handles a wide variety of hand held hydraulic tools.



Accessories

BP212VQ



BP212VQ – Optional 12 volt battery pack. Includes sealed lead acid battery, 115V charger, 1,2 m cord, carrying case and shoulder strap. Wt., 8 kg.

RB12V – Battery only.

BP12INT – Battery with cord and carrying case. Wt., 5 kg.

RC12V – Replacement 1,2 m battery cord only. Wt., 0,2 kg.

BC 212



BC212 – Battery charger for U.S.A. Wt., 3 kg.

BC212EUR – Battery charger for Europe. Wt., 3 kg.

25017 – Remote hand control with 3 m cord. Wt., 0,4 kg.



9560 – Pressure regulator. Adjustable from 70 to 700 bar. All mounting hardware included. Wt., 1,4 kg.



251660 – Foot switch with 3 m cord. Single pole, double throw, 15 amp @ 125-250 VAC. Wt., 0,45 kg.

Max. Pump No.	Pressure Output (bar)	dBa @ Idle and 700 (bar)	Oil Del. (l/min at..)	Overall Dimensions (mm)	Prod. Wt. with Oil (kg)
0	700				
PE10 Series	700	68-74*	1,9	0,16 330 L x 197 W x 203 H	9,1
PR10 Series					

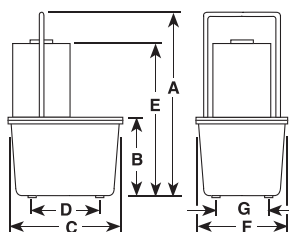
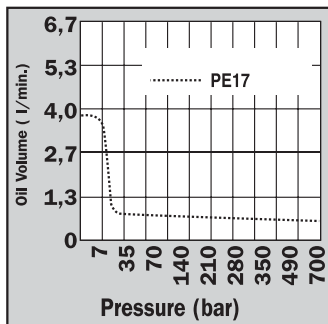
* Measured at 0,9 m distance, all sides.

NOTE: PR10 rechargeable model is equipped with 2,4 m cord with alligator clips. Order optional battery pack (No. BP212VQ) or use with any 12 volt battery.

NOTE: Amp draw at 700 bar; 3 amp at 230 volt and 35 amp at 12 volt. 6 amp at 115 volt.

ELECTRIC PUMP

Hydraulic **PE17** Series
262 cm³/min, 0,37 kW
Two-Speed
700 bar (10,000 psi)



700 bar



PE172SM



PE174

Pump No.	Max. Pressure Output bar	rpm	dBA at Idle and 700 bar	Amp Draw 220 V – at 700 bar	Oil Del. (liters./min. @) †											Prod. Wt. with Oil (kg)
					0 bar	7 bar	350 bar	700 bar	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	
PE17 Series	700	2850	67/81*	5.3	4,8	3,1	0,33	0,26	470	178	289	181	378	235	130	20,4
PE17M Series	700	2850	67/81*	5.3	4,8	3,1	0,33	0,26	460	168	292	—	368	241	—	24,0

* Measured at 0,9 m distance, all sides.

† Typical delivery. Actual flow will vary with field conditions.

Amp Draw 115V - at 700 bar: 9,5 Amps.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Control Switch ††	Motor	Reservoir Usable (l)
Single-Acting	Base model pump with 0,37 kW pump with 7,6 l thermoplastic reservoir.	PE172-50-220	2-Way	9517	Advance Return (Auto†)	Remote Motor Control (3,1m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	4,8
Single-Acting	PE172-50-220, except has 9,5 l aluminum reservoir.	PE172M-50-220	2-Way	9517	Advance Return (Auto†)	Remote Motor Control (3,1m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	6
Single-Acting	PE172-50-220, except has solenoid operated valve.	PE172S-50-220	3-Way	9570	Advance Hold Return	Remote Motor & Valve (7,6 m)	0,37 kW, 220 V* 50/60 Hz, Single Phase	4,8
Single-Acting	PE172S-50-220, except has aluminum reservoir.	PE172SM-50-220	3-Way	9570	Advance Hold Return	Remote Motor & Valve (7,6 m)	0,37 kW, 220 V* 50/60 Hz, Single Phase	6
Single-Acting	Best suited for crimping, punching, pressing. Not for lifting. Thermoplastic reservoir.	PE172A-50-220 ∞	Auto./Dump Manifold	45554	Advance Return	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	4,8
Single-Acting	PE172A, except has aluminum reservoir.	PE172AM-50-220 ∞	Auto./Dump Manifold	45554	Advance Return	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	6
Single-Acting / Double-Acting	PE172-50-220, except has 9500 double-acting valve.	PE174-50-220	4-Way	9500	Advance Hold Return**	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	4,8
Single-Acting / Double-Acting	Same as PE174-50-220, except has aluminum reservoir.	PE174M-50-220	4-Way	9500	Advance Hold Return**	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V* 50/60 Hz, Single Phase	6

* Available with 115V, 60 Hz motor (to order, remove suffix "50-220" behind pump order number).

** "Advance" position holds pressure with motor shut off.

† "Advance" position holds pressure with motor shut off. "Return" position advances cylinder with motor running and returns cylinder with motor shut off.

†† Control switch on PE17 series wired with line voltage. Not to be used for lifting.

NOTE: The remote motor control switch on 220V, 50 cycle PE17 series pumps is 24 volt.

NOTE: Usable oil is calculated with the oil fill at the recommended level of 38 mm below reservoir cover plate.

ELECTRIC PUMP

Hydraulic **PE18** Series
295 cm³/min, 0,37 kW
Two-Speed
Vanguard Jr.[®] Series
700 bar (10,000 psi)

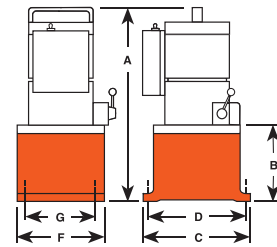
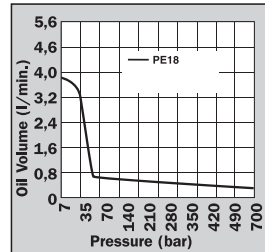


700 bar



IDEAL FOR USE WITH SMALL HYDRAULICALLY POWERED TOOLS.

- Vanguard Jr.[®] pumps provide two-speed high performance in a light-weight, compact package.
- Gauge port provided on pump. Metal reservoir on all models.
- Equipped with a 0,37 kW ($\frac{1}{2}$ hp), 12,000 rpm, 220 volt, 50 Hz single phase universal motor that starts under load, even at reduced voltage.
- Low amperage draw permits use with smaller generators and low amperage circuits.
- All pumps have a 3 m remote control (PE183C has 7,6 m remote control).
- CSA rated for intermittent duty. Noise level of 85-90 dBA.



Pump No.	Max. Pressure Output bar	rpm	dBA at Idle and 700 bar	Amp Draw 220 V at 700 bar	Oil Del. (liters./min. @) †				A (mm)	B (mm)	C (mm)	D (mm)	F (mm)	G (mm)	Prod. Wt. with Oil (kg)
PE182	700	12.000	85/90**	6.5 Amp.	3,7	3,0	0,4	0,3	406	121	203	181	152	130	13,6
PE183	700	12.000	85/90**	6.5 Amp.	3,7	3,0	0,4	0,3	406	121	203	181	152	130	13,6
PE183A	700	12.000	85/90**	6.5 Amp.	3,7	3,0	0,4	0,3	406	121	203	181	152	130	13,6
PE184	700	12.000	85/90**	6.5 Amp.	3,7	3,0	0,4	0,3	406	121	203	181	152	130	13,6
PE183-2*	700	12.000	85/90**	6.5 Amp.	3,7	3,0	0,4	0,3	470	184	292	254	241	203	19,0
PE184-2*	700	12.000	85/90**	6.5 Amp.	3,7	3,0	0,4	0,3	470	184	292	254	241	203	19,0
PE183C ††	700	12.000	85/90**	6.5 Amp.	3,7	3,0	0,4	0,3	406	121	203	181	152	130	13,6
PE184C ††	700	12.000	85/90**	6.5 Amp.	3,7	3,0	0,4	0,3	406	121	203	181	152	130	13,6

* 9,5 l reservoir.

** Measured at 0,9 m distance, all sides.

Amp Draw 115V at 700 bar: 10.2 Amps.

† Typical delivery. Actual flow will vary with field conditions.

†† Special application pumps for cutting, crimping or pressing.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve Function	Control Switch	Motor	Reservoir Usable (l)
Single-Acting	Base model pump has 0,37 kW pump with 2-Way valve and 1,9 l reservoir.	PE182-50-220	2-Way	Advance Return†	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V** 50/60 Hz, A.C., Single Phase	1,7
Single-Acting	PE182-50-220, except has 3-way valve.	PE183-50-220	3-Way	Advance Hold Return	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V** 50/60 Hz, A.C., Single Phase	1,7
Single-Acting	PE183-50-220, except has 9,5 l reservoir.	PE183-2-50-220	3-Way	Advance Hold Return	Remote Control (3,1 m)	0,37 kW, 220 V** 50/60 Hz, A.C., Single Phase	8,4††
Single-Acting	PE183-50-220, except has "dump valve".	PE183A-50-220 ∞	Auto./Dump Pump	Advance Return	Remote (3,1 m)	0,37 kW, 220 V** 50/60 Hz, A.C., Single Phase	1,7
Single-Acting	Special crimping pump.	PE183C-50-220 ∞	Special, for crimping only	Advance Hold Return	Remote Motor Control (7,6 m) on/off	0,37 kW, 220 V** 50/60 Hz, A.C., Single Phase	1,7
Single-Acting / Double-Acting	Base model pump has 0,37 kW pump for double-acting systems with 1,9 l reservoir.	PE184-50-220	4-Way	Advance Hold Return†	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V** 50/60 Hz, A.C., Single Phase	1,7
Single-Acting / Double-Acting	PE184, except with 9,5 l reservoir.	PE184-2-50-220	4-Way	Advance Hold Return†	Remote Motor Control (3,1 m) on/off	0,37 kW, 220 V** 50/60 Hz, A.C., Single Phase	8,4††
Single-Acting / Double-Acting	Special crimping pump.	PE184C-50-220*	4-Way	Advance Return	Remote Control (3,1 m) on/off	0,37 kW, 220 V** 50/60 Hz, A.C., Single Phase	1,7

* Also for use with special single-acting cylinder applications.

** Available with 115 Volt, 60 Hz motor (to order, remove suffix "50-220" behind pump order number). Specify voltage when ordering. Universal motor run on 220V/50Hz or 60Hz/Single phase.

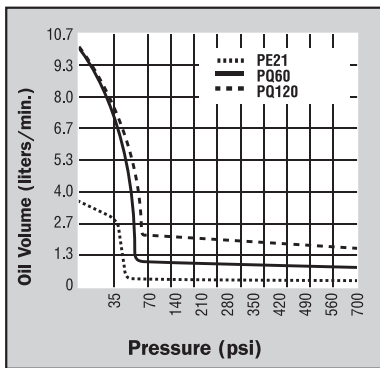
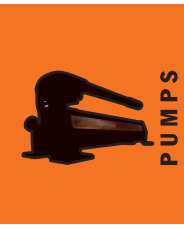
† Holds when motor is shut off and valve is in "advance" position.

†† Pumps supplied with 7,6 l oil (usable oil is 5,7 l), will hold 9,5 l when filled to within 13 mm below reservoir cover plate.

∞ Not to be used for lifting.

ELECTRIC PUMP

Hydraulic **PE21** Series
361 cm³/min, 0.75 kW
Two-Speed
700 bar (10,000 psi)



TWO-SPEED, HIGH-TORQUE FOR HEAVY-DUTY, EXTENDED-CYCLE OPERATIONS.

- Totally enclosed, fan cooled induction motor: 0,75 kW(1 hp), 1,725 rpm, 50 Hz, single phase. Thermal overload protection.
- Remote control, with 3,1 m cord is standard on pumps with solenoid valves. Manual valve pumps have "Stop", "Start" and "Run/Off/Pulse" switches. Pump controls are moisture and dust resistant.
- Motor drip cover with carrying handles and lifting lug.
- Low noise level of 70 dBA@ 700 bar.
- In the event of electrical interruption, pump shuts off and will not start up until operator presses the pump start button.
- Units with remote have a 24 volt control circuit that provides additional user/operator safety.

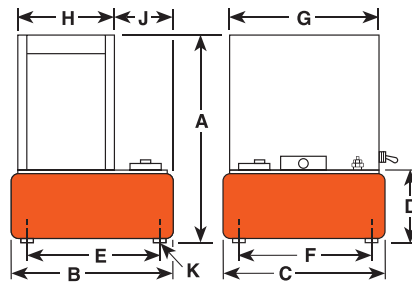


PE214

700 bar



PE214S



Pump No.	Max. Pressure Output bar	rpm	dBA at Idle and 700 bar	Oil Del. (l/min. at.)															Prod. Wt. w/Oil (kg)
				7 bar	70 bar	350 bar	700 bar	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K*** (in)		
PE21 Series	700	1.437	70*	4,4	0,5	0,4	0,36	543	292	241	165	254	203	359	241	82,6	1/2-20 UNF	44,4†	

* Measured at a 0,9 m distance, all sides.

*** For 50,8 mm dia. swivel casters, order (4) No. 10494.

† Shipping weight with manual valve; add 6,4 kg for pump with solenoid valve.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Max. Amp Draw at 700 bar	Motor	Reservoir Usable (l)
Single-Acting	0,75 KW pump with 9,5 l Reservoir and manual valve.	PE213-50-220	3-Way	9520*	Advance Hold Return	230 V - 9.5 amps	0,75 kW, 220 Volt 50 Hz, Single Phase	9.7
Single-Acting	PE213, except has solenoid operated remote valve.	PE213S-50-220	3-Way	9599†	Advance Hold Return	230 V - 9.5 amps	0,75 kW, 220 Volt 50 Hz, Single Phase	9.7
†† Single-Acting/Double-Acting	0,75 KW pump with 9,5 l Reservoir and manual valve.	PE214-50-220	4-Way	9506*	Advance Hold Return	230 V - 9.5 amps	0,75 kW, 220 Volt 50 Hz, Single Phase	9.7
Double-Acting	PE214, except has solenoid operated remote valve.	PE214S-50-220	4-Way	9512†	Advance Hold Return	230 V - 9.5 amps	0,75 kW, 220 Volt 50 Hz, Single Phase	9.7

* Manual valve. Pump is equipped with RUN/OFF/PULSE switch for control of motor.

† 24V Solenoid valve. Pump is equipped with a remote control switch with 3,1 m cord.

†† For single-acting operation, off the electric motor when manual valve in "Retract" position.

Available with 115 volt, 60Hz motor (to order, remove suffix "50-220" behind pump order number)
For 230V, 60Hz motor (change suffix to "-230")
Amp Draw 115V at 700 bar: 19 Amps.

IDEAL FOR RUNNING MULTIPLE TOOLS OR CYLINDERS FROM ONE POWER UNIT.

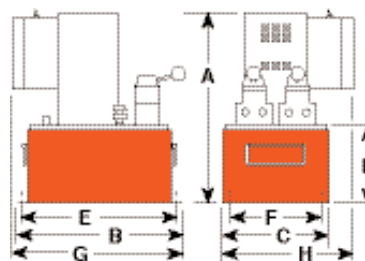
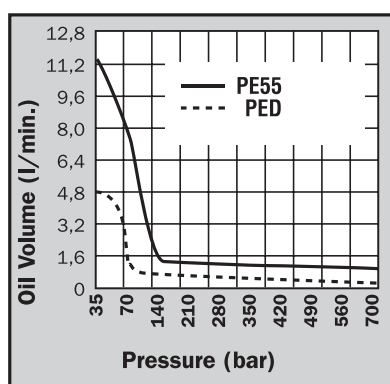
- Two-speed pumps have the same low pressure and high pressure flows from both valves.
- Flows and pressures of each pump are independent.
- Delivers 4.9 l/min. of oil @ 7 bar and 0.41 l/min. @ 700 bar from each pump.
- 1.12 kW (1½ hp), 220 volt, 50 Hz induction motor, 3m remote control and 19 l steel reservoir.
- Models available for operating single-acting or double-acting cylinders.
- Each power unit contains two separate pumps and two separate valves allowing operator to control multiple processes with one power unit.
- Both pumps on each power unit are equipped with an externally adjustable pressure relief valve.
- Not recommended for frequent starting and stopping.

ELECTRIC DUAL PUMP

Hydraulic **PED** Series
0.41 l/min., 1.12 kW
Two-Speed
700 bar (10,000 psi)

ELECTRIC HYDRAULIC DUAL PUMP

- ✓ One Electric Motor
- ✓ Two Separate Pumps
- ✓ Two Separate Valves deliver same low pressure and high pressure flows from both valves



Pump No.	Max. Pressure Output (bar)	rpm	dBA at Idle and 700 (bar)	(220V) ** Amp Draw at 700 (bar)	Oil Del. (l/min. @)				A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	Prod. Wt. w/Oil (kg)
					7 (bar)	48 (bar)	350 (bar)	700 (bar)									
PED Series	700	3,450	87/85*	15	4.9	0.66	0.57	0.41	527	457	292	216	419	229	457	330	77

* Noise level reading (dBA) measured at a 0.9m distance, all sides.

** Amp draw at 700 bar, 115 Volts 60 Hz is 22 Amps.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Control Switch	Motor	Reservoir Usable (l)
Single-Acting	1.12kW hp pump with 19 l reservoir. Valve has "Posi-Check®" feature.	PED253-50-220	3-Way	9520	Advance Hold Return	Remote Motor	1.12kW hp, 220 VAC 50 Hz, Single Phase	16.4
Double-Acting	1.12kW hp pump with 19 l reservoir. Valve has "Posi-Check®" feature.	PED254-50-220	4-Way	9506	Advance Hold Return	Remote Motor	1.12kW hp, 220 VAC 50 Hz, Single Phase	16.4
Double-Acting	PED254, except has solenoid operated remote valve.	PED254S-220	4-Way	9513	Advance Hold Return	Remote Valve	1.12kW hp, 220 VAC 50/60 Hz, Single Phase	16.4

All remotes are 3m long.

Pumps available with 115 VAC, 60 Hz Motors

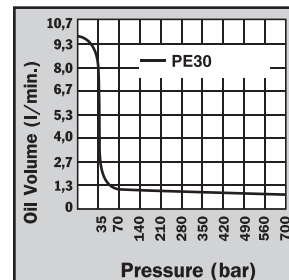
(to order, remove the -50-220 suffix from pump order number)

ELECTRIC PUMP

Hydraulic **PE30** Series
480 cm³/min, 0,75 kW
Two-Speed
Vanguard® Series
700 bar (10,000 psi)

Ideas for maintenance and construction applications

- Deliver a powerful punch to operate single-acting or double-acting cylinders.
- Integral roll cage protects pump from abuse.
- 0,75 kW (1 hp), single phase, permanent magnet motor.
- High performance to weight ratio.
- Starts under full load even when voltage is reduced to 50% of nominal rating.
- Quiet operation: 87 dBA @ 700 bar and 82 dBA @ 0 bar. CSA rated for intermittent duty.
- Remote controls and/or solenoid valves feature 24 volt controls.

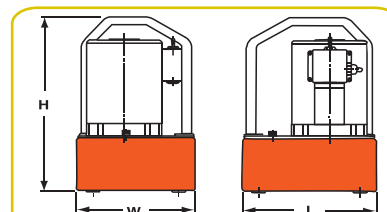


PE302

700 bar



PE302S



Pump No.	Max Pressure Output bar	Noise level at 700 bar (dBA)	Amp. Draw 220V at 700 bar (A)	Oil Del. (l/min at...)					Overall Dimensions (mm)	Prod. Wt. With Oil (kg)
				7 bar	35 bar	70 bar	350 bar	700 bar		
PE30 Series with 4,7 l res.	700	87/82	7	4,8	3,2	0,7	0,6	0,5	254L x 229W x 406H	18,6
PE30 Series with 7,6 l res.	700	87/82	7	4,8	3,2	0,7	0,6	0,5	343L x 241W x 419H	22,2

For use with Cyl.-type	Description	Order No.	Valve Type	Valve No.	Valve Function	Control Switch	Motor† (4.000 rpm)	Usable (l)
Single-act.	Base model 0,75 kW pump with 4,7 l Reservoir & 2 position valve.	PE302-220	3-Way, 2 Pos.	9584	Hold Advance Return	On/Off/ Pulse Switch	0,75 kW 220/230 VAC, 50 Hz, Single Phase	4,5**
Single-act.	PE302-220, except has 6,6 l reservoir.	PE302-2-220	3-Way, 2 Pos.	9584	Hold Advance Return	On/Off/ Pulse Switch	0,75 kW 220/230 VAC, 50 Hz, Single Phase	6,1***
Single-act.	PE302-220, except has remote motor control.	PE302R-220	3-Way, 2 Pos.	9584	Hold Advance Return	Remote Motor Control (3,1 m)	0,75 kW 220/230 VAC, 50 Hz, Single Phase	4,5**
Single-act.	PE302R-220, except has 6,6 l reservoir.	PE302R-2-220	3-Way, 2 Pos.	9584	Hold Advance Return	Remote Motor Control (3,1 m)	0,75 kW 220/230 VAC, 50 Hz, Single Phase	6,1***
Single-act.	PE302R-220, except also has solenoid operated remote valve.	PE302S-220	3-Way, 2 Pos.	9570	Hold Advance Return	Remote Motor & Valve (3,1 m)	0,75 kW 220/230 VAC, 50 Hz, Single Phase	4,5**
Single-act.	PE302S-220, except has 6,6 l reservoir.	PE302S-2-220	3-Way, 2 Pos.	9570	Hold Advance Return	Remote Motor & Valve (3,1 m)	0,75 kW 220/230 VAC, 50 Hz, Single Phase	6,1***
Single-act.	PE302-220, except has "Auto Dump" valve	PE302A-220	Auto Dump	9610	Automatic Pilot Operation	Remote Motor Control (3,1 m)	0,75 kW 220/230 VAC, 50 Hz, Single Phase	4,5**
Single-act.	Base model 0,75 kW pump with 4,7 l Reservoir & 3 position valve.	PE303-220	3-Way, 3 Pos.	9520*	Advance Hold Return	On/Off/ Pulse Switch	0,75 kW 220/230 VAC, 50 Hz, Single Phase	4,5**
Single-act.	PE303-220, except has 6,6 l reservoir.	PE303-2-220	3-Way, 3 Pos.	9520*	Advance Hold Return	On/Off/ Pulse Switch	0,75 kW 220/230 VAC, 50 Hz, Single Phase	6,1***
Single-act.	PE303-220, except has remote motor control.	PE303R-220	3-Way, 3 Pos.	9520*	Advance Hold Return	Remote Motor Control (3,1 m)	0,75 kW 220/230 VAC, 50 Hz, Single Phase	4,5**
Single-act.	PE303R, except has 6,6 l reservoir.	PE303R-2-220	3-Way, 3 Pos.	9520*	Advance Hold Return	Remote Motor Control (3,1 m)	0,75 kW 220/230 VAC, 50 Hz, Single Phase	6,1***
Double-act.	Base model 0,75 kW pump with 4,7 l Reservoir & 4-way valve for double-acting systems	PE304-220	4-Way, 3 Pos. Tandem Ctr.	9506*	Advance Hold Return	On/Off/ Pulse Switch	0,75 kW 220/230 VAC, 50 Hz, Single Phase	4,5**
Double-act.	PE304-220, except has 6,6 l reservoir.	PE304-2-220	4-Way, 3 Pos. Tandem Ctr.	9506*	Advance Hold Return	On/Off/ Pulse Switch	0,75 kW 220/230 VAC, 50 Hz, Single Phase	6,1***
Double-act.	PE304-220, except has remote motor control.	PE304R-220	4-Way, 3 Pos. Tandem Ctr.	9506*	Advance Hold Return	Remote Motor Control (3,1 m)	0,75 kW 220/230 VAC, 50 Hz, Single Phase	4,5**
Double-act.	PE304R-220, except has 6,6 l reservoir.	PE304R-2-220	4-Way, 3 Pos. Tandem Ctr.	9506*	Advance Hold Return	Remote Motor Control (3,1 m)	0,75 kW 220/230 VAC, 50 Hz, Single Phase	6,1***

* "Posi-Check®" valve design, "Posi-Check®" guards against pressure loss when valve is shifted from "advance" to "hold" position.

** Shipped with 3,8 l of oil (3,4 l usable).

*** Shipped with 7,6 l of oil.

∞ Not to be used for lifting. Best suited for crimping, pressing & punching applications.

† Available with 115V, 60Hz motor (to order, remove suffix "-220" behind pump order number)

ELECTRIC PUMP

Hydraulic **PE46** Series
0.75 l/min, 1,12 kW
Two-Speed
700 bar (10,000 psi)



PE462S

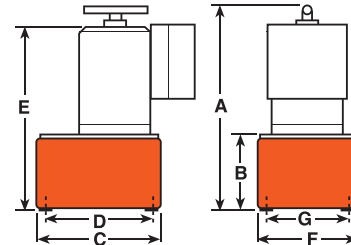
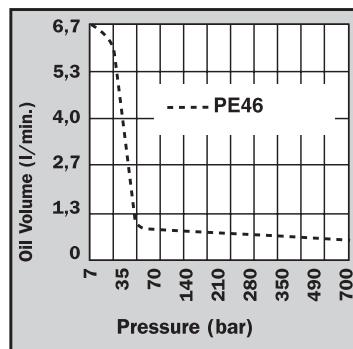


PE464

700 bar



- BEST SUITED FOR UNDER THE ROOF MAINTENANCE AND PRODUCTION APPLICATIONS.**
- Two-speed high performance pump.
 - For use with single- or double-acting cylinders at operating pressures up to 700 bar.
 - Equipped with a 1.12 kW (1½ hp) 3,450 rpm single-phase, 50 Hz thermal protected induction motor that starts under full load. Noise level of 77-81 dBA.
 - All equipped with a 3,1 m remote control except PE462S which has a 7,6 m remote control.
 - 24 volt control circuit on all units with remote control.
 - CSA rated for intermittent duty.



Pump No.	Max. Pressure Output bar	rpm	Noise level at Idle and 700 bar (dBA)	Amp Draw 220 V - at 700 bar (A)	Oil Del. (l/min. at...) [†]				Dimensions (mm)							Prod. Wt. w/Oil (kg)
					0 bar	7 bar	350 bar	700 bar	A	B	C	D	E	F	G	
PE46-Series	700	2.875	77/81	11.6	8,2	7,4	0,8	0,75	499	173	292	254	378	241	203	35,8

* Measured at 0,9 m distance, all sides.

Amp Draw 115V at 700 bar: 25 Amps.

† Typical delivery. Actual flow will vary with field conditions.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Control Switch ^{†††}	Motor	Reservoir Usable ^{***} (l)
Single-Acting	Base model 1,12 kW pump with 9,5 l metal reservoir.	PE462-50-220	3-Way	9584	Advance Return [†]	Remote Motor Control (3,1 m) on/off	1,12 kW, 220 VAC* 50 Hz, Single Phase	9,7
Single-Acting	PE462-50-220, except has solenoid valve.	PE462S-50-220	3-Way	9570	Advance Return**	Remote Motor/Valve (7,6 m)	1,12 kW, 220 VAC* 50 Hz, Single Phase	9,7
Single-Acting	PE462-50-220, except has "dump valve"	PE462A-50-220 [∞]	Auto/Dump 3-Way	9610	Advance Return	Remote Motor Control (3,1 m) on/off	1,12 kW, 220 VAC* 50 Hz, Single Phase	9,7
†† Single-Acting/Double-Acting	PE462-50-220, except has 9500 double-acting valve.	PE464-50-220	4-Way	9500	Advance Hold Return [†]	Remote Motor Control (3,1 m) on/off	1,12 kW, 220 VAC* 50 Hz, Single Phase	9,7
Double-Acting	PE462S-50-220, except has 9592 double-acting valve.	PE464S-50-220	3/4-Way	9552	Advance Return**	Remote Motor/Valve (3,1m)	1,12 kW, 220 VAC* 50 Hz, Single Phase	9,7

* Available with 115 V, 60 Hz motor (to order, remove suffix "50-220" behind pump order number). Specify voltage when ordering. For 230V, 60 Hz motor (to order, change suffix to "230" behind pump order number).

** "Advance" position holds pressure with motor shut off.

*** Usable oil is calculated with the oil fill at the recommended level of 13 mm below reservoir cover plate.

† "Advance" position holds pressure with motor shut off.

"Return" position returns cylinder.

†† For single-acting operation, off the electric motor when manual valve in "Retract" position.

††† The remote motor control switch on PE46 series pumps is 24 volt.

∞ Not to be used for lifting. When pump is shut off, oil returns to reservoir.

ELECTRIC PUMP

Hydraulic **PE55** Vanguard®

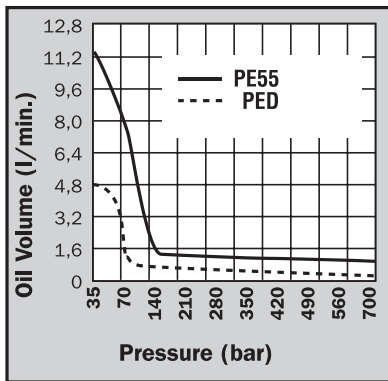
0,92 l/min, 0,84 kW

Two-Speed

700 bar (10,000 psi)

HEAVY DUTY MULTIPLE-APPLICATIONS PUMP. HEAVY CONSTRUCTION AND CONCRETE STRESSING. LOW VOLTAGE STARTING POSSIBLE.

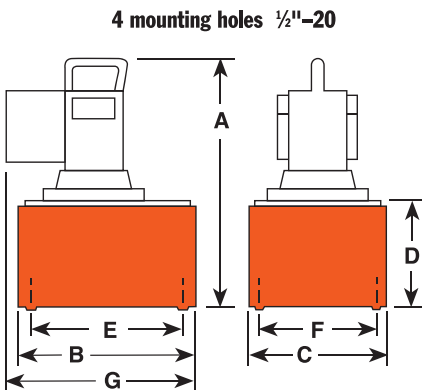
- 0,84 kW (1 1/8 hp), 12,000 rpm, 220 volt, 50 Hz universal motor; draws 15 amps at full load, starts at reduced voltage. CSA rated for intermittent duty.
- 3,1 m remote motor control (except PE552S which has a 7,6 m remote motor and valve control).
- True unloading valve achieves greater pump efficiency, allowing higher flows at maximum pressure.
- Reservoirs available in sizes up to 38 liters. Consult factory.
- Light weight and portable. Best weight to performance ratio of all Power Team pumps.
- "Assemble to Order" System: There are times when a custom pump is required. Power Team's "Assemble to Order" system allows you to choose from a wide range of pre-engineered, off-the-shelf components to build a customized pump to fit specific requirements. By selecting standard components you get a "customized" pump without "customized" prices. All pumps come fully assembled, less oil and ready for work.



PE554W
Weather-resistant pump



PE55TWP
Torque Wrench
Applications



PE554
Heavy duty pump

700 bar

Pump No.	Max. Pressure Output bar	rpm	Noise level Idle and at 700 bar (dBA)	Amp Draw at 700 bar (220 V.) (A)	Oil Del. (l/min at...)				Dimensions (mm)							Prod. Wt. w/Oil (kg)
					0 bar	50 bar	350 bar	700 bar	A	B	C	D	E	F	G	
PE55-Series	700	12,000	90/89*	15	11,5	7,2	1,2	0,92	464	292	241	178	254	203	356	29,4

*Noise level reading (dBA) measured at a 0,9 m distance, all sides.

Amp draw at 700 bar, 115 volts 60 Hz is 25 Amps.

ELECTRIC PUMP

Hydraulic **PE55** Vanguard®

0,92 l/min, 0,84 kW

Two-Speed

700 bar (10,000 psi)



PE554S



PE554PT



PE552

700 bar



For use with Cyl. Type	Description	Order No.***	Reservoir Valve Type	Valve No.	Valve Function	Control Switch ††	Motor	Usable (l)
Single-Acting	Base model 0,84 kW pump with 9,5 l reservoir, remote motor control & 3-way valve.	PE552-50-220	3-Way	9582	Advance Return**	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting	PE552-50-220, except also has solenoid operated remote valve.	PE552S-50-220	3-Way	9570	Advance Hold Return	Remote Motor & Valve	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting	PE552-50-220, except has "Auto Dump" valve.	PE552A-50-220 ∞	Auto/Dump	9610	Advance Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting	0,84 kW pump with 9,5 l reservoir. Valve has "Posi-check" feature.	PE553-50-220	3-Way†	9520	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting/ Double-Acting	Base model 0,84 kW pump with 9,5 l res. and 4-way valve for double-acting systems.	PE554-50-220	4-Way†	9506	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting/ Double-Acting	PE554-50-220, except has 9500 tandem center valve.	PE554T-50-220	4-Way	9500	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting/ Double-Acting	For use with single-acting Spring Seat, Stressing Jack or double-acting cylinder.	PE554P-50-220	4-Way	9500	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Double-Acting	For use with single- or double-acting Power Seat, Stressing Jacks ONLY.	PE554PT-50-220	4-Way	9628	Advance Hold Sequenced Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Double-Acting	Pump suitable to run multiple spring return tools	PE554C-50-220	4-Way	9511†††	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Double-Acting	Pump equipped with 3/4-way solenoid valve.	PE554S-50-220	3/4-Way	9552	Advance Hold Return	Remote Motor & Valve	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6
Single-Acting/ Double-Acting	Same as PE554-50-220, except with weather protection enclosure	PE554W-50-220	4-Way†	9506	Advance Hold Return	Remote Motor	0,84 kW*, 220 VAC 50Hz, Single Phase	8,6

* Pumps available with 115 volt, 60 Hz motors. (to order remove the -50-220 suffix from the order code).

** Holds with motor shut off.

*** To order PE55 series pumps with CSA approval, add "-C" to the Order No.

† Valves have "Posi-Check"™ feature.

Universal motor run on 220V/50Hz or 60Hz/Single phase.

†† Control switch wired with line voltage. All remotes are 3,1m long except for PE552S which is 7,6m long.

††† Valving allows alternate and independent operation of two different spring return tools. Valve holds pressure only while valve is in "A" or "B" port position with pump motor shut off.

∞ Not to be used for lifting.

ELECTRIC PUMP

Hydraulic **PQ60** Series
0,98 l/min, 1,49 kW
Two-Speed
700 bar (10,000 psi)

PUMP DESIGNED SPECIFICALLY FOR HEAVY DUTY, EXTENDED CYCLE OPERATION.

- For operating single- or double-acting cylinders.
- Metal shroud keeps dirt and moisture out of motor and electrical components.
- Electrical shut-down feature prevents unintentional restarting of motor following an electrical service interruption.
- Internal relief valve limits pressure to 700 bar. External relief valve is adjustable from 70 to 700 bar.
- Pumps operate below maximum OSHA noise limitation (74-76 dBA).
- Start and operate under full load, even with voltage reduced 10%.
- Equipped with a 1.49 kW (2 hp), 1,725rpm, single-phase, 50Hz induction motor.



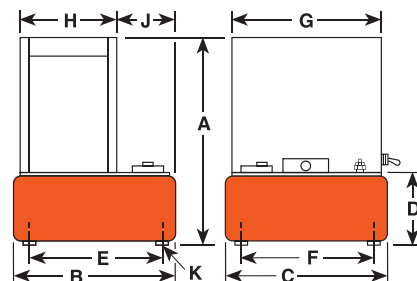
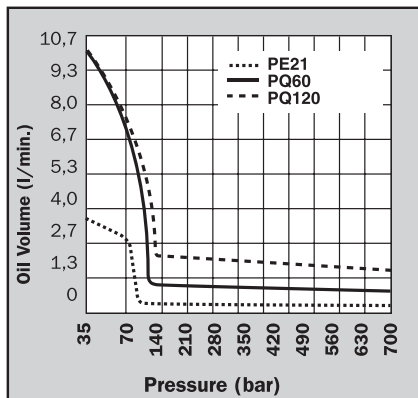
PQ603



700 bar

SP
LR19814

PQ604S



Pump No.	Max. Pressure	rpm	Noise level at Idle and 700 bar (dBA)	Amp Draw at 700 bar (A)	Oil Del. (l/min at...)														Prod. Wt. w/Oil (kg)
	Output bar			7 bar	70 bar	350 bar	700 bar	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K*** (in)		
PQ60 Series	700	1.437	74/76*	See below	12,0	1,1	1,1	0,98	638	362	394	184	308	338	373	237	122,2	1 1/2-20 UNF	76,6**

Amp draw 220V at 700 bar: 11 Amps.

Amp draw 115V at 700 bar: 22 Amps.

* Measured at a 0,9 m distance, all sides.

*** For 50,8 mm dia. swivel casters, order (4) No. 10494.

** Total weight with oil and 3-way solenoid valve. Subtract 4,5 kg to obtain weight of pump with manual valve.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Max. Amp Draw at 700 bar (A)	Motor	Reservoir Usable (l)
Single-Acting	1,49 kW pump with 21,6 l reservoir and manual valve,	PQ603-50-220	3-Way	9520*	Advance Hold Return	230V - 11 amps	1,49 kW, 220 Volt 50 Hz, Single phase	20
Single-Acting	PQ603-50-220, except has solenoid operated remote valve.	PQ603S-50-220	3-Way	9599†	Advance Hold Return	230V - 11 amps	1,49 kW, 220 Volt 50 Hz, Single phase	20
†† Single-Acting Double-Acting	1,49 kW pump with 21,6 l reservoir and manual valve.	PQ604-50-220	4-Way	9506*	Advance Hold Return	230V - 11 amps	1,49 kW, 220 Volt 50 Hz, Single phase	20
Double-Acting	PQ604-50-220, except has solenoid operated remote valve.	PQ604S-50-220	4-Way	9512†	Advance Hold Return	230V - 11 amps	1,49 kW, 220 Volt 50 Hz, Single phase	20

* Manual valve. Pump is equipped with RUN/OFF/PULSE switch for control of motor.

† 24V Solenoid valve. Pump is equipped with a remote control switch with 3,1 m cord.

†† For single-acting operation, off the electric motor when manual valve in "Retract" position.

Available with 230 Volt, 60Hz motor (to order, remove suffix "-50-220" behind pump order number)

Available with 115 Volt, 60Hz motor (to order, remove suffix "-50-220" & add "-115" behind pump order number)

ELECTRIC PUMP

Hydraulic **PQ120** Series
2,0 l/min, 2,24 kW
Two-Speed
700 bar (10,000 psi)



PQ1203

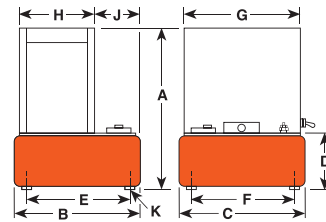
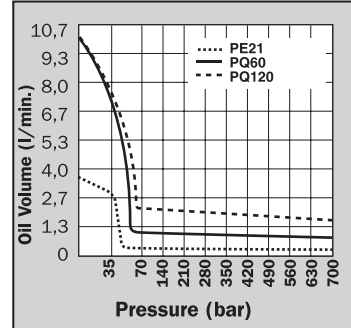
TWO-SPEED, HIGH TORQUE PUMP DESIGNED SPECIFICALLY FOR HEAVY DUTY, EXTENDED CYCLE OPERATION. IDEAL FOR PRESS OPERATION.

- Start and operate under full load, even with voltage reduced 10%.
- Electrical shut-down feature prevents unintentional restarting of motor following an electrical service interruption.
- Internal relief valve limits pressure to 700 bar. External relief valve is adjustable from 70 to 700 bar.
- Pump prewired at factory with a 2,24 kW (3 hp), 1,725rpm, 380 volt, 50 Hz. 3 Phase induction motor. Other electrical configurations are available. See ordering information below.
- 24 volt control circuits on units with remote controls for added user/operator safety.
- 2,24 kW (3 phase) motor with thermal overload protection. Motor starter and heater element supplied as standard equipment; no hidden charges!
- Metal shroud keeps dirt and moisture out of motor and electrical components.
- Pumps operate below maximum OSHA noise limitation.



PQ1204S

700 bar



Pump No.	Max. Pressure Output	rpm	Noise level at Idle and 700 bar	Amp Draw at 700 bar (A)	Oil DeL (l/min at...)															Prod. Wt. w/Oil (kg)
	bar		dBA	7 bar	70 bar	350 bar	700 bar	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K*** (in)			
PQ120-Series	700	1.437	73/78*	See below	12,0	2,6	2,1	2,0	638	362	394	184	308	338	373	237	122,2	1/2-20 UNF	74,3**	

* Measured at a 0,9 m distance, all sides.

** Total weight with oil and 3-way solenoid valve. Subtract 4,5 kg to obtain weight of pump with manual valve.

*** For 50,8 mm dia. swivel casters, order (4) No. 10494.

Amp draw 230V at 700 bar: 10.5 Amps.

Amp draw 460V at 700 bar: 5.3 Amps.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Motor	Reservoir Usable (l)
Single-Acting	2,24 kW pump with 21,6 l reservoir and manual valve.	PQ1203-50-380	3-Way	9520*	Advance Hold Return	2,24 kW, 380 Volt 50 Hz, 3 Phase	20
Single-Acting	PQ1203-50-380, except has solenoid operated remote valve.	PQ1203S-50-380	3-Way	9599†	Advance Hold Return	2,24 kW, 380 Volt 50 Hz, 3 Phase	20
†† Single-Acting/Double-Acting	2,24 kW pump with 21,6 l reservoir and manual valve.	PQ1204-50-380	4-Way	9506*	Advance Hold Return	2,24 kW, 380 Volt 50 Hz, 3 Phase	20
Double-Acting	PQ1204-50-380, except has solenoid operated remote valve.	PQ1204S-50-380	4-Way	9512†	Advance Hold Return	2,24 kW, 380 Volt 50 Hz, 3 Phase	20

* Manual valve. Pump is equipped with RUN/OFF/PULSE switch for control of motor.

† 24V Solenoid valve. Pump is equipped with a remote control switch with 3,1 m cord.

†† For single-acting operation, off the electric motor when manual valve in "Retract" position.

Available with 460 Volt, 60Hz, 3 phase motors (to order, remove suffix "50-380" behind pump order number), suitable for 440V, 50Hz, 3 phase
For 230 Volt, 60Hz, 3 phase motors (to order, change suffix to "230" behind pump order number)
380V/50Hz/3 phase also suitable for 415V/50Hz/3 phase.

ELECTRIC PUMP

Hydraulic PE400 Series

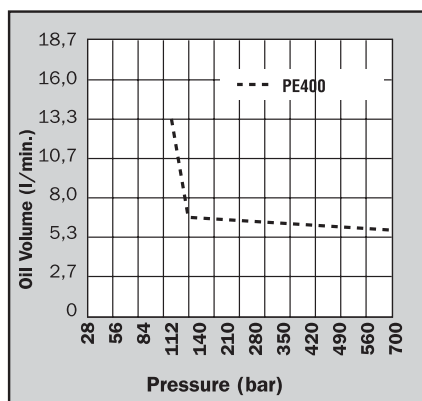
6,9 l/min, 7,46 kW

Two-Speed

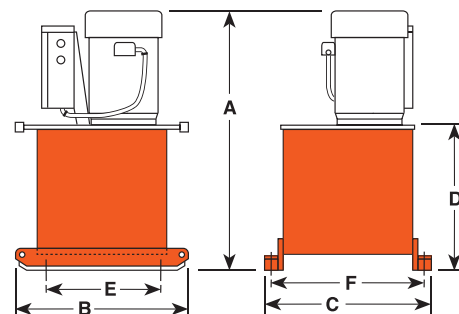
700 bar (10,000 psi)

HIGH TONNAGE DOUBLE-ACTING CYLINDERS – SINGLE OR MULTIPLE CYLINDER APPLICATIONS. UP TO 1,000 TONS

- Two-speed high output pump delivers up to 20 l/min of oil.
- Low noise level of 73-80 dBA.
- Integral electrical shut-down feature prevents unintentional restarting of motor following an electrical service interruption. Over-current protection prevents damage to motor as a result of overheating.
- "Stop" and "Start" control buttons are 24 volt. PE4004 has a 4-way/3-position manual valve. The PE4004S has a 4-way/3-position solenoid valve with a 24 volt remote hand switch.
- External pressure relief valve is adjustable from 100 to 700 bar.
- Heavy duty 101,6mm dia. casters assure easy maneuvering.
- 75,7 l (64,4 l usable) reservoir has a low oil level sight gauge.
- Powered by a dual voltage 7,46 kW (10 hp), 3 phase, 1,725rpm induction motor.
- 3 phase motor has all the electrical components necessary to operate the pump. The customer has no hidden charges when making purchase.
- Deliver 20 l/min. of oil at 15 bar, 6,9 l/min. of oil at 700 bar.



PE4004S
700 bar



Pump No.	Max. Pressure Output bar	rpm	Noise level at Idle and 700 bar (dBA)	Amp Draw at 700 bar (A)	Oil Del. (l/min at...)				A* (mm)				E Caster Mfg. (mm)	F Caster Mfg. (mm)	Prod. Wt. w/Oil (kg)
					15 bar	90 bar	350 bar	700 bar	B (mm)	C (mm)	D (mm)				
PE4004-50-380	700	1.437	73/80	See below	20	19,7	7,4	6,9	924	635	610	540	394	546	223
PE4004S-50-380	700	1.437	73/80		20	19,7	7,4	6,9	924	635	610	540	394	546	229

* Add 127mm and 3,6 kg when casters are mounted. (Units are supplied with four 102 mm dia. swivel casters.)

Amp draw 230V at 700 bar: 34 Amps.

Amp draw 460V at 700 bar: 17 Amps.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Motor††	Reservoir Usable (l)
††† Single-Acting/Double-Acting	7,46 kW pump with 75,5 l reservoir and manual valve.	PE4004-50-380	4-Way	9506	Advance Hold Return	7,46 kW, 380 volt 50 Hz, 3 Phase	64,4†
Double-Acting	PE4004, except has solenoid operated remote valve.	PE4004S-50-380	4-Way	9512*	Advance Hold Return	7,46 kW, 380 volt 50 Hz, 3 Phase	64,4†

* 24V Solenoid valve with remote control.

† Usable oil is calculated with oil fill at recommended level at 57 mm below cover plate.

380V/50Hz/3 phase also suitable for 415V/50Hz/3 phase.

†† PE400 series also available in 230V, 60Hz and 460V, 60Hz. Please specify when ordering. Example: 460V, 60Hz order PE4004 (also suitable for 440V, 50Hz, 3 phase) or for 230V, 60Hz order PE4004-230.

††† For single-acting operation, off the electric motor when manual valve in "Retract" position.

NOTE: Valves for spring return cylinders are available upon request. Consult factory.

GASOLINE PUMP

Hydraulic **PG30/55** Series
0,5 to 0,9 l/min, 1,49 & 4,5 kW
Two-Speed
Gasoline driven
700 bar (10,000 psi)



PG303



PG554

700 bar

GASOLINE POWER SUPPLY IDEAL FOR REMOTE LOCATIONS.

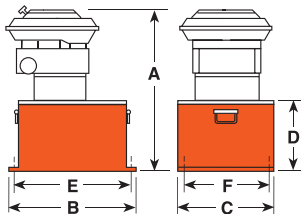
- A logical choice at work sites where electricity or compressed air are unavailable. For single-acting or double-acting cylinders at operating pressures up to 700 bar.
- All gasoline engine/hydraulic pumps feature "Posi-Check®" valve to guard against pressure loss when valve is shifted from "advance" to "hold".

PG303 and PG304

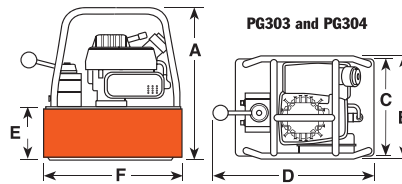
- Powered by a 4-cycle, 1.49 kW (2 hp) HONDA engine giving it the lowest weight to horsepower ratio of all gasoline driven pumps. Has an aluminum reservoir with 6 l of usable oil.
- PG30 series pumps are equipped with roll cages to protect pump from damage.
- PG30 series pumps weigh in at only 14,5 kg with oil.

PG553 and PG554

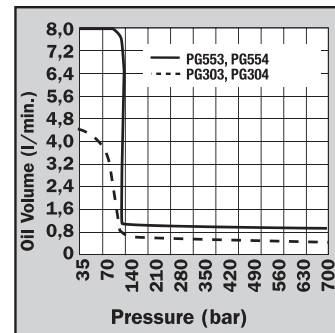
- 4.5 kW (6 hp) Intek "Diamond Edge" 4-cycle, by Briggs & Stratton 21,3 l reservoir.
- Same basic pump as PG55 series electrical Vanguard® pumps.



PG553 and PG554



PG303 and PG304



Pump No.	Max. Pressure Output bar	rpm	Oil Del. (l/min at...)										Prod. Wt. w/Oil (kg)
			7 bar	70 bar	350 bar	700 bar	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	
PG303, PG304	700	8,000	4,5*	0,6	0,6	0,5	378	264	241	406	130	343	14,5
PG553, PG554	700	3,600	7,9	1,2	1,1	0,9	559	457	318	219	422	229	54,4

* First stage oil delivery from 0-28 bar at 3,7 l/min minimum.

For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Reservoir Usable (l)	Horsepower (hp)	Cycle
Single-Acting	1.49 kW pump with 7,6 l reservoir and single-acting valve.	PG303	3-Way	9520	Advance Hold Return	6	2	4
Single-Acting	4.5 kW pump with 21,6 l reservoir and single-acting valve.	PG553	3-Way	9520	Advance Hold Return	21,3**	6	4
Double-Acting	PG303, except has double-acting valve.	PG304	4-Way	9506	Advance Hold Return	6	2	4
Double-Acting	PG553, except has double-acting valve.	PG554	4-Way	9506	Advance Hold Return	21,3**	6	4

** Usable oil is calculated with oil fill at recommended level at 13 mm below cover plate.

GASOLINE PUMP

PG120 - PG400 Series

2,1 - 6,6 l/min, 4,1 - 14,9 kW

Two-Speed

Maximum Output

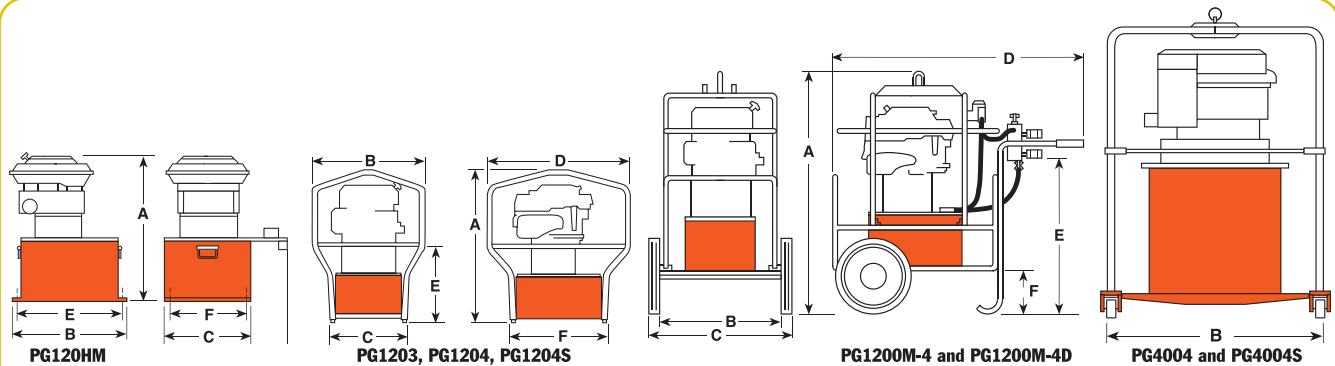
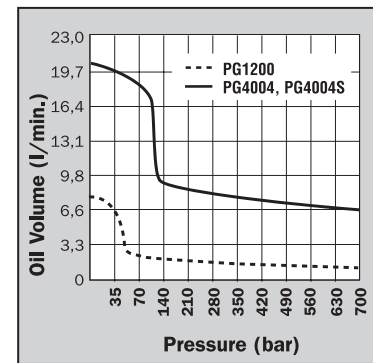
Gas-Powered Pumps

700 bar (10,000 psi)

LARGE RESERVOIR CAPACITY ROLL CAGE EQUIPPED.

PG120 FOR UP TO 300 TON CYLINDERS. PG400 FOR UP TO 1,000 TON CYLINDERS

- Two-speed high performance pumps ideal for construction, structure moving and rigging applications.
- A logical choice at work sites where electricity or compressed air are unavailable. For single-acting or double-acting cylinders at operating pressures up to 700 bar.
- All gasoline engine/hydraulic pumps feature "Posi-Check®" valve to guard against pressure loss when valve is shifted from "advance" to "hold".
- PG1200 Series pumps powered by a Honda 4-cycle, 4.1 kW (5.5 hp) engine with automatic decompression and electronic ignition. Deliver over 2,1 l/min at 700 bar.
- A 19 liter 5 gallon reservoir means adequate capacity for multi-cylinder applications. Dual element air cleaner protects engine from dusty environments.
- Heavy duty "roll cage" provides pick-up points for lifting. Horizontal bars on PG1203, PG1204 and PG1204S protect unit, provide hand holds for carrying.
- Rubber anti-skid insulation on bottom of reservoir resists skidding and dampens vibration. PG1200M-4 and PG1200M-4D include a pump cart with 305 mm wheels.
- Adjustable external pressure regulator.



Pump No.	Max. Pressure Output bar	rpm	Oil Del. (l/min at...)				A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Prod. Wt. w/Oil (kg)
			7 bar	70 bar	350 bar	700 bar							
PG120HM	700	3,600	7,9	2,8	2,4	2,1	584	394	362	483	338	308	68
PG1203	700	3,600	7,9	2,8	2,4	2,1	708	514	362	667	343	464	70
PG1204	700	3,600	7,9	2,8	2,4	2,1	708	514	362	667	343	464	70
PG1204S	700	3,600	7,9	2,8	2,4	2,1	708	514	362	667	343	464	73
PG1200M-4	700	3,600	7,9	2,8	2,4	2,1	1070	457	635	1080	667	184	118
PG1200M-4D	700	3,600	7,9	2,8	2,4	2,1	1070	457	635	1080	667	184	127
PG4004	700	3,600	20,3	18,4	7,8	6,6	1276	1321	1321	—	—	—	197
PG4004S	700	3,600	20,3	18,4	7,8	6,6	1276	1321	1321	—	—	—	200



PG1204S



PG1200M-4D

PG1200M-4

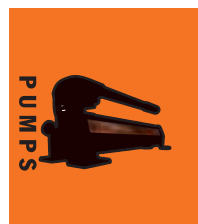
- For single-acting cylinders. Has 9520 3-way/3-position (tandem center) valve, 9596 load lowering valve and 9644 4-port manifold with individual needle valves at each port.
- Has a 9796 coupler and 9797 dust cap at each port. Valving permits precise individual control of up to four cylinders.
- A 9052 heavy duty, fluid filled pressure gauge (0-700 bar) is included.

PG1200M-4D

- For single- or double-acting cylinders with precise individual control of up to four cylinders possible.
- Equipped same as PG1200M-4, except has 9506 4-way/3-position (tandem center) valve, and second 4-port manifold without needle valves mounted beneath 9644 manifold for operating double-acting cylinders.

PG400 Series Maximum output Hydraulic Power Package

- Ideal for single or multiple cylinder applications. Has a 4-cycle, 14,9 kW (20 hp) Honda engine and 76 l reservoir (64,4 l usable) with low oil level sight gauge.
- Steel "roll cage" protects pump, has a lifting hook; 102 mm dia. swivel casters provide mobility.
- Delivers 6,6 l/min of oil at maximum operating pressure.
- Has a 9506 4-way valve. On/off switch and speed control are protected by a panel. Sturdy molded case protects battery (not included).



For use with Cyl. Type	Description	Order No.	Valve Type	Valve No.	Valve Function	Reservoir Usable (l)	Horsepower (hp)	Cycle
Single-Acting	Base model 4.1 kW gasoline pump with 22 l reservoir.	PG1203	3-Way	9520	Advance Hold Return	21,3	5.5	4
Single-Acting	PG1203 with cart, rollcage, load lowering valve, 4 port manifold & gauge.	PG1200M-4	3-Way Manifold	9520 9644	Advance Hold Return**	21,3	5.5	4
Single-Acting/ Double-Acting	PG1200M-4D, except without "Roll Cage" and cart. Ideal for house moving industry.	PG120HM	4-Way Manifold	9506 9642 (2 nos.)	Advance Hold Return**	21,3	5.5	4
Double-Acting	Base model 4.1 kW gasoline pump, with 22 l reservoir and double-acting valve.	PG1204	4-Way	9506	Advance Hold Return	21,3	5.5	4
Double-Acting	PG1204, except has roll cage, cart, solenoid valve and 7,6 m cord.	PG1204S	4-Way Solenoid***	9516	Advance Hold Return	21,3	5.5	4
Single-Acting/ Double-Acting	PG1200M-4, except for double-acting systems.	PG1200M-4D	4-Way Manifold	9506 9644	Advance Hold Return**	21,3	5.5	4
Double-Acting	Base model 14,9 kW pump with 76 l reservoir.	PG4004	4-Way	9506	Advance Hold Return	64,4*	20	4
Double-Acting	PG4004, except has solenoid operated remote valve.	PG4004S	4-Way Solenoid***	9516	Advance Hold Return	64,4*	20	4

* Usable oil is calculated with oil fill at recommended level at 57 mm below cover plate.

** Control up to 4 cylinders independently.

*** Has 7,6 m remote control cord.

HYDRAULIC PUMP

Accessories



25017
202777
202778
304718



203225



10461



251660



309652
309653



209593



17627
216209



ON/OFF MOTOR CONTROL

The following remote control switches will give you momentary "ON" control of your hydraulic pump. These switches are deadman type, spring loaded to the "OFF" position. They can be used with any Power Team electric hydraulic pumps.

No. 25017 - Remote hand control. Has a push button switch, with a 3,1 m cord. Wt., 0,4 kg.

No. 203225 - Remote hand control. Heavy-duty with single push button switch in a neoprene housing with 3,1 m cord. Housing seals out dust, lint and liquids (unit is not submersible). Wt., 0,4 kg.

No. 10461 - Remote foot control, with 3,1 m cord. Wt., 1,4 kg.

No. 251660 - Remote foot control, with 3,1 m cord. For use with the PE10 style pumps. Wt., 0,4 kg.

SOLENOID & MOTOR CONTROL

For use on solenoid valves that are used on single-acting cylinders:

No. 202777 - Remote hand control. Has rocker style switch that is momentary advance, spring center hold and detented retract. It comes with a 3,1 m cord, for use with 3-way/2 or 3-position valves. Wt., 0,4 kg. For use on solenoid valves that are used on double-acting cylinders:

No. 202778 - Remote hand control. Has rocker style switch that is momentary advance, spring center hold and momentary retract. It comes with a 3,1 m cord, for use with 4-way/3-position valves. Wt., 0,4 kg.

No. 309653 - Remote foot control. Can be used in place of either of the above hand controls to control the same type of valves. The switch is momentary on both the advance and retract position and is spring centered to the hold position. This foot switch comes with 3,1 m cord. Wt., 1,8 kg.

No. 17627 - Remote foot control. Same as the No. 309653 but without a cord. Wt., 0,9 kg.

No. 304718 - Remote hand control. Has a rocker style switch that is momentary advance, spring center hold and momentary retract. The switch is wired to start and stop the motor when the valve is energized. It comes with a 3,1 m cord. To be used with 4-way/2-position valves. Wt., 0,4 kg.

No. 309652 - Remote foot control. Has same functions as No. 304718. Supplied with a 3,1 m cord. To be used with 4-way/2-position valves. Wt., 1,8 kg.

No. 216209 - Remote foot control. Same as the No. 309652, but without a cord. Wt., 0,9 kg.

NOTE: See valves listing to determine which remote to use (See page 76-81, 84).

REMOTE AIR MOTOR CONTROLS

This remote hand control has two momentary push buttons, one for advance and one for retract with spring offset to hold. To be used with 4-way/2-position air pilot valves.

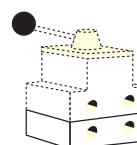
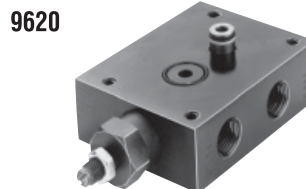
No. 209593 - Remote hand control with 3,7 m cord. Wt., 0,9 kg.

SUBPLATES

For remote mounting of control valves. They convert pump mounted valves to remote mounted valves quickly and easily.

No. 9510 - Subplate for remote mounting the following valves; 9500, 9501, 9502, 9504, 9506, 9507, 9511, 9552, 9572, 9575, 9576, 9592, 9594 and 9609. Wt., 1 kg 1.5 lbs.

No. 9620 - For use with 9500, 9501, 9502, 9552, 9572, 9592 and 9594. Same as No. 9510 but has integral pressure regulating valve. Wt., 1,7 kg.



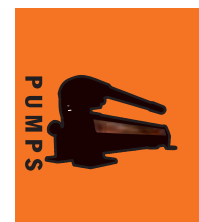
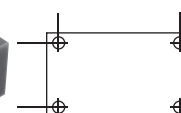
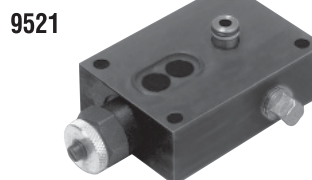
9510 and 9620 attach to the bottom of valve for remote mounting. The 9515 and 9521 mount between the pump cover plate and valve.

PUMP-MOUNTED SUBPLATES

When fitted between pump cover plate valve mounting flange and control valve, provides a separate 3/8" NPTF female port, open to "return" regardless of position of valve. Also provides a separate 3/8" NPTF female pressure port. This subplate can be useful when you desire to use one pump with a deck-mounted control valve, plus a separate remote-mounted valve to control another function. For use with the following valves: 9500, 9501, 9502, 9504, 9506, 9507, 9511, 9552, 9572, 9575, 9576, 9592, 9594 and 9609.

No. 9515 - Subplate, Wt., 0,6 kg.

No. 9521 - Subplate for use under most pump mounted valves to provide adjustable pressure control on units not equipped with an external pressure regulator. Wt., 1,7 kg.

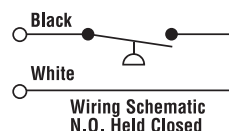


PRESSURE SWITCH

Application: Used in a hydraulic circuit where system pressure must be "held". Automatically (electrically) turns off pump motor when predetermined system pressure is reached. Attaches directly to control valve manifold or can be mounted "in-line" to read system pressure. Has a 1/4" NPTF male thread, and a 1/4" NPTF fitting for gauge mounting if required. Adjustable from 70 to 700 bar. Can also be used to actuate other electrical devices in the system. Wired "normally open" and held closed by spring pressure.

IMPORTANT: Electrical rating of switch is 5 amps at 250 volts max. To prevent permanent damage to switch, a control relay must be installed to handle currents or voltage exceeding these limits. Pressure switch should never be used to directly actuate the electrical motor.

No. 9625 - In-line pressure switch with 1/4" NPTF gauge port. Wt., 0,5 kg.



PILOT OPERATED AIR CONTROL VALVES

Application: For use when an air pilot signal is required at a set hydraulic pressure. Can be used to shift valves, and start or stop pneumatic pumps. Attaches directly to control manifold or can be mounted "in-line" to read system hydraulic pressure. Automatically turns on an air pilot signal when a predetermined system pressure is reached. Has 1/4" NPTF male thread and 1/4" NPTF fitting for gauge mounting if required. Adjustable from 35-700 bar. Maximum rating of 700 l at 7 bar.

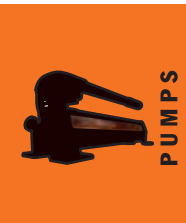
No. 9641 - Pilot operated control valve, normally closed, with 1/4" NPTF male thread. Wt., 0,4 kg.

No. 9643 - Same as 9641 except normally open. Wt., 0,4 kg.



HYDRAULIC PUMP

Accessories



252511
252512

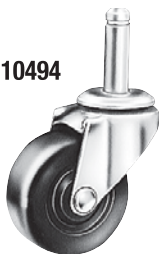


206767
250175



350431

10494



207762



16339



OIL COOLER KITS

No. 252511 - Oil cooler kit designed for use with PE604T or PE604PT pumps with 115 VAC. Wt., 2,2Kg.

No. 252512 - Oil cooler kit designed for use with PE604T or PE604PT pumps with 220 VAC. Wt., 2,2 kg.

RESERVOIR BREATHER KITS

No. 206767 - Reservoir breather kit designed for use on PA17, PA55, PE17, PE55, PE84, PE90, PE120, PG55, PG120, PQ60 and PQ120 series pumps. Wt., 0,6 kg.

No. 250175 - Reservoir breather kit designed for use on PE21 and PE46 series pumps. These kits replace the reservoir filler cap when the pump is used in dusty and dirty environments. Wt., 0,6 kg.

CASTERS

50,8 mm diameter casters attach to the bottom of large reservoir for portability. Sold individually; order the amount you need.

No. 10494 - Single caster wheel. Wt., 0,1kg.

FLUID LEVEL/TEMPERATURE GAUGE

Displays fluid level and temperature of hydraulic oil in reservoir. 32°-212°F, 0°-100°C. 32 mm wide and 162 mm high.

No. 350431 - Fluid level/temperature gauge.

FOOT CONTROL GUARD

Guard for use with 10461 and 251660 foot controls.

No. 16339 - Wt., 2 kg.

MAGNETIC STRIP

Magnetic strip with adhesive back can be added to No. 25017, 202777, 202778 and 304718 hand controls. Provides 2,7 kg. of holding force.

No. 207762 - Wt., 0,1 kg.

VITON® SEAL KITS



Viton® seal kits

Order
Number

Use
With

Model

300507

P12

All

300472

P23, P55

All

300510

P59

All

300508

P157, P159, P300

A

300690

P157, P159

B

300696

P300

B

300508

P157D, P159D, P300D

A

300693

P157D, P159D

B

300699

P300D

B

VITON® SEAL KITS Can be used in all "C" and "RH" series cylinders, as well as the P12, P55, P59, P157/P159, P157D/P159D and P300/P300D series of hand pumps. These seals are required when fire resistant hydraulic fluids are used.

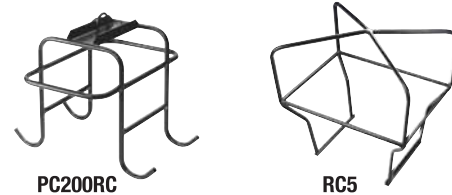
For use with phosphate ester fluids. Not required with Flame-Out fluid.

* Viton is an E.I. duPont De Nemours & Co., Inc, trade name.

UNIVERSAL PUMP CART

Mobilize your hydraulic pumps with the PC200. The rugged tubular frame can easily handle pumps weighing up to 90 kg. With 305 mm wheels, the cart rolls easily. Just load the pump onto the cart and wheel it right to the job. The universal mounting hole pattern lets you handle a wide variety of Power Team pumps.

No. PC200 - Universal pump cart with 305 mm wheels. Cart can be used with the following pumps: PA60, PA64 and PA554 air/hydraulic pumps; PE55 series, PE183-2 and PE184-2 electric/hydraulic pumps; PE21, PQ60 and PQ120 series "Quiet" pumps; PG55 series gas engine/hydraulic pumps; and pumps with optional 19- and 38 l - reservoirs; Nos. RP50, RP51, RP101 and RP103. Wt., 12,3 kg (Shown with pump, pump not included)



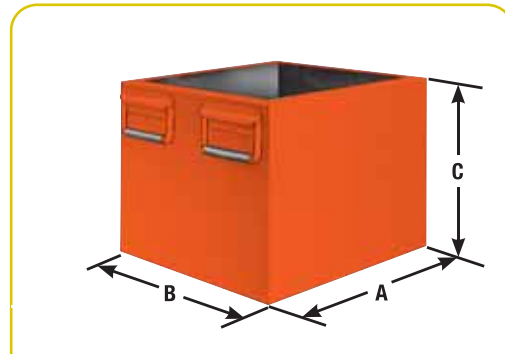
PROTECTIVE PUMP ROLL CAGE

Safeguards pump, gas engine and valves on the job site. Horizontal bars provide convenient hand holds for carrying pump, a pick-up point permits lifting unit with an overhead crane or other device. Standard roll cage (RC5) on PG1203 and PG1204. Can be ordered as an option with any other gas, air, or electrically driven hydraulic pump equipped with a 38 l reservoir.

Note: Refer to PG1203/PG1204 specification chart for dimensions of roll cage.

No. PC200RC - Roll cage for use with PC200. (Cannot be used on pumps with 38 liter reservoirs.) Wt., 16 kg.

No. RC5 - Roll cage. Wt., 9 kg.



LARGE CAPACITY RESERVOIRS

Capacity (liter)	Order Number	Usable Oil (l/min)	Use With	Size (mm)		
				A	B	C
7,6	RP20**	7,1	PA6, PA50 series (models A-E)	292	241	165
7,6	RP20-F**	7,1	PA6 series (model F), PA 50 series (model F & G)	292	241	165
9,5	RP20M*	7,2	PA6, PA50 series (models A-E)	292	241	165
9,5	RP20M-F*	7,2	PA6 series (model F), PA50 series (model F & G)	292	241	165
9,5	RP21*	7,2	PE18 series	292	241	165
9,5	RP22†	7,1	PE55, PE90, PE120, PA55	292	241	165
19	RP50	18,4	PE55, PE90, PE120, PA55	381	318	203
19	RP51	18,4	PA46, PE46, PE21	381	318	203
37,9	RP100	35,1	PE55, PE90, PE120, PA55	381	318	356
37,9	RP101	35,1	PG55, PG120	381	318	356
37,9	RP103*	37,0	PQ60, PQ120	392	362	313
37,9	RP104	35,1	PA46, PE46, PE21	381	318	356

* Four mounting holes: 1/2"-20, for 50.8 mm diameter swivel casters (No. 10494)

** High density polyethylene reservoir. † Aluminum reservoir.

NOTE: All metal reservoirs are equipped with drain plugs and all necessary conversion items. Hydraulic oil is not included with reservoir kits. Please order separately.

METAL RESERVOIR CONVERSION KITS FOR PUMPS *INCLUDES GASKETS AND FASTENERS.

Metal Pump Number	Res. Order Number	Metal Reservoir Capacity (l)	Reservoir Weight (kg)	Metal Pump Number	Res. Order Number	Metal Reservoir Capacity (l)	Reservoir Weight (kg)	Metal Pump Number	Res. Order Number	Metal Reservoir Capacity (l)	Reservoir Weight (kg)
PA6	213896	1,7	1,4	PA50	213896	1,7	1,4	PA174	213895	9,5	4,1
PA6A	213896	1,7	1,4	PA50R	213896	1,7	1,4	PE172	213895	9,5	4,1
PA6D	213896	1,7	1,4	PA6R	213896	1,7	1,4	PE172A	213895	9,5	4,1
PA6-2	213895	9,5	4,1	PA50R2	213895	9,5	4,1	PE172S	213895	9,5	4,1
PA6D2	213895	9,5	4,1	PA172	213895	9,5	4,1	PE174	213895	9,5	4,1

HYDRAULIC ACCESSORIES



	<div>Page</div> <div>FLUIDS 69</div> <div>Standard Oil 0,9 l, 3,8 l, 9,5 l, 208 l</div> <div>Flame Out 3,8 l, 9,5 l</div> <div>Bio Degradable 3,8 l</div> <div>Low Temperature 3,8 l</div>
	<div>Page</div> <div>HOSES 70</div> <div>Rubber</div> <div>Urethane</div> <div>Non-Conducting</div>
	<div>Page</div> <div>COUPLERS 71</div> <div>Quick Connect</div> <div>Flush Face</div>
	<div>Page</div> <div>GAUGES 72, 73</div> <div>Heavy Duty Hydraulic Pressure Gauges</div> <div>Digital and Analog</div>
	<div>Page</div> <div>MANIFOLDS 74</div> <div>Standard Blocks</div> <div>Blocks with Valves</div>
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	<div>Page</div> <div>VALVES 76-84</div> <div>Directional Control</div> <div>In-Line / Flow</div>

FLUIDS

Hydraulic
Standard, Flame Out®,
Biodegradable and
Low Temperature



Oil Description	Qty.	Order No.
Standard Oil	0,9 ℓ (1 qt.)	9636
Standard Oil	3,8 ℓ (1 gal.)	9637
Standard Oil	9,5 ℓ (2½ gal.)	9638
Standard Oil	208 ℓ (55 gal.)	9616
Flame-Out®	3,8 ℓ (1 gal.)	9639
Flame-Out®	9,5 ℓ (2½ gal.)	9640
Biodegradable	3,8 ℓ (1 gal.)	9645
Biodegradable	9,5 ℓ (2½ gal.)	9646
Low Temp.	3,8 ℓ (1 gal.)	9647

SPECIFICATIONS

Description	Grade (ASTM)	Spec. Gravity at 16°C (kg / ℓ)	Color (ASTM)	Flash Point	Fire Point	Pour Point	Viscosity SUS @ (38°C)	Viscosity SUS @ (99°C)	Viscosity Index	Foam Test (ASTM)
Standard Oil	215	0.88	2.0	204°C	221°C	-34°C	215	48	100 min.	Pass
Flame-Out®	220	0.91	Light Amber	260°C	288°C	-26°C	220	55	140 min.	Pass
Biodegradable	—	0.92	2.0	224°C	NA*	-30°C	183	53	213 min.	Pass
Low Temp.	—	0.87	6.5 (Red)	180°C	204°C	-45°C	183	52	190 min.	Pass

*Not available.

ACCESSORIES



Standard Hydraulic Oil

- For dependable performance of all your hydraulic pumps and cylinders.
- Contains foam suppressant additives and has a high viscosity index.

Flame-Out® 220 Fire Resistant Hydraulic Fluid

- Contains anti-rust, anti-foam and anti-sludge additives.
- Provides fire resistant protection.
(Note: Will burn if heat source is extreme enough. Will not, however, propagate the flame and is self-extinguishing when there is no ignition source.)
- Provides maximum lubrication and heat transfer.
- Offers a wider operating temperature range.
- No need to change seals in your Power Team equipment. Just drain the standard oil and replace it with Flame-Out 220.

Biodegradable Hydraulic Fluid

- Biodegradable, non-toxic fluid withstands moderate to severe operating conditions; provides excellent protection against rust.
- Offers superior anti-wear properties, has excellent multi-metal compatibility.

Developed to meet stringent performance requirements and satisfy growing environmental needs for hydraulic fluids which are readily biodegradable and non-toxic. Can be used with all Power Team pumps, cylinders, valves

and other accessories using standard seals. Depending on the contamination or degradation levels which might be present in used fluid, small amounts of this substance, if spilled, will not affect ground water or the environment. Acceptable methods of disposal include use as a fuel supplement. Since this fluid will not typically be hazardous waste, additional disposal options may be available, including land farming or processing through sewage treatment facilities, if necessary approvals are obtained from appropriate regulatory authorities. This fluid has been tested against EPA 560/6-82-003 and OECD 301 for biodegradability, and toxicity has been tested against EPA 560/6-82-002 and OECD 203: 1-12. Not recommended for operation in temperatures below -7°C or above 71°C. Recommended storage temperatures not below -23°C or above 77°C.

Low-Temperature Oil

Provides smooth, reliable operation in the coldest climate conditions.

For additional technical information or to order a **MATERIAL SAFETY DATA SHEET** call **1-800-477-8326** or go to **www.powerteam.com**

HOSES

Polyurethane
Rubber
Non-Conductive
700 bar (10,000 psi)

- All have plastic hose guards except for the 1/4" I.D. polyurethane hoses which have spring guards.
- 3/8" NPTF fittings on both ends.
- Operating pressure is 700 bar (10,000psi). All comply with MHI standard IJ100.

BE SAFE!

- INSPECT BEFORE AND AFTER EACH USE.
- REPLACE IF ANY SIGNS OF DEGRADATION OR WEAR THAT MAY AFFECT SAFETY OR PERFORMANCE.
- KEEP THE PRODUCT CLEAN.
- STORE PROPERLY.

Non-conductive hose

For applications requiring electrical isolation by the hose, non-conductive hose has a leakage factor of less than 50 microamperes, considered a safe level of conductivity by SAE standards. The covering is polyurethane and colored orange for easy identification as non-conductive hose. The covering is not perforated, preventing moisture from entering the hose and affecting its overall conductivity. All non-conductive hoses have a minimum burst pressure of 2800 bar (40,000 psi).

Rubber hose

2-ply rated hose reinforced with two braids of high tensile steel wire. The rubber covering is oil and weather resistant.

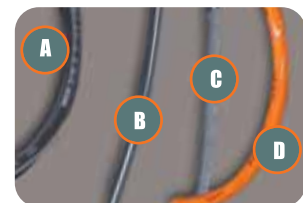
Polyurethane hose

Made up of nylon core tube with polyester fiber reinforcement which will withstand the minimum SAE bend radius without shortening service life. These hoses last up to seven times longer than rubber hose, and are suitable for continuous service at temperatures from -40° to 150° F (-40° to 66°C).

Hydraulic hose assembly

No. 9764 – Hose assembly consisting of 9767 (1,8 m hose), 6,4mm I.D. polyurethane with 9798 hose half coupler and 9800 dust cap.

No. 9754 – Hose assembly consisting of 9756 (1,8 m hose), 6,4 mm I.D. rubber with 9798 hose half coupler and 9800 dust cap.



A = 3/8" I.D. Polyurethane
B = 1/4" I.D. Polyurethane
C = 1/4" & 3/8" I.D. Rubber
D = 1/4" I.D. Non-Conductive

Hoses

The figures show the relative effect two styles of hose can have on return time. Actual times may vary.

CYLINDER RETURN TIME

	No. 9769 3,1 m Hose 6,4 mm I.D.	No. 9781 3,1 m Hose 9,5 mm I.D.
Cylinder		
C2514C	51 sec.	14 sec.
C556C	1 min., 30 sec.	24 sec.
C5513C	4 min., 12 sec.	59 sec.
C10010C	6 min., 56 sec.	1 min., 3 sec.

Hose Type	Hose I.D.	Hose Length	Burst Rating	Order No.	Hose Type	Hose I.D.	Hose Length	Burst Rating	Order No.
Polyurethane	6,4 mm	0,6 m	1 400 bar	9765	Rubber, Wire-braid	6,4 mm	2,4 m	1 400 bar	9757
Polyurethane	6,4 mm	0,9 m	1 400 bar	9766	Rubber, Wire-braid	6,4 mm	3,1 m	1 400 bar	9758
Polyurethane	6,4 mm	1,8 m	1 400 bar	9767	Rubber, Wire-braid	6,4 mm	3,7 m	1 400 bar	9759
Polyurethane	6,4 mm	1,8 m	1 400 bar	9764*	Rubber, Wire-braid	6,4 mm	6,1 m	1 400 bar	9760
Polyurethane	6,4 mm	2,4 m	1 400 bar	9768	Rubber, Wire-braid	6,4 mm	9,1 m	1 400 bar	9761
Polyurethane	6,4 mm	3,1 m	1 400 bar	9769	Rubber, Wire-braid	6,4 mm	15,3 m	1 400 bar	9762
Polyurethane	6,4 mm	3,7 m	1 400 bar	9770	Rubber, Wire-braid	9,5 mm High Flow	0,9 m	1 400 bar	9733
Polyurethane	6,4 mm	6,1 m	1 400 bar	9771	Rubber, Wire-braid	9,5 mm High Flow	1,8 m	1 400 bar	9776
Polyurethane	6,4 mm	15,3 m	1 400 bar	9772	Rubber, Wire-braid	9,5 mm High Flow	3,1 m	1 400 bar	9777
Polyurethane	6,4 mm	22,9 m	1 400 bar	9750	Rubber, Wire-braid	9,5 mm High Flow	4,6 m	1 400 bar	9734
Polyurethane	6,4 mm	30,5	1 400 bar	9751	Rubber, Wire-braid	9,5 mm High Flow	6,1 m	1 400 bar	9778
Polyurethane	9,5 mm High Flow	1,8 m	2 100 bar	9780	Rubber, Wire-braid	9,5 mm High Flow	9,1 m	1 400 bar	9735
Polyurethane	9,5 mm High Flow	3,1 m	2 100 bar	9781	Rubber, Wire-braid	9,5 mm High Flow	12,2 m	1 400 bar	9736
Polyurethane	9,5 mm High Flow	6,1 m	2 100 bar	9782	Rubber, Wire-braid	9,5 mm High Flow	15,3 m	1 400 bar	9779
Polyurethane	9,5 mm High Flow	15,3 m	2 100 bar	9783	Non-Conductive	6,4 mm	1,8 m	2 800 bar	9773
Rubber, Wire-braid	6,4 mm	0,9 m	1 400 bar	9755	Non-Conductive	6,4 mm	3,1 m	2 800 bar	9774
Rubber, Wire-braid	6,4 mm	1,8 m	1 400 bar	9756	Non-Conductive	6,4 mm	6,1 m	2 800 bar	9775
Rubber, Wire-braid	6,4 mm	1,8 m	1 400 bar	9754*					

NOTE: Polyurethane hoses not recommended for use where heat or weld splatter conditions exist.

* Furnished with 9798 hose half coupler and 9800 dust cap.

COUPLERS

Standard & Flush-Face
700 bar (10,000 psi)



9795 Cylinder and
Hose Couplers



9796



9798



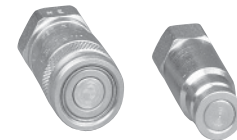
9794 No-Spill Hose
Couplers



9793



9792



9794 Flush-Face couplers



9797



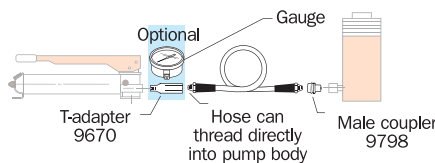
9799



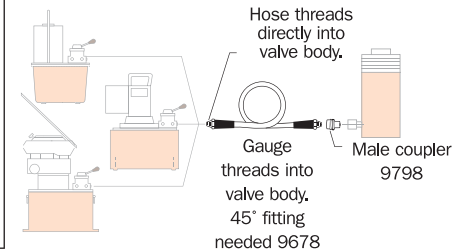
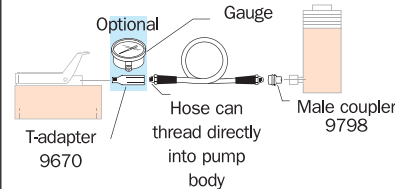
9800

Air, Electric & Gas Pumps with valve system hook-up

Hand pump system hook-up
T-adapter necessary for P12, P19, P23, P59 & P59F pumps.
All other hand pumps have a gauge mounting port.



Single-acting air pump system hook-up



ACCESSORIES



CYLINDER AND HOSE COUPLERS

Designed for use up to 700 bar with hydraulic jacks, cylinders, etc. They are the threaded union type for interchanging cylinders in seconds. Each half is valved with a precision ball for a tight shutoff when disconnected. These couplers also permit the separation of cylinders or hose from pump when at 0 psi with minimal oil loss.

No. 9795 – Complete quick coupler, 3/8" NPTF.
(Includes two 9800 dust caps.)

No. 9798 – Male (hose) half coupler (less hose half dust cap), 3/8" NPTF.

No. 9796 – Female (cylinder) half coupler with No. 9800 dust cap, 3/8" NPTF.

No. 9796-V – Same as 9796, but with Viton seals.

No. 9796-E – Same as 9796, but with EPR seals.

No. 9799 – Optional metal dust cap (hose half).

No. 9797 – Optional metal dust cap (cylinder half).

NO-SPILL, PUSH-TO-CONNECT HYDRAULIC HOSE COUPLERS

High flow, no-spill, push-to-connect couplers with locking collar and flush face designed for high pressure applications. The flush-face concept makes it easy to clean both coupler ends before connecting. Our unique push-to-connect, "dry-break" design eliminates oil spillage. The locking collar makes accidental disconnects a thing of the past. For 700 bar operation. Designed to permit high oil flow.

No. 9792 – Female (cylinder) half quick coupler only.
Wt., 0.1 kg.

No. 9793 – Male (hose) half quick coupler only. Wt., 0.1 kg.

No. 9794 – Complete quick coupler (male and female). Dust caps not included. Wt., 0.2 kg.

HYDRAULIC COUPLER DUST CAP

Dust cap fits either male or female half couplers.

No. 9800 – Dust cap. For male or female 3/8" NPTF half couplers. Wt., 0.1 kg.

GAUGES

Analog & Digital
700 bar (10,000 psi)

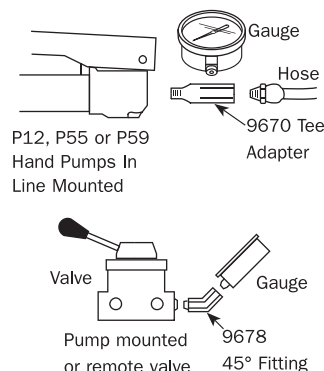
ASME B40.1
GRADE B



Heavy-duty Hydraulic Analog Pressure Gauges

- Gauges feature an easily readable and highly visible, red day-glo needle.
- High strength steel bourdon tube ensures high cycle life.
- Stainless steel cases and lens locking rings.
- Have 1/4" NPT connections.
- 4" and 6" dry gauges* shipped 'dry' and user can convert to 'wet' using liquid silicone (#9046).

Typical Mounting Situations



STANDARD PRESSURE GAUGE ORDERING INFORMATION

Face Dia.	psi / Bar	U.S. Short Tons	Major Graduations	Minor Graduations	Silicone Filled	Use With Cylinder Series	Gauge No.
63,5 mm	0-10,000 / 0-690	–	2500 psi, 100 Bar	500 psi, 20 Bar	No	All	9041
63,5 mm	0-10,000 / 0-690	–	2500 psi, 100 Bar	500 psi, 20 Bar	Yes	All	9040
100 mm	0-10,000 / 0-690	–	1000 psi, 100 Bar	200 psi, 10 Bar	No*	All	9051
100 mm	0-10,000 / 0-690	–	1000 psi, 100 Bar	200 psi, 10 Bar	Yes	All	9052
100 mm	0-10,000 / 0-690	0-17.5, 0-30 and 0-50	2000 psi, 5 Ton	200 psi, .5 Ton on 30, 50 Ton Scales; .2 Ton on 17.5 Ton Scale	No*	RT172, RT302, RT503	9059
100 mm	0-10,000 / 0-690	0-5	2000 psi, 1 Ton	200 psi, .1 Ton	No	C & RLS	9053
100 mm	0-10,000 / 0-690	0-10	2000 psi, 1 Ton	200 psi, .1 Ton	No*	C, RD, RH, RLS & RSS	9055
100 mm	0-10,000 / 0-690	0-25	2000 psi, 5 Ton	200 psi, .5 Ton	No*	C & RD	9063
100 mm	0-10,000 / 0-690	0-30	2000 psi, 5 Ton	200 psi, .5 Ton	No*	RH†, RLS & RSS	9065
100 mm	0-10,000 / 0-690	0-50	2000 psi, 5 Ton	200 psi, .5 Ton	No*	RH†, RLS & RSS	9067
100 mm	0-10,000 / 0-690	0-55	2000 psi, 5 Ton	200 psi, .5 Ton	No*	C, R, RA & RD	9069
100 mm	0-10,000 / 0-690	0-60	2000 psi, 5 Ton	200 psi, 1 Ton	No*	RH	9071
100 mm	0-10,000 / 0-690	0-100	2000 psi, 10 Ton	200 psi, 1 Ton	No*	C, R, RA, RD, RH, RLS†, RSS† & RT1004†	9075
100 mm	0-10,000 / 0-690	0-150	2000 psi, Initial 10 Then 20 Ton	200 psi, 2 Ton	No*	C, R, RD & RLS	9077
100 mm	0-10,000 / 0-690	0-200	2000 psi, 20 Ton 10 Then 20 Ton	200 psi, 2 Ton	No*	R, RD & RH†	9079
150 mm	0-10,000 / 0-690		1000 psi, 100 Bar	100 psi, 10 Bar	No*	All	9089

† The tonnage scale on the gauge is based on a different effective area.

A slight error in tonnage reading will occur relative to the different effective area.

Note: Remark and calibration of **9062** pressure gauge to metric tonne or kN scale based on given effective area of cylinder bore for load test or measurement available upon request. (See page 73)



9062

No. 9062

100mm (4") dial pressure gauge, calibratable, vibragauge:-

- Top blow out relief grommet.
 - Laminated safety glass window.
 - Red aluminum micro-adjustable pointer.
 - Stainless steel case & bayonet ring.
 - Pulsation restrictor screw in socket.
 - Accuracy: +/- 1% of full scale, up to 10,000psi (700bar).
 - ASME B40.1 Grade 1A.
 - 1/4" NPT lower mount.
 - Gauge dial face scales in 'psi' (primary) & 'bar' (secondary).
- (Remarking to metric tonnes or kN scale based on given effective area of cylinder bore & calibration are optional).

Standard Analog Pressure Gauge Accessories

No. 9046 – Silicone fill kit. 0,2 kg Requires one bottle to fill 100 mm gauge; four bottles to fill 150 mm gauge.

No. 9048 – Replacement lens and pointer for 100mm dia. gauge except 9062. Indicating pointer for maximum peak reading.

No. 9049 – High performance pulsation dampener.
1/4 " NPTF male x 1/4" NPTF female.



DG100

Digital Pressure Gauge

No. DG100 – Pressure range 0-10,000 psi.

No. DG100B – Pressure range 0-700 bar.

Note: Serviced only at factory. Wt., 1 kg.

Standard Adapter 115V – For 220V adapter, please request when ordering.

Digital Pressure Gauges – DG100 / DG100B

- Accurate to within 1%.
- Larger display characters than ordinary digital gauges.
- Long-life pressure transducer.
- 1/4" NPTF male threads for the pressure connection.
- 1,8 m signal input cable connects to back of display unit.

FEATURES

- Pressure values are displayed on large red LEDs in 10 psi increments.
- "Peak" hold feature with reset toggle switch and "Peak On" indicator; Hi/Low set point feature with relay outputs for Hi/Low alarms and/or control signals.
- A slow flashing display indicates pressure below the low limit; fast blinking display alerts if limit is exceeded.
- High and low limit relays are rated to 5 amps at 115 volts.
- Operating temperature of – 18 to 60 °C for the electronic display and -29 to 82 °C for the transducer. Gauge housings are extruded aluminum 1/8 DIN enclosures (NEMA 1 rating).
- When power cable is connected to gauge, display will scroll all characters, performing a self-diagnostic routine.



420778

37045

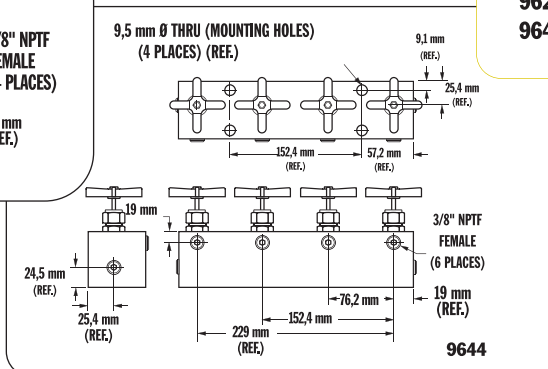
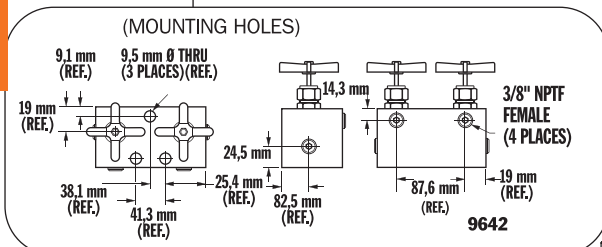
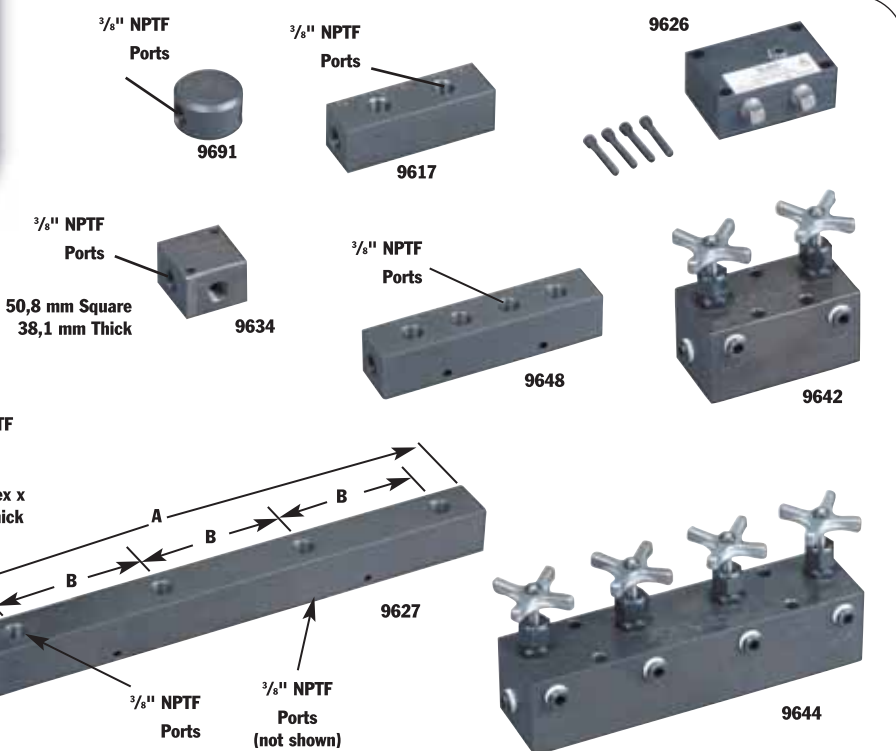
Digital Pressure Gauge Accessories

No. 420778 – Gauge stand for DG100. Has angled base mounting to hold gauge at a convenient viewing angle. Wt., 0,5 kg.

No. 37045 – Auxiliary power cord for use with any 12 or 24V battery. Wt., 0,1 kg.
Caution: For use on negative ground systems only.

MANIFOLDS

Remote and Pump Mounted
700 bar (10,000 psi)



Manifold No.	A (mm)	B (mm)	C (mm)
9627	406,4	114,3	38,1
9648	177,8	38,1	38,1

No. 9691 – "Y" Manifold

Extremely useful when connecting two hydraulic cylinders to a single line. Has three 3/8" NPTF ports. Wt. 0,45 kg.

No. 9634 – Manifold block

This manifold is for multiple-cylinder installations, has four 3/8" NPTF ports and two 1/4" mounting holes. Wt. 0,7 kg.

No. 9635 – Manifold block

This hex-shaped manifold offers extra versatility with six 3/8" NPTF ports and two 1/4" mounting holes. Wt. 0,9 kg.

No. 9617 – Manifold block

When a multiple-cylinder installation is required, this manifold is invaluable.

Has six 3/8" NPTF ports to handle larger multiple-cylinder systems. Wt. 1,4 kg.

No. 9648 – Manifold block

This 178 mm long manifold block has seven 3/8" NPTF ports and two 6,4 mm mounting holes. Wt. 1,2 kg.

No. 9627 – Manifold block

This 406,4 mm long manifold block allows you to mount the 9575 or 9596 valves without interference. Has seven 3/8" NPTF ports and two 6,4 mm mounting holes. Wt. 2,7 kg.

No. 9626 – Pump mounted manifold block

Converts pumps with pump mounted valves for use with remote mounted valves. This manifold block is subplate mounted on the pump cover plate and

provides 3/8" NPTF pressure and return ports. Maximum recommended flow rate is 19 l/min. Note: If used on PE30 or PG30 series pump, 12,7mm longer mounting screws are required. Order four (4) No. 11956 screws separately.

9642 AND 9644 MANIFOLD BLOCKS WITH NEEDLE VALVES

For independent multiple-cylinder operation, feature needle valves for precise manual control. Designed for remote-mounted applications. Can be used with all Power Team pumps.

No. 9642 – Manifold with two needle valves for control of two cylinders. Has four 3/8" NPTF ports. Wt. 3,7 kg


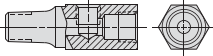
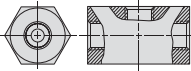
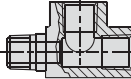
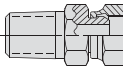
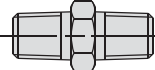
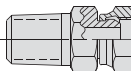
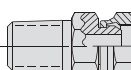

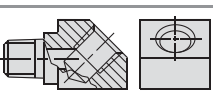
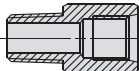
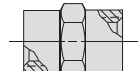





No. 9644 – Manifold with four needle valves for control of four cylinders. Has six 3/8" NPTF ports. Wt. 7,4 kg


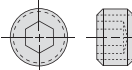
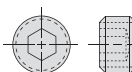
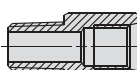




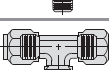
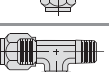
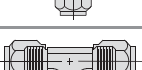

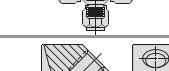
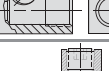
FITTINGS

Hydraulic Fittings:
All applications.
700 bar (10,000 psi)



9670

	9190	Hyd. tubing, 3/8" O.D. x .065" wall, 15.3 m, (10 pieces 1.53 m long.) Wt. 5.5 kg.
	9670	Tee adapter. For installing gauge between pump and hose coupling. Has 1/4" and 3/8" NPTF female and 3/8" NPTF male ports. Wt. 0.2 kg.
	9671	Double tee adapter. Permits use of more than one cylinder in series with one pump. Three 3/8" NPTF female ports. Wt. 0.5 kg.
	9672	Service tee. Two 3/8" NPTF female internal, one 3/8" NPTF male external. Wt. 0.3 kg.
	9673*	Swivel connector. 3/8" NPSM male, 1/4" NPSM female. Wt. 0.1 kg.
	9674	Male connector. 43 mm long, 1/4" x 3/8" NPTF. Wt. 0.1 kg.
	9675*	Swivel connector. 3/8" NPTF male, 3/8" NPSM female. Wt. 0.1 kg.
	9676*	Swivel connector. 1/4" NPTF male, 3/8" NPSM female. Wt. 0.1 kg.
	9677*	45° swivel connector. 3/8" NPTF male, 3/8" NPSM female. Wt. 0.1 kg.
	9678	45° fitting. Used when mounting gauge at an angle on connection such as 9670. Male and female 1/4" NPTF ends. Wt. 0.1 kg.
	9679	Connector. 1/4" NPTF female and 3/8" NPTF male. Wt. 0.1 kg.
	9680	Coupling. Both ends 3/8" NPTF female. Wt. 0.1 kg.
	9681	Street elbow. Male and female 3/8" NPTF ends. Wt. 0.1 kg.
	9682	Male connector. 43 mm long, 3/8" NPTF male ends. Wt. 0.1 kg.
	9683	Male connector. 57 mm long, 3/8" NPTF male ends. Wt. 0.1 kg.
	9684	Male connector. 57 mm long, 1/4" NPTF male ends. Wt. 0.1 kg.
	9685	Coupling. 1/4" NPTF female and 3/8" NPTF female. Wt. 0.1 kg.

	9686	90° elbow. 3/8" NPTF female ends. Wt. 0.2 kg.
	9687	Pipe plug. Heat-treated, 3/8" NPTF. Wt. 0.1 kg.
	9688	Pipe plug. Heat-treated, 1/4" NPTF. Wt. 0.1 kg.
	9689	Connector. 1/4" NPTF male and 3/8" NPTF female. Wt. 0.1 kg.
	9690	Male connector. 43 mm long, 1/4" NPTF male ends. Wt. 0.1 kg.
	9692	Straight connector. 3/8" tube x 3/8" male NPTF. Wt. 0.1 kg.
	9693	90° elbow. 3/8" tube x 3/8" male NPTF. Wt. 0.1 kg.
	9694	45° elbow. 3/8" tube x 1/4" male NPTF. Wt. 0.1 kg.
	9695	Tee. 3/8" tube. Wt. 0.1 kg.
	9696	Male run tee. 3/8" tube x 1/4" male NPTF. Wt. 0.1 kg.
	9697	Male branch tee. 3/8" tube x 1/4" male NPTF. Wt. 0.1 kg.
	9698	Cross. 3/8" tube. Wt. 0.2 kg.
	9699	45° gauge fitting. 3/8" NPTF male and female, and 1/4" NPTF female at 45°. Wt. 0.3 kg.
	9705	Fitting, swivel. 3/8" NPTF male to 3/8" NPTF female. 90° fitting with internal 370 micron screen. May be rotated 360° about male thread axis.

NOTE: Power Team hydraulic fittings are intended for use with our high pressure hydraulic products and are suitable for use at max. working pressures of 700 bar unless otherwise noted.

* **CAUTION:** On part numbers 9673, 9675, 9676 and 9677 the female swivel end of these adapters is a straight pipe thread (NPSM) with a 30° seat. All male pipe fittings that are used with these female swivel adapters must have an internal 30° seat in order to effect a proper seal. All Power Team male fittings are manufactured with a 30° seat except 9687 and 9688.

ACCESSORIES



VALVE SELECTION

Choosing The Right Valve

- Step 1 -** Select the hydraulic cylinder that best suits the application (See page 11-32).
- Step 2 -** Select the series of hydraulic pump with adequate oil output and reservoir capacity to power cylinder (See page 33-67). Check speed chart (See page 36).
- Step 3 -** Select pump within series with the valve option that is best matches cylinder, pump and application (See page 78-81, 84).



CONSIDERATIONS:

- Will the valve be used with single- or double-acting cylinders?
 - Will the valve be mounted on the pump, away from the pump or directly into the hydraulic lines?
- Will the valve be manually-operated or is remote control preferred?
 - Is independent control of multiple cylinders, or hydraulics tools preferred?
 - What directional control and pressure control valve functions are needed for the application?
- Basic valve types include manually operated, air or solenoid operated and pilot operated. Special application valves for pre-stressing and post-tensioning are also offered. Consult selection chart on page 84 for listings of all Power Team valves.





DIRECTIONAL CONTROL VALVES




2-WAY, 2-POSITION (FOR CONTROL OF SINGLE-ACTING CYLINDERS):

POSITION 1	CENTER POSITION	POSITION 2
 <p>Oil goes from pump to cylinder; pressure is held from valve to cylinder when pump is shut off.</p>	None	 <p>Oil goes from pump to cylinder; pressure is released to reservoir when motor is turned off.</p>

3-WAY, 2-POSITION (FOR CONTROL OF SINGLE-ACTING CYLINDERS)

POSITION 1	CENTER POSITION	POSITION 2
 <p>Oil goes from pump to cylinder and holds when pump is shut off. Return line to reservoir is blocked.</p>	None	 <p>Cylinder retracts, oil returns to reservoir.</p>

3-WAY, 3-POSITION (FOR CONTROL OF SINGLE-ACTING CYLINDERS)

POSITION 1	CENTER POSITION	POSITION 2
 <p>Oil goes from pump to cylinder and holds when pump is shut off. Return line to reservoir is blocked.</p>	 <p>Cylinder pressure is held; pump can remain running and oil returns to reservoir.</p>	 <p>All oil is open to reservoir through return line.</p>

**Remote Mounted Valves
Available: Consult Factory**

IN-LINE HYDRAULIC VALVES (see page 82, 83)

Load Lowering Valve – Provides precision metering for controlled return of the cylinder piston.

Sequence Valve – Used when a cylinder in a multiple cylinder application must advance before any other.

Pressure Reducing Valve – Permits independent pressure control to two or more clamping systems operated by a single power source.

Shut-off Valve – For fine metering of hydraulic oil. Several may be used to control multiple single-acting cylinders.

Check Valve – Permits flow of hydraulic oil in one direction only.

Pressure Relief Valve – Used at remote locations in a hydraulic circuit where maximum pressure requirements are less than the setting of the basic overload valve in the pump. Protects a hydraulic system against over pressurization.

Metering Valve – Restricts surges by restricting flow to a certain level; when flow subsides, valve reopens automatically. For systems using large cylinders or extended lengths of hose.

Pressure Regulator Valve – Permits external adjustment of operating pressures at various values below the internal relief valve setting of the pump.



DIRECTIONAL CONTROL VALVES

4-WAY, 2-POSITION

(FOR CONTROL OF SINGLE- OR DOUBLE-ACTING CYLINDERS):




ACCESSORIES






POSITION 1	CENTER POSITION	POSITION 2
 <p>Oil goes to the “extend” side of the cylinder. The oil from the “retract” side returns to reservoir. Cylinder holds with pump shut off.</p>	<p>None</p>	 <p>Oil goes to the “retract” side of the cylinder, oil from the “extend” side returns to reservoir.</p>

4-WAY, 3-POSITION

(FOR CONTROL OF DOUBLE-ACTING CYLINDERS)

POSITION 1	CENTER POSITION	POSITION 2
 <p>Oil goes to the “extend” side of the cylinder, oil from the “retract” side returns to reservoir. Cylinder holds with pump shut off.</p>	 <p>Holds pressure even if pump is running. Oil from pump goes through valve, back to reservoir.</p>	 <p>Oil goes to “retract” side of cylinder. Oil from “extend” side returns to the reservoir.</p>

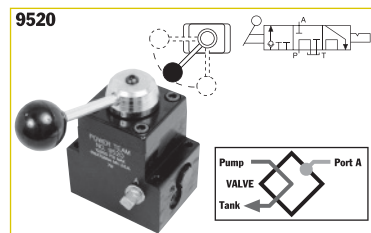
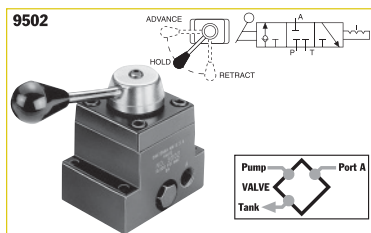
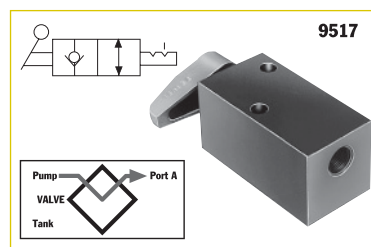
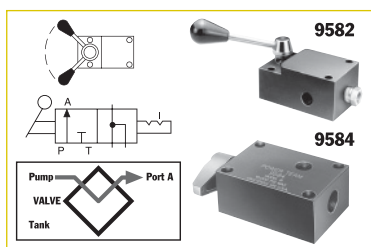
TYPICAL CENTERS

TANDEM CENTER	CLOSED CENTER	OPEN CENTER
 <p>Cylinder ports are blocked, oil from pump goes to reservoir. Used when pump remains running. Example: gasoline-driven pumps.</p>	 <p>Generally used when running multiple valves in series from one pump.</p>	 <p>Open Center Used when holding is not a requirement, as when running tow separate hydraulic tools such as cutters and crimpers.</p>

VALVES

Hydraulic Pump Mounted Manual Operated 3-Way/2-3 Position

**700 BAR (10,000 PSI),
3/8" NPTF PORTS,
19 L/MIN MAX FLOW RATE.**



3-WAY/2-POSITION MANUAL VALVES

Applications – Single-acting cylinders. **Actuation** – Lever operated.

Functions – Cylinder piston “advance”, “hold” and “return”.

Used on these pumps – P460, PE17, PE21, PE30, PE46, PE55, PE84, PE90, PE120, PQ60 and PQ120 series.

No. 9582 – 3-way/2-position manual valve. Wt. 1,13 kg.

No. 9584 – Same as 9582, but has “flipper” control. Wt.,0,8 kg.

2-WAY/2-POSITION MANUAL VALVE

Application – Single-acting cylinders. **Actuation** – Flipper lever operated.

Functions – Cylinder piston “advance”, “hold” and “retract”.

Used on these pumps – PE172, PA172 and PE84 series.

No. 9517 – 2-way/2-position manual valve. Wt.,1,45 kg.

3-WAY/3-POSITION (CLOSED CENTER) NON-INTERFLOW MANUAL VALVE WITH “POSI-CHECK®”

Application – Single-acting cylinders. **Actuation** – Lever operated, detent positioned.

Functions – Pos. 1 – Oil is directed from pump to cylinder and “holds” with pump shut off; line to reservoir is blocked. Pos. 2 – All oil is open to reservoir through tank line.

Center pos. – Cylinder pressure is held; pump should be shut off.

Used on these pumps – P460, PA17, PA46, PA55, PA60, PE17, PE21, PE30, PE46, PE55, PE84, PE90, PE120, PE200, PE400, PQ60 and PQ120 series.

NOTE: The 9502 can be remote mounted if a 9510 subplate is used (see page 65).

No. 9502 – 3-way/3-position (closed center) manual valve. Wt.,1,9 kg.

3-WAY/3-POSITION (TANDEM CENTER) MANUAL VALVE WITH “POSI-CHECK®”

Application – Single-acting cylinders.

Actuation – Lever operated, detent positioned.

Functions – “Advance” “hold” and “return”. When shifted to “return” position, pump and cylinder return oil through their own separate return lines, allowing faster retraction of piston. The “Posi-Check®” feature guards against pressure loss when shifting from “advance” to “hold” position.

Used on these pumps – P460, PA17, PA46, PA55, PE17, PE21, PE30, PE46, PE55, PE84, PE90, PE120, PQ60, PQ120, PE200, PE400, PG30, PG55, PG120 and PG400 series.

No. 9520 – 3-way/3-position (tandem center) manual valve. Wt., 2,3 kg.

NOTE: A pressure switch and/or gauge may be attached to any valve on this page. (refer to page 65, 72, 73)
Gauge ports monitor pump pressure only, not pressure to the hydraulic cylinder(s).

CAUTION: To prevent sudden, uncontrolled descent of a load as it is being lowered, use a No. 9596 Load Lowering Valve or No. 9720 Counter Balance Valve (see page 82) in conjunction with the directional valve used in your application.

IMPORTANT: Conversion kit 251528 must be used when mounting any of the valves on this page on PA17 or PE17 pumps.

IMPORTANT: When ordering any valve for a PE30 or PG30 series pump, 1/2" longer mounting screws are required. For valves 9584, 9502 and 9520, order four 12001 cap screws. For valve 9582, order two 12001 and two 10856 cap screws.



ACCESSORIES

VALVES

Hydraulic Pump Mounted Manual Operated 4-Way/3 Position

**700 BAR (10,000 PSI),
3/8" NPTF PORTS,
19 L/MIN MAX FLOW RATE.**

4-WAY/3-POSITION (TANDEM CENTER) VALVE WITH "POSI-CHECK®"

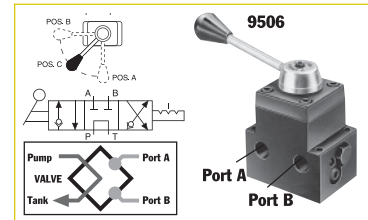
Application – Single or double-acting cylinders.

Actuation – Lever operated, detent positioned.

Functions – "Advance", "hold" and "return". The "Posi-Check®" feature guards against pressure loss when shifting from "advance" to "hold" position.

Used on these pumps – P460, PA6D, PA17, PA46, PA55, PE17, PE21, PE30, PE46, PE55, PE84, PE90, PE120, PE200, PE400, PED, PG30, PG55, PG120, PG400, PQ60 and PQ120 series

No. 9506 – 4-way/3-position (tandem center) manual valve. Wt., 2,3 kg.



4-WAY/3-POSITION (TANDEM CENTER) MANUAL VALVE

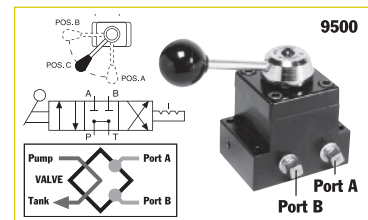
Application – Single- or double-acting cylinders.

Actuation – Lever operated, detent positioned.

Functions – The 9500 provides "advance", "hold" and "return".

Used on these pumps – P460, PA17, PA46, PA55, PE17*, PE21, PE30, PE46, PE55, PE84, PE90, PE120, PE200, PE400, PG30, PG55, PG120, PG400, PQ60 and PQ120 series. *Does not mount without 251528

No. 9500 – 4-way/3-position (tandem center) manual valve. Wt., 1,9 kg.



4-WAY/3-POSITION (CLOSED CENTER) MANUAL VALVE WITH "POSI-CHECK®"

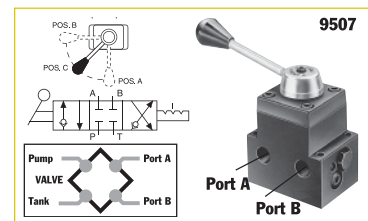
Application – Single- or double-acting cylinders.

Actuation – Lever operated, detent positioned.

Functions – Similar to 9506, but is a closed center valve with "Posi-Check®". Generally used to operate multiple cylinders with a single pump. Provides "advance", "hold" and "return". The "Posi-Check®" feature guards against pressure loss when shifting from the "advance" to "hold" position. See note below regarding plugging of ports and resulting heat build-up.

Used on these pumps – P460, PA17, PA46, PA55, PA60, PA6D, PE17, PE21, PE30, PE46, PE55, PE84, PE90, PE120, PE200, PE400, PQ60 and PQ120 series.

No. 9507 – 4-way/3-position (closed center) manual valve. Wt., 2,3 kg.



4-WAY/3-POSITION (CLOSED CENTER) MANUAL VALVE

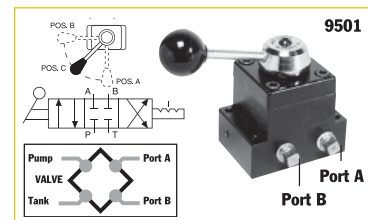
Application – Single- or double-acting cylinders.

Actuation – Lever operated, detent positioned.

Functions – "Advance", "hold" and "return". Closed center design makes valve suitable for operating multiple cylinders from a single pump. See note below regarding plugging of ports and resulting heat build-up.

Used on these pumps – P460, PA17, PA46, PA55, PA60, PE17, PE21, PE30, PE46, PE55, PE84, PE90, PE120, PE200, PE400, PQ60 and P120 series.

No. 9501 – 4-way/3-position (closed center) valve. Wt., 1,9 kg.



ACCESSORIES



NOTE: A pressure switch and/or gauge may be attached to valves 9500, 9501, 9506, 9507, 9511 if desired (see page 65, 72, 73).

Gauge ports monitor pump only, not pressure to the hydraulic cylinder(s).

Also, all valves on this page may be remote mounted with a 9510 subplate (see page 65).

NOTE: Valves 9500, 9501, 9506 and 9507 can have a port blocked or have a closed center position for use with single-acting cylinder or tool. When a port is blocked and the valve is shifted to the blocked port, the pump will generate excessive heat. An electric or rotary air pump can either be turned off manually or with a pressure switch. Reciprocating air pumps may be adjusted to stall out and stop.

VALVES

Hydraulic Pump Mounted Solenoid or Air Operated

**700 BAR (10,000 PSI),
3/8" NPTF PORTS,
19 L/MIN MAX FLOW RATE.**

3-WAY/2-POSITION SOLENOID VALVE

Application – Single-acting cylinders.

Actuation – Solenoid operated, 115 volt, 50/60 Hz.

Functions – Cylinder piston advances when solenoid is de-energized and pump is running. When solenoid is energized, oil is directed to reservoir, and piston returns. For “hold” position, pump is stopped with solenoid de-energized.

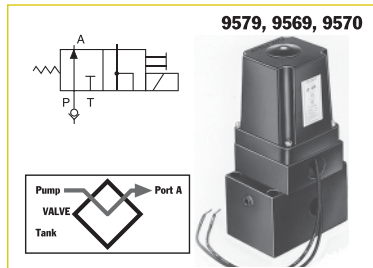
Used on these pumps – PE17, PE21, PE30, PE46, PE55, PE84, PE90, PE120, PE200, PE400, PQ60 and PQ120 series.

No. 9579 – 3-way/2-position solenoid valve, 115 volt, 50/60 Hz. Wt., 4,4 kg.

No. 9569 – Same as 9579, except with 24 volt, 50/60 Hz solenoid.

No. 9570 – Same as 9579 except with 230 volt, 50/60 Hz solenoid.

NOTES: Valves above are shipped without control switch. Use 202777 remote hand switch (see page 64). When this valve is mounted, the pump must be equipped with an outlet check valve.



3/4-WAY/2-POSITION SOLENOID VALVES

Application – Single- or double-acting cylinders. When used with single-acting cylinders, one port should be plugged.

Actuation – Solenoid operated.

Functions – Oil is directed to “extend” side of cylinder, oil from “retract” side goes to reservoir; cylinder “holds” with pump shut off. Oil is directed to “retract” side of cylinder; oil from “extend” side goes to reservoir.

NOTE: Cylinder will not “hold” in the “return” position with motor running or shut off.

Used on these pumps – 9552, 9572 and 9592 are used with PE17, PE30 (with carrying handles removed), PE46, PE55, PE84, PE90, PE200, PE400, PQ60 and PQ120 series.

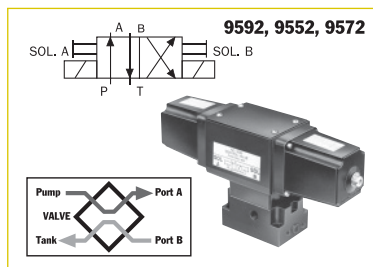
No. 9592 – 3/4-way/2-position solenoid valve, 115 volt, 50/60 Hz. Wt., 6,6 kg.

No. 9552 – Same as 9592, except with 230 volt, 50/60 Hz solenoid.

No. 9572 – Same as 9592, except with 24 volt, 50/60 Hz solenoid.

NOTE: Valves above are shipped without controls. The 9552, 9572 and 9592 can be used with the 304718 remote hand control. (see page 64)

Note: Ports are 1/4" NPTF.



AIR ACTUATED VALVE

Application – Single- or double-acting cylinders. When used with single-acting cylinders, one port should be plugged.

Actuation – Air operated.

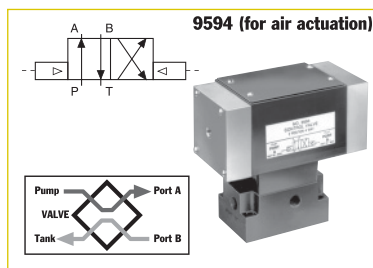
Functions – Oil is directed to “extend” side of cylinder, oil from “retract” side goes to reservoir; cylinder “holds” with pump shut off. Oil is directed to “retract” side of cylinder; oil from “extend” side goes to reservoir.

NOTE: Cylinder will not “hold” in the “return” position with motor running or shut off.

Used on these pumps – PA17, PA46 and PA55 series.

No. 9594 – 3/4-way/2-position solenoid valve, air operated (minimum of 3.5 bar air pressure required). Wt., 5 kg.

NOTES: Valve above is shipped without controls. 9594 can be used with the 209593 remote hand control (see page 64).



CAUTION: To prevent sudden, uncontrolled descent of a load as it is being lowered, use a No. 9596 Load Lowering Valve or No. 9720 Counter Balance Valve (see page 82) in conjunction with the directional valve used in your application.

IMPORTANT: Conversion kit 251528 must be used when mounting any of the valves on this page on PE17 pumps.

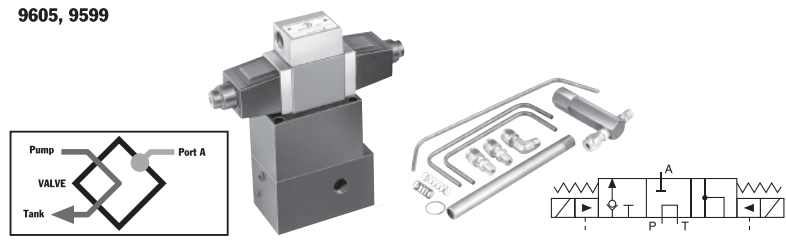
IMPORTANT: When ordering any valve for a PE30 series pump, 1/2" longer mounting screws are required. For valves 9569, 9570 and 9579, order four 10856 cap screws. For valves 9552, 9572 and 9592, order four 12001 cap screws.

VALVES

Hydraulic Pump Mounted Solenoid Operated

**700 BAR (10,000 PSI),
3/8" NPTF PORTS,
19 L/MIN MAX FLOW RATE.**

9605, 9599



3-WAY/3-POSITION (TANDEM CENTER) SOLENOID VALVES WITH "POSI-CHECK®"

Application – Single-acting cylinders.

Actuation – Solenoid operated: 9605 is 115 volt, 50/60 Hz;
9599 is 24 volt, 50/60 Hz.

Functions – "Advance", "hold" and "return" positions. When in "advance", solenoid "B" is energized and oil goes from pump to cylinder through pressure port. In "return" position, solenoid "A" is energized and oil is directed from cylinder and pump to reservoir. With both solenoids de-energized, in "hold" position, oil from pump is directed back to reservoir while oil is checked in cylinder. The "Posi-Check®" feature holds load when shifting from "advance" to "hold" position.

Used on these pumps – Furnished with pilot lines and adapters for PE55, PE30 (carrying handles must be removed) and PE120 series. For application on other models, consult factory.

No. 9605 – 3-way/3-position (tandem center) solenoid valve, 115 volt, 50/60 Hz. Wt., 6,4 kg.

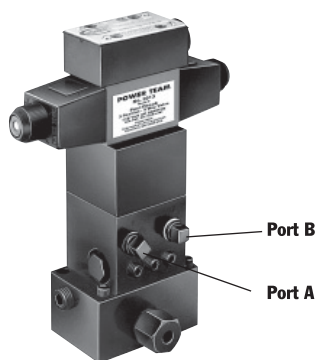
No. 9599 – Same as 9605 except for 24 volt, 50/60 Hz circuits.

NOTE: Valves above are shipped without controls. Use 202777 remote hand control (see page 64). Consult factory for field installation.

ACCESSORIES



9513, 9512, 9516, 9519



4-WAY/3-POSITION (TANDEM CENTER) PILOT OPERATED SOLENOID VALVE

Application – Double-acting cylinders.

Actuation – Solenoid operated, 115 volt, 50/60 Hz.

Functions – "Advance", "hold" and "return". The "Posi-Check®" feature holds the load when shifting from the "advance" to the "hold" position.

Used on these pumps – PE17, PE21, PE30 (with carrying handles removed), PE46, PE55, PE84, PE90, PE120, PE200, PE400, PQ60 and PQ120 series.

NOTE: A gauge may be attached if desired (see page 72,73).

No. 9513 – 4-way/3-position (tandem center) solenoid valve, 115 volt, 50/60 Hz. Wt., 8,2 kg.

No. 9512 – Same as 9513 except for 24 volt, 50/60 Hz circuits.

No. 9516 – Same as 9513 except for 12 volt DC. For use on the PG1204S and PG400 series pumps only.

No. 9519 – Same as 9513 except for 230 volt, 50/60 Hz circuits. Consult factory for field installation.

NOTE: Valves above are shipped without control switch. Use 202778 remote hand switch (see page 64).

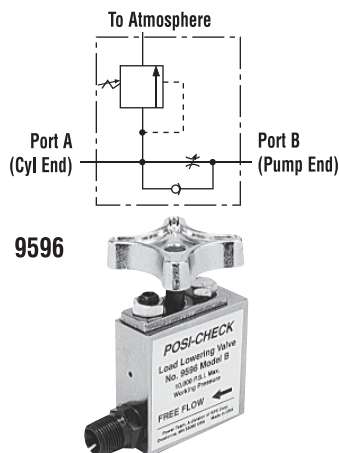
CAUTION: To prevent sudden, uncontrolled descent of a load as it is being lowered, use a No. 9596 Load Lowering Valve or No. 9720 Counter Balance Valve (see page 82) in conjunction with the directional valve used in your application.

IMPORTANT: When ordering any valve for a PE30 series pump, 1/2" longer mounting screws are required. For valves 9512, 9513, 9516 and 9519, order four 11956 cap screws.

VALVES

Hydraulic In-Line

**700 BAR (10,000 psi),
19 L/MIN MAX FLOW RATE.**



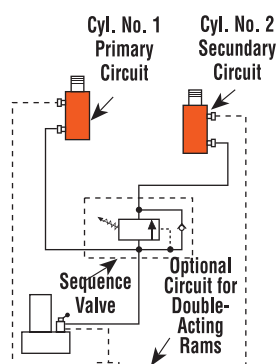
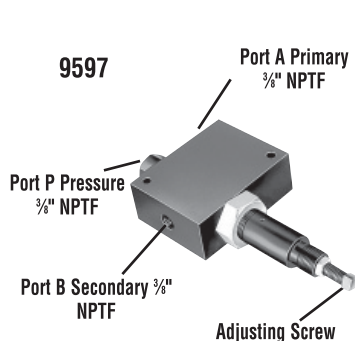
LOAD LOWERING VALVE (SAFETY CHECK VALVE)

Application: Precision metering for controlled cylinder piston return. For single-acting or double-acting cylinder.

Operation: Permits free flow when extending cylinder, built-in pressure relief and "Posi-Check®" locks and holds load in raised position until operator opens valve. May be pre-set to provide consistent metered return, or operator may select rate of return with each actuation. Has 3/8" NPTF ports.

NOTE: Pressure relief valve setting is 830 bar. Operating pressure is 700 bar and max. flow rate is 19 l/min.

No. 9596 – Load lowering valve. Wt., 1 kg.

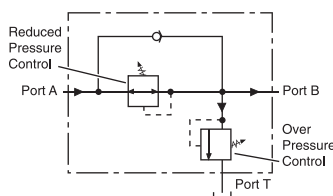
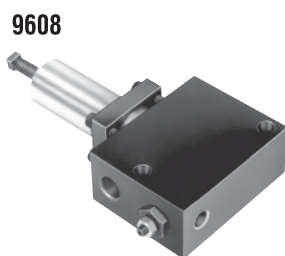


SEQUENCE VALVE

Application: Used when one cylinder in a multi-cylinder application must advance before any other.

Operation: Pump is connected to port "P" and separate cylinders to ports "A" and "B". When pressure is applied to port "P", cylinder "A" advances. Cylinder "B" will not advance until a predetermined pressure setting is reached in cylinder "A". Pressure setting is adjustable from 35 to 550 bar with adjustment screw; factory preset at 70 bar. Has 3/8" NPTF ports.

No. 9597 – Pressure control sequencing valve. Wt., 2,5 kg.



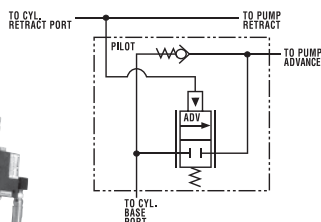
PRESSURE REDUCING VALVE

Application: Provides complete, independent pressure control to two or more clamping systems operated by a single power source.

Operation: Can be used to provide different pressures in various stages of a single system. Virtually zero leakage across valve means each system can be operated by a single continuous pressure source. Adjustable from 70 to 350 bar at outlet port "B" (secondary). Has 1/4" NPTF ports.

No. 9608 – Pressure reducing valve. Wt., 2,6 kg.

**9720
9721**



COUNTER BALANCE VALVE

Application: Double-acting cylinders.

Provides positive holding and controlled, "chatter-free" lowering of a load.

Operation: Load is raised at flow rate of pump, and held when pump is shut off. When the pump is shifted to "retract", the counter balance valve will continue to hold the load until system pressure exceeds pressure caused by load. The load can then be lowered smoothly

to the flow rate of the pump. The counter balance valve is designed to operate with pumps having a high pressure flow rate of up to 1,9 l/min. and cylinder ratios of 3 to 1.

No. 9720 – Counter balance valve, including two male and two female half two hydraulic hoses, fittings and dust caps. Wt., 4,5 kg.

No. 9721 – Same as 9720, but does not include couplers, hoses, fittings and dust caps. Wt., 4,2 kg.

CAUTION: The 9720 patented counter balance valve has a pilot pressure as high as 210 bar. Because this pressure is applied to the rod end of the cylinder while it is already under load, the system should not be sized for loads greater than 80% of cylinder rated capacity.

CAUTION: To prevent sudden, uncontrolled descent of a load as it is being lowered, use a No. 9596 Load Lowering Valve or No. 9720 Counter Balance Valve in conjunction with the directional valve used in your application. See above, this page.

Shut-off valve

Application: This needle valve permits fine metering of hydraulic oil.

Operation: Can be used for controlling multiple single-acting cylinders.

No. 9575 – Shut off valve with 3/8" NPTF ports. Wt., 0,6 kg.



9575



Check valve

Application: Permits flow of hydraulic oil in one direction only.

Operation: Installs right in hydraulic line.

No. 9580 – Check valve with 3/8" NPTF male ends. Wt., 0,2 kg.



9580



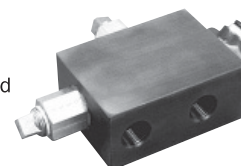
Pilot operated check valve

Application: For use with open or tandem center valves. Permits free flow of fluid in one direction.

Operation: Flow is blocked in opposite direction until pilot oil pressure is applied. This prevents the loss of pressure if the valve is inadvertently shifted or the pump line is broken.

Minimum cracking pressure is 4,1 bar. Required pilot pressure is approximately 16% of checked system pressure.

No. 9581 – Pilot operated check valve with 3/8" NPTF ports. Wt., 1,7 kg.



9581



"In-line" pressure relief valve

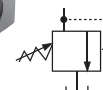
Application: Single- or double-acting cylinders. For remote locations in a hydraulic circuit where maximum pressure requirements are less than basic overload valve setting in pump.

Operation: Adjustable from 70 to 700 bar. Valve is spring-loaded and direct-acting.

No. 9623 – Pressure relief valve with 3/8" NPTF ports. Wt., 0,9 kg.



9623



Metering valve

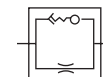
Application: For systems using large cylinders or extended lengths of hydraulic hose.

Operation: Controls surges by restricting flow if it exceeds 26,5 l / min. When flow subsides, valve reopens automatically. Has 3/8" NPTF male end to thread into return port of system control valve, and a 3/8" NPTF female end, permitting return hose to be directly connected.

No. 9631 – Metering valve. Wt., 0.1 kg.



9631



"In-line" pressure regulator valve

Application: Single- or double-acting cylinders. Permits adjusting operating pressures at various values below relief valve setting of pump.

Operation: Regulator valve is easily adjusted to maintain pressures between 20 and 700 bar.

Maintains a given pressure setting within 3% over repeated cycles. Flow range is 0,3 l / min to 23 l / min.

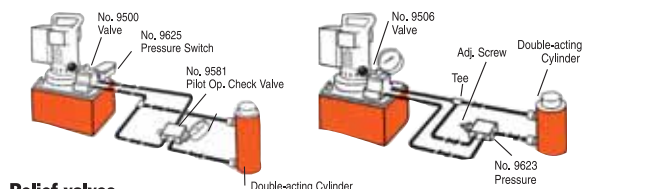
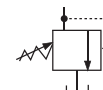
No. 9633 – In-line pressure regulator valve with two 3/8" NPTF inlet ports, one 1/8" NPTF tank port and 1 m drain line kit. Wt., 0,9 kg.

Simply turn the handle clockwise to increase the pressure setting, counter-clockwise to reduce pressure.

Note: 1 m Drain Line Kit is included.



9633

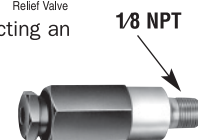


Relief valves

Application: Provide an economical means of protecting an hydraulic circuit against over pressurization.

Operation: These factory preset valves are designed for maximum flow rate of 19 l / min.

Furnished with 1/8" NPTF male port. All valves weigh 0.1 kg. See chart to the right for ordering information.



RV21278 Series

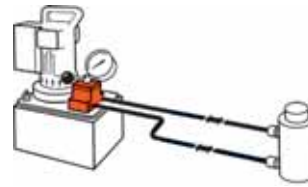
Valve Order No.	Pressure Setting (bar)	Valve Order No.	Pressure Setting (bar)
RV21278	697/738	RV21278-52	366/407
RV21278-6	41/44	RV21278-55	386/428
RV21278-10	62/69	RV21278-57	400/442
RV21278-15	103/117	RV21278-60	421/462
RV21278-20	131/152	RV21278-65	455/497
RV21278-28	186/207	RV21278-70	490/531
RV21278-30	207/235	RV21278-75	524/566
RV21278-32	214/228	RV21278-80	559/600
RV21278-35	241/262	RV21278-83	580/621
RV21278-40	283/310	RV21278-86	600/642
RV21278-43	304/331	RV21278-88	614/662
RV21278-48	338/366	RV21278-90	628/669
RV21278-50	352/393		

Preset — Non-Serviceable

NOTE: Care should be exercised to protect workers from hot, pressurized hydraulic oil. Install these valves only in an enclosed or shielded area.

VALVES

Selection Information
Pump Mounted Valves
700 bar (10,000 psi)



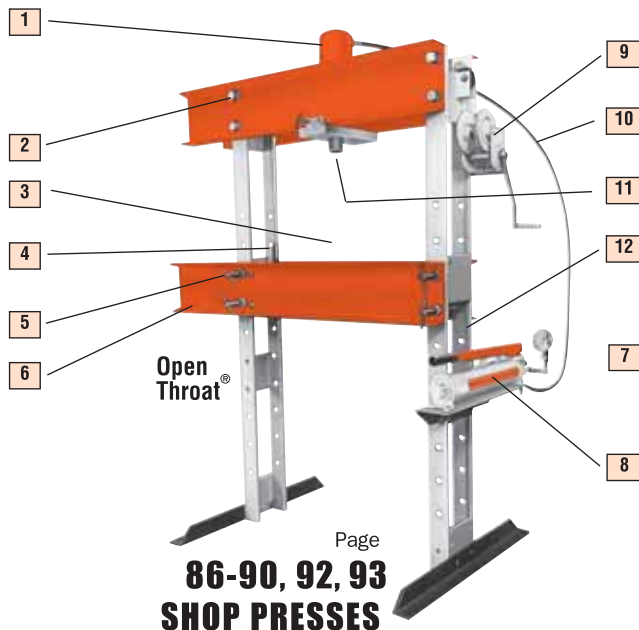
PUMP MOUNTED VALVES

Order No.	Page No.	*Cylinder Application	Operation	Valve Type	Volt	Advance/Return	Advance/Hold Return	Posi-Check® Feature
9500	79	S.A. & D.A.	Manual	4-way, 3 Pos. Tandem Center	—	no	yes	no
9501	79	S.A. & D.A.	Manual	4-way, 3 Pos. Closed Center	—	no	yes	no
9502	78	S.A.	Manual	3-way, 3 Pos. Closed Ctr.	—	no	yes	yes
9504	CF	S.A. & D.A.	Manual	3/4-way, 2 Pos.	—	yes	yes	no
9506	79	D.A.	Manual	4-way, 3 Pos. Tandem Center	—	no	yes	yes
9507	79	D.A.	Manual	4-way, 3 Pos. Closed Center	—	no	yes	yes
9511	CF	S.A. & D.A.	Manual	4-way, 3 Pos. Open Center	—	yes	yes	no
9512	81	D.A.	Solenoid	4-way, 3 Pos. Tandem Center	24	no	yes	yes
9513	81	D.A.	Solenoid	4-way, 3 Pos. Tandem Center	115	no	yes	yes
9516	81	D.A.	Solenoid	4-way, 3 Pos. Tandem Center	12DC	no	yes	yes
9517	78	S.A.	Manual	2-way, 2 Pos.	—	no	yes	no
9519	81	D.A.	Solenoid	4-way, 3 Pos. Tandem Center	230	no	yes	yes
9520	78	S.A.	Manual	4-way, 3 Pos. Tandem Center	—	no	yes	yes
9522	CF	D.A.	Solenoid	4-way, 3 Pos. Open Center	230	yes	no	no
9523	CF	S.A.	Pilot Operated Solenoid	3-way, 2 Pos.	230	yes	no	no
9552	80	S.A. & D.A.	Solenoid	3/4-way, 2 Pos.	230	yes	no	no
9553	CF	S.A.	Pilot Operated Solenoid	3-way, 2 Pos.	24	yes	no	no
9569	80	S.A.	Solenoid	3-way, 2 Pos.	24	no	yes	no
9570	80	S.A.	Solenoid	3-way, 2 Pos.	230	no	yes	no
9572	80	S.A. & D.A.	Solenoid	3/4-way, 2 Pos.	24	yes	no	no
9576	CF	S.A.	Manual	3-way, 3 Pos. Metering Tandem Ctr.	—	no	yes	no
9579	80	S.A.	Solenoid	3-way, 2 Pos.	115	no	yes	no
9582	78	S.A.	Manual	3-way, 2 Pos.	—	no	yes	no
9584	78	S.A.	Manual	3-way, 2 Pos.	—	no	yes	no
9589	CF	S.A.	Pilot Operated Solenoid	3-way, 2 Pos.	115	yes	no	no
9590	CF	D.A.	Solenoid	4-way, 3 Pos. Open Center	115	yes	no	no
9592	80	S.A. & D.A.	Solenoid	3/4-way, 2 Pos.	115	yes	no	no
9594	80	S.A. & D.A.	Air	3/4-way, 2 Pos.	—	no	yes	yes
9599	81	S.A.	Pilot Operated Solenoid	3-way, 3 Pos. Tandem Center	24	no	yes	yes
9605	81	S.A.	Pilot Operated Solenoid	3-way, 3 Pos. Tandem Center	115	no	yes	yes
9609	CF	S.A.	Manual	3-way, 3 Pos. Tandem Center	—	no	yes	no
9610	CF	S.A.	Auto Pilot Operated	3-way, 2 Pos.	—	yes	no	no
9610A	CF	S.A.	Manual	2/3-way, 2 Pos.	—	no	yes	no
9615	CF	D.A.	Solenoid	4-way, 3 Pos. Open Center	24	yes	no	no
9628	CF	S.A. & D.A.	Manual	Post Tensioning	—	special	no	no
9632	CF	S.A. & D.A.	Manual	Post Tensioning	—	special	no	no

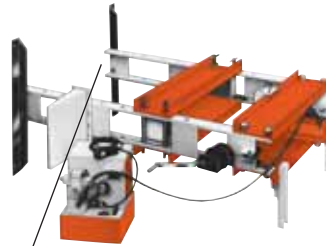
* "S.A." represents single-acting cylinders, "D.A." represents double-acting cylinders
Some of the pump-mounted valves may be mounted remotely using a subplate (See page 65).
CF: Consult Factory

**Remote Mounted Valves
Available: Consult Factory**

SHOP EQUIPMENT



Page
86-90, 92, 93
SHOP PRESSES



Horizontal pressing capabilities



Page
91
FLOOR CRANES

IMPORTANT SAFETY INFORMATION:

Power Team has protective blankets available which may afford protection from injury to users and others should part breakage occur. Power Team recommends the use of these blankets for all pushing, pulling, pressing, and lifting applications. See page 151 for additional information.

THE UNIQUE BENEFITS OF THE POWER TEAM PRESS

1 2 TO 1 SAFETY FACTOR

on hydraulic cylinders and they meet ASME B30.1 standards. Cylinders are easily removed for other applications. Single-acting or double-acting cylinders are available; built-in relief valve on double-acting cylinders.

2 FULL RATED CAPACITY

across width of upper frame, even with workhead moved to one side. (Heavy-duty presses only.)

3 LARGER WORK AREA

than most competitors' models.

4 ALIGNMENT LEVER

for simple pin replacement after raising or lowering the bed.

5 CLOSE MANUFACTURING TOLERANCE

allows even load distribution over four alloy steel pins; not two, like some competitors. (Heavy-duty presses only.)

6 OPEN THROAT® FEATURE

on 25 ton press provides additional work area by mounting cylinder on outside for C-frame advantage.

7 FRAMES CAN BE USED HORIZONTALLY

for pressing jobs on extra-long shafts (see photo above).

8 ELECTRIC, AIR OR HAND HYDRAULIC PUMPS

are available. All are standard Power Team pumps.

Externally adjustable relief valve for precise operator control of working pressure is standard on all electric pumps except PE10 and PE17 series.

24 volt hand switch

for remote control on pumps equipped with solenoid valves.

9 ONE-MAN OPERATION

for bed adjustment. Winch unit quickly raises or lowers bed to desired height. Self-locking winch mechanism prevents bed from dropping when handle is released.

10 9,5 MM I.D. HOSE on spring return cylinders on heavy-duty presses provides up to six times faster cylinder return than standard 6,4 mm I.D.hose.

11 FAST CYLINDER APPROACH

to work provided by 2-speed hand, air or electric pumps.

12 RUGGED UPRIGHTS,

50 percent stronger than channel iron. Four post design means open side for easy loading of long material.

NOTE: Certain features do not apply to Power Team 10 ton, Roll-Bed, or economy presses.

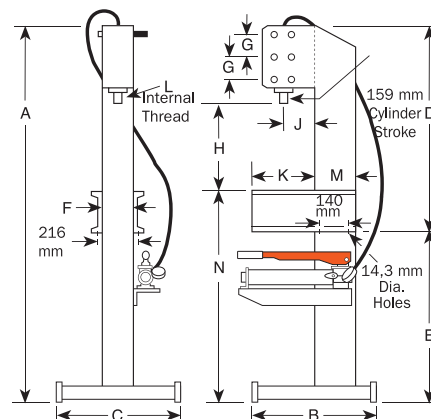
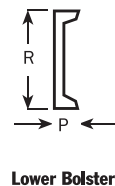
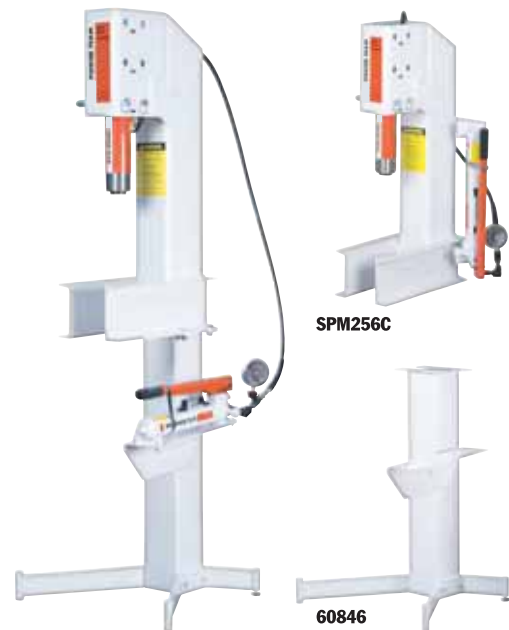
NOTE: Certain press applications may require guarding. Because of the multitude of possible press uses, it is impossible to design a guard that will meet every customer need. The end user must provide their own guarding where the situations dictate.



SHOP PRESS

C Frame 25 Ton Press

- Can be bench mounted or on optional pedestal base.
- Bench mount requires less than 1.4 sq. m. of space; on optional pedestal, only 0,4 sq.m. of floor space is needed.
- "Open Throat" design makes loading and unloading of work easy.
- Cylinder head adjusts to three convenient working positions, providing up to 514 mm of "daylight."
- Hydraulic cylinder delivers a 159 mm stroke, is driven by a P59 two-speed hand pump.
- **Pedestal Base No. 60846** – Provides a stable base for SPM256C. Includes a bracket for mounting the pump on the side of pedestal press. Wt., 34,5 kg. (Available as optional)



DIMENSIONS

A	B	C	D	E	F	G	H (Cyl. Retracted)	J	K	L	M	N	P	R	Floor Space
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
1.972	622	610	1.057	914	152	127	260, 387, 514	165	318	1½ - 16	203	1.092	51	178	610 x 622

ORDERING INFORMATION

Capacity (Tons)	Type Cyl. Used	Stroke (mm)	Cyl. Model	Order No.	Speed** Advance	Pressing	Type Pump	Pump Model	Prod.Wt. (kg)
25	Single- Acting	159	C256C	SPM256C*	3,3 mm/ stroke	0,8 mm/ stroke	Hand	P59	108

* SPM256C does not include No. 60846 pedestal base.

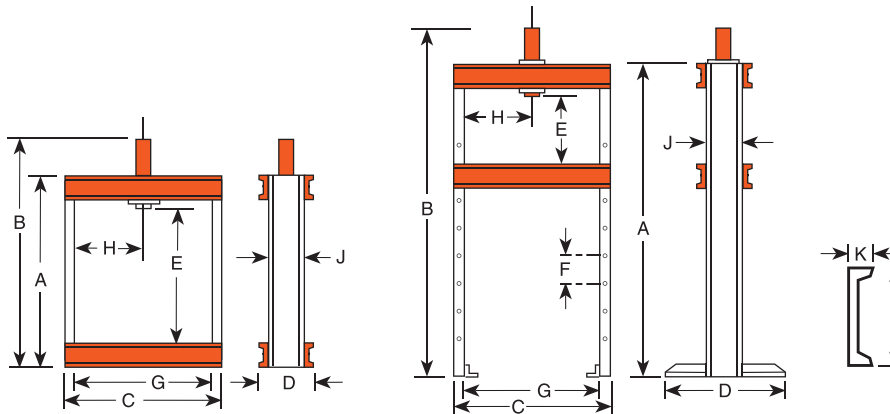
** Typical performance based on pump specifications. Actual speeds may vary with operating conditions.

SHOP PRESS

H Frame 10 Ton Bench/Floor Presses



- Ideal for small pressing jobs; repairing small motors, armatures, removing and installing gears, bearings, other press-fit parts.
- Bench press has 391 x 457 mm work area; floor press bed height is adjustable from 127 mm to 1.041 mm with horizontal "daylight" of 553 mm.
- Choices of power sources: single-speed hand pump, electric/hydraulic or air/hydraulic.
- Hydraulic gauges, hoses and fittings included.
- Pump electrical specification PE10 series - 0.19kW 220/230V 50/60Hz, Single Phase.



DIMENSIONS

Frame	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)	L (mm)	Bench Space (mm)	Floor Space (mm)
Bench	622	841	641	182	391	—	559	279	102	40	102	182 x 641	—
Floor	1.499	1.718	641	711	127-1.041	152	559	63,5-470*	102	40	102	—	711 x 730

*Lateral head movement

ORDERING INFORMATION

Frame	Cap. (Tons)	Type of Cyl. Used	Stroke	Cylinder Model	Order No.	Speed (mm./min.)††† Advance Pressing	Type Pump	Pump Model †	Prod. Wt. (kg)
222481 Bench	10	Single-Acting	257	C1010C	SPM1010	1,5 mm/stroke	Hand	P55	41,2
222480 Floor	10	Single-Acting	257	C1010C	SPH1010	1,5 mm/stroke	Hand	P55	77,5
222480 Floor	10	Single-Acting	257	C1010C	SPE1010-220	55,7 5,1	Elec. ††	PE102-220	79,3
222480 Floor	10	Single-Acting	257	C1010C	SP1010A	93,7 7,6	Air	PA9H	78,1
222480 Floor	10	Double-Acting	254	RD1010	SPE1010D-220	55,7 5,1	Elec. ††	PE104-220	87,0

† Optional air/hydraulic pumps available on request. Other Power Team pumps can be substituted.

†† "Advance" position holds pressure with motor shut off. "Return" position advances cylinder with motor running and returns cylinder with motor shut off.

††† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary with operating conditions.

Available with 110/115V, 50/60Hz, Single Phase motor:-

- **SPE 1010** (Single-Acting) comes with PE102 Pump.
- **SPE 1010D** (Double-Acting) comes with PE104 Pump.

Optional: **PE17** series 2-speed pump with 0.37 kW motor.

PRESS

H Frame

Open Throat® & Economy Press 25 Ton Presses

OPEN THROAT PRESSES

- Design permits use as both "H" frame and "C" frame press; cylinder can be mounted on frame extension to handle jobs which won't fit between uprights.
- Open throat press models are also available with remote control to enable the operator to view work from all sides with fingertip control of cylinder piston travel.
- Off-center pressing loads of full capacity can be applied across entire width of frame.

ECONOMY PRESSES

- Rugged, yet reasonably priced. Handles many "big press" tasks, and perfect for many of the "in-between" jobs you see almost daily.

Note: Stroke length limited to 159 mm on economy models.

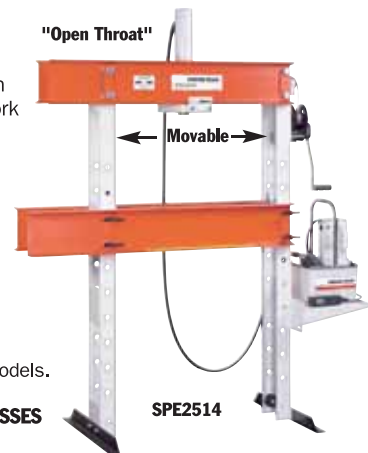
FEATURES OF BOTH OPEN THROAT AND ECONOMY PRESSES

- Press bed height easily adjustable with winch. Bed will not drop when handle is released.
- Choice of power sources for rapid cylinder advance: two-speed hydraulic hand pump, electric/hydraulic or air/hydraulic.

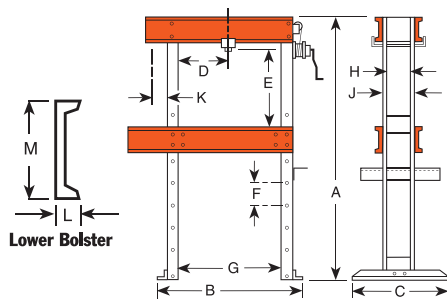
PUMP ELECTRICAL SPECIFICATIONS

PE17 Series – 0,37 kW

PE21 Series – 0,75 kW (Available in 115 volt, 60 cycle or 220 volt, 50 cycle, single phase)



Hydraulic gauge and hydraulic fittings are included with presses.



Open Throat feature enables cylinder to be mounted on outside of press frame for fast bearing removal and more.

DIMENSIONS

A (mm)	B (mm)	C (mm)	D* (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)	L (mm)	M (mm)	Floor Space (mm)
1.727	1.092	711	76-737	175-1.102	114	813	140	165	178	64	203	1.092 x 711

*Lateral head movement

ORDERING INFORMATION

Cap. (Tons)	Type of Cylinder Used	Stroke (mm)	Cylinder Model	Order No.	Speed (mm/min.) Advance	††† Pressing	Type Pump	Valve Type	Pump‡ Model	Prod.Wt. (kg)
"Open Throat" presses										
25	Single-Acting	362	C2514C	SPA2514	249	30	Air	2-Way Foot	PA6	309
25	Single-Acting	362	C2514C	SPM2514	12,4 mm/ stroke	0,8 mm/ stroke	Hand	Load - Release	P159	314
25	Single-Acting	362	C2514C	SPE2514-220	1184	84	Elec.	2-Way†††	PE172-50-220	301
25	Single-Acting	362	C2514C	SPE2514S-220	1321	102	Elec.	3-Way†	PE213S-50-220	344
25	Double-Acting	362	RD2514	SPE2514DS-220	1321	102	Elec.	4-Way†	PE214S-50-220	357
"Economy" presses										
25	Single-Acting	159	C256C	SPA256	249	30	Air	2-Way Foot	PA6	197
25	Single-Acting	159	C256C	SPM256	3,0 mm/ stroke	0,8 mm/ stroke	Hand	Load - Release	P59	205
25	Single-Acting	159	C256C	SPE256-220	1184	84	Elec.	2-Way†††	PE172-50-220	210

† Solenoid valve with 12 volt remote control hand switch.

†† Holds pressure with motor shut off. Also has an automatic dump setting. Furnished with a 3.1m remote motor control.

††† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary under operating conditions.

‡ Pump standard with press. Other Power Team pumps can be substituted.

dBA at idle and 700 bar: PE172-67/81 dBA; PE 21-70 dBA measured at 0,9 m distance, all sides.

Available with 115 Volt, 60Hz motor (to order, remove suffix "-220" from SPE no.)

PRESS

H Frame 55 Ton Presses

- Full off-center pressing at full rated capacity across width of upper frame without buckling or bending.
- Maximum "daylight" is 1.067 x 914 mm, making positioning of even bulky work pieces easy.
- Height of press bed is easily adjusted with winch; friction brake prevents bed from dropping and handle from spinning upon release.
- Presses with single-acting cylinder offer choice of 2-speed hand operated, electric/hydraulic, or air/hydraulic pump. Models with double-acting cylinder have an electric/hydraulic pump.

- Press models equipped with remote control enable operator to view work from all sides with fingertip control of cylinder piston travel.
- Press can be used horizontally for special applications with user-supplied support legs.
- Pump electrical specifications
PE 17 series - 0.37 kW
PE 21 series - 0.75 kW
PQ 60 series - 1.49 kW
 Available in 115V/60Hz or 220V/50Hz Single phase.



No. SF50 – Straightening fixtures for use with 55-ton shop or 80-ton Roll-Bed® presses (2 ea.). Wt., 47,2 kg.
Not part of press, order separately.



Hydraulic gauge and hydraulic fittings are included with presses.



DIMENSIONS

A (mm)	B (mm)	C (mm)	D* (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	L (mm)	M (mm)	Floor Space (mm)
1.829	1.232	914	83-832	152-1.067	152	914	171	203	76	305	1.232 x 914

*Lateral head movement

ORDERING INFORMATION

Cap. (Tons)*	Type of Cylinder Used	Stroke (mm)	Cylinder Model	Order No.	Speed (mm/min.) ^{†††}	Type Pump	Valve Type	Pump‡ Model	Prod.Wt. (kg)
55	Single-Acting	159	C556C	SPA556	114	Air	2-Way Foot	PA6	318
55	Single-Acting	159	C556C	SPM556	5,8 mm/ stroke	Hand	Load- Release	P159	323
55	Single-Acting	337	C5513C	SPM5513	18,9 mm/ stroke	Hand	2-Way	P460	435
55	Single-Acting	159	C556C	SPE556-220	551	Elec.	2-Way††	PE172-50-220	333
55	Single-Acting	337	C5513C	SPE5513-220	551	Elec.	2-Way††	PE172-50-220	444
55	Single-Acting	337	C5513C	SPE5513S-220	620	Elec.	3-Way†	PE213S-50-220	478
55	Double-Acting	333	RD5513	SPE5513D-220	551	Elec.	4-Way	PE174-50-220	450
55	Double-Acting	333	RD5513	SPE5513DS-220	1679	Elec.	4-Way†	PQ604S-50-220	505

* Frame is shipped assembled.

† Solenoid valve with 24 volt remote control hand switch.

†† Holds pressure with motor shut off. Also has an automatic dump setting. Furnished with a 3,1 m remote motor control.

††† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary with operating conditions.

‡ Pump standard with press. Other Power Team pumps can be substituted. dBA at idle and 700 bar: PE172—67/81; PE21-70; PQ 60-74/76; measured at 0,9 m distance, all sides.

Available with 115 Volt, 60Hz motor (to order, remove suffix "-220" from SPE no.)

PRESS

H Frame 100, 150 & 200 Ton Presses



No. SF150 – Straightening fixtures for use with 100-ton shop press and 100-, 150-, and 200-ton RollBed® presses (2 ea.). Wt., 89 kg. **Not part of press, order separately.**

- Cylinder workhead glides across upper frame on rollers, locks in place for off-center pressing jobs. May be used horizontally for special pressing applications with user-supplied supports.
- Press bed is raised and lowered by winch which locks in place for insertion of bed retaining pins. Upper bolster can be lowered for convenient positioning on repetitive jobs.
- Generous "daylight" accommodates bulky work pieces, uprights are placed for easy side entry of bars or shafts for straightening or bending.
- Choice of single- or double-acting cylinder. Hydraulic pump options include: 2-speed hand pump with large 7,6 l reservoir, PE172 electric/hydraulic pump or "PQ" series "Quiet" electric/hydraulic pump with low noise level.

PUMP ELECTRICAL SPECIFICATIONS

PE17 Series – 0,37 KW, 220 volt, 50 cycle, single phase.

Also available in 115 volt, 60 cycle, remove suffix "-220" from order no.

PQ60 Series – 1.49 KW, 220 volt, 50 cycle, single phase.

Also available in 115 volt, 60 cycle, remove suffix "-220" from order no.

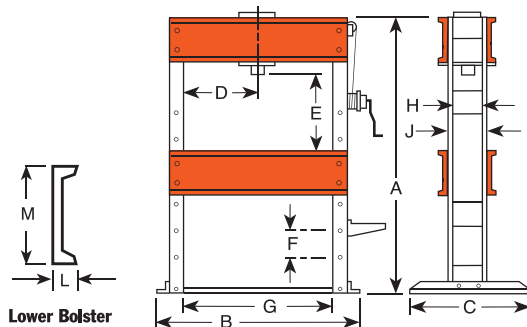
PQ120 Series – 2,24 KW, 380V, 50 Hz, three phase. (Suitable for 415V/50Hz/3 Phase)

Also available in 460V/60Hz/3 phase, remove suffix "-380" from order no. (Suitable for 440V/50Hz/3 Phase)



SPE10013DS

Hydraulic gauge and hydraulic fittings are included with presses.



DIMENSIONS

Cap	A (mm)	B (mm)	C (mm)	D* (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	L (mm)	M (mm)	Floor Space (mm)
100T:	1.962	1.626	914	178-1.092	51-1.067	203	1.270	203	254	86	381	914 x 1.988
200T:	2.286	1.803	1.118	279-991	228-1.111	279	1.270	318	381	105	457	1.117 x 1.803

*Lateral head movement

ORDERING INFORMATION

Cap. (Tons)†	Type of Cyl. Used	Stroke (mm)	Cylinder Model	Order No.	Speed (mm/min.)††		Type Pump	Valve Type	Pump‡ Model	Prod. Wt. (kg)
					Advance	Pressing				
100	Single-Acting	260	C10010C	SPM10010	9,0 mm/ stroke	0,3 mm/ stroke	Hand	3-way	P460	769
100	Single-Acting	260	C10010C	SPE10010-220	889	74	Elec.	3-way	PQ603-50-220	813
100	Single-Acting	260	C10010C	SPE10010R-220	292	20	Elec.	2-way	PE172-50-220	766
100	Double-Acting	333	RD10013	SPE10013DS-380	889	147	Elec.	4-way**	PQ1204S-50-380	854
150	Double-Acting	333	RD15013	SPE15013DS-380	610	99	Elec.	4-way**	PQ1204S-50-380	1.366
200	Double-Acting	333	RD20013	SPE20013DS-380	457	74	Elec.	4-way**	PQ1204S-50-380	1.484

† Frame is shipped assembled.

** Solenoid valve with 24 volt remote control hand switch.

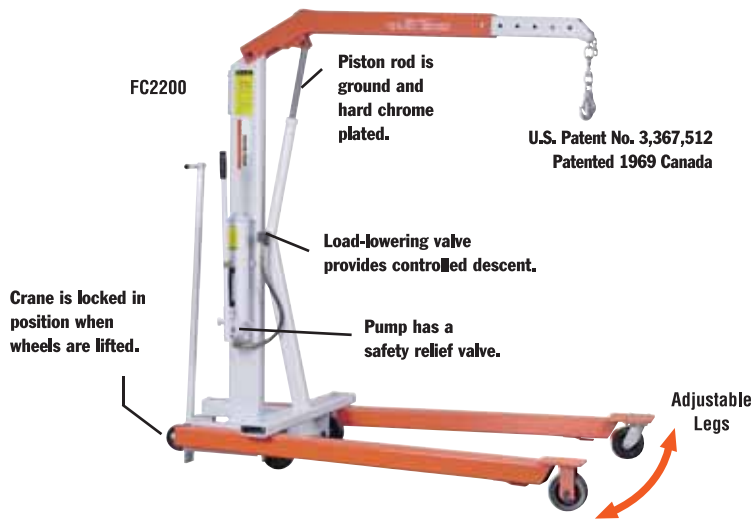
†† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary under operating conditions.

‡ Pump standard with press. Other Power Team pumps can be substituted.

dBA at idle and 700 bar: PE172—67/81; PQ60—74/76; PQ120—73/78. Measured at 0,9 m distance, all sides.

MOBILE FLOOR CRANES

1000 - 2000kg



Load-Rotors (Tilters)

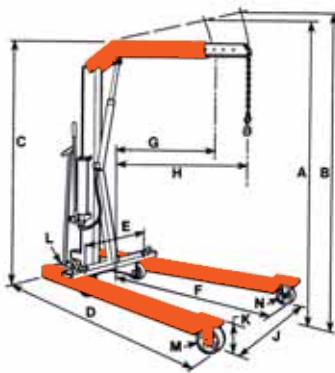
(907 to 2721 kgs. capacity)

For lifting or positioning components, POWER TEAM'S heavy duty lifting slings are available (consult factory)



"Tilter" LR6000
2,721 kg. (6,000 lbs.) cap.

LR2000: 907 kg. (2,000 lbs.) cap.
LR4000: 1,814 kg. (4,000 lbs.) cap.



DIMENSIONS

Order No.: **FC2200**

FC4400

Capacity, boom retract (kg)	1,000*	2,000**
Capacity, boom extend (kg)	750	1,500
A Max. boom hgt., ret (mm)	2,718	2,819
B Max. boom hgt., ext. (mm)	2,972	3,099
C Overall hgt., boom horiz. (mm)	2,032	2,083
D Overall length (mm)	2,108	2,261
E Min. throat width (mm)	610	635
F Inside leg length (mm)	1,372	1,461
G Eff. boom reach -ret.(mm)	838	902
H Eff. boom reach -ext. (mm)	1,219	1,238
J Inside leg width (mm)	610 - 914 - 1,219 (3 -position)	660 - 1,016 - 1,333 (3 -position)
K Leg height (mm)	203	241
L Dolly wheel diameter (mm)	127	127
M Wheel diameter (mm)	152	203
N Caster diameter (mm)	152	152
space, folded (mm)	686 x 965	787 x 1,067
Height, folded (mm)	2,007	2,184

*2,200 lbs.

**4,400 lbs.

1000 kg and 2000 kg
capacity with space-saving
fold-away feature



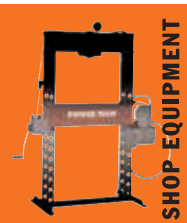
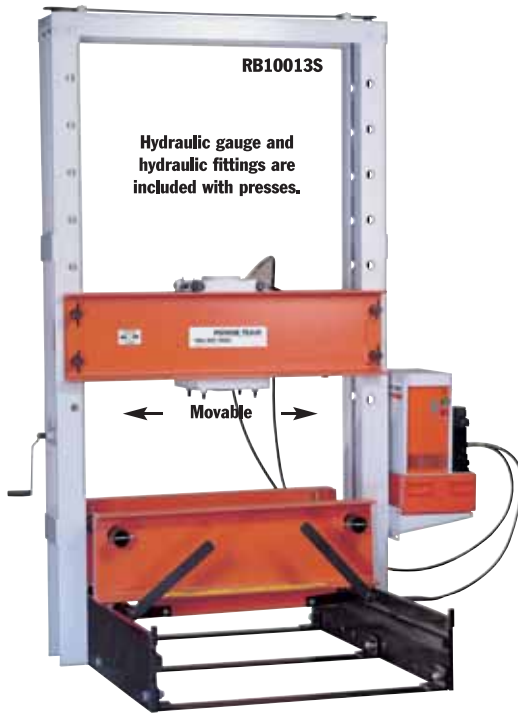
- Adjustable legs spread to clear obstacles, telescoping boom for extra reach. Rugged construction, reliable hydraulics.
- Boom collapses completely and legs fold for compact storage.
- 2-speed hydraulic hand pump provides fast boom travel and precise operator controlled descent.
- Roller bearing wheels and a steering dolly provide ease of mobility. Lifting chain is included.

No. FC4400 – **2000 kg cap. crane with fold-away feature, adj. leg spread, lifting chain and 2-speed hand pump. Wt.293 kg.



ROLL-BED® PRESS

H Frame
80 to 200 Ton Presses



Heavy-Duty Straightening Fixtures



No. SF50 – Fixtures for use with 80-ton Roll-Bed® presses or 55-ton heavy-duty shop presses. (2 ea.). Wt. 47,2 kg. **Not part of press, order separately.**



No. SF150 – Fixtures for use with 100-, 150- and 200-ton Roll-Bed® presses and 100-ton shop presses only (2 ea.). Wt. 89 kg. **Not part of press, order separately.**

- The original, patented Roll-Bed® design. Bed rolls out for easy loading and unloading with a crane or other lifting device.
- Movable workhead glides easily side-to-side for full off-center load capacity across width of upper frame.
- "Daylight" is 1.283 x 1.524 mm for 80- and 100-ton models; 1.302 x 1.625 mm on 150- and 200-ton presses.
- Fast approach of double-acting, 334 mm stroke cylinder is provided by PQ1204S "Quiet" electric/ hydraulic pump with remote control hand switch. Operator can view work from all sides with fingertip control of cylinder piston travel.

PRESS FEATURES:

- **Roll-Bed® design** – Bed glides in or out on bearings to make loading and unloading fast and easy.

- Adjustable lower bed width – For secure balancing and centering of heavy jobs. Loosen adjusting bolts to adjust bed from 102 to more than 686 mm. See dimension "H."
- **Movable workhead** – For off-center pressing jobs, workhead moves on bearings across upper bolster. Presses can be used at full capacity, regardless of where workhead is placed.
- **Lifting mechanism** – Simply turn crank handle to raise or lower upper bolster. Screw mechanism raises or lowers both sides evenly (a heavy-duty 1/2" drill motor can replace handle for automatic adjustment). Four locking pins hold bolster in place for pressing.

- **Optional heavy-duty straightening fixtures** – Make straightening jobs easy and accurate to within 0.1 mm! Rollers are ball bearing mounted and handle raises or lowers for easy turning of the work.

PUMP ELECTRICAL SPECIFICATIONS

PQ120 Series – 2,24 KW, 380 volt, 50 cycle, three phase.

NOTE: Different voltage and valve options can be obtained by substituting certain PA, PE or PQ series pumps. Consult the factory.



Lifting screw and locking pins make bolster raising a one-man job.



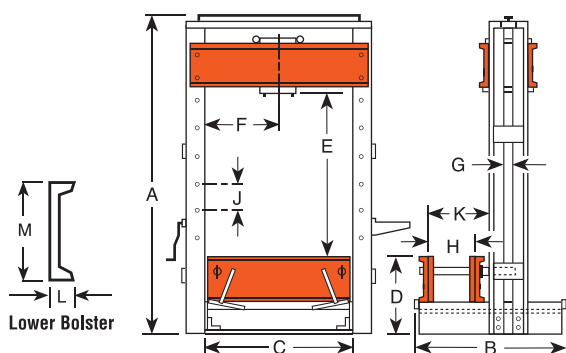
Bearings make bed positioning smooth and easy.



Lever lowers bed for pressing, raises it for rolling.



Cylinder is easily moved across width of upper bolster.



Width adjusts from 102 mm to over 686 mm; is secured with locking bolts.



DIMENSIONS

Cap (Tons)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)	L (mm)	M (mm)	Floor Space (mm)
80	2.861	1.632	1.283	686	305-1.524	368-914	76,2	102-692	203	927	86	381	1.632-1.537
100	2.861	1.632	1.283	686	305-1.524	368-914	76,2	102-692	203	927	86	381	1.632-1.537
150	3.131	1.734	1.302	762	229-1.626	352-949	76,2	102-689	279	946	105	457	1.734-1.607
200	3.131	1.734	1.302	762	229-1.626	352-949	76,2	102-689	279	946	105	457	1.734-1.607

ORDERING INFORMATION

Capacity (Tons)†	Type of Cylinder Used	Stroke (mm)	Cylinder Model	Order No.	Speed (mm/min.)††	Type Pump	Valve Type	Pump‡ Model	Prod. Wt. (kg)
80	Double Acting	333	RD8013	RB8013S-380	1168	190	Elec. 4-way*	PQ1204S-50-380	1.307
100	Double Acting	333	RD10013	RB10013S-380	889	147	Elec. 4-way*	PQ1204S-50-380	1.334
150	Double Acting	333	RD15013	RB15013S-380	610	99	Elec. 4-way*	PQ1204S-50-380	2.019
200	Double Acting	333	RD20013	RB20013S-380	457	74	Elec. 4-way*	PQ1204S-50-380	2.059

* Solenoid valve with 24 volt remote control hand switch.

† Frame is shipped assembled.

‡ Pump standard with press. Other Power Team pumps can be substituted. dBA at idle and 700 bar: PQ120-73/78; measured at 0,9 m distance, all sides.

†† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary with operating conditions.

Available with 460Volt, 60Hz, 3-phase motors (to order, remove suffix "380" behind press order number), suitable for 440V, 50Hz, 3 ph ase. 380V/50Hz/3 phase also suitable for 415V/50Hz/3 phase.

JACKS

Page
BOTTLE JACKS...95
2-110 Ton



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TOE JACKS
5½ - 27½ Ton



Page
...95
LOW PROFILE
BOTTLE JACKS
12-30 Ton



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PORTABLE HIGH
TONNAGE RAILROAD
JACKS 55-300 Ton



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BOTTLE JACKS
TELESCOPING
6-15 TON



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POST TENSION JACKS
20-30 Ton



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SIDEWINDER JACKS
5-20 TON



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MAINTENANCE SETS



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ECONOMY
TOE JACKS...97
2-10 Ton



Page
...104, 105
INFLATABLE JACKS
1-74 Ton



BOTTLE JACKS

2 to 110 Ton
Portable Hydraulic Power

INDUSTRIAL LIFTING AND PUSHING APPLICATIONS.

- Choose from this complete line of premium-quality, standard bottle jacks. Ideal for use in any number of industrial lifting and pushing applications.
- The 9110B, 9015B, 9022B and 9033B feature a beveled base which allows the jack to "follow" the load, reducing the chance of dangerous side-loading.
- Many jacks feature screw extensions and all can be used in the vertical, angled or horizontal positions.
- Serrated or contoured saddles help stabilize the load for a safer lift.
- All jacks meet ASME B30.1 standards and carry the Power Team Marathon Lifetime Warranty.
- 110-ton jack features dual pumps for time-saving two-speed operation.



Standard

ORDERING INFORMATION

Cap. Tons	Stroke (mm)	Order Number	Retracted Height Min. (mm)	Length of Screw Ext. (mm)	Height w/Screw Ext. (mm)	No. Pump Strokes to Ext. Piston completely	Saddle Dia. (mm)	Base Size (mm)	Pump Handle Length (mm)	Handle Effort at Rated Cap. (kg)	Carry Handle	Metric tons at 700 (bar)	Product Weight (kg)
2	114	9002A	181	49	344	5	25	110x65	311	34	No	1,8	2,2
3	114	9003A	191	60	365	10	29	114x72	489	20,4	No	2,7	2,6
5	121	9005A	200	70	391	12	35	132x76	545	24,9	No	4,5	3,6
8	121	9008A	200	70	391	18	38	152x89	605	34	No	7,3	5,5
12	149	9112A	241	79	470	26	48	165x106	605	27,2	Yes	10,9	7,9
15	156	9015B	230	110	495	27	60	130x140†	700	40,8	No	13,6	8,3
20	159	9120A	270	40	429	22	51	183x129	800	31,7	Yes	18,1	12,9
22	156	9022B	240	110	505	36	60	165x160†	700	40,8	Yes	20,0	10,7
30	159	9030A	279	—	438	35	60	192x141	1.000	22,7	Yes	27,2	18,7
33	143	9033B	240	100	483	56	65	184x176†	700	39,9	No	29,9	14,5
50	171	9050A	305	—	476	35	76	237x187	1.000	38,6	Yes	45,4	35,4
110	156	9110B	300	—	456	40/160‡	111	339x291	700	35,8	Yes	99,8	70

† Comes with a Beveled Base

‡ 2 Speed: Rapid advance≈40 strokes; Lift mode≈160 strokes

For Low Clearance Jobs

- All the quality, features and lifting capacity of the standard jacks in short form. The 12-ton and 20-ton models feature screw extensions for added versatility.
- All jacks meet ASME B30.1 standards and carry the Power Team Marathon Lifetime Warranty.
- All jacks operate both vertically and horizontally for use in a variety of lifting, pushing and spreading applications.



Low Profile

ORDERING INFORMATION

Cap. Tons	Stroke (mm)	Order Number	Retracted Height Min. (mm)	Length of Screw Ext. (mm)	Height w/Screw Ext. (mm)	No. Pump Strokes to Ext. Piston completely	Saddle Dia. (mm)	Base Size (mm)	Pump Handle Length (mm)	Handle Effort at Rated Cap. (kg)	Carry Handle	Metric tons at 700 bar	Product Weight (kg)
12	95	9012A	171	76	343	26	48	165x106	605	27	Yes	10,9	6,4
20	86	9020A	181	40	305	22	51	183x129	800	32	Yes	18,1	10,1
30	79	9130A	181	—	260	35	60	192x141	1.000	23	Yes	27,2	13,7

‡ 2 Speed: Rapid advance≈40 strokes; Lift mode≈160 stroke

BOTTLE JACKS

5 to 20 Ton
Portable Hydraulic Power



- Telescoping jacks offer all of the quality features and capabilities of the standard bottle jack line with a bonus. The super-long stroke of these jacks saves time and effort by eliminating the need to lift, crib, lift, etc. In most applications, the user can place the jack once and complete the lift.
- The 9015X offers very low clearance capability, making it the ideal choice for forklift maintenance or machine lifting.
- The taller 9006X, 9011X and 9013X all feature a unique beveled base that allows the jack to "follow" the load laterally as it is raised, greatly reducing side-loading of the piston.

Telescoping Jacks

ORDERING INFORMATION

Cap. Tons	Stroke (mm)	Order Number	Retracted Height Min. (mm)	Length of Screw Ext. (mm)	Height w/Screw Ext. (mm)	No. Pump Strokes to Ext. Piston 25,4 mm	Saddle Dia. (mm)	Base Size Beveled Base (mm)	Pump Handle Length (mm)	Handle Effort at Rated Cap. (kg)	Carry Handle	Metric tons at 700 bar	Product Weight (kg)
6	305	9006X	216	—	521	14	44	121 x 133	700	36	No	5,4	6,4
11	262	9011X	200	68	530	25	41	160 x 165	700	40	No	10,0	8,8
13	254	9013X	230	84	570	35	48	176 x 186	700	36	Yes	11,8	11,3
15	181	9015X	170	70	419	32	52	143 x 194	600	43	Yes	13,6	12



- Retracted height of just 63,5 mm for the smallest jack and 130,2 mm for the 20 ton, allows you to slip this jack into the narrowest of crevices.
- Jacks operate either horizontally or vertically. Handles function in line with base for easier use in confined spaces.
- The perfect addition to any toolbox, this remarkable little jack has multiple uses that are limited only by your imagination. Use it as a jack or a spreader. Use it to turn your mechanical gear puller (puller capacity must match jack capacity) into a hydraulic puller. Use it vertically or horizontally in limited clearance.

Sidewinder Jacks

ORDERING INFORMATION

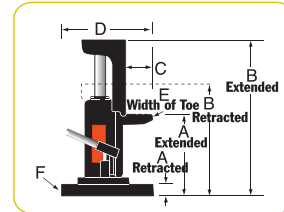
Cap. Tons	Stroke (mm)	Order Number	Retracted Height Min. (mm)	Max Height (mm)	No. Pump Strokes to Ext. Piston 25 mm	Saddle Dia. (mm)	Base Size Dia. (mm)	Pump Handle Length (mm)	Handle Effort at Rated Cap. (kg)	Carry Handle	Metric tons at 700 bar	Product Weight (kg)
5	19	9105A	63,5	85,7	30	29	73,8	240	26	No	4,5	1,9
5	38	9205A	88,9	130,2	38	29	73,8	240	26	No	4,5	2,4
10	30	9210A	120,7	149,2	36	42,1	109,9	440	28	No	9,1	5,5
20	30	9220A	130,2	160,3	46	52,8	119,9	605	35	No	18,1	8,0

TOE JACKS

2 to 27.5 Ton



- These bottle jack-style toe jacks are loaded with many of the same features as our standard bottle jacks, but the toe-lift feature and swiveling pump handle socket make them ideal for machinery lifting and positioning.
- An internal pressure relief provides added safety by limiting the jack's lifting capability to the capacity of the toe.
- Spring return is an added feature on the larger jacks.
- Swiveling pump handle assembly available on the 5- and 10-ton models. The swiveling jack assembly allows you to access and pump the unit from numerous positions.



DIMENSIONS								
Order Number	A		B		C	D	E	F
	Ret. (mm)	Ext. (mm)	Ret. (mm)	Ext. (mm)				
J24T	16	140	232	356	47,5	181	51	125
J55T	25	149	292	476	47,5	257	191	157
J106T	32	181	327	476	64	292	100	241

Meets ASME B30.1 standard	ORDERING INFORMATION							
	Max Lift		Strokes to		Handle Effort		Metric	Product
	Cap.	Stroke	Order	Extend	Piston at Max Load	Carry	tons at	Wt.
	Tons	(mm)	Number	25 mm	(kg)	Handle	700 bar	(kg)
	2	121	J24T	14	19	Yes	1,8	8,3
	5	121	J55T	22	27	Yes	4,5	24
10	146	J106T	31	33	Yes	9,1	38	

Meets ASME B30.1 standard



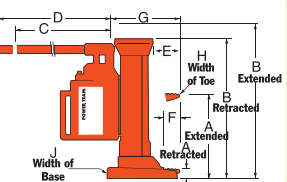
GET UNDER EQUIPMENT WITH ONLY 27MM OF GROUND CLEARANCE

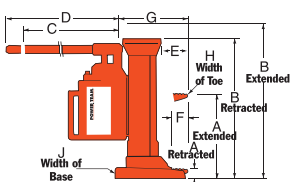
- With lifting points on the toe and on the top, these extremely rugged jacks are ideal for machine lifting, rigging, lift truck service and much more.
- Choose from 5.5-ton, 11-ton, and now, an amazing 27.5-ton lifting capacity.
- All jacks operate both vertically and horizontally.
- Base, toe and pumping assembly swivel independently, allowing the jack to work in confined areas.



JACKS

DIMENSIONS											
Order Number	A		B		C	D	E	F	G	H	J
	Ret. (mm)	Ext. (mm)	Ret. (mm)	Ext. (mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
J58T	27	238	375	584	368	451	71	56	176	41	130
J109T	27	264	419	654	368	451	76	56	183	64	171
J259T	54	289	505	738	210	756	146	102	267	89	270

ORDERING INFORMATION							
	Cap.	Max Lift	Order	Strokes	Handle Effort	Metric	Product
	Tons	Stroke (mm)	Number	to Extend	at Max	tons at	Wt.
				Piston	Load	700	(kg)
				25,4 mm	(kg)	bar	
						Carry	
5½	210	J58T	8	38,1	Yes	5,0	19,5
11	235	J109T	13	40	Yes	10,0	29
27½	233	J259T	21	40	Yes	24,9	92,1



PORTABLE HIGH TONNAGE JACKS

60 & 100 Ton
Railroad Edition



PORTABLE AND COMPACT, IDEAL FOR LOCOMOTIVE AND RAILCAR, MINING.

- Patented load lowering valve. Lowers load smoothly and safely. Eliminates dangerous chatter and bounce.
- Full range of rod extensions. Jack comes fully equipped with extensions to match lifting pad heights on most rolling stock. Max. lifting height to 1,778 mm .
- Low collapsed height, long stroke. 610 mm collapsed height for low-clearance lift pads. 360 mm stroke for maximum lift.
- Adjustable, ergonomic handle. Handle tilts to start the job and is easily locked/unlocked without moving from operating position.
- Cribbing block set with handles and convenient storage rack. Provides solid mechanical load holding.
- High-profile, low rolling resistance, foam-filled tires. Jack can be moved and positioned with minimal effort. No chance of downtime due to punctured tires.
- Electric and air motor options. Quiet, powerful air and electric motor powered units available.
- Contact factory for:-
 - lower collapsed height
 - custom cribbing block sizes
 - custom piston rod extensions



POWER UNIT SPECIFICATIONS

Order No.	Motor	Power Req.	Motor Control	Valve Function	Power Cord	dBa at 700 bar
PLE6014-220	0,84 kW, 220 VAC***, 50 Hz Single Phase	12 amps	6,1 m Remote Control	Lift Hold Lower Manual	Pigtail	80/95
PLA6014	Rotary Air Powered	1,417 l/m at 6 bar (50 cfm at 80psi)	6,1 m Remote Air Control	Lift Hold Lower Manual	NA	82

*** For 110/115V-50/60 Hz order PLE6014



Electric Model
(PLE6014K)



Air Model
(PLA6014K)

ORDER INFORMATION

Capacity (Tons)	Stroke (mm)	Order Number	Retracted Height (mm)	Extended Ht. w/Extensions (mm)	Product Wt. Less Cribbing & Ext. (kg)
60	356	* PLA6014K	610	1.778	237
60	356	* PLE6014K-220	610	1.778	237
100	356	Consult Factory	610	1.499	237

*Includes cribbing block set stored on jack handle rack, and 7 extensions (25,4; 50,8; 76,2; 101,6; 127; 254 and 308 mm)

- PLE6014** = Jack, Electric (115 V), includes: Cart, Pump & Cylinder
PLE6014-220 = Jack, Electric (220 V.) includes: Cart, Pump & Cylinder
PLA6014 = Jack, Air, includes: Cart, Pump & Cylinder
CBS60 = Cribbing Block Set (5 cribbing blocks)
PL60EXT = Extension Set (Consists of 7 extensions)

CRIBBING BLOCKS (CBS60, INCLUDED)

Qty.	Height (mm)	Order Number
1	38,1	351954
4	76,2	351953



EXTENSIONS (PL60 EXT, INCLUDED)

Extension Length (mm)	Order Number	Extension Weight (kg)
25,4	351931	2,2
50,8	351927	4,0
76,2	351928	6,4
101,6	351929	8,7
127	66053	9,5
254	66054	13,8
508	66055	22,1

LIFTING RANGE

Lifting range (in 25,4 mm increments): 610 mm- 1.778 mm.

Only 3 extensions are needed to provide this range.

Do NOT exceed 1.778 mm lifting range on 60-ton unit or 1.489 mm on 100-ton unit.



JACKS

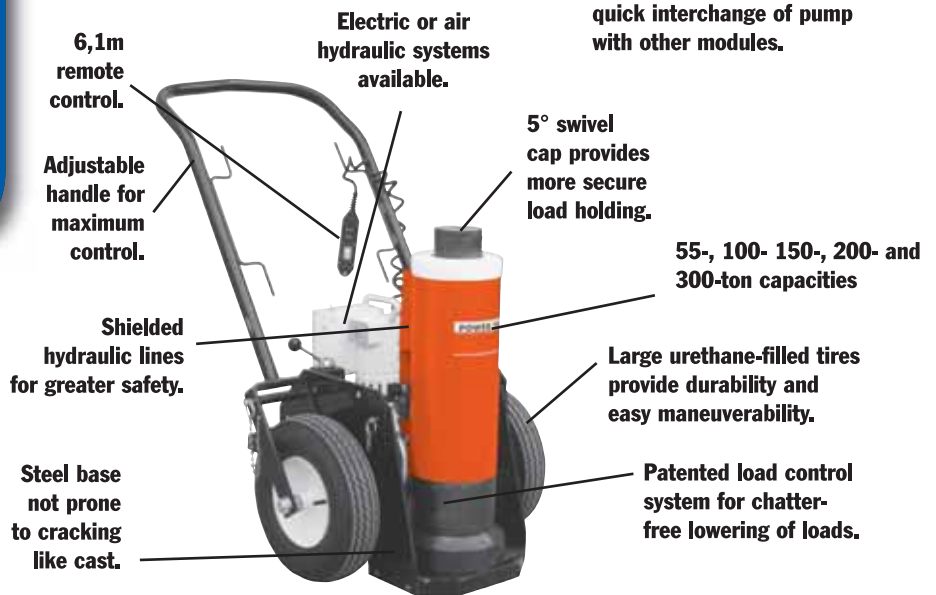
PORTABLE HIGH TONNAGE JACKS

55, 100, 150, 200
& 300 Ton

PORTABLE AND COMPACT, IDEAL FOR LOCOMOTIVE/RAILCAR, MINING AND HEAVY EQUIPMENT MAINTENANCE.

- Modular design - pump and cart separate from cylinder and base.
- Five tonnage capacity options - 55-ton, 100-ton, 150-ton, 200-ton and 300-ton.
- Three collapsed height options - 660, 838 and 1,143 mm.
- Two standard power options - air (PA55) and electric (PE55).
- Two control options - remote motor control and remote valve/motor control.
- Accessory options - 168 mm extension, load-holding rings.
- Select the collapsed height to fit your most frequent application - add jacking modules to suit your needs.

Steel base not prone to cracking like cast.



- Remote operation for maximum operator safety and control - choose "motor only" or "motor and valve" control in the hand.
- Easy to maneuver - large tires and small "footprint" make it easy to scoot into the tightest quarters, then locate the exact lifting position.
- Adjustable, heavy-duty handle - makes this jack easy to move, position under vehicles. Can also be used to transport jack on site with a forklift.
- Load-holding rings (optional) - provide full rated mechanical load-holding capability.
- Cylinder extension (optional) - adds more versatility by extending your jack's reach.

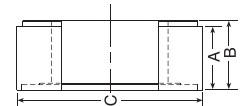
- Low-temperature oil (optional) - provides smooth, reliable operation in the coldest climate conditions.
- Modular design - allows you to change lifting modules to suit your tonnage or height requirements. Use the pump module as a portable power station for your other double-acting cylinders (700 bar).
- Exclusive load-control system - provides positive, chatter-free control when lowering the load.
- Shielded and sheltered hydraulic lines - for safer, longer, trouble-free service.

ORDER INFORMATION

CRIBBING BLOCK SETS - INCLUDES ONE JACK MODULE EXTENSION

Order No.	55 Ton CBS55		100 Ton CBS100		150 Ton CBS150		200 Ton CBS200	
No. in Set	1	4	1	4	1	4	1	4
A	38,1	76,2	38,1	76,2	38,1	76,2	38,1	76,2
B	44,5	82,5	44,5	82,5	44,5	82,5	44,5	82,5
C	139,7	139,7	187,3	187,3	222,2	222,2	254	254
Jack Module Ext.	173		177,8		168,3		168,3	
Total Stack Ht.	515,9		520,7		511,2		511,2	
Product Wt. (.kg)	16,3		30,9		38,6		47,6	

CBS300 (300 Ton): Consult Factory



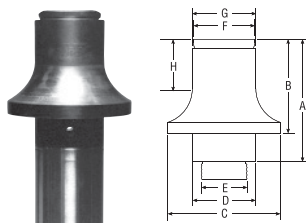
- Convert jack module into stable mechanical cribbing device.
- Increase retracted height up to 521 mm inches.

ORDER INFORMATION

JACK MODULE EXTENSIONS

(Tons)	No.	A (mm)	B (mm)	C (mm)	D (mm)	E (in.)	F (mm)	G (mm)	H (mm)	Prod. Wt. (kg)
55	58945	223,8	173	127	66,8	1 ¹¹ / ₁₆ -8UN	63,5	66,8	92,2	9,5
100	58943	228,6	177,8	174,7	98,6	2 ³ / ₄ -12UN	95,3	98,6	95,3	18,2
150	58944	219,2	168,4	203,2	114,3	3 ¹ / ₄ -8UNC	111,3	114,3	88,9	22,7

- Increases jack's reach.
- Swivel cap (5° max.) provides more secure load holding.





Pump & cart modules (PM)

Pump and cart modules contain hydraulic pump, cart, remote control and all hoses and fittings required to connect to a jack module. Jack modules easily separate from the pump and cart module. Extra jack modules may be purchased for a wide variety of lifting applications.



**Air pump and
cart module.
(PMA)**



**Electric pump
and cart module.
(PME)**

Remote Control

Pump	Motor Only	Motor & Valve
Air	PMA55	PMA55S
Electric (110V)	PME55[†]	PME55S[†]
Electric (220V)	PME55-50-220^{††}	PME55S-50-220^{††}
Air	PMA355	PMA355S
Electric (220V)	PME355-50-220^{††}	PME355S-50-220^{††}

[†]110V / 115V 60Hz Single phase motor.

^{††}220V / 50Hz / 60Hz Single phase motor.



**660 mm (26")
Jack Module**



**838 mm (33")
Jack Module**



**1,143 mm (45")
Jack Module**

Jack modules (JM)

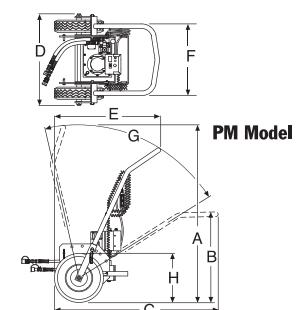
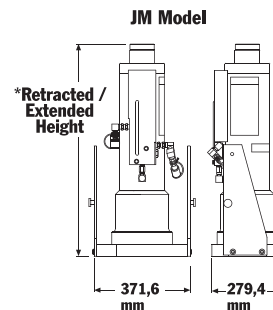
Additional Jack Modules may be purchased for varying applications.

Tonnage	Cylinder Stroke (mm)	Collapsed Height		
		26" 660mm	33" 838mm	45" 1,143mm
55	333	JM25	JM35	JM45
100	333	JM210	JM310	JM410
150	460	JM215**	JM315	JM415
200	460	JM220*	JM320	JM420
300***	333	JM300*	JM330	JM430

* Collapsed height: 711 mm & Cylinder Stroke: 333 mm

** Cylinder Stroke 333 mm

*** Must use PMx355x versions of pump/cart modules above.



DIMENSIONS (MM)

Model Series	A	B	C	D	E	F	G	H
PMA & PME	1.464	752	1.353	762	872	594	*70°	406 mm

* Total range with varying degree increments.

Tire Dia.

ORDER INFORMATION – Pump and Cart Modules with Assembled Jack Module

Capacity (tons)	Ret. Height (mm)	Ext. Height (mm)	Stroke (mm)	Pump Type	Power Required	Valve Type	Remote Control	Order No.
55	660,4	994	333	Electric	25 amps	Manual	M	JEM5526[†]
100	838,2	1.172	333	Air	1,417 l/min. at 6 bar ^{††}	Manual	M	JAM10033
100	838,2	1.172	333	Air	1,417 l/min. at 6 bar ^{††}	Air Pilot	M & V	JAR10033
150	660,4	994	333	Electric	25 amps	Manual	M	JEM15026[†]
150	838,2	1.172	333	Air	1,417 l/min. at 6 bar ^{††}	Manual	M	JAM15033
200	711	1.044	333	Electric	25 amps	Remote	M & V	JER20026[†]
300	838,2	1.172	333	Air	1,417 l/min. at 6 bar ^{††}	Air Pilot	M & V	JAR30033

Different Modules Configuration available upon request.

[†]110V / 115V 60Hz Single phase motor. (220V / 50Hz / 60Hz Single phase motor upon request, please specify when ordering)

^{††} 50 cfm at 80psi.

POST TENSION

& Stressing Jacks

20 & 30 Ton

700 bar (10,000 psi) max.



**SJ2010
SJ3010**

**SJ2010DA
SJ3010DA**

- Power Team Monostrand Stressing Jacks are the most durable in the industry.
- Ideally suited for work on slab-on-grade where dirt, heat and high volume use take their toll.
- Available in single- or double-acting models.
- Standard single-acting units have a 254 mm stroke. Other stroke lengths are available on special order.
- Dead-end seaters for production work and field work available on special order. (Part #400120)
- Service repair is simple; components are long lasting and easily replaced.
- 76,2 mm detachable seater nose assembly easily replaced with optional 152,4 mm nose assembly.
- The jack of choice for high-rise and elevated work, thanks to fast return time and light weight.
- All hydraulic fluid controls are interior designed; more efficient and safer operation during tensioning and retraction.
- Standard double-acting units have an 216 mm stroke; others available on special order.
- Specially designed Power Team Control Valves are available for post tensioning jacks.

ORDERING INFORMATION

Description	Cyl. Cap. Tons	Stroke (mm)	Order Number	Recommended Pumps for this Stressing Jack	Oil Capacity (l)	Strand Diameter (mm)	Seater Type	Effective Area (cm²)	Tons at 700 bar	Weight (kg)
Post tension jack with spring seater, 12,7 mm (0.50") strand.	20	254	SJ2010	PE554T/PE604T	0,72	11,1-12,7	Spring	28.85	20,3	25
Post tension jack with power seater, 12,7 mm (0.50") strand.	20	254	SJ2010P	PE604PT	0,72	11,1-12,7	Power	28.85	20,3	25
Double-acting post tension jack with power seater, 12,7 mm (0.50") strand.	20	215	SJ2010DA	PE554PT/PE604PT	0,85	11,1-12,7	Power	28.85	23,9	19
Post tension jack with spring seater, 15,2 mm (0.60") strand.	30	254	SJ3010	PE554T/PE604T	1	11,1-15,2	Spring	40.54	28,5	34,5
Post tension jack with power seater, 15,2 mm (0.60") strand.	30	254	SJ3010P	PE604PT	1	11,1-15,2	Power	40.54	28,5	34,5
Double-acting post tension jack with power seater, 15,2 mm (0.60") strand.	30	215	SJ3010DA	PE554PT/PE604PT	1,1	11,1-15,2	Power	40.54	36,0	23,5

STRESSING JACK ACCESSORIES AND HOSES—ORDERING INFORMATION

Used with Stressing Jack	76,2 mm Nose Piece	76,2 mm Wedge Seater	152,4 mm Nose Piece	152,4 mm Wedge Seater	9,5 mm Diameter Gripper Set	11,1 mm Diameter Gripper Set	12,7 mm Diameter Gripper Set	15,2 mm Diameter Gripper Set	Replacement Gripper Handle	Gripper Retainer Plate (2 used)
SJ2010	252564	252562	252759	252763	252568	252761	252567	NA	252570	252565
SJ2010P	252564	252562	252759	252763	252568	252761	252567	NA	252570	252565
SJ2010DA	252543	252542	252760	252764	252650	252762	252555	NA	252556	252544
SJ3010	252564	252562	252759	252763	252568	252761	252567	252569	252570	252565
SJ3010P	252564	252562	252759	252763	252568	252761	252567	252569	252570	252565
SJ3010DA	253363	253361	253364	253362	253390	NA	253391	253365	252556	252544

No. **9758** Hose – 3,1 m rubber, wire-braid (2-ply, 1,400 bar burst rating) 3/8" NPTF male hose ends

No. **9763** Hose – 3,1 m rubber, wire-braid (2-ply, 1,400 bar burst rating) 3/8" x 1/4" NPTF male hose ends

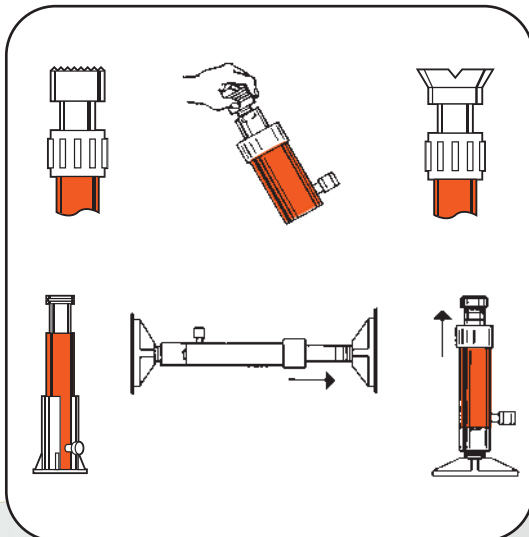
MAINTENANCE SETS

Hydraulic System Components



IM10E-50-220

APPLICATION FLEXIBILITY



IM10H

- Matched hydraulic system components, adapters and hydraulic spreader, contained in a rugged carrying and storage case.
- Portable sets are ideal for pushing, pulling, lifting, straightening, or clamping at remote job sites.
- Cylinders in set are rated at 10 tons at 700 bar. Set components are designed for full rated capacity of cylinders.
- Set IM10H / IM10L includes hand operated pump.
- Set IM10E-50-220 includes the Quarter Horse® electrically driven portable power unit (220/230V, 50/60Hz, Single Phase).

ORDERING INFORMATION

Description	CONTENTS OF SET	Order No. IM10E-50-220	Description	CONTENTS OF SET	Order No. IM10H	Order No. IM10L
Hydraulic spreader		HS2000	Hydraulic spreader		HS2000	HS2000
Electric hydraulic pump		PE102-220	Hand pump		P59	P59L
700 bar hyd. gauge		9041	700 bar hyd. gauge		9041	9041
Tee adapter		9670	Tee adapter		9670	9670
Hose & coupler assembly		9754	Hose & coupler assembly		9754	9754
90° V base		25395	90° V base		25395	25395
Threaded coupler		25664	Threaded coupler		25664	25664
Serrated saddle		31772	Serrated saddle		31772	31772
Flat base		32325	Flat base		32325	32325
Extension rod – 127mm length		350897	Extension rod - 127mm length		350897	350897
Extension rod – 254 mm length		38909	Extension rod - 254mm length		38909	38909
Extension rod – 457 mm length		350898	Extension rod - 457mm length		350898	350898
Cyl. support base		420062	Cyl. support base		420062	420062
Cyl. ass'y, 10 ton, 257 mm stroke		C1010CBT	Cyl. ass'y, 10 ton, 156mm stroke		C106CBT	C106CBT
Cyl. ass'y, 10 ton, 156 mm stroke		C106CBT	Storage box*		350722	350722
Storage box*		350722			Prod. Weight	Prod. Weight
					40,4 kg.	36,8 kg.

Prod. Weight – 48,1 kg.

* Actual product may differ from photo.



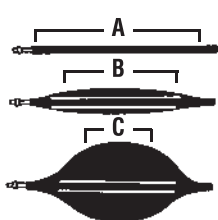
INFLATABLE JACKS

1 to 74 Ton
8 bar (116 psi) Max. Air Pressure

BE SAFE!

- **INSPECT BEFORE AND AFTER EACH USE.**
- **REPLACE IF ANY SIGNS OF DEGRADATION OR WEAR THAT MAY AFFECT SAFETY OR PERFORMANCE.**
- **KEEP THE PRODUCT CLEAN.**
- **STORE PROPERLY.**

- Highly flexible and lightweight jacks only require an air supply of 8 bar maximum. Any non-explosive gas or water can also be used for inflation.
- Uninflated jacks are only 25,4 mm thick, making seemingly impossible lifting tasks routine.
- Space age reinforced, multi-layer aramid construction, widely overlapping on all sides. Tested at 12 bar.
- In rugged testing, jacks withstood tens of thousands of inflate/deflate cycles at 8 bar.
- Large surface area and material flexibility allow jacks to lift loads on soft or compressible surfaces without support cribbing being necessary.
- Safety first! The controller, shut-off and air hoses are all equipped with USA industrial interchange style air couplers. Female half coupler bodies have a locking collar, protecting operator from accidentally disconnecting jack while under load.
- Surface of jack has a non-skid pattern, assuring that the jack won't "walk away" from the job. Jacks can be used to lift a load from an uneven surface, are tolerant of side-loaded applications.
- Non-conducting material resists oil, ozone and most chemicals. Cold resistant down to -4° C, heat resistant up to 115°C(short term) or 93°C(long term).
- Field-replaceable nipples are made of tough steel, with internal thread to prevent abrasion damage. Ideal needle aperture of 6,4 mm allows rapid inflation, without risk of icing, and permits a safe lowering speed.
- Single jack controller with "dead man" control (350090). Can be used individually, or in multiples to regulate any number of jacks desired.
- Heavy attachment straps are provided on 4 largest sizes for attachment of a rope or hook to position the jack from a safe distance.
- Inflation hose system is color-coded (red and yellow) for easy recognition when using more than one jack.



Maximum Effective Lifting Area

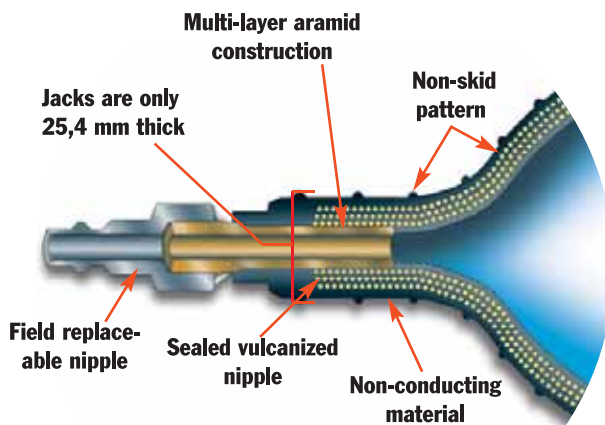
All lifting capacities mentioned in the charts are measured at the maximum effective lifting area (A). As the jack is inflated (B), this effective area decreases (C) due to the rounded shape of the jack. Lifting capacity also decreases (see performance chart).



Stack up to two jacks together to increase effective lifting height.



The non-skid space age reinforced inflatable jack is perfect for many applications.



IJ Series Inflatable Air Jacks



350090*



307159



**350208
350209**

* **NOTE:** 350090 air controller may be used individually to control one jack (see single line system), or in multiples to control additional jacks (see dual line system).



350207



250343



250353



250682



15235



250341

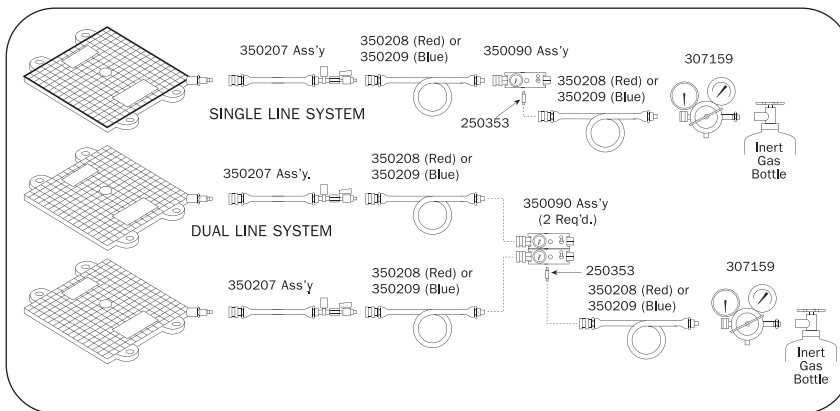


250342

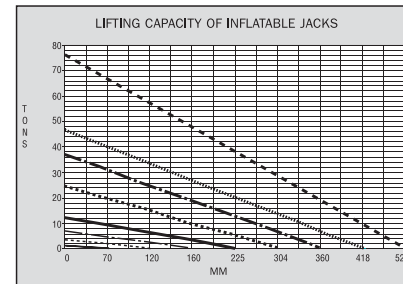
- No. 307159** – Pressure reducing valve. Allows use of bottled gases to operate jacks (works on CGA-580 Nitrogen/Argon/Helium bottles). Contains standard bottle fitting on inlet and 1/4" industrial interchange (female) outlet. Wt., 1,8 kg.
- No. 350090** – Air controller for single jack. Equipped with relief valve and pressure gauge.
- No. 350207** – Shut-off hose with shut-off valve and pressure relief valve. Includes a female and male quick coupler.
- No. 350208** – Air hose. Red, 9,2 m long. Includes No. 250341 female and No. 250342 male quick coupler.
- No. 350209** – Air hose. Same as 350208, except blue in color.

- No. 250343** – Female quick coupler. 1/4" industrial interchange x 1/8" NPT female. Wt., 0,1kg.
- No. 250353** – Male quick coupler. 1/4" industrial interchange x 1/8" NPT male. Wt., 0,1 kg.
- No. 250682** – Female quick coupler. 1/4" industrial interchange x 1/4" NPT male. Wt., 0,1 kg.
- No. 15235** – Connector 1/8" NPT male x 1/4" NPT female. Wt., 0,1 kg
- No. 250341** – Female quick coupler. 1/4" industrial x 9,5 mm I.D. hose.
- No. 250342** – Male Quick coupler. 9,5 mm I.D. Hose.

NOTE: Should compressed air is used to inflate a jack, use an external pressure regulator/filter if the pressure will to exceed 8 bar and when the air has water &/or contamination.



PERFORMANCE



- UJ7320 - 74.6 ton capacity
- UJ4416 - 46.3 ton capacity
- UJ3213 - 34 ton capacity
- UJ2211 - 28.8 ton capacity
- UJ128 - 12 ton capacity
- UJ76 - 7 ton capacity
- UJ45 - 3.6 ton capacity
- UJ13 - 1.1 ton capacity



ORDER INFORMATION

Lifting Cap. (tons)	Lifting Height (mm)	Order Number	Air Contents at 8 bar (l)	Max. Working Pressure (bar)	Length (mm)	Width (mm)	Collapsed Height (mm)	Product Weight (kg)
1,1	70	UJ13	2,3	8	140	130	25,4	0,5
3,6	120	UJ45	14,4	8	255	200	25,4	1,2
7	160	UJ76	42	8	305	305	25,4	1,9
12	225	UJ128	97	8	400	400	25,4	3,6
23,8	304	UJ2211	268	8	550	550	25,4	7,3
34	360	UJ3213	463	8	650	650	25,4	9,9
46,3	418	UJ4416	729	8	750	750	25,4	13,1
74,6	520	UJ7320	1.457	8	950	950	30,4	26,3

HYDRAULIC & MECHANICAL TOOLS



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MECHANICAL TOOLS



HYDRAULIC TOOLS

MEASUREMENTS/ SPECIFICATIONS

Torque Wrench Selection Guide

MEASUREMENTS/ SPECIFICATIONS

Torque Wrench Selection Guide



TOOL GUIDELINE

HYDRAULIC TOOLS



TORQUE WRENCH

Square Drive
TWSD Series
33,496 Nm Max Torque
700 bar (10,000 psi)

SPX®

RIGID
LIGHTWEIGHT
ALL-STEEL
BODY

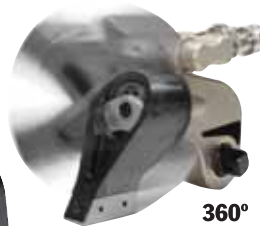
TOPSIDE
SUB-SEA
APPLICATION

**HEAVY DUTY SIMPLE-TO-USE.
ACCURACY AND SPEED UNDER LOAD.
BREAKING NUTS LOOSE AND
TORQUING**



TWSD Series

Tool is shipped with standard reaction arm as shown.



360° Reaction Arm



**360° x 180°
Swivel**

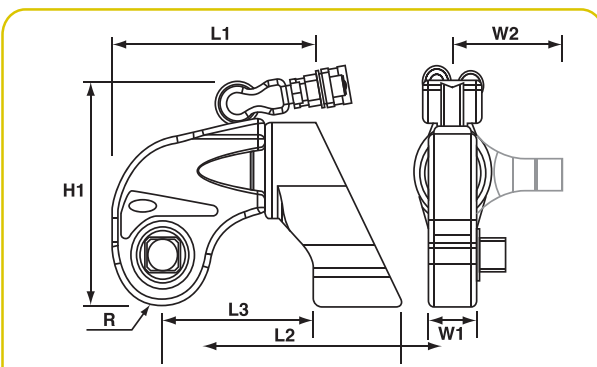
HYDRAULIC SQUARE DRIVE TORQUE WRENCHES

- Low Weight, High Strength Design
- Superior Torsional Strength
- Fast Operation Cycle
- Fine Tooth Pawl
- Floating Piston Design
- Internal Swivel Manifold Relief
- Rigid Steel Body Construction
- Compact Frame Size

- Push Button Reversal of Square Drive
- Corrosion Resistant Finish
- 360° Reaction Arm
- Push to Click Reaction Arms
- Multi-Axis High Flow Swivel Manifold
- Simple Design
- Consistent Torque Output
- Fully Enclosed Drive Mechanism
- Accurate Torque Output
- Marathon Lifetime Warranty

**Extended
Reaction Arm
(Optional)**

**TWSD1-ERA
TWSD3-ERA
TWSD6-ERA
TWSD11-ERA
TWSD25-ERA**



**Long
Reaction Arm*
(Optional)**

**TWSD1-LRA
TWSD3-LRA
TWSD6-LRA
TWSD11-LRA
TWSD25-LRA**



* Cut length on request

HYDRAULIC TOOLS

Tool Model	L1 (mm)	L2 (mm)	L3 (mm)	H1 (mm)	R (mm)	W2 (mm)	W1 (mm)
TWSD1	139	170	112	146	29	87	34
TWSD3	169	196	124	176	39	105	45
TWSD6	195	237	142	206	46	136	51
TWSD11	234	292	179	242	55	165	61
TWSD25	306	375	231	314	72	200	77

Tool Model (TWSD Series)	Square Drive mm (in.)	Max. Torque Nm (ft. lbs.)	Tool Weight kg
TWSD1	19.0 3/4	1,880 1,390	2.3
TWSD3	25.4 1	4,160 3,070	4.5
TWSD6	38.1 1-1/2	8,157 6,020	7.9
TWSD11	38.1 1-1/2	14,823 10,940	13.1
TWSD25	63.5 2-1/2	33,496 24,700	29.5

SPX®

(Wind Power
Applications)



TWHC Series High Cycle
Hydraulic Square Drive
Torque Wrench available
(Consult factory or refer
www.spxboltingsystems.com)



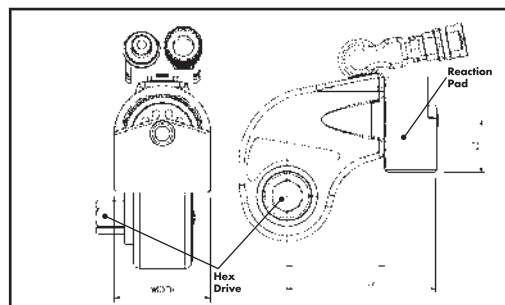
HEX DRIVES (Allen Drives)

Table for maximum recommended torque values for Hexagon Drives available upon request (Consult factory)

SOCKETS & HEXAGON DRIVES

for TWS Series Square Drive Torque Wrenches

Torque Wrench	Hexagon Drive Size A/F (in.)	Part No.	Hexagon Drive Size A/F (mm)	Part No.
TWS D1	5/8"	TWD1-063	17mm	TWD1-017
	3/4"	TWD1-075	19mm	TWD1-019
	7/8"	TWD1-088	22mm	TWD1-022
	1"	TWD1-100	24mm	TWD1-024
	-	-	27mm	TWD1-027
TWS D3	5/8"	TWD3-063	17mm	TWD3-017
	3/4"	TWD3-075	19mm	TWD3-019
	7/8"	TWD3-088	22mm	TWD3-022
	1"	TWD3-100	24mm	TWD3-024
	1-1/8"	TWD3-113	27mm	TWD3-027
	1-1/4"	TWD3-125	30mm	TWD3-030
	1-3/8"	TWD3-138	32mm	TWD3-032
TWS D6	7/8"	TWD6-088	22mm	TWD6-022
	1"	TWD6-100	24mm	TWD6-024
	1-1/8"	TWD6-113	27mm	TWD6-027
	1-1/4"	TWD6-125	30mm	TWD6-030
	1-3/8"	TWD6-138	32mm	TWD6-032
	1-1/2"	TWD6-150	36mm	TWD6-036
	1-5/8"	TWD6-163	41mm	TWD6-041
TWS D11	1-1/8"	TWD11-113	27mm	TWD11-027
	1-1/4"	TWD11-125	30mm	TWD11-030
	1-3/8"	TWD11-138	32mm	TWD11-032
	1-1/2"	TWD11-150	36mm	TWD11-036
	1-5/8"	TWD11-163	41mm	TWD11-041
TWS D25	1-3/4"	TWD11-175	46mm	TWD11-046
	1-1/2"	TWD25-150	36mm	TWD25-036
	1-5/8"	TWD25-163	41mm	TWD25-041
	1-3/4"	TWD25-175	46mm	TWD25-046
	1-7/8"	TWD25-188	50mm	TWD25-050
	2"	TWD25-200	55mm	TWD25-055
	2-1/4"	TWD25-225	60mm	TWD25-060
	2-1/2"	TWD25-250	65mm	TWD25-065
	2-3/4"	TWD25-275	70mm	TWD25-070



Reaction Pads for Hex Drives				
Reaction Pad (Optional)	L1 (mm)	L2 (mm)	L3 (mm)	WIDTH (mm)
TWS D1-RP	71.5	115.5	43.5	63.0
TWS D3-RP	83.0	135.0	48.0	74.0
TWS D6-RP	91.0	154.0	57.0	90.0
TWS D11-RP	109.0	184.0	65.5	105.0
TWS D25-RP	135.0	242.0	88.5	143.0



Reaction Pad



Sockets

Heavy-duty Square Drive Impact Sockets

Socket Size A/F (in.)	3/4" Drive Part No.	1" Drive Part No.	1-1/2" Drive Part No.	2-1/2" Drive Part No.	Socket Size A/F (mm)	3/4" Drive Part No.	1" Drive Part No.	1-1/2" Drive Part No.	2-1/2" Drive Part No.
7/8	TWSIA088	TWSIB088	-	-	22	TWSMA022	TWSMB022	-	-
1-1/16	TWSIA106	TWSIB106	-	-	24	TWSMA024	TWSMB024	-	-
1-1/4	TWSIA125	TWSIB125	-	-	32	TWSMA032	TWSMB032	TWSMC032	-
1-3/8	TWSIA138	TWSIB138	-	-	36	TWSMA036	TWSMB036	TWSMC036	-
1-7/16	TWSIA144	TWSIB144	-	-	41	TWSMA041	TWSMB041	TWSMC041	-
1-5/8	TWSIA163	TWSIB163	TWSIC163	-	46	TWSMA046	TWSMB046	TWSMC046	-
1-13/16	TWSIA181	TWSIB181	-	-	50	TWSMA050	TWSMB050	TWSMC050	TWSMF050
2	TWSIA200	TWSIB200	TWSIC200	-	55	TWSMA055	TWSMB055	TWSMC055	TWSMF055
2-3/16	TWSIA219	TWSIB219	TWSIC219	-	60	TWSMA060	TWSMB060	TWSMC060	TWSMF060
2-3/8	TWSIA238	TWSIB238	TWSIC238	-	65	-	TWSMB065	TWSMC065	TWSMF065
2-9/16	-	TWSIB256	TWSIC256	-	70	-	TWSMB070	TWSMC070	TWSMF070
2-3/4	-	TWSIB275	TWSIC275	-	75	-	TWSMB075	TWSMC075	TWSMF075
2-15/16	-	TWSIB294	TWSIC294	-	80	-	TWSMB080	TWSMC080	TWSMF080
3-1/8	-	TWSIB313	TWSIC313	TWSIF313	85	-	TWSMB085	TWSMC085	TWSMF085
3-3/8	-	TWSIB338	TWSIC338	TWSIF338	90	-	TWSMB090	TWSMC090	TWSMF090
3-1/2	-	TWSIB350	TWSIC350	TWSIF350	95	-	TWSMB095	TWSMC095	TWSMF095
3-3/4	-	TWSIB375	TWSIC375	TWSIF375	100	-	TWSMB100	TWSMC100	TWSMF100
3-7/8	-	TWSIB388	-	TWSIF388	110	-	TWSMB110	TWSMC110	TWSMF110
4-1/8	-	TWSIB413	TWSIC413	TWSIF413	115	-	-	TWSMC115	TWSMF115
4-1/4	-	TWSIB425	TWSIC425	TWSIF425	120	-	-	TWSMC120	TWSMF120
4-5/8	-	-	TWSIC463	TWSIF463	130	-	-	-	TWSMF130
5	-	-	-	TWSIF500	135	-	-	-	TWSMF135
5-3/8	-	-	-	TWSIF538	145	-	-	-	TWSMF145
5-3/4	-	-	-	TWSIF575	150	-	-	-	TWSMF150
6-1/8	-	-	-	TWSIF613	155	-	-	-	TWSMF155

HYDRAULIC TOOLS



TORQUE WRENCH

Low Clearance
TWLC Series
39,024 Nm Max Torque
700 bar (10,000 psi)

SPX®

HYDRAULIC LOW CLEARANCE TORQUE WRENCHES

The TWLC Wrench was designed for the most inaccessible bolting areas found in industry. Its long neck, short height and small radius have all added to its great success

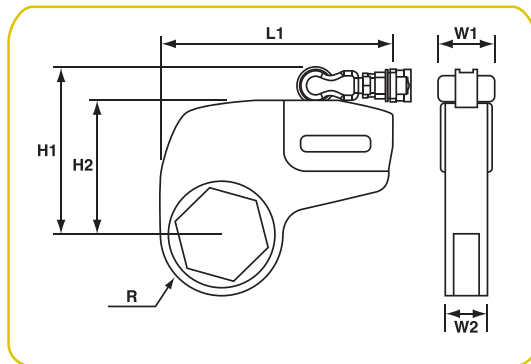
- Low Weight, High Strength Design
- Superior Torsional Strength
- Fast Operation Cycle
- Fine Tooth Pawl
- Floating Piston Design
- Auto-Connect Drive Piston
- Compact Frame Size
- Rigid Steel Body Construction
- Internal Swivel Manifold Relief
- Built-in Reaction Pad
- Small Nose Radius
- Tool Free Link Change
- Corrosion Resistant Finish
- Multi-Axis High Flow Swivel Manifold
- Simple Design
- Consistent Torque Output
- Marathon Lifetime Warranty

**THE LIGHTWEIGHT, HEAVY-DUTY
TOOL FEATURES A LONG NECK,
SHORT HEIGHT, AND SMALL
RADIUS FOR INACCESSIBLE
BOLTING AREAS FOUND IN
INDUSTRY.**



TWLC Series

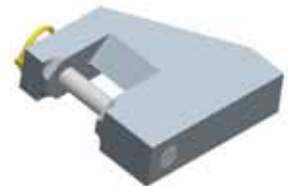
* Links sold separately.
Tool is not shipped with link.



360° x 180°
Swivel

Reaction Paddle (Optional)

TWLC2-RP
TWLC4-RP
TWLC8-RP
TWLC15-RP
TWLC30-RP



Reaction Bar* (Optional)

TWLC2-RB
TWLC4-RB
TWLC8-RB
TWLC15-RB
TWLC30-RB



* Cut length on request

Tool Model	L1 (mm)	H1 (mm)	H2 (mm)	R (mm)	W1 (mm)	W2 (mm)
TWLC2	178	136	103	32-46	42	32
TWLC4	223	163	130	37-59	52	42
TWLC8	265	195	158	51-74	69	54
TWLC15	306	223	186	61-87	80	63
TWLC30	391	276	239	77-116	106	82

Tool Model (Hydraulic Unit)	Link Hex Range (A/F) mm (in.)	Max. Torque Nm (ft. lbs)	Tool Weight (with Link) kg
TWLC2	32 – 60 11/4 – 23/8	2,134 1,575	2.8
TWLC4	40 – 80 11/2 – 31/8	5,386 3,975	5.7
TWLC8	60 – 100 23/8 – 37/8	10,773 7,950	10.4
TWLC15	65 – 120 29/16 – 45/8	20,221 14,850	16.9
TWLC30	80 – 155 31/8 – 61/8	39,024 28,800	35.0



Hydraulic Unit (TWLC)

LINKS & REDUCERS

for TWLC Series Low Clearance
Torque Wrenches

Hydraulic Unit (TWLC)



Link (TWL)
(Sold Separately)

AVAILABLE IN THE MOST COMMON SIZES.
CUSTOM SIZES AVAILABLE
(CONSULT FACTORY).

Hydraulic Unit

Link

Tool	Link Part No.	Nut A/F inch mm	Nose Radius (mm)	Reducer inch mm	Part No.	Reducer inch mm	Part No.	Reducer inch mm	Part No.
TWLC2	TWL2-032	1-1/4"	32	32	-	-	-	-	-
	TWL2-036	1-7/16"	36	32	-	-	-	-	-
	TWL2-041	1-5/8"	41	35	1-5/8"-1-7/16"	41-36mm	TWR2-041036	1-5/8"-1-1/4"	41-32mm
	TWL2-046	1-13/16"	46	37	1-13/16"-1-5/8"	46-41mm	TWR2-046041	1-13/16"-1-7/16"	46-36mm
	TWL2-050	2"	50	40	2"-1-13/16"	50-46mm	TWR2-050046	2"-1-5/8"	50-41mm
TWLC4	TWL2-055	2-3/16"	55	43	2-3/16"-2"	55-50mm	TWR2-055050	2-3/16"-1-13/16"	55-46mm
	TWL2-060	2-3/8"	60	46	2-3/8"-2-3/16"	60-55mm	TWR2-060055	2-3/8"-2"	60-50mm
	TWL4-041	1-5/8"	41	37	1-5/8"-1-7/16"	41-36mm	TWR4-041036	1-5/8"-1-1/4"	41-32mm
	TWL4-046	1-13/16"	46	39	1-13/16"-1-5/8"	46-41mm	TWR4-046041	1-13/16"-1-7/16"	46-36mm
	TWL4-050	2"	50	42	2"-1-13/16"	50-46mm	TWR4-050046	2"-1-5/8"	50-41mm
TWLC8	TWL4-055	2-3/16"	55	45	2-3/16"-2"	55-50mm	TWR4-055050	2-3/16"-1-13/16"	55-46mm
	TWL4-060	2-3/8"	60	48	2-3/8"-2-3/16"	60-55mm	TWR4-060055	2-3/8"-2"	60-50mm
	TWL4-065	2-9/16"	65	50	2-9/16"-2-3/8"	65-60mm	TWR4-065060	2-9/16"-2-3/16"	65-55mm
	TWL4-070	2-3/4"	70	53	2-3/4"-2-9/16"	70-65mm	TWR4-070065	2-3/4"-2-3/8"	70-60mm
	TWL4-075	2-15/16"	75	56	2-15/16"-2-3/4"	75-70mm	TWR4-075070	2-15/16"-2-9/16"	75-65mm
TWLC8	TWL4-080	3-1/8"	80	59	3-1/8"-2-15/16"	80-75mm	TWR4-080075	3-1/8"-2-3/4"	80-70mm
	TWL8-060	2-3/8"	60	51	2-3/8"-2-3/16"	60-55mm	TWR8-060055	2-3/8"-2"	60-50mm
	TWL8-065	2-9/16"	65	53	2-9/16"-2-3/8"	65-60mm	TWR8-065060	2-9/16"-2-3/16"	65-55mm
	TWL8-070	2-3/4"	70	56	2-3/4"-2-9/16"	70-65mm	TWR8-070065	2-3/4"-2-3/8"	70-60mm
	TWL8-075	2-15/16"	75	59	2-15/16"-2-3/4"	75-70mm	TWR8-075070	2-15/16"-2-9/16"	75-65mm
TWLC15	TWL8-080	3-1/8"	80	62	3-1/8"-2-15/16"	80-75mm	TWR8-080075	3-1/8"-2-3/4"	80-70mm
	TWL8-085	3-3/8"	85	67	3-3/8"-3-1/8"	85-80mm	TWR8-085080	3-3/8"-2-15/16"	85-65mm
	TWL8-090	3-1/2"	90	67	3-1/2"-3-3/8"	90-85mm	TWR8-090085	3-1/2"-3-1/8"	90-80mm
	TWL8-095	3-3/4"	95	74	3-3/4"-3-1/2"	95-90mm	TWR8-095090	3-3/4"-3-3/8"	95-85mm
	TWL8-100	3-7/8"	100	74	3-7/8"-3-3/4"	100-95mm	TWR8-100095	3-7/8"-3-1/2"	100-90mm
TWLC15	TWL15-070	2-3/4"	70	61	2-3/4"-2-9/16"	70-65mm	TWR15-070065	2-3/4"-2-3/8"	70-60mm
	TWL15-075	2-15/16"	75	63	2-15/16"-2-3/4"	75-70mm	TWR15-075070	2-15/16"-2-9/16"	75-65mm
	TWL15-080	3-1/8"	80	67	3-1/8"-2-15/16"	80-75mm	TWR15-080075	3-1/8"-2-3/4"	80-70mm
	TWL15-085	3-3/8"	85	72	3-3/8"-3-1/8"	85-80mm	TWR15-085080	3-3/8"-2-15/16"	85-65mm
	TWL15-090	3-1/2"	90	72	3-1/2"-3-3/8"	90-85mm	TWR15-090085	3-1/2"-3-1/8"	90-80mm
TWLC30	TWL15-095	3-3/4"	95	78	3-3/4"-3-1/2"	95-90mm	TWR15-095090	3-3/4"-3-3/8"	95-85mm
	TWL15-100	3-7/8"	100	78	3-7/8"-3-3/4"	100-95mm	TWR15-100095	3-7/8"-3-1/2"	100-90mm
	TWL15-105	-	105	83	-	105-100mm	TWR15-105100	-	105-95mm
	TWL15-425	4-1/4"	-	83	4-1/4"-3-7/8"	-	TWR15-425388	4-1/4"-3-3/4"	-
	TWL15-110	-	110	87	-	110-105mm	TWR15-110105	-	110-100mm
TWLC30	TWL15-115	-	115	87	-	115-110mm	TWR15-115110	-	115-105mm
	TWL15-463	4-5/8"	-	87	4-5/8"-4-1/4"	-	TWR15-463425	4-5/8"-3-7/8"	-
	TWL30-080	3-1/8"	80	77	3-1/8"-2-15/16"	80-75mm	TWR30-080075	3-1/8"-2-3/4"	80-70mm
	TWL30-085	3-3/8"	85	77	3-3/8"-3-1/8"	85-80mm	TWR30-085080	3-3/8"-2-15/16"	85-65mm
	TWL30-090	3-1/2"	90	77	3-1/2"-3-3/8"	90-85mm	TWR30-090085	3-1/2"-3-1/8"	90-80mm
TWLC30	TWL30-095	3-3/4"	95	83	3-3/4"-3-1/2"	95-90mm	TWR30-095090	3-3/4"-3-3/8"	95-85mm
	TWL30-100	3-7/8"	100	83	3-7/8"-3-3/4"	100-95mm	TWR30-100095	3-7/8"-3-1/2"	100-90mm
	TWL30-105	-	105	88	-	105-100mm	TWR30-105100	-	105-95mm
	TWL30-425	4-1/4"	-	88	4-1/4"-3-7/8"	-	TWR30-425388	4-1/4"-3-3/4"	-
	TWL30-110	-	110	88	-	110-105mm	TWR30-110105	-	110-100mm
TWLC30	TWL30-115	-	115	92	-	115-110mm	TWR30-115110	-	115-105mm
	TWL30-463	4-5/8"	-	92	4-5/8"-4-1/4"	-	TWR30-463425	4-5/8"-3-7/8"	-
	TWL30-120	-	120	99	-	120-115mm	TWR30-120115	-	120-110mm
	TWL30-500	5"	-	99	5"-4-5/8"	-	TWR30-500463	5"-4-1/4"	-
	TWL30-130	-	130	105	-	130-120mm	TWR30-130120	-	130-115mm
TWLC30	TWL30-135	5-3/8"	135	105	5-3/8"-5"	135-125mm	TWR30-135125	5-3/8"-4-5/8"	135-120mm
	TWL30-145	5-3/4"	145	110	-	-	-	-	-
	TWL30-150	-	150	116	-	-	-	-	-
	TWL30-155	6-1/8"	155	116	-	-	-	-	-

AVAILABLE UPON REQUEST

COMPACT TORQUE WRENCH PUMP

Hydraulic/Electric

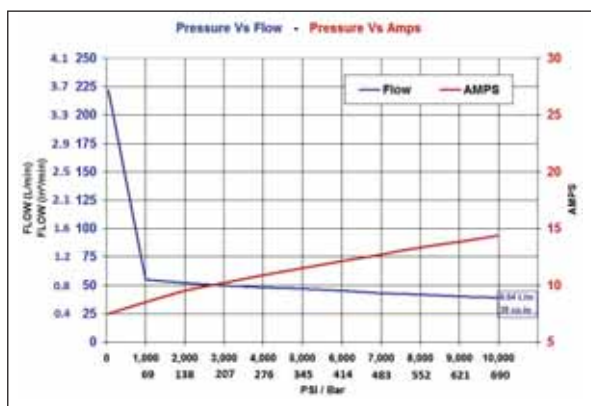
PE39 Series

0.64 l/min, 0.97 kW

700 bar (10,000 psi)

CAUTION: This system should not be used for lifting applications.

Typical Flow Curve:



SPX

NEW



700bar

Also suitable for
Wind Power Applications

COMPACT TORQUE WRENCH PUMP

The **SPX PE39** is compact and capable of being used in a vertical or horizontal orientation. It is based on proven pump design for reliability in rugged torque wrench applications to support operation and maintenance requirements.

Quality means Lower Life-Cycle Costs:

- Over 100,000 cycles
- Continuous duty up to 50°C (122°F) ambient (optional cooling kit)
- Proven design: Proven reliability

Enhanced Usability:

- **VERTICAL** or **HORIZONTAL** operation
- Light weight and portable
- Removable control pendant (5 m cord)
- Removable 100mm (4") calibration capable gauge
- 0.97 kW (1.3 hp) Universal Motor for reduced voltage applications (up to -20% nominal voltage)
- 4-way valve (not for lifting applications)
- Fits through 420mm opening

Designed with Safety in Mind:

- Easily adjusted pressure regulator (relief) valve
- Fixed 103 Bar (1500 psi) pressure retract relief valve

Operating Environment:

Temperature: -25°C to +50°C (-13°F to 122°F)
(If temperatures are at extremes of the operating range, it is recommended to use hydraulic oils that are rated for those temperatures. Refer to service manuals and cooling options)

Order No.	Cooling Option*	Electric Motor (Single Phase)	Manifold	Max. Pressure Output	Oil Delivery	Oil Reservoir (l)	Usable Oil (l)	Overall Width (mm)	Overall Length (mm)	Overall Height (mm)	Pump Weight w/Oil (kg)
PE39YED1PR	No	110/115 VAC	Single Tool	700 bar	3.7 l/min. to 0.64 l/min.	1.89	1.51	274	350	600	19.5
PE39YED1BPR	Yes	50/60 Hz (14.5 amps)									
PE39PED1PR	No	220/230 VAC									
PE39PED1BPR	Yes	50/60 Hz (7.2 amps)									

* Auxiliary cooling fan (field installable), Part # 3000610.

Non-vented reservoir.

Sound level: 87-92 dB

NON-CONDUCTIVE HOSE (700 BAR) for TWSD or TWLC or TWHC Series Torque Wrench

- For applications requiring electrical isolation.
- Quick Couplers & Plugs 1/4" fitting on both ends
- Leakage factor of less than 50 microampere.
- Orange polyurethane for easy identification.
- Covering is not perforated, preventing moisture from entering the hose and affecting its overall conductivity.
- Maximum operating pressure: 700 bar (10,000 psi)
- Hoses feature a minimum 2,800 bar (40,000 psi) burst pressure.



TWH

HOSES - DUAL LINE

TWH15	4.6m, 6.4mm ID non-conductive
TWH20	6.1m, 6.4mm ID non-conductive
TWH50	15.2m, 6.4mm ID non-conductive

BE SAFE!

- **INSPECT BEFORE AND AFTER EACH USE.**
- **REPLACE IF ANY SIGNS OF DEGRADATION OR WEAR THAT MAY AFFECT SAFETY OR PERFORMANCE.**
- **KEEP THE PRODUCT CLEAN.**
- **STORE PROPERLY.**

Order No.	Couplers / Fittings	Metal Dust Cap
251410	Quick Coupler, Female Half, 1/4" NPTF Male	252364
251411	Quick Plug, Male Half, 1/4" NPTF Female	252365
12740	Coupling, 1/4" NPTF Female Both Ends	
10672	Straight Fitting, 1/4" NPTF Male Both Ends	

TORQUE WRENCH PUMP

Hydraulic/Electric
PE55 Series
 0.9 l/min, 0.84 kW
 700 bar (10,000 psi)

VANGUARD® ELECTRIC HYDRAULIC TORQUE WRENCH PUMPS

- Light weight and portable
- Two-speed high performance pump (similar to PE55 Series)
- 0.84 kW (1 1/8 hp), 12,000 rpm universal motor starts under full load and at reduced voltage
- External adjustable pressure regulator
- Retract side internal relief valve protects tool
- Hand remote standard
- Use for double or single acting tools
- Four-tool manifold (-4 model only) allows use of up to four tools simultaneously



PE55TWP-220



PE55TWP-220-CF
(with Oil Cooling Fan)



PE55TWP-4-220

CAUTION: This system should not be used for lifting applications.

Order No.	Manifold	Oil Delivery	Oil Reservoir (l)	Usable Oil (l)	Overall Width (mm)	Overall Length (mm)	Overall Height (mm)	Pump Weight w/Oil (kg)
PE55TWP PE55TWP-220	Single Tool	7.6 l/min @ 0 bar 0.9 l/min @ 700 bar	9.5	8.6	435	241	460	34
PE55TWP-4 PE55TWP-4-220	4 Tool	7.6 l/min @ 0 bar 0.9 l/min @ 700 bar	9.5	8.6	469	241	486	35
PE55TWP-CF PE55TWP-220-CF	Single Tool	Similar to PE55TWP but with Oil Cooling Fan Similar to PE55TWP-220 but with Oil Cooling Fan			469	292	486	37
Electrical Data								
Electric Motor			dBA at Idle & 700 bar		Electrical Control			
PE55TWP PE55TWP-CF PE55TWP-4			0.84kW, 12000 rpm		89/90		Hand Remote Control with 6m cord	
			115V/50Hz, 25 amps					
PE55TWP-220 PE55TWP-220-CF PE55TWP-4-220			220V/50Hz, 13 amps					

HYDRAULIC TOOLS



Note: Optional Roll Cage available upon request before delivery.
 Calibration of pressure gauge (optional).

INFINITE STAGE PUMP TORQUE WRENCH

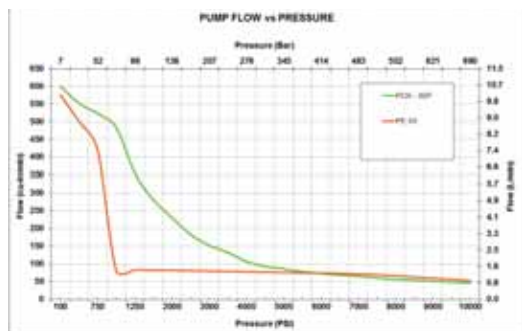
Hydraulic/Electric
PE45 Series
0.8 l/min, 1.34 kW
700 bar (10,000 psi)

SPX®



NEW

Typical Flow Curve:



PE45PEE4PRS



PE45PEE4CPRS
(with cooling option)



(Shown with
cooling option)

Vented Reservoir

Sound level:
87-92 dB



ISP Technology: The Next Generation is Here

Power Team has long been the market leader in high pressure hydraulic pumps due to durability, ease of use and life cycle cost benefits. Power Team introduces Infinite Stage Pump Technology – the first continuous pressure hydraulic pump that results in up to 200% speed improvement - making jobs faster and easier.

Quality means Lower Life-Cycle Costs:

- Over 100,000 cycles
- Continuous duty up to 50°C (122°F) ambient (optional cooling kit)
- Proven design: Proven reliability

Enhanced Usability:

- Portable: 32.2 kgs (without oil)
- Up to four tools on one pump
- Removable control pendant (5 m cord)
- Improved oil filtration
- 1.34 kW (1.8 hp) Universal Motor for reduced voltage applications (up to -20% nominal voltage)
- 4-way valve (not for lifting applications)

INFINITE STAGE PUMP

The **SPX PE45** is an Infinite Stage Pump which increases productivity on the job by providing continuous pressure for up to 2x the speed of typical 2-stage pumps. Jobs get done faster and easier.

Designed with Safety in Mind:

- Easily adjusted pressure regulator (relief) valve
- Fixed 103 Bar (1500 psi) pressure retract relief valve

Operating Environment:

Temperature: -25°C to +50°C (-13°F to 122°F) (If temperatures are at extremes of the operating range, it is recommended to use hydraulic oils that are rated for those temperatures. Refer to service manuals and cooling options)

Control:

- **Normal Cycle** : Push to cycle wrench each time
- **Auto-Cycle** : Push one button for continuous control.

Also suitable for
Wind Power Applications

Max. Pressure Output	Oil Delivery	Oil Reservoir	Usable Oil	Overall Width (mm)	Overall Length (mm)	Overall Height (mm)	Pump Weight w/Oil (kg)
700 bar	9.4 l/min to 0.8 l/min	6.75 l	5.1 l	356	450	675	38.6

Order No.	Order No.	Manifold	Cooling Option	Electric Motor
(Normal Cycle)	(Auto-Cycle)			
PE45LEE4PRS	PE45LEE4APRS	single port/tool	No	110/115VAC
PE45LEE4CPRS	PE45LEE4ACPRS	single port/tool	Yes	50/60 Hz
PE45LEE4MPRS	PE45LEE4AMPRS	4 port/tool	No	Single Phase
PE45LEE4CMPRS	PE45LEE4ACMPRS	4 port/tool	Yes	(17 amps)
PE45YEE4PRS	PE45YEE4APRS	single port, plug*	No	
PE45YEE4CPRS	PE45YEE4ACPRS	single port, plug*	Yes	
PE45YEE4MPRS	PE45YEE4AMPRS	4 port, plug*	No	*Electrical plug on power cord
PE45YEE4CMPRS	PE45YEE4ACMPRS	4 port, plug*	Yes	
PE45PEE4PRS	PE45PEE4APRS	single port/tool	No	220/230VAC
PE45PEE4CPRS	PE45PEE4ACPRS	single port/tool	Yes	50/60 Hz
PE45PEE4MPRS	PE45PEE4AMPRS	4 port/tool	No	Single Phase
PE45PEE4CMPRS	PE45PEE4ACMPRS	4 port/tool	Yes	(8.5 amps)

SPX®

(Wind Power
Applications)



TWHC Series High Cycle
Hydraulic Square Drive
Torque Wrench available
(Consult factory or refer
www.spxboltingsystems.com)

AIR HYDRAULIC TORQUE WRENCH PUMP

- Use where air is the preferred source of power
- Powerful 2.25 kW (3 hp) motor starts under load
- Two-speed high performance pump
- External adjustable pressure regulator
- Retract side internal relief valve protects tool
- Hand remote standard
- Use for double or single acting tools
- Safe to use in hazardous or explosive environments
- Four-tool manifold (-4 model only) allows use of up to four tools simultaneously
- Couplers included with pump

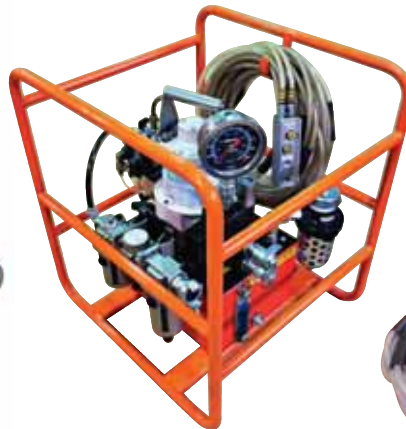
TORQUE WRENCH PUMP

Hydraulic/Air
PA55 Series

0.9 to 1.8 l/min, 2.25 kW
700 bar (10,000 psi)

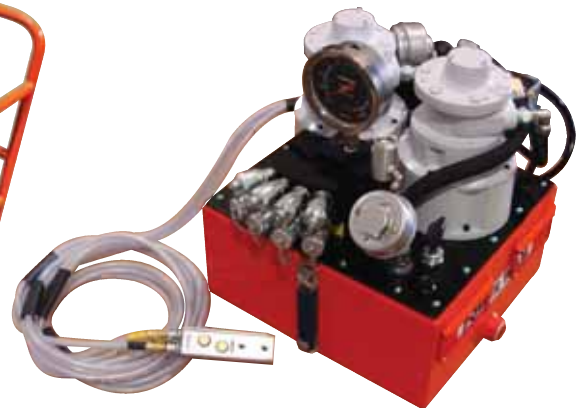


RWP55



RWP55

(pictured with optional air filter/regulator/lubricator, exhaust muffler & roll cage)



RWP55-4-DUAL

CAUTION: This system should not be used for lifting applications.

Order No.	Manifold	Oil Delivery (l/min)	Oil Reservoir (l)	Usable Oil (l)	Overall Width (mm)	Overall Length (mm)	Overall Height (mm)	Pump Weight w/Oil (kg)
RWP55 (Single Rotary)	Single Tool	7,6 l/min at 7 bar 0,9 l/min at 700 bar	9,5	8,4	420	241	504	35
RWP55-4 (Single Rotary)	4 Tool	7,6 l/min at 7 bar 0,9 l/min at 700 bar	9,5	8,4	420	241	504	36
RWP55-4-DUAL (Twin Rotary)	4 Tool	15,2 l/min at 7 bar 1,8 l/min at 700 bar	18	16	425	356	432	70

Motor Data			
	Air Motor	dBA at Idle & 700 bar	Air Control
Single Rotary Air Motor	2,25 kW (3 hp) 1,417 l/ min @ 6 bar (50 cfm at 80 psi)	85/90	Pneumatic remote control with 7,6 m cord
Twin Rotary Air Motor	4,5 kW (6 hp) 2,834 l/ min @ 6 bar (100 cfm at 80 psi)	85/90	Pneumatic remote control with 7,6 m cord

Note: Optional Air Servicing Unit, Exhaust Muffler and Roll Cage available upon request before delivery.
Calibration of pressure gauge (optional).



TORQUE WRENCH PUMP

Hydraulic/Air
PA60A Series
700 bar (10,000 psi)

SPX®

INFINITY

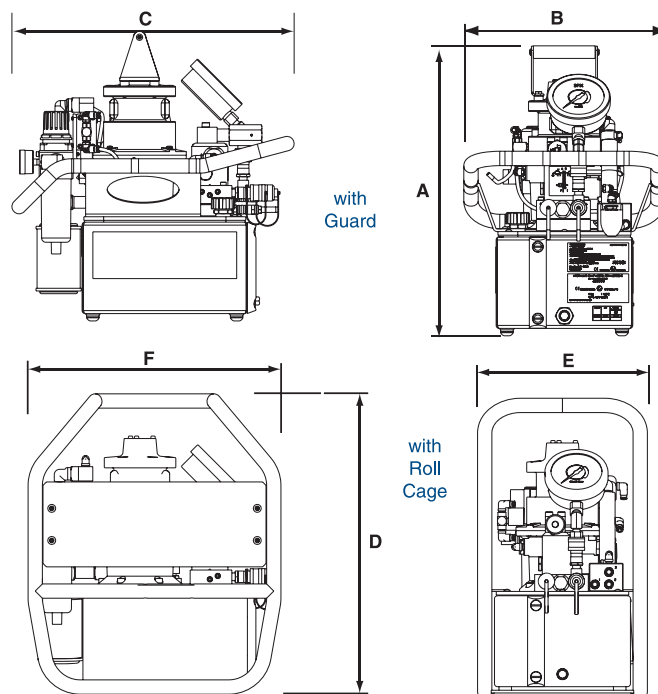
**GET JOBS DONE FASTER: UP
TO TWO TIMES THE FLOW!**



NEW

PA60APF5FP
(with Guard)

Also suitable for
Wind Power Applications



CAUTION: This Pump should not be
used for lifting applications

HYDRAULIC TOOLS

														Pump Weight w/Oil (kg)
Order No.	Manifold	Required Air Pressure	Max. Pressure Output	RPM	dBa at Idle & 700 bar	51 bar	175 bar	350 bar	700 bar	Oil Reservoir Usable	A	B	C	
PA60APF5FP (With Guard)	Single Tool	2,549 l/min @ 6 bar*	700 bar	3,000	75	9.3 l/min	3.7 l/min	1.8 l/min	0.9 l/min	5.68 l	A	B	C	34.1
PA60APF5FMP (With Guard)	4 Tool										D	E	F	
PA60APF5FPR (With Roll Cage)	Single Tool	2,549 l/min @ 6 bar*	700 bar	3,000	75	9.3 l/min	3.7 l/min	1.8 l/min	0.9 l/min	5.68 l	A	B	C	36.3
PA60APF5FMPR (With Roll Cage)	4 Tool													

* 90 cfm @ 90 psi



CAUTION: This Pump should not be used for lifting applications

QUALITY MEANS LOWER LIFE-CYCLE COSTS:

- Over 100,000 cycles
- Continuous duty up to 50°C / 122°F ambient (optional)
- Proven design: proven reliability
- Roll Cage
- Sealed hydraulic reservoir
- Modular pumping cartridges
- Filter Regulator Lubricator (FRL) air preparation filter: Serviceable filter ensures a clean, lubricated and consistent air supply.

ENHANCED USABILITY:

- Up to 200% faster than 2-stage pumps
- Up to 4 tools on 1 pump with a 4-tool manifold (optional)
- Removable control pendant 7.6m (25ft) cord length
- Built-in exhaust air heat exchanger: Internal oil path warms exhaust air to avoid freezing while cooling hydraulic oil to achieve optimum oil temperature.
- Easy-to-adjust pressure to achieve proper torque values.
- Calibration capable gauge
- Improved oil filtration

DESIGNED WITH SAFETY IN MIND:

- Rugged 3kW (4 hp) air motor
- Easily adjusted pressure regulator (relief) valve
- Fixed 103 Bar (1500 psi) pressure retract relief valve
- ATEX II, CAT2, GDcT4 compliant: Enables usage in applications with potentially explosive environments.
- Quiet operation

Calibration capable, vibration damped gauge has an easy-to-read 100 mm (4") diameter, with 700 Bar (10,000 psi) indication



Pneumatic remote control comes standard with a 7.6m (25')

Powerful 3kW air motor starts under load and yields up to 2x the flow of other air pumps for greater application speed and productivity

Easy-to-replace pump cartridges minimize downtime and service costs

Muffled exhaust protects against elevated noise to ensure operator comfort

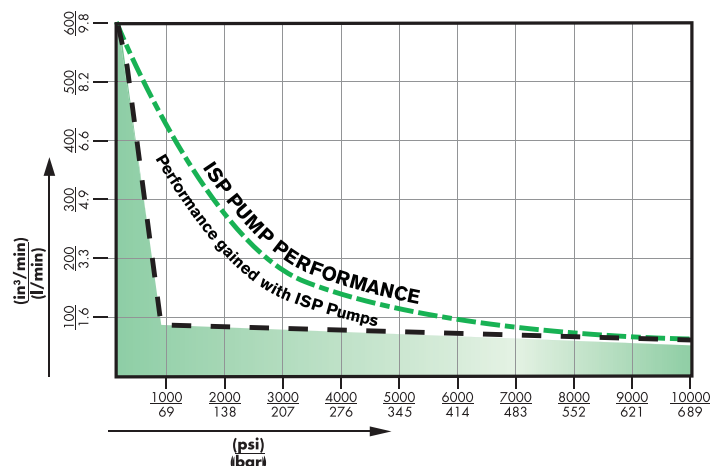
Up to 4 torque wrench tools can be used with one pump with the 4-tool manifold (optional)

PA60APF5FPR
(with Roll Cage)

Optional roll bar provides a lift point as well as protection from damage in rough environments

The chart shows a traditional two stage hydraulic pump flow curve where high flow transitions to low flow at around 48 bar. The chart also shows that the ISP series pump has much higher flow and remains smooth throughout the pressure curve. Flow is continually changing based on pressure, giving the maximum horsepower and flow for that pressure. The biggest increase in flow is between 69 & 345 bar.

For tools such as torque wrenches that normally operate between 69 & 345 bar impact is significant – tools operate twice as fast, increasing productivity by getting the job done in much less time.



NUT SPLITTERS

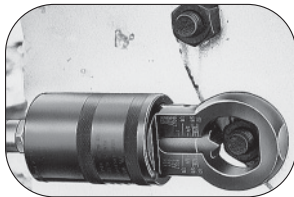
Hydraulic
15 & 25 Ton Capacity
Single-acting, Spring-return
700 bar (10,000 psi)



HNS150



HNS150A
(Angled)



Align mark on cutter
blade with scale.



HNS225

Heavy-Duty
Cut Wide Hex
Size Range

- All models feature a rugged one-piece cutting frame coupled to a heavy-duty hydraulic cylinder
- Compact size allows you to use it in confined areas where it will deliver enough force to split the toughest "fused" or rusted-on grade 2H nuts (metric grade 12) up to Rc 38 hardness
- Simply split nut on one side, spin nut splitter 1/2 turn and make second cut on opposite side; nut separates into halves for easy removal

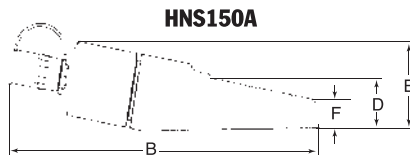
SPX®



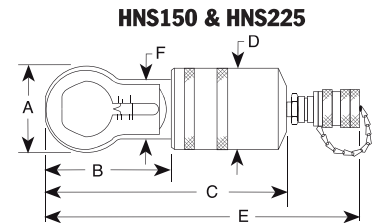
ENS Series Hydraulic Nut Splitters
(Topside/Subsea) for Nut size A/F
30mm to 130mm (1¹/₄" to 5³/₈")
available
(Consult factory or refer www.spx-bolting.com)



HNS150A



HNS150A



HNS150 & HNS225

Cap. (Tons)	Tool Model	HNS150 & HNS225						HEAD THICKNESS (mm)	REPLACEMENT BLADE	TOOL WEIGHT (kg)
		A	B	C	D	E	F			
15	HNS150	73	86	200	70	264	53	25,4	308840	3,7
15	HNS150A	77	361	27	54	94	30	25,4	351985	7,2
25	HNS225	108	153	366	99	C	82	38,1	308022	13,2



HYDRAULIC TOOLS

CAPACITIES

Tool Model	5 (2 or A)	Nut Grade 9 (5 or B)	10 (8 or C)	12 (2 or H)
HNS150	1/2 - 1-1/2" (12,7-38,1mm) hex	1/2 - 1-1/2" (12,7-38,1mm) hex	1/2 - 1-5/16" (12,7-33mm) hex	1/2 - 1-1/8" (12,7-29mm) hex
HNS150A	1/2 - 1-1/2" (12,7-36mm) hex	1/2 - 1-1/2" (12,7-36mm) hex	1/2 - 1-5/16" (12,7-33mm) hex	1/2 - 1-1/8" (12,7-29mm) hex
HNS225	1-1/8 - 2-1/4" (29-57mm) hex	1-1/8 - 2-1/4" (54-57mm) hex	1-1/8 - 2-1/4" (29-55 mm) hex	1-1/8 - 1-11/16" (29-43mm) hex

Hex Size: A/F

PIPE FLANGE

Hydraulic Spreaders

5 & 10 Ton
Single-acting, Spring-return
700 bar (10,000 psi)

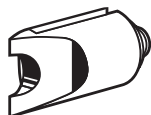
HYDRAULIC PIPE FLANGE SPREADERS – 5 & 10 TON CAPACITY

- You'll never again have to resort to "hammer and chisel" methods that waste time and effort. Flange spreaders should be used in pairs to provide even spreading force.
- Standard 60° wedge is suitable for most flanges; 30° "thin" and 60° "blunt" wedges are optional.
- The HFS3A is designed for applications where total thickness of flanges and max. spread gap is 76,2mm or less and flange bolts are a min. of 17,5mm dia.
- Use HFS6A if total thickness of flanges and max. spread gap is 152,4 mm or less, and flange bolts are a min. of 20,7 mm dia.

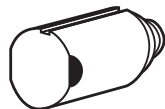


HFS3A

Lightweight!



350823
(30° Thin wedge)



350822
(60° Blunt wedge)



350549
(30° Thin wedge)



350550
(60° Blunt wedge)

HYDRAULIC TOOLS



Capacity (Tons)	Order Number	Standard Wedge Type	Optional Wedges		Min. Flange Opening (mm)			Max. Flange Opening (mm)			Combined Flange Opening (mm)	Max. Pin Dia. (mm)	Weight (kg)
			30° Thin	60° Blunt	60° Std.	60° Blunt	30°	60° Std.	60° Blunt	30°			
5	HFS3A	60° Sharp	350823	350822	1,6	25,4	1,6	38,1	38,1	18,3	76,2	17,4	4,1
10	HFS6A	60° Sharp	350549	350550	1,6	38,1	1,6	50,8	50,8	24,6	152,4	20,6	8,2

* 30° Thin wedge provides more than twice spreading force of 60° wedge.

* 60° Blunt-faced wedge for wide flange openings.

HYDRAULIC PUNCHES

35 Ton
Single-acting, Spring-return
700 bar (10,000 psi)

- Punch smooth, precise holes in seconds; much faster than drilling.
- Fully portable for construction, maintenance and service applications, or can be mounted on a workbench for production jobs. Has carrying handle for precise locating.
- Rugged, forged steel "C" frame for great strength and durability.
- Dual action, spring loaded stripper holds material during punching operation, strips material from punch on return. Scribe lines on stripper aid in locating the punch (HP 35 only).
- The PE172 electric/hydraulic pump is an ideal power source.



HP35

No. HP35 – Punch only, includes metal case and die change tools. Wt., 19 kg.

No. HP35S – Punch with punches and dies. Includes HP35 punch, metal case and 250459 punch/die set. Wt., 20 kg.

No. HP35SP-220 – Punch set with pump. Includes HP35 punch, PE172-50-220 (220V/50Hz) electric/hydraulic pump, 9756 hose, 9798 hose half coupler, 250459 punch/die set, metal case. Wt., 40 kg.

NOTE: Available in 115 volt, 60 Hz. Order without suffix "-220".

No. HP35P-220 – Punch set with pump. Same as HP35SP-220, but does not include punch/die set. Wt., 39 kg.

NOTE: Available in 115 volt, 60 Hz. Order without suffix "-220".

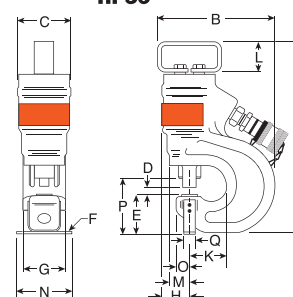
No. 250459 – Punch/die set for round holes. Includes one each: PD437 11,1 mm punch/die, PD562 14,3 mm punch/die, PD688 17,5 mm punch/die, PD812 20,6 mm punch/die. Wt., 0,7 kg.

PUNCH/DIE SETS FOR HP35 HYDRAULIC PUNCHES

For use with
HP35 Hyd. Punch

Punch Size (mm)	Punch Style	Punch/w Flat Die Set	Punch/w Bevel Die Set
7,9	Round	PD313	—
9,5		PD375	PD375B
11,1		PD437	PD437B
13,5		PD531	PD531B
14,3		PD562	PD562B
17,5		PD688	—
19,8		PD781	—
20,6		PD812	—

HP35



HYDRAULIC TOOLS

Cap. (Tons)	Order Number	Max. Oper. Press. (bar)	Max. Oil Cap. (cm³)	Max. Material thickness (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	J (mm)	K (mm)	L (mm)	M (mm)	N (mm)	O (mm)	P (mm)	Q (mm)
35	HP35	700	75	12,7	349	229	95	14	73	6	76	46	—	71	57	38	89	22	102	19

Punching holes in mild steel, structural steel, stainless steel, brass, aluminium etc.

Typically used in bar size angle iron, channels, tees and zeeks.

General reference guide for metal punching operations: Consult factory.

SPREADERS

Hydraulic

1 & 1¹/₂ Ton

Single-acting, Spring-return

700 bar (10,000 psi)

HS2000
(Forged Steel)



HS3000
(High Grade Ductile Iron)



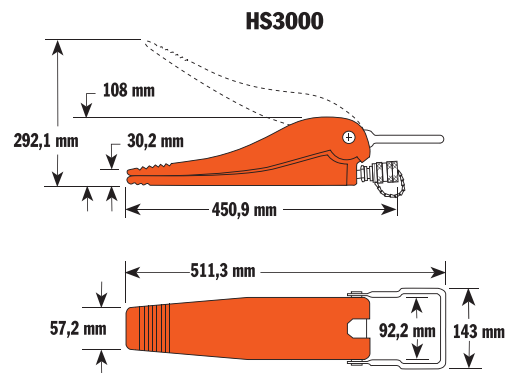
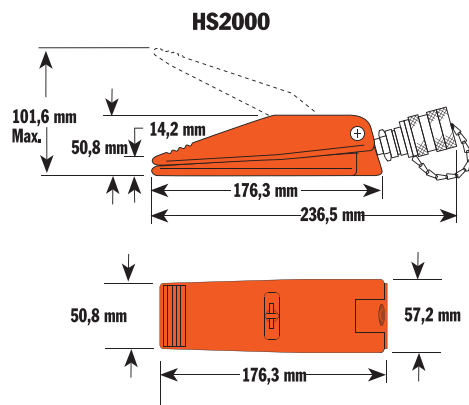
Tested to conform to ASME B30.1 standard

THE HYDRAULIC PRY BAR!

- Use to lift machines or as a clamp; spread concrete forms or rebar or perform straightening jobs.
- Conforms to ASME B30.1 standard.
- High strength alloy steel forged upper and lower jaws on HS2000.
- Jaws are spring-return; retract automatically when pressure is released.

No. HS2000 – 1 Ton capacity spreader. Full 908 kg capacity at 700 bar with 102mm spread. Can be "dead-ended" at 102mm spread under full load. Needs only 14,2mm clearance to engage jaws.

No. HS3000 – 1¹/₂ Ton capacity spreader. Full 1.362 kg capacity at 700 bar with 292 mm spread. Greater than competitive units. Needs only 30,2 mm clearance to engage jaws. Can be "dead-ended" at 292 mm spread at full load.



Capacity (Tons)	Max. Spread (mm)	Order Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	Oil Capacity (cm ³)	Min. Clearance Required (mm)	Weight (kg)
1	101,6	HS2000	101,6	50,4	14,3	252,52	236,5	50,8	176	57	—	4	14,2	2,2
1 ¹ / ₂	292	HS3000	292	108	30,2	—	451	57,2	511	143	92	20	30,2	10

HS2000 SPECIFICATIONS

Maximum rated capacity1 Ton at 700 bar
Maximum spread101,6 mm
Minimum clearance required14,2 mm
Cm³ oil required 4

HS3000 SPECIFICATIONS

Maximum rated capacity 1¹/₂ Ton at 700 bar
Maximum spread 292 mm
Minimum clearance required.....30,2 mm
Cm³ oil required 20

HYDRAULIC TOOLS



TIRE REMOVING

BB Series Tool
10 Ton Hydraulic
Single-acting, Spring-return
700 bar (10,000 psi)

TIRE REMOVING TOOL (Bead Breaker)

UNSEAT TIRE BEADS HYDRAULICALLY ON 25" TO 49" DIAMETER EARTH MOVER RIMS WITH PRY BAR POCKETS.

- Made to fit into the pry bar pocket
- Hydraulic pressure does all the unseating.
- Lightweight and portable.
- P55 hydraulic hand pump and 9764 hose recommended to be used with BB1600.
- Ideal for field service repairs of large Off-The-Road (O.T.R.) Tractor, Truck, Grader, Farm and Earth Mover tire rims with pry bar pockets.



700 bar

BB1600

Hydraulic hand pump & hose are sold separately.



HYDRAULIC TOOLS

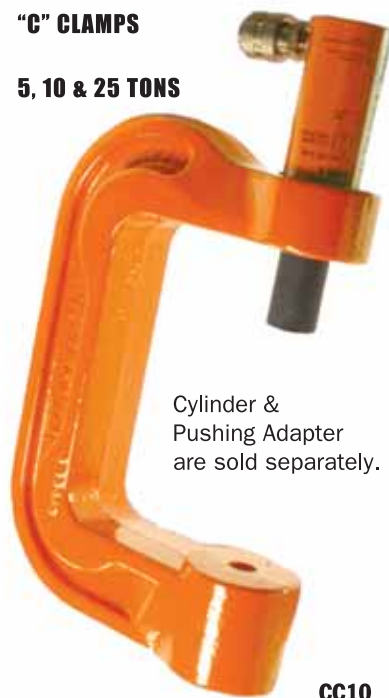
Tool Model	Rim Size	Cylinder Cap. (Tons)	Stroke (mm) kg.	Tool Weight
BB1600	25"-49"	10	101,6	10,25
BB1601	25"-49" (Single, two, three piece rims)	10	101,6	10,9

C-CLAMPS

Hydraulic Accessories

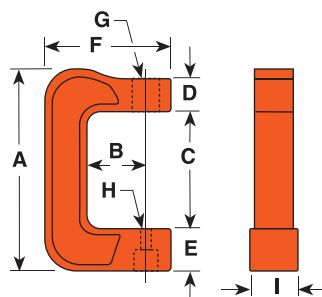
"C" CLAMPS

5, 10 & 25 TONS



Cylinder & Pushing Adapter are sold separately.

- In 5, 10 and 25 ton capacities. For use with Power Team general purpose single-acting series cylinders of comparable capacity.
- For clamping, pressing and bending. Ideal for welding and metal fabrication for fit-up of sheet or plate steel.
- Clamps withstand full rated capacity of the cylinders for which they are intended.
- To minimize the effects of off-center loading, the CC5, CC10 and CC25 should be used with the optional 350144 and 350145 swivel caps.

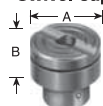


Items pictured are:
CC10
C104C
201923

Cap. (Tons)	Order Number (C-Clamp only)	Use With Cyl. No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (in.)	H (mm)	I (mm)	Weight (kg)
5	CC5	C51C - C57C	314	95,3	186	50,8	63,5	197	1 1/2"-16 UN	22,2	76,2	11,3
10	CC10	C101C - C1010C	403	152,4	240	50,8	85,8	273	2 1/4"-14 UNS	22,2	88,9	20,9
25	CC25	C251C - C2514C	533	152,4	319	76,2	114,3	313	3 5/16"-12 UNS	36,5	117,5	41,3

OPTIONAL ACCESSORIES FOR USE WITH CC5, CC10 & CC25 HYDRAULIC CLAMPS

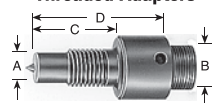
Swivel Caps



10 ton
350144*
A-35 mm
B-19 mm

25 ton
350145
A-50,8 mm
B-25,4 mm

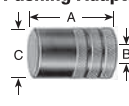
Threaded Adapters



10 ton
38597
A-1 - 8
B-1 - 8
C-19 mm
D-50,8 mm

25 ton
38953
A-1 1/4-7
B-1 1/2-16
C-70 mm
D-111 mm

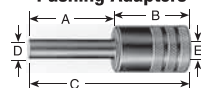
Pushing Adapters



10 ton
28228**
A-60,3 mm
B-1 - 8
C-38,1 mm

25 ton
28229**
A-73 mm
B-1 1/4-7
C-44,5 mm

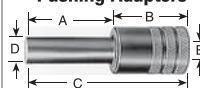
Pushing Adapters



10 ton
201923**
A-79,4 mm
B-57,2 mm
C-136,5 mm
D-12,7 mm
E-1 - 8

25 ton
34510**
A-82,6 mm
B-66,7 mm
C-149 mm
D-19 mm
E-1 1/4-7

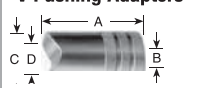
Pushing Adapters



10 ton
201454**
A-79,4 mm
B-57,2 mm
C-137 mm
D-19 mm
E-1 - 8

25 ton
34511**
A-82,6 mm
B-66,7 mm
C-149 mm
D-25,4 mm
E-1 1/4-7

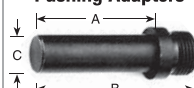
V Pushing Adapters



10 ton
34806**
A-66,7 mm
B-1 - 8
C-38,1 mm
D-25,4 mm

25 ton
34807**
A-79,4 mm
B-1 1/4-7
C-44,5 mm
D-31,8 mm

Pushing Adapters



5 ton
309874*
A-51,6 mm
B-562,8 mm
C-15,9 mm

* May be used with CC5
** Must be used with a threaded adapter.

HYDRAULIC TOOLS



TESTERS

Hydraulic

200, 300 & 750 l/min
(50, 75 and 200 GPM)



HT50A



HT200

200, 300 AND 750 L/MIN IN-LINE HYDRAULIC TESTERS

- Accurately measure oil flow, pressure and temperature on in-plant equipment, forklifts, machine tools and more.
- Temperature and flow readings are in Metric and English, accurate to within $\pm 2\%$ of full scale.
- Dual pressure gauges for high and low pressure readings; low pressure gauge is automatically shut off and protected as pressure rises beyond its maximum reading.

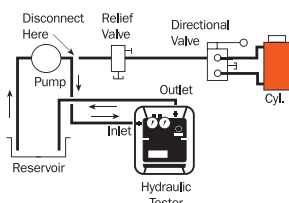
- Automatic pressure compensating feature lets you increase flow without affecting pressure setting.
- Reverse flow through tester will not cause damage; replaceable safety disc ruptures if pressure exceeds upper limit.
- Solid state voltage regulator eliminates errors caused by voltage change during testing.
- Troubleshoots systems with capacities to 750 l/min at pressures less than 350 bar. Accurately measure oil flow to $\pm 5\%$, pressure to within 2% and temperature readings within 1%.

- Pressure gauge is liquid filled to dampen system pulsation.

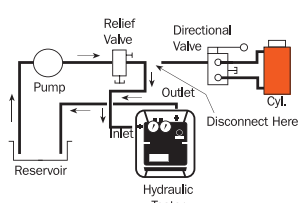
For more precise low pressure readings, an optional dual pressure gauge kit is available. Consult factory.

No. HT50A – Hydraulic circuit tester with single liquid filled pressure gauge, 0-5000 psi, 0-350 bar. Includes two adapter unions for 3/4" male NPTF fittings. Wt., 16,8 kg

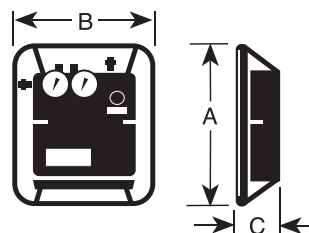
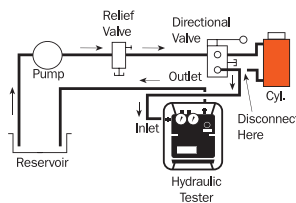
Testing a pump



Testing a relief valve



Testing a directional valve



Order Number	Max Flow (l/min)	Scale	Flow Ranges (gpm) (l/min)	Maximum Operating Pressure (psi) (bar)	Temperature Scale Range (°F) (°C)	Port Sizes	Weight (lbs.) (kg.)	A in. (mm)	B in. (mm)	C in. (mm)
HT50A	200	—	0-50 0-200	5,000 345	20-240 -6 to 114	1 1/16-12UN Female "O" Ring with Union Adapt. 3/4" Female NPTF	30.3 16.8	12 1/4 (311)	6 3/4 (159)	10 (255)
HT75	300	High Low	15-75 3-15 50-300 10-60	5,000 345	100-250 40-120	3/4" NPT Swivel	18.2 8.6	13 3/4 (349,25)	11 7/8 (301,62)	5 3/4 (146,05)
HT200	750	High Low	25-200 5-40 100-750 20-150	5,000 345	100-250 40-120	1 1/2" SAE Split Flange	28.2 13.6	15 7/8 (403,47)	13 1/4 (336,55)	6 3/4 (171,45)

For a complete listing of accessories for the HT series of hydraulic system testers, consult factory.

*Not included, must be ordered separately.

USE THE 200, 300 OR 750 L/MIN TESTER TO SIMULATE ACTUAL OPERATING CONDITIONS OF THE SYSTEM UNDER TEST

Testing the pump: Operator runs engine at a specific rpm and adjusts tester's pressure compensating valve to simulate a work load. By comparing meter readings with manufacturer specs, proper operation of pump can be confirmed. If oil flow and pressure do not meet specs, the pump is faulty. Or, if test results and specifications agree, the operator will know that the problem is elsewhere in the system and that other tests must be performed. Regardless of the component being tested, hook-up and testing is accomplished in minutes.

NOTE: These hydraulic testers should always be used with the owner's manual/manufacturers' specifications for the system under test.



DUAL GAUGE CONVERSION KIT FOR 50 GPM TESTER.

Provides more precise low pressure readings. Remove pressure gauge block and gauge from tester and replace it with this block. Install high pressure gauge from tester (350 bar) onto this new block.

No. 307281 – Dual gauge conversion kit. Consists of gauge mounting block, pulsation dampener, thermal overload protector, low pressure gauge and gauge protector. Wt. 0,45 kg.



307281 Low pressure gauge calibrated 0-600 psi 0-42 bar.



37045

No. 37045 – Auxiliary power cord. For use with any 12 or 24 volt battery to remotely power tester. Wt. 0,5 Kg. CAUTION: For use on negative ground systems only.

Auxiliary power cords for use with 300 and 750 l/min testers

No. 204990 – Auxiliary power converter. Permits use of 120/230 volt outlet to power tester. Wt. 0,45 kg.



204990

9785
9786
8987
9788



Hoses

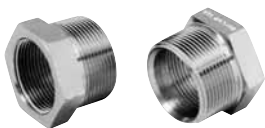
No. 9785 – Hose, 19,1 mm I.D. x 3/4" NPTF male both ends. 3m length. 155 bar working pressure. (2 req'd on 200 & 300 l/min testers) Wt., 3kg. The following hose assemblies are all 4-ply spiral wound wire, 3 m long. For use with 750 l/min testers.

No. 9786 – Hose, 25,4 mm I.D. x 11/4" NPT male both ends. Recommended max. flow 340 l/min, with a working pressure of 280 bar. Wt., 6,3 kg.

No. 9787 – Hose, 31,8 mm I.D. x 11/4" NPT male both ends. Recommended max. flow 530 l/min, with a working pressure of 210 bar. Wt., 6,4kg.

No. 9788 – Hose, 38,1 mm I.D. x 11/2" NPT male both ends. Recommended max flow 750 l/min, with a working pressure of 150 bar. Wt., 11,4 kg.

203264



Hose reducer bushings

No. 203264 – Consists of two hose reducer bushings, 11/4" NPT female x 11/2 NPT male end. Needed to adapt No. 9786 25,4 mm I.D. hose and No. 9787 31,8 mm I.D. hose to tester. Wt., 1 kg.



SERVICE TOOLS

Accessories

3344A



PHOTO TACHOMETER

- Infrared light source, micro-processor controlled crystal display.
 - Strong magnetic base is included.
- Machine speed: It is critical for proper machining operations. Speeds too fast or too slow can shorten tool life and cause expensive, unnecessary machine down-time. This digital photo tach can take readings from revolving shafts on drill presses, grinders, lathes and other machines. It can also be used to check engine operation on in-plant vehicles like forklifts. The 3344A is

accurate to within ± 1 rpm. The 10mm high liquid crystal display is easily visible even in high ambient light areas.

No. 3344A – Digital Photo Tachometer. With memory, photo probe assembly, magnetic base, 2,75 m of reflective tape and plastic case. Wt., 2 kg.

No. 39811 – Replacement magnetic base assembly. Wt. 0,1kg.

No. 45329 – Replacement photo probe assembly. Wt., 0,2 kg.

No. 204666 – Replacement retro-reflective indicator tape, 2,75 m long x 12,7mm wide. Wt., 0,1 kg.

SPECIFICATIONS

Readout: Liquid crystal display: 4 (10mm high) digits, low battery indicator, memory mode indicator, high and low RPM memory mode indicator.

Range: 200 to 9999 rpm. Accuracy: $\pm .25\%$, ± 1 rpm. Update time: 3/4 second.

Power switch: Membrane switch (automatic shut-off after one minute of no signal input).

Power source: 9 volt alkaline battery. Light source: Infrared with 4,6m plug-in cable.

Light holder assembly: 13,6 kg rated magnet; 50,8 mm dia. x 6,4 mm high (102 mm high overall with post).

Size: 86 w, 152 h x 38 mm d.

Carrying case: 343 w, 254 h x 102 mm d.

HTS50 HEAVY-DUTY PIPE SEALANT WITH TEFLON®

- Seals new or damaged threads; resists water, chemicals and oils.
- Replaces conventional tape methods; forms a clog-free seal. Effective at 700 bar.

When “plumbing” a hydraulic system, there’s now a better answer than tapes which can tear or shred, possibly plugging filters, valves or gauges. This compound combines the

lubricating qualities of Teflon® with a fast curing anaerobic sealant. Seals all metal fittings, plugs and threaded joints quickly and easily. Cures to form a permanent seal which is inert to hydrocarbons, most acids, chemicals, solvents and steam. Allows adjustment up to 16 hours after assembly; cannot loosen under vibration. Prevents galling of mating parts upon disassembly. Withstands temperatures from -54° to $+190^{\circ}$ C.

No. HTS50 – Sealant, 50 ml. tube. Wt., 0,2 kg.

(Teflon® is a registered trademark of duPont Co.)

HTS50



“O” RING SEAL PICKS

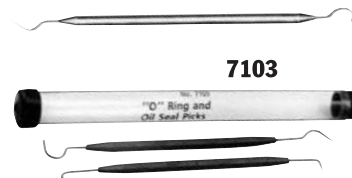
Even the seemingly simple job of removing and installing “O” ring seals can be difficult without the aid of the proper tool. The 7312 all metal “O” ring seal pick does the job with ease. Two special picks in set No. 7103 get right to the trouble areas.

No. 7312 – “O” ring seal pick. Wt., 0,1 kg.

No. 7103 – Set of two “O” ring seal picks. Wt., 0,1 kg.

7312

7103



UNIVERSAL OUTSIDE THREAD CHASER

Restore damaged threads on shafts, housings, cages, etc., for re-assembly of matching parts. Eliminates need for thread-cutting equipment. Will not harm threads. V-pads and dies can be replaced. Cap. 32 to 127 mm O.D.

No. 7402 – Thread chaser, complete (with 6 dies: threads per inch – 4, 5, 6, 7, $7\frac{1}{2}$, 8, 9, 10, 11, $11\frac{1}{2}$, 12, 14, 16, 18, 20 and 24). Wt., 0,2 kg.

No. 202817 – Metric die set (3 dies: mm per thread: 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{2}$, 3, $3\frac{1}{2}$, and 4). Wt., 0,1 kg.

7402



MAGNETIC PICK-UP TOOL

Has permanent magnetic head for retrieving parts from otherwise inaccessible places.

No. 7395 – Pick-up tool with pocket clip. 152 mm lg. Wt., 0,1 kg.

7395



WRENCHES, PRY BARS

Spanners & Jimmy Bars

RATCHETING CHAIN WRENCHES

Special head design allows you to turn wrench in either direction. Ratcheting action makes it possible to re-grip without removal. For parts of most any size and shape.

No. 7400 – Chain wrench, cap. 12,7 to 121 mm O.D. (Capacity= 450 Nm) Wt., 0,9kg

No. 7401 – Chain wrench, cap. 76 to 171 mm O.D. (Capacity= 900 Nm) Wt., 2,3 kg.

No. 209199 – Replacement chain with pin for No. 7400 chain wrench (406 mm long).

No. 209200 – Replacement chain with pin for No. 7401 chain wrench (610 mm long).

ADJUSTABLE HOOK SPANNER WRENCH

Needed wherever turret adjusting nuts or packing gland nuts are used. Cap.: 38 to 102 mm. Handle overall length: 483 mm.

No. 885 – Adjustable hook spanner wrench. Wt., 1,4 kg.

ADJUSTABLE HOOK SPANNER WRENCHES

Replace many fixed-size wrenches... cover range of capacities needed to service industrial tractors and other equipment. Drop-forged jaws adjust to eleven positions for a capacity of 121 to 324 mm O.D. Handle overall length: 610 mm; diameter: 25,4 mm.

No. 7307 – Spanner wrench with one 9,5 mm thick jaw. Wt., 3,3 kg.

No. 7308 – Spanner wrench with two interchangeable jaws: one 9,5 mm thick, one 19 mm thick. Wt., 5 kg

HEAVY-DUTY ADJUSTABLE SPANNER

Extra heavy construction. Has one 19 mm thick, eleven-position hook-jaw for a capacity of 131 to 324 mm O.D. Drop-forged. Handle length: 654 mm; handle dia.: 33.3 mm

No. 7309 – Heavy duty adjustable hook spanner wrench. Wt., 5 kg.

ADJUSTABLE GLAND NUT WRENCH

Designed to handle 51 to 152 mm dia. hydraulic cylinder gland nuts on many construction vehicles. Fits 6,4 and 7,9 mm dia. pin holes; features a 3/4" sq. drive.

No. 1266 – Adjustable gland nut wrench. Wt., 1,4 kg.

No. 204928 – Replacement pin for No. 1266

PRY BARS

Our rolling head pry bars are an extremely popular and useful tool. Head may be used for almost any prying job since a great deal of leverage can be obtained. Long tapered body may be used as a lining-up drift.

No. 7162 – Pry bar; 9,5 mm round, 152 mm long. Wt., 0,1 kg.

No. 7163 – Pry bar; 11,1 mm round, 305 mm long. Wt., 0,3 kg.

No. 7164 – Pry bar; 14,3 mm round, 406 mm long. Wt., 0,5 kg.

No. 7165 – Pry bar; 19 mm round, 457 mm long. Wt., 1 kg.

JIMMY BARS

Ideal for general lifting or prying. Heat treated chrome alloy steel to resist bending or breaking.

No. 7166 – Jimmy bar; 15,9 mm round, 457 mm long. Wt., 0,6 kg.

No. 7167 – Jimmy bar; 19 mm round, 610mm long. Wt., 1,1 kg.

No. 7168 – Jimmy bar; 22,2 mm round, 762 mm long. Wt., 1 kg.

"MAJOR PERSUADER" JIMMY BARS

Two big jimmy bars for big jobs. Forged from chrome alloy steel.

No. 7420 – Jimmy bar; 22,2 mm round, 1.168 mm long. Wt., 3,4 kg.

No. 7421 – Jimmy bar; 25,4 mm round, 1.372 mm long. Wt., 1,9 kg.



PULLERS

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PULLER BASICS



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ADAPTERS



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...146-150
**HYDRAULIC
PULLER SETS**



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**MECHANICAL
JAW PULLERS**



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**PULLING
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BLANKETS**



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**MECHANICAL
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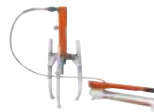
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**ROLLER BEARING
PULLER/
INSTALLER**



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**MANUAL
PULLER SETS**



Page
...142-145
**JAW PULLERS
PUSH PULLERS**



CONSIDERATIONS:

Determine the type of puller or puller combination. Which puller type is best suited for gripping the part?

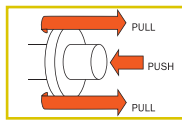
Is a combination of puller types required?

Determine the reach needed for your particular pulling problem. The puller you select must have a reach equal or greater than the corresponding sizes of the part to be pulled.

Determine the spread need. The spread is determined by the width of the part

being pulled. The puller's spread should be greater than the width of the part to be pulled.

Estimate the force needed to solve your pulling problem. A puller with the proper reach and spread will usually have enough capacity to remove the corresponding part. When in doubt, always use a puller with a larger capacity than what may be needed. Rusted parts or parts with a large area of resistance may need more pulling force.



1

PULLING A GEAR, BEARING, WHEEL, PULLEY, ETC., FROM A SHAFT

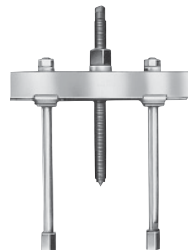
In order to perform a proper pull, be certain that you firmly grip the gear, bearing, wheel, pulley, etc., and apply force to the shaft. Use a 3-jaw puller, instead of a 2-jaw, whenever possible for better gripping power and a more uniform displacement of pulling force.

RECOMMENDED TOOLS:



Jaw-type pullers:

Either manual or hydraulic. For extra force and convenience, use a hydraulic puller. Both are available in 2 or 3 jaw configurations and are used to grip the outer circumference of a part or can be used with a pulling attachment, such as a bearing/pulley attachment. (Page 133, 140, 142-143, 152-153)



Push-Pullers

can thread directly into a threaded part for easy and secure removal. Push-Pullers can be used in conjunction with bearing/pulley attachments which grip the part from behind. A wide assortment of male and female threaded adapters are available as well as metric adapters. (Page 134, 144-145)



Bearing/pulley attachments

provide a "knife-like" edge to get behind parts for added versatility and secure removal of parts. Great for parts that don't offer adequate grip with jaw-type pullers. (Page 135)



Adapters

Whether you need an adapter compatible with any number of threaded hole sizes, protection of part to be pulled or for assisting the installation of a component; Power Team offers a variety of adapters to assist in the removal or installation of parts. (Page 137)

PULLERS



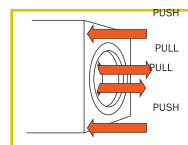
PULLER SELECTION

Basics

3 Basic Puller Scenarios

PULLING INTERNAL BEARING RACES, RETAINER, SEALS, ETC.

2



RECOMMENDED TOOLS:



Internal pulling attachments have narrow jaws which extend through the center of the part to be pulled. They provide a straight pull and avoid damaging housings. Internal attachments feature adjustable jaws to fit various diameter parts. (Page 135)

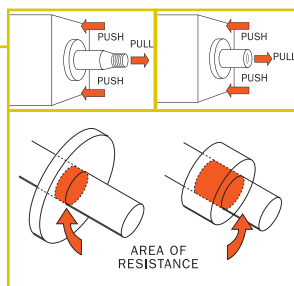


Slide hammer with internal attachment is ideal for removing parts from blind holes, especially where there is no housing to brace puller legs against. (Page 138-139)



Push-puller with internal attachment. Push-puller is available in both manual and hydraulic versions. (Page 134-135, 144-145)

3



PULLING A PRESS-FITTED SHAFT FROM A HOUSING

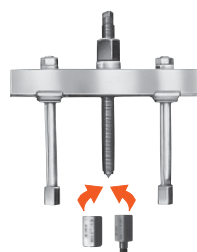
Note: Manual pullers require that the shaft being pulled is no more than twice the diameter of the puller's forcing screw. To determine the recommended tonnage for hydraulic pullers, multiply the diameter of the shaft to be pulled by ten. Example: For a 1" (25 mm) shaft, we recommend 10 tons of pulling force.

A shaft with a threaded end can be removed without damage by using one of our slide hammer, manual Push-puller or hydraulic Push-pullers, in conjunction with the proper threaded adapter. Removal is easy! If the shaft to be removed has external threads, simply choose one of our female threaded adapters of proper size/thread. If the shaft has internal threads, simply choose the correct size male threaded adapter.

RECOMMENDED TOOLS:

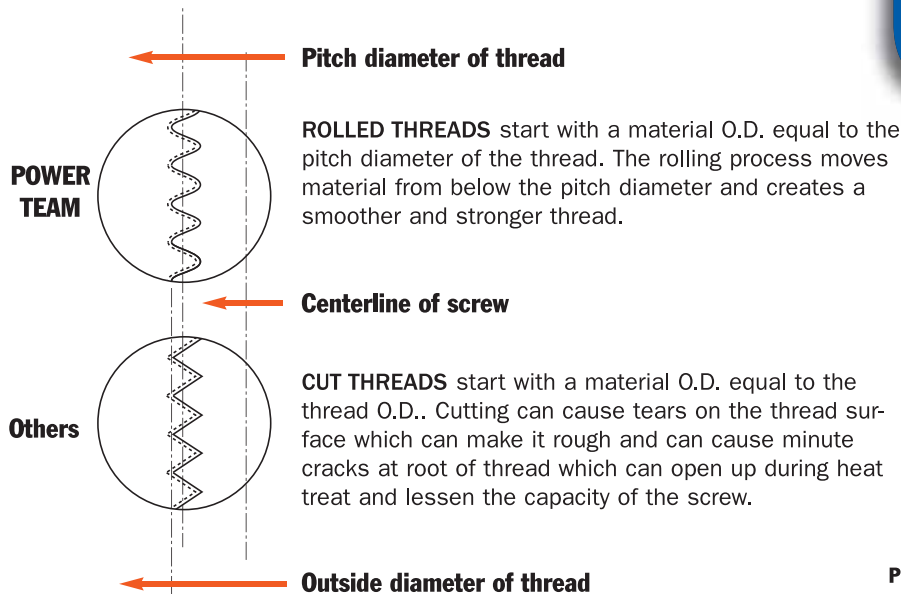


Slide hammer puller matched with a set of threaded adapters is a perfect tool for light duty pulling needs. (Page 138-139)






Push-pullers matched with a set of threaded adapters make for an extra versatile pulling tool. (Page 134, 137, 144-145)

WHY POWER TEAM ROLLED PULLER THREADS ARE SUPERIOR:



Puller with a bearing pulling attachment was used to take a bearing off a utilities well pump motor.

Features	Benefits
 <ul style="list-style-type: none"> Grip-O-Matic® feature on jaw type pullers 2-way, 3-way and 2/3-way combination pullers 1 to 37 ton mechanical pullers 5 to 50 ton hydraulic pullers 2¹/₈" (54 mm) to 27⁵/₈" (702 mm) reach 3¹/₄" (83 mm) to 44" (1,118 mm) of spread 	<ul style="list-style-type: none"> The harder the pulling force, the tighter the jaws grip A wide variety of pullers; select a specific puller for a specific application or select one or more pullers for general applications
 <ul style="list-style-type: none"> Forged alloy steel jaws Machined puller jaw toes Alloy steel heads (forged or flame cut) Rolled "V" threads 	<ul style="list-style-type: none"> Strongest possible part; the grain of the material follows the contour of the part. Larger and stronger pulling toe than most competitors Heat treated and designed for maximum strength Stronger and smoother than cut threads
 <ul style="list-style-type: none"> Special coating on threads Heat treated alloy steel cross bolts Standard hydraulic cylinders on Grip-O-Matic® series 	<ul style="list-style-type: none"> Resists corrosion, traps lubrication better than black oxide Designed for max. shear strength Cylinder can be removed from puller and used in other hydraulic applications

NOTE: The puller application photos shown in this catalog are shown without protective blankets for clarity of photos. Power Team strongly recommends you always make your pull with a protective device in place. For protective blankets, refer page 151.



PULLER

Safety Tips

SAFETY FIRST!

Operator safety comes first!

Tons of force are being exerted with your Pulling System. You must respect this force, and observe safety precautions at all times

CAUTION

It is impossible to predict the exact force required for every pulling job: setup requirements and the size, shape and condition of the parts being pulled vary a great deal. In addition, the Power Team Pulling System is so versatile, it is possible that components in a pulling setup may have different tonnage ratings.

The lowest "capacity" component, then, determines the capacity of the setup. For example: When an accessory with a 1 ton capacity is used with a 10 ton capacity puller, the setup can be used only at a force of one ton.

These tools should be used only by trained personnel familiar with them.

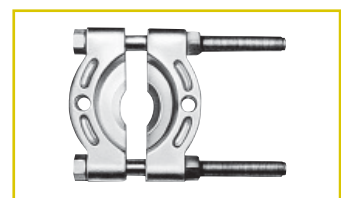
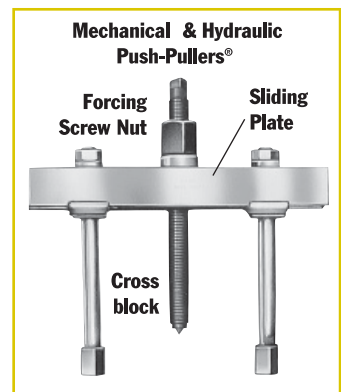
Always wear eye protection during a job since work parts, or the pulling tool itself, may break and parts may fly. It is recommended to cover the work with a Power Team Protective Blanket or use a shield while force is being applied. If you are at all unsure which tool or attachment to select, contact the Power Team factory.

A few easy tips to remember:

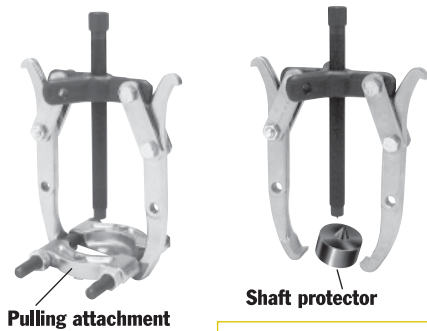
- 1. Wear safety glasses at all times!** You have only one pair of eyes, so protect them from possible flying parts.
- 2. Keep your pulling tools in shape!** Clean and lubricate the puller's forcing screw frequently, from threads to tip, to assure long service life and proper operation.
- 3. Cover work with a protective blanket!** With high forces being exerted on the part being pulled, breakage may sometimes result. By covering the work with a protective blanket, the mechanic reduces the danger of flying parts.
- 4. Apply force gradually!** The component should give a little at a time. Do not try speed removal by using an impact wrench on the puller screw.
- 5. Use the right size puller!** If you have applied maximum force and the part has not moved, go to a larger capacity puller. Resist sledging.
- 6. Align puller legs and jaws!** Be sure the setup is rigid and that the puller is square with the work.
- 7. Mount puller so grip is tight!** Tighten the adjusting strap-bolts when using a jaw type puller. Always use a 3-jaw puller whenever possible. A 3-jaw puller gives a more secure grip, more even pulling power. Apply force gradually.
— Never use an extension on a wrench. — Never use an impact wrench.
— Never strike the end of the forcing screw. Always cover work with a protective blanket.
- 8. Do not couple puller legs!** The tonnage capacity of a Push-Puller® is reduced when longer than standard legs are used, or when legs are in compression. The chance of breaking, bending or misaligning legs increases. Keep reach to a minimum. Use shortest legs possible to reach workpiece. Thread legs into work piece, pulling attachment or adapters evenly. Uneven legs will cause greater pull or push on one side, creating a bending action which could cause damage to work piece or cause a leg to break. The sliding plates must always be on the opposite side of the cross block from the forcing screw nut or hydraulic cylinder. Always cover work with a protective blanket.

Bearing pulling attachments:

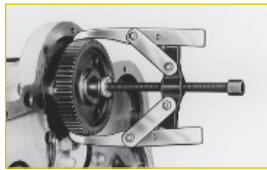
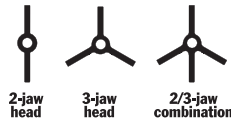
These attachments may not withstand the full tonnage of the pullers with which they are used. The shape and condition of the part being pulled affects the tonnage at which the puller blocks and/or studs may bend or break. Always select the largest attachment which will fit the part to be pulled.



PULLERS DESIGNED TO PULL GEARS, BEARINGS AND COUNTLESS OTHER PRESS FITTED PARTS.



Styles of puller cross heads



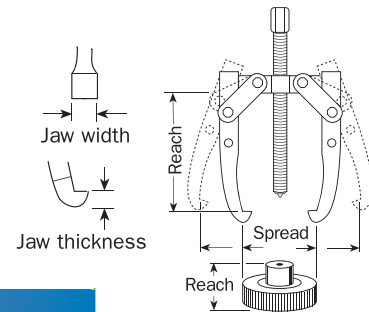
Fed. Spec.: GGG-P-00781-D

- Grip-O-Matic® feature on all pullers. The harder the pull, the tighter the grip for removing gears, bearings and countless other press fitted parts.
- 2-way, 3-way and 2/3 way combination pullers make it easy to select a specific puller for a specific application.
- Forged from high quality steel, heat treated and subjected to rigorous tests which exceed rated puller capacity.
- Alloy steel heads are forged for maximum strength.
- Forcing screw threads are rolled, not cut. This process creates a smoother and stronger thread.
- Heat treated alloy steel cross bolts for maximum shear strength.
- Machined puller jaw toes produce larger and stronger pulling toes.

JAW PULLERS

Mechanical

1 to 25 Ton
2 & 3 Jaw Pullers



Choosing the right size puller: Compare the “reach” and “spread” of the pulling job with that of the pullers listed. The puller selected must have dimensions greater than those of the job.

	Order No.	Max.		Screw Size (in.)	Jaw		Capacity, Style and Weight
		Reach (mm)	Spread (mm)		Thickness (mm)	Width (mm)	
 	1020	54	82,6	$\frac{5}{16}$ -24 x 98,4 mm	3,5	6,4	1-Ton, 2-Jaw; 0,14 kg
	1021	54	82,6	$\frac{5}{16}$ -24 x 98,4 mm	3,5	6,4	1-Ton, 3-Jaw; 0,23 kg
 	1022	85,7	101,6	$\frac{3}{8}$ -24 x 124 mm	Upper 4,8 Lower 3,2	Upper 6,4 Lower 12,7	2-ton, 2-Jaw; 0,4 kg (Reversible Jaws)
	1023	85,7	121	$\frac{3}{8}$ -24 x 124 mm	Upper 4,8 Lower 3,2	Upper 6,4 Lower 12,7	2-ton, 2/3-Jaw; 0,6 kg (Reversible Jaws)
 	1024	83	152	$\frac{9}{16}$ -20 x 176 mm	Upper 7,9 Lower 6,4	Upper 9,5 Lower 19,1	5-Ton, 2-Jaw; 0,8 kg (Reversible Jaws)
	1026	83	178	$\frac{9}{16}$ -20 x 176 mm	Upper 7,9 Lower 6,4	Upper 9,5 Lower 19,1	5-Ton, 2/3-Jaw; 1,3 kg (Reversible Jaws)
 	1025	140	152	$\frac{9}{16}$ -20 x 176 mm	Upper 7,9 Lower 6,4	Upper 9,5 Lower 19,1	5-Ton, Long 2-Jaw; (Reversible Jaws) 0,9 kg
	1027	140	178	$\frac{9}{16}$ -20 x 178 mm	Upper 7,9 Lower 6,4	Upper 9,5 Lower 19,1	5-Ton, Long 2/3-Jaw; (Rev. Jaws) 1,5 kg
 	1035	127	229	$\frac{11}{16}$ -18 x 229 mm	Upper 7,9 Lower 8,7	Upper 25,4 Lower 25,4	7-Ton, 2-Jaw; (Reversible Jaws) 2 kg
	1037	127	267	$\frac{11}{16}$ -18 x 229 mm	Upper 7,9 Lower 8,7	Upper 25,4 Lower 25,4	7-Ton, 2/3-Jaw; (Rev. Jaws) 2,8 kg
 	1036	222	241	$\frac{11}{16}$ -18 x 229 mm	8,7	25,4	7-Ton, Long 2-Jaw; 2,3 kg
	1038	222	279	$\frac{11}{16}$ -18 x 229 mm	8,7	25,4	7-Ton, Long 2/3-Jaw; 3,3 kg
 	1039	279	318	$\frac{13}{16}$ -16 x 305 mm	14,3	25,4	13-Ton, 2-Jaw; 4,8 kg
	1040	387	279	$\frac{13}{16}$ -16 x 305 mm	14,3	25,4	13-Ton, Long 2-Jaw; 5,9 kg
	1041	279	356	$\frac{13}{16}$ -16 x 305 mm	14,3	25,4	13-Ton, 2/3-Jaw; 6,7 kg
	1042	387	432	$\frac{13}{16}$ -16 x 305 mm	14,3	25,4	13-Ton, Long 2/3-Jaw; 8,3 kg

• For puller piece part identification, consult factory.

• Available standard 17.5 ton & 25 ton mechanical jaw pullers, consult factory.

POWERTEAM.COM



PUSH-PULLERS®

Mechanical
10, 17 1/2, & 30 Ton Cap.

FOR REMOVING AND INSTALLING GEARS, BEARINGS, PULLEYS AND OTHER PRESS-FITTED PARTS.

No. 927 – 10-Ton Capacity can be used with No. 1123 bearing pulling attachment or No. 679 pulley pulling attachment. May also be used with Nos. 1150, 1151, 1152, or 1153 internal pulling attachments.

No. 938 – 17 1/2-Ton Capacity can be used with Nos. 1124 and 1130 bearing pulling attachment or Nos. 679 and 680 pulley pulling attachment. May also be used with Nos. 1150, 1151, 1153, or 1166 internal pulling attachments.

No. 939 – 30-Ton Capacity can be used with Nos. 1126 and 1127 bearing pulling attachment or No. 680 pulley pulling attachment (two 8012 adapters are required to connect 680 to puller). Can be used with No. 1165 internal pulling attachments.



Bearing Pulling Attachment



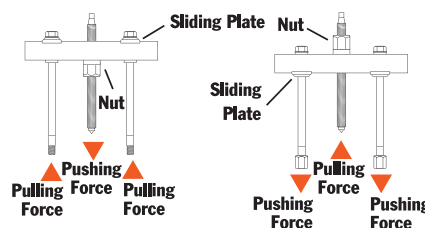
Internal Pulling Attachment

ASSEMBLING THE TOOL TO APPLY PUSHING OR PULLING FORCE:

1. Determine if you want the tool's forcing screw to push or pull.
2. To exert pushing force, the forcing nut is installed beneath the cross block, as shown on left.
3. To cause the forcing screw to pull, the forcing nut is placed on top of the cross block.
4. The sliding plates must always be placed on the opposite side of the cross block from the forcing nut.

Selection and capacity rating –

Each Push-Puller's specified tonnage "capacity" is determined using its standard legs in tension. Using longer legs, or a setup in which the legs are in compression, will reduce the "capacity". Always select the largest "capacity" puller and the shortest legs that will fit the job.



927

Max.



Reach	Spread	Screw	Size	Notes / Weight
210 mm	54 - 184 mm	3/4"-16 x 305 mm	1 1/2"	of forcing screw tip end is threaded 5/8"-18. No. 1100 legs and No. 24827 leg ends included. Wt., 3,2 kg.

Order No. Leg Length & Wt.

1103	121 mm, 0,45 kg	
1100*	171 mm, 0,7 kg	

Order No. Leg Length & Wt.

1102	298 mm, 1 kg	
1101	400 mm, 1,5 kg	

Extra Legs (pair) for No. 927 Push-Puller (Reach equals leg length plus 50,8 mm with leg end caps.)

938

Max.



Reach	Spread	Screw	Size	Notes / Weight
282 mm	79-298 mm	1"-14 x 336 mm	1 1/2"	Leg ends threaded 5/8"-18. No. 1106 legs and No. 24827 leg ends included. Wt., 9,4 kg

Order No. Leg Length & Wt.

1107	114 mm, 1,1 kg	
1106*	241 mm, 2 kg	
1104	419 mm, 3kg	

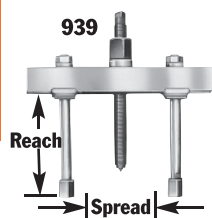
Order No. Leg Length & Wt.

1105	572 mm, 4,1 kg	
1108	762 mm, 5,2 kg	

Extra Legs (pair) for No. 938 Push-Puller (Reach equals leg length plus 50,8 mm with leg end caps.)

939

Max.



Reach	Spread	Screw	Size	Notes / Weight
267 mm	178-413 mm	1 1/2"-12 x 438 mm	1 1/2"	Leg ends threaded 1"-14. No. 1109 legs and No. 28390 leg ends included. Wt., 20 kg

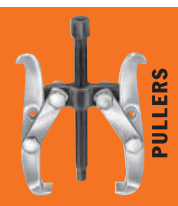
Order No. Leg Length & Wt.

1109*	203 mm, 3,6 kg	
1110	457 mm, 6,8 kg	

Order No. Leg Length & Wt.

1111	711 mm, 10 kg	
-------------	------------------	--

Extra Legs (pair) for No. 939 Push-Puller (Reach equals leg length plus 66,7 mm with leg end caps.)

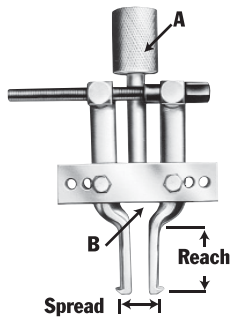


PULLERS

PULLING ATTACHMENTS

Jaw Spreads Bearing & Pulley

CAUTION – These attachments may not withstand the full tonnage of the pullers they are used with. The shape and condition of the part being pulled affects the tonnage at which the jaws may slip off. Always select the largest attachment which will fit behind the part being pulled (See page 132).



- Handles internal pulling jobs, such as, bearing /bearing cup removal, bushing removal, oil seals, etc.
- Remove hard to get at parts easily and without damage!
- Use with corresponding Power Team Slide Hammer or Push-Puller.®
- Adjustable jaws fit various diameters

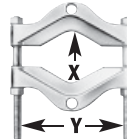
Fed. Spec.: GGG-P-00781-D

Order No.	Jaw Spread (mm)	Reach (mm)	A (in. - thd.)	B (in. - thd.)	Wt. (kg)	Application
1153	38,1-127	54	1-14	$\frac{5}{8}$ -18	1,9	Use with Nos. 927 and 938 Push-Pullers,
1150	38,1-152	102	1-14	$\frac{5}{8}$ -18	2	
1151	38,1-178	133	1-14	$\frac{5}{8}$ -18	2	
1152	38,1-152	102	-	$\frac{5}{8}$ -18	1,6	Use with Nos. 927 and 938 Push-Pullers, 1155 and 1156 slide hammer pullers, or 24832 and 24833 puller screw.
1154	38,1-152	102	1-8	$\frac{5}{8}$ -18	2	Use with No. PPH17.
1165	76,7-229	149	$1\frac{1}{2}$ -12	1-14	6,1	Use with No. 939 Push-Puller.
1166	76,2-229	149	$1\frac{1}{4}$ -7	1-14	6,1	Use with No. PPH30.
Puller Screws						
24832	349 mm long	$\frac{5}{8}$ -18	0,5			Use with Nos. 1150, 1151, 1152, and 1153.
24833	140 mm long	$\frac{5}{8}$ -18	0,2			Use with Nos. 1150, 1152, and 1153.

• 24832 & 24833 acts as a regular forcing screw when threaded directly into block of pulling attachment.



- “Knife-like” edges fit behind bearings and other hard-to-grip parts for easy removal, even where clearance is limited.
- Usable with both Grip-O-Matic® jaw type pullers and Push-Pullers®.
- All puller blocks are made from forged alloy steel.

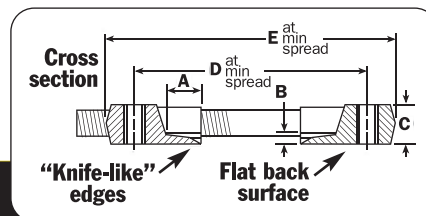


Attachment clamps down into V-groove to distribute load. Use with Grip-O-Matic® pullers or Push-Pullers.

X = Thread of tapped hole in adapter.
Y = Distance between adjusting screws.

Fed. Spec.: GGG-P-00781-D

Order No.	Max. Spread (mm)	X (in.)	Y (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Wt. (kg)	Application - (Use with Puller Nos.)
1121	6,4-22,2	$\frac{5}{16}$ -18	43	11,1	3,2	12,7	34,9	50,8	0,3	1020, 1022, and 1023.
1122	3,2-51	$\frac{3}{8}$ -16	62	11,1	4,0	15,9	50,8	69,9	0,6	1024, 1025, 1026, 1027, 7392 and 7393.
1123	9,5-117	$\frac{5}{8}$ -18	111	22,2	9,5	25,4	88,9	114,3	2,3	1035, 1036, 1037, 1038, and 927.
1124	12,7-133	$\frac{5}{8}$ -18	152	34,9	11,1	31,8	127	158,8	5,4	1039, 1040, 1041, 1042, PH172, PPH17, and 938.
1126	16-203	1-14	181	34,9	17,5	34,9	146,1	190,5	9	1047, 1043, and 939.
1127	19-340	1-14	260	44,5	17,5	44,5	158,8	215,9	18,8	1047, 1073, and 939.
1128	127-327	$1\frac{3}{4}$ -12	330	44,5	19,1	57,2	327	406	45,4	PH553C, and PPH50. (When using 1128 with PPH50, two 8024 adapters are required to connect PPH50 to the puller tees.)
1130	12,7-219	$\frac{5}{8}$ -18	152	34,9	11,1	31,8	127	158,8	5,4	1039, 1040, 1041, 1042, PH172, PPH17, and 938.
V-belt pulley pulling attachments										
679	45-149	$\frac{5}{8}$ -18	152						2	1035, 1036, 1037, 1038, and 927.
680	42,3-254	$\frac{5}{8}$ -18	257						10,1	1039, 1040, 1041, 1042, 1047, PH172, PPH30* and 938. (When using 680 with PPH30, two 8012 adapters are required.)



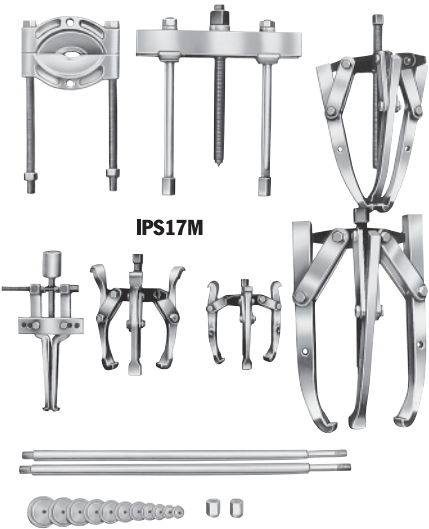
PULLERS



PULLER SETS

Manual
10 & 17 1/2 Ton

10 ton manual puller set – This puller set is just what you need for removing gears, bearings, etc. Includes pullers, attachments, and many accessories.



17½ ton manual puller set – The pullers and accessories in this set can be used for hundreds of applications including quick and easy maintenance involving removal and replacement of press-fit parts.



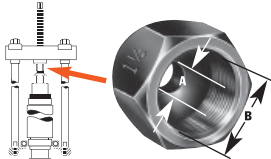
Manual Puller Set No. Order No.	Set Contents	Pullers	Set Contents	Accessories
IPS10M 10 ton capacity Wt., 24 kg.	927	10 ton capacity Push-Puller® with 171 mm legs	8075	Step plate adapter set
	1023	2 ton combination 2/3-jaw puller	8044	Female threaded adapter set
	1026	5 ton combination 2/3-jaw puller	8035	Female threaded adapter: ½"-20 x ¾"-18
	1027	5 ton combination 2/3-jaw puller	1151	Bearing cup pulling attachment
	1037	7 ton combination 2/3-jaw puller	1121	Bearing pulling attachment
	1178	Slide hammer set	1122	Bearing pulling attachment
IPS17M 17½ ton capacity Wt., 52,7 kg.	938	17½ ton capacity Push-Puller® with 241 mm legs	1123	Bearing pulling attachment
	1027	5 ton combo 2/3-jaw puller, with long jaws	1101	400 mm long puller legs for 927 (pr.)
	1037	7 ton combination 2/3-jaw puller	8075	Step plate adapter set
	1041	13 ton combination 2/3 jaw puller	1105	572 mm legs for 938
	1045	17½ ton 3-jaw puller	1130	Bearing pulling attachment
			1151	Bearing cup pulling attachment
			8038	Female adapter: ¾"-18 F. x ¾"-16 F. (2)

PULLER ADAPTERS

Specialty Metric

- **Female threaded adapters** - Use these adapters on the ends of Push-Puller® forcing screws, legs, or slide hammers in the removal and installation of shafts, axles, and housings.

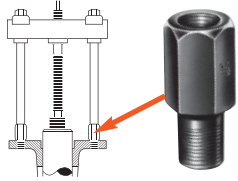
Set No. 8044 – consists of a set of 6 adapters (Nos. 8037-8042)

	Order No.	Female End "A"	Female End "B"	Order No.	Female No.	Female End "A"
	8035*	1/2"-20	5/8"-18	8040	5/8"-18	1"-14
	8036*	1"-14	1"-14	8041	5/8"-18	1 1/8"-12
	8037	5/8"-18	5/8"-18	8042	5/8"-18	1 1/4"-12
	8038	5/8"-18	3/4"-16	8043*	5/8"-18	1 1/2"-12
	8039	5/8"-18	7/8"-14			

Note: All adapters available separately.

*Not included in set No. 8044. Order separately.

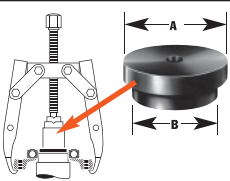
- **Male-female threaded adapters** – These adapters are used on ends of Push-Puller® legs, with forcing screws or slide hammers to assist in pulling shafts, bearing caps, pinions, and many other parts.

	Order No.	Female End	Male End	Length (mm)	Order No.	Female End	Male End	Length (mm)
	8000	5/8"-18	1/4"-20	57,2	8015	5/8"-18	3/4"-10	57,2
	8001	5/8"-18	5/16"-18	57,2	8016	1"-14	3/4"-10	63,5
	8002	5/8"-18	7/16"-14	57,2	8017	5/8"-18	7/8"-14	57,2
	8003	5/8"-18	7/16"-20	57,2	8018	5/8"-18	7/8"-9	57,2
	8004	5/8"-18	3/8"-24	57,2	8019	5/8"-18	1"-14	57,2
	8005	5/8"-18	3/8"-16	57,2	8020	1"-8	5/8"-18	76,2
	8006	5/8"-18	1/2"-20	57,2	8021	1"-8	1"-14	76,2
	8007	5/8"-18	1/2"-13	57,2	8022	5/8"-18	1 1/8" pipe	57,2
	8008	5/8"-18	9/16"-18	57,2	8023	1 1/4"-12	1"-14	114,3
	8009	5/8"-18	9/16"-12	57,2	8024	1 1/4"-12	1 3/4"-12	114,3
	8010	5/8"-18	5/8"-11	57,2	8025	1 1/4"-7	5/8"-18	101,6
	8011	1"-14	5/16"-11	63,5	8027	1 1/4"-7	1"-14	101,6
	8012	1"-14	5/8"-18	81	8028	1 5/8"-5 1/2	1"-8	101,6
	8013	5/8"-18	3/4"-16	57,2	8029	1 5/8"-5 1/2	1"-14	101,6
Fed. Spec.: GGG-P-00781-D	8014	1"-14	3/4"-16	63,5	Note: Nos. 8000-8029 – each sold individually.			

- **Step plate adapter sets** – Power Team step plate adapters are necessary for pulling and installing bearings, gears, or other parts on hollow shafts or housings. Puller screw forces against step plate adapter, as shown at right. May be used with Power Team jaw-type pullers, Push-Pullers® and shop presses.

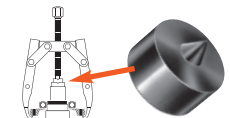
Set No. 8075 – set of 11 adapters (Nos. 8057-8067).

Set No. 8076 – set of 6 adapters (Nos. 8068-8073).

	Set No. 8075			Set No. 8075			Set No. 8076		
	Order No.	Dia. "A" (mm)	Dia. "B" (mm)	Order No.	Dia. "A" (mm)	Dia. "B" (mm)	Order No.	Dia. "A" (mm)	Dia. "B" (mm)
	8057	25,4	19,1	8063	47,5	38,1	8068	66,5	53,8
	8058	28,4	22,1	8064	50,8	41,1	8069	69,9	57,2
	8059	31,8	25,4	8065	53,8	44,5	8070	72,9	60,3
	8060	34,8	28,4	8066	60,2	47,5	8071	76,2	63,5
	8061	41,1	31,8	8067	63,5	50,8	8072	82,6	69,9
	8062	44,5	34,8				8073	88,9	76,2

- **Shaft protector set** -- Power Team shaft protectors are designed to protect shaft centers from distortion when extreme pressures are applied with jaw-type pullers or Push-Pullers®. Shaft protectors are inserted between the end of the puller screw and the shaft.

Set No. 8056 – Set of 6 shaft protectors (Nos. 8050 thru 8055).

	Order No.	"A" (mm)	"B" (mm)	"C" (60°) (mm)	"D" (60°) (mm)	Order No.	"A" (mm)	"B" (mm)	"C" (60°) (mm)	"D" (60°) (mm)
	8050	38,1	19,1	9,4	11,1	8053	19,1	19,1	6,4	6,4
	8051	31,8	19,1	9,4	9,4	8054	15,7	15,7	6,4	6,4
	8052	25,4	19,1	9,4	7,9	8055	15,7	15,7	4,8	4,8

CAUTION: All the items shown may not withstand the full tonnage of the pullers they may be used with (Refer page 132).



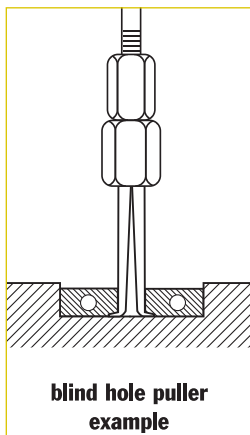
SLIDE HAMMER PULLERS

Set No. 981



Blind hole puller set – Removal of bearings, bushings, sleeves and other friction-fitted parts from blind holes can now be accomplished with ease. Set provides selection of expanding collets 8 to 44,5 mm I.D. Collet is placed through bore of part to be removed, then expanded with actuator pin so that lips of collet secure a positive grip for pulling. Pulling force is exerted by means of a forcing screw and bridge assembly or with a slide hammer.

No. 981 – Blind-hole puller set with slide hammer, forcing screw, bridge, actuator pins, collets, and storage box. Wt., 9,5 kg.



Order No.	Description	Order No.	Description
24835	Forcing Screw	28253	Actuator Pin (5 mm dia.)
24836	Forcing Screw Nut	28256	Actuator Pin (12,7 mm dia.)
22185	Hammer 1,1 kg.	41331	Bridge
208627	Shank & Tee Bar Assembly	28323GY8	Metal Box
28250	Actuator Pin (3,2 mm dia.)	10419	Metal Box

Order No.	Inch Range	MM Range	Order No.	Inc Range	MM Range
33856*	5/16" to 3/8"	8 to 9.5	33861**	3/4" to 7/8"	19.1 to 22.2
33857*	3/8" to 7/16"	9.5 to 11.1	33862**	7/8" to 1"	22.2 to 25.4
33858**	7/16" to 1/2"	11.1 to 12.7	33863***	1" to 1 1/4"	25.4 to 31.7
33859**	1/2" to 5/8"	12.7 to 15.9	33864**	1 1/4" to 1 1/2"	31.7 to 38.1
33860**	5/8" to 3/4"	15.9 to 19.1	33865***	1 1/2" to 1 3/4"	38.1 to 44.4

*Use with 3 mm actuator pin. **Use with 4,8 mm actuator pin. ***Use with 12,7 mm actuator pin

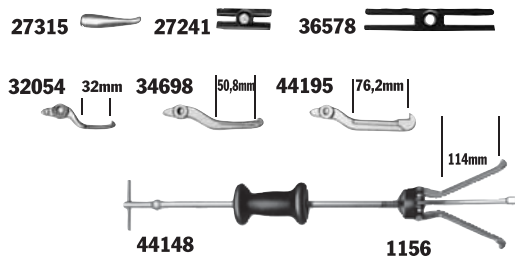
Slide hammer puller set – This very handy set is ideal for those close-quarter, inside pulling jobs. Very practical for pulling motor, generator, and magneto bearings. Also good for removing small-bore bushings, bearings, and oil seals.

No. SS2 – Slide hammer puller set. Wt., 2,6 kg.

Jaw Set		Inside Spread	
		Min. (mm)	Max. (mm)
1172		12,7	50,8
1174		12,7	34,9

Slide hammer puller set – This useful set contains a reversible-jaw slide hammer puller with a 1,1 kg sliding hammer plus an assortment of special jaws (3 of each size) and adapters. In this set, you get all the versatility you demand of a slide hammer puller.

No. 1178 – Slide hammer puller set with 1,1 kg. sliding hammer. Wt., 6,3 kg.



Jaw	2-Jaw Spread				3-Jaw Spread			
	Inside Min. (mm)	Inside Max. (mm)	Outside Min. (mm)	Outside Max. (mm)	Inside Min. (mm)	Inside Max. (mm)	Outside Min. (mm)	Outside Max. (mm)
44195	38,1	114,3	19,1	127	38,1	120,7	25,4	114
32054	19,1	60,3	—	—	25,4	69,9	—	—
44148	69,9	139,7	19,1	191	82,6	158,8	25,4	159
34698	31,8	88,9	25,4	114	38,1	108	38,1	114

Sliding hammers only -

No. 22185 – 1,1 kg sliding hammer.

No. 34331 – 2,3 kg sliding hammer.



Bearing cup remover – The 7136 is perfect for pulling internal bearing cups, seals, bushings, etc. Jaw spread – 23,8 to 82,6 mm, reach to 88,9 mm. Use with any slide hammer having $\frac{5}{8}$ "-18 thread (Power Team 1155, 1156 or 927 Push-Puller®).

No. 7136 – Universal bearing cup remover. Wt., 0,7 kg.

Pilot bearing pullers -These very versatile pullers are built especially for inside pulling jobs, and particularly for removing flywheel pilot bearings on machines and construction vehicles. Also very practical for pulling motor, generator and magneto bearings.



Special slide hammer puller – Ideal for pulling jobs in very close quarters, as in

removal of small-bore bushings,

bearings, oil seals, etc. Internal pulling

attachment has jaw spread of 12,7 to 35 mm. Handle end has a $\frac{1}{2}$ "– 20 thread.

Order	Reach	Min.	I.D. Spread		Wt.
			Max.		
1170	19,1	12,7	38,1		2,2
1171	25,4	22,2	54		2,2
1172	44,5	12,7	50,8		2,2



No. 1173 – Slide hammer puller. Wt., 1,6 kg.

No. 1174 – Puller head, less slide hammer.



Basic slide hammer units – Compatible with internal pulling attachment (see page 198). Compatible with threaded adapters (see page 204-205). 610 mm length, $\frac{5}{8}$ "–18 threaded end.

No. 1155 – Basic slide hammer unit with 2,3 kg hammer. Wt., 3,3 kg.

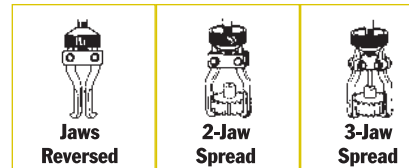
No. 1156 – Basic slide hammer unit with 1,1 kg hammer. Wt., 2,2 kg.





Reversible-jaw slide hammer pullers – Ideal for pulling gears, bearings, outer races, grease retainers, oil seals, etc. Two or three jaws may be used and positioned for “inside” or “outside” pulling jobs. Both have $\frac{5}{8}$ "– 18 threaded end so attachments and adapters may be used.

No. 1176 – Slide hammer puller with 1,1 kg hammer, 27241 two-way head and 34698 jaws. Wt., 3,3 kg

No. 1177 – Same as 1176 but with 2,2 kg hammer. Wt., 4,8 kg



Order No.	2 Jaw Spread				3 Jaw Spread				Prod. Wt. (kg)	Overall Length (mm)	
	Min. (mm)	Max. (mm)	Min. (mm)	Max. (mm)	Min. (mm)	Max. (mm)	Min. (mm)	Max. (mm)			
1176	31,8	88,9	25,4	114	38,1	108	38,1	114	3,6	686	
1177	31,8	88,9	25,4	114	38,1	108	38,1	114	4,8	686	

Slide hammer pullers with cup pulling attachments – These combine a basic slide hammer with No. 1152 internal pulling attachment for removing oil seals, outer races, and bearing cups from blind holes.

No. 1157 – Slide hammer puller consisting of 1156 slide hammer and 1152 internal pulling attachment.

No. 1158 – Same as 1157 but with 1155 slide hammer.

Order No.	Reach Max. (mm)	Spread Min. (mm)	Spread Max. (mm)	Prod. Wt. (kg)	Overall Length (mm)	
1157	102	38,1	152	4,5	711	
1158	102	38,1	152	5,6	711	



HYDRA GRIP-O-MATIC®

Use with 2 & 3
Jaw Pullers
6 to 30 Ton



A SELF CONTAINED PULLING SYSTEM IN A COMPACT PACKAGE.

- You get the world's most copied puller design; the harder the pulling force, the tighter the jaws grip for secure holding force.
- Power Team pullers are tested for top performance and reliability at maximum capacity and jaw spread.
- Removing a wide variety of gears, bearings, bushings, pulleys and other press-fitted parts becomes a routine task.
- Easily metered release valve control knob.
- Spring loaded live centering cone.
- Bladder type oil reservoir.
- Rapid adjustment.
- Use with 2 or 3 jaws.
- Supplied with a sturdy storage/ carrying case.
- Features Power Team's exclusive Marathon Limited Lifetime Warranty.



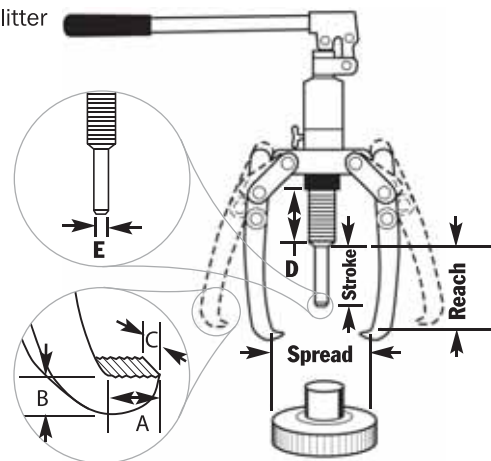
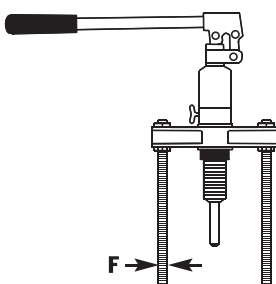
PH63C



PH303C

Hydra Grip-O-Matic® pulling system -

These pullers are ideal for pulling a wide variety of press-fitted parts including bushings, bearings, wheels, gears and pulleys. Applications can be found in a wide variety of industries as well. Grip-O-Matic® pullers have been rigorously tested for top performance and reliability. PH82K is a complete pulling system which includes a hydraulic power module, 2-way puller head, jaws, legs and bearing splitter attachment; all contained in a convenient carrying case.



Cyl. Cap. (tons)	Order No.	Reach		Min. Reach (mm)	Max. Studs (mm)	Spread Jaws (mm)	Stroke (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (in.)	Wt. (kg)
		Studs (mm)	Jaws (mm)											
6	PH63C	—	152	—	—	200	80	11	6,4	22	83	22	—	4,9
8	PH83C	—	190	—	—	249	80	11	9,5	25,4	83	22	—	6,6
15	PH113C	—	229	—	—	280	80	14,3	9,5	29	83	29	—	8,0
30	*PH303C	—	375	—	—	540	110	27	36,5	38	170	54	—	32,3
8	PH82K	266,7	207	125	300	245	80	52	25,4	16	83	22	5/8-18 UNF	9,5
11	**HST11S	—	150	—	—	102-410	80	—	—	—	65	29	—	14,5

* PH303C includes protective blanket & storage case

** Max bar size 60mm

>Power Team®



Hydra Grip-O-Matic® puller accessory kits – K82 accessory kit for the Hydra-Grip-O-Matic® puller No. PH83C. Includes 2-way puller head, 2 jaws, 2 threaded legs and sturdy carrying/storage case.

No. K82 – Accessory kit for PH83C Grip-O-Matic® hydraulic puller. K83 2/3 way head accessories kit for a Hydra Grip-O-Matic® puller No. PH83C. Includes 2/3 way puller head, 3 jaws, 3 threaded legs and sturdy carrying/storage case.

No. K83 – Accessory kit for PH83C Grip-O-Matic® hydraulic puller.



K82

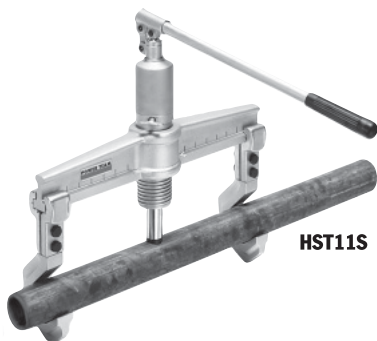


K83



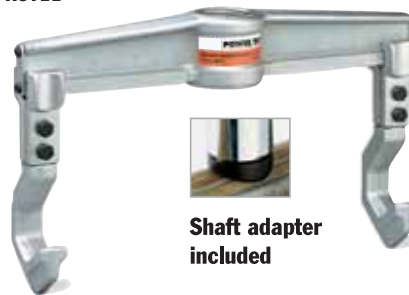
Puller Accessory converts PH113C into a Hydraulic Straightening Tool – Portable...Good for straightening mechanical shafts, round bars, etc. Simply remove pump and cylinder from puller head and insert them into the straightening tool accessory. This product is widely used in steel mills, wire roll companies, wire extruding companies, textile industry, and any straightening situation where portability and power are required. Contoured heat-treated shaft adapter included.

No. HST11 – Spread: 89 to 410 mm, Reach: 150 mm. Wt., 9,5 kg.



HST11S

HST11



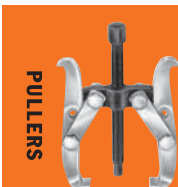
Shaft adapter included



1188

Long jaw set for PH83C and PH113C Grip-O-Matic® pullers – This long jaw set is the perfect addition to the PH83C or PH113C Grip-O-Matic® hydraulic pullers. The extra long jaws give you the added capability of pulling a wider variety of parts. Jaw capacity is 8 tons when used with the PH83C puller; 15 tons when used with the PH113C puller.

No. 1188 – Spread: 280 to 317 mm, Reach: 317mm.



PULLERS

PULLERS

Hydraulic

5, 10, 17¹/₂, 30 & 50 Ton



- Remove gears, bearings, and other press- fitted parts with speed and ease.
- Broad capacity range of 5, 10, 17¹/₂, 30 and 50 tons.
- 5 and 10 ton sets include: single-acting, spring return hydraulic cylinder with hose, coupler and dust cap; single-speed hydraulic hand pump; puller.
- 17¹/₂, 30 and 50 tons sets include: Power-Twin® single acting, spring return hydraulic cylinder with hose, coupler and dust cap; single-speed hydraulic hand pump; puller, adjusting screw and crank.
- Hydraulic cylinder of all models is readily removable from puller for use with pump in other hydraulic applications. You get maximum maintenance versatility for your investment.

5 ton capacity, 2/3 jaw puller –

No. PH53C – Combination 2-jaw/3-jaw puller set. Includes 1057 5 ton puller, RPS55 hydraulic set (C55C cylinder, P12 700 bar hand pump, fittings, coupler, and 1,8 m hose), and 309874 pushing adapter. I Wt., 9,1 kg.

No. PH53CR – Combination 2-jaw/3-jaw puller set. Includes 1057 5 ton puller, C55C cylinder, and 309874 pushing adapter. Wt., 5,5 kg

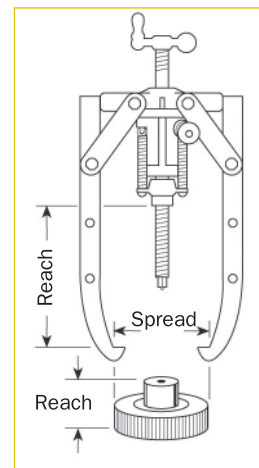
No. 1057 – 5 ton cap. 2-jaw/3-jaw puller only. Wt., 3,5 kg.

Available components -

No. 309874 – 15,9 mm diameter pushing adapter. (Included with PH53C and PH53CR hydraulic puller sets.) Wt., 0,3 kg.

No. 309875 – 22,2 mm diameter pushing adapter. Wt., 0,3 kg.

No. 47997 – 2-way/3-way puller head. (Can be used to convert No. 1038 7 ton manual puller into a 5 ton hydraulic puller.) Wt., 1,1 kg.



Fed. Spec.: GGG-P-00781-D

10 ton capacity, 2/3 jaw puller -

No. PH103C – Combination 2-jaw/3-jaw puller; 10 ton capacity. Set includes 1060 10 ton puller, RPS1010 cylinder and pump set, 202179 threaded adapter, and 34602 pushing adapter. Wt., 23,6 kg.

No. PH103CR – Combination 2-jaw/3-jaw puller, 10 ton capacity. Set includes 1060 10 ton puller, 202179 threaded adapter, 34602 pushing adapter, and C1010C cylinder only. (Pump and hose not included.) Wt., 14,5 kg.

No. 1060 – Combination 2-jaw/3-jaw puller only; 10 ton capacity. (Cylinder and pump set, hose, coupler, and adapter No. 202179 not included.) Wt., 7,7 kg.

NOTE: This puller may be used with any 10 ton single-acting cylinder having a 2¹/₄"-14 straight collar thread.





PH172



PH173

17½ ton capacity, 2-jaw puller –

No. PH172 – 2-jaw puller with RT172 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 1,8 m hose, hose half coupler, 1"– 8 x 508 mm long adjusting screw, and adjusting crank. Wt., 27,7 kg.

No. 1064 – Puller only. (Cylinder, pump, hose, coupler, screw, and crank not included). Wt., 10 kg.

17½ ton capacity, 3-jaw puller –

No. PH173 – 3-jaw puller with RT172 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 1,8 m hose, hose half coupler, 1"– 8 x 508 mm long adjusting screw, and adjusting crank. Wt., 34 kg.

No. PH173R – 3-jaw puller with screw and crank, and RT172 center-hole twin cylinder. Wt., 25,4 kg.

No. 1066 – Puller only. (Cylinder, pump, hose, coupler, screw, and crank not included). Wt., 16,3 kg.

30 ton capacity, 3-jaw puller –

No. PH303 – 3-jaw puller with RT302 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 1,8 m hose, hose half coupler, 1¼"– 7 x 610 mm lg. adjusting screw, and adjusting crank. Wt., 67,7 kg.

No. PH303R – 3-jaw puller with screw and crank, and RT302 center-hole twin cylinder. Wt., 59 kg.

No. 1074 – Puller only. (Cylinder, pump, hose, coupler, screw, and crank not included). Wt., 40,9 kg.

50 ton capacity, 3-jaw puller –

No. PH503 – 3-jaw puller with RT503 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 1,8 m hose, hose half coupler, 1⅝"– 51/2 x 772 mm long adjusting screw, and adjusting crank. Wt., 130 kg.

No. 1080 – 3-jaw puller only. (Cylinder, pump, hose, coupler, screw, and crank not included). Wt., 86,7 kg.

PULLER ONLY

Order No.	Cap. (Tons)	Jaws	Jaw Reach (mm)	Jaw Spread (mm)	Jaw Thickness (mm)	Jaw Width (mm)	Wt. (kg)
1057	5	2/3	222	292	8,7	25	3,5
1060	10	2/3	381	432	14,3	25	7,7
1064	17½	2	292	406	20,6	32,5	10
1066	17½	3	292	508	20,6	32,5	16,3
1074	30	3	494	864	28,6	41,3	40,9
1080	50	3	702	1.118	35,7	47,6	86,7

CAUTION: Always use a 3-jaw puller where clearance permits in order to provide a more stable setup and a more even pulling force.

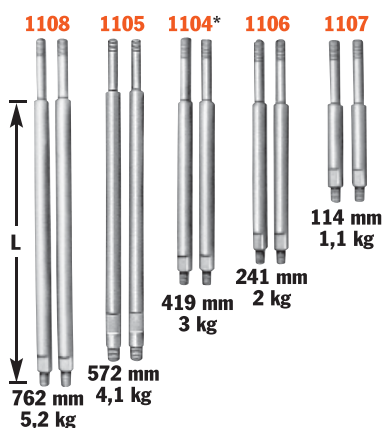


PUSH-PULLERS®

Hydraulic
17½, 30 & 50 Ton

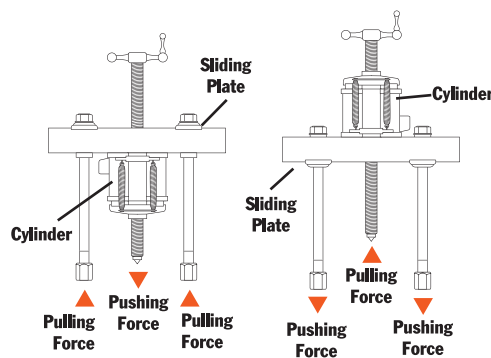
THE POWER TO MAKE IMPOSSIBLE JOBS BECOME ROUTINE.

- Can apply a hydraulic pushing or pulling force, depending on how the puller is set up.
- Each unit includes perfectly matched hydraulic components that can be detached from the Push-Puller® for other tasks requiring dependable Power Team power; assuring maximum return on your investment.
- Optional leg kits adapt your Push-Puller® to extra long or extra short reach.
- A wide variety of threaded adapters, bearing pulling attachments and internal pulling attachments can be used in combination with our Push-Pullers®.



ASSEMBLING THE TOOL TO APPLY PUSHING OR PULLING FORCE:

1. Determine if you want the tool's forcing screw to push or pull.
2. To exert pushing force, the forcing nut is installed beneath the cross block, as shown on left.
3. To cause the forcing screw to pull, the forcing nut is placed on top of the cross block.
4. The sliding plates must always be placed on the opposite side of the cross block from the forcing nut.



NOTE: L = leg length: 114; 241; 419; 572 and 762 mm subtract 124 mm from leg length to determine reach when using leg end caps.

Selection and capacity rating – Each Push-Puller's specified tonnage "capacity" is determined using its standard legs in tension. Using longer legs, or a setup in which the legs are in compression, will reduce the "capacity". Always select the largest "capacity" puller and the shortest legs that will fit the job.

Power Twin® cylinder – This unique center-hole cylinder powers each Push-Puller®. Puller screw runs right between the twin spring cylinder. A basic head allows you to change from a tapped hole to a plain hole by merely changing the head insert.

17½ ton capacity Push-Puller® –

No. PPH17 – Push-Puller® with RT172 center-hole Power Twin® cylinder, cylinder half coupler, P55 pump, 9767 1.8 m. hose, 9798 hose half coupler, 419* mm legs, 24827 leg ends, 1"-8 x 508 mm lg. adjusting screw and adjusting crank. Wt., 26,8 kg.

No. PPH17R – Same as above, but without P55 pump, 9767 1.8 m. hose and 9798 hose half coupler. Wt., 18,2 kg.

No. 1062 – Puller only. (Cylinder, pump, hose, coupler, screw and crank not included.) Wt., 9,1 kg.

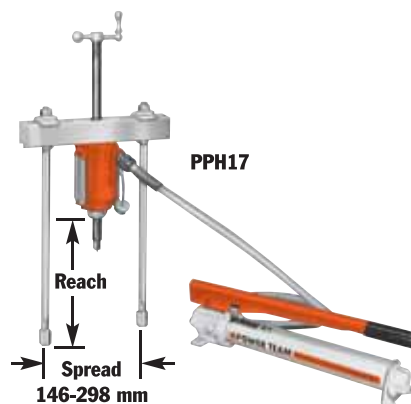
USE WITH:

Bearing pulling attachments: **Nos. 1124 and 1130.**

Pulley pulling attachment: **No. 679.**

Internal pulling attachment: **No. 1154.**

Legs: **Nos. 1104, 1105, 1106, 1107 and 1108** - Pair of legs for 17½-ton "capacity" Push-Puller®.



Leg Ends – Upper leg ends are threaded ¾"-16. Lower leg ends are threaded 5/8"-18 x 25 mm lg.

* No. 1104 included in PPH17, PPH17R & 1062.

30 ton capacity Push-Puller® -

No. PPH30 – Push-Puller® with RT302 center-hole Power Twin® cylinder, cylinder half coupler, P55 pump, 9767 1,8 m. hose, 9798 hose half coupler, 457* mm legs, 28390 leg ends, 1¹/₄"-7 x 610 mm lg. adjusting screw and adjusting crank.
Wt., 46,3 kg.

No. PPH30R – Same as above, but without P55 pump, 9767 1,8 m hose and 9798 hose half coupler. Wt., 37,2 kg.

No. 1070 – Puller only. (Cylinder, pump, hose, coupler, screw and crank not included.)
Wt., 19,1 kg.

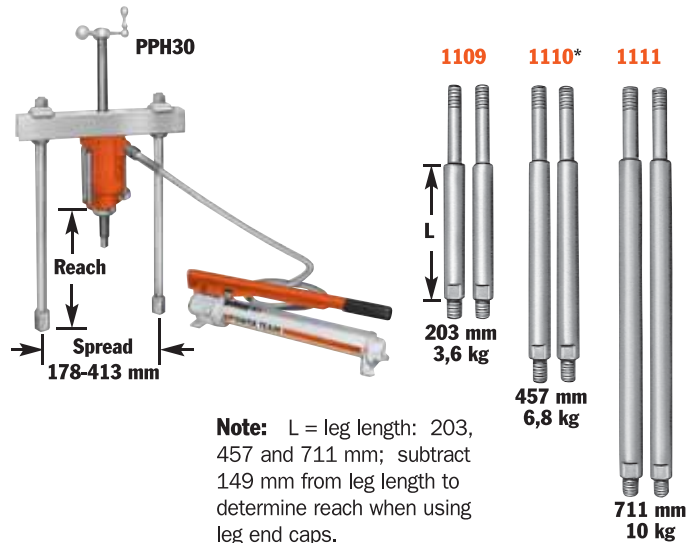
USE WITH:

Bearing pulling attachments. **No. 680** (Use two 8012 adapters to connect to puller.)

Pulley pulling attachment: **No. 679.**

Internal pulling attachment: **No. 1166.**

Legs: **Nos. 1109, 1110 and 1111** - Pair of legs for 30 ton "capacity" Push-Puller®.



Note: L = leg length: 203, 457 and 711 mm; subtract 149 mm from leg length to determine reach when using leg end caps.



Leg ends are threaded 1"-14 x 32 mm lg.

* No. 1110 included in PPH30, PPH30R & 1070.

50 ton capacity Push-Puller® -

No. PPH50 – Push-Puller® with RT503 center-hole Power Twin® cylinder, cylinder half coupler, P55 pump, 9767 1,8 m hose, 9798 hose half coupler, 610* mm legs, 1⁵/₈"-5¹/₂ x 722 mm lg. adjusting screw and adjusting crank.
Wt., 91,3 kg.

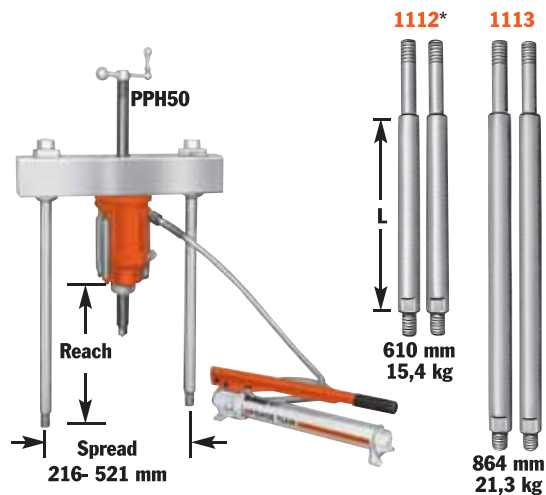
No. PPH50R – Same as above, but without P55 pump, 9767 1,8 m hose and 9798 hose half coupler. Wt., 82,2 kg.

No. 1076 – Puller only. (Cylinder, pump, hose, coupler, screw and crank not included.)
Wt., 48,1 kg.

USE WITH:

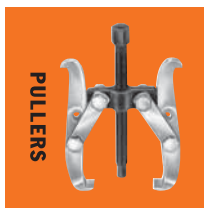
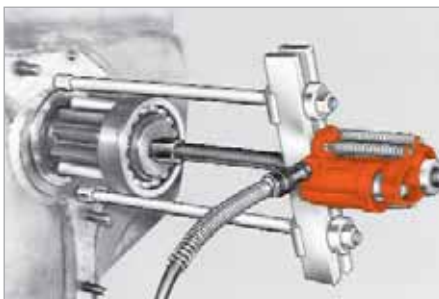
Bearing pulling attachments: **Nos. 1128 and 1129.**

Legs: **Nos. 1112 and 1113** - Pair of legs for 50 ton "capacity" Push-Puller®.



Leg ends are threaded 1¹/₄"-12 x 44,5 mm lg.

* No. 1112 included in PPH50, PPH50R & 1076.



PULLER SETS

Hydraulic
17¹/₂, 30 & 50 Ton



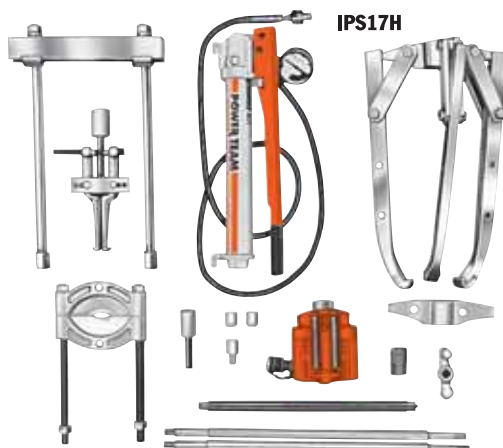
Wooden storage box
No. **3084350R9** is included
with the sets listed on this
page.
1.016L x 406W x 406D mm
Metal storage boxes also available
(See page 151).



17¹/₂ ton hydraulic master puller sets – Having this Power Team puller set at your fingertips will not only reduce your downtime, but also increase your profits.

No. IPS17 – 17¹/₂ ton capacity puller set.
Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 86,7 kg.

No. IPS17B – Puller set with MB5 metal box.
Wt., 96,7 kg.



17¹/₂ ton hydraulic puller set - This set includes a 3-jaw puller and a Push-Puller®. Ideal for heavy duty applications; put this set to work wherever large gears, bearings, wheels, pulleys, etc. are found.

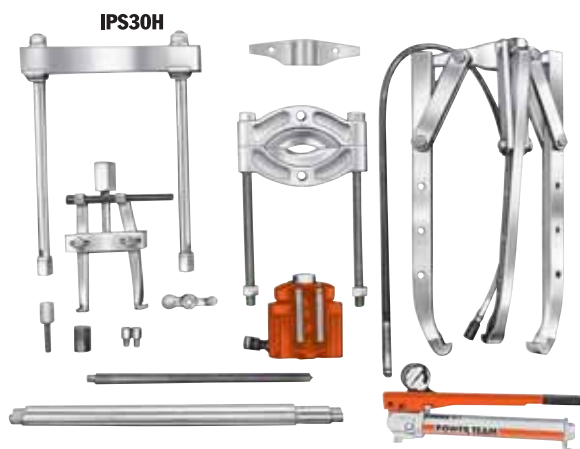
No. IPS17H – 17¹/₂ ton capacity hydraulic puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 62,2 kg.

CONTENTS OF SET NO. IPS17

Contents	Hydraulics	Contents	Accessories
P55	Single-stage hyd. hand Pump assembly	1154	Bearing cup pulling attach
RT172	17 ¹ / ₂ ton cylinder with threaded insert	1122	Bearing pulling attachment
9798	Hose half coupler	1123	Bearing pulling attachment
9767	Hydraulic hose – 1,8 m	1130	Bearing pulling attachment
9670	Tee adapter	Threaded Adapters	
9059	Pressure gauge	679	V-belt pulley pulling attachment
Pullers		8005	5/8" – 18 F. x 3/8" – 16 M. (2)
1062	17 ¹ / ₂ ton cap. Push-Puller® with 419 mm legs	8006	5/8" – 18 F. x 1/2" – 20 M. (2)
24814	Speed crank	8007	5/8" – 18 F. x 1/2" – 13 M. (2)
32118	Adjusting screw	8010	5/8" – 18 F. x 5/8" – 11 M. (2)
201923	Pushing adapter	8013	5/8" – 18 F. x 3/4" – 16 M. (2)
1105	572 mm legs (pr)	8015	5/8" – 18 F. x 3/4" – 10 M. (2)
1066	17 ¹ / ₂ ton 3-jaw hyd. puller	8017	5/8" – 18 F. x 7/8" – 14 M. (2)
1027	Combination 2/3-jaw puller	8018	5/8" – 18 F. x 7/8" – 9 M. (2)
41224	17 ¹ / ₂ ton 2-jaw puller head	8019	5/8" – 18 F. x 1" – 14 M. (1)
24832	Puller screw	8020	1" – 8 F. x 5/8" – 18 M. (1)
1037	Combination 2/3-jaw puller	8021	1" – 8 F. x 1" – 14 M. (1)
1041	Combination 2/3-jaw puller	8038	5/8" – 18 F. x 3/4" – 16 F. (2)
28228	Cylinder cap	8044	Female threaded adapter set
		8056	Set of 6 shaft protectors (8050-8055)
		8075	Set of 11 adaptors (8057-8067)

CONTENTS OF SET NO. IPS17H

Contents	Hydraulics	Contents	Accessories
P55	Single-stage hydraulic hand pump assembly	1154	Bearing cup pulling attach.
RT172	17 ¹ / ₂ ton cylinder with threaded insert	1130	Bearing pulling attachment
9798	Hose half coupler	1105	572 mm legs (pr)
9767	Hydraulic hose – 1,8 m	24814	Speed crank
9670	Tee adapter	28228	Screw cap
9059	Pressure gauge	32118	Adjusting screw
Pullers		201454	Pushing adapter
1062	17 ¹ / ₂ ton cap. Push-Puller with 419 mm legs	41224	2-jaw head for 1066
1066	17 ¹ / ₂ ton 3-jaw hyd. puller	Threaded Adapters	
		8020	1" – 8 F. x 5/8" – 18 M. (1)
		8038	5/8" – 8 F. x 3/4" – 16 F. (1)



30 ton capacity puller set – Just what you need for those big jobs. Not only do you get a 30 ton hydraulic Push-Puller®, you also get a 2-jaw and 3-jaw hydraulic puller. Plus, many popular accessories and the hardware to tackle the big jobs right away.

No. IPS30H – 30 ton capacity hydraulic maintenance puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 150 kg.

CONTENTS OF SET NO. IPS30H			
Contents	Hydraulics	Contents	Pullers
P55	Single-stage hydraulic hand pump assembly	1074	30 ton, 3-jaw hyd. puller
RT302	30 ton cylinder with threaded insert	41226	2-way head for 1074
9798	Hose half coupler	1070	30 ton cap. hydraulic Push-Puller® with 457 mm legs
9767	Hydraulic hose – 1,8 m	1111	711 mm legs for 1070
9670	Tee adapter	27198	Speed crank
9059	Pressure gauge	28229	Screw cap
Accessories		34510	Pushing adapter
8036	Female threaded adapters 1" – 14F. x 1" – 14F. (2)	34758	Adjusting screw
1166	Bearing cup pulling attach.		
1127	Bearing pulling attachment		

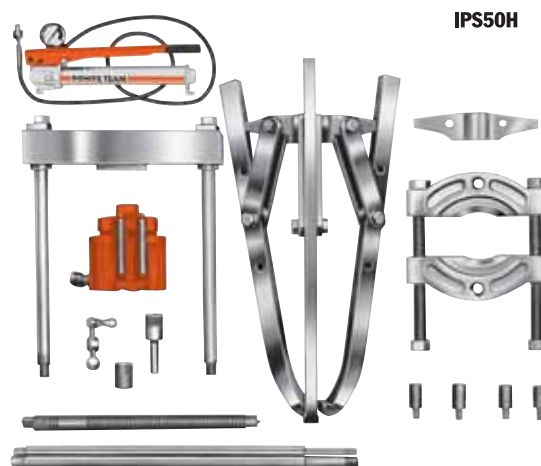


Note: Wooden storage box No. **3084380R9** is provided with the sets listed on this page. 1180L x 615H x 579D mm. Metal storage boxes also available (See page 151).

50 ton capacity puller set - For those really big jobs, this 50 ton puller set is what you need. Just think of the jobs you can do with a 50 ton hydraulic Push-Puller®, a 2-jaw and a 3-jaw puller, both with a 50 ton capacity. Of course, you also get many versatile accessories and attachments.

No. IPS50H – 50 ton capacity hydraulic maintenance puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 261 kg.

CONTENTS OF SET NO. IPS50H			
No.	Hydraulics	No.	Pullers
P55	Single-stage hydraulic hand pump assembly	1080	50 ton, 3-jaw hyd. puller
RT503	50 ton cylinder with threaded insert	50449	2-way head for 1080
9798	Hose half coupler	1076	50 ton cap. hydraulic Push-Puller® with 610 mm legs
9767	Hydraulic hose – 1,8 m	1113	864 mm legs for 1076
9670	Tee adapter	29595	Speed crank
9059	Pressure gauge	28230	Screw cap
Threaded Adapters		34755	Pushing adapter
8024	1 1/4" – 12F. x 1 3/4" – 12M. (2)	32698	Adjusting screw
8028	1 5/8" – 5 1/2 F. x 1" – 8M.	Accessories	
8029	1 5/8" – 5 1/2 F. x 1" – 14M.	1128	Bearing pulling attachment



CAUTION: All the items shown may not withstand the full tonnage specified. Example: When an accessory with a 1 ton capacity is used with a 7 ton puller, the setup can be used only at a force of 1 ton.



PULLER SETS

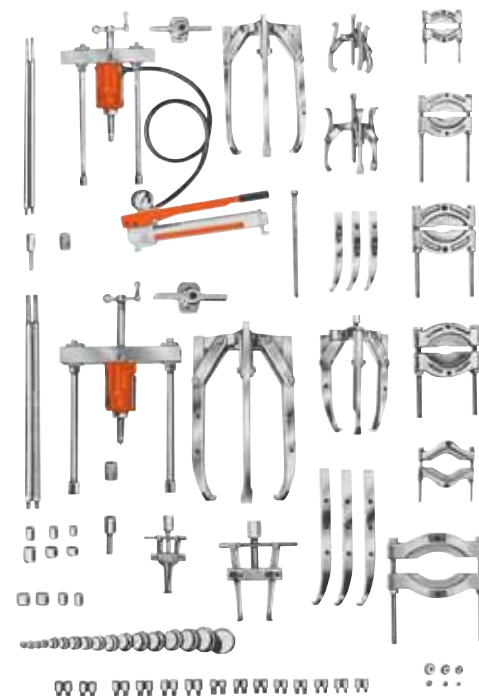
Hydraulic
17½ & 30 Ton
17½ & 50 Ton

17½ and 30 ton capacity puller sets – These heavy-duty maintenance sets will more than pay for themselves, especially in saving you costly damage to parts. This set lets you tackle hundreds of applications where pushing and pulling are required.

No. IPS3017 – 17½ and 30 ton capacity manual and hydraulic puller set. Includes hydraulics, pullers, and accessories listed below. Wt., 244 kg.

No. IPS3017B – Puller set with MB8 metal box. Wt., 256 kg.

IPS3017



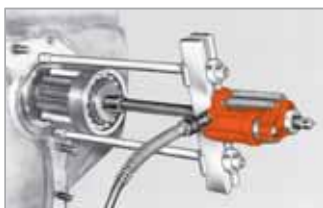
Note: Wooden storage box No. **3084360R9** is provided with this set. 1.016 L x 432 H x 610D mm. Metal storage boxes also available (See page 151).



2-jaw puller reaches through spokes of gear to grip hub. Hand pump supplies hydraulic power.



Flexible coupler is removed from electric motor shaft with 2-jaw puller.



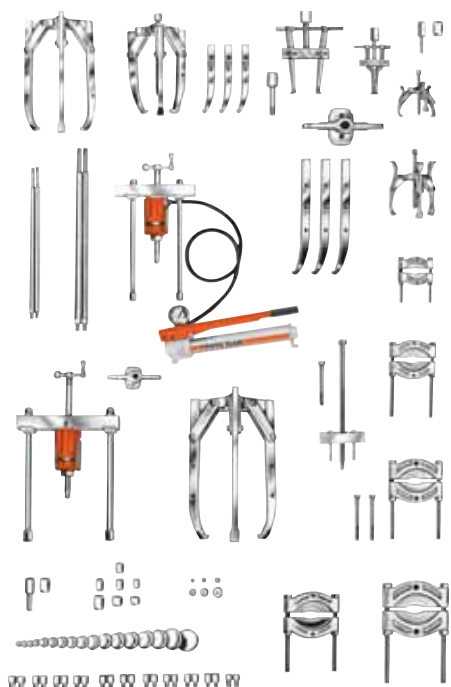
Typical setup for removing sprocket drive pinion shaft. Puller screw is attached to shaft by threaded adapter. Shaft is now ready to be pulled out hydraulically.



CAUTION: All the items shown may not withstand the full tonnage specified. Example: When an accessory with a 1 ton capacity is used with a 7 ton puller, the setup can be used only at a force of 1 ton.

CONTENTS OF SET NO. IPS3017

No.	Hydraulics	No.	Accessories
P55	Single-stage hyd. hand pump assembly	24832	Special puller forcing screw
RT172	17½ ton center-hole twin cylinder w/ threaded insert	8075	Step plate adapter set
RT302	30 ton center-hole twin cylinder w/ threaded insert	8076	Step plate adapter set
9798	Hose half coupler	8056	Shaft protector set
9767	Hydraulic hose – 1,8 m	679	Pulley pulling attachment
9670	Tee adapter	680	Pulley pulling attachment
9059	Pressure gauge	1154	Bearing cup pulling attach.
	Pullers	1166	Bearing cup pulling attach.
1062	17½ ton cap. hydraulic Push-Puller® w/419 mm legs	1122	Bearing pulling attachment
1070	30 ton cap. hydraulic Push-Puller® w/457 mm legs	1123	Bearing pulling attachment
1066	17½ ton 3-jaw hyd. puller	1126	Bearing pulling attachment
1074	30 ton 3-jaw hyd. puller	1130	Bearing pulling attachment
41224	17½ ton 2-jaw puller head		Threaded Adapters
41226	30 ton 2-jaw puller head	8005	5/8" – 18 F. x 3/8" – 16 M. (2)
1027	Combination 2/3-jaw puller	8006	5/8" – 18 F. x 1½" – 20 M. (2)
1037	Combination 2/3-jaw puller	8007	5/8" – 18 F. x 1½" – 13 M. (2)
1041	Combination 2/3-jaw puller	8010	5/8" – 18 F. x 5/8" – 11 M. (2)
43892	Long jaws (3) for 1037	8012	1" – 14 F. x 5/8" – 18 M. (2)
30902	Long jaws (3) for 1041	8013	5/8" – 18 F. x 3/4" – 16 M. (2)
1105	572 mm legs for 1062	8015	5/8" – 18 F. x 3/4" – 10 M. (2)
1111	711 mm legs for 1070	8017	5/8" – 18 F. x 7/8" – 14 M. (2)
24814	Speed crank	8018	5/8" – 18 F. x 7/8" – 9 M. (2)
27198	Speed crank	8019	5/8" – 18 F. x 1" – 14 M. (2)
28229	Screw cap	8020	1" – 8 F. x 5/8" – 18 M. (1)
28228	Cylinder cap	8021	1" – 8 F. x 1" – 14 M. (1)
32118	Adjusting screw	8025	1¼" – 7 F. x 5/8" – 18 M. (2)
34758	Adjusting screw	8027	1¼" – 7 F. x 1" – 14 M. (2)
34510	Pushing adapter	8036	1" – 14 F. x 1" – 14 F. (2)
201923	Pushing adapter	8038	5/8" – 18 F. x 3/4" – 16 F. (2)
		8044	Female threaded adapter set



IPS5017

17½ and 50 ton capacity puller sets – If your looking for a maintenance puller set that will handle a wide variety of applications, this is the one for you. The mechanical and hydraulic pullers and attachments are designed to handle most removing and installing jobs with a minimal amount of effort.

No. IPS5017 – 17½ and 50 ton capacity manual and hydraulic puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 405 kg.

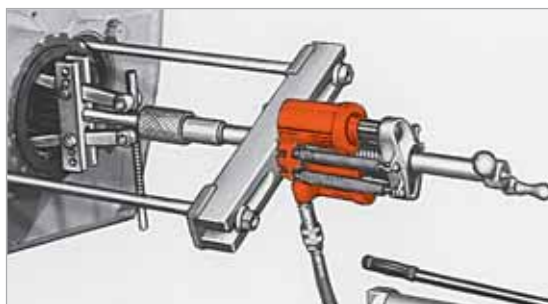
No. IPS5017B – Puller set with MB16 metal box. Wt., 415 kg.

CONTENTS OF SET NO. IPS5017

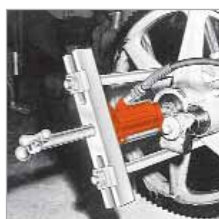
No.	Hydraulics	No.	Accessories
P55	Single-stage hyd. hand pump assembly	8075	Step plate adapter set
RT172	17½ ton center-hole twin cylinder w/ threaded insert	8076	Step plate adapter set
RT503	50 ton center-hole twin cylinder w/ threaded insert	8056	Shaft protector set
9798	Hose half coupler	1154	Bearing cup pulling attach.
9767	Hydraulic hose – 1,8 m	1166	Bearing cup pulling attach.
9670	Tee adapter	1122	Bearing pulling attachment
9059	Pressure gauge	1123	Bearing pulling attachment
Pullers		1126	Bearing pulling attachment
1062	17½ ton cap. hydraulic PushPuller® w/419 mm legs	1127	Bearing pulling attachment
1076	50 ton cap. hydraulic PushPuller® w/610 mm legs	1130	Bearing pulling attachment
1066	17½ ton 3-jaw hyd. puller	34479	Reducing adapter for 1166
1080	50 ton 3-jaw hyd. puller	10215	Hex nut; ¾" – 16 (2)
41224	17½ ton 2-jaw puller head	24829	Short bolt
50449	50 ton 2-jaw puller head	Threaded Adapters	
1027	Combination 2/3-jaw puller	8005	⅝" – 18 F. x ⅜" – 16 M. (2)
1037	Combination 2/3-jaw puller	8006	⅝" – 18 F. x ½" – 20 M. (2)
1041	Combination 2/3-jaw puller	8007	⅝" – 18 F. x ½" – 13 M. (2)
43892	Long jaws (3) for 1037	8010	⅝" – 18 F. x ⅝" – 11 M. (2)
30902	Long jaws (3) for 1041	8013	⅝" – 18 F. x ¾" – 16 M. (2)
1105	572 mm legs for 1062	8015	⅝" – 18 F. x ¾" – 10 M. (2)
1113	864 mm legs for 1076	8019	⅝" – 18 F. x 1" – 14 M. (2)
24814	Speed crank	8020	1" – 8 F. x ⅝" – 18 M. (1)
29595	Speed crank	8021	1" – 8 F. x 1" – 14 M. (1)
28228	Screw cap	8023	1¼" – 12 F. x 1" – 14 M. (2)
28230	Cylinder cap	8028	1⅝" – 5½ F. x 1" – 8 M. (1)
32118	Adjusting screw	8029	1⅝" – 5½ F. x 1" – 14 M. (1)
32698	Adjusting screw	8038	⅝" – 18 F. x ¾" – 16 F. (1)
34755	Pushing adapter	8044	Female threaded adapter set
201923	Pushing adapter		
7392	Gear and pulley puller		
24833	Forcing screw for 7392		



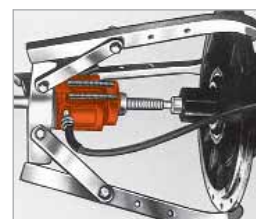
Note: Wooden storage box No. **3084360R9** is provided with this set. 1143 L x 572 H x 762D mm. Metal storage boxes also available (See page 151).



Combination of 50 ton capacity Push-Puller and cup pulling attachment simplifies the removal of a final drive axle seal.

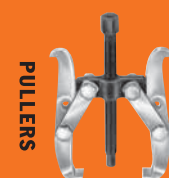


Hydraulically powered Push-Puller removes drive wheel. Pulling attachment is used to provide gripping surface.



3-jaw puller provides grip while hydraulic hand pump provides power to push shaft from housing. Shaft protector is used on end of puller screw.

CAUTION: All the items shown may not withstand the full tonnage specified, Example: When an accessory with a 1 ton capacity is used with a 7 ton puller, the setup can be used only at a force of 1 ton.

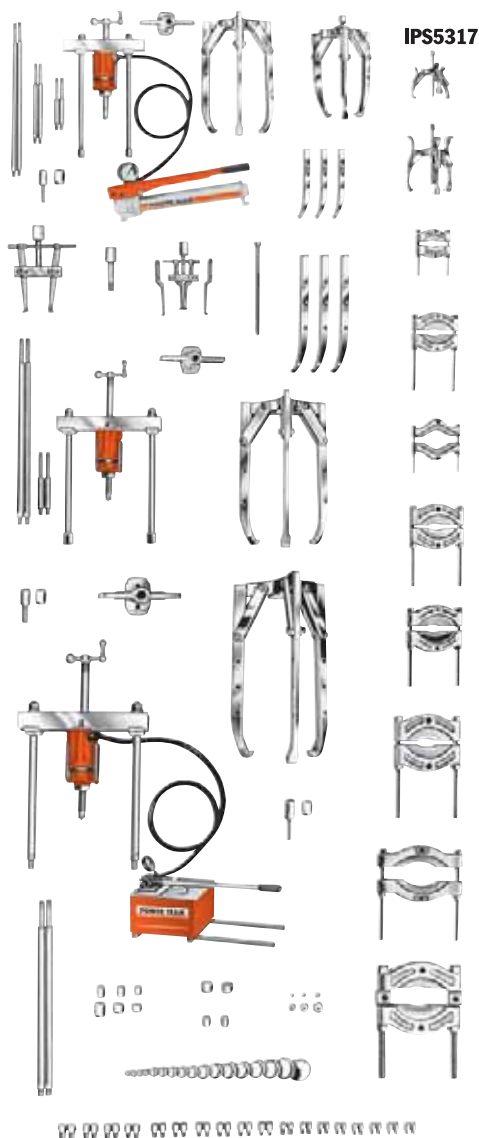


PULLER SETS

Hydraulic
17¹/₂, 30 & 50 Ton

17¹/₂, 30 & 50 ton capacity puller set – Here's the ultimate in industrial puller sets! You'll find a puller for just about every job. Included in this "master set" are 17¹/₂, 30 and 50 ton hydraulics, along with an extensive assortment of pullers, attachments and adapters.

No. IPS5317 – 17¹/₂, 30 and 50 ton capacity manual and hydraulic puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 572 kg.



IPS5317

CONTENTS OF SET NO. IPS5317

Contents	Hydraulics	Contents	Accessories
P55	Single-stage hyd. hand pump assembly	28230	Screw cap
P460	Two-stage hyd. hand pump w/ 3-way control valve	32118	Adjusting screw
RT172	17 ¹ / ₂ ton center-hole twin cylinder w/ threaded insert	32698	Adjusting screw
RT302	30 ton center-hole twin cylinder w/ threaded insert	34758	Adjusting screw
RT503	50 ton center-hole twin cylinder w/ threaded insert	34510	Pushing adapter
9798	Hose half coupler (2)	34755	Pushing adapter
9767	Hydraulic hose – 1,8 m (2)	201923	Pushing adapter
9670	Tee adapter	8075	Step plate adapter set
9059	Pressure gauge	8076	Step plate adapter set
Pullers		8056	Shaft protector set
1062	17 ¹ / ₂ ton cap. hydraulic Push-Puller® w/419 mm legs	679	Pulley pulling attachment
1070	30 ton cap. hydraulic Push-Puller® w/457 mm legs	680	Pulley pulling attachment
1076	50 ton cap. hydraulic Push-Puller® w/610 mm legs	1154	Bearing cup pulling attach.
1066	17 ¹ / ₂ ton 3-jaw hyd. puller	1166	Bearing cup pulling attach.
1074	30 ton 3-jaw hyd. puller	1122	Bearing pulling attachment
1080	50 ton 3-jaw hyd. puller	1123	Bearing pulling attachment
41224	17 ¹ / ₂ ton 2-jaw puller head	1126	Bearing pulling attachment
41226	30 ton 2-jaw puller head	1127	Bearing pulling attachment
50449	50 ton 2-jaw puller head	1128	Bearing pulling attachment
1027	Combination 2/3-jaw puller	1130	Bearing pulling attachment
1037	Combination 2/3-jaw puller	34479	Reducing adapter
1041	Combination 2/3-jaw puller	Threaded Adapters	
43892	Long jaws (3) for 1037	8005	5/8" – 18 F. x 3/8" – 16 M. (2)
30902	Long jaws (3) for 1041	8006	5/8" – 18 F. x 1/2" – 20 M. (2)
32136	Long jaws (3) for 1154	8007	5/8" – 18 F. x 1/2" – 13 M. (2)
1105	572 mm legs for 1062	8010	5/8" – 18 F. x 5/8" – 11 M. (2)
1106	241 mm legs for 1062	8012	1" – 14 F. x 5/8" – 18 M. (2)
1107	114 mm legs for 1062	8013	5/8" – 18 F. x 3/4" – 16 M. (2)
1109	203 mm legs for 1070	8015	5/8" – 18 F. x 3/4" – 10 M. (2)
1111	711 mm legs for 1070	8017	5/8" – 18 F. x 7/8" – 14 M. (2)
1113	864 mm legs for 1070	8018	5/8" – 18 F. x 7/8" – 9 M. (2)
Accessories		8019	5/8" – 18 F. x 1" – 14 M. (2)
24832	Special puller forcing screw	8020	1" – 8 F. x 5/8" – 18 M. (1)
24814	Speed crank	8021	1" – 8 F. x 1" – 14 M. (1)
27198	Speed crank	8023	1 1/4" – 12 F. x 1" – 14 M. (2)
29595	Speed crank	8024	1 1/4" – 12 F. x 1 3/4" – 12 M. (2)
28228	Screw cap	8025	1 1/4" – 7 F. x 5/8" – 18 M. (2)
28229	Screw cap	8027	1 1/4" – 7 F. x 1" – 14 M. (2)
		8028	1 5/8" – 5 1/2 F. x 1" – 8 M. (1)
		8029	1 5/8" – 5 1/2 F. x 1" – 14 M. (1)
		8036	1" – 14 F. x 1" – 14 F. (2)
		8038	5/8" – 18 F. x 3/4" – 16 F. (2)
		8044	Female threaded adapter set

Note: Wooden storage box No. **3084400R9** is provided with this set. 1168L x 571H x 571D mm. Metal storage boxes also available (See page 151).

CAUTION: All the items shown may not withstand the full tonnage specified. Example: When an accessory with a 1 ton capacity is used with a 7 ton puller, the setup can be used only at a force of 1 ton.

PROTECT YOURSELF AND YOUR EQUIPMENT.

Power Team protective blanket – Our blankets are designed to contain broken or lying parts from the most extreme forces, thus resulting in a much safer work environment.

Testing results – In our lab, this style of blanket held the parts of a necked-down grade 8 bolt, which shattered in a 100 ton center-hole hydraulic cylinder. The blanket sustained no visible damage when shot with a force and impact that shattered safety glasses!

- Effectively contain broken or flying parts from the most extreme pulling, pressing, pushing or stressing forces.
- Ideal for use with pullers and forcing presses.
- Made of see-through, high-tensile, tear resistant material.
- Unlike rigid, fixed guards, these blankets can be wrapped and strapped around a job.
- The clear protective blankets allow you to visually monitor the job from start to finish.
- Protective blankets come in a carrying/storage pouch to reduce aging caused by prolonged exposure to light.



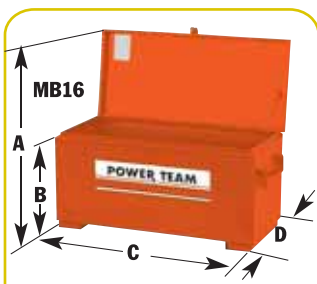
PB1230C

Order No.	Size (mm)	Number of Straps	Wt. (kg)
PB1230C	305 x 762	2	1,3
PB2036C	508 x 914	2	1,9
PB2860C	711 x 1.524	3	4,2
PB3372C	838 x 1.829	3	5,3
PB44120C	1.118 x 3.048	4	10,9
PB51156C	1.295 x 3.962	4	15,5

Note: Custom sizes are available on a special order basis. Please consult factory.

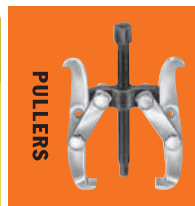


Job-site and maintenance security chests – Protect your valuable tools and equipment from theft and weather. When the day's work is finished, you want to rest assured that your tools and equipment will be present the next day. In these times, security is a real concern. These rugged, lockable chests are the answer that many of our customers have been asking for.



- Rugged, 16 gauge (1,6 mm) steel construction with fully arc welded seams for extra strength and weather protection.
- Full length piano hinges, mating cover to body, protect against weather and theft.
- Single or double latch security tabs for padlocks.
- Mechanical cover supports, two 57 mm high skids.
- Fold-down 19 mm pipe handles on each end of chest.
- Pre-drilled for optional casters, which enhance mobility.
- Durable baked enamel finish.

Order No.	Dimensions				Storage		Optional Caster Wheels
	A (mm)	B (mm)	C (mm)	D (mm)	Cap. (cu. m)	Wt. (kg)	
MB5	883	356	813	483	0,14	30	No. 251646 – Set of four 102 mm casters (two swivel and two rigid). Furnished with mounting screws. Wt., 5,7 kg.
MB8	1.010	483	1.670	483	0,25	40,9	
MB16	1264	610	1.219	610	0,45	57,2	No. 251647 – Set of four 152 mm casters (two swivel and two rigid). Furnished with mounting screws. Wt., 7 kg.



PROTECTIVE BLANKETS

And Security Chests

UNIVERSAL PULLERS

55 Ton
Enforcer 55



ENFORCER 55

- 1** Hydraulic lift system for easy, precise position of puller.
- 2** Unique dual pump arrangement: Low pressure pump positions, holds and opens jaws. The high pressure pump advances and retracts the pushing cylinder without releasing clamped jaws.
- 3** Hydraulically-actuated jaws. Cylinder moves in or out to provide a safe, secure grip on workpiece.
- 4** Puller can be assembled in 2 or 3 jaw configurations.
- 5** Choice of cylinder with a 159 mm or 337 mm stroke.
- 6** Self-centering: Center cylinder on work; puller jaws will automatically grip work evenly.
- 7** Super Grip-O-Matic® feature means the harder the pull, the tighter the puller jaws grip. No chains or cages required to keep puller jaws from slipping or springing off the part being pulled.
- 8** Guards at pinch points protect operator.
- 9** Cart's swivel casters give ease of mobility.
- 10** Large wheels make movement of cart easy.
- 11** Puller can be mounted on cart 90 degrees to right or left of puller cart centerline, permitting use in tight quarters, such as between machinery.

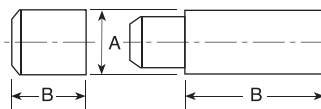


Conversion kit

No. 251468 – Kit converts PH553C series to PH553CL series. Jaws are 305 mm longer. Kit contains three jaws and six straps with guards. Wt., 114 kg.

Pushing Adapters

Order No.	A (mm)	B (mm)	Qty.**
251002	69,9	69,9	1
350593 †	69,9	152,4	2
350594	69,9	76,2	1
350637	69,9	254	1



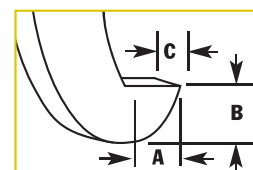
** Number of adapters supplied with each Enforcer.

† Only 1 for units with 337 mm stroke.

Note: Four cylinder extensions (not pictured) are included. The included lifting eyes (not pictured) permit use of an overhead crane to raise entire assembly.

Order No.	Min. Spread (mm)	Reach		Overall Length* (mm)	CyL Stroke (mm)	Power Source Requirements	Prod. Wt. (lbs.)	Puller Jaw Tip Dimensions		
		Min. Spread (mm)	Max. Spread (mm)					A (mm)	B (mm)	C (mm)
PH553C	101,6	559	1.219	356	2.286	115 V, 60Hz, 25 Amp Cap.	339	22	32	48
PH553C13	101,6	381	1.219	178	2.286	115 V, 60Hz, 25 Amp Cap.	352			
PH553CL13*	63,5	651	1.149	559	2.591	115 V, 60Hz, 25 Amp Cap.	379			
PH553C-230	101,6	559	1.219	356	2.286	230 V, 50/60 Hz, 15 Amp Cap.	339			
PH553C13-230	101,6	381	1.219	178	2.286	230 V, 50/60 Hz, 15 Amp Cap.	352			
PH553CL-230*	63,5	829	1.149	737	2.591	230 V, 50/60 Hz, 15 Amp Cap.	366			
PH553CL13-230*	63,5	651	1.149	559	2.591	230 V, 50/60 Hz, 15 Amp Cap.	379			

Protective blankets available, see page 151.

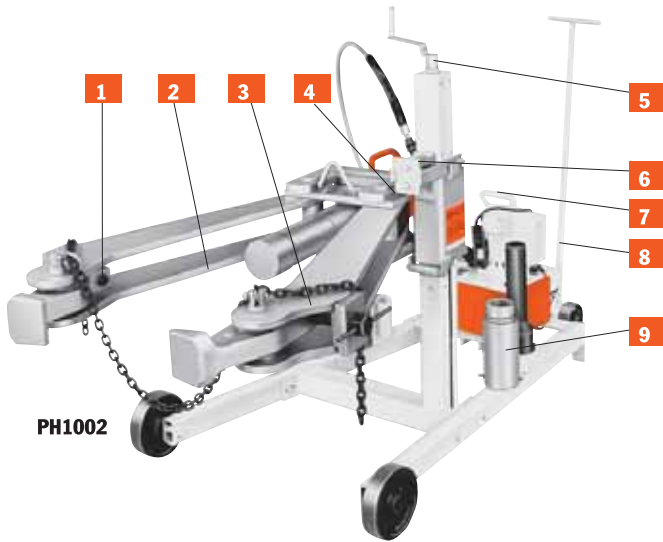


* Long Jaws

Note: Cart and Puller (cart width is 813 mm)
See other pulling attachments on page 135

UNIVERSAL PULLERS

100 Ton
Enforcer 100



PH1002



An ideal puller for steel mills, mines, oil fields, utility projects, paper mills, construction sites, railroads, airline shops, shipyards or anywhere else where large equipment and machinery pose tough maintenance challenges.

ENFORCER 100

- 1** Adjustable jaws mean they always pull on a flat surface. Retaining chain holds jaws in place during positioning.
- 2** Grip-O-Matic® feature means jaws grip progressively tighter as more pulling force is applied.
- 3** 100 ton hydraulic cylinder is single-acting, spring return type with a maximum working pressure of 700 bar.
- 4** Lifting bracket allows puller to be lifted if the workpiece center is more than 914 mm off the floor.
- 5** Adjusting screw allows operator to move vertical position of the puller.
- 6** Spring loaded feature means Enforcer 100 will align itself on uneven pulls.
- 7** Hydraulic pump is a 2-stage, high pressure unit controlled by remote hand switch with 7,6 m cord.
- 8** Tow bar provides puller with plenty of mobility.
- 9** Pushing adapters have a diameter of 105 and 63,5 mm.

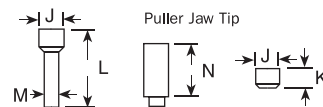
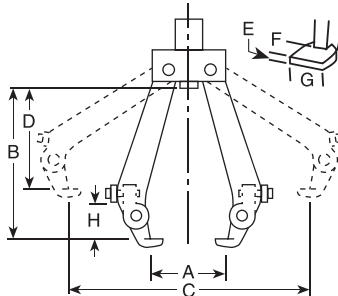
“Enforcer 100” universal puller –

No. PH1002-220 – 100 ton, 2-jaw universal hydraulic puller. Includes: 2-jaw Grip-O-Matic® puller, PE552S-50-220 2-speed electric/hydraulic power unit, C10010C 100 ton hydraulic cylinder with 260 mm stroke and six adapters. Wt., 404 kg.

No. PH1002J – Same as PH1002-220, but without hydraulic power unit. Wt., 375 kg.

No. PE552S-50-220 – Pump only. 0,84 KW, 220 volt, 50Hz/60Hz, single phase, draws 15 amps at full load. Also available in 115 volt, 60Hz, order No. **PE552S**

Note: For 115 volt, 60Hz applications, Order No. **PH1002**



Ram extensions

Order No.	Adapter Type	Amount included w/puller	J (mm)	K (mm)	L (mm)	M (mm)	N (mm)
44745	Push	1	105	—	343	63,5	—
44766	Ext.	4	105	—	—	—	203
303045	Push	1	105	79,4	—	—	—

Order No.	Min. Spread A (mm)	Reach Min. Spread B (mm)	Max. Spread C (mm)	Reach Max. Spread D (mm)	Puller Jaw Tip E (mm)	F (mm)	G (mm)	Cylinder Height H (mm)	Vertical Stroke Adjust. (mm)	Overall Length (mm)	Max. Thickness Workpiece (mm)	Wheel Dia. (mm)	Power Source Requirements
PH1002-220	381	1.067	1.219	864	25,4	57,1	127	260	305-914	2.388	305	260	220 V, 50 Hz, 13 Amp Cap.
PH1002J	381	1.067	1.219	864	25,4	57,1	127	260	305-914	2.388	305	260	—

Protective blankets available, see page 151.



ROLLER BEARING PULLER / INSTALLER

(Railroad Edition)
100 Ton Pulling Capacity

- Quickly remove or install tapered roller bearings.
- Designed with cooperation of major bearing manufacturers.
- It's a fast, simple, one-man operation with 100-ton of pulling force provided.
- Completely portable for easy, convenient positioning and out-of-the-way storage.
- The standard in most wheel shops.

Universal railroad axle journal roller bearing puller/installer – For years, the standard in most wheel shops. Power Team now has four models to choose from for greater flexibility. With both sling and jack models available and two pumps to choose from, you can tailor the unit to match your needs. With the proper equipment and know-how, removal and installation of axle journal roller bearings takes an absolute minimum of time and effort.

Each unit will service a full line of bearings with rotating end caps, from class B thru GG. No other method can match Power Team's simplicity. Removal is very easy. Simply remove the end caps, slip the pulling shoe between the bearings and the wheel, actuate the pump, and in seconds, 100 tons of pulling force removes the bearing. Installation is just as easy! Each unit is CSA certified (LR19814) and comes complete with a heavy-duty 100-ton hydraulic cylinder, 10,000 PS.I. (700 bar) pump with remote control solenoid valve, hydraulic pressure gauge (No. 11543), a pulling shoe and installing tube.



Our roller bearing pullers are ideal for replacing tough, worn-out bearings on RR freight cars.



The photo above shows the Universal Puller in position on the roller bearing assembly, which is ready for removal.

Order No.	Model Type	Cylinder Type	Valve Type	H.P	Pump Information Phase	Voltage
PR2100J†	Jack	Double Acting	Solenoid	2**	1	115 or 230*/60Hz
PR3100J†	Jack	Double Acting	Solenoid	3	3	230 or 460*/60Hz
PR2100S†	Sling	Double Acting	Solenoid	2**	1	115 or 230*/60Hz
PR3100S†	Sling	Double Acting	Solenoid	3	3	230 or 460*/60Hz

* Prewired at factory for this voltage. Other voltages available upon request.

** The 1,49 kW., 115 volt requires 30 amp service.

For 220V/50Hz/Single-phase: Order **PR2100J -50-220**

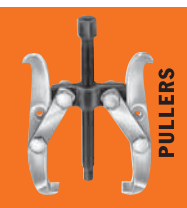
For 380V/50Hz/3-phase: Order **PR3100J -50-380** (Suitable for 415V/50Hz/3 phase)

460V/60Hz/3-phase suitable for 440V/50Hz/3-phase.

Tooling order information - IMPORTANT...This tooling chart applies only to standard AAR configurations for freight care applications. In order to provide adapters needed to service housing-type locomotive and passenger car bearings, as well as metric bearings, Power Team must be provided with the following information: bearing manufacturer's name and general arrangement drawing number, size of bearing to be serviced, railroad name and location and part numbers of adapters already in your possession if you currently own a Puller/Installer.

Tool Description	Class and size of bearing assembly TBU & SP "Metric Tooling"			
	120	130	140	150
Pulling Shoe Insert Adapter	No. 351830	No. 30512	No. 30521	No. 30520
Guide Tube & Cap Screw Assembly	No. 253341	No. 253342	No. 253343	No. 253344
Cap Screw**	No. 253339	No. 253394	No. 253339	No. 253395
Guide Tube Adapter	No. 21247	No. 21247	No. 21247	No. 21247
Installing Tube Adapter Ring	No. 253335	No. 253336	No. 253337	No. 253338

** Screws are supplied with the guide tube and should be ordered as replacements only.





PR3100J



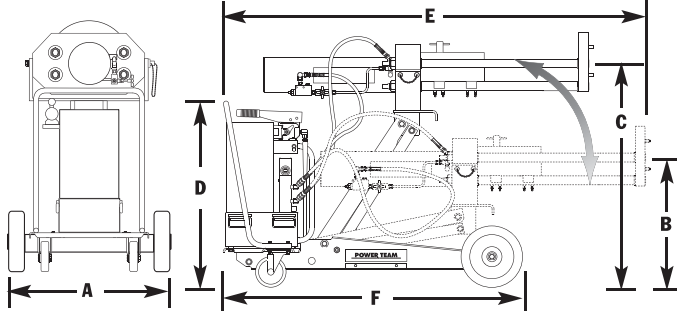
PR3100S

Tool Description	Class and size(mm) of bearing assembly to be serviced									
	Class B 108 x 203 (No.)	Class C 127 x 229 (No.)	Class D 140 x 254 (No.)	Class E 152 x 279 (No.)	Class EE 140 Axle. (No.)	Class EE 152 Axle. (No.)	Class F 165 x 305 (No.)	Class G 178 x 305 (No.)	Class G 165 Axle. (No.)	Class GG 165 Axle. (No.)
Pulling Shoe	No. 420845 is included as part of basic machine – Do Not Order							420846	420846	420846
Pulling Shoe Insert Adapter	30522	30512	30521	30520	30520	30519	30519	—	—	—
Guide Tube & Cap Screw Assembly	253313	253314	253317	253318	253316	253327	253320	253321	253319	253323
Cap Screw**	253156	253349	253308	253155	253307	253308	253310	253326	253309	253309
Guide TubeNo. Adapter	23934	21248	21248	21247	21247	21247	21247	21247	21247	21247
Installing Tube	No. 420845 is included as part of basic machine – Do Not Order							30417	30417	30417
Installing Tube Adapter Ring	21242	21258	21256-1	21255-1	21255-1	21257-1	21257-1	30586	30585	30585

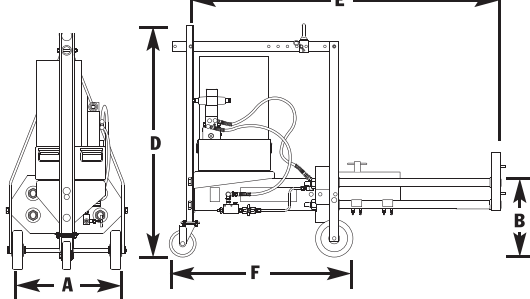
Note: Adapters listed above are for servicing the following roller bearing assemblies: Brenco "Crown-Taper", New Departure-Hyatt "Hy-Roll Taper", SKF "Expediter" and Timken "AP".

** Screws are supplied with the guide tube and should be ordered as replacements only.

PR2100J/PR3100J



PR2100S/PR3100S



Order No.	Stroke (mm)	Capacity		Advance (mm/min.)	Speed		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Weight (kg)
		Pull (Tons)	Inst. (Tons)		Pull (mm/min.)	Inst. (mm/min.)							
PR2100J	394	100	68	900	81	113	813	383	1.059	912	1.981	1.493	528
PR3100J	394	100	68	900	81	113	813	383	1.059	912	1.981	1.493	520
PR2100S	394	100	68	900	81	113	619	279	—	1.283	1.632	985	455
PR3100S	394	100	68	900	81	113	619	279	—	1.283	1.632	985	458



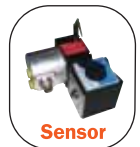
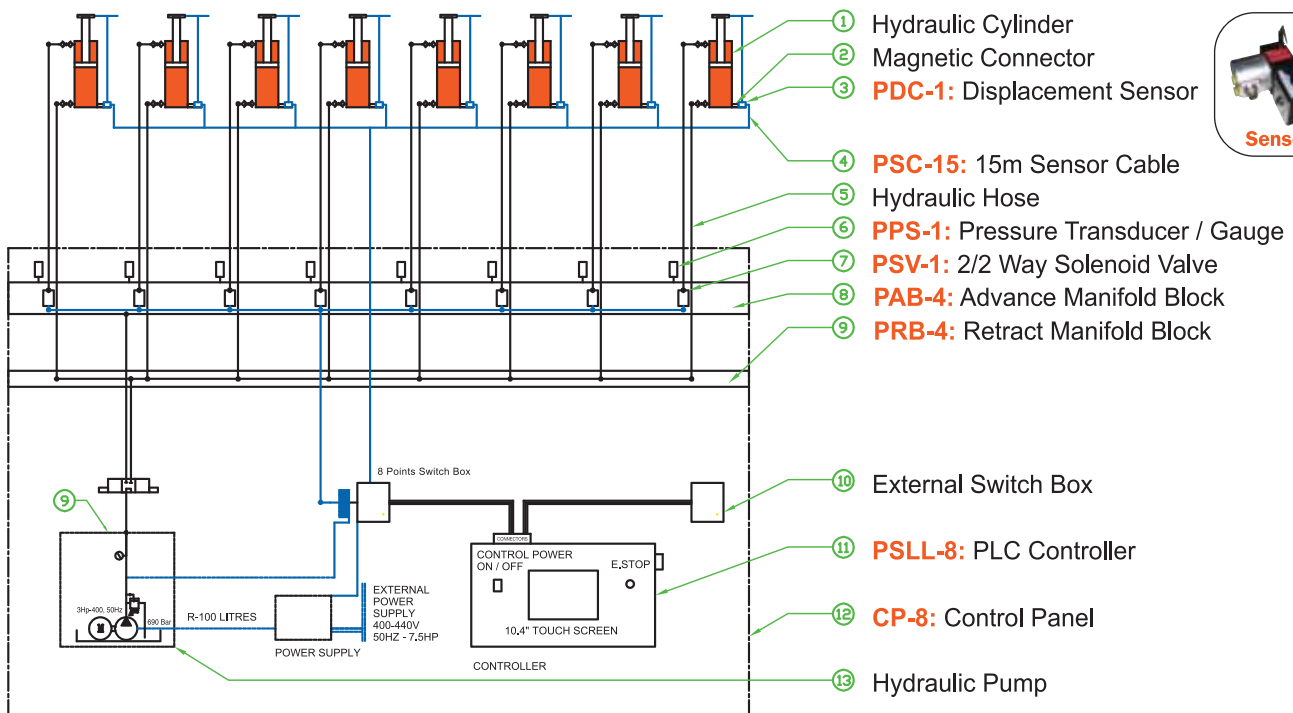
PULLERS

PLC SYNCHRONOUS LIFT

POWER TEAM®
AN SPX BRAND

PLC Synchronous Lift and Lowering System

- For precise controlled hydraulic movement and weighing of Oil Rig Platforms, Heavy Structures, Vessels & Machineries etc.
 - It uses feedback from multiple sensors to control lifting, lowering and positioning of any large, heavy or complex structure regardless of weight distribution.
 - Synchronous lifting reduces the risk of bending, twisting or tilting due to uneven weight distribution or load-shifts between the lift points.
 - Programmable, failsafe monitoring & safety alarms of system include operating parameters, such as displacement accuracy, lifting velocity, valve response errors.
- (Optional: Data logging, load tilting, remote/online system troubleshooting)



Features

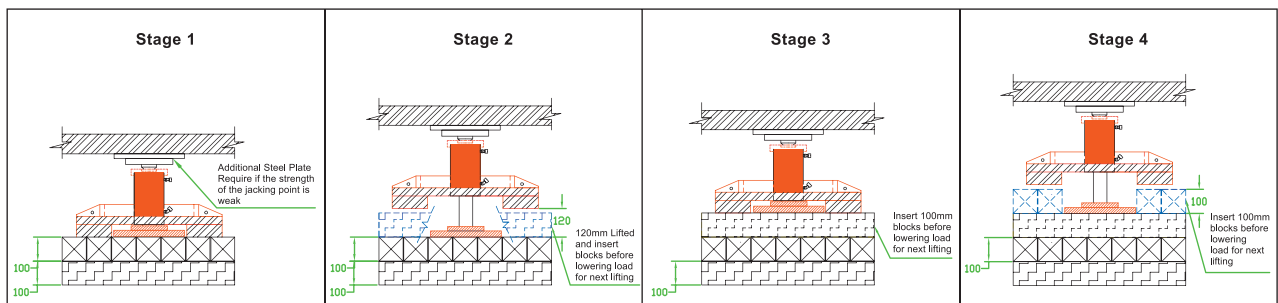
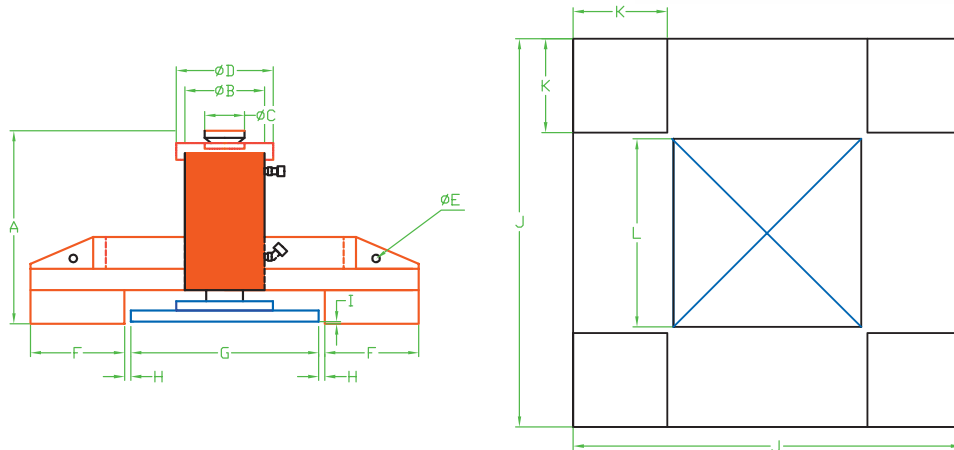
- Computerized PLC System c/w Touch Screen Panel
- Control from 4 to 60 Jacking Points
- 10 to 1000 Ton on each Jacking Point
- Precision Accuracy at ± 1 mm full scale
- Pressure / Load Display on Control Panel
- Displacement Display on Control Panel
- Linkage to Data Logger and Printer
- Standard Hydraulic Components
- System incorporates emergency alarms with auto-stop features

Option

- Basic System with Analogue Gauge
- Heat Exchanger for continuous operation
- Available up to 80 jacking points on request



Stage Lifting and Lowering System



Order No.	Maximum Cylinder Capacity	Cylinder Oil Capacity	Cylinder Effective Area	Stroke (mm)	Dimensions in mm.											
	Push (Ton)	Push (cu. cm.)	Push (sq. cm.)		A	B	C	D	E	F	G	H	I	J	K	L
PSL-506	50	1.132	71,2	150	460	127	75	157	Ø24	150	300	10	5	620	150	300
PSL-1006	93	2.242	133,1	150	500	175	75	205	Ø24	200	300	10	5	720	150	300
PSL-1506	139	3.334	197,9	150	532	210	130	240	Ø24	200	400	10	5	820	200	400
PSL-2006	187	4.485	266,3	150	560	241	130	271	Ø24	200	400	10	5	820	200	400
PSL-3006	272	5.920	387,8	150	670	273	195	313	Ø24	230	510	10	5	990	230	500

Note: Specifications subject to change

Stage Lifting System

- Height of Lifting depends on Support and not Cylinder Stroke
- From 4 to 48 Jacking Points
- 50 to 300 Ton on each Jacking Point
- Option for Synchronized PLC Control System
- Option of Higher Capacity
- Option for Analogue Gauge or Digital Display

CONSTRUCTION PROJECTS

POWER TEAM Hydraulic System Solution Provider in specialized construction projects:-

- **Synchronous Lifting, Lowering & Weighing Systems** for precise controlled hydraulic movement & weighing of Oil Rig Platforms, Heavy Structures & Machineries etc.
- High Tonnage, Heavy Lifting & Supporting of Bridges, Buildings, Structures, Ship Segments, Heavy Equipment & Machineries etc.
- **Stage Lifting Systems** of Oil Storage Tanks, Generators, Turbine Covers etc. to elevated height.
- **Integrated Hydraulic Systems** for Bridge Construction Equipment: Formwork Travelers, Launching Gantries, Movable Scaffolding Systems etc.
- Foundation Testing, Pipe Jacking, Tunneling, Bridge Maintenance, Oil Rig Construction, Power Plant Construction, Port / Harbor Construction etc.

Typical Hydraulic Applications in Industrial, Building & Heavy / Civil Construction:

- | | | |
|----------------------|----------------|------------------|
| • Lifting / Lowering | • Weighing | • Braking |
| • Erecting | • Hoisting | • Transportation |
| • Pulling | • Underpinning | • Tensioning |
| • Supporting | • Testing | • Load Testing |

Bridge Construction

Bridge projects that become bigger and more demanding require POWER TEAM products and systems. Difficult lifting and holding applications above and below ground require POWER TEAM pumps and cylinders. New spanning projects and maintenance of current spanning structures are served by POWER TEAM portable high performance, high-pressure hydraulic tools & systems.



Launching Gantry



Formwork Traveler



Movable Scaffolding System

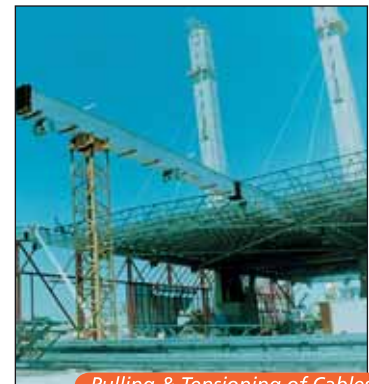
Structure Jacking and Positioning

POWER TEAM products have lifted large and small structures as well as precious historical buildings. A broad range of reliable lifting, pulling or positioning solutions powered by POWER TEAM pumps matches the products to the job requirement.

For precision synchronous lift & lowering of delicate structures, we offer computerized PLC system to control from 4 to 80 jacking points of up to 1,000 Ton capacity hydraulic cylinder each.



Synchronous Lifting &
Weighing System of Oil Rig



Pulling & Tensioning of Cables

Post Tensioning & Stressing

POWER TEAM Center Hole cylinders provide an array of options for strand cable tensioning, anchor bolts, forcing screws and pulling systems. They are long lasting, easy to use, corrosion resistant and are designed to withstand static loads.

POWER TEAM compact, light weight PE55 VANGUARD, Electric Hydraulic Pumps for long, trouble free life in most demanding work environments and excellent choice for rugged applications. For operating single- or double-acting cylinders or stressing jacks.



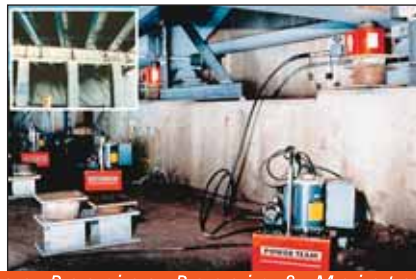
Bridge Erection & Tensioning



PE55 - Prestressing / Post Tensioning

Bridge Bearing Repair & Maintenance

For decades, POWER TEAM has provided reliable lifting and holding systems for replacing bridge bearings. POWER TEAM products are designed to fit within your needs for compact solutions and critical maintenance.



Bridge Bearing Repair & Maintenance

Building & Civil Construction

POWER TEAM broad range of high tonnage hydraulic cylinders coupled with high performance high-pressure pumps has provided vast applications in lifting, testing, jacking, positioning solutions etc. Designed to work in some of the most difficult and harsh environments. Proven performance that meets your critical productivity timeline backed by reliable and proven reputation.



Foundation Testing



Pipe-Jacking



Low Clearance Lifting

Construction Equipment Repair & Maintenance

POWER TEAM offers a broad range of hydraulic and mechanical tools to keep your heavy equipment and machineries reliably operating. Tools include hydraulic pumps, cylinders, jacks, pullers, torque wrenches, nut splitters, floor cranes, shop presses, in-line flow testers etc.

ACCESSORIES

Seal Kits



Handpump Order No.	Model	Repair Kit*	Viton Seal Kit	EPR Seal Kit
P12	A	300260	300507	
P23	B	300943	300472	
P55	B	300943	300472	
P19	A	300894		
P19L		3000179		
P59	C	300506	300510	
P59F	B	300814	300815	
P59L		3000178		
P157	C	300942	300690	300691
P159	C	300942	300690	300691
P300	B	300695	300696	300697
P460	D	300811	300812	300813
P157D	C	300692	300693	300694
P159D	C	300692	300693	300694
P300D	B	300698	300699	
P460D	D	300811	300812	300813

Electric Powered Pump Order No.	Model	Repair Kit*	Viton Seal Kit	EPR Seal Kit
PE102-220	B	300651		300653
PE102A-220	B	300651		300653
PE104-220	B	300651		300653
PE172-50-220	A	300430		300648
PE172A-50-220	A	300430		300648
PE172M-50-220	A	300430		300648
PE174-50-220	A	300430		300648
PE174M-50-220	A	300430		300648
PE182-50-220	C	300914		
PE183-2-50-220	C	300914		
PE183-50-220	C	300914		
PE183A-50-220	C	300914		
PE184-2-50-220	C	300914		
PE184-50-220	C	300914		

Air Powered Pump Order No.	Model	Repair Kit*	Viton Seal Kit	EPR Seal Kit
PA172	B	300430		300648
PA174	B	300430		300648
PA6	F	300805		
PA6-2	F	300848		
PA64	F	300883		
PA6A	F	300840		
PAGAM	F	300840		
PA6D	F	300844		
PA6D2	F	300850		
PA6DM	F	300844		
PA6DM-1	F	300844		
PA6DM-2	F	300850		
PA6M	F	300805		
PA6M-1	F	300831		
PA6M-2	F	300848		
PA6R	F	301030		
PA6RM	F	301030		
PA9	B	300949		
PA9H	B	300949		

Couplers Order No.	Repair Kit*	Viton Seal Kit	EPR Seal Kit
9795	209100	9796-V	9796-E
9796	300826 & 209100	9796-V	9796-E

Hydraulic Tools Order No.	Model	Repair Kit*
FC2200		300373
FC4400		300376
HFS3A	A	300404
HFS6A	B	300116
HNS225	B	300147
HP20	A	300879
HP35	A	300608
HS2000	A	300514
HS3000	A	300620

Valves Order No.	Model	Repair Kit*
9500		300451
9504		300451
9506		300451
9508		300451
9509		300451
9511		300451
9512	C	300835
9519	C	300835
9520		300451
9552	B	300332
9555	C	300835
9556		300489
9569		300605
9570		300605
9575	A	300683
9581	B	27345
9582	B	300129
9628	D	300571
9632		300594
9642		300592
9644		300593

Torque Wrench Order No.	Seal Kit for	Seal Kit*
TWSD1	COMPLETE (Body & Multi-Swivel)	BSDAS010006
TWSD1	BODY only	BSDAS010007
TWSD3	COMPLETE (Body & Multi-Swivel)	BSDAS030006
TWSD3	BODY only	BSDAS030007
TWSD6	COMPLETE (Body & Multi-Swivel)	BSDAS060006
TWSD6	BODY only	BSDAS060007
TWSD11	COMPLETE (Body & Multi-Swivel)	BSDAS110006
TWSD11	BODY only	BSDAS110007
TWSD25	COMPLETE (Body & Multi-Swivel)	BSDAS250006
TWSD25	BODY only	BSDAS250007
TWLC2	COMPLETE (Body & Multi-Swivel)	DFTAS020004
TWLC2	BODY only	DFTAS020005
TWLC4	COMPLETE (Body & Multi-Swivel)	DFTAS040004
TWLC4	BODY only	DFTAS040005
TWLC8	COMPLETE (Body & Multi-Swivel)	DFTAS080004
TWLC8	BODY only	DFTAS080005
TWLC15	COMPLETE (Body & Multi-Swivel)	DFTAS150004
TWLC15	BODY only	DFTAS150005
TWLC30	COMPLETE (Body & Multi-Swivel)	DFTAS300004
TWLC30	BODY only	DFTAS300005
MULTI-SWIVEL (S1)	TWSD1/3 and TWLC2/4	DFTAS010004
MULTI-SWIVEL (S2)	TWSD6/11/25 and TWLC8/15/30	DFTAS020009

* These seals come standard on all above products. Refer Parts List for correct model no. & more details.

ACCESSORIES

Seal Kits



Cylinder Order No.	Seal Kit*	Viton Seal Kit
C51C	300404	300210
C53C	300404	300210
C55C	300404	300210
C57C	300404	300210
C59C	300404	300210
C101C	300116	300211
C102C	300116	300211
C104C	300116	300211
C106C	300116	300211
C108C	300116	300211
C1010C	300116	300211
C1012C	300116	300211
C1014C	300116	300211
C1016C	300116	300211
C151C	300453	300471
C152C	300453	300471
C154C	300453	300471
C156C	300453	300471
C158C	300453	300471
C1510C	300453	300471
C1512C	300453	300471
C1514C	300453	300471
C1516C	300453	300471
C251C	300147	300213
C252C	300147	300213
C254C	300147	300213
C256C	300147	300213
C258C	300147	300213
C2510C	300147	300213
C2512C	300147	300213
C2514C	300147	300213
C552C	300114	300215
C554C	300114	300215
C556C	300114	300215
C5510C	300114	300215
C5513C	300114	300215
C756C	300647	300846
C7513C	300647	300846
C1002C	300112	300216
C1006C	300112	300216
C10010C	300112	300216
C55CBT	300404	300210
C106CBT	300116	300211
C1010CBT	300116	300211
C256CBT	300147	300213
C2514CBT	300147	300213
R552C	300674	—
R556C	300674	—
R5510C	300674	—
R1002C	300675	—
R1006C	300675	—

Cylinder Order No.	Seal Kit*	Viton Seal Kit
R10010C	300675	—
R1502C	300676	—
R1506C	300676	—
R15010C	300676	—
R2002C	300677	—
R2006C	300677	—
R20010C	300677	—
R2802C	300678	—
R2806C	300678	—
R28010C	300678	—
R3552C	300679	—
R3556C	300679	—
R35510C	300679	—
R4302C	300680	—
R4306C	300680	—
R43010C	300680	—
R5652C	300681	—
R5656C	300681	—
R56510C	300681	—
R1002D	301042	—
R1006D	301042	—
R10010D	301042	—
R1502D	301043	—
R1506D	301043	—
R15010D	301043	—
R2002D	301044	—
R2006D	301044	—
R20010D	301044	—
R2802D	301045	—
R2806D	301045	—
R28010D	301045	—
R3552D	301046	—
R3556D	301046	—
R35510D	301046	—
R4302D	301047	—
R4306D	301047	—
R43010D	301047	—
R5652D	301048	—
R5656D	301048	—
R56510D	301048	—
R552L	300674	—
R556L	300674	—
R5510L	300674	—
R1002L	300675	—
R1006L	300675	—
R10010L	300675	—
R1502L	300676	—
R1506L	300676	—
R15010L	300676	—
R2002L	300677	—
R2006L	300677	—

Cylinder Order No.	Seal Kit*	Viton Seal Kit
R20010L	300677	—
R2802L	300678	—
R2806L	300678	—
R28010L	300678	—
R3552L	300679	—
R3556L	300679	—
R35510L	300679	—
R4302L	300680	—
R4306L	300680	—
R43010L	300680	—
R5652L	300681	—
R5656L	300681	—
R56510L	300681	—
RA202	300631	—
RA204	300631	—
RA206	300631	—
RA302	300632	—
RA304	300632	—
RA306	300632	—
RA552	300391	—
RA554	300391	—
RA556	300391	—
RA5510	300391	—
RA1002	300444	—
RA1006	300444	—
RA556L	300395	—
RA1006L	300396	—
RD106	300017	—
RD1010	300017	—
RD256	300118	—
RD2514	300118	—
RD556	300005	—
RD5513	300005	—
RD5518	300005	—
RD8013	300410	—
RD1006	300006	—
RD10013	300006	—
RD10020	300006	—
RD1506	300007	—
RD15013	300007	—
RD15018	300007	—
RD2006	300008	—
RD20013	300008	—
RD3006	300466	—
RD30013	300466	—
RD4006	300467	—
RD40013	300467	—
RD5006	300468	—
RD50013	300468	—
RH102	300071	300221
RH108	300071	300221

Cylinder Order No.	Seal Kit*	Viton Seal Kit
RH120	300657	—
RH121	300576	—
RH121T	300576	—
RH123	300576	—
RH202	300615	—
RH203	300069	300222
RH206	300615	—
RH302	300037	300223
RH306	300037	300223
RH503	300059	300225
RH603	300477	300476
RH606	300477	300476
RH1003	300485	300585
RH303	300077	300224
RH306D	300822	300224
RH3010	300625	—
RH605	300269	300226
RH6010	300626	—
RH1001	300927	—
RH1006	300295	300227
RH10010	300629	—
RH1505	300154	300228
RH1508	300583	—
RH2008	300582	—
RHA306	300867	300868
RHA604D	300269	300226
RLS50	300454	—
RLS100	300455	—
RLS200	300456	—
RLS300	300457	—
RLS500S	300458	—
RLS750S	300459	—
RLS1000S	300460	—
RLS1500S	300461	—
RP25	300628	—
RP55	300627	—
RSS101	300010	—
RSS202	300011	—
RSS302	300297	—
RSS502	300292	—
RSS1002	300293	—
RSS2503	—	—
RSS1002D	300578	—
RT172	300358	—
RT302	300359	—
RT503	300360	—
RT1004	300024	—

* These seals come standard on all above cylinders.
Refer Parts List for correct model no. & more details.

MEASUREMENTS/ SPECIFICATIONS

Manufacturing Standards



INTERNATIONAL QUALITY STANDARD

Power Team's commitment to quality is evident in everything we do, from raw material receipt to how we support our customers years after they purchase our products. Power Team is registered to ISO 9001: 2000 international quality standard. ISO 9001: 2000 requires compliance with standards for management, administration, product development, manufacturing and continual improvement. Our Registration verifies that Power Team has adopted and maintains documentation for processes ranging from suppliers to customers, inspection, handling, and training. ISO 9001 also requires periodic internal and external audits to ensure all aspects of work affecting quality control are monitored. This always has been, and will continue to be, our philosophy. That's our guarantee to you.

ASME B30.1

Power Team hydraulic cylinders fully comply with the criteria set forth in the American Society of Mechanical Engineers standard ASME B30.1:

1. Our cylinders are designed to have a minimum of a 2-to-1 safety factor on typical material yield strength; Each cylinder is tested at 125 percent of rated pressure at full travel and is inspected to assure functionality and freedom from leaks.

ASME B40.1

Power Team heavy-duty pressure gauges are designed in accordance with the recommendations set forth in the American Society of Mechanical Engineers standard ASME B40.1, Grade B.



Power Team is committed to designing, manufacturing, and marketing products that meet or exceed the needs of the customers we serve. Power Team supplies a Letter of Incorporation or a Declaration of Conformity and CE Marking for products that conform with European community directives.

IJ100

Power Team hoses meet the criteria set forth in the Material Handling Institute's specification #IJ100 for hydraulic hose. Under the procedures outlined in this standard, hydraulic hose shall:

1. Have an average minimum life of 30,000 cycles at full rated capacity.
2. Have a minimum burst pressure of at least twice the rated operating pressure.



Where specified, Power Team electric power pump assemblies meet the design, assembly, and test requirements of the Canadian Standards Association.

Note: If CSA certification is required, it must be requested at the time the pump is ordered.

NEMA

Where specified, Power Team electric power pump assemblies meet the design, assembly, and test requirements of NEMA 12, a National Electrical Manufacturers' Association standard relating to electrical components used to resist moisture and dust.

POWER TEAM PRODUCT DESIGN CRITERIA

All Power Team brand hydraulic components are designed and/or tested to be safe for use at maximum operating pressures of 700 bar (10,000 psi) unless otherwise specifically noted.

QUALITY ASSURANCE

All of our hydraulic cylinders are subjected to quality checks during production. All steel bar is certified and has material traceability to the mill. Before leaving the factory, all cylinders are pressure tested to 875 bar (12,500 psi), except the RT series which are tested to 700 bar (10,000 psi) to insure on-the-job reliability. We have made every effort to include the latest specifications for our products in this catalog. Please call the Power Team factory for the most current product specifications. The Power Team Lifetime Marathon Warranty is described in more detail on page 163 of this catalog.



LIFETIME

MARATHON™

WARRANTY

POWER TEAM®

All Power Team products and parts, with the exception noted below, are warranted against defects in materials and workmanship for the life of the product or part. (The life of the product or part is defined as that point in time when it no longer functions due to normal wear.) This warranty does not cover any product or part that has been worn out, abused, heated, ground or otherwise altered, used for a purpose other than that for which it was intended or used in a manner inconsistent with any instructions regarding its use. Chains, batteries, electric motors, gas engines, knives and cutter blades which are sold with Power Team products are not covered by this warranty. All electric motors and gas engines are separately warranted by their manufacturer under the conditions stated in their separate warranty.

Power Team's electronic products are warranted against defects in material and workmanship for one year.

To qualify for warranty consideration, return the Power Team product, freight prepaid, to a Power Team authorized repair center or to the Power Team factory. If any product or part manufactured by Power Team is found to be defective by Power Team, in its sole judgement, Power Team will, at its option, either repair or replace such defective product or part and return it via best ground transportation, freight prepaid. THIS REMEDY SHALL BE THE EXCLUSIVE REMEDY AVAILABLE FOR ANY DEFECTS IN THE PRODUCTS OR PARTS MANUFACTURED AND SOLD BY POWER TEAM OR FOR DAMAGES RESULTING FROM ANY OTHER CAUSE WHATSOEVER, INCLUDING WITHOUT LIMITATION, POWER TEAM'S NEGLIGENCE. POWER TEAM SHALL NOT, IN ANY EVENT, BE LIABLE TO ANY BUYER FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND, WHETHER FOR DEFECTIVE OR NON-CONFORMING GOODS, NEGLIGENCE, ON THE BASIS OF STRICT LIABILITY OR FOR ANY OTHER REASON.

Power Team's warranty is expressly limited to persons who purchase Power Team's products or parts for the resale or use in the ordinary course of the buyer's business.

THIS WARRANTY IS EXCLUSIVE, AND POWER TEAM MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS MANUFACTURED AND SOLD BY IT, WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER. No agent, employee or representative of Power Team has any authority to bind Power Team to any affirmation, representation or warranty concerning Power Team products or parts, except as stated herein.

The purpose of this exclusive remedy shall be to provide the buyer with repair or replacement of products or parts manufactured by Power Team found to be defective in materials or workmanship or negligently manufactured. This exclusive remedy shall not be deemed to have failed of its essential purpose so long as Power Team is willing and able to replace said defective products or parts in the prescribed manner.

Total Customer Satisfaction is Our Driving Force



INTERNATIONAL
QUALITY
STANDARD

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CYLINDERS

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PUMPS

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ACCESSORIES

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SHOP EQUIP

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JACKS

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TOOLS

128-155



PULLERS

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- Aerospace
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- Lifting
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- Positioning
- Assembly & Manufacturing
- Forming
- Research & Development
- Maintenance
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