
















# Hydraulic Pumps Section Overview

Power Source	Pump Types	Maximum Reservoir Capacity	Max. Flow at Rated Pressure (in <sup>3</sup> /min)	Series	Image	Page
Manual	<b>Lightweight Hand Pumps</b> Exclusively from Enerpac	155 in <sup>3</sup>	.15 (in <sup>3</sup> /stroke)	P		62 ▶
	<b>Steel Hand Pumps</b>	453 in <sup>3</sup>	.29	P		64 ▶
	<b>Low Pressure Hand Pumps</b>	200 in <sup>3</sup>	1.55 (in <sup>3</sup> /stroke)	P		66 ▶
	<b>Foot Pump</b> For handsfree operation	38 in <sup>3</sup>	.15 (in <sup>3</sup> /stroke)	P		68 ▶
	<b>Multifluid Hand Pumps</b> Pumping fluids up to 1000 bar	38 in <sup>3</sup>	1.33 (in <sup>3</sup> /stroke)	MP		69 ▶
Electric	<b>Ultra-High Pressure Hand Pumps</b> Pressure up to 40,000 psi	60 in <sup>3</sup>	.15 (in <sup>3</sup> /stroke)	P/11		70 ▶
	<b>Economy Series</b> Compact and Portable	1 gal.	20	PU		72 ▶
	<b>Submerged Series</b> Powerful and Low-Noise	1.5 gal.	20	PE		74 ▶
	<b>Z-Class Pumps ZU4-Series</b> Portable Pumps	10 gal.	60	ZU		78 ▶ 80 ▶
	<b>Z-Class Pumps ZE3 to ZE6-Series</b> The Industrial Standard	10 gal.	200	ZE		86 ▶
Air	<b>8000-Series</b> The Maximum Flow Pump	25 gal.	462	PE		92 ▶
	<b>Turbo II Air Hydraulic Pumps</b> The New Air Pump Standard	305 in <sup>3</sup>	10	PA		94 ▶
	<b>Air Hydraulic Pumps</b> Single and Twin-Air Motor	2 gal.	9	PA PAM		96 ▶ 97 ▶
Gasoline	<b>ZA4 Air Hydraulic Pumps</b> The Standard for Air-Hydraulic Pumps	10 gal.	80	ZA		98 ▶
	<b>Atlas Series</b> Your Gasoline Pump Solution	10 gal.	100	PGM		100 ▶
	<b>8000 Series</b> For the Largest Jobs	25 gal.	346	EGM		102 ▶

▼ Pumps shown, from top to bottom: P-802, P-842, P-202, P-142



- Lightweight and compact design
- Durable glass-filled nylon reservoir and nylon encapsulated aluminum pump base for maximum corrosion resistance
- Two-speed operation on most models reduces handle strokes by as much as 78% over single speed pumps
- Lower handle effort to minimize operator fatigue
- Integral 4-way valve on P-842 for operation of double-acting cylinders
- Handle lock and lightweight construction for easy carrying
- Large oil capacities to power a wide range of cylinders or tools
- Non-conductive fiberglass handle for operator safety
- Internal pressure relief valve for overload protection

▼ P-392 in action with RSM-500 cylinders.



## Exclusively from Enerpac



### Cylinder Matching Chart

For help in selecting the correct hand pump for your application, please refer to the Cylinder Matching Chart located in the “Yellow Pages”.

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### Speed Chart

To determine how a specific pump will operate your cylinder, see the Pump/Cylinder Speed Chart in the “Yellow Pages”.

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### Tank Kits:

When a return-to-tank port is required, the Tank Kits provide a  $\frac{7}{16}$ -20 port at the rear of the reservoir.

<b>PC-20</b>	Fits P-141, P-142
<b>PC-25</b>	Fits P-202, P-391, P-392



### LX-101 Hand Pump Oil

A medium viscosity oil specially formulated for hand pumps. Performs well in low temperatures and requires

less pumping effort than standard Enerpac HF blue oil.

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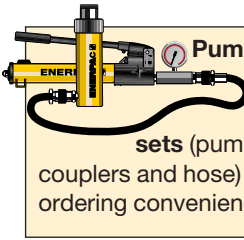
Pump Type	Usable Oil Capacity (in <sup>3</sup> )	Model Number	Pressure Rating*		Oil Displacement per Stroke (in <sup>3</sup> )		Max. Handle Effort (lbs)
			(psi)				
			1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage	
Single-speed	20	P-141	N/A	10,000	N/A	.055	72
	55	P-391	N/A	10,000	N/A	.151	85
Two-speed	20	P-142**	200	10,000	.221	.055	78
	55	P-202	200	10,000	.221	.055	63
	55	P-392**	200	10,000	.687	.151	93
	155	P-802	400	10,000	2.40	.151	95
	155	P-842***	400	10,000	2.40	.151	95

\* Contact Enerpac for applications where operating pressure is less than 10% of pressure rating.

\*\* Available as set, see note on top of next page.

\*\*\* For use with double-acting cylinders.

# Lightweight Hand Pumps



**Pump and Cylinder sets**  
Pumps marked with an \*\* are available as sets (pump, cylinder, gauge, couplers and hose) for your ordering convenience.

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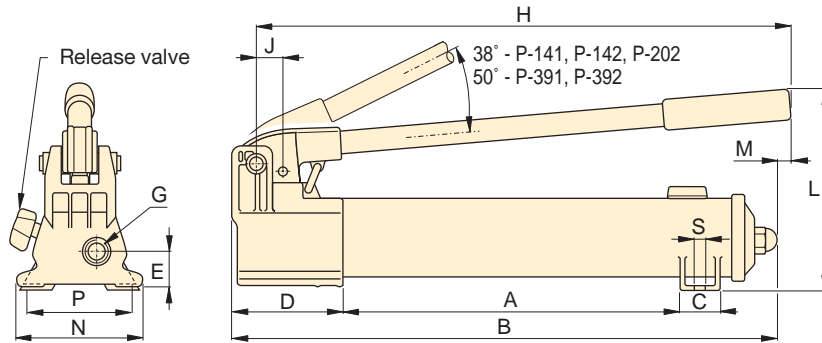
## P Series



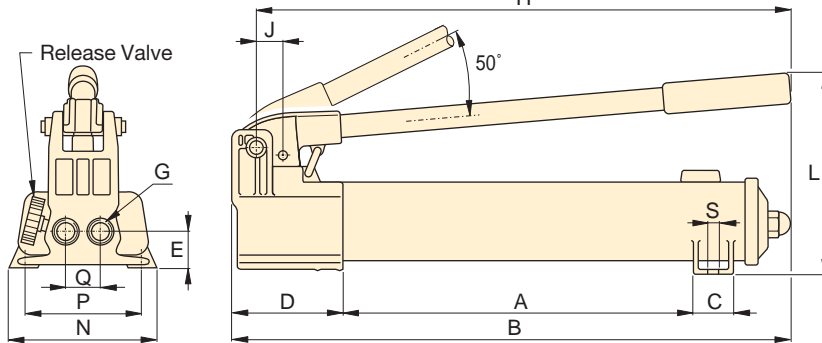
Reservoir Capacity:  
**20-155 in<sup>3</sup>**

Flow at Rated Pressure:  
**.055-.15 in<sup>3</sup>/stroke**

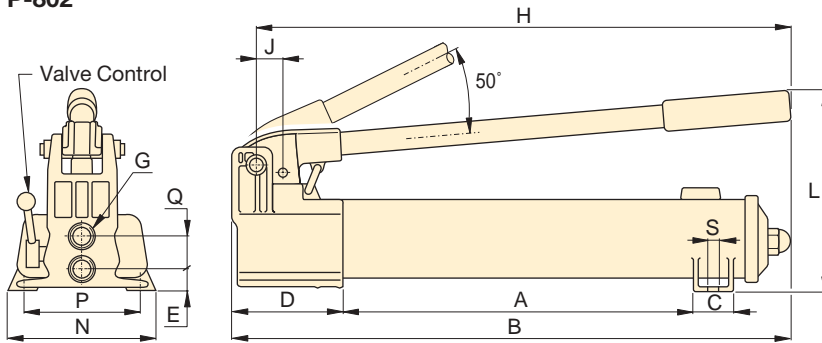
Maximum Operating Pressure:  
**10,000 psi**



P-141, P-142, P-202, P-391, P-392



P-802



P-842



### Hoses

Enerpac offers a complete line of high-quality hydraulic hoses. To ensure the integrity of your system, specify only genuine Enerpac hydraulic hoses.

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### Gauges

Minimize the risk of overloading and ensure long, dependable service from your equipment. Refer to the System Components section for a full range of gauges.

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### Aluminum Reservoir

For applications where composite reservoirs may not be suitable, the P-392AL utilizes an extruded aluminum reservoir. Also included is a second handle for two-hand use. Contact Enerpac for details.

Piston Stroke	Dimensions (in)															Weight (lbs)	Model Number
	(in)	A	B	C	D	E	G	H	J	L	M	N	P	Q	S		
.50	7.31	13.25	1.13	3.37	1.13	1/4"-18 NPTF	12.56	.75	5.63	-	3.75	3.18	-	.28	5.3	P-141	
1.00	13.56	21.00	1.44	3.93	1.31	3/8"-18 NPTF	20.56	1.19	7.00	.63	4.75	-	-	-	9.0	P-391	
.50	7.31	13.25	1.13	3.37	1.13	1/4"-18 NPTF	12.56	.75	5.63	-	3.75	3.18	-	.28	5.3	P-142**	
.50	13.56	20.06	1.44	3.37	1.13	1/4"-18 NPTF	15.75	.75	5.69	.63	3.75	-	-	-	7.5	P-202	
1.00	13.56	21.00	1.44	3.93	1.31	3/8"-18 NPTF	20.56	1.19	7.00	.63	4.75	-	-	-	9.0	P-392**	
1.00	13.30	21.75	1.78	5.25	1.39	3/8"-18 NPTF	20.75	2.19	9.00	-	7.12	4.75	1.40	.41	18.0	P-802	
1.00	13.30	21.75	1.78	5.25	.81	3/8"-18 NPTF	20.75	2.19	9.00	-	7.12	4.75	1.44	.41	22.0	P-842	



▼ Shown from left to right: P-462, P-84, P-801, P-77, P-80, P-39



- Two-speed operation for reduced operator fatigue (except P-39)
- 4-way valving on the P-84 and P-464 for operation of double-acting cylinders
- External load release valve on remaining models for single-acting cylinder operation
- Internal pressure relief valve for overload protection
- Large oil capacity to power a wide range of cylinders or tools

▼ In the absence of a power supply, the P-80 Hand Pump offers a powerful solution.



## The Solution for Tough Jobs



### Two Speed

Recommended for applications where cylinder plunger must advance rapidly to contact load, and applications where greater oil capacities are required, such as multiple cylinder hook-ups.



### Foot Pump Conversion Kits

Convert your P-39 to foot power with the PC-10 Kit. Includes instructions for easy conversion.



### Gauges

Minimize the risk of overloading and ensure long, dependable service from your equipment. Refer to the

System Components section for a full range of gauges.

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### 4-Way Control Valve

P-84 and P-464 feature a manual 4-way control valve, designed for use with one double-acting or two single-

acting cylinders. For system set-up information:

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Pump Type	Usable Oil Capacity (in <sup>3</sup> )	Model Number	Pressure Rating*		Oil Displacement per Stroke		Max. Handle Effort (lbs)
			(psi)		(in <sup>3</sup> )		
			1 <sup>st</sup> stage	2 <sup>nd</sup> stage	1 <sup>st</sup> stage	2 <sup>nd</sup> stage	
Single	40	P-39	N/C	10,000	N/C	.16	111
Two-speed	47	P-77	200	10,000	.97	.15	94
	134	P-80**	350	10,000	.99	.15	104
	249	P-801	350	10,000	.99	.15	104
	134	P-84***	350	10,000	.99	.15	104
	453	P-462	200	10,000	7.69	.29	110
	453	P-464***	200	10,000	7.69	.29	110

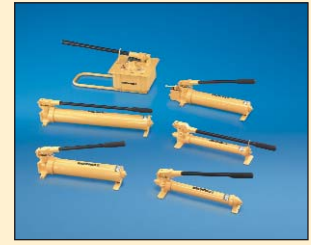
\* Contact Enerpac for applications where operating pressure is less than 10% of pressure rating.

\*\* Available as a set, see note on next page.

\*\*\* For use with double-acting cylinders.

# Steel Hand Pumps

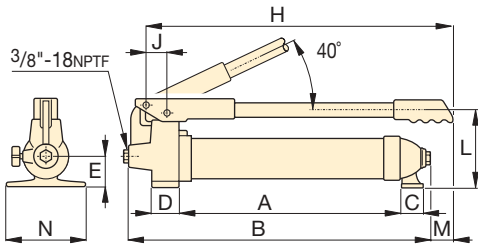
## P Series



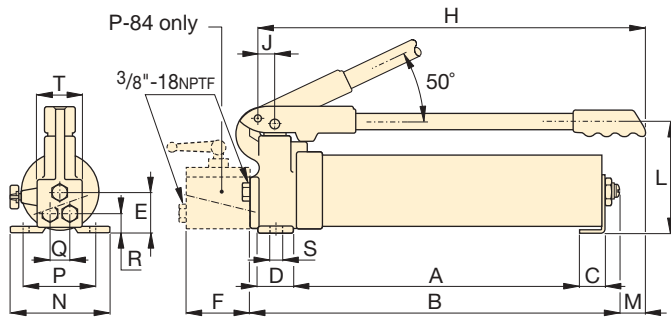
Reservoir Capacity:  
**40-453 in<sup>3</sup>**

Flow at Rated Pressure:  
**.15-.29 in<sup>3</sup>/stroke**

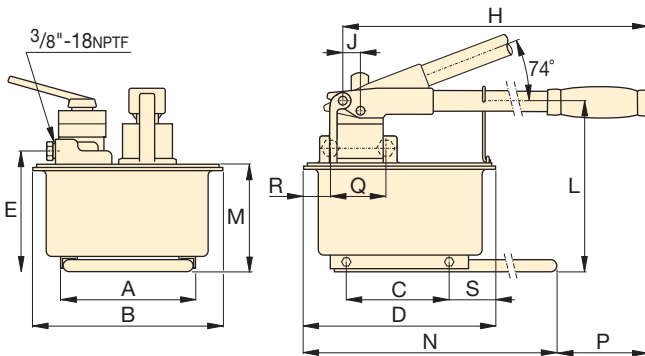
Maximum Operating Pressure:  
**10,000 psi**



**P-39, P-77**



**P-80, P-801, P-84**



**P-462, P-464**

**Pump and Cylinder Sets**  
P-80 is also available as a set (pump, cylinder, gauge, couplers and hose) for your ordering convenience.  
*Page: 58*

**Speed Chart**  
To determine how a specific pump will operate your cylinder, see the Pump/Cylinder Speed Chart in the "Yellow Pages".  
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**Cylinder Matching Chart**  
For help in selecting the correct hand pump for your application, please refer to the Cylinder Matching Chart located in the "Yellow Pages".  
*Page: 104*

Piston Stroke (in)	Dimensions (in)																	Weight (lbs)	Model Number
	A	B	C	D	E	F	H	J	L	M	N	P	Q	R	S	T			
.81	15.5	20.47	1.28	1.50	1.25	-	18.25	1.18	4.69	2.56	5.25	-	-	-	-	-	13	P-39	
1.00	16.46	20.67	1.30	1.57	2.04	-	22.04	1.34	4.57	1.97	4.72	-	-	-	-	-	15	P-77	
1.00	16.75	21.22	1.00	1.75	2.13	-	20.75	1.14	6.88	.75	5.75	4.76	-	.83	.31	-	24	P-80**	
1.00	25.94	30.78	1.00	1.75	2.13	-	30.43	1.14	6.88	-	5.75	4.76	-	.83	.31	-	31	P-801	
1.00	16.75	21.22	1.00	1.75	-	2.52	20.75	1.14	6.88	.75	5.75	4.76	1.50	1.69	.31	2.64	29	P-84***	
1.50	8.25	12.13	6.42	12.63	7.68	-	26.44	.98	10.63	6.89	25.6	3.63	-	-	3.13	-	61	P-462	
1.50	8.35	12.13	6.42	12.63	7.68	-	26.44	.98	10.63	6.89	25.6	3.63	3.50	2.68	3.13	-	61	P-464***	

▼ Shown from left to right: P-51, P-25, P-18



## When Less Than 10,000 psi is All You Need

### P-Series

- P-25 and P-50 pump oil in both forward and reverse handle movement improving overall efficiency, ideal when mounting space is restricted
- External load-release valve
- Internal pressure-relief valve for overload protection
- P-51 can be operated in horizontal and vertical position with pump head and oil outlet facing downwards



#### LX-101 Handpump Oil

A medium viscosity oil specially formulated for handpumps. Performs well in low temperatures and requires less pumping effort than standard Enerpac HF blue oil.

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#### Gauges

Minimize the risk of overloading and ensure long, dependable service from your equipment. Refer to the

System Components section for a full range of gauges.

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▼ P-18 hand pump used for locking the rotating table for marble polishing.



Pump Type	Usable Oil Capacity (in <sup>3</sup> )	Model Number	Pressure Rating (psi)	Oil Displacement per Stroke (in <sup>3</sup> )	Max. Handle Effort (lbs)
Single-speed	18	P-18	2,850	0.16	57
	200	P-25	2,500	0.58	60
	200	P-50	5,000	0.29	60
	50	P-51	3,000	0.25	61

# Low Pressure Hand Pumps

## P Series



Reservoir Capacity:  
**18-200 in<sup>3</sup>**

Flow at Rated Pressure:  
**.16-.58 in<sup>3</sup>/stroke**

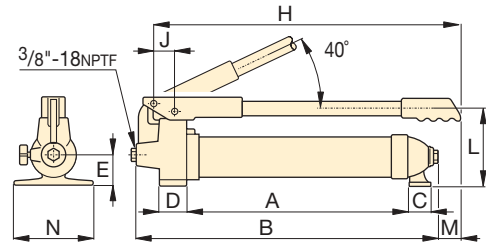
Maximum Operating Pressure:  
**2,500-5,000 psi**



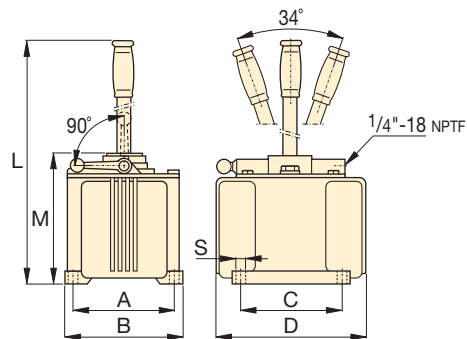
### Hoses

Enerpac offers a complete line of high quality hydraulic hoses. To ensure the integrity of your system, specify only genuine Enerpac hydraulic hoses.

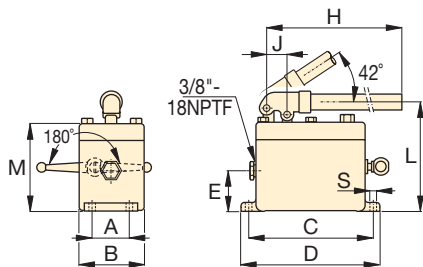
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**P-18**



**P-25, P-50**



**P-51**

*P-25 hand pumps used with RC-series cylinders to keep wooden layers under pressure during lamination of plates. ▶*



Piston Stroke	Dimensions (in)																Weight (lbs)	Model Number	
	(in)	A	B	C	D	E	F	H	J	L	M	N	P	Q	R	S			T
.81	8.25	12.88	1.28	1.50	1.88	-	8.50	1.18	4.38	.51	5.25	-	-	-	-	-	-	11	<b>P-18</b>
1.50	6.00	6.82	6.00	9.43	-	-	-	-	26.94	7.88	-	-	-	-	-	.40	-	36	<b>P-25</b>
1.50	6.00	6.82	6.00	9.43	-	-	-	-	26.94	7.88	-	-	-	-	-	.40	-	37	<b>P-50</b>
1.00	2.06	3.63	7.12	7.88	2.25	-	24.00	1.16	6.31	5.06	-	-	-	-	.34	-	12	<b>P-51</b>	



# Lightweight Hydraulic Foot Pump

▼ Shown: P-392FP



- **Robust, durable and compact**
  - Steel frame for maximum stability
  - Steel pumping handle
  - Aluminium reservoir
- Foot pedal lock and lightweight construction for portability
- Two-speed operation reduces foot pedal strokes
- Large foot-pad release valve for controlling load descent
- Internal pressure relief valve for overload protection

▼ P-392FP offers the advantage of hands free operation to handle and control the tool or cylinder.



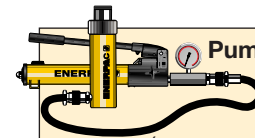
## P Series



Reservoir Capacity:  
**38 in<sup>3</sup>**

Flow at Rated Pressure:  
**.151 in<sup>3</sup>/stroke**

Maximum Operating Pressure:  
**10,000 psi**



### Pump and Cylinder sets

The P-392FP is available as **sets** (pump, cylinder, gauge, couplers and hose) for your ordering convenience.

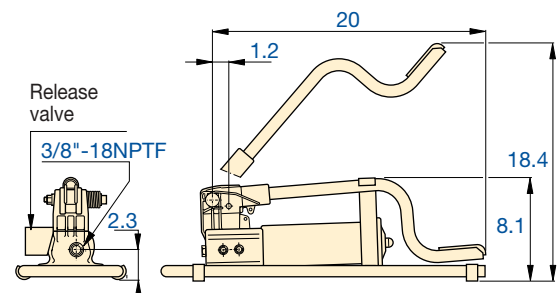
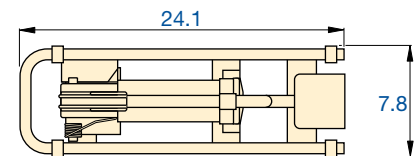
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### Hoses

Enerpac offers a complete line of high quality hydraulic hoses. To ensure the integrity of your system, specify only genuine Enerpac hydraulic hoses.

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Usable Oil Capacity (in <sup>3</sup> )	Model Number	Pressure Rating (psi)		Oil Displacement per Stroke (cm <sup>3</sup> )		Max. Handle Effort (lbs)	Piston Stroke (in)	Weight (lbs)
		1st stage	2nd stage	1st stage	2nd stage			
38	P-392FP *	200	10,000	.687	.151	125	1	16

\* Available as set, see note on this page.



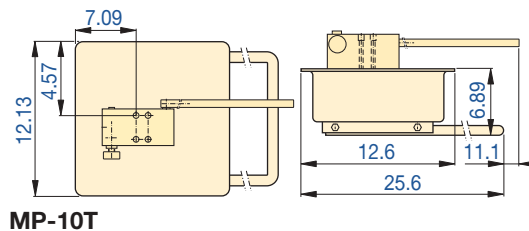
# Multifluid Hand Pumps

▼ Shown: **MP-110**



- Superior corrosion resistance
- Impregnated aluminium anodized pump housing with stainless steel internal pumping components
- Standard Nitrile seals – excellent for demineralized water, oil/water emulsions, waterglycols, mineral oils, hydraulic fluids
- Optional EPDM seals for use with Skydrol® or brake fluids
- Two speed pumps up to 14,500 psi pressure
- Externally adjustable pressure relief valve
- 1/4" NPTF gauge port

▼ MP-Series pumps are ideal for testing and filling applications.



**MP-10T**



## MP Series

Reservoir Capacity:  
**2 gal. (optional)**

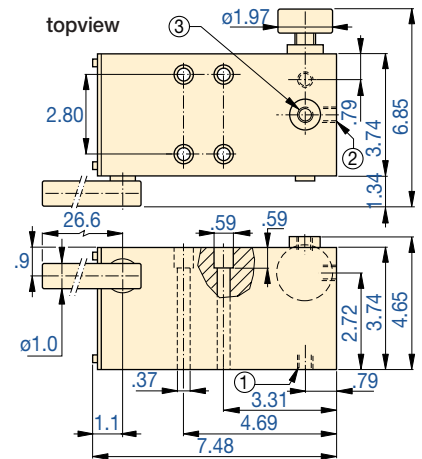
Flow at Rated Pressure:  
**.12-1.28 in<sup>3</sup>/stroke**

Maximum Operating Pressure:  
**1,500-14,500 psi**



### Optional Reservoir Kit

The 2 gallon reservoir kit **MP-10T** includes tank with skid frame, top plate with reservoir seal, suction pipe and mounting bolts. Useable oil capacity is 1.5 gal.



### MP-110, 350, 700, 1000

- ① Suction / Tank return port 3/8"-18 NPTF
- ② Pressure port 3/8"-18 NPTF
- ③ Gauge port 1/4"-18 NPTF

Pump Type	Usable Oil Capacity (in <sup>3</sup> )	Model Number	Pressure Rating (psi)		Oil Displacement per Stroke (in <sup>3</sup> )		Max. Handle Effort (lb)	Piston Stroke (in)	Weight (lbs)
			1st stage	2nd stage	1st stage	2nd stage			
Two Speed	*	<b>MP-110</b>	500	1500	3.2	1.28	99	1.04	14.5
	*	<b>MP-350</b>	500	5000	3.2	.43	99	1.04	14.5
	*	<b>MP-700</b>	500	10,000	3.2	.18	99	1.04	14.5
	*	<b>MP-1000</b>	500	14,500	3.2	.12	99	1.04	14.5

Note: MP-Pump includes .060 in. thick gasket for reservoir mounting.

\* MP-Series pumps require the use of an external reservoir.

▼ Shown from left to right: 11-100, P-2282



## Ultra-High Pressure up to 40,000 psi



### 2-Way Shut-Off Valve 72-750

For 40,000 psi applications requiring a shut-off valve or gauge snubber. Made of 318 Stainless Steel and utilizing .38 inch cone fittings, it is the perfect selection for use with your Ultra-High Pressure hand pump.

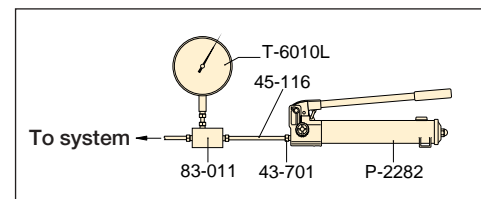


### Test System Gauges

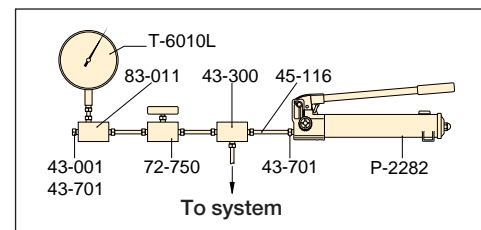
Ideal for monitoring pressure in your hydraulic circuit, Test System Gauges, such as the T-6010L, are available with cone threads or NPTF threads and in a variety of pressure ranges.

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- Two-speed operation on the P-2282 allows for faster fill, reducing cycle times for many testing applications
- 303 Stainless steel construction on the 11-100 and 11-400 models enable use with many different fluids, such as distilled water, alcohol, diesters, silicones, soluble oils and petroleum
- Large release knob for improved control of pressure release
- Outlet ports are 3/4"-16 cone for 40,000 psi rating



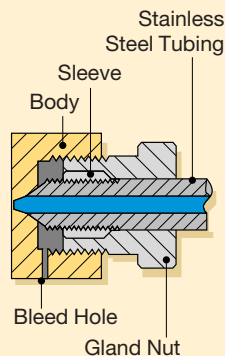
▲ Typical Test System



▲ Test System with Gauge and Snubber

### Cone Seal

Stainless Steel High Pressure fittings seal on a "cone" surface and do not require pipe sealer. The Gland Nut holds the sleeve and tubing tight against the cone surface to provide a 40,000 psi seal.



Pump Type	Usable Oil Capacity (in <sup>3</sup> )	Model Number	Pressure Rating* (psi)		Oil Displacement per Stroke (in <sup>3</sup> )		Max. Handle Effort (lbs)
			1st stage	2nd stage	1st stage	2nd stage	
Two-speed	60	P-2282	200	40,000	.99	.037	106
Single-speed	45	11-100	N/C	10,000	N/C	.152	120
	45	11-400	N/C	40,000	N/C	.038	120

\* Contact Enerpac for applications where operating pressure is less than 10% of pressure rating.

# Ultra-High Pressure Hand Pumps

## ▼ Optional Ultra-High Pressure Fittings and Tubing

Description	Connection	Model No.
<b>40,000 psi</b>		
Gland Nut Plug	.38" cone	43-001
Elbow	.38" cone	43-200
Tee	.38" cone	43-300
Gauge Tee	.38" cone side/ .25" cone gauge port	43-301
Gauge Adaptor	.38" cone side/ .25" cone gauge port	83-011
Coupling	.38" cone	43-400
Cross	.38" cone	43-600
Gland Nut with Sleeve	.38" cone	43-701
Gauge Connector	.25" cone	43-704
Tubing	4" tube, O.D. .38" * 8" tube, O.D. .38" * 12" tube, O.D. .38" *	45-116 45-126 45-136
<b>10,000 psi only</b>		
Adaptor	.38" F cone to 1/4" M NPTF .38" F cone to 3/8" M NPTF	41-146 41-166
Adaptor	.38" F cone to 1/4" F NPTF .38" F cone to 3/8" F NPTF	41-246 41-266
Adaptor	.38" M cone to 3/8" F NPTF	41-366

Note: .25" cone fittings use 9/16"-18 threads, 3/8" cone fittings use 3/4"-16 threads.

\* Actual tubing lengths are .75" less than nominal size shown. These dimensions make distance between centers of valves and fittings multiples of 4" spaces.

## P/11 Series



Reservoir Capacity:

**45-60 in<sup>3</sup>**

Flow at Rated Pressure:

**.037-.152 in<sup>3</sup>/stroke**

Maximum Operating Pressure:

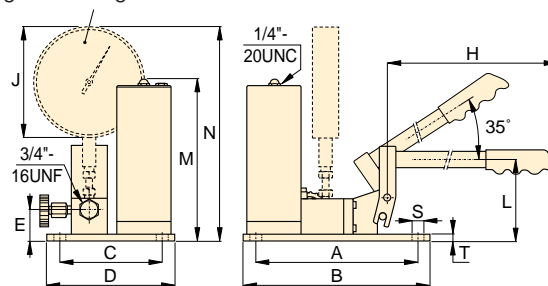
**10,000-40,000 psi**



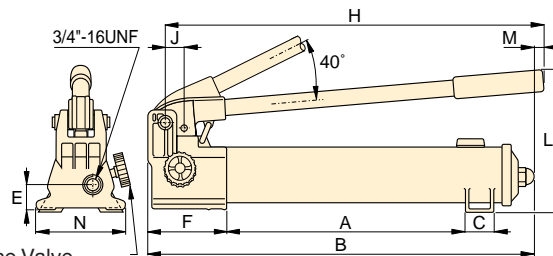
### Stainless Steel Construction

Ultra-high Pressure Fittings feature all stainless steel construction except adaptor **41-366**, which features nickel plated carbon steel construction.

Optional T-Series gauge and fitting



11-100, 11-400



Release Valve

P-2282

Piston Stroke	Dimensions (in)														Weight (lbs)	Model Number
	(in)	A	B	C	D	E	F	H	J	L	M	N	S	T		
1.00	13.56	22.00	1.40	-	1.24	5.25	20.75	1.16	9.00	.28	4.74	-	-	14	P-2282	
.78	9.45	10.50	5.98	7.00	1.77	-	25.00	6.41	4.50	9.33	12.38	.31	.37	22	11-100	
.78	9.45	10.50	5.98	7.00	1.77	-	25.00	6.41	4.50	9.33	12.38	.31	.37	22	11-400	