

Hydraulic Pumps and Directional Valves

ENERPAC 

Enerpac hydraulic pumps are available in over 1000 different configurations. Whatever your high-pressure pump needs are... speed, control, intermittent or heavy duty cycle or pumps for multiple lift point capabilities and synchronous lifting systems, you will find an Enerpac pump suited to the application.

⑦ Featuring Hand, Battery, Electric, Air and Gasoline powered models, with multiple reservoir and valve configurations, Enerpac offers the most comprehensive pump line available.



Pump Selection

For help in selecting the correct pump for your application, please view our 'Yellow Pages'. If you require further assistance, contact the Enerpac office located near you.

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Torque Pumps

System matched air and electric pumps provide control to operate Enerpac Torque Wrenches.

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Pumps for Multiple Lift Point Capabilities

The **SFP-Series Split-Flow Pumps** are an economical solution for multi-point controlled lifting and lowering applications and a far better alternative than using separately operated pumps.

Pumps for Synchronous Lifting Systems

The multi-functional **EVO-Series** lifting system to control 4, 8, 12 upto 48 lifting points.

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Pumps and Directional Valves Section Overview

Power Source	Pump Types	Maximum Reservoir Capacity (litres)	Max. Flow at Rated Pressure (l/min)	Maximum Power Consumption	Series	Page	
Manual	Lightweight Hand Pumps Exclusively from Enerpac	2,5	2,47 (cm³/stroke)	—	P		76 ▶
	ULTIMA Steel Hand Pumps	7,4	4,75	—	P		78 ▶
	Low Pressure Hand Pumps	3,3	9,50	—	P		80 ▶
	Multifluid Hand Pumps Pumping Fluids up to 1000 bar	—	20,6 (cm³/stroke)	—	MP		82 ▶
	Foot Pump For Hands Free Operation	0,5	2,47 (cm³/stroke)	—	P		83 ▶
Electric	Ultra-High Pressure Hand Pumps Pressure up to 2800 bar	1,0	2,49 (cm³/stroke)	—	P, 11		84 ▶
	Battery Powered Hydraulic Pumps Portable Cordless zero emission pump	2,0	0,25	0,37 (kW)	XC		86 ▶
	Battery Powered Hydraulic Pumps Cordless, zero emission pump	8,0	0,52	1,0 (kW)	ZC		88 ▶
	Economy Pump Series Compact and Portable	3,8	0,32	0,37 (kW)	PU		90 ▶
	Z-Class Pumps, ZE2-Series Durable, reliable, easy to use	6,8	0,27	0,56 (kW)	ZE2		92 ▶
	E-Pulse® Hydraulic Pumps High Productivity, Innovative Design	3,0	0,50	0,63 (kW)	E E-Pulse®		94 ▶
	Z-Class Pumps Portable Hydraulic Power	39	1,0	1,25 (kW)	ZU		98 ▶
Air	Z-Class Pumps Powerful and Heavy-Duty	39	2,73	5,60 (kW)	ZE		104 ▶
	Air Hydraulic Pumps Single and Twin-Air Motor	1,3	0,13	255 (l/min)	PA		110 ▶
		8,0	0,15	510 (l/min)	PAM		111 ▶
	Turbo II Air Hydraulic Pumps Compact Air Over Hydraulic	5,0	0,16	340 (l/min)	PATG		112 ▶
	Air Hydraulic Foot Pumps For Productivity and Ergonomics	2,0	0,25	991 (l/min)	XA		114 ▶
Gasoline	Z-Class Air Hydraulic Pumps Modular Air Pumps	39	1,31	2840 (l/min)	ZA		116 ▶
	Z-Class Gasoline Hydraulic Pumps Gas Powered High Flow Pumps	39	1,64	4,8 (kW)	ZG5		118 ▶
	Z-Class Gasoline Hydraulic Pumps Gas Powered High Flow Pumps	39	3,30	9,7 (kW)	ZG6		118 ▶
Directional Control Valves Manual and Solenoid Valves, pump and remote mounted					VM, VE VC		121 ▶

P-Series, Lightweight Hand Pumps

ENERPAC

▼ Shown from top to bottom: P802, P842, P202, P142



- Lightweight and compact design
- Durable glass-filled nylon reservoir and nylon encapsulated aluminium pump base for maximum corrosion resistance
- Two-speed operation reduces handle strokes by as much as 78% over single speed pumps
- Lower handle effort to minimize operator fatigue
- Integral 4-way valve on P842 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 improved operator safety
- Internal pressure relief valve for overload protection.

▼ Cylinder-pump set SCR254H used to support the construction while monitoring pressure and load with the gauge.



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 7/16"-20 UN port at the rear of the reservoir.

PC20	Fits P141, P142
PC25	Fits P202, P391, P392



Power Box

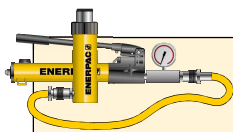
Portable tool box with P392 hand pump, gauge adaptor assembly, hose and RC-, RCS, RSM-or WR-Serie cylinder.

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Pump Type	Usable Oil Capacity (cm³)	Model Number	Pressure Rating ²⁾ (bar)		Oil Displacement per Stroke (cm³)		Max. Handle Effort (kg)	
			1 st stage	2 nd stage	1 st stage	2 nd stage		
Single-Speed	327	P141	-	700	-	0,90	32,7	
	901	P391	-	700	-	2,47	38,6	
Two-Speed	327	P142 ¹⁾	13	700	3,62	0,90	35,4	
	901	P202	13	700	3,62	0,90	28,6	
	901	P392 ¹⁾	13	700	11,26	2,47	42,2	
	2540	P802	27	700	39,33	2,47	43,1	
	2540	P842 ³⁾	27	700	39,33	2,47	43,1	

¹⁾ Available as set, see note on next page. P392 also available in Power Box Set (page 65).
²⁾ Contact Enerpac for applications where operating pressure is less than 10% of pressure rating.
³⁾ P842 for use with double-acting cylinders

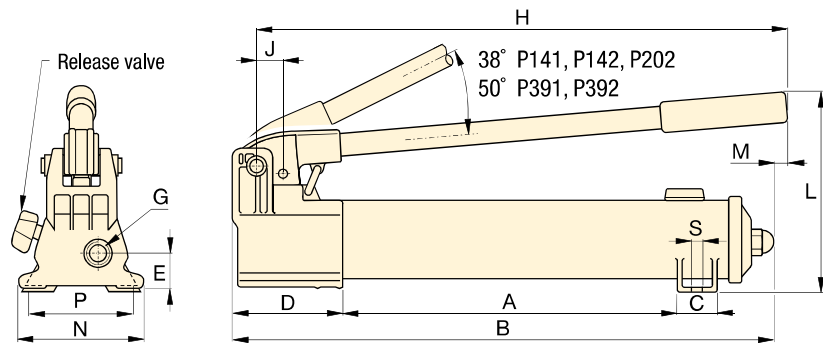
Lightweight Hand Pumps



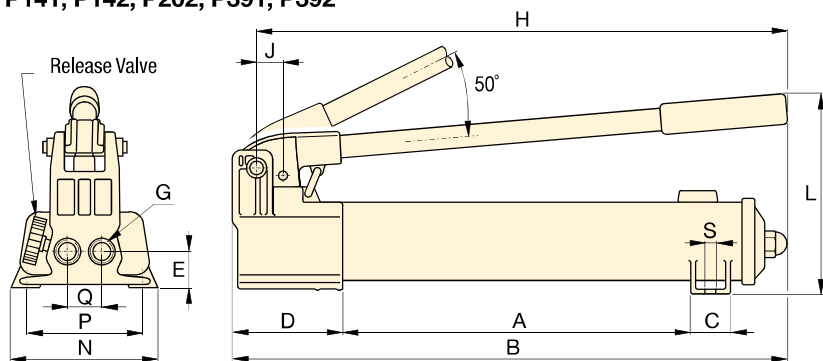
Pump-Cylinder Sets

All pumps marked with an * are available as **sets** (pump, cylinder, gauge, couplers and hose) for your ordering convenience.

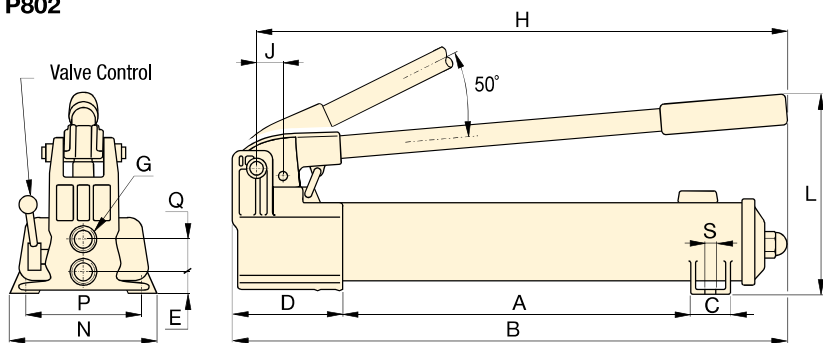
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P141, P142, P202, P391, P392



P802



P842

P Series



Reservoir Capacity:
327 - 2540 cm³

Flow at Rated Pressure:
0,90 - 2,47 cm³/stroke

Operating Pressure:
700 bar



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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GA45GC Gauge Adaptor

Protect yourself from system overloading by simply ordering one part number for a pre-assembled gauge, adaptor block and coupler.

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Foot Pump P392FP

For handsfree operation the lightweight and robust **P392FP** Foot Pump is the perfect choice.

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	Piston Stroke	Dimensions (mm)															Model Number
		(mm)	A	B	C	D	E	G	H	J	L	M	N	P	Q		
	12,7	185	336	28	85	28	¼"-18 NPTF	319	19	143	–	95	80	–	7	2,4	P141
	25,4	344	533	36	99	33	⅜"-18 NPTF	522	30	177	16	120	–	–	–	4,1	P391
	12,7	185	336	28	85	28	¼"-18 NPTF	319	19	143	–	95	80	–	7	2,4	P142 ¹⁾
	12,7	344	509	36	85	28	¼"-18 NPTF	400	19	144	16	95	–	–	–	3,4	P202
	25,4	344	533	36	99	33	⅜"-18 NPTF	522	30	177	16	120	–	–	–	4,1	P392 ¹⁾
	25,4	337	552	45	133	35	⅜"-18 NPTF	527	30	228	–	181	153	35	10	8,2	P802
	25,4	337	552	45	133	20	⅜"-18 NPTF	527	30	228	–	181	153	36	10	10,0	P842 ³⁾

P-Series, ULTIMA Steel Hand Pumps



▼ Shown from left to right: P77, P80, P84, P801, P39



- Reduced handle effort and ergonomic grip for less operator fatigue
- Two-speed operation for fast and easy operation (except P39)
- Vent free reservoir eliminates spills
- Quick grip handle allows for easy transport
- Integral reservoir over-pressurization protection
- All steel construction, chrome plated plunger and wiper system for durable, long lasting performance
- 4-way valving on the P84 and P464 for operation of double-acting cylinders.

▼ In the absence of a power supply, the P80 Hand Pump offers a powerful solution.



The Solution for Tough Jobs



Two Speed Pumps

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



Foot Pump Conversion Kits

Convert your P39, P77, P80 or P801 to foot power with the PC11 Kit. Includes instructions for easy conversion.



GA45GC Gauge Adaptor

Protect yourself from system overloading by simply ordering one part number for a pre-assembled gauge, adaptor block and coupler.

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4-Way Control Valve

P84 and P464 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 (cm³)	Model Number	Pressure Rating ²⁾ (bar)		Oil Displacement per Stroke (cm³)		Max. Handle Effort (kg)	
			1 st stage	2 nd stage	1 st stage	2 nd stage		
Single	672	P39	-	700	-	2,46	39	
Two-Speed	672	P77	34	700	16,39	2,46	40	
	2200	P80 ¹⁾	34	700	16,39	2,46	35	
	4100	P801	34	700	16,39	2,46	35	
	2200	P84 ³⁾	34	700	16,39	2,46	35	
	7423	P462	14	700	126,20	4,75	49	
	7423	P464 ³⁾	14	700	126,20	4,75	49	

¹⁾ Available as a set, see note on next page.
²⁾ Contact Enerpac for applications where operating pressure is less than 10% of pressure rating.
³⁾ P84 and P464 are for use with double-acting cylinders.

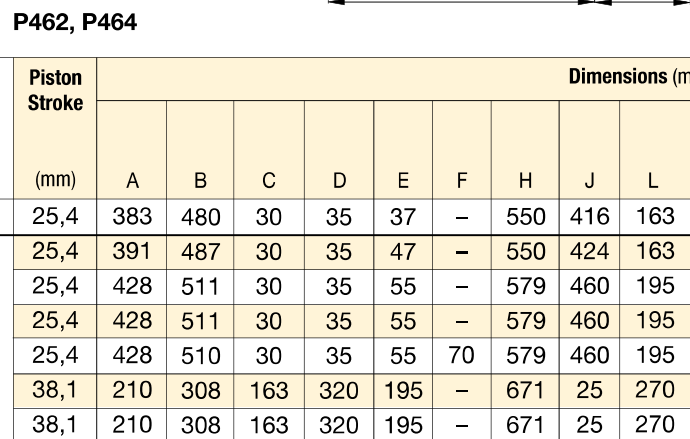
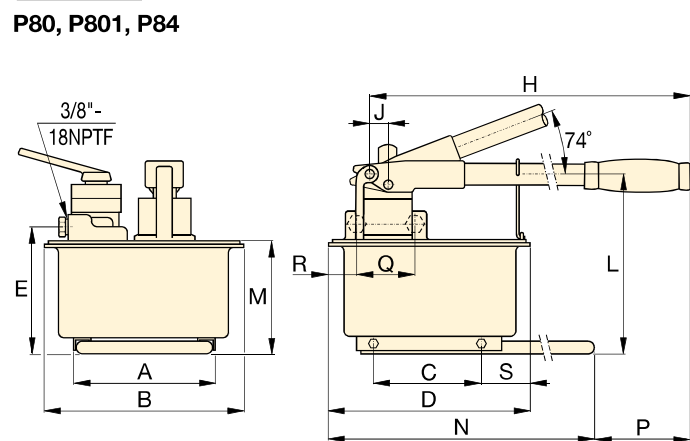
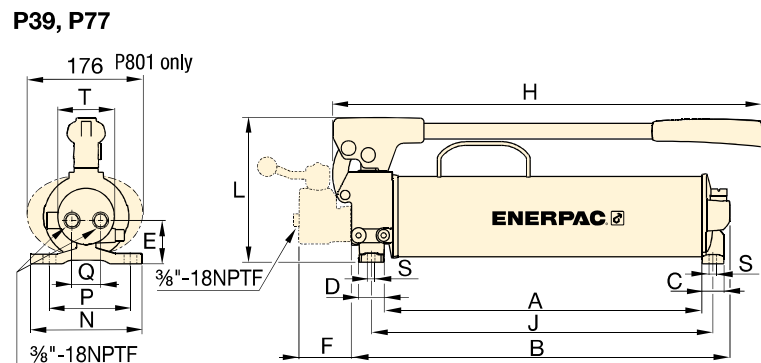
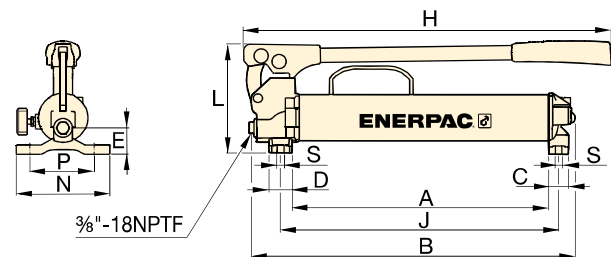
ULTIMA Steel Hand Pumps



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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P Series



Reservoir Capacity:
672 - 7423 cm³

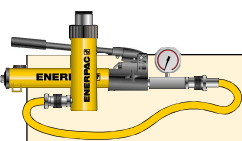
Flow at Rated Pressure:
2,46 - 4,75 cm³/stroke

Maximum Operating Pressure:
700 bar



Extra Capacity Hand Pumps

P462 and P464 feature extra large reservoirs and high first-stage flow rate. These pumps are ideally suited for powering high-capacity cylinders.



Pump-Cylinder Sets

The **P80** is also available as **complete set** (pump, cylinder, gauge, couplers and hose) for your ordering convenience.

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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'.

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Piston Stroke	Dimensions (mm)																		Model Number
	(mm)	A	B	C	D	E	F	H	J	L	M	N	P	Q	R	S	T	(kg)	
	25,4	383	480	30	35	37	–	550	416	163	–	140	111	–	–	8,4	–	6,2	P39
	25,4	391	487	30	35	47	–	550	424	163	–	140	111	–	–	8,4	–	7,1	P77
	25,4	428	511	30	35	55	–	579	460	195	–	150	121	42	–	8,4	74	10,7	P80 ¹⁾
	25,4	428	511	30	35	55	–	579	460	195	–	150	121	42	–	8,4	74	14,1	P801
	25,4	428	510	30	35	55	70	579	460	195	–	150	121	38	–	8,4	74	11,8	P84 ³⁾
	38,1	210	308	163	320	195	–	671	25	270	175	650	92	–	–	80	–	27,7	P462
	38,1	210	308	163	320	195	–	671	25	270	175	650	92	89	68	80	–	27,7	P464 ³⁾

P-Series, Low Pressure Hand Pumps

ENERPAC 

▼ Shown from left to right: **P25, P51, P18**

When Less Than 700 bar is All You Need



GA45GC Gauge Adaptor
Protect yourself from system overloading by simply ordering one part number for a pre-assembled gauge, adaptor block and coupler.

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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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- P25 and P50 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
- For use with single-acting cylinders and tools
- P18 vertical operation requires pump head facing down
- P25 and P50 vertical operation requires pump vent side facing down
- P51 for horizontal operation only.

▼ P18 hand pump used for locking the rotating table for marble polishing.



Pump Type	Usable Oil Capacity (cm³)	Model Number *	Pressure Rating (bar)	Oil Displacement per Stroke (cm³)	Max. Handle Effort (kg)
Single-Speed	360	P18	200	2,46	16
	3277	P25	175	9,50	27
	3277	P50	350	4,75	27
	819	P51	200	4,10	27

* For use with single-acting cylinders and tools

Low Pressure Hand Pumps

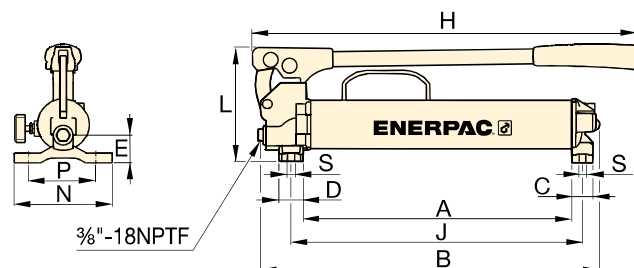
P Series



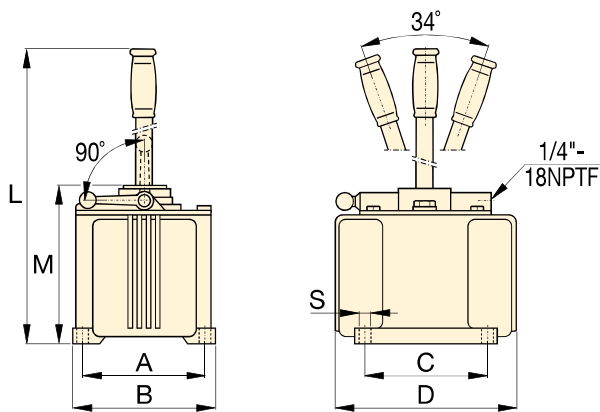
Reservoir Capacity:
360 - 3277 cm³

Flow at Rated Pressure:
2,46 - 9,50 cm³/stroke

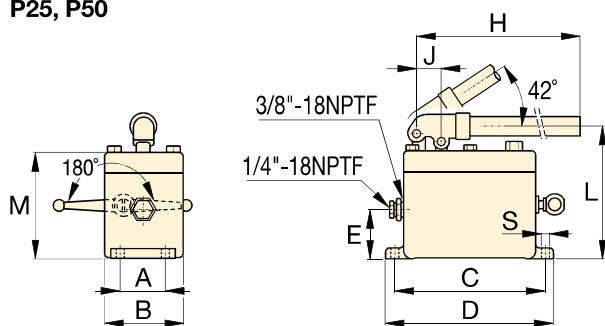
Maximum Operating Pressure:
175 - 350 bar



P18



P25, P50



P51



MP-Series Multifluid Hand Pumps

Corrosion resistant hand pumps for low pressure filling and high pressure testing applications, suitable for a wide range of fluids.

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▼ P51 hand pumps used with RC-series cylinders to keep wooden layers under pressure during lamination of plates.



	Piston Stroke	Dimensions (mm)												Model Number *
		(mm)	A	B	C	D	E	H	J	L	M	N	S	
	25,4	221	316	30	35	37	385	254	163	–	140	8,4	5,0	P18
	38,1	152	173	152	240	–	–	–	684	200	–	10	16,3	P25
	38,1	152	173	152	240	–	–	–	684	200	–	10	16,8	P50
	25,4	52	92	181	200	57	610	29	160	129	–	9	5,4	P51

MP-Series, Multifluid Hand Pumps

ENERPAC

▼ MP110



- Superior corrosion resistance
- Standard Nitrile seals – can be used for a wide range of fluids such as demineralised water, oil/water emulsions, wateryglycols, mineral oils
- Two speed pumps up to 1000 bar pressure
- Buna Nitrile seals can be exchanged with optional EPDM seal for use with Skydrol or brake fluids
- Impregnated aluminium anodized pump housing with stainless steel internal pumping components
- Externally adjustable pressure relief valve
- 1/4" NPTF gauge port
- For use with single-acting cylinders and tools.

MP Series

Flow at Rated Pressure:
1,6 - 20,6 cm³/stroke

Maximum Operating Pressure:
110 - 1000 bar

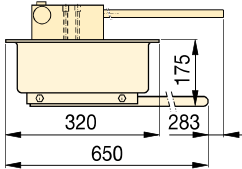
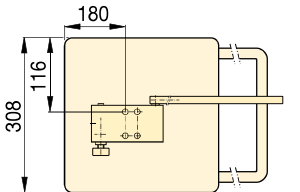
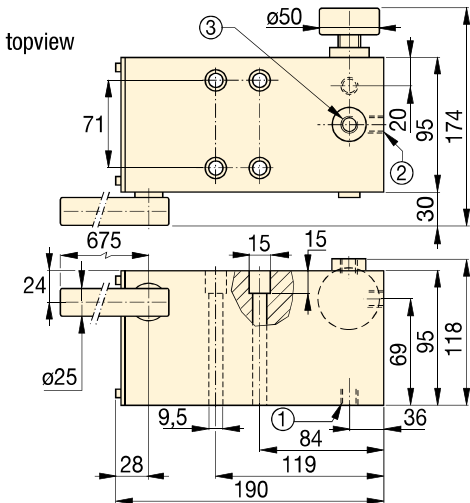


Optional Reservoir Kit
Includes 10 litres tank with skid frame, top plate with reservoir seal, suction pipe and mounting bolts. Useable oil capacity is 7,4 litres. Order modelnr.: **MP10T**.



Stainless Steel Hand Pump
Also available as stainless steel hand pump, model number **11-400**.

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MP10T

MP110, 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 *	Model Number **	Pressure Rating (bar)		Oil Displacement per Stroke (cm³)		Max. Handle Effort (kg)	Piston Stroke (mm)	Piston Weight (kg)
			1st stage	2nd stage	1st stage	2nd stage			
Two Speed	*	MP110	35	110	52,6	20,60	45	27,1	6,6
	*	MP350	35	350	52,6	7,15	45	27,1	6,6
	*	MP700	35	700	52,6	2,63	45	27,1	6,6
	*	MP1000	35	1000	52,6	1,60	45	27,1	6,6

* MP-Pump includes 1,5 mm thick gasket for reservoir mounting. MP-Series pumps requires the use of an external reservoir.
** MP-Series pumps are for use with single-acting cylinders and tools.

Lightweight Hydraulic Foot Pump

▼ P392FP



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

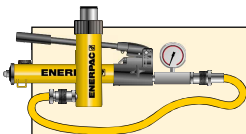
P Series



Reservoir Capacity:
492 cm³

Flow at Rated Pressure:
2,47 cm³/stroke

Maximum Operating Pressure:
700 bar



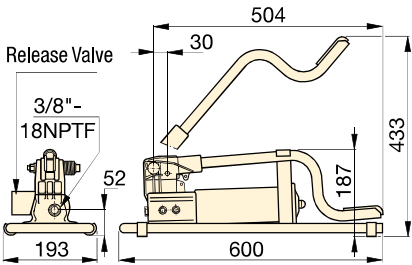
Pump-Cylinder Sets
The **P392FP** is available as **set** (pump, cylinder, gauge, couplers and hose) for your ordering convenience.

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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 (cm ³)	Model Number	Pressure Rating (bar)		Oil Displacement per Stroke (cm ³)		Max. Handle Effort (kg)	Piston Stroke (mm)	Piston Stroke (kg)
		1st stage	2nd stage	1st stage	2nd stage			
492	P392FP *	15	700	11,26	2,47	42	25,4	7,0

* Available as set, see note on this page.

▼ P392FP offers the advantage of hands free operation to handle and control the tool or cylinder.



P, 11-Series, Ultra-High Pressure Hand Pumps **ENERPAC**

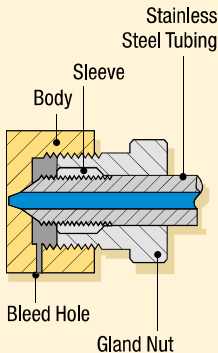
Shown from left to right: 11-100, P2282



- Two-speed operation on the P2282 allows for faster fill operation, 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, diesters, silicones, soluble oils and petroleum
- Large release knob for improved control of pressure release
- Outlet ports are 3/4"-16 cone for 2800 bar rating
- Ultra-high pressure fittings feature all stainless steel construction except adaptor 41-366 which features nickel plated carbon steel construction.

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 2800 bar seal.



Ultra-High Pressure up to 2800 bar



2-Way Shut-Off Valve Model Number 72-750

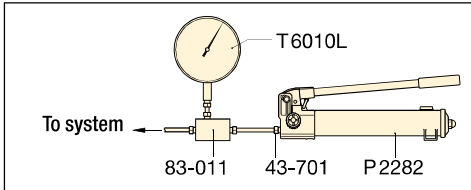
For 2800 bar applications requiring a shut-off valve or gauge snubber. Made of 318 Stainless Steel and utilizing .38 inch cone fittings, it is the perfect selection for use with your ultra-high pressure hand pump.



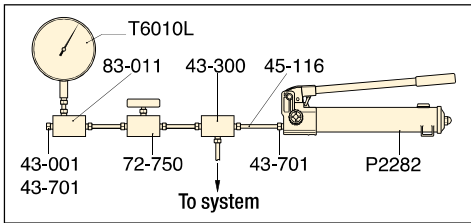
Test System Gauges

Ideal for monitoring pressure in your hydraulic circuit. Test System Gauges, such as the T6010L, are available with cone threads or NPTF threads and a variety of pressure ranges.

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▲ Typical Test System



▲ Test System with Gauge and Snubber

Pump Type	Usable Oil Capacity (cm ³)	Model Number	Pressure Rating * (bar)		Oil Displacement per Stroke (cm ³)		Max. Handle Effort (kg)
			1 st stage	2 nd stage	1 st stage	2 nd stage	
Two-Speed	983	P2282	13	2800	16,22	0,61	48,1
Single-Speed	737	11-100	-	700	-	2,49	54,4
	737	11-400	-	2800	-	0,62	54,4

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

Ultra-High Pressure Hand Pumps

▼ Optional Ultra-High Pressure Fittings and Tubings

Description		Connection	Model Nr.
2800 bar			
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		100 mm tube, O.D. .38" * 200 mm tube, O.D. .38" * 300 mm tube, O.D. .38" *	45-116 45-126 45-136
700 bar only			
Adaptor		.38" F cone to 1/4" M NPTF	41-146
		.38" F cone to 3/8" M NPTF	41-166
Adaptor		.38" F cone to 1/4" F NPTF	41-246
		.38" F cone to 3/8" F NPTF	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 19 mm less than nominal size shown. These dimensions make distance between centers of valves and fittings multiples of 100 mm spaces.

Piston Stroke	Dimensions (mm)															Model Number
	(mm)	A	B	C	D	E	F	H	J	L	M	N	S	T	(kg)	
	25,4	344	558	35	—	31	133	527	29	228	7	120	—	—	6,4	P2282
	19,8	240	266	151	177	45	—	635	162	114	237	314	7	9	10,0	11-100
	19,8	240	266	151	177	45	—	635	162	114	237	314	7	9	10,0	11-400

P 11 Series



Reservoir Capacity:
737 - 983 cm³

Flow at Rated Pressure:
0,61 - 2,49 cm³/stroke

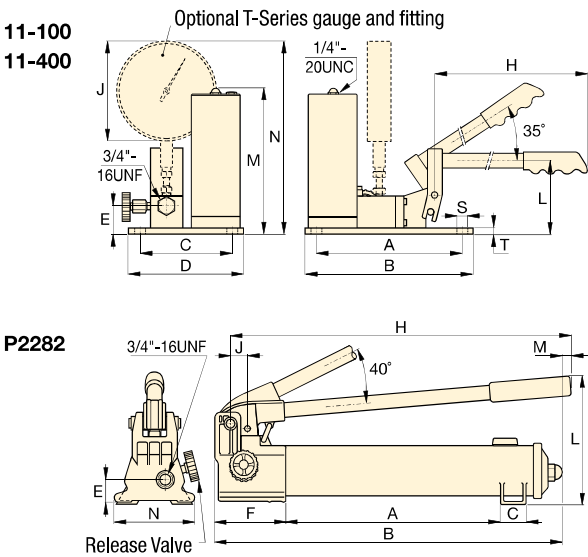
Maximum Operating Pressure:
700 - 2800 bar



Ultra-High Pressure pumps
DO NOT have an internal safety pressure relief valve.



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



XC-Series, Cordless Hydraulic Pumps

ENERPAC®

▼ XC1201ME



- Cordless, zero emission pump
- Lightweight design with integrated handle and carrying strap for portability
- Bladder reservoir prevents contamination and allows pump usage in any position
- Powerful 0,37 kW motor and 28 Volt Lithium-Ion battery deliver exceptional speed and superior run time
- High-strength fiberglass reinforced composite shroud for superior durability in demanding job site environments
- Cordless technology eliminates tripping hazards found in other electric or air powered pumps
- Three valve options for single- and double-acting cylinders: 3-way/2-position, 4-way/3-position or Dump & Hold
- Also available as torque pumps.



Performance of a Powered Pump Portability of a Hand Pump



Interactive Pendant on XC-1302S Models

Available only on **XC1302S** pump models. The interactive pendant allows user to easily toggle from "jog operation" to "dump system pressure" with a push of a button. (Cord length is 3 metres).



28-Volt Battery

The **XC28V** with Lithium-Ion technology for maximum battery performance and superior run time.



Roll Cage

Optional Roll Cage XC-Series pumps. Please order model number **XCRC TK**.



GA45GC Gauge Adaptor Assembly

Protect yourself from system overloading by simply ordering one part number for a pre-assembled gauge, adaptor block and coupler.

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◀ Portable power and simplicity for the toughest jobs.

Cordless Hydraulic Pumps



XC-Series Cordless Pumps

The XC-Series cordless pump is ideal for jobs that require a combination of portability, speed, and safety. These cordless pumps are perfect for remote locations without access to power, but also indoors where trip hazards, ergonomics or size is a concern.

The XC-Series cordless pump is compatible with all Enerpac hydraulic tools and small to medium sized cylinders. The XC-Series cordless pump is CSA and CE compliant.



Lithium-Ion battery for superior run time:

- 279 cuts of 10 mm reinforcing bar using a WHC750 Cutter
- 112 lifts with a WR5 Spreader
- 44 splits on M27 - 8.8 nuts using a NC3241 Nut Cutter
- 28 times lifting with a RC104 cylinder (10 ton, 100 mm stroke).

Note: Actual number of cycles per charge will vary depending on condition of battery, tool and ambient conditions. Battery life with double-acting tools is approximately 75% of that for comparable, single-acting tools.

XC Series

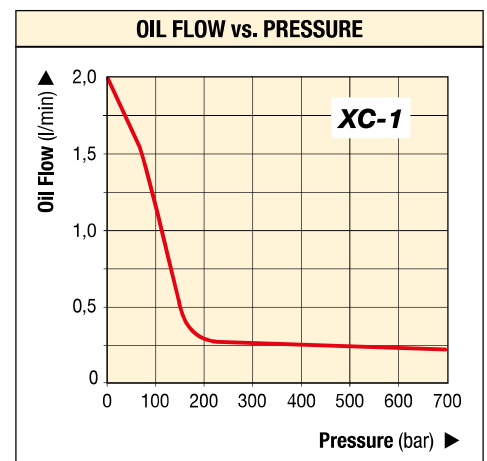
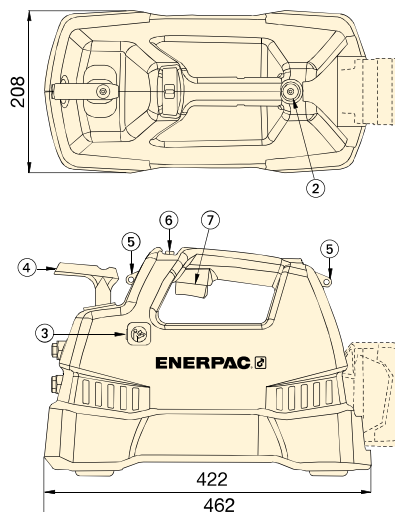
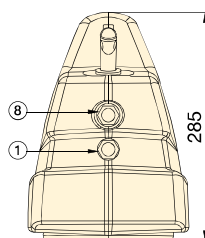


Reservoir Capacity:
1,0 - 2,0 litres

Flow at Rated Pressure:
0,25 l/min

Maximum Operating Pressure:
700 bar

- ① Outlet "Advance" Port ½"-18 NPTF
- ② Oil Fill (must use funnel)
- ③ User Adjustable Relief Valve Access Port
- ④ Directional Control Valve
- ⑤ Shoulder Strap Connection Points
- ⑥ Safety Lock Feature
- ⑦ On/Off Switch
- ⑧ Inlet "Retract" Port (double-acting models only)



▼ SELECTION CHART

Pump Type (Used with cylinder)	Useable Oil Capacity (litres)	Model Number	Output Flow Rate (l/min)			Valve Function	Charger Voltage (VAC)	Weight (kg)
			No Load	140 bar	700 bar			
Single-Acting	1,0	XC1201MB ¹⁾	2,05	0,49	0,25	3-way, 2-pos.	115	10,0
	2,0	XC1202MB	2,05	0,49	0,25	3-way, 2-pos.	115	11,0
	1,0	XC1201ME ¹⁾	2,05	0,49	0,25	3-way, 2-pos.	230	10,0
	2,0	XC1202ME	2,05	0,49	0,25	3-way, 2-pos.	230	11,0
	1,0	XC1201M ²⁾	2,05	0,49	0,25	3-way, 2-pos.	—	10,0
	2,0	XC1202M ²⁾	2,05	0,49	0,25	3-way, 2-pos.	—	11,0
Single-Acting	2,0	XC1302SB	2,05	0,49	0,25	Dump and Hold	115	11,4
	2,0	XC1302SE	2,05	0,49	0,25	Dump and Hold	230	11,4
	2,0	XC1302S ²⁾	2,05	0,49	0,25	Dump and Hold	—	10,2
Double-Acting	1,0	XC1401MB	2,05	0,49	0,25	4-way, 3-pos.	115	10,0
	2,0	XC1402MB	2,05	0,49	0,25	4-way, 3-pos.	115	11,0
	1,0	XC1401ME	2,05	0,49	0,25	4-way, 3-pos.	230	10,0
	2,0	XC1402ME	2,05	0,49	0,25	4-way, 3-pos.	230	11,0
	1,0	XC1401M ²⁾	2,05	0,49	0,25	4-way, 3-pos.	—	10,0
	2,0	XC1402M ²⁾	2,05	0,49	0,25	4-way, 3-pos.	—	11,0

¹⁾ Available as a cylinder pump set, see page 62.

²⁾ Batteries and charger not included.

▼ Take the battery pump anywhere without power cords or air hoses.



ENERPAC 87

ZC-Series, Cordless Hydraulic Pumps

ENERPAC 

▼ ZC3308JE



Productivity, Performance, Safety

- High-flow cordless solution saves users time and money by eliminating the need for using a generator and extension cords
- Brushless 1,0 kW motor and 3 stage pump maximizes pump and tool productivity while minimizing heat buildup and downtime
- The Lithium-Ion battery provides superior run time, even under extreme job site conditions
- Convenient 3 m pendant cord for hassle-free operation
- Reduced noise level 80 dBA max.
- Zero emission hydraulic power pack.

Z Tough.
Dependable.
Innovative.
CLASS

High-Performance Battery Power



Charger *

ZC115VC	120 V - 60 Hz
ZC230VC	230 V - 50 Hz

Battery **

ZC82V4NA	82 V, 4 Ah
ZC82V4EUAU	82 V, 4 Ah

* 1-hour quick charger

** NA is North America and
EUAU is European and Australia.



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.

Page: **127**



Hoses

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

hydraulic hoses.

Page: **128**



◀ Special Enerpac ZC3-Series Cordless Hydraulic Pump used for rail stressing applications (page 190).

Cordless Hydraulic Pumps



ZC-Series, Cordless Pumps

The Enerpac ZC-Series pump combines the performance of an electric pump with the convenience and portability of a battery pump. This quiet, cordless solution is ideal for applications where emission and noise are a concern, or when electricity or air is not readily available.

The Lithium-Ion battery provides impressive run times

Power for the pump is supplied by a rechargeable 82V lithium-ion battery.

The lithium-ion battery is capable of providing impressive run times, even under extreme job site conditions.

- 50 times lifting with RC1006 cylinder (95 ton, 168 mm stroke)
- 90 times lifting with RC504 cylinder (50 ton, 101 mm stroke).

Valve Options

- 4-way/3-position manual control valve used with double-acting cylinders
- 3-way/3-position manual control valve used with single-acting cylinders
- 4-way/3-position manual control valve with locking and power seat functions used in post tensioning concrete applications.

Applications

- High-flow cordless solution for industrial applications
- Foundation repair
- Rail industry
- Post-tensioning concrete.

ZC Series

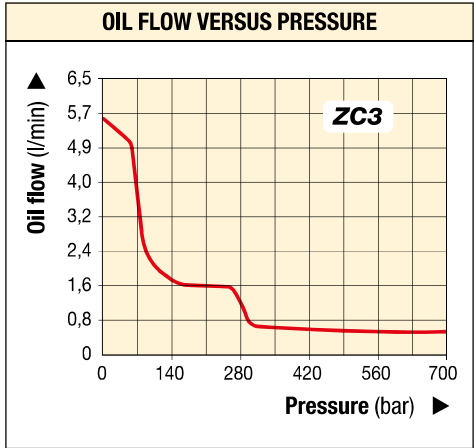
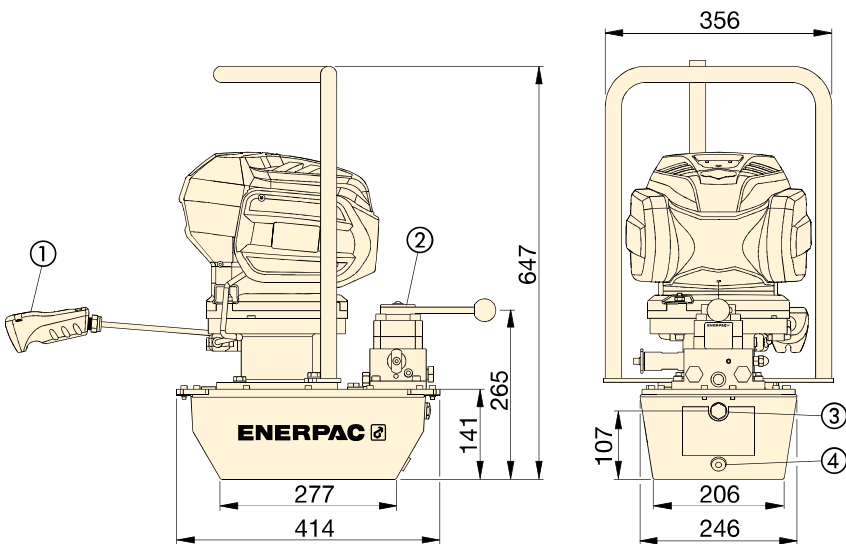


Reservoir Capacity:
8 litres

Flow at Rated Pressure:
0,52 l/min

Motor Size:
1,0 kW

Maximum Operating Pressure:
700 bar



- ① Motor On/Off Remote Pendant
- ② VM43-LPS Valve Shown
- ③ Sight Glass
- ④ Oil Drain ½" NPTF

Used for Cylinder or Tools	Useable Oil Capacity (litres)	Manual Valve Model Number	Valve Function	Model Number *	Output Flow Rate (l/min)			Battery Charger Voltage V - Hz	 ** (kg)
					< 70 bar	< 275 bar	< 700 bar		
Single-Acting	6,6	VM33	Advance/Neutral/Retract	ZC3308JB	5,0	1,3	0,52	115 - 60	29,7
				ZC3308JE				230 - 50	
Double-Acting	6,6	VM43	Advance/Neutral/Retract	ZC3408JB	5,0	1,3	0,52	115 - 60	29,7
				ZC3408JE				230 - 50	
Power Seater Post-Tensioning Tools	6,6	VM43LPS	Advance/Hold/Retract	ZC3908JB	5,0	1,3	0,52	115 - 60	33,3
				ZC3908JE				230 - 50	

* All models meet CE safety requirements and all TÜV requirements. Pump includes one charger and battery.
 ** Weight including oil and battery. Battery weight = 2,6 kg.

PU-Series, Economy Electric Pumps

ENERPAC 

▼ PUJ1200E



Heavy on Performance, Light on Weight



Gauges

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

For use with the Economy pump the **G2535L** gauge and **GA3** gauge adaptor are suggested.

For a full range of gauges, please refer to the System Components section.

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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.

Page: **128**



Speed Chart

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

Page: **405**

- Lightweight and compact design: 11,8 to 18,6 kg
- Large easy-carry handle for maximum portability
- Two-speed operation reduces cycle times for improved productivity
- 230 VAC 50/60-cycle universal motor will operate under poor voltage supply
- 24 VAC remote motor control, 3 m length for operator safety
- Starts under full load
- High strength molded shroud, with integral handle, protects motor from contamination and damage
- Designed for intermittent duty cycle.

▼ An Economy Pump PUJ1200E is used with a low-height cylinder RCS302 to reposition a Scissor lift to simplify maintenance.



Pump Type (Used with cylinder)	Usable Oil Capacity (litres)	Model Number *	Pressure Rating (bar)	
			1 st stage	2 nd stage
Single-Acting	1,9	PUD1100E	13	700
	3,8	PUD1101E	13	700
	1,9	PUJ1200E	13	700
	3,8	PUJ1201E	13	700
	1,9	PUD1300E	13	700
	3,8	PUD1301E	13	700
Double-Acting	1,9	PUJ1400E	13	700
	3,8	PUJ1401E	13	700

* For 115 volt applications replace 'E' suffix with 'B'.

** Electric dump valve for auto-retract of cylinders.

Economy Electric Pumps



About the Economy Pump

The Economy pump is best suited to power small to medium size cylinders or hydraulic tools. Its lightweight and compact design make it ideal for applications which require easy transport of the pump. The universal motor works well on long extension cords or generator-driven electrical power supplies.

For further application assistance refer to the 'Yellow Pages'.

PUD1100 Series

- Provides advance-retract of single-acting cylinders
- Ideal for punching applications
- For applications not requiring load holding
- 3 m cord with pendant controls motor and valve operation.

PUD1300 Series

- Provides advance-hold-retract of single-acting cylinders
- Ideal for applications requiring load-holding
- For applications requiring solenoid valve operations
- 3 m cord with pendant controls motor and valve operation.

PUJ-Series

- Manual valves provide advance-hold-retract tool operation
- Available with 3- and 4-way valves for single or double-acting cylinders
- 3 m cord with pendant controls the motor operation.



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PU Series



Reservoir Capacity:

1,9 - 3,8 litres

Flow at Rated Pressure:

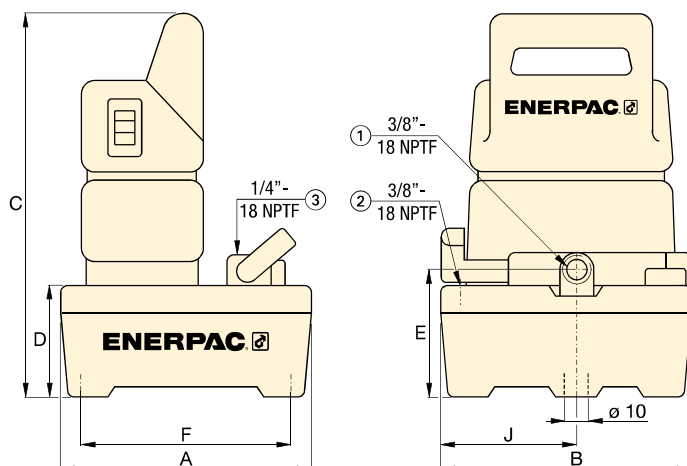
0,32 l/min

Motor Size:

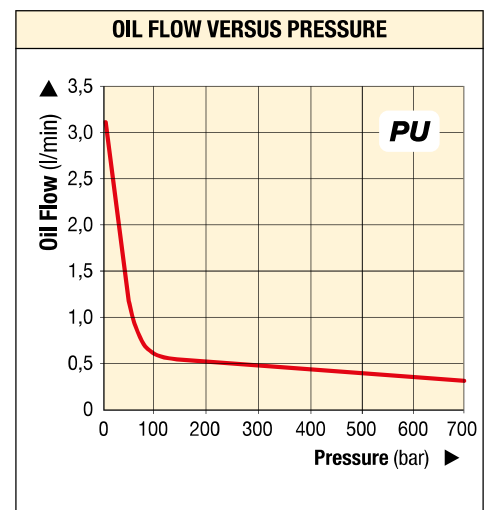
0,37 kW

Maximum Operating Pressure:

700 bar



- Oil Outlet Port
- Tank Port
- Gauge Port (PUJ1200 and PUJ1201 models only)



	Output Flow Rate (l/min)		Valve Type	Valve Function	Current Draw	Motor Voltage	Sound Level	Dimensions (mm)								Model Number *
	1 st stage	2 nd stage			(Amps)	(VAC)	(dBA)	A	B	C	D	E	F	J	(kg)	
	3,31	0,32	Dump**	Advance/Retract	3,2	230	85	244	244	362	101	119	203	133	11,8	PUD1100E
	3,31	0,32			3,2	230	85	368	309	373	105	130	323	142	17,2	PUD1101E
	3,31	0,32	3/2 manual	Advance/ Hold/Retract	3,2	230	85	244	244	362	101	119	203	133	10,0	PUJ1200E
	3,31	0,32			3,2	230	85	368	309	373	105	130	323	142	15,4	PUJ1201E
	3,31	0,32	3/2 solenoid	Dump & Hold	3,2	230	85	244	244	362	101	119	203	133	12,0	PUD1300E
	3,31	0,32			3,2	230	85	368	309	373	105	130	323	142	17,5	PUD1301E
	3,31	0,32	4/3 manual	Advance/ Hold/Retract	3,2	230	85	244	244	362	101	119	203	133	13,2	PUJ1400E
	3,31	0,32			3,2	230	85	368	309	373	105	130	323	142	18,6	PUJ1401E

ZE2-Series, Electric Hydraulic Pumps

ENERPAC®

▼ ZE2208ME, ZE2-Series, Electric Pump



**Durable, reliable,
easy to use**

- 0,56 kW induction motor for long life and quiet operation
- 71 to 79 dBA across the pressure range
- 6,8 liter, steel reservoir offers capacity and cool operation for wide range of applications
- IP54 protection
- Heavy duty bearings extend pump life by reducing heat, improving lubrication and reducing wear
- Replaceable piston check valves increase service life of major pump components
- VE32D solenoid dump valve model available
- Pendant and manual control options for ease of use.



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.

Page: 127



Hoses

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

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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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Electric Hydraulic Pumps



ZE2-Series, Electric Pumps

The ZE2-Series is part of the proven Enerpac ZE-Series and utilizes many of the same design elements as the larger pumps in the family. The 0,56 kW induction motor enables productive flow rates, long cycle life and quiet operation. Combined with the efficient, robust and easy to service pumping element the ZE2 is ideal for manufacturing and shop environments.

Multiple valve and control options provide the flexibility to match the pump to a wide range of pressing, punching and other operations. Compare the ZE2 to the other pumps in the ZE-Series and determine the best pump for the application.

ZE2 Series

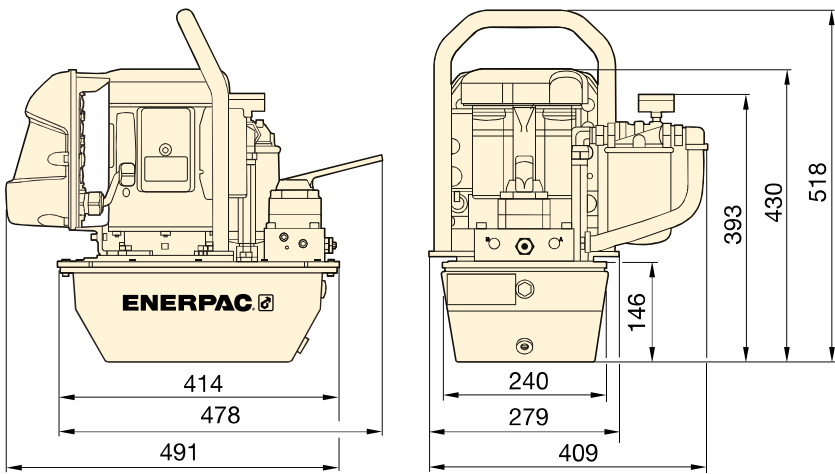


Reservoir Capacity:
6,8 litres

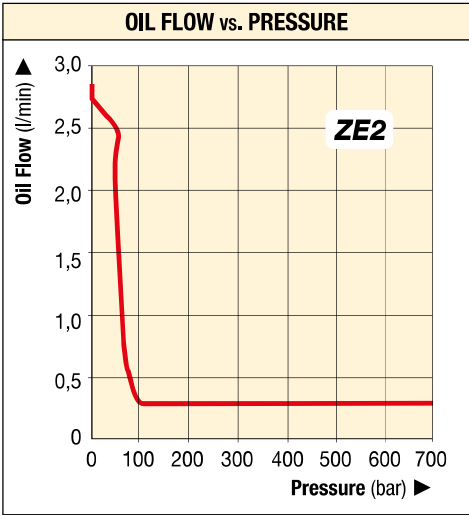
Flow at Rated Pressure:
0,27 l/min

Motor Size:
0,56 kW

Maximum Operating Pressure:
700 bar



ZE2 with Optional Return Line Filter



Used with Cylinder *	Valve Hold Function	Useable Oil Capacity (Litres)	Model Number ¹⁾ Two-Stage Pump	Oil Flow Rate at 50 Hz (l/min)		Valve Type	Valve Operation	Motor Voltage (VAC)	Motor Size (kW)	Sound Level (dBA)	Weight (kg)
				7 bar	700 bar						
S/A		6,8	ZE2108DE (B, I)	2,7	0,27	VE32D	Solenoid w/ Pendant	230	0,56	79	42,4
S/A		6,8	ZE2208ME (B, I) ²⁾	2,7	0,27	VM32	Manual w/o Pendant	230	0,56	79	37,8
S/A	●	6,8	ZE2308ME (B, I) ²⁾	2,7	0,27	VM33	Manual w/o Pendant	230	0,56	79	38,3
D/A	●	6,8	ZE2408ME (B, I) ²⁾	2,7	0,27	VM43	Manual w/o Pendant	230	0,56	79	38,3
S/A		6,8	ZE2208PE (B, I)	2,7	0,27	VM32	Manual w/ Pendant	230	0,56	79	41,3
S/A	●	6,8	ZE2308PE (B, I)	2,7	0,27	VM33	Manual w/ Pendant	230	0,56	79	41,7
D/A	●	6,8	ZE2408PE (B, I)	2,7	0,27	VM43	Manual w/ Pendant	230	0,56	79	41,7
S/A	●	6,8	ZE2308EE (B, I)	2,7	0,27	VE33	Solenoid w/ Pendant	230	0,56	79	49,0
D/A	●	6,8	ZE2408EE (B, I)	2,7	0,27	VE43	Solenoid w/ Pendant	230	0,56	79	49,0

* S/A = Single Acting, D/A = Double Acting
¹⁾ "B" suffix model numbers shown are 115 VAC, 1-phase, 50/60 Hz, CE compliant
 "I" indicates pump is available in 208-240V, 1-phase, 50/60 Hz with NEMA 6/15 plug, CE compliant
 "E" indicates pump is available in 208-240V, 1-phase, 50/60 Hz with European plug, CE compliant
¹⁾ All models can be ordered with the following Factory Installed Accessories/Options:
 F = with Return Line Filter, G = with 0-1000 bar gauge (ø 63,5 mm), S = Single-stage pump unit
²⁾ Models can be ordered with Pressure Switch (P)

E-Series, E-Pulse® Electric Hydraulic Pumps

ENERPAC®

▼ EP3204JE-G, E-Pulse® Electric Hydraulic Pump



High productivity through innovative design



Interactive Pendant

Integrated pendant control with a magnet that fits securely into the handle of the pump.

- Operation, programming and diagnostics status provided to operator with yellow, green, and red LED as well as vibration pulses.
- Fault codes warn operators of any issues related to voltage, temperature, button controls, or if professional service is required.

Performance

- Two-stage pump with high flow/pressure ratio: 2,13 l/min at 175 bar; 0,52 l/min at 700 bar
- Smart controls enable motor to maintain constant power across the pressure range
- 24VDC power regulator minimizes effects of poor power supply
- Six-piston block design provides even flow for smooth operation of cylinder or tool.

Durability

- Durable aluminium housing
- High-efficiency permanent magnet, direct drive motor enables continuous use and long service life
- Built-in thermal protection
- IP Rating: IP54 on the pump, IP67 on the pendant.

Convenience

- Speed control with dial adjustment for precise operation *
- Pendant and cord management system
- Integrated pressure gauge with scalereading in bar, MPA and psi
- Convenient oil fill port, oil level indicator and automatic breather.



Variable Speed Control *

Speed control with dial adjustment for precise tool or cylinder operation. The adjustable speed range is approximately 25 to 100% of full rated output.



Tie Down Bracket

Enables pump mounting to a work surface: **MBEP-1** optional Tie Down Bracket.



Manifold Mounting Bracket

Ability to mount AM21 and AM41 split-flow hydraulic manifolds: **MMBEP-1** optional Manifold Mounting Bracket.

E-Pulse®, Electric Hydraulic Pumps



E-Pulse® Pumps

The Enerpac E-Pulse® pums drives high productivity through its innovative design. Smart controls enable the motor to maintain constant power providing higher flow than traditional pumps. Adjustable speed control * enables precision as required. E-Pulse® pumps are designed for convenience.

Features include a cord management system and integrated pendant control with a magnet that fits securely into the handle of the pump. The durable aluminum housing is designed to give easy access for serviceability. E-Pulse is the heart to any hydraulic system, ensuring high performance and providing ultimate convenience.



3/2 Jog, 3/2 Dump, 4/3 Jog pendant with 3 metres cord

LED status signal
Jog Operation
Latch Operation



3/2 Dump and Hold pendant with 3 metres cord

LED status signal
Jog Operation
Dump System Pressure

▼ PERFORMANCE CHART

Pump Series/Type	Output Flow Rate (l/min)				Motor Voltage (VAC)	Plug Type	Current Draw (Amps)	Sound Level (dBA)
	1 bar	175 bar	350 bar	700 bar				
EP3....B-G					100-120	NEMA 5-15	12	70-85
EP3....I-G	3,61	2,13	0,95	0,52	200-250	NEMA 6-15	7	
EP3....E-G					200-250	Schuko CEE 7/7	7	

▼ SELECTION CHART

Used with cylinder or tool	Useable Oil Capacity (litres)	Model Number	Valve Type	Valve Function	Remote Pendant Functions	(kg)
Single-Acting	3,0	EP3104DB-G	3/2 Solenoid	Dump	Advance	18,6
		EP3104DI-G				
		EP3104DE-G				
	3,0	EP3204JB-G *	3/2 Manual	Jog	Motor On/Off	18,4
		EP3204JI-G *				
		EP3204JE-G *				
	3,0	EP3304SB-G *	3/2 Solenoid	Hold and Dump	Advance/Retract	18,7
		EP3304SI-G *				
		EP3304SE-G *				
Double-Acting	3,0	EP3404JB-G *	4/3 Manual	Jog	Motor On/Off	18,6
		EP3404JI-G *				
		EP3404JE-G *				

* The adjustable speed control only applies to all EP3204, EP3304 and EP3404 pump models.

E Series

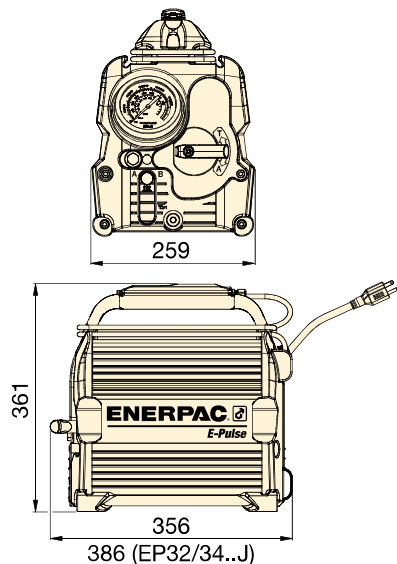
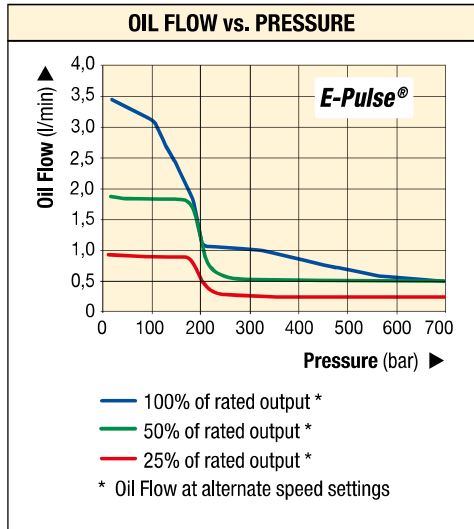


Reservoir Capacity:
3,0 litres

Flow at Rated Pressure:
0,52 l/min

Motor Size:
0,63 kW

Maximum Operating Pressure:
700 bar



Z-Class Enerpac Power Pumps

ENERPAC 

Introducing the Z-Class power pumps from Enerpac – pumps that run cooler, use less electricity and are easy to service.

Enerpac has used the latest metallurgical, bearing and seal technologies to produce a pump whose features and benefits far surpass the electric pumps that are available today. By reducing the number of moving parts, improving flow dynamics and decreasing friction, Z-Class pumps will stay on the job longer, require less energy to operate and when needed, have lower service costs.



Z-Class power pumps from Enerpac – simply the best pump you will ever use.

Z Tough
Dependable
Innovative
CLASS



Z-Class, An Innovation in Pump Design

Z-Class Pumping Element – The Heart of Your Hydraulic System

Highly efficient design provides increased flow rates, reduced heat generation and a decrease in power consumption. This means improved tool speed and increased service life – which results in higher productivity and lower operating costs.

Heavy-duty bearings extend pump life by reducing friction, reducing surface-loading and lowering bearing stresses.

Pump cavity oil bath extends pump life by reducing heat, improving lubrication and reducing wear.

Self-priming, high-flow 1st stage pump increases pump performance by super-charging the 2nd stage piston pump – improving oil flow in both hot and cold weather operation.

Balanced rotating components reduce vibration creating a smoother running pump – reducing wear, friction and sound levels.

Replaceable piston check-valves increase service life of major pump components.

Ergonomic pendant features sealed switches and operates at 24 V for improved operator safety.

Z-Class factory options & accessories

Extensive list of accessories including heat exchanger, roll cage, skid bar, pressure transducer, return line filter and level and temperature switches, allow complete pump control over a wide range of industrial applications.

Z-Class power pumps for your application

Available in one flow range for universal motor and eight flow ranges for induction motor. Choose from single or two-stage models to provide the optimum cylinder and tool performance for almost any industrial application.

Oil Flow Rate at 700 bar (l/min)	Z-Class Pump Series *	Electric Motor Power (kW)	Air Motor-Consumption (l/min)	Gasoline Engine Power (kW)	Page:
0,27	ZE2	0,56	—	—	92
0,52	ZC3	1,0	—	—	88
0,55	ZE3	0,75	—	—	104
0,82	ZE4(T)	1,12	—	—	104, 276
1,00	ZU4(T)	1,25	—	—	98, 272
1,30	ZA4(T)	—	2840	—	116, 280
1,60	ZG5	—	—	4,8	118
1,64	ZE5(T)	2,24	—	—	104, 276
2,73	ZE6	5,60	—	—	104
3,30	ZG6	—	—	9,7	118

* ZC3 battery powered cordless pumps
ZA4T, ZU4T, ZE4T and ZE5T-Series are Torque Wrench Pumps.

Back-lit LCD on select Z-Class pumps

- pump usage information, hour and cycle counts
- low-voltage warning and recording
- offers self-test and diagnostic capabilities
- information displayed in 6 languages
- pressure read-out (when used with the optional pressure transducer)
- adjustable trigger pressure setting (when used with the optional pressure transducer).



Back-lit LCD available on ZU and ZE-Series Electric Pumps. ▶



ZU-Series Pump Applications

- **Mobile:** when frequent pump transport is required and/or on remote locations
- **Universal motor:** 1-phase, runs well under poor voltage supply, using generator power supply or using long extension cord
- **Duty-cycle:** for intermittent applications
- **Cylinders and tools:** for medium to large size single and double-acting applications and high speed
- **Pump speed:** two stage pump unit.



ZE-Series Pump Applications

- **Stationary:** when pump remains in one location
- **Induction motor:** 1 and 3-phase for high cycle usage
- **Duty-cycle:** for heavy-duty, extended cycle application
- **Cylinders and tools:** for medium to large size single and double-acting applications and high speed
- **Pump speed:** single or two stage pump unit.

ZU4-Series, Portable Electric Pumps

ENERPAC 

▼ ZU4308ME (Classic), ZU4420SEH (Pro)



- High-efficiency two-speed pump design – higher oil flow and bypass pressure
- Powerful 1,25 kW universal electric motor provides high power-to-weight ratio and excellent low-voltage operating characteristics
- High-strength, moulded composite shroud protects motor and electronics, while providing an ergonomic, non-conductive handle for easy transport.

Pro-Series models only

- Back-lit LCD readout provides pressure display and a number of diagnostics and readout capabilities never offered on a portable pump before:
 - pump usage information, hour and cycle counts
 - self-test, diagnostic and read-out capabilities
 - pressure readout and auto-mode pressure settings.



◀ Designed to be tough, the ZU4-Series with steel reservoirs will take the abuse of today's construction sites.



Z-Class – A Pump For Every Application

Patented Z-Class pump technology provides high by-pass pressures for increased productivity – important in applications using long hose runs and high pressure-drop circuits, like heavy lifting or certain double-acting tools.

Enerpac ZU4-Series Pumps are built to power small to large-sized cylinders or hydraulic tools, or wherever high-speed, intermittent duty, remote hydraulic power is needed.

Classic Electric Pumps

- The Classic has traditional electro-mechanical components (transformers, relays and switches) in place of solid-state electronics.
- The Classic delivers durable, safe and efficient hydraulic power for demanding markets like construction, post-tensioning and foundation repair.

Standard Electric Pumps

- For applications that do not require digital display features of the Premium Pump. Available in all manual or jog versions.

Pro Electric Pumps

- Digital (LCD) display features a built-in hour meter and shows self-diagnostic, cycle-count and low voltage warning information.
- Pressure can also be displayed when the pump is equipped with an optional pressure transducer.

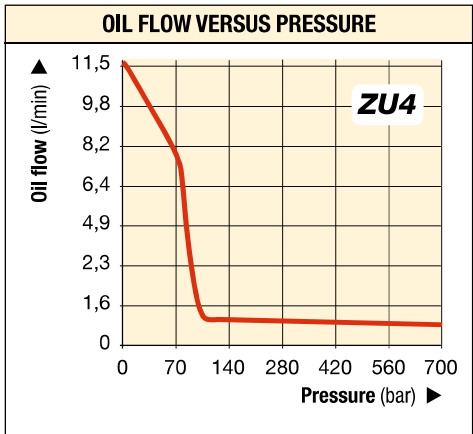


Assisted Return Pumps with Venturi Valve Technology

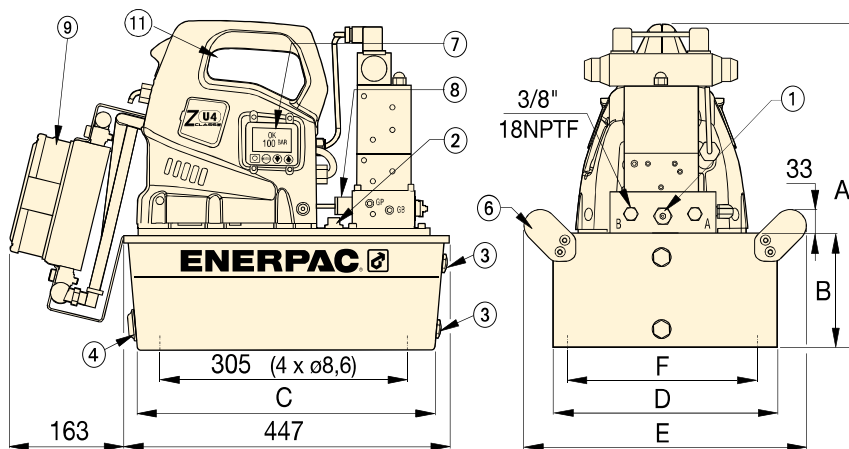
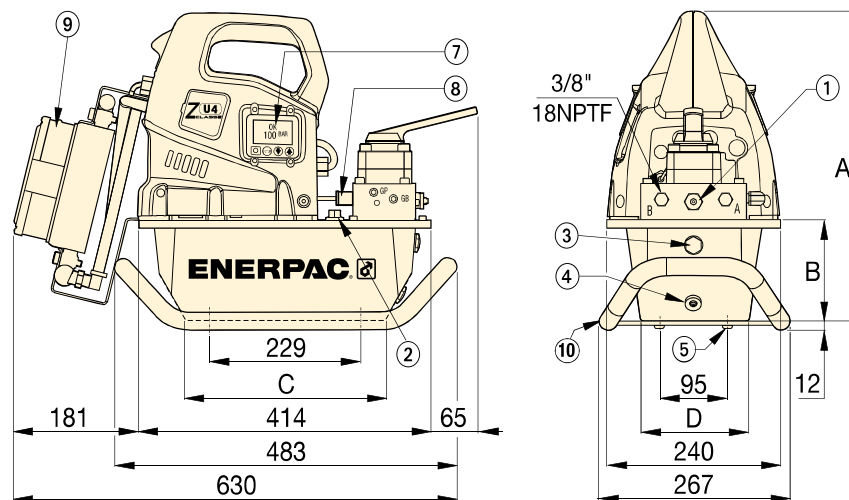
To improve productivity and plunger retraction, Enerpac offers valve configurations designed to accelerate your cylinder retraction speeds, ZU4-Series pumps feature **Venturi Valve Technology** to facilitate the faster return of single-acting gravity return cylinders. See valve type in ordering matrix and details in section Directional Control Valves.

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ZU4-Series, Specifications and Dimensions



ZU4-SERIES PERFORMANCE CHART								
Motor Size	Output Flow Rate at 50 Hz (l/min)				Motor Electrical Specifications	Sound Level	Relief Valve Adjustment Range	
	(kW)	7 bar	50 bar	350 bar	700 bar	(Volts-Ph-Hz)	(dBA)	(bar)
1,25	11,5	8,8	1,2	1,0	115-1-50/60 230-1-50/60	85-90	140-700	



ZU4 Series



Reservoir Capacity:
4,6 - 39 litres

Flow at Rated Pressure:
1,0 l/min

Motor Size:
1,25 kW

Maximum Operating Pressure:
700 bar

3/8"-18 NPTF Advance and Retract Ports

- ① User adjustable relief valve
- ② Oil fill port SAE #10 7/8"-14 UNF-2B
- ③ Oil level sight gauge
- ④ Oil drain 1/2" NPTF
- ⑤ M8, 6 mm deep
- ⑥ Handles on all 19,8 and 39 litres reservoirs.

Options

- ⑦ Back-lit LCD Electric
- ⑧ Pressure transducer
- ⑨ Heat Exchanger
- ⑩ Skid Bar. Fits 4,6 and 6,8 litres reservoirs
- ⑪ Handle guard installed on all 19,8 and 39 litres reservoirs
- ⑫ Reservoir handles (not shown) included on all 19,8 and 39 litres reservoirs

Pump Dimensions (mm)						
Reservoir Capacity (litres)	A	B	C	D	E	F
4,6	424	142	279	152	-	-
6,8	424	142	279	206	-	-
19,8	465	180	413	422	500	396
39	551	269	399	503	576	480

ZU4-Series, Ordering Guide

ENERPAC 

▼ STEP 1: Select a pump from the Pump Ordering Matrix

The functionality of the pump can be determined by the model number. Utilize the guide below to select the best pump for the application from the pump ordering matrix.

Z	U	4	4	08	J	E	-	H	R
1	2	3	4	5	6	7		8	
Product Type	Motor Type	Flow Group	Valve Type	Reservoir Capacity	Valve Operation	Voltage		Factory Installed Accessories	

1 Product Type

Z = Pump Series

2 Motor Type

U = Universal electric motor

3 Flow Group

4 = 1,0 l/min @ 700 bar

4 Valve Type

- 1** = Dump (VE32D)
- 2** = 3 way/2 position manual or electric (VM32 or VE32)
- 3** = 3 way/3 position manual or electric (VM33 or VE33)
- 4** = 4 way/3 position manual or electric (VM43 or VE43)
- 6** = 3 way/3 position locking manual with pilot operated check valve (VM33L)
- 7** = 3 way/2 position manual (VM22)
- 8** = 4 way/3 position locking manual with pilot operated check valve (VM43L)
- 9** = 4 way/3 position manual w/power seating (VM43LPS)
- 10** = 3 way/3 position manual Venturi valve (VM33VAC)
- 11** = 3 way/3 position electric Venturi valve (VE33VAC)

5 Reservoir Capacity

- 04** = 4,6 litres
- 08** = 6,8 litres
- 20** = 19,8 litres
- 40** = 39,0 litres

6 Valve Operation

- D** = Dump solenoid valve with pendant and LCD Electric
- J** = Jog manual valve with pendant (without LCD)
- L** = Manual valve with LCD Electric (without pendant)
- M** = Manual valve (without pendant and LCD)
- P** = Manual valve with pendant (without LCD)
- S** = Solenoid valve with pendant and LCD Electric

7 Voltage

- B** = 115V, 1 ph, 50/60Hz
- E** = 208-240V, 1 ph, 50/60 Hz (with European plug and CE EMC compliant)
- I** = 208-240V, 1 ph, 50/60 Hz (with NEMA 6-15 plug)

▼ STEP 2: Factory Installed Accessories

Select factory installed accessories and add to the pump model number after the hyphen. The example above shows that a **Heat Exchanger (H)** and **Roll Cage (R)** have been added to the pump.

8 Factory installed accessories include the following:

- | | |
|---|--|
| F = Return Line Filter | N = Lifting Eyes (no reservoir handles) |
| G = Pressure Gauge ¹⁾ | R = Roll Cage |
| H = Heat Exchanger | T = Pressure Transducer |
| K = Skid Bar | U = Foot Switch |
| L = Level/Temperature Switch ²⁾ | |

^{1) + 2)} See the notes about Pressure Gauge and Level/Temperature Switch in right column.



Two Speed Pumps

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



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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Assisted Return Pumps with Venturi Valve Technology

To improve productivity and plunger retraction, Enerpac offers valve configurations designed to accelerate your cylinder retraction speeds. ZU4 and ZE-Series pumps feature **Venturi Valve Technology** to facilitate the faster return of single-acting gravity and spring return cylinders. See valve type in ordering matrix and details in section Directional Control Valves.

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Spring Centred Valve Kits

VM and VC-Series manual 3-position valves can be easily converted into spring centred valves. With these retro-fit kits the handle will automatically move into the neutral valve position when released.

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Pressure Gauge, Level/Temperature Switch

¹⁾ Pressure Gauge (G) not available on pump models with pressure transducer (T). The pressure transducer provides digital pressure read-out on LCD-display.

²⁾ Level/Temperature Switch (L) requires electric package. Not available on reservoirs 04 and 08.

ZU4-Series, Pump Ordering Matrix

▼ ZU-PRO SERIES PUMP MODELS WITH SOLENOID VALVE, PENDANT AND LCD ELECTRIC

	S/A or D/A ¹⁾	Hold 	Valve Type ²⁾	Reservoir Capacity (litres)	 (kg)	Model Number 230 VAC, 1 phase, 50/60 Hz ³⁾
With Dump Valve - Ideal for punching, crimping and cutting - For use when load-holding is not required.	S/A		VE32D	4,6	29	ZU4104DE (B, I)
	S/A		VE32D	6,8	31	ZU4108DE (B, I)
	S/A		VE32D	19,8	51	ZU4120DE (B, I)
	—	—	—	—	—	—
	—	—	—	—	—	—
With Solenoid Valves - Ideal for lifting applications and where remote control is required - Motor runs continuously on pumps with VE33 and VE43 valves. - With VE32 valve, motor only runs during the advance function, while holding and retracting, the motor is off - Venturi Valve technology (VE33VAC) for faster retract of single-acting cylinders.	S/A	●	VE32	4,6	29	ZU4204SE (B, I)
	S/A	●	VE32	6,8	31	ZU4208SE (B, I)
	S/A	●	VE32	19,8	51	ZU4220SE (B, I)
	S/A	●	VE33	6,8	37	ZU4308SE (B, I)
	S/A	●	VE33	19,8	57	ZU4320SE (B, I)
	S/A	●	VE33	39,0	79	ZU4340SE (B, I)
	S/A	●	VE33VAC	6,8	34	ZU41108SE (B)
	S/A	●	VE33VAC	19,8	53	ZU41120SE (B)
	S/A	●	VE33VAC	39,0	76	ZU41140SE (B)
	D/A	●	VE43	6,8	37	ZU4408SE (B, I)
	D/A	●	VE43	19,8	56	ZU4420SE (B, I)
	D/A	●	VE43	39,0	79	ZU4440SE (B, I)

ZU4-Series



Reservoir Capacity:
4,6 - 39 litres

Flow at Rated Pressure:
1,0 l/min

Motor Size:
1,25 kW

Maximum Operating Pressure:
700 bar

▼ ZU-SERIES PUMP MODELS WITH MANUAL VALVES

	S/A or D/A ¹⁾	Hold 	Valve Type ²⁾	Reservoir Capacity (litres)	 (kg) ⁵⁾	Model Number 230 VAC, 1 phase, 50/60 Hz ³⁾		
						Manual Only	Standard Electric with Pendant	Classic Electric with Pendant ⁴⁾
With Manual Valves - Ideal choice for most applications - Manual valve control, for single-acting or double-acting applications - Motor control on shroud - Venturi Valve technology (VM33VAC) for faster retract of single acting cylinders - Pendant models ideal for light production and lifting applications - Locking valves provide hydraulic locking of cylinder until valve is shifted into retract position.	S/A		VM22	4,6	27	ZU4704ME (B, I)	—	ZU4704PE (B, I)
	S/A		VM22	6,8	29	ZU4708ME (B, I)	—	ZU4708PE (B, I)
	S/A		VM22	19,8	49	ZU4720ME (B, I)	—	ZU4720PE (B, I)
	S/A		VM32	4,6	25	ZU4204ME (B, I)	ZU4204JE (B, I)	—
	S/A		VM32	6,8	28	ZU4208ME (B, I)	ZU4208JE (B, I)	—
	S/A		VM32	19,8	47	ZU4220ME (B, I)	ZU4220JE (B, I)	—
	S/A		VM32	39,0	70	ZU4240ME (B, I)	ZU4240JE (B, I)	—
	S/A	●	VM33	4,6	25	ZU4304ME (B, I)	—	—
	S/A	●	VM33	6,8	28	ZU4308ME (B, I)	ZU4308JE (B, I)	ZU4308PE (B)
	S/A	●	VM33	19,8	48	ZU4320ME (B, I)	ZU4320JE (B, I)	ZU4320PE (B)
	S/A	●	VM33	39,0	71	ZU4340ME (B, I)	ZU4340JE (B, I)	ZU4340PE (B)
	S/A	●	VM33VAC	6,8	29	ZU41008ME (B)	ZU41008JE (B)	—
	S/A	●	VM33VAC	19,8	48	ZU41020ME (B)	ZU41020JE (B)	—
	S/A	●	VM33L	6,8	30	ZU4608ME (B)	ZU4608JE (B)	—
	S/A	●	VM33L	19,8	49	ZU4620ME (B)	ZU4620JE (B)	—
	D/A	●	VM43	6,8	29	ZU4408ME (B, I)	ZU4408JE (B, I)	ZU4408PE (B)
	D/A	●	VM43	19,8	48	ZU4420ME (B, I)	ZU4420JE (B, I)	ZU4420PE (B)
	D/A	●	VM43	39,0	71	ZU4440ME (B, I)	ZU4440JE (B, I)	ZU4440PE (B)
	D/A	●	VM43L	4,6	30	ZU4808ME (B)	ZU4808JE (B)	—
	D/A	●	VM43L	19,8	50	ZU4820ME (B)	ZU4820JE (B)	—

¹⁾ S/A or D/A = For use with Single-Acting or Double-Acting cylinders and tools. ²⁾ Additional details can be found in the Directional Control Valve section

³⁾ "B" indicates pump is available in 115V, 1-phase, 50/60 Hz. Model number order example: **ZU4208MB**.

"I" indicates pump is available in 208-240V, 1-phase, 50/60 Hz with NEMA 6-15 plug. Model number order example: **ZU4208MI**.

⁴⁾ Classic Electric Pump has traditional electro-mechanical components (transformers, relays, switches) in place of solid-state electronics.

⁵⁾ Weights given for pump with manual valve. For Standard Electric with pendant add 0,5 kg and Classic Electric with pendant add 1,5 kg.

NOTE: Valve operation "L" available on pumps with manual valve. Substitute "M" for "L" valve operation. Example: **ZU4608LE**.

ZU4-Series, Accessories

ENERPAC 



Roll Cage (R)

- Protects and stabilizes the pump.

Popular Pump Models with Factory Installed Roll Cage	
ZU4108DE-R (B, I)	ZU4308ME-R (B, I)
ZU4208JE-R (B, I)	ZU4320ME-R (B, I)
ZU4220JE-R (B, I)	ZU4408ME-R (B, I)
ZU4208SE-R (B, I)	ZU4420ME-R (B, I)
ZU4308JE-R (B, I)	ZU4408JE-R (B, I)
ZU4320JE-R (B, I)	ZU4420JE-R (B, I)
ZU4308SE-R (B, I)	ZU4408SE-R (B, I)
ZU4320SE-R (B, I)	ZU4420SE-R (B, I)

Accessory Kit Model Nr.	Fits on Reservoir
	
ZRC-04	4,6 and 6,8 litres ¹⁾
ZRC-04H	4,6 and 6,8 litres ²⁾
ZRB-20	19,8 litres
ZRB-40	39 litres

¹⁾ Without heat exchanger

²⁾ With heat exchanger

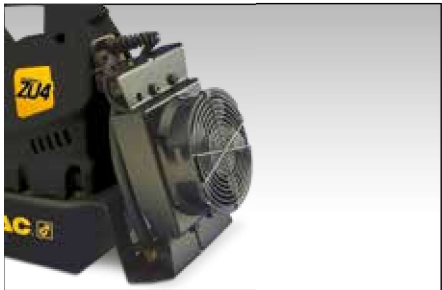


Foot Switch (U)

- 3 metres cord, hands-free control.

Popular Pump Models with Factory Installed Foot Switch	
ZU4108DE-U (B, I)	
ZU4208SE-U (B, I)	
ZU4220SE-U (B, I)	
ZU4320SE-U (B, I)	
ZU4408SE-U (B, I)	
ZU4420SE-U (B, I)	

Accessory Kit Model Nr.	Can be used on ZU4 Pumps with solenoid dump and 3-position valves, LCD electric
	
ZCF-2	Solenoid VE-Series valves



Heat Exchanger (H)

- Removes heat from bypass oil
- Increases oil life, reduces wear on hydraulic components.

Popular Pump Models with Factory Installed Heat Exchanger	
ZU4108DE-H (B, I)	
ZU4208SE-H (B, I)	
ZU4308SE-H (B, I)	
ZU4408SE-H (B, I)	
ZU4420SE-H (B, I)	

Accessory Kit Model Nr.	Can be used on
	
ZHE-U115	115 V pumps
ZHE-U230	230V pumps



Pressure Transducer (T)

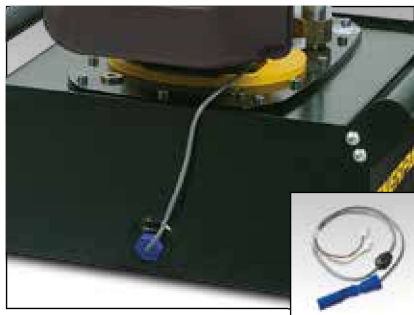
- More durable than analog gauges
- Displays psi, bar or Mpa
- Motor shutoff or shift to neutral at set pressure.

Popular Pump Models with Factory Installed Pressure Transducer, Requires LCD Electric Pump	
ZU4108DE-T (B, I)	
ZU4208SE-T (B, I)	
ZU4308SE-T (B, I)	
ZU4408SE-T (B, I)	
ZU4420SE-T (B, I)	

Accessory Kit Model Nr.	Adjustable Pressure Range	Switch-Point Repeatability	Dead-band
	(bar)	(%)	(bar)
ZPT-U4	3,5 - 700	± 0,5	3,5

Note: The pressure transducer provides digital pressure read-out on LCD-display.

ZU4-Series, Accessories



Level/Temperature Switch (L) ¹⁾

- Shuts off pump when high operating temperature or low oil is reached
- Plugs directly into pump electrical enclosure
- Easy installation to pump reservoir
- Requires LCD electric.



Return Line Filter (F)

- 25 micron filter removes contaminants from return oil flow
- Internal by-pass valve prevents damage if filter is dirty
- With maintenance indicator
- Replaceable filter element PF25.

ZU4 Series



Reservoir Capacity:

4,6 - 39 litres

Flow at Rated Pressure:

1,0 l/min

Motor Size:

1,25 kW

Maximum Operating Pressure:

700 bar

Accessory Kit Model Nr.	Operating Temperature (°C)	Maximum Pressure (bar)	 (kg)
ZLS-U4	5 - 110	10	0,1

¹⁾ Level/Temperature switch (L) not available on 4,6 or 6,8 litres reservoir.

Accessory Kit Model Nr.	Max. Pressure (bar)	Max. Oil Flow (l/min)	By-Pass Setting (bar)
ZPF	14	45	1,7



Heat Exchanger

Stabilizes oil temperature at a maximum of 54 °C at 21 °C ambient temperature.

Do not exceed maximum oil flow and pressure ratings. Heat exchanger is not suitable for water-glycol or water based fluids.

Thermal Transfer *	Maximum Pressure (bar)	Maximum Oil Flow (l/min)	Voltage (VDC)
(Btu/h)			
900	20,7	26,5	12

* At 1,9 l/min at 21 °C ambient temperature.



Skidbar (K)

- Provides easy two-hand lift
- Provides greater pump stability on soft or uneven surfaces
- Cannot be used in combination with roll cage.



Pressure Gauge (G)

- Minimize risk of overloading to ensure long life of equipment
- ø 63 mm face diameter, glycerin filled
- Dual scale in bar and psi.



Hoses

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

Accessory Kit Model Nr.	Fits on Reservoir	 (kg)
SBZ-4	4,6 and 6,8 litres ²⁾	2,2
SBZ-4L	4,6 and 6,8 litres ³⁾	3,2

²⁾ Without heat exchanger

³⁾ With heat exchanger

Accessory Kit Model Nr.	Description
G2536L	0 - 1000 bar, 0 - 15.000 psi

Note: Pressure Gauge not available on pump models with pressure transducer. The pressure transducer provides digital pressure read-out on LCD-display.

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ZE-Series, Electric Pumps

ENERPAC®

▼ Shown from left to right: ZE3304ME-K, ZE4110DE-FHR



- High-efficiency pump design – higher oil flow and by-pass pressure
- High-strength, moulded electrical box protects electronics, power supplies and LCD readout and stands up to harsh industrial environments
- IP54 protection and isolation class
- Back-lit LCD provides self test, diagnostic and read-out capabilities never before offered on an industrial pump (included on pump with electric valves, optional on other models)
- Totally enclosed, fan-cooled industrial electric motors for extended life
- User adjustable relief valve built-in on manual and solenoid valves. Oil ports on valves are 3/8" NPTF
- Steel fan guard on all electric motors
- Full sight oil level glass on 9,8, 19,8 and 39 litres reservoirs, oil level indicators on 4,6 and 6,8 litres reservoirs.
- 40 micron filter breather with splash guard
- Durable steel reservoirs.



◀ Rail wheel pulling using RACH aluminium cylinder powered by ZE-Series pump.

ZE Series

Reservoir Capacity:

4,6 - 39 litres

Flow at Rated Pressure:

0,55 - 2,73 l/min

Motor Size:

0,75 - 5,60 kW

Maximum Operating Pressure:

700 bar

Z Tough
Dependable
Innovative
CLASS



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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Locking Valves

For applications requiring positive load holding, VM-Series valves (except VM32) are available with a pilot-operated check valve

VM33L and VM43L. This provides hydraulic locking of the load until the valve is shifted into the retract position.



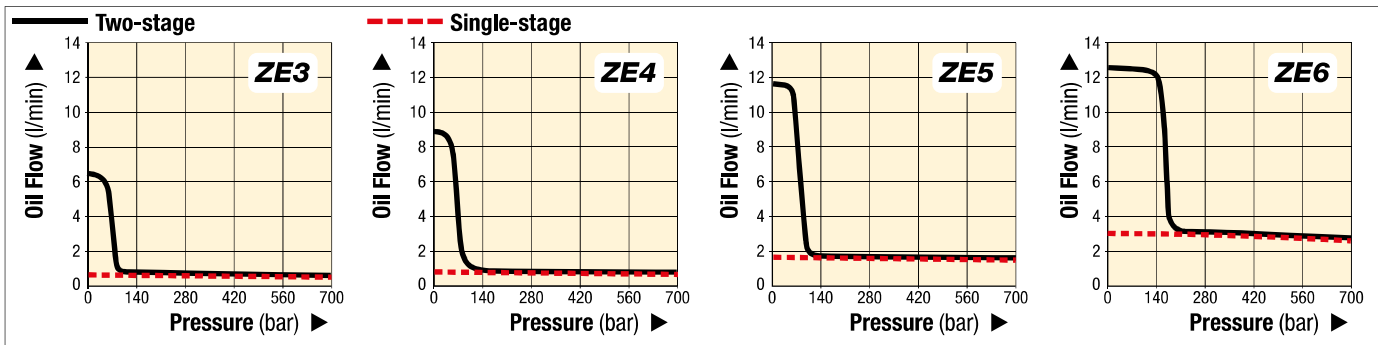
Assisted Return Pumps

To improve productivity and plunger retraction, Enerpac offers valve configurations designed to accelerate your cylinder retraction

speeds, ZU4 and ZE-Series pumps feature **Venturi Valve Technology** to facilitate the faster return of single-acting gravity and spring return cylinders. See valve type in ordering matrix and details in section Directional Control Valves.

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ZE-Series, Specifications & Dimensions



▼ ZE-SERIES PERFORMANCE CHART

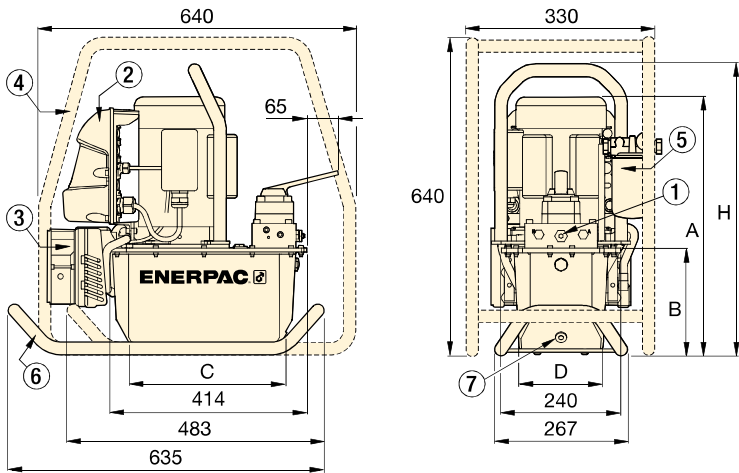
Pump Series	Output Flow Rate at 50 Hz * (l/min)				Pump Unit	Available Reservoir Sizes (litres)	Motor Size (kW)	Relief Valve Adjustment Range (bar)	Sound Level (dBA)
	low pressure at 7 bar	at 50 bar	high pressure at 350 bar	at 700 bar					
ZE3	0,59	0,59	0,57	0,55	Single-stage	4,6 - 6,8 - 9,8	0,75	70-700	75
	6,15	5,26	0,57	0,55	Two-stage	19,8 - 39			
ZE4	0,87	0,87	0,84	0,82	Single-stage	4,6 - 6,8 - 9,8	1,12	70-700	75
	8,88	8,20	0,84	0,82	Two-stage	19,8 - 39			
ZE5	1,75	1,72	1,68	1,64	Single-stage	9,8 - 19,8 - 39	2,24	70-700	75
	11,61	11,27	1,68	1,64	Two-stage	9,8 - 19,8 - 39			
ZE6	3,00	2,94	2,86	2,73	Single-stage	9,8 - 19,8 - 39	5,60	70-700	80
	12,29	12,15	2,86	2,73	Two-stage	9,8 - 19,8 - 39			

* Oil flow will be approximately 6/5 of these values at 60 Hz.

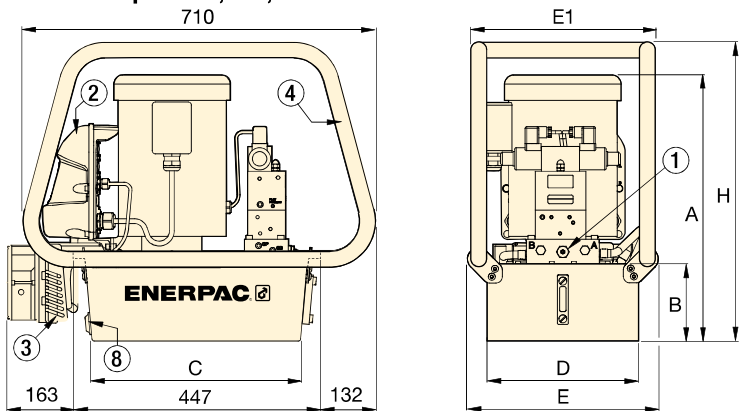


Single or Two-Stage

Choose single-stage pumps for applications that require constant flow regardless of pressure such as testing or clamping. Two-stage pumps have an increased output flow at low pressure to allow fast movement towards the load, for reduced cycle times and increased productivity.



ZE-Series Pumps with 4,6 - 6,8 litres reservoir



ZE-Series Pumps with 9,8 - 19,8 - 39 litres reservoir

- ① User adjustable relief valve on all manual and solenoid valves. 3/8" NPTF on A and B ports; 1/4" NPTF on auxiliary ports.
- ② Electric Box
- ③ Heat Exchanger
- ④ Roll Cage
- ⑤ Return Line Filter
- ⑥ Skid Bar
- ⑦ Magnetic Oil Drain
- ⑧ Oil Drain / Oil Level & Temperature Switch

Reservoir Size (litres)	ZE-Series Pump Dimensions (mm)						
	A	B	C	D	E	E1	H
4,6	457	143	279	152	—	—	513
6,8	457	143	279	206	—	—	513
9,8	533	158	419	305	384	371	600
19,8	558	180	419	422	501	488	625
39	648	270	399	505	576	572	715

ZE-Series, Pump Ordering Guide



▼ STEP 1: Select a pump from the Pump Ordering Matrix

The functionality of the pump can be determined by the model number. Utilize the guide below to select the best pump for the application from the pump ordering matrix..

Z	E	4	4	20	M	E	-	F	H
1	2	3	4	5	6	7	8		
Product Type	Motor Type	Flow Group	Valve Type	Reservoir Capacity	Valve Operation	Voltage	Factory Installed Accessories		

1 Product Type

Z = Pump Class

2 Prime Mover

E = Induction electric motor

3 Flow Group

- 3 = 0,55 l/min @ 700 bar
- 4 = 0,82 l/min @ 700 bar
- 5 ¹⁾ = 1,64 l/min @ 700 bar
- 6 ¹⁾ = 2,73 l/min @ 700 bar

4 Valve Type

- 0 = No valve, with cover plate
- 1 = 3/2 Dump valve **VE32D**
- 2 = 3/2 manual **VM32**
- 3 = 3/3 manual **VM33** or electric **VE33**
- 4 = 4/3 manual **VM43** or electric **VE43**
- 6 = 3/3 manual locking valve **VM33L** with pilot operated check
- 8 = 4/3 manual locking valve **VM43L** with pilot operated check
- 10 ⁶⁾ = 3 way/3 position manual **Venturi valve VM33VAC**
- 11 ⁶⁾ = 3 way/3 position electric **Venturi valve VE33VAC**

5 Reservoir Capacity

- 04 = 4,6 litres (not available on ZE5, ZE6)
- 08 = 6,8 litres (not available on ZE5, ZE6)
- 10 = 9,8 litres
- 20 = 19,8 litres
- 40 = 39,0 litres

6 Valve Operation

- D = Dump solenoid valve with pendant and LCD
- L = Manual valve with LCD Electric (without pendant)
- M = Manual valve, without pendant or LCD
- N = No valve, no electric box
- S = Solenoid valve, with pendant and LCD

7 Motor Voltage

Single phase motor (not on ZE5, ZE6)

- B ¹⁾ = 115V, 1 ph, 50-60 Hz
- E = 208-240V, 1 ph, 50-60 Hz with European SCHUKO Plug
- I = 208-240V, 1 ph, 50-60 Hz with USA Nema 6-15 plug

Three phase motor ³⁾

- G = 208-240V, 3 ph, 50-60 Hz
- J = 460-480V, 3 ph, 50-60 Hz
- W = 380-415V, 3 ph, 50-60 Hz

▼ STEP 2: Factory Installed Accessories

Select factory installed accessories and add to the pump model number after the hyphen. The example above shows that a **Return Line Filter (F)** and **Heat Exchanger (H)** have been added to the pump.

8 Factory installed accessories include the following:

- | | |
|--|--|
| F = Return Line Filter | P = Pressure Switch ²⁾ |
| G = Pressure Gauge ⁴⁾ | R = Roll Cage |
| H = Heat exchanger ²⁾ | S = Single stage pump unit ⁵⁾ |
| K = Skid Bar | T = Pressure transducer ^{2) 4)} |
| L = Level/Temperature switch ²⁾ | U = Foot switch ²⁾ |
| N = Lifting Eyes (no reservoir handles) | |

¹⁾ 115-volt pumps are supplied with 15-Amp plug for intermittent use. 20-Amp circuit recommended for frequent full pressure use.
²⁾ These accessories (H, L, P and T) require LCD electrical package. Level/Temperature switch (L) not available on 4,6 or 6,8 litres reservoir. Pressure switch option (P) only available on manual valves without locking valve. The LCD electrical package can accept either a pressure switch or pressure transducer, but not both.
³⁾ Pump with 3-ph motors without Electric Box shipped without cord, motor starter or overload protection.
⁴⁾ Pressure gauge (G) not available on pump models with pressure transducer. Pressure transducer provides digital pressure readout on LCD display.
⁵⁾ Not available on pumps with Venturi Valve Type 10 or 11.
⁶⁾ Not available on ZE3-Series pumps.

▼ ZE-SERIES PUMP MODELS

No Valve, with coverplate, no electric box	
Manual Valve without electric box or LCD • Ideal choice for most applications • Manual valve control, for both single-acting or double-acting applications • Venturi Valve Technology (VM33VAC) for faster retract of single-acting cylinders • Manual motor control • On/off switch on 1-phase electric motor.	
Solenoid Dump Valve, electric box and LCD • Ideal for punching, crimping and cutting • For use when load holding is not required • Push-button control pendant with 3 m. cord controls the valve and motor.	
Solenoid 3-position Valve with Electric Box • Ideal for production and lifting applications • All valves are 3-position for Advance-Hold-Retract • Venturi Valve Technology (VM33VAC) for faster retract of single-acting cylinders • Push-button control pendant with 3 m. cord controls the valve and motor.	

ZE-Series, Pump Ordering Matrix

S/A or D/A ¹⁾	Hold 	Valve Type ²⁾	Reservoir Capacity (litres)	ZE3-Series (0,75 kW) Output Flow Rate at 700 bar: 0,55 l/min		ZE4-Series (1,12 kW) Output Flow Rate at 700 bar: 0,82 l/min		ZE5-Series (2,24 kW) Output Flow Rate at 700 bar: 1,64 l/min		ZE6-Series (5,60 kW) Output Flow Rate at 700 bar: 2,73 l/min	
				Model Number ³⁾ E = 230 V, 1 ph	 (kg)	Model Number ³⁾ E = 230 V, 1 ph	 (kg)	Model Number ³⁾ W = 400 V, 3 ph	 (kg)	Model Number ³⁾ W = 400 V, 3 ph	 (kg)
		—	6,8	ZE3008NE (B, I, J, G, W)	45	ZE4008NE (B, I, J, G, W)	43	—	—	—	—
		—	9,8	ZE3010NE (B, I, J, G, W)	45	ZE4010NE (B, I, J, G, W)	49	ZE5010NW (J, G)	54	ZE6010NW (J, G)	72
		—	19,8	ZE3020NE (B, I, J, G, W)	57	ZE4020NE (B, I, J, G, W)	61	ZE5020NW (J, G)	66	ZE6020NW (J, G)	84
		—	39,0	ZE3040NE (B, I, J, G, W)	80	ZE4040NE (B, I, J, G, W)	84	ZE5040NW (J, G)	89	ZE6040NW (J, G)	107
S/A	—	VM22	19,8	—	—	ZE4720ME (B, W)	65	—	—	—	—
S/A	—	VM32	4,6	ZE3204ME (B)	39	—	—	—	—	—	—
S/A	—	VM32	6,8	ZE3208ME (B, I, J, G, W)	41	ZE4208ME (B, I, J, G, W)	45	—	—	—	—
S/A	—	VM32	9,8	ZE3210ME (B, I, J, G, W)	47	ZE4210ME (B, I, J, G, W)	51	ZE5210MW (J, G)	56	ZE6210MW (J, G)	74
S/A	—	VM32	19,8	ZE3220ME (B, I, J, G, W)	59	ZE4220ME (B, I, J, G, W)	64	ZE5220MW (J, G)	68	ZE6220MW (J, G)	86
S/A	●	VM33	4,6	ZE3304ME (B)	39	—	—	—	—	—	—
S/A	●	VM33	6,8	ZE3308ME (B, I, J, G, W)	42	ZE4308ME (B, I, J, G, W)	46	—	—	—	—
S/A	●	VM33	9,8	ZE3310ME (B, I, J, G, W)	48	ZE4310ME (B, I, J, G, W)	52	ZE5310MW (J, G)	57	ZE6310MW (J, G)	75
S/A	●	VM33	19,8	ZE3320ME (B, I, J, G, W)	60	ZE4320ME (B, I, J, G, W)	64	ZE5320MW (J, G)	69	ZE6320MW (J, G)	87
S/A	●	VM33	39,0	ZE3340ME (B, I, J, G, W)	83	ZE4340ME (B, I, J, G, W)	87	ZE5340MW (J, G)	92	ZE6340MW (J, G)	110
S/A	●	VM33VAC	6,8	—	—	ZE41008ME (B, I, J, G, W)	46	—	—	—	—
S/A	●	VM33VAC	19,8	—	—	ZE41020ME (B, I, J, G, W)	64	ZE51020MW (J, G)	69	ZE61020MW (J, G)	87
S/A	●	VM33VAC	39,0	—	—	—	—	ZE51040MW (J, G)	92	ZE61040MW (J, G)	110
S/A	●	VM33L	6,8	ZE3608ME (B, I, J, G, W)	42	—	—	—	—	—	—
S/A	●	VM33L	19,8	ZE3620ME (B, I, J, G, W)	62	ZE4620ME (B, I, J, G, W)	66	—	—	—	—
S/A	●	VM33L	39,0	ZE3640ME (B, I, J, G, W)	85	ZE4640ME (B, I, J, G, W)	89	—	—	—	—
D/A	●	VM43	4,6	ZE3404ME (B)	39	—	—	—	—	—	—
D/A	●	VM43	6,8	ZE3408ME (B, I, J, G, W)	42	ZE4408ME (B, I, J, G, W)	46	—	—	—	—
D/A	●	VM43	9,8	ZE3410ME (B, I, J, G, W)	48	ZE4410ME (B, I, J, G, W)	52	ZE5410MW (J, G)	57	ZE6410MW (J, G)	74
D/A	●	VM43	19,8	ZE3420ME (B, I, J, G, W)	60	ZE4420ME (B, I, J, G, W)	64	ZE5420MW (J, G)	69	ZE6420MW (J, G)	87
D/A	●	VM43	39,0	ZE3440ME (B, I, J, G, W)	83	ZE4440ME (B, I, J, G, W)	87	ZE5440MW (J, G)	92	ZE6440MW (J, G)	110
D/A	●	VM43L	6,8	ZE3808ME (B, I, J, G, W)	44	—	—	—	—	—	—
D/A	●	VM43L	19,8	ZE3820ME (B, I, J, G, W)	62	ZE4820ME (B, I, J, G, W)	66	ZE5820MW (J, G)	71	ZE6820MW (J, G)	—
D/A	●	VM43L	39,0	ZE3840ME (B, I, J, G, W)	85	ZE4840ME (B, I, J, G, W)	89	ZE5840MW (J, G)	94	ZE6840MW (J, G)	112
S/A	—	VE32D	4,6	ZE3104DE (B, I, J, G, W)	43	—	—	—	—	—	—
S/A	—	VE32D	6,8	ZE3108DE (B, I, J, G, W)	45	ZE4108DE (B, I, J, G, W)	49	—	—	—	—
S/A	—	VE32D	9,8	ZE3110DE (B, I, J, G, W)	52	ZE4110DE (B, I, J, G, W)	55	ZE5110DW (J, G)	62	ZE6110DW (J, G)	79
S/A	—	VE32D	19,8	ZE3120DE (B, I, J, G, W)	64	ZE4120DE (B, I, J, G, W)	68	ZE5120DW (J, G)	74	ZE6120DW (J, G)	92
S/A	—	VE32D	39,0	—	—	ZE4140DE (B, I, J, G, W)	91	ZE5140DW (J, G)	97	ZE6140DW (J, G)	114
S/A	●	VE33	4,6	ZE3304SE (B, I, J, G, W)	48	—	—	—	—	—	—
S/A	●	VE33	6,8	ZE3308SE (B, I, J, G, W)	51	ZE4308SE (B, I, J, G, W)	55	—	—	—	—
S/A	●	VE33	9,8	ZE3310SE (B, I, J, G, W)	57	ZE4310SE (B, I, J, G, W)	61	ZE5310SW (J, G)	67	ZE6310SW (J, G)	84
S/A	●	VE33	19,8	ZE3320SE (B, I, J, G, W)	69	ZE4320SE (B, I, J, G, W)	73	ZE5320SW (J, G)	79	ZE6320SW (J, G)	97
S/A	●	VE33	39,0	ZE3340SE (B, I, J, G, W)	92	ZE4340SE (B, I, J, G, W)	96	ZE5340SW (J, G)	102	ZE6340SW (J, G)	120
S/A	●	VE33VAC	6,8	—	—	ZE41108SE (B, I, J, G, W)	52	—	—	—	—
S/A	●	VE33VAC	19,8	—	—	ZE41120SE (B, I, J, G, W)	70	ZE51120SW (J, G)	76	ZE61120SW (J, G)	94
S/A	●	VE33VAC	39,0	—	—	—	—	ZE51140SW (J, G)	99	ZE61140SW (J, G)	117
D/A	●	VE43	4,6	ZE3404SE (B, I, J, G, W)	48	—	—	—	—	—	—
D/A	●	VE43	6,8	ZE3408SE (B, I, J, G, W)	51	ZE4408SE (B, I, J, G, W)	55	—	—	—	—
D/A	●	VE43	9,8	ZE3410SE (B, I, J, G, W)	57	ZE4410SE (B, I, J, G, W)	61	ZE5410SW (J, G)	67	ZE6410SW (J, G)	84
D/A	●	VE43	19,8	ZE3420SE (B, I, J, G, W)	69	ZE4420SE (B, I, J, G, W)	73	ZE5420SW (J, G)	79	ZE6420SW (J, G)	97
D/A	●	VE43	39,0	ZE3440SE (B, I, J, G, W)	92	ZE4440SE (B, I, J, G, W)	96	ZE5440SW (J, G)	102	ZE6440SW (J, G)	120

¹⁾ S/A or D/A = For use with Single-Acting or Double-Acting cylinders and tools.
 ²⁾ Additional details can be found in the Directional Control Valve section.
 ³⁾ "E" suffix model numbers shown are 230 VAC, 1-phase, 50/60 Hz. "W" suffix model numbers shown are 400 VAC, 3-phase, 50/60 Hz. Other voltages available as shown.

Replace "E" voltage suffix with selected voltage character. Model number order example: **ZE4108DB** is 115VAC, 1 phase, 50/60 Hz. See Ordering Guide page 106 for voltage descriptions.

NOTE: Voltage options **K** (440 VAC, 3-phase, 50/60 Hz) and **R** (575 VAC, 3-phase, 60 Hz) are available on select models. Contact your local representative for availability.

NOTE: Valve operation "L" available on pumps with manual valve. Substitute "M" for "L" valve operation. Example: **ZE3608LE**.

ZE-Series, Accessories

ENERPAC 



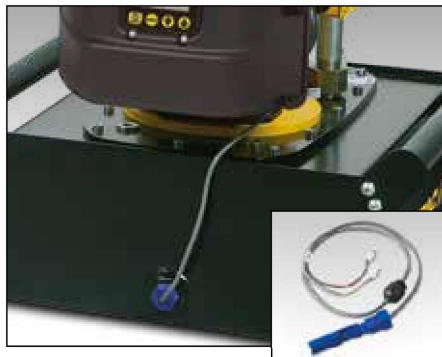
Electric Box ¹⁾

- Back-lit LCD
- Pump usage information, hour and cycle counts
- Low-voltage warning and recording
- Self-test and diagnostic capabilities
- Pressure read-out ²⁾
- Auto-mode pressure setting ²⁾
- Information can be displayed in six languages ³⁾

¹⁾ Included on pumps with solenoid valves.

²⁾ When used with optional pressure transducer.

³⁾ English, French, German, Italian, Spanish and Portuguese.



Level & Temperature Switch (L) ⁴⁾

- Shuts down pump before oil level reaches an unsafe level, avoiding damage due to cavitation
- Shuts down pump when unsafe oil temperature is reached
- Ideal if pump is used in remote area without visual access to oil level.

⁴⁾ 24 V, requires Electric Box. Available for 9,8; 19,8 and 39 litres reservoirs.



Return Line Filter (F)

- 25 micron nominal filter removes contaminants from return oil flow before allowing it back into tank
- Internal by-pass valve prevents damage if filter is dirty
- With maintenance indicator
- Replaceable filter element PF25.

Accessory Kit Modelnr.	Fixed Temperature Signal (°C)	Operating Temperature (°C)	Max. Pressure (bar)
ZLS-U4	80	5 - 110	10

Accessory Kit Modelnr.	Maximum Pressure (bar)	Maximum Oil Flow (l/min)	By-pass Setting (bar)
ZPF	13,8	45,4	1,7



Roll Cage (R)

- For easy portability and hoisting
- Protects pump and electric box
- Available for all reservoir sizes.



Skid Bar (K)

- Provides easy two-hand lift
- Provides greater pump stability on soft or uneven surfaces.



Foot Switch (U) ⁷⁾

- Hands-free remote control on solenoid dump and 3-position valves
- With 3 meters cord.

⁷⁾ 15 V, requires Electric Box.

Accessory Kit Nr.	Fits on reservoir size:	 (kg)
ZRC-04	4,6 and 6,8 litres ⁵⁾	5,5
ZRC-04H	4,6 and 6,8 litres ⁶⁾	6,5
ZRB-10	9,8 litres	6,0
ZRB-20	19,8 litres	6,0
ZRB-40	39 litres	6,0

⁵⁾ For pump without heat exchanger

⁶⁾ For pump with heat exchanger.

Accessory Kit Nr.	Fits on reservoir size:	 (kg)
SBZ-4	4,6 and 6,8 litres ⁵⁾	2,2
SBZ-4L	4,6 and 6,8 litres ⁶⁾	3,2

⁵⁾ For pump without heat exchanger

⁶⁾ For pump with heat exchanger.

Accessory Kit Nr.	Can be used on ZE-Series pumps with
ZCF-2	Solenoid VE-Series valves

ZE-Series, Accessories



Pressure Transducer (T) ¹⁾

- Displays pressure on LCD in bar, MPa or psi
- More accurate than analog gauge
- Calibration can be fine-tuned for certification
- Easy-viewing variable rate display
- “Set pressure” feature turns off motor at user defined pressure.

¹⁾ 24 V, requires Electric Box.



Pressure Switch (P) ²⁾

- Controls pump, monitors system
 - Adjustable pressure 35-700 bar
 - Includes glycerine filled 1000 bar pressure gauge G2536L
 - Accuracy $\pm 1,5\%$ of full scale.
- ²⁾ 24 V, requires Electric Box. Not available in combination with pressure transducer. Not available on LCD-electronics.

Accessory Kit Modelnr.	Adjustable Pressure Range (bar)	Switch-point repeatability	Dead-band (bar)
ZPT-U4	3,5 - 700	$\pm 0,5\%$	3,5

Accessory Kit Modelnr.	Switch-point repeatability	Deadband (bar)	Oil Ports (NPTF)
ZPS-E3	$\pm 2\%$	8 - 38	3/8"



Heat Exchanger (H) ³⁾

- Removes heat from by-pass oil to provide cooler operation
- Stabilizes oil viscosity, increasing oil life and reduces wear of pump and other hydraulic components.

³⁾ 24 VDC, requires electric box.

Accessory Kit Nr.	Fits on reservoir size:	Weight (kg)
ZHE-E04	4,6 and 6,8 litres	4,1
ZHE-E10	9,8; 19,8 and 39 litres	4,1



Pressure Gauge (G)

- Minimize risk of overloading to ensure long life of equipment
- $\varnothing$ 63 mm face diameter, glycerin filled
- Dual scale in bar and psi.

Note: Pressure Gauge not available on pump models with pressure transducer. The pressure transducer provides digital pressure read-out on LCD-display.

Accessory Kit Model Nr.	Description
G2536L	0 - 1000 bar, 0 - 15.000 psi

ZE Series



Reservoir Capacity:
4,6 - 39 litres

Flow at Rated Pressure:
0,55 - 2,73 l/min

Motor Size:
0,75 - 5,60 kW

Maximum Operating Pressure:
700 bar



ZPT-U4 Pressure Transducer

More durable against mechanical and hydraulic shock than analog gauges.

- Digital pressure read-out provides accuracy of 0,5% of full scale.
- Easy-viewing variable rate display automatically varies increments between 3, 14, 35 and 145 bar as rate of pressure change increases.
- “Set pressure” feature turns off motor at user defined pressure (or shifts valve to neutral on VE33 and VE43 valves).



ZHE-Series Heat Exchangers

Heat exchanger stabilizes oil temperature at 54 °C at 21 °C ambient temperature. Thermal transfer at 1,9 l/min and 21 °C ambient temperature: 900 Btu/hour [950 kJ].

Do not exceed max. oil flow of 26,5 l/min and max. pressure of 20,7 bar. Not suitable for water-glycol or high water based fluids.

PA-Series, Air Hydraulic Foot Pumps

ENERPAC®

Shown: PA1150, PA133



PA Series

Reservoir Capacity:
0,6 - 1,3 litres

Flow at Rated Pressure:
0,13 l/min

Air Consumption:
255 l/min

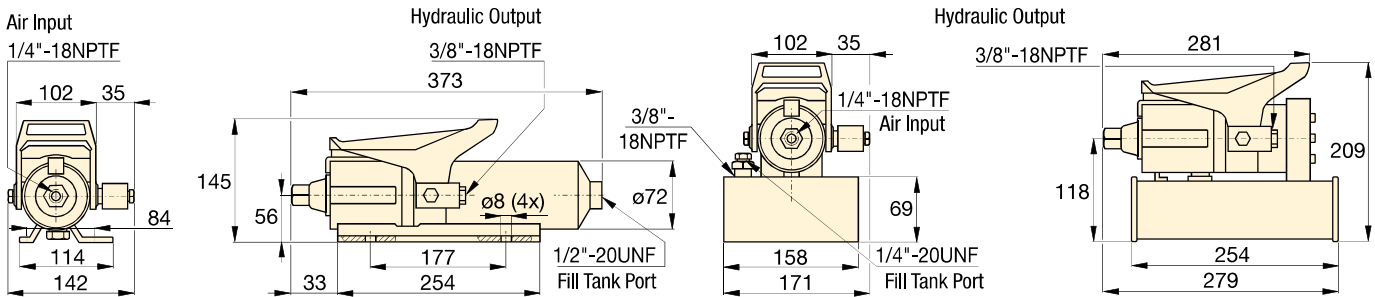
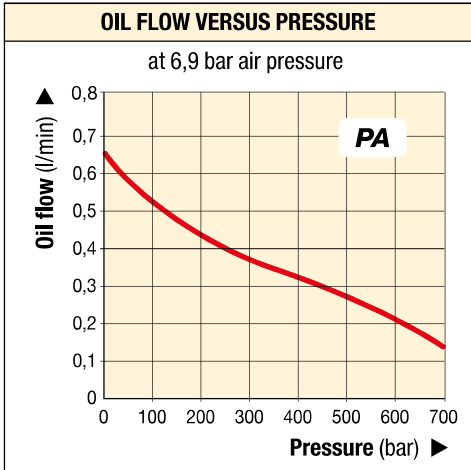
Maximum Operating Pressure:
700 bar



Reservoir Conversion Kit
Double the reservoir capacity of your existing PA133 with this easy to install conversion kit.

Model Number **PC66**

- Rugged construction – built for long life and easy service
- Swivel coupling simplifies hydraulic connection and pump operation
- Three-position treadle provides cylinder advance, hold or retract operation
- Operates in all positions for increased versatility in use and mounting (except PA1150)
- Base mounting slots provided on PA133.



Used with Cylinder	Usable Oil Capacity (cm³)	Model Number	Pressure Rating (bar)	Output Flow Rate (l/min)		Valve Function	Air Pressure Range * (bar)	Air Consumption (l/min)	Sound Level (dBA)	Weight (kg)
				No load	Load					
Single-Acting	589	PA133	700	0,65	0,13	Advance / Hold / Retract	4,1 - 8,3	255	85	5,4
	1311	PA1150	700	0,65	0,13	Advance / Hold / Retract	4,1 - 8,3	255	85	8,2

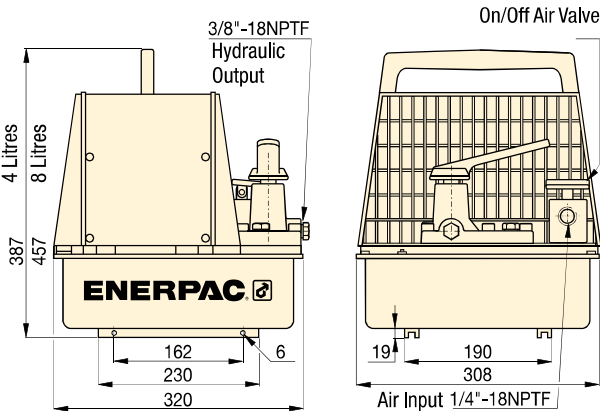
* Recommended Regulator-Filter-Lubricator: RFL102.

PAM-Series, Air Hydraulic Pumps

▼ Shown: **PAM1041**



- Twin air motor configuration delivers high-flow performance in first stage, up to 14 bar, for rapid cylinder advance
- 4 and 8 litres reservoirs for use with a wide range of cylinders
- Integral shroud protects air motors and provides easy portability.



PAM Series

Reservoir Capacity:
4,0 - 8,0 litres

Flow at Rated Pressure:
0,15 l/min

Air Consumption:
510 l/min

Maximum Operating Pressure:
700 bar



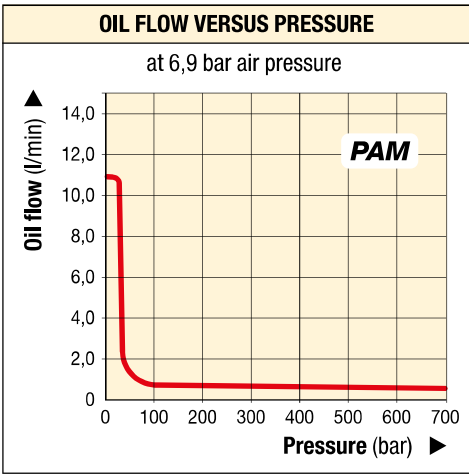
Locking Valves
Pumps with 4/3 manual valves are available with 4/3 manual locking valves instead. Add suffix "L" to pump model number.

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Remote Air Valve
For remote operation of PAM-Series air pumps. Permits either hand or foot operation.

Model Number **VA2**



Used with Cylinder	Usable Oil Cap. (litres)	Model Number with Shroud	Pressure Rating (bar)	Output Flow Rate (l/min)		Valve Function	Valve Type	Air Pressure Range * (bar)	Air Consumption (l/min)	Sound Level (dBA)	Weight (kg)
				1 st stage	2 nd stage						
Single-Acting	2,6	PAM1021	700	10,65	0,15	Advance / Hold / Retract	3/2	4,1 - 8,3	510	87	22,7
	7,6	PAM1022	700	10,65	0,15	Advance / Hold / Retract	3/2	4,1 - 8,3	510	87	27,2
Double-Acting	2,6	PAM1041	700	10,65	0,15	Advance / Hold / Retract	4/3	4,1 - 8,3	510	87	22,7
	7,6	PAM1042	700	10,65	0,15	Advance / Hold / Retract	4/3	4,1 - 8,3	510	87	27,2

* Recommended Regulator-Filter-Lubricator: **RFL102**.

ENERPAC 111

PA-Series, Turbo II Air Hydraulic Pumps

ENERPAC®

▼ Shown from top to bottom: PAMG1402N, PARG1102N, PATG1102N, PATG1105N

Compact Air Over Hydraulic



- External adjustable pressure relief valve (behind sight glass)
- Return-to-tank port for use in remote valve applications
- Internal pressure relief valve provides overload protection
- Quieter operation – reduced noise level to 76 dBA
- Operating air pressure: 2,8 - 8,8 bar, enables pump to start at extremely low pressure
- High efficiency cast aluminium air motor
- Reinforced heavy-duty lightweight reservoir for applications in tough environments
- Air pendant for remote control operation.



Regulator-Filter-Lubricator

Recommended for use with all Turbo air pumps. Provides clean, lubricated air and allows for air pressure adjustment. Steel bowl guards are standard.

Model Number

RFL102



Large Reservoir Models

The Turbo II Air Pump is also available with an enlarged reservoir: **PATG1105N**, **PAMG1405N** and **PARG1105N**.



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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▼ Easily operated by hand or by foot.



Used with Cylinder	Usable Oil Capacity (cm ³)	Model Number	
Single-Acting	2081	PATG1102N	
	3770	PATG1105N	
Single-Acting	2081	PARG1102N	
	3770	PARG1105N	
Double-Acting	2081	PAMG1402N	
	3770	PAMG1405N	

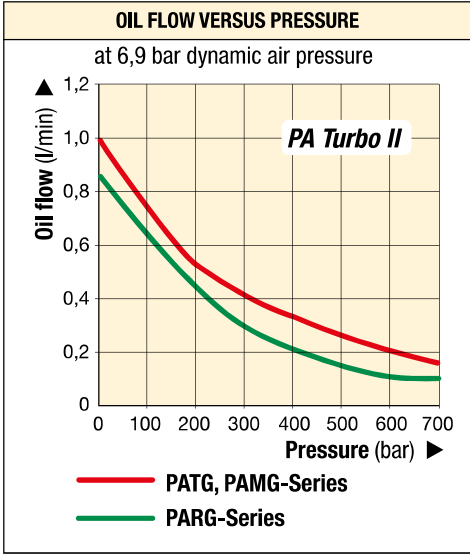
PA-Series, Turbo II Air Hydraulic Pumps



PATG-models use a foot or hand operated treadle to control air and valve functions.

PAMG-models use a treadle with a locking feature to control air, and a 4-way manual valve to control hydraulics.

PARG-models use air pendant for remote control.



**PATG
PAMG
PARG
Series**



Reservoir Capacity:
2,5 - 5,0 litres

Flow at Rated Pressure:
0,10 - 0,16 l/min

Air Consumption:
227 - 340 l/min

Maximum Operating Pressure:
700 bar

Maximum Pressure	Output Flow Rate (l/min)		Pump Series	Valve Function	Air Pressure Range	Air Consumption at 5,2 bar air (l/min)	Sound Level
(bar)	No Load	Load			(bar)		(dBA)
700	1,00	0,16	PATG	A / H / R *	2,8 - 8,8	340	76
700	0,76	0,10	PARG	A / H / R *	2,8 - 10,3	227	76
700	1,00	0,16	PAMG	A / H / R *	2,8 - 8,8	340	76

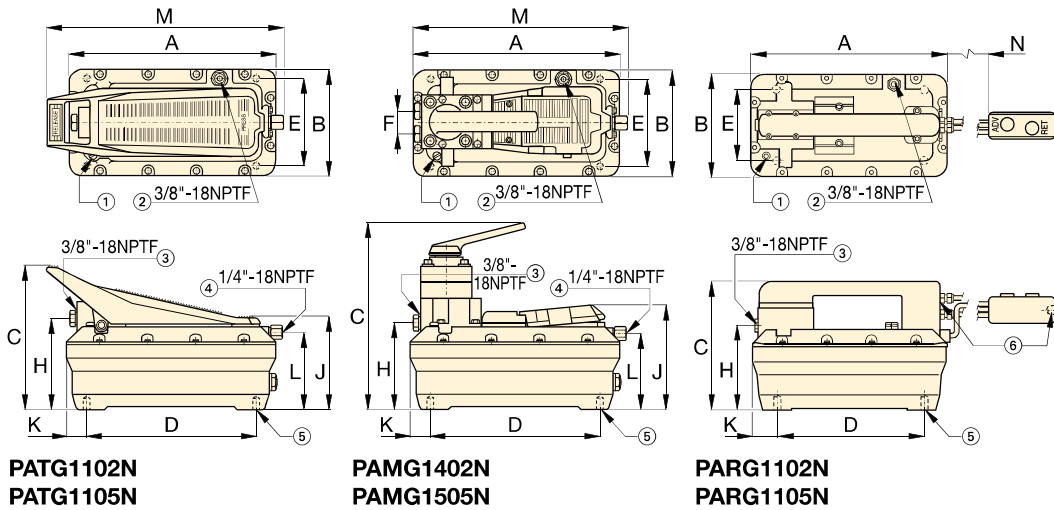
* Valve function: Advance / Hold / Retract.



Speed Chart

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

Page: 405



- 1 Filtered 'Permanent' Tank Vent
- 2 Return-to-Tank/Auxiliary Vent/Fill Tank Port
- 3 Hydraulic Output
- 4 Swivel Air Input with Filter
- 5 4 Mounting Holes for #10 thread forming screw. Max. depth into reservoir = 19 mm
- 6 Air Input with Filter on PARG models 1/4\"-18NPTF

Valve Operation	Turbo II Dimensions (mm)													Model Number
	A	B	C	D	E	F	H	J	K	L	M	N	(kg)	
Treadle 3/3	313	165	211	230	102	—	129	146	42	113	347	—	8,2	PATG1102N
	396	201	209	230	102	—	131	146	86	112	437	—	9,9	PATG1105N
Air Pendant 3/3	313	165	200	230	102	—	129	—	42	—	—	4500	10,0	PARG1102N
	396	201	209	230	102	—	131	—	86	—	—	4500	11,7	PARG1105N
Manual 4/3	313	165	267	230	102	36	130	152	42	113	315	—	11,0	PAMG1402N
	396	201	267	230	102	36	132	152	86	112	405	—	12,7	PAMG1405N

XA-Series, Air Driven Hydraulic Foot Pumps

ENERPAC 

▼ Shown: **XA11G**



- Ergonomic design for less operator fatigue
- Variable oil flow & fine metering for precise control
- Higher oil flow for increased productivity
- Closed hydraulic system prevents contamination and allows pump usage in any position
- Pedal lock function for retract position
- External adjustable pressure setting valve
- Ground screw for improved ATEX explosion safety.

 II 2 GD ck T4

▼ Easy operated by foot. No need to fully lift up foot – rest bodyweight on heel, resulting in a handsfree and stabile working position.



Productivity & Ergonomics



Optional Pressure Gauge

Integrated gauge with calibrated scale reading in bar, psi and MPa for actual pressure reading.



4/3 Control Valve

For powering double-acting hydraulic cylinders and tools.



2 Litres Reservoir

Double oil capacity for powering larger hydraulic cylinders and tools.



"Joy-stick" Lever Kit

Customer installed set of handles for manual operation of both pedals.

Model Number ¹⁾

XLK1



Swivel Connector

Customer installed swivel connector for optimal orientation of the hydraulic hose. See page 133 for details.

Model Number ¹⁾

XSC1

¹⁾ Accessories must be ordered separately.

Air Driven Hydraulic Foot Pumps



Production Application

XA11 pump is used with a 13 tons hollow cylinder to compress and position diesel engine valve springs.

The operator benefits from the fine metering capacities of this pump to apply the mandatory precise stroke and force.

XA Series



Reservoir Capacity:

1,0 - 2,0 litres

Flow at Rated Pressure:

0,25 l/min

Air Consumption:

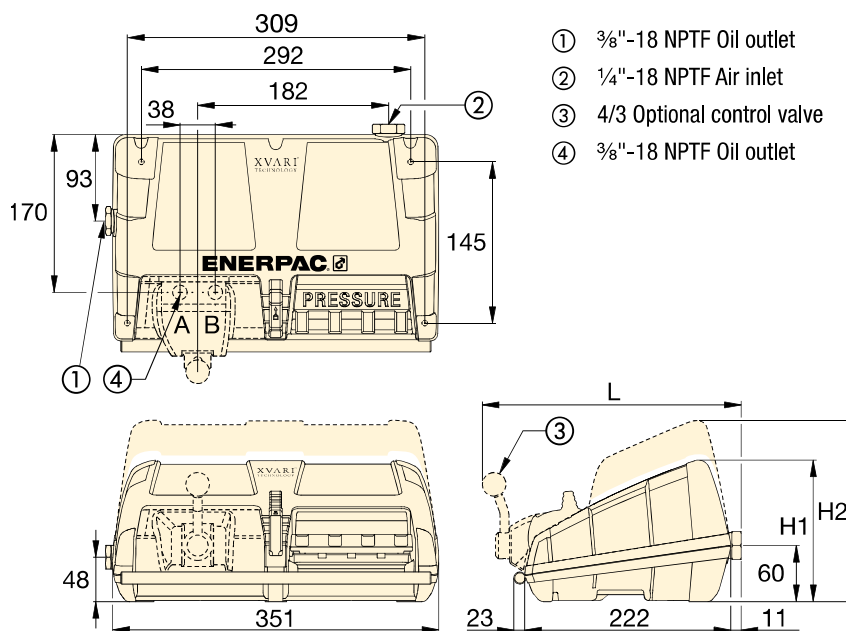
283 - 991 l/min

Maximum Operating Pressure:

700 bar

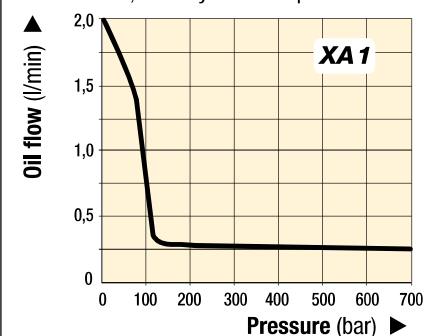
▼ XA-SERIES PERFORMANCE CHART

Maximum Pressure (bar)	Output Flow Rate (l/min)		Pump Series	Valve Function	Dynamic Air Pressure (bar)
	No load	Load			
700	2,0	0,25	XA1	Advance / Hold / Retract	2,1 - 8,6



OIL FLOW VERSUS PRESSURE

at 6,9 bar dynamic air pressure



Regulator-Filter-Lubricator

Recommended for use with all XA-Series Air pumps. Provides clean, lubricated air and allows for air pressure adjustment.

Model Number ¹⁾

RFL102

▼ SELECTION CHART

For use with cylinder or tool	Usable Oil Capacity (litres)	Model Number ¹⁾	Pressure Gauge	3-way 3-pos. Valve	4-way 3-pos. Valve	Dimensions (mm)			 (kg)
						H1	H2	L	
Single-acting	1,0	XA11 ²⁾	—	•	—	152	—	—	8,6
	2,0	XA12 ²⁾	—	•	—	—	170	—	10,2
Single-acting	1,0	XA11G	•	•	—	152	—	—	8,8
	2,0	XA12G	•	•	—	—	170	—	10,4
Double-acting	1,0	XA11V	—	—	•	152	—	279	10,1
	2,0	XA12V	—	—	•	—	170	279	11,7
Double-acting	1,0	XA11VG	•	—	•	152	—	279	10,3
	2,0	XA12VG	•	—	•	—	170	279	11,9

¹⁾ High-Flow coupler CR400 and accessories must be ordered separately. ²⁾ Available as cylinder-pump set, see page 62.

ENERPAC  **115**

ZA4-Series, Modular Air Hydraulic Pumps

ENERPAC®

▼ Shown: ZA4208MX, ZA4420MX



- ATEX 95 certified for use in potentially explosive atmospheres
- Features Z-Class high efficiency pump design, higher oil flow and bypass pressure
- Two-speed operation reduces cycle time for improved productivity
- User adjustable relief valve built-in on manual valves. Oil ports on valves are 3/8" NPTF
- Optional heat exchanger warms exhaust air to prevent freezing and cools the oil
- Full sight oil level glass on 9,8, 19,8 and 39 litres reservoirs, oil level indicators on 4,6 and 6,8 litres reservoirs.

Z Tough
Dependable
Innovative
CLASS



ATEX 95 Certified

The Enerpac ZA4-series air pumps are tested and certified according to the **Equipment Directive 94 / 9 / EC** "ATEX Directive" for equipment and protective systems intended for use in potentially explosive atmospheres.



II 2 GD ck T4
DEKRA 0602

Page: **395**



Speed Chart

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

Page: **405**



Hoses

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

Page: **128**

Used with Cylinder	Reservoir Size (litres)	Manual Valve ¹⁾ Model Number	Valve Function	Model Number	Output Flow Rate ²⁾				Relief Valve Adjustment Range (bar)	Maximum Air Consumption ³⁾ (l/min)
					at 7 bar	at 50 bar	at 350 bar	at 700 bar		
—	4,6	—	—	ZA4004NX	14,0	11,0	1,8	1,3	—	2840
Single-acting	4,6	VM32	Advance / Retract	ZA4204MX	14,0	11,0	1,8	1,3	70 - 700	2840
	6,8	VM33	Advance / Hold /Retract	ZA4308MX	14,0	11,0	1,8	1,3	70 - 700	2840
	9,8	VM33L	Advance / Hold /Retract	ZA4610MX	14,0	11,0	1,8	1,3	70 - 700	2840
Double-acting	4,6	VM43	Advance / Hold /Retract	ZA4404MX	14,0	11,0	1,8	1,3	70 - 700	2840
	6,8	VM43	Advance / Hold /Retract	ZA4408MX	14,0	11,0	1,8	1,3	70 - 700	2840
	9,8	VM43L	Advance / Hold /Retract	ZA4810MX	14,0	11,0	1,8	1,3	70 - 700	2840
	19,8	VM43	Advance / Hold /Retract	ZA4420MX	14,0	11,0	1,8	1,3	70 - 700	2840
	39	VM43	Advance / Hold /Retract	ZA4440MX	14,0	11,0	1,8	1,3	70 - 700	2840

¹⁾ See pages 122-123 for hydraulic symbols of these valves.

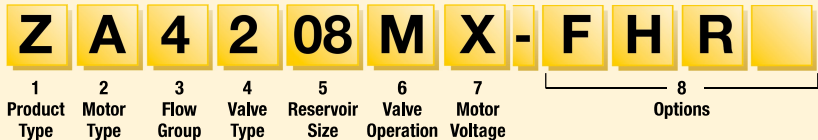
²⁾ Actual oil flow will vary with air supply.

³⁾ Dynamic air pressure range: 4 - 7 bar.



Modulair Air Hydraulic Pumps

▼ This is how a ZA4-Series pump model number is built up:



1 Product Type

Z = Pump Class

2 Prime Mover

A = Air motor

3 Flow Group

4 = 1,3 l/min @ 700 bar

4 Valve Type

- 0** = No valve, with cover plate
- 2** = 3/2 manual valve **VM32**
- 3** = 3/3 manual valve **VM33**
- 4** = 4/3 manual valve **VM43**
- 6** = 3/3 manual locking valve **VM33L** with pilot operated check
- 7** = 3/2 manual valve **VM22**
- 8** = 4/3 manual locking valve **VM43L** with pilot operated check.

5 Reservoir Size

- 04** = 4,6 litres
- 08** = 6,8 litres
- 10** = 9,8 litres
- 20** = 19,8 litres
- 40** = 39 litres

6 Valve Operation

- M** = Manual valve
- N** = No valve

7 Motor Voltage

- X** = Not applicable

8 Options

- F** = Return Line Filter
- G** = 1000 bar gauge
- H** = Heat exchanger (on 4,6 and 6,8 litres reservoir only)
- K** = Skid Bar (on 4,6 and 6,8 litres reservoir only)
- N** = No reservoir handles (includes lifting eyes on 9,8, 19,8 and 39 litres)
- R** = Roll Cage

Ordering Example

Model Number: **ZA4208MX-FHK**
ZA4208MX-FHK is an air operated pump with a 3-way, 2-position manual valve, 6,8 litres reservoir, filter, heat exchanger and skid bar.

ZA4 Series



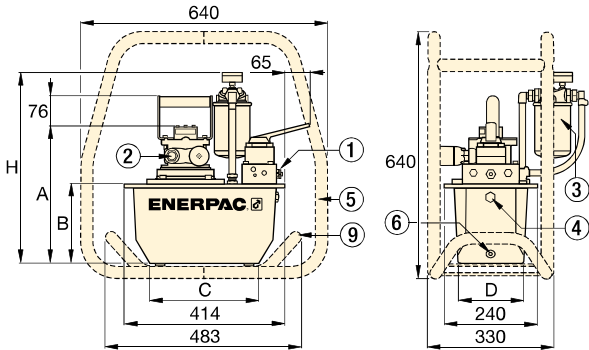
Reservoir Capacity:
4,6 - 39 litres

Flow at Rated Pressure:
1,3 l/min

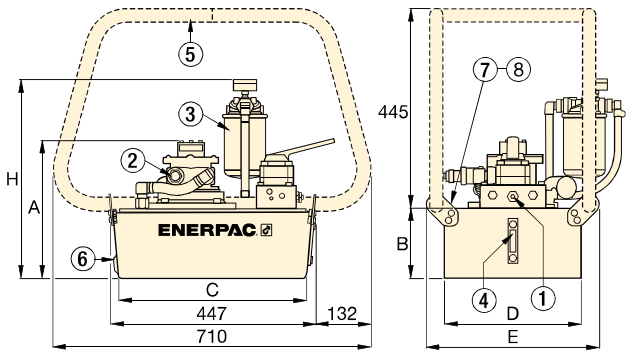
Air Consumption:
2840 l/min

Maximum Operating Pressure:
700 bar

- ① User adjustable relief valve on all manual valves. 3/8" NPTF on A and B ports; 1/4"NPTF on auxiliary ports.
- ② Air inlet 1/2" NPTF
- ③ Return Line Filter (optional)
- ④ Oil Sight Gauge
- ⑤ Roll Cage (optional)
- ⑥ Oil Drain
- ⑦ Lifting eyes (optional)
- ⑧ Handles
- ⑨ Skid Bar (Modelnr. SBZ4) (optional)

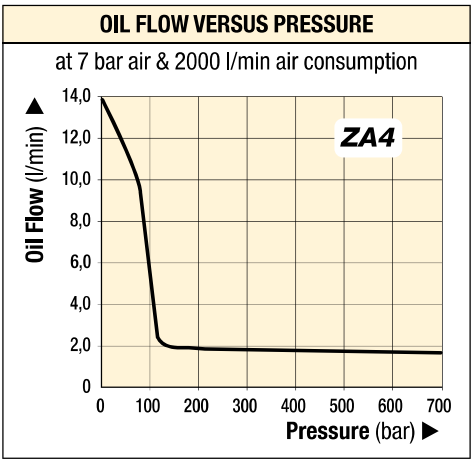


ZA4-Series Pumps with 4,6 - 6,8 litres reservoir



ZA4-Series Pumps with 9,8, 19,8 and 39 litres reservoir

Sound Level	Motor Size	Dimensions (mm)							Model Number
		A	B	C	D	E	H	(kg)	
80 - 95	3,0	295	142	279	152	—	429	27	ZA4004NX
80 - 95	3,0	295	142	279	152	—	429	30	ZA4204MX
80 - 95	3,0	356	203	279	205	—	490	34	ZA4308MX
80 - 95	3,0	330	180	414	421	500	467	51	ZA4610MX
80 - 95	3,0	295	142	279	152	—	429	31	ZA4404MX
80 - 95	3,0	356	203	279	205	—	490	35	ZA4408MX
80 - 95	3,0	305	155	419	305	384	442	40	ZA4810MX
80 - 95	3,0	330	180	414	421	500	467	52	ZA4420MX
80 - 95	3,0	419	269	399	505	584	556	75	ZA4440MX



ZG-Series, Gasoline Hydraulic Pumps

ENERPAC®

▼ Shown from left to right: ZG6440MX-BFCH, ZG5420MX-B



Z Tough,
Dependable,
Innovative
CLASS

- Features Z-Class high efficiency pump design, higher oil flow and bypass pressure
- Two-speed operation reduces cycle time for improved productivity
- User adjustable relief valve built-in on manual valves. Oil ports on valves are 3/8" NPTF
- Available in three 4-cycle engine sizes: 4,1 kW Honda and 4,8 kW and 9,7 kW Briggs & Stratton
- Full sight oil level glass on all reservoirs allow quick and easy oil level monitoring.

ZG6-Series

- Easy serviceable 9,7 kW, 4-cycle gasoline engine with electric start, pressurized oil and 12 Volt charge output for accessories
- Dual forced air heat exchangers stabilizes hydraulic oil temperature
- Sturdy wheeled cart with collapsible handles.



GA45GC Gauge Adaptor Assembly

Protect yourself from system overloading by simply ordering one part number for a pre-assembled gauge, adaptor block and coupler.

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User Adjustable Relief Valve

All VM-Series directional valves have a user adjustable relief valve to allow the operator to easily set the optimum working pressure.

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▼ SELECTION CHART

Used with Cylinder	Reservoir Size (litres)	Manual Valve ¹⁾ Model Number	Valve Function	Model Number with Roll Cage	Output Flow Rate (l/min)				4-Cycle Engine Type and Size	
					at 7 bar	at 50 bar	at 350 bar	at 700 bar		
Single-Acting	9,8	VM33	Advance / Hold / Retract	ZG5310MX-R	11,5	10,7	1,8	1,6	Honda 4,1 kW	
	19,8	VM33	Advance / Hold / Retract	ZG5320MX-R	11,5	10,7	1,8	1,6		
Double-Acting	9,8	VM43	Advance / Hold / Retract	ZG5410MX-R	11,5	10,7	1,8	1,6		
	19,8	VM43	Advance / Hold / Retract	ZG5420MX-R	11,5	10,7	1,8	1,6		
Single-Acting	9,8	VM33	Advance / Hold / Retract	ZG5310MX-BR	6,5	6,2	1,8	1,6	Briggs & Stratton 4,8 kW	
	19,8	VM33	Advance / Hold / Retract	ZG5320MX-BR	6,5	6,2	1,8	1,6		
Double-Acting	9,8	VM43	Advance / Hold / Retract	ZG5410MX-BR	6,5	6,2	1,8	1,6		
	19,8	VM43	Advance / Hold / Retract	ZG5420MX-BR	6,5	6,2	1,8	1,6		
	39	VM43L	Advance / Hold / Retract	ZG5840MX-BR	6,5	6,2	1,8	1,6		
Double-Acting	39	VM43	Advance / Hold / Retract	ZG6440MX-BCFH	14,7	14,5	3,7	3,3	Briggs & Stratton 9,7 kW	
	39	VM43L	Advance / Hold / Retract	ZG6840MX-BCFH	14,7	14,5	3,7	3,3		

¹⁾ See pages 122-123 for hydraulic symbols of these valves.

Gasoline Hydraulic Pumps

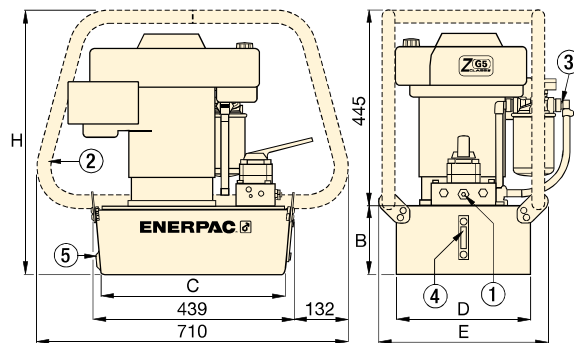


ZG-Series, Gasoline Pump Performance

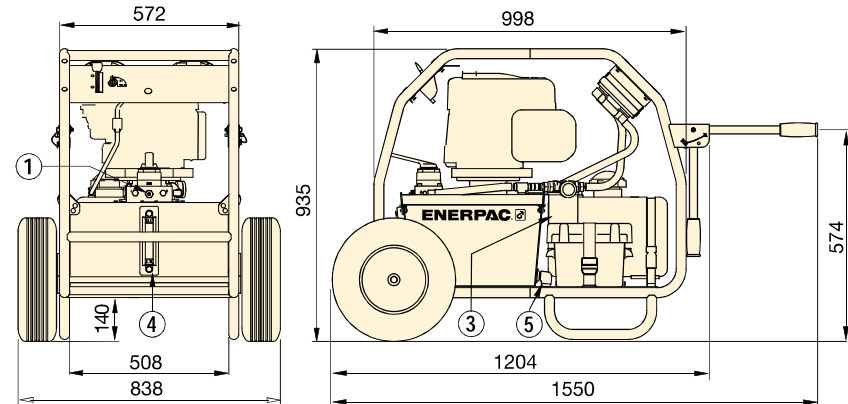
Elevation can affect the performance of any gasoline engine. ZG-Series pumps are designed to develop rated performance at elevations up to 1500 m. For applications above this elevation, please consult your Enerpac office.

Optional: Diesel Engine

ZG-Series pumps can also be equipped with a Diesel Engine. Contact Enerpac for details.



ZG5-Series



ZG6-Series

Relief Valve Adjustment Range	Sound Level	Dimensions (mm)					Model Number with Roll Cage
		B	C	D	E	H	
70 - 700	88 - 93	155	419	305	384	600	ZG5310MX-R
		180	414	421	500	625	ZG5320MX-R
		155	419	305	384	600	ZG5410MX-R
		180	414	421	500	625	ZG5420MX-R
70 - 700	88 - 93	155	419	305	384	600	ZG5310MX-BR
		180	414	421	500	625	ZG5320MX-BR
		155	419	305	384	600	ZG5410MX-BR
		180	414	421	500	625	ZG5420MX-BR
		269	399	505	557	714	ZG5840MX-BR
70 - 700	88 - 93	-	-	-	-	-	ZG6440MX-BCFH
		-	-	-	-	-	ZG6840MX-BCFH

ZG Series



Reservoir Capacity:
9,8 - 19,8 - 39 litres

Flow at Rated Pressure:
1,6 - 3,3 l/min

Engine Size:
4,1 - 4,8 - 9,7 kW

Maximum Operating Pressure:
700 bar



High Pressure Hoses

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

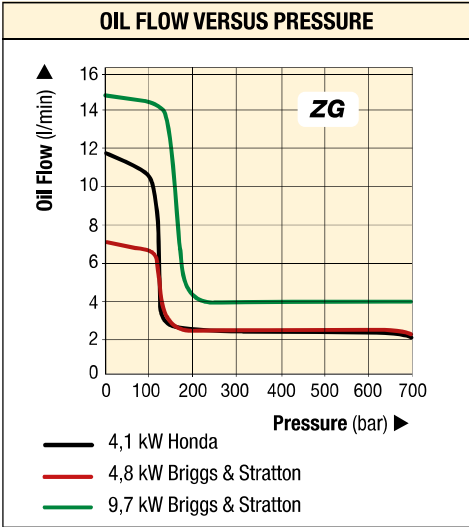
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Speed Chart

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

Page: 405



Custom Hydraulic Pumps

Enerpac offers a wide variety of hydraulic pumps for all your custom needs. Still, many applications require a customized pump to operate the system.

Hydraulic pumps are at the heart of any hydraulic system. Different systems require different flow, pressure and control.

Enerpac offers a wide variety of hydraulic pumps from small hand-operated pumps to large gasoline-powered pumps.

Still, many applications require a customized pump to operate the system. These may include larger reservoir capacity, custom valve configurations or added electrical controls. Enerpac also specializes in power units and controls used for synchronous lifting/lowering of multiple jacking points.

ENERPAC®

Overview Custom Pumps



▲ Custom hydraulic pumps for a bridge deck launching system.

CUSTOMIZABLE FEATURES:

- Reservoir and Frame
- Valves
- Controls
- Oil
- Seals
- Pressure and Flow
- Coolers and Heaters
- Paint
- Motor Type



◀ Private-label hand or foot pumps with fire-resistant oil and special exterior paint.



◀ XC-Series Cordless Pump with custom black shroud for private-label OEM customer to be used with a variety of hand held hydraulic tools.



◀ Electric pump with large cooler and controls for high-temperature applications.