

▼ Shown: PUD-1300E



- 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 VDC 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.

▼ An Economy pump PUJ-1200E is used with an RC-2514 to reposition a stamping die to simplify maintenance.



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 following gauges are suggested:

For Pump Model Number	Gauge Model Number	Gauge Adaptor Model Nr.
PUD-1100E, 1101E	G-2536L	GA-3
PUJ-1200E, 1201E	G-2536L	-
PUD-1300E, 1301E	G-2535L	GA-3
PUJ-1400E, 1401E	G-2536L	GA-3

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

Page: 123



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: 124



Speed Chart

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

Page: 121

Pump Type (Used with cylinder)	Usable Oil Capacity (litres)	Model Number*	Pressure Rating (bar)	
			1 st stage	2 nd stage
Single-Acting	1,9	PUD-1100E	13	700
	3,8	PUD-1101E	13	700
	1,9	PUJ-1200E	13	700
	3,8	PUJ-1201E	13	700
	1,9	PUD-1300E	13	700
	3,8	PUD-1301E	13	700
Double-Acting	1,9	PUJ-1400E	13	700
	3,8	PUJ-1401E	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'.

PUD-1100 Series

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

PUD-1300 Series

- Provides advance-hold-retract of single-acting cylinders
- Ideal for punching applications
- For applications requiring remote valve operations
- 3 m pendant controls motor and valve operation.

PUJ Series

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



Page: 111

PU Series



Reservoir Capacity:

1,9 - 3,8 litres

Flow at Rated Pressure:

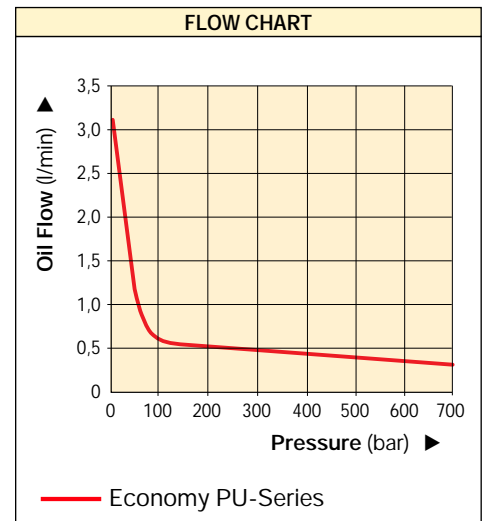
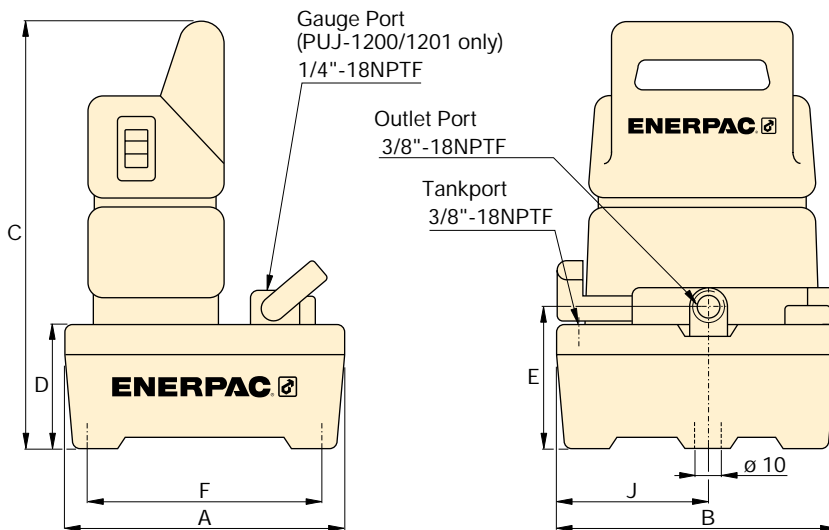
0,32 l/min

Motor Size:

0,37 kW

Maximum Operating Pressure:

700 bar



Output Flow Rate (l/min)	Valve Type	Valve Function	Current Draw (Amps)	Motor Voltage (VAC)	Sound Level (dBA)	Dimensions (mm)								Model Number*
						1st stage	2nd stage	A	B	C	D	E	F	
3,31	Dump**	Advance/Retract	3,2	230	85	244	244	362	101	119	203	133	11,8	PUD-1100E
0,32			3,2	230	85	368	309	373	105	130	323	142	17,2	PUD-1101E
3,31	3-way, 2-pos.	Adv/Hold/Retr.	3,2	230	85	244	244	362	101	119	203	133	10,0	PUJ-1200E
0,32			3,2	230	85	368	309	373	105	130	323	142	15,4	PUJ-1201E
3,31	Solenoid 3/2	Adv/Hold/Retr.	3,2	230	85	244	244	362	101	119	203	133	12,0	PUD-1300E
0,32			3,2	230	85	368	309	373	105	130	323	142	17,5	PUD-1301E
3,31	4-way, 3-pos	Adv/Hold/Retr.	3,2	230	85	244	244	362	101	119	203	133	13,2	PUJ-1400E
0,32			3,2	230	85	368	309	373	105	130	323	142	18,6	PUJ-1401E

▼ Shown: PEJ-1401E



- Two-speed operation reduces cycle times for improved productivity
- Powerful 0,37 kW induction motor is submerged in the oil reservoir to run cooler, protect the motor, simplify the pump interface, save space and reduce noise
- Large 5,5 litres reservoir allows operation of a wide range of cylinders
- 24 VDC remote pendant control on certain models for safer operation
- Externally adjustable relief valve allows control of operating pressure without opening the pump
- 40-micron internal return line filter keeps oil clean, promoting longer pump life
- Full length side tube for easy monitoring of oil level.



◀ The Remote Jog Model of the Submerged Pump simplifies repair on this construction crane.

Best Performance on Mid-Range Cylinders and Tools

▼ SELECTION CHART

For more technical information see next page.

5 BASIC PUMP TYPES

Select the model that suits your application. For special requirements see **page 83** or contact your Enerpac office.

PED Series: with Dump Valve

- Ideal for punching, crimping and cutting
- For use when load holding is not required
- Control pendant with 3 m cord controls valve and motor

PEM Series: with Manual Valve

- Ideal choice for most applications
- Manual valve control, for both single-acting and double-acting applications
- Manual motor control



PER Series: with Solenoid Valve

- Ideal for production and lifting
- All valves are 3 position for Advance-Hold-Retract
- Control pendant with 3 m cord for remote valve operation



PEJ Series: with Remote Jog

- For light production and lifting applications
- Manual valve control for single-acting or double-acting cylinders
- Control pendant with 3 m cord for remote motor operation



PES Series: with Pressure Switch

- Designed for continuous pressure applications, such as clamping, workholding and testing
- All versions include manual valves for directional control

* See the Valve Section in this catalog for technical information on valve types.

Submerged Electric Pumps



Submerged Pump Application

The Submerged pump is best suited to power small to medium size cylinders or hydraulic tools, or whenever quiet, intermittent duty cycle is needed. With its low sound level and the addition of the optional oil cooler, the Submerged pump is suited to light production work as well.

Its lightweight and compact design also make it ideal for applications which require some transport of the pump.

For further application assistance see the 'Yellow Pages' or contact your local Enerpac office.

Page: 114

PE Series



Reservoir Capacity:

5,5 litres

Flow at Rated Pressure:


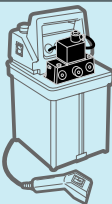
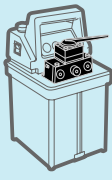
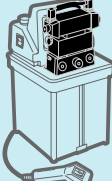


0,27 l/min

Motor Size:

0,37 kW

Maximum Operating Pressure:

700 bar

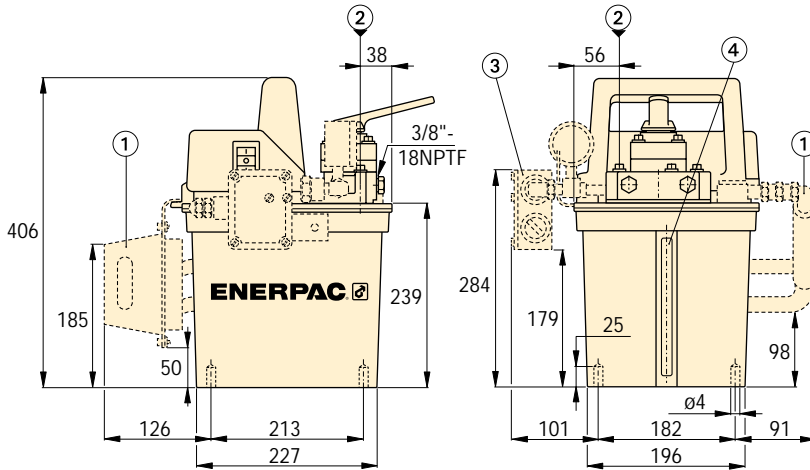
Pump Type	Used with Cylinder	Valve Function	Valve Type*	Usable Oil Capacity (litres)	Model Number 230 VAC, 1 ph	 (kg)
	Single-Acting	Advance/Retract	Dump	5,5	PEJ-1001E	24,9
	Single-Acting	Advance/Retract	Manual, 3-way, 2-position	5,5	PEM-1201E	24,0
	Single-Acting	Advance/Hold/Retract	Manual, 3-way, 3-position	5,5	PEM-1301E	24,0
	Double-Acting	Advance/Hold/Retract	Manual, 4-way, 3-position	5,5	PEM-1401E	24,0
	Single-Acting	Advance/Hold/Retract	Solenoid, 3-way, 3-position	5,5	PER-1301E	29,5
	Double-Acting	Advance/Hold/Retract	Solenoid, 4-way, 3-position	5,5	PER-1401E	29,5
	Single-Acting	Advance/Retract	Manual, 3-way, 2-position	5,5	PEJ-1201E	24,9
	Single-Acting	Advance/Hold/Retract	Manual, 3-way, 3-position	5,5	PEJ-1301E	24,9
	Double-Acting	Advance/Hold/Retract	Manual, 4-way, 3-position	5,5	PEJ-1401E	24,9
	Single-Acting	Advance/Retract	Manual, 3-way, 2-position	5,5	PES-1201E	28,1
	Double-Acting	Advance/Hold/Retract	Manual, 4-way, 3-position	5,5	PES-1401E	28,1

PE-Series, Submerged Electric Pumps

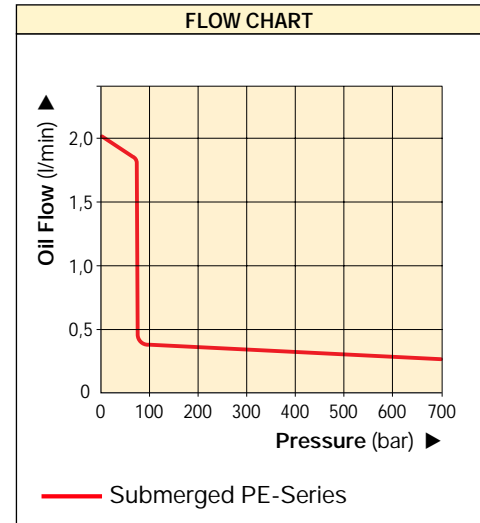
◀ For full features see previous page.

SUBMERGED PUMP PERFORMANCE							
Motor Size (kW)	Pressure Rating (bar)		Output Flow Rate at 50 Hz (l/min)		Motor Electrical Specifications* (Amps @ Volts-Ph-Hz)	Sound Level (dBA)	Relief Valve Adjustment Range (bar)
	1 st stage	2 nd stage	1 st stage	2 nd stage			
0,37	70	700	2,0	0,27	13 @ 115-1-50/60 6,75 @ 230-1-50/60	62-70	70-700

* At full load. See ordering matrix footnote for frequency notations.



- ① Heat Exchanger (optional for all models)
- ② Fill Port
- ③ Pressure Switch (PES-series, optional for other models)
- ④ Oil Level Indicator



Speed Chart

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

Page: 121



◀ This PED-1001E Submerged pump quickly and quietly powers a hydraulic nut cutter in this bucket maintenance application.

Submerged Electric Pumps

CUSTOM BUILD YOUR SUBMERGED PUMP

If the Submerged Pump that would best fit your application cannot be found in the chart on page 81, here you can easily build your custom submerged pump.

▼ This is how a Submerged Pump Model Number is built up:

P	E	M	-	1	3	01	E
1 Product Type	2 Motor Type	3 Pump Type		4 Pump Series	5 Valve Type	6 Reservoir Size	7 Motor Voltage

1 Product Type

P = Pump

2 Motor Type

E = Electric Motor

3 Pump Type

D = Dump
J = Jog
M = Manual
R = Remote (Solenoid)
S = Pressure Switch

4 Pump Series

1 = 0,37 kW, 700 bar

5 Valve Type

0 = Dump
2 = 3-way, 2-position, normally open
3 = 3-way, 3-position, tandem center
4 = 4-way, 3-position, tandem center

6 Reservoir Capacity

01 = 5,5 litres

7 Motor Voltage and Heat Exchanger

B = 115 V, 1 Ph, 50/60 Hz ¹⁾
D = 115 V, 1 Ph, 50/60 Hz ¹⁾
with Heat Exchanger
E = 230 V, 1 Ph, 50/60 Hz ²⁾
F = 230 V, 1 Ph, 50/60 Hz ²⁾
with Heat Exchanger

¹⁾ Solenoid valves operate only at 60 Hz. Can run on 50 Hz with manual valves.

²⁾ Solenoid valves operate only at 50 Hz. Can run on 60 Hz with manual valves.

Ordering Example

Model Number: PER-1301E

The PER-1301E is a 0,37 kW, 700 bar, submerged electric pump, with 5,5 litres usable oil capacity, a 3-way, 3-position, solenoid remote valve and a 230 V, 1 Phase, 50/60 Hz motor.

PE Series



Reservoir Capacity:

5,5 litres

Flow at Rated Pressure:

0,27 l/min

Motor Size:

0,37 kW

Maximum 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.

Page: 124



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: 123

Z-Class, Innovation in Pump Design

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 pump 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 and durable low-voltage pendant features sealed switches and operates on 15 Volts.



ZU4-Electric Pump

- For manual valve operation
- User adjustable relief valve on all valves
- Oil flow 1,0 l/min at 700 bar
- Skid Bar option (see page 88-89)
- Oil level sight glass or indicators
- Single phase electric motors include motor on/off switch and overload protection.

ZU4-Electric Pump with LCD

- All the features of standard electric pump
- For manual and solenoid valve operation
- Back-lit LCD provides essential user information:
 - Pump usage information, hour and cycle counts
 - Low-voltage warning and recording
 - Self-test, diagnostic and read-out capabilities
 - Pressure read-out and auto-mode pressure settings (when used with optional pressure transducer)
- All options available (see page 88-89).



ZU4-Series Pump Applications

- **Portable:** 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 & tools:** for medium to large size single- and double-acting applications and high speed.

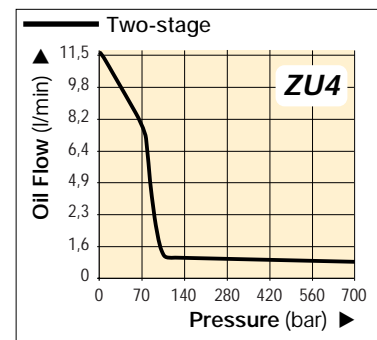
Page: 86



ZE-Series Pump Applications

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

Page: 90



▼ ZU4-SERIES PERFORMANCE CHART

Pump Series	Output Flow Rate (l/min)				Available Reservoir Sizes (useable oil) (litres)	Motor Size (kW)	Sound Level (dBA)
	low pressure		high pressure				
	at 7 bar	at 50 bar	at 350 bar	at 700 bar			
ZU4 *	11,5	8,8	1,2	1,0	4-8-10-20-40	1,25	85-90

* Two stage pump unit. Relief valve adjustment range 140-700 bar.

ZU4 & ZE-Series, Pump Types and Specifications



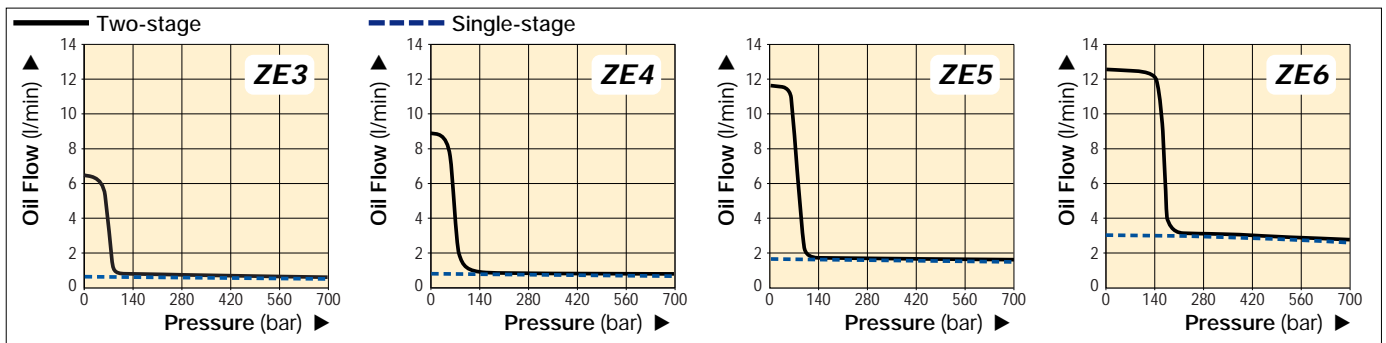
ZE-Electric Pump

- For manual valve operation
- User adjustable relief valve on all valves
- Oil flows from 0,55 to 2,73 l/min at 700 bar
- All non-electric options available (see page 92-93)
- Oil level sight glass or indicators
- Single phase electric motors include motor on/off switch and overload protection
- Carrying handles on all models.



ZE-Electric Pump with LCD-Electric Box

- For solenoid or manual valve operation
- User adjustable relief valve on all valves
- Oil flows from 0,55 to 2,73 l/min at 700 bar
- All options available (see page 92-93)
- Back-lit LCD provides essential user information:
 - Pump usage information, hour and cycle counts
 - Low-voltage warning and recording
 - Self-test, diagnostic and read-out capabilities
 - Pressure read-out and auto-mode pressure settings (when used with optional pressure transducer)
- All single and three phase units include motor control and overload protection.



▼ ZE-SERIES PERFORMANCE CHART

Pump Series	Output Flow Rate at 50 Hz * (l/min)				Pump Unit	Available Reservoir Sizes (useable oil) (litres)	Motor Size (kW)	Relief Valve Adjustment Range (bar)	Sound Level (dBA)
	low pressure at 7 bar	low pressure at 50 bar	high pressure at 350 bar	high pressure at 700 bar					
ZE3	0,59	0,59	0,57	0,55	Single-stage	4-8-10-20-40	0,75	70-700	75
	6,15	5,26	0,57	0,55	Two-stage				
ZE4	0,87	0,87	0,84	0,82	Single-stage	4-8-10-20-40	1,12	70-700	75
	8,88	8,20	0,84	0,82	Two-stage				
ZE5	1,75	1,72	1,68	1,64	Single-stage	10-20-40	2,24	70-700	75
	11,61	11,27	1,68	1,64	Two-stage				
ZE6	3,00	2,94	2,86	2,73	Single-stage	10-20-40	5,60	70-700	80
	12,29	12,15	2,86	2,73	Two-stage				

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

i **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.


ZU4-Series, 700 Bar Electric Pumps

▼ Shown from left to right: ZU4108DE-T, ZU4420SE-H, ZU4304ME-K



ZU4 CLASS

Tough, Dependable and Innovative



ZU4-Series Features and Options
For special requirements see factory installed features and options.

Page: **88**

- High-efficiency two-speed pump design – higher oil flow and bypass pressure, cooler running and requires 18% less current draw than comparable pumps
- 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
- Durable steel reservoirs
- LCD provides self test, diagnostic and read-out capabilities never before offered on a portable electric pump
- Designed to last and easy to service.



◀ *Designed to be tough, the ZU4-Series with steel reservoirs will take the abuse of today's construction sites. The ZU4908JE is the ideal pump for post tensioning applications. For post tensioning tools see page 186.*

▼ COMMON PUMP MODELS

For technical information and other options see next page.

<p>BASIC PUMP TYPES Select the model that suits your application. For special requirements contact your Enerpac office.</p>	
<p>Dump Valve *</p> <ul style="list-style-type: none"> • Ideal for punching, crimping and cutting. • For use when load-holding is not required. 	
<p>Manual Valve</p> <ul style="list-style-type: none"> • Ideal choice for most applications. • Manual valve control, for single-acting or double-acting applications. • Motor control on shroud. 	
<p>Solenoid Valve *</p> <ul style="list-style-type: none"> • 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. 	
<p>Manual Valve with Pendant *</p> <ul style="list-style-type: none"> • For light production, lifting and post tensioning applications. • Manual valve for single- or double-acting cylinders. • Manual valve with power seat (VM43LPS), ideal for post-tensioning applications. 	

* Low-voltage control pendant with 3m. cord controls valve and motor.

ZU4-Series, Electric Pumps



ZU4-Series Pump Applications

The ZU4-Series pump is best suited to power medium to large size cylinders or hydraulic tools, or wherever high speed, intermittent duty cycle is needed.

Patent-pending **Z-Class** technology provides high by-pass pressures for increased productivity, specifically in applications using long hose runs and high-pressure drop circuits like heavy lifting or certain double-acting cylinders and tools.

Its lightweight and compact design make it ideal for applications which require easy transport of the pump. It utilises a universal motor which will work well on long extension cords or generator driven electrical power supplies.

For further application assistance contact your local Enerpac office.



ZU4 Series



Reservoir Capacity:

4 - 40 litres

Flow at Rated Pressure:

1,0 l/min

Motor Size:

1,25 kW

Maximum Operating Pressure:

700 bar

Pump Type	For use with cylinder	Valve Function ²⁾	Valve Type ²⁾	Pump Control	Usable Oil Capacity (litres)	Model Number ¹⁾ 230 V / 1 phase ³⁾		Weight ⁴⁾ (kg)
						STD (Standard) Electric	LCD Electric	
	Single-Acting	Advance/Retract	VE32D	Remote	4	-	ZU4104DE	28,5
	Single-Acting	Advance/Retract	VE32D	Remote	8	-	ZU4108DE	33,1
						-	-	
						-	-	
	Single-Acting	Advance/Retract	VM32	Manual	4	ZU4204ME	ZU4204LE	26,1
	Single-Acting	Advance/Retract	VM32	Manual	8	ZU4208ME	ZU4208LE	31,3
	Single-Acting	Advance/Hold/Retract	VM33	Manual	4	ZU4304ME	ZU4304LE	28,5
	Single-Acting	Advance/Hold/Retract	VM33	Manual	8	ZU4308ME	ZU4308LE	31,7
	Double-Acting	Advance/Hold/Retract	VM43	Manual	4	ZU4404ME	ZU4404LE	27,2
	Double-Acting	Advance/Hold/Retract	VM43	Manual	8	ZU4408ME	ZU4408LE	31,7
	Single-Acting	Advance/Hold/Retract	VE32	Remote	4	-	ZU4204SE	28,5
	Single-Acting	Advance/Hold/Retract	VE32	Remote	8	-	ZU4208SE	33,1
	Single-Acting	Advance/Hold/Retract	VE33	Remote	8	-	ZU4308SE	38,5
	Double-Acting	Advance/Hold/Retract	VE43	Remote	8	-	ZU4408SE	38,5
						-	-	
	Single-Acting	Advance/Retract	VM32	Remote (Man.)	4	ZU4204JE	ZU4204KE	27,2
	Single-Acting	Advance/Retract	VM32	Remote (Man.)	8	ZU4208JE	ZU4208KE	31,7
	Single-Acting	Advance/Hold/Retract	VM33	Remote (Man.)	8	ZU4308JE	ZU4308KE	32,2
	Double-Acting	Advance/Hold/Retract	VM43	Remote (Man.)	8	ZU4408JE	ZU4408KE	32,2
						-	-	
	Double-Acting	Advance/Hold/Retract	VM43LPS	Remote (Man.)	8	ZU4908JE	ZU4908KE-T	34,5

¹⁾ All models meet CE safety requirements. "E" voltage versions also meet all requirements of the European EMC-Directive.

²⁾ See pages 137-141 for hydraulic symbol of these valves.

³⁾ See custom ordering matrix on page 89 for other voltage options.

⁴⁾ Subtract 1,4 kg. for STD Electric models.



Back-lit LCD ¹⁾

- Pump usage information, hour and cycle counts
- Low-voltage warning and recording
- Self-test and diagnostic capabilities
- Information can be displayed in six different languages ²⁾

¹⁾ Included on pumps with solenoid valves. Can be factory installed on pumps with manual valve.

²⁾ English, French, German, Italian, Spanish and Portuguese.



Pressure Transducer ³⁾

- More durable than analog gauges
- More accurate than analog gauges
- Calibration can be fine tuned for certification
- Easy-viewing variable rate display
- "Set pressure" feature turns off motor at user defined pressure ⁴⁾
- Display pressure in bar, MPa or psi

³⁾ Requires LCD Electric.

⁴⁾ Or shifts valve to neutral position on pump models with VE33 and VE43 solenoid valves.



ZU4-Series Features & Options

The LCD-display and Heat Exchanger are factory installed features and cannot be ordered separately. The Skidbar and Pressure Transducer can be installed by customer or ordered pump mounted from factory. Refer to pages 86-87 for selection chart and page 89 for ordering matrix.



Pressure Transducer

This pressure transducer is 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 models with VE33 and VE43 solenoid valves).



Heat Exchanger ⁵⁾

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

⁵⁾ Requires LCD Electric. Heat Exchanger adds 4,1 kg to pump weight.



Skidbar ⁶⁾

- Provides easy two-hand lift
- Provides greater pump stability on soft or uneven surfaces
- Also available as kit (Modelnr. SBZ-4)

⁶⁾ 4 and 8 litres reservoirs only. Skidbar adds 2,2 kg to pump weight.



Heat Exchanger

Can be factory installed on ZU4-Series LCD Electric pumps.

- Extends system life.
- Stabilizes oil temperature at a maximum of 54 °C at 21 °C ambient temperature.

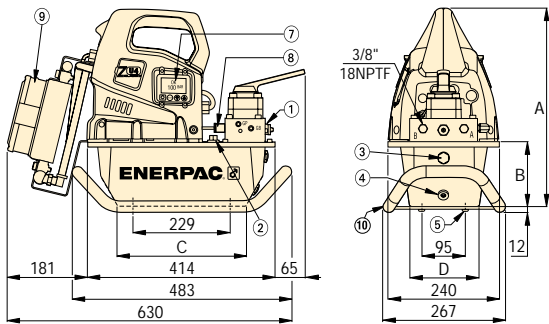
Do not exceed maximum oil flow and pressure ratings. Heat exchanger is not suitable for water-glycol or high water based fluids.

Thermal Transfer *		Maximum pressure	Maximum oil flow	Voltage
Btu/h	kJoule	(bar)	(l/min)	(VDC)
900	950	20,7	26,5	12

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

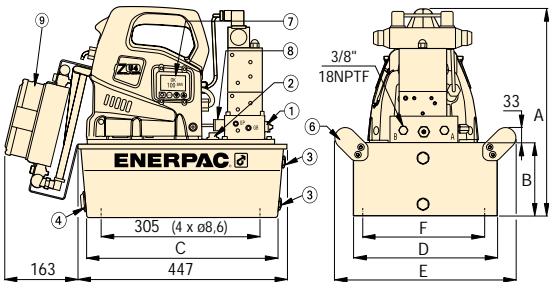
ZU4-Series, Dimensions & Ordering Matrix

ZU4-Series with 4 and 8 litres reservoirs



ZU4 Dimensions (mm)					
	Reservoir Size (liter)				
	4	8	10	20	40
A	432	495	447	472	559
B	142	203	155	180	270
C	279	287	419	414	399
D	152	167	305	422	505
E	-	-	384	501	576
F	-	-	279	396	480

ZU4-Series with 10, 20 and 40 litres reservoirs (left view shown without side handle)



- 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, 12 mm deep.
- ⑥ Handles on all 10, 20 and 40 litres reservoirs.

Factory installed features & options:

- ⑦ Back-lit LCD Electric.
- ⑧ Pressure transducer.
- ⑨ Heat Exchanger
- ⑩ Skid Bar (Modelnr. SBZ-4). Fits 4 and 8 litres reservoirs.

ZU4 Series



Reservoir Capacity:

4 - 40 litres

Flow at Rated Pressure:

1,0 l/min

Motor Size:

1,25 kW

Maximum Operating Pressure:

700 bar

See page 84 for ZU4-Series flow diagram

▼ This is how a ZU4-Series pump model number is built up:

Z	U	4	1	04	D	E	-	H	K	T
1	2	3	4	5	6	7	8			
Product Type	Motor Type	Flow Group	Valve Type	Reservoir Size	Valve Operation	Voltage	Factory installed features and options			

1 Product Type

Z = Pump Class

2 Prime Mover

U = Universal electric motor

3 Flow Group

4 = 1,0 l/min @ 700 bar

4 Valve Type

(see page 137-141 for valve details)

- 1** = Dump VE32D
- 2** = 3-way, 2-pos. manual VM32 or electric VE32
- 3** = 3 way, 3 pos. manual VM33 or electric VE33
- 4** = 4 way, 3 pos. manual VM43 or electric VE43
- 6** = 3 way, 3 pos. manual locking valve VM33L with pilot operated check.
- 8** = 4 way, 3 pos. manual locking valve VM43L with pilot operated check.

5 Reservoir Size

(usable oil capacity)

- 04** = 4 litres
 - 08** = 8 litres
 - 10** = 10 litres ¹⁾
 - 20** = 20 litres ¹⁾
 - 40** = 40 litres ¹⁾
- ¹⁾ reservoir includes side handles.

6 Valve Operation

- D** = Dump (solenoid valve with pendant and LCD Electric)
- J** = Jog (manual valve with pendant and Standard Electric i.e. without LCD)
- K** = Jog (manual valve with pendant and LCD Electric)
- L** = Manual valve with LCD Electric (without pendant)
- M** = Manual valve with Standard Electric (i.e. without LCD, without pendant)
- S** = Solenoid valve with pendant and LCD Electric.

7 Voltage

- B** = 115V, 1 phase, 50/60 Hz
- E ²⁾** = 208-240V, 1 phase, 50/60 Hz (with European plug EMC directive compliant).

8 Factory installed features & options

(see page 88 for details)

- H** = Heat exchanger (requires pump with LCD Electric) adds 4,1 kg.
- K** = Skid bar (fits 4 and 8 litres reservoir) adds 2,2 kg.
- T** = Pressure transducer (requires pump with LCD Electric).

ORDERING EXAMPLES

Model Nr: **ZU4104DE-HKT**
Two stage LCD Electric pump with dump valve and 4 litres reservoir, 230V motor, heat exchanger, skidbar and pressure transducer.

Model Nr: **ZU4408JE**
Two stage STD (standard) Electric pump with manual valve with pendant (jog) and 8 litres reservoir, 230V motor.

ZE-Series, 700 Bar Electric Pumps

▼ Shown from left to right: ZE3208MW, ZE5420SW-FHR










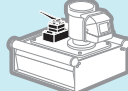


Z CLASS

The New Standard for Industrial Applications



Oil Level Glass

All ZE-Series pumps have an oil sight glass and steel reservoirs. Full sight oil level glass on 10, 20 and 40 litres reservoirs, oil level indicators on 4 and 8 litres reservoirs.

PUMP CONFIGURATIONS		Pump Type	Used with Tool or Cylinder	Valve Function ¹⁾			Valve ¹⁾ Model Number	Useable Oil Capacity	
For options and other model numbers see ordering matrix or contact your Enerpac office. (For Z-Class pumps with air motor see ZA-series pumps on page 102).			 					(litres)	
No Valve, without Electric Box ²⁾ <ul style="list-style-type: none"> For remote valves or pump mounting Enerpac VM-series valves For remote valve mounting order BSS1090 high pressure connecting plate. 							–	4	
							–	10	
							–	20	
							–	40	
MANUAL VALVE CONTROL	With Manual Valve, without Electric Box <ul style="list-style-type: none"> For single-acting or double-acting applications On/off switch on 1-phase electric motor. 		●	–	●	–	●	VM32	4
			●	–	●	●	●	VM33	8
			●	–	●	●	●	VM33L	10
			–	●	●	●	●	VM43	20
			–	●	●	●	●	VM43L	40
MANUAL VALVE CONTROL	With Manual Valve, with Electric Box <ul style="list-style-type: none"> For single-acting or double-acting applications On/off switch on 1-phase electric motor All options available. 		●	–	●	–	●	VM32	4
			●	–	●	–	●	VM32	8
			●	–	●	●	●	VM33	10
			●	–	●	●	●	VM33L	10
			–	●	●	●	●	VM43	20
			–	●	●	●	●	VM43L	40
REMOTE VALVE CONTROL	With Solenoid Dump Valve, with Electric Box <ul style="list-style-type: none"> Ideal for punching, crimping and cutting For use when load holding is not required Push-button pendant ³⁾ controls valve and motor All options available. 		●	–	●	–	●	VE32D	4
			●	–	●	–	●	VE32D	8
			●	–	●	–	●	VE32D	10
			●	–	●	–	●	VE32D	20
			●	–	●	–	●	VE32D	40
	REMOTE VALVE CONTROL	With Solenoid 3-position Valve, with Electric Box <ul style="list-style-type: none"> Ideal for production and lifting applications 3-position valves (advance/hold/retract) Push-button pendant ³⁾ controls valve and motor All options available. 		●	–	●	●	●	VE33
●				–	●	●	●	VE33	8
●				–	●	●	●	VE33	10
–				●	●	●	●	VE43	10
–				●	●	●	●	VE43	20
–				●	●	●	●	VE43	40

¹⁾ See Valve Section for hydraulic symbols and details.

²⁾ For No Valve, with Electric Box, see ordering matrix on page 95.

³⁾ Pendant includes 3 meters cord.

ZE-Series, 700 Bar Electric Pumps

- High-efficiency pump design – higher oil flow and bypass pressure, cooler running and requires 18% less current draw than comparable pumps
- 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 supply extended life and stand up to harsh industrial environment
- 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
- 40 micron filter breather with splash guard
- Durable steel reservoirs.

ZE Series



Reservoir Capacity:

4 - 40 litres

Flow at Rated Pressure:

0,55 - 2,73 l/min

Motor Size:

0,75 - 5,60 kW

Maximum Operating Pressure:

700 bar



User Adjustable Relief Valve

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



Locking Valves

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

operated check valve. This provides hydraulic locking of the load until the valve is shifted into the retract position. To order this feature on your ZE-series pump see the valve type in the order matrix.

Page: 95



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.

ZE3-Series 0,55 l/min at 700 bar Two-stage pump		ZE4-Series 0,82 l/min at 700 bar Two-stage pump		ZE5-Series 1,64 l/min at 700 bar Two-stage pump		ZE6-Series 2,73 l/min at 700 bar Two-stage pump	
Model Nr. ⁴⁾	(kg)	Model Nr. ⁴⁾	(kg)	Model Nr. ⁴⁾	(kg)	Model Nr. ⁴⁾	(kg)
400V / 3 phase		400V / 3 phase		400V / 3 phase		400V / 3 phase	
ZE3004NW	36	ZE4004NW	40	-	-	-	-
ZE3010NW	45	ZE4010NW	49	ZE5010NW	54	ZE6010NW	72
ZE3020NW	57	ZE4020NW	61	ZE5020NW	66	ZE6020NW	84
ZE3040NW	80	ZE4040NW	84	ZE5040NW	89	ZE6040NW	107
ZE3204MW	39	ZE4204MW	43	-	-	-	-
ZE3308MW	44	ZE4308MW	48	-	-	-	-
ZE3610MW	50	ZE4610MW	54	ZE5610MW	59	ZE6610MW	77
ZE3420MW	60	ZE4420MW	64	ZE5420MW	69	ZE6420MW	87
ZE3840MW	85	ZE4840MW	89	ZE5840MW	94	ZE6840MW	112
ZE3204LW	42	ZE4204LW	46	-	-	-	-
ZE3208LW	47	ZE4208LW	51	-	-	-	-
ZE3310LW	51	ZE4310LW	55	ZE5310LW	60	ZE6310LW	78
ZE3610LW	53	ZE4610LW	57	ZE5610LW	62	ZE6610LW	80
ZE3420LW	63	ZE4420LW	67	ZE5420LW	72	ZE6420LW	90
ZE3840LW	88	ZE4840LW	92	ZE5840LW	97	ZE6840LW	115
ZE3104DW	44	ZE4104DW	48	-	-	-	-
ZE3108DW	49	ZE4108DW	53	-	-	-	-
ZE3110DW	53	ZE4110DW	57	ZE5110DW	62	ZE6110DW	79
ZE3120DW	65	ZE4120DW	69	ZE5120DW	74	ZE6120DW	92
ZE3140DW	88	ZE4140DW	92	ZE5140DW	97	ZE6140DW	115
ZE3304SW	49	ZE4304SW	53	-	-	-	-
ZE3308SW	54	ZE4308SW	58	-	-	-	-
ZE3310SW	58	ZE4310SW	62	ZE5310SW	67	ZE6310SW	85
ZE3410SW	58	ZE4410SW	62	ZE5410SW	67	ZE6410SW	85
ZE3420SW	70	ZE4420SW	74	ZE5420SW	79	ZE6420SW	97
ZE3440SW	93	ZE4440SW	97	ZE5440SW	102	ZE6440SW	120

⁴⁾ See custom ordering matrix on page 95 for other voltages.



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. Can be factory installed on pumps with manual valve.

²⁾ When used with optional pressure transducer.

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



Level/Temperature Switch 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 10, 20 and 40 litres reservoirs.

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

* Add suffix L for factory installation.



Return Line Filter

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

* Add suffix F for factory installation.



Roll Bars

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



Skid Bar


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




Foot Switch ⁵⁾

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

⁵⁾ 15 V, requires Electric Box.

Accessory Kit Nr.	Fits on reservoir	 (kg)
ZRB-04 *	4 and 8 litres	5,5
ZRB-10 *	10 litres	6,0
ZRB-20 *	20 litres	6,0
ZRB-40 *	40 litres	6,0

* Add suffix R for factory installation.

Accessory Kit Nr.	For ZE-Series pumps with reservoir	 (kg)
SBZ-4 *	4-8 ltr, without heat exchanger	2,2
SBZ-4L *	4-8 ltr, with heat exchanger	3,2

* Add suffix K for factory installation.

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

* Add suffix U for factory installation.

Factory Options & Accessory Kits for ZE-Series Pumps



Pressure Transducer 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.

Access-ory Kit Modelnr.	Adjustable Pressure Range (bar)	Switch-point repeatability	Dead-band (bar)
ZPT-U4 *	3,5 - 700	± 0,5%	3,5

* Add suffix T for factory installation.



Pressure Switch ²⁾

- Controls pump, monitors system
- Adjustable pressure 35-700 bar
- Includes glycerine filled 1000 bar pressure gauge G2536L
- Accuracy ± 1,5% of full scale.

²⁾ 24 V, requires Electric Box. Not available in combination with pressure transducer.

Access-ory Kit Modelnr.	Switch-point repeatability	Deadband (bar)	Oil Ports (NPTF)
ZPS-E3 *	± 2%	8 - 38	3/8"

* Add suffix P for factory installation.



Options

Accessory Kits can be installed by customer. See chart below for options on Standard Electric (without electric box) or LCD Electric (with electric box). Refer to page 95 for ordering matrix.

ZE-Series Options	Factory Installed		Accessory Kits	
	Std. Electr.	LCD Electr.	Std. Electr.	LCD Electr.
Return Line Filter	F	F	ZPF	ZPF
Skid Bar ¹⁾	K	K	SBZ	SBZ
Roll Bar	R	R	SRB	SRB
Single-stage	S	S	-	-
Heat Exchanger	-	H	-	ZHE
Pressure Gauge ²⁾	G	G	-	-
Pressure Switch ³⁾	-	P	-	ZPS-E3
Pressure Transducer ⁴⁾	-	T	-	ZPT-U4
Level/Temp Switch ⁵⁾	-	L	-	ZLS-U4
Foot Switch ⁶⁾	-	U	-	ZCF-2

¹⁾ Available for 4 and 8 litres reservoirs.

²⁾ Not available on pumps with pressure transducer.

³⁾ Includes 1000 bar gauge. Only available on manual valves without locking feature.

⁴⁾ Electric box can accept either pressure switch or pressure transducer, but not both.

⁵⁾ Available for 10, 20 and 40 litres reservoirs.

⁶⁾ For control of solenoid dump and 3-position valves.



Pendants ³⁾

- For pump types with valve operation "W" (No Valve, with Electric Box, without pendant)

³⁾ When ordering Enerpac VE-Series solenoid valve the pendant must be ordered separately. Pendant connection to be plugged into electric box

Pendant Model Nr.	To be used with solenoid valve:
ZCP-1	VE32D
ZCP-3	VE32, VE33, VE43



Heat Exchanger ⁴⁾

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

Accessory Kit Nr.	Fits on reservoir	(kg)
ZHE-E04 *	4 and 8 litres	4,1
ZHE-E10 *	10, 20 and 40 litres	4,1

⁴⁾ 24 VDC, requires electric box.

* Add suffix H for factory installation.



ZPT-U4 Pressure Transducer

More durable against mechanical and hydraulic shock than analog gauges.

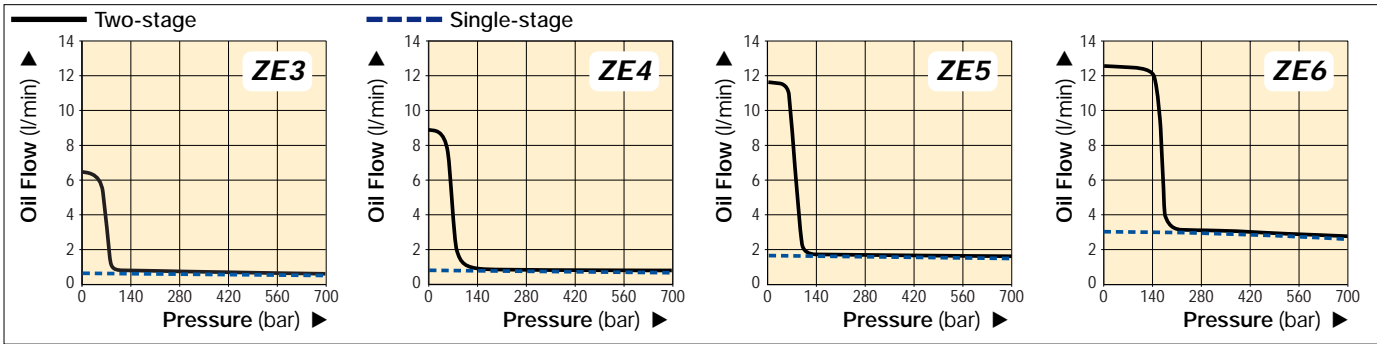
- Digital pressure read-out provides accuracy of 0,5% of full scale.
- Easy-viewing variable rate display automatically varies increments between 3, 14, 35 and 145 bar as rate of pressure change increases.
- "Set pressure" feature turns off motor at user defined pressure (or shifts valve to neutral on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

ZE-Series, Specifications & Dimensions



▼ ZE-SERIES PERFORMANCE CHART

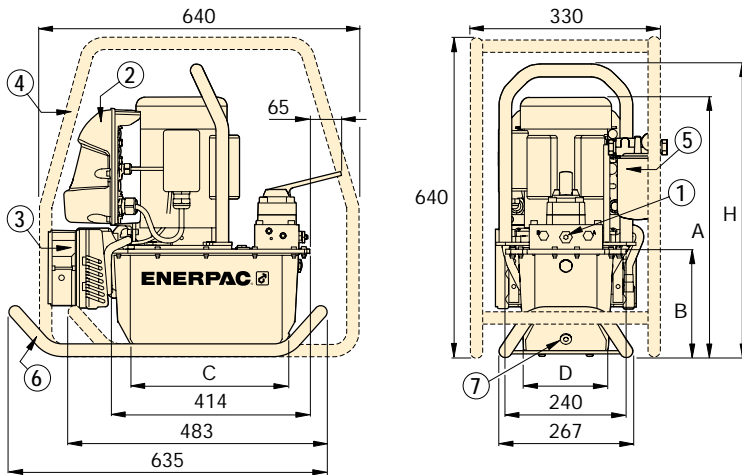
Pump Series	Output Flow Rate at 50 Hz * (l/min)				Pump Unit	Available Reservoir Sizes (useable oil) (litres)	Motor Size (kW)	Relief Valve Adjustment Range (bar)	Sound Level (dBA)
	low pressure at 7 bar	low pressure at 50 bar	high pressure at 350 bar	high pressure at 700 bar					
ZE3	0,59	0,59	0,57	0,55	Single-stage	4-8-10-20-40	0,75	70-700	75
	6,15	5,26	0,57	0,55	Two-stage				
ZE4	0,87	0,87	0,84	0,82	Single-stage	4-8-10-20-40	1,12	70-700	75
	8,88	8,20	0,84	0,82	Two-stage				
ZE5	1,75	1,72	1,68	1,64	Single-stage	10-20-40	2,24	70-700	75
	11,61	11,27	1,68	1,64	Two-stage				
ZE6	3,00	2,94	2,86	2,73	Single-stage	10-20-40	5,60	70-700	80
	12,29	12,15	2,86	2,73	Two-stage				

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

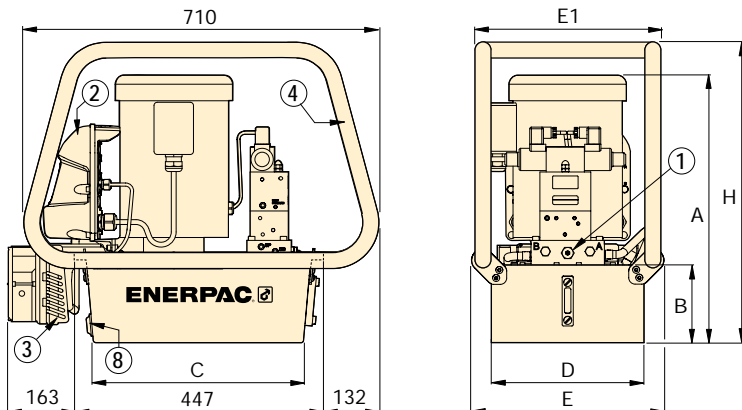


Single or Two-Stage

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 - 8 litres reservoir



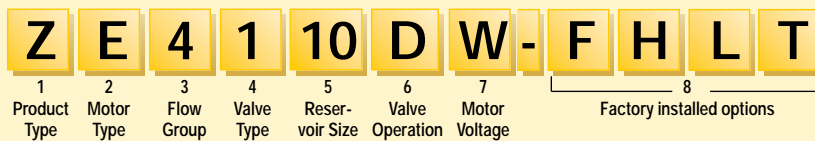
ZE-Series Pumps with 10 - 20 - 40 litres reservoir

- 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 Bar
- ⑤ Return Line Filter
- ⑥ Skid Bar
- ⑦ Oil Drain
- ⑧ Oil Drain / Oil Level/Temperature Switch

Reservoir Size (useable oil in litres)	ZE-Series Pump Dimensions (mm)						
	A	B	C	D	E	E1	H
4	457	143	279	152	-	-	520
8	519	205	287	168	-	-	582
10	533	155	419	305	384	340	600
20	558	180	419	422	501	490	625
40	648	270	399	505	576	572	715

ZE-Series, Pump Ordering Matrix

▼ This is how ZE-Series pump model numbers are built up:



1 Product Type

Z = Pump Class

2 Prime Mover

E = Induction electric motor

3 Flow Group

- 3** = 0,55 l/min @ 700 bar (0,75 kW)
- 4** = 0,82 l/min @ 700 bar (1,12 kW)
- 5¹⁾** = 1,64 l/min @ 700 bar (2,24 kW)
- 6¹⁾** = 2,73 l/min @ 700 bar (5,60 kW)

4 Valve Type

- 0** = No valve, with coverplate
- 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.

5 Reservoir Size, useable oil

- 04²⁾** = 4 litres
- 08²⁾** = 8 litres
- 10** = 10 litres
- 20** = 20 litres
- 40** = 40 litres

8 Factory installed options

- F** = Return Line Filter
- G⁶⁾** = 1000 bar gauge
- H⁷⁾** = Heat exchanger
- K** = Skid Bar (only on 4-8 litres)
- L⁷⁾** = Oil Level/Temperature Switch⁸⁾
- N** = No reservoir handles (includes lifting eyes)
- P⁷⁾** = Pressure Switch (only available on manual valves without locking feature)
- R** = Roll Bar
- S** = Single-stage pump unit
- T⁷⁾** = Pressure transducer⁹⁾
- U⁷⁾** = Foot Switch

- ¹⁾ ZE5 and ZE6-Series only available with 3-phase electric motors.
- ²⁾ 4 and 8 litres only available on ZE3 and ZE4-Series.
- ³⁾ ZE3 and ZE4-Series only available with 1-phase motors.
- ⁴⁾ 208-240V, 1 ph with European plug EMV directive compliant.
- ⁵⁾ Models with 3-ph motors without Electric Box shipped without cord, motor starter or overload protection.
- ⁶⁾ Not available on pumps with pressure transducer (T).
- ⁷⁾ Requires Electric Box.
- ⁸⁾ Not available on 4 and 8 litres reservoir.
- ⁹⁾ Provides digital pressure read-out on LCD-display of electric box.
- ¹⁰⁾ When using solenoid valve on valve type "W" order optional pendant.

All Z-Class electric pumps comply with CSA and CE requirements.



ZE Series



Reservoir Capacity:

4 - 40 litres

Flow at Rated Pressure:

0,55 - 2,73 l/min

Motor Size:

0,75 - 5,60 kW

Maximum Operating Pressure:

700 bar



How to Order Single-Stage Pumps

To specify a single-stage pump, place the letter "S" at the end of the model number. For example:

ZE4210ME-S

ZE4-Series pump, oil flow 0,82 l/min at 700 bar, VM32 manual valve, 10 litres reservoir, without electrical box, without pendant, 240 Volt 1-phase electric motor and single-stage pump unit.

ZE3120DW-S

ZE3-Series pump, oil flow 0,55 l/min at 700 bar, VE32D solenoid dump valve, 20 litres reservoir, with electrical box, without pendant, 400 Volt 3-phase electric motor and single-stage pump unit.



Pendants

When ordering Enerpac VE-Series solenoid valve for use on "W" type valve operation (No Valve, with Electric Box, without pendant) the pendant must be ordered separately. Pendant connection to be plugged into electric box.

▼ Shown: PPE-9483-4



The Axial Piston Pump with four independent outlets

- Single-speed operation with two and four independent split-flow outlets
- Two-speed operation with high-flow outlet
- Oil delivery of each outlet remains equal regardless of pressure
- 60 litres usable oil capacity allows operation of a wide range of cylinders
- Powerful 4 and 9,5 kW motor, available in three voltage options.

▼ To lift a rigid construction, four double-acting RR-2006 cylinders are powered by a 4-split electric PPE-9483-4 pump.



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: 124



Gauges

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

System Components section for a full range of gauges.

Page: 123



Locking Valves

Pumps with VM33 or VM43 manual valves may be ordered with locking valves. This locking feature provides

a hydraulic lock for the cylinder using pilot-operated check valves.

To order this option, just place an "L" suffix at the end of the model number.

For more information, contact your local Enerpac office.

Page: 137

Pump Type	Motor Size (kW)	Usable Oil Capacity (litres)	Pump Series*	Pressure Rating (bar)		Output Flow Rate (l/min)	
				1st stage	2nd stage	1st stage	2nd stage
Two-speed	4,0	60	PPN-8000	190	700	14,5	1 x 4,2
	9,5	60	PPN-9000	300	700	14,5	1 x 8,0
Single-speed	9,5	60	PPN-9000-2	–	700	–	2 x 5,0
	9,5	60	PPN-9000-4	–	700	–	4 x 2,5

* The "N" in the model number stands for No Valve. All pump models can be ordered with Manual or Solenoid Valves. See selection chart on next page.

8000 and 9000-Series, Electric Pumps

▼ This is how 8000- and 9000-Series Pump Model Numbers are built up:



1 Product Type

PP = Power Pump

2 Valve Control

N = No Valve
M = Manual
E = Solenoid (Electrical)

3 Pump Series

8 = 8000-Series, 4 kW
9 = 9000-Series, 9,5 kW

4 Valve Type

0 = No Valve
3 = 3-way, 3-position, manual valve (VM33) or solenoid valve (VE33)
4 = 4-way, 3-position, manual (VM43) or solenoid valve (VE43)

5 Reservoir Capacity

8 = 80 litres (usable 60 ltr)

6 Motor Voltage*

3 = 400 V, 3 ph, 50 Hz
5 = 230 V, 3 ph, 50 Hz
6 = 440 V, 3 ph, 50 Hz

* In the selection chart below only 400V models (suffix 3) are shown. To order 230V or 440V models, change this suffix to 5 or 6.

7 Split-Flow Outlets

9000-Series only
2 = 2 equal flow outlets of 5,0 l/min. at 700 bar
4 = 4 equal flow outlets of 2,5 l/min. at 700 bar

PP Series



Reservoir Capacity:

80 litres

Flow at Rated Pressure:

4 x 2,5 to 8,0 l/min

Motor Size:

4,0 - 9,5 kW

Maximum Operating Pressure:

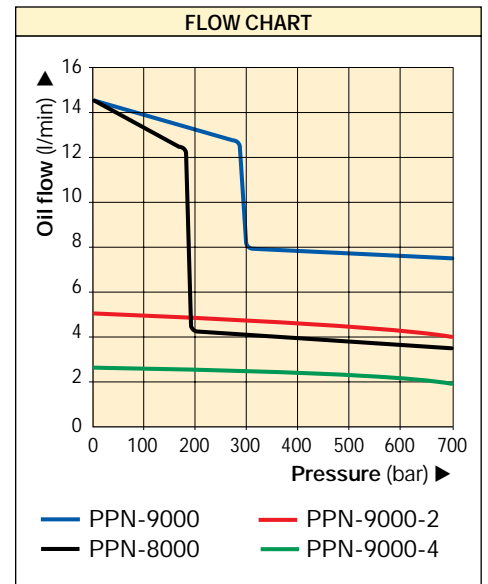
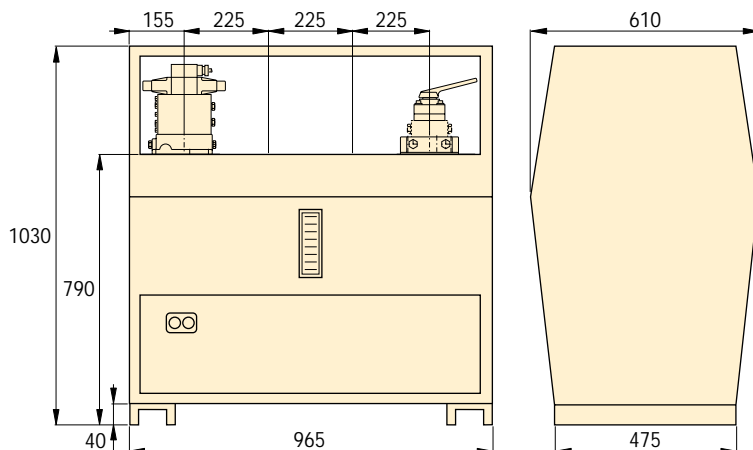
700 bar



Speed Chart

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

Page: 121



Used with Cylinder*	Valve Control	Valve Function	Valve Model Number	8000-Series High-flow outlet		9000-Series High-flow outlet		9000-Series 2 Split-flow outlets		9000-Series 4 Split-flow outlets	
				Model Number	(kg)	Model Number	(kg)	Model Number	(kg)	Model Number	(kg)
-	-	-	-	PPN-8083	274	PPN-9083	303	PPN-9083-2	304	PPN-9083-4	328
•	Manual	• • •	VM33	PPM-8383	275	PPM-9383	316	PPM-9383-2	319	PPM-9383-4	333
	• Manual	• • •	VM43	PPM-8483	275	PPM-9483	316	PPM-9483-2	319	PPM-9483-4	333
	• Solenoid	• • •	VE43	PPE-8483	286	PPE-9483	330	PPE-9483-2	340	PPE-9483-4	372

* = Single-Acting = Double-Acting