

ZU4-Series, Portable Electric Pumps

▼ Shown from left to right: ZU4304ME, ZU4420SE-H, ZU4304PE-K



- 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 Tough.
Dependable.
Innovative.
CLASS



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.

▼ COMMON PUMP MODELS

For technical information and other options see next page.

BASIC PUMP TYPES

Select the model that suits your application. For special requirements contact your Enerpac office.

Manual Valve

- Ideal choice for most applications.
- For single-acting or double-acting applications.
- Venturi Valve Technology (VM33VAC) for faster retract of single-acting cylinders.
- Motor control on shroud.

Manual Valve with Pendant *

- For light production and lifting applications.
- For single- or double-acting cylinders.
- Venturi Valve Technology (VM33VAC) for faster retract of single-acting cylinders.
- Manual valve with power seat (VM43LPS), ideal for post-tensioning applications.

Dump Valve *

- Ideal for punching, crimping and cutting.
- For use when load-holding is not required.

Solenoid Valve *

- Ideal for lifting applications and where remote control is required.
- Venturi Valve Technology (VE33VAC) for faster retract of single-acting cylinders.
- With VE32 valve, motor only runs during the advance function, while holding and retracting, the motor is off.
- Motor runs continuously on pumps with VE33 and VE43 valves.

* Pendant with 3 m. cord controls valve and motor.

ZU4-Series, Electric Pumps



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.



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 | Used with Cylinder | | Valve Function | | | Valve Type ¹⁾ | Pump Control | Useable Oil Capacity (litres) | Model Number 230 V - 1 phase - 50 Hz ²⁾ | | | Pro Electric Weight ³⁾ (kg) |
|-----------|--------------------|---|----------------|---|---|--------------------------|---------------|-------------------------------|--|-------------------------|--------------------------|--|
| | | | | | | | | | Classic Electric | Standard (STD) Electric | Pro Electric (incl. LCD) | |
| | ● | | ● | | ● | VM32 | Manual | 4,0 | ZU4204RE | ZU4204ME | ZU4204LE | 27 |
| | ● | | ● | | ● | VM32 | Manual | 8,0 | ZU4208RE | ZU4208ME | ZU4208LE | 32 |
| | ● | | ● | ● | ● | VM33VAC | Manual | 8,0 | ZU41008RE | ZU41008ME | ZU41008LE | 33 |
| | ● | | ● | ● | ● | VM33 | Manual | 20,0 | ZU4320RE | ZU4320ME | ZU4320LE | 50 |
| | | ● | ● | ● | ● | VM43 | Manual | 8,0 | ZU4408RE | ZU4408ME | ZU4408LE | 32 |
| | | ● | ● | ● | ● | VM43 | Manual | 20,0 | ZU4420RE | ZU4420ME | ZU4420LE | 50 |
| | ● | | ● | | ● | VM32 ⁴⁾ | Remote (Man.) | 4,0 | ZU4704PE ⁴⁾ | ZU4204JE | ZU4204KE | 27 |
| | ● | | ● | | ● | VM33VAC | Remote (Man.) | 8,0 | ZU41008PE | ZU41008JE | ZU41008KE | 33 |
| | ● | | ● | | ● | VM32 ⁴⁾ | Remote (Man.) | 20,0 | ZU4720PE ⁴⁾ | ZU4220JE | ZU4220KE | 50 |
| | ● | | ● | ● | ● | VM33 | Remote (Man.) | 8,0 | ZU4308PE | ZU4308JE | ZU4308KE | 32 |
| | | ● | ● | ● | ● | VM43 | Remote (Man.) | 8,0 | ZU4408PE | ZU4408JE | ZU4408KE | 32 |
| | | ● | ● | ● | ● | VM43 | Remote (Man.) | 20,0 | ZU4420PE | ZU4420JE | ZU4420KE | 50 |
| | ● | | ● | | ● | VE32D | Remote | 4,0 | N/A | N/A | ZU4104DE | 29 |
| | ● | | ● | | ● | VE32D | Remote | 8,0 | N/A | N/A | ZU4108DE | 33 |
| | ● | | ● | | ● | VE32D | Remote | 20,0 | N/A | N/A | ZU4120DE | 51 |
| | | | | | | – | – | – | – | – | – | – |
| | | | | | | – | – | – | – | – | – | – |
| | | | | | | – | – | – | – | – | – | – |
| | ● | | ● | ● | ● | VE32 | Remote | 4,0 | N/A | N/A | ZU4204SE | 29 |
| | ● | | ● | ● | ● | VE32 | Remote | 8,0 | N/A | N/A | ZU4208SE | 33 |
| | ● | | ● | ● | ● | VE33 | Remote | 8,0 | N/A | N/A | ZU4308SE | 39 |
| | ● | | ● | ● | ● | VE33VAC | Remote | 8,0 | N/A | N/A | ZU41108SE | 40 |
| | | ● | ● | ● | ● | VE43 | Remote | 8,0 | N/A | N/A | ZU4408SE | 39 |
| | | ● | ● | ● | ● | VE43 | Remote | 20,0 | N/A | N/A | ZU4420SE | 56 |
| | | | | | | – | – | – | – | – | – | – |
| | | | | | | – | – | – | – | – | – | – |

¹⁾ See valves section for technical information on valve types. ²⁾ See custom order matrix on page 89 for other voltage options.

³⁾ Subtract 1,4 kg for Standard (STD) Electric models. ⁴⁾ ZU47... pump models have VM22 3-way, 2 position manual valve for foundation repair applications.



Pressure Transducer *

- More durable than analog gauges (against mechanical and hydraulic shock)
- More accurate than analog gauges (0,5% full scale of pump)
- Calibration can be fine tuned for certification
- “Set pressure” feature turns off motor at user defined pressure (or shifts valve to neutral on models with VE33/VE43 valves)
- Display pressure in bar, psi or MPa.

* Requires LCD Electric


| Accessory Kit Model Number | 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.



Level/Temperature Switch

- Ensures feedback on pump oil level and temperature
- Drop-in design allows for easy installation to pump reservoir
- Plugs directly into pump electrical enclosure
- Built-in thermal sensing shuts off pump when unsafe operating temperature is reached
- Oil level switch shuts down pump before oil reaches an unsafe operating level.

| Model Number | Operating Temperature (°C) | Maximum Pressure (bar) |  (kg) |
|--------------|----------------------------|------------------------|--|
| ZLS-U4 * | 5-110 | 10 | 0,1 |

* Add suffix **L** for factory installation.



Hoses

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

Page: 122



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: 130



Foot Switch

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

| Accessory Kit Modelnr. | Can be used on ZU4-Series Pumps with |
|------------------------|--------------------------------------|
| ZCF-2 * | Solenoid VE-Series valves |

* Add suffix **U** for factory installation.



Roll Cage

- Protects pump
- Provides greater pump stability.

| Accessory Kit Modelnr. | Fits on reservoir |
|------------------------|------------------------------|
| ZRC-04 * | 4 and 8 litres ¹⁾ |
| ZRC-04H * | 4 and 8 litres ²⁾ |
| ZRB-10 * | 10 litres |
| ZRB-20 * | 20 litres |
| ZRB-40 * | 40 litres |

* Add suffix **R** for factory installation.


¹⁾ Without heat exchanger

²⁾ With heat exchanger.



Skid Bar

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

| Accessory Kit Modelnr. | Fits on reservoir |  (kg) |
|------------------------|----------------------------------|--|
| SBZ-4 * | 4 and 8 l without heat exchanger | 2,2 |
| SBZ-4L * | 4 and 8 l with heat exchanger | 3,2 |

* Add suffix **K** for factory installation.

ZU4-Series, Options & Accessories



ZU4-Series Options

Accessory Kits can be installed by the customer.

See chart below for all possible options on ZU4-Series pumps:

- Classic Electric,
 - Standard (STD) Electric (no LCD)
 - Pro Electric (with LCD).
- Refer to page 97 for ordering matrix.

| ZU4-Series Options | Factory Installed | | | Accessory Kits | | |
|--------------------------|-------------------|-------------------|--------------|------------------|-------------------|--------------|
| | Classic Electric | Standard Electric | Pro Electric | Classic Electric | Standard Electric | Pro Electric |
| Return Line Filter | F | F | F | ZPF | ZPF | ZPF |
| Skid Bar ¹⁾ | K | K | K | SBZ | SBZ | SBZ |
| Roll Cage | R | R | R | ZRC | ZRC | ZRC |
| Heat Exchanger | H | H | H | ZHE | ZHE | ZHE |
| 1000 bar Pressure Gauge | G | G | G | G | G | G |
| Pressure Transducer | - | - | T | - | - | ZPT-U4 |
| Level/Temperature Switch | - | - | L | - | - | ZLS-U4 |
| Foot Switch | - | - | U | - | - | ZCF-2 |
| | | | | | | |
| | | | | | | |

¹⁾ Skid Bar not in combination with Roll Cage.

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



Return Line Filter

- 25 micron filter removes contaminants from return oil flow
- By-pass valve prevents damage if filter is dirty
- With maintenance indicator.

| 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.



Heat Exchanger

- 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.

| Accessory Kit Nr. | Can be used on | (kg) |
|-------------------|----------------|------|
| ZHE-U115 * | 115 V pumps | 4,1 |
| ZHE-U230 * | 230 V pumps | 4,1 |

* Add suffix **H** for factory installation.



Heat Exchanger

Can be factory installed on ZU4-Series Classic, Standard Electric and Pro Electric models.

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

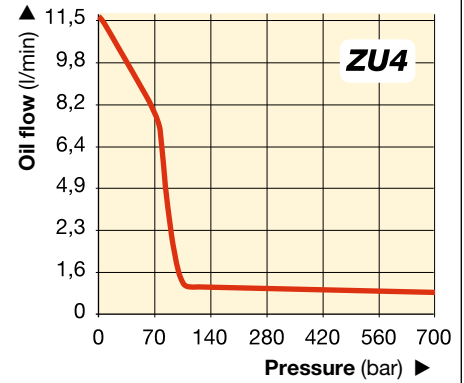
Do not exceed maximum oil flow and pressure ratings. Heat exchanger is not suitable for water-glycol or high water based fluids.

| 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.

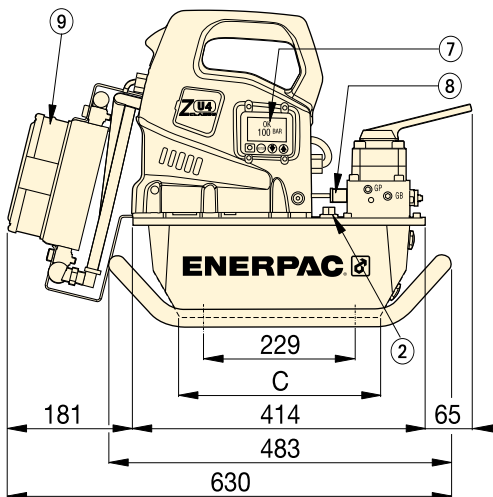
ZU4, Specifications and Dimensions

OIL FLOW VERSUS PRESSURE

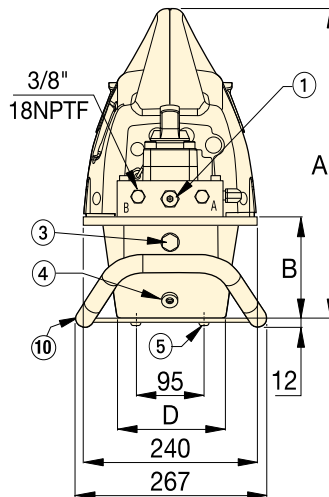


ZU4-SERIES PERFORMANCE CHART

| Motor Size (kW) | Output Flow Rate at 50 Hz (l/min) | | | | Motor Electrical Specifications (Volts-Ph-Hz) | Sound Level (dBA) | Relief Valve Adjustment Range (bar) |
|--------------------|-----------------------------------|--------|---------|---------|--|----------------------|--|
| | 7 bar | 50 bar | 350 bar | 700 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 with 4 and 8 litres reservoirs

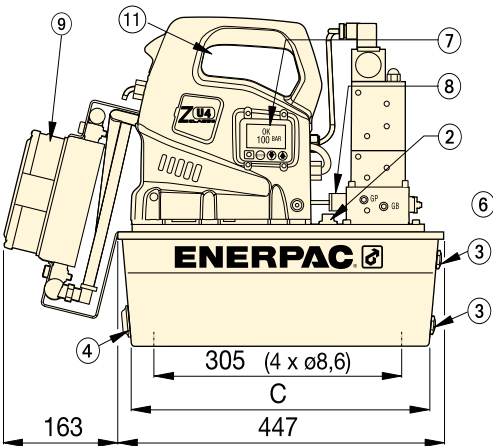


3/8"-18 NPTF Advance and Retract Ports

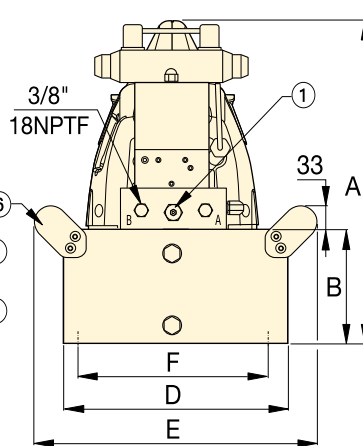
- ① User adjustable relief valve
- ② Oil fill port SAE #10 7/8"-14 UNF-2B
- ③ Oil level sight gauge
- ④ Oil drain 1/2" NPTF
- ⑤ M8, 6 mm deep
- ⑥ Handles on all 10, 20 and 40 litres reservoirs.

Options (see chart on page 95):

- ⑦ Back-lit LCD Electric
- ⑧ Pressure transducer
- ⑨ Heat Exchanger
- ⑩ Skid Bar
Fits 4 and 8 litres reservoirs
- ⑪ Handle guard installed on all 10, 20 and 40 litres reservoirs
- ⑫ Reservoir handles (not shown) included on all 10, 20 and 40 litres reservoirs.



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



Pump Dimensions (mm)

| Usable Reservoir Capacity (litres) | A | B | C | D | E | F |
|------------------------------------|-----|-----|-----|-----|-----|-----|
| 4,0 | 424 | 142 | 279 | 152 | - | - |
| 8,0 | 424 | 142 | 279 | 206 | - | - |
| 10,0 | 439 | 157 | 413 | 305 | 384 | 279 |
| 20,0 | 465 | 180 | 413 | 422 | 500 | 396 |
| 40,0 | 551 | 269 | 399 | 503 | 576 | 480 |

ZU4-Series, Pump Ordering Matrix

CUSTOM BUILD YOUR ZU4-SERIES PUMP

If the ZU4-Series pump that would best fit your application cannot be found in the chart on page 93, you can easily build your custom ZU4-Series pump here.

▼ 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 | | Options and 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 (see page 116-117 for more details)

- 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 w/po check (**VM33L**)
- 7** = 3 way/2 position manual (**VM22**)
- 8** = 4 way/3 position locking manual w/po check (**VM43L**)
- 9** = 4 way/3 position manual w/power seating (**VM43LPS**)
- 10** = 3 way/3 position manual Venturi valve (**VM33VAC**)
- 11** = 4 way/3 position electric Venturi valve (**VE33VAC**)
- 12** = 3 way/3 position manual locking Venturi valve (**VM33LVAC**)

5 Reservoir Size (useable capacity)

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

6 Valve Operation

- D** = Dump (solenoid valve w/pendant and LCD Electric)
- J** = Jog (manual valve w/pendant and Standard Electric (i.e. w/o LCD))
- K** = Jog (manual valve w/pendant and LCD Electric)
- L** = Manual valve w/LCD Electric (w/o pendant)
- P** = Manual valve w/pendant and classic electric (i.e. w/o LCD)
- R** = Manual valve w/Classic electric (i.e. w/o LCD) [w/o pendant]
- M** = Manual valve w/Standard Electric (i.e. w/o LCD) [w/o pendant]
- S** = Solenoid valve w/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)

8 Options and Accessories (see pages 95-96 for possibilities)

- F** = Filter
- G** = 0-1000 bar pressure gauge (ø 63,5 mm) ¹⁾
- H** = Heat exchanger
- K** = Skid Bar (4 and 8 litres reservoirs only)
- L** = Level/temperature switch ^{2),3)}
- N** = No reservoir handles (includes lifting eyes)
- R** = Roll Cage
- T** = Pressure transducer ²⁾
- U** = Foot switch

- ¹⁾ Pressure gauge not available on pump models with pressure transducer
- ²⁾ These options require Pro Electric
- ³⁾ Not available on 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



Speed Chart

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

Page: **273**



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.

Page: **116**



Ordering Example: ZU4108DE-HKT

is a Pro Electric model pump with LCD, 1,0 l/min oil flow at 700 bar, pump with a dump valve, an 8 liter reservoir, operates on 230V, heat exchanger, pressure transducer and skid bar.



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.

Page: **117**