

▼ Shown from left to right: ZU4108DB-T, ZU4420SB-H, ZU4304ME-K



- Features **Z-Class** high-efficiency pump design; higher oil flow and bypass pressure, cooler running and requires 18% less current draw than comparable pumps
- Powerful 1.7 hp universal electric motor provides high power-to-weight ratio and excellent low-voltage operating characteristics
- High-strength, molded composite shroud protects motor and electronics, while providing an ergonomic, non-conductive handle for easy transport
- Low-voltage pendant provides additional safety for the operator (remote control units)
- LCD readout provides a number of diagnostic and readout capabilities never before offered on a portable electric pump (included with electric valves, optional with manual 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
- Manual valve control, for single-acting or double-acting applications
- Motor control on shroud

#### Manual Valve with Pendant

- For light production and lifting applications
- Manual valve control for single-acting or double-acting cylinders
- Low-voltage control pendant with 10-ft. cord for remote motor operation

#### Dump Valve

- Ideal for punching, crimping and cutting
- For use when load-holding is not required
- Low-voltage control pendant with 10-ft. cord controls valve and motor

#### Solenoid Valve

- 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
- Low-voltage control pendant with 10 ft. cord for remote motor and valve operation



◀ *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.*

# ZU-Series, Electric Pumps



## ZU4 Pump Application

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

Patented 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 tools.

Its lightweight and compact design make it ideal for applications which require easy transport of the pump. It utilizes 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.



## ZU Series



Reservoir Capacity:

**1.0-10.0 gal.**

Flow at Rated Pressure:

**60 in<sup>3</sup>/min.**

Motor Size:

**1.7 hp**

Maximum Operating Pressure:

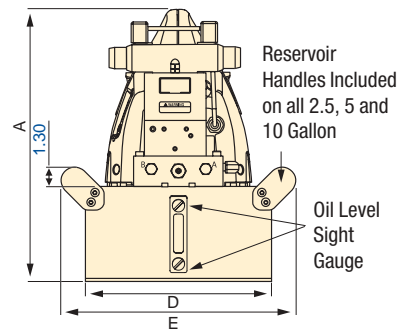
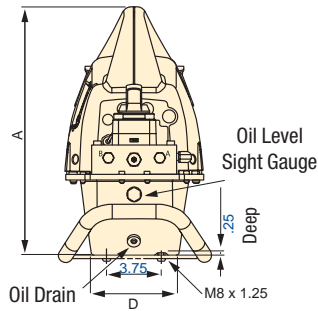
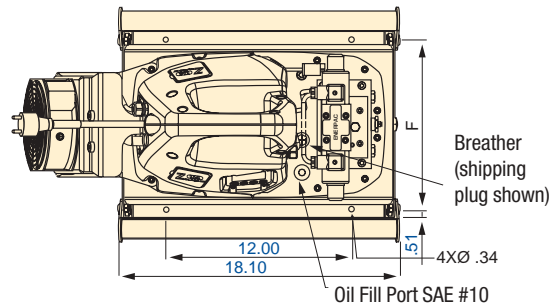
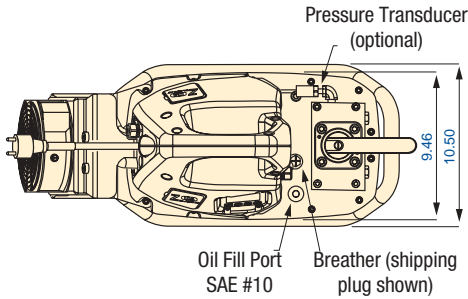
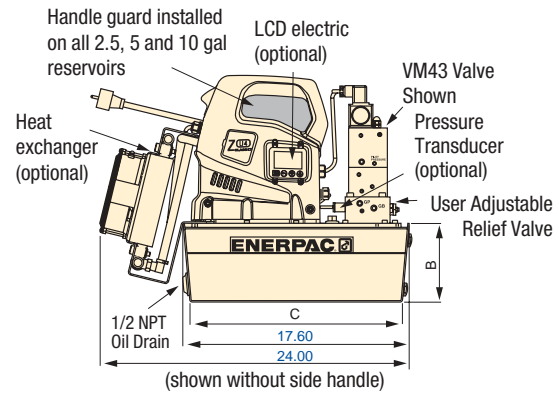
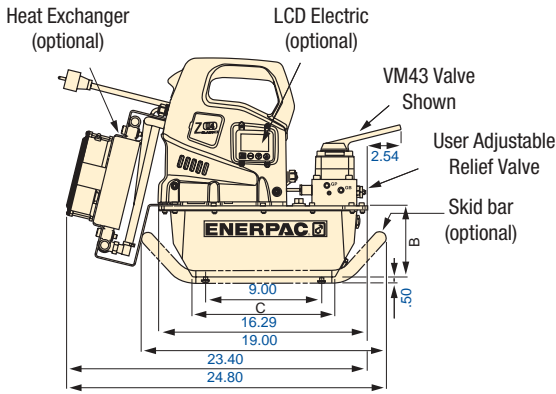
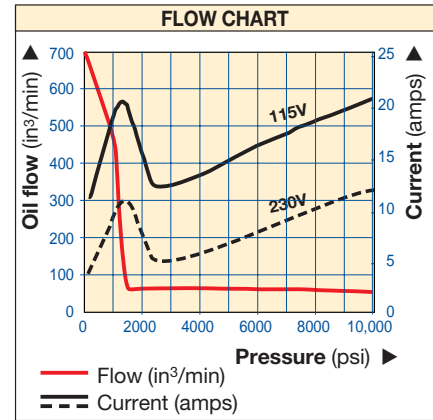
**10,000 psi**

| Pump Type | Used with Cylinder |   | Valve Function |   |   | Valve Type <sup>2)</sup> | Pump Control  | Usable Oil Capacity<br>(gal) | Model Number<br>115 VAC <sup>3)</sup><br>1 Phase |              | LCD Product Weight<br>w/oil <sup>4)</sup><br>(lbs) |
|-----------|--------------------|---|----------------|---|---|--------------------------|---------------|------------------------------|--|--------------|--|
|           |                    |   |                |   |   |                          |               |                              | STD Electric                                     | LCD Electric |  |
|           | ●                  |   | ●              |   | ● | VM32                     | Manual        | 1.0                          | ZU4204MB   | ZU4204LB     | 59   |
|           | ●                  |   | ●              |   | ● | VM32                     | Manual        | 2.0                          | ZU4208MB   | ZU4208LB     | 69   |
|           | ●                  |   | ●              | ● | ● | VM33                     | Manual        | 2.0                          | ZU4308MB   | ZU4308LB     | 70   |
|           | ●                  |   | ●              | ● | ● | VM33                     | Manual        | 5.0                          | ZU4320MB   | ZU4320LB     | 109  |
|           |                    | ● | ●              | ● | ● | VM43                     | Manual        | 2.0                          | ZU4408MB   | ZU4408LB     | 70   |
|           |                    | ● | ●              | ● | ● | VM43                     | Manual        | 5.0                          | ZU4420MB   | ZU4420LB     | 109  |
|           | ●                  |   | ●              |   | ● | VM32                     | Remote (Man.) | 1.0                          | ZU4204JB   | ZU4204KB     | 60   |
|           | ●                  |   | ●              |   | ● | VM32                     | Remote (Man.) | 2.0                          | ZU4208JB   | ZU4208KB     | 70   |
|           | ●                  |   | ●              |   | ● | VM32                     | Remote (Man.) | 5.0                          | ZU4220JB   | ZU4220KB     | 109  |
|           | ●                  |   | ●              | ● | ● | VM33                     | Remote (Man.) | 2.0                          | ZU4308JB   | ZU4308KB     | 71   |
|           |                    | ● | ●              | ● | ● | VM43                     | Remote (Man.) | 2.0                          | ZU4408JB   | ZU4408KB     | 71   |
|           |                    | ● | ●              | ● | ● | VM43                     | Remote (Man.) | 5.0                          | ZU4420JB   | ZU4420KB     | 110  |
|           | ●                  |   | ●              |   | ● | VE32D                    | Remote        | 1.0                          | N/A  | ZU4104DB     | 63   |
|           | ●                  |   | ●              |   | ● | VE32D                    | Remote        | 2.0                          | N/A  | ZU4108DB     | 73   |
|           | ●                  |   | ●              |   | ● | VE32D                    | Remote        | 5.0                          | N/A  | ZU4120DB     | 112  |
|           |                    |   |                |   |   | -                        | -             | -                            | -  | -            | -  |
|           |                    |   |                |   |   | -                        | -             | -                            | -  | -            | -  |
|           |                    |   |                |   |   | -                        | -             | -                            | -  | -            | -  |
|           | ●                  |   | ●              |   | ● | VE32                     | Remote        | 1.0                          | N/A  | ZU4204SB     | 63   |
|           | ●                  |   | ●              |   | ● | VE32                     | Remote        | 2.0                          | N/A  | ZU4208SB     | 73   |
|           | ●                  |   | ●              | ● | ● | VE33                     | Remote        | 2.0                          | N/A  | ZU4308SB     | 85   |
|           |                    | ● | ●              | ● | ● | VE43                     | Remote        | 2.0                          | N/A  | ZU4408SB     | 85   |
|           |                    | ● | ●              | ● | ● | VE43                     | Remote        | 5.0                          | N/A  | ZU4420SB     | 124  |
|           |                    |   |                |   |   | -                        | -             | -                            | -  | -            | -  |
|           |                    |   |                |   |   | -                        | -             | -                            | -  | -            | -  |
|           |                    |   |                |   |   | -                        | -             | -                            | -  | -            | -  |

- 1) All models meet CE safety requirements. "E" voltage versions also meet all requirements of the European EMC-Directive.
- 2) See valves section for technical information on valve types.
- 3) See custom order matrix for other voltage options.
- 4) Subtract 3 lbs. for STD Electric models.

# ZU Series, Specifications and Dimensions

| ZU4 Performance |                        |         |          |            |                                |             |                               |               |       |
|-----------------|------------------------|---------|----------|------------|--------------------------------|-------------|-------------------------------|---------------|-------|
| Motor Size      | Output Flow Rate       |         |          |            | Motor Electrical Specification | Sound Level | Relief Valve Adjustment Range |               |       |
|                 | (in <sup>3</sup> /min) |         |          |            |                                |             |                               | (volts-ph-Hz) | (dBA) |
| (hp)            | 100 psi                | 700 psi | 5000 psi | 10,000 psi | (volts-ph-Hz)                  | (dBA)       | (psi)                         |               |       |
| 1.7             | 700                    | 535     | 76       | 60         | 115-1-50/60<br>230-1-50/60     | 85-90       | 2,000-10,000                  |               |       |



◀ Increased output flow and extended brush life increase productivity for post-tensioning applications.

| Usable Reservoir Capacity (gal) | Pump Dimensions |        |        |        |        |        |
|---------------------------------|-----------------|--------|--------|--------|--------|--------|
|                                 | A (in)          | B (in) | C (in) | D (in) | E (in) | F (in) |
| 1.0                             | 17.0            | 5.6    | 11.0   | 6.0    | -      | -      |
| 2.0                             | 19.5            | 8.0    | 11.3   | 6.6    | -      | -      |
| 2.5                             | 17.6            | 6.1    | 16.5   | 12.0   | 15.1   | 11.0   |
| 5.0                             | 18.6            | 7.1    | 16.3   | 16.6   | 19.7   | 15.6   |
| 10.0                            | 22.0            | 10.6   | 15.7   | 19.9   | 22.7   | 18.9   |

## 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 81, you can easily build your custom ZU4 Series pump here.

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

|              |            |            |            |                |                 |          |          |          |          |          |  |
|--------------|------------|------------|------------|----------------|-----------------|----------|----------|----------|----------|----------|--|
| <b>Z</b>     | <b>U</b>   | <b>4</b>   | <b>4</b>   | <b>08</b>      | <b>L</b>        | <b>B</b> | <b>-</b> | <b>H</b> | <b>K</b> | <b>T</b> |  |
| 1            | 2          | 3          | 4          | 5              | 6               | 7        | 8        | 8        | 8        | 8        |  |
| Product Type | Motor Type | Flow Group | Valve Type | Reservoir Size | Valve Operation | Voltage  | Options  | Options  | Options  | Options  |  |

### 1 Product Type

Z = Pump Series

### 2 Motor Type

U = Universal electric motor

### 3 Flow Group

4 = 60 in<sup>3</sup>/min @ 10,000 psi

### 4 Valve Type (see page 130 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 (VM33-L)
- 8 4 way/3 position locking manual w/po check (VM43-L)
- 9 4 way/3 position manual w/power seating (VM43-LPS)

### 5 Reservoir Size (useable capacity)

- 04 = 1.0 gallon
- 08 = 2.0 gallon
- 10 = 2.5 gallon (includes side handles)
- 20 = 5.0 gallon (includes side handles)
- 40 = 10.0 gallon (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)
- 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 (w/European plug CE RF compliant)
- I = 208-240V 1 ph 50/60 Hz (w/NEMA 5-15 plug)

### 8 Options

- F = Filter
- G = 0-15,000 psi Gauge (2 1/2")<sup>1)</sup>
- H = Heat exchanger<sup>2)</sup>
- K = Skidbar (1 and 2 gallon reservoirs only)
- L = Level/temp switch<sup>2) 3)</sup>
- N = No reservoir handles (includes lifting eyes)
- R = Roll Bar
- T = Pressure transducer
- U = Foot switch

<sup>1)</sup> Pressure gauge not available on pump models with pressure transducer

<sup>2)</sup> These options require LCD electric

<sup>3)</sup> Not available on 1 and 2 gallon reservoirs

## ZU Series



Reservoir Capacity:

**1.0-10.0 gal.**

Flow at Rated Pressure:

**60 in<sup>3</sup>/min.**

Motor Size:

**1.7 hp**

Maximum Operating Pressure:

**10,000 psi**



### Speed Chart

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

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### Ordering Example

**Model Number:**  
**ZU4408LB-HKT**

ZU4408LB-HKT is a 60 in<sup>3</sup>/min at 10,000 psi pump with a 4 gal (8-liter) reservoir, operates on 115V 1ph 50/60 Hz and is specified with optional LCD electrical panel, heat exchanger, pressure transducer and skidbar.



### Torque Wrench Pumps

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

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## Back-lit LCD\*

- 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 (English, Spanish, German, French, Italian, Portuguese)

\* Optional with manual valves, included with solenoid valves



## Foot Switch

- Hands-free remote control on solenoid dump and 3-position valves
- With 10 foot cord

| Accessory Kit No. | Can be used on ZU4 pumps with |
|-------------------|-------------------------------|
| ZCF-2 *           | Solenoid VE-Series valves     |

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



## ZU4-Series Features

The LCD is factory installed and cannot be ordered separately. Refer to page 80 for selection chart and page 83 for ordering matrix.



## 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 psi, bar, or MPa

\* Requires LCD Electric

| Accessory Kit model number | Adjustable Pressure Range (psi) | Switch-point repeatability | Dead-band (psi) |
|----------------------------|---------------------------------|----------------------------|-----------------|
| ZPT-U4 *                   | 50-10,000                       | ± 0,5%                     | 50              |

\* 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 (° F) | Maximum Pressure (psi) | Weight (lbs) |
|--------------|-----------------------------|------------------------|--------------|
| ZLS-U4       | 40-230                      | 150                    | .11          |

\* 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.

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## Gauges

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

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# ZU-Series Factory Installed Options and Accessories



## Heat Exchanger\*

- 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

\* Requires LCD Electric

| Accessory Kit No. | Fits on reservoir           | Weight (lbs) |
|-------------------|-----------------------------|--------------|
| ZHE-U4 *          | 1, 2, 2.5, 5, and 10 gallon | 9.1          |

\* Add suffix H 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 Model Number | Maximum Pressure (psi) | Maximum Oil Flow (GPM) | By-pass Setting (psi) |
|----------------------------|------------------------|------------------------|-----------------------|
| ZPF *                      | 200                    | 12.0                   | 25                    |

\* Add suffix F for factory installation.



## Heat Exchanger

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

- Extends system life.
- Stabilizes oil temperature at a maximum of 130 °F at 70 °F 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              | (psi)            | (GPM)            | (VDC)   |
| 900                | 900              | 7.0              | 12      |

\* At GPM at 70 °F ambient temperature.

## ZU Series



Reservoir Capacity:

**1.0-10.0 gal.**

Flow at Rated Pressure:

**60 in<sup>3</sup>/min.**

Motor Size:

**1.7 hp**

Maximum Operating Pressure:

**10,000 psi**



## Skidbar\*

- Provides easy two-hand lift
- Provides greater pump stability on soft or uneven surfaces
- Also available as an add-on kit (model number SBZ-4)

\* 1 and 2 gallon reservoirs only

| Accessory Kit No. | For ZU-Series pumps with reservoir | Weight (lbs) |
|-------------------|------------------------------------|--------------|
| SBZ-4 *           | 1-2 gal. w/o heat exchanger        | 4.8          |
| SBZ-4L *          | 1-2 gal. with heat exchanger       | 7.0          |

\* Add suffix K for factory installation.