

ENERPAC 

ZU4 Electric Pumps



ENERPAC[®]
INDUSTRIAL TOOLS

Z Tough.
Dependable.
Innovative.
ZCLASS

High-pressure pumps designed specifically for tough construction applications.

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 electric pumps from Enerpac—simply the best pump you will ever use.



An Innovation in Pump Design

Z-Class Pumping Element

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.

ZU4 Electric Pumps

Heavy-duty composite shroud protects electric motor and key electrical components from environmental contamination, rain and debris and provides a non-conductive ergonomic handle for the operator.

Low-voltage pendant features sealed switches and operates at 15 vdc for improved operator safety.

Easily accessible brush cavity allows rapid brush replacement in the field.

Brush design lasts 4-times longer than current designs and features “auto-stop” shunt to prevent commutator damage from normal brush wear.

Reduced current draw extends brush life and reduces electrical load on electrical circuits and generators.



Optional back-lit LCD

- 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)

ZU4 Electric Pumps

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



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CLASS

▼ **COMMON PUMP MODELS**

For technical information and other options see next page.

- 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)

BASIC PUMP TYPES

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

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

Manual Valve

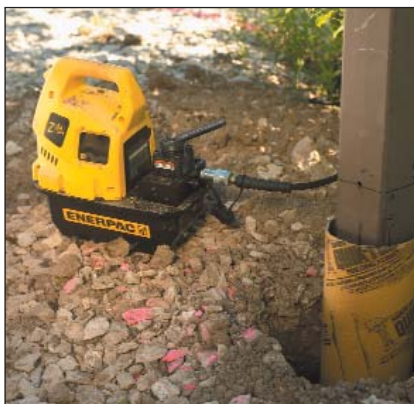
- Ideal choice for most applications
- Manual valve control, for single-acting or double-acting applications
- Motor control on shroud

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

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



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



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.

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 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.

ZU4 Series



Reservoir Capacity:
1.0-10.0 gal.

Flow at Rated Pressure:
60 in³/min.

Motor Size:
1.7 hp

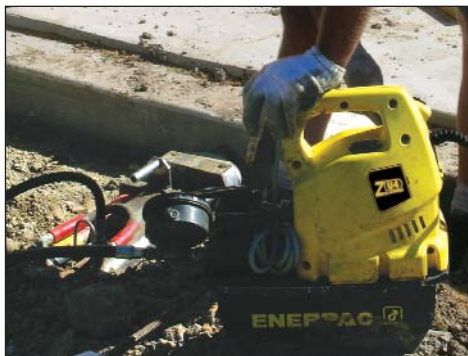
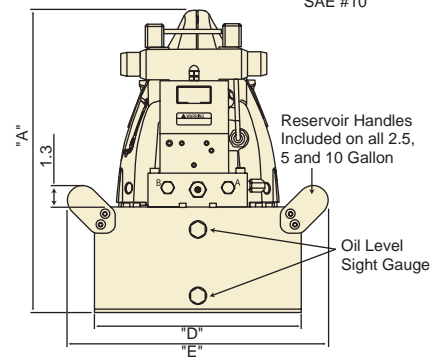
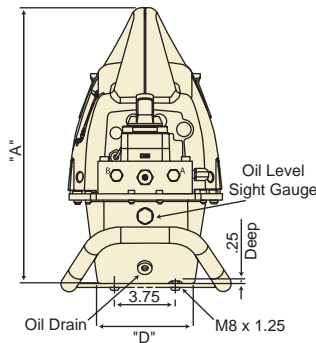
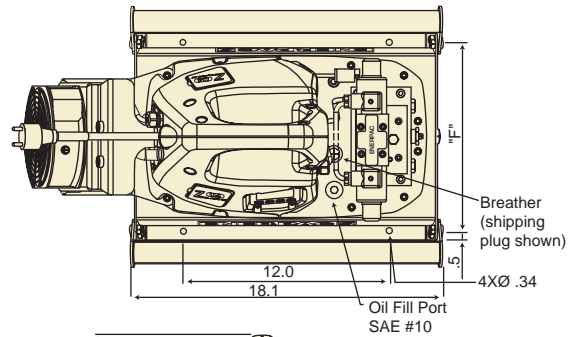
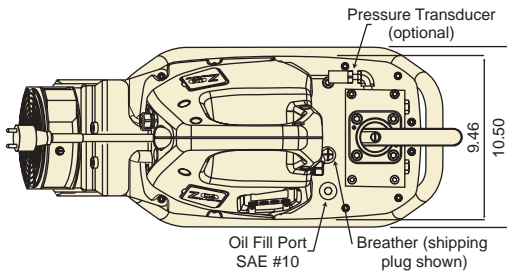
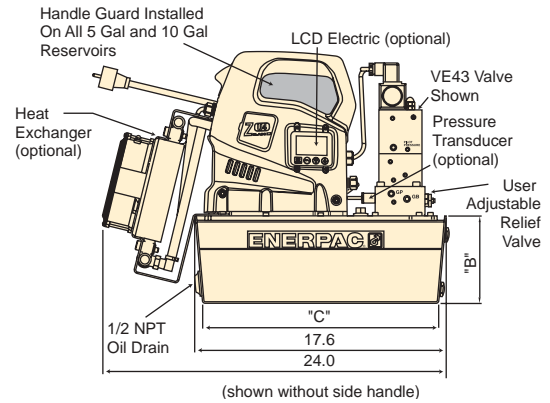
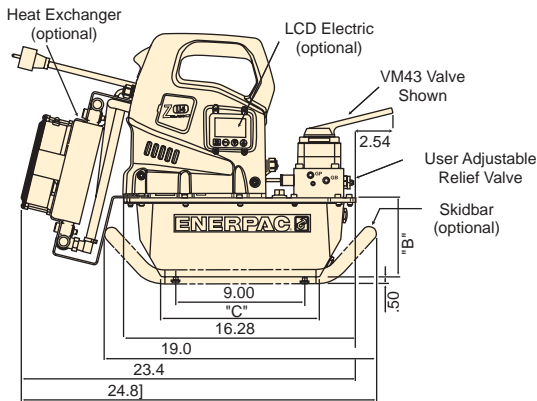
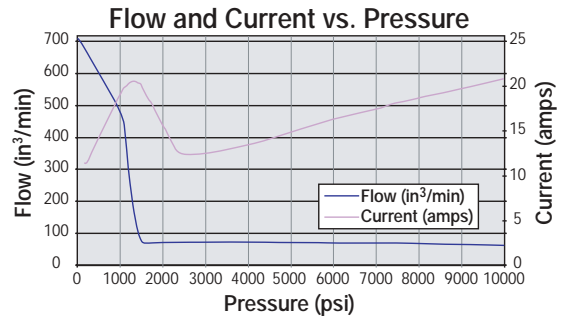
Maximum Operating Pressure:
10,000 psi

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

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

ZU4 Electric Pumps

| ZU4 Performance | | | | | | | | | |
|-----------------|------------------------|---------|-----------|------------|--------------------------------|-------------|-------------------------------|---------------|-------|
| Motor Size | Output Flow Rate | | | | Motor Electrical Specification | Sound Level | Relief Valve Adjustment Range | | |
| | (in ³ /min) | | | | | | | (volts-ph-Hz) | (dBA) |
| (hp) | 100 psi | 700 psi | 5,000 psi | 10,000 psi | | | | | |
| 1.7 | 700 | 535 | 76 | 60 | 115-1-50/60 230-1-50/60 | 85-90 | 2,000-10,000 | | |



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

| Pump Dimensions | | | | | | |
|---------------------------------|--------|--------|--------|--------|--------|--------|
| Usable Reservoir Capacity (gal) | 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 |

ZU4 Electric Pumps

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

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

| | | | | | | | | | | | |
|--------------|------------|------------|------------|----------------|-----------------|----------|----------|----------|----------|----------|---------|
| Z | U | 4 | 4 | 08 | L | B | - | H | K | T | |
| 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 Prime Mover

U = Universal electric motor

3 Flow Group

4 = 60 in³/min @ 10,000 psi

4 Valve Type (see page 9 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)

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

- H Heat exchanger (requires LCD Electric) [adds 9.1 lbs.]
- K Skidbar (1 and 2 gallon reservoirs only) [adds 4.9 lbs.]
- T Pressure transducer (requires LCD Electric)

Ordering Example 1

Model Number: ZU4408LB-HKT

ZU4408LB-HKT is a 60 in³/min @ 10,000 psi pump with a 4-way, 3-position manual valve, an 2 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.

Ordering Example 2

Model Number: ZU4440SB-H

ZU4440SB-HK is a 60 in³/min @ 10,000 psi pump with a 4-way, 3-position solenoid valve which includes the LCD display, a 10 gal (40-liter) reservoir, operates on 115V 1ph 50/60 Hz and is specified with optional heat exchanger.

ZU4 Series



Reservoir Capacity:

1.0-10.0 gal.

Flow at Rated Pressure:

60 in³/min.

Motor Size:

1.7 hp

Maximum Operating Pressure:

10,000 psi



Reservoirs

Steel reservoirs in a range of sizes, provide durability and the optimum oil capacity to operate many different cylinder and system sizes.



Cross-over model example

| TITAN Model | ZU4 STD Elec. | ZU4 LCD Elec. |
|-------------|---------------|---------------|
| PUD-3109B | N/A | ZU4108DB |
| PUD-3309B | N/A | ZU4208SB |
| PUM-3209B | ZU4208MB | ZU4208LB |
| PUM-3309E | ZU4308ME | ZU4308LE |
| PUM-3409B | ZU4408MB | ZU4408LB |
| PUM-3420B | ZU4420MB | ZU4420LB |
| PUR-3405B | N/A | ZU4404SB |
| PUR-3408Y | N/A | ZU4408SB |
| PUR-3420B | N/A | ZU4420SB |
| PUJ-3309B | ZU4308JB | ZU4308KB |
| PUJ-3409B | ZU4408JB | ZU4408KB |
| PUJ-3220B | ZU4220JB | ZU4220KB |



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



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
- Easy-viewing variable rate display (automatically varies increments between 50, 100, 500 and 1,000 psi 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/VE43 valves)
- Display pressure in psi, bar, or MPa

* Requires LCD Electric

ZU4 Series

Reservoir Capacity:

1.0-10.0 gal.

Flow at Rated Pressure:

60 in³/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



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

Z-Class Directional Control Valves

▼ VE43



Exclusive to
Z-Class pumps

VM,
VE
Series



Flow Capacity:

4.5 gal/min.

Maximum Operating Pressure:

10,000 psi

- All valves feature several gauge ports for "system", A port and B port pressure monitoring based on application requirement
- User adjustable relief valves allow the operator to easily set the optimum working pressure for each application
- All valves except VM32 and VE32D include "**System Check**" feature, for more precise pressure holding and improved system control

| Model Number | Hydraulic Symbol | Schematic Flowpath | | |
|--------------|------------------|--------------------|------|---------|
| | | Advance | Hold | Retract |
| VM32 | | | | |
| VM33 | | | | |
| VM43 | | | | |
| VE32D | | | | |
| VE32* | | | | |
| VE33 | | | | |
| VE43 | | | | |

Locking Valves

For applications that require positive load holding, VM Series valves (except the VM32 valve) are available with a pilot-operated check valve. This option provides hydraulic locking of the load until the valve is shifted into the retract position.

VM33 Valves

Revised manifold porting that provides faster cylinder retraction while motor is running.

* VE32 provides "Hold" function by turning off pump and holding pressure against system check-valve.

