ZU4-Series, Portable Electric Pumps

ENERPAC
POWERFUL SOLUTIONS. GLOBAL FORCE.

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



Tough. Dependable. Innovative.

ZU4-Series Features and Options

For special requirements see factory installed features and options.

Page: 86

- **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.*

▼ **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 for single- or double-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. • 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 Pump

- 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 Pump

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

Pro Electric Pump

- 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
	●		●	●	●	VM33	Manual	8,0	ZU4308RE	ZU4308ME	ZU4308LE	32
	●		●	●	●	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	Remote (Man.)	4,0	ZU4204PE	ZU4204JE	ZU4204KE	27
	●		●		●	VM32	Remote (Man.)	8,0	ZU4208PE	ZU4208JE	ZU4208KE	32
	●		●		●	VM32	Remote (Man.)	20,0	ZU4220PE	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
		●	●	●	●	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.



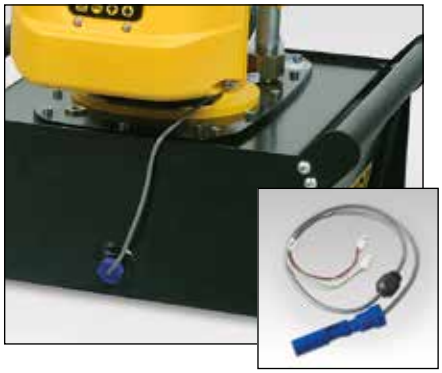
Pressure Transducer *

- **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: 116



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: 124



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.**

Acces-sory 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

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 89 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.

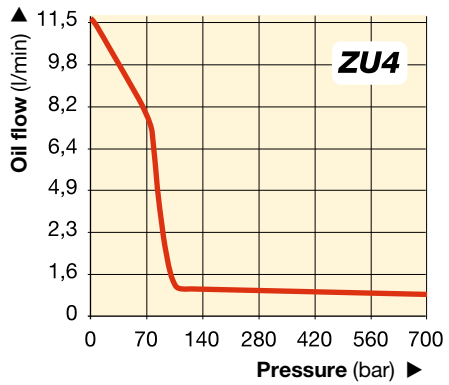
Thermal Transfer *		Maximum Pressure	Maximum Oil Flow	Voltage
Btu/h	kJoule	(bar)	(l/min)	(VDC)
900	950	20,7	26,5	12

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

ZU4, Specifications and Dimensions

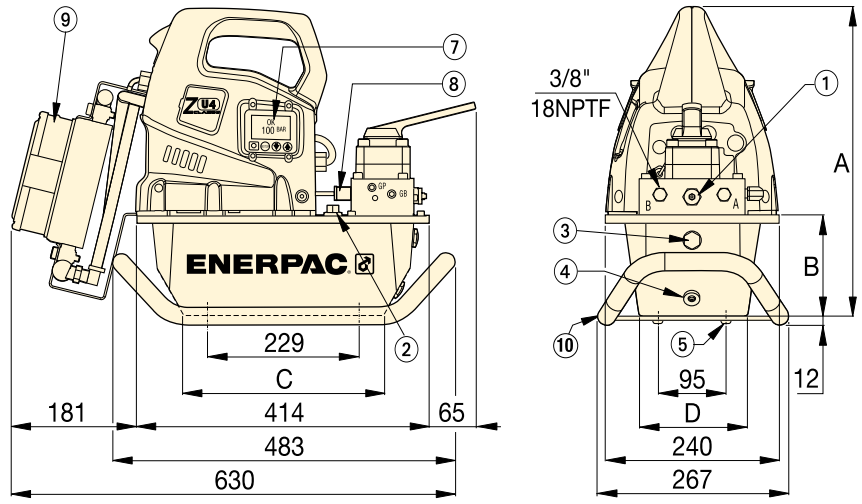
ENERPAC
POWERFUL SOLUTIONS. GLOBAL FORCE.

OIL FLOW VERSUS PRESSURE

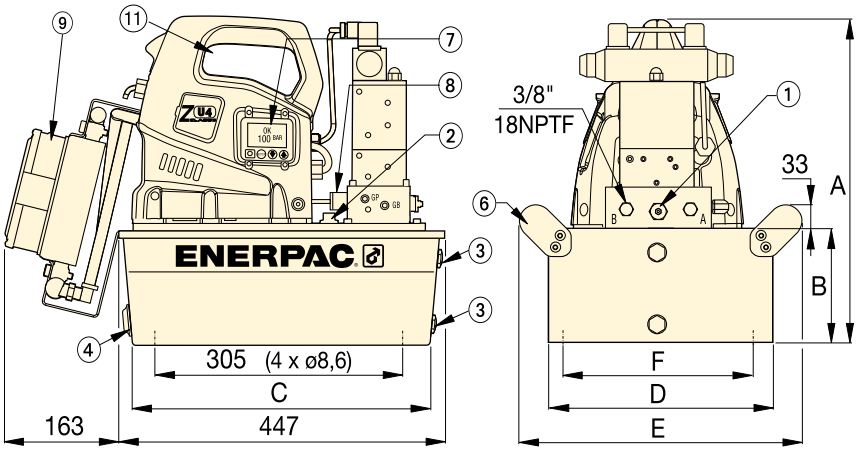


ZU4-SERIES PERFORMANCE CHART

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



ZU4-Series with 4 and 8 litres reservoirs



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

⅜"-18 NPTF Advance and Retract Ports
① User adjustable relief valve
② Oil fill port SAE #10 ⅞"-14 UNF-2B
③ Oil level sight gauge
④ Oil drain ½" NPTF
⑤ M8, 6 mm deep
⑥ Handles on all 10, 20 and 40 litres reservoirs.

Options (see chart on page 87):
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.

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 85, 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 Accesories		

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 110-111 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 (VM43-LPS)

5 Reservoir Size (useable 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 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 (w/European plug and CE EMC compliant)
I = 208-240V, 1 ph, 50/60 Hz (w/NEMA 6-15 plug)

8 Options and Accessories (see page 87 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: 269

Ordering Example
Model Number: 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: 111