

▼ Shown from left to right: ZE3304MBK, ZE4110DBFHR



**Z** Tough.  
Dependable.  
Innovative.  
**CLASS**

## ZE Series



Reservoir Capacity:

**1.2 - 10.3 gallon**

Flow at Rated Pressure:

**40 - 200 in<sup>3</sup>/min**

Motor Size:

**1.0 - 7.5 hp**

Maximum Operating Pressure:

**10,000 psi**

## The Standard for Industrial Applications

- Features **Z-Class** high-efficiency pump design; higher oil flow and by-pass pressure, cooler running and requires 18% less current draw than comparable pumps
- **Totally enclosed, fan-cooled industrial electric motors** supply extended life and stand up to harsh industrial environments
- **Low-voltage pendant, on certain models, provides additional safety for the operator**
- **Multiple valve and reservoir configurations provide application specific models to match the most demanding industrial applications**
- **High-strength, molded electrical enclosure protects electronics, power supplies and LCD readout from harsh industrial environments**
- **LCD readout on electric valve models provides a number of diagnostic and readout capabilities**
- **IP54 Rating for superior dust and water protection**



### Assisted Return Pumps with Venturi Valve Technology

To improve productivity and plunger retraction, Enerpac offers valve configurations

designed to accelerate your cylinder retraction speeds, ZE-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 the "Directional Control Valve" section.

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### 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.



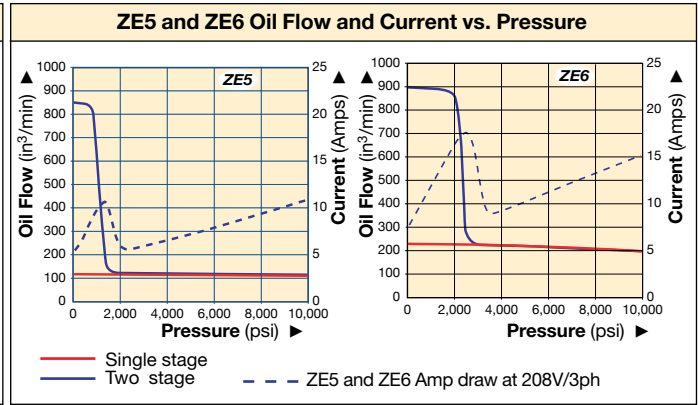
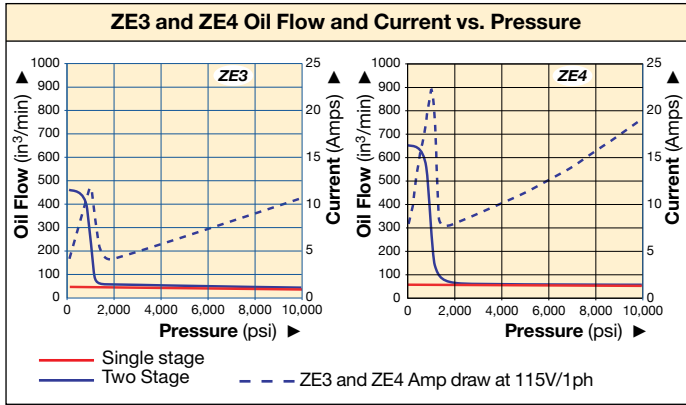
### Locking Valves

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.

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# ZE-Series, Specifications and Dimensions

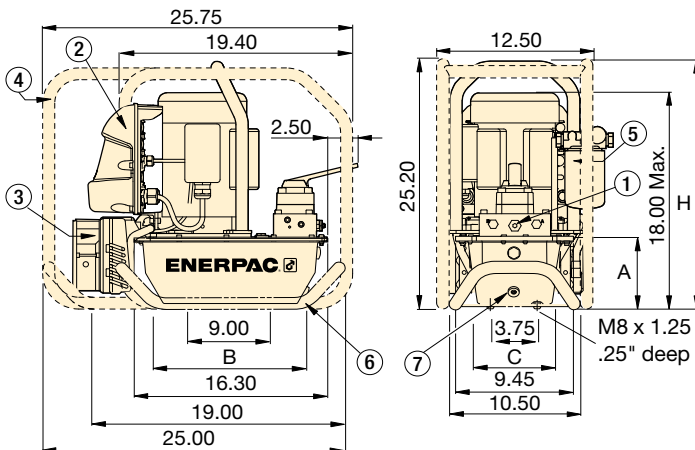


## ▼ PERFORMANCE CHART

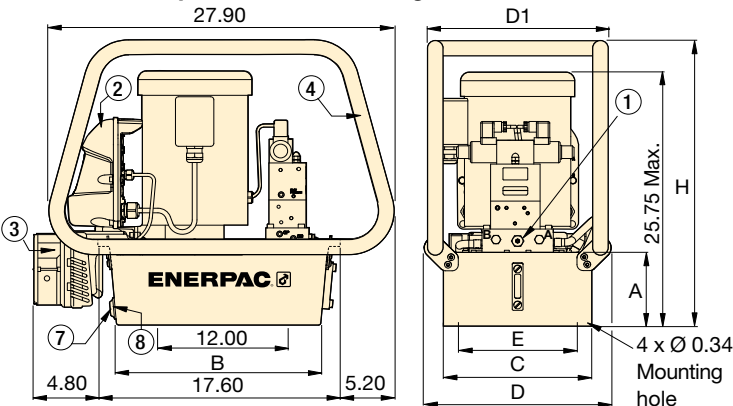
Pump Series	Operation	Output Flow Rate (in <sup>3</sup> /min)				Available Reservoir Sizes (gal)	Motor Size		Relief Valve Adjustment Range (psi)	Sound Level (dBA)
		100 psi	700 psi	5,000 psi	10,000 psi		hp	RPM		
ZE3	Single-stage	43	43	42	40	1.2, 1.8, 2.6, 5.2, 10.3	1.0	1750	1000-10,000	75
	Two-stage	450	385	42	40					
ZE4	Single-stage	64	64	62	60	1.2, 1.8, 2.6, 5.2, 10.3	1.5	1750	1000-10,000	75
	Two-stage	650	600	62	60					
ZE5	Single-stage	128	126	123	120	2.6, 5.2, 10.3	3.0	1750	1000-10,000	75
	Two-stage	850	825	123	120					
ZE6	Single-stage	220	215	210	200	2.6, 5.2, 10.3	7.5	3450	1000-10,000	80
	Two-stage	900	890	210	200					

Output flow rate is listed at 60 Hz. Flow rate will be approximately 5/6 of these values at 50 Hz.

### ZE-Series Pumps with 1.2 and 1.8 gallon reservoir



### ZE-Series Pumps with 2.6, 5.2, 10.3 gallon reservoir



### Single-Stage or Two-Stage Pumps

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.

- 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 Level/Temperature Switch

Reservoir Capacity (gal)	ZE-Series Pump Dimensions (in)						
	A	B	C	D	D1	E	H
1.2	5.6	11.0	6.0	-	-	-	20.2
1.8	5.6	11.0	8.1	-	-	-	20.2
2.6	6.2	16.5	12.0	15.1	14.6	11.0	23.6
5.2	7.1	16.5	16.6	19.7	19.2	15.6	24.6
10.3	10.6	15.7	19.9	22.7	22.5	18.9	28.1

## ▼ STEP 1: Select a Pump from the Pump Ordering Matrix.

The functionality of the pump can be determined by the model number. Utilize the guide below to select the best pump for the application from the pump matrix.



### 1 Product Type

**Z** = Pump Class

### 2 Motor Type

**E** = Induction Electric Motor

### 3 Flow Group

- 3** = 40 in<sup>3</sup>/min @ 10,000 psi
- 4** = 60 in<sup>3</sup>/min @ 10,000 psi
- 5** = 120 in<sup>3</sup>/min @ 10,000 psi
- 6** = 200 in<sup>3</sup>/min @ 10,000 psi

### 4 Valve Types

- 0** = No valve w/cover plate
- 1** = Dump (VE32D)
- 2** = 3-way/2-position manual (VM32)
- 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)
- 10** = 3-way/3-position manual, Venturi-Valve (VM33VAC)<sup>6)</sup>
- 11** = 3-way/3-position electric, Venturi-Valve (VE33VAC)<sup>6)</sup>

### 5 Reservoir Capacity

- 04** = 1.2 gallon
- 08** = 1.8 gallon
- 10** = 2.6 gallon
- 20** = 5.2 gallon
- 40** = 10.3 gallon

### 6 Valve Operation

- D** = Dump valve (w/ pendant and LCD)
- L** = Manual valve (w/o pendant, w/ LCD)
- M** = Manual valve<sup>3)</sup> (w/o pendant or LCD)
- N** = No valve<sup>3)</sup> (no electrical box)
- S** = Solenoid valve (w/ pendant and LCD)

### 7 Voltage

- Single Phase
- B** = 115V 1 ph 50-60Hz<sup>1)</sup>
  - E** = 208-240V 1 ph 50-60 Hz European Plug
  - I** = 208-240V 1 ph 50-60 Hz USA Plug
- Three Phase<sup>3)</sup>
- G** = 208-240V 3ph 50-60Hz
  - J** = 460-480V 3ph 50-60Hz
  - W** = 380-415V 3ph 50-60Hz

## ▼ STEP 2: Factory Installed Accessories

Select factory installed accessories and add to the pump model number after the hyphen. The example above shows that a Return Line Filter (**F**) and Heat Exchanger (**H**) have been added to the pump.

### 8 Factory installed accessories include the following:


- |  |   |
|--|---|
| <b>F</b> = Filter                                      | <b>N</b> = No reservoir handles (includes lifting eyes) |
| <b>G</b> = 0-15,000 psi gauge (2 1/2") <sup>4)</sup>   | <b>R</b> = Roll cage                                    |
| <b>H</b> = Heat exchanger <sup>2)</sup>                | <b>S</b> = Single stage <sup>5)</sup>                   |
| <b>K</b> = Skid bar (1.2 and 1.8 gal. reservoirs only) | <b>T</b> = Pressure transducer <sup>2) 4)</sup>         |
| <b>L</b> = Level/temp switch <sup>2)</sup>             | <b>U</b> = Foot switch <sup>2)</sup>                    |

1) 115-volt pumps are supplied with 15-amp plug for intermittent use. 20-amp circuit recommended for frequent full pressure use.  
 2) These accessories require LCD electrical package. Pressure switch option only available on manual valves without locking valve. The LCD electrical package can accept either a pressure switch or pressure transducer, but not both.  
 3) Standard Electric models with 3-phase motors without electric boxes are shipped without cord, motor starter or overload protection.  
 4) Pressure gauge not available on pump models with pressure transducer. Pressure transducer provides digital pressure readout on LCD display.  
 5) Not available on Valve Types 10, 11  
 6) Not available on ZE3

## ▼ ZE-SERIES PUMP MODELS

<p><b>No Valve with coverplate, no electric box</b></p>
<p><b>Manual Valve without electric box or LCD</b></p> <ul style="list-style-type: none"> <li>• Ideal choice for most applications</li> <li>• Manual valve control, for both single-acting or double-acting applications</li> <li>• Venturi Valve Technology (VM33VAC) for faster retract of single-acting cylinders</li> <li>• Manual motor control</li> <li>• On/off switch on 1-phase electric motor</li> </ul>
<p><b>Solenoid Dump Valve with electric box and LCD</b></p> <ul style="list-style-type: none"> <li>• Ideal for punching, crimping and cutting</li> <li>• For use when load holding is not required</li> <li>• Push-button control pendant with 10-ft. cord controls the valve and motor</li> </ul>
<p><b>Solenoid 3-position Valve with Electric Box</b></p> <ul style="list-style-type: none"> <li>• Ideal for production and lifting applications</li> <li>• All valves are 3-position for Advance-Hold-Retract</li> <li>• Venturi Valve Technology (VM33VAC) for faster retract of single-acting cylinders</li> <li>• Push-button control pendant with 10-ft. cord controls the valve and motor</li> </ul>

# ZE-Series Pump Ordering Matrix

S/A or D/A <sup>1)</sup>	Hold 	Valve Type <sup>2)</sup>	Reservoir Capacity (gal)	ZE3 Series (1.0 hp) Output Flow Rate at 10,000 psi: 40 in <sup>3</sup> /min		ZE4 Series (1.5 hp) Output Flow Rate at 10,000 psi: 60 in <sup>3</sup> /min		ZE5 Series (3.0 hp) Output Flow Rate at 10,000 psi: 120 in <sup>3</sup> /min		ZE6 Series (7.5 hp) Output Flow Rate at 10,000 psi: 200 in <sup>3</sup> /min	
				Model Number <sup>3)</sup>	Wt. (lbs)	Model Number <sup>3)</sup>	Wt. (lbs)	Model Number <sup>3)</sup>	Wt. (lbs)	Model Number <sup>3)</sup>	Wt. (lbs)
			1.8	ZE3008NB (I, E, W, J, G)	99	ZE4008NB (I, E, W, J, G)	95				
			2.6	ZE3010NB (I, E, W, J, G)	99	ZE4010NB (I, E, W, J, G)	108	ZE5010NW (J, G)	119	ZE6010NW (J, G)	158
			5.2	ZE3020NB (I, E, W, J, G)	126	ZE4020NB (I, E, W, J, G)	135	ZE5020NW (J, G)	146	ZE6020NW (J, G)	185
			10.3	ZE3040NB (I, E, W, J, G)	177	ZE4040NB (I, E, W, J, G)	186	ZE5040NW (J, G)	197	ZE6040NW (J, G)	236
S/A		VM22	5.2			ZE4720MB (E, W)	143				
S/A		VM32	1.2	ZE3204MB (E)	85						
S/A		VM32	1.8	ZE3208MB (I, E, W, J, G)	91	ZE4208MB (I, E, W, J, G)	100				
S/A		VM32	2.6	ZE3210MB (I, E, W, J, G)	104	ZE4210MB (I, E, W, J, G)	113	ZE5210MW (J, G)	124	ZE6210MW (J, G)	163
S/A		VM32	5.2	ZE3220MB (I, E, W, J, G)	131	ZE4220MB (I, E, W, J, G)	140	ZE5220MW (J, G)	151	ZE6220MW (J, G)	190
S/A	●	VM33	1.2	ZE3304MB (E)	86						
S/A	●	VM33	1.8	ZE3308MB (I, E, W, J, G)	92	ZE4308MB (I, E, W, J, G)	101				
S/A	●	VM33	2.6	ZE3310MB (I, E, W, J, G)	105	ZE4310MB (I, E, W, J, G)	114	ZE5310MW (J, G)	125	ZE6310MW (J, G)	164
S/A	●	VM33	5.2	ZE3320MB (I, E, W, J, G)	132	ZE4320MB (I, E, W, J, G)	141	ZE5320MW (J, G)	152	ZE6320MW (J, G)	191
S/A	●	VM33	10.3	ZE3340MB (I, E, W, J, G)	183	ZE4340MB (I, E, W, J, G)	192	ZE5340MW (J, G)	203	ZE6340MW (J, G)	242
S/A	●	VM33VAC	1.8			ZE41008MB (I, E, W, J, G)	101				
S/A	●	VM33VAC	5.2			ZE41020MB (I, E, W, J, G)	141	ZE51020MW (J, G)	153	ZE61020MW (J, G)	192
S/A	●	VM33VAC	10.3					ZE51040MW (J, G)	203	ZE61040MW (J, G)	242
S/A	●	VM33L	1.8	ZE3608MB (I, E, W, J, G)	92						
S/A	●	VM33L	5.2	ZE3620MB (I, E, W, J, G)	136	ZE4620MB (I, E, W, J, G)	145				
S/A	●	VM33L	10.3	ZE3640MB (I, E, W, J, G)	187	ZE4640MB (I, E, W, J, G)	196				
D/A	●	VM43	1.2	ZE3404MB (E)	86						
D/A	●	VM43	1.8	ZE3408MB (I, E, W, J, G)	92	ZE4408MB (I, E, W, J, G)	101				
D/A	●	VM43	2.6	ZE3410MB (I, E, W, J, G)	106	ZE4410MB (I, E, W, J, G)	114	ZE5410MW (J, G)	125	ZE6410MW (J, G)	164
D/A	●	VM43	5.2	ZE3420MB (I, E, W, J, G)	132	ZE4420MB (I, E, W, J, G)	141	ZE5420MW (J, G)	152	ZE6420MW (J, G)	191
D/A	●	VM43	10.3	ZE3440MB (I, E, W, J, G)	183	ZE4440MB (I, E, W, J, G)	192	ZE5440MW (J, G)	203	ZE6440MW (J, G)	242
D/A	●	VM43L	1.8	ZE3808MB (I, E, W, J, G)	96						
D/A	●	VM43L	5.2	ZE3820MB (I, E, W, J, G)	136	ZE4820MB (I, E, W, J, G)	145	ZE5820MW (J, G)	156	ZE6820MW (J, G)	195
D/A	●	VM43L	10.3	ZE3840MB (I, E, W, J, G)	187	ZE4840MB (I, E, W, J, G)	196	ZE5840MW (J, G)	207	ZE6840MW (J, G)	246
S/A		VE32D	1.2	ZE3104DB (I, E, W, J, G)	94						
S/A		VE32D	1.8	ZE3108DB (I, E, W, J, G)	100	ZE4108DB (I, E, W, J, G)	109				
S/A		VE32D	2.6	ZE3110DB (I, E, W, J, G)	114	ZE4110DB (I, E, W, J, G)	122	ZE5110DW (J, G)	136	ZE6110DW (J, G)	175
S/A		VE32D	5.2	ZE3120DB (I, E, W, J, G)	140	ZE4120DB (I, E, W, J, G)	149	ZE5120DW (J, G)	163	ZE6120DW (J, G)	202
S/A		VE32D	10.3			ZE4140DB (I, E, W, J, G)	199	ZE5140DW (J, G)	213	ZE6140DW (J, G)	252
S/A	●	VE33	1.2	ZE3304SB (I, E, W, J, G)	106						
S/A	●	VE33	1.8	ZE3308SB (I, E, W, J, G)	112	ZE4308SB (I, E, W, J, G)	121				
S/A	●	VE33	2.6	ZE3310SB (I, E, W, J, G)	125	ZE4310SB (I, E, W, J, G)	134	ZE5310SW (J, G)	148	ZE6310SW (J, G)	186
S/A	●	VE33	5.2	ZE3320SB (I, E, W, J, G)	152	ZE4320SB (I, E, W, J, G)	161	ZE5320SW (J, G)	174	ZE6320SW (J, G)	213
S/A	●	VE33	10.3	ZE3340SB (I, E, W, J, G)	203	ZE4340SB (I, E, W, J, G)	212	ZE5340SW (J, G)	225	ZE6340SW (J, G)	264
S/A	●	VE33VAC	1.8			ZE41108SB (I, E, W, J, G)	115				
S/A	●	VE33VAC	5.2			ZE41120SB (I, E, W, J, G)	155	ZE51120SW (J, G)	168	ZE61120SW (J, G)	207
S/A	●	VE33VAC	10.3					ZE51140SW (J, G)	219	ZE61140SW (J, G)	258
D/A	●	VE43	1.2	ZE3404SB (I, E, W, J, G)	106						
D/A	●	VE43	1.8	ZE3408SB (I, E, W, J, G)	112	ZE4408SB (I, E, W, J, G)	121				
D/A	●	VE43	2.6	ZE3410SB (I, E, W, J, G)	125	ZE4410SB (I, E, W, J, G)	134	ZE5410SW (J, G)	148	ZE6410SW (J, G)	186
D/A	●	VE43	5.2	ZE3420SB (I, E, W, J, G)	152	ZE4420SB (I, E, W, J, G)	161	ZE5420SW (J, G)	174	ZE6420SW (J, G)	213
D/A	●	VE43	10.3	ZE3440SB (I, E, W, J, G)	203	ZE4440SB (I, E, W, J, G)	212	ZE5440SW (J, G)	225	ZE6440SW (J, G)	264

1) S/A = Single acting / D/A = Double acting

2) See Valve Section for technical information.

3) "B" suffix model numbers shown are 115 VAC, 1-phase, 50/60 Hz

Other voltages available as shown. Replace "B" voltage suffix with selected voltage character. Model number order example: ZE4108DI is 208-240V, 1 phase, 50/60 Hz.

See Ordering Guide page for voltage descriptions

Note: Voltage options K (440V, 3-phase, 50/60Hz) and R (575V, 3-phase, 60 Hz) are available on select models. Contact your local representative for availability.

Note: Valve Operation L available on Manual Pumps. Substitute "L" for "M" Valve Operation



## Electric Box <sup>1)</sup>

- Back-lit LCD
- Pump usage information, hour and cycle counts
- Low-voltage warning and recording
- Self-test and diagnostic capabilities
- Pressure read-out <sup>2)</sup>
- Auto-mode pressure setting <sup>2)</sup>
- Information can be displayed in six languages <sup>3)</sup>

<sup>1)</sup> Included on pumps with solenoid valves  
<sup>2)</sup> When used with pressure transducer  
<sup>3)</sup> English, French, German, Italian, Spanish and Portuguese



## Level/Temperature Switch <sup>4)</sup>

- 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

<sup>4)</sup> 24V, requires Electric Box. Available for 2.6, 5.2 and 10.3 gallon reservoirs

Accessory Kit Model Number	Fixed Temperature Signal (° F)	Operating Temperature (° F)	Max. Pressure (psi)
ZLS-U4	75	40 - 230	150



## 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



## Roll Cage

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

Accessory Kit Number	Fits on Reservoir
ZRC-04	1.2 and 1.8 gallon <sup>1)</sup>
ZRC0-4H	1.2 and 1.8 gallon <sup>2)</sup>
ZRB-10	2.6 gallon
ZRB-20	5.2 gallon
ZRB-40	10.3 gallon

<sup>1)</sup> Without heat exchanger  
<sup>2)</sup> With heat exchanger



## Skid Bar

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

Accessory Kit Number	For ZE-Series Pumps with Reservoir	Wt. (lbs)
SBZ-4	1.2 & 1.8 gal. w/o heat exchanger	4.9
SBZ-4L	1.2 & 1.8 gal. with heat exchanger	5.5



## Foot Switch <sup>5)</sup>

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

<sup>5)</sup> 15V, requires Electric Box

Accessory Kit Number	Can be used on ZE-Series Pumps with
ZCF-2	Solenoid VE-Series valves



## Pressure Transducer <sup>1)</sup>

- 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 (or shifts valve to neutral on models with VE33/ VE43 valves)

<sup>1)</sup> 24V, requires Electric Box

Accessory Kit Model number	Adjustable Pressure Range (psi)	Switch-point Repeatability (psi)	Dead-band (psi)
ZPT-U4	50-10,000	± 0.5%	50



## Pressure Switch <sup>2) 3) 4)</sup>

- Controls pump, monitors system
- Adjustable pressure 500-10,000 psi
- Includes glycerin filled, 15,000 psi pressure gauge, G2536L
- Accuracy ± 1.5% of full scale

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

<sup>3)</sup> Not available on LCD electronics

<sup>4)</sup> Only available on locking valves without pressure transducer

Accessory Kit Model number	Switch-point Repeatability	Deadband (psi)	Oil Ports (NPT)
ZPS-E3	± 2%	115-550	3/8"



## Heat Exchanger <sup>5)</sup>

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

<sup>5)</sup> 24V DC, requires electric box

Accessory Kit Model number	Fits on Reservoir	Weight (lbs)
ZHE-E04	1.2 and 1.8 gallon	9.0
ZHE-E10	2.6, 5.2 and 10.3 gallon	9.0



## Gauge (G)

- Minimize risk of overloading to ensure long life of equipment
- 2.5" face diameter, glycerin filled
- Dual Scale, PSI and Bar

Model No.	Description
G2536L	15,000 psi, Ø 2.5 inches

## ZE Series



Reservoir Capacity:  
**1.2 - 10.3 gallon**

Flow at Rated Pressure:  
**40 - 200 in<sup>3</sup>/min**

Motor Size:  
**1.0 - 7.5 hp**

Maximum Operating Pressure:  
**10,000 psi**



### ZPT-U4 Pressure Transducer

More durable against mechanical and hydraulic shock than analog gauges.

- Digital pressure read-out provides accuracy of 5% of full scale.
- Easy-viewing variable rate display automatically varies increments between 44, 203, 508 and 2103 psi 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 130° F at 70° F ambient temperature. Thermal transfer at 5 GPM and 70° F ambient temperature: 900 Btu/hour.

Do not exceed maximum oil flow of 7.0 GPM and maximum pressure of 300 psi. Not suitable for water-glycol or high water based fluids.