

ENERPAC 

ZW Electric Pump Series



ENERPAC 
Hydraulic Technology Worldwide

Z Tough.
Dependable.
Innovative.
ZCLASSIC

Unsurpassed in technology,
design and features — only
from the market leader in
industrial hydraulic pumps.



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.

ZE Series Electric Pumps

Available in 4 flow ranges and single and two-stage models, to provide the optimum cylinder and tool performance for almost any industrial application.

Pump Series	Motor Size	Flow @ Rated Pressure
ZW4	1.0 hp	60 in ³ /min
ZW5	1.5 hp	120 in ³ /min

Extensive list of accessories including heat exchanger, roll-bars, pressure transducer and level and temperature switches, allow complete pump control over a wide range of industrial applications.

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

Totally enclosed, fan-cooled industrial motor provides safe, trouble-free operation for the life of the pump.

Optional back-lit LCD

- pump usage information, hour and cycle counts
- low-voltage warning and recording
- self-test and diagnostic capabilities
- information displayed in 6 languages
- pressure read-out (when used with optional pressure transducer)
- Auto-mode pressure setting (when used with optional pressure transducer)





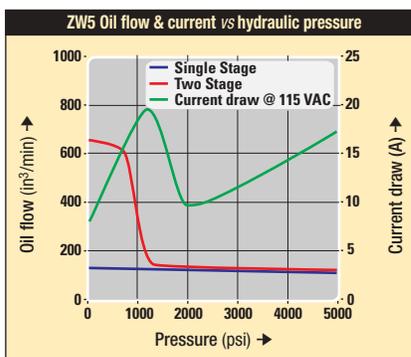
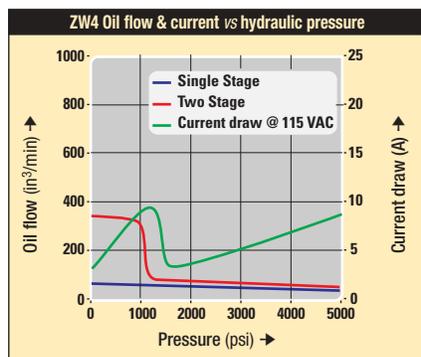
Z-Class electric pumps are designed for use in the harshest manufacturing environments. The pumps provide reliable and durable performance in a wide variety of configurations.

The new standard for workholding applications

- Features Z-Class high-efficiency pump design; higher oil flow and by-pass pressure, cooler running and requires 18% less current than comparable pumps
- Totally enclosed, fan cooled industrial electric motors supply extended life and stand up to harsh industrial environments
- Multiple valve and reservoir configurations provide application specific models to match the most demanding workholding applications
- High-strength, molded electrical enclosure protects electronics, power supplies and LCD readout from coolant and contamination

Basic configurations All pumps listed in this chart include LCD electrical box, 5 gallon reservoir, return line filter and 0-6000 psi pressure gauge. For additional options, see the complete pump matrix on page 11.	Pump type	Valve/manifold type	Motor voltage 50/60 Hz	
ZW-Series with manifold <ul style="list-style-type: none"> • Used when supplying pressure to multiple valve circuits • Valves must be supplied separately 		Pressure and tank ports	115 VAC, 1 ph	
ZW-Series with dump valve <ul style="list-style-type: none"> • Provides momentary pressure and flow to fixture • Ideal for pallet disconnect systems 			Pressure and tank ports	230 VAC, 3 ph
ZW-Series with manual valve <ul style="list-style-type: none"> • Provides manual control of one single or double-acting circuit • Control valve supplied with center holding function to ensure positive pressure holding 			Enerpac VP-series	115 VAC, 1 ph
ZW-Series with solenoid valve <ul style="list-style-type: none"> • Provides solenoid control of one single or double-acting circuit • Control valve supplied with integrated pilot operated check to ensure positive pressure holding 				Enerpac VP-series
		2-station D03		230 VAC, 3 ph
		4-station D03		230 VAC, 3 ph
	Single-acting dump	115 VAC, 1 ph		
	Single-acting dump	230 VAC, 3 ph		
	Single-acting dump	460 VAC, 3 ph		
	3 way, 3 position tandem center	115 VAC, 1 ph		
3 way, 3 position tandem center	230 VAC, 3 ph			
3 way, 3 position tandem center	460 VAC, 3 ph			
4 way, 3 position tandem center	115 VAC, 1 ph			
4 way, 3 position tandem center	230 VAC, 3 ph			
4 way, 3 position tandem center	460 VAC, 3 ph			
3 way, 3 position tandem center	115 VAC, 1 ph			
3 way, 3 position tandem center	230 VAC, 3 ph			
3 way, 3 position tandem center	460 VAC, 3 ph			
4 way, 3 position tandem center	115 VAC, 1 ph			
4 way, 3 position tandem center	230 VAC, 3 ph			
4 way, 3 position tandem center	460 VAC, 3 ph			

Output oil flow and current draw



⚠ Important

Single-stage pumps provide constant flow throughout the entire pressure range via a radial piston pump. Two-stage pumps provide high flow via a gear pump until the bypass pressure is reached. At pressures above the bypass setting, the radial piston pump provides flow to the maximum pressure.

ZW4 Series
Output oil flow at 5000 psi
60 in³/min
LCD Electric
Model Number

ZW4020HB-FG01
ZW4020HG-FG01
ZW4020HB-FG12
ZW4020HG-FG12
ZW4020HG-FG21
ZW4020HG-FG41

ZW4120DB-FG
ZW4120DG-FG
ZW4120DJ-FG

ZW4320LB-FG
ZW4320LG-FG
ZW4320LJ-FG
ZW4420LB-FG
ZW4420LG-FG
ZW4420LJ-FG

ZW4320SB-FG
ZW4320SG-FG
ZW4320SJ-FG
ZW4420SB-FG
ZW4420SG-FG
ZW4420SJ-FG

ZW5 Series
Output oil flow at 5000 psi
120 in³/min
LCD Electric
Model Number

ZW5020HB-FG01
ZW5020HG-FG01
ZW5020HB-FG12
ZW5020HG-FG12
ZW5020HG-FG21
ZW5020HG-FG41

ZW5120DB-FG
ZW5120DG-FG
ZW5120DJ-FG

ZW5320LB-FG
ZW5320LG-FG
ZW5320LJ-FG
ZW5420LB-FG
ZW5420LG-FG
ZW5420LJ-FG

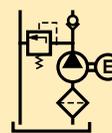
ZW5320SB-FG
ZW5320SG-FG
ZW5320SJ-FG
ZW5420SB-FG
ZW5420SG-FG
ZW5420SJ-FG

Flow rate: 60-120 in³/min

Pressure: 5000 psi max

Motor: 1.0 & 1.5 HP

Reservoir: 2.5-10 gallon



⚠ Important

All Z-Class electric pumps are CSA and CE compliant.



LCD electrical package is required for pumps utilizing electric valves, or optional accessories such as the pressure transducer, level switch, pressure switch or heat exchanger.

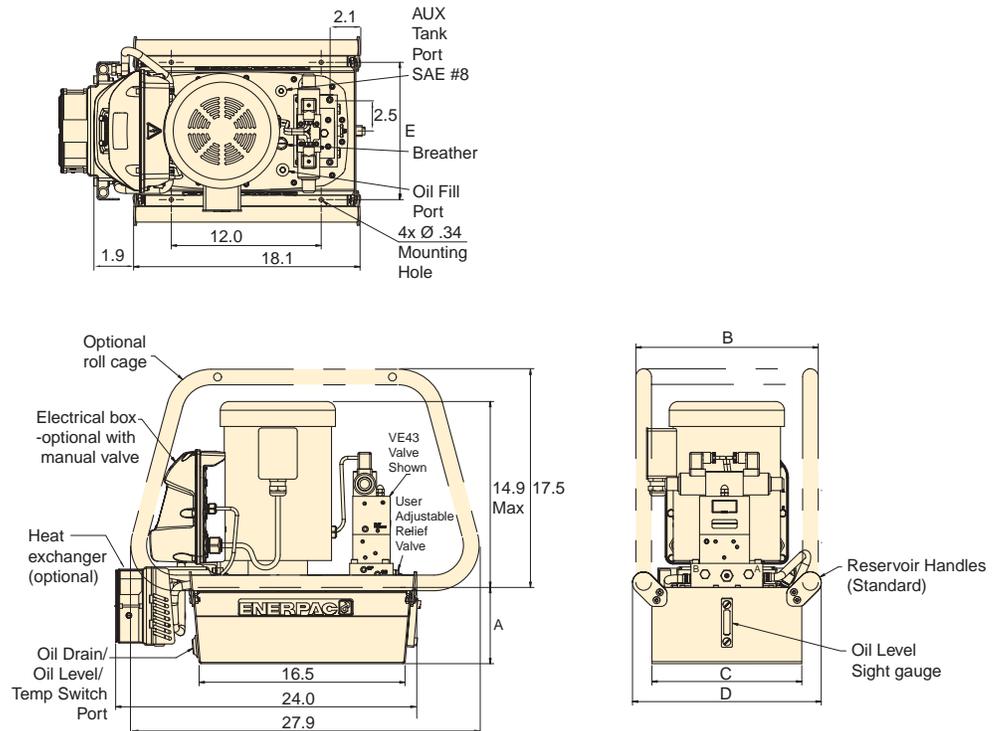
Shown: ZW5020HB-FT01



Z-Class electric pumps are supplied with factory installed accessories such as valve manifold, pressure transducer, and return line filter, creating a complete power unit solution.

- Efficient design reduces heat generation and reduces power consumption
- Balanced pump section reduces vibration improving durability and sound levels
- Optional back-lit LCD readout provides hour and cycle counts, low voltage warnings and pressure read-out when used with pressure transducer
- Low-voltage pendant on solenoid valve models with sealed switches improves operator safety

Flow rate:	60-120 in³/min
Pressure:	5000 psi max
Motor:	1.0 & 1.5 HP
Reservoir:	2.5-10 gallon



Product selection

Output flow rate in ³ /min				Pump series	Motor size hp	Relief valve adjustment range max. psi	Sound level dBA
100 psi	700 psi	3000 psi	5000 psi				
350	305	63	60	ZW4	1.0	1,000-5,000	75
650	602	123	120	ZW5	1.5	1,000-5,000	75

Product dimensions in inches [≡ ⊕]

Usable oil capacity gal	Pump series	Pump dimensions (in)					Weight (lbs)	
		A	B	C	D	E	ZW4	ZW5
2.5	ZWxx10xx	6.1	14.6	12.0	15.1	11.0	107	115
5.0	ZWxx20xx	7.1	19.2	16.6	19.7	15.6	134	142
10.0	ZWxx40xx	10.6	22.5	19.9	22.7	18.9	184	193

* Weight shown is for basic pump unit without accessories

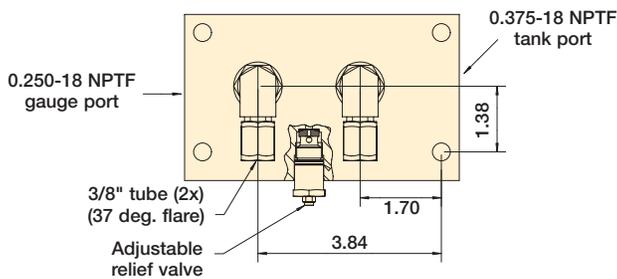
** See pages 4-5 and 11 for more information about specifying a complete Z-Class power unit model number

- Pressure: 5000 psi
- Stations: 1-4 horizontal
- Stations: 1-8 vertical

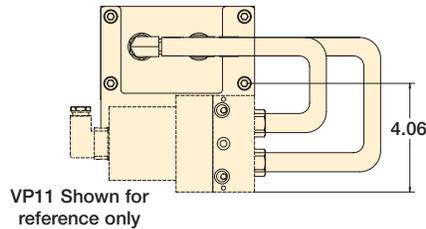
Increased flexibility for complex systems

- Manifolds provide hydraulic connection to remote or pump mounted valves
- Used when multiple valves are required for controlling several independent circuits
- Available for 2 and 4 station D03 as well as Enerpac VP series mounting
- Pressure and tank porting manifold available for use with remote valve sticks
- Manifolds include integrated relief valve for system pressure control

Option 01

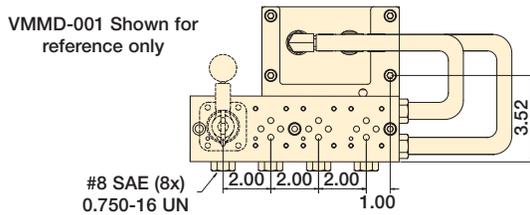


Option 12



Option 21,41

Option 21 has two valve stations
Option 41 has four valve stations

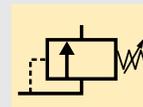


Product selection

Valve mounting pattern	Option code (see page 11)	Number of stations	Coverplate model number
Porting manifold, SAE ports	01	-	-
Enerpac VP Series	12	1-8	-
2 station D03	21	2	MC-1
4 station D03	41	4	MC-1



Manifolds allow the use of multiple valves powered by a single hydraulic pump. Manifolds are available factory installed on your Z-Class workholding power unit, or separately for future system upgrades.



Options

- Pressure transducer  9 ▶
- Level switch  9 ▶

■ Enerpac porting manifold provides pressure and tank line to remote mounted valve stack on a machining center.



Shown: ZPF



ZPF-series

The oil filter kit removes contaminants from the return oil flow before allowing it back into the reservoir, reducing component damage.

Options

PF25
Replacement
filter element



For best performance, replace filter element on a regular basis. Change filters when changing oil or 4 times a year, whichever comes first.

Shown: ZHE-E10



ZHE-series

Heat exchanger removes heat from the return oil to provide cooler operation.

Extend life of hydraulic components

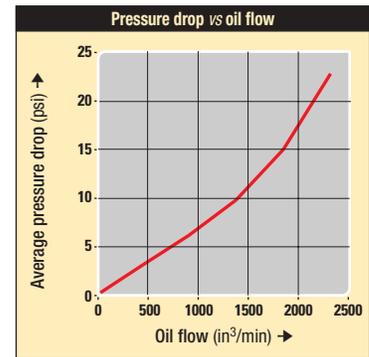
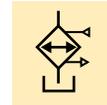
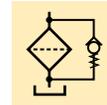
...increase system reliability

- 25 micron nominal filter cleans oil to increase system life
- Internal bypass valve to prevent damage if the filter is dirty
- All installation components included
- Kit assembles quickly and easily to Enerpac pump and manifold
- Maintenance indicator included

Filtration: 25 micron

Pressure: max. 200 psi

Max. flow: 12.0 GPM



Product selection

Nominal filtration	Model number	Maximum pressure	Maximum oil flow	Bypass pressure setting	Filter gauge/service indicator	
micron		psi	gpm	psi		lbs
25	ZPF	200	12.0	25	✓	3.2

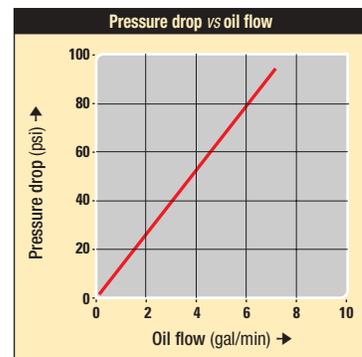
Extends system life

- Electrical connector factory installed
- All installation components included
- Stabilizes oil temperature at a maximum of 130 °F at 70 °F ambient temperature
- Stabilizes oil viscosity, increasing oil life and reduces wear of pump and other hydraulic components

Transfer: 900 Btu/h

Pressure: max. 300 psi

Voltage: 24V



Product selection

Voltage	Model number	Thermal transfer *		Amperage draw	Maximum pressure	Maximum oil flow	
		Btu/h	kJoule	A	psi	gpm	lbs
24 VDC	ZHE-E10	900	950	.95	300	7.0	9.0

*At 0.5 G/min and ambient temperature of 70°F.

Temp. Set Point: 175 °F

Voltage: 24 VAC/DC



Electronic level/temp switch for feedback on pump oil level

- Drop-in design allows for easy installation to pump reservoir
- Electrical connector included
- Built-in thermal sensing provides feedback on oil temperature
- Senses low oil level in pump reservoir

Shown: ZLS-U4



ZLS-series

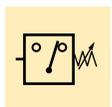
Oil level indicator for pump reservoir. If the pump is mounted in a remote area that does not provide visual access to the external oil level sight glass, the level/temp switch will turn off the pump before internal damage can occur due to cavitation.

Product selection

Fixed temperature signal	Model number	Voltage	Thermostat rating setting	Maximum pressure	
°F			Amps	psi	lbs
175	ZLS-U4	24 VAC/DC	2.6	150	0.11

Pressure: 50-10,000 psi

Voltage: 24 VAC/DC



Control your pump, monitor pressure

ZPT pressure transducer

- More durable than analog gauges (against mechanical and hydraulic shock)
- More accurate than analog gauges (0.5% full scale)
- Calibration can be fine tuned for certification
- “Auto-mode” provides automatic pressure make-up
- Display pressure in psi, bar or MPa

Shown: ZPT-U4, ZPS-W4



ZPT/ZPS series

ZPT pressure transducer provides constant pressure monitoring for automated pump control. ZPS pressure switch shuts down motor at set pressure.

Product selection

Adjustable pressure range	Electrical specification	Model number	Accuracy (full scale)	Dead-band	
psi				psi	lbs
50-10,000	4-20 mA	ZPT-U4	0.5%	50	0.3
500-10,000	24 VAC/DC N.O.	ZPS-W4	2%	115-550	2.7

▼ Mechanical adjustment

50-10,000	4-20 mA	ZPT-U4	0.5%	50	0.3
500-10,000	24 VAC/DC N.O.	ZPS-W4	2%	115-550	2.7

Note: Electrical harness included with kit. ZPS-W4 includes 0-6000 psi pressure gauge.

⚠ Important

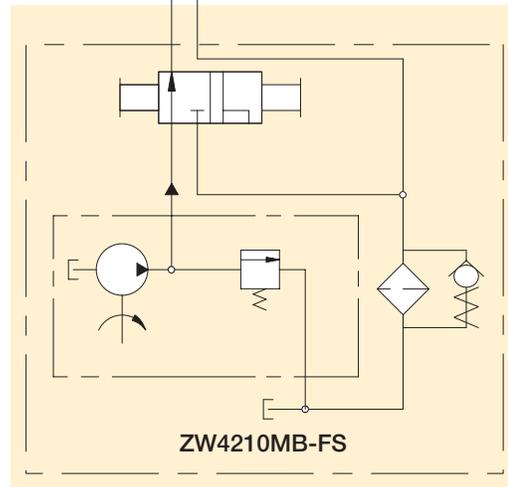
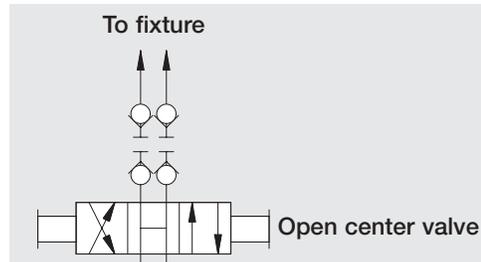
The pressure transducer is factory installed in the “A” port on pumps supplied with valves, and in the “P” port on models with manifolds.

Z-Class power unit applications



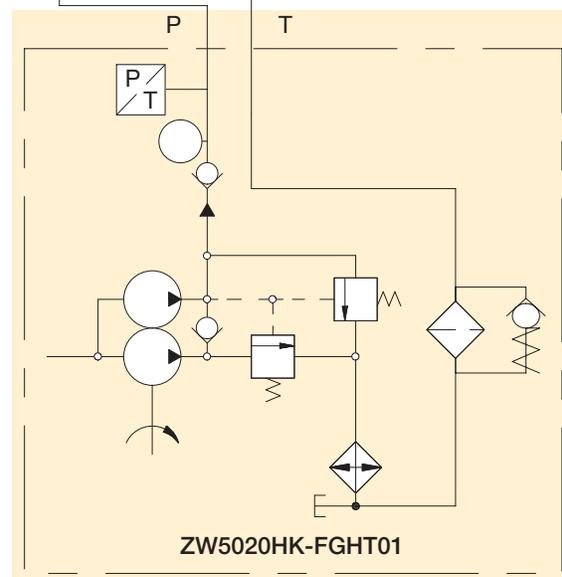
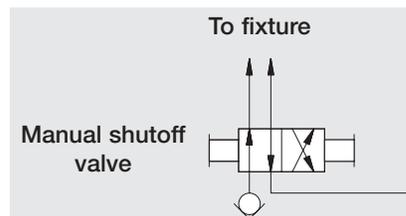
Z-class pump model number **ZW4210MB-FS** is used to provide pressure and flow to a single machining fixture.

- Includes a 2-way manual valve and return line filter to protect against contamination
- Single-stage pump provides constant 60 in³/min flow at any pressure
- The fixture has an open-center manual valve which controls the clamp and unclamp function
- The pump runs continuously, building pressure when the fixture-mounted valve is activated



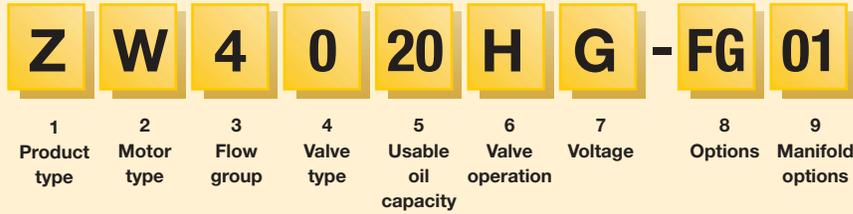
Z-class pump model number **ZW5020HK-FHT01** is used to provide pressure and flow to six machining fixtures.

- Includes pressure transducer to monitor system pressure to six machining centers
- The machine fixtures each have a manual shut off valve to control clamp and unclamp function
- The pump runs on-demand, building pressure when the fixture-mounted valve is activated



Custom build your pump

▼ This is how a ZW series Model number is built:



1 Product type

Z = Z-Class Pump

2 Motor type

W = Workholding Electric

3 Flow group

4 = 60 in³/min

5 = 120 in³/min

4 Valve type

0 = No valve or valve manifold

1 = Pallet de-coupling

2 = 3-way, 2-position, manual valve

3 = 3-way, 3-position, tandem center

4 = 4-way, 3-position, tandem center

6 = 3-way, 3-position, tandem center w/P.O. check (manual only)

8 = 4-way, 3-position, tandem center w/P.O. check (manual only)

5 Usable oil capacity

10 = 10 Liters (2.5 gallon)

20 = 20 Liters (5 gallon)

40 = 40 Liters (10 gallon)

6 Valve operation

D = Pallet de-coupling with pendant and LCD (Valve type 1)

G = Valve manifold without LCD (Valve type 0)

H = Valve manifold with LCD (Without pendant, Valve type 0)

L = Manual valve with LCD (Without pendant)

M = Manual valve without LCD

N = No valve, no electrical box (Valve type 0)

S = Solenoid valve (tandem center) with pendant and LCD

W = No valve with LCD (Valve type 0)

7 Voltage

Single Phase

B = 115V, 1 ph, 50-60 Hz *3

E = 208-240V, 1 ph, 50-60 Hz European Plug

I = 208-240V, 1 ph, 50-60 Hz USA Plug

Three Phase

M = 190-200V, 3 ph, 50-60 Hz

G = 208-240V, 3 ph, 50-60 Hz

W = 380-415V, 3 ph, 50-60 Hz

K = 440V, 3 ph, 50-60 Hz

J = 460-480V, 3 ph, 50-60 Hz

R = 575V, 3 ph, 60 Hz

8 Options *1

F = Return line filter, 25 micron

G = 0-6000 psi pressure gauge, 2-1/2" *5

H = Heat exchanger *4

L = Level/temperature switch *4

N = No handles (lifting eyes only) *2

P = Pressure switch *4

R = Roll bars

S = Single stage

T = Pressure transducer *4

U = Foot switch *4

9 Manifold options (Pump types G and H only.)

01 = SAE porting manifold

12 = VP series manifold

21 = 2 station D03

41 = 4 station D03

Example

The model number **ZW5810LG-FT** is a 120 in³/min, 2-stage pump with a manual 4-way, 3 position tandem center valve, integrated P.O. check, LCD electrical box, 2.5 gallon reservoir, 208-240 volt 3-phase motor, return line filter and pressure transducer.

*1 Options should be specified in alphabetical order

*2 Unless specified, all pumps are supplied with reservoir handles

*3 115 volt pumps are supplied with CE & CSA approved 15 amp plug for intermittent use. 20 A circuit recommended for frequent full pressure use.

*4 These options 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.

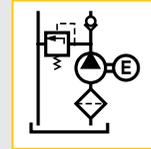
*5 Pressure gauge not available on pump models with pressure transducer. Pressure transducer provides digital pressure readout on LCD display.

Flow rate: 60-120 in³/min

Pressure: 5000 psi max

Motor: 1.0 & 1.5 HP

Reservoir: 2.5-10 gallon



Example

The **ZW4020GB-FGS21** is a 60 in³/min, single-stage pump with a 2 station D03 manifold, standard electric, 5 gallon reservoir, 115 volt, 50/60 Hz motor, return line filter and 0-6000 psi pressure gauge.

Example

The **ZW4110DJ-T** is a 60 in³/min, 2-stage pump with a pallet de-coupling valve, LCD electrical box, 2.5 gallon reservoir, 460-480 volt 3-phase motor and pressure transducer.

Example

The **ZW5040HJ-FGL01** is a 120 in³/min, 2-stage pump with a SAE porting manifold, LCD electrical box, 10 gallon reservoir, 460-480 volt 3-phase motor, return line filter, 0-6000 psi pressure gauge and level and temperature shutdown switch.

ZW Electric Pump Series



The full Enerpac Workholding line

Cylinders

- Swing Cylinders
- Work Supports
- Collet-Lok™
- Pull Cylinders
- Threaded Body
- Manifold Mount
- Block
- Pull Down
- Hollow Plunger

Pumps

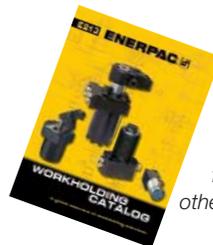
- Manual
- Electric Driven
- Compressed Air Driven

Valves and accessories

- Manual Directional Valves
- Solenoid Directional Valves
- Pressure Control Valves
- Flow Control Valves
- Hoses and Couplers
- Gauges
- Fittings
- Manifolds



See the *Enerpac Industrial Tools Catalog* for information about other *Enerpac high-force tools*.



See the *Enerpac Workholding Catalog* for information about other *Enerpac products*.

ENERPAC

Enerpac Worldwide Locations

Africa
ENERPAC Middle East FZE
P.O. Box 18004
Jebel Ali, Dubai
United Arab Emirates
Tel: +971 (0)4 8872686
Fax: +971 (0)4 8872687

Australia
Actuant Australia Ltd.
Block V Unit 3
Regents Park Estate
391 Park Road
Regents Park NSW 2143
(P.O. Box 261) Australia
Tel: +61 297 438 988
Fax: +61 297 438 648

Brazil
Power Packer do Brasil
Ltda.
Rua dos Inocentes, 587
04764-050 - Sao Paulo (SP)
Tel: +55 11 5687 2211
Fax: +55 11 5686 5583
Toll Free in Brazil:
Tel: 0800 891 5770
vendasbrasil@enerpac.com

Canada
Actuant Canada
Corporation
6615 Ordian Drive,
Unit 14-15
Mississauga, Ontario L5T
1X2
Tel: +1 905 564 5749
Fax: +1 905 564 0305
Toll Free:
Tel: +1 800 268 4987
Fax: +1 800 461 2456
Technical Inquiries:
techservices@enerpac.com

China
Actuant China Ltd.
1F, 269 Fute N. Road
Waigaoqiao Free
Trade Zone
Pudong New District
Shanghai, 200 131 China
Tel: +86 21 5866 9099
Fax: +86 21 5866 7156

Actuant China Ltd. (Beijing)
709A Diyang Building
Xin No. 2
Dong San Huan North Rd.
Beijing City
100028 China
Tel: +86 10 845 36166
Fax: +86 10 845 36220

Central and Eastern Europe
ENERPAC B.V.
Galvanistraat 115
P.O. Box 8097
6710 AB Ede
The Netherlands
Tel: +31 318 535 936
Fax: +31 318 535 951

France
ENERPAC
Une division de ACTUANT
France S.A.
B.P. 200, Parc d'Activités
du Moulin de Massy
F-91882 Massy CEDEX
France
Tel: +33 1 601 368 68
Fax: +33 1 692 037 50

Germany, Austria, Greece and Switzerland
ENERPAC GmbH
P.O. Box 300113
D-40401 Düsseldorf
Germany
Tel: +49 211 471 490
Fax: +49 211 471 49 28

India
ENERPAC Hydraulics
(India) Pvt. Ltd.
Office No. 9,10 & 11,
Plot No. 56, Monarch Plaza,
Sector 11, C.B.D. Belapur,
Navi Mumbai 400614, India
Tel: +91 22 2756 6090
Tel: +91 22 2756 6091
Fax: +91 22 2756 6095

Italy
ENERPAC S.p.A.
Via Canova 4
20094 Corsico (Milano)
Tel: +39 02 4861 111
Fax: +39 02 4860 1288

Japan
Applied Power Japan Ltd.
1-1-11, Shimomae
Toda-shi
Saitama Pref.
Japan 335-0016
Tel: +81 484 30 1055
Fax: +81 484 30 1066

Middle East, Turkey and Caspian Sea
ENERPAC Middle East FZE
P.O. Box 18004
Jebel Ali, Dubai
United Arab Emirates
Tel: +971 (0)4 8872686
Fax: +971 (0)4 8872687

Russia and CIS (excl. Caspian Sea Countries)
Actuant LLC
Admiral Makarov Street 8
125212 Moscow, Russia
Tel: +7-095-9809091
Fax: +7-095-9809092

Singapore
Actuant Asia Pte. Ltd.
25 Serangoon North Ave. 5
#03-01 Keppel Digihub
Singapore 554914
Thomson Road
P.O. Box 114
Singapore 915704
Tel: +65 64 84 5108
+65 64 84 3737
Fax: +65 64 84 5669
Toll Free:
Tel: +1800 363 7722
Technical Inquiries:
techsupport@
enerpac.com.sg

South Korea
Actuant Korea Ltd.
3Ba 717,
Shihwa Industrial Complex
Jungwang-Dong, Shihung-
Shi, Kyunggi-Do
Republic of Korea 429-450
Tel: +82 31 434 4506
Fax: +82 31 434 4507

Spain and Portugal
ENERPAC
C/San José Artesano 8
Pol. Ind.
28108 Alcobendas
(Madrid) Spain
Tel: +34 91 661 11 25
Fax: +34 91 661 47 89

The Netherlands, Belgium, Luxembourg, Sweden, Denmark, Norway, Finland and Baltic States
ENERPAC B.V.
Galvanistraat 115
P.O. Box 8097,
6710 AB Ede
The Netherlands
Tel: +31 318 535 911
Fax: +31 318 525 613
+31 318 535 848

Technical Inquiries Europe:
techsupport.europe@
enerpac.com

United Kingdom, Ireland
ENERPAC Ltd.
P.O. Box 33
New Romney, TN28 8QF
United Kingdom
Tel: +44 1527 598 900
Fax: +44 1527 585 500

USA, Latin America and Caribbean
ENERPAC
P.O. Box 3241
6100 N. Baker Road
Milwaukee, WI 53209 USA
Tel: +1 262 781 6600
Fax: +1 262 783 9562
User inquiries:
+1 800 433 2766
Distributor inquiries/orders:
+1 800 558 0530
Technical Inquiries:
techservices@
enerpac.com

e-mail: info@enerpac.com
Internet: www.enerpac.com

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