

2320Z1 SERIES

FEATURES

- > Easy to use BLDC technology/operation
- > Compact & lightweight design for portable applications
- > On-board, integrated brushless DC motor controller
- > Seven convenient fixed speed output selections
- > Variable speed PWM input signal for full range flexibility
- > Closed loop speed operation for consistent performance
- > Pressure or vacuum capability
- > Proven WOB-L piston technology
- > User configurable pneumatic ports
- > Durable die-cast aluminium components
- > Wetted parts treated for corrosion resistance
- > Field serviceable

TYPICAL APPLICATIONS

- > In-Vitro Diagnostics
- > Ventilator
- > Oxygen Concentrator
- > Dental Equipment
- > Spray Atomization
- > Pond Aeration

CUSTOMER REQUIREMENTS

- > Externally supplied cooling air flow must be provided in most applications to ensure pump operates within product specifications



BASE MODEL

- 2320Z1C3624W** (Pressure/Vacuum, 24Vdc)
- 2320Z1C3648W** (Pressure/Vacuum, 48Vdc)
- 2320Z1B3624W** (Vacuum, 24Vdc)
- 2320Z1B3648W** (Vacuum, 48Vdc)



WOB-L

2320Z1 Series

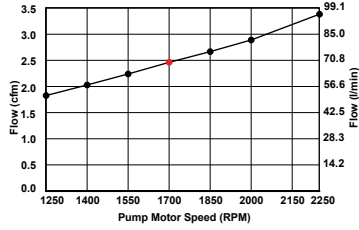
Flow	3.38 cfm (95.8 l/min)
Max. pressure	60 psi (4.2 bar)
Max. vacuum	90% local barometer



SPEED SELECTOR*
 *PUMP MUST BE OFF TO CHANGE SPEED
 1250 - 1400
 PWM - 1550
 1700
 2250 - 1850
 2000
 SEE INSTRUCTIONS FOR CONNECTIONS
 TACH PWM

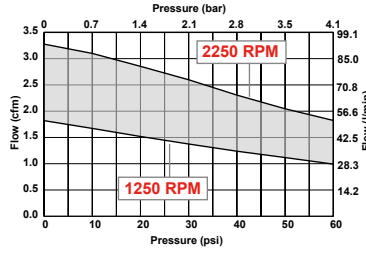
On board - integrated fixed or variable PWM speed control

Pump Open Flow at Each Pump Speed Selection



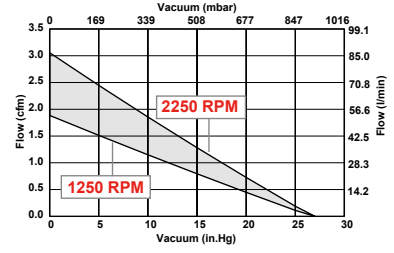
Factory set at the 1700 RPM setting

Pump Flow and Pressure at Min. / Max. Speed Setting



Performance of pressure configuration

Pump Flow and Vacuum at Min. / Max. Speed Setting



Performance of vacuum configuration

NOTE: All test values are nominal and for reference only. They are not guaranteed maximum or minimum limits, nor do they imply mean or median.

PERFORMANCE DATA		Shaded column indicates factory pre-set *speed selector*						
Pump Configuration	Parallel Flow Pressure (Vacuum capable)							
Model Number - 24VDC Nominal Voltage	2320Z1C3624W							
Model Number - 48VDC Nominal Voltage	2320Z1C3648W							
Speed Setting	1250 RPM	1400 RPM	1550 RPM	1700 RPM	1850 RPM	2000 RPM	2250 RPM	
Open Air Flow - cfm (l/min)	1.83 (51.7)	2.03 (57.5)	2.24 (63.4)	2.46 (69.7)	2.67 (75.5)	2.89 (81.8)	3.38 (95.8)	
Max. rated pressure - psi (bar)	60 (4.1)	60 (4.1)	60 (4.1)	60 (4.1)	60 (4.1)	60 (4.1)	60 (4.1)	60 (4.1)
Flow at max. rated pressure [60psi] - Amps at 24Vdc	0.99 (28.0)	1.13 (32.0)	1.26 (35.8)	1.42 (40.2)	1.56 (44.1)	1.69 (47.8)	1.80 (50.9)	
Current at max. rated pressure [60psi] - Amps at 48Vdc	10.2	10.8	11.9	13.3	14.2	15.4	16.6	
Power max. rated pressure [60psi] - Amps at 24Vdc	4.7	5.1	5.5	5.8	6.4	6.8	7.4	
Power max. rated pressure [60psi] - Watts at 24Vdc	244	257	286	320	341	370	399	
Power max. rated pressure [60psi] - Watts at 48Vdc	225	247	264	279	308	326	357	
Pump Configuration	Parallel Flow, Vacuum Only							
Model Number - 24VDC Nominal Voltage	2320Z1B3624W							
Model Number - 48VDC Nominal Voltage	2320Z1B3648W							
Speed Setting	1250 RPM	1400 RPM	1550 RPM	1700 RPM	1850 RPM	2000 RPM	2250 RPM	
Open Air Flow - cfm (l/min)	1.88 (53.4)	2.05 (58.0)	2.25 (63.8)	2.43 (68.9)	2.60 (73.7)	2.78 (78.8)	3.06 (86.6)	
Current at peak load [15 inHg] - Amps at 24Vdc	3.7	4.1	4.6	5.0	5.5	6.2	7.6	
Current at peak load [15 inHg] - Amps at 48Vdc	1.7	1.9	2.1	2.3	2.5	2.8	3.4	
Power at peak load [15 inHg] - Amps at 24Vdc	89	99	110	120	133	148	182	
Power at peak load [15 inHg] - Amps at 48Vdc	80	90	101	111	122	135	164	

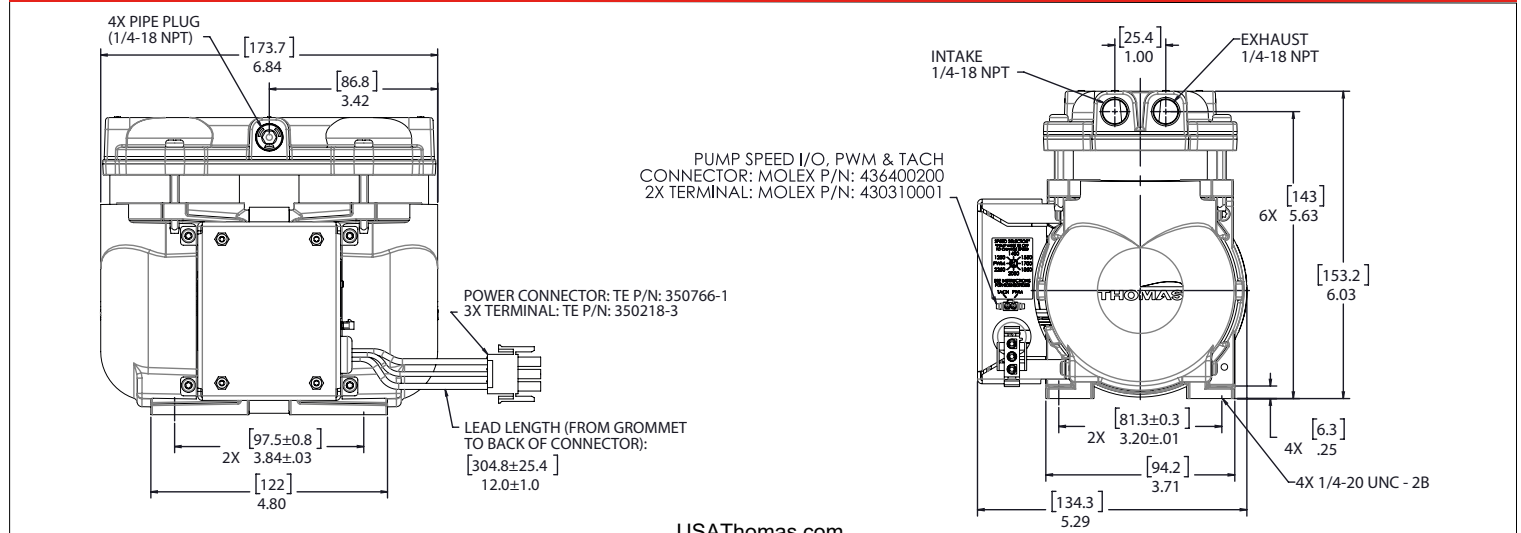
Test Reference: T21-0285, T22-0145, T22-0133

ELECTRICAL DATA	
Motor type	24Vdc or 48 Vdc BLDC
Motor insulation class	F
Motor protection	Thermal fuse - One shot
Power lead wire color, gauge	Black, 16 AWG Green w/yellow, 18 AWG Red, 16 AWG
Power lead wire color function/pin ID	Black: 0 VDC/Pin 1 Green w/yellow: Ground/Pin 2 Red: +Vdc/Pin 3
I/O lead wire color function/pin ID	White: PWM/Pin 1 Blue: Tach out/Pin 2 (See Speed Selection Instructions included with pump), I/O harness not included with pump.

GENERAL DATA	
Operating ambient temperature	50° to 104°F (10°C TO 40°C)*
Pump functionality	Pump pre-set to 1700 RPM. 7 fixed speeds or PWM (1250-2250 RPM) may be selected
Net weight	7.83 lbs (3.55 kg)

*Broader ambient operating ranges may be possible depending on your specific application. Please consult your Thomas representative regarding your system needs.

PRODUCT DIMENSIONS



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GENERAL CONTACT

THOMAS is a leading manufacturer of systems, compressors, vacuum, and liquid pumps for Original Equipment Manufacturers (OEMs) in the medical, laboratory, environmental and industrial sector.

With its experienced Engineering, Technical, and Operations staff and capabilities, Thomas designs and manufactures customized pressure and vacuum solutions that meet the precise needs of its customers. Backed by over 60 years of engineering excellence and innovation, and a global manufacturing network, Thomas stands out as the reliable choice for OEMs worldwide.

Please check out all our brands for your mission-critical flow control technologies:

 **THOMAS** **WELCH** **TRICONTINENT** **ZINSSER
ANALYTIC** **ILS**