

2380Z1 SERIES

THOMAS
An Ingersoll Rand Business

FEATURES

- > Easy to use BLDC technology/operation
- > 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
- > Integrated cooling fan for simple thermal management
- > Durable die-cast aluminum components
- > Field serviceable

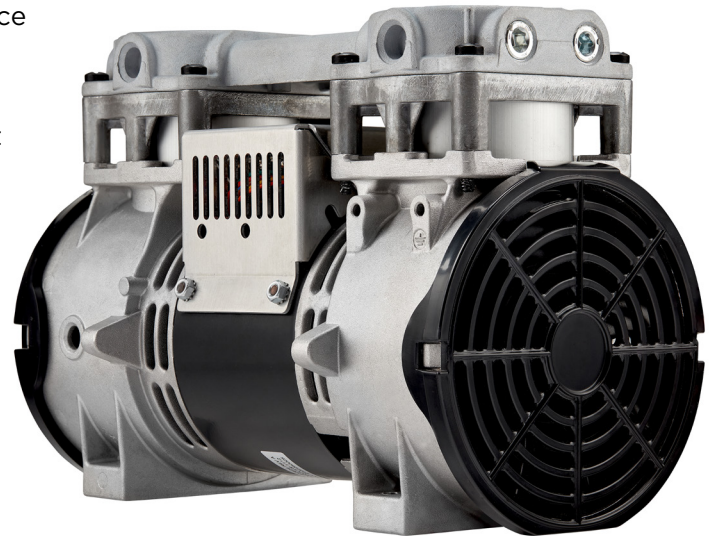
TYPICAL APPLICATIONS

- > In-Vitro Diagnostics
- > Dental Equipment
- > Spray Atomization
- > Pond Aeration



BASE MODEL

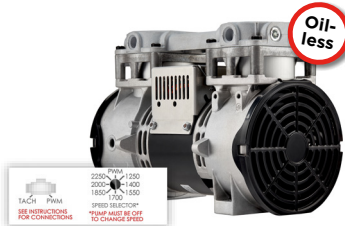
2380Z1C3224W (Pressure/Vacuum, 24Vdc)
2380Z1C3248W (Pressure/Vacuum, 48Vdc)
2380Z1B5324W (Vacuum, 24Vdc)
2380Z1B5348W (Vacuum, 48Vdc)



WOB-L

2380Z1 Series

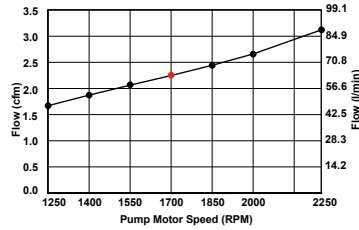
Flow	3.14 cfm (88.8 l/min)
Max. pressure	100 psi (6.9 bar)
Max. vacuum	92% local barometer



TACH - PWM
SEE INSTRUCTIONS FOR CONNECTIONS
SPEED SELECTOR
PUMP SPEEDS BE SET TO CHANGE SPEED

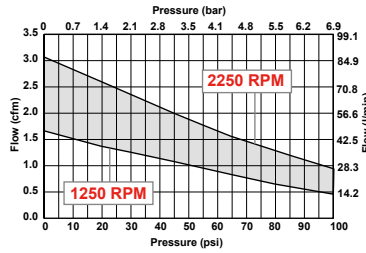
On board - Integrated fixed or variable PWM speed control

Pump Open Flow at Each Pump Speed Selection



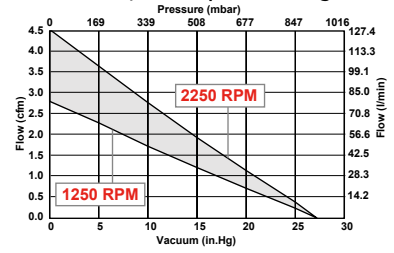
Performance of 2380Z1C32

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



Pressure performance of 2380Z1C32

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



Vacuum performance of 2380Z1B53

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.

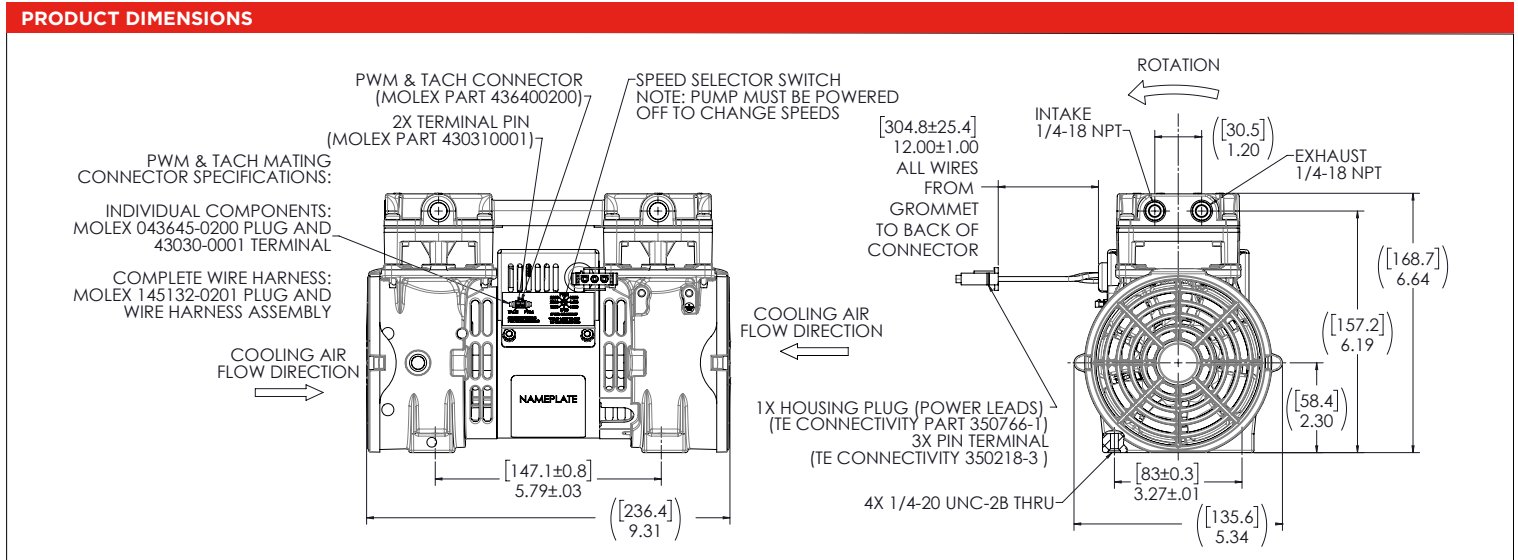
PERFORMANCE DATA		Shaded column indicates factory pre-set "speed selector"						
Pump Configuration	Parallel Flow, Pressure and/or Vacuum							
Model Number - 24 Vdc Nominal Voltage	2380Z1C3224W							
Model Number - 48 Vdc Nominal Voltage	2380Z1C3248W							
Speed Setting	1250 RPM	1400 RPM	1550 RPM	1700 RPM	1850 RPM	2000 RPM	2250 RPM	
Open Air Flow - cfm (l/min)	1.68 (47.7)	1.87 (53.0)	2.06 (58.3)	2.25 (63.7)	2.45 (69.4)	2.67 (75.6)	3.14 (88.8)	
Max. rated pressure - psi (bar)	100 (6.9)	100 (6.9)	100 (6.9)	100 (6.9)	100 (6.9)	100 (6.9)	100 (6.9)	
Flow at max. rated pressure - cfm (l/min)	0.45 (12.9)	0.51 (14.5)	0.58 (16.4)	0.66 (18.6)	0.75 (21.1)	0.79 (22.5)	0.93 (26.3)	
Current at max. rated pressure - Amps at 24Vdc	7.6	8.0	8.8	9.6	10.5	11.3	13.1	
Current at max. rated pressure - Amps at 48Vdc	4.0	4.2	4.6	5.0	5.4	5.9	6.5	
Power at max. rated pressure - Watts at 24Vdc	180	191	209	229	251	271	313	
Power at max. rated pressure - Watts at 48Vdc	190	202	218	237	260	279	312	
Pump Configuration	Parallel Flow, Vacuum Only							
Model Number - 24 Vdc Nominal Voltage	2380Z1B5324W							
Model Number - 48 Vdc Nominal Voltage	2380Z1B5348W							
Speed Setting	1250 RPM	1400 RPM	1550 RPM	1700 RPM	1850 RPM	2000 RPM	2250 RPM	
Open Air Flow - cfm (l/min)	2.79 (79.0)	3.05 (86.5)	3.39 (95.9)	3.63 (102.9)	3.81 (107.9)	4.03 (114.2)	4.52 (128.1)	
Flow at 15 inHg - cfm (l/min)	1.20 (34.1)	1.32 (37.3)	1.44 (40.8)	1.57 (44.5)	1.65 (46.8)	1.76 (49.9)	1.95 (55.3)	
Current at 15 inHg - Amps at 24 Vdc	5.3	5.9	6.6	7.3	8.1	8.9	10.8	
Current at 15 inHg - Amps at 48 Vdc	2.6	2.9	3.1	3.6	4.0	4.4	5.4	
Power at 15 inHg - Watts at 24 Vdc	126	141	158	175	194	213	258	
Power at 15 inHg - Watts at 48 Vdc	125	140	150	175	193	211	259	

Note: pump is capable of continuous pressure and/or light duty vacuum. For vacuum only applications see table below
Test Reference: T22-0134, T22-0102, T21-0200, T20-0282

ELECTRICAL DATA	
Motor type	24 Vdc or 48 Vdc BLDC
Motor insulation class	F
Motor protection	Controller current limit and one-shot thermal fuse
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	9.79 lbs. (4.44 kg), approximate for 32 stroke

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



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