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

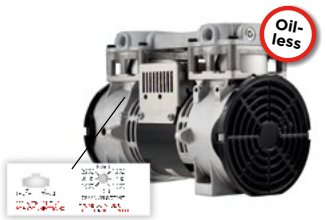
BASE MODEL

2380Z1C3224W (Pressure/Vacuum, 24Vdc)
2380Z1C3248W (Pressure/Vacuum, 48Vdc)
2380Z1B5324W (Vacuum, 24Vdc)
2380Z1B5348W (Vacuum, 48Vdc)
2380Z1V5324W (Two-Stage Vacuum, 24Vdc)

WOB-L

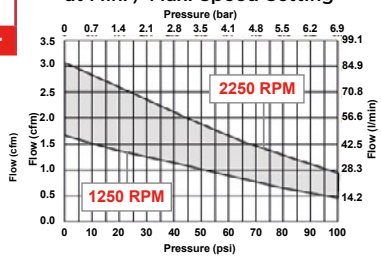
2380Z1 Series

Flow	3.14 cfm (88.8 l/min)
Max. pressure	100 psi (6.9 bar)
Max. vacuum	98% local barometer



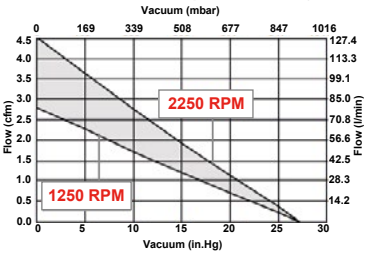
On board - Integrated fixed or variable PWM speed control

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



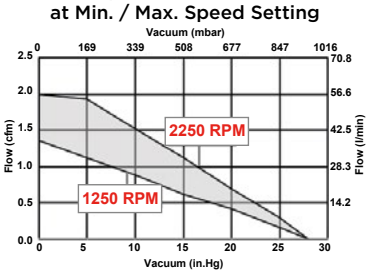
Pressure performance of 2380Z1C32

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



Vacuum performance of 2380Z1B53

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



Vacuum performance of 2380Z1V53

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

Note: pump is capable of continuous pressure and/or light duty vacuum. For vacuum only applications see table below

Pump Configuration	Parallel Flow, Vacuum Only						
Model Number - 24VDC Nominal Voltage	2380Z1B5324W						
Model Number - 48VDC 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 24Vdc	5.3	5.9	6.6	7.3	8.1	8.9	10.8
Current at 15 inhg - Amps at 48Vdc	2.6	2.9	3.1	3.6	4.0	4.4	5.4
Power at 15 inhg - Amps at 24Vdc	126	141	158	175	194	213	258
Power at 15 inhg - Amps at 48Vdc	125	140	150	175	193	211	259

Note: pump is not capable of positive pressure operation

Pump Configuration	Two-Stage, Vacuum Only						
Model Number - 24 Vdc Nominal Voltage	2380Z1V5324W						
Model Number - 48 Vdc Nominal Voltage	N/A						
Speed Setting	**1250 RPM**	**1400 RPM**	**1550 RPM**	**1700 RPM**	**1850 RPM**	**2000 RPM**	**2250 RPM**
Open Air Flow -cfm (l/min)	1.35 (38.2)	1.49 (42.2)	1.64 (46.4)	1.78 (50.4)	1.92 (54.3)	2.06 (58.4)	2.31 (65.3)
Flow at 15 inhg - cfm (l/min)	0.64 (18.0)	0.71 (20.0)	0.78 (22.0)	0.84 (23.9)	0.91 (25.8)	0.98 (27.7)	1.09 (31.0)
Current at 15 inhg - Amps at 24 Vdc	4.1	4.6	5.2	5.8	6.4	7.1	8.4
Power at 15 inhg - Watts at 24 Vdc	98	111	125	139	154	171	202

Note: pump is not capable of positive pressure operation; includes special exhaust silencer

Test reference: T22-0134, T22-0102, T21-0200, T20-0282, T24-0123

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.

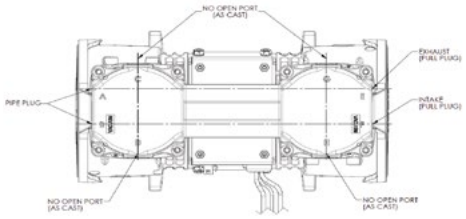
GENERAL DATA

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

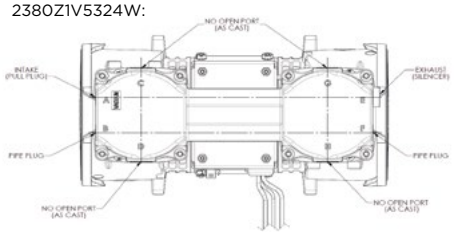
*Broader ambient operating ranges may be possible depending on your specific application. Please consult your Thomas representative regarding your system needs.

PRODUCT DIMENSIONS

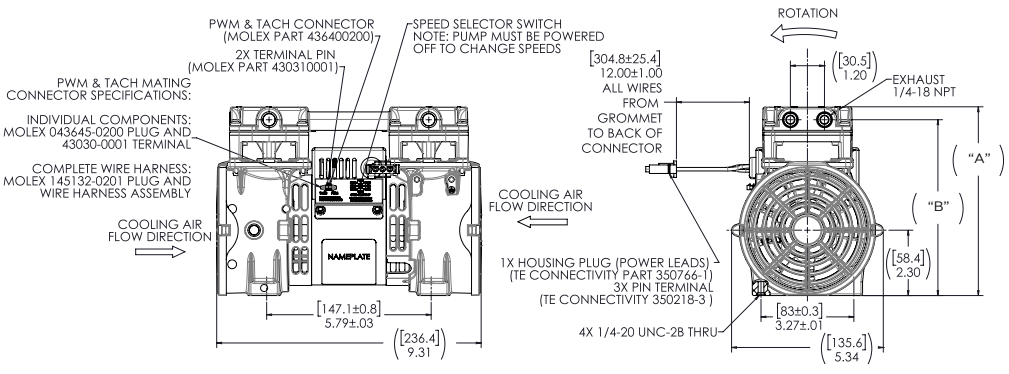
PNEUMATIC PORT CONFIGURATION
2380Z1C3224W, 2380Z1C3248W, 2380Z1B5324W, 2380Z1B5348W:



2380Z1V5324W:



MODEL	A	B
2380Z1C3224W 2380Z1C3248W	[168.7] 6.64	[157.2] 6.19
2380Z1B5324W 2380Z1B5348W 2380Z1V5324W	[171.6] 6.76	[160] 6.30



GENERAL CONTACT

EMEA
Gardner Denver Thomas GmbH
Livry-Gargan-Str. 10
82256 Fuerstenfeldbruck
Germany

Tel: +49 8141 2280 0
Fax: +49 8141 8892136
thomas.de@irco.com

AMERICAS
Gardner Denver Thomas, Inc.
1419 Illinois Avenue
Sheboygan, WI 53081
USA

Tel: +1 920 457 4891
Fax: +1 920 451 4276
td.usa@irco.com

ASIA PACIFIC
Gardner Denver Thomas Pneumatic Systems (Wuxi) Co., Ltd.
No. 1 New Dong An Road
Shuofang Town
Wuxi, Xinwu District
Jiangsu 214142
China

Tel: 400-012-1268
QQ 800 180 724
thomas.cn@irco.com

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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.

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