

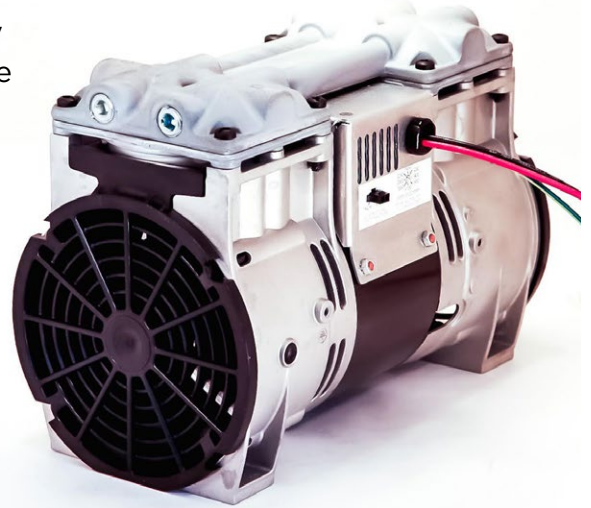
2680Z1 SERIES

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 aluminium components
- > Field serviceable

BASE MODEL

- 2680Z1C4048
- 2680Z1B5648



TYPICAL APPLICATIONS

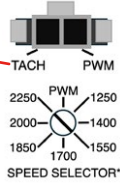
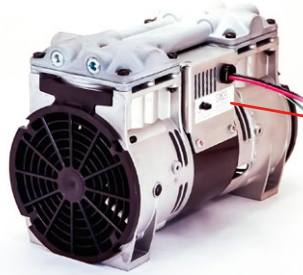
- > In-Vitro Diagnostics
- > Dental Equipment
- > Spray Atomization
- > Pond Aeration
- > Surgical Suction



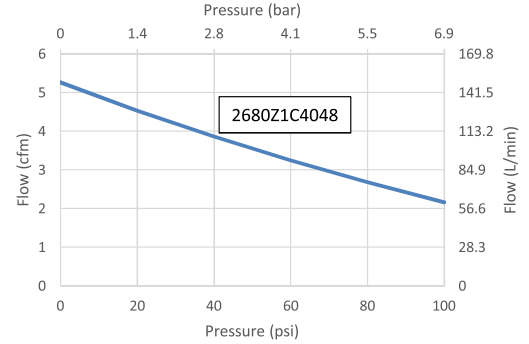
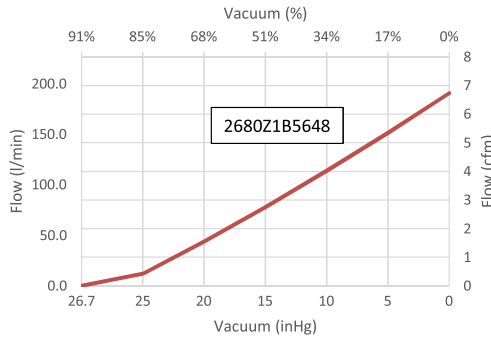
WOB-L

2680Z1 SERIES

Flow	up to 6.73 cfm (190.6 L/min)
Max. pressure	up to 100 psi (6.9 bar)
Max. vacuum	up to 91% local barometer



SEE INSTRUCTIONS FOR CONNECTIONS
*PUMP MUST BE OFF TO CHANGE SPEED



Integrated fixed speed or PWM variable speed control

GENERAL PERFORMANCE INFORMATION

Pump Configuration	Max. Open Air Flow: cfm (l/min)	Max. Rated Pressure: psi (bar)	Max. Vacuum: inHg (% local baro.)	Max. Power & Current: Watts (Amps)	Voltage	Model Number / Order Number
0.40" Stroke Parallel Flow Pressure (Vacuum capable)	5.26 (149.1)	100 (6.9)	90.2%	655 (13.52)	48Vdc	2680Z1C4048
0.56" Stroke Parallel Flow, Vacuum Only	6.73 (190.6)	-	91.1%	356 (7.4)	48Vdc	2680Z1B5648

* Typical performance at maximum speed setting
** When measured at an elevation of 635 feet

ELECTRICAL DATA

Motor type	48V Brushless DC (BLDC) with integrated controller, including selectable 7 speeds or PWM
Motor insulation class	F
Motor protection	Primary: Integrated controller stall, over-current, over-temp protection; Secondary: 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 (pin will operate without chassis ground)
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. (See service parts information below)"
PWM Input	Frequency: 100 Hz to ±20Hz, Voltage: 10 - 48Vdc, Duty Cycle Range: 5 - 95% (5% = 1250 RPM, 95% = 2250 RPM)
Tachometer Output	Frequency: 4 pulse per rotation, Voltage: 0 - 3.3Vdc

GENERAL DATA

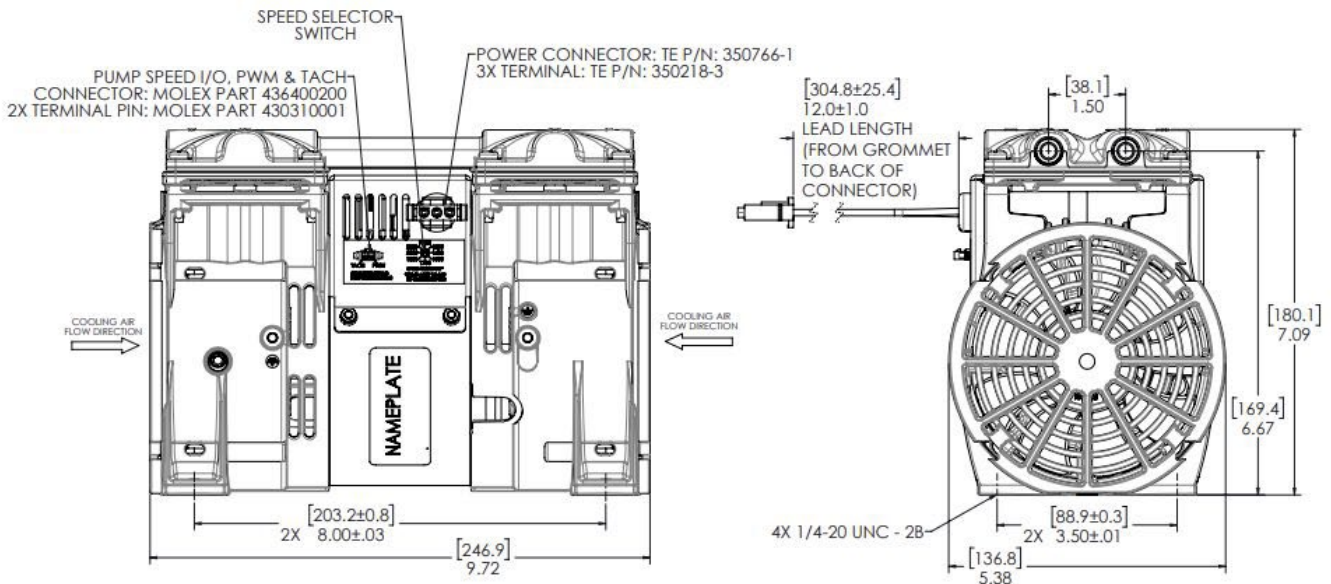
Operating ambient temperature	50° to 104° F (10°C to 40°C)*
Agency certifications	The pump is designed to facilitate UL certification of the customer's complete system. Electrical components are designed with compliance creepage and clearance dimension guidelines, using agency approved materials. Reference standards include IEC 60601 and UL 840/1004. Consult your Thomas representative regarding additional agency requirements.
Net weight	13.5 lbs (6.12 kg)

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

SERVICE PARTS & ACCESSORIES INFORMATION

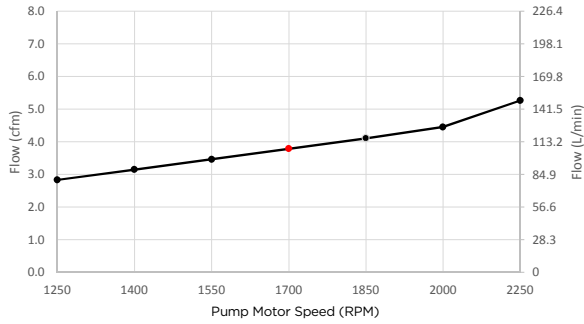
Compatible Model Number	Instruction Sheet Number	Service Kit Number	Kit Contents
2680Z1C4048	6A000349	SK2680ZC	2.75" Piston cups, retainers, cylinder sleeves, valves, gaskets, screws, filter
2680Z1B5648	6A000352	SK2680ZB	2.75" Piston cups, retainers, cylinder sleeves, valves, gaskets, screws, filter
All Models	-	603277-S	Optional I/O wire harness for PWM and Tachometer (12 inch / 305mm length)
All Models	-	660573	Recommend filter/muffler with 1/4-18 NPT threads

PRODUCT DIMENSIONS

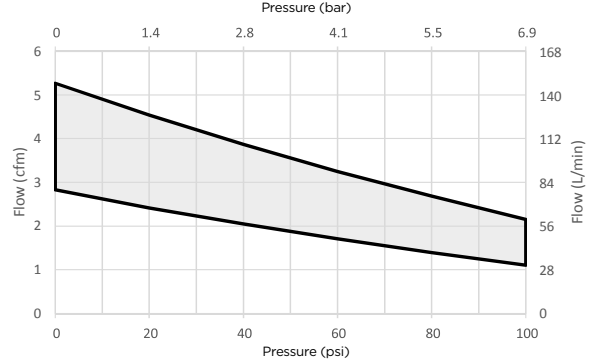


2680Z1C4048

Pump Open Flow at Each Speed Selection

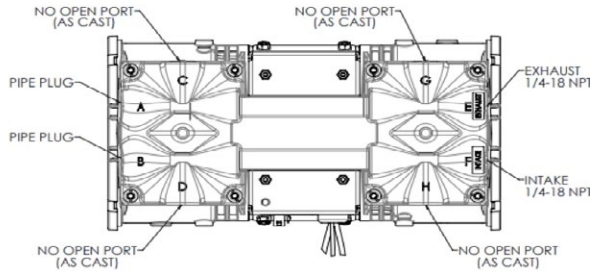


Pump Flow and Pressure



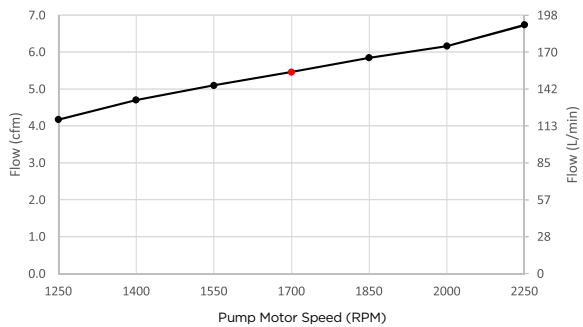
Pump Configuration	0.40" Stroke Parallel Flow Pressure (Vacuum capable)							
Model Number - 48Vdc Nominal Voltage	2680Z1C4048							
Speed Setting	1250 RPM	1400 RPM	1550 RPM	1700 RPM Factory pre-set speed	1850 RPM	2000 RPM	2250 RPM	
Open Air Flow - cfm (l/min)	2.83 (80.1)	3.15 (89.1)	3.46 (98.0)	3.79 (107.2)	4.11 (116.3)	4.45 (126.0)	5.26 (149.1)	
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)	
Restart pressure capability - psi (bar)	45 (3.1)	45 (3.1)	45 (3.1)	45 (3.1)	45 (3.1)	45 (3.1)	45 (3.1)	
Flow at max. rated pressure [100 psi / 6.9 bar] - cfm (l/min)	1.1 (31.2)	1.26 (35.6)	1.38 (39.2)	1.57 (44.4)	1.73 (49.1)	1.91 (54.0)	2.16 (61.0)	
Current at max. rated pressure [100 psi / 6.9 bar] - Amps at 48Vdc	7.9	8.5	9.1	9.85	10.69	11.57	12.89	
Power at max. rated pressure [100 psi / 6.9 bar] - Watts at 48Vdc	381	411	439	476	516	559	623	

PNEUMATIC PORT CONFIGURATION

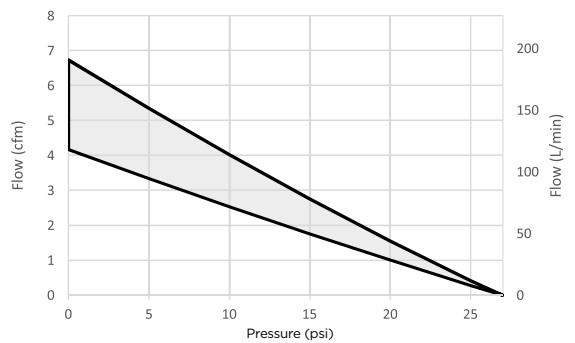


2680Z1B5648

Pump Open Flow at Each Speed Selection



Pump Flow and Pressure



Pump Configuration	0.56" Stroke Parallel Flow, Vacuum Only							
Model Number - 48Vdc Nominal Voltage	2680Z1B5648							
Speed Setting*	1250 RPM	1400 RPM	1550 RPM	1700 RPM Factory pre-set speed	1850 RPM	2000 RPM	2250 RPM	
Open Air Flow - cfm (L/min)	4.17 (118.0)	4.70 (133.0)	5.09 (144.3)	5.46 (154.5)	5.84 (165.5)	6.16 (174.4)	6.73 (190.6)	
Max. rated vacuum - % local barometer (inHg)	91.1% (26.7)	91.1% (26.7)	91.1% (26.7)	91.1% (26.7)	91.1% (26.7)	91.1% (26.7)	91.1% (26.7)	
Flow at 15 inhg - cfm (L/min)	1.75 (49.6)	1.93 (54.7)	2.10 (59.5)	2.25 (63.7)	2.39 (67.7)	2.53 (71.7)	2.75 (78.0)	
Current at 15 inhg - Amps at 48Vdc	3.8	4.3	4.8	5.2	5.7	6.2	7.2	
Power at 15 inhg - Watts at 48Vdc	182	206	231	252	276	300	349	

PNEUMATIC PORT CONFIGURATION

