

# 107Z1 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
- > Robust diaphragm pump technology
- > Integrated cooling fan for simple thermal management
- > Durable die-cast aluminum components
- > Wetted parts treated for corrosion resistance

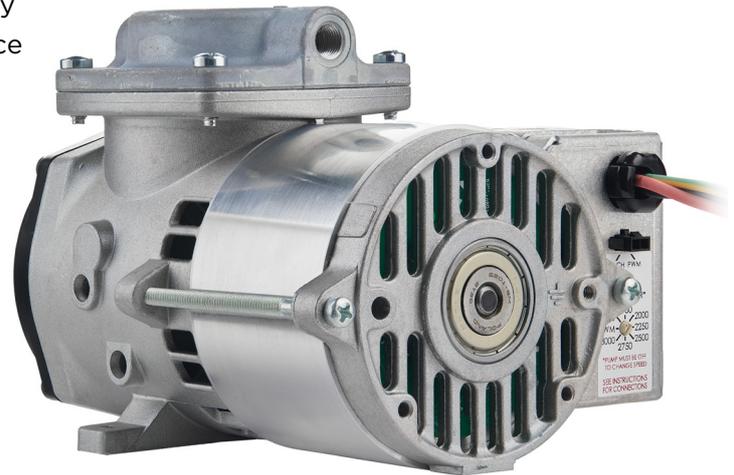
## TYPICAL APPLICATIONS

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



## BASE MODEL

107Z1C1824 (Pressure/Vacuum, 24Vdc)

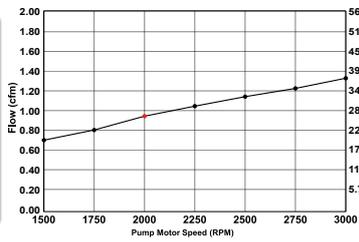


**DIAPHRAGM**

# 107Z1 Series

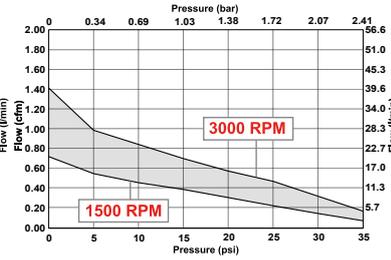
Flow	1.34 cfm (37.9l/min)
Max. pressure	35 psi (2.4 bar)
Max. vacuum	74% local barometer

Pump Open Flow at Each Pump Speed Selection



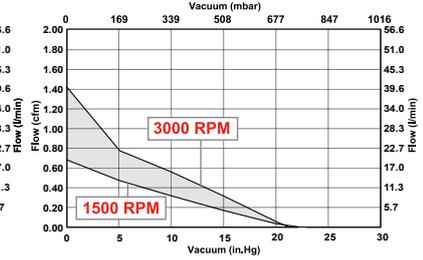
Factory set at the 2000 RPM setting

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

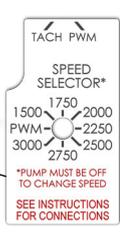


Pressure performance

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



Vacuum performance



On board - Integrated fixed or variable PWM speed control

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 selection						
Pump Configuration	Parallel Flow Pressure (Vacuum capable)							
Model Number - 24VDC Nominal Voltage	107Z1C1824							
	<b>Speed Setting</b>	<b>1500 RPM</b>	<b>1750 RPM</b>	<b>2000 RPM</b>	<b>2250 RPM</b>	<b>2500 RPM</b>	<b>2750 RPM</b>	<b>3000 RPM</b>
Open Air Flow - cfm (l/min)		0.71 (20.0)	0.81 (23.0)	0.95 (26.9)	1.05 (29.8)	1.15 (32.5)	1.23 (34.8)	1.34 (37.9)
Max. operating pressure - psi (bar)		35 (2.4)	35 (2.4)	35 (2.4)	35 (2.4)	35 (2.4)	35 (2.4)	35 (2.4)
Flow at max. rated pressure - cfm (l/min)		0.09 (2.5)	0.10 (2.8)	0.13 (3.8)	0.16 (4.5)	0.19 (5.5)	0.21 (5.9)	0.21 (5.9)
Current at max. rated pressure - Amps at 24Vdc		2.0	1.8	1.9	2.0	2.2	2.4	2.4
Power at max. rated pressure - Watts at 24Vdc		48	44	45	47	52	57	59

ELECTRICAL DATA		Test Reference: T22-0178, T22-0266
Motor type	24Vdc BLDC	
Motor insulation class	F	
Motor protection	BLDC controller self-protection temperature limit: 75° C (power off/on to reset)	
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 2000 RPM. 7 fixed speeds or PWM (1500 - 3000 RPM) may be selected
Net weight	4.30 lbs. (1.95 kg)

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

PRODUCT DIMENSIONS	
	<p>POWER CONNECTOR: TE P/N: 350766-1 3X TERMINAL: TE P/N: 350218-3</p> <p>INTAKE 1/8-27 NPT</p> <p>EXHAUST 1/8-27 NPT</p> <p>LEAD LENGTH (FROM GROMMET TO BACK OF CONNECTOR): [304.8±25.4] 12.0±1.0</p> <p>PUMP SPEED I/O, PWM &amp; TACH CONNECTOR: MOLEX P/N: 436400200 2X TERMINAL: MOLEX P/N: 430310001</p> <p>[96.5±0.8] 3.80±0.03</p> <p>[154.6] 6.09</p> <p>3X 8-32 UNC - 2B</p>

## GENERAL CONTACT

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