SPECIFICATION
and Performance Map

***VAIREX* Model VR-0612.02**
Air Delivery System

Description:

The Model VR-0612.02 Air Delivery System incorporates *VAIREX* proprietary variable speed motor technology. The fully integrated Air Delivery System consists of a regenerative blower, integrated brushless dc motor, and motor speed controller.

Specifications

System type: *VAIREX* model VR-0612.02, air delivery system

Outputs: Pressurized air.

Output ratings	**Min**	**Max**	**Peak** [1]	**Units**
Output 1, Pressure [2]	1.0	1.2 (@6g/s)	1.3	ratio
Output 1 Mass Flow [3]	.1	6 (@1.2 P/p)	15	grams/sec
Noise, Acoustic		<75		dB A
Output temperature delta	0	40		˚C
Blower Speed [4]	0	16,500	18,000	RPM
Motor Speed	0	16,500	22,000	RPM
Inputs				
Control voltage [5] [10]	0.5	5		Volts DC
Atmospheric Air [6]				
Inlet pressure range	10.3	15.1		psia
Inlet temperature	1	38		˚C
Inlet humidity [7]	0	100		% R.H.
Voltage range [10]	24	48		Volts DC
Current range [8]	0	40		Amps
Precision				
Speed control precision	2.5	2.5		+/- %
System Parameters				
Total power consumption	0	450		watts
Total volume (Pump/Motor)		0.7		liters
Total volume (Controller)		0.7		liters
Total weight (Pump/Motor)		1.8		kg
Total weight (Controller)		0.4		kg
Expected Durability		25000		Hours [9]

Notes:

1) Air Delivery System is limited in peak parameters for 30 seconds operation, not more than once per hour.
2) The output shall be capable of achieving a pressure ratio of the specified value. Pressure from the air delivery system shall be controlled by the downstream backpressure provided by the customer's device. Peak output pressure shall be limited to 110% of maximum operating pressure. Peak performance is rated at 48V, lower peak output may be expected at lower voltages.
3) Flows at output 1 are standardized for 25 ˚C inlet temperature, 14.7-psia inlet pressure.
4) Blower speed may be limited by max motor speed.
5) 0.5 – 5.0 volts for pulse-width-modulation control, 5.0 – 10.0 volts for simple commutation control.
6) Ambient supply of air shall be free of particulate matter greater than 20 microns in size.
7) Non-condensing. No un-evaporated water (liquid) may be injected or otherwise introduced into the pump inlet.
8) Max operational line amperage is contingent on applied voltage (i.e. @ 24 volts Imax ~18.75amps, @ 48 volts Imax ~9.4amps)
9) Duration at 100% Duty Cycle (16,000 rpm, 1.15 pressure ratio).
10) Other Voltage Ranges and Control Input formats available on request.