

### FEATURES

- Small size and light weight
- High efficiency
- Long life up to 10,000 hours
- Ideal for use in portable air and gas applications
- Can satisfy intrinsic safety requirements
- Broad media compatibility
- RoHS compliant

### MEDIA COMPATIBILITY

Air, argon, helium, nitrogen, oxygen & other non-reacting gases



### WETTED MATERIALS

Diaphragm: EPDM  
 Valve: EPDM  
 Head: ABS

### ELECTRICAL

Voltage (nominal)	3.3 V <sub>DC</sub>
Max. power @ nom. voltage	0.36 W
Electrical termination	
T5-1HE..., T5-1LI...	wire leads, 28 AWG 5.7 in (145 mm), red (+), black (-)
T5-1IC...	solder tabs
Current range <sup>4</sup>	34...105 mA
Inductance <sup>5</sup>	
T5-1HE...	0.28 mH max. @ 1 kHz/50 mV
T5-1LI...	0.05 mH max. @ 1 kHz/50 mV
T5-1IC...	4.07 mH max. @ 1 kHz/50 mV

### PHYSICAL PROPERTIES

Operating temperature <sup>1</sup>	-20 to 50 °C
Storage temperature	-10 to 50 °C
Porting	10-32 tapped ports, 1/16, 5/64 or 1/8 in stem barbs
Weight	
T5-1HE..., T5-1LI...	14 g
T5-1IC...	11 g
Humidity (non-condensing)	5...95 %RH
Noise <sup>2</sup>	<45 dB
Filtration (recommended)	40 µm

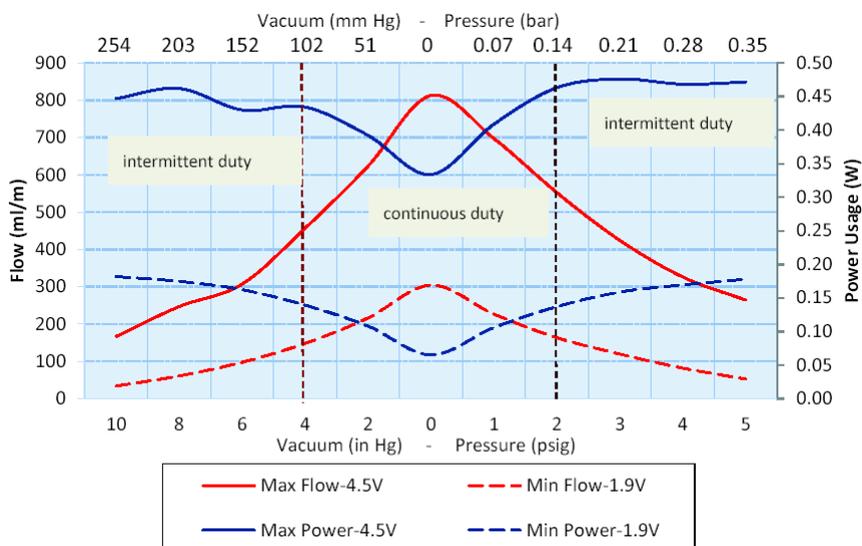
### PERFORMANCE CHARACTERISTICS

(Standard conditions: 70 °F (21 °C) and 14.7 psia (1 bara))

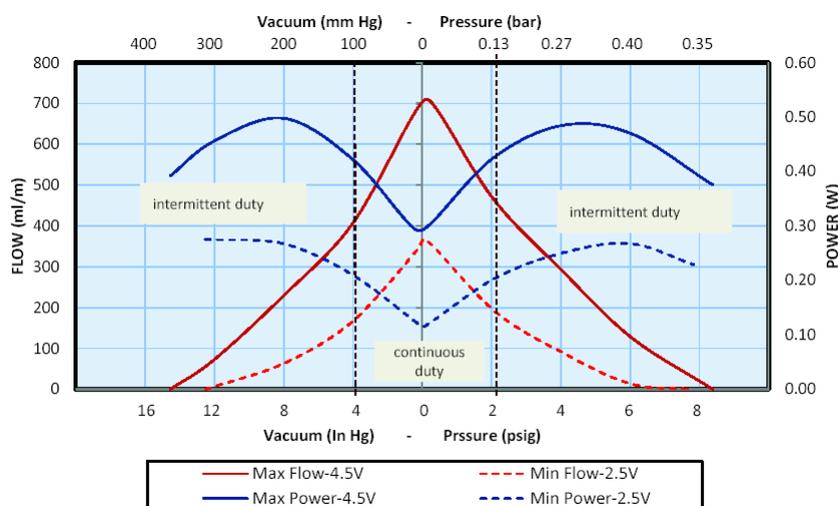
Part no.	Max. flow	Max. pressure		Max. vacuum		Efficiency at free flow <sup>7</sup>	Life rating <sup>3</sup>
		intermittent <sup>6</sup>	continuous	intermittent <sup>6</sup>	continuous		
T5-1HE...	0.8 lpm	430 mbar (6.2 psi)	138 mbar (2 psi)	274 mmHg (10.8 inHg)	104 mmHg (4.1 inHg)	4.66 LPM/W @ 1.9 V	up to 10,000
T5-1LI...	0.8 lpm					4.08 LPM/W @ 1.9 V	up to 4,000
T5-1IC...	0.7 lpm					3.12 LPM/W @ 1.9 V	up to 1,500

### FLOW CURVES (typical air flow, 24 °C)

#### T2-05 pump coreless brush motor

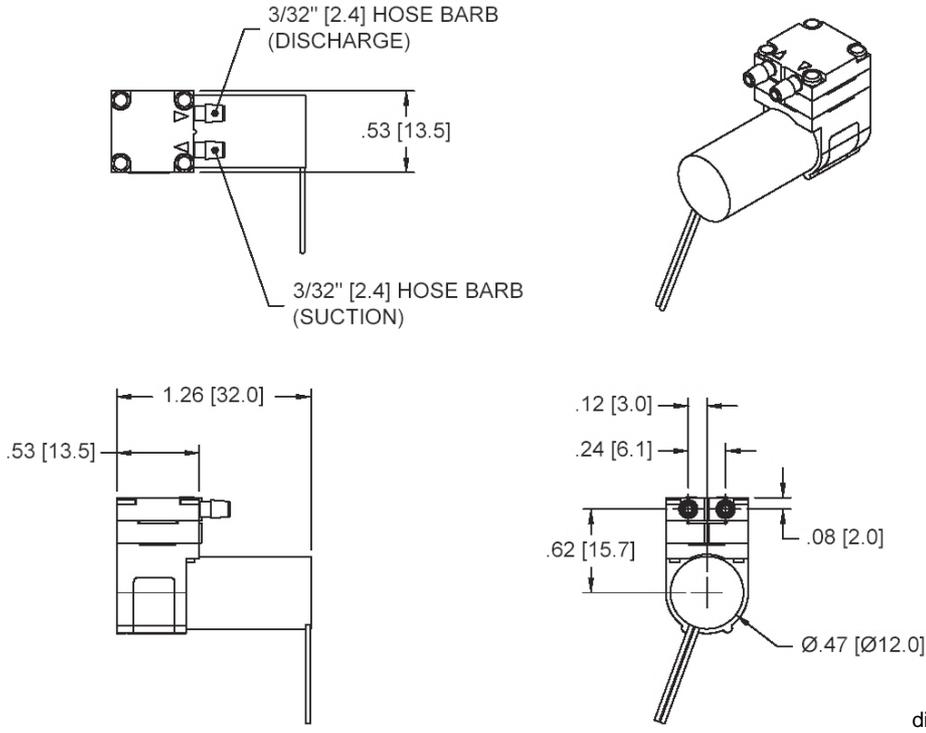


#### T2-05 PMDC iron core brush motor

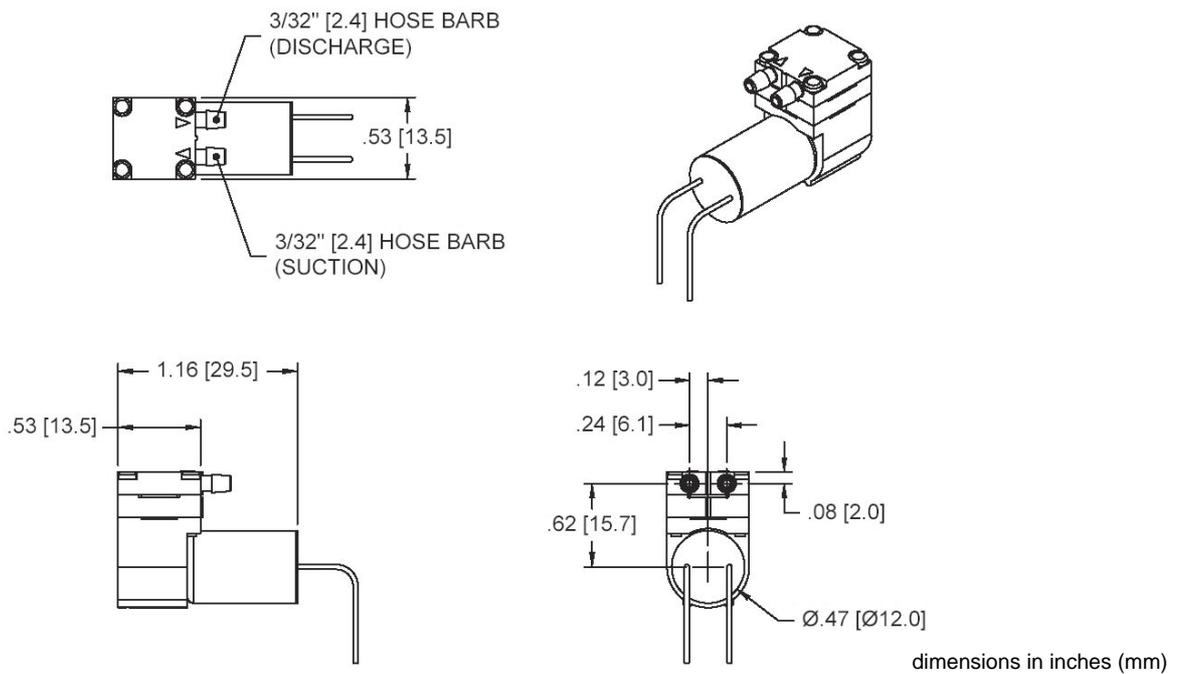


**OUTLINE DRAWING**

**T5-1HE-... (High Efficiency)**

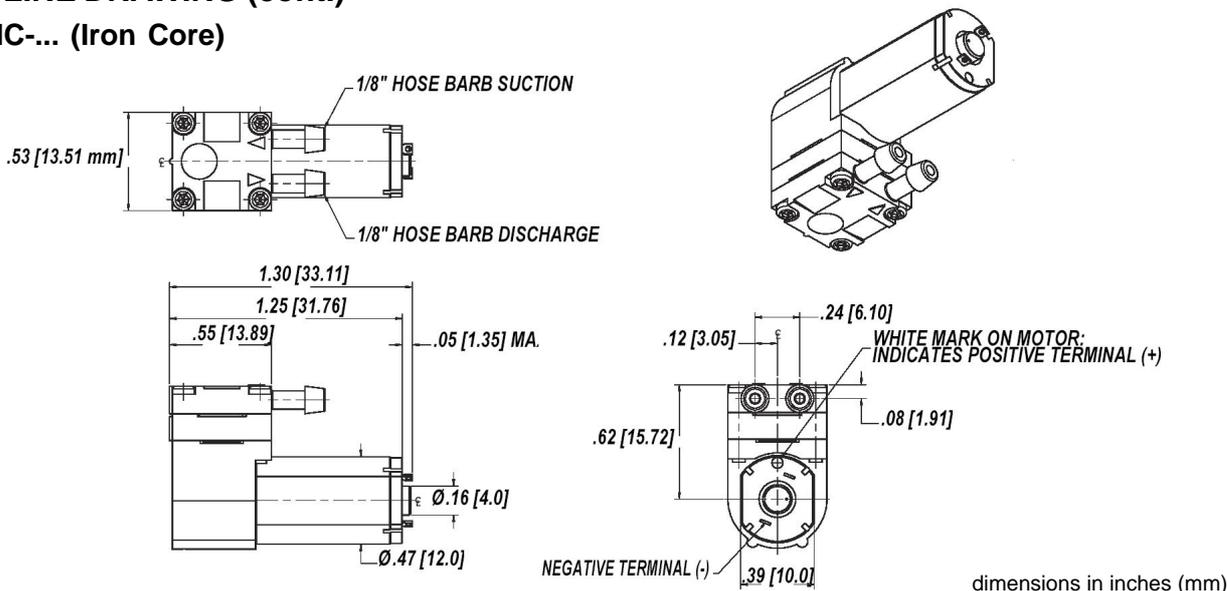


**T5-1LI-... (Low Inductance)**



OUTLINE DRAWING (cont.)

T5-1IC-... (Iron Core)



Specification notes:

1. Duty dependent. For operation above 122 °F (50 °C) or below 32 °F (0 °C) consult First Sensor.
2. Noise is dependent on the configuration and operation of the pump in the application.
3. Life rating can vary depending on application and operating conditions.
4. Current range is dependent on motor type, voltage, pressure/vacuum and flow requirement. Lower levels possible depending on application.
5. Inductance is an indicator of induced voltage with change in current and it is a key parameter to enable customers' low energy intrinsic safety systems.
6. Maximum intermittent pressure/vacuum data is a pump capability guideline for applications that go beyond the maximum continuous levels for short periods of time. Please consult customer specific requirements with First Sensor.
7. Pump efficiency is a measure of the flow rate generated per unit of power consumed. Efficiency may change dependent on application and operating condition at free flow.

Important:

- It is not recommended to run the pump continuously, 100% duty cycle, at higher than 2 psig.
- The pump flow and pressure can be controlled by adjusting the input voltage from zero to maximum rated voltage.
- The pump is not a pressure holding device. An external check valve is recommended if there is a pressure holding requirement.
- Pump orientation does not affect performance or life.

ORDERING INFORMATION

Order no.	Model	Motor		
		Type	Max. voltage	Peak current draw
T5-1HE-03-1EEB	High Efficiency	Coreless brush	4.5 V <sub>DC</sub>	438 mA
T5-1LI-03-1EEB-1	Low Inductance			
T5-1IC-03-1EEP	Iron Core	PMDC		240 mA

Note: Custom specific modifications are widely available. Please contact First Sensor for further information.

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