

Shown with short stack brushless D.C. motor

BTC Series

Single Head Miniature Diaphragm Pump and Compressor

English/Metric

Performance Specifications	Pressure* (psig/kPa)	Vacuum* (inHg/mmHg)	Free Flow (lpm)
Flat Diaphragm	0 – 30/0 – 207	0 – 23/0 – 584	3.5
Convolved Diaphragm	0 – 20/0 – 138	0 – 20/0 – 508	6.0

* Extended pressure and vacuum capabilities available upon request.

ADVANCED CAPABILITIES

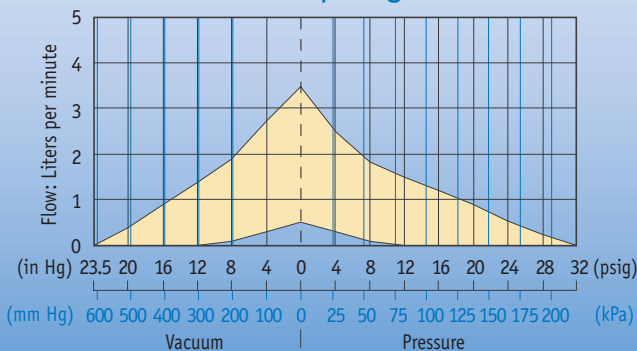
BTC Miniature Diaphragm Pumps and Compressors are a series of brush and brushless DC motor driven pumps designed to handle air and gases. The innovative, compact design incorporates leading edge technologies that allow it to operate harder, hotter, quieter and longer than existing pump designs. The BTC Series offers multiple component configurations allowing them to be used for either vacuum operation, pressure operation, or alternating vacuum and pressure operations.

SUPERIOR BENEFITS

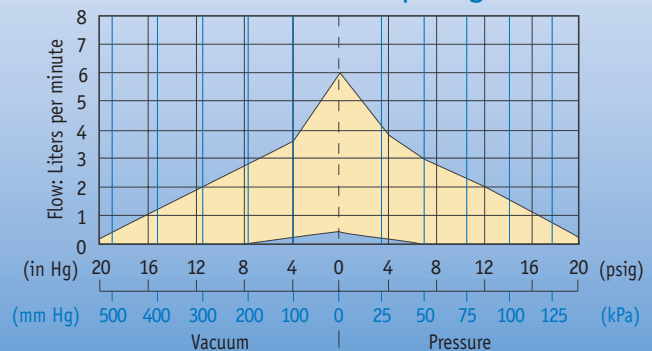
- **Highest Performance/Size Ratio:** innovative and efficient engineering designs enable the BTC Series to push the performance envelope in a lightweight, compact size.
- **Runs in Hotter Environments:** Selection of advanced materials and our proprietary elastomer diaphragms and valves allow our pumps to operate in increased temperature environments up to 158°F (70°C).
- **Performs Quieter:** Optimized head, chamber, and flow path reduce noise without compromising performance.
- **Lasts Reliably Longer:** Using our proprietary advanced diaphragm elastomer and superior brushless motor design sets the highest benchmark for service-free operation that exceeds 20,000 hours.
- **Installs Easily:** Incorporating the lightweight EZ Mount facilitates simple system assembly while dampening vibration and reducing noise levels.

OVERALL PERFORMANCE RANGE

Flat Diaphragm



Convolved Diaphragm



The above performance ranges illustrate the overall performance handling air at 800 feet (244 m) above sea level and 75°F (24°C). Performance will vary depending on barometric pressure and media temperature. Consult the factory with your specific requirements.

BTC Series

HIGH PERFORMANCE MOTOR OPTIONS

	Voltage DC	Operating Current	Motor Control
Brushless DC (BLDC)	6, 12, 24*	50 – 900 mA**	2-wire, 3-wire (Analog or PWM)
Brush DC	6, 12, 24*	50 – 900 mA**	2-wire (Analog or PWM)

* Other voltages available upon request.

** The operating current will vary depending on the motor type, voltage, flow and pressure requirements.

VERSATILE INTEGRATION CAPABILITIES

Ports are barbed for 1/8" I.D. or 3/16" I.D. flexible tubing.

Note: Durometer dependent, consult factory.

Head Configuration can be assembled in any one of four configurations (see diagram below).

Standard mounting holes are drilled to accommodate #6-20 self-tapping screws. Other options available (see diagram below for four mounting hole location configurations).

The Versatile Pump can be mounted in any position — orientation dependent.

EZ Mount vibration isolation system can be configured in several different ways to facilitate quick and easy installation.

OPERATING ENVIRONMENT

Temperature	Humidity	Media
5° – 70°C*	0 – 95% RH	Most gases and liquids

* Duty dependent. Consult factory for high temperature applications over 50° C.

WETTED MATERIALS

Diaphragm: EPDM, AEPDM*, Fluorocarbon (Viton®), Teflon/EPDM Laminate.

Valves: EPDM, AEPDM*, Perfluoro, Fluorocarbon.

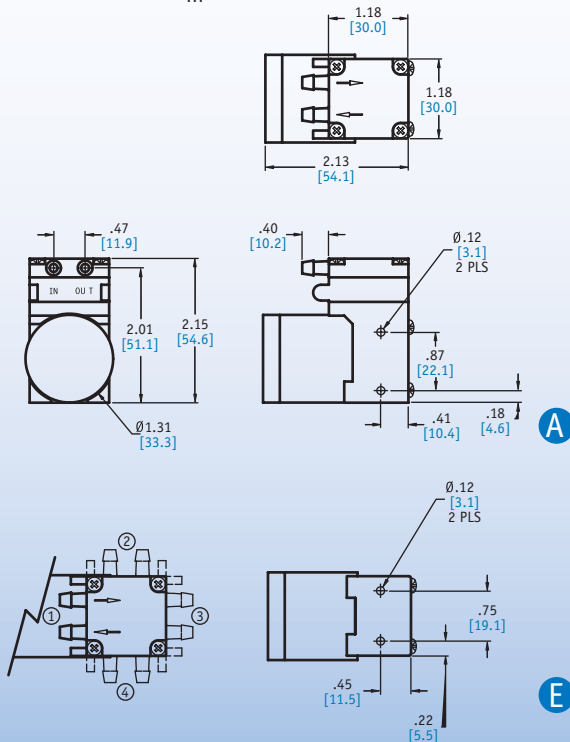
Pump Head: Vectra (Liquid Crystal Polymer)

* AEPDM is an advanced proprietary elastomer developed by Hargraves to provide greater longevity than traditional diaphragm materials for high temperature applications over 50° C.

OUTLINE DIAGRAMS - OVERALL DIMENSIONS AND MOUNTING OPTIONS

Brushless Motor

(Pump Mass - 4.5 oz_m [128 gms])



Head Configuration (#1 Head Configuration Standard)

Mounting hole options seen in views: A, B, C, E. Mounting option E standard. For additional mounting options consult the factory.

Brush Motor

(Pump Mass - 6.5 oz_m [184 gms])

