



Our newest product line, the HP Series, targets applications requiring high pressure in a compact form factor. The first model delivers in excess of 800 mbar, doubling what was available with previous designs. The ability to generate such high pressures from a small, controllable, and non-pulsatile pump opens up exciting opportunities in microfluidics - particularly in pressure-driven-flow (air-over-liquid) systems - and in medical and industrial applications where high differential pressure is required.

Key Features

- Silent, vibration-free operation
- Ultrafast millisecond response
- Lightweight, compact form
- High-precision controllability
- True pulsation-free flow
- Infinite turn-down ratio
- Maintenance free
- RoHS compliant

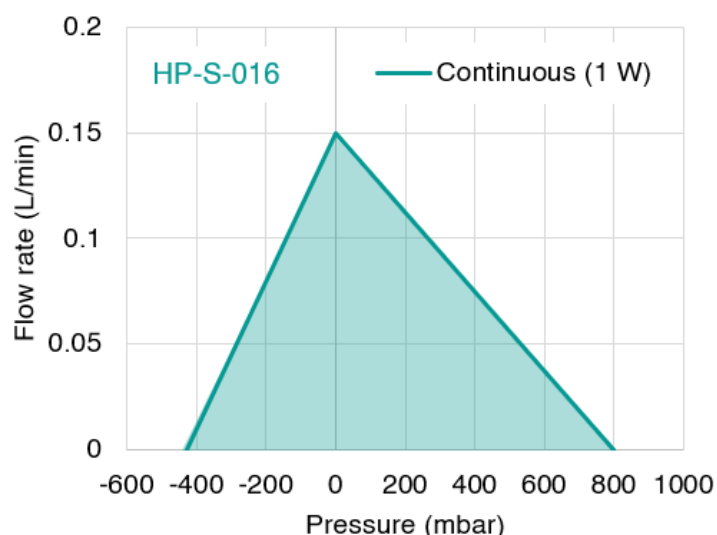
Typical Applications

- Microfluidics
- Point-of-Care diagnostics
- Liquid handling
- Vacuum prosthetics
- Distributed pneumatics
- Blood pressure monitoring
- Portable instrumentation
- Wearable medical devices

	Pressure	Flow	Vacuum
HP-S-016 ^{1,2}	> 800 mbar	> 0.15 L/min	> 430 mbar

Operational	
Temperature range	5 to 40 C
Humidity range ³	0 to 95% RH
Pumping medium ⁴	Air
Noise level ⁵	< 10 dB
Control precision ⁶	< 0.1%
Turn-down ratio ⁷	Infinite

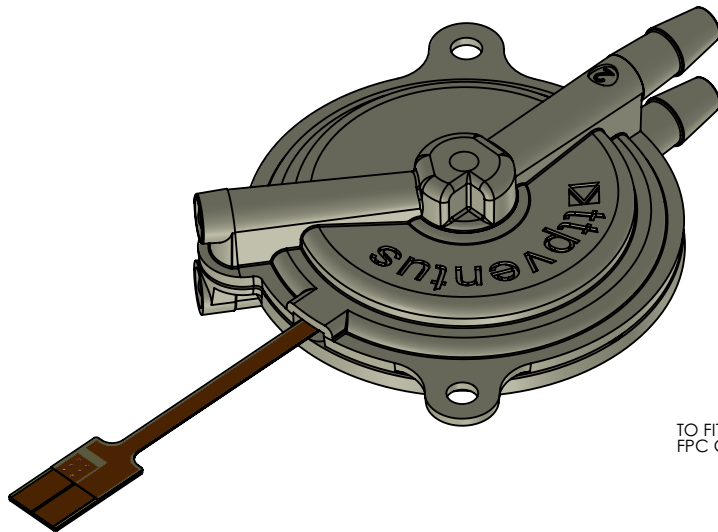
Mechanical	
Size	30 dia. x 11 mm
Weight	5 g



TTP Ventus is actively developing higher performance pump designs; if the performance listed above is not sufficient for your application, please contact us to discuss whether we have an alternative design that meets your requirements.

DRAFT DATASHEET AWAITING DRAWING.

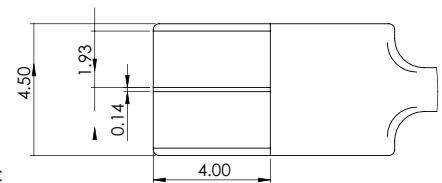
STEP FILE CAN BE DOWNLOADED FROM TTPVENTUS.COM/SUPPORT



FOR BL-P2-013

- PORT 1 IS OUTLET
- PORT 2 IS INLET

TO FIT 8-WAY 0.5MM FPC CONNECTOR



DETAIL C
SCALE 8 : 1

MOUNTING GUIDANCE

MOUNT IN ANY ORIENTATION USING COMPLIANT MATERIALS. IF USING MOUNTING EYES ON PUMP BODY, IT IS RECOMMENDED TO USE A COMPLIANT O-RING (E.G. 1.42 ID X 1.78 CS NITRILE 70 SHORE A) NYLON M2 BOLT 3@6 F: D73676 ? AG@F:@9 EFG6 /79 žI GDF: 7>7=FDA @;= +)) &" " \$&%Dfz

ALL DIMS MM

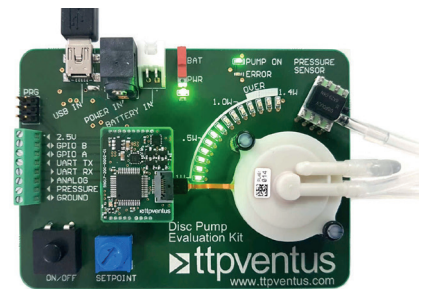
Electrical

- Electronic driver is required to identify and track optimum drive frequency.
- Driver provides:
 - AC drive waveform of 20-22 kHz at 0 to 40 V peak.
 - 0 to 1 W into pump (continuous).
- Typical driver implementation requires 3.7 to 5 V supply.
- Efficiency depends on specific implementation.
- Evaluation PCB / systems available.
- Reference circuits and firmware available to support product integration.
- See support materials on website or contact support@ttpventus.com to discuss.

Disc Pump Evaluation Kit: EK-M-015

Our evaluation kits come with everything necessary to start testing, including pump, electronics and PC application for configuration and control. The evaluation kits are suitable for laboratory testing, proof of concept and product prototyping. [Contact us to request a quotation.](#)

See our [support pages](#) for a "Getting Started" guide for more information and a video of the evaluation kit.



Notes

1. Continuous operation at 1 W drive power (into pump).
2. Performance data presented collected under ambient temperature and humidity conditions. Performance under other conditions may vary.
3. Non-condensing; ingress of liquid-phase water will halt pump operation.
4. Liquid may be pumped indirectly in a "pressure-driven flow" / "air displacement" regime.
5. Per ISO 226:2003, 30 cm equivalent measurement distance.
6. Pressure and flow. Requires pump under closed-loop control with suitable sensor and drive electronics.
7. Disc Pump's piezoelectric drive actuator has no stall speed. The pump can be controlled continuously between 0 and 100% maximum output.

The information presented herein is based on engineering data and test results of nominal preliminary units. It is believed to be accurate and reliable and is offered as an aid to guide in the selection of TTP Ventus products. It is the responsibility of the customer to determine the suitability of the product for the intended use and the customer assumes all risk and liability whatsoever in connection therewith. TTP Ventus does not warrant, guarantee or assume any obligation or liability in connection with this information. Product specifications may change without notice.