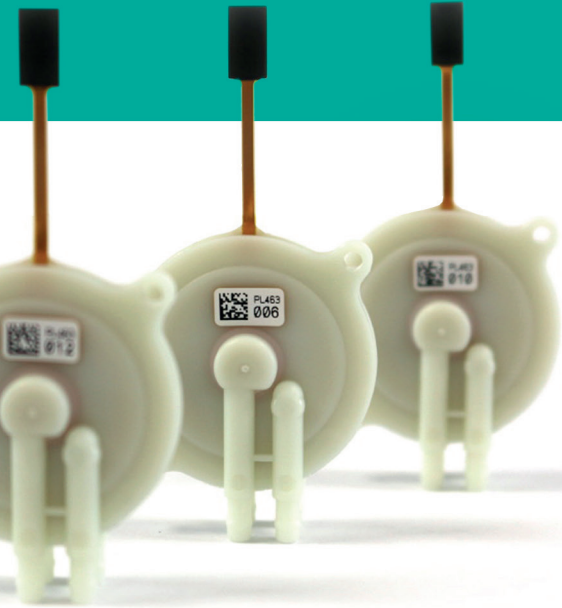


## XP SERIES DP-S2-007 / DP-P2-008



Disc Pump is a multi award-winning micropump platform, which is enabling innovation across sectors from medical and life sciences, to environmental and defence through wearability, portability, and simplicity.

### Key Features

- Exceptional pressure and flow
- 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

- Blood pressure monitoring
- Capnography
- Compression therapy
- Wound care
- Point-of-Care diagnostics
- Microfluidics
- Liquid handling
- Gas detection and analysis
- Leak detection

DP-S2-007	Pressure	Flow	Vacuum
Intermittent <sup>1</sup>	> 410 mbar	> 0.75 L/min	> 320 mbar
Continuous <sup>2</sup>	> 320 mbar	> 0.65 L/min	> 270 mbar

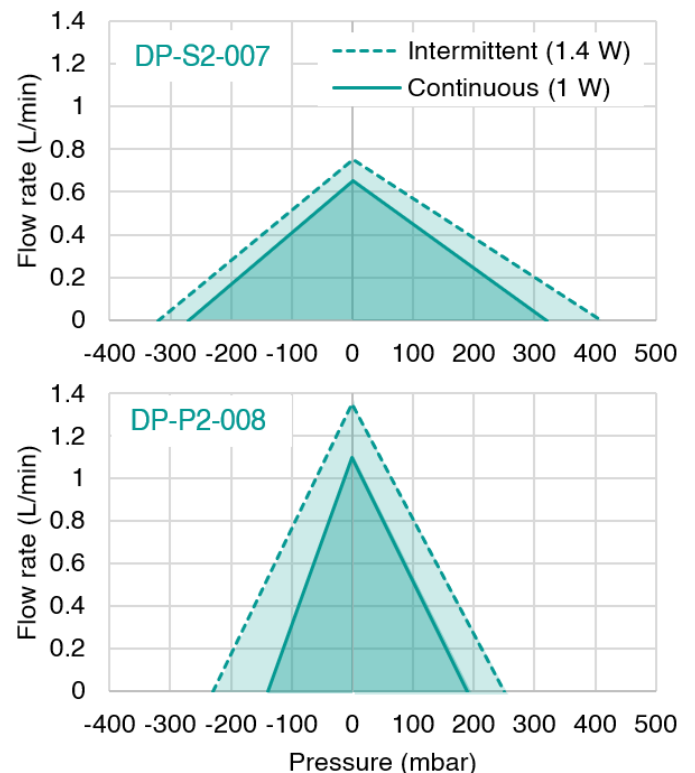
DP-P2-008	Pressure	Flow	Vacuum
Intermittent <sup>1</sup>	> 250 mbar	> 1.35 L/min	> 230 mbar
Continuous <sup>2</sup>	> 190 mbar	> 1.10 L/min	> 140 mbar

Operational	
Temperature range <sup>3</sup>	-25 to +55 C
Humidity range <sup>4</sup>	5 to 95% RH
Pumping medium <sup>5</sup>	Air
Noise level <sup>6</sup>	< 10 dB
Life time <sup>7</sup>	> 1,000 hours
Control precision <sup>8</sup>	< 0.1%
Turn-down ratio <sup>9</sup>	Infinite

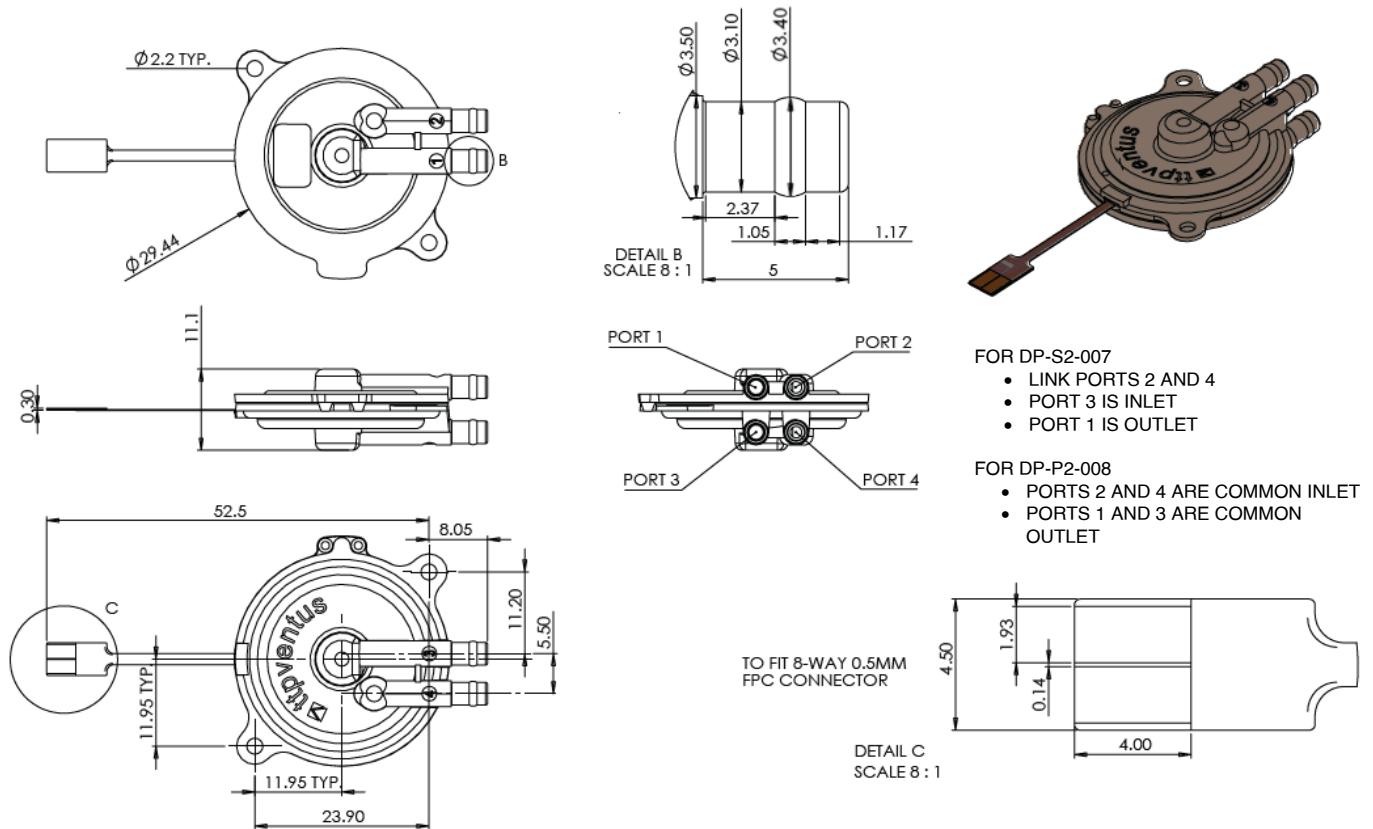
  

Mechanical	
Size	30 dia. x 10 mm
Weight	5 g

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.



## Mechanical



### 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) AND NYLON M2 BOLT.

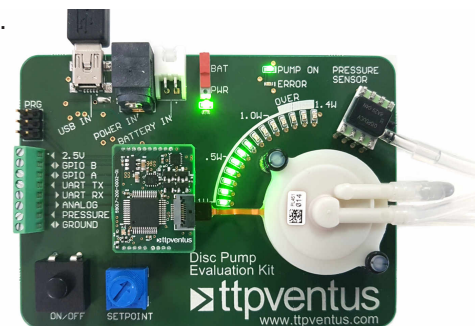
ALL DIMS MM

## Electrical

- Electronic driver is required to identify and track optimum drive frequency.
- Driver provides:
  - AC drive waveform of 20-22 kHz at 0 to 60 V peak.
  - 0 to 1 W into pump (continuous); up to 1.4 W intermittent.
- 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](mailto:support@ttpventus.com) to discuss.

## Disc Pump Evaluation Kit: EK-M-015

Our evaluation kits come with everything necessary to start testing, including two pumps, 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.



### Notes

1. Intermittent operation at 1.4 W drive power (into pump). With intermittent operation, the mean power should be less than 1 W with a duty cycle period less than 2s. Operational life may be shortened where mean pump drive power exceeds 1 W.
2. Performance at 1 W measured after 1 minute of continuous operation.
3. Performance data presented collected under ambient temperature and humidity conditions. Performance under other conditions may vary.
4. Non-condensing; ingress of liquid-phase water will halt pump operation.
5. Liquid may be pumped indirectly in a "pressure-driven flow" / "air displacement" regime.
6. Per ISO 226:2003, 30 cm equivalent measurement distance.
7. Life time performance varies dependent on drive level and ambient conditions.
8. Pressure and flow. Requires pump under closed-loop control with suitable sensor and drive electronics.
9. Disc Pump's piezoelectric drive actuator has no stall speed. The pump can be controlled continuously between 0 and 100% maximum output.

This is a preliminary datasheet and is subject to finalisation at a later date. 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.