

ULTRASLIM SERIES

Model US-S-038



Our UltraSlim series offers exceptional performance and efficiency along with a small form-factor and integrated filter.

Key Features

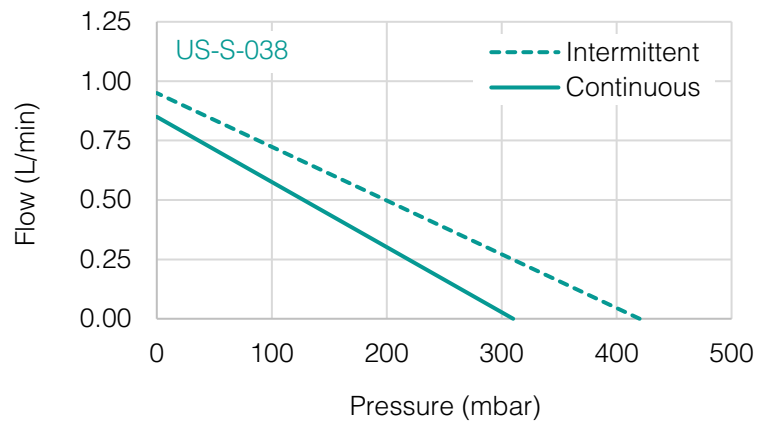
- Exceptional pressure and flow
- Silent, vibration-free operation
- Ultrafast millisecond response
- Lightweight, ultra-slim form
- High-precision controllability
- Infinite turn-down ratio
- Maintenance free
- RoHS compliant
- Integrated air filter

Typical Applications

- Blood pressure monitoring
- Compression therapy
- Point-of-Care diagnostics
- Microfluidics
- Liquid handling

US-S-038	Stall pressure	Free flow
Intermittent ^{1,3}	>420 mbar	>0.95 L/min
Continuous ^{2,3}	>310 mbar	>0.85 L/min

Operational	
Temperature range	5 to 40 C
Humidity range ⁴	0 to 95% RH
Pumping medium ⁵	Air
Noise level ⁶	<10 dB
Control precision ⁷	<0.1%
Turn-down ratio ⁸	Infinite

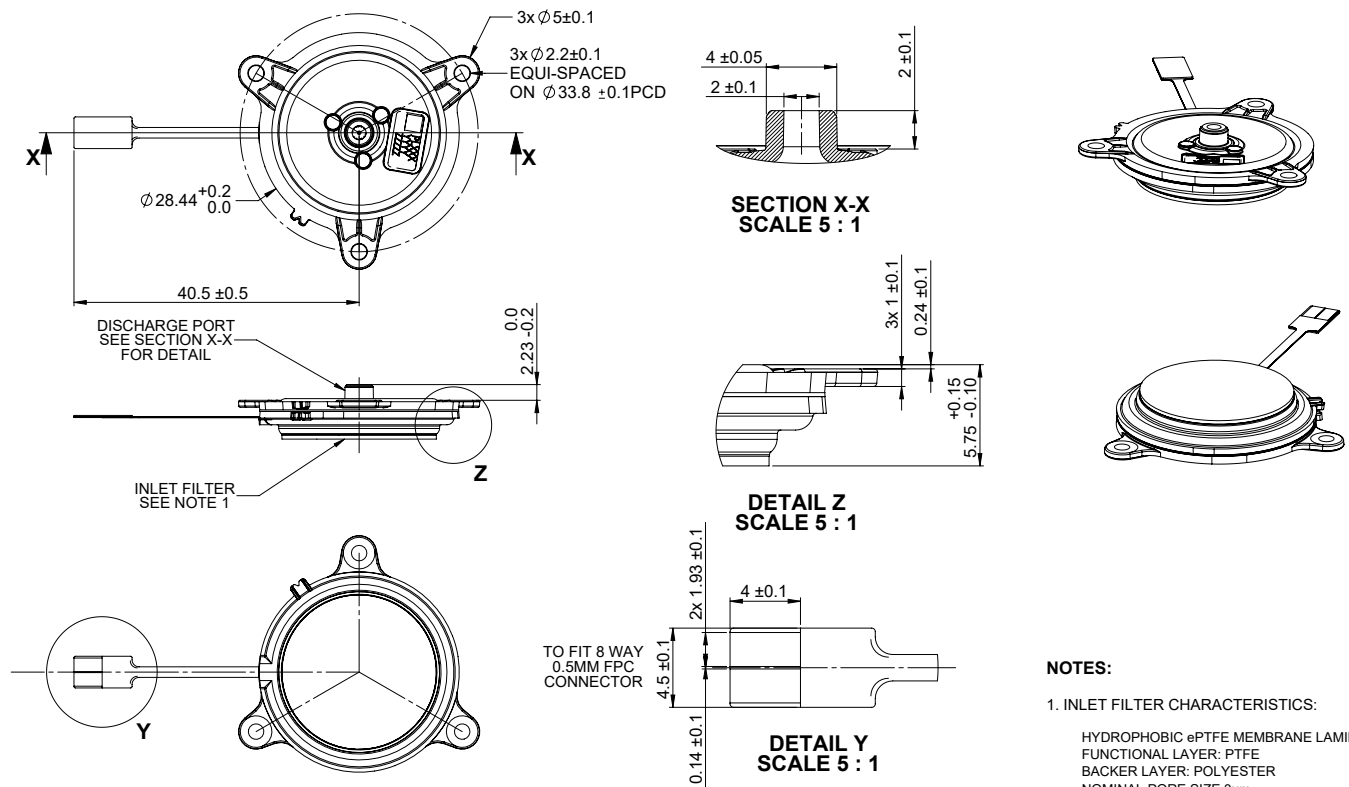


Mechanical	
Size	29 dia. x 5.9mm excl. connector
Weight	4.4 g

TTP Ventus is actively developing higher performance R&D 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.



Drawing



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

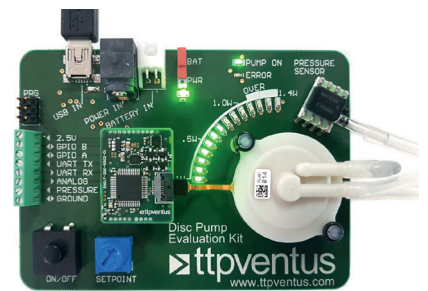
Electrical

- Electronic driver is required to identify and track optimum drive frequency
- Driver provides:
 - AC drive waveform of 20-22 kHz at 0 to 40 V peak.
 - 0 to 1 W into pump (continuous); up to 1.4 W intermittent.
- Typical driver implementation requires 3 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. Intermittent operation at 1.4 W drive power (into pump). With intermittent operation, drive power should exceed 1 W for periods of less than 10s. Operational life may be shortened where mean pump drive power exceeds 1 W.
2. Performance at 1 W measured after 10 seconds of continuous operation.
3. Performance data presented collected under Normal Temperature and Pressure and ambient humidity conditions. Performance under other conditions may vary. In particular, note that performance decreases with altitude and may decrease at elevated temperature.
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. Other gases / gaseous mixtures may be pumped. Contact TTP Ventus to discuss.
6. Per ISO 226:2003 and related studies; 30 cm equivalent measurement distance.
7. Pressure and flow. Requires pump under closed-loop control with suitable sensor and drive electronics.
8. 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 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.