

Fluid metering



PULSELESS NANOLITER PUMP



Patent Pending

TRYTON Pulseless Nanoliter Pump is a compact, linearly driven ceramic piston pump capable of varying dispenses from less than 1 microliter up to 150 μ L with both precision and accuracy.

Comprised of three moving components with a vastly optimized driving mechanism providing ZERO mechanical backlash, the unique properties of TRYTON Pulseless Nanoliter Pump negates the need for software compensation to deliver repeatable, consistent performance and process reliability.

Through the use of Fluid Metering's CeramPump® technology, TRYTON Pulseless Nanoliter Pump provides microfluidic control solutions to accelerate product development suited for a wide range of OEM and Life Sciences applications.

FEATURES & BENEFITS

- CeramPump® technology simplifies fluidic architecture with three moving parts
- Internal sapphire-hard ceramics are chemically inert, dimensionally stable, and abrasion resistant
- Linear anti-backlash mechanisms
- Rotary encoder with over 4000 pulses/rev for accurate positional feedback with 0.02° resolution
- High precision, fine pitch lead screw
- Proper and repeatable indexing Consistent volumes even when switching direction
- Pulseless "smooth" flow with up to 98% stability
- Extreme accuracy and precision down to less than 1 μ L
- Maintains < 1% precision for millions of cycles without maintenance or recalibration
- Reduces system total cost of ownership compared to alternative technologies

REV-C



Fluid Metering's facility is certified to the ISO 9001:2015 international standard. Product components are manufactured to meet EU RoHS and REACH compliance requirements.



5 Aerial Way, Suite 500, Syosset, NY, 11791
800.223.3388 P: 516.922.6050 E: pumps@fluidmetering.com
www.fluidmetering.com

Follow Us On Social Media @FluidMetering

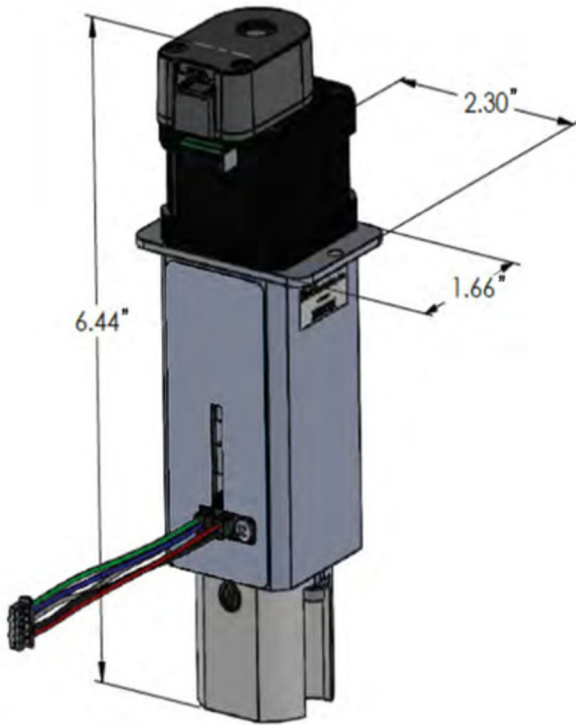


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TRYTON™

PULSELESS NANOLITER PUMP

PUMP SPECIFICATIONS



WETTED MATERIAL OPTIONS:

Piston: Zirconia
Pump Housing: PVDF
Seals: UHMW-PE, FKM

PORTS:

1/4-28 UNF Threaded Ports

DISPENSE VOLUME:

For 3µL

Accuracy of $\pm 2\%$
Precision (CV) $< \pm 1\%$

For 150µL

Accuracy of $\pm 0.1\%$
Precision (CV) $< 0.1\%$

TYPICAL ACCURACY:

1µL $< \pm 2\%$

DISPENSE RESOLUTION:

0.031µL/Full Step

PRESSURE RATING:

100 psi (6.89 bar)

FLOW RATE:

Minimum: 0.105µL/sec @ 1 rpm

Maximum: 125.6µL/sec @ 1200 rpm

MOTOR/DRIVER SPECIFICATIONS

RATED CURRENT:

1.5A

MOTOR FRAME:

Linear: NEMA 17 (43mm)

STEP ANGLE:

1.8° Full Step

MOTOR SPEED:

Up to 1200 rpm

MOTOR DIRECTION:

Aspirate: Clockwise

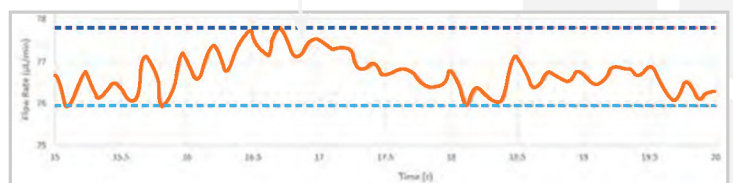
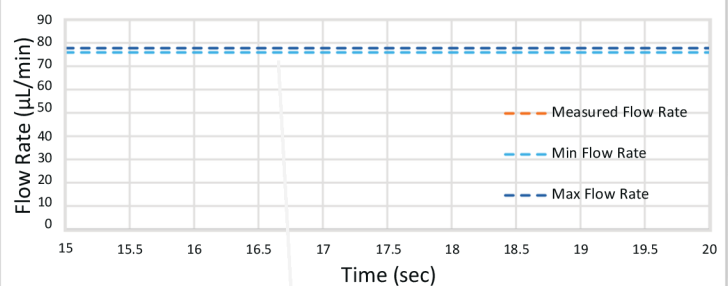
Dispense:

Counterclockwise

OPERATING TEMPERATURE:

-20°C to 50°C

TRYTON Pulseless Flow Data



CUSTOMIZED FLUIDIC SOLUTIONS

Be it a small tweak to existing technology or a full development project, our pumps and dispensers can be customized to accommodate dispense volume, flow rate, temperature, pressure, materials, and more.

Contact Us Today!

Rapid prototyping available within 10 business days*

*Prototype requests are subject to availability of parts and materials. Fluid Metering will confirm availability within 2 business days and provide an estimated shipping date.