

Fluid metering

STF

FIXED DISPENSE PUMP (5-400 μ L)

Precision Microliter Dosing Without Recalibration

STF Fixed Dispense Pumps deliver highly accurate, repeatable microliter dosing for OEM integration requiring speed, consistency, and long-term performance. Built on valveless CeramPump® technology, STF Pumps maintain accuracy without recalibration while supporting fast priming and simplified system integration.

Innovative Design for Consistent Results

Designed for demanding OEM fluidic systems, STF Pumps provide consistent, repeatable dispensing across a wide range of operating conditions. Combining a patented fixed-link mechanism, integrated optical positioning feedback, fast priming capability, and wear-resistant sapphire-hard ceramics, STF Pumps deliver long-term reliability and stable performance with a service life that often exceeds the lifetime of the instrument.



KEY BENEFITS

High-Precision Fixed Dispense

- Delivers repeatable dispense volumes with tight accuracy, even at low microliter ranges.

Fast Priming & Responsive Operation

- Enables rapid fluid movement and efficient system startup to support higher throughput.

Consistent Performance Across Fluids

- Maintains stable operation across varying viscosities, temperatures, and chemical compositions.

Precision Control & Long-Term Stability

- Patented fixed-link technology and optical positioning feedback ensures consistent dispense performance throughout the life of the system.

Pressure Capability for System Flexibility

- Handles changes in back pressure, tubing configurations, and system demands with ease.

OEM Engineering Support

We offer support for dispense volume, flow rate, pressure, material compatibility, system integration, and configuration optimization. Contact us to discuss your project and explore a solution designed for your specific needs.



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.



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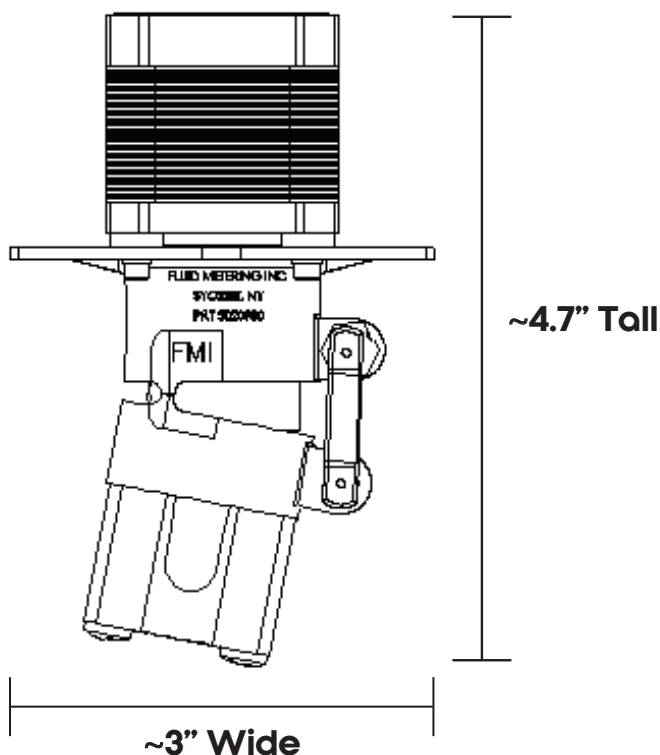
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PUMP SPECIFICATIONS



WETTED MATERIAL OPTIONS:

Ceramics: Alumina, Zirconia
Pump Housing: PVDF, ETFE, Polypropylene
Seals: PTFE, FKM, FFKM, Rulon AR, UHMW-PE

PORT OPTIONS:

1/4-28 UNF Threaded Ports,
Barb Fittings (1/8" - 1/4" Tubing ID),
1/4" Compression Nuts

DISPENSE VOLUME¹:

For 5 - 10 μ L

Accuracy of $\pm 5\%$

Precision (CV) $\leq 1\%$

For >10 - 400 μ L

Accuracy of $\pm 1\%$

Precision (CV) $\leq 0.5\%$

¹ The performance of Fluid Metering pumps may vary based on specific application conditions and individual user setups. We recommend speaking with one of our engineering experts for guidance tailored to your specific needs.

MOTOR/DRIVER SPECIFICATIONS

RATED CURRENT:

Rotational: 2.0 A

MOTOR FRAME:

Rotational: NEMA 17 (43 mm)

STEP ANGLE:

Rotational: 1.8° Full Step

MOTOR SPEED:

Rotational: Up to 1000 rpm

MOTOR DIRECTION:

Rotational: Bidirectional,
Calibrated Clockwise

OPERATING TEMPERATURE:

0°C to 50°C

F	Dispense Volume (μ L/rev)		Flow Rate (mL/min)	
	min	max	1 rpm	1000 rpm
STF				
STFSM	5	40	0.005	40
STF1	25	200	0.025	200
STF2	28	225	0.028	225
STF3	31	250	0.031	250
STF4	34	275	0.034	275
STF5	38	300	0.038	300
STF6	41	325	0.041	325
STF7	44	350	0.044	350
STF8	47	375	0.047	375
STF9	50	400	0.05	400

- Accuracy is a percentage of the target dispense volume.
- Maximum standard operating pressure: 100 psig
- Fixed-Link pumps are calibrated in-house to a set volume and cannot be changed.
- Flow rate can be changed by adjusting motor speed.

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.