DUPLEX PUMP

FOR METERING AND MIXING

The Duplex Pump consists of two Fluid Metering valveless pump heads directly coupled to a single stepper motor drive. The displacement of each pump head is independently adjustable, and a variety of pump head sizes can be used in combinations to achieve dispensing ratios from 1:1 up to 1:100 from microliters to liters.

Although the most common use case for the Duplex Pump is a 9:1 mixing ratio, it is also effective for other types of ratio mixing. Additionally, it can be utilized in non-mixing applications where its two pump heads operate simultaneously for different processes.

FEATURES & BENEFITS

- CeramPump® technology simplifies fluidic architecture with one moving part in fluid path
- Internal sapphire-hard ceramics are chemically inert, dimensionally stable, and abrasion resistant
- Multi-functional: 2 pump heads used at the same time for 2 different processes, ratio mixing, or diluting
- 2 heads / 1 motor reduces pulsation in flow
- Factory calibrated, configurable options available
- Can handle a wide range of fluid viscosities
- Available with stepper controller or can be integrated into an existing stepper controller
- Maintains 0.5% precision for pump head for millions of cycles without maintenance or recalibration

REV-D

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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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
1/2" Straight Tube Adapter

DISPENSE VOLUME: 5-2560 µL/rev

FLOW RATE RANGE: 0.025-2560 mL/min

DIMENSIONS: Varies based on pump head selections

DRIVE MOTOR SPECIFICATIONS

VARIABLE SPEED MOTORS

MOTOR TYPE: 23" Frame Stepper Motor

RATED SPEED: 1000 rpm (dependent on fluidic setup)

VOLTAGE: 24V

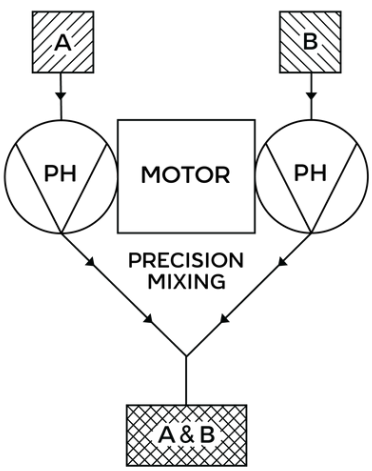
RATED CURRENT: 2.5A

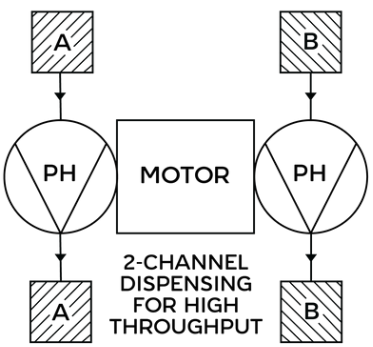
MOTOR DIECTION: Bidirectional, Calibrated Clockwise

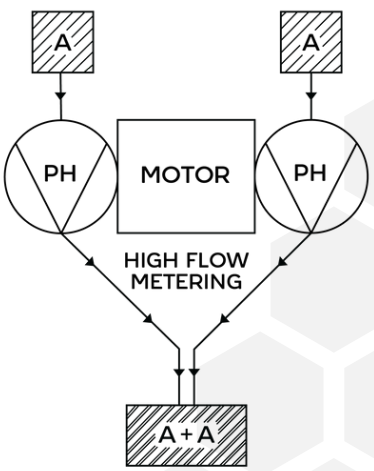
STEP ANGLE: 1.8˚ Full Step

OPERATING TEMPERATURE: 0˚C to 50˚C

FLOW OPTIONS







KEY
PH = PUMP HEAD
A = REAGENT A
B = REAGENT B

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.*

[1] The performance of Fluid Metering pumps may vary based on specific application conditions and individual user setups. We recommend consulting with a qualified professional or our technical support team for assistance tailored to your specific needs.

REV-D

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