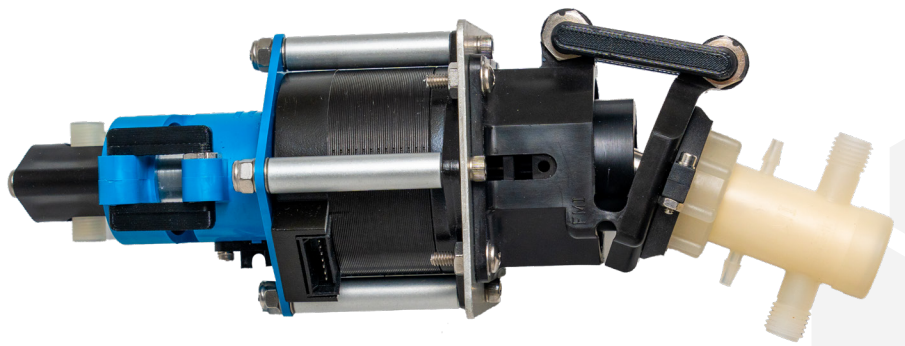


# Fluid metering

## 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® Valveless technology simplifies fluidic architecture with one moving part in fluid path per pump head
- 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 per pump head for millions of cycles without maintenance or recalibration

REV-A



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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# Fluid metering

## DUPLEX PUMP

FOR METERING AND MIXING

### PUMP SPECIFICATIONS

#### WETTED MATERIAL OPTIONS:

Ceramic: Alumina, Zirconia  
Pump Housing: PVDF, ETFE, Polypropylene

#### SEAL MATERIAL OPTIONS:

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

### MOTOR/DRIVER SPECIFICATIONS

#### VARIABLE SPEED MOTORS

**MOTOR TYPE:** 23" Frame Stepper Motor

**RATED SPEED:** 1000 RPM  
(dependent on fluidic setup)

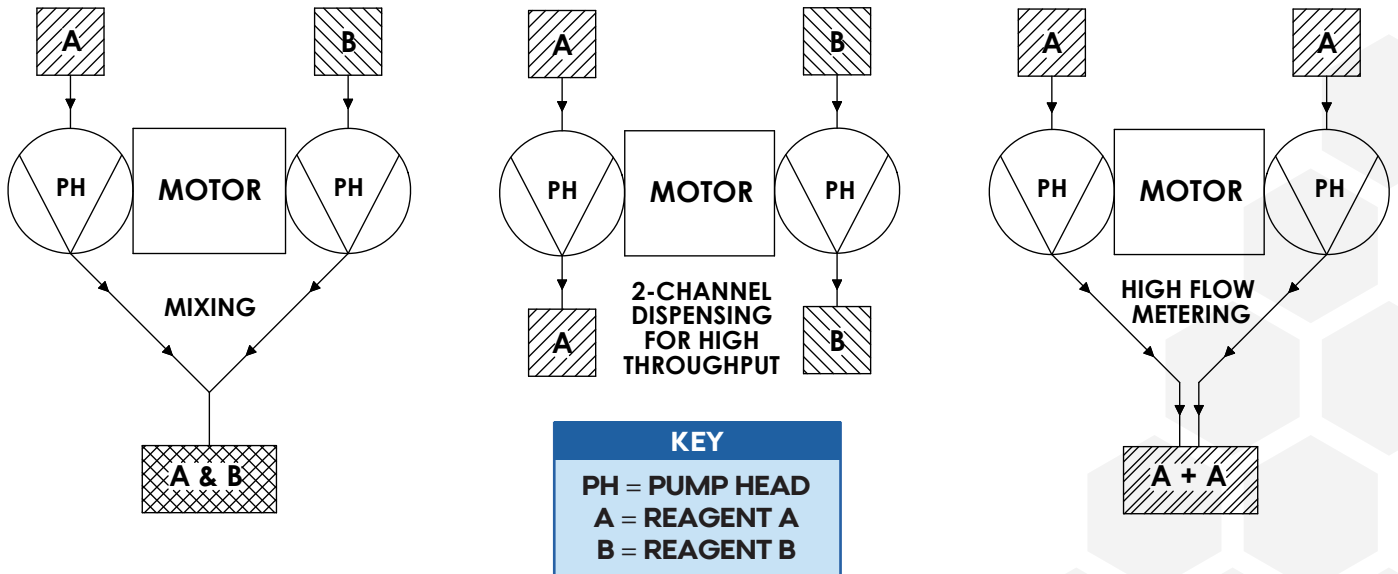
**VOLTAGE:** 24V

**RATED CURRENT:** 2.5A

**MOTOR DIRECTION:** Bidirectional,  
Calibrated Clockwise

**STEP ANGLE:** 1.8° Full Step

### FLOW OPTIONS



### 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.