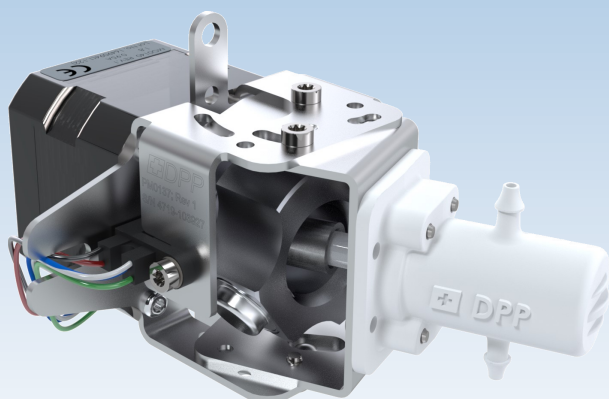


# PRECISION SERIES METERING PUMPS



The Precision Series metering pumps were developed specifically for applications requiring fast, accurate metering and dispensing.

The piston geometry isolates the outlet and inlet ports without the need for internal check valves, simplifying the construction, reducing flow restrictions, and lowering the installed cost. The pump displacement is adjusted by altering the angle between motor and piston. Speed sensing options include encoders and photo-optical sensors.

## The Precision Series - Engineering Your Flow.

- Dialysis
- IVD Diagnostics
- Precision Metering/Dispensing/Dosing
- Sterilization

## Benefits



**Compact:** The body is compact in size and the flexible inlet and outlet port options simplify the plumbing and conserve valuable space.



**Long Life:** DPP pumps are all characterized by their robustness and performance. Wear and tear is at its lowest, and their smart designs ensure a sustainable reduction of operating costs.



**Adjustable Stroke Volume:** Adjusting the pump offset angle alters the stroke volume, allowing micro-adjustments while maintaining a constant dead volume.



**Chemically Resistant:** Our pumps are made from materials resistant to a wide range of aggressive chemicals, operating reliably and precisely in even the harshest environments.



**Tailor-Made:** Every pump that leaves our factory is made-to-measure and designed exactly according to the technical requirements of our customers. All pumps are permanently marked for lot control identification.



**100% Outgoing Test:** Before any pump leaves our factory, it is stringently and extensively tested in accordance with its specifications. Test results are included for all pumps to confirm specification conformity.

## Specifications\*

### Performance

Max. pressure:	5 bar
Inlet:	Self-priming
Accuracy:	1% of full scale
Repeatability:	Typically < 0.5%
Speed range:	0 - 500 rpm
Fluid viscosity range:	0.3 - 100 cps

### Construction

Wetted Materials:	
- Ceramic:	Alumina and Zirconia
- Pump Housing:	PVDF, ETFE, PTFE, Polypropylene, PEEK
- Seals:	UHMWPE (contact sales for other options)
Process Ports:	See page 4
Mass:	0.5 kg

### Electrical

Motor Type:	Stepper
Step Angle:	1.8°
Winding Configuration:	Bipolar
Rotation:	Reversible
Max Current:	2.8 Amp
Connection:	Wire leads (26 AWG)
Sensor (speed/position):	Optical Square Wave

### Temperature

Fluid temperature range:	0-100°C
Ambient air temp. range:	0-60°C
Relative humidity range:	10-95% non-condensing

\*Performance values are limits and cannot all happen simultaneously.  
Please contact your sales engineer for further technical information and customized options.

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Engineering Your Flow

Product Datasheet

## Pump Sizes

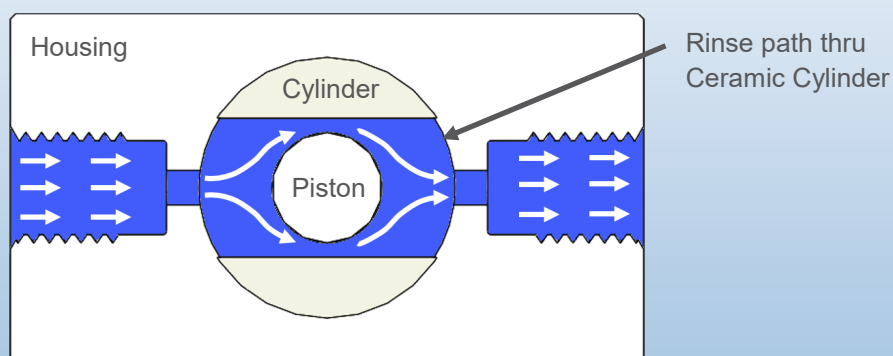
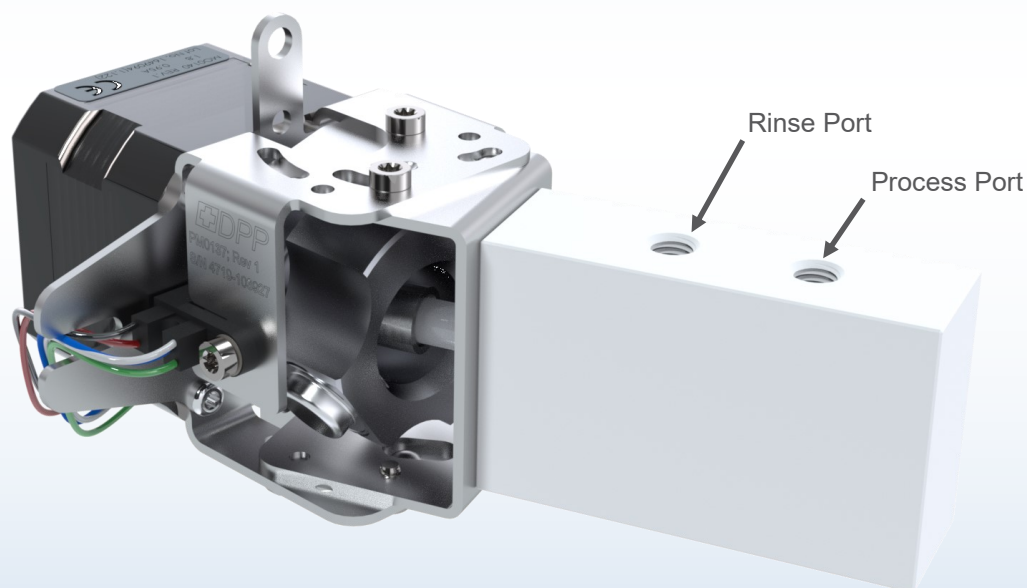
	Precision 4	Precision 6.34	Precision 9	Precision 12.7*	Precision 19*
Minimum Displacement (µl/stroke)	25	65	150	475	1100
Maximum Displacement (µl/stroke)	100	250	500	1800	4000
Average Flow Rate (ml/min)**	0.6—50	1.5—125	3—250	12—900	25—2000

\* The Precision 12.7 and 19 are non-standard items. Contact DPP for more information.

\*\* Values are for 25-500rpm. Speed range can be expanded on a per-application basis.

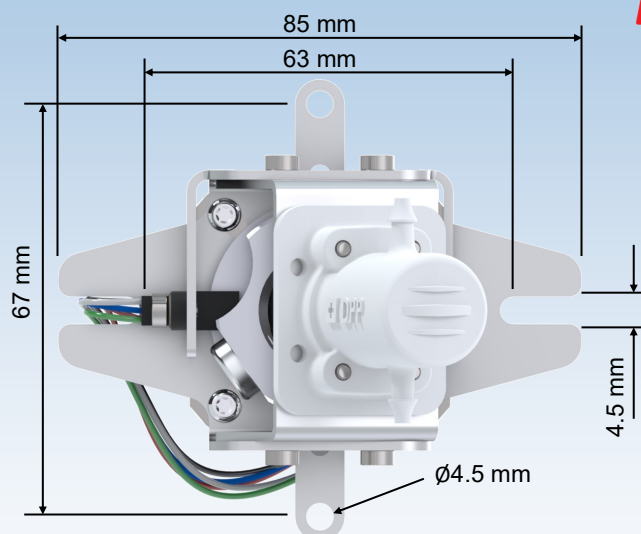
## Rinse Option

The Precision series comes in two versions; non-rinse and rinse. The rinse version has an inlet and outlet plus two ports for rinse flow. The rinse ports provide flow through a hole in the ceramic cylinder to rinse the piston. This is preferred when pumping fluids that form precipitates or when the process ports have high outlet pressure. The rinse port should be operated at a slightly negative gauge pressure to reduce seal loading and maximize life. Due to the tight clearance between the ceramics, there is virtually no fluid communication between the rinse and process ports.

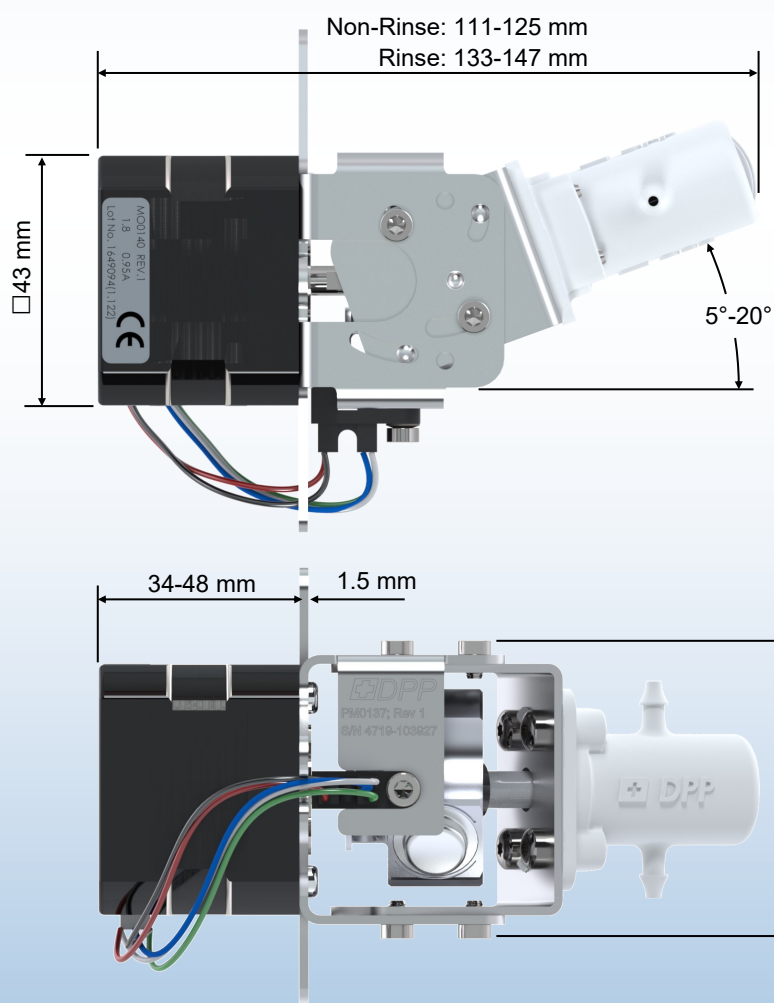


## Mounting Points

Alternate mounting options available upon request.



## Dimensional Outline



3D models available at [www.dpp.swiss](http://www.dpp.swiss)

## Port Options



### Non-Rinse Version

Barb for 3mm or  
1/8" ID Tubing

Barb for 5mm or  
3/16" ID Tubing

1/4"-28UNF

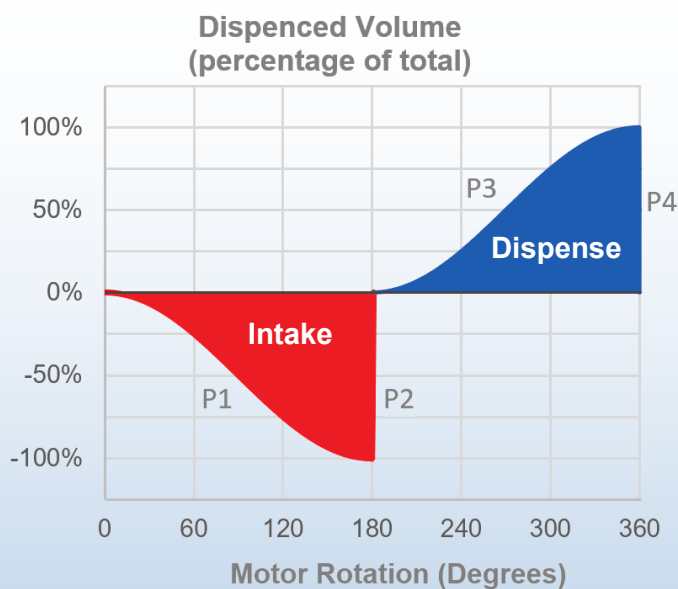
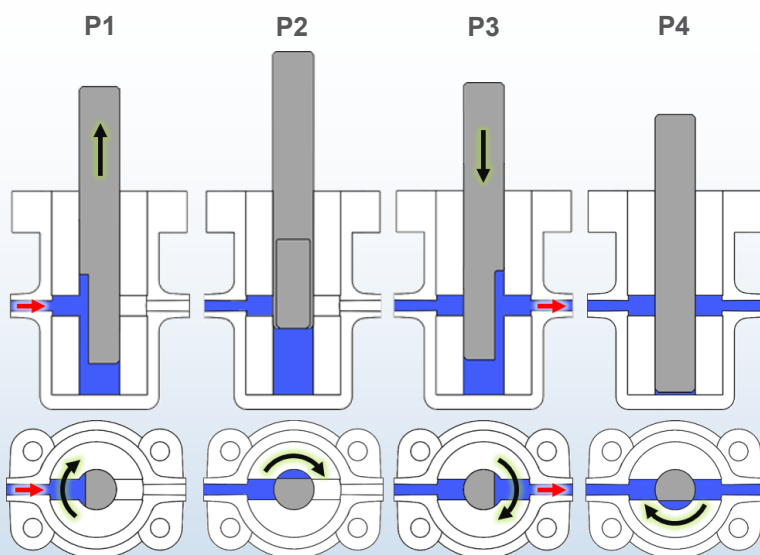
1/4" Push-Connect

### Rinse Version

1/4"-28UNF, 1/8"-NPT,  
6mm & 1/4" Push-Connect

A variety of tube fitting adapters are  
available to fit any desired connection

## Dispense Profile



DPP is certified to ISO 9001 and operates a clean-room according to ISO Class 7. All pumps are customized; the information given represents one of the possibilities.

None of the information supplied by Diener Precision Pumps constitutes a warranty regarding product performance or use. Any information regarding performance or use is only offered as a suggestion for investigation for use, based upon Diener Precision Pump's or other customers' experience. DPP makes no warranties, expressed or implied, concerning the suitability or fitness of any of its products for any particular purpose. It is the responsibility of the customer to determine that the product is safe, lawful and technically suitable for the intended use. The disclosure of information herein is not a license to operate under, or a recommendation to infringe upon any patents. All new DPP product developments are tested and confirmed according to the «ROHS Directive».