

## New SP200 Variable-Flow OEM Stepper Drive Pumps

These compact pumps deliver accurate, repeatable flow rates and dispense volumes for today's exacting applications. Flow rates are available up to 320 ml/min. They adapt easily to almost any instrument application. Enjoy the benefits of peristaltic pumps in your fluid transfer application.

Select from three different tubing sizes and a variety of tubing materials. Tygon® A60G tubing offers the longest pump life, Silicone is the softest with higher flow rates. Viton® provides excellent chemical resistance. Modular power supplies and battery packs are available.

The pumpheads have SAN plastic housings, acetal rotor assembly with three polypropylene rollers. These Vdc stepper motors are reversible and rated for continuous-duty. Silicone and Tygon® A60G pump systems are supplied with polypropylene fittings. Viton® systems are supplied with PVDF fittings. One year warranty.

### SPECIAL FEATURES

*Fluid only contacts the tubing*  
*Rated for continuous-duty*  
*Self-priming, run dry without damage*  
*Variable-flow 24Vdc motors*  
*Consistent metering capability*

### SPECIFICATIONS

	Tygon®, Viton®	Silicone
Max. Fluid Pressure:	30 psig (2 bar)	10 psig (0.7 bar)
Max. Suction Lift:		
1.6 mm ID	16-ft (4.8 m) H <sub>2</sub> O	16-ft (4.8 m) H <sub>2</sub> O
3 and 5 mmID	25-ft (7.5 m) H <sub>2</sub> O	25-ft (7.5 m) H <sub>2</sub> O
Flow Range:	See ordering table (page 2)	
Accuracy:	±1% full scale	
Repeatability:	±1% full scale	
Max. Fluid Temp.:	93°C (200°F)	
Duty Cycle:	Continuous;	
Operating Temp.:	0 to 50°C (32 to 122°F)	
Wetted parts:	Various tubing materials	
Power:	24Vdc; 2A	
	See specs on page 2.	
Dimensions (W x H x D):	64 x 58.4 x 81.3 mm; (2.6 x 2.3 x 3.2 in.)	
Shipping Wt:	0.45 kg (1 lbs)	

**Variable-flow**  
**Reversible**  
**Precise stepper motors**



Compact, variable-flow  
SP200 Vdc Stepper pumps.

### APPLICATIONS

*Chemical metering*  
*Reagent dispensing*  
*Chemical waste removal*  
*Analytical instruments*  
*Research & Development*

### SP200VOST Max Flowrates (ml/min)

Motor RPM	Vdc	Amps	Tubing ID (mm)		
			5	3	1.6
150	24	2A	160	80	29
300*	24	2A	320	160	58

Flow rates listed are nominal and will vary depending upon fluid viscosity and back pressure. Specifications listed are for Tygon A60G (formerly Norprene) tubing. Silicone flow rates are approx 10-20% higher. Viton flow rates slightly lower. The 150 rpm limit is with one of the controllers on page 2.

\*Max operating speed recommended for this pump is 300 rpm.

# SP200VOST-Peri Pumps

## SP200VOST Ordering Information – (Flow rates listed are for Tygon® A60G tubing; Silicone is 10-20% higher).

Flow Rate	Tubing			Pump Part No.	
ml/min	ID	RPM Range	Tygon® A60G	Silicone	Viton®
24Vdc Pumps - Variable-flow; up to 2A current draw(controller not included); Select Tubing Material.					
0.16 to 160	5 mm (3/16")		SP201-260ST	SP200-260ST	SP202-260ST
0.8 to 80	3 mm (1/8")	0.15 to 150*	SP201-259ST	SP200-259ST	SP202-259ST
0.03 to 29	1.6 mm (1/16")		SP201-258ST	SP200-258ST	SP202-258ST

Flow rates listed are nominal and will vary depending upon fluid viscosity and back pressure. \*The 150 rpm limit is with one of the controllers below.  
Maximum operating speed recommended for this pump is 300 rpm.

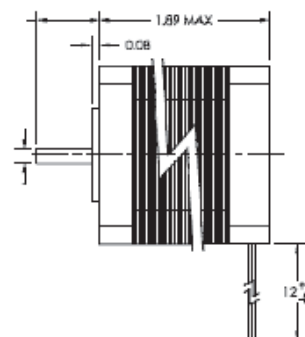
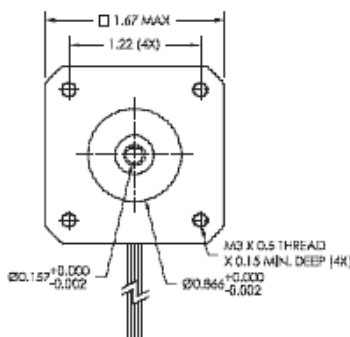
### Add a controller to your stepper pump!

Select for two different controllers. Option A for built-in control, Option B for 0-5Vdc speed control with a remote potentiometer. Both allow control of motor speed from 0.15 to 150rpm. Controllers mount easily to back of motor or on panel.

- A Stepper Controller, 24-30Vdc w/ built-in speed control.
- B Stepper Controller, 24-30Vdc w/ 0-5Vdc input for remote potentiometer or speed control..

## MOTOR SPECIFICATIONS

Full Step Angle:	1.8°
Step Angle Accuracy:	5%
Rated Current/Phase:	1.68A
Resistance/Phase:	1.65 ohm ±10%
Inductance/Phase:	3.6 mH ±20%
Holding Torque:	> 4.4 Kg-cm
Rotor Inertia:	54 g/cm. <sup>2</sup>
Di-electric Strength:	500V
Motor Frame Size:	NEMA Size 17
Lead Wires:	four 22AWG, Class B
B+ Red, B- Blue, A- Green, A+ Black	



Specifications subject to change.

APT Instruments provides no warranty on usage of pumps or life of tube. Immersion and life tests are recommended prior to use.

SmallPumps—TM Advanced Product Technology, LLC Viton—Reg TM DuPont Dow Elastomers LLC  
Tygon—Reg TM Saint Gobain Performance Plastics Corp.  
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