

New SP200 Brushless DC Variable-Flow OEM Pumps

The SmallPumps™ SP200 pumps are compact, low-flow pumps that are ideal for low flow metering applications. Flow rates are available from 0.4 to 100 ml/min. Brushless DC pumps are designed for continuous-duty operation. Motors have tachometer output. External 0-5Vdc PWM analog signal required to vary pump speed. See PCB options on page 2. Adapt them to almost any low-flow fluid transfer application.

Select from two different motor voltages and a variety of tubing materials. Norprene tubing offers the longest pump life, Silicone is the softest with higher flow rates. Viton provides excellent chemical resistance.

These all-plastic pumps have SAN plastic housings, acetal rotor assembly with three nylon rollers. The Vdc motors are reversible brushless DC style. Optional ABS housing. They are rated for continuous-duty. Shipping Wt. 1 lb. (0.4 kg).

One year warranty.

Installation Note: Simultaneous 12/24Vdc and 5Vdc constant power supplies are required in addition to 0-5Vdc PWM for system operation. Optional motor control PCBs provide all power supplies and regulation required for proper operation.

All Plastic pump head
Variable-flow
Reversible



Compact, variable-flow SP200VOBL pumps.

See pg 2 for details on manual or remote control PCB systems.

SPECIAL FEATURES

- Fluid only contacts the tubing*
- Self-priming, run dry without damage*
- Pump viscous fluids and slurries*
- Continuous-duty brushless DC motors*
- Compact design*

APPLICATIONS

- Chemical metering*
- Detergent dispensing*
- Condensate removal*
- Analytical instruments*
- Research & Development*

SPECIFICATIONS

	Norprene	Silicone
Max. Fluid Pressure:	30 psig (2 bar)	10 psig (0.7 bar)
Max. Suction Lift:		
0.8 and 1.6 mm ID	16-ft (4.8 m) H ₂ O	16-ft (4.8 m) H ₂ O
3.0 and 5.0 mm ID	25-ft (7.5 m) H ₂ O	25-ft (7.5 m) H ₂ O
Flow Range:	See ordering table (page 2)	
Accuracy:	±2% full scale	
Repeatability:	±2% full scale	
Max. Fluid Temp.:	93°C (200°F)	
Duty Cycle (motor life):	Continuous, 20,000 hours	
Operating Temp.:	0 to 50°C (32 to 122°F)	
Enclosure:	open motor systems; ABS optional	
Wetted parts:	Silicone, Norprene® or Viton®	
Power:	12 or 24Vdc; up to 0.6 A	
Dimensions (W x H x D):	66 x 98 x 79 mm (2.6 x 3.9 x 3.1 in.)	
Shipping Wt:	0.4 kg (1 lb)	

SP200VOBL Max Flowrates (ml/min)

Motor RPM	Vdc	Amps	Tubing ID (mm)			
			5	3	1.6	0.8
100	12	0.6A	100	60	14	4
100	24	0.3A	100	60	14	4

Flow rate listed are nominal and will vary depending upon fluid viscosity and back pressure. Specifications listed are for Norprene tubing. Silicone flow rates are slightly higher. Viton flow rates slightly lower.

SP200VOBL-Peri Pumps

NA - Not Available at this time
NR - Not Recommended

SP200VOBL Ordering Information – (Flow rates listed are for Norprene tubing; Silicone is slightly higher).ã

Flow ml/min	Tubing ID	RPM Range (Vdc)	Model No.	Pump Part No.		
				Norprene®	Silicone	Viton®
12Vdc Pumps - Variable-flow; reversible; up to 0.6 A current draw						
0.4 to 4	0.8 mm (1/32")	10 to 100 (0 to 5Vdc)	SP20XX.008.KV00.00X	SP201.203	SP200.203	SP202.203
1.4 to 14	1.6 mm (1/16")	10 to 100 (0 to 5Vdc)	SP20XX.016.KV00.00X	SP201.206	SP200.206	SP202.206
6 to 60	3.0 mm (1/8")	10 to 100 (0 to 5Vdc)	SP20XX.030.KV00.00X	SP201.209	SP200.209	SP202.209
10 to 100	5.0 mm (3/16")	10 to 100 (0 to 5Vdc)	SP20XX.050.KV00.00X	SP201.212	SP200.212	SP202.212
24Vdc Pumps - Variable-flow; reversible; up to 0.3 A current draw						
0.4 to 4	0.8 mm (1/32")	10 to 100 (0 to 5Vdc)	SP20XX.008.KV00.00X	SP201.253	SP200.253	SP202.253
1.4 to 14	1.6 mm (1/16")	10 to 100 (0 to 5Vdc)	SP20XX.016.KV00.00X	SP201.256	SP200.256	SP202.256
6 to 60	3.0 mm (1/8")	10 to 100 (0 to 5Vdc)	SP20XX.030.KV00.00X	SP201.259	SP200.259	SP202.259
10 to 100	5.0 mm (3/16")	10 to 100 (0 to 5Vdc)	SP20XX.050.KV00.00X	SP201.262	SP200.262	SP202.262

Customize your OEM pumps!

Order your OEM pump with an optional protective ABS plastic housing. All models have an 8-pin connector. For evaluating these pumps in your application, it is recommended to purchase one of our SP200VCBL models or one of the control boards below. Add the following letter(s) to the p/n to include the options.

- "C" ABS plastic housing (e.g. SP201C.203).
- "V1" Manual Control PCB (e.g. SP201.203V1).
- "V1R" Manual Control/Rev PCB (e.g. SP201.203V1R).
- "V2R" Manual Control/Rev/Remote PCB (e.g. SP201.203V2R).
- "V3R" Manual Control/Rev/Remote PCB (e.g. SP201.203V3R).



BLDC Motor Control Boards!

Get accurate pump control with a manual or remote control package for your BLDC motor. Boards will work with 12-36Vdc input. A 5.5 x 2.5 mm jack is provided for quick power connection.

- SP100BLV1.001 Manual speed control, on/off switch.
- SP100BLV1R.001 Manual speed control, on/off/rev switch
- SP100BLV2R.001 Manual speed control, on/off/rev switch, remote speed control (0-5Vdc).
- SP100BLV3R.001 Manual speed control, on/off/rev switch, remote speed control (0-5Vdc), remote stop/stop & flow direction.

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 Norprene—Reg TM Norton Co.
Chemsure—Reg TM W.L. Gore & Associates, Inc. Viton—Reg TM DuPont Dow Elastomers LLC
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