

# New SmallPumps™ SP100VO Variable-Flow OEM Pumps

These low cost peristaltic pumps are among the smallest variable-flow pumps in the market. Flow rates are available from 0 to 13 ml/min. They adapt easily to almost any instrument application. Enjoy the benefits of peristaltic pumps in your fluid transfer application.

Select from 5 different Vdc motor speeds, 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. New models available with optional ABS housing, power jack and on/off power switch.

All pumpheads have ABS plastic housings, acetal rotor assembly with four stainless steel rollers. These brush Vdc motors are reversible. Silicone and Tygon® A60G pump systems are supplied with polypropylene fittings. Viton® systems are supplied with PVDF fittings. One year warranty.

**Installation Note:** These brush-type Vdc motors are rated for intermittent duty. Request information on our heavy-duty and brushless dc motors for continuous-duty applications.

**Variable-flow  
Reversible  
Vdc motors**



*Compact, variable-flow SP100 Vdc pumps.*

Inquire for details on manual or remote control PCB systems.

## SPECIAL FEATURES

- Fluid only contacts the tubing*
- Self-priming, run dry without damage*
- Variable-flow 6, 12 & 24Vdc motors*
- Pump viscous fluids and slurries*
- Compact size*

## APPLICATIONS

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

## SPECIFICATIONS

	Tygon, Viton	Silicone
Max. Fluid Pressure:	30 psig (2 bar)	10 psig (0.7 bar)
Max. Suction Lift:		
0.8 and 1.6 mm ID	12-ft (3.6 m) H <sub>2</sub> O	12-ft (3.6 m) H <sub>2</sub> O
3.0 mm ID	25-ft (7.5 m) H <sub>2</sub> O	20-ft (6 m) H <sub>2</sub> O
Measurement Range:	See ordering table (page 2)	
Accuracy:	±10% full scale	
Repeatability:	±10% full scale	
Max. Fluid Temp.:	93°C (200°F)	
Duty Cycle:	Intermittent	
Operating Temp.:	0 to 50°C (32 to 122°F)	
Enclosure:	open motor systems; ABS optional	
Wetted parts:	Silicone, Tygon® A60G or Viton®	
Power:	6 or 12Vdc; 75 to 400 mA	

## SP100VO Max Flowrates (ml/min)

Motor RPM	Vdc	Amps	Tubing ID (mm)		
			3.0	1.6	0.8
70	6	400 mA	13	3.8	1.3
70	12	200 mA	13	3.8	1.3
70	24	100 mA	13	3.8	1.3
35	12	150 mA	7.7	2.1	0.7
35	24	75 mA	7.7	2.1	0.7
20	12	100 mA	4	1.1	0.38
10	12	100 mA	1.9	0.54	0.18
5	12	75 mA	1	0.28	0.09

Flow rate 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.

# SP100VO-Peri Pumps

NA - Not Available at this time  
NR - Not Recommended

## SP100VO Ordering Information – (Flow rates listed are for Tygon® A60G tubing; Silicone is 10-20% higher).

FlowRate ml/min	Tubing ID	RPM Range (Vdc)	Tygon® A60G	Pump Part No.	
				Silicone	Viton®
<b>6Vdc Pumps - Variable-flow; reversible; up to 300 mA current draw</b>					
0 to 1.3	0.8 mm (1/32")	0 to 70 (2.5 to 6Vdc)	SP101-010	SP100-010	SP102-011
0 to 3.8	1.6 mm (1/16")	0 to 70 (2.5 to 6Vdc)	SP101-011	SP100-011	SP102-011
0 to 13	3.0 mm (1/8")	0 to 70 (2.5 to 6Vdc)	SP101-012	SP100-012	NR*
<b>12Vdc Pumps - Variable-flow; reversible; up to 150 mA current draw</b>					
<b>Standard Pump Range</b>					
0 to 0.7	0.8 mm (1/32")	0 to 35 (4 to 12Vdc)	SP101-005	SP100-005	SP102-005
0 to 1.3	0.8 mm (1/32")	0 to 70 (5 to 12Vdc)	SP101-006	SP100-006	SP102-006
0 to 2.1	1.6 mm (1/16")	0 to 35 (4 to 12Vdc)	SP101-001	SP100-001	SP102-001
0 to 3.8	1.6 mm (1/16")	0 to 70 (5 to 12Vdc)	SP101-002	SP100-002	SP102-002
0 to 7.7	3.0 mm (1/8")	0 to 35 (4 to 12Vdc)	SP101-003	SP100-003	SP102-003
0 to 13	3.0 mm (1/8")	0 to 70 (5 to 12Vdc)	SP101-004	SP100-004	NR*
<b>Low Flow Pump Range</b>					
0 to 0.09	0.8 mm (1/32")	0 to 5 (4 to 12Vdc)	SP101-013	SP100-013	SP102-013
0 to 0.18	0.8 mm (1/32")	0 to 10 (4 to 12Vdc)	SP101-014	SP101-014	SP102-014
0 to 0.28	1.6 mm (1/16")	0 to 5 (4 to 12Vdc)	SP101-015	SP100-015	SP102-014
0 to 0.38	0.8 mm (1/32")	0 to 22 (4 to 12Vdc)	SP101-016	SP100-016	SP102-016
0 to 0.54	1.6 mm (1/16")	0 to 10 (4 to 12Vdc)	SP101-017	SP100-017	SP102-017
0 to 1	3.0 mm (1/8")	0 to 5 (4 to 12Vdc)	SP101-018	SP100-018	SP102-018
0 to 1.1	1.6 mm (1/16")	0 to 22 (4 to 12Vdc)	SP101-019	SP100-019	SP102-019
0 to 1.9	3.0 mm (1/8")	0 to 10 (4 to 12Vdc)	SP101-020	SP100-020	SP102-020
0 to 4	3.0 mm (1/8")	0 to 22 (4 to 12Vdc)	SP101-021	SP100-021	SP102-021
<b>24Vdc Pumps - Variable-flow; reversible; up to 75 mA current draw</b>					
0 to 0.7	0.8 mm (1/32")	0 to 35 (8 to 24Vdc)	SP101-055	SP100-055	SP102-055
0 to 1.3	0.8 mm (1/32")	0 to 70 (10 to 24Vdc)	SP101-056	SP101-056	SP102-056
0 to 2.1	1.6 mm (1/16")	0 to 35 (8 to 24Vdc)	SP101-051	SP100-051	SP102-051
0 to 3.8	1.6 mm (1/16")	0 to 70 (10 to 24Vdc)	SP101-052	SP100-052	SP102-052
0 to 7.7	3.0 mm (1/8")	0 to 35 (8 to 24Vdc)	SP101-053	SP100-053	SP102-053
0 to 13	3.0 mm (1/8")	0 to 70 (10 to 24Vdc)	SP101-054	SP100-054	NR*

Flow rates listed are nominal and will vary depending upon fluid viscosity and back pressure.

\*3mm Viton tubing with 70 rpm motor is not recommended. Consider VOA and VOHD motor options.

Other special tubing options are available on special order. Call for details.



### Customize your OEM pumps!

Order your OEM pump with an optional protective ABS plastic housing and power switch. All cased and switched models include a 5.5 x 2.5 mm jack for quick power connect. Add the following letter(s) to the p/n to include the options.

"C" ABS plastic housing (e.g. SP101C-013).

"CS" ABS plastic housing w/ on-off switch (e.g. SP101CS-013).



Optional Motor Cover protects leads

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 Co.

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