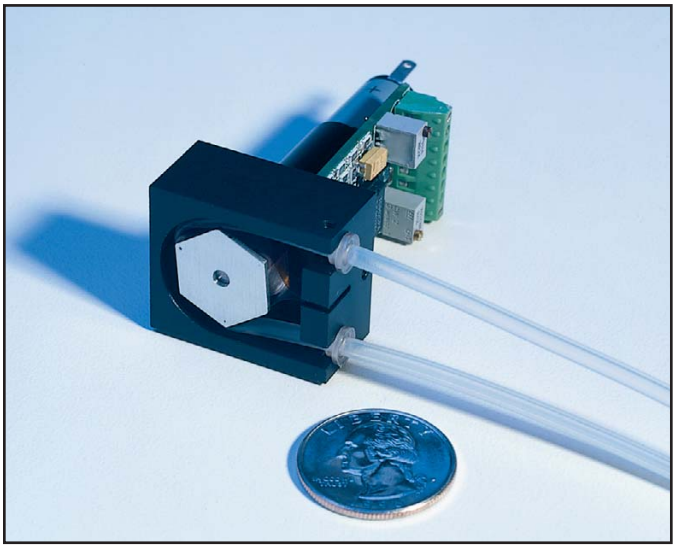
P625 Peristaltic Pumps

Instech's revolutionary P625 peristaltic pumps—quite possibly the smallest on the market—deliver flow performance typically found only in larger, more power-hungry pumps. They are ideal for any fluid transfer application where size, power efficiency, and precision are important.



P625/275.143

Features

Flow rates from 0.0007 to 19 ml/min. Configure the pump with one of four Swiss-made motor and gearhead assemblies, and one of range of pump tube sizes to best match your particular low-flow application. The specially contoured, precision machined pump head minimizes pulsations and improves accuracy.

Precise bi-directional speed control. Built-in circuitry provides accurate, linear flow rate control over a 10:1 range, requiring only a single supply and an analog control voltage. The circuitry compensates for torque changes to maintain constant motor speed.

Low power, low noise operation. Typically drawing between 25 and 75 mA, this pump is well-suited for battery powered applications. Its all-analog design minimizes EMI.

Easy-to-use tube sets. Tube sets can be installed and removed in seconds. They are available in a range of sizes and materials, and all but the largest tubing sizes are available with two channels.

How to Order

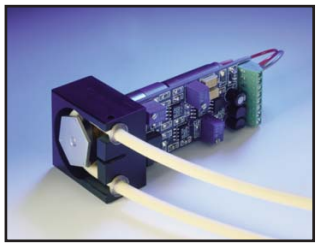
1. Determine which pump motors function within your desired flow rate range. The 10K:1 motor delivers the lowest flow rates, the 66:1 the highest. There is significant overlap based on tube sets sizes so there will usually be a range of pumps models that could work.

2. Choose the type of tube set material you need based on chemical compatibility and physical considerations such as gas permeability and pressure rating. If you need 2 channels this will further narrow your choice of tube sets.

3. Narrow your choices down to one motor type and one tube set size (or a few different tube sets if you are not sure of your flow rate requirements). Check the tube set chart to select the pump and tube set part numbers for ordering. A pump's part number is configured as follows: P625/[motor type].[roller size]. Note that the high durometer PharMed®, Tygon® and Viton® tubes require a different size pump roller than the softer silicone and C-FLEX®. Dual tubes and high durometer tubing should be used with the P625/66 model only. (Please contact Instech for special lower flow rate models that can be used with dual or high-durometer tubing.)

4. Contact us for a quote. Be sure to include the pump and tube set part numbers and the quantities in which you are interested. In general the P625/900 and P625/275 models are less expensive than the 10K and 66 models. The prices of all pump models decline with order quantity. Instech sells these pumps directly to customers all over the world.

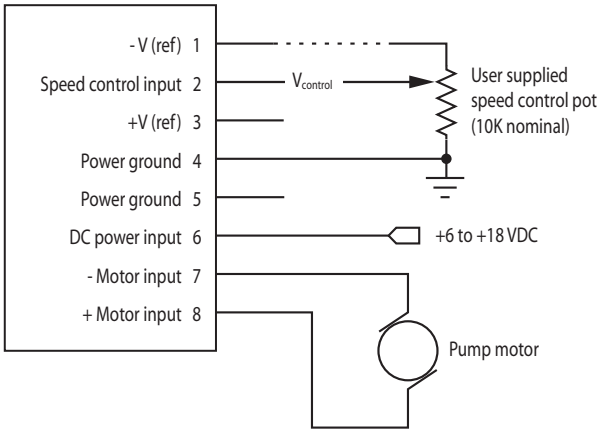
$ http://www.instechlabs.com/OEM/pumps/p625.php



P625/66.133 with PharMed® tubing

Sample Control Configuration

Uni-directional potentiometer control



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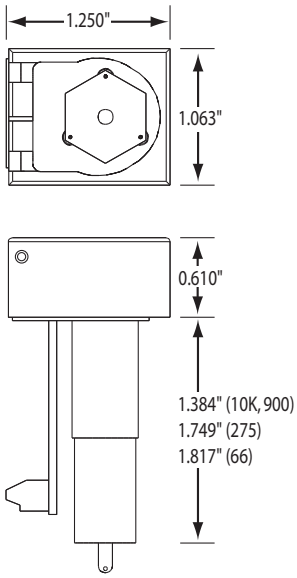
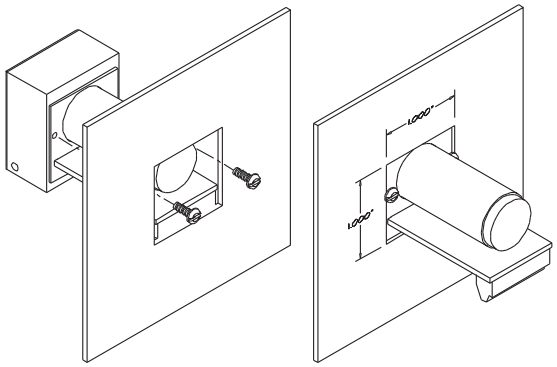
Specifications

	P625/10K.xxx	P625/900.xxx	P625/275.xxx	P625/66.xxx
Flow rate range				
.015″ tube	0.7 - 6.7 µl/min	8 - 80 µl/min	17 - 170 µl/min	0.06 - 0.6 ml/min
.020″ tube	1.2 - 12 µl/min	14 - 140 µl/min	34 - 340 µl/min	0.1 - 1.0 ml/min
.031″ tube	3.4 - 34 µl/min	40 - 400 µl/min	92 - 920 µl/min	0.3 - 3.0 ml/min
.062″ tube	14 - 145 µl/min	170 - 1700 µl/min	340 - 3400 µl/min	1.0 - 10 ml/min
.093″ tube	28 - 275 µl/min	330 - 3300 µl/min	730 - 7300 µl/min	1.9 - 19 ml/min
Flow control range	10:1	10:1	10:1	10:1
Accuracy	±5%	±5%	±5%	±5%
Motor gear ratio	10683:1	900:1	275:1	66:1
Top speed	1.5 RPM	17.8 RPM	44 RPM	150 RPM
Gearhead type	Spur	Spur	Planetary	Planetary
Use with Pharmed or Tygon	No	No	No	Yes
Motor voltage for full speed	4.5 VDC	4.5 VDC	9 VDC	12 VDC
Motor power rating	0.3 W	0.3 W	0.75 W	1.5 W
Recommended power supply	8 - 12 VDC	8 - 12 VDC	12 - 16 VDC	14.5 - 18 VDC
Max power supply voltage	18 VDC	18 VDC	18 VDC	18 VDC
Typical current at full speed	18 - 22 mA	25 - 30 mA	19 - 25 mA	50 - 75 mA
Quiescent pump current	7.5 mA	7.5 mA	7.5 mA	14 mA
Integrated motor controller	MC50	MC50	MC50	MC200
Speed control input voltage	-10 to +10 VDC (voltage for top speed adjustable from ±1.25 to ±10 VDC)			
Rotation direction	Determined by speed control voltage polarity			
Roller diameter	0.143″ or 0.133″ depending on tubing durometer (see below)			
Kapton strip	Included on 0.143″ roller pumps to minimize low durometer tube stretch and improve accuracy			
Terminal barrier block	8 pin screw type with 2.5 mm spacing			
Panel mounting hole	1.00 x 1.00 in (2.54 x 2.54 cm)			
Weight (excluding tube set)	55 gm	53 gm	39 gm	72 gm
Dimensions	1.1 x 1.3 x 2.1in 27 x 32 x 54 mm	1.1 x 1.3 x 2.1in 27 x 32 x 54 mm	1.1 x 1.3 x 2.4in 27 x 32 x 60 mm	1.1 x 1.3 x 2.7in 27 x 32 x 68 mm

Dimensions





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P625 Pump Tube Sets

The range of tube sets and compatible pump models are shown in the table below. When specifying a tube set, create a part number as shown below. For example, "P625/TS031S" signifies a one channel .031" ID silicone tube set. The standard length is 1ft (30.5 cm). For orders of fewer than 100 pieces tube sets are sold in packages of five. For orders over 100 pieces bulk packaging is available.

P625/TS[D]031S

- Tube material (**S**=silicone, **C**=C-FLEX®, **P**=PharMed®, **T**=Tygon® F-4040A, **L**=Tygon® LFL, **V**=Viton®)
- Tube inner diameter in thousandths of an inch
- Indicates dual channel tube set

MATERIAL	TUBE SET	COMPATIBLE PUMPS Part no. format: P625/[motor].[roller size]			
Silicone	015S	P625/10K.143	P625/900.143	P625/275.143	P625/66.143
	020S	↓	↓	↓	↓
	031S				
	062S				
	093S				
	D015S				
	D020S				P625/66.143
	D031S				↓
C-FLEX®	020C	P625/10K.143	P625/900.143	P625/275.143	P625/66.143
	031C	↓	↓	↓	↓
	062C				
	093C				
	D020C				P625/66.143
	D031C				↓
PharMed®	020P	P625/10K.133	P625/900.133	P625/275.133	P625/66.133
	035P	↓	↓	↓	↓
	059P				P625/66.133
	073P				↓
	090P				
	D020P				
Tygon® F-4040A	062T				P625/66.133
Tygon® LFL	062L				P625/66.133
Viton®	062V				P625/66.133

Instech uses five P625/66 pumps in its automated blood sampler for laboratory animal research

Instech's unique peristaltic mechanism is also available in the model P720 for laboratory use

P625.qxd / 24-Jan-12

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