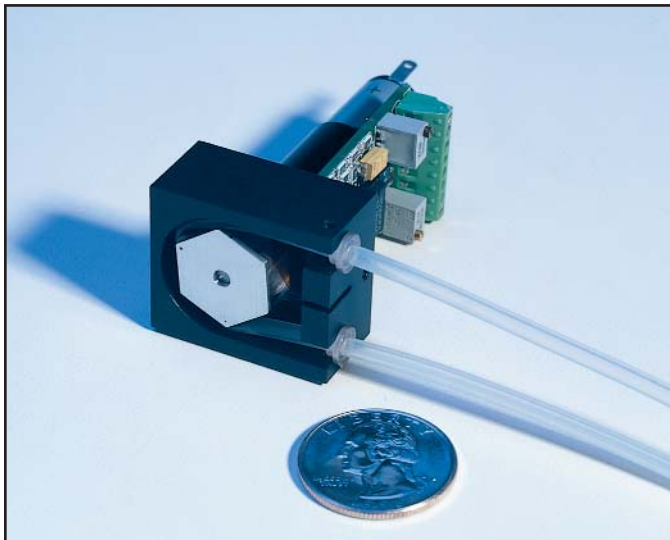


# P625 Peristaltic Pumps

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 0.0003 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 20:1 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.

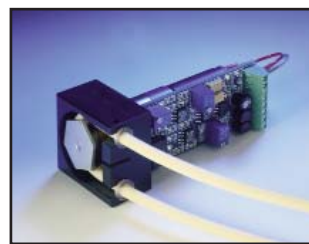
## How to Order

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 set 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 per-

meability 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.

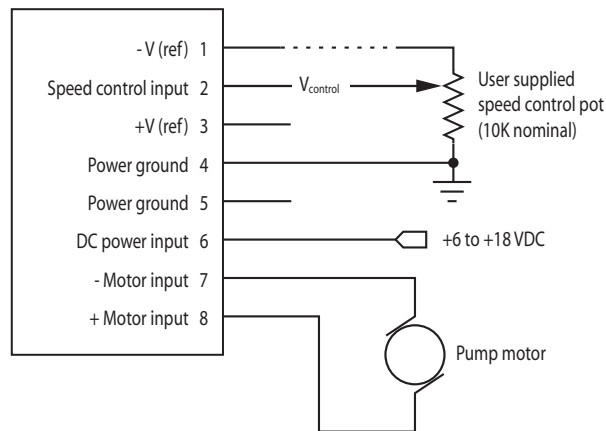
<http://www.instechlabs.com/OEM/pumps/p625.php>



P625/66.133 with PharMed® tubing

## Sample Control Configuration

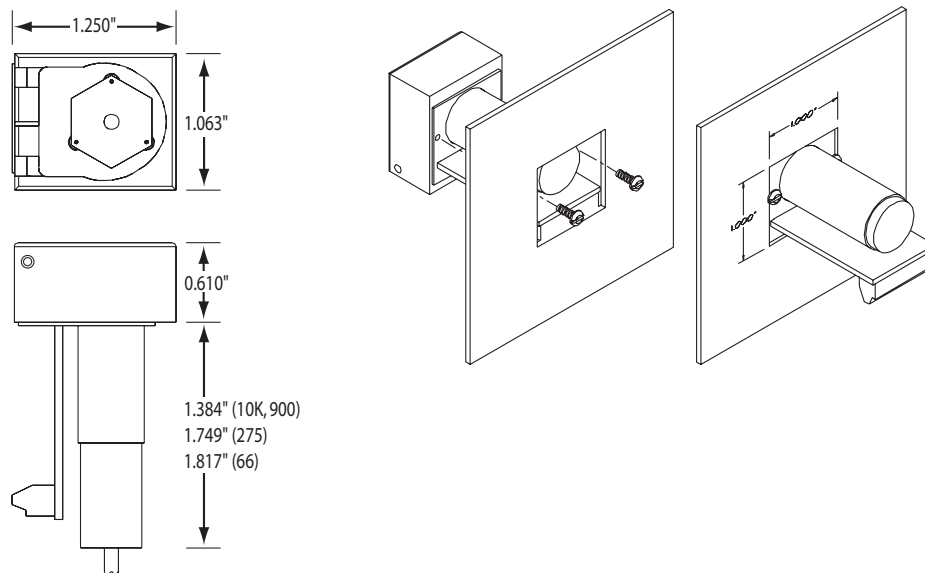
Uni-directional potentiometer control



# Specifications

	P625/10K.xxx	P625/900.xxx	P625/275.xxx	P625/66.xxx
<b>Flow rate range</b>				
.015" tube	0.34 - 6.7 µl/min	4 - 80 µl/min	8 - 170 µl/min	0.03 - 0.6 ml/min
.020" tube	0.6 - 12 µl/min	7 - 140 µl/min	20 - 340 µl/min	0.05 - 1.0 ml/min
.031" tube	1.6 - 34 µl/min	20 - 400 µl/min	50 - 920 µl/min	0.15 - 3.0 ml/min
.062" tube	7 - 145 µl/min	80 - 1700 µl/min	170 - 3400 µl/min	0.5 - 10 ml/min
.093" tube	14 - 275 µl/min	160 - 3300 µl/min	370 - 7300 µl/min	1.1 - 19 ml/min
<b>Flow control range</b>	20:1	20:1	20:1	20:1
<b>Accuracy</b>	±5%	±5%	±5%	±5%
<b>Motor gear ratio</b>	10683:1	900:1	275:1	66:1
<b>Top speed</b>	1.5 RPM	17.8 RPM	44 RPM	150 RPM
<b>Gearhead type</b>	Spur	Spur	Planetary	Planetary
<b>Use with Pharmed or Tygon</b>	No	No	No	Yes
<b>Motor voltage for full speed</b>	4.5 VDC	4.5 VDC	9 VDC	12 VDC
<b>Motor power rating</b>	0.3 W	0.3 W	0.75 W	1.5 W
<b>Recommended power supply</b>	8 - 12 VDC	8 - 12 VDC	12 - 16 VDC	14.5 - 18 VDC
<b>Max power supply voltage</b>	18 VDC	18 VDC	18 VDC	18 VDC
<b>Typical current at full speed</b>	18 - 22 mA	25 - 30 mA	19 - 25 mA	50 - 75 mA
<b>Quiescent pump current</b>	7.5 mA	7.5 mA	7.5 mA	14 mA
<b>Integrated motor controller</b>	MC50	MC50	MC50	MC200
<b>Speed control input voltage</b>	-10 to +10 VDC (voltage for top speed adjustable from ±1.25 to ±10 VDC)			
<b>Rotation direction</b>	Determined by speed control voltage polarity			
<b>Roller diameter</b>	0.143" or 0.133" depending on tubing durometer (see below)			
<b>Kapton strip</b>	Included on 0.143" roller pumps to minimize low durometer tube stretch and improve accuracy			
<b>Terminal barrier block</b>	8 pin screw type with 2.5 mm spacing			
<b>Panel mounting hole</b>	1.00 x 1.00 in (2.54 x 2.54 cm)			
<b>Weight (excluding tube set)</b>	55 gm	53 gm	39 gm	72 gm
<b>Dimensions</b>	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



# 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

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