

# P720 PERISTALTIC PUMPS

Instech's P720 peristaltic pumps deliver the accurate low flow rates of syringe pumps without the limits on delivered volume. They are ideal for animal IV infusion, tissue perfusion, and other low-flow laboratory applications.

The pump's analog circuitry has been carefully designed to minimize electromagnetic radiation; for this reason, the pump is often used for tissue perfusion even in the presence of sensitive intracellular recordings.

Instech offers this pump with four different motors; choose the motor and tube set size that best match your flow rate requirements. In general, use the standard P720 for flows between 0.05 and 1 mL/min, the lower flow P720/10K for rates between 5 and 100  $\mu\text{L}/\text{min}$ , the ultra low flow P720/37K for rates as low as 0.2  $\mu\text{L}/\text{min}$ , and then the higher-flow P720/66 for rates up to 18ml/min (1 L/hr). With a given tube set size, the pump performs best over a 10:1 flow control range.

Part No.	Description	Unit
P720/37K	Ultra-low-flow peristaltic pump, tube sets not included	ea
P720/10K	Very-low-flow peristaltic pump, tube sets not included	ea
P720	Low-flow peristaltic pump, tube sets not included	ea
P720/66	High-flow peristaltic pump, tube sets not included	ea
P720/NCA	Fittings for straight-through tube sets	pair
P720/RMC	Rod mounting clamp for P720 pumps	ea
P720/KSK	Kapton® strip kit: 10 strips, 3 pcs grip paper, tool, clip	ea
P720/BATT	9V lithium battery for P720 pump	ea

[www.instechlabs.com/Pumps/peristaltic/](http://www.instechlabs.com/Pumps/peristaltic/)

For research and industrial applications only. Not approved or intended for human use.

## SPECIFICATIONS

	P720/37K <small>NEW</small>	P720/10K	P720	P720/66
Flow rates				
.015" ID tube	0.2 - 2.2 $\mu\text{L}/\text{min}$	0.8 - 7.5 $\mu\text{L}/\text{min}$	8 - 83 $\mu\text{L}/\text{min}$	0.07 - 0.7 mL/min
.020" ID tube	0.4 - 4.6	1.6 - 16	18 - 180	0.15 - 1.5
.031" ID tube	0.9 - 8.7	3 - 30	35 - 350	0.3 - 2.8
.062" ID tube	3 - 30	10 - 100	125 - 1250	0.9 - 9
.093" ID tube	6 - 58	20 - 200	240 - 2400	1.8 - 18
Flow control range	~10:1	~10:1	~10:1	~10:1
Accuracy	±5%	±5%	±5%	±5%
Repeatability	±3%	±3%	±3%	±3%
Motor gear ratio	36976:1	10683:1	900:1	66:1
Gearhead type	spur	spur	spur	planetary
Power source	Universal 15VDC 1A adapter, 2.5mm male plug, + tip Input: 100-240VAC, 50-60Hz; plugs for US, Europe, UK, Australia			
Backup battery	9V lithium	9V lithium	9V lithium	NA
Backup battery life	~30 hours	~30 hours	~30 hours	NA
Operating humidity	<80% (non-condensing)			
Dimensions	2.5 x 2.3 x 4.0" (6.4 x 5.7 x 10.2 cm)			
Weight	375g	375g	375g	375g

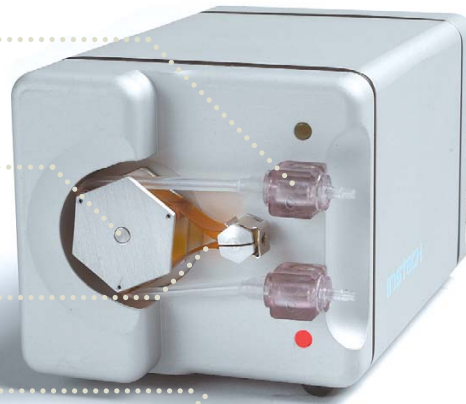
## FEATURES

**Snap-in tube sets** with a wide range of tubing materials, sizes and connectors

**Precision machined pump head** with Swiss-made motor assembly for accuracy and repeatability

**Kapton strip** to improve accuracy and tube set life

**Battery backup** for portability and protection during power failure (except P720/66 model)



**Analog speed control input** for remote control or closed-loop applications

**Fine speed control**

**Coarse speed control**



Rear view



Fittings for straight-through tube sets are available when connectors are not desired

# P720 PERISTALTIC PUMPS

## Standard Tube Sets



A variety of tube sizes and connector types lets you tailor your P720 pump to your application. Tube sets typically last about one month under continuous operation.

New pumps do not include tube sets; please order them separately. The 12 standard configurations at right are stocked in moderate quantities for fast delivery. Tube sets are sold in packages of 5.

[www.instechlabs.com/Pumps/peristaltic/tubing.php](http://www.instechlabs.com/Pumps/peristaltic/tubing.php)

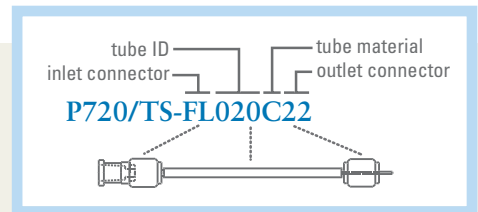
Part Number	Inlet	Tubing	Outlet
P720/TS-BS020SBS		.020" ID silicone	
P720/TS-BS031SBS		.031" ID silicone	
P720/TS-BS062SBS	.062" barb	.062" ID silicone	.062" barb
P720/TS-BS093SBS		.093" ID silicone	
P720/TS-DBS031SDBS		2 x .031" ID silicone*	
P720/TS-DBS062SDBS		2 x .062" ID silicone*	
P720/TS-DBS031SDBSU	dual .062" barb	2 x .031" ID silicone, unbalanced <sup>1</sup> *	dual .062" barb
P720/TS-DBS062SDBSU		2 x .062" ID silicone, unbalanced <sup>1</sup> *	
P720/TS-020S		.020" ID silicone	
P720/TS-031S	none <sup>2</sup>	.031" ID silicone	none <sup>2</sup>
P720/TS-062S		.062" ID silicone	
P720/TS-093S		.093" ID silicone	

<sup>1</sup> One tube intentionally shorter so that flow rate are lower. Use to maintain constant levels in tissue chambers. For details, see <http://www.instechlabs.com/Pumps/peristaltic/levelcontrol.php>.

<sup>2</sup> Use with straight-through tube set fittings (P720/NCA).

## Custom Tube Sets

In addition to the standard silicone tube sets above, hundreds of custom configurations are possible. Create a part number as shown from the possible combinations and allow 4 to 5 days for the tube sets to be made to your specifications.



SIZE	015	020	031	062	093
Inner diameter	.015" (.38mm)	.020" (.51mm)	.031" (.79mm)	.062" (1.6mm)	.093" (2.4mm)

**MATERIALS** Use silicone with saline and most drugs. Use C-FLEX® for solutions containing fats, such as IV diets. Use VITON® for petroleum-based fluids.

S - Silicone	●	●	●	●	●
C - C-FLEX®		●	●	●	
V - VITON®				●	

### CONNECTORS & CHANNELS

22 - 22ga tubing	●	●			
20 - 20ga tubing	●	●			
LL - male luer lock	●	●	●	●	●
FL - female luer lock	●	●	●	●	●
BS - .062" ID soft plastic barb	●	●	●	●	●
93 - .093" ID soft plastic barb	●	●	●	●	●
D22 - dual channel 22ga tubing*	●	●			
D20 - dual channel 20ga tubing*	●	●			
DBS - dual channel .062" ID barb*		●	●	●	●
None (use with P720/NCA fittings)	●	●	●	●	●

C-FLEX is a reg trademark of Consolidated Polymer Technologies. VITON is a reg trademark of DuPont Dow Elastomers. Tygon is a reg trademark of Saint Gobain Performance Plastics Corporation.

\* DUAL TUBE SET WARNING: Dual channel tube sets, particularly the 062 size, place more stress on the pump motor than do single channel tube sets, which will shorten the life of the pump. Pumps with spur gearheads (P720/37K, P720/10K and P720) are more susceptible to this stress than are pumps with planetary gearheads (P720/66). In addition, dual 062 tube sets make contact with the sides of the pump rotor, which will cause those tube sets to wear faster than other sizes.