Harvard Mechanical Peristaltic Pumps

The bane of peristaltic pumps is the pulsation caused by the rotary head. This pulsation inevitably leads to reduced accuracy. The Harvard Mechanical Peristaltic Pumps are the only peristaltic pumps manufactured with a double linear pumping channel. This pumping channel eliminates pulsation and delivers accuracy.

This double linear channel has the additional advantage that extra tubing can be dropped straight in. There is no need to unwind the tubing from the head.

- *Speed range is infinitely variable to 50,000 to 1*
- *The two peristaltic sine waves are opposed at exactly 180°. Therefore, when the two tubes are coupled with a 'Y', a single smoothed minimum pulsatile delivery is achieved*
- *Three different flow rate models from which to choose*
- *Each of the three Pumps has a reversing switch on its control panel marked 'Infuse/Withdraw' to give the pump maximum flexibility*
- *The peristaltic pumping head is offered with three different power trains having 1/60th, 1/15th and 1/8th horse power motors*
- *For general laboratory use with a wide range of flow rates satisfying most laboratory uses*

Peristalsis is generated by thirteen nylon plates in wiping contact. These

plates have Delrin® cam centers that are mounted on a heavy axle supported in ball bearings. The cam centers do not require lubrication because of the molybdenum disulphide in the Delrin®. The nylon plates provide a sinusoidal wave action 60.3 mm (2-3/8 in) long in each pumping channel, the two wave actions being 180° out of phase. By joining two identical tubes with a 'Y', a single smoothed minimum pulsatile flow is achieved.

Adjusting the pumping channel for any size tubing from micro to 12.7

mm (1/2 in) is a simple process. Lay the tubing in the channel, release the pressure plate by the top thumb screws, screw the pressure plate forward until it properly grips the tubing, and lock the pressure plate in place.

Note also that the pressure plate can be adjusted to bring the peristalsis fingers into mere wiping contact with the tubing to protect fragile material or, by fully compressing the tubing, heavy pressures can be provided to accommodate viscous materials.

Note further that the pressure plate can provide convenient temporary occlusion.

By using the same-sized tubing in each channel, exchange procedures can be carried out delivering and withdrawing exact amounts at the same time. Two tubes can be joined with a 'Y' to double the flow volume. Tubing of any size can be in each of the two channels. The screw-activated pressure plate instantly adjusts the size of the channel. Proportional delivery or withdrawal can be made. To add more tubing, merely pile it in the channel up to a height of 34.9 mm (1-3/8 in).

Model 1203 General Purpose Mechanical Peristaltic Pumps

Harvard Model 1203 General Purpose Mechanical Laboratory Peristaltic Pump

- Delivers the lowest flow rates of the mechanical peristaltic pumps
- 1/60 HP motor

The 12-speed gear box and the SCR motor control, together, provide for infinite speed adjustment over a range of 50,000 to 1 providing the wide selection of flow rates shown.

A fuse holder, indicator light, 'On/Off' switch and 'Infuse/Withdraw', switch are on the front panel.

Specifications

Dimensions, H x W x D	250 x 265 x 280 mm (10 x 10.5 x 11 in)
Weight	11.4 kg (25 lb)
Power	115/230 VAC, 50/60 Hz
Model Number	**1203**

Catalog No.	Product
CGS 8122.63	Model 1203 General Purpose Mechanical Laboratory Peristaltic Pump

Tubing and Flow Rates
Model 1203 General Purpose Mechanical Peristaltic Pump

Tubing ID	Minimum Flow Rate	Maximum Flow Rate
1/16 in	0.000133 ml/min	6.8 ml/min
1/8 in	0.00042 ml/min	21 ml/min
3/16 in	0.0008 ml/min	39 ml/min
1/4 in	0.0012 ml/min	60 ml/min
5/16 in	0.0017 ml/min	84 ml/min
3/8 in	0.002 ml/min	114 ml/min