Harvard Apparatus Syringe Pumps

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Tool Type: “Programmable Dual Syringe Pump”
Location: “Microfluidics Lab 3430”
Description: “Dual Syringe Pump for droplet generation and other milli/microfluidic experiments”
Manufacturer: “Harvard Apparatus”

About

Syringe pumps utilize a stepper motor, lead screw, and pusher block to dispense fluid from a syringe at a controlled rate. Some syringe pumps, such as this one, can accommodate more than one syringe. These HA pumps can accommodate two syringes, which allows for the usage of two different fluids (co-flow, sheathed flow, etc.), or alternatively to double the volume of a single fluid by using a second syringe.

Syringe pumps are flow-rate-controlled devices, which means that you program the pump to operate at a fixed flow rate regardless of the pressure required. (As opposed to pressure-controlled devices which fix the pressure.)

Detailed Specifications

See product manual for extended specifications.

Maximum force: 50 lb (200 N)
Minimum syringe size & minimum flow rate: 0.5 uL @ 0.0001 uL/hr
Maximum syringe size & maximum flow rate: 140 mL @ 220 mL/min

Safety Concerns

Pinching Hazard - Be careful when loading syringes to avoid pinching oneself with the syringe holders.

High Pressure Hazard - Always wear goggles when operating syringe pumps. If too much pressure accumulates in your system, often due to clogging, your tubing or attached fluidic devices can rupture. This can create a jet of fluid which presents a physical hazard to those nearby.

Operating Procedures

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Reference Documentation

702000_syringe_pumps_manual.pdf

Training Documentation

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