



The **FR-50** and **FR-55S** flow control valves are used for the fine control of a solution in a perfusion system or a vacuum in an aspirator.

When used for chamber evacuation, the **FR-50** provides the fine vacuum control critical for proper operation of the system. The model **FR-55S** includes a convenient on-off switch for interrupting flow without disturbing the flow rate.

Solution flow rates are adjustable from 0-10 ml/min at a solution head of 30 cm.

Using the flow control valve

The flow control valve is comprised of the CONTROL KNOB, REFERENCE RING and BODY (see diagram below). The flow rate is easily adjusted by twisting the BODY and CONTROL KNOB relative to each other. The direction of solution flow is from the INLET PORT to the OUTPUT PORT.

Maximal flow through the device is set by aligning the INLET and OUTPUT PORTS. This is simply achieved by placing the *position indicator* for the GREEN FLOW MARK in line with the ALIGNMENT MARK. Conversely, solution flow is halted when the associated *position indicator* for the RED FLOW MARK is aligned with the ALIGNMENT MARK.

NOTE: Selecting any position between the two FLOW MARK *position indicators* results in an intermediate flow rate.

The REFERENCE RING allows the user to easily return to a previously set flow rate. Once solution flow has been set to a desired rate, align the *calibration mark* in the REFERENCE RING to one of the FLOW MARK *position indicators*. You will then be able to accurately return to the initial flow rate by re-aligning the *calibration mark* to the *position indicator*.

Assembly

The device is simply assembled by attaching PE-160 tubing to the inlet and output ports.

Maintenance

Cleaning

The device is manufactured from Delrin and a small amount of stainless steel. The stability of these materials must be taken into account when cleaning the device. A recommended cleaning procedure is to wash with a dilute detergent solution followed by an ethanol/H₂O rinse.

