

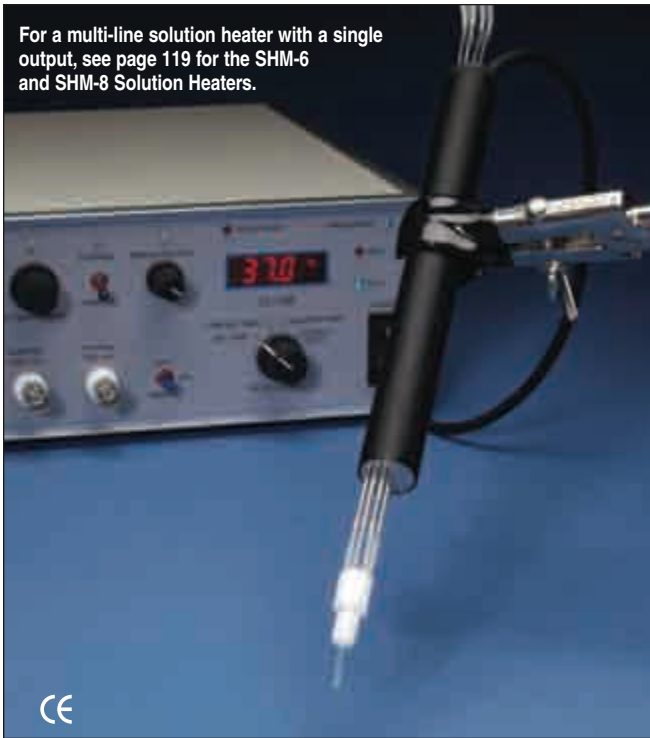
solution heaters

SHM-828

Eight Line In-Line Solution Heater

Warms up to eight independent perfusion lines to the same temperature

For a multi-line solution heater with a single output, see page 119 for the SHM-6 and SHM-8 Solution Heaters.



- Straight flow path for all eight lines
- Connects to the CL-100 Bipolar Temperature Controller
- Easily cleaned
- Perfusion lines remain independent

The SHM-828 is an eight line solution heater designed for superfusion. Construction is such that all eight lines can be used simultaneously. The solution is heated as it flows through 21.5 cm of 18 gauge type 316 stainless steel tubing. The straight flow path allows for easy cleaning.

If contact with stainless steel tubing is undesirable, polyethylene tubing (PE-50) can be drawn through the heater tubes. This eliminates metal contact and reduces the dead volume of the tubes.

For single output applications an MP-8 Perfusion Manifold can be connected directly to the 18 gauge tubes. An ML-8 Miniature Manifold may be used if PE-50 polyethylene tubing is pulled inside the heater tubes.

Solution temperatures can be maintained at 37°C for flow rates up to 5 ml/min., or 50°C at 3 ml/min., per line. Higher flow rates at any given temperature can be achieved if fewer lines are used.

Each heater is supplied with a TA-29 Thermistor Cable Assembly which allows for monitoring the actual bath temperature and 3 meters of PE-160 Tubing. This heater requires the CL-100 Bipolar Temperature Controller; see page 110.

Specifications

Heater Resistance	6.7 Ω
Voltage Requirement	Variable to 15 V max
Maximum Temperature	50°C
Internal Dead Volume	157 μ l / line
Perfusion Lines Type	316 Stainless steel 1.2 mm OD x 0.84 mm ID
Maximum Flow Rate at 37°C	5 ml/min (with all eight lines flowing)
Temperature	37°C can be maintained at $\pm 0.2^\circ\text{C}$
Physical Dimensions:	
Body (D x L)	18 x 168 mm
Tube Length	215 mm
Weight	98 g
Cable Length	1.9 m
Warranty	One year

Order #	Model	Product
W4 64-1430	SHM-828	Solution Heater Eight Line, No Manifold
W4 64-1430L	SHM-828LP	Solution Heater Eight Line Low Power, No Manifold
W4 64-0352	CL-100	Bipolar Temperature Controller

Accessories and Replacement Parts

W4 64-0755	PE-160/10	Polyethylene Tubing PE-160, 10 ft.
W4 64-0752	PE-50/10	Polyethylene Tubing PE-50, 10 ft.
W4 64-0107	TA-29	Replacement Cable with Bead Thermistor
W4 64-0108	TA-30	Replacement Cable with Glass Thermistor
W4 64-0211	MP-8	Perfusion Manifold MP Series 8 to 1
W4 64-0199	ML-8	Perfusion Manifold ML Series 8 to 1

