

**MODEL 5010**

**PROGRAMMABLE FLUID BATH**

*THE EASY SOLUTION FOR PRECISE ENVIRONMENT CONTROL*



**5010 FEATURES**

- > Fully Programmable via IEEE 488 & RS232C Interfaces
- > Digital Proportional Control
- > Range - 9.9 °C to 65 °C  
(14 °F to 149 °F)
- > For use with water, oil, fluorocarbons, alcohol, ethylene glycol and a variety of other fluids
- > Stability  $< \pm 0.002$  °C
- > Sofcal™ firmware provides on board intelligence for diagnostics, ease of operation and front panel checkout
- > Analog output
- > 20ma current loop hardware conforming to SAIL protocol (Serial ASCII Interface Loop)

**G**uildline Model 5010 Programmable Fluid Bath is a high precision constant temperature bath for use with many different types of fluids. Control monitoring is by means of a platinum resistance thermometer, known for its high accuracy, in conjunction with a microprocessor, providing digital proportional control.

Front panel control is via a keyboard for temperature selection, read and enter functions and a large digital display. The temperature may be set and controlled anywhere in the range -9.9 °C to 65 °C, (14 °F to 149 °F). Once a temperature has been selected, the control circuitry defines the best heating (or cooling) curve to bring the bath to temperature, with minimum overshoot, hysteresis or oscillation, in the shortest possible time. The front panel and controls are totally splash proof and impervious to saline corrosion.

Programmability is provided via an IEEE 488 or RS 232C Interface. An analog output is also included for connection to chart recorders.

***The 5010 Programmable Fluid Bath is a high precision constant temperature bath for use with many different types of fluids.***

The 5010 is suitable for recess bench mounting and features a gravity drain, a sloped top (towards bath) with spillage lip, plus a clear polycarbonate chamber cover which is removable for complete access to the 13.2 gallon (50 litre) capacity chamber. Over temperature protection is provided automatically and in the event of a power interruption the bath returns to the last programmed temperature.

Uses of the 5010 Programmable Fluid Bath include; thermal stressing of precision materials, automatic calibration of thermistors and temperature elements, oceanographic applications, and the maintenance of a constant temperature environment for electrical references. Typical references requiring such an environment are standard resistors like the Guildline 9330 series resistors, the 9230 Current Shunts and the 9350 Hamon Transfer Standards.

## 5010 PROGRAMMABLE FLUID BATH

### PERFORMANCE SPECIFICATIONS

<b>Temperature Range</b>	14.18 °F to 149 °F, (-9.9 °C to 65 °C)
<b>Stability</b>	± 0.0036 °F over 24 hours, (± 0.002 °C) ± 0.09 °F over 1 year, (± 0.05 °C)
<b>Linearity (Set point accuracy)</b>	± 0.054 °F, (± 0.03 °C)
<b>Resolution of set point</b>	0.018 °F, (0.01 °C) Via front panel 0.0018 °F, (0.001 °C) Via control bus
<b>Chamber Gradients</b>	< ± 0.0036 °F, (< ± 0.002 °C)
<b>Ambient Temp. Attenuation</b>	0.0025 °F/°F, (0.0025 °C/°C)
<b>Temperature Response Time</b>	Heating 20 °C/hour; cooling above 20 °C, 3 °C/hour, below 20 °C, 2 °C/hour
<b>Over Temperature Protection</b>	Automatic shut down if temperature exceeds 167 °F, (75 °C)

### PHYSICAL SPECIFICATIONS

<b>Chamber Usable Dimensions</b>	55 x 30 x 25 cm deep 21.6 x 11.8 x 9.8 inches deep
<b>Chamber Capacity</b>	50 litres 13.21 U.S. gallons
<b>Overall Dimensions</b>	Length 115 cm (45.3") Width 53 cm (20.9") Height 46 cm (18.1")
<b>Weight (empty) (shipping)</b>	52 kg (114.6 lbs.) 85 kg (187 lbs.)
<b>Power Supply</b>	120 VAC ± 10%, 50/60 Hz, 14 Amps For 100v, 220v & 240v operation 50101 line voltage adaptor required
<b>Construction</b>	Molded fiberglass resin. Material that is in contact with chamber fluid: polycarbonate, type 316L stainless steel, teflon, polypropylene, 316L stainless steel sheathed heater, & polyester fiberglass

### 5010 ORDERING INFORMATION

5010 Programmable Fluid Bath  
TM5010 Technical Manual (included)  
Certificate of Calibration (included)  
Report of Calibration (extra charge)

#### ACCESSORIES:

50101 Line voltage transformer adaptor  
Included with 5010 for 100V, 220V,  
and 240V operation  
50103 Over-under temperature protector  
Oil-5 Mineral Oil, 20 litres (5.28 U.S. gallons)

### GUILDLINE IS DISTRIBUTED BY:

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