

**LR-Cal**

# **BK 40 M**

## **CRYOSTATIC BATH**



**Operating range:** -40/+125 °C

**Applications:** Control calibration of temperature sensors in laboratory, in conformity with ISO 9000 standards;  
Control of thermostats;  
Automatic computer-controlled calibrations

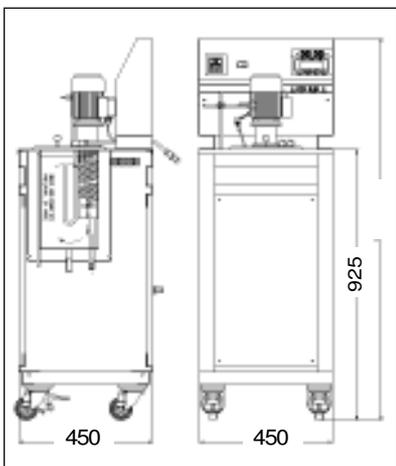


**DRUCK & TEMPERATUR Leitenberger GmbH**  
Bahnhofstr. 33 • D-72138 Kirchentellinsfurt • Germany  
Tel.: 0 71 21 - 9 09 20 - 0 • Fax: 0 71 21 - 9 09 20 - 99  
E-Mail: DT-Info@Leitenberger.de • <http://www.druck-temperatur.de>

Technische Änderungen vorbehalten. Freibleibend • (Rel. 060428) • All technical modifications reserved. Without engagement



Fluid level adapter



The BK40M bath is an instrument used to calibrate transducers, RTD and temperature-measuring sensors in the field and in the laboratory. The possibility to generate positive and negative temperature ramps makes it suitable for use in calibrating and testing thermostats.

### TECHNICAL CHARACTERISTICS

The BK40M bath consists of a stainless tank with capacity of 10 litres, useful height 340 mm and diameter 85 mm. The bath is equipped with a stainless steel mixer with electrical motor power, a safety thermostat, drain cock and overflow drain pipe.

BK40M is equipped with a new PID microprocessor controller with a resolution up to 0.01 °C, setting of the standard of measurement in °C/°F, programming of ascent/descent ramps and storage of the thermostats' operative temperature.

The instrument is also equipped with an acquisition card having two adjustable inputs (Pt100 3/4 wires; thermocouples: J, K, N, R, S) with bushes fitted with gold-plated contacts and automatic compensation of the cold junction.

The first input is provided for the reference sample probe, thus obtaining a complete calibration system which can be certified by SIT centres, in compliance with ISO 9000 regulations.

The second input is provided for probes that are being tested; hence, the instrument can display the temperatures of the furnaces, the temperature of the sensor to be checked and of the reference sample probe, at the same time.

Furthermore, BK40M is equipped with the RS232 serial interface; it can operate in automatic mode connected to the PC by means of the AQ2SP software which enables to carry out probe calibrations and cyclical life tests; test results can be stored and printed, so they are easily traceable in compliance with ISO 9000 standards.

The BK40 M with the software AQ2sp for Windows can carry out:

- complete control of the bath from the PC,
- manual or automatic calibration of one or more probes,
- cyclic life or stress tests on temperature sensors,
- automatic threshold thermostat test,
- filing and printing of the results obtained, guaranteeing ISO 9000 standards

### FLUID LEVEL ADAPTER ( by request )

The fluid level adapter slides directly into the test wells of the BK40 M bath is designed for customers that needing to calibrate glass thermometers.

The fluid level adapter creates a positive bath fluid surface. The bath fluid is pumped up through the test well to the surface of the bath and kept there. In relation to the liquid viscosity the operator can regulate the level rotating the adapter tube.

The clear adapter cover protects the bath fluid from ambient temperature effects for better bath stability. The cover can be drilled for any size probe.

### STANDARD EQUIPMENT

- BK40 M : base version
- BK40 M/TR : version with fluid level adapter

### ACCESSORIES BY REQUEST

- 9 Kg tan of glycol
- 9 Kg tan of Silicon Oil 47 V20

### TECHNICAL DATA

(with mix of glycol / water)

<b>Operative range</b>	-40/+125°C
<b>Stability</b>	±0.05°C
<b>Display resolution</b>	0.01/0.1°C
<b>Reading accuracy</b>	±0.2°C a 120°C
<b>Ascent rate</b>	2°C min (-40/+50°C)
<b>Descent rate</b>	0.5°C min (30/-20°C)
<b>Power supply</b>	230 V - 50Hz.
<b>Power</b>	2500 W
<b>Weight</b>	60 Kg
<b>Size mm</b>	450 x 450 x 1300
<b>Shipping weight</b>	74 Kg

Operative range	Recommended fluid	Stability	Uniformity	Descent time
-40 ÷ 80 °C	Ethylene Glycol	±0.05 °C (a-20 °C)	±0.05 °C	0.4 °C/1'
-40 ÷ 125 °C	Silicone oil 47V20	±0.05 °C (a-20 °C)	±0.1 °C	1 °C/1'



### CERTIFICATION

All the instrument are supplied with final testing, stability and accuracy certification traceable to standards