LR-Cal

Portable Temperature Calibration Baths
FLUID 100, FLUID 200 and FLUID 200-H

MODELS / Temperature Ranges:
- **FLUID 100: from −12°C to +125°C** (at 20°C ambient temperature)
- **FLUID 200: from ambient temperature to +200°C**
- **FLUID 200-H: from ambient temperature to +220°C**
- **Mobile and stationary, ramp function, Thermostat tests**
- **Recommended for the calibration of glass thermometers**
- **OPTIONAL conversion kit to Dry Block temp. calibrator**

Typical applications:
- Test and calibration of all kind of thermometers
- Test and calibration of thermostats
- Computer aided calibration via RS232-interface

Technical Data:	FLUID 100 / 100-2I	FLUID 200 / 200-2I
Temperature range:	-12°C...+125°C (at ambient temperature +20°C)	Ambient temperature to +200°C FLUID 200-H: to 220°C
Temp. indication:	Accuracy: ±0.15°C; Resolution 0.01°/0.1° (°C or °F)	
Stability of the regulated temperature:	±0.02°C at −5°C	±0.02°C at 150°C
Mean heating time:	12°C per minute	10°C per minute
Mean cooling time:	5°C per minute	5°C per minute
Uniformity:	temperature uniformity: ±0.05°C (radial and vertical)	
Fluid:	Silicone oil 200C5	< 80°C: water < 125°C: silicone 200C5 < 220°C: silicone 47V100
Bath reservoir:	54 mm diam. depth 150 mm	54 mm diam. depth 150 mm
Power supply:	230 VAC / 50 Hz (optional 115 VAC / 60 Hz)	
Power consumption:	300 VA	500 VA
RS232 interface:	yes, included in standard supply	

Fluid bath: aluminum, volume appr. 400 cm³, homogeny temperature via magnet-mixer, adjustable. Housing: metall; dimensions: 160 x 340 x 330 mm; weight appr. 8 kg. Note: the stated accuracy is valid at ambient temperature +23°C and is guaranteed for 1 year.
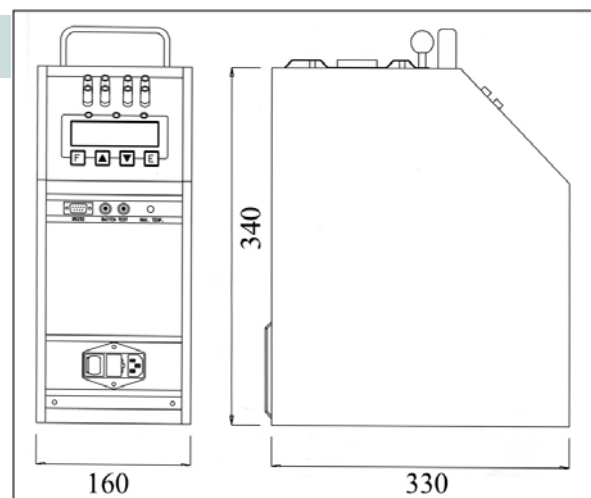
Scope of Supply:
- Calibrator Fluid 100 / 200 / 200-H
- Spare fuses kit
- Connection cables for thermostat-tests
- Certificate of Calibration, traceable
- Bottle 500 cm³ with silicone oil
- Support for glass thermometer

- Cables and kit of clamp connections (only "...-2I"-versions)
- Operating manual

- Closing top used for transport
- soft bag

Types FLUID 100-2I , FLUID 200-2I and FLUID-200-H-2I:

Two inputs for Pt100 and thermocouples, programmable:
- Pt 100 IEC 3-/4-wire, range -100/+700°C, accuracy ±0.3°C
- Thermocouple type J, range 0-1000°C, accuracy ±1°C
- Thermocouple type K/N/R/S, range 0-1300°C, accuracy ±1°C

DRUCK & TEMPERATUR Leitenberger GmbH
Bahnhofstr. 33 • D-72138 Kirchentellinsfurt • Germany
Tel.: +49 - 71 21 - 9 09 20 - 0 • Fax: +49 - 71 21 - 9 09 20 - 99
E-Mail: DT-Export@Leitenberger.de • http://www.druck-temperatur.de

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FLUID 100, FLUID 200 and FLUID 200-H**

Order-Codes:

FLUID 100:   Order-Code FLUID 100
FLUID 200:   Order-Code 508.0.000.0200.0
FLUID 200-H: Order-Code FLUID-H

FLUID 100-2I: Order-Code FLUID 100-2I
FLUID 200-2I: Order-Code 508.0.111.0200.0
FLUID 200-H-2I: Order-Code FLUID200-H-2I

Optional Accessories:

• External reference probe: Pt 100 Sensor, optional with DKD certification

• PC-Windows-Software **AQ2sp** with RS232 RS232 interface cable.
  With the AQ2sp software the FLUID can operate in automatic mode. The software enables
  to carry out probe calibrations, thermostat tests, and cyclical life tests. Test results can be
  stored and printed, so they are easily traceable in compliance with ISO 9000 standards.
  Order code: 599.0.000.0003.0

• **Extension tube** to increase the dept of the liquid tank of **FLUID 100** and **FLUID 100-2I**:
  Usable diameter: 60 mm; usable dept: 230 mm
  Minimum temperature: -9°C at 20°C ambient temperature.
  If used with silicone oil 200C5:

        Temperature range -9...+130°C at ambient temperature +20°C.
        Horizontal temperature uniformity: ±0.10°C (measured at 50 mm from the bottom).
        Vertical temperature uniformity: ±0.10°C (±0.15°C at temperatures
        below 0°C), over the dept of 150 mm from the bottom.
  Order code: FLUID 100-ER

• **Extension tube** to increase the dept of the liquid tank of **FLUID 200** and **FLUID 200-2I**:
  Usable diameter: 60 mm; usable dept: 230 mm
  If used with silicone oil 47V20:

        Temperature range 90...200°C at ambient temperature +20°C.
        Horizontal temperature uniformity: ±0.20°C (measured at 50 mm from the bottom).
        Vertical temperature uniformity: ±0.10°C, over the dept of 150 mm from the
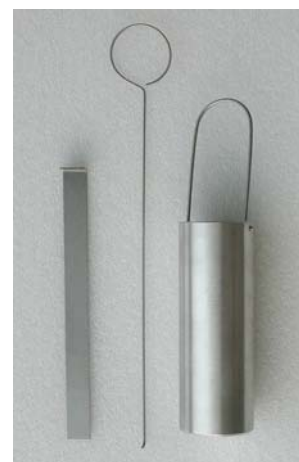   bottom.
  Order code: FLUID200-ER

• **Cooling coil** in stainless steel for **FLUID 200**, **FLUID 200-2I**, **FLUID 200-H** and **FLUID 200-H-2I**:
  The cooling coil shortens the cooling time, also the minimum calibration temperature can be
  decreesed.
  Order code: FLUID200-KS

• **Conversion kit** for fluid bath **FLUID** (all models) to get a **Dry Block Calibrator**
  Temperature range for models FLUID 100 and FLUID 100-2I: -10...+125°C
  Temperature range for models FLUID 200 and FLUID 200-2I: ambient temp. to +160°C
  Block in aluminum, diameter 60 mm, usable dept 170 mm.
  Heating time from -10 to +110°C: 45 minutes
  Cooling time from 20°C to -10°C: 47 minutes
  Stability: ±0.04°C
  Vertical temperature uniformity at 0°C ±0.03°C; at 80°C ±0.06°C.

  Order code: FLUID-INS-9:   Block with 9 holes / drilling
                                              4.0 - 4.0 - 4.5 - 5.5 - 6.5 - 6.5 - 8.5 - 10.5 - 12.5 mm

  Order code: FLUID-INS-0:   Block without holes (to be drilled by customer)

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