

Dry block temperature calibrator **LR-Cal** PYROS 140

- **LR-Cal** PYROS 140-1L: -26°C...+140°C, 1 block 19 mm
 - **LR-Cal** PYROS 140-2L: -26°C...+140°C, 2 blocks each 13 mm
- at +20°C ambient temperature

For testing and calibrating all types of temperature measuring devices, e.g. dial thermometers, temperature probes and sensors.

The portable metal block temperature calibrators **LR-Cal** PYROS 140 have been specially developed for simple and portable use on site.

Special emphasis was placed on a low overall weight and a special airflow system. This system does not discharge the hot exhaust air upwards, towards the test specimens, but backwards out of the housing. The housing is made of robust aluminum, many internal parts are made of stainless steel. Each **LR-Cal** PYROS 140 temperature calibrator is calibrated in the laboratory at the factory.

The thermal parts of the calibrators, i.e. the calibration temperature source, consist of a solid metal block that is heated or cooled with Peltier elements. There are one or more holes in the metal block for inserting the test specimens. Special insert sleeves offer further options for processing test specimens with different diameters.

Reduced reaction times during the heating and cooling phases and rapid stabilization lead to time savings in multi-point calibration processes.

Ramps can be programmed to simulate operating conditions with different temperatures.

The calibrator can be easily recalibrated (on 5 points) using the instruments keyboard, with referability to a temperature sample.

The large backlight LCD display (with particularly easy-to-read serif font) is easy to read both in direct sunlight and in dark environments. The display provides information about the temperature setpoint, the actual value and any activated functions and operating statuses.

Thanks to the many available inserts, the calibrators can be adapted to the calibration of temperature probes of most common diameters (see page 3). Inserts with special holes can also be ordered on request.



Technical data

	PYROS 140-1L	PYROS 140-2L
Temperature range	-26...+140°C = -14.8...+284°F	-26...+140°C = -14.8...+284°F
Display accuracy	±0.25°C at 100°C	±0.25°C at 100°C
Display resolution	0.1°	0.1°C
Display temperature units	°C + °F	°C + °F
Mean heating time (stabilization incl.) from ambient temperature...	...to 120°C - approx. 17 min.	...to 120°C - approx. 20 min.
Mean cooling time (incl. stabilization) to ambient temperature...	...from 120°C - approx. 15 min.	...from 120°C - approx. 17 min.
Stability (maximum temperature diff. at a stable temperature over 30 min.)	±0.1°C	±0.1°C
Axial temperature uniformity (at 40 mm from the bottom)	at -20°C ±0.10°C at 0°C ±0.05°C at 100°C ±0.10°C	at -20°C ±0.12°C at 0°C ±0.04°C at 100°C ±0.12°C
Radial temperature uniformity (at 40 mm from the bottom)	at 100°C ±0.05°C	at 100°C ±0.05°C
Block hole diameter	1 hole 19 mm diameter	2 holes, each 13 mm diam.
Block hole depth	104 mm	104 mm
Insert material	Aluminum alloy	Copper
Switchtest, voltage	On/Off, 12 VDC	On/Off, 12 VDC
Programmable ramp function	0.1...10°C/min.	0.1...10°C/min.
PC interface	RS232	RS232
Optional	with USB converter	with USB converter
Automatic calibration possible	on 5 points	on 5 points
Operation voltage	115/240 VAC ±10% 50/60 Hz	115/240 VAC ±10% 50/60 Hz
Electric power	80 W	80 W
Case dimensions	130 x 260 x 280 mm	130 x 260 x 280 mm
Weight incl. standard accessories	5.5 kg	5.5 kg



All specifications apply at ambient temperature +20°C.

Diameter of the sensors used to determine the data: 3 mm

Scope of standard delivery

- Power supply cable
- Tweezer for removing inserts
- Kit of spare fuses
- Connection cable for switch/thermostat tests
- Operating manual
- Test report (accuracy and performance)

additionally with **LR-Cal PYROS 140-1L**:

- 1 insert with 4 holes 6.4 + 6.4 + 4.8 + 3.3 mm diameter (Order-Code **PYROS-140-1L-INS-4**)
- 1 Insert without holes, blank, for self-drilling (Order-Code **PYROS-140-1L-INS-0**)

additionally with **LR-Cal PYROS 140-2L**:

- 1 insert with 1 hole 4.8 mm diameter (Order-Code **PYROS-140-2L-INS-048**)
- 1 Insert with 1 hole 6.4 mm diameter (Order-Code **PYROS-140-2L-INS-064**)

Optional accessories

- Order-Code **PYROS-TASCHE**: **Carrying bag**, dimensions 380 x 160 x 310 mm, weight approx. 0,95 kg
Practical and robust bag with two side pockets for inserts, a front pocket for documents, shoulder strap. Particularly lightweight. It is suitable for transporting and protecting of the calibrator with its inserts.
- Order-Code **PYROS-KOFFER**: **Sturdy case**, dimensions 560 x 430 x 210 mm, weight approx. 5,5 kg
Functional and robust waterproof and dustproof ABS transport case with seals for use in marine and harsh environmental conditions. EPM foam with recesses to hold the calibrator, inserts and documentation. Compensation valve for the difference between internal and external ambient pressure. Locking hook and eyelet for inserting a padlock.
- Sleeve inserts: see page 3.



Sleeve inserts (additional and/or replacement)

for LR-Cal PYROS 140-1L

- 1 insert without holes (blank, for self-drilling)
- 1 insert with 4 holes 3.3 + 4.8 + 6.4 + 6.4 mm

Order-Code

- PYROS-140-1L-INS-0**
- PYROS-140-1L-INS-4**

for LR-Cal PYROS 140-2L

- 1 insert without holes (blank, for self-drilling)
- 1 insert with 1 hole 3.2 mm
- 1 insert with 1 hole 4.0 mm
- 1 insert with 1 hole 4.8 mm
- 1 insert with 1 hole 6.4 mm
- 1 insert with 1 hole 7.9 mm
- 1 insert with 1 hole 9.5 mm
- 1 insert with 1 hole 11.1 mm
- 1 insert with 1 hole as per customers request

Order-Code

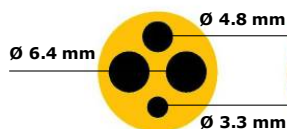
- PYROS-140-2L-INS-0**
- PYROS-140-2L-INS-032**
- PYROS-140-2L-INS-040**
- PYROS-140-2L-INS-048**
- PYROS-140-2L-INS-064**
- PYROS-140-2L-INS-079**
- PYROS-140-2L-INS-095**
- PYROS-140-2L-INS-111**
- PYROS-140-2L-INS-KW**



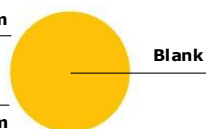
LR-Cal PYROS 140-1L inserts:
with 1 block (aluminum), 19 mm diam.

LR-Cal PYROS 140-2L inserts:
with 2 blocks (copper), each 13 mm diam.
Distance between the two drilling holes: 20 mm

PYROS-140-1L-INS-4

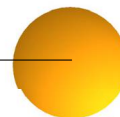


PYROS-140-1L-INS-0



PYROS-140-2L-INS-0

Blank

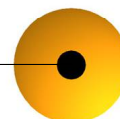


PYROS-140-2L-INS-064



PYROS-140-2L-INS-032

Ø 3.2 mm
Ø 1/8"



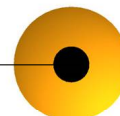
PYROS-140-2L-INS-079

Ø 7.9 mm
Ø 5/16"



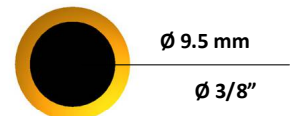
PYROS-140-2L-INS-40

Ø 4.0 mm
Ø 5/32"



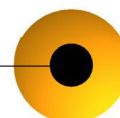
PYROS-140-2L-INS-095

Ø 9.5 mm
Ø 3/8"



PYROS-140-2L-INS-048

Ø 4.8 mm
Ø 3/16"



PYROS-140-2L-INS-111

Ø 11.1 mm
Ø 7/16"



Blue = Order-Code
Red = included in scope of
standard delivery