

## Dry block temperature calibrators with DNV approval

- **LR-Cal PYROS 375-DNV:** +30°C...+375°C
- **LR-Cal PYROS 650-DNV:** +35°C...+650°C  
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 375-DNV** and **LR-Cal PYROS 650-DNV** have been specially developed for simple and portable use on site.

Special emphasis was placed on a low overall weight.

The housing is made of robust aluminum, many internal parts are made of stainless steel.

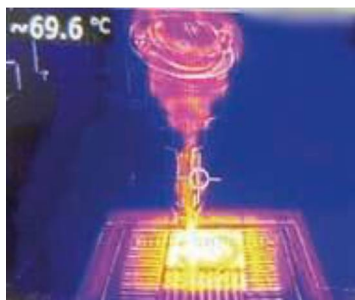
Each **LR-Cal PYROS 375-DNV** and **LR-Cal PYROS 650-DNV** temperature calibrator is calibrated in the laboratory at the factory.

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

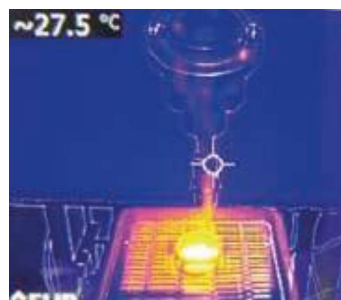
Reduced reaction times during the heating and cooling phases and rapid stabilization lead to time savings in multi-point calibration processes.

An innovative ventilation system on the device makes it possible to keep the temperature on the top of the calibrator lower than on devices from other manufacturers.

### Thermographic images taken at 650°C:



Other manufacturers



LR-Cal PYROS 650-DNV

Left image:

Temperature at the connection head of the test specimen approx. 69.6°C

Right-hand image:

Temperature at the connection head of the test specimen approx. 27.5°C

This system does not discharge the hot exhaust air upwards, towards the test specimens, but backwards out of the housing.

As a result, the connection head of the test specimen with the electrical connections is exposed to a significantly reduced temperature and possible temperature compensation errors are significantly reduced.

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

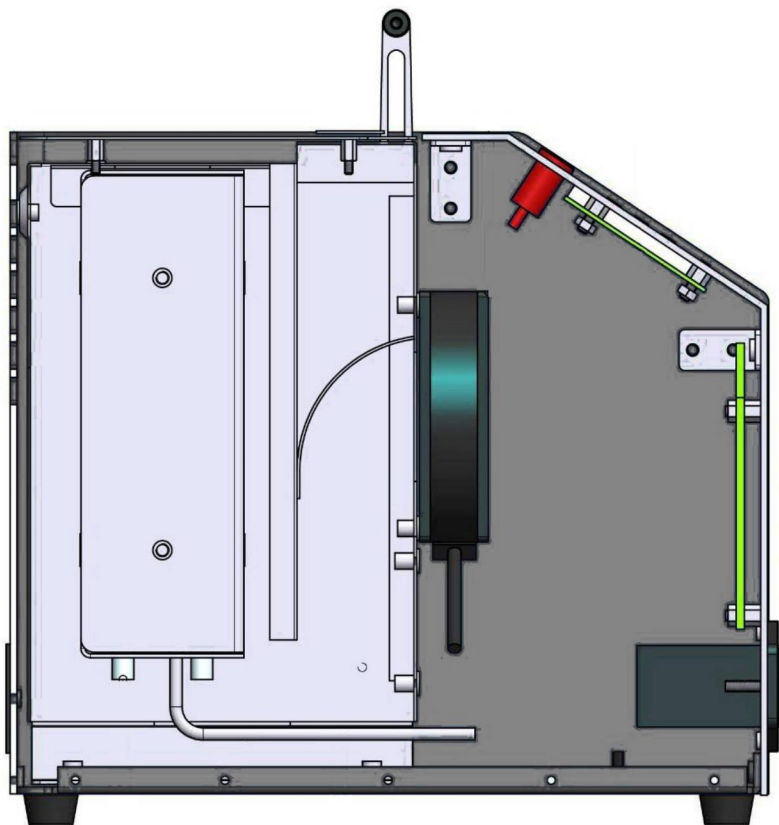
The calibrator can be easily recalibrated (on 5 points) using the instruments keyboard, with referability to a temperature sample.

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

	LR-Cal PYROS 375-DNV	LR-Cal PYROS 650-DNV
Temperature range	+30...+375°C = +86...+707°F	+35...+650°C = +95...+1202°F
Display accuracy	±0.35°C at 375°C	±0.5°C at 600°C
Display resolution	0.1°	0.1°C
Temperature units (selectable)	°C + °F	°C + °F
Mean heating time (incl. stabilization) from ambient temperature...	...to 375°C - approx. 15 min.	...to 650°C - approx. 40 min.
Mean cooling time (incl. stabilization)	from 375°C to 50°C approx. 60 min.	from 650°C to 100°C approx. 70 min.
Stability (max. temperature difference at a stable temperature over 30 min.)	±0.1°C	±0.3°C
Axial temperature uniformity (measured 40 mm from bottom)	at 50°C ±0.02°C at 200°C ±0.2°C at 375°C ±0.4°C	at 250°C ±0.6°C at 450°C ±0.5°C at 650°C ±0.5°C
Radial temperature uniformity (measured 40 mm from bottom)	at 200°C ±0.1°C at 375°C ±0.2°C	at 450°C ±0.15°C at 650°C ±0.6°C
Hole diameter	26 mm	26 mm
Hole depth	150 mm	150 mm
Insert material	Anticorodal (aluminum-alloy)	Nickel-plated brass
Switch/Thermostat Test, Voltage	On/Off, 5 VDC	On/Off, 5 VDC
Adjustable ramp function	0.1...10°C/min.	0.1...10°C/min.
Computer interface	RS232	RS232
Optional	with USB converter	with USB converter
Automatic calibration possible	on 5 points	on 5 points
Operating voltage	115/240 VAC ±10% 50/60 Hz	115/240 VAC ±10% 50/60 Hz
Electric power	600 W	600 W
Case dimensions	130 x 260 x 280 mm	130 x 260 x 280 mm
Weight incl. standard accessories	5.32 kg	6.5 kg



All specifications apply at ambient temperature +20°C.

Diameter of the sensors used to determine the data:  
LR-Cal PYROS 375-DNV: 3 mm  
LR-Cal PYROS 650-DNV: 6 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 375-DNV**:

- 1 Insert with 4 holes 3.2 + 4.8 + 6.4 + 11.1 mm diameter (Order-Code **PYROS-375-INS-4**)

additionally with bei **LR-Cal PYROS 650-DNV**:

- 1 Insert with 4 holes 3.2 + 5.0 + 7.0 + 10.5 mm diameter (Order-Code **PYROS-650-INS-4**)

## 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 4.



**Sleeve inserts** (additional and/or replacement)

for <b>LR-Cal</b> PYROS 375-DNV	Order-Code
1 Insert without hole, blank, for self-drilling	<b>PYROS-375-INS-0</b>
1 Insert with 4 holes 3.2 + 4.8 + 6.4 + 11.1 mm *)	<b>PYROS-375-INS-4</b>
1 Insert with 2 holes 6.4 + 12.7 mm	<b>PYROS-650-INS-2</b>

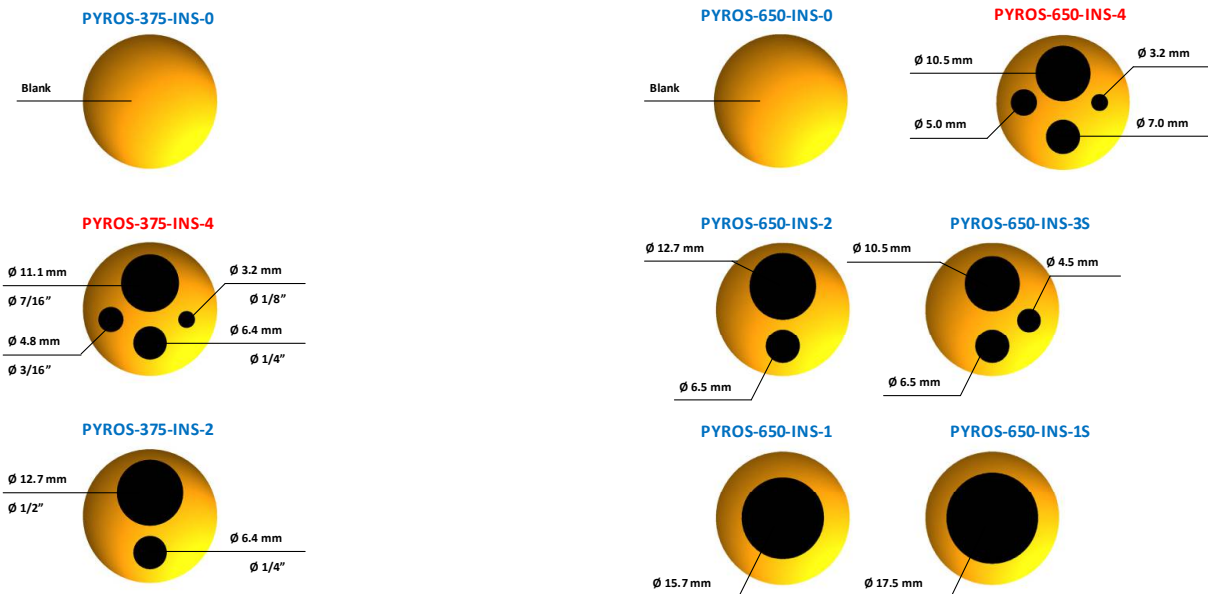
for <b>LR-Cal</b> PYROS 650-DNV	Order-Code
1 Insert without hole, blank, for self-drilling	<b>PYROS-650-INS-0</b>
1 Insert with 2 holes 6.5 + 12.7 mm	<b>PYROS-650-INS-2</b>
1 Insert with 3 holes 4.5 + 6.5 + 10.5 mm	<b>PYROS-650-INS-3S</b>
1 Insert with 4 holes 3.2 + 5.0 + 7.0 + 10.5 mm *)	<b>PYROS-650-INS-4</b>
1 Insert with 1 hole 15.7 mm	<b>PYROS-650-INS-1</b>
1 Insert with 1 hole 17.5 mm	<b>PYROS-650-INS-1S</b>

\*) 1 x included in standard delivery of the instrument

**LR-Cal** PYROS 375-DNV inserts:



**LR-Cal** PYROS 650-DNV inserts:



**Blue** = Order-Code  
**Red** = included in standard delivery of the instrument