

**HUKX**

Sensor  
Technology

Brochure  
Calibration reference cylinders

**CRC series**

# CRC series

## Calibration reference cylinders

for thermal needle probes TP02/TP08, TP07, and TP09

CRC's contain traceable thermal conductivity reference materials for calibration of Non-Steady-State Probes. There are several different CRC types. The geometry of the different types is adapted to fit needles with a certain diameter.

The heart of the CRC cylinders is a specially manufactured amorphous plastic reference material (5). Contrary to other plastics, this material does not have any directionally dependent thermal properties. In the plastic material a hole is drilled (4), with the approximate outer dimensions (ND Needle Diameter and IL Insertion Length) of the needle that needs to be calibrated.

The plastic material is incorporated in a metal protection casing (2). A plug (7) is provided for sealing purposes.

In order to guarantee perfect contact between needle (1) and reference material (5), the metal casing is filled with a fluid, glycerol (3).

An additional hole (6) is provided in order to be able to perform checks of material stability with thin needle probes.

The user is recommended to send the CRC to Hukx for a check of material stability every 5 years.

Figure 1 CRC series calibration reference cylinders



## More information/options

Hukx is a leading supplier of Non-Steady-State Probes, and is the inventor of the CRC calibration method.

NOTE: As a low-cost (lower accuracy) alternative reference material Hukx promotes use of glycerol filled with plastic fiber material. This is delivered as a standard with most Hukx systems.

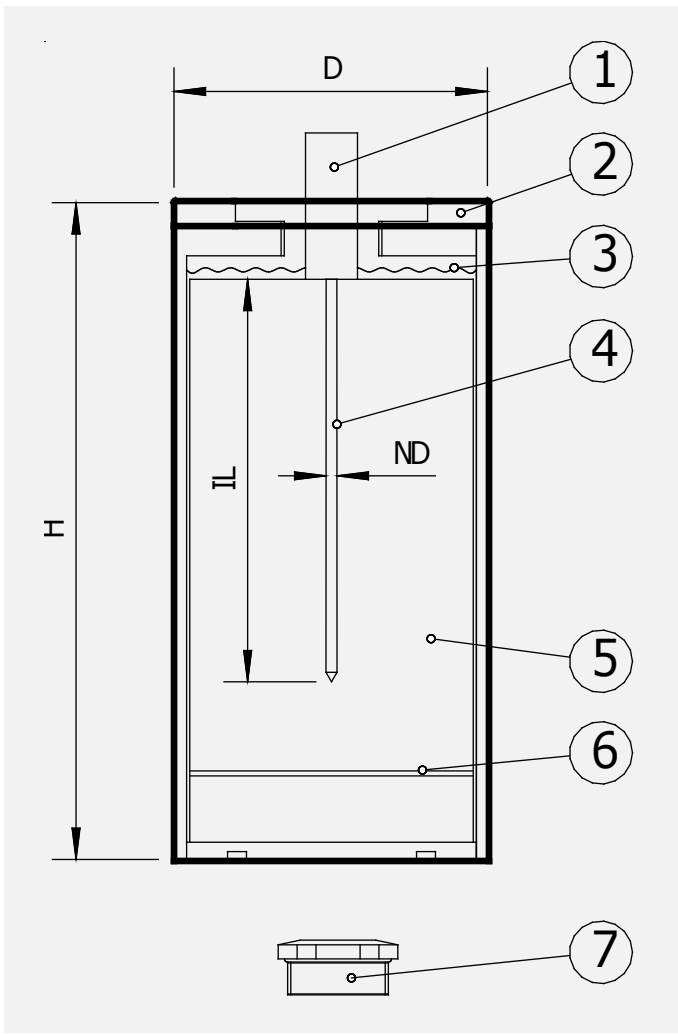


Figure 2 Generalized picture of CRC Calibration Reference Cylinder. Explanation can be found under the introduction.

Table 1 CRC cylinder types and their application

type	dimensions	suitability for needle types
CRC01	H = 260 D = 100 IL = 185 - 30 ND = 1.6	TP02, TP08
CRC04	H = 206 D = 100 IL = 137 - 6 ND = 3.6	TP07
CRC05	H = 260 D = 100 IL = 190 - 12 ND = 6.6	TP09

## CRC series specifications

### General specifications

test method	ASTM D 5334-00 and D 5930-97 IEEE Std 442-1981
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temperature range	0 to 60 °C
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thermal conductivity of reference	0.2 W/(m·K) (nominal value)
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traceability	to NPL National Physical Laboratory, United Kingdom
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## About Hukx

Hukx is the leading innovator in solar radiation and heat flux sensor technology. We are proud to set the standard in high-accuracy measurement, and to be working at the heart of the energy transition.

Customers worldwide rely on our bestselling pyranometers and heat flux sensors. From sensor design and selection to supply and recalibration, we support you across the entire lifecycle.

Hukx is headquartered in the Netherlands, with locally owned representative sales offices in the USA, Brazil, India, China, Southeast Asia, and Japan.

Let us help you select the best sensor for your application. Get in touch with our experts today via: [info@hukx.com](mailto:info@hukx.com)

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Version 2504

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