



**Figure 1**  
generalised picture of CRC Calibration  
Reference Cylinder. Explanation can be found  
under the introduction.

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

**Table 1**  
CRC cylinder types and their application

## 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.*

### INTRODUCTION

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 Hukseflux for a check of material stability every 5 years.

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

### CRC SERIES SPECIFICATIONS

Test method:	ASTM D 5334-00 and D 5930-97 IEEE Std 442-1981
Temperature range:	0 to 60 degrees C
Thermal conductivity of reference:	0.2 W/mK (nominal value)
Traceability:	to NPL National Physical Laboratory, United Kingdom