

# ValProbe™ Temperature Calibration

*Wireless, precise, reliable... GE Kaye*

## FEATURES

- Wide operating range covers most common application requirements
- Stability to  $\pm 0.005^{\circ}\text{C}$
- Rapid cool down from ambient to  $-40^{\circ}\text{C}$
- Very low noise
- Operates on standard line voltage
- Modest footprint with floor cart available for portability
- Quick drain spout simplifies fluid change

### CTR-40

The CTR-40 is a portable temperature bath designed to meet the calibration and validation needs of the ValProbe system. Combined with the Intelligent RTD (IRTD) and ValProbe software, the CTR-40 provides pre- and post-study verifications as well as ValProbe temperature sensor calibration.

The advanced design combines excellent temperature stability and uniformity with a broad temperature range ( $-40$  to  $150^{\circ}\text{C}$ ) to address most ValProbe applications. The generous 2.4 gallon (9 liter) tank and specially designed ValProbe immersion basket accommodate up to 8 ValProbe loggers, making calibration or verification a quick and easy process.

The portable tabletop design easily fits onto a benchtop without consuming precious space. An optional floor cart, with locking casters, raises the unit to a convenient operating height and allows easy transport within your facility.

### Intelligent RTD Standard

The IRTD Temperature Standard (IRTD 400) is a NIST-traceable instrument calibrated from  $-195$  to  $420^{\circ}\text{C}$  with  $0.025^{\circ}\text{C}$  accuracy over the entire range. This completely self-contained measurement system serves as the secondary standard providing traceability for ValProbe calibration or verification. By interfacing with the ValProbe software, the IRTD 400 eliminates the potential for human error, assuring accurate and traceable measurements.



ValProbe immersion basket shown with IRTD Standard (not included).



**GE Kaye**

# ValProbe Temperature Calibration

## CTR -40

Specifications	
<b>Temperature Range:</b>	-40 to 150°C
<b>Ambient Operating Range:</b>	15 to 25°C (59 to 77°F)
<b>Set-Point Accuracy:</b>	0.5°C
<b>Temperature Stability:</b>	± 0.005°C at -40°C ± 0.005°C at 25°C ± 0.007°C at 150°C
<b>Temperature Uniformity:</b>	± 0.01°C
<b>Typical Cool-Down Time:</b>	25 to -40°C 110 min
<b>Access Opening:</b>	94mm x 172mm (3.7" x 6.8") w/positions for IRTD and up to 8 ValProbe loggers w/immersion basket
<b>Display:</b>	LED w/0.01 (°C or °F) display resolution
<b>Computer Interface:</b>	RS-232
<b>Dimensions:</b>	<b>Off Cart:</b> 584 x 305 x 622mm (23"H x 12"W x 24.5"D) <b>On Cart:</b> 819 x 305 x 622mm (32.25"H x 12"W x 24.5"D)
<b>Volume:</b>	9 liters (2.4 gal.)
<b>Recommended Bath Fluids:</b>	-40 to 130°C: Silicone oil type 200 (5 centistoke viscosity) -30 to 150°C: Silicone oil type 200 (10 centistoke viscosity)
<b>Weight:</b>	32kg (78 lbs)
<b>Power:</b>	115VAC 60Hz, 16A or 230VAC 50Hz, 8A 1700 Watts
<b>Fault Protection:</b>	Over temp limits (user settable), low voltage cutout, automatic refrigeration, turn off electrical fuse

## IRTD 400

Specifications	
<b>Temperature Range:</b>	-195 to 420°C
<b>Accuracy Over Range<sup>1</sup>:</b>	0.025°C
<b>Resolution:</b>	0.001°C
<b>Sensor Element:</b>	200 Ohm Platinum RTD sensor
<b>Sheath Material:</b>	Inconel 600
<b>Immersion Depth (Minimum):</b>	101.6mm (4")
<b>Calibration<sup>2</sup>:</b>	Traceable to NIST, DKD calibrated (Europe); recommended calibration period is one year
<b>Power to Probe:</b>	Unregulated DC, 10 to 25V; first probe: 850mW at 15V; each additional probe: 550mW
<b>Power Supply<sup>3</sup>:</b>	Adapter: 110 VAC U.S.-style, or 230 VAC VDE-approved
<b>Measurement Rate:</b>	1 reading per second
<b>Environmental:</b>	Ambient temperature range: 0 to 60°C (32 to 140°F) Humidity 0 to 95% non-condensing
<b>Dimensions:</b>	Overall length: 603mm (23.75") Grip: 89mm x 32mm (3.5" x 1.25") Sensor sheath: 457mm x 6.35mm (18" x 0.25")

<sup>1</sup>Accurate for one year, 0 to 60°C ambient. Includes calibration certificate with traceability to NIST.

<sup>2</sup>GE Kaye provides a recertification service for calibrating the Temperature Standard.

<sup>3</sup>Power supply is not required for use with the ValProbe system.



IRTD Temperature Standard



GE Kaye

### World Headquarters

GE Kaye Instruments, Inc.  
101 Billerica Avenue  
Building 7  
North Billerica, MA 01862  
tel: 978 262 0005  
fax: 978 439 8181  
email: kaye@ge.com

### European Headquarters

GE Kaye Europe  
Sinsheimer Strasse 6  
D-75179 Pforzheim, Germany  
tel: +49 (0) 7231 14335 0  
fax: +49 (0) 7231 14335 29  
email: kaye-europe@indsys.ge.com

gekaye.com

© Copyright 2003 GE Kaye Instruments, Inc. Subject to change without notice.

PUB 713, REV 1.3 APRIL 03 3M