ME30 Blackbody Calibration Source

Specifications

Aperture dimension:	60 mm diameter	
Cavity length:	300 mm	
Emissivity:	0.9994 ± 0.0002	
Bath volume:	1.35 l	
Bath fluids:		
	Water/Glycol mixture (1:1):	40 °C to 100 °C
	Water/Glycol mixture (1:1): with external chiller	-20 °C to 100 °C
	Silicone oil AR20 Salben	40 °C to 250 °C
	Silicone oil AP200 stab	90 °C to 350 °C
Controller:	Eurotherm 2408	
	including a basic 8-segment-programmer	
	and a RS232 (optional RS485) Interface	
Temperature monitoring:	JUMO eTRON M	
Controller adjustability:	0.1 °C	
Controller oscillations:	0.03 °C to 0.1 °C	
Ambient operating range:	15 °C to 35 °C	
Maximum altitude:	< 2000 m o. NHN	
IP-rating:	IP 20	
Heat-up time:	approx. 1 h	
Storage temperature:	- 40 °C to 70 °C	
Humidity:	max. 90 % not condensing	
Power:	1000 W	
Voltage:	230 V ± 10 %	
Weight:	20 kg	
Dimension:	L 492 mm x W 210 mm x H 412 mm	

Temperature non uniformity Δt at a cavity depth of **200 mm to 300 mm**
-20 °C to 100 °C: ΔT < 0.1 °C; 100 °C to 200 °C: ΔT < 0.3 °C; 200 °C to 350 °C: ΔT < 0.5 °C

Temperature non uniformity Δt at a cavity depth of **30 mm to 300 mm**
-20 °C to 100 °C: ΔT < 0.1 °C; 100 °C to 200 °C: ΔT < 0.5 °C; 200 °C to 350 °C: ΔT < 0.8 °C

Standard uncertainty u of the radiation temperature at a cavity depth of **200 mm to 300 mm**
Calibration with RTD Pt100 calibrated by a certified laboratory (in Germany: DAkkS)
-20 °C to 100 °C: u = 0.15 °C; 100 °C to 200 °C: u = 0.35 °C; 200 °C to 350 °C: u = 0.7 °C

Standard uncertainty u of the radiation temperature at a cavity depth of **200 mm to 300 mm**
Calibration with a HEITRONICS Transfer Radiation Thermometer (TRT)
-20 °C to 100 °C: u ≤ 0.15 °C; 100 °C to 200 °C: u ≤ 0.3 °C; 200 °C to 350 °C: u ≤ 0.6 °C

Uncertainty will increase when areas of the cavity below 200 mm will be measured during calibration.