# HTB

## High Temperature Blackbodies


**Fig. 1. Photo of the HTB-25D-1000 blackbody (with optional rotary wheel )**

**BASIC INFORMATION:**

The HTB Series blackbodies are high temperature, cavity blackbodies of temperature range up to 1200ºC. The blackbodies are characterized by a relatively large aperture of 25 mm of the emitting cavity of near perfect emissivity. Blackbody emitters are built using a concept of cavity of closed end cylinder. The blackbodies offer high emissivity in ultra wide spectral band from 0.4 µm to over 30 µm. This wide spectral band makes possible to use HTB blackbodies as standard radiation sources in both in range from visible band to LWIR band. The HTB blackbodies can be controlled directly from internal keyboard or remotely from PC using standard USB port.

There are many high temperature blackbodies on international market. However, real performance of many of these blackbodies is below declared specifications. In contrast, HTB is a mature product of Inframet that of true performance not worse that in specifications presented in next section. It should be also emphasized that Inframet offers a long series of ultra high performance blackbodies. Finally, Inframet can deliver know-how to use effectively these blackbodies not only as typical temperature standards but also as irradiance/radiance standards.

**SPECIFICATIONS**

| Parameter | HTB-25D-1000 | HTB-25D-1200 |
|---|---|---|
| Emitting aperture | 25 mm | |
| Emissivity | >0.995 | |
| Temperature range | 100-1050°C | 100-1200°C |
| Temperature resolution | 0.1°C | 0.1°C – for <1000°C<br>1°C for >1000°C |
| Temperature uncertainty | 0.25%+1°C | |
| Temperature* stability | 0.5 °C (short-term)<br>0.8 °C (long term) | 1 °C (short-term)<br>1.5°C (long term) |
| Warm up time | <50 min | <80 min |
| Optional rotary wheel with slots for pinhole apertures | Yes, 6 slots | |
| Available apertures (only with optional wheel) | 6 exchangeable pinhole apertures: 1, 2, 4, 10, 15, 20, and fully open hole 25 mm | |
| Computer control | USB | |
| Power | 230V (110V option) | |
| Mass | 23 kg | |

*Measurement at 800°C

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**OPIONS**

HTB blackbodies can be optionally equipped with a manual rotary wheel that enables easy rotation of a set of pinhole targets of different diameter. This option enables to regulate irradiation of tested detector by the blackbody and to convert blackbody to a irradiance standard.

In contrast to many commercial blackbodies the wheel and targets are designed in a way to keep their thermal radiation at minimal negligible level. This feature singificantly increases accuracy of detector tests. Please add letters RW to blackbody code to order the rotary wheel with set of pinhole apertures.

*specifications are subject to change without prior notice

Version 3.5

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