

BMED

Reference medical blackbody

BASIC INFORMATION:

BMED blackbody is a special blackbody dedicated for all those applications where accurate simulation of human body temperature is required. Emitter of this blackbody is coated with high emissive surface – same emissivity as human skin. Temperature of emitter can be precisely regulated to achieve desired temperature – close to body temperature.

BMED blackbody is targeted to be used as external reference blackbody of fever screening thermographs (infrared imaging systems used as a tool for human febrile temperature screening).

BMED blackbody significantly exceed requirements of the standard ISO/IEC 80601-2-59:2017 Particular requirements for the basic safety and essential performance of screening thermographs for human febrile temperature screening.

SPECIFICATION:

Parameter	Value
Aperture	Square 75×75 mm
Simulated temperature range	Minimal +5°C (from ambient) Maximal +40°C (absolute)
Emissivity	0,980 ± 0,005
Set point and resolution	0,01°C
Total temperature uncertainty	0,04°C
Temperature uniformity (temperature spatial uncertainty)	0,03°C
Regulation stability	± 0,03°C
Computer control	No – for standard BMED Yes, RS485 – for BMED-C
Power supply	110-230VAC 50/60Hz
Power consumption	Maximal consumption < 80W Average consumption < 35W
Stage mount	UNC 1/4-20
Mass	1,9 kg

**specifications are subject to change without prior notice*



Fig. 1. Photo of BMED blackbody

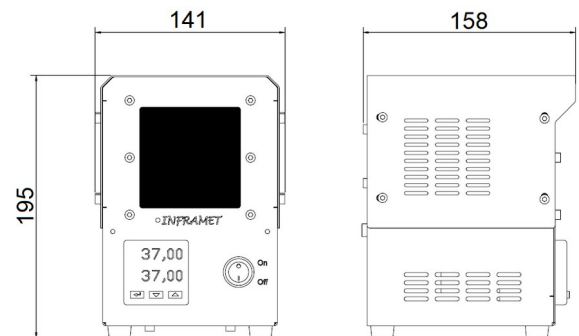


Fig. 2. Dimensions of BMED blackbody

WHY BMED BLACKBODY?

There is many blackbodies on the market able to simulate temperature close to human body temperature. However, Inframet offers BMED blackbody as ultra performance reference human temperature source that is characterized by the best resolution, uniformity, and measurement uncertainty comparing to typical blackbodies met on the market. It should be remembered that display temperature resolution of typical blackbody is 0,1°C when BMED offers 0,01°C; typical regulation stability is about ± 0,2°C when BMED offers ± 0,03°C. Next, the emissivity of BMED blackbody equals to 0.98 that is the same values emissivity of human skin (confirmed by scientific papers). There is the same situation with other parameters. All these features make BMED blackbody the best choice blackbody in medical applications.

OPTIONS

Optional BMED-C version can be controlled remotely using a serial interface in RS-485 standard, with implemented asynchronous communication protocol MODBUS RTU (Socket DB-9 Male pinout). Maximum length of transmission line is about 1000m (depends on cable quality). Control can be done by customer software using communication protocol or Inframet computer program.

Version 1.7

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