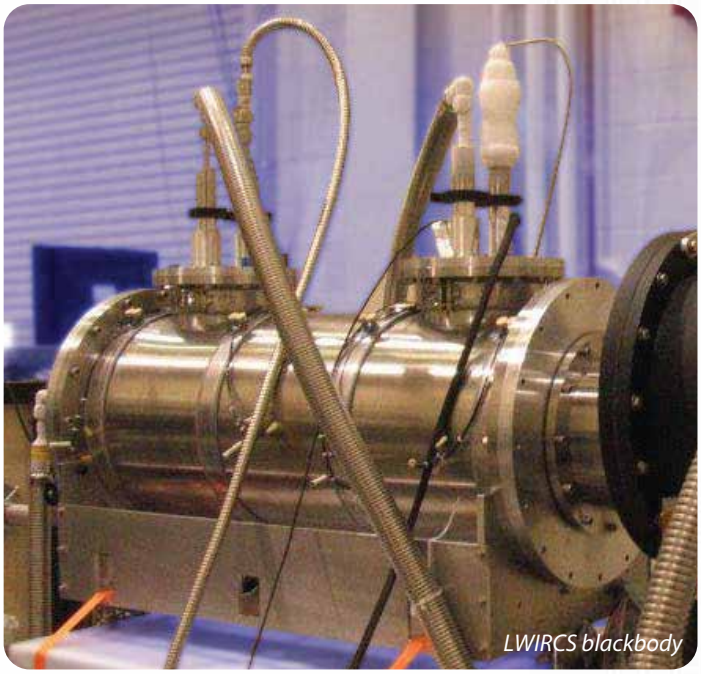
SDL/10-333C

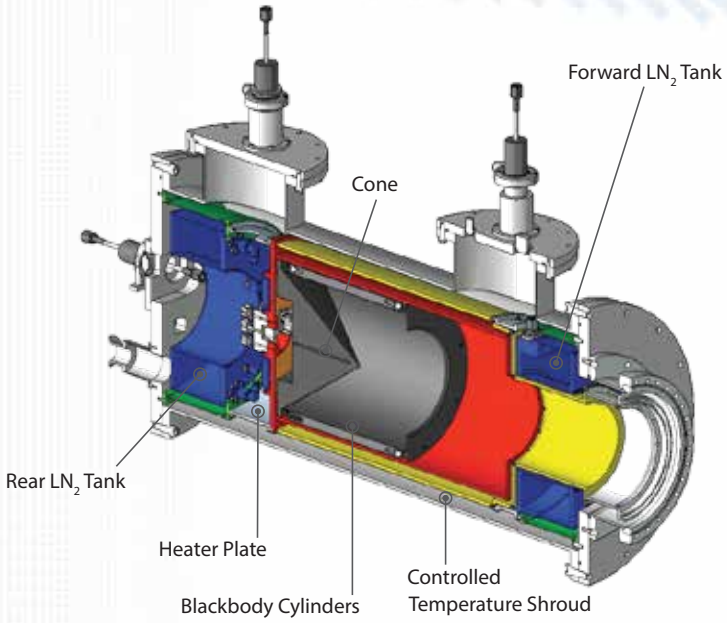
B L A C K B O D Y

LWIRCS

LONG WAVE INFRARED CALIBRATION SOURCE



LWIRCS blackbody



LWIRCS is a long-wavelength infrared calibration source. Originally built for the Far-Infrared Spectroscopy of the Troposphere (FIRST) program, it has been enhanced and is certified as SDL's secondary NIST radiance standard. LWIRCS was calibrated at the National Institute of Standards and Technology using the NIST Absolute Cryogenic Radiometer (ACR). It has been used for infrared sensor calibration programs including testing of the NIST Thermal-infrared Transfer Radiometer (TXR) at at the Space Dynamics Laboratory.

SPECIFICATIONS

OPTICAL

BLACKBODY CONE *(DIAMETER / HEIGHT)*	10″ / 7.5″
BLACKBODY CYLINDER *(LENGTH)*	12″
EXIT APERTURE	6″
SPECTRAL RANGE	1 to 100 µm
NORMAL EMISSIVITY *(1-15 µm)*	0.9999 or better
NORMAL EMISSIVITY *(15-35 µm)*	0.9998 or better
NORMAL EMISSIVITY *(35-100 µm)*	0.9980 or better

THERMAL CONTROL

NIST TRACEABLE PRTs	8
THERMISTORS	2
CONTROL TEMPERATURE RANGE	100 – 350 K
TIME TO COOL & STABILIZE	<15 hrs
TIME TO HEAT & STABILIZE *(NEAR 150 K)*	~2 hrs
TIME TO HEAT & STABILIZE *(NEAR 300 K)*	~3 hrs

Multi-level cryogenic cooling to minimize thermal gradients

MECHANICAL

OUTSIDE LENGTH	40″
OUTSIDE DIAMETER OF ISO 400 TUBE	16″

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