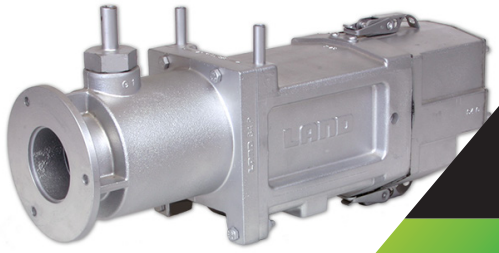
FURNACE GAS TEMPERATURE - CDB



GAS TEMPERATURE MEASUREMENT IN BOILERS AND INCINERATORS

400 to 1800 °C / 752 to 3272 °F

LAND
AMETEK®

QUALITY CUSTOMER SOLUTIONS

FURNACE GAS TEMPERATURE - CDB

GAS TEMPERATURE MEASUREMENT IN BOILERS AND INCINERATORS

AMETEK LAND HAS BEEN MANUFACTURING PRECISION MEASURING EQUIPMENT SINCE 1947.

WE ARE SPECIALISTS IN NON-CONTACT TEMPERATURE MEASUREMENT AND COMBUSTION MONITORING WITH APPLICATIONS ACROSS DIVERSE INDUSTRIES SUCH AS STEEL AND GLASS MAKING, POWER GENERATION AND CEMENT MANUFACTURE.

As part of AMETEK Process & Analytical Instruments Division since 2006, our customers benefit from the worldwide AMETEK sales and service team.

The CDB thermometer is optimised to accurately measure the true gas temperature in boilers and incinerators using AMETEK Land's unique non-contact infrared technology.

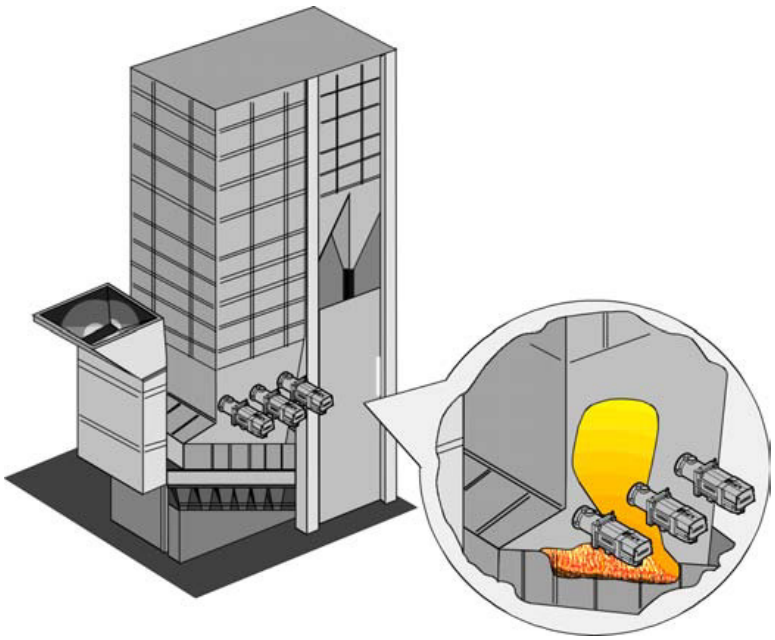
CDB 'sees' through a cold ambient atmosphere to measure the main combustion product, hot carbon dioxide. With advanced spectral filtering of CO_2, CDB provides a true gas temperature for exceptional control - improving both process safety and process efficiency.

Installed at a boiler or incinerator, the thermometer works non-contact, 24/7, with its sight path extending above the furnace bed. With a two-wire loop connection and standard 4-20 mA signal output for easy connectivity, CDB ensures no interference with the process, ensuring an accurate measurement and high reliability.

Originally designed for measuring gas temperature in incineration processes like waste, biomass and others, the CDB can also be used to measure furnace exit gas temperature in power generation and industrial processing applications, provided the path length is sufficient.

The CDB thermometer is AMETEK Land's non-contact solution for measuring gas temperature in furnace processes.

TYPICAL APPLICATION

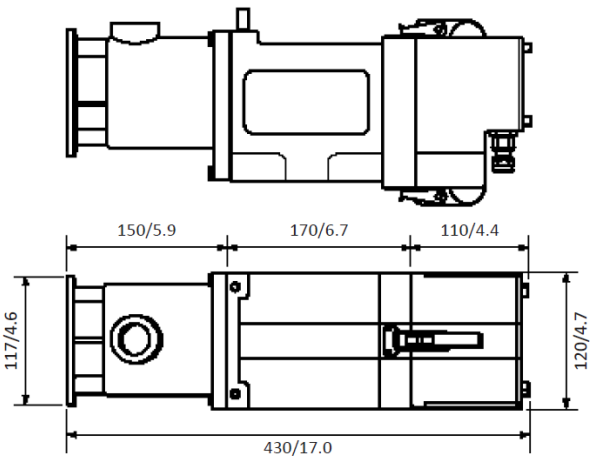


Example: Waste Incinerator

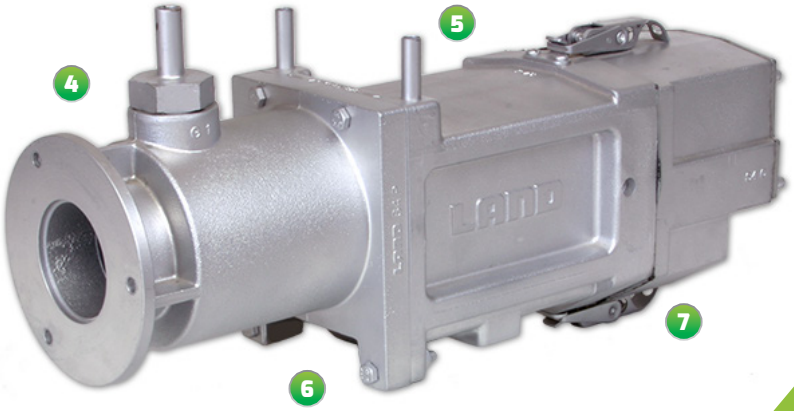
MOUNTINGS & ACCESSORIES

A range of optional accessories is available to securely install and protect the thermometer at the optimum position on the process.

Dimensions in mm/in



Heavy industrial protection and cooling enclosure.



SPECIFICATION & DESIGN

1: TRUE GAS TEPMERATURE

CDB measures the true temperature of hot flue gases and ignores interferences from ambient air and the furnace walls.

2: WIDE TEMPERATURE RANGE

Measures temperatures from 400 to 1800 °C / 752 to 3272 °F.

3: ACCURATE RESULTS

Measurement uncertainty < 0.5% over most of the measurement range.

4: LONG PENETRATION DEPTH

Measurement is averaged over a length of several metres within the furnace.

5: TWO-WIRE CONNECTION

Operates on a two-wire, 4 to 20 mA loop-powered connection.

6: FLEXIBLE CONFIGURATION

Measures gas temperature within the radiant section and furnace exit gas temperature (FEGT).

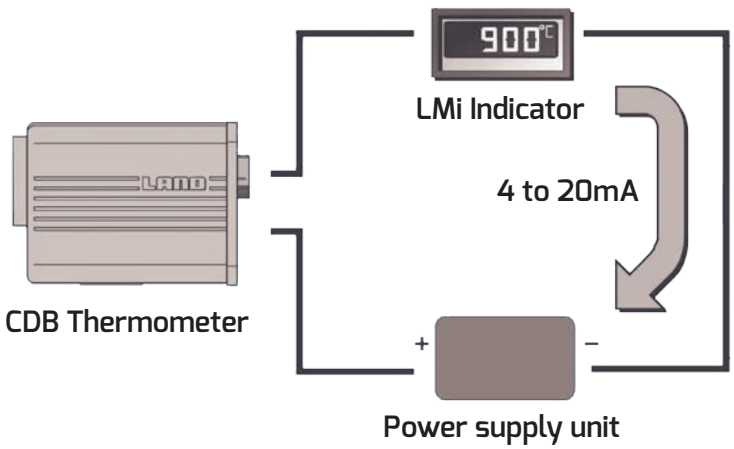
7: EASY TO INSTALL

A versatile adjustable mounting assembly, complete with quick release adapter and air purge, provides ease of installation and removal for inspection purposes.

TYPICAL APPLICATIONS

Waste Incinerators	Biomass Boilers
Coal Boilers	Industrial Processing

SCHEMATIC DIAGRAM



FEATURES & BENEFITS

RESILIENT AND ACCURATE MEASUREMENT - Insensitive to the presence of gases other than hot carbon dioxide, CDB delivers a highly stable, true gas temperature.

COMPATIBLE WITH SYSTEM 4 ACCESSORIES - CDB fits the standard AMETEK Land System 4 mounting accessories, air-cooled or water-cooled protection jackets, and air-purged sighting tube. This means there are no compatibility issues when using these attachments, which provide excellent protection in harsh environments.

MINIMAL MAINTENANCE REQUIRED - Fitted externally, the thermometer sight path extends into the incinerator atmosphere to a depth which depends on atmospheric conditions. This ensures no interaction with the combustion process and reduces maintenance requirements for the thermometer.

MEASURES FURNACE EXIT GAS TEMPERATURE (FEGT) This is a key parameter for boiler operation and optimisation.

FURNACE GAS TEMPERATURE - CDB

GAS TEMPERATURE MEASUREMENT IN BOILERS AND INCINERATORS

SPECIFICATIONS

Range:	400 to 1800 °C / 752 to 3272 °F
Field of View:	Parallel beam <20 mm diameter to 900 mm / 35 in
Output:	4 to 20 mA linear (2-wire loop connection)
Response Time:	1 to 10 seconds adjustable
Emissivity Adjustment:	0.1 to 1.09 in steps of 0.01
Resolution:	<0.5 °C / 1 °F
Accuracy:	0.5 %K or 5 °C 0.5 %K or 9 °F (Whichever is higher)
Ambient Temp Limits:	5 to 50 °C / 41 to 122 °F
Drift with Ambient Temp:	<2° per 10° ambient change
Drift with Time:	<1 °C / 2 °F per year
Power Supply:	11 to 45 V d.c.
Sealing:	To IP65 / NEMA4X requirements
CE:	EN 50-082-2 (immunity), EN 50-081-1 (emission), IEC 1010 (safety)
Vibration:	3 g to 10 to 300 Hz

AMECARE® PERFORMANCE SERVICES

AMETEK Land's AMECare Performance Services ensure peak performance and maximum return on investment over the life of your equipment.

We will deliver this by:

- Proactively maintaining your equipment to maximise availability.
- Optimising solutions to meet your unique applications.
- Enhancing user skills by providing access to product and application experts.

AMETEK Land's global service network provides unparalleled after-sales services to ensure you get the best performance and value from your AMETEK Land products. Our dedicated service centre teams and on-site engineers are trained to deliver the highest standard of commissioning, maintenance and after-sales support.

MWIR-BORESCOPE-640 BROCHURE

NIR-BORESCOPE THERMAL IMAGING SYSTEMS OVERVIEW

LAND AMETEK®

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We are fully committed to Quality Assurance. See all our accreditations at AMETEK-LAND.COM/QUALITY