

Modular Gold Cup

Reference Pyrometer for tube furnaces

The LAND gold cup probe is a non-contact thermometer specifically designed for reference measurements in fired heaters in the hydrocarbon processing industry. It has a highly reflective gold hemisphere which is held against the tube. This has two functions: it blocks any background radiation from hotter objects and enhances the effective emissivity of the tube. The gold coating traps the infrared energy emitted by the tube and effectively creates a black body cavity, with a small aperture through which the radiation can be measured. In these conditions, the emissivity is close to the theoretical maximum of 1.00. Black body condition combined with the lack of background radiation removes the two largest uncertainties in non-contact infrared temperature measurements. This technology has been tried and tested by LAND over many years.

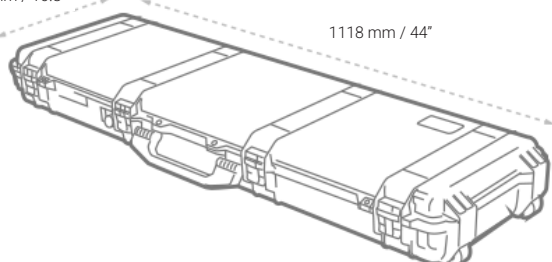
The modular gold cup repackages this technology in a convenient new probe which has been designed in collaboration with industry experts. It allows the probe to be assembled into different configurations for different furnaces and it can be disassembled into a compact industrial case for easy shipping. The complete system weighs less than 32 kg so it can be transported on most commercial airlines.

Once assembled into the required configuration, the modular gold cup is connected to a cooling air supply and inserted through a port into the furnace. Additional cooling is applied once the probe has been removed from the furnace to allow a quicker cool down before taking the next reading.

426 mm / 16.8"

1118 mm / 44"

202 mm / 7.9"



Grant Jacobson - BECHT

FEATURES & BENEFITS

- **Unique reference:** No other measurement device can provide the true temperature reading delivered by Gold Cup. Conventional infrared temperature measurements depend on accurate emissivity determination and compensation for the furnace environment. Gold Cup's innovative technology cancels out these factors.
- **Portable & Configurable:** The probe can be transported easily in its peli case and can be made into whichever length or configuration best suits the application
- **Improves your process:** By increasing the accuracy of other non-contact devices, it helps make your fired heater operations more efficient while also extending tube life.
- **Reduces errors:** The Gold Cup provides reference readings that enable the correction of non-contact temperature measurement instruments. It cancels out the inherent errors typically found within other infrared thermometers.

See degrees differently.

GOLD CUP SPECIFICATION SHEET

SPECIFICATIONS

	Gold Cup
Spectral Response:	1.6 μm
Output:	LCD Display 300 to 1300 °C (572 to 2372 °F)
Response time:	0.5 s
Resolution:	0.1 °C / 1 °F
Repeatability:	1 °C / 2 °F
Absolute accuracy:	<0.25% °C + 2 °C
Ambient temp limits (HDU):	0 to 50 °C/32 to 122 °F
Thermo module temp limits: As displayed on HDU (note: this is only updated on HDU when trigger button is pressed)	0 to 55 °C/32 to 131 °F
Power Requirement:	1 x 9 V PP3 battery
Maximum cooling air pressure:	8 bar (g)
Cooling connections:	1/2" BSP/NPT Inlet connections
Air flow rate (Continuous):	1000 l/min at STP
Additional airflow for rapid cooling when the probe is outside the process:	500 l/min at STP
Sealing:	IP54
Included Accessories:	Rubberised Handheld Display Unit Case
Options	
Cooling control panel inc hoses:	Contact LAND for Details
UKAS Calibration:	Contact LAND for Details
Max Straight operating length Modular Gold Cup - 90/180:	1.8 m
Max Straight operating length Modular Gold Cup - Straight:	3.0 m

CONTACT US

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