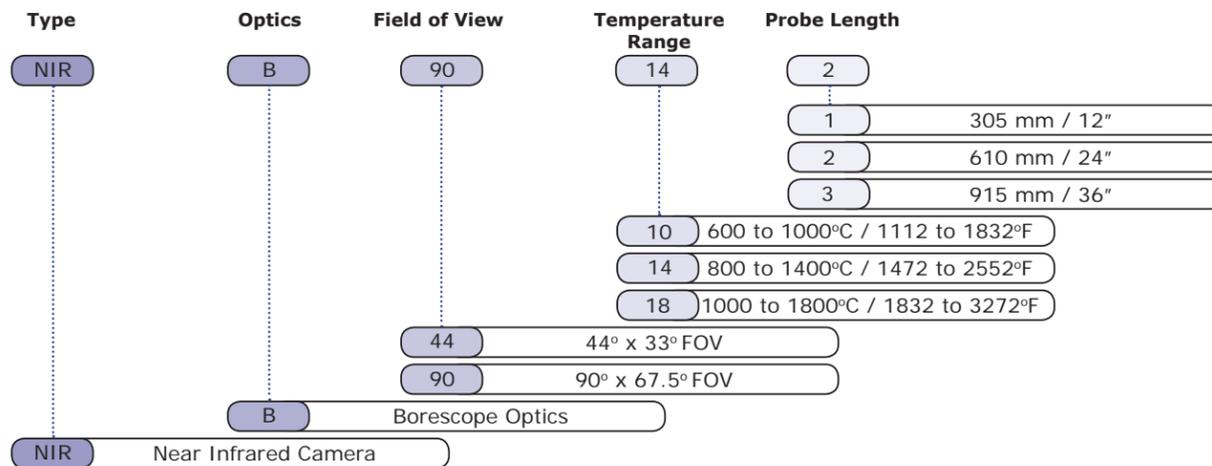


Specifications - NIR BORESCOPE

Measurement range:	600 to 1800 °C / 1112 to 3272 °F (3 models over this range)
Spectral Response:	0.85 to 1.05 µm
Frame Rate:	30fps (Gigabit Ethernet)
Image Pixels:	656 x 494
Accuracy:	1%
Sealing:	IP 65 / NEMA 4
Repeatability:	<10C
Data out:	Digital data over Gigabit Ethernet (M12)
Software:	Complete Land Image Processing Software (LIPS) package for PC
Standard accessories:	Power supply, cables, software, close up lenses, water cooled/purged mounting and tube
Optional accessories:	Retraction system
Field of View (Horizontal):	44° x 33° or 90° x 67.5°
Instantaneous Field of View:	1.2 mrad (44°)/2.4 mrad (90°)
Focus Range:	1000mm to infinity
Probe Length:	305, 610 or 915 mm (12", 24" or 36")
Probe Diameter:	54 mm (2.125")
Mountings:	Choice of 3in ANSI Flange & Gasket & PN16 DN80 Flange & Gasket with a 12" standpipe
Dimensions:	254 x 560 x 810 mm* (* or 1120 or 1420 mm) 10" x 22" x 32" ** (** or 44" or 56")
Power Rating:	24 V dc, 3 watts
Weight:	15kg (for 2' variant)

Product Configurations



LAND

Non-Contact Temperature Measurement Solutions

Land Instruments International Ltd • Dronfield S18 1DJ • England
Email: land.infrared@ametek.co.uk • www.landinst.com • Tel: +44 (0) 1246 417691 • Fax: +44 (0) 1246 410585

AMETEK Land, Inc. • 150 Freeport Road • Pittsburgh, PA 15238 • U.S.A.
Email: irsales@ametek.com • www.ametek-land.com • Tel: +1 (412) 826 4444 • Fax: +1 (412) 826 4460

For a full list of international offices, please visit www.landinst.com

AMETEK
PROCESS & ANALYTICAL INSTRUMENTS



Applies in the UK

Applies in the USA

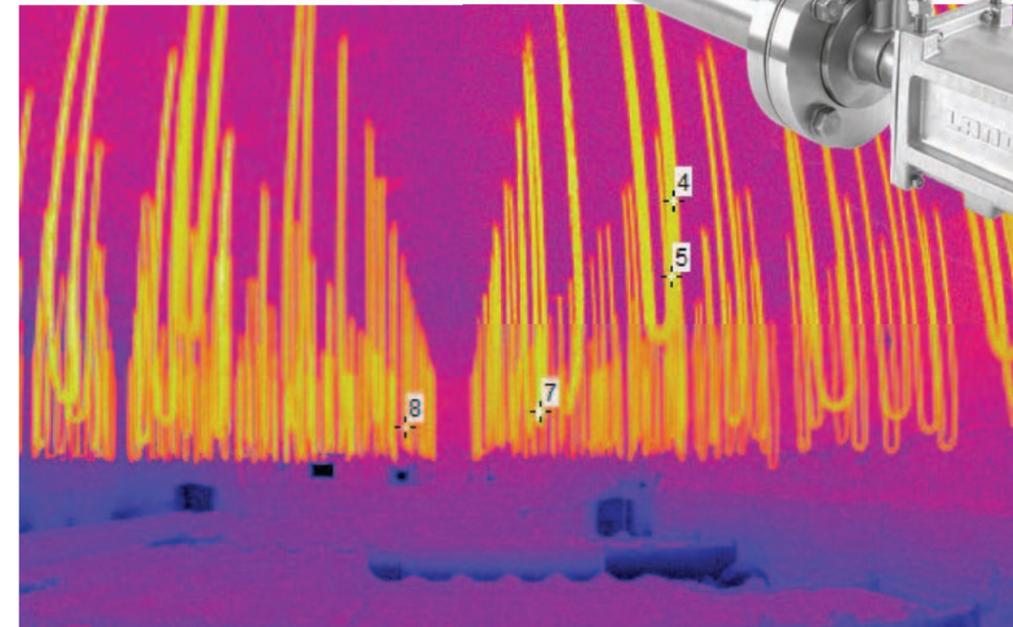
LAND

600-1800°C

1112-3272°F

Thermal Imaging Solutions for Furnaces, Glass Melt Tanks and Kilns

NIR Borescope



AMETEK
PROCESS & ANALYTICAL INSTRUMENTS

NIR Borescope

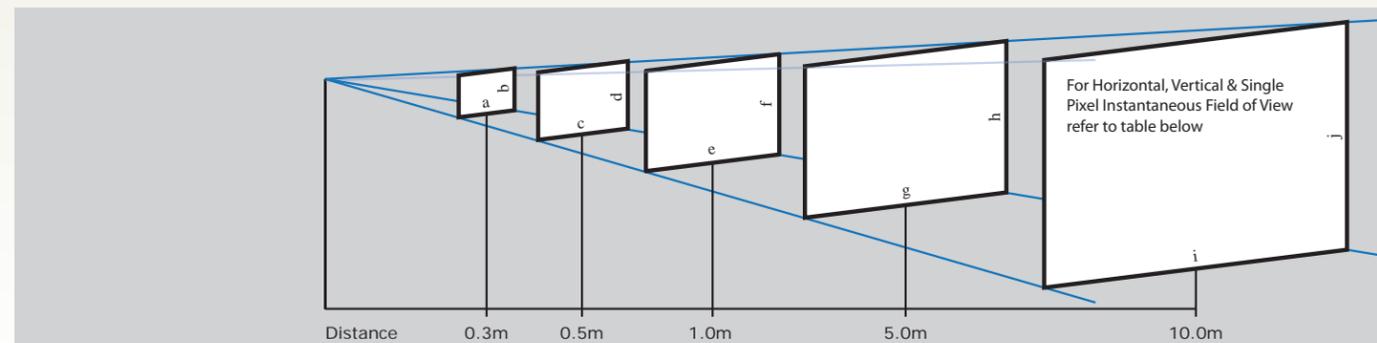
What is the NIR Borescope?

The NIR Borescope (NIR-b) is a short wavelength radiometric infrared borescope imaging camera, designed to produce high definition (656 x 494 pixel) thermal images, along with providing accurate temperature measurement from any point in the image. The camera can measure temperatures in the range 600 to 1800°C (1112 to 3272°F) and is suitable for a wide range of furnace interior applications.

What advantages does the Borescope have?

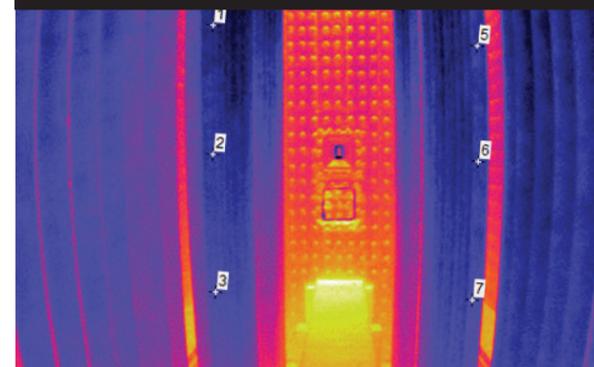
Building on more than twenty years experience with infrared technology Land has continued to widen its range of temperature measurement solutions by launching the NIR Borescope. With the NIR Borescope it is possible to use the proven technology of NIR Thermal Imager to accurately profile the temperature of the entire furnace

Field of View for Lens Options



	0.3m			0.5m			1.0m			5.0m			10.0m		
	a	b	IFOV	c	d	IFOV	e	f	IFOV	g	h	IFOV	i	j	IFOV
44°	0.25m	0.19m	0.35mm	0.4m	0.3m	0.59mm	0.81m	0.61m	1.17mm	4.0m	3.0m	5.85mm	8.1m	6.0m	11.7mm
90°	0.60m	0.45m	0.72mm	1.0m	0.75m	1.2mm	2.00m	1.50m	2.4mm	10.0m	7.5m	12.0mm	20.0m	15.0m	23.9mm

View of Reformer Tube with datapoints



Typical Applications

- ◆ Reheat Furnace
- ◆ Reformer Tube Furnaces
- ◆ Glass Melt Tanks
- ◆ Cement Kilns

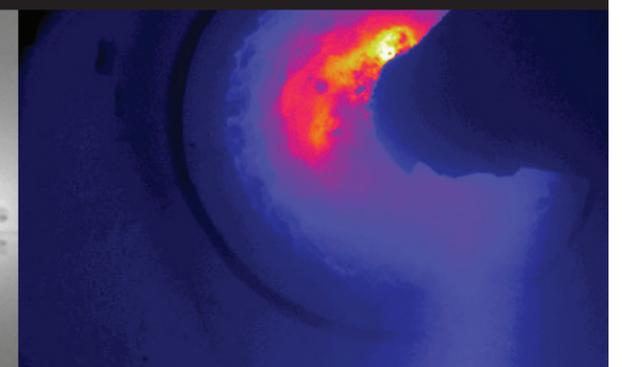
Thermal view inside a Reheat Furnace



Glass Melt Tanks



Inside a Cement Kiln showing the Burning zone



Features and Benefits

24 Hour, 7 Day Monitoring

Shutterless operation guarantees accurate, reliable data with no blind time

High Performance Water Cooling System

The low water flow requirements for our cooling system, even in the highest temperature furnaces, equal low running costs

Range of Mounting Options

The most common mounting options available to ensure simple installation

Thermocouple at NIR-b Tip

Giving the operator an alarm for removing the instrument preventing damage if maximum temperatures are exceeded

Integrated Air Purge

Our air purge design maintains a dust-free optical system while consuming minimal instrument air

Probe Lengths

The range of the probe lengths create the best fit for every installation

Viewing Angle

44° or 90° angle provides full furnace or tank internal thermal view. 656 x 494 resolution gives 324,000 data points

- ◆ **High temperature measurement accuracy** - enables optimum process control using high definition temperature maps
- ◆ **Simple installation and ease of use** - minimizes cost and complexity
- ◆ **Short wavelength sensor** - low sensitivity to emissivity changes; can be used through glass or quartz view ports
- ◆ **Dedicated software** - data points, areas of interest, automated alarms and long term data trending
- ◆ **Export License Free** - rapid, hassle-free shipping
- ◆ **2 Year Warranty** - guarantee of reliability