

AMETEK LAND RETRACTION SYSTEMS FOR FURNACE THERMAL IMAGERS

THERMAL IMAGING SOLUTIONS



FOR NIR-B-656/-2K | NIR-B-640 | MWIR-B-640



LAND
AMETEK®



QUALITY CUSTOMER SOLUTIONS

AMETEK LAND RETRACTION SYSTEMS FOR FURNACE THERMAL IMAGERS

AMETEK LAND HAS BEEN MANUFACTURING PRECISION MEASURING EQUIPMENT SINCE 1947.

We are specialists in non-contact temperature measurement and combustion monitoring with our products finding applications across diverse industries such as steel and glass making, power generation, cement manufacture and hydrocarbon processing.

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

The furnace thermal imager series by AMETEK Lands offers a range of camera systems with advanced spectral responses and temperature ranges from 300 to 2000 °C (572 to 3632 °F). These systems can be equipped with either water cooling and air purging or air cooling and air purging, tailored to suit specific application requirements.

In the case of cooling or purge flow loss, the available camera retraction systems are engineered to automatically retract and safeguard the thermal imager, preventing overheating or damage.

WATER-COOLED & AIR-PURGED SYSTEM#

For furnace temperatures 300 to 2000 °C (572 to 3632 °F)



AIR-COOLED & AIR-PURGED SYSTEM#

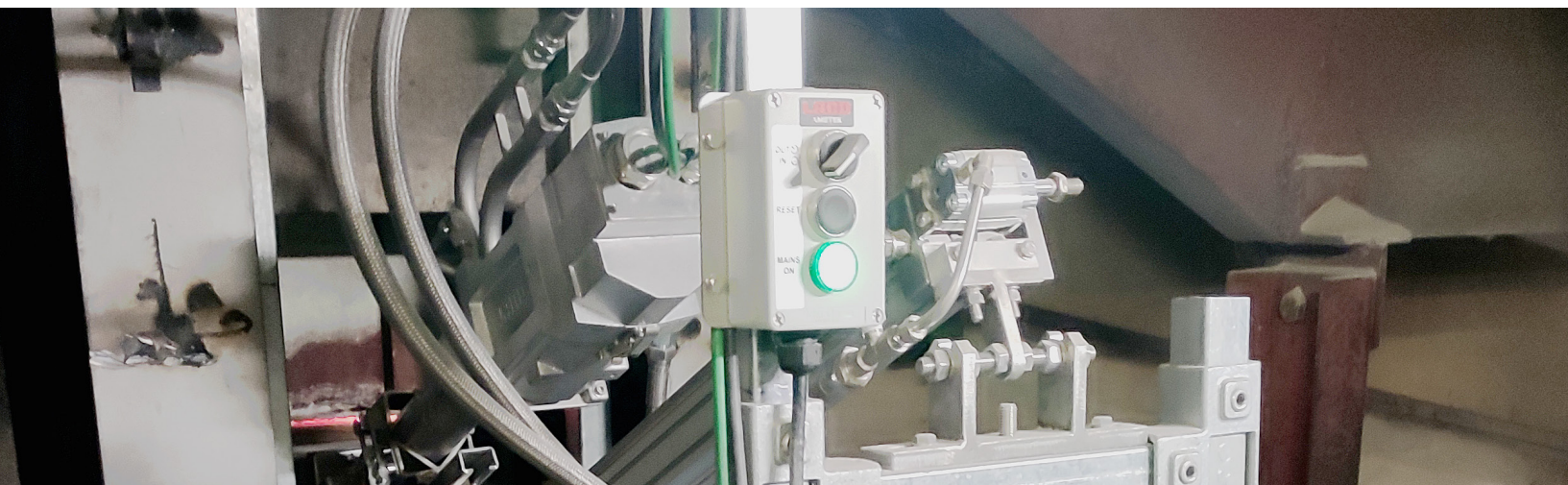
For furnace temperatures up to 1200 °C / 2192 °F*



Electrical power supply needed

*For higher furnace temperatures please contact AMETEK Land

As components of a comprehensive furnace imaging system or as standalone accessories or replacements, AMETEK Land offers complete auto-retraction systems, available in either pressured air or electrically driven configurations.



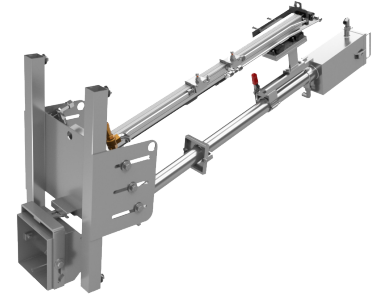
AMETEK LAND RETRACTION SYSTEMS FOR FURNACE THERMAL IMAGERS

RETRACTION SYSTEMS OVERVIEW

EAR

LPAR

PAR



Electrical
Auto-Retraktion
System

AMETEK Land
Pneumatic
Auto-Retraktion System

Pneumatic
Auto-Retraktion
System

Basic
system

**Recommended retraction
system option**

Retraction system
for use at
Glass Furnaces only

Electrical & battery driven
Auto-Retraktion system

LAND Pneumatic & air
driven Auto-Retraktion
system with or without
framing

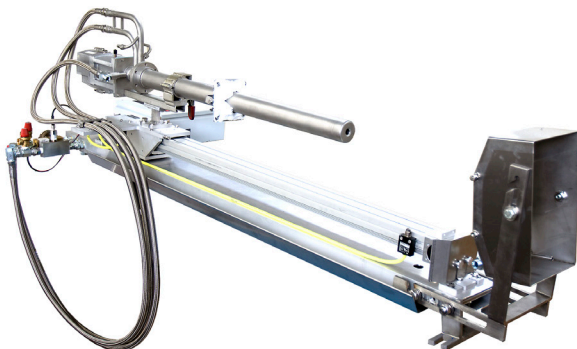
Pneumatic & air driven
Auto-Retraktion system
with or without framing.

To be used with:
NIR-B-640
NIR-B-656/-2K
MWIR-B-640
NIR-B-2K-GLASS
(2 or 3 ft. Probe length)

To be used with:
NIR-B-640
NIR-B-656/-2K
MWIR-B-640
NIR-B-2K-GLASS
(2 or 3 ft. Probe length)

To be used with:
NIR-B-656/-2K-GLASS
(3 ft. Probe length)

EAR – ELECTRICAL AUTO-RETRACTION SYSTEM



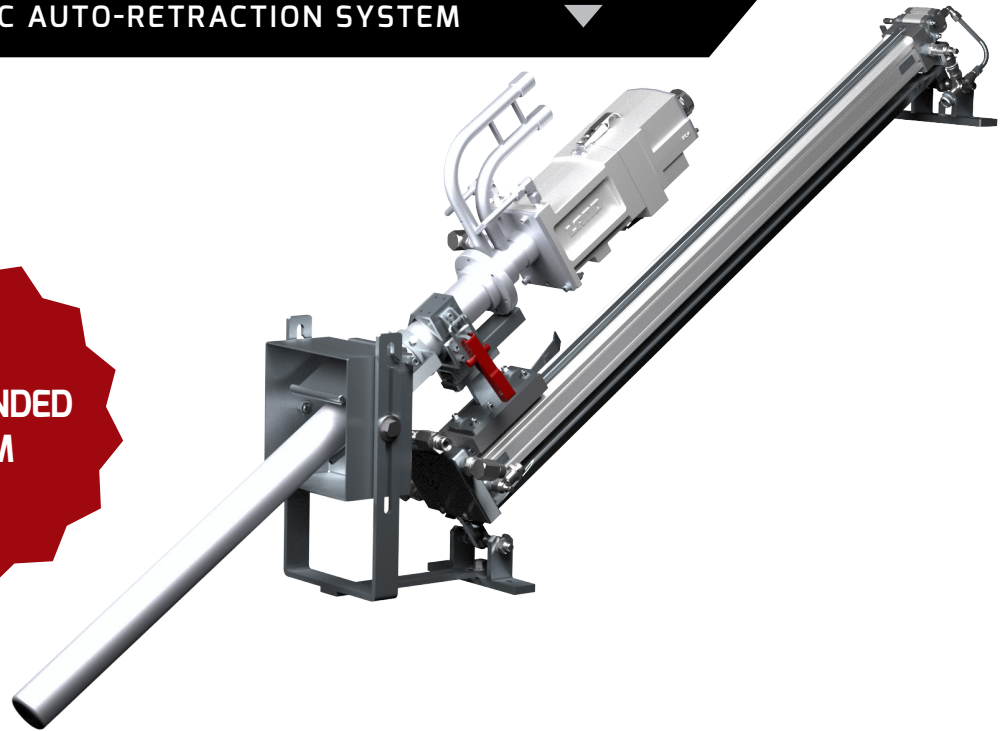
The AMETEK Land Electrical Auto-Retraktion System is designed specifically for environments where pressurised air is the sole option for purging. It integrates a battery to guarantee safe retraction in case of air flow loss, power supply interruption, or a high borescope tip temperature alarm.

Please contact AMETEK Land for the best choice for auto-retraction systems.

AMETEK LAND RETRACTION SYSTEMS FOR FURNACE THERMAL IMAGERS

LPAR – LAND PNEUMATIC AUTO-RETRACTION SYSTEM

**RECOMMENDED
SYSTEM**



The AMETEK Land Pneumatic Auto-Retraction System is the preferred choice for all applications, as it operates using pressured air and electricity alone. It seamlessly integrates with both water-cooled and air-cooled furnace camera systems, making it suitable for a wide range of furnaces and applications. Engineered to endure the most challenging industrial environments, it reliably operates 24/7.

The LPAR can be supplied as part of a complete furnace camera system or as an upgrade to existing systems lacking a retraction mechanism. While the LPAR system comes fully equipped, the frame assembly can either be provided by the customer or included as an accessory from AMETEK Land.

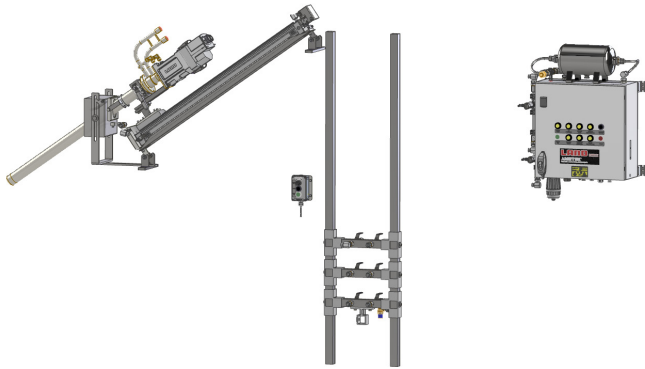
The LPAR system will remove the instrument from the process if:

- Mains Power is lost
- Air pressure to cylinder is lost
- Cooling air or water flow to the system drops below requirements, or exceeds media temperature limits
- Purge Flow to the system drops below requirements, or exceeds media temperature limits
- The borescope lens system temperature reaches its alarm level
- Camera temperature exceeds limit (NIR-B 656 & NIR-B-2k only)
- Manual retract is initiated

CONFIGURATIONS

Standard System

New system installation



System Includes:

- Retraction System
- Camera, Housing & cables
- IMAGEPro

System Options

Cable Lengths

- 25 m
- 50 m

Housing Cooling

- Water
- Air

Imager Types

- NIR-B-656
- NIR-B-2k
- NIR-B-2k-Glass
- NIR-B-640
- MWIR-B-640

Camera & Housing Lengths

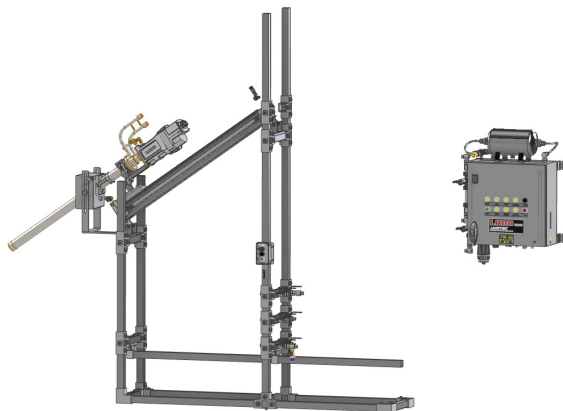
- 2 ft
- 3 ft

Example Part Number:

816075 NIR-B-2K-1000/1800C-95/3-25-LPARW

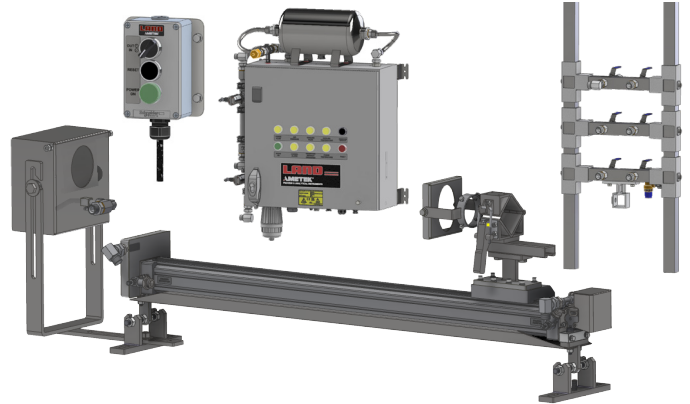
Standard with Frame

816085 Universal Mounting Frame as separate line item



Upgrade System

To upgrade an existing furnace camera installation



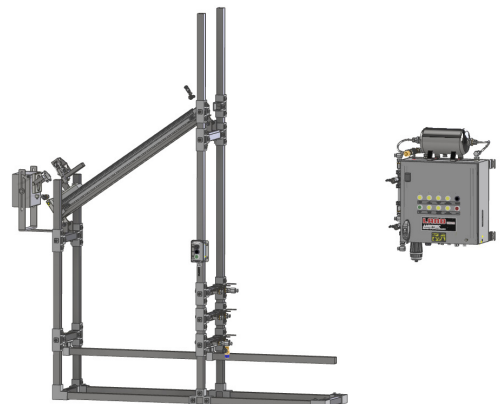
Part Number: 816440 LPAR Replacement 50 m

System Includes:

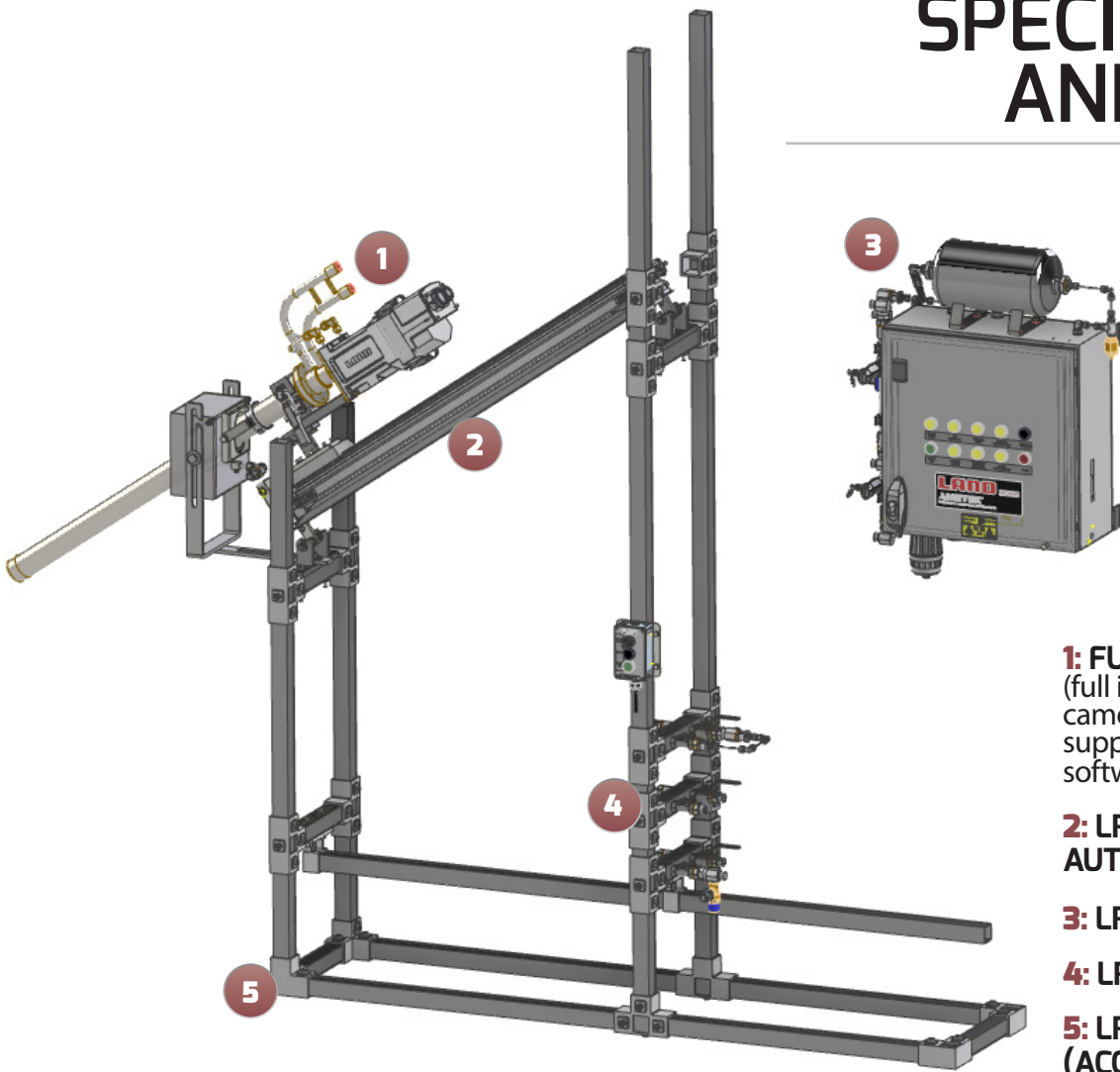
- Retraction System (50 m)
 - Control Unit
 - Remote Box with 50 m Cable
 - Media Bar
 - Retraction Slide
 - 7 x Hoses 2.7 m (808485)

Upgrade System with Frame

816085 Universal Mounting Frame as separate line item

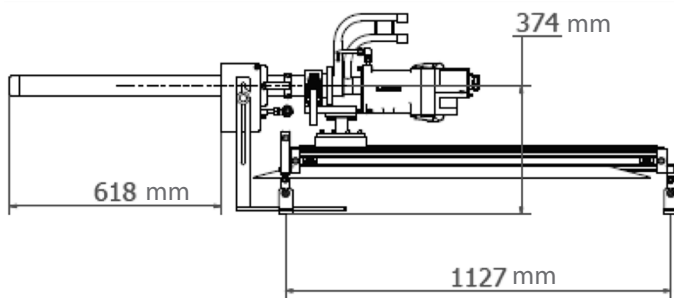


SPECIFICATION AND DESIGN

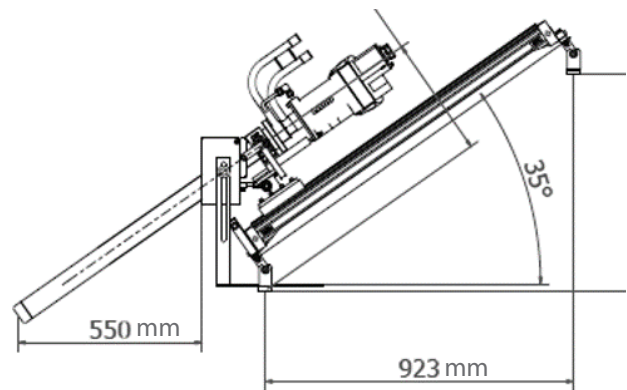


- 1: FURNACE IMAGER UNIT**
(full imager unit contains camera, cooling jacket, power supply, cables and IMAGEPro software)
- 2: LPAR – PNEUMATIC AUTO- RETRACTION SYSTEM**
- 3: LPAR – CONTROL UNIT**
- 4: LPAR MEDIA BAR**
- 5: LPAR – FRAME ASSEMBLY (ACCESSORY)**

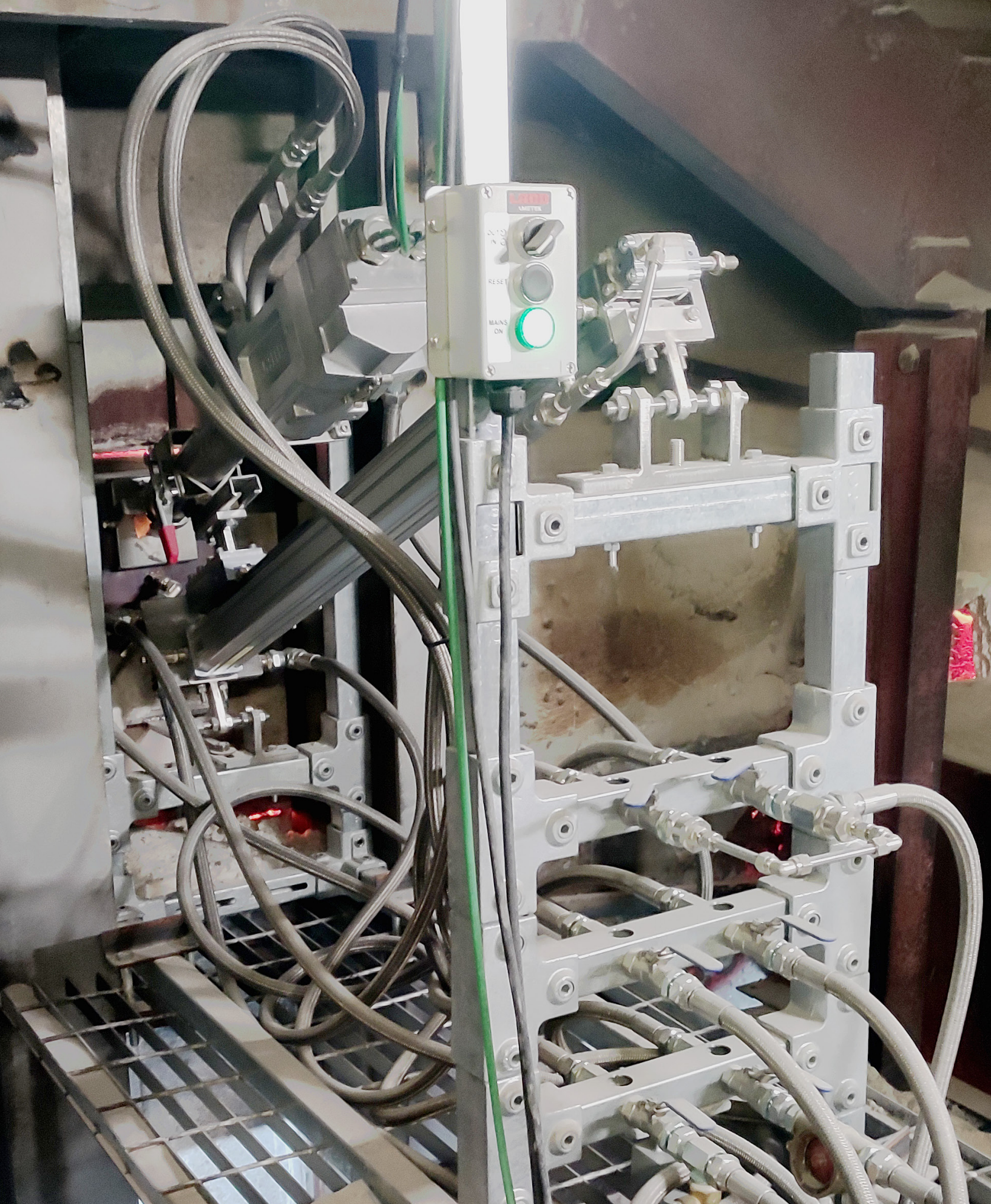
MOUNTING ANGLES – 0° TO 35° ▼



0° mounting



35° mounting



AMETEK LAND RETRACTION SYSTEMS FOR FURNACE THERMAL IMAGERS

LPAR SPECIFICATIONS

OPERATING CONDITIONS

Ambient Temperature: 0 °C to 80 °C

MECHANICS

Size: 2050 x 2450 x 500 mm (with 816085 accessory)

System Weight: 88 kg (camera, retraction system, frame)

Probe: 5 kg

Cooling Jacket: 15 kg

Retraction System: 35 kg (modular sections, Max 17 kg)

Port Seal: 7 kg

Cylinder Assembly: 12 kg

Media Frame: 17 kg

Frame Accessory: 33 kg (816085)

CONTROL UNIT

Voltage: 100-240 VAC

Current: 2.4 A - 1.2 A

Frequency: 50/60 Hz

TEMPERATURE

Operating Temperature: 0 °C to 60 °C

I/O

Input: 4-20 mA, 0-200 °C (lens temperature) (Max loop Resistance 300 ohms , Isolated)

Relay: 'System OK' (250 VAC, 8 A contact rating)

SEALING

Sealing: IP54

PNEUMATIC AIR SUPPLY

Air supply – Pneumatic cylinder

Pressure: Angle Dependant (MAX 7 bar)

Temperature: -10 °C to 80 °C (at inlet)

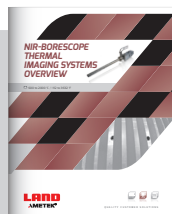
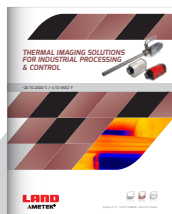
Connection: 1/2" BSPP threads

Air quality: ISO 8573-1:2010 [4.7.4]

Particles: < 100/m³ (> 1 µm diameter)

Water: < 500 mg/m³

Oil: < 5 mg/m³



DISCOVER HOW OUR BROAD RANGE OF
NON-CONTACT TEMPERATURE
MEASUREMENT AND COMBUSTION
& EMISSIONS PRODUCTS OFFER A
SOLUTION FOR YOUR PROCESS

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