

LumaSpection™ mobile Infrared Camera System for Boiler Tube and Furnace Inspection

BoilerSpection-IM™

- Pinpoint issues before they grow into problems
- Prevent problems that result in shorter life cycles and unplanned outages
- Inspect buildup of ash and slag
- Tune combustion and manage fuel switching
- Safely monitor at full load
- One person operation
- Industry leading image quality
- Wireless digital video recording (DVR)
- Robust optics can be used without cooling for most inspections



This LumaSpection™ system is a result of years of field experience and customer input culminating in an advanced, easy-to-use mobile imaging solution for furnaces and boilers.

With a real-time inspection tool, plant operators can quickly and accurately identify process abnormalities before they grow into problems that can lead to unplanned outages. Operators can survey the furnace to identify tube leaks, guide cleaning maneuvers, and tune the combustion.

It is also a critical tool to analyze and verify the effects of process and equipment

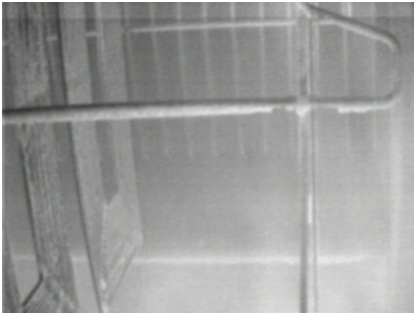
changes. For example, to measure the effect of burner adjustments or fuel changes on the overall combustion and slagging of the system.

Derived from military technology, LumaSense fabricates the industry leading mid-wave infrared detector which enables superior image quality. The entire system is designed and built in the USA.

The BoilerSpection-IM system is a comprehensive solution that includes all the components required for a user to be recording images in only minutes. The system includes battery, monitors, DVRs, and convenient storage case.

Thousands of LumaSense industrial-grade infrared imaging solutions are deployed around the globe to monitor critical processes and assets in power generation, refineries, steel, paper and glass plants. Our products are supported by experienced field service and application engineering team.

Application



Inspecting for slag and clinkers on superheat pendants



Characterize shape and length of burner fuel mixing



BoilerSpection-IM in use with wireless display



Application of the BoilerSpection-IM



Superheat pendants in 700MW power boiler burning PRB coal



Coal stream from wall fired burner

LumaServ™

The mission of the LumaSense services organization is to keep you focused on your business by delivering world-class customer support. This means keeping your assets reliable and functioning, and providing you with the knowledge and expertise required to solve complex problems quickly.

Our LumaServ™ offerings are divided into four main categories:

Asset Assurance

LumaSense knows how critical our products are to your business. We offer a wide range of services including calibration, preventative maintenance, repair, extended warranties, and spare parts to keep your assets accurate and reliable for the long-term.

System Services

We realize that your LumaSense solution is essential to your process. LumaSense offers tailored service packages to meet your specific support needs. Our system level services offer comprehensive support for your entire system.

Field Services

Our Field Service Engineers are dedicated to providing expert, on-site support every step of the way. Services include: application and project engineering, project management, installation and commissioning, on-site repair and calibration, and maintenance agreements.

Training and Consulting

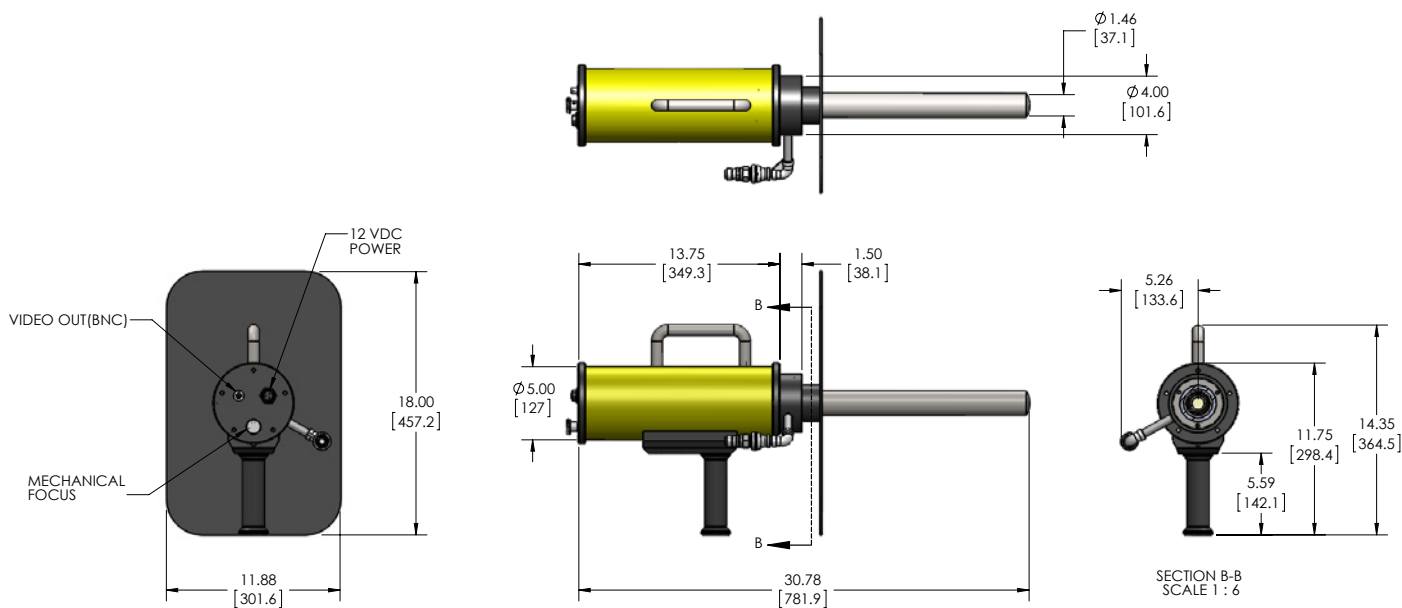
LumaSense offers both classroom and on-site training and certification courses. In addition, we offer a range of specialty services, such as IR scanning and consultations!

Technical Data

Spectral Wavelength	~3.9 μm narrow bandpass filter
Image Resolution	320 x 240
Detector Type	Uncooled VOx microbolometer
Display(s)	On board Wireless
Lens	1.65" (42 mm) outer diameter Lengths 18" (457 mm) and 24" (610 mm) Straight or Angled viewing

Recording	DVR to SD memory card
FOV	Straight: Standard 50° HFOV or Wide 75° HFOV 45° Angle: Standard 50° HFOV 90° Angle: Standard 50° HFOV
Power	Battery (over 24-hr life)
Camera weight	< 20 lbs

Dimensions



Base System Components

- BoilerSpection-IM camera with selected lens
- Adjustable radiation shield
- Onboard display with DVR capture to memory card
- Battery backpack
- User manual
- Storage case with space for up to two lenses



Ordering and Configuration Details

Available Options

- Wireless display with DVR capture to SD memory card
- Interchangeable optics with different angles and field of views
- On-site service and training
- Air filtration system and air hoses for continuous operation in a furnace
- Travel Case

Service Offerings

- Installation and commissioning
- Preventative maintenance
- Training
- Extended warranty

Available Documentation

- User manual
- Mechanical drawings

Reference Numbers

012 0046 21	BoilerSpection-IM system with 18" (46 cm) straight lens, standard 50° HFOV
012 0046 61	BoilerSpection-IM system with 18" (46 cm) straight lens, wide 75° HFOV
012 0046 22	BoilerSpection-IM system with 24" (61 cm) straight lens, standard 50° HFOV
012 0046 62	BoilerSpection-IM system with 24" (61 cm) straight lens, wide 75° HFOV
012 0046 51	BoilerSpection-IM system with 24" (61 cm) angled 45° lens, standard 50° HFOV
012 0046 53	BoilerSpection-IM system with 24" (61 cm) angled 90° lens, standard 50° HFOV

Accessories

812 0046 21	Additional or Spare Lens, 18" (46 cm) straight standard 50° HFOV
812 0046 61	Additional or Spare Lens, 18" (46 cm) straight, wide 75° HFOV
812 0046 22	Additional or Spare Lens, 24" (61 cm) straight, standard 50° HFOV
812 0046 62	Additional or Spare Lens, 24" (61 cm) straight, wide 75° HFOV
812 0046 51	Additional or Spare Lens, 24" (61 cm) angled 45° tip, standard 50° HFOV
812 0046 53	Additional or Spare Lens, 24" (61 cm) angled 90° lens tip, standard 50° HFOV
912 0048 01	Optional handheld wireless display with DVR and pistol grip
912 0047 01	Optional air filtration and hose kit for BS-IM (includes storage case)
97 2038	Travel Case (holds up to two lenses)
90 2424	Replacement radiation shield
90 2425	Replacement or spare battery backpack and charger
57 0036	Replacement or spare onboard display
97 2037	Replacement storage case

SARLIN

SARLIN OY AB • PL 750, 00101 Helsinki
Käyntiosoite: Kaivokselantie 3-5, 01610 Vantaa
Vaihde 010 550 4000 • Fax 010 550 4201
info@sarlin.com
www.sarlin.com

LumaSense Technologies

Americas and Australia
Sales & Service
Santa Clara, CA
Ph: +1 800 631 0176
Fax: +1 408 727 1677

Europe, Middle East, Africa
Sales & Service
Frankfurt, Germany
Ph: +49 69 97373 0
Fax: +49 69 97373 167

India
Sales & Support Center
Mumbai, India
Ph: +91 22 67419203
Fax: +91 22 67419201

China
Sales & Support Center
Shanghai, China
Ph: +86 133 1182 7766
Fax: +86 21 5877 2383

info@lumasenseinc.com

LumaSense Technologies, Inc., reserves the right to change the information in this publication at any time.

Temperature and Gas Sensing Solutions

www.lumasenseinc.com

©2012 LumaSense Technologies. All rights reserved.
BoilerSpectionIM-Datasheet-EN - Rev. 11/07/12