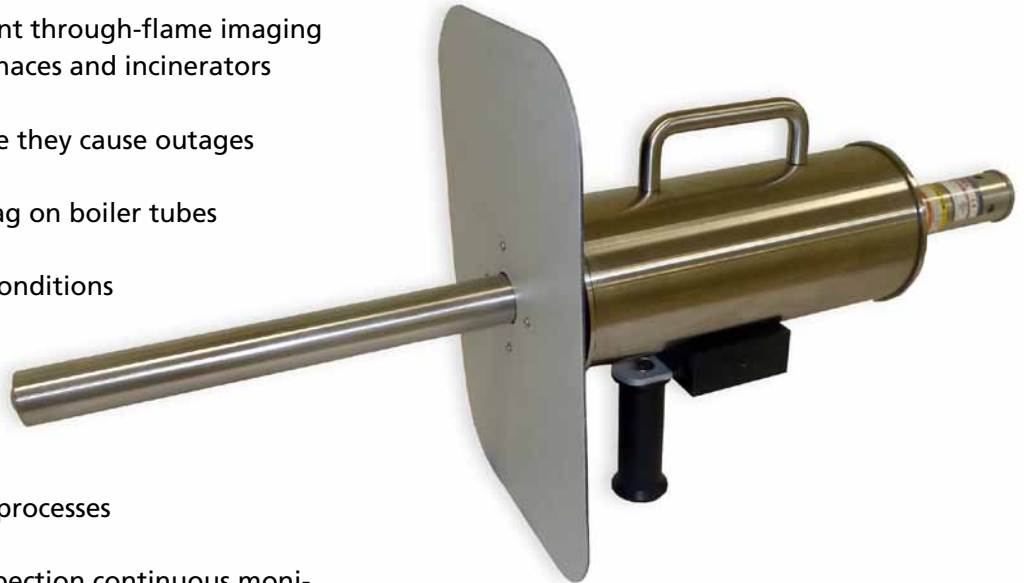


## Mobile Infrared Camera for Clear Inspection of Boiler Tubes and Furnace Walls

### BoilerSpection-MB™

- Mobile or semi-permanent through-flame imaging inside power boilers, furnaces and incinerators
- Pinpoint problems before they cause outages
- Inspect buildup of ash/slag on boiler tubes
- Diagnose burner flame conditions
- Measure temperature across entire image
- Record and analyze data to optimize combustion processes
- Compatible with BoilerSpection continuous monitoring solution



Only BoilerSpection-MB utilizes a special mid-wave infrared detector, allowing you to better see through flames in your boiler, furnace, kiln, or incinerator. This unique feature means BoilerSpection-MB provides the clearest and most stable through-flame images.

With a real-time infrared inspection, plant operators can quickly and accurately identify process abnormalities, allowing for more optimal combustion and heat transfer. Operators can then direct cleaning operations, regulate flow of fuel and air, reduce emissions, reduce fuel consumption, speed up boiler start up, and improve safety. The BoilerSpection-MB is a critical tool to verify the effects of process and equipment changes.

BoilerSpection-MB is a completely digital and IP addressable camera system that utilizes standard connections for viewing and recording real-time images. It also includes a standard video (BNC) output for use with legacy video equipment.

Built for mobile use and based on input from users, the BoilerSpection-MB includes everything you need to be easily up and running in minutes, inspecting your furnace.

Thousands of LumaSense industrial-grade infrared imaging solutions are deployed by customers around the globe to gather critical data in the power generation, refinery, steel, paper and glass industries. Our systems are supported 24/7 and are backed by LumaSense's field service team.



*Superheat pendants in 700MW power boiler burning PRB coal*



*Opposing wall burner and slag on water wall.*

## Technical Data

Infrared Camera		Lens	
Spectral Wavelength	~ 3.9 $\mu\text{m}$ narrow band pass filter	Lens Shroud Outer Diameter	1.65" (42 mm)
Image Resolution	320 x 240	Lens Length	18" ("A" Dimension 15.75" [400 mm]) 24" ("A" Dimension 22.50" [572 mm]) 36" ("A" Dimension 34.10" [866 mm])
Detector Type	Uncooled Focal Plane Array VOx Microbolometer	Field of View	50° horizontal x 38° vertical
Speed	30 Hz / 9 Hz	Construction	Stainless Steel Borescope Optics with ZnS optical elements (can be operated without air for brief inspections)
Measurement Range	500 to 1,600°C (932 to 2,912°F)	Protection	Sapphire window tip with air purge shield
Video Out	NTSC / PAL	<b>BoilerSpec Recording and Analysis Software</b>	
Power Supply	Included, input is universal AC	Key Features	Image recording, region of interest analysis, export data to Excel, save recordings as JPGs and AVI movies
Protective Housing	Stainless steel enclosure with vortex air cooling (air is only required for long-term monitoring)		
Camera Weight	< 30 lbs (13.5 kg)		

### Base camera system includes:

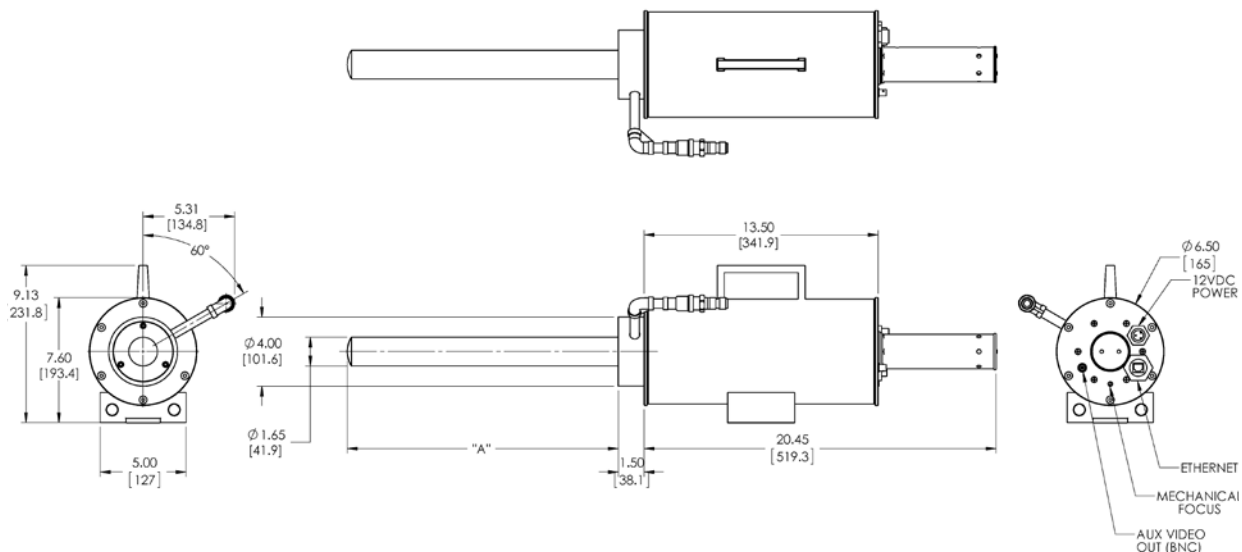
- BoilerSpec-MB Camera with 18", 24", or 36" lens
- Removable Radiation shield
- Power and Ethernet connection cables
- Software for image recording and analysis
- Camera storage and travel case
- User manual

### Accessory kit includes:

- 15' (4.5m) flexible stainless braided air lines with fittings
- Dual stage air filters with regulators
- Industrial grade laptop computer with software pre-installed
- MikroSpec 4.0 Pro Analysis Software
- Accessory Kit storage and travel case
- Bottom mounted handle

### Optional:

- Battery pack
- Automatic retraction system for continuous monitoring installation



LumaSense Technologies

Temperature and Gas Sensing Solutions



ASRAS CO.,LTD.  
1694, 1694/1 Prachasongkhro Road,  
Dindaeng, Dindaeng, Bangkok 10400  
Tel. 02-692-3980, Fax. 02-692-3978  
E-mail: sales@asras.com  
www.asras.com; www.asras.co.th

[www.lumasenseinc.com](http://www.lumasenseinc.com)

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