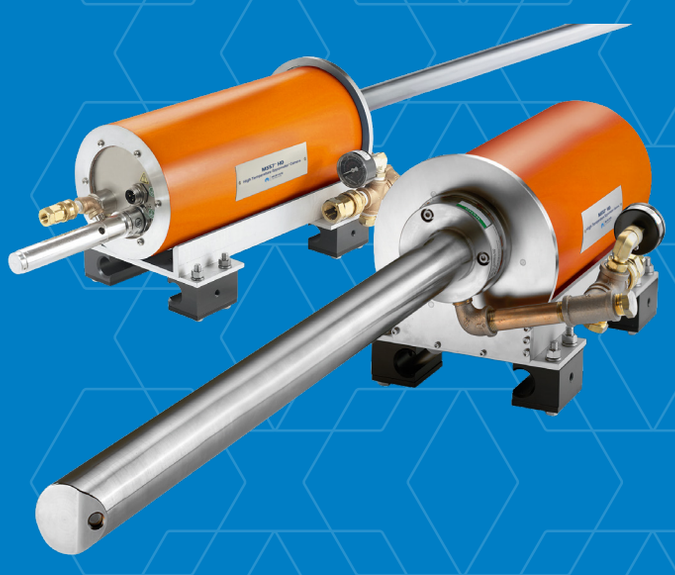
MIRION TECHNOLOGIES

HIGH TEMPERATURE CAMERA

M557™ HD



High-Definition Temperature Spyrometer® Camera

The M557 HD Spyrometer is a high-definition, dual-wavelength infrared non-contact pyrometer and imaging system for industrial process monitoring. It delivers high-definition images and accurate temperature readings, to enable detecting issues sooner, improving product quality, and optimizing fuel use. Its advanced design helps reduce downtime and costs, supporting reliable operations and stronger financial performance.

Full high-definition 1080p optics and VGA color imaging deliver superior image quality, essential for accurate process monitoring and control. Patented dual wavelength pyrometer technology ensures the highest accuracy in real-time temperature measurements, for early problem detection, to minimize downtime and related costs.

Flexible, User-Friendly Controls

The M557 HD Camera supports up to 32 customizable temperature zones, all while maintaining optimal video capture performance. A user-friendly interface simplifies effective data management and analysis. Supporting multiple cameras and displays, the M557 HD Camera provides a scalable and flexible monitoring solution.

The M557 Camera is compatible with Windows 10 for robust security and future-ready operations. An efficient air-cooling system offers sustainability by reducing power consumption in high-temperature environments.

For a complete monitoring solution, combine the M557 HD Camera with the M220S™ Dual Imaging Processor, M357™ Retract System and M408™ Air Filter System.

FEATURES

Clear Imaging, High Accuracy

- ✓ True color VGA
- ✓ High-definition 1080p color image
- ✓ Patented* dual wavelength pyrometric technology
- ✓ Modular HD optics design
- ✓ Iris control adjustable to lighting changes

Flexible Design & Compatibility

- ✓ Modular design for ease of serviceability
- ✓ Up to 32 customizable temperature measurement zones
- ✓ Backward compatibility

Cooling & Efficiency

- ✓ Efficient air-cooling for reduced energy use in some setups
- ✓ Fiber optic signal conversion availability

User Interface & Usability

- ✓ Easy-to-use interface simplifies operations
- ✓ Real-time graphing of temperature data directly on screen
- ✓ Image capture/storage capabilities
- ✓ Supports up to two cameras/displays

*USA Patent 6,667,761

Maximize efficiency with real-time, highly accurate temperature monitoring technology – engineered for optimal process control. Correct problems proactively, reducing downtime for cement, fossil power and waste-to-energy operations.

The M557 HD Camera offers robust connectivity and compatibility features, including IP protocol for simplified data and image transfers, support for legacy D/I output, Modbus, or Internet-based temperature data, and compatibility with Windows 10 network and security requirements. Additionally, fiber optic signal conversion is available for flexible integration with various systems.

Precision-Engineered for High-Temperature Applications
Built to perform in high-temperature environments, the M557 HD Camera delivers precision and durability, providing accurate temperature measurements even under extreme conditions—from 427°C to 1816°C (800°F - 3301°F).

Targeted Hot Spot Analysis for Optimal Kiln Operations
Real-time temperature monitoring delivers continuous, precise data, enabling rapid kiln adjustments for improved process control. With a narrower field of view, the camera targets specific hot spots inside the kiln, capturing detailed temperature measurements essential for maintaining product quality.

Simplified User Experience
The M557 HD Camera features an intuitive interface with real-time on-screen instrumentation graphing tailored to meet diverse operator application needs. On-screen trending with support for multiple cursors and exact measurements on trend enables precise data analysis and monitoring.

KEY APPLICATIONS

- **Rotary Kilns**
  Monitor cement and lime kiln product and temperatures. Identify potential kiln upsets early. Interface temperatures to your DCS.
- **Cement Clinker Coolers**
  Monitor the cooler for red rivers and upset conditions. Optimize cooling patterns by measuring clinker temperature on the grate. Aids in reducing equipment breakdown and refractory degradation. Obtain continuous visual of clinker depth and relation to grate speed changes.
- **Fossil Utility Boilers**
  Observe flame shape and temperature of each burner. Assign a temperature cursor to each flame to aid in controlling NOx levels.
- **Steel Reheat Furnaces**
  Identify areas of non-uniform heating and adjust product speed or combustion accordingly. Position temperature cursors to accommodate size and shape of the load.
- **Glass**
  View for flame impingement and product flow. Accurately measure refractory temperatures.
- **Copper Casting Wheels**
  Optimize metal flow to the casting mold while monitoring from the control room. Measure temperature of metal in casting spoons.

Specifications and Performance

Pyrometer Sensor		
Pyrometry Options	Dual wavelength Infrared (IR) ratio pyrometry using narrow bands centered at 0.8 and 1.6 microns:	/TR1_554: 663 - 1255 °C (1225 – 2291 °F) /TR2_554: 848 - 1816 °C (1558 – 3301 °F) /TR3_554: 750 - 1450 °C (1382 – 2642 °F)
	Single wavelength Infrared (IR) pyrometry using a narrow band centered at 1.6 microns:	/TR2_553: 427 - 1371 °C (800 – 2500 °F)
Temperature Accuracy	±1.0% Full Scale	
Spot Size	Approximately 1/24 of horizontal image width	
Spatial Scan Resolution	47 horizontal x 35 vertical width of the image	
Scan Rate	Scan speed varies with size and number of TMZs or via operator adjustment	

Lens	
Construction	Air or water-cooled 304 stainless steel outer shroud; sapphire window for max. environmental protection. Straight viewing(/L) versions available.
Straight View Lens Diameter	/L: 38 mm (1.5 in.)
Cooling Requirements	Instrument quality air*, 25-40 SCFM (12–19 dm^3/sec) @ 5-15 psig (34-103 kPa), required for straight lens
Thermocouple	/TJ: Type J thermocouple option; /TK: Type K thermocouple option
Front Objective Field of View	90° HFOV 75° HFOV 50° HFOV 35° HFOV

Length	Straight Lens	45° OAL Lens	Water Cooled Lens
18 in.	√		
24 in.	√	√	√
30 in.	√	√	√
36 in.	√	√	√
42 in.	√	√	
48 in.	√		√

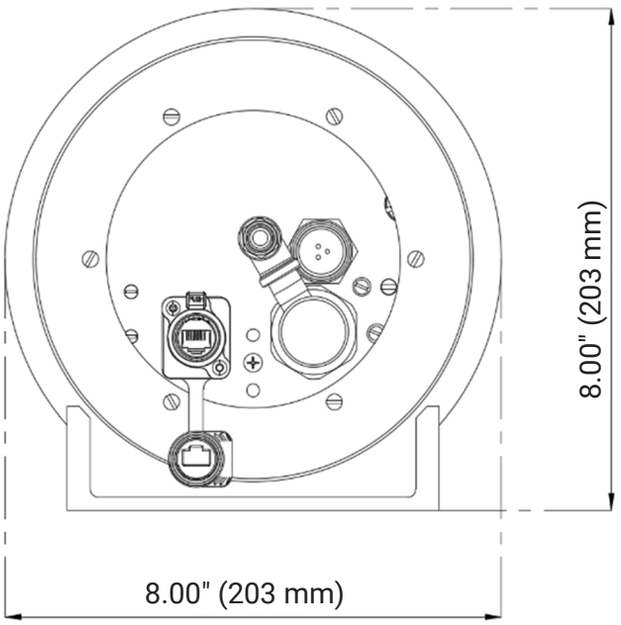
*To ISO 8573-1, Class 1•7•2

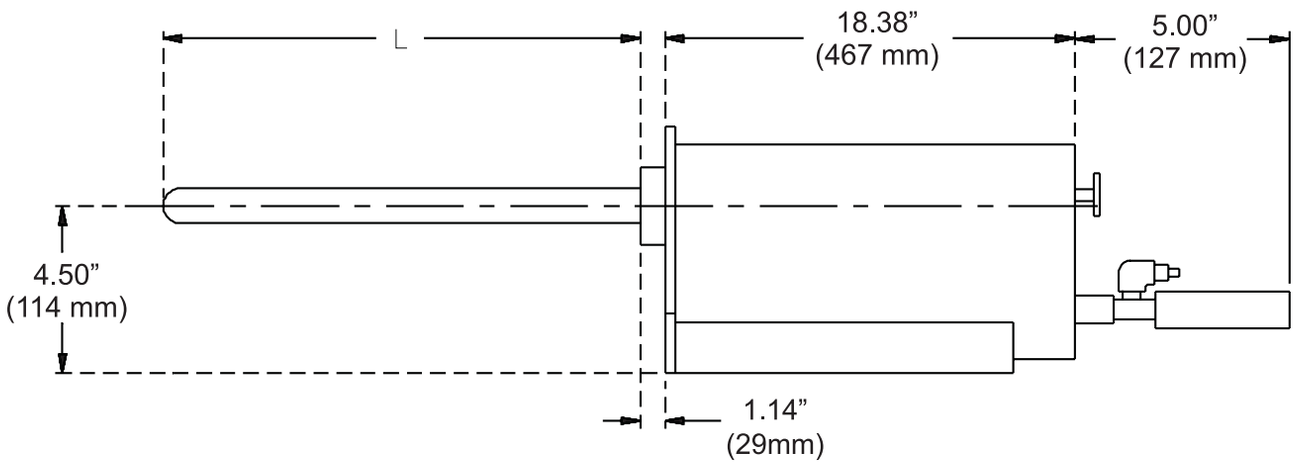
Camera	
Power	115-230 V ac, 50/60 Hz
Detector	Solid state color image sensor
System Resolution	1080p (1920x1080)
Video	Video Compression H.264 30 FPS ONVIF Compliant
Control	Iris adjustment on rear of unit; remote iris adjustment from the processor
Application Filter	Filters are provided to match your process and maximize performance. Contact your Sales Representative

Enclosure	
Construction	/CEI: Corrosion-resistant, insulated, air-cooled, NEMA 4; /CEW: Corrosion-resistant, water-cooled, NEMA 4
Cooling Type	Vortex cabinet cooler, 25 SCFM @ 100 psi (13 dm3/sec @ 690 kPa); instrument-quality air required or water-cooled option available
Ambient Environment	Max. 140 °F (60 °C) with negligible radiant heat load. Water-cooled option available to handle high radiant heat environment

Mechanical	
Video Output Jack	RJ45
Power Input Jack	Removable waterproof miniplug (JOY type TP, female 3-conductor; mating power cord provided)
Enclosure Cooling Input	1/4 in. brass quick-disconnect nipple; mating coupler (Snaptite BVHC4-4F) provided
Lens Cooling Input	1/2 in. brass quick-disconnect nipple; mating coupler (Snaptite BVHC8-8F) provided
Weight	14 kg (30 lb) for standard air-cooled configuration

Dimensions





MIRION
TECHNOLOGIES

SPC-678-EN-A_A4 – 08/2025