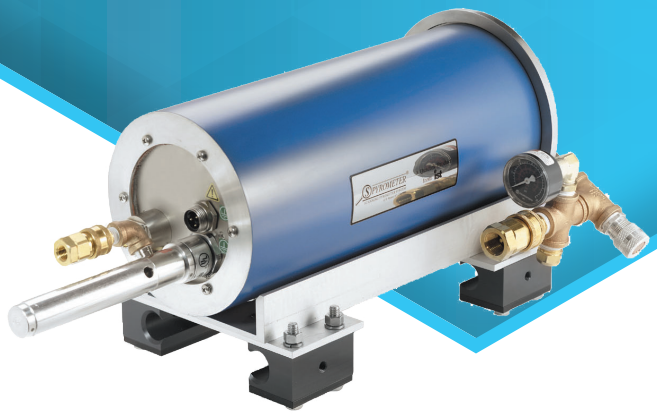
MIRION TECHNOLOGIES

HIGH TEMPERATURE CAMERA

M555™

High Temperature Spyrometer®⁴ Camera

Dual wavelength, Infrared (IR) non-contact Pyrometer and Imaging System



FEATURES

- **Rotary Kilns**
  Monitor cement and lime kiln product and temperatures. See 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**
  See 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.

DESCRIPTION

The IST-Quadtek™ Spyrometer⁴, with its patented combination of a dual wavelength, Infrared (IR), non-contact pyrometer and imaging system gives the operator the ability to see process conditions while measuring the temperature of virtually any area in the field of view. The M555 imaging pyrometer takes the video image and the temperature information, multiplexes it and sends it, via coaxial cable, to the M215 S™ imaging processor in the control room and displays it on a VGA monitor.

The M215 S imaging processor provides on-screen temperature measurement facilities; the data can easily be interfaced to your control system using an Ethernet link or 4-20 mA outputs. Please refer to separate M215 S datasheet for full details.

Additional features of the M555 include:

- Improved iris control options for a clearer image under changing lighting conditions
- Less requirement for air cooling, reducing electrical power consumption in some applications
- Fewer component parts
- Improved reliability through use of surface mount

*USA Patent 6,667,761

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) and 45° oblique angle lens (/OAL) versions available.
Diameter	/L: 38 mm (1.5 in.); /OAL: 51 mm (2.0 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
Field of View	Wide: 75° H x 58° V Medium: 50° H x 38° V Narrow: 35° H x 26° V

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

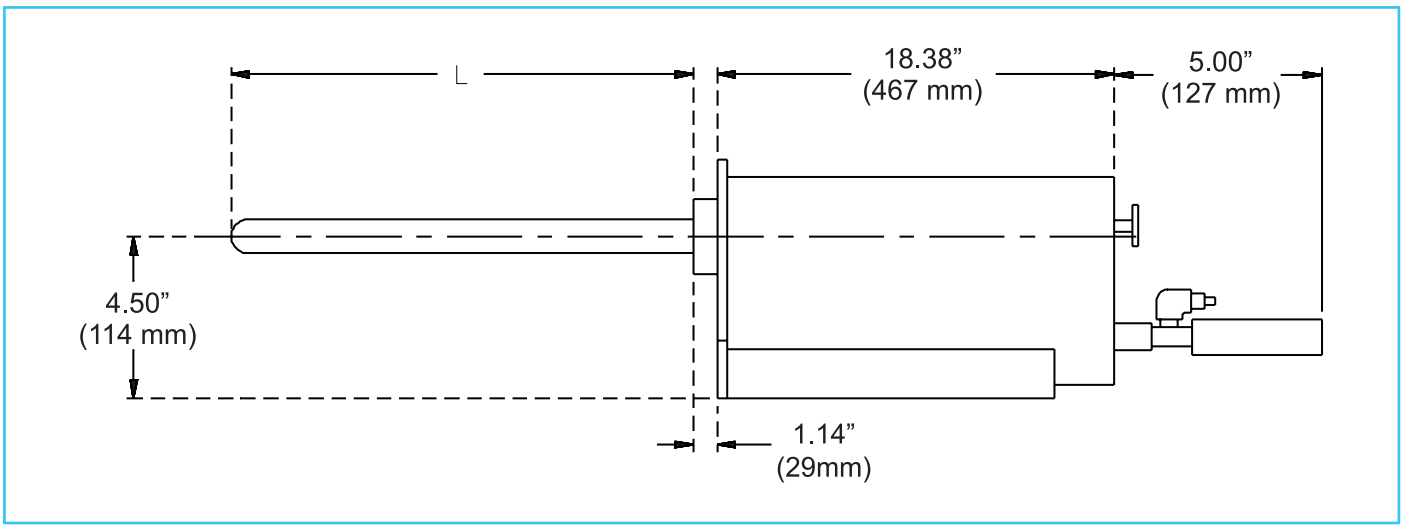
Camera	
Power	115-230 V ac, 50/60 Hz
Detector	Solid state color image sensor
System Resolution	>300 lines in the center of the image
Video	.0V p-p, 75 ohm, CCTV signal /VTN: NTSC or /VTP: PAL video timing selected at time of order
Control	Iris adjustment on rear of unit; remote iris adjustment from the processor
Application Filter	Filters are provided to match your process and maximize performance. Contact your Sales Representative

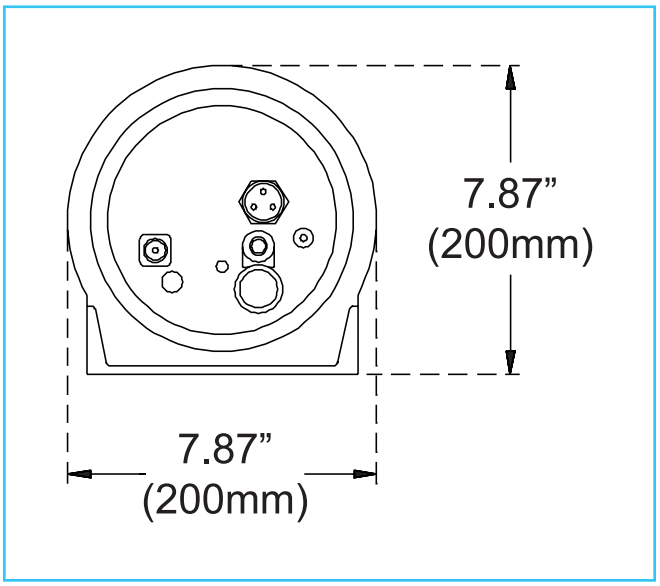
Enclosure	
Construction	/CEI: Corrosion-resistant, insulated, air-cooled, NEMA 4; /CEW: Corrosion-resistant, water-cooled, NEMA 4
Cooling Type	Vortex cabinet cooler, 25 SCFM @ 100 psi (13 dm^3/sec @ 690 kPa); instrument-quality air required or water-cooled option available
Ambient Environment	Max. 140 °F (60 °C) with negligible radiant heat load. Water-cooled option available to handle high radiant heat environment

Mechanical	
Video Output Jack	Female PL-259 “UHF” type
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

*To ISO 8573-1, Class 1•7•2

DIMENSIONS





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