

SPYROMETER³

QUADTEK M553 Spyrometer³

Patented Low Temperature Pyrometer Camera



Process / Benefit

Cement Clinker Coolers

Monitor the cooler for red rivers and upset conditions. Optimize cooling patterns by measuring clinker temperature on the first grate. Aids in reducing equipment breakdown and refractory degradation. Obtain continuous visual of clinker depth and reaction to grate speed changes.

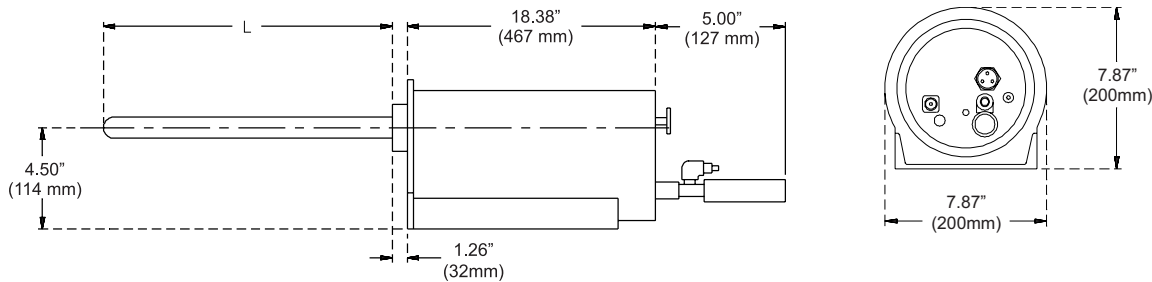
Copper Casting Wheels

Optimize metal flow to the casting mold while monitoring from the control room. Measure temperature of metal in casting spoons.

The Quadtek **Spyrometer³** with its patented combination of a color video camera and a scanning pyrometer gives the operator the ability to see process conditions while measuring the temperature of virtually any area in the field of view. The M553 model is designed specifically for lower temperature environments of 427°C-1371°C (800°F-2500°F). It is an ideal aid in controlling clinker coolers, steel reheat furnaces, non-ferrous blast furnaces, casting wheels and strip casting machines. The imaging pyrometer takes the video image and the temperature information, multiplexes it and sends it, via a single coaxial cable, to the image processor in the control room and displays it on a VGA monitor. On-screen temperature data is also accessible through 4-20mA outputs, which can easily be interfaced to your control system.

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Specifications and Performance



Pyrometer Sensor

Temperature Range	800°-2500° F (427°-1371° C)
Temperature Accuracy	1.0% Full scale
Measurement Technique	Single wavelength pyrometry
Spectral Regions	Narrow band centered at 1.6 microns
Spot Size	1/24 of the horizontal width of the image
Spatial Scan Resolution	47 horizontal x 35 vertical width of the image
Scan Rate	Scan speed varies with size & number of TMZs or via operator adjustment

Lens

Construction	Air or water-cooled 304 stainless steel outer shroud. Sapphire window for max. environmental protection
Type	45° offset lens
Length (L)	/OAL30W553 27.7" (694mm) <i>For details on our full range of Spyrometer lenses, please contact your sales representative.</i>
Field of View	Wide - 75° H x 58° V; Medium - 50° H x 38° V; Narrow - 35° H x 26° V
Diameter	/L: 1.5" (38mm); /OAL: 2.0" (51mm); /WCL: 2.5" (63mm)
Cooling Requirements	Instrument quality air, 25-40 SCFM (12-19 dm ³ /sec) @ 5-15 psig (34-103kPa) required for straight view lens
Thermocouple	/TJ: Type J thermocouple option; /TK: Type K thermocouple option

Camera

Power	115-230 VAC, 50/60 Hz
Camera Detector	Solid state color image sensor
System Resolution	300 lines minimum throughout the image
Video	1.0V p-p, 75ohm, CCTV signal /VTN: NTSC or /VTP: PAL video timing selected at time of order
Control	Iris adjustment on rear of camera; 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" brass quick-disconnect nipple; mating coupler (Snaptite BVHC4-4F) provided
Lens Cooling Input	1/2" brass quick-disconnect nipple; mating coupler (Snaptite BVHC8-8F) provided
Weight	30 pounds (14kg) for standard air-cooled configuration (lens and camera)

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