

Diamond Power® GASTEMP® RB Optical Pyrometer for Recovery Boilers

The Diamond Power® GASTEMP® RB optical pyrometer, provided by Babcock & Wilcox (B&W), uses a patented wavelength to directly measure actual furnace gas temperature — including minute changes in flue gas temperatures. The GASTEMP RB optical pyrometer can be used from boiler start-up to full-load operation.

The GASTEMP RB optical pyrometer measures the average gas temperature within its field-of-view, and is independent of gas and fly ash emissivities, as well as cold walls. That means you'll get tremendous accuracy, even with switching to black liquor, fuel oil or natural gas. Plus the unique wavelength of the GASTEMP RB optical pyrometer provides the proper measurement depth across the width of the boiler.

Benefits

Improved efficiency, reduced emissions

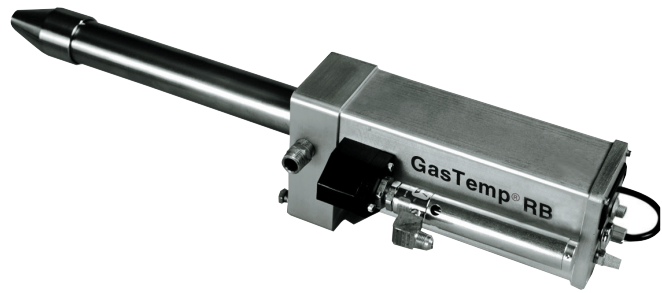
Measurement of gas temperatures is a critical parameter in monitoring for carryover "sticky" temperature and increased furnace exit gas temperature caused by an improperly elevated combustion zone. The GASTEMP RB optical pyrometer allows you to monitor elevated temperatures and recognize sticky temperature zones. It also lets you detect improper air delivery and the early indications of pluggage for real-time control of boiler efficiency.

Suitable for fuel switches

The GASTEMP RB optical pyrometer accurately measures black liquor, fuel oil and natural gas firing conditions without recalibration. It remains fully functional throughout transition to (or from) natural gas and oil firing.



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The Diamond Power GASTEMP RB optical pyrometer is specifically precalibrated to the boiler width to measure fireside gas temperature. It provides absolute temperature data rather than just the direction of temperature change.

Simple, anywhere installation

The GASTEMP RB optical pyrometer is shipped as a set of sub-assemblies that are ready for on-site final assembly and start-up. It's easily installed at any location from the furnace exit through the convection pass, including standard furnace observation ports or other wall penetrations.

Dual-use device

Because the GASTEMP RB optical pyrometer is so reliable, durable and portable, it can be used as a field diagnostic tool or as a permanent installation. For diagnostics, use it as a stand-alone instrument or with data acquisition equipment to record data. Begin immediate data collection usually within 15 to 30 minutes of installation. With the GASTEMP RB optical pyrometer, you can obtain a temperature profile to help you recognize improper air delivery at the tertiary air and upper furnace areas — locations that other infrared pyrometers typically cannot see. Or, use as a permanent installation (alone or interfaced with your control system) for automatic monitoring and control.

Features

- Rugged to withstand the fireside environment
- Small, lightweight design for easy installation and convenient portability
- Non-intrusive point-and-shoot
- Automatic FlexRod® port rodder options available
- Compatible for use in a forced, induced or balanced draft boiler

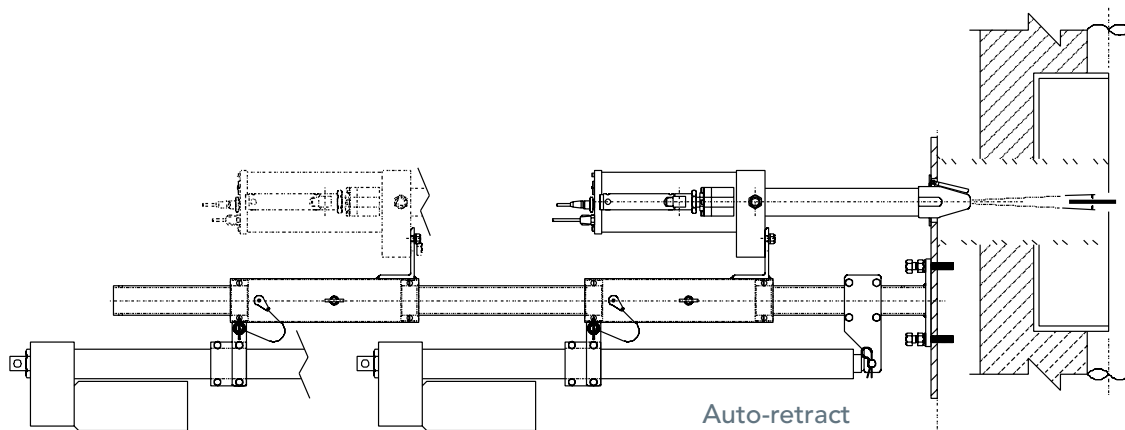
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GASTEMP® RB Optical Pyrometer Specifications

Accuracy	Absolute $\pm 50F$ ($\pm 27.8C$) over full range
Temperature Range	575 to 2800F (302 to 1538C)
Calibration	Factory set, but field adjustable
Cooling Requirements	60 to 100 psig, 35 scfm compressed air at $<130F$ (54C)
Data Outputs	Analog; self- or loop-powered; 4 to 20 mA, 1500 volt isolation
Measurement Field-of-View	3° cone
Operating Requirements	Environment: 0 to 185F ($-18C$ to 85C) Relative humidity: 0 to 90 percent
Resolution	11F (5.6C) over full range
Temperature Display	Four digits, degrees F or degrees C
Weight	15 lb (6.8 kg)

Availability

Available as an installed or portable device for all recovery boilers. The GASTEMP RB optical pyrometer directly replaces older, retractable, lance-type temperature probes. The GASTEMP RB can be incorporated into most boiler-integrated control systems to provide automatic parametric control based on measured fireside gas temperatures. For more information on this device or our other boiler cleaning and performance solutions, contact your local Babcock & Wilcox representative, or call at (800) 700-2791.



GASTEMP® RB optical pyrometer side view

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