

Diamond Power® GASTEMP® XT

Extended Range Optical Pyrometer

The Diamond Power® GASTEMP® XT optical pyrometer offered by Babcock & Wilcox (B&W) uses specific wavelengths to directly measure actual furnace gas temperature, including subtle changes in flue gas temperatures. Specifically tuned and calibrated to measure fireside gas temperature, it can be used from boiler start-up to full-load operation.

The GASTEMP XT optical pyrometer measures the average gas temperature within its field-of-view and is independent of gas and fly ash emissivities and cold walls. This feature is designed to provide accurate results, even with blended coals or switching to other fuels. The unique wavelength of the GASTEMP XT optical pyrometer provides the proper measurement depth across the entire width of the boiler.

Benefits

Improved efficiency and emissions control

Measurement of gas temperatures is a critical parameter in monitoring furnace slagging, convection pass fouling or pluggage and NO_x emissions. The GASTEMP XT optical pyrometer allows you to monitor elevated temperatures and detect the early indications of pluggage for real-time control of boiler efficiency and NO_x emissions.

Suitable for fuel switches

The GASTEMP XT optical pyrometer accurately measures eastern, western or blended coals without re-calibration. And it remains fully functional throughout transition to (or from) natural gas and oil firing.

Simple installation

The GASTEMP XT 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 XT 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.



The GASTEMP XT optical pyrometer provides absolute temperature data.

You can usually begin data collection within 15 to 30 minutes of installation. Or, use it as a permanent installation (alone or interfaced with your control system) for automatic monitoring and control.

Unique dual-walled construction

The GASTEMP XT optical pyrometer has a unique dual-walled construction that isolates and seals the internal electronics against contaminants.

Features

- Rugged to withstand the fireside environment
- Small, lightweight design for easy installation and convenient portability
- Built-in readout display with menu-driven set-up, including programmable boiler width
- Provides both analog and visual output signals
- Fahrenheit and Celsius read-out options
- Proprietary HTH-8 High-Temperature Housing
 - Dual-wall construction housing
 - Water- or air-cooling

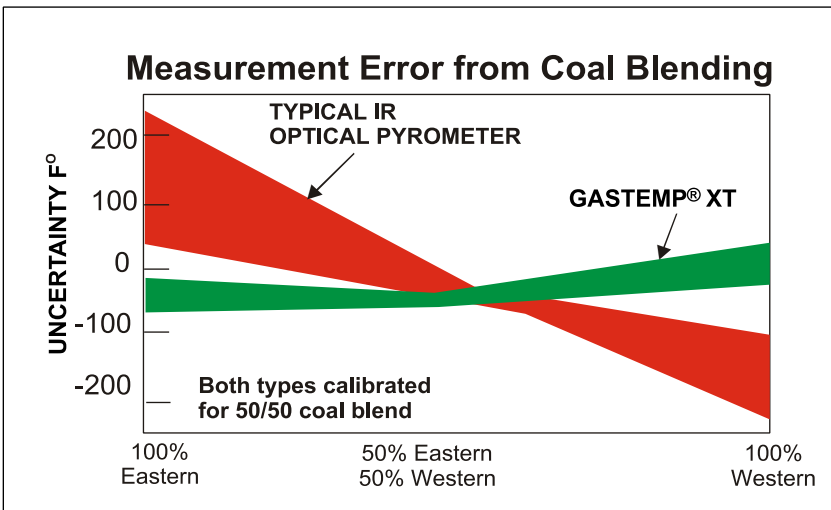
Availability

Available as an installed or portable device for all pulverized coal, fuel oil and natural gas utility boilers, the GASTEMP XT optical pyrometer directly replaces older, retractable, lance-type temperature probes.

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Specifications

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|---------------------------|---|
| Accuracy | ±40F (±22C) |
| Temperature range | 350 to 3000F (177 to 1649C). |
| Calibration | Factory set, but field adjustable for boiler width |
| Cooling requirement | Total air supply: 50 to 100 psig (345 to 689 kPa), 30 scfm (0.013 m ³ /s) compressed air at 130F (54C); Dew point 70F (21C); Lenstube cooling 30 psi (207 kPa) @ 10 scfm (0.004 m ³ /s); Air-cooled housing: 60 to 80 psi (414 to 552 kPa) @ 15 to 20 scfm (0.007 to 0.009 m ³ /s) |
| Data outputs | 4-20mA for 0 to 3000F, Common-Mode Isolation: 1500V max Loop Powered-Compliance: 15-24Vdc, 25mA max, 40 ohms per volt maximum |
| Measurement field-of-view | 1° FOV. Four digit temperature |
| Operating requirements | Uncooled: 0 to 85F (-18 to 29C). Relative humidity: 0 to 100 percent Cooled: 0 to 185F (-18 to 85C) |
| Resolution | ±5F (2.8C) over full range |
| Temperature Update | ≥ 5 seconds |
| Weight | 22 lb (10 kg) |
| Power Requirements | 95 to 250 vac 50/60 HZ @1A |



The GASTEMP XT optical pyrometer's design has been proven to be significantly less sensitive to fuel changes than other commercially available devices.

Babcock & Wilcox

20 South Van Buren Avenue
Barberton, Ohio, U.S.A. 44203
Phone: +1 330.753.4511

www.babcock.com     

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ENERGY | ENVIRONMENTAL

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