



Lenox Instrument Company high-temperature camera systems provide clear, crisp images of the combustion process in boilers, furnaces, kilns, incinerators and other combustion chambers. With the real-time image provided, operators can monitor the proper flow of fuel and raw materials, reduce emissions, reduce fuel consumption, speed up boiler light off, and improve safety. Lenox high-temperature camera systems are performing reliably in hundreds of power, steel, aluminum, cement, paper, glass, and trash-to-steam installations.

FireSight® Air-cooled Systems For Applications to 3000°F



The FireSight viewing system requires a boiler wall penetration of only 2-3/8 in. With its small size, the system will normally fit between boiler tubes and can often be used with existing wall penetrations. FireSight systems provide the highest image clarity in the industry. The Light Volume Control feature, a Lenox exclusive, consists of a remote-controlled motorized iris and spot filter located in the furnace lens. With the Light Volume Control, an operator can easily adjust the amount of light transmitted to the camera, eliminating the flaring common with other systems and ensuring a high-quality image from initial light off to maximum load. The system features quartz optics that withstands temperatures up to 1200°F (649°C) higher than the glass lens used in other systems. The compressed air cooling system provides reliable performance while using considerably less air than competing systems.

System Components



The wall box supplies a protective housing and mounting for the system and serves as the primary coolant shroud. The furnace lens is an air-cooled periscope, ranging from 12 in. to 12 ft. in length that is rated for operation in temperatures up to 3000° F (1649°C). Furnace lenses are available in a wide variety of directions and fields of view to match the specific application. An air-cooled camera housing provides a controlled environment for the closed circuit TV camera. By adjusting the amount of light transmitted to the camera, the Light Volume Control insures a high-quality image. The compact camera is designed for reliability and long life. An integral compressed air system supplies clean air for cooling and particulate removal from the lens. The monitor is normally mounted in the control room providing the operator with a continuous, real-time image of the combustion chamber.

FireSight® Water-cooled Systems For Applications to 3800°F



These systems use a water-jacketed furnace lens assembly in place of the air-cooled assembly and wall box, allowing operation in temperatures up to 3800°F (2093°C). This lens assembly is also slightly smaller than the wall box and can be used in boiler wall penetrations as small as 2-1/8 in. FireSight water-cooled systems provide the same features and reliable performance as air-cooled systems for higher temperature applications or for installations where compressed air cooling might be less desirable. Units are available up to 12 feet in length.

Tin Bath Periscope Systems



A durable and rugged, high-temperature remote viewing video camera system designed specifically for the float glass process. The Lenox Tin Bath Periscope is a right angle viewing optical/video system that extends into the tin bath to acquire the optimal perspective of the ADS or top knurl machine. The image, which is displayed in the control room, permits operators to continuously monitor the amount of trim or scrap being generated, observe wheel depth, maintain proper wheel tracking and alignment, and assures ribbon integrity and control. It is possible to view more than one machine with one periscope.



Portable Diagnostic FireSight Systems



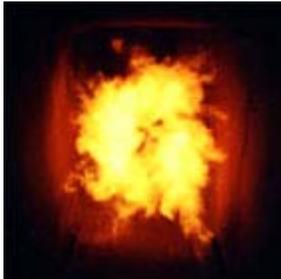
The hand-held FireSight System enables you to use one unit for diagnostics, monitoring several individual boiler or furnace functions at any level using any opening. A complete system consists of the air filtration system and monitor, is mounted on a hand truck and includes all the components of a fixed FireSight installation. Applications include searches for steam leaks, study of soot blower performance, looking for clinkers or slag build-up and diagnostics for burner malfunction. The portable FireSight System has become popular with boiler testing services, boiler and furnace manufacturers, performance engineers and pollution-control inspectors.

Lenox/Pultz High-Temperature Video Camera Systems



These high-temperature video cameras are designed, to be mounted directly through the wall of a furnace or other combustion chamber. The camera housing mounts in a 6.4 in. diameter opening and employs triple-wall laminar flow for efficient water-cooling of the camera in applications up to 4250°F (2343°C). These systems employ pinhole lens technology to provide clear images with virtually no interference. Units are available in lengths of 18 in., 24 in., and 30 in. The camera provides a straight-ahead direction of view with a 30°, 45° or 90° field of view. Lenox/Pultz camera systems are widely used in steel mills on continuous casters, reheat furnaces, continuous annealing and vacuum degassers, in rotary kilns and bark burning furnaces and in a variety of applications in glass manufacturing.

Support and Service



Whether you need parts or service, retrofit or upgrade, or complete system design, you can rely on Lenox. Your FireSight representative is an experienced problem solver capable of meeting your particular needs. Backed by our design and engineering staff, your FireSight representative can: show you how to improve your system with state-of-the-art components; replace your equipment with a low-maintenance, high-resolution, solid-state, color system; design a new system to meet your precise needs. We'll help you install FireSight, or we'll provide a complete turnkey system, from design to installation supervision. Your Lenox FireSight System comes with full documentation, including a complete operation and service manual. And since Lenox designed and manufactures FireSight we back it up with a three-year warranty.

A Partial List Of Our Customers:



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| Con Ed | Alstom Power | Cardinal | Bethlehem Steel |
| Reliant | Covanta | Corning | AK Steel |
| NRG | AFG | Techniglas | Nucor |
| PECO | Pilkington | USX | American Ref-Fuel |
| Foster Wheeler | PPG | Ispat Inland | Wheelabrator |

High-reliability systems that permit color video monitoring of combustion, processes and emissions in boilers, furnace, kilns and incinerators.



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