



## HIGH-TEMPERATURE FURNACE CAMERA SYSTEMS

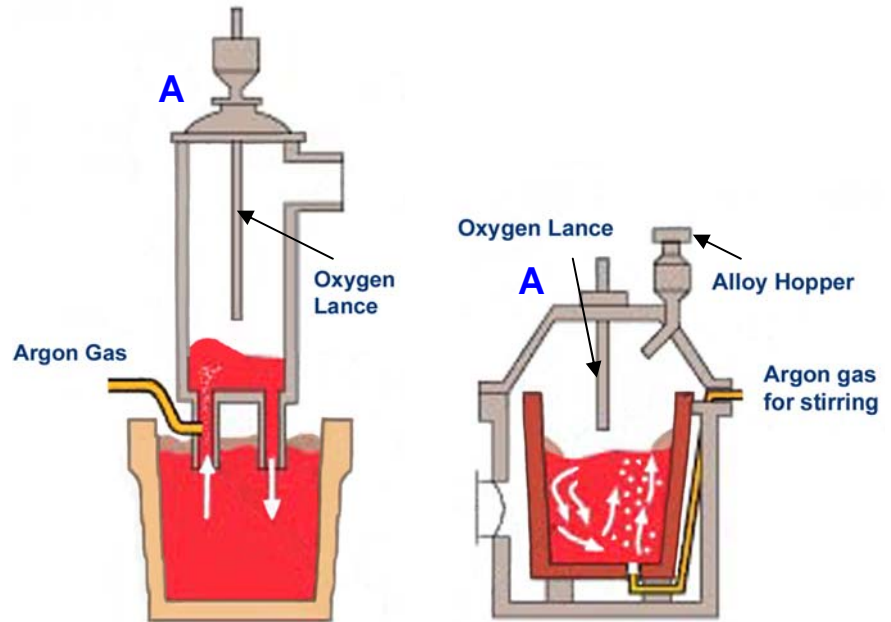
### VACUUM DEGASSER

#### Application Highlights

A Vacuum Degassing System or Degasser is used in the secondary refining of steel - subjecting molten metal to a vacuum to remove oxygen, hydrogen and nitrogen to produce ultra-low carbon steel for the automotive, electrical, construction, and rail markets. Vacuum degassing is normally performed in the ladle and the removal of dissolved gases results in cleaner, stronger, higher quality, more pure steel.

Vacuum Degassers fall into two categories. The first type, a re-circulating degasser involves inserting two legs or snorkels of a vacuum chamber into a ladle of molten steel. The second type, a tank degasser, is a vessel into which a ladle is sent and stirred by the injection of argon gas.

A **Lenox** Vacuum Degasser Camera System is mounted through the Vacuum Degasser's tank cover or hood (see **A**) to allow the operator to observe, vessel pre-heating, material being added from the alloy hopper, the stirring of the molten metal, refractory condition, surface slag, and the color of the metal throughout the complete process.



Typical Vacuum Degassing Vessels

#### Why Use **Lenox** Furnace Camera Systems?

- Designed to be rugged and durable for the brutal atmosphere of the Steel industry.
- Proven reliable dual cooling system and the highest camera resolution with superior optics.
- Minimal maintenance and operating cost once correctly installed.
- Backed by an industry leading **two year warranty**.
- Flexibility in choice of penetration lengths, viewing angles, and water cooled models that utilize integral, **low consumption** air/gas-purging to prevent fouling of the lens system.
- **Lenox** know how, expertise and installation/field service.

*Serving the Steel Industry Since 1950!*



**LENOX FURNACE CAMERA SYSTEM SELECTION GUIDE**

**The 1 and only**  
**FURNACE CAMERA SYSTEM**  
**DESIGNED FOR THE STEEL INDUSTRY**

with extreme durability, higher resolution, a time-tested cooling system, a longer warranty, and a much lower average cost to operate.



Model 6900SC Series

*Lenox / Pultz* high-temperature, video furnace camera systems are designed to be mounted either directly through the wall or flush with the exterior wall of a furnace. The stainless steel camera housing employs a steel triple wall laminar flow for efficient water-cooling of the color CCD camera and PH lens technology to provide clear, real time high-resolution (540 line) images, enabling operation in hostile environments up to 4250°F (2345°C). An integral air/gas-purge prevents fouling of the lens system. The furnace camera is available in lengths of 18" (457mm), 24" (598mm), 31" (762mm) and provides direct viewing with a choice of 30°, 45°, 90° field of view and zoom capabilities up to 5X.

**Lenox FireSight** furnace camera systems consist of a high-resolution (540 line), color CCD camera and sophisticated light volume control, a Lenox exclusive that allows an operator to remotely adjust the amount of light transmitted to the camera eliminating the flaring / blooming common with other systems. Quartz optics, another **Lenox** exclusive, are used and can withstand temperatures up to 1200°F (649°C) higher than the glass lens used in other systems. In addition, a water-cooled lens jacket and CCTV camera housing provides cooling and protection for the furnace camera and air/gas-purging of the lens system to prevent fouling by deposition. Designed to be mounted directly through the furnace wall these furnace cameras can be used in applications up to 3500°F (1927°C). Available with either a 24" (610mm) or 36" (914mm) lens in either direct (60° or 90°) or right-angle (55°) view configurations. Special lengths up to 126 inches (329cm) are available.



Model 6555FC Series

Please contact us for more information about our products and capabilities and to discuss your specific application.

