

FURNACE VIEWING TELEVISION SYSTEM

Overview

The **OFT - 10** system is typically used in a Power Generation Boiler with fuel types Fossil & Oil, Gas. OFT10 represents the current state of the art in furnace and boiler viewing television, incorporating highly efficient air cooling system within a small overall diameter of 50 mm with the provision of automatic retraction system.

The **OFT - 12** system is designed for installation in Reheating Furnaces, Incinerators and similar plants where the operating conditions does not necessarily demand the extra performance of water cooling and allows the cost benefits of a simpler system to be enjoyed.

The **OFT – 5** system is a miniature solid-state colour television camera is contained within a water-cooled housing that is inserted through the furnace wall or roof to view the interior from a position that is effectively at the hot face of the refractory. A special lens views directly into the furnace through a small aperture in the housing, which is provided with a refrigerated air purge which exhausts through the viewing aperture and provides front-end cooling for the lens as well as keeping it clean

Types of Furnace & Use of our Cameras in Steel Industry

- **Steelmaking furnaces**, used to refine the iron into steel, usually by adding additional carbon and/or alloying metals These can be divided into two groups, those which are associated with blast furnaces on the same site, and which are fed liquid iron, and those where the charge is cold, usually scrap -based. The latter are almost invariably electrically powered. Our OFT5 based cameras allows viewing of the furnace internals over Camera & allows operator to take informed decisions to avoid losses.
- **Degassing furnaces**, used for manufacturing high quality steel for aircraft & automobile industry. Our OFT-12 Vacuum Degasser Camera System is mounted through the Vacuum Degasser's tank cover or hood 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. Thus a complete reduction in loss of steel manufactured.
- **Reheating furnaces**, The Reheat Furnace is designed to efficiently heat the incoming material to rolling temperatures with temperature uniformity for further processing. Our OFT-10 Furnace Cameras are used to observe slabs or billets at the entrance of the furnace as they are set on the beam.
The center of the furnace is monitored for proper distance between slabs or billets and to ensure that the discharge machine has the material properly held before it is lifted out of the furnace exit and placed onto the rolling line.
In these instances it is essential that the operator have a good view of the peel bar to ensure that it is centered on the material before pushing.



OFT-10



Specification:

- Camera:** High-resolution (450TVL) colour solid-state unit with CCD sensor
PAL/NTSC format as appropriate
- Housing:** Stainless-steel triple flow design. For furnaces having an aggressive atmosphere, a special ceramic coating is available to provide immunity from chemistry attack.
Diameter: 50mm
- Junction Box:** Size: 800mm (h) x 600mm (w) x 250mm(d)
- Monitor:** (Standard) 36cm (14") metal-cased industrial flat-panel unit.
- Air:** 750 litres (25ft³)/min free air inlet pressure of 5-7 bar (60-100 psig)
- Electrical:** Junction Box: 90-260V AC, 47-63Hz, Monitor: 100-240V, 50-60Hz,
- Usage:** Typically used in Power Generation Coal, Oil & Gas fired boilers. Steel Industry Reheating Furnaces.

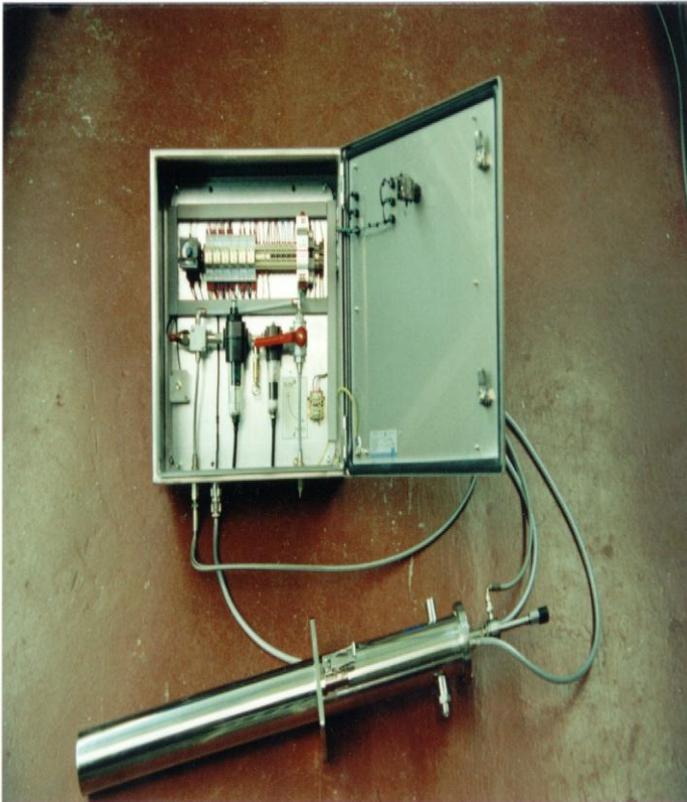
OFT-12

Specification:

- Camera:** Solid state colour, 450 lines resolution, PAL or NTSC, Fully automatic operation, no operator control required.
- Monitor:** Flat-Panel type, 38 cm (15") screen size, (Optional)
- Electrical:** 100/240 volts 50/60 Hz
Junction box approximately, 25 watts
Monitor approximately, 45 watts
- Air:** Approximately 12m³hr free air volume
Inlet Pressure > 4 bar
2 stage filtration is provided, 99.99% solids and aerosols are removed down
- Mechanical:** Junction Box - 500 x 500 x 210 mm
Camera length to suit application, 300 – 1500 mm
Camera diameter 50 mm
Mounting tube diameter 75 mm
- Usage:** Used in Steel Industry Blast Furnaces & Captive power plant boilers.



OFT-5

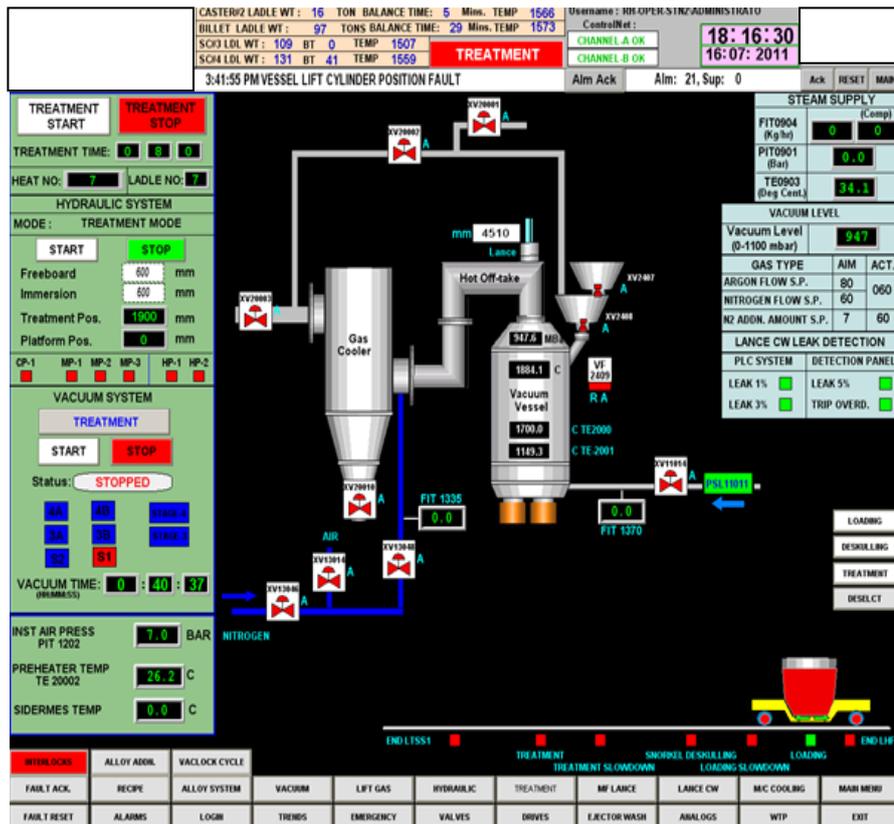


Specification:

- Camera:** Solid-state unit with 1/3" CCD sensor PAL or NTSC format
- Junction Box:** Size 500mm (h) x 500mm (w) x 210mm (d) Stainless steel for corrosion resistance.
- Monitor:** (Standard) 36cm (14") picture tube metal-cased industrial unit
Size 318mm (h) x 347mm (w) x 388mm (d)
- Services:** Minimum 5 litres/min with inlet temperature of 35 C or less(Water)
Should be reasonably free of sediment
- Air:** 240 litres (8ft3)/min free air at inlet pressure of 4-7 bar (60-100 psig)
- Electrical:** (Junction Box) 90-260V AC, 47-63Hz
Normal current drain less than 0.5A but local mains outlet for test equipment means that at least 2A supply should be installed.
- Monitor:** 240/110V 50Hz or 115V 60Hz as Appropriate - Approximately 65 watts

Usage: Used in Steel Industry Degassing Furnaces & Captive Power plants.

RH Degrasser Camera



Salient Features

State of the art design customizable as per Site condition & as per boiler requirements.

High quality colour pictures are displayed.

Views the furnace interiors with no windows to degrade the picture quality

Highly efficient air cooling system

Incorporates automatic retraction system to prevent damage

Highly efficient filters provided for operation from normal plant air

High quality colour pictures are displayed.

Filters can be changed even without withdrawing the camera from furnace.

Lens do not require cleaning as it is cleaned by the cool air.

Low cost with additional benefits.

Can be provided with time stamping on DVR Systems