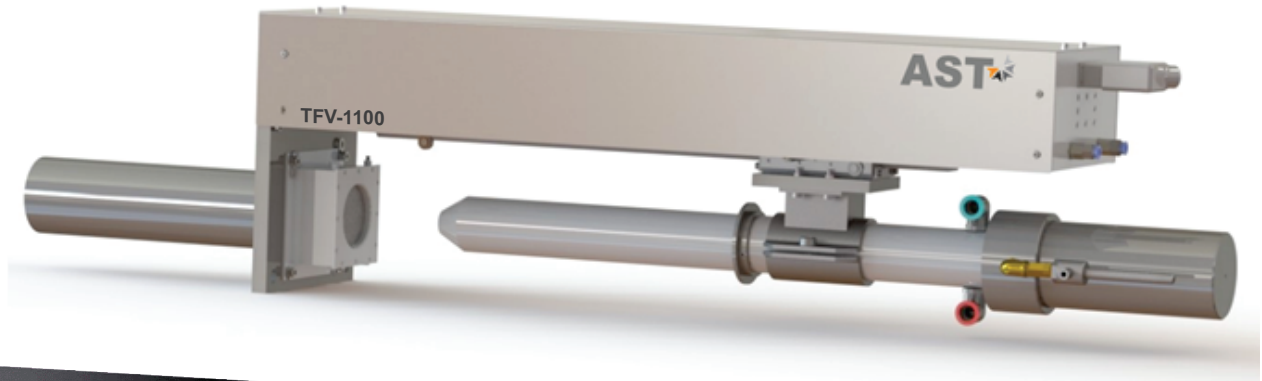


# BOILER INSPECTION CAMERA

**TFV-750 /1100**

- Improved efficiency by optimizing the combustion.
- Enhanced safety for the operators.
- Minimize downtime and maintenance costs.
- Extend critical component lifespan.
- Ensure compliance with environmental regulations.

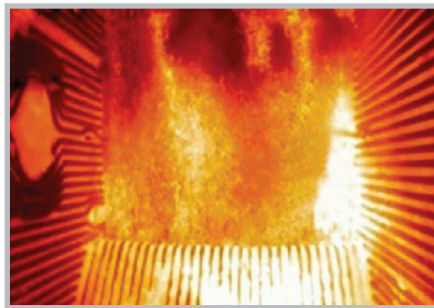
## FURNACE MONITORING CAMERA SYSTEM FOR BOILER INDUSTRIES.

Boilers are crucial for various sectors such as power generation, manufacturing, and heating systems. The use of boilers has become essential in many industries to support the production process, reduce energy consumption, and maintain safety standards. Furnace cameras are commonly used in boilers to monitor the combustion process and ensure optimal performance and safety. These cameras provide a live feed of the inside of the furnace, allowing operators to observe the flame and fuel flow.

By using furnace cameras, operators can quickly identify and diagnose any problems that may arise, such as flame instability, poor fuel mixing. This information can be used to adjust the combustion process in real-time, ensuring optimal efficiency and reducing the risk of equipment damage or failure.

In addition to improving operational efficiency and safety, furnace cameras can also help with maintenance and troubleshooting. By providing a visual record of the furnace over time, operators can identify trends and patterns that may indicate underlying issues, such as equipment wear or improper maintenance.

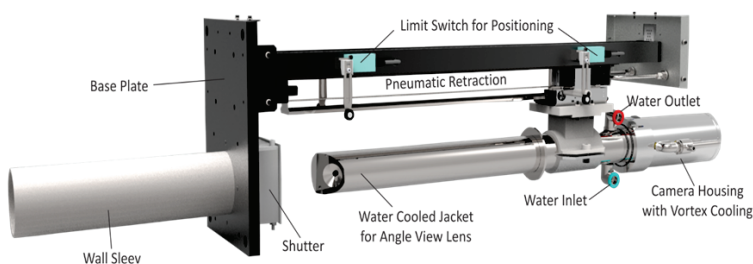
Overall, the use of furnace cameras in boilers is an important tool for ensuring safe and efficient operation, and can help to reduce downtime and maintenance costs over the life of the equipment.



Inside view of Boiler

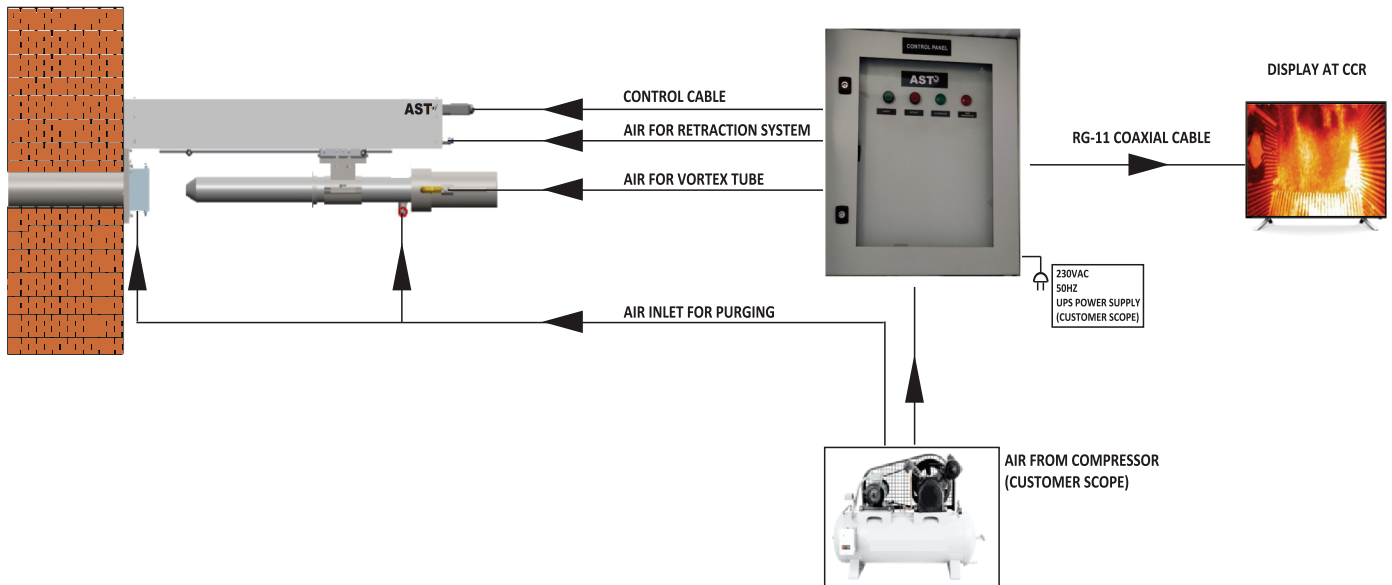
High-Temperature Furnace Monitoring Systems (FMS) provide superior image quality and depth of view enabling monitoring and controlling at full load. The ability to provide real-time data leads to higher boiler availability, improved heat transfer efficiency, and prevention of destructive failure and variability. It operates in ambient conditions of up to 2000°C. This means that it can effectively function in high-temperature processes without compromising its reliability and longevity. Four lock points for safety- Air Failure, Power Failure, Water Failure, Over Temperature. Our Models for fire ball monitoring in boilers are TFV-750/OV (Oblique/Angular View), TFV-1100 (Straight View)

The furnace camera system is provided with a pneumatic retraction mechanism which includes a guide rail, pneumatic rodless cylinder, and mounting block. This system inserts/retracts the camera system as per the logic input from the PCB. It also has a rugged 10 pins two-part connector for connection between the control unit and the camera system.



Camera Installation

## SCHEMATIC DIAGRAM OF CAMERA SYSTEM TFV- 750/OV



Schematic diagram of AST TFV- 750/OV camera system.

## TECHNICAL SPECIFICATION:

### Requirement of Compressed Air

- Pressure 7 ~ 10 Kg/cm<sup>2</sup>
- Volume flow 50 m<sup>3</sup>/h
- Temperature <35°C
- Quality Dust, Oil & Moisture free clean air

### Analog Bullet Camera

- CCD sensor 1/3" Super HAD CCD
- Lens 5 times manual electric zoom lens
- Illumination 0.005Lux @F2.0
- Image Manual adjustable
- Power DC12V (±10%)
- Power Consumption Less than 120mA
- Working temperature -10°C ~ +70°C
- Storage temperature -20°C ~ +60°C

### Technical

- Environment Up to 2000°C
- Cooling system Vortex air & Water cooling
- Transmission device Pneumatic air cylinder
- Power AC 220V/110 V

### Pinhole lens

- Lens length 820 mm & 1080mm
- Focal length Fixed 3.5 mm / from 3.6-18mm.
- Angle of view Straight view 0°  
Elbow view 60°
- Field of view Horizontal 65°  
Vertical 56°  
Diagonal 85°
- Focus and Iris Manual
- Mount CS

## KEY FEATURES:

- Wide angle of view 85°.
- Relay alarm outputs for DCS.
- Clear live video in low/high light condition.
- Working in harsh and high ambient conditions.
- Rodless cylinder reduce size and weight of system.
- Two Stage air filtration system for clear view and smooth working of system.

## GENERAL SPECIFICATION:

Specifications	TFV- 750/OV	TFV-1100
Viewing pattern	Inclined view	Straight view
Angle of lens	60°	-
Work up to wall thickness	400mm	600mm
Stroke	600	800
Cooling system	Vortex Air cooled	Vortex Air cooled
Lens tube length	820mm	1080mm

