

IR-Camera for Heating furnace

Model number:RB-TemTV-N

The RB-TemTV-N IR-Camera for Heating Furnace allows the probe to be directly extended into the furnace, while enabling continuous real-time monitoring of the furnace's heated workpieces in the centralized control room. The system provides real-time temperature measurements of the workpieces, allowing users to adjust the flame combustion based on temperature data, ensuring the workpieces reach the rated temperature of the finished product. Additionally, it optimizes combustion to operate in the most energy-efficient state, maintaining the production process at maximum efficiency.

The system can monitor multiple points or zones simultaneously, providing comprehensive temperature monitoring of both the furnace walls and workpieces over large areas. It enables users to set temperature measurement zones and define hazardous temperature thresholds. If the temperature exceeds the set threshold, the system triggers an image and video alarm, and stores the temperature data for future review.

The high-temperature probes are cooled by both air and water, ensuring stable and maintenance-free operation for extended periods, even in furnaces operating at temperatures up to 1800°C



Product Features

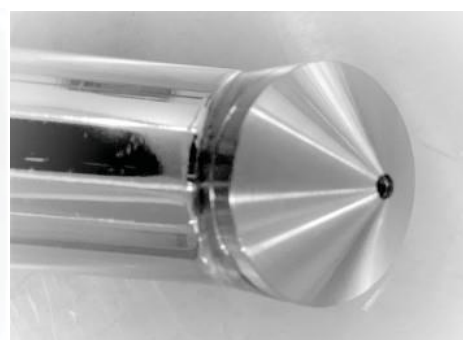
- A high-precision short-wave infrared thermographic temperature measurement sensor specifically designed for high-temperature furnace applications.
- Wide field of view 85°.
- Can be inserted into the furnace to shoot in harsh high temperature environment.
- Camera can be automatically withdrawn from the furnace in case of over temperature, low air pressure, power failure, etc.
- Induction wavelength: 0.9μm-1.7μm.
- Temperature range: 850°C~1800°C.
- Temperature measurement accuracy: 1%
- Resolution: 1280*1024.

Technical Specification

Camera shot	
Lens length	920mm or 787mm
Viewing angle	Direct view 0°/Turn view 60°
Angular field of view	HxVxD 65°, 56°, 85°
Induction wavelength	0.9μm-1.7μm.
Focus and Iris	Manually adjustable



Direct view 0°



Turn view 60°

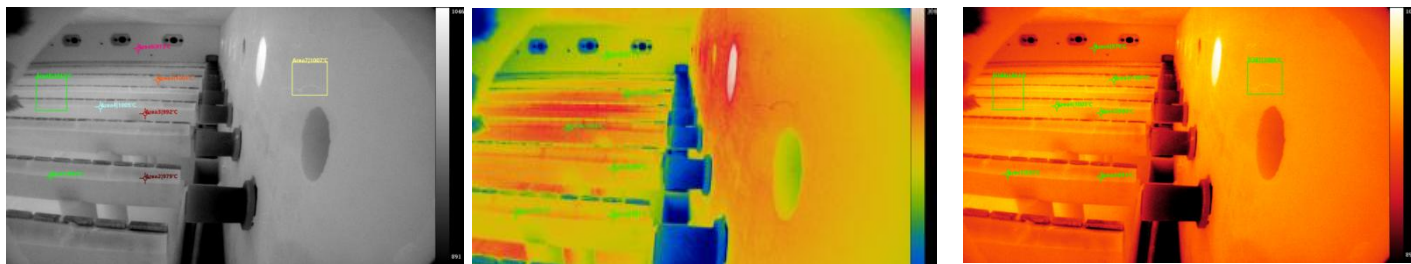
Conditions of use	
Heat-resistant	Up to 2000°C
Cooling system	Compressed air and water cooling
Transmission device	Pneumatic Rodless Cylinder
Power supply	220VAC/50Hz

Compressed air requirements	
Air pressure	≥0.5MPa
Air flow rate	≥30m³/h
Air temperature	<35°C
Air mass	Clean air free of dust, oil and water

Cooling water requirements	
Water inlet pressure	≥0.3MPa
Water flow rate	≥1m³ /h

Infrared camera specifications	
Induction wavelength: 0.9μm-1.7μm.	
Resolution: 1280*1024.	
30fps, can output real-time image.	
Support wide dynamic range up to 120dB, suitable for backlight environment monitoring.	
Real-time display of temperature and history curve.	
Support 1000M adaptive network interface.	
TCP/IP digital output.	
Power Supply	DC12V±10%/ DC12V±10% /PoE
Operating Temperature	-30°C~60°C
Power Consumption	<30W

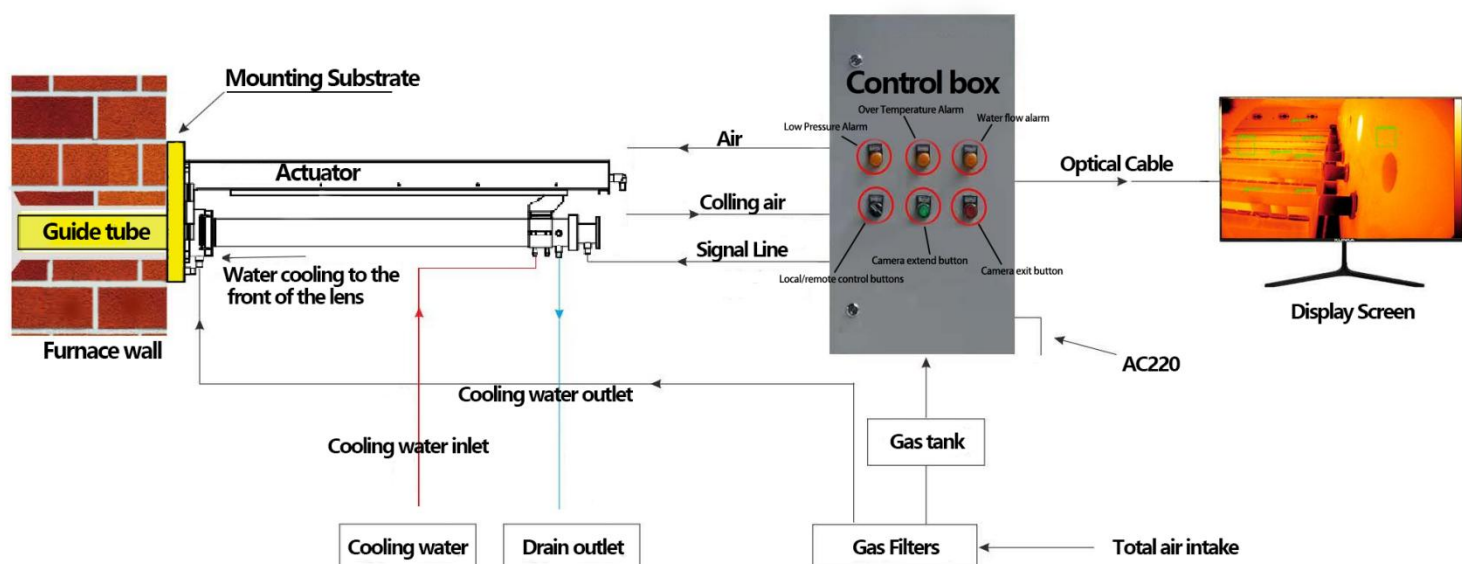
Rendering



Furnace camera system with retraction device

The pneumatic retraction mechanism consists of a cylinder, guide rail, and mounting bracket, ensuring precise operation. The relay-based control system monitors critical conditions like low cooling gas pressure, over-temperature, or power failure. In these cases, the mechanism automatically retracts from the furnace chamber, protecting the infrared camera system from potential damage.

Video camera system structure diagram



On-Site Image



Applications

Cement kilns - rotary kilns and coolers

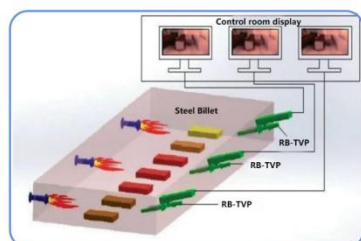
Metallurgy - heating furnaces

Glass - melting tanks

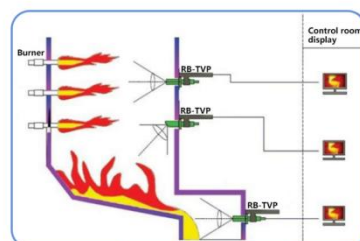
Electricity - boilers (coal-fired or gas-fired boilers)

Waste incinerators

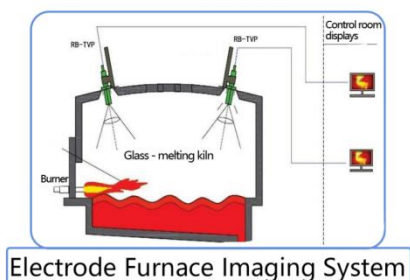
Biomass boilers



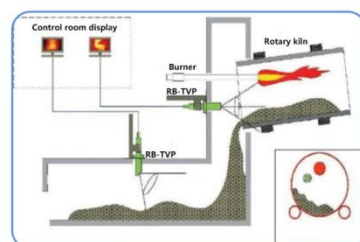
Steel and iron



Electric power



Electro Furnace Imaging System



Clinker