

Camera for Kiln and Clinker Cooler

Model number: RB-TVP09

The RB-TVP09 Camera for Kiln and Clinker Cooler is a specialized CCTV system designed for high-temperature environments. It uses a combination of compressed air and circulating water for cooling. The camera is inserted directly into the furnace to observe the operation of the workpiece, material melting, and the shape of the flame. It is widely used in industries such as metallurgy, power generation, cement, chemicals, and machinery. The RB-TVP09 is mounted on the boiler wall and features automatic retraction and insertion functions. The system is equipped with a high-definition camera and a high-temperature resistant borescope installed inside a stainless steel cooling jacket, which ensures the camera can operate continuously in high-temperature furnaces using both water and air cooling.



Product Features

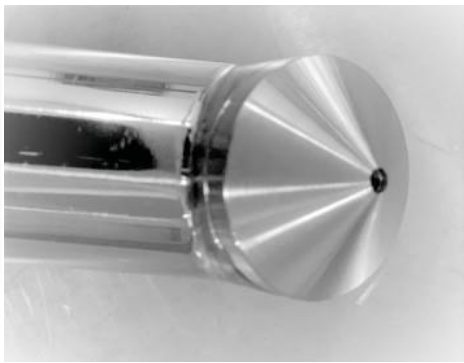
- Wide field of view 85°.
- Relay alarm output.
- High-definition digital video image, digital network port output.
- Can be inserted into the furnace to shoot in harsh high temperature environment.
- Camera can be automatically withdrawn from the furnace in case of over temperature, low air pressure, power failure,etc.
- Rodless cylinder retraction mechanism reduces system size and weight.
- 920mm borescope length is suitable for 500mm wall thickness, 787mm borescope length is suitable for 450mm wall thickness.

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°
Lens Mount	CS
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	$\geq 0.5\text{MPa}$
Air flow rate	$\geq 30\text{m}^3/\text{h}$
Air temperature	$< 35^{\circ}\text{C}$
Air mass	Clean air free of dust, oil and water

Cooling water requirements	
Water inlet pressure	$\geq 0.3\text{MPa}$
Water flow rate	$\geq 1\text{m}^3/\text{h}$

Camera Specifications	
1/1.8" Progressive Scan CMOS.	
3 megapixels (2048 x 1536).	
30fps, can output real-time image.	
Support wide dynamic range up to 120dB, suitable for backlight environment monitoring.	
Support ONVIF(profile S/profile G), CGI, PSIA, ISAPI, GB/T28181 and EHOME protocol access.	
Support 10M/100M/1000M adaptive network interface.	
Supports BNC analogue output.	
Power Supply	DC12V $\pm 10\%$ / DC12V $\pm 10\%$ / PoE
Operating Temperature	-30°C~60°C
Power Consumption	<30W



Furnace rendering

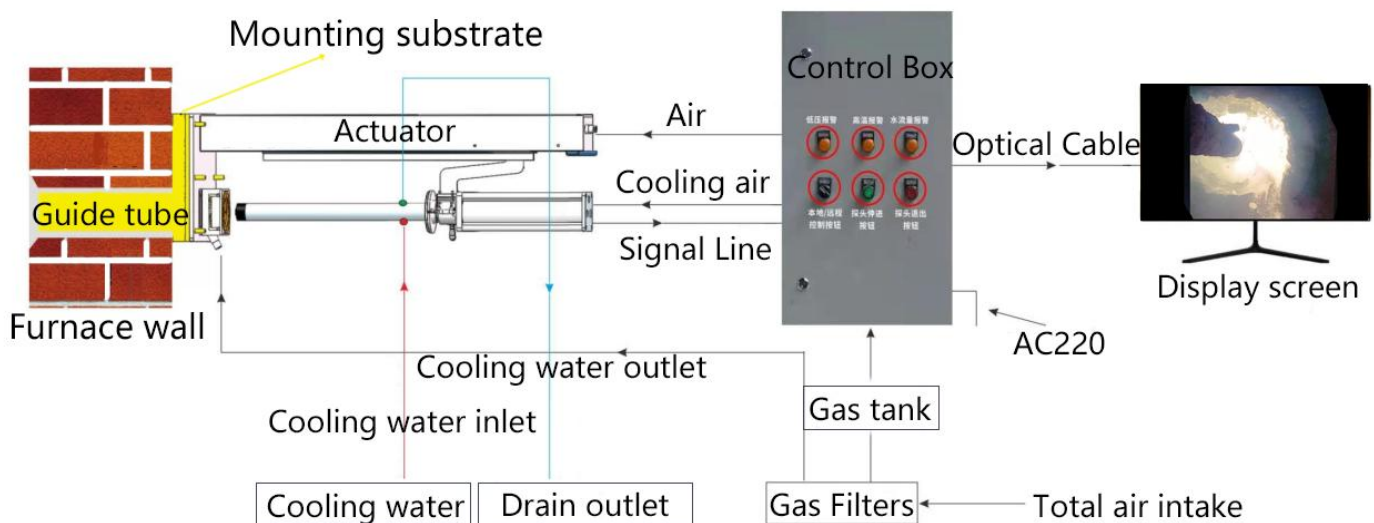


Furnace rendering

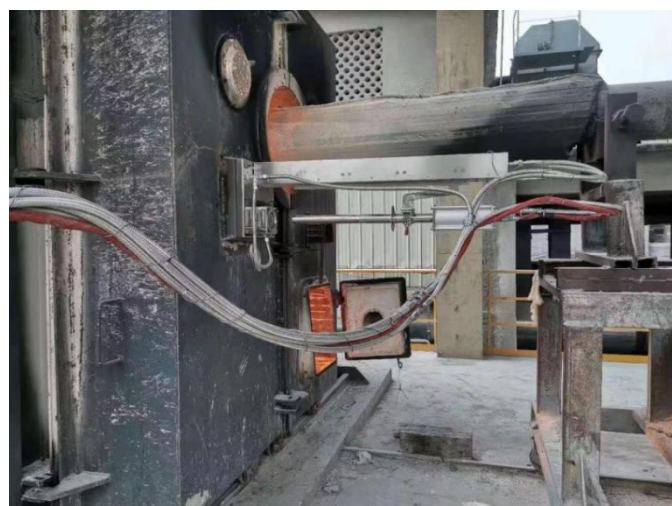
Camera for Kiln and Clinker Cooler with retraction device

The pneumatic retraction mechanism consists of a cylinder, guide rail, and mounting bracket. The retraction control system uses relay control, which ensures that in the event of low cooling gas pressure, overheating, or power failure, the retraction device will automatically withdraw from the furnace chamber to protect the camera system.

Video camera system structure diagram



On-site image



Applications

Cement kilns - rotary kilns and coolers

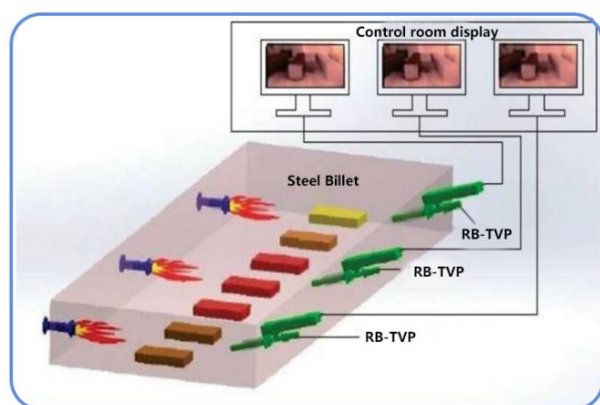
Metallurgy - heating furnaces

Glass - melting tanks

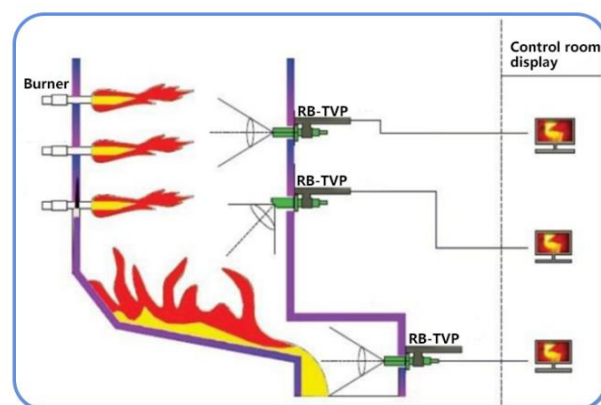
Electricity - boilers (coal-fired or gas-fired boilers)

Waste incinerators

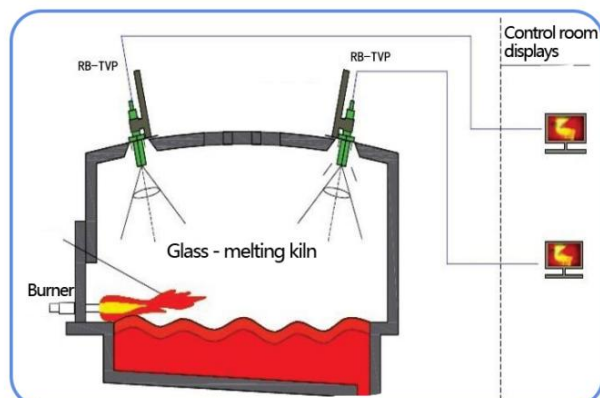
Biomass boilers



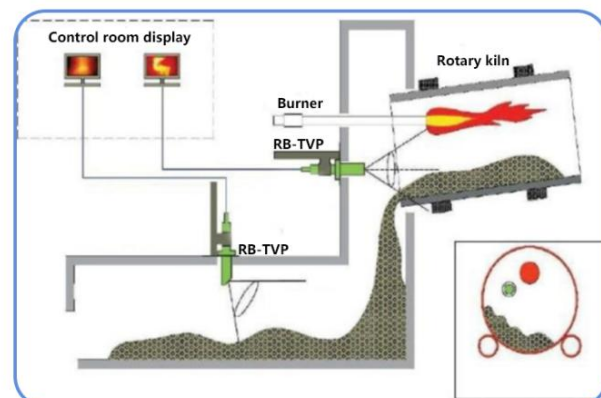
Steel and iron



Electric power



Electrode Furnace Imaging System



Clinker