

IR-Camera for Recovery Boiler

Model number: [RB-TemTV-M1500](#)

The molten material cushion at the bottom of the alkali recovery boiler plays a crucial role in the furnace's chemical reaction conditions. Its height and shape are essential for adjusting the black liquid spray gun and primary air. Cushion detection allows operators to monitor its condition from the control room. Given the presence of black liquid drips and alkali and mirabilite dust in the harsh high-temperature environment, this process requires precise monitoring.

The RB-TemTV-M1500 camera system, developed by our company, provides real-time, high-definition images of combustion and ash accumulation within the boiler, helping optimize boiler operation. The system features an optimized optical design and a specially engineered cooling and purge mechanism to prevent ash buildup on the probe while ensuring cooling efficiency. In emergency situations, a retraction device is included for lens protection. The cooling air system is connected to both the relay lens unit and the camera housing.

The IR-Camera for Recovery Boiler includes an automatic retraction device and slag cleaning mechanism. If cooling air is interrupted, an overtemperature condition occurs, or power failure happens, the retraction device automatically withdraws the probe to protect it. Before the lens extends into the boiler, the automatic ash cleaner removes any accumulated ash from the installation hole to prevent it from contacting the lens.

The camera's unique infrared image sensor ensures clear visibility even in hot, dusty environments. It can display temperature readings for multiple areas or points simultaneously. Temperature measurements are calibrated using a standard black body, providing accurate temperature readings. This system integrates temperature measurement functionality as a key feature.



System features

- RB-TemTV-M1500 IR-Camera for Recovery Boile adopts high-performance solid-state infrared imaging technology, which can penetrate the smoke and dust in the furnace to form clear images;
- The imaging probe adopts double-layer air-cooling protection and can be directly extended into the kiln (below 2000℃) for continuous and real-time monitoring. The scientific design of air flow distribution forms a rotating wind curtain at the front of the lens, which increases the strength and sweeping area of the wind curtain, and effectively prevents the contact between the dust in the furnace and the lens objective. The system equipment can operate continuously and stably for a long time with basically no maintenance;
- The infrared probe with independent intellectual property rights has an unparalleled temperature range, which can meet the real-time temperature measurement and image analysis of materials with a temperature range of 600℃ ~ 1400℃;
- The system performs real-time analysis of the measured temperature and retains historical temperature data or alarm data for future production viewing. ●Through quantifiable kiln temperature analysis, users can improve the efficiency and effectiveness of material combustion;
- The imaging probe can automatically exit the furnace in the event of over-temperature, low pressure, or power failure;
- The flexible slag removal device can be operated remotely at any time.

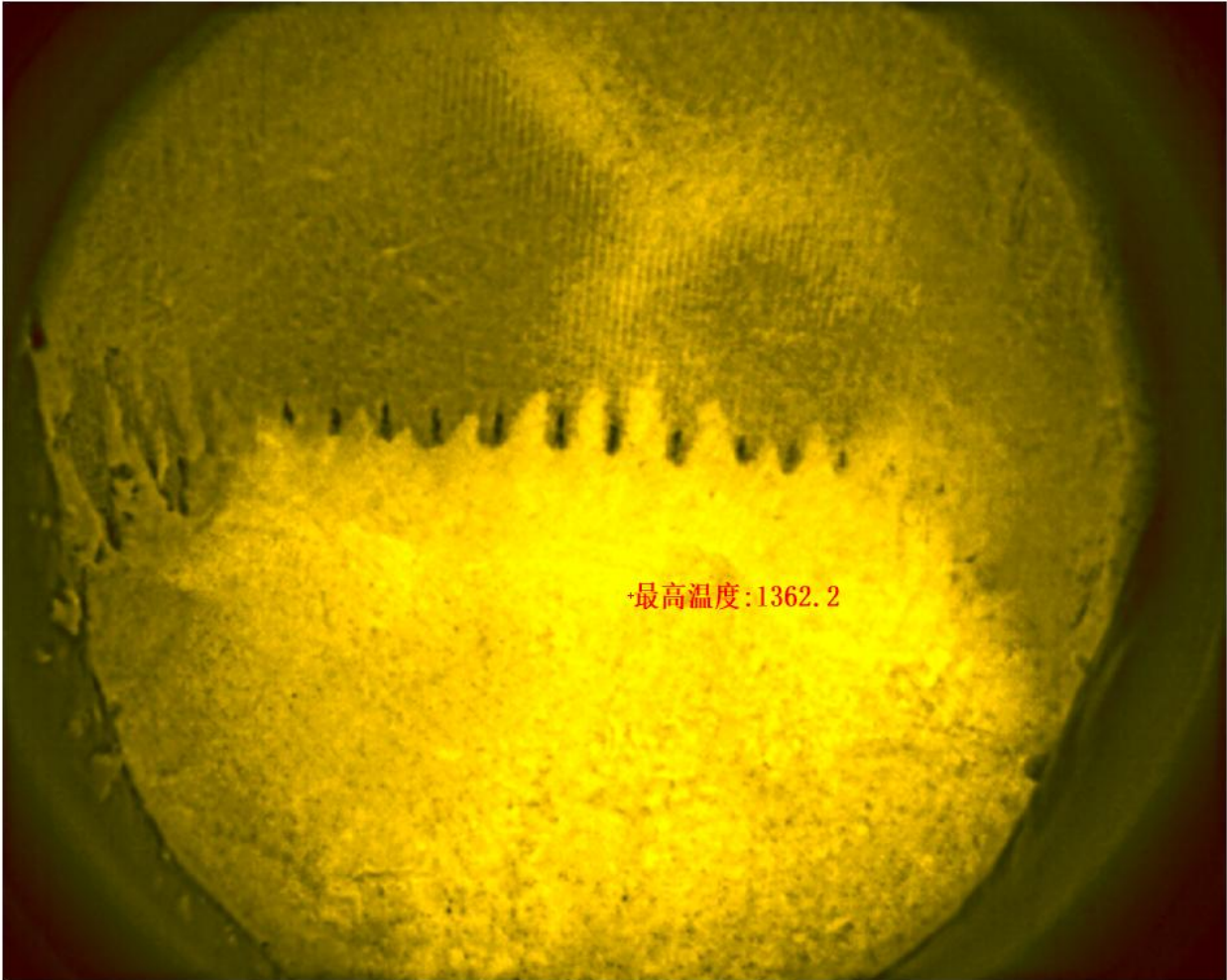
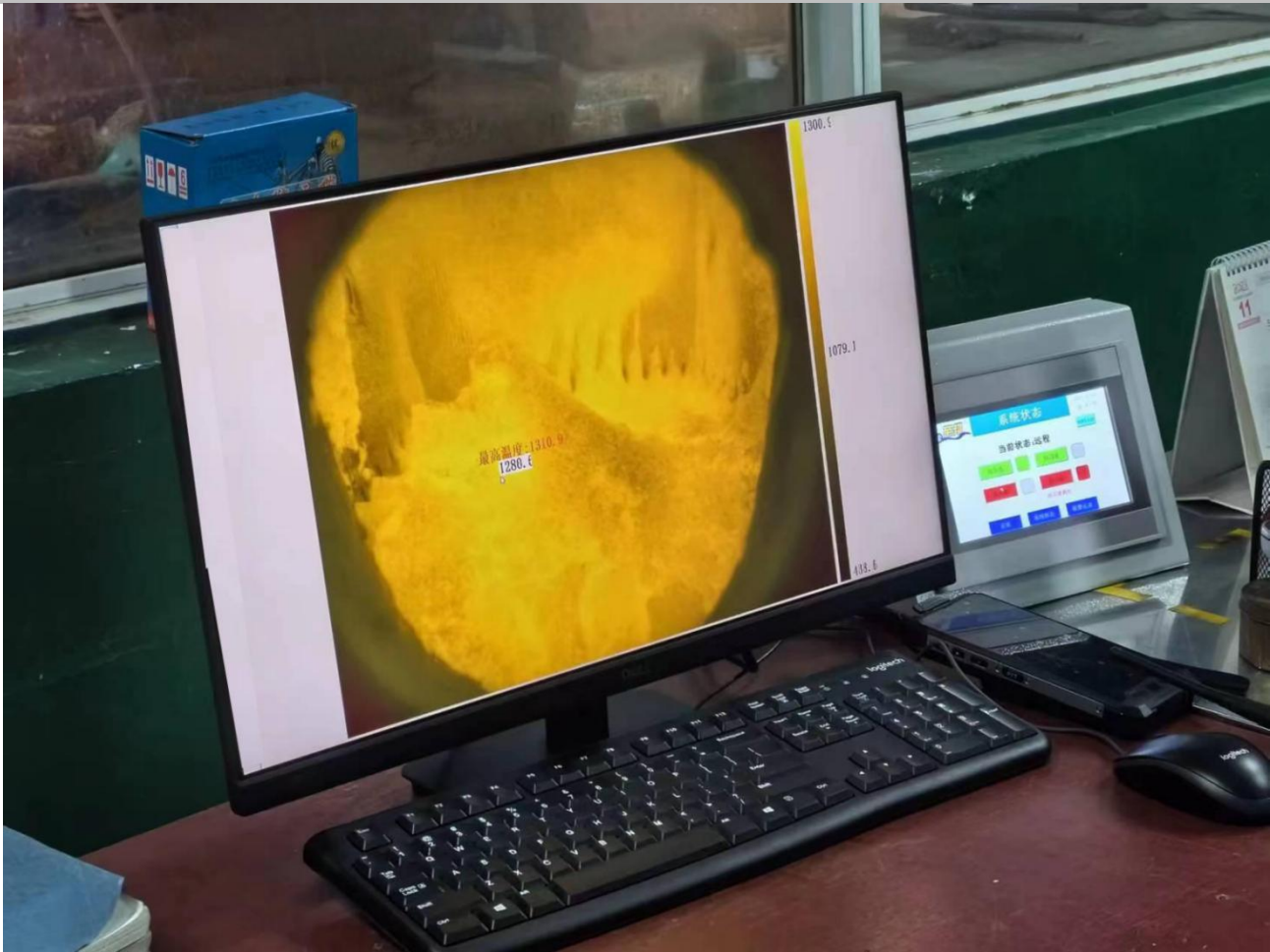
Technical parameter

Equipment usage conditions	
Cooling gas:	
Gas pressure:	0.4MPa (not less than 4 kg pressure)
Gas flow:	500L/min
temperature:	20℃ to 35℃
Clean instrument gas or nitrogen must be used, otherwise the unclean cooling gas will contaminate the lens, resulting in the lens blur, and the resulting image damage will not be within the normal warranty range.	

System composition

- Imaging part (including solid-state infrared camera + lens)
- Probe exit protection device
- Mechanical slag removal device
- Control unit (air pressure, temperature, etc. monitoring)
- Gas filtration device
- Image processing unit (display image and temperature)

Engineering case renderings



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