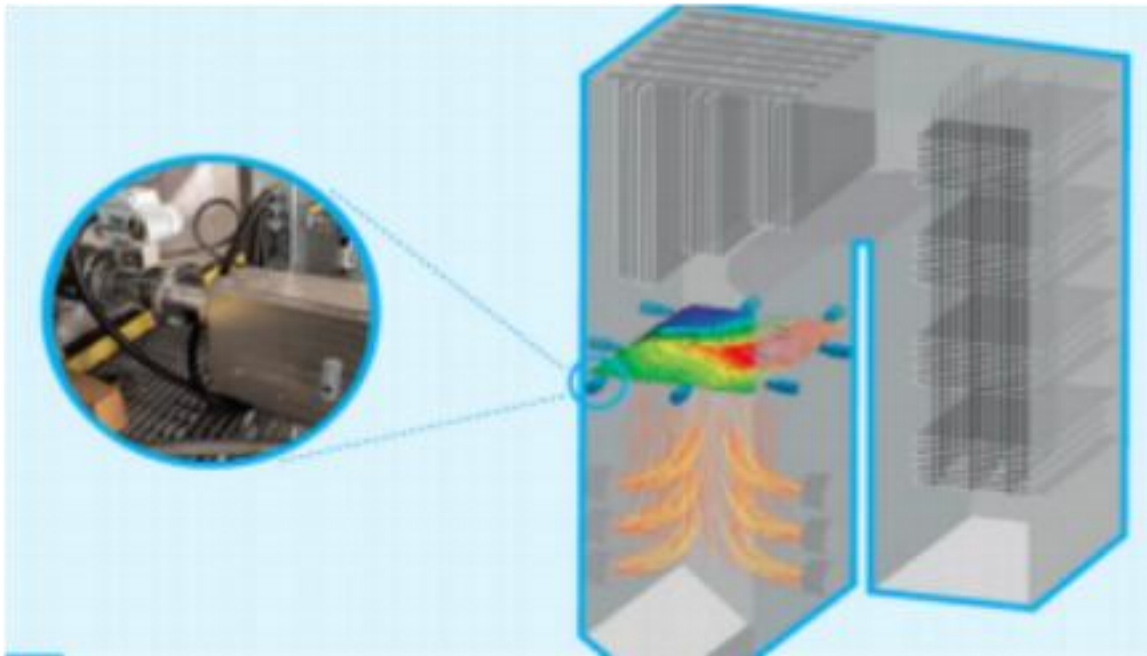


Flame Temperature Distribution 2D

Model number: TEM-2D

The TEM-2D intelligent temperature monitoring system utilizes a specialized measurement system to capture and calculate temperature, enabling real-time monitoring of the furnace's temperature field. Based on this data, corrective actions can be taken to adjust combustion parameters and maintain the temperature within the optimal process range. Additionally, the thermal diagnostic information is used to assess the cleaning efficiency of the boiler cleaning system, thereby improving overall efficiency.



System advantages

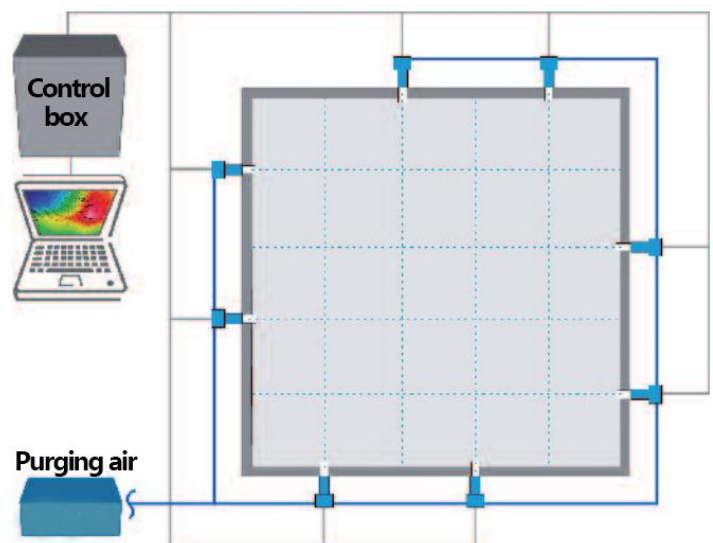
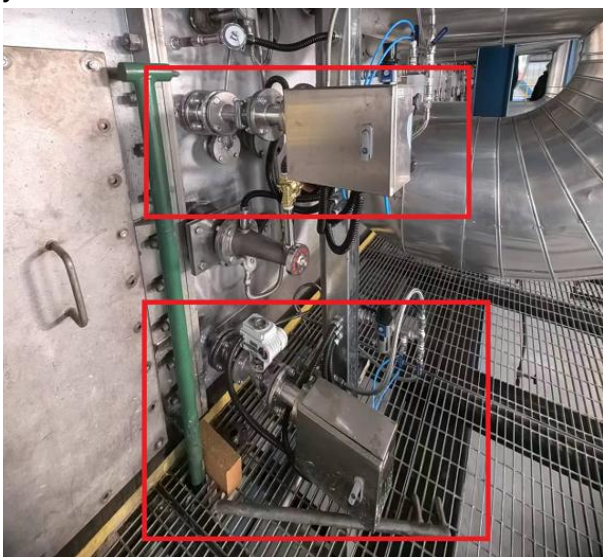
- Coal-fired boiler process optimization.
- Accurately capture the SNCR denitrification temperature window.
- Prevent local hot spots.
- Prevent local erosion.
- Prevent local slagging.
- Improve boiler operation efficiency.
- Reduce NOx emissions.
- Reshape the outer flame into the central area and make the flame round.
- Optimize kiln gas ratio.

System parameter

Temperature measurement range:	250°C ~ 1400°C (Garbage-fired power plant boiler)
Temperature measurement range:	600°C ~ 1800°C (Coal-fired power plant boiler)
Temperature measurement accuracy:	1%
Temperature measurement response time:	10ms
Temperature output:	4~20mA

Functional principle

The TEM-2D intelligent temperature monitoring system uses specialized high-temperature measurement technology to monitor real-time temperature fluctuations based on the furnace's radiation intensity changes. By selecting the appropriate sensor, the system ensures highly precise measurements and displays the temperature distribution across the entire two-dimensional measurement plane. To achieve this, at least 3 sets of temperature measurement sensors are required on each side of the boiler, totaling 12 sets of sensors. The temperature analysis software developed by our company processes and visualizes the temperature distribution data as a 2D profile. The system can be installed through a small opening (approximately 40mm in diameter) in the boiler wall. It utilizes gas cooling, requiring only a small amount of gas (2 cubic meters/hour) for the tiny opening. Each sensor is protected by a cooling sleeve, and the installation requires compressed air (at no less than 0.2MPa) and a 220V power supply. A computer collects data from multiple sensors simultaneously, and the temperature distribution is visualized through software analysis



Existing means

thermocouple temperature measurement:

- ◆ Local point monitoring cannot reflect more overall and detailed conditions
- ◆ Affected by thermal radiation, the measurement value deviation is large
- ◆ Response time lag is not conducive to rapid control and process optimization operation