

Pre-heating Technology



Energy Saving 10% +
Gas pre-heating up to 400°C
Oxygen pre-heating up to 450°C
Low Maintenance
Adjustable Temperature control

The pre-heating system is designed to heat up the cold fuel and oxygen after the burner control skids to temperatures of 400°C / 450°C.

By installation of a recuperator on the furnace exhaust gas channel, hot exhaust air will be used to heat up clean fresh air to 600°C as heat transport media. The hot air will pre-heat the fuel and the oxygen supply of every single Burner. Each Burner has got a compact pre-heating module with all relevant measurement and control functions inbuilt for safe and automatic operation.

Installing a pre-heating system replaces the installation of a separate system to cool down the hot exhaust gas before entering the chimney.

Each pre-heater module is equipped with a separate adjustable bypass valve, allowing precise heating capacity and outlet temperature control for fuels and oxygen. Furthermore each module is equipped with two adjustable bypass systems (one oxygen, one fuel) to shut down the pre-heating system without interruption of the gas and oxygen supply for the combustion process.

The control system of the pre-heating system, based on Siemens PCS7 will be integrated in the main skid control cabinet.

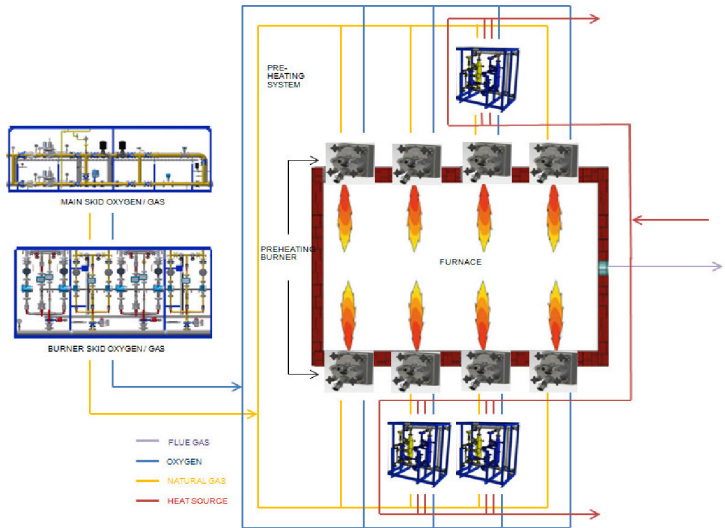
Hotwork and UAS specialised in supply of auxiliary equipment, including full gas control stations, furnace control system (DCS), full automation, exhaust gas analysis and Oxygen probes as well as tuning, supervision and commissioning services worldwide.



The OXYFIRE Pro is designed to heat up gaseous fuels and oxygen to increase combustion efficiency and save energy.

Function Principle:

- preheating of gas and air/oxygen at modular skids between flow control and burner by using process- internal waste heat
- two separate heat exchangers for gas and oxygen/air per skid
- fully automated control system for highest flexibility and controllability
- completely independent burner control



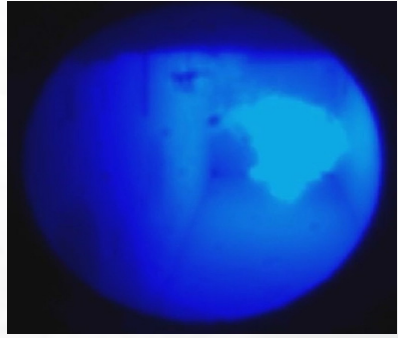
Safety:

- Highest Safety standards according to:
 - DIN EN 746-2
 - EIGA IGC DOC 13/12/E
 - DIN EN ISO 12100
 - TRBS 2152-2
 - DIN EN 2006/42/EC
- TÜV approved safety technology
- Automatic fail safe system (SIL2)

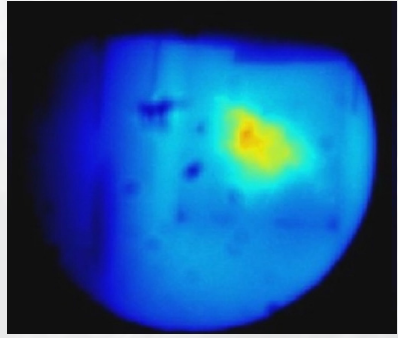


Benefits:

- Energy Savings up to 10% and more
 - Raise of enthalpy of gas and oxygen
 - Increase flame luminosity
 - Better heat transfer into the glass bath
- Increasing melting capacity
- Internal waste heat recovery
- Short ROI-periods



Cold Flame



Hot Flame pre-heated at 370°C

Swiss Quality and German Reliability complete engineering and supply



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