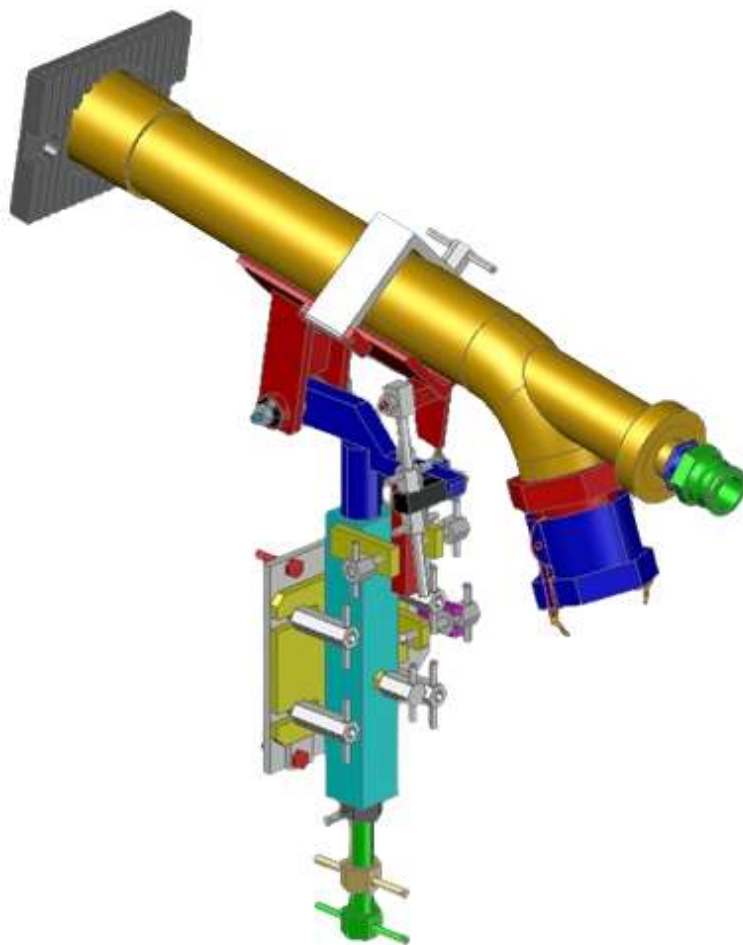


Technical Bulletin

Double impulse burner



Advantages

-  Different flame shape, according to the different production necessity
-  Easy check and remote control to the combustion
-  Reducing NOx and consumption
-  Easy installation and configuration during all the life of the furnace
-  Flexibility on different kinds of glass

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Introduction

The new dual-impulse burner is born from the necessity of reducing NOx and consumption on the standard regenerative furnace. Fuel costs and environmental law restrictions on emissions require higher performance on the usual combustion performance.

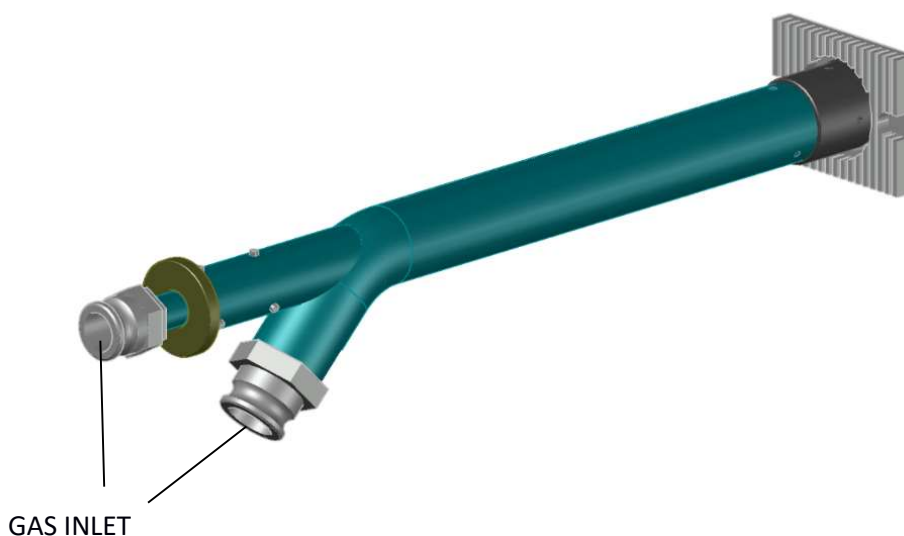
Thanks to its double gas inlet, split to internal and external flux, now it's possible to modify the flame dimensions and profile according to different kinds of production necessities. The control on the flame shape allows the operator to find the perfect setting to reduce the NOx but still be effective in the melting process.

Description

The new burners, upload a new concept of flame control, indeed, the match from mechanical parts and high sensitivity electronic control, could make the daily operation easier. The operator is enabled to modify the flame shape also by SCADA and monitor online the yields of each settings. This is the easier way to optimize and to achieve a continuous improvement in the performance, also with different conditions, while in the past the operator must perform these settings at high temperature, locally under the port neck.

SCADA recording allows the operator to monitor the data and trend it to pursue continuous optimization sustained by real data and not only experience or visible inputs.

With historical archive (related for example kind of glass, furnace pull rate etc...) memorized in the PLC, you can do by yourself a very fine combustion optimization.



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Specifications

To meet both melting efficiency and NOx reduction requirements, the new burner design allows for precise control of the flame profile across a wide range of operating loads. This is achieved through a combination of the usual mechanical adjustments on the burner body together with the new advanced regulation via the combustion management system, the internal nozzle was redesigned to improve flame stability.

The burner system is designed to integrate with an instantaneous flow measurement device equipped with signal transmission capabilities.

Installation

The BDF burners are typically installed along the sidewalls or front wall of the melting furnace under the port necks, depending on the specific furnace design. Their placement ensures optimal heat distribution and efficient melting of the raw materials. Installation locations are selected to allow safe and easy access for inspection, maintenance, and replacement without requiring furnace shutdown.



Features

Benefits

 Split gas inlet design	 Optimized flame profile and reduced NOx emissions
 Adjustable internal and external gas flows by SCADA	 Flexibility across load ranges
 Integration with local flow meters and remote control	 Remote diagnostics and enhanced plant efficiency
 Modular structure, scalable to all burner sizes	 Easier upgrade across product portfolio
 Improved nozzle and assembly design	 Better flame stability and lower manufacturing costs