

Electrode holder innovation

According to Fulvio Puccioni and Fulvia Corradini, the latest generation electrode holder from Italy's Glass Service is one step ahead in improving the quality of a glass manufacturer's job.

Since its establishment 23 years ago, Glass Service technicians have installed electric boosters in many furnaces, producing many different glass types. The company has also installed and tested several types of electrode holder, purchased from various suppliers. As a result of this experience and in compliance with requests from its assistance personnel, Glass Service has developed an electrode holder that provides enhanced performance and several advantages for the user.

Cooling of the electrode/refractory interface is the main problem of the electrode holder. Many existing designs have this functionality but today, their installation and furnace maintenance considerations require additional performance qualities, including:

- Safety operation in case of a lack of cooling water.
- Easy installation after start-up and throughout the furnace campaign.
- Very strong holder design.

To satisfy to these demands, Glass Service has developed a water/air

cooling electrode holder that is made from one machined block of special steel, avoiding the need for welding in typical critical areas. The design also features a double cooling circuit, water for standard cooling and compressed air for emergency cooling or transition cooling. The special construction employed for the holder head also guarantees the unit's good resistance to high thermal stress.

Using this double cooling electrode holder, customers can realise many benefits and advantages. This includes:

- The use of air for cooling as an emergency in the case of a water shortage.
- Electrode insertion cooling transition compress air/water after start-up and for electrode adjustment during the campaign.

With standard water cooling electrodes, the insertion operation is quite dangerous for operators due to the water itself which, being overheated, creates a large quantity of steam when the water is switched on again.

The Glass Service design allows

the control and reduced electrode holder temperature using compressed air for preliminary cooling before starting/returning to water flow.

These electrode holders are available in several sizes, from 1.5in to 4in. They can be installed either vertically or horizontally, in accordance with the electrode booster configuration. Each holder is equipped with a type K thermocouple for temperature detection. This thermocouple is positioned close to the holder/refractory interface. The thermocouple can be easily changed if a fault is identified.

Electrically, the holder is totally electrical insulated and supplied with its own accessories, including a supporting plate, water/compressed air special high temperature pipe, fittings, insulated ceramic plate and electrode emergency supports. ■

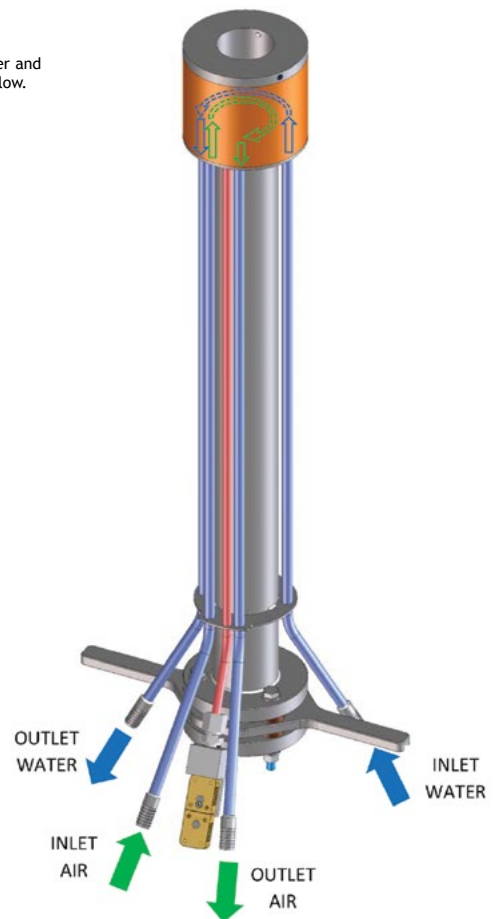


Electrode holder model.



The recently announced Glass Service electrode holder.

Water and air flow.



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