



Furnace heat-up

# **Furnace Heat Up**

Furnace Heat Up
Furnace Cool Down
Furnace Expansion Monitoring
Furnace Expansion Control
Furnace Cullet Fill in
Wet Cullet Fill
Vibrating Channels
Water Cooled Vibrating Channel
Cullet Blowing

Since 1963 Hotwork has provided Furnace Heat-Ups to the major glass manufacturer worldwide. Our special heat-up technology is based on the use of Hotwork International High Velocity Burners operating on an excess air basis, which have been especially developed for the heat up of all types and sizes of glass melting furnaces. The system permits a positive furnace pressure assuring uniform temperatures in the furn-ace and regenerators.

The system has been developed to ensure that precise temperature control of hot gas emissions from the burner can be regulated at all stages between 60°C and 1200°C, simultaneously eliminating of hot-spots or stagnant areas within the furnace. The Hotwork International-Technology permits temperature uniformity within a glass melting furnace of  $\pm$  3°C.





### HV3000 - Heat Up System



HV3000 with Silencer and Filter installed on a Float Furnace Doghouse



Temperature Control



#### **Furnace Expansion/Contraction Control:**

The correct in time adjustment of the furnace steel work during the refractory expansion is a very important aspect of every Heat-Up.

A proper expansion control will result in a stable furnace condition and longer life campaign.

Hotwork provides its electronic crown measuring equipment and installs it on a support which is separate from the furnace steel construction. The system of electronic transducers allows measuring the crown rise or any lateral expansion, during the furnace Heat Up. Hotwork International Engineers are involved in up to 15 Furnace expansion controls per year. Since each Furnace design and expansion is individual, our Engineers have the experience and flexibility to react to trouble shooting.

#### Furnace Cullet Fill in:

Ideal methods for Cullet Fill allow a high fill in rate with lowest possible dusting of the Furnace Superstructure. The Wet Cullet Mixing system allows a precise control of the moisture being added and mixed to the Cullet. The advantage of this method is that the fines will stick on the larger cullet and sink into the molten glass, not dusting the furnace superstructure. Each Wet Cullet Mixer is equipped with a Speed regulator, enabling the mixing speed between 1-25 t/h. Other System are available e.g. Vibrating Channels.

#### Location:

Being an International company, we reach out to any location worldwide. With over 250 Burner sets and equipments stored in our own hubs in Switzerland, India, China, the Philippines, Indonesia and Mexico, Hotwork International is offering a fast and reliable service in any location worldwide.

#### Manpower:

More then 60 highly qualified service engineers guarantee a smooth project completion at the highest quality and safety standards. Internal training and external safety measures are introduced as well as an internal and external evaluation of all burners and electrical components certifying the best possible service available for our clients.

## Swiss Quality and German Reliability .... complete engineering and supply



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