STIRRING SYSTEMS FOR FOREHEARTH & FLOAT FURNACES

INNOVATION ENGINEERED IN GERMANY
STIRRING SYSTEM FOR FOREHEARTHHS

The HORN stirrer systems enable mechanical treatment of the glass at the downstream part of the melting and conditioning process, the equalizing zones. For example, zirconia contaminated glass, which mainly collects at the bottom area is mixed, thereby avoiding cat scratches.

Furthermore, the thermal homogeneity index (THI) in front of the spout is improved by approximately 1 to 1.5%.

The application of stirrers works perfectly in combination with the HORN drain system VARI-DRAIN©.

The stirring system consists of:
- solid machine frame
- height adjustable stirrer shaft frame
- air cooled electric motor drive with actuator
- adjustable from PCS

The stirrer appliance includes a winch for inserting, lifting or lowering the stirrers into/inside the glass melt. The shafts are equipped with a quick-coupling system for fast stirrer exchange.

Depending on forehearth widths, up to six stirrers – aligned in a row – are required for proper performance. The number of stirrers also depends on stirrer type used, available are so called screw or paddle type stirrers. The decision which stirrer type is the most suitable for your application depends on the intensity of the cat scratches or other problems you experienced. Some customers also have “in-house engineered” stirrer types, based on trials and experience.

The rotating direction of each stirrer has to be engineered according to the overall design of the forehearth. In the presence of upstream bends, the rotating directions can differ from a standard method used in straight forehearths. The rotation speed of the stirrers is adjusted in a continuously variable manner from the switch cabinet and/or directly at the control room via the Process Control System. Rotation speed is adjustable from 2 to 20rpm.

+ Forehearth stirring system features:
  - continuously adjustable rotation speed
  - easy replacement of the stirrers through quick couplings
  - maintenance free bearings and drive elements
  - Emergency withdrawal

STIRRING SYSTEM FOR FLOAT FURNACES

The horizontal stirring appliance (HST) is used in float glass furnaces solely for conditioning of the molten glass at the neck to the melting area. Glass layers with different temperatures are mixed to a smooth and homogenous temperature profile by the circulating movements of the stirring system. Different types are available on request.

The stirrers are mounted on a moveable wagon which is stabilized by four side fixings.

A swing out mechanism is available in order to simplify maintenance work.

+ Horizontal stirring appliance features:
  - sensitive components are located at the cold side
  - good accessibility
  - homogenising of the entire traverse section of the canal
  - continuously adjustable rotation speed and direction
  - continuously adjustable immersion depth

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