

## END-PORT FURNACES

TECO has designed and supplied a new generation of end-port regenerative furnaces with melting areas between 48 sq.m. and 80 sq.m., with outputs of flint glass up to 290 metric



**Under-port gas firing system for a new end-port furnace recently installed in the UK**



**50 sq.m. TECO end-port furnace melting high quality soda-lime container glass**

be chimney blocks or cruciforms and are chosen over conventional brick packing because of the added stability, as well as providing high levels of pre-heat with minimal maintenance. This high preheat reduces the amount of fuel required and, therefore, the volume of exhaust gas is lower, leading to reduced quantities of emissions.

Mixed batch and cullet is charged via an oscillating pusher-type machine, flood fed from a batch hopper, with the rate of feed controlled by varying the pusher speed. The charger sits on a doghouse, designed to allow the batch to begin fritting before it enters the main melting chamber. This feature minimizes the risk of batch carry-over to the regenerator and helps to reduce the loading of particulate matter in the exhaust gas.

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tonnes (320 US tons) per day, and a specific energy consumption, top fire only, comfortably less than 950 kcal/kg (3.42MM Btu per US ton). According to TECO, the design of these end-port furnaces can be as small as 20 sq.m. and as large as 140 sq.m. with output up to 450 + metric tonnes per day. These furnaces can be applied to tableware, tubing, lighting, cosmetic and container production.

The furnaces incorporate low NOx single fuel or dual-fuel burners beneath each port. The burners are equipped with air or water-cooled

sealed-in nozzles, and for dual fuel flexibility, interchangeable gas or oil lances, in a very simple operation. The sealed-in design prevents the entry of parasitic air around the burner nozzles, and allows operation at very low excess air levels. This feature, says TECO, helps to reduce the generation of nitrogen oxides and provides more controllable combustion.

The regenerator outer walls are sealed with a spray coat of insulation which, as well as improving thermal performance, significantly reduces the ingress of cold air. The checkers can