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Deflector Oven

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## Deflector Oven

The Oven is designed to pre-heat and fire the required machine parts for the glass forming process (Deflectors) to remove the coating material from their surface. This oven could be equipped with a direct gas and/or electric heating system. The floor is designed to load the machine parts easily by hand or a forklift or hand trolley.

This Deflector Firing Oven is being supplied in a preassembled state to minimize the installation times. The outer structure is manufactured from mild steel and coated to the buyer's color requirements, whereas the inner structure is made from heat resistant stainless steel.

To minimize the thermal wall losses the entire unit is equipped with a thick high temperature insulation material. In addition, the floor area is insulated for temperature reasons.

The Oven is further equipped with a circulating fan as well as the gas burner or electrical heating system, as well as required safety devices.

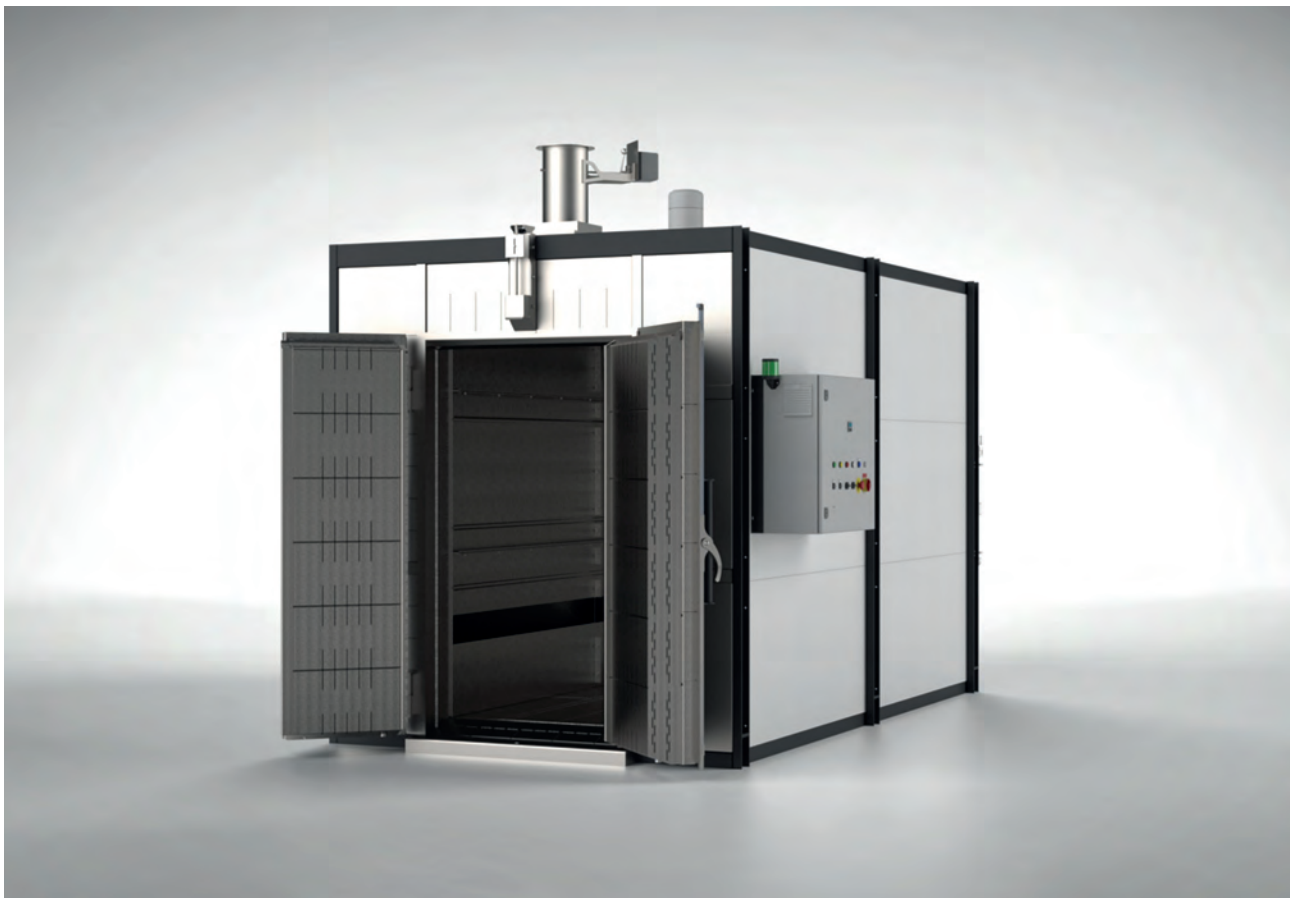
In addition to above, control and monitoring take place by the built-on electrical control panel with its temperature controller.

The frame is manufactured from solid steel. The inner hood is designed for the air distribution and accommodates the air circulating fan itself.

The front doors are swinging type and manually operated. It is equipped with an automatic lock in case of the door being open. A safety link automatically switches off the fan and burner in case of opening the front door.

The heating takes place by use of fully automatic gas burners or electrical elements. The combustion and waste gases (in case of having gas heating system) will be guided into the area of the air circulation fan wheel (impeller) and mixed with the internal air from the tunnel and circulated.

The heating system (gas) is fully equipped with all safety and relevant components, such as combustion fan motor, electric ignition transformer, heat resistant flame tube, ignition electrodes as well as control and flame monitoring system. In addition,





the burner is equipped with a compact unit consisting of the pressure monitor for lack of gas and air, solenoid valves in double execution, gas pressure reducer with manometer, flexible metal tubing and manual valve.

In the Electric heated version, direct heating is executed by use of fully automatic thyristor-controlled heating elements. The electric heating elements are made from heat resistant special stainless steel, and they will be installed from the top in the side channel of the inner hood.

In such kind of design, they provide their heat to the air, which is continuously circulated by fan assembly on the top of each tunnel zone. The actual heating spirals are installed within the stainless-steel frame on high temperature ceramic supports.

The electric heating elements are completely equipped with all required safety components as well as the thyristor for the control. The control and monitoring of the heating itself will be executed by the signals coming from the individual controller. The air circulation is executed by a heat resistant, Pennekamp specific fan motor with extended shaft.

The combination of special bearing and insulation box ensures a high lifetime of the unit. The insulation box and fan wheel are designed from high heat-resistant stainless steels. In addition, a damper operated exhaust duct is installed. This shall release the overpressure and remove the firing fumes from the oven. This system shall be connected by the buyer's local chimney for disposal.

The control panel is located on the side of the kiln and equipped with the switches, protective relays, fuses and accessories as well as the signalization lamps and the temperature controller with its alarm contacts. All electric connections are equipped with plugs to simplify installation. To operate the oven in an automatic mode to heat up to temperature and continue at that for a set duration of time. It will switch off the heating after the soaking time and cool down naturally.

The required utilities are the three phase voltage as well as the gas supply at a rate of 50 to 200mbar pressure. Other utility supplies on demand.

# Features

- Manually operated front doors with automatic lock and safety interlock that shuts off the fan and burner when opened.
- Gas heating system includes combustion fan motor, ignition transformer, flame monitoring, and pressure controls.
- Built-in control panel for temperature monitoring, with switches, relays, fuses, and alarms.
- Automatic operation to heat, soak, and cool down.
- Requires three-phase power and gas supply (50-200 mbar); custom utilities available.
- Pre-assembled for quick installation.

**Customization:**

- Custom dimensions and higher temperatures available upon request.

Deflector Oven	
Outer Dimensions:	
Width	approx. 2.590mm (incl. control box)
Length	approx. 3.000mm (when the doors are fully opened)
	approx. 3.850mm
Height	approx. 5.100mm (considering free space for door opening and burner unit on the back wall)
	approx. 3.057mm (incl. exhaust fan)
Inner Dimensions:	
Width	approx. 1.000mm
Length	approx. 3.400mm
Height	approx. 1.850mm
Maximum Working Temperature: 500 °C	



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