

TECHNICAL SPECIFICATION FOR MOLDRUP-SSP THERMO TREATMENT PLANT DIAMETER 2.000 AND LENGTH 7.000 MM

Pressure vessel

Diameter 2.000 mm (6'8")
Length 7.000 mm (23'4")
Insulation: 200 mm (8") mineral wool and 0,8 mm alu cladding.
Wood volume: app. 4 - 5 m³/charge (app. 2 MBF)
Pressure: 0 to 9 bar (abs) (130 Psi)
Material: 15 mm (6") AISI 304 stainless steel plate an ASME approved.
Wood pack sizes: Max 1,10 m (3'8") x 1,40 m (4'8") x 6,00 m (20).
Door: 1 rapid closure door
Complete with internal rails
3 supporting saddles underneath the autoclave

Ventilation system

Placed inside the autoclave.
1 reversible aluminium ventilator with a diameter of 1.200 mm (4') for steam circulation inside the pressure vessel
1 house for holding the ventilator
1 11 kW electrical motor for driving the ventilator mounted outside the pressure vessel
1 magnetic power transfer for connection between the outside electrical motor and the inside ventilator.

Heating system

1 heating bank of stainless steel tubes with alu fins with a capacity of 300 kW (1.080 MJ) using thermal fluid with a temperature of 250 C (482 F).
1 three-way valve for controlling the temperature inside the pressure vessel
1 internal heating pipe connecting all headers of the heating bank
1 external heating pipe with one common inlet and outlet on top of the pressure vessel.

Pumps

1 water cooled vacuum pump with a motor of 5,5 kW to evacuate the pressure vessel for oxygen in the beginning of the process to ensure that it is carried out in an atmosphere free of air to prevent that the timber burns during the process.

Valves, pipes and filters

Internal heating pipe
Internal water spraying system to cool and equalize the wood with water mist.
1 compressor for driving the pneumatic system with actuators and valves.
1 ball valve controlling the steam pressure in the pressure vessel
1 safety valve
2 stainless steel ball valves for controlling the condensing system
1 air relief valve

Control system and electrical

1 PLC control system for fully automatic operation of the plant according to various process parameters, including
a) time for each main phase,
b) temperature
Process-recorder for vacuum, pressure and time
Vacuum- and manometers for monitoring the process
Electrical box with fuses, relays and starters for all motors.
All necessary electrical wiring between the motors and the electrical box.
1 unit 15 kW inverter for controlling the fan speed

Timber loading system

1 set of continuous trolleys with a total length of 6 (20') meters for loading and unloading the pressure vessel. Trolleys with wheels with ball bearings.
1 rail bridge to connect the outside rails with the rails inside the pressure vessel and outside rails for 6 meters length.

Miscellaneous

Installation and training by the manufacturer's technician for a period of 3 - 5 days to assist with installation and training of the operator. Boarding and lodging costs to be provided by the buyer.

OPTIONS

Oil fired thermo fluid boiler

To heat the plant to a temperature of 160-215 C (320 F to 420 F) the plant must be connected to a thermo fluid boiler with a working capacity of min. 250 kW (900 MJ) and a working temperature of 250 C (482 F).

As an option 1 unit thermal fluid boiler as above can be offered. Complete with oil-burner, control system, fuel tank, boiler, thermal fluid pump, expansion tank and chimney.

Packing

Shipment by lorry or ship.

Connection and consumption information:

Electricity 380 V/50Hz/3 phase - or as available at your site
Electrical connection value: 21,5 kW (80 MJ).
Average electrical consumption: 11 kW/h (40 MJ)
Water connection: 25 mm (1") pipe softened water

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