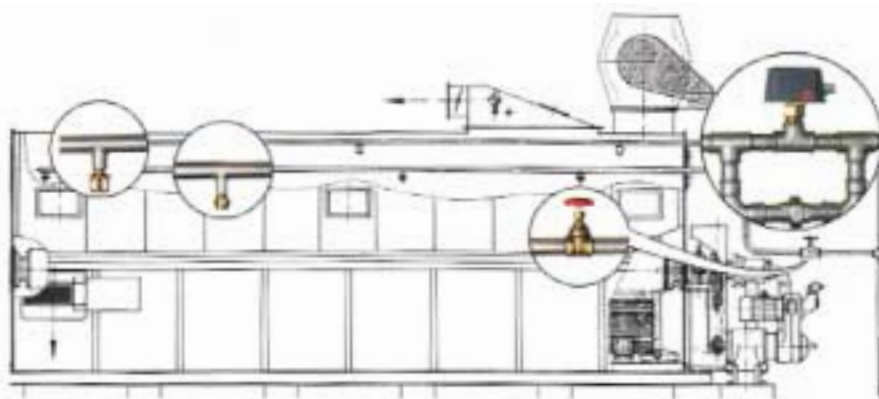


Fire prevention system and accessory units

Fire prevention system

The fire prevention systems for TH type chip driers consists of an automatic sprinkler system. If due to a lack of wet material, a power outage or for other reasons the temperature inside the drier rises to above 141 °C, a little glass tube in the sprinklers bursts and starts the water flow. An integrated flow control valve activates a visual and audible alarm.

Other parts of the system, such as feeding and delivery components of the drier, can be stopped automatically. The tubular bundle must not stop rotation, however, to avoid local overheating. Chips and water can be discharged via a bottom flap in the drier trough.



Fire prevention system



Complete chip drying plant

Accessory units

The drying system is available with a moisture measuring system.

As standard, the exhaust temperature is measured at the inlet to the exhaust socket. The heating valve is controlled by PT-100. This arrangement is normally sufficient provided that the initial moisture of the feedstock remains within a narrow range. If the range is wide, a moisture measuring and control system can be supplied.



Control cabinet



Moisture measuring system



Rotary connection head



Type T 116 drier



Type TM 216 drier



Type RS 5 drier

Ponndorf

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Chip Drier



TH

Ponndorf

Drier for wood chips

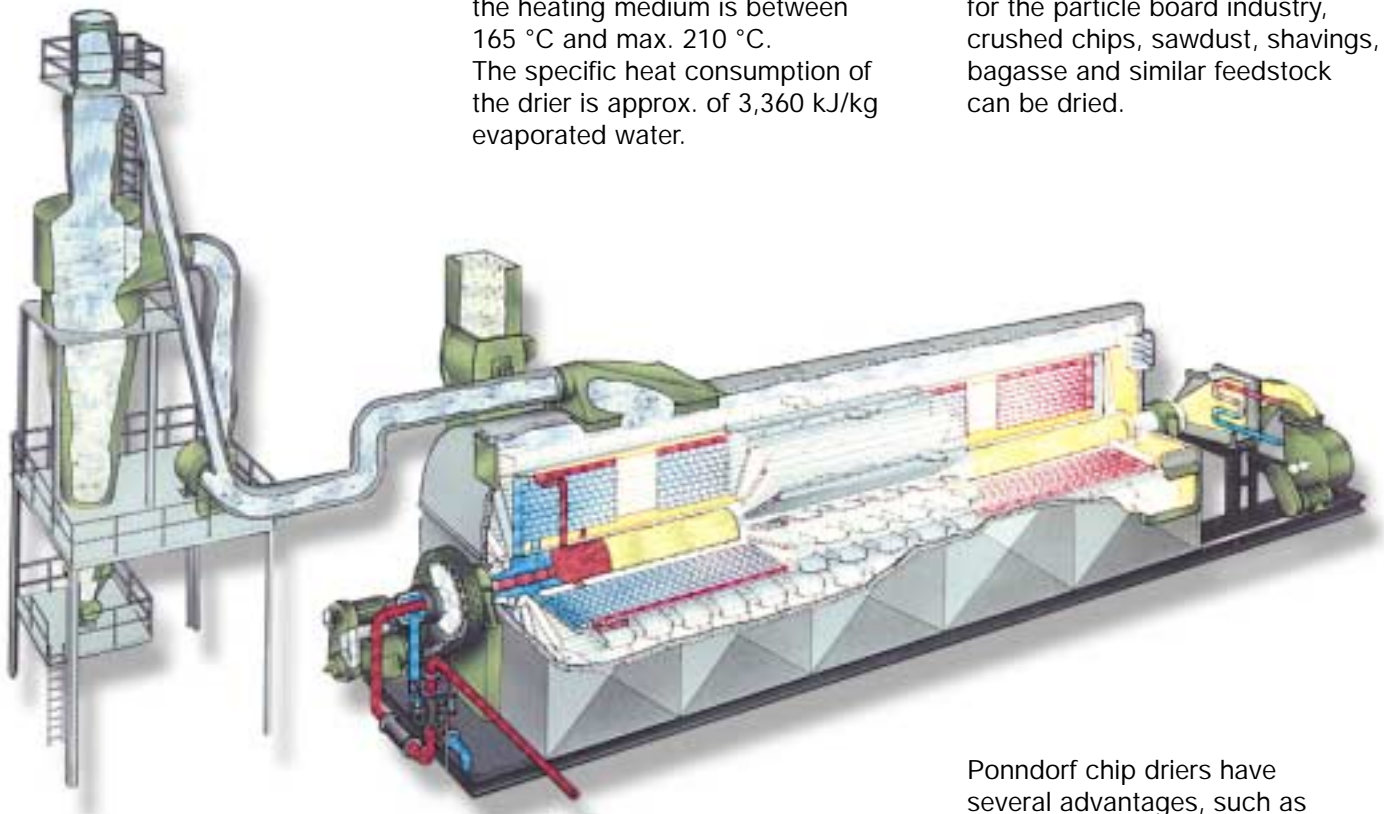
Ponndorf TH-type tubular bundle driers are indirectly heated contact driers specially designed for drying wood chips. The driers can be heated with steam, hot water or thermal oil.

The maximum inlet temperature of the heating medium is between 165 °C and max. 210 °C.

The specific heat consumption of the drier is approx. of 3,360 kJ/kg evaporated water.

The drier is available as single or double version. The heating surface is between 100 and approximately 1,200 m², the drying rate in the range of 5 – 6 kg/m²/h.

In addition to wood chips, especially for the particle board industry, crushed chips, sawdust, shavings, bagasse and similar feedstock can be dried.



Schematic view of a chip drying plant with vapour exhaust and dust removal system

Ponndorf chip driers have several advantages, such as the low temperature of the exhaust. This ensures that no wood substances enter the atmosphere.

The exhaust air flow is very moderate so the machine does not need powerful fans. Dust in the treated gas of cyclone systems is $\leq 50 \text{ mg/Nm}^3$.

The tubular bundle complies with the latest pressure vessel guidelines and is TÜV-certified. ASME code and other international codes can easily be complied with.



Chip drier with
hot air injection

Construction and operation

Ponndorf's TH-type chip driers are driers with a horizontally rotating tubular bundle. The tubular bundle consists of a star-shaped array of heaters. The heater arrays resp. registers consist of horizontal boiler tubes. Each register can expand in axial direction and is directly connected to the centre shaft at the fixed-bearing end. Connected at that end is also a rotary connection head for feeding

the heating medium, e.g., thermal oil, saturated steam or hot water.

An additional entry for hot air is located at the loose bearing end. The hot air is injected in the chip material through nozzles in the central shaft. This ensures optimal heat transfer.

The wood chips are moved by lifting and transport paddles

mounted to the outside of the tubular bundle. The chips are transported through the drier in axial direction and are in frequent contact with the heating surface.

The drier housing consists of a hood and a trough. The housing is mounted on a solid base and has inspection flaps in the hood part and openings for discharge of water and chips in the trough.

Vapour exhaust and dust removal system



TM 216 double drier being loaded for shipment from the factory

The drier hood is insulated as standard. Complete insulation of the drier is recommended for outdoor installation.

The drier has a chain drive which can be equipped with frequency controller for variable speed control.

The operation of the drier is automatic and continuous and

does not require constant attendance. The system is easy to operate and maintain and, due to fewer wear parts, the spare parts requirement is very low.



Each drier is supplied with a vapour exhaust and dust removal system. The exhaust volume is about $4 \text{ m}^3/\text{kg}$ of evaporated water.

The system uses relatively small fans and cyclones; emissions remain $\leq 50 \text{ mg}/\text{Nm}^3$. The separated dust is removed from the cyclone by a rotary bucket wheel lock and can directly be discharged on the dry materials or separately.