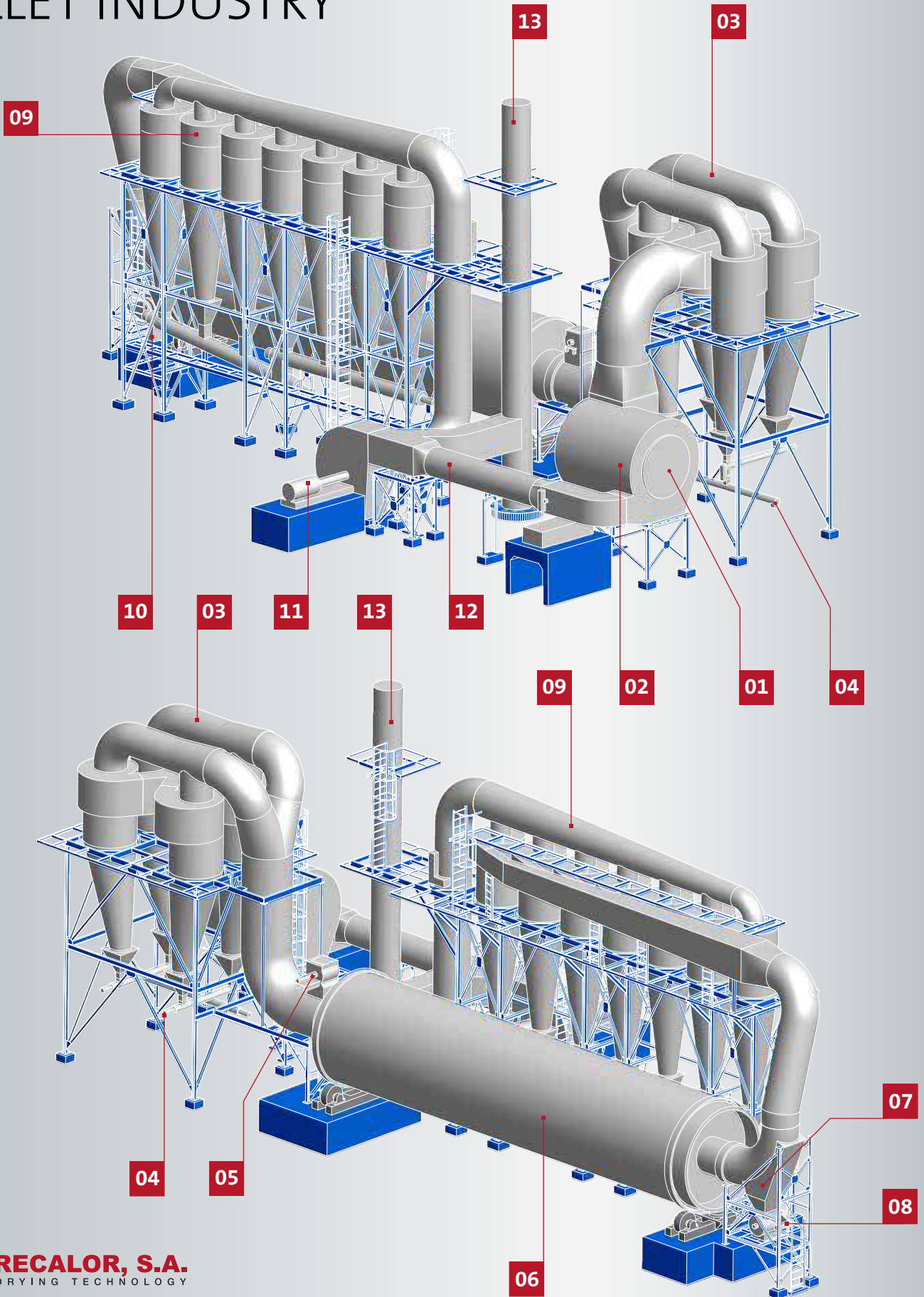


# DRUM DRYERS FOR THE WOOD PELLET INDUSTRY





## THE COMPANY

Established in 1982, RECALOR S.A. is an international supplier of industrial dryers for the woodworking industry worldwide. Our dryers are completely custom designed to meet the individual requirements of each customer. We provide optimum solutions both for reduced capacities (2 t/h) as well as for large capacities (75 t/h).

## MANUFACTURING PROGRAM

### Drum dryers for:

- Wood Panel industry
- Wood Pellet industry
- Agrofood industry
- Other industries

### Machinery:

- Combustion chambers
- Mixing chambers
- Sand separators
- Mechanical Transports
- Pneumatic Transports
- Fans

## SERVICE

Our manufacturing program is backed by a full end-to-end service including:

- Engineering and custom design
- Construction
- Transport
- Mounting
- Start up
- After Sales Service
- Installation upgrades and optimizations

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**RECALOR, S.A.**  
DRYING TECHNOLOGY



# DRUM DRYERS FOR THE WOOD PELLET INDUSTRY



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The RECALOR dryer plant is directly heated with hot gases originating from a hot gas generator. The dryer is equipped with the following components: a sand and spark separator, a mixing chamber, a chip in feed housing, a drum dryer, a chip and dust separator, a return gas pipe and a waste gas chimney.



HERE IS AN OVERVIEW OF THE FUNCTIONS OF THE VARIOUS INSTALLATION COMPONENTS:

### 01 HOT GAS GENERATOR

This component permits the generation of hot gases with an outlet temperature range of approx. 750 - 850 °C. The hot gas generators can run on a wide range of different fuels such as biomass residues with different moistures and sizes, or other fossile fuels or cogeneration gases. The capacity of the hot gas generator is regulated by the dryer outlet temperature.

### 02 MIXING CHAMBER

In the mixing chamber, hot gases are mixed with return gases and lowered to the dryer entrance temperature of approx. 450 °C for standard solutions, or alternatively 300 - 350 °C for low temperature solutions.

### 03 SAND AND SPARK SEPARATOR

The separator eliminates sand, sparks and ashes coming from the combustion chamber in order to reduce the risk of fire and the sand and ash content in the wood pellets. Sand, sparks and ashes are collected by screw conveyors and rotary valves **04** and deposited into a container.

### 05 WET CHIP INFEED HOUSING

The wet chips are introduced through a rotary valve into the dryer together with the hot gases.

### 06 DRUM DRYER

The drum dryer is equipped with lifter paddles and cross installations in order to ensure an optimal contact exposure between the particles and the hot gas. The chips are transported by the gas flow through the drum.

### 07 SEPARATION AND DRY MATERIAL DISCHARGE

Separation of coarse material and discharge of the dry chips through a rotary valve **08** at the outlet elbow.

### 09 FINE CHIP AND DUST SEPARATION

Fine chips and dust are separated in a high efficiency cyclone group and discharged through a rotary valve **10** resulting in a final dust load of < 100 mg/Nm<sup>3</sup> if no WESP is foreseen, or alternatively < 300 mg/Nm<sup>3</sup> in case of connection to a WESP.

### 11 FAN

The fan guarantees the gas and chip flow throughout the entire installation. The fan is equipped with a frequency inverter in order to optimize the air flow and the power consumption.

### 12 RETURN GAS PIPE

The return gas pipe leads approx. 50% of the total gas flow back to the mixing chamber. The pipe is equipped with a modulating flap, to control the depressurization in the mixing chamber. A sliding duct allows to open the return gas pipe completely, preventing the backflow of hot gases from the mixing chamber to the chimney during a fan stop.

### 13 EXHAUST GAS PIPE

The exhaust gases leave the process either through the exhaust gas chimney or through a possible connection to a WESP for further air treatment

# DRUM DRYERS FOR THE WOOD PELLET INDUSTRY

Reference plants



Estonia - 8.000 kg/h



France - 20.000 kg/h



Belgium - 12.900 kg/h



Spain - 7.800 kg/h



Spain - 5.000 kg/h



Portugal - 10.000 kg/h



Portugal - 4.600 kg/h



Portugal - 20.000 kg/h



United Kingdom - 13.000 kg/h



Portugal - 18.000 kg/h



Lithuania - 3.000 kg/h



Portugal - 18.000 kg/h



Portugal - 18.000 kg/h



Portugal - 22.500 kg/h



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