



**SUGIMAT**

*Efficient Engineering Solutions*



**HORIZON + HEATER**

# HORIZON +

Heater designed and manufactured to work with the gases coming from the combustion of **solid waste**.

The heat exchanger consists of several **concentric coils** connected in series, through which the system's heat carrier fluid circulates. The inlet and outlet of the heater are made by means of rotary joints with seals designed to work at **high temperatures**.

The heater is placed on a support equipped with turners, where, by the action of a gear motor, it rotates at low speed on the axis of the coils.

This **rotary movement**, together with the winding direction of each of the coils forming the exchange body, leads the particles in suspension in the gas flow to an outlet enabled for their discharge.

In addition, the heater body will have a **cleaning system** by means of particle discharge in charge of dragging the solids that may have remained adhered, all without the need to stop the installation at any time.

## Rotary heater with automatic ash removal and cleaning



## General features

- Execution: horizontal rotary.
- Number of coils: variable on demand.
- Number of fume steps: variable on demand.
- Power range: 400 kW to 14 MW.
- Heat transfer fluid: water, overheated water and thermal oil.
- Minimum/maximum service temperature:  $-30^{\circ}/350^{\circ}$ .
- Design pressure: up to 20 barg.
- Insulation: Low conductivity mineral rock wool.
- Construction standards: AD-2000 MERKBLATT / TÜV.
- Efficiency: up to 94 %.

## Quality certificates

ISO 9001:2015 Quality Assurance System



Approved in Europe by the German Notified Body TÜV INDUSTRIE SERVICE

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201830460

## Rotating joint

Rotating joint. Up to 320°C and 20 bar (contact us for higher temperatures and pressures).

Designed for 400 rpm. The Horizon heater makes 3 to 4 turns per minute.

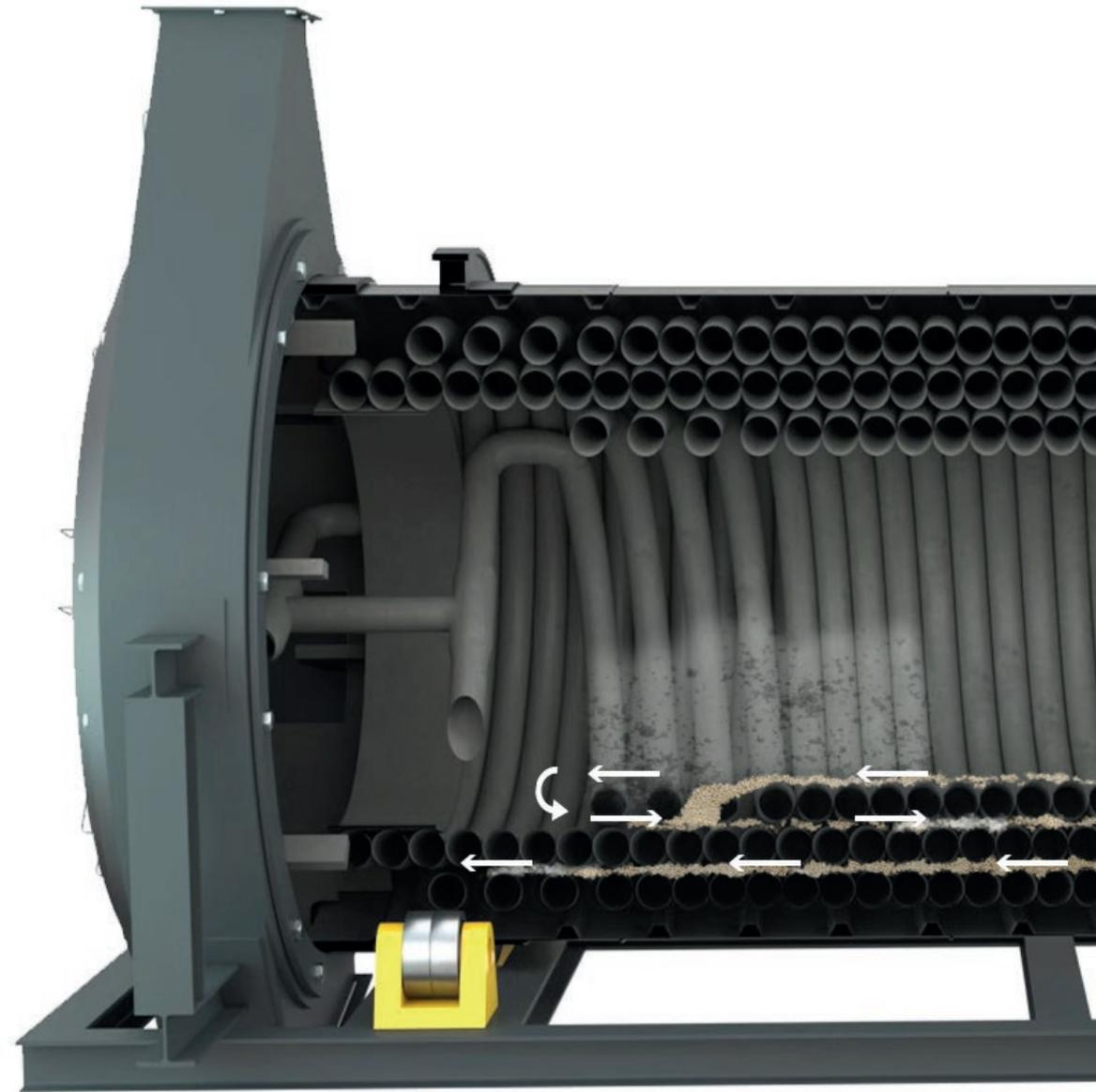
## Automatic ash removal

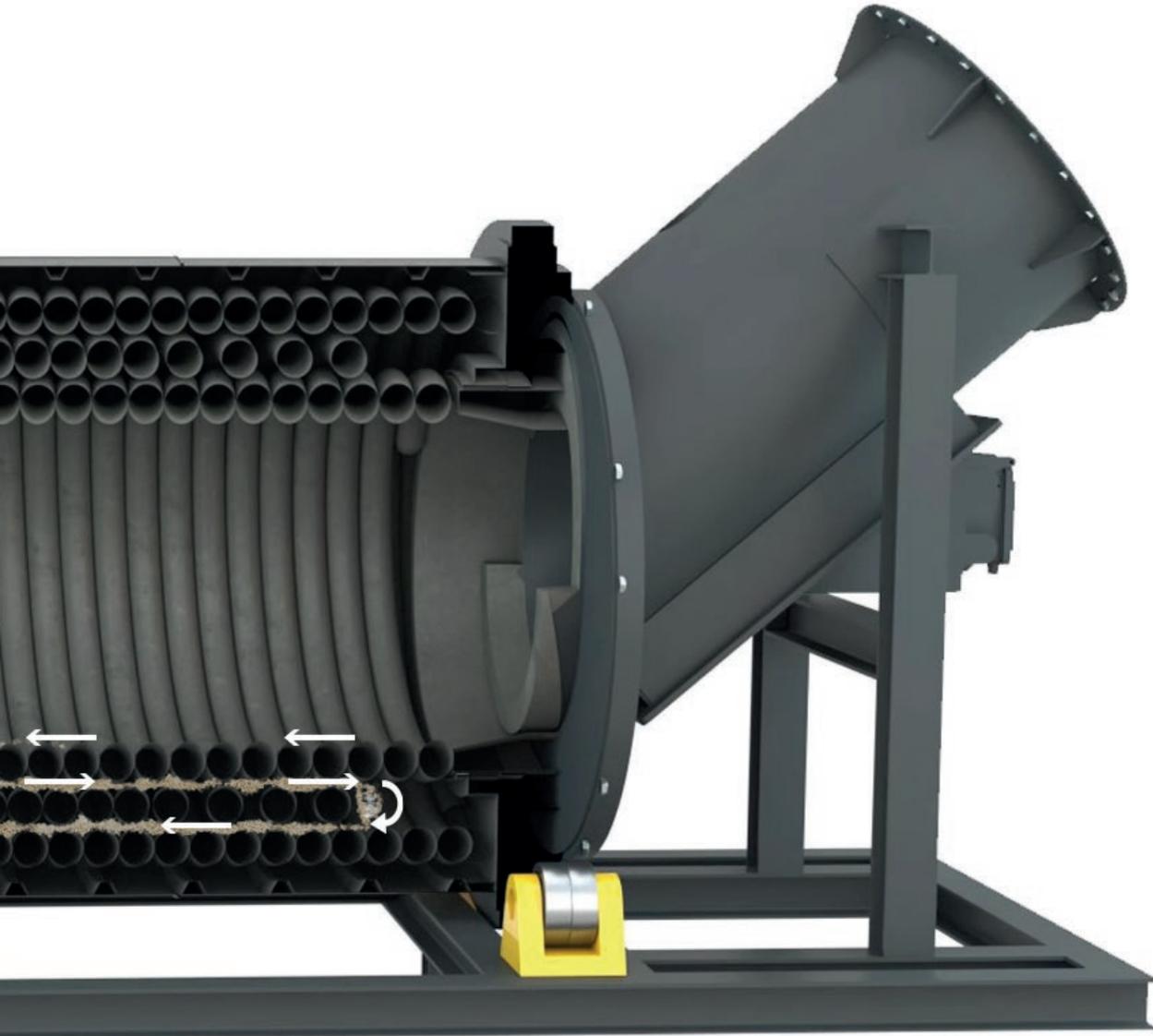
The HORIZON+ heater's own rotary design and coil configuration allows the ash to be extracted automatically.

## 4 installation options

The heater allows different locations with respect to the combustion chamber. The plant layout could be in line, L-shaped, U-shaped or by positioning the heater over the furnace.

Dossier Horizon + | SUGIMAT





## Cleaning with granulate

Depending on the type of fuel, it is recommended that the surface of the coils be cleaned by means of a granulate resulting from the mixture of chemical components.

## Rotary system

Low speed rotary system driven by a low power consumption geared motor assembly with minimum maintenance.

## On-demand configuration

Possibility of modifying the number of coils according to the requirements of the project. The number of coils can be varied, as well as their length and diameter.

# Advantages of the HORIZON +

## Robustness and durability

- 6 The coils mounted on the HORIZON + are the same ones we have been using for our thermal oil heaters for over 40 years, which are subjected to test pressures above 70 barg.

## Admission of gases of a variable nature

A fundamental part of the cleaning system consists of the addition of a mixture of chemical components in the form of granules, adaptable to the tracking of the fuel.

This compound gives the HORIZON + the ability to accept combustion gases of a variable nature, since the turbulence it generates is not only capable of trapping and filtering particles, but also favours the chemical reactions necessary to prevent the degradation of the exchange body.



## Always clean exchange surface

Traditional systems have different performances depending on the level of dirt in the exchanger. In the case of the HORIZON +, the rotation achieves continuous cleaning, not by cycles, which allows a constant level of performance to be maintained throughout the operating time of the unit.

An exchange surface that is always clean allows the HORIZON + heater to work with gases that contain a high percentage of ash and dust without affecting its performance, while other systems are not able to use gases with ash rates higher than 11%.



## More regular combustion analysis

In a traditional blower-cleaned exchanger, the ash is lifted and mixed with the gases during the cleaning process. This makes it easier for suspended solids to reach the analysis inlets and filters, preventing compliance with regulations and shortening the life of the filtration equipment.

The continuous cleaning of the HORIZON + heater does not generate variations in the concentration of solids in the gases.

## No compressed air consumption

As we do not require a compressor for blower cleaning, we avoid the cost of compressor purchase, pipe installation and electricity consumption.

## Better exchange

In static exchangers, the gases do not behave equally over the entire surface area. The constant movement of the coils mounted on the HORIZON + allows a more homogeneous exchange.

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