POWDER TECHNOLOGIES

Tecflam

burners and thermal machines

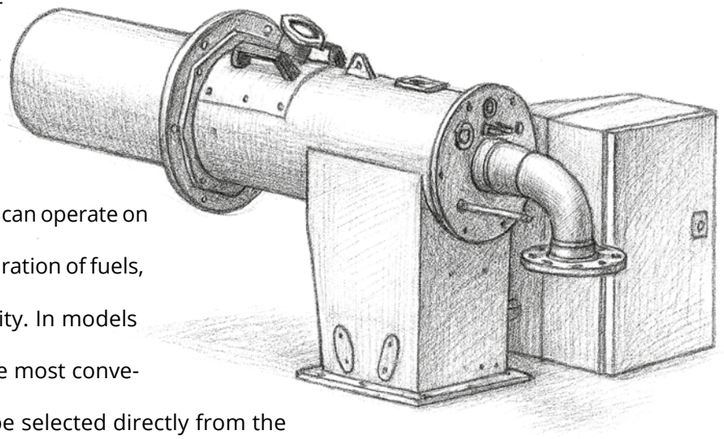
TecnecoForni
ecology and energy recovery

INFINITE APPLICATIONS: OUR INDUSTRIAL WORLD

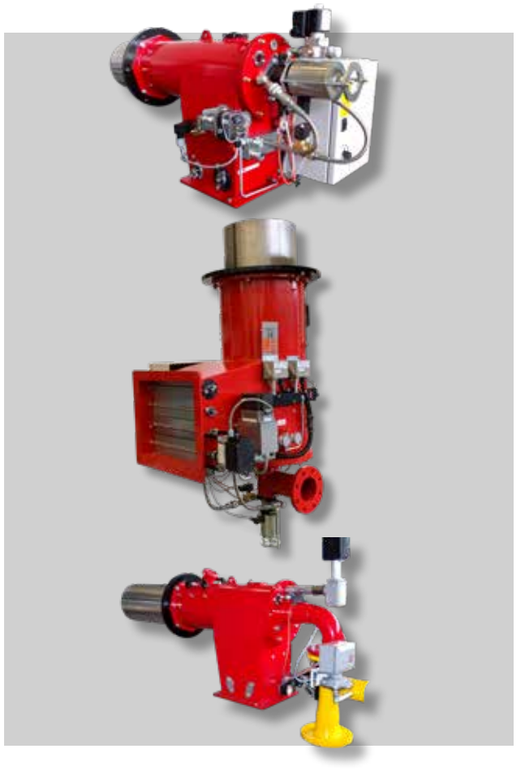
We group these industries together under a single definition - **Powder Technologies** – a variety of manufacturing sectors, including ceramics, bricks, aggregates, chemicals, food, and grinding plants. These industrial sectors share the use of our **high-powered burners**, where each project requires customized solutions, tailored to the specific needs of the customer. **Tecflam** partners with leading companies in these sectors, offering experience, innovation, and flexibility. Discover our customized solutions below.

Tecflam
burners and thermal machines

Dual block burners



When heat needs to be generated for spray dryers, rotary drums, hot air generators, incinerators, or other systems, our dual block burners offer a reliable, versatile, and tailor-made solution. They can operate on gas, diesel, Heavy oil, or a mixed configuration of fuels, offering maximum operational flexibility. In models configured for multi-fuel operation, the most convenient or available energy source can be selected directly from the control panel, based on economic or logistical factors. The combustion body is separate from the combustion air fan, allowing the most appropriate fan to be selected based on the technical characteristics of the process. In the standard modulating versions, the turn-down ratio is 1:5. Customized configurations are available for every system requirement, including for the use of alternative fuels such as biogas or kerosene, with the option of integrating flow measurement systems. The burners are suitable for both direct and indirect processes and are custom-designed to ensure maximum compatibility with the system.



T SERIES

Our T series is considered our standard version, valued for its extreme flexibility to be configured in different ways, for example: Allows for choice in the position of where combustion air enters, the use of personalised materials (also available in stainless steel) and for vertical or horizontal installation. Every solution is custom made to fit perfectly into each and every specific plant.

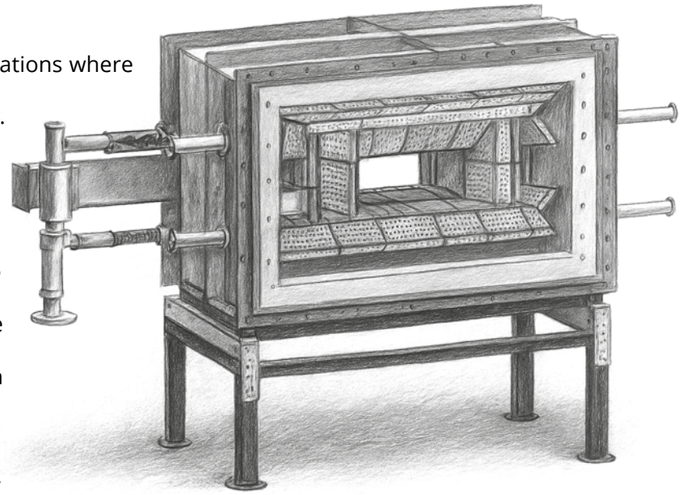
Thermal power: from 1000 kW to 25000 kW

E MODEL

They are industrial burners, which are considered an alternative to our T burner series. These have a refractory material head, designed for plant applications where the combustion chamber has high temperatures. Also available in a multi-flame solution, useful for applications where the flame length needs to be reduced due to limited space. In these burners the combustion air can be pre-heated to 450 °C.

Thermal power: from 1000 kW to 15000 kW

Duct burners



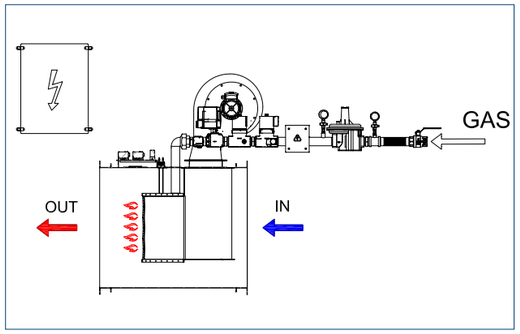
Direct-fired gas burners designed for applications where combustion fumes can mix with the process air. Available in various configurations, they are designed to ensure maximum system flexibility and meet specific space and performance requirements. The standard versions feature a modulating burner with a wide modulation ratio of up to 1:30, ensuring precise control of the thermal output and high process efficiency. They can be equipped with one or more gas valve trains, allowing the use of different types of gaseous fuels based on availability or operational needs. They can also be equipped with gas pressure reduction units and/or flow measurement systems. The option of having the combustion body separate from the combustion air fan allows us to adapt/select the fan based on the technical characteristics of the process in which the burner will operate.

VDC

Duct burners with duct housing

Duct burners complete with a duct channel, with rectangular or circular section for easy plant integration. The channel portion of the burner can be made of galvanized, painted or stainless steel according to client's specifications. The combustion body can also be configured in an "X" or "H" shape when greater power is required, thus optimizing the total size of the burner.

Thermal power: from 50 kW to 34000 kW

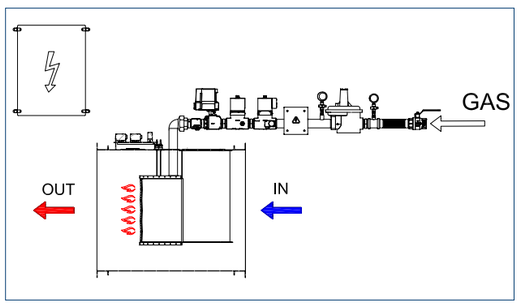


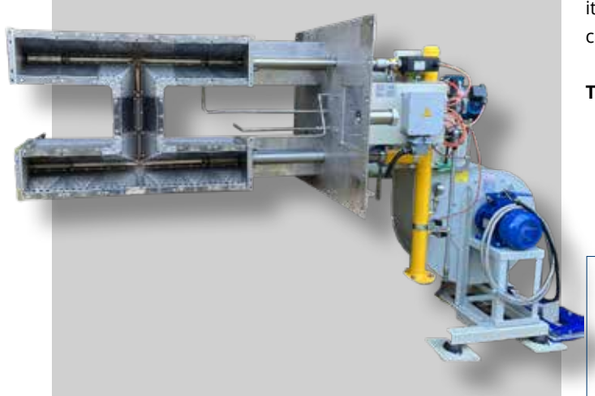
VDCS

Duct burners with duct housing – Version without combustion air fan

This configuration, a variant of the standard model and without an electric combustion air fan, is designed to meet specific system constraints while also offering an efficient and cost-effective solution. It is more sensitive to variations in process air flow. Burner pressure drops are greater than those of the fan-assisted model. It is essential and necessary that the process air for combustion be a clean air and free of impurities to ensure optimal performance and safe operation.

Thermal power: from 50 kW to 34000 kW



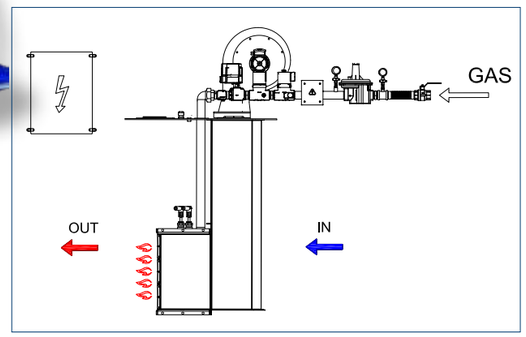


VDP

Duct burners with wall mounted fixing flange

Duct burners to be inserted into a process channel via a fixing flange with all instrumentation placed external to the duct itself, protected from the air flow to be heated up. All burners can be equipped with or without combustion air fan.

Thermal power: from 70 kW to 6000 kW

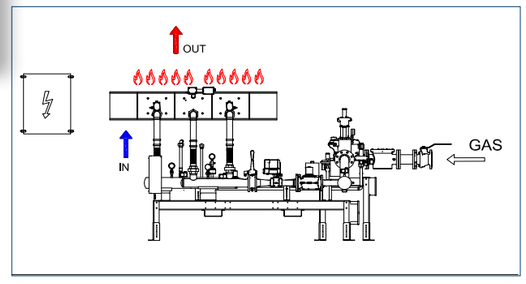


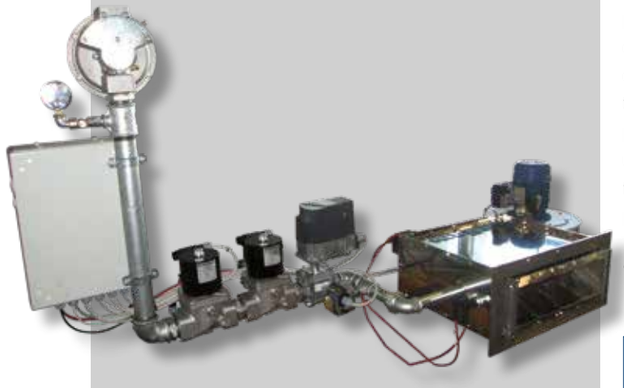
VDF

Duct burners to heat fumes for combustion with low oxygen content

Special duct burners without fan designed for heating combustion fumes with low oxygen content. This allows for heat recovery in processes where the exhaust fumes derived from other combustion systems can be re-used, making use of the residual percentage of oxygen necessary for combustion. The channel portion of the burner can be made of painted steel or stainless steel, designed according to operating conditions and fume composition.

Thermal power: from 300 kW to 30000 kW



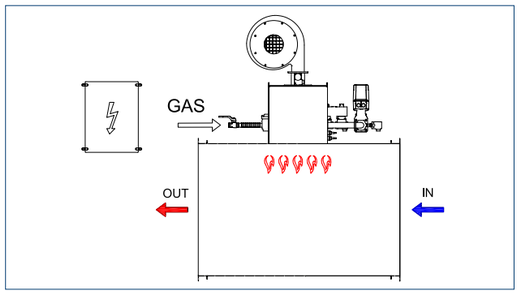


VDM

Duct burners with external installation

These duct burners are designed to limit intervention into the process air duct channel, with the burner and components external to the channel, into which only the flame and combustion fumes enter. Unlike other burners, in this type the flame develops in such a way that is perpendicular to the process air flow. The burner is fixed directly to the channel using a steel flange. Also available in a dual version, that allows for more burners heads to be coupled together for higher power according to the needs of the plant.

Thermal power: from 70 kW to 6000 kW

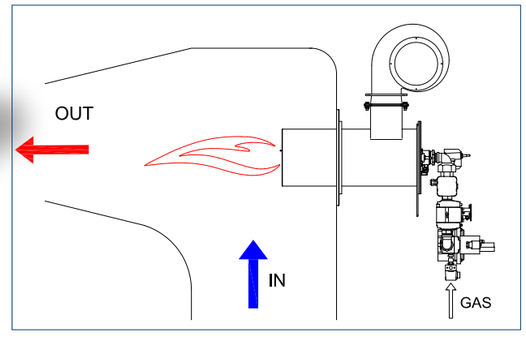


VDMR

Duct burners for external installation having circular combustion head

This variant is specifically designed to have the same performance as a duct burner but with reduced dimensions, having a flame that propagates in length.

Thermal power: from 90 kW to 1400 kW



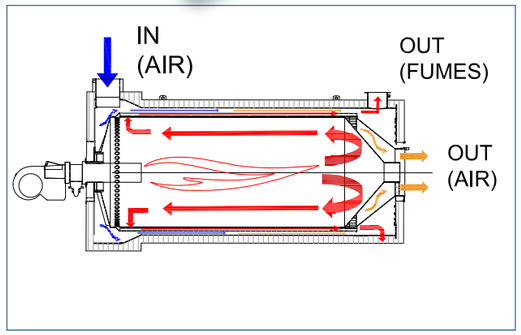
Hot air generators

Generators designed for direct or indirect heating of process air, depending on application needs.

In the **direct version**, combustion fumes are mixed with the process air, transferring heat directly to the air flow. They can be built in two distinct configurations, determined by the type of burner used: a duct burner or a dual block burner.

In the **indirect version**, however, the process air remains separated from the products of combustion, ensuring a clean, contamination-free air flow, ideal for applications requiring the highest quality of treated air.

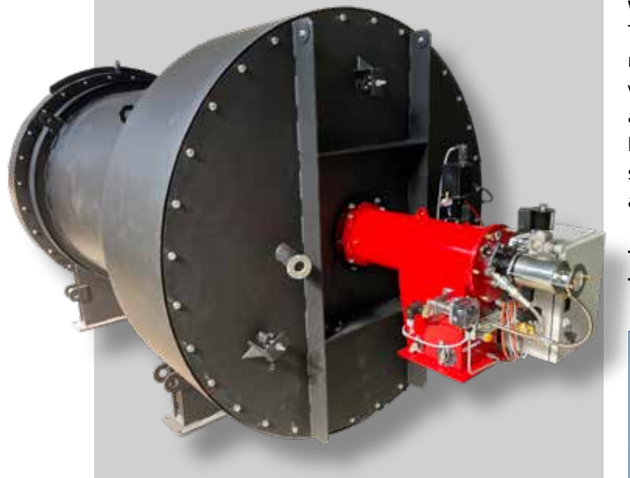
INDIRECT - HAG



These generators are used when it is necessary to keep the combustion fumes separate from the process air, a crucial requirement in sensitive applications such as the food industry. Air heating occurs through indirect heat exchange, allowing it to circulate externally around the furnace and fume tubes, while combustion fumes are conveyed directly to the chimney, without coming into contact with the treated air.
This type of generator can be described as an "air boiler," fully customized in both materials and layout, based on specific system requirements.
They can be equipped with burners powered by liquid and/or gaseous fuels.
Also available in vertical versions.

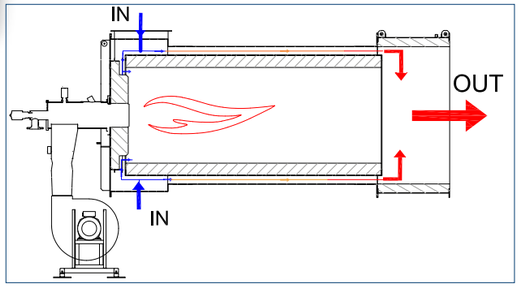
Temperature of exit air: up to 550 °C
Thermal power: up to 2500 kW

DIRECT GENERATORS WITH DUAL BLOCK BURNERS - HGG

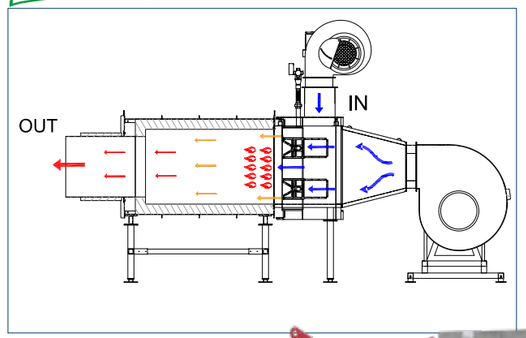


When the burner is of the dual block type, the generator's construction features an external structure concentric with the combustion chamber.
The standard construction features an internal lining made of refractory material, within which the burner flame develops; a version without an internal lining is also available. The process air serves for "cooling" purposes by circulating in the ring between the external structure and the furnace. At the end side of the generator, the combustion fumes and the process air mix together.

Temperature of exit air: up to 1000 °C
Thermal power: from 1000 kW to 25000 kW



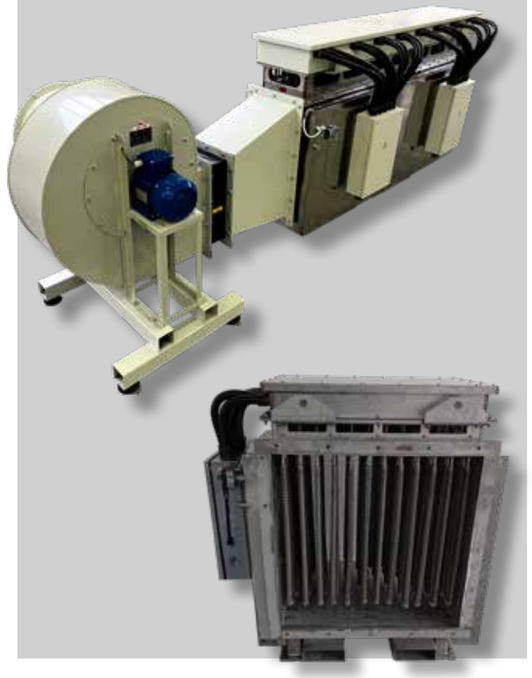
DIRECT GENERATORS WITH DUCT BURNERS - HGG



Hot air generators with duct burners for applications with temperatures up to 900 °C.
With this type of burner, the generator is usually completely through-flowed, meaning the entire cross-section of the burner's combustion body is covered by process air.
The construction can include internal or, alternatively, external insulation.

Temperature of exit air: up to 900 °C
Thermal power: from 50 kW to 34000 kW

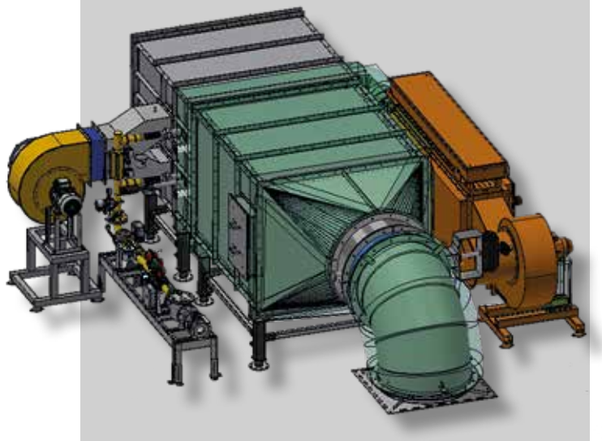
ELECTRIC HOT AIR GENERATORS – E-HAG



This generator consists of a section of process channel housing electrical resistors and external electrical junction boxes. The system comes complete with an electrical command and control panel.
The channel can be made of galvanized steel or stainless steel, depending on the application and operating conditions. The electrical management is designed to ensure a wide power modulation range, up to 0-100%. A PLC-controlled version is available upon request for advanced integration into automation systems.

Temperature of exit air: up to 500 °C
Thermal power: from 20 kW to 6000 kW

HYBRID SYSTEM



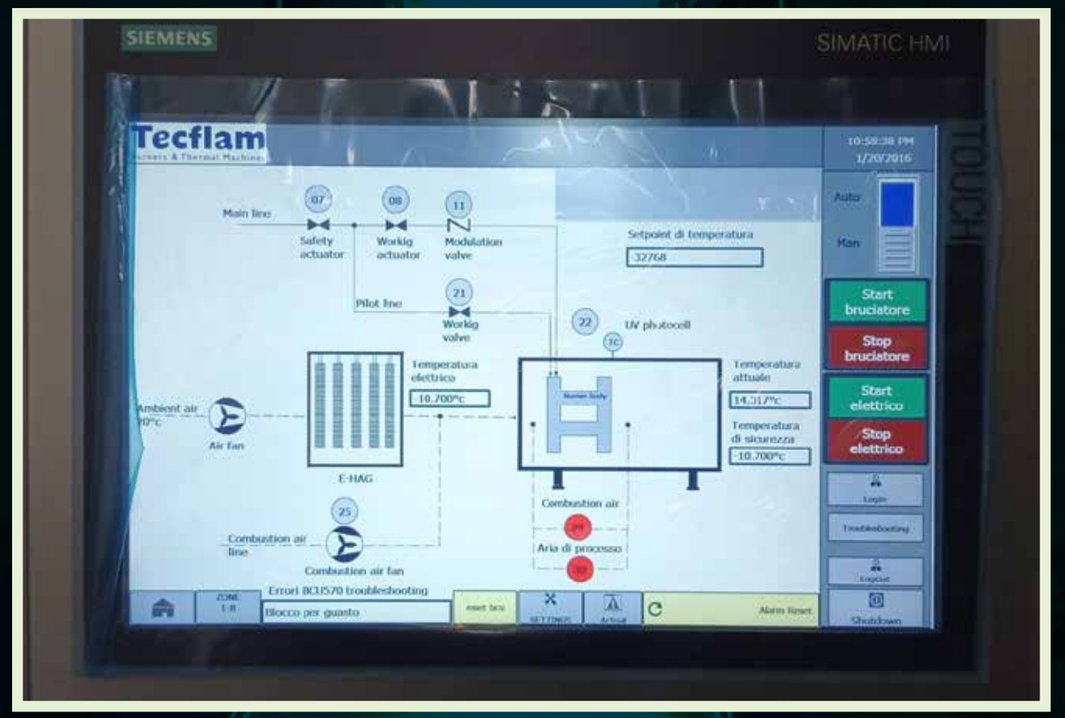
Hybrid versions are also available, in which the electric generator can serve our burners or indirect heat generators. These solutions are created upon specific customer requests. These configurations allow for optimized use of available electrical energy, thus enabling the most suitable heating method to be selected for both combustion air and process air.

HGG featuring a natural gas-fired duct burner and an electric generator

INDUSTRY 4.0

HMI

Systems can be equipped with networked HMI systems, allowing for remote monitoring and control. The solution includes customized PLC management, a complete hardware and software package for implementation, a simple and intuitive operator-machine interface, and the option of rapid assistance via remote connection, all in compliance with the latest safety standards.




Italy- HGG 2.500 kW


Thailand - HGG 4.000 kW


Germany - VDCSH 3.500 kW


Egypt - HGG 4.100 kW


Turkmenistan - HAG 114 kW


Italy - VDC 600 kW


Italy - VDM 2.300 kW


Saudi Arabia - T 6.000 kW


Italy - HAG 474 kW


France - HAG 226 + 581 kW


Saudi Arabia - T 15.000 kW


Hungary - VDCS 12.000 kW

Tecflam

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