ENG

Tecflam

THERMAL SOLUTIONS

PRODUCTION
ENGINEERING
PERSONALISATIONS
ASSISTANCE

From the wide range and flexibility of thermal machines so far designed and produced, our technical department is surely capable of providing an answer to your needs of operation, economy, management and reliability.

Tecflam

THERMAL SOLUTIONS

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The history of our burners



Who we are

Our company was founded more than 40 years ago in Reggio Emilia, thanks to the initiative of two friends who decided to undertake a business that included the sale and maintenance of high-end burners; to this it was decided to combine the design and construction of burners for the industry, combining the experiences of maintenance carried out over the years with the skills of local technicians.
Following a partnership with one of the most important Italian companies manufacturing civil burners, in 2006 the company became Tecflam srl with headquarters in Cavriago (Reggio Emilia, Italy).
Over the years, knowledge has been enriched through collaboration with Tecnecoforni, created to develop plant solutions for Tecflam combustion units.
Today Tecnecoforni is a Tecflam brand for special applications.

Strengths such as commitment, competence and flexibility allow us to respond precisely to the needs of our customers with quality, reliable and tailor-made products.



Our product range

- Duct burners
- Dual block burners
- Hot air generators
- Kilns
- Post combustion systems
- Special projects and products

- All the thermal machines come out of our factory wired electrically and tested.
- Our range of burners can operate with the following fuels: natural gas, LPG, biogas, syngas, light oil, heavy oil. We are also open to evaluating the use of alternative fuels.
- We additionally offer hybrid systems and fully electric solutions, depending on the customer's specific application requirements.

Main industries

- Cereal
- Bricks
- Ceramic
- Air treatment
- Waste treatment
- Glass
- Painting
- Aggregates
- Food
- Chemical
- Printing
- Electromechanical

Duct burners

Direct flame gas burners installed in processes where mixing of combustion fumes with process air is permitted.

They can have various construction forms to satisfy every system requirement.
Generally, this type of burner is made with modulating operation, exploiting a wide modulation range, up to 1:30.

They can be equipped with one or more gas valve trains, complete with any pressure reduction units and measurement of the flow rate of the burned fuel.

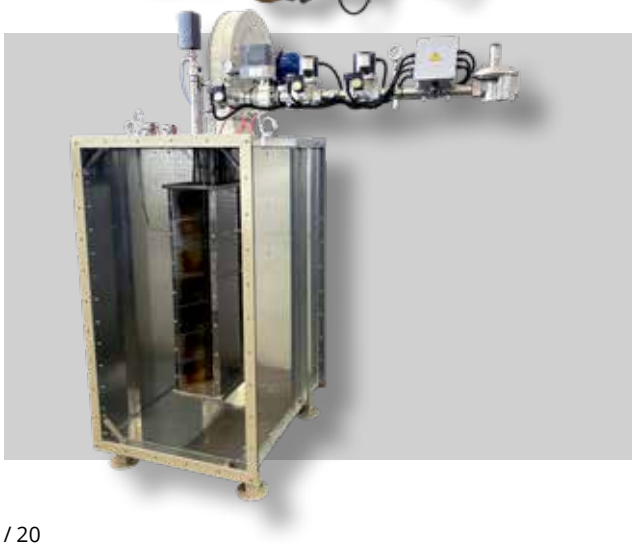


VD

Duct burners to be inserted in the process air channel.

The thermal power is proportional to the length of the burner; there are dual and trial versions where multiple burner bodies are coupled to obtain an increase in power.
All burners can be equipped with or without combustion air fan.

Thermal power: from 200 kW to 24.000 kW



VDC

Duct burners complete with a duct channel, with rectangular or circular section.

The channel portion of the burner can be made of galvanized, painted or stainless steel.
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. All burners can be equipped with or without combustion air fan.

Thermal power: from 50 kW to 34.000 kW



VDF

Special duct burners without fan for heating combustion fumes with low oxygen content.

This specific configuration enables 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 30.000 kW

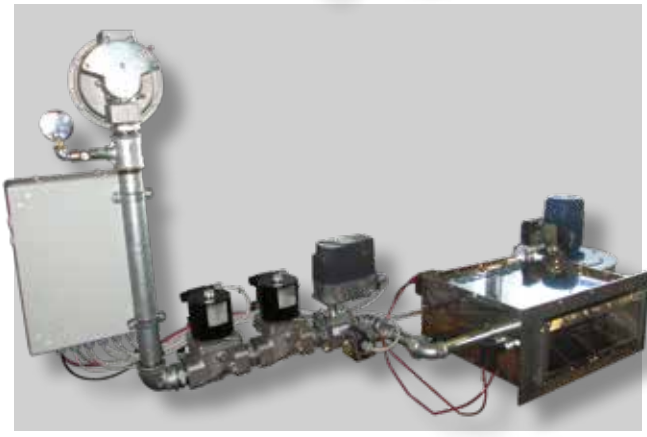


VDP

Duct burners to be inserted into a process channel via a fixing plate.

All instrumentation is installed outside the duct itself and protected from the airflow to be heated. All burners can be equipped with or without a combustion air fan.

Thermal power: from 70 kW to 6.000 kW



VDM

Duct burners, with all components external to the channel, into which only the flame and fumes enter.

Unlike other burners, in this type the flame is perpendicular to the process air flow.
The burner is fixed using a metal flange.
There are dual versions where multiple burner bodies are coupled to obtain an increase in power.

Thermal power: from 70 kW to 6.000 kW



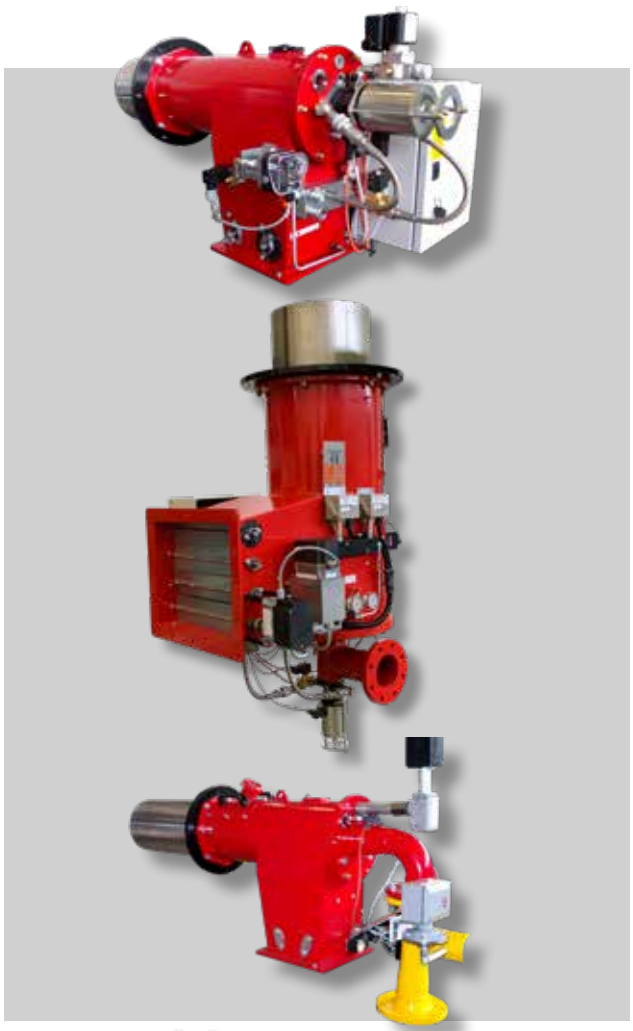
VDMR

Duct burners, with all components external to the channel, into which only the flame and fumes enter.

The combustion body design allows for a wide turndown ratio compared to the VDM model. The flame shape can be described as cylindrical, similar to traditional forced-air burners. These burners are often used with the flame developing inside a diffuser tube.

Modulation ratio: up to 1:30
Thermal power: from 90 kW to 1 750 kW

Dual block burners



T

These are industrial burners of the traditional type with the combustion head separated from the combustion air fan.

They can operate on gas, diesel, fuel oil, or in a multifuel configuration, with either single-fuel or simultaneous multi-fuel combustion. We are also able to evaluate solutions involving the use of alternative fuels.

The T model is our standard version, appreciated for its high degree of configuration flexibility. The combustion air inlet position can be selected, construction materials can be customized (with stainless steel also available), and the burner can be installed in either horizontal or vertical configuration. Each solution is tailor-made to meet the specific requirements of the customer's system.

The burners are made in the air and fuel modulating version with a 1:5 modulation range.

Thermal power: from 1.000 kW to 25.000 kW



E

These are industrial burners with a refractory material head for high temperature applications.

They have a larger modulation range of up to 1:15.
The version with operation in high excess air is available.
Combustion air can be preheated to temperatures of up to 450 °C.

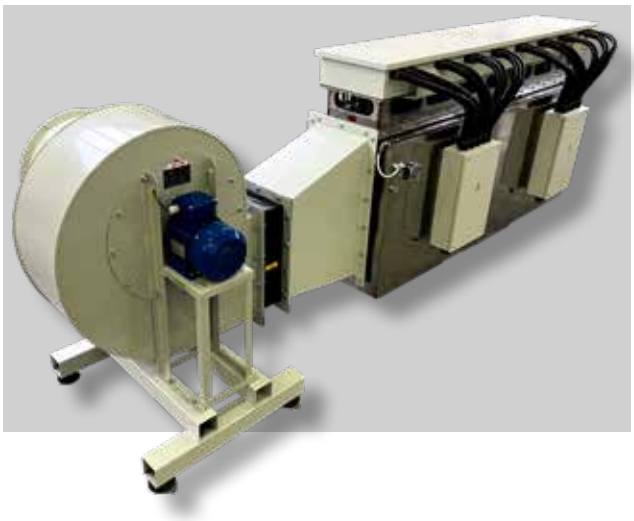
Thermal power: from 1.000 kW to 15.000 kW

Hot air generators

Heat generators are made to heat process air and can be of two types: direct or indirect; in the first case there is mixing between process air and the burner combustion fumes, while in the second the air remains divided and uncontaminated.

They can have various construction forms to satisfy every system requirement.
There is also the possibility of heating the process air either fully electric or hybrid mode.

ELECTRIC GENERATORS - E-HAG



The heat generator is made with a section of process channel in which the electrical resistors and the junction boxes for the wiring are housed; the supply is completed with the electrical command and control panel.

Depending on the request and type of application, the channel section is made of galvanized steel or stainless steel.
The electrical management of the generator is designed to have the widest modulation range, even 0÷100 %; if necessary, it is possible to create a version managed via PLC.

Outlet air temperature: up to 850 °C
Thermal power: from 20 kW to 6.000 kW

HYBRID SYSTEM



Hybrid versions are also available, in which the electric generator can serve our burners or 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.

Outlet air temperature: up to 850 °C
Thermal power: from 20 kW to 6.000 kW

DIRECT GENERATORS WITH DUAL BLOCK BURNERS - HGG



When the burner is of the traditional type, we create the generator which has an external structure concentric with the combustion chamber.
Generally, the construction includes an internal lining in refractory material where the burner flame can develop.
The process air has the function of "cooling" by circulating in the ring between the external structure and the hearth; in the terminal part of the generator the combustion fumes and the process air mix together.

Outlet air temperature: up to 1.000 °C
Thermal power: from 1.000 kW to 25.000 kW

DIRECT GENERATORS WITH DUCT BURNERS - HGG



Hot air generators with duct burner for applications with temperatures up to 900 °C.

With this type of burner, the generator is usually completely crossed, i.e. the combustion body of the burner is hit over the entire section by the process air. The construction can include internal or alternative external cladding.

Thermal power: from 50 kW to 34.000 kW

INDIRECT HOT AIR GENERATORS - HAG



These are chosen when separation between combustion fumes and process air is desired (typical application sector: food).
The process air heats up by externally touching the hearth and the tube bundle, while the fumes are conveyed to the chimney.
This type of generator can be defined as "an air boiler".
This solution is completely customizable, both in materials and in their arrangement (layout).
They can be equipped with burners powered by liquid and/or gaseous fuels.

Outlet air temperature: up to 550 °C
Thermal power: up to 2.500 kW

Ovens

THERMODESTRUCTION OVENS



These are specially made for the thermo-cleaning of metal surfaces from resins, plastic and paints (examples: electric motors, extrusion screws, metal supports for powder coating).

These ovens are equipped with a post-combustion chamber sized in compliance with current regulations for atmospheric emissions. The process is based on the pyrolytic decomposition of the material to be removed which is carried out at a temperature of 390-420 °C; the gases resulting from combustion are burned in the post-combustion chamber at a controlled temperature of 850 °C.
The heating unit can be made up of burners or electric resistors. The supply of a trolley for loading the pieces to be treated is foreseen.
The supply includes the chimney for discharging fumes into the atmosphere. The internal useful dimensions can be customized starting from our standard models.
Variants are available that can carry out processing at different temperatures, for example drying.

Also available in electric version

DRYING OVENS



These are mainly used for the polymerization treatment of the impregnation resins of the windings of electric motors.

They can also be used for other drying applications.
They are equipped with a recirculating air heat generator powered by electric resistances or a gas burner.
The supply of a trolley for loading the pieces to be treated is foreseen. The internal useful dimensions can be customized starting from our standard models.

Working temperature: from 50 °C to 300 °C

Also available in electric version

Post combustion systems

System designed to thermally treat fumes or polluted air.
The heat input is obtained with industrial burners powered by gaseous and/or liquid fuels; alternatively, an electric version is available. The post-combustion chamber is sized for temperatures between 750 °C and 1.000 °C, with adequate residence time and presence of oxygen.
A heat recovery system can be integrated to reduce energy consumption (see below).
An external air supply system can be provided in the case of treatment of fumes or oxygen-poor fluids.





Heat recovery

Heat recovery system via heat exchanger to reduce energy consumption.
Can be supplied in air-to-air, fume-to-air, fume-to-fume types.
This solution is completely customizable, both in materials and in their arrangement.





Special projects & products



SYNTHESIS GAS TREATMENT

System installed in the province of Verona.

Combustion system for the treatment of synthesis gas, where our creation included the thermal afterburner, the burner complete with its own safety devices, synthesis gas storage tank and the supervision and control panel.



ELECTRICITY FROM SOLAR SOURCE

Energy production, plant installed in Alexandria, Egypt.

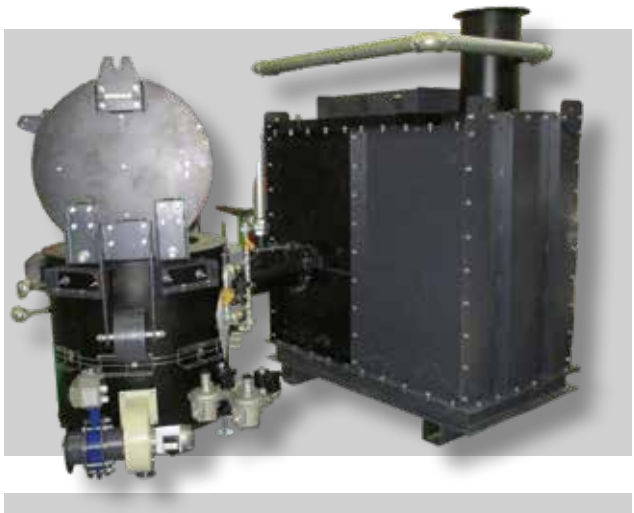
Combustion system for the generation of hot gases with methane gas burners for a heating system and maintenance of the temperature of molten salts for an electricity production system with a solar source.



SEED DRYING AND SANITIZATION

System installed in the province of Bari.

Hybrid system composed of an indirect hot air generator with diesel burner and an electric resistance generator.
Possibility of single or combined use.
System management carried out via PLC.



ACTIVATED CARBON

Experimental plant for activation process in the province of Viterbo.

The supply included a chamber for heat treatment at 600 °C and a post-combustion chamber for the abatement of harmful substances at a temperature of 850 °C.
The heating of the system was entirely done with electric heat generators.
System management carried out via PLC.



COMBUSTION CHAMBER

Sludge drying plant in the province of Bari.

Combustion system with solid fuel, internal chamber temperatures of approximately 1.100 °C, vertical chamber for dust settling.



PET FOOD

Feed drying plant, installed in Germany.

Complete containerized systems for the supply of hot air for drying feed; these containers are placed above the drying cells. Inside the container are the gas burners, air ducts, fans and the electrical control panel.
Drying temperature: 80 °C

Incineration and cremation ovens



We design and manufacture state-of-the-art plants for the incineration of waste and materials generated by various industrial sectors, as well as systems dedicated to human and animal cremation. Each project is equipped with thermal post combustion systems and, where required, advanced flue gas treatment technologies. All our technical solutions are designed to ensure full compliance with current atmospheric emission regulations and the highest standards of environmental protection.


Tecflam

Case History

T



1993

VD



1998

HAG



1999



2023



2014



2023

Tecflam, a journey through time. A selection of photos that show how our products have evolved. From who we were to who we are now.

VDC



2002

E



2002

E-HAG



2015



2021



2022



2024

Remote assistance

CONTINUOUS EVOLUTION

Our systems can be equipped with network interconnection systems that allow remote supervision and control.

Some advantages of this solution are:

- personalized management via PLC
- complete package of hardware and software for implementation
- ability to receive faster assistance via remote connection
- simple and intuitive operator-machine interface
- compliance with the latest safety parameters





INDUSTRY 4.0





SERVICE

Our thermal machines are often the beating heart of the system; a widespread and reactive after-sales service is therefore necessary.
Tecflam is in a continuous expansion phase, both in Italy and in Europe to provide this fundamental service to end users.

The after-sales service, in addition to making use of our assistance centers in Europe, is ready to intervene directly from the headquarters.

Tecflam

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Company with environmental management system according to UNI EN ISO 14001:2015

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