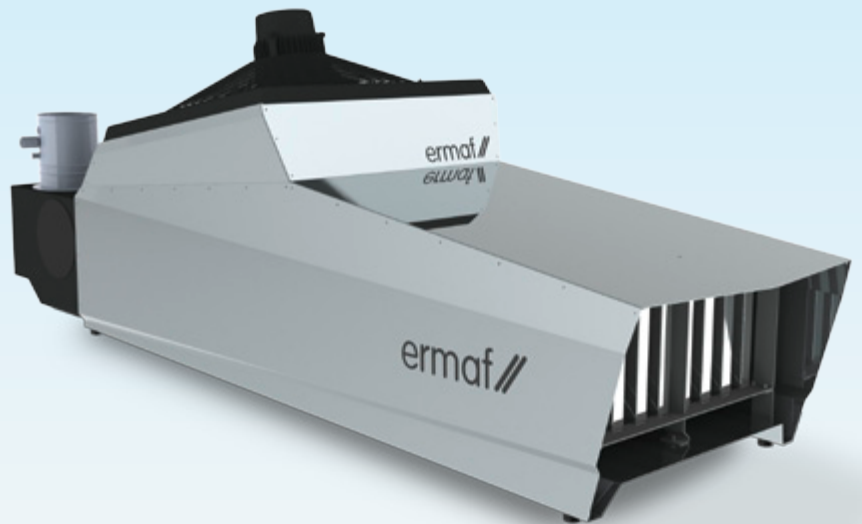


Thermorizer TR 75

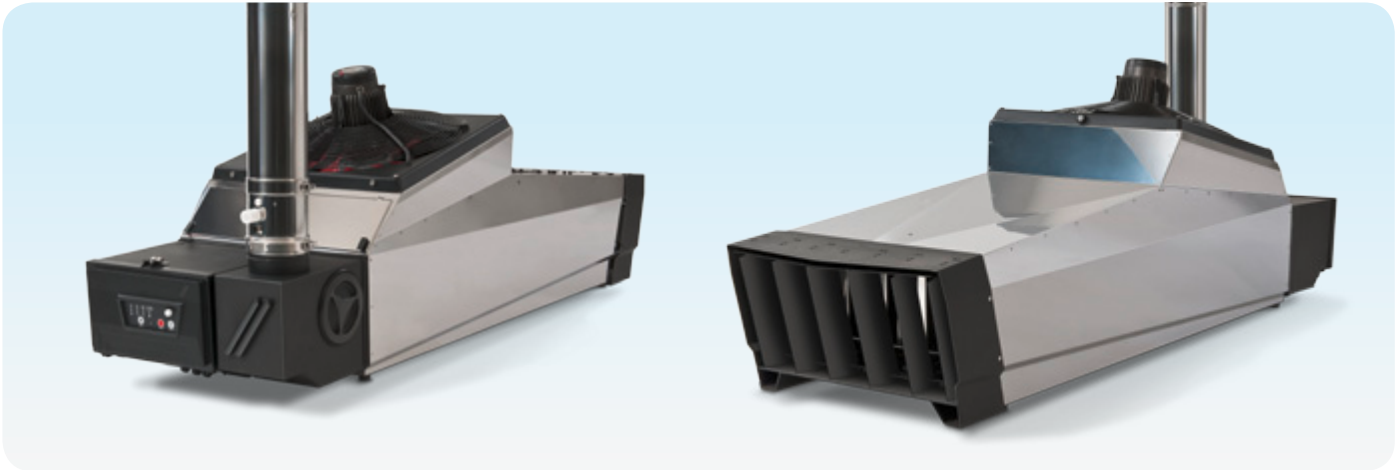
Product brochure · GB

Edition 08.13



CE

- Clean burner technology in a closed combustion and flue gas system
- Savings due to reduced consumption of gas
- Innovative control of environmental control computer via eBus
- Sturdy stainless steel structure
- Adjustable flow direction
- Easy installation
- Maintenance-friendly and resistant to high-pressure cleaning
- Extremely energy-efficient
- Safe operation



Application

Optimum temperature distribution, CO₂ reduction, energy savings and environmental compatibility are key criteria when choosing the right heating system for animal sheds. The Thermorizer has been specially designed for this field of application.

It is used for the precise and controlled heating of animal sheds and horticultural greenhouses.

The Thermorizer is a closed combustion and heating system. This self-contained system ensures that the environment in animal sheds is extremely clean and does not contain CO₂. All flue gases are discharged via the chimney and the ambient air to be heated remains fresh and clean.

The Thermorizer generates a laminar flow of air. This means that, in contrast to previous heaters, there is no visible turbulence (swirls/cross flows). If required, the direction of the air flow can be adjusted using an air diffuser. Repeated measurements carried out in the field confirm that the energy consumption of the new devices is significantly lower compared with direct heaters. Considerably higher savings can be made thanks to a high level of efficiency of up to 98%.

The system solution with one or several heaters can be used for staged or modulating control up to 75 kW and operated with natural gas or all LPG mixtures.

Examples of application

Animal husbandry



In animal husbandry, an optimum climatic environment is the most important factor as regards the health and productivity of the animals. Ventilation and heat supply are necessary to control the environment in animal sheds. Temperature, humidity and CO₂ content play a crucial role here.

Ensuring controlled air quality in animal fattening farms has been law in EU countries since 2010. This is achieved by limiting the admissible concentration of CO₂ in the shed air. If the requirement for a maximum concentration of 3000 ppm of CO₂ in the shed cannot be complied with, only a lower stocking density is authorized.

Since no CO₂ or NO_x forms in the closed combustion and flue gas system, the Thermorizer TR optimally meets these requirements.

To keep the risk of infection as low as possible, regular cleaning of the sheds is necessary. Cleaning is made considerably easier if heaters are resistant to high-pressure cleaning and can safely withstand this. The Thermorizer and its control unit in the new device/housing concept are optimally equipped to withstand intensive cleaning.

In conclusion, by using the Thermorizer, every farmer can come a good deal closer to achieving the objective of creating the best shed atmosphere at low investment and running costs.

The Thermorizer only produces heat – it does not produce any pollutants.



Thermorizer TR 75 in a chicken shed

The direct spark ignition and burner operation are monitored using ionization control. If the flame goes out or the device does not ignite, the gas supply is stopped immediately by the control unit.

The ACU (Air-heater Control Unit) controls the temperature of the TR's heat exchanger fully automatically in conjunction with the internal temperature sensor. It is thus possible to achieve an almost constant temperature of the heated air being blown out, even during start-up. Temperature differences can therefore be reduced in the animal shed and heating costs can be minimized.

The TR is made of high-quality stainless steel and is resistant to external influences such as dirt and moisture. Both the interior and exterior of the device can withstand high-pressure cleaning. A downward slope inside the device ensures that dirty water drains out. The heat exchanger can be easily accessed via a service flap.

The flexible wall bracket ensures user-friendly installation which can be carried out by one person alone. The positioning to the chimney can be adjusted horizontally.

The Thermorizer does not reduce the level of oxygen available for the animals. The coaxial chimney (pipe-in-pipe system) supplies the TR with oxygen and, at the same time, ensures removal of the flue gases. The chimney has been specially approved for the Thermorizer.

ACU



The Thermorizer's fully automatic control unit (ACU = Air-heater Control Unit) allows the heater to be activated directly via the environmental control computer or a room thermostat. Manual operation is also possible. In addition to the clearly structured operating interface, the TR also has status lamps, thus instantly giving the operator an overview of the device status even from a distance. Other LEDs indicate the operating mode and there is a second display to assist analysis in the event of a fault.

Air diffuser



The air diffuser consists of a frame in which several plates are arranged in different directions. It is simply mounted to the outlet opening at the front of the Thermorizer. The plates can be adjusted both horizontally and vertically. This allows the flow of heated air to be channelled in the required direction. Thanks to a better distribution of the air, the heat is uniformly distributed in the shed and the animal's health is improved. In addition, the heated air remains at floor level for longer.

The air diffuser is available as an option.



Optimal use of the system leads to considerable energy savings.

Horticulture



Burning gas does not only release CO₂, but also other gases which are harmful to plants, e.g. nitrogen oxides (NO_x).

If plants are constantly exposed to excessive NO_x concentrations, this can result in growth inhibition and therefore deficits in yields.

The patented burner technology of the TR produces only very low nitrogen oxide emissions. A high jet length and air displacement ensure uniform distribution of the heat and the CO₂ content. When the heating is not activated, the fan can be used to produce an air displacement in order to dry the plants or compensate a temperature difference in the greenhouse.

Technical data

Gas types: II2ELL3B/P,
natural gas H and L (gases of categories 2 and 3), LPG (gaseous): propane, propane/butane, butane.

Inlet pressure p₀: 20 to 70 mbar.

Gas connection: Rp ¾ to ISO 7-1.

Staged control: On/Off signal (240 V AC via coupling relay).

Continuous control: capacity control from 60–100%, (0–10 V/4–20 mA actuating signal).

eBus interface for connection of an environmental control computer.

ACU control unit with direct spark ignition and ionization control.

Fan type:
main fan: axial, burner fan: radial.

Material:

housing: stainless steel,
heat exchanger: stainless steel,
ACU: flame-retardant polymer mix made of polycarbonate (PC) and acrylonitrile butadiene styrene copolymer (ABS).

IP 55

Ambient temperature: max. 40°C.

ΔT_{max}: 35°C.

Cycle lock: 15 s.

Capacity: 75 kW.

Jet length: > 50 m,
velocity at the jet end: 0.5 m/s.

Gas consumption:

natural gas L: 8.5 m³/h,

natural gas H: 7.2 m³/h,

propane: 4.8 kg/h,

butane: 5.9 kg/h.

Connection rating:

400 V AC, -15/+10%, 50 Hz, 950 W.

Current consumption: I_N: 1.4 A.

Air circulation:

controlled air flow: ± 8000 m³/h,

heating: ± 8000 m³/h.

Dimensions: 1960 x 870 x 730 mm.

Sound level: ≤ 68 dB.

Max. current consumption of external fan:
5 A.

Nominal size of chimney: DN = 100 mm,
length of chimney: max. 5 m.

Maintenance cycles

In animal husbandry: after each breeding cycle. In horticulture: once a year.

If the media are highly contaminated, this interval should be reduced.

Detailed information on this product



http://docuthek.kromschroeder.com/doclib/main.php?language=1&folderid=401125&by_class=6

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