



Vitotherm



Vitotherm

VGIs 100- 1500  
VGOLs 100-1500





## LEARN MORE ABOUT THE PRODUCTS AND SERVICES OFFERED BY VITOTHERM B.V.

We proudly present our brochure that shows the result of 60 years of dedication to building the best and most efficient burner systems, for our worldwide customers in horticulture, industry, domestic buildings and asphalt production.

Our experts work daily to design and build the best and most efficient burner systems suitable for (bio)oil, (bio)gas and LPG.

With our network of field service engineers we offer installation & 24-7 support across the globe, making our burner systems within reach for you.







*Passion for burners.*

*Vitotherm*





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# Burners





# Mono-block

Mono-block burners are compactly built industrial burner systems that are an excellent choice for easy installment and perfect saving room.

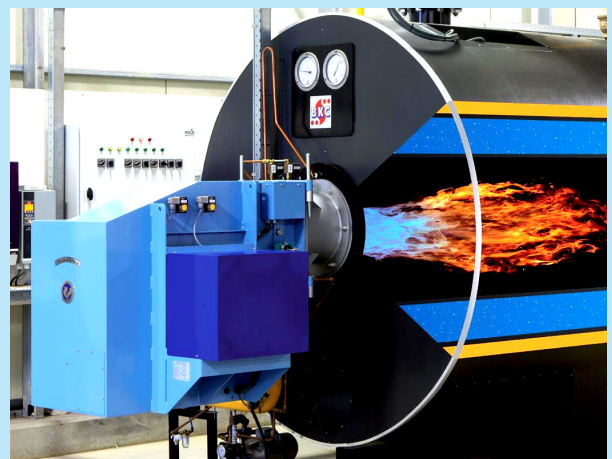
Key benefits of the mono-block burner are the ease of assembly of the burner system as well as the ease of disassembly to perform smooth maintenance.

[Visit our website for more information about the Performance Data.](#)

All Vitotherm's burners carry the CE and EAC marks.



Our Mono-block burner solutions come with a gas control line and control panel. Please consult page 9.





# Duo-block

Duo-block burners are composed out of two units, connected by an air duct to transport the combustion air preheated in the burner unit towards the fan unit.

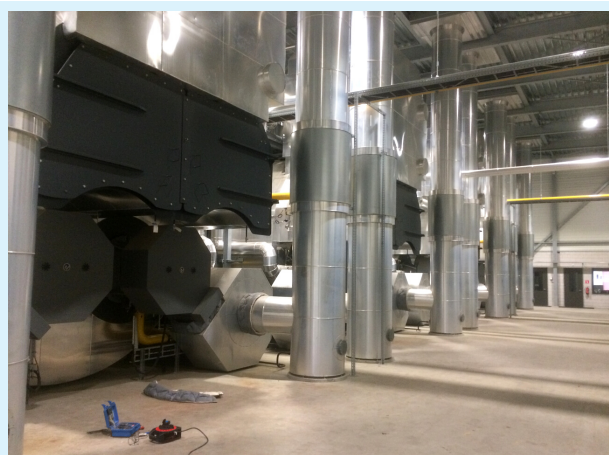
Key benefits of this setup are that the fan can be installed flexibly, which helps to significantly reduce noise levels in the boiler room.

[Visit our website for more information about the Performance Data.](#)

All Vitotherm's burners carry the CE and EAC marks.



Our Duo-block burner solutions come with a gas control line and control panel. Please consult page 9.







## **GUARANTEEING CUSTOMER SUCCESS BY CUSTOMIZATION.**

An important part of our success can be explained through the ability of Vitotherm's engineers to customize our burner systems to all of our customer's specific requirements.

Over the years, this has helped many companies to reach optimal efficiency and to boost our team's creativity to build the perfect solution for you. Our team is more than happy to discuss your specific requirements for a tailored proposal.



# Gas control line





# Gas pressure reducer

A gas pressure reducer is usually a customized solution; Vitotherm staff have the necessary expertise to design and supply gas control lines.

For average gas volumes

Industrial spring-loaded gas pressure reducer, complete with outflow pipe and measurement cables, customized or designed for any required supply pressure, output pressure and volume.

For large gas volumes

Industrial gas-controlled gas pressure reducer, complete with outflow pipe and measurement cables, customized or designed for any required supply pressure, output pressure and volume.

Both gas lines can be delivered with a gas meter with an electronic volume corrector (EVC) – a MID certificate is also possible.

## Fuels

Vitotherm has a proven track record in delivering bio-gas related projects. These have included projects with gas released during ground drilling – all delivered to the customers satisfaction.

Vitotherm is also the partner you can count on when it comes to solutions for other gas types such as natural gas, LPG, LNG, bio-gas, fuel oil No. 2.





# Control Panels



# Control panels

The burner's standard control panel has the CE hallmark and complies with all applicable requirements related to the security of boilers and burner systems.

Customer-specific control mechanisms can also be designed and manufactured based on customer wishes and applicable regulations. This can involve visualization, security technology or the customers own wishes for switching devices. Vitotherm has all the know-how needed to do this.

## BMS's

We can manufacture all types of control panels in compliance with locally applicable requirements. Examples include CSA/UL/EAC/AGA/CCC.





# Combustor



# Combustor

Vitotherm designs and supplies combustors for boilers with a capacity of 1 to 22 MW for burners with forced combustion air.

Our combustors offer the lowest NOx emission levels and optimal efficiency. The excess air needed to burn gas is controlled in order to minimize it. In fact, results of less than 1% oxygen are no exception. Thanks to performance like this, you can save at least 1 to 1.5% in gas consumption.

## Combination of multiple fuels

The combustor is constructed in such a way as to enable fuel combinations, for instance natural gas and biogas. In our Tri Fuel models, such as LNG/LPG/Diesel for example, it is possible to switch fully automatically between the various fuel types.

## Oil-fueled feature

The Vitotherm combustor can be expanded with a modulating or high/low oil feature as Dual Fuel model.

## External smoke gas re-circulation

The Vitotherm FGR model uses a frequency drive gas fan controlled by a pressure sensor on output pressure and an adjustable control valve

to add just the right amount of smoke gas to the combustion in order to reduce NOx emissions.

This solution is used for systems with a combustion chamber of limited size or in cases where an exceptionally low NOx emission level is required.

In addition to the familiar suction through the combustion air fan, this Vitotherm FGR is an excellent alternative that also offers the following advantages:

- No influence on the characteristic of the combustion air fan and increasing of the engine power.
- No oxygen decreases when injecting, thereby enabling more stable and controllable combustion.

Adjustable combustion curve using a servomotor through the BMS.

## Retrofit

Vitotherm can also offer customer-specific expert advice on low-NOx retrofit solutions for your existing boiler system.





# Optional components





# Optional components

Optional components can be added to the burner to adapt it to special circumstances or add new functions.

## Vitopack

The Vitopack is a premade installation that integrates a gas train, a gas line adapter with butterfly valve, a control panel and a frequency drive. Vitopack 1 is the standard configuration.

Vitopack 2 is also available, and includes a blast tube mounting with refractory and pre-wiring of the boiler. Both configurations come with the option of being fully pre-wired, with connections to all parts of the burner system.

## Vitotherm gas line adapter

A Vitotherm gas line adapter connects the gas train to the burner head. Vitotherm offers the option of a custom design that fits your installation.

The gas line adapter is made of powder-coated steel. A standard delivery includes all components necessary for installation (bolts, nuts, rings, gaskets).

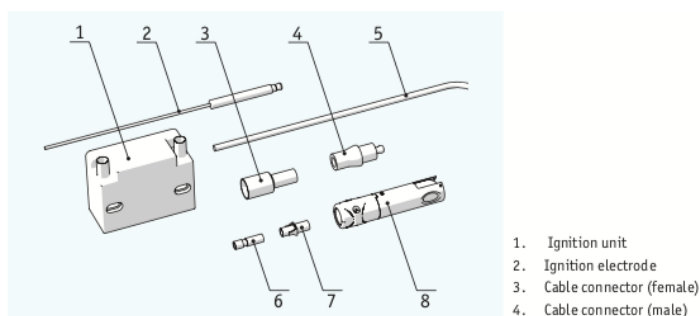
## High pressure gas regulator set

3-8 bar to 200-300 mbar

A high-pressure gas regulator set can be added to a standard gas train to adapt it to higher gas supply pressures. The set can reduce supply pressures of 8-3 bar to 200-300 mbar.

## Spareparts set

This set contains parts of the burner that are most likely to be replaced within 1 or 2 years.





### Gas train actuator heating elements

Heating elements can be placed on the actuator of the gas train. The heating elements keep the hydraulic oil in the actuator up to temperature in cold environments.

Vitotherm recommends including this option in an outdoor burner system or in a cold boiler house.

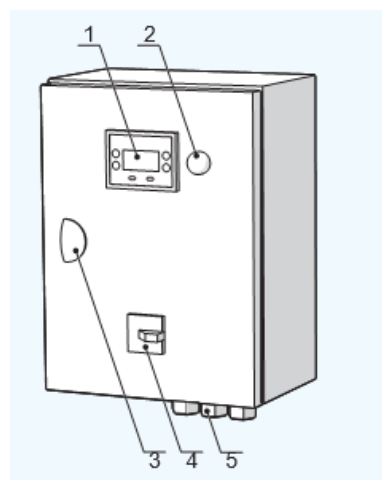
### Flue gas valve circuit

A flue gas valve circuit controls the flue gas valve of CO<sub>2</sub> systems equipped with a CO<sub>2</sub> collector with multiple CO<sub>2</sub> sources. The circuit closes the flue gas valve in the flue gas outlet to the CO<sub>2</sub> collector when CO is detected in the flue gas of the system (e.g. when the burner is activated). This prevents CO from entering the CO<sub>2</sub> collector.

### Vitotherm CO detector

#### type VCD2 with sampling pump

A Vitotherm CO detector checks the flue gas that is transported from the burner to external applications (e.g. greenhouses) for carbon monoxide. The CO detector is mounted on the back of the boiler.



1. Interface & display
2. Failure feedback light
3. Key lock
4. Control switch
5. Cable connectors

### O<sub>2</sub> controller

#### LT3C

An O<sub>2</sub> controller regulates the amount of O<sub>2</sub> that is added to the fuel mixture. This compensates for differences in gas quality (caloric value) and improves the efficiency of the burner.

The O<sub>2</sub> controller can be expanded with a CO controller. This allows the O<sub>2</sub> controller to recognize the O<sub>2</sub> breaking point after which CO is created and adjust the O<sub>2</sub> percentage accordingly.

### Facilities for a one-pass boiler

A one-pass boiler must be equipped with a safety circuit that prevents the flue gases and return water from becoming too cold. This can cause condensation to form in the flue gas pipes, causing corrosion damage. The safety circuit consists of:

- An extra max. boiler temperature thermostat.
- An extra low water level sensor.

When this option is present in the system, a fuel control switch is added to the control panel.

### Seaworthy packaging

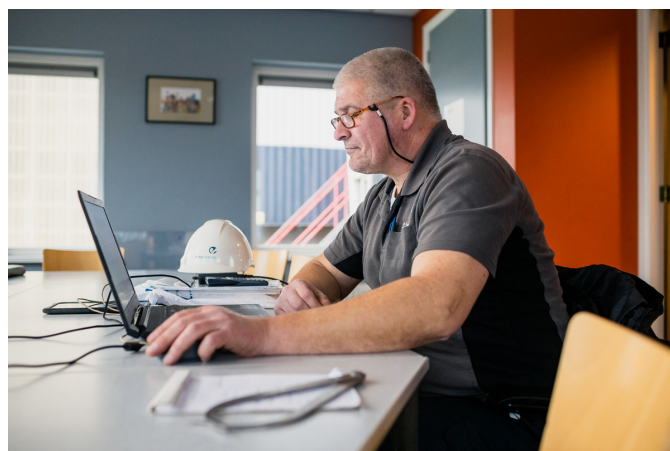
If the burner needs to be shipped overseas, it can be packed in wooden crates treated according to ISPM 15.

### Remote access monitoring

#### Vision Control

A server solution is available that enables remote access to information about the burner (e.g. measurement data, logs, error codes). This enables Vitotherm to monitor the burner and provide improved technical support.

Remote access monitoring is recommended for burners in remote locations.





# Service







#### At Vitotherm...

We employ certified, highly qualified and above all, motivated staff to help customers like you every day, any time (24/7 support).

Our staff has been trained to be more than just service providers who maintain and inspect your burner system, they also cast a critical eye over boiler room set-ups, drawing on their own specialist knowledge about the layout and operation of such facilities. By providing advice on possible adjustments, they can help you to obtain optimal performance from your complete system. Important themes such as energy saving can also be discussed.

One of our key concerns at Vitotherm is ensuring the highest possible availability of systems, to guarantee production continuity and maximum efficiency this is why we are proud to be recognized for easy commissioning and maintenance in all our products.

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Managing Director Vitotherm

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