

Pellet Boiler

VITOLIGNO 300-P

VIESSMANN

climate of innovation



Stiftung Warentest test 	Test winner Good (2.1)
	Pellet boiler VITOLIGNO 300-P
	In the test: 10 systems 1 winner test Spezial Energie 2009



VITOLIGNO 300-P

The new pellet boiler generation



The Vitoligno 300-P pellet boiler from Viessmann sets new standards regarding convenience, efficiency and safety of heating with pellets. Plenty of experience and the know-how of one of the largest manufacturers of heating technology in the world has benefitted the in-house development and manufacture of the Vitoligno 300-P from Viessmann.

Safe, efficient, powerful

The Vitoligno 300-P sells itself through exceptional efficiency and high operational reliability. With its output spectrum from 4 to 48 kW, Viessmann offers a tailor-made solution for any heat demand.

Easy handling

Handling is made easier by virtue of its compact dimensions and robust packaging. Boiler and pellet hopper are shipped and handled separately.

Adaptable to on-site conditions

The comprehensive range of accessories for pellet storage and handling makes the use of the Vitoligno 300-P completely independent of on-site conditions and the prevailing physical circumstances.

For modernisation and new build

The Vitoligno 300-P has a large water content, making integration into existing systems easy. This also provides optimum hydraulic characteristics in new building projects.

Benefits at a glance:

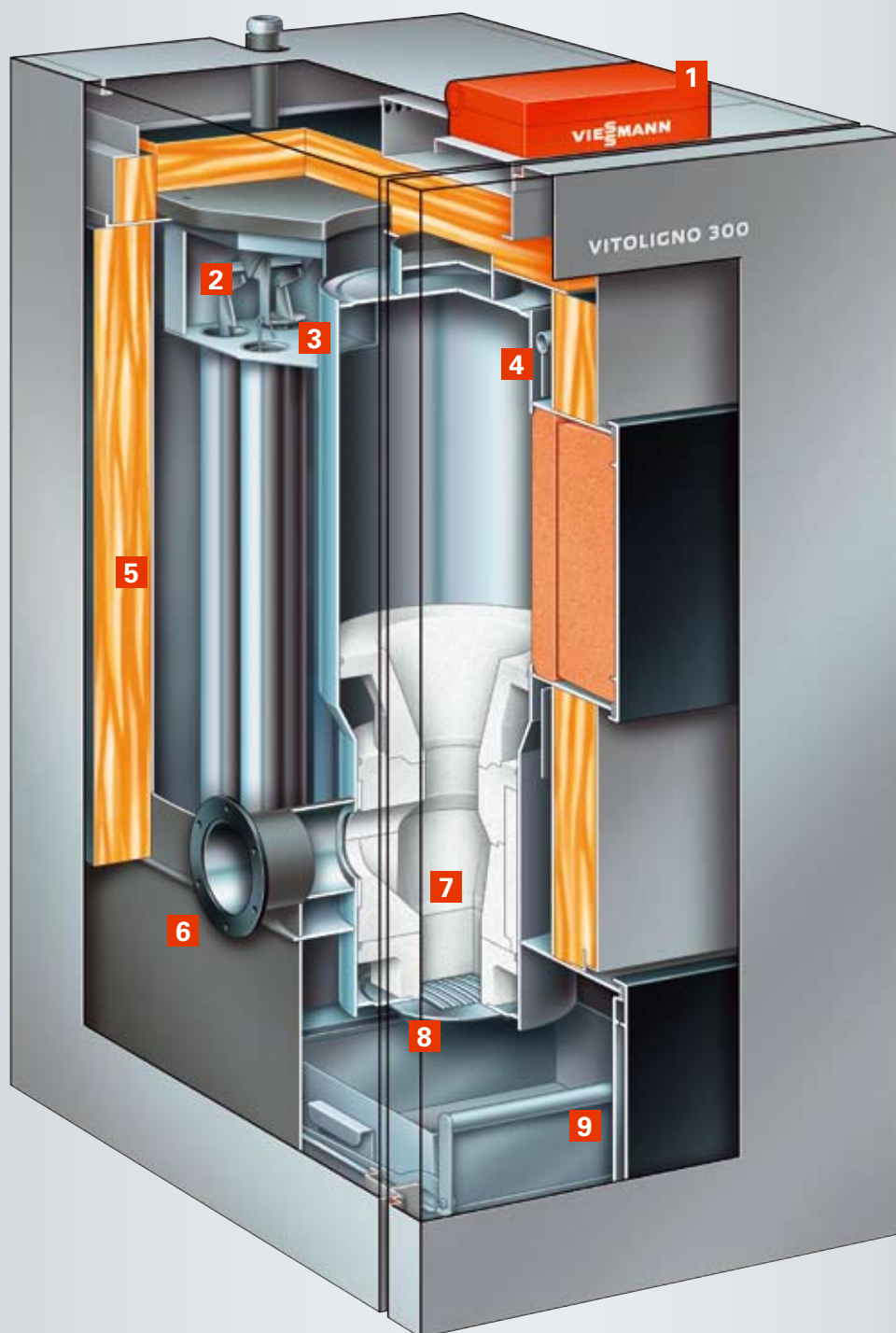
- Automatic cleaning of the heating surfaces for permanently high efficiency
- Automatic ash removal from the combustion chamber through a lamellar stainless steel grate ensures high operational reliability and long cleaning intervals
- Charge unit, comprising a rotary lock valve and charge auger for precise, economical fuel dosing and 100% backburn safety
- Best energy utilisation through automatic matching of the three-pass heating surface to the actual heat demand with the patented Variopass principle
- Automatic and energy-saving ignition with ceramic heating element
- Digital control unit with plain text display and user prompts as well as automatic function monitoring plus solar and buffer cylinder control
- Extensive accessories for pellet supply and storage

Specification:

- Fully automatic boiler for pellets with an output range of 4 to 48 kW
- Efficiency: up to 86% (gross)
- Dimensions and weight of pellet boiler (up to 24 kW):
height x width x depth:
1 485 x 680 x 1 065 mm
355 kg



Pellets are the ideal fuel: futureproof, inexpensive, easy to store and CO₂ neutral.

**Vitoligno 300-P**

- 1 Vitotronic control unit
- 2 Automatic cleaning of the heating surfaces
- 3 Variopass: matching the heating surface to the heat demand
- 4 Internal return temperature raising facility
- 5 Highly effective thermal insulation
- 6 Connection flange for charge unit
- 7 Combustion chamber made from high temperature-resistant ceramic
- 8 Lamellar grate made from stainless steel
- 9 Integral ash box

Pellet boiler with leading technology: Vitoligno 300-P



With its many technical innovations, the Vitoligno 300-P truly sets new benchmarks: It offers efficiencies of up to 86% (gross) across its entire modulation range and low flue gas temperatures of just about 125°C, making it one of the top products on the market.

Double safety strategy: Lambda probe and flue gas temperature sensor

To regulate combustion, Viessmann makes use of two technologies: the Lambda probe and a temperature sensor. The temperature sensor monitors the amount of fuel and primary air. Accordingly, the Lambda probe regulates the secondary air. This results in a reliable burnout across the entire modulation range.

High energy utilisation, even in the partial load range, with Variopass

The Vitoligno 300-P always matches its output precisely to the prevailing heat demand. For this, the rated output is modulating down from 100% to 30% by simply shutting off sections of the second and third pass. Consequently, the Vitoligno 300-P is also able to operate with smaller loads. This means a reliable start, lower emissions and higher efficiency, even in partial load operation.

Reliable and durable combustion chamber

The combustion chamber is made from a highly heat-resistant ceramic material. This stores heat for a particularly long time and thus makes it easier to ignite the pellets reliably.

For protection and a long service life: internal return temperature raising facility

All advanced heating systems operate with low return temperatures – the Vitoligno 300-P is no exception. The internal return temperature raising facility provides protection and safeguards a long service life for operation without heating water buffer cylinder. An additional shunt pump is not required.

Additional economy factor: low power consumption

The automatic ignition by the ceramic ignition element consumes substantially less power than the conventionally used fan ignition. It is also reliable and quiet in operation, requiring little maintenance. The Vitoligno 300-P was designed to operate with the fewest possible power consuming components to keep power consumption as low as possible.



The new Variopass principle matches the heating surface to the current operating state

Automation included: convenient heating with wood

Handling the Vitoligno 300-P is extremely easy and makes heating with pellets convenient as never before. Almost everything is automated – from charging to cleaning.

Automatic: clean heating surfaces for the best combustion results

The heating surfaces are cleaned automatically in programmed intervals. This guarantees low losses and excellent fuel utilisation.

Safe operation: newly developed rotary lock valve

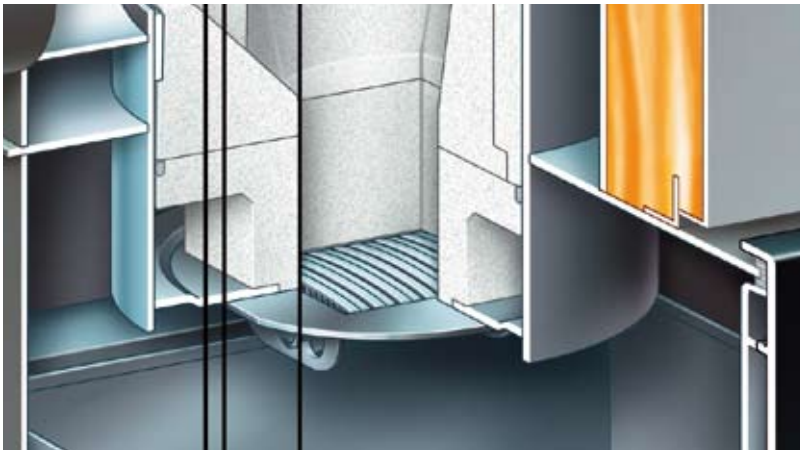
The charge system combined with the rotary lock valve ensures precise fuel dosing and 100% back burning protection.

Reliable: combustion chamber cleaning with lamellar rotary grate

Wood pellets burn with few residues – even these are taken care of by the Vitoligno 300-P. The combustion chamber is cleaned thoroughly and automatically at least once every 24 hours. A lamellar rotary grate additionally removes combustion residues. This guarantees combustion that is constantly optimised.

Convenient: ash removal

Subject to fuel consumption and heat demand, ash may only need to be removed three to four times each heating season. This is extremely convenient, not least because of the two lockable ash boxes.



Reliable removal of combustion residues through the lamellar grate

Control technology: Heating economically by design



More than 40 years of experience in control technology are also reflected in the Vitotronic of the Vitoligno 300-P. It was specifically adapted to suit this new pellet boiler. It is easy to operate and ensures an energy efficient heating operation; in addition it offers many ease-of-use features.

Everything under control – without additional modules

The Vitotronic controls all components connected with the combustion process and the system as a whole using just one programming unit. It can control two mixer heating circuits or one mixer heating circuit with solar function, one DHW cylinder and one heating water buffer cylinder; alternatively systems with combi cylinder. No additional module is required for standard applications.

Solar data – always available

The programming unit of the Vitotronic that regulates the Vitoligno 300-P or the remote control display the current solar thermal data. The collector and cylinder temperature are part of the data, as are the hours run by the solar thermal system.

Easy and convenient operation

The user prompts on a multi-line plain text display make operating the system easy. Boiler with pellet supply, heating circuits and cylinder temperature control can all be operated intuitively. Adjusting all relevant parameters is made easy by the clear display with graphic capability.

Energy saving – pre-programmed on all Vitotronic control units

An optimum combustion controller and a heating circuit pump shutdown are already integrated into the Vitotronic of the Vitoligno 300-P. This control activates when heat is no longer required, thus saving power and heating costs.

Convenience and economy functions – at the push of a button

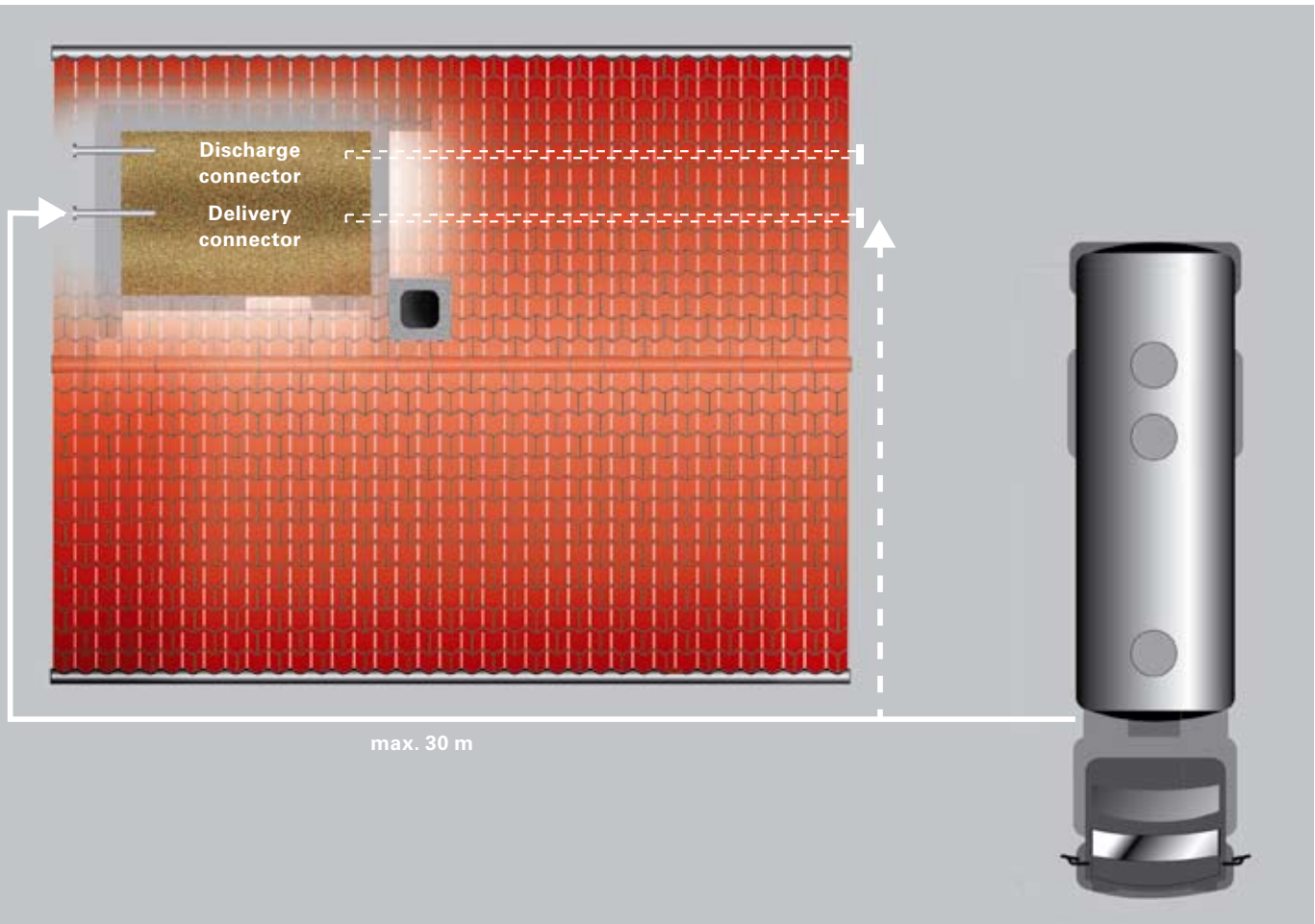
Convenience and economy in one. The Vitotronic makes it simply a question of adjustment as everything is made easy thanks to its menu prompts. For example, switching to economy mode for a short-term temperature setback when you're away or changing over to party mode when central heating should be on a little longer than usually at night. Convenient: automatic summer/wintertime changeover.

Integral diagnostic system: delivers important information

The Vitotronic incorporates a diagnostic system that delivers important information to heating contractors. A laptop for commissioning, maintenance and service can be connected via the Optolink interface.



Easy operation thanks to intuitive user prompts



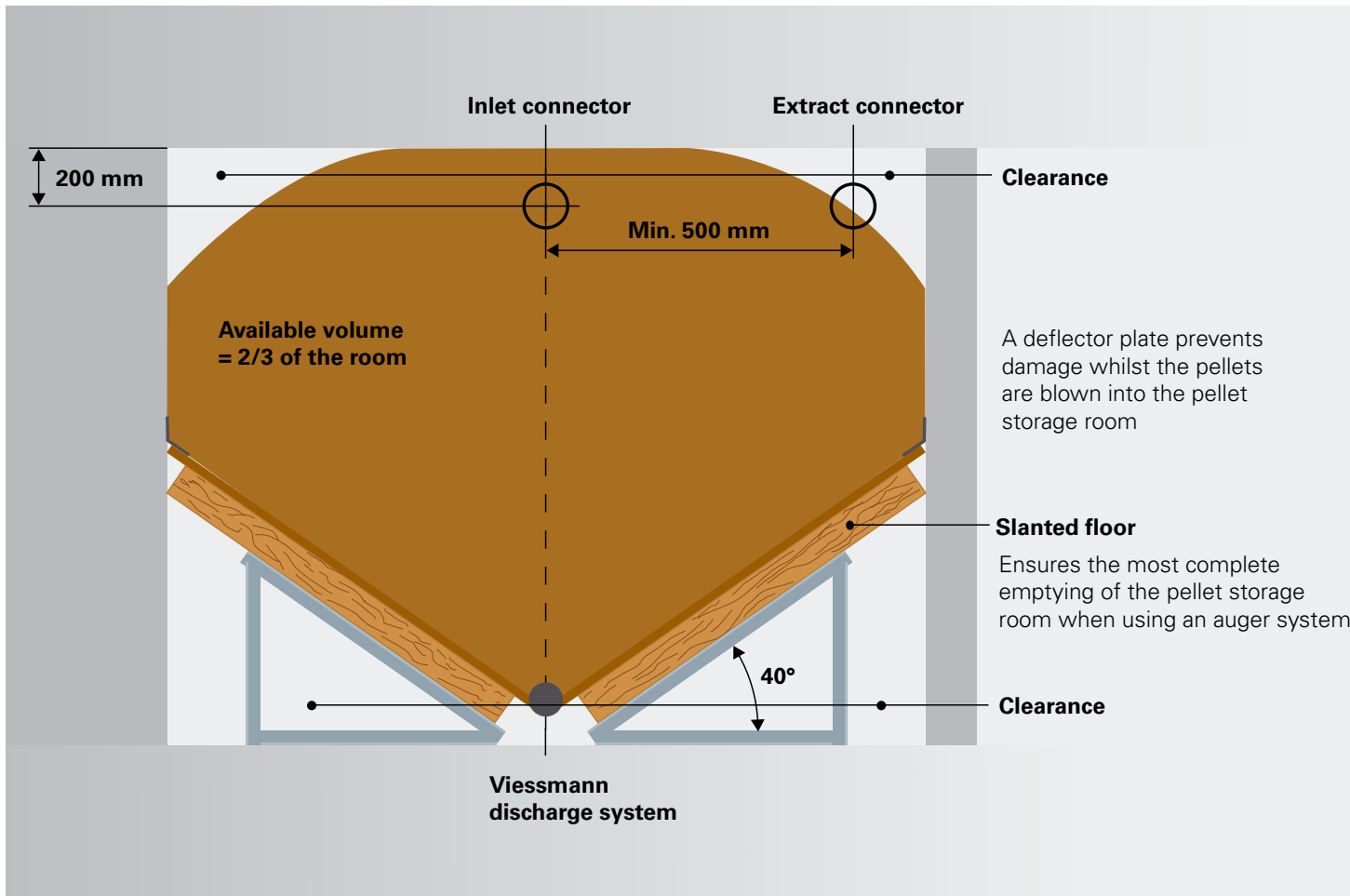
Location of the pellet storage room

Pellets can be supplied by means of tankers and blown into the pellet storage room.

A hose length of 30 metres should not be exceeded when filling the storage room. If longer hose lengths are to be expected, please consult your pellet supplier to clarify the details.

The access route must be suitable for tankers. Generally a road width of at least 3 metres and an overhead clearance of at least 4 metres are required.

If possible, the storage room should have an adjoining outside wall. There should be a 230 volt power supply for the pellet supplier's vacuum fan and an electrical isolator for the pellet boiler.



Practical experience favours a rectangular footprint for the storage room. Ensure the easy accessibility of the fill and discharge connectors. The size of the required storage room depends on the heat demand of the building. Considering the space that is not available, the following space requirement results as rule of thumb:

Rule of thumb:

- Per 1 kW heat demand = 0.9 m³ of the space (incl. empty space)
- Available storage area: $\frac{2}{3}$ of the room
- 1 m³ pellets = 650 kg
- Energy content: approx. 5 kWh/kg
- 2 kg pellets equal approx. 1 litre fuel oil

Example:

Heat demand, family home: 15 kW

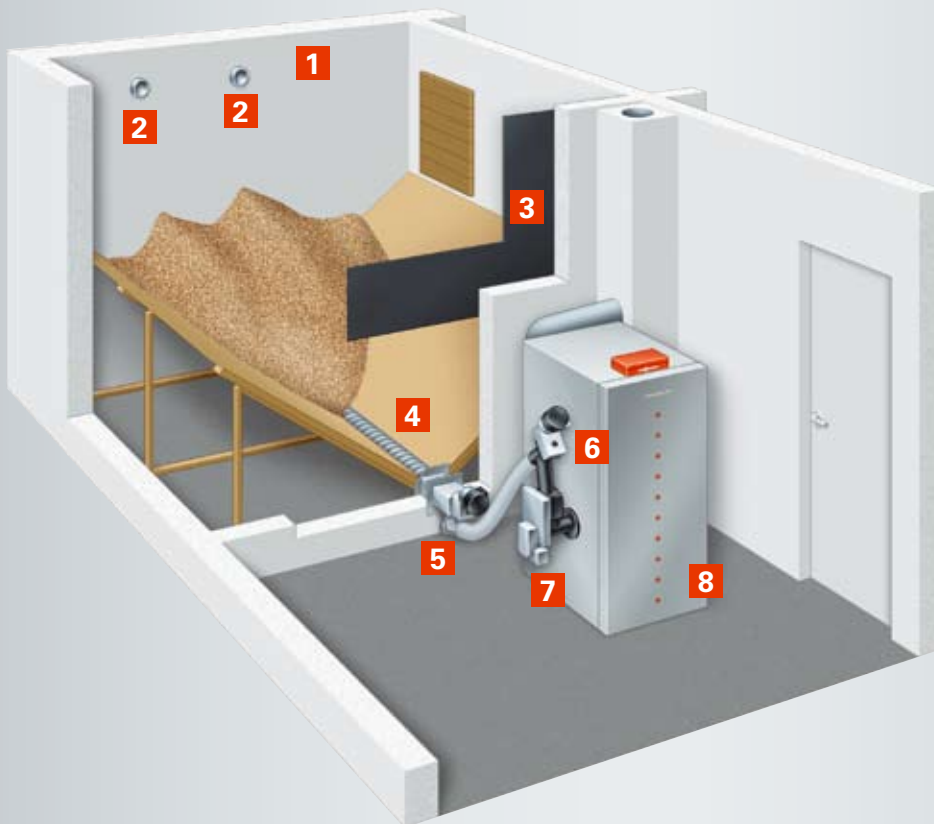
15 kW heat demand • 0.9 m³/kW = 13.5 m³ storage room volume (incl. empty space)

Available room capacity
= 13.5 m³ • $\frac{2}{3}$ = 9 m³

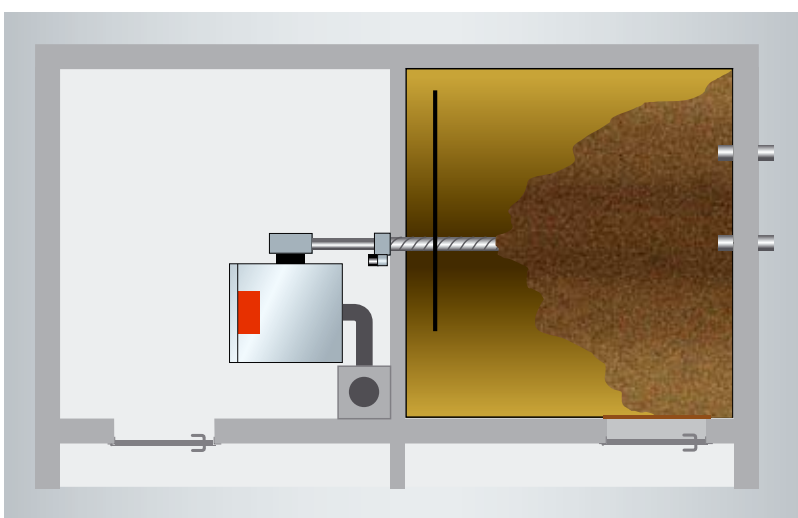
Amount of pellets
= 9 m³ • 650 kg/m³ = 5 850 kg

Size of storage room
= 13.5 m³ / 2.4 m (room height)
= 5.6 m² floor area (not smaller than 2 m • 3 m)

Stored amount of energy
= 5 850 kg x 5 kWh/kg = 29 250 kWh
(equivalent to approx. 3 000 litres fuel oil)

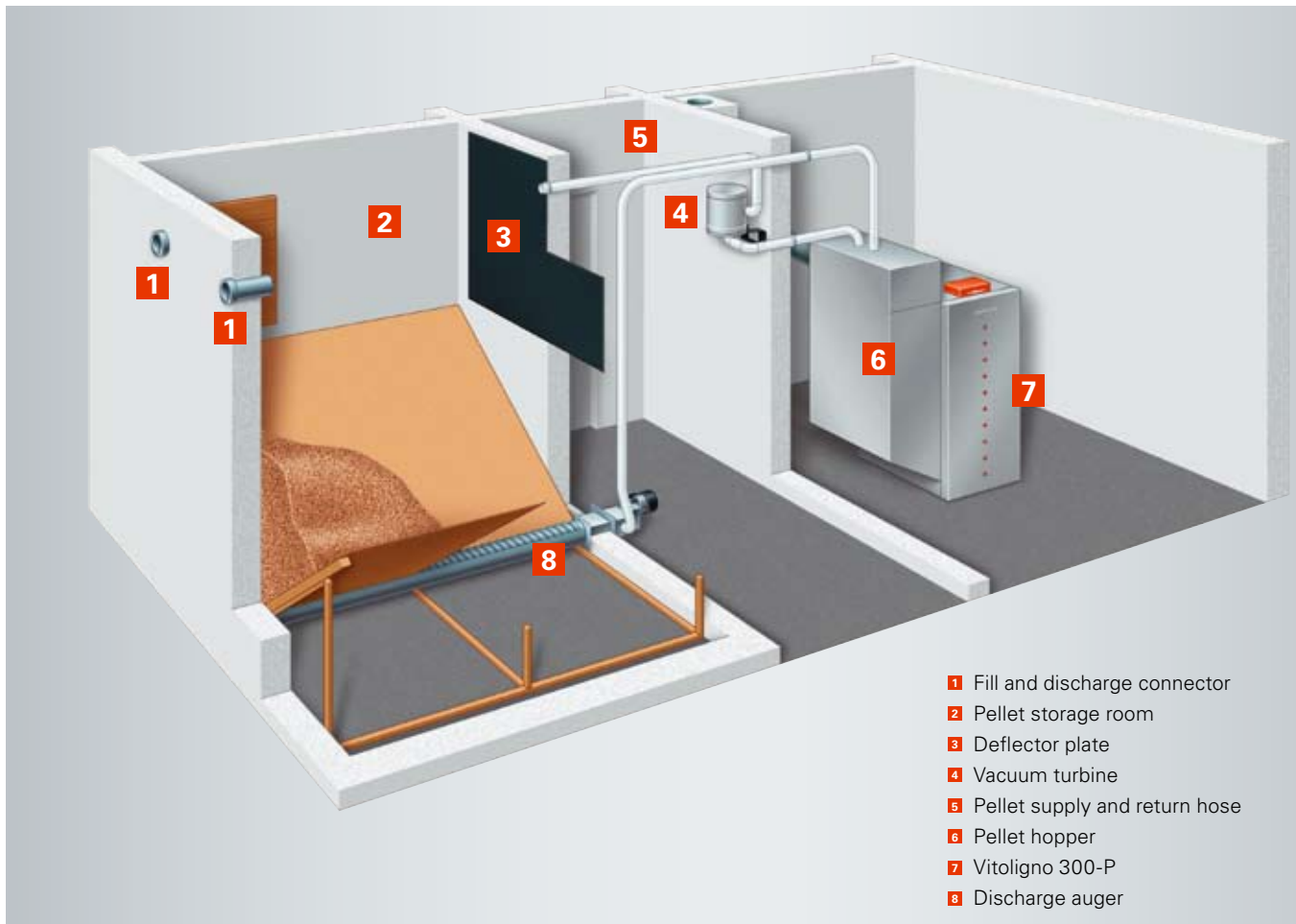


- 1 Pellet storage room
- 2 Fill and discharge connector
- 3 Deflector mat
- 4 Discharge auger
- 5 Flexible auger
- 6 Flexible auger connection unit
- 7 Connection unit, charger with rotary lock valve
- 8 Vitoligno 300-P



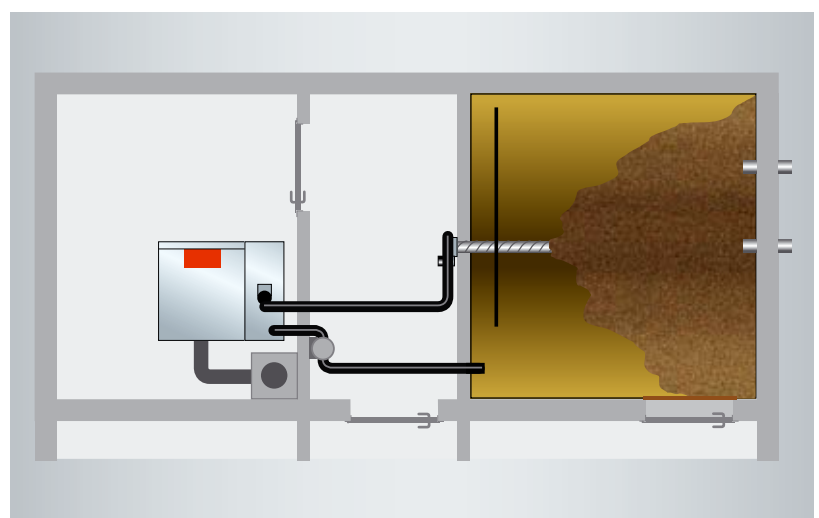
The storage room is the standard method for storing pellets. Sloping floors can be created economically on site. These allow the pellets to slide centrally towards the room discharge auger, which enables a reliable emptying of the room that is as complete as possible. Where the storage room is located immediately adjacent to the boiler room, the pellets can be supplied directly into the rotary lock valve of the pellet boiler via a flexible auger. A pellet hopper at the boiler is then not required.

Requirements of the fuel storage room are subject to national or regional fire regulations.



This version is preferred where the storage room is not immediately adjacent to the boiler installation room. The vacuum system can deliver pellets up to a distance of 15 m into the pellet hopper adjacent to the boiler.

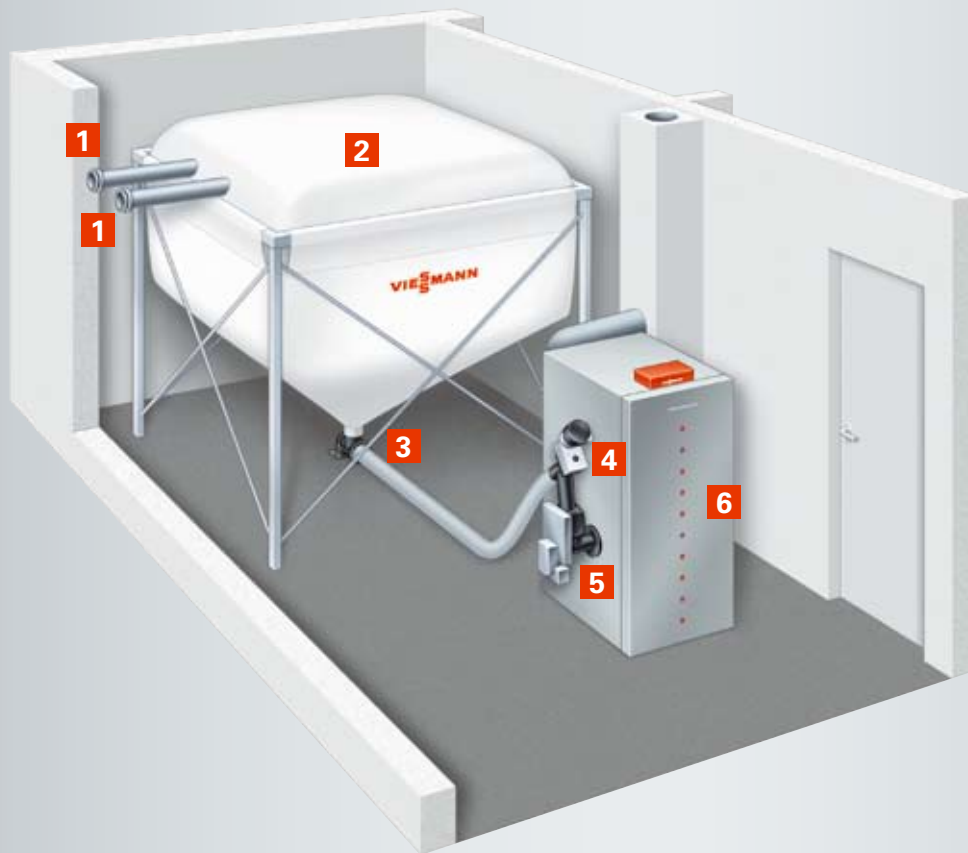
Requirements of the fuel storage room are subject to national or regional fire regulations.



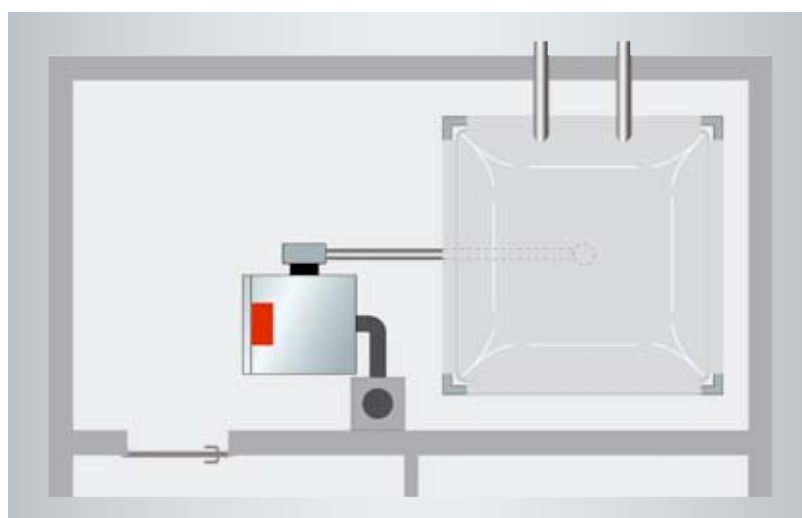
Installation example

Pellet charger

Fabric container with supply system to the pellet boiler via flexible auger



- 1 Fill and discharge connectors
- 2 Fabric container
- 3 Flexible auger with fabric container adaptor
- 4 Flexible connection unit auger
- 5 Connection unit, charger with rotary lock valve
- 6 Vitoligno 300-P

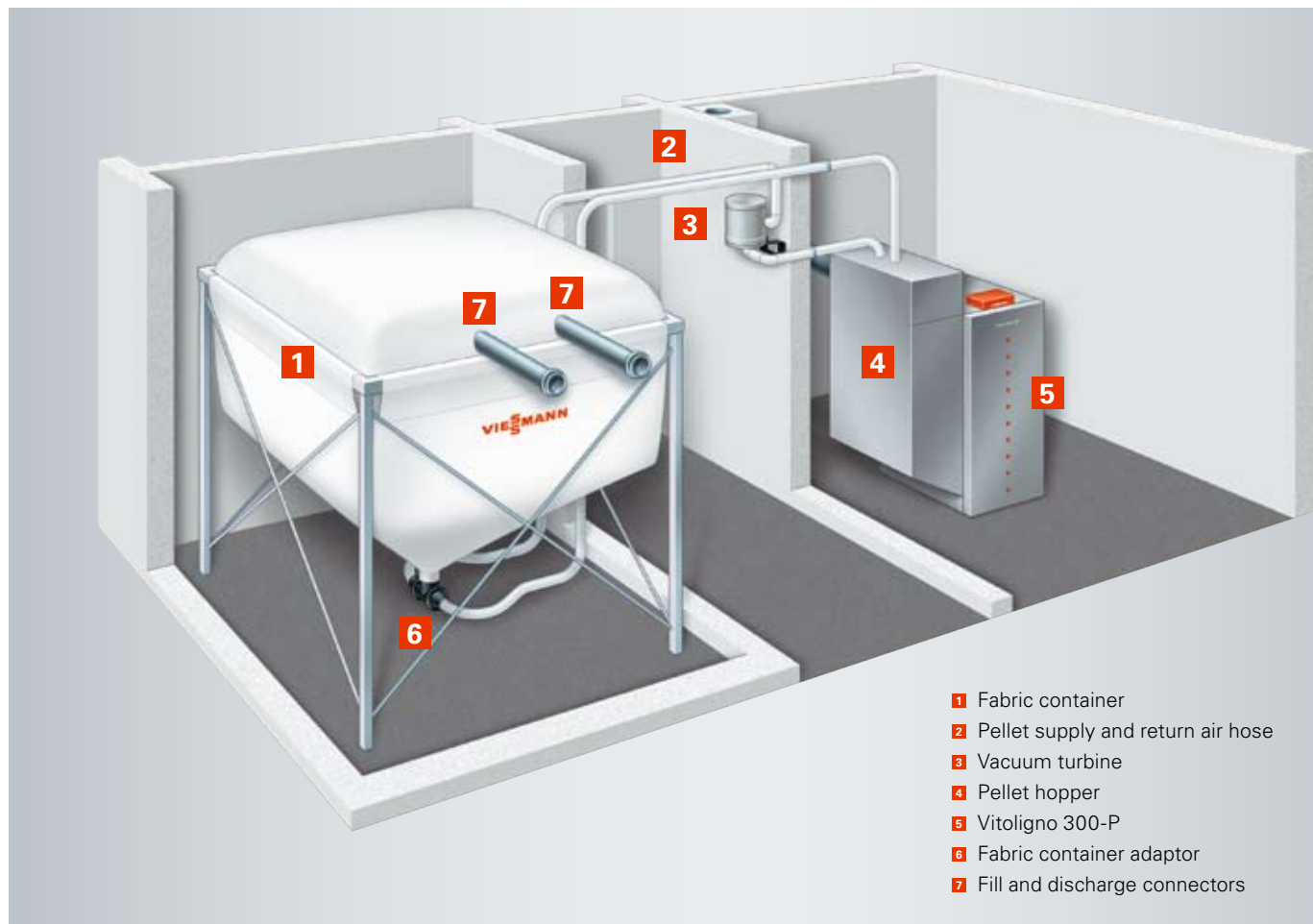


Fabric containers have established themselves as affordable solutions. They are characterised by their quick and easy installation. Many different installation options are available. The discharge system is freely accessible for maintenance work, and the fabric container is totally dust-proof.

Where the storage room is located immediately adjacent to the boiler room, pellets are supplied directly from the fabric container to the Vitoligno 300-P via a flexible auger. A pellet hopper at the boiler is then not required.

Requirements of the fuel storage room are subject to national or regional fire regulations.

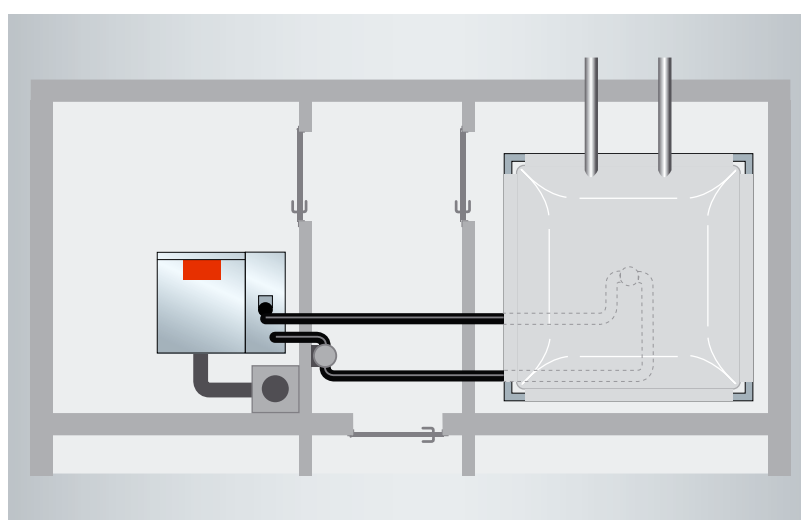
Installation example



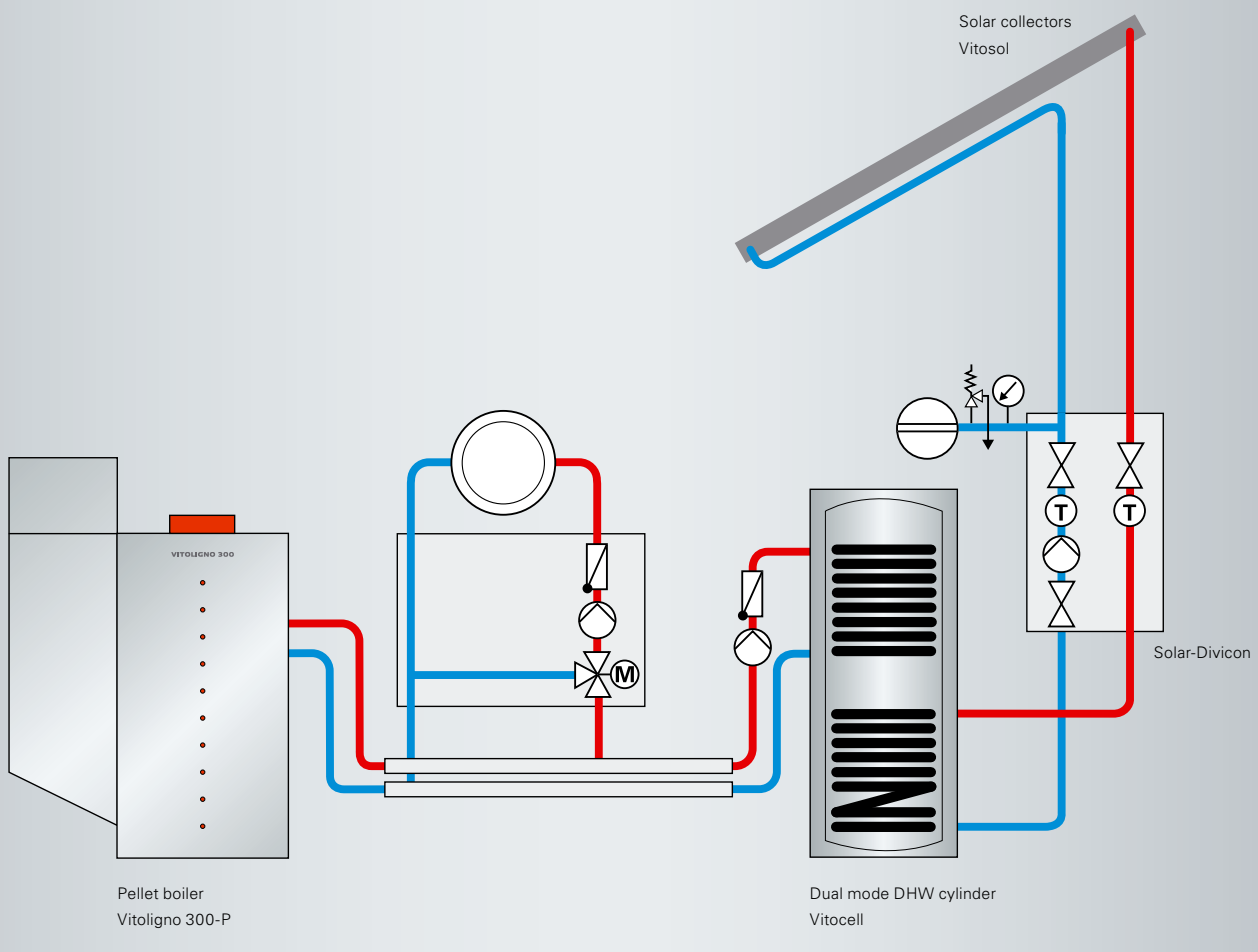
As with the storage room, the fabric container too offers the option of delivering the pellets from the container to the pellet boiler via a vacuum system. Pellets can be transported over a distance of up to 15 metres with the vacuum supply system. The discharge system is easily accessible for maintenance purposes.

The vacuum system is used when the fabric container is located in an adjacent room or where a greater distance needs to be covered.

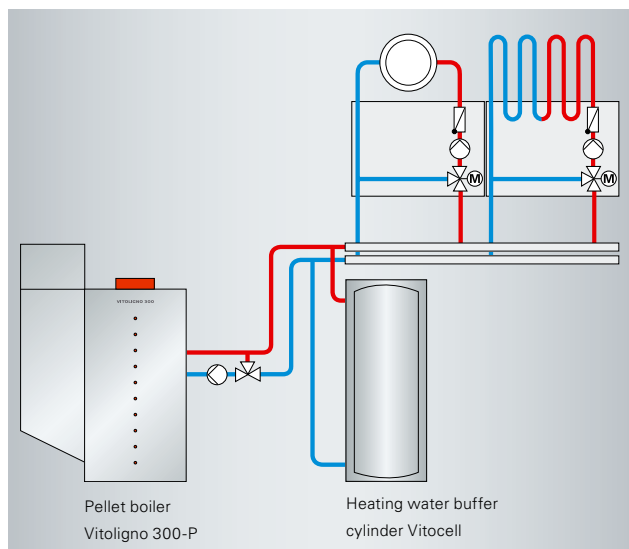
Requirements of the fuel storage room are subject to national or regional fire regulations.



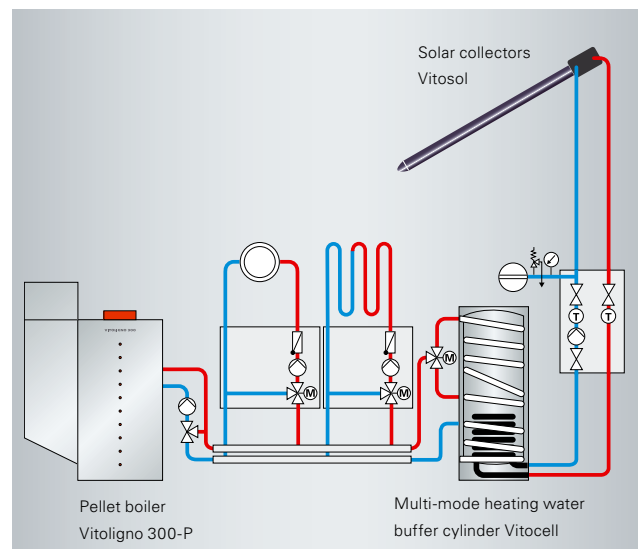
Installation example



1 Pellet boiler, 1 mixer heating circuit, dual mode DHW cylinder and solar thermal system



2 Pellet boiler, heating water buffer cylinder and 2 mixer heating circuits



3 Pellet boiler, 2 mixer heating circuits, multi-mode heating water buffer cylinder with integral DHW heating, solar thermal system and Vitosolic 100

1 Vitoligno 300-P with 1 mixer heating circuit and solar DHW heating

Direct hydraulic connection of the Vitoligno 300-P to a heating system. The integral return temperature raising facility makes external raising facilities in systems without heating water buffer cylinder superfluous. Two heating circuits with mixer and DHW heating or one mixer heating circuit with a solar thermal system for DHW can be controlled directly. An additional Vitosolic 100 is required for two mixer heating circuits and a solar thermal system.

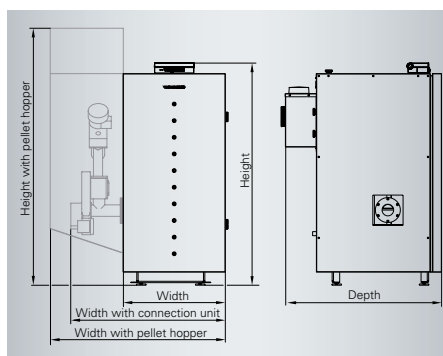
2 Vitoligno 300-P with 2 mixer heating circuits and heating water buffer cylinder

Integration of the Vitoligno 300-P into a heating system with heating water buffer cylinder. For the operation of the Vitoligno 300-P with heating water buffer cylinder, two buffer sensors and two boiler circuit pumps can be connected directly. The external return temperature raising required for buffer operation is provided by a thermally activated 3-way valve. Two heating circuits with mixer and DHW heating or one mixer heating circuit with a solar thermal system for DHW can be controlled directly. An additional Vitosolic 100 is required for two mixer heating circuits with solar thermal system.

3 Vitoligno 300-P with 2 mixer heating circuit plus solar DHW heating and central heating backup

Integration of the Vitoligno 300-P into a heating system with combi buffer cylinder, e.g. Vitocell 340-M or Vitocell 360-M.

The Vitoligno 300-P can operate the combi buffer cylinder with two buffer sensors and a boiler circuit pump. A 3-way diverter valve enables the heating of the DHW section of the combi buffer cylinder separately with the required higher temperature. A heating circuit with mixer and the solar thermal system for the combi buffer cylinder can be controlled directly. An additional Vitosolic 100 is required for two heating circuits with mixer and a solar thermal system.

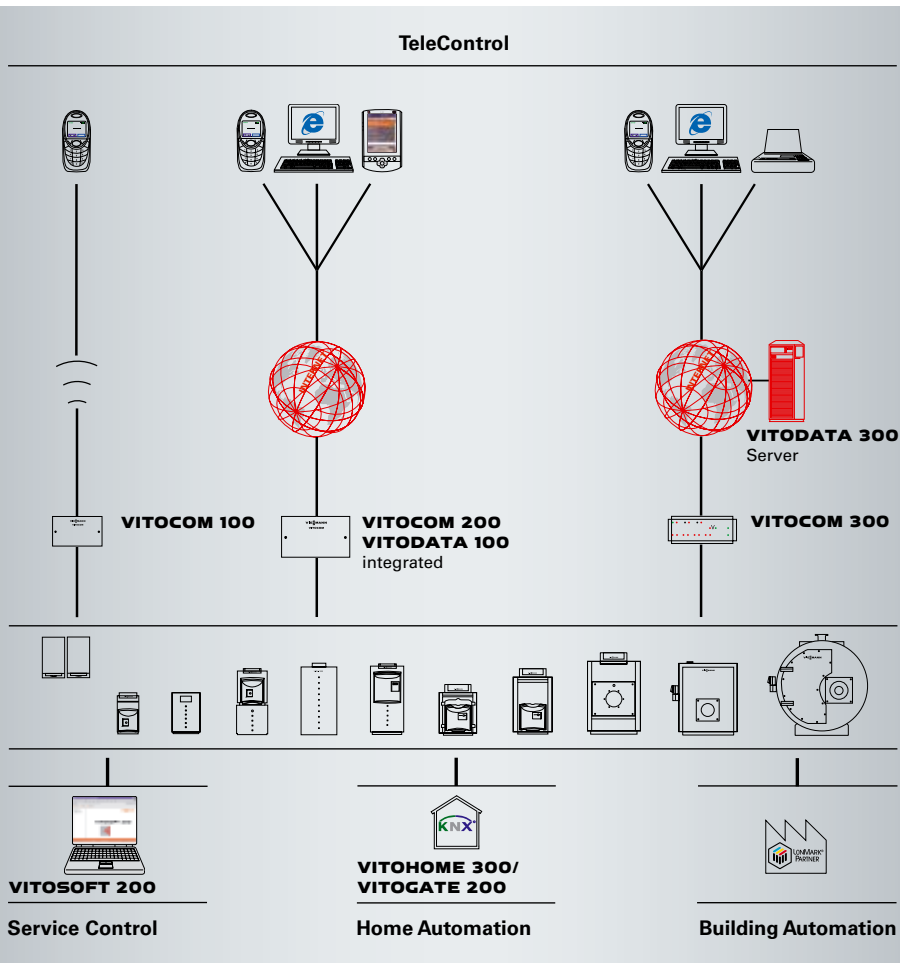


Technical data

Rated output range	kW	4 – 12	6 – 18	8 – 24	11 – 32	13 – 40	16 – 48
Dimensions							
Depth	mm	1 065	680	1 485	1 170	1 170	1 170
Width	mm	1 160	1 780	1 030	780	780	780
Height	mm	1 065	680	1 485	1 710	1 710	1 710
Width incl. pellet hopper	mm	1 160	1 780	1 030	1 360	1 360	1 360
Height incl. pellet hopper	mm	1 065	680	1 485	1 910	1 910	1 910
Width incl. connection unit	mm	1 160	1 780	1 030	1 130	1 130	1 130
Weight							
Vitoligno 300-P incl. thermal ins.	kg	355	453	387	527	527	527
– incl. pellet hopper	kg	355	453	387	631	631	631
– incl. connection unit	kg	355	453	387	571	571	571
Boiler class to EN 303-5							
		3	3	3	3	3	3
Boiler flue outlet							
	mm	130	130	130	150	150	150
Contents, boiler water							
	litres	100	100	100	180	180	180

Data
communication

Everything under control -
even from afar



The Vitotigno 300-P is prepared for linking up with all commercially available communication systems.

Vitocom 100

Uncomplicated remote monitoring of one and two-family homes or of buildings that are not permanently occupied.

Vitocom 200

Affordable remote control and monitoring for private residential buildings, smaller utility buildings and public facilities.

Vitocom 300

Powerful system for professional monitoring, operation and optimisation of larger residential complexes or utility buildings.

Vitsoft 200

Software for easy maintenance and commissioning of the Vitotigno 300-P. Easy connection via the Optolink laptop interface.

Vitohome 300

Simple and convenient central home automation system. Regulates the temperature in each room subject to demand, saving significantly on heating costs as a result. The data communication is wireless. All this makes retrofitting particularly easy.



Vitohome 300

Energy savings and comfort at the touch of a button.

Viessmann matches up all products and consequently offers an optimum level of efficiency – from the initial design to system operation.

DHW cylinder: tailor-made for every requirement

DHW cylinders from Viessmann for any aspiration and every hot water demand. With durable corrosion protection, high DHW convenience through quick, even heating up and low heat losses through effective all-round insulation.

Heating water buffer cylinder: Heat on standby

Buffer cylinders store excess heat during peak times and feed it into the heating circuit later.

Pellet storage

Complete range of accessories for operating the Vitoligno 300-P, incl. fully automatic pellet charging via a vacuum system or a flexible auger.

Vitosol solar collectors: the perfect supplement

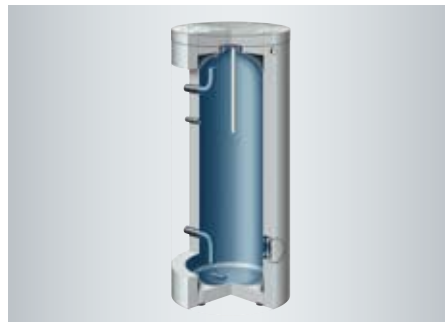
Solar thermal systems and pellet boilers from Viessmann are a team made for each other and for environmentally responsible heating. They allow you to utilise natural energy affordably and to an optimum degree.

From fuel storage to underfloor heating system

Vitaset offers a complete range of accessories for small, wall mounted, medium-sized and solid fuel boilers. All perfectly matching and from a single source.



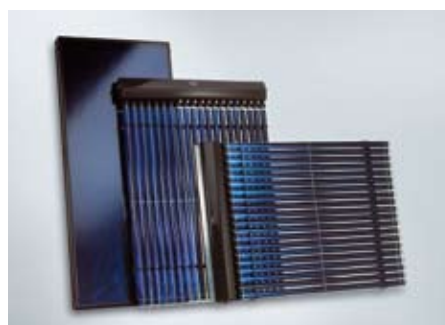
Vitocell
DHW cylinder



Vitocell-L
Heating water buffer cylinder



Everything for storing pellets



Vitosol
Solar collectors



Vitaset
Heating system accessories

The company



The Viessmann Group

For three generations the Viessmann family business has been committed to generating heat conveniently, economically, with environmental responsibility and in accordance with demand.

With a number of outstanding product developments and problem-solving solutions, Viessmann has created milestones which have frequently made it the trailblazer and trendsetter for the entire industry.

Viessmann's orientation is decidedly international – it maintains 16 factories in Germany, Austria, France, Canada, Poland, Hungary and China, sales organisations in Germany and 35 other countries, plus 120 sales offices around the world.

Group companies

Viessmann is a family business that has financed its growth almost exclusively with its own resources. In more recent times, company takeovers have also contributed to its growth. Today, members of the Viessmann Group include the wood combustion specialists, KÖB and Mawera, the heat pump manufacturer, KWT, the manufacturer of combined heat and power units, ESS, and BIOFerm, a market leader in biogas systems.

Skilful workforce

Initial and ongoing training is becoming ever more important. As long ago as the 1960s, the company set itself the task of offering a programme of further training to its skilled contractors. Today Viessmann maintains a modern information centre at its company head office in Allendorf (Eder) that is second to none. Every year at the Viessmann academy more than 70 000 contractors bring their knowledge right up to date.

The energy centre of the future

Viessmann has built an energy centre in line with a homogeneous climate protection concept. This centre is equipped exclusively with environmentally responsible technology that controls the generation of energy, its use and environmentally friendly production in the Allendorf factory (Eder). As a result, the amount of fossil fuel consumed at the factory has been cut by 40% compared to previous levels, and CO₂ emissions have been reduced by a third.

Responsibility

Viessmann is committed to fulfilling its environmental and social responsibilities. The company employees form a team acting on a global footing. This team is defined by the loyalty, reliability and the responsible actions of each individual. We ensure all our processes are environmentally compatible and encourage the use of renewable forms of energy. Furthermore we take an interest in economics, art and culture and have for many years engaged in successful international sport sponsorship.

Viessmann Group





climate of innovation

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