

Datasheet

Part nos. and prices: see price list



File in:
Vitotec folder, register 12

Vitotig 300

Type VL3

Boiler for wood pellets

Product information

Cut-away illustration

VITOLIG 300

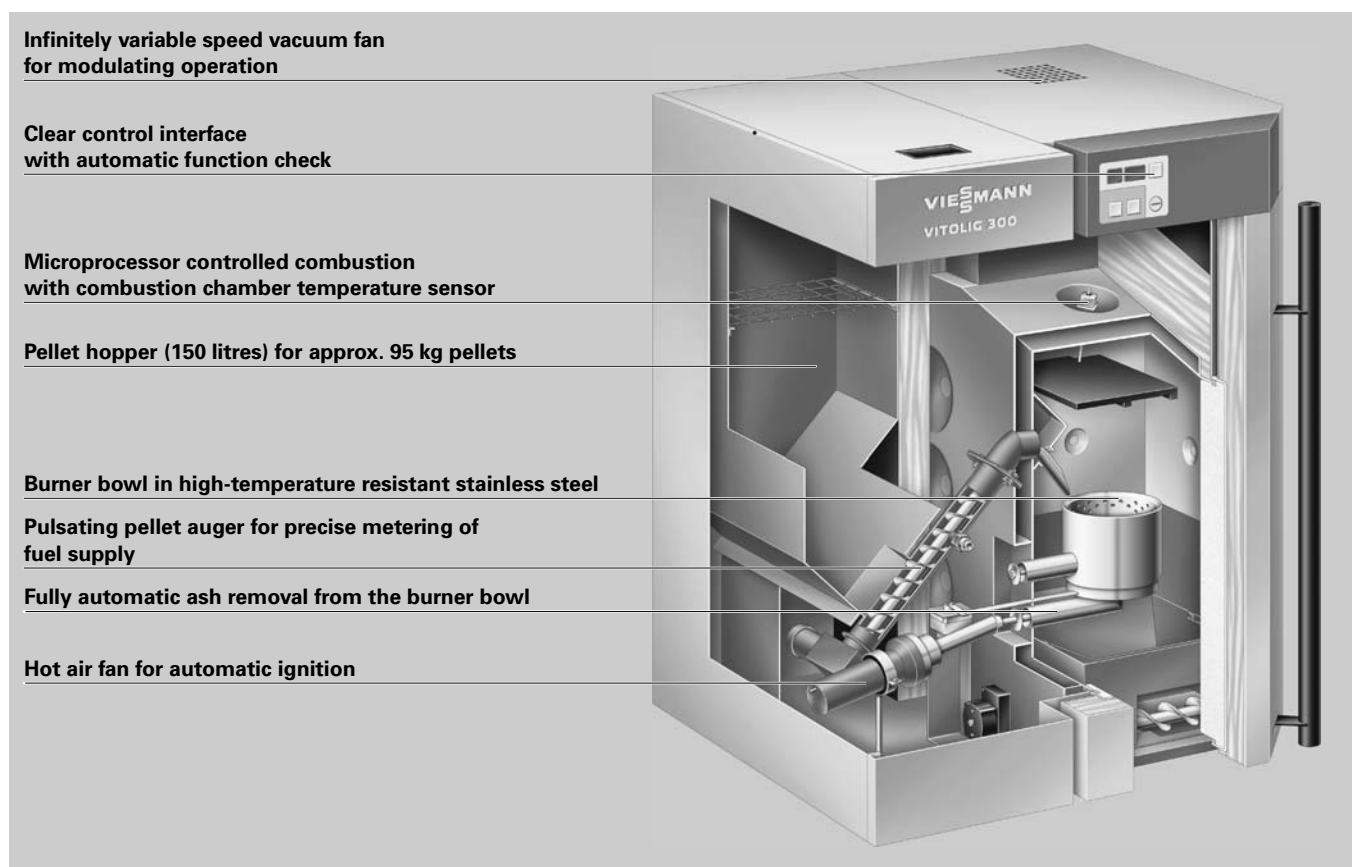
The Vitolig 300 wood pellet boiler hardly differs at all in terms of convenience and controllability from oil or gas fired heating systems – largely due to modulating output and digital control. The pulsating pellet metering auger, the infinitely variable vacuum fan and precisely metered fuel and air volumes achieve the modulating operation. This enables the output to be perfectly matched to the current heat demand.

Benefits at a glance

- The Vitolig 300 wood pellet boiler hardly differs at all in terms of convenience and controllability from oil or gas fired heating systems – largely due to modulating output and digital control.
- Ideal energy utilisation through self-regulating output, therefore low flue gas temperatures and high combustion efficiency of up to 95%.
- Small footprint because of compact design (footprint: 0.6 m²).
- Fully automatic pellet feed and suction system (accessories). The integral pellet hopper (150 litres capacity) will last for up to two days heating operation, subject to the prevailing outside temperature.
- Hot air fan for fully automatic quiet ignition.
- A pulsating pellet metering auger, a variable speed suction fan and precisely metered volumes of fuel and air for modulating operation ensure optimum matching to the prevailing heat demand.
- Digital control unit with automatic function monitoring with fault diagnostic system, heating circuit control for one heating circuit with mixer and cylinder thermostat.
- With self-cleaning heating surfaces and ash removal from the burner tray for long cleaning intervals.

Tested quality

CE CE designation in accordance with current EC Directives.



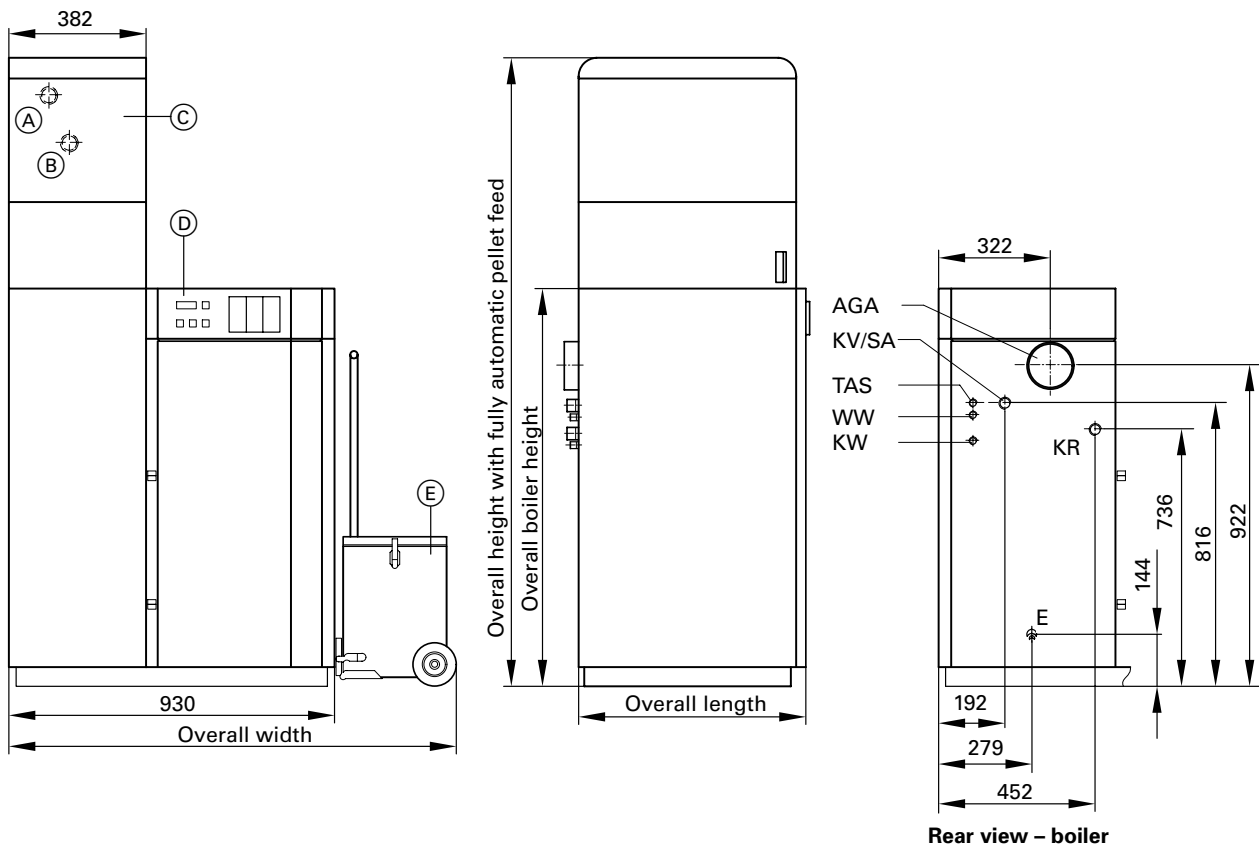
Specification

Rated output range	kW	5 to 15	8 to 26
Flow temperature			
– permissible	°C	95	95
– maximum	°C	75	75
– minimum	°C	60	60
Minimum return temperature	°C	20	20
Permiss. operating pressure			
Boiler	bar	3	3
Heat exchanger	bar	6	6
CE designation in accordance with the Machinery Guideline		CE	CE
Boiler class to EN 303-5		3	3
Overall dimensions			
Overall length	mm	656	721
Overall width	mm	1285	1285
Overall height			
– Boiler	mm	1142	1142
– with fully automatic pellet feed	mm	1805	1805
Total weight	kg	250	297
Boiler shell with thermal insulation			
Max. power consumption			
– during ignition	W	1377	1377
– during heating operation	W	61	95
Contents			
Boiler water	litres	32	38
Fuel hopper	litres	150	150
Ash container	litres	36	36
Boiler connections			
Boiler flow and return plus safety connection (safety valve)	G (female thread)	1"	1"
Safety return and drain	R (male thread)	½"	½"
Heat exchanger connections			
Cold water, hot water	R (male thread)	½"	½"
Pressure drop (primary circuit)			
– $\Delta T = 20$ K	mbar	1.2	5
– $\Delta T = 10$ K	mbar	5.9	19.3
Flue gas ^{*1}			
average temperature (gross ^{*2})			
– at upper rated output	°C	145	144
– at partial load (33% of the upper heat output)	°C	86	90
Mass flow rate			
– at upper rated output	kg/h	38.9	63
– at partial load (33% of the upper heat output)	kg/h	14.8	23.4
CO ₂ content in the flue gas	%	12.0	12.0
Flue outlet	External Ø mm	130	130
Required draught	Pa mbar	5 0.05	5 0.05

^{*1}Values for calculating the size of the flue system, according to EN 13384 based on 12.0% CO₂.

^{*2}Flue gas temperature as average gross value as per EN 304 at 20°C combustion air temperature.

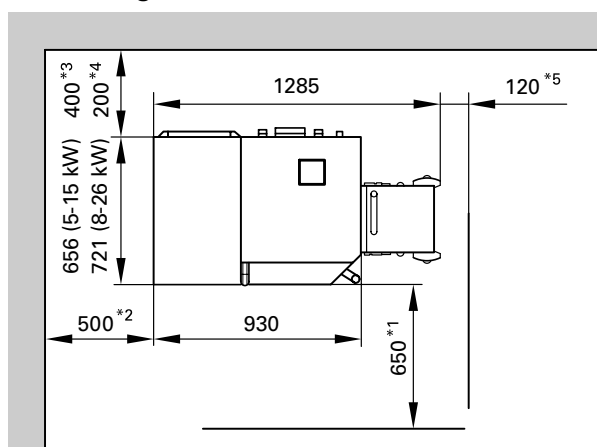
Specification



Key to symbols

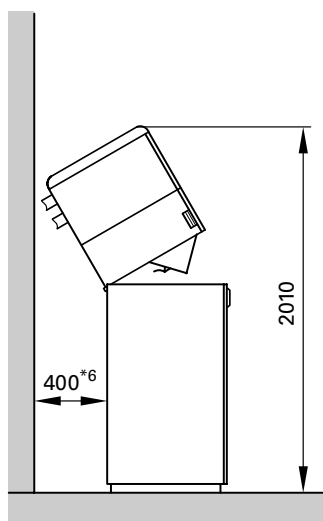
AGA	Flue outlet	KW	Cold water	(A)	Pellet feed connection
E	Drain and diaphragm expansion vessel	SA	Safety connection (safety valve)	(B)	Return air connection
KR	Boiler return	TAS	Female connection R 1/2" for thermostatic drain probe	(C)	Fully automatic pellet feed
KV	Boiler flow	WW	Hot water	(D)	Boiler
				(E)	Fully automatic ash removal

Positioning



^{*1}Required for cleaning and manual venting.
^{*2}Required for the removal of the metering auger.
^{*3}With fully automatic pellet feed.
^{*4}Without fully automatic pellet feed.
^{*5}Required for the removal of the ash container.

Boiler with fully automatic pellet feed



^{*6}Required for the installation of the fully automatic pellet feed.

As delivered condition

Steel boiler for wood pellets with fitted thermal insulation inside a shipping crate. With variable speed vacuum fan and pulsating pellet metering auger for modulating, matched output, boiler control unit with heating circuit control for one heating circuit with mixer and cylinder temperature control, burner bowl made from high-temperature resistant stainless steel, hot air fan for automatic pellet ignition, 150 litre pellet hopper.

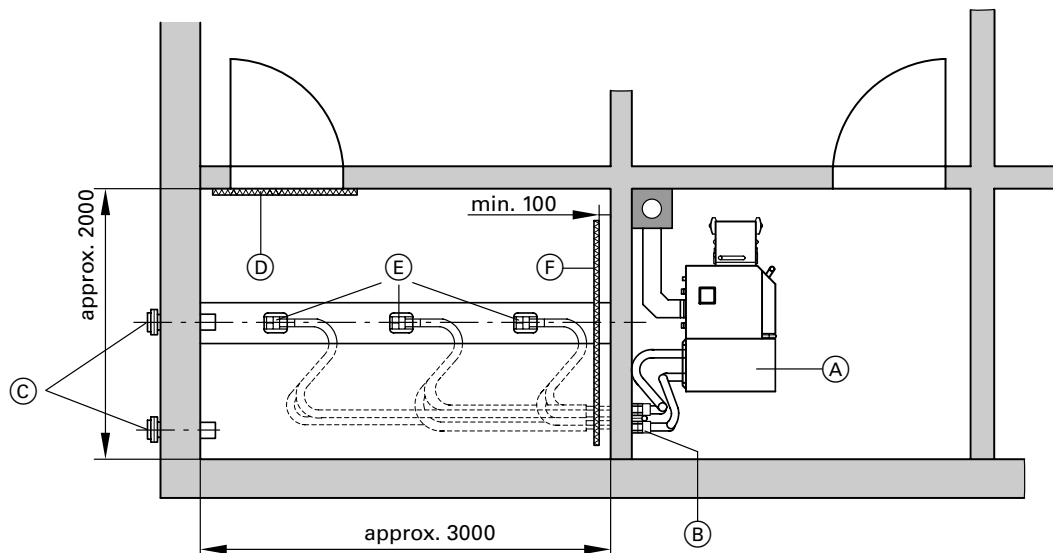
With fully automatic ash removal from the combustion chamber, fully automatic heating surface cleaning and fully automatic ash removal from the burner bowl.

With integral safety heat exchanger for the connection of a thermostatic drain valve, integral return temperature raising facility, flue gas temperature sensor and cleaning accessories.

Accessories

- Return temperature raising
- Thermostatic drain valve
- Safety equipment block
- Water level limiter
- Fully automatic pellet feed (feed with control unit and changeover unit with 3 suction wands)
- Accessories for automatic charging
- Modular-Divicon
- Heating circuit control (for a second heating circuit with mixer)
- Mixer motor
- Calorifier regulator PLR 3

Installation example – system with fully automatic pellet feed



- (A) Fully automatic pellet feed
- (B) Changeover unit
- (C) Fill and return air connector (Storz-couplings)
- (D) Timber planks
- (E) Suction wands
- (F) Deflector

Design information

Selection of rated output

When selecting the boiler size, the [German] Energy Savings Order prescribes that the rated output according to EN 12831 does not exceed the calculated heat demand.

Fuels

This boiler is only approved for the combustion of commercial, natural wood pellets (max. residual humidity 7 to 12%, 6 mm diameter, 5 to 30 mm length to DIN 51731.

Transport and store pellets under perfectly dry conditions (see Technical Guide).

Do not burn the following:

Fossil fuels and those containing sulphur, such as anthracite coke, as well as plastic, chipboard, material soaked in flammable liquids, wood chippings, sawdust, wood dust or wood and waste wood treated with plastic or wood preservatives.

Water connection

Never use solid fuel boilers in open heating systems to EN 12828. Instead, integrate these boilers in sealed systems to EN 12828, as shown in installation examples in the Technical Guide. Only connect regulated heating circuits with mixer. Raising the return temperature is not required, since Vitolig 300 is equipped as standard with an integral return temperature raising facility, and may be operated with return temperatures as low as 20 °C.

Subject to the heating system having a heat demand of

- < 8 kW (at 5 to 15 kW rated boiler output) or
- < 12 kW (at 8 to 26 kW rated boiler output),

install a heating water calorifier and an external return temperature raising facility.

The heat demand of a building does not remain constant (extensions, conversions or thermal insulation measures). Therefore, the rated output is matched to the maximum heat demand foreseeable in the long term. Also install a heating water calorifier if the heat demand of 8 kW (for Vitolig 300, 5 to 15 kW) or 12 kW (for Vitolig 300, 8 to 26 kW) will not be reached within a given period.

DHW heating

Ensure that the cylinder loading pump is not started when the flow temperature is lower than the required DHW temperature (interlock the circulation pump via the minimum thermostat). Otherwise, heat will be withdrawn from the DHW cylinder to heat the boiler.

Thermostatic drain valve

If the boiler is operated in a sealed system to EN 12828, install a thermal drain valve and connect this professionally to the safety heat exchanger. The thermal drain valve is available as accessory.

Safety equipment

Equip the boilers according to EN 12828 for hot water heating system with a max. safety temperature of 110 °C and in accordance with their type approval with a type-tested safety valve. This valve should be identified in accordance with TRD 721, i.e. with

- H up to 3.0 bar permissible operating pressure and max. 2700 kW output,
- D/G/H for all other operating conditions.

Low water indicator

DIN 12828 prescribes a low water indicator (available as accessory).

Chimney

To safeguard optimum combustion, only use one 90° bend in the flue pipe and incline the chimney adaptor (minimum 10°, optimum inclination 45°). Avoid any reducers or additional bends, otherwise the vacuum pressure inside the chimney may be too low for trouble-free flue gas extraction, which in turn could be detrimental to good combustion. The maximum flue pipe length before connection to the chimney is 3 m. Ensure that the flue pipe is covered with thermal insulation of at least 50 mm thickness over its entire length, and that it is pressure sealed.

Route flue gases from the chimney to the outdoors in such a manner that precipitation of vapourised flue gas components inside the chimney cannot cause any damage.

Boiler and chimney must suit each other, particularly in older systems which are renovated.

Damage inside the chimney can be prevented by taking the following measures (agree with your local flue gas inspector or heating contractor): Installation of a draught stabiliser into the chimney side, thermal insulation around the flue pipe, thermal insulation around the chimney in unheated attics or chimney modernisation.

Sound insulation

Install a flexible adaptor to the flue pipe to prevent sound transmission caused by the vacuum fan. Do not seal the flue pipe into the chimney with mortar.

Measures for new systems and flue gas temperatures below 160 °C

Flue gas temperatures below 160 °C can occur in the lower output range. Therefore, connect this combustion equipment to highly insulated chimney stacks (heat conductivity resistance class I to DIN 18160-1) or use suitable moisture-resistant flue gas systems which have been approved according to Building Regulations.

Positioning

- Do not use where air is polluted with halogenated hydrocarbons (e.g. as in aerosols, paints, solvents and cleaning agents)
- Prevent very dusty conditions
- Prevent high levels of humidity
- Prevent freezing and ensure good ventilation

Otherwise, the system may suffer faults and damage.

In rooms where **air contamination through halogenated hydrocarbons** may occur, such as through hairdressing salons, printing shops, chemical cleaners, laboratories, etc., only install the boiler if adequate measures can be taken to provide a supply of uncontaminated combustion air.

If in doubt, please contact us.

If these instructions are not observed, any consequential loss directly related to any of these causes will be excluded from our warranty.

Subject to technical modifications.

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