

Fuel cell heating appliance  
**VITOTALOR 300-P**

**VIESSMANN**



## Fuel cell heating appliance

Vitovalor 300-P  
0,75 kW<sub>el</sub>, 1 kW<sub>th</sub>  
Total output: 1 to 25.2 kW<sub>th</sub>



### 10 Year Warranty

on all stainless steel heat exchangers for gas condensing boilers up to 150 kW

## Innovative technology for generating power and heat

The fuel cell boiler Vitovalor 300-P is the ideal energy source for the modern family home. The system combines heat and power generation in the smallest space.

Vitovalor 300-P is an innovative alternative for decentralised power generation. Against the back drop of the energy debate and rising electricity prices, which are growing in importance, generating your own electricity while heating your home, is a winning combination. CHP technology in future will be an important addition to de-carbonise the heat network.

### Proven and reliable: Technology from Viessmann and Panasonic

As with all innovations from Viessmann reliability and longevity have a high priority for the fuel cell heating boiler. Which is why we selected a proven fuel cell module manufactured by Panasonic.

At the moment, fuel cells designed for delivering domestic energy in Europe are still at the laboratory or field test stage. Viessmann is the first manufacturer to launch in Europe a fuel cell heating appliance made in commercially viable volumes. This appliance will offer electrical efficiency that is twice as high as that offered by current CHP solutions.

This reduces the heat extraction and makes the fuel cell heating appliance particularly suitable for use in new build.

### The PEM fuel cell

Today, Japan has more than 200,000 fuel cell heating appliances in use.

The Vitovalor 300-P is operated with hydrogen and air, where the hydrogen is derived from natural gas in a process upstream of the stack (reformer). Just like a gas boiler, the fuel cell heating appliance requires a gas supply, a supply of combustion air and a flue. The heat generated by the power generation process is utilised for central heating and DHW heating.

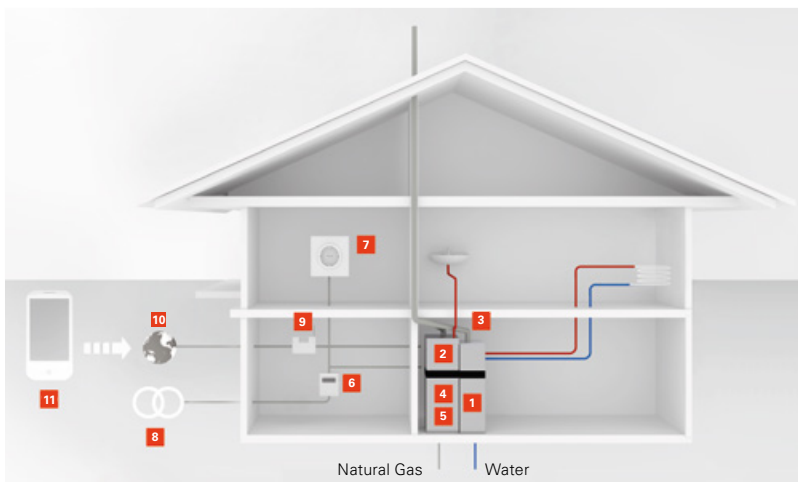
### Compact dimensions

The Vitovalor 300-P fuel cell heating appliance from Viessmann consists of two units: the fuel cell module and the peak load module with integral gas condensing boiler, one heating water buffer cylinder and one DHW cylinder, as well as hydraulics, sensor technology and a control unit. The units are compact, visually matched and together require a footprint of only 0.65 m<sup>2</sup>.

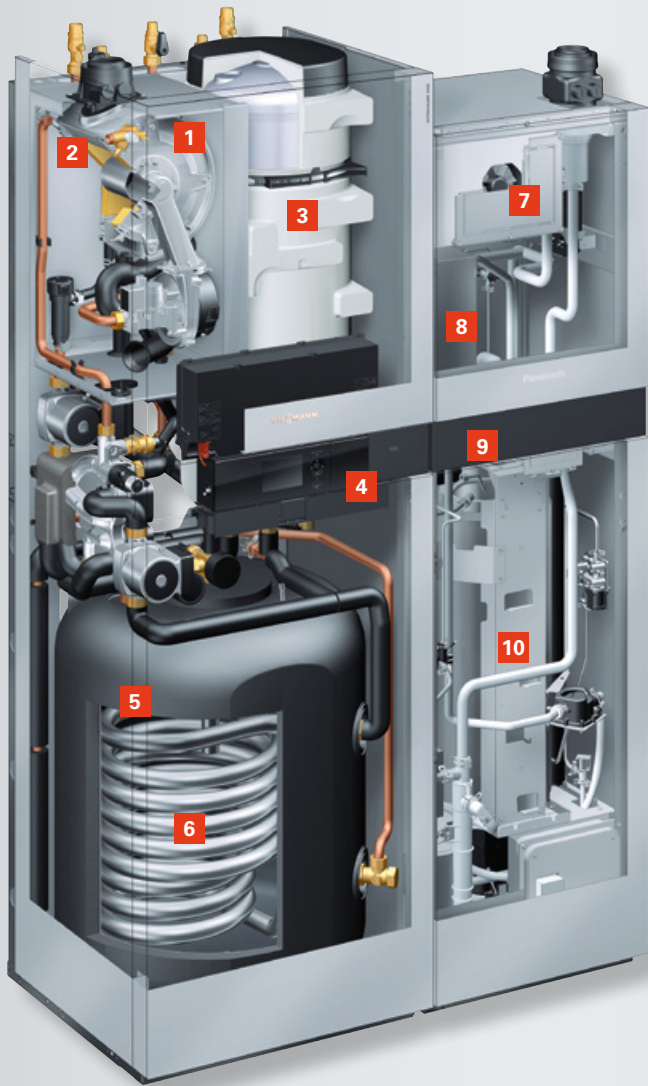
### Stand-alone solution for detached houses

The Vitovalor 300-P fuel cell heating appliance delivers 19 or 25 kW – enough thermal output to cover the majority of the heat demand of a detached house all year round. The electrical energy produced during the day is up to 16.5 kWh and covers the basic needs of a household. The integrated gas condensing boiler switches on automatically, if the heat from the fuel cell is not sufficient in peak hours or if within a short time, plenty of hot water is required.

Vitovalor 300-P  
in a detached house



- 1 Fuel cell module
- 2 Peak load boiler with heating water buffer cylinder (130 l) and DHW cylinder (46 l)
- 3 Balanced flue system
- 4 Integral CHP net electricity meter
- 5 Vitocom 100 communication interface (type LAN)
- 6 Domestic meter (bi-directional electricity meter) (optional)
- 7 Domestic power circuit
- 8 Public grid
- 9 Internet gateway
- 10 Internet
- 11 Vitotrol app



### Vitotalor 300-P

- 1 Gas condensing boiler for covering peak loads
- 2 Inox-Radial heat exchanger made from stainless steel
- 3 DHW cylinder
- 4 Control for weather-compensated operation
- 5 Heating water buffer cylinder
- 6 Heating coil for DHW heating
- 7 Inverter
- 8 Fuel cell stack
- 9 Electricity meter, CHP unit
- 10 Reformer

Fuel cell heating appliance Vitotalor 300-P



Remote control and monitoring via mobile phone networks in conjunction with the Vitotrol App for Vitotalor 300-P

### Benefits of the Viessmann fuel cell heating appliance

- Up to 40 % lower energy bills compared with gas condensing technology
- Increasing independence of electricity prices by generating power on site
- PACE funding – making the costs of purchase comparable to those of a gas condensing boiler or solar thermal system
- Compact design with a small footprint
- Efficient and environmentally responsible technology of the future
- High operating convenience via tablet or smartphone
- Energy efficiency class: A++
- Energy efficiency class, DHW heating: A



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Technical Data  
Vitovalor 300-P



<b>Outputs</b>		19 kW	25 kW
<b>Fuel cell module electrical output</b>	$W_{el}$	750	750
<b>Fuel cell module thermal output</b>	$kW_{th}$	1	1
<b>Peak load boiler thermal output (50/30 °C)</b>	$kW_{th}$	0.6 - 18.9	0.6 - 25.2
<b>Electrical efficiency (<math>H_i</math>) of the fuel cell module</b>	%	37	37
<b>Overall efficiency (<math>H_i</math>) of the fuel cell module</b>	%	up to 90	up to 90
<b>Thermal efficiency (<math>H_i</math>) of the peak load boiler</b>	%	up to 98	up to 98
<b>Sound emissions/sound power</b>	dB(A)	50	50
<b>Fuel Natural gas category</b>		H	H
<b>Dimensions</b>			
Length (depth)	mm	600	600
Width	mm	1080	1080
Height	mm	1766	1766
<b>Weight of fuel cell module</b>	kg	125	125
<b>Weight of peak load boiler with DHW cylinder</b>	kg	155	155
<b>Footprint</b>	m <sup>2</sup>	0.65	0.65
<b>Electrical connection</b>	V AC	230	230
<b>Frequency</b>	Hz	50	50
<b>Heating water buffer cylinder volume</b>	l	130	130
<b>DHW cylinder volume</b>	l	46	46
<b>Energy efficiency class</b>			
Space heating		A++	A+
DHW, tapping profile XL		A	A

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