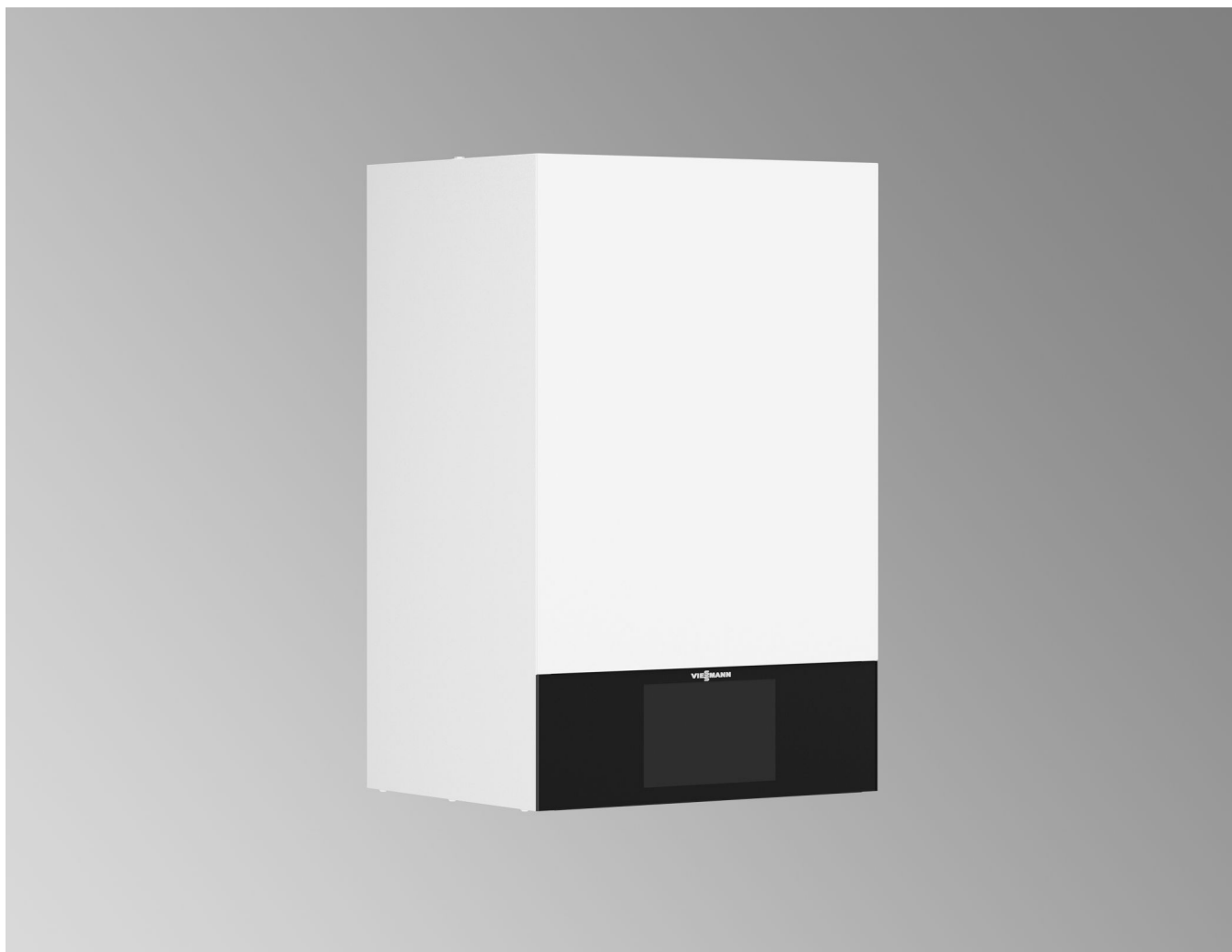


Datasheet

For part no. and prices: see pricelist



VITODENS 200-W Type B2HF, B2KF

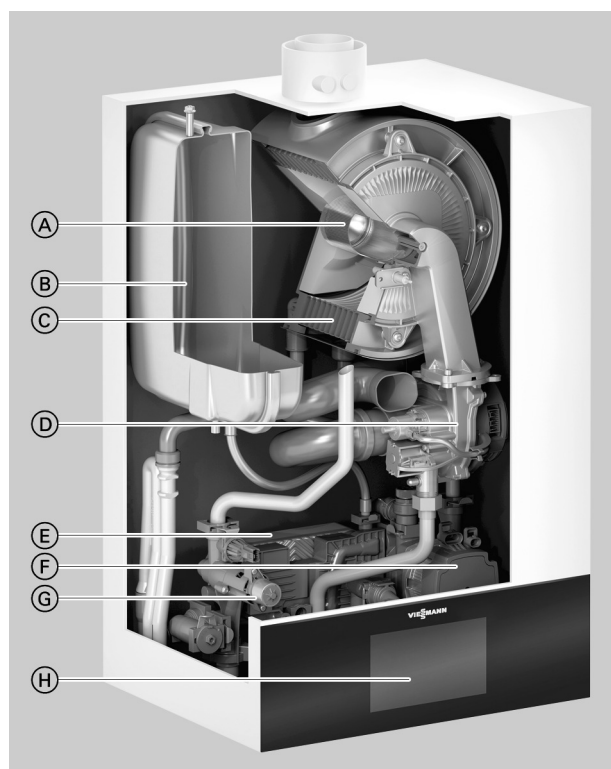
Wall mounted gas condensing boiler

1.9 to 32.0 kW

For natural gas and LPG

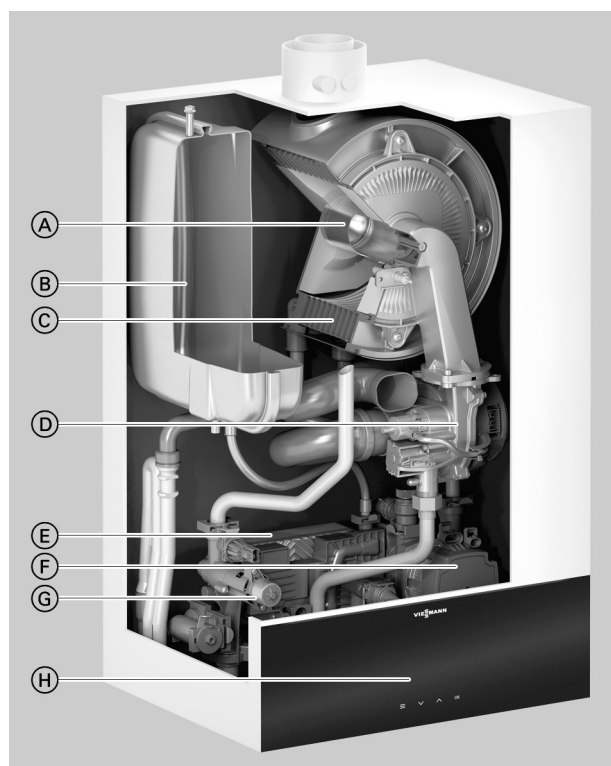
Product description

Control unit with 7 inch screen



- Ⓐ Modulating MatriX-Plus gas burner with intelligent Lambda Pro Plus combustion controller for extremely clean combustion and quiet operation
- Ⓑ Integral diaphragm expansion vessel
- Ⓒ Inox-Radial heat exchanger made from stainless steel – for high operational reliability, a long service life and high heating output on a very small footprint
- Ⓓ Variable speed combustion air fan for quiet and economical operation
- Ⓔ Plate heat exchanger for DHW heating (gas condensing combi boiler)
- Ⓕ Integral, variable speed high efficiency circulation pump
- Ⓖ Hydraulics
- Ⓗ Digital boiler control unit with colour touchscreen

Control unit with 3.5 inch screen



- Ⓐ Modulating MatriX-Plus gas burner with intelligent Lambda Pro Plus combustion controller for extremely clean combustion and quiet operation
- Ⓑ Integral diaphragm expansion vessel
- Ⓒ Inox-Radial heat exchanger made from stainless steel – for high operational reliability, a long service life and high heating output on a very small footprint
- Ⓓ Variable speed combustion air fan for quiet and economical operation
- Ⓔ Plate heat exchanger for DHW heating (gas condensing combi boiler)
- Ⓕ Integral, variable speed high efficiency circulation pump
- Ⓖ Hydraulics
- Ⓗ Digital boiler control unit with black/white screen

The top model among the wall mounted gas condensing boilers is the Vitodens 200-W. The MatriX-Plus gas burner and Inox-Radial heat exchanger made of stainless steel are a combination that guarantees high efficiency and a high level of heating convenience over the long term.

All sizes of the Vitodens 200-W are equipped with the automatic Lambda Pro Plus combustion controller. Modulation range down to 1:17 (32 kW).

The integral, variable speed high efficiency circulation pump reduces power consumption by up to 70 %.

Product description (cont.)

Recommended applications

- Modernisation of heating systems on single floors or in detached houses with high demands for central heating and DHW convenience
- Systems with little space available for the heat generator or tight (flexible) installation locations (e.g. attic or inside furniture)
- Replacement of existing floorstanding boilers in various systems, also with several heating circuits and underfloor heating

Benefits at a glance

Control unit with 7 inch screen

- Seasonal central heating energy efficiency η_s up to 94 % (label A).
- Low cycle frequency, even with low heat demand, through optimised pauses and wide modulation range down to 1:17 (32 kW)
- Durable and efficient thanks to Inox-Radial stainless steel heat exchanger
- MatriX-Plus gas burner with Lambda Pro Plus combustion controller for permanently high efficiency and clean combustion.
- Power saving, high efficiency circulation pump
- Colour touchscreen with plain text and graphic display, commissioning assistant, energy consumption indicators and the option of operation from a mobile device
- Web-enabled through integral WiFi interface for operation and service via Viessmann app

Benefits at a glance

Control unit with 3.5 inch screen

- Seasonal central heating energy efficiency η_s up to 94 % (label A).
- Low cycle frequency, even with low heat demand, through optimised pauses and wide modulation range down to 1:17 (32 kW)
- Durable and efficient thanks to Inox-Radial stainless steel heat exchanger
- MatriX-Plus gas burner with Lambda Pro Plus combustion controller for permanently high efficiency and clean combustion.
- Power saving, high efficiency circulation pump
- Black/white screen with plain text and graphic display, commissioning assistant, energy consumption indicators and the option of operation from a mobile device
- Web-enabled through integral WiFi interface for operation and service via Viessmann app

Delivered condition

Wall mounted gas condensing boiler with Inox-Radial heat exchanger, modulating MatriX-Plus gas burner for natural gas and LPG to DVGW Code of Practice G260 [Germany], hydraulics and variable speed high efficiency circulation pump.
Weather-compensated or constant temperature control unit with integral WiFi interface.

Fully plumbed and wired. Colour of the epoxy-coated casing: White. Integral diaphragm expansion vessel (10 l capacity). Preset for operation with natural gas. Conversion within gas groups E/LL is not required. The conversion to LPG is made at the control unit (a conversion kit is not required).

Accessories required (order separately)

Vitodens installation directly on a wall

Pre-plumbing jig for surface mounting:

- With fixings
- With valves/fittings
- With boiler drain & fill valve
- With gas shut-off valve with thermally activated safety shut-off valve

Valves/fittings for surface mounting:

- With valves/fittings
- With boiler drain & fill valve
- With gas shut-off valve with thermally activated safety shut-off valve

Valves/fittings for flush mounting:

- With valves/fittings
- With boiler drain & fill valve
- With gas shut-off valve with thermally activated safety shut-off valve

Mounting frame for surface mounting (installed depth 90 mm):

- With fixings
- With valves/fittings
- With boiler drain & fill valve
- With angle gas valve with thermally activated safety shut-off valve

Vitodens installation in front of a wall

Plumbing wall mounting frame (installed depth 110 mm):

- With fixings

A pre-plumbing jig or valves/fittings for surface mounting/flush mounting must be ordered separately for the plumbing wall mounting frame.

Tested quality

 CE designation according to current EU Directives

Meets the requirements for the "Blue Angel" ecolabel to RAL UZ 61.

Specification

Specification

Gas condensing system boiler (type B2HF)

Rated heating output range (details to EN 15502)					
T _F /T _R = 50/30 °C (P(50/30))					
Natural gas	kW	1.9 - 11	1.9 - 19	1.9 - 25	1.9 - 32
LPG	kW	2.5 - 11	2.5 - 19	2.5 - 25	2.5 - 32
T _F /T _R = 80/60 °C (Pn(80/60))					
Natural gas	kW	1.7 - 10.1	1.7 - 17.5	1.7 - 23	1.7 - 29.3
LPG	kW	2.2 - 10.1	2.2 - 17.5	2.2 - 23	2.2 - 29.3
Rated heating output for DHW heating					
Natural gas	kW	1.7 - 17.5	1.7 - 17.5	1.7 - 23	1.7 - 29.3
LPG	kW	2.2 - 17.5	2.2 - 17.5	2.2 - 23	2.2 - 29.3
Rated heat input (Qn)					
Natural gas	kW	1.8 - 10.3	1.8 - 17.8	1.8 - 23.4	1.8 - 29.9
LPG	kW	2.3 - 10.3	2.3 - 17.8	2.3 - 23.4	2.3 - 29.9
Rated heat input for DHW heating (Qnw)					
	kW	17.8	17.8	23.4	29.9
Product ID		CE-0085CT0017			
IP rating		IP X4 to EN 60529			
NO _x	Category	6	6	6	6
Gas supply pressure					
Natural gas	mbar	20	20	20	20
	kPa	2	2	2	2
	mbar	50	50	50	50
	kPa	5	5	5	5
LPG					
Max. permiss. gas supply pressure ^{*1}					
Natural gas	mbar	25.0	25.0	25.0	25.0
	kPa	2.5	2.5	2.5	2.5
LPG	mbar	57.5	57.5	57.5	57.5
	kPa	5.75	5.75	5.75	5.75
Sound power level					
(to EN ISO 15036-1)					
At partial load	dB(A)	32.8	32.8	32.8	32.8
At rated heating output (DHW heating)	dB(A)	42.3	42.3	46.1	48.4
Rated voltage					
	V	230			
Rated frequency					
	Hz	50			
Appliance fuse protection					
	A	6.3			
Backup fuse (power supply)					
	A	16			
RF module (integral)					
WiFi frequency band	MHz	2400 - 2483.5			
Max. transmitting power	dBm	17			
Low power radio frequency band	MHz	2400 - 2483.5			
Max. transmitting power	dBm	6			
Supply voltage	V 	24			
Power consumption	W	4			
Power consumption (delivered condition)					
	W	38	45	64	110
Permissible ambient temperature					
– During operation	°C	+5 to +35			
– During storage and transport	°C	-5 to +60			
Electronic temperature limiter setting (TN)					
	°C	91			
Electronic temperature cut-out setting					
	°C	110			
Weight					
– Excl. heating water	kg	33.0	33.0	33.0	33.0
– Incl. heating water	kg	38.6	38.6	38.6	38.6
Water capacity (excl. diaphragm expansion vessel)					
	l	3.0	3.0	3.0	3.0
Max. flow temperature					
	°C	82	82	82	82
Max. flow rate					
	l/h	See residual head graph			
(Limit for the use of hydraulic separation)					
Nominal circulating water volume					
	l/h	434	752	988	1259
At T _F /T _R = 80/60 °C					
Diaphragm expansion vessel					
Capacity	l	10	10	10	10
Pre-charge pressure	bar	0.75	0.75	0.75	0.75
	kPa	75	75	75	75
Permiss. operating pressure (PMS)					
	bar	3	3	3	3
	MPa	0.3	0.3	0.3	0.3

^{*1} If the gas supply pressure is higher than the maximum permissible value, install a separate gas pressure governor upstream of the system.

Specification (cont.)

Rated heating output range (details to EN 15502)					
$T_F/T_R = 50/30\text{ °C}$ (P(50/30))					
Natural gas	kW	1.9 - 11	1.9 - 19	1.9 - 25	1.9 - 32
LPG	kW	2.5 - 11	2.5 - 19	2.5 - 25	2.5 - 32
$T_F/T_R = 80/60\text{ °C}$ (Pn(80/60))					
Natural gas	kW	1.7 - 10.1	1.7 - 17.5	1.7 - 23	1.7 - 29.3
LPG	kW	2.2 - 10.1	2.2 - 17.5	2.2 - 23	2.2 - 29.3
Max. DHW temperature	°C	70	70	70	70
Dimensions					
Length	mm	360	360	360	360
Width	mm	450	450	450	450
Height	mm	700	700	700	700
Gas connection	R	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Flue gas connection	Ø mm	60	60	60	60
Ventilation air connection	Ø mm	100	100	100	100
Supply values					
Relative to the max. load					
With gas					
Natural gas E	m³/h	1.88	1.88	2.48	3.16
Natural gas LL	m³/h	2.19	2.19	2.88	3.68
LPG	kg/h	1.38	1.38	1.82	2.32
Flue gas parameters					
Temperature (at a return temperature of 30 °C)					
– At rated heating output	°C	39	41	46	59
– At partial load	°C	38	38	38	38
Temperature (at a return temperature of 60 °C, for DHW heating)					
	°C	64	65	67	72
Mass flow rate (for DHW heating)					
Natural gas					
– At rated heating output	kg/h	31.7	31.7	41.6	54.9
– At partial load	kg/h	3.2	3.2	3.2	3.2
LPG					
– At rated heating output	kg/h	30.1	30.1	41.0	53.9
– At partial load	kg/h	3.9	3.9	3.9	3.9
Available draught *2					
	Pa	250	250	250	250
	mbar	2.5	2.5	2.5	2.5
Max. amount of condensate	l/h	2.5	2.5	3.3	4.2
To DWA-A 251					
Condensate connection (hose nozzle)	Ø mm	20 - 24	20 - 24	20 - 24	20 - 24
Flue gas connection	Ø mm	60	60	60	60
Ventilation air connection	Ø mm	100	100	100	100
Standard seasonal efficiency [to DIN] at $T_F/T_R = 40/30\text{ °C}$	%	Up to 98 (H _s) [gross cv]			
Energy efficiency class		A	A	A	A

Gas condensing combi boiler (type B2KF)

Rated heating output range (details to EN 15502)				
$T_F/T_R = 50/30\text{ °C}$ (P(50/30))				
Natural gas	kW	1.9 - 19	1.9 - 25	1.9 - 32
LPG	kW	2.5 - 19	2.5 - 25	2.5 - 32
$T_F/T_R = 80/60\text{ °C}$ (Pn(80/60))				
Natural gas	kW	1.7 - 17.5	1.7 - 23	1.7 - 29.3
LPG	kW	2.2 - 17.5	2.2 - 23	2.2 - 29.3
Rated heating output for DHW heating				
Natural gas	kW	1.7 - 26.2	1.7 - 30.4	1.7 - 33.5
LPG	kW	2.2 - 26.2	2.2 - 30.4	2.2 - 33.5
Rated heat input (Q_n)				
Natural gas	kW	1.8 - 17.8	1.8 - 23.4	1.8 - 29.9
LPG	kW	2.3 - 17.8	2.3 - 23.4	2.3 - 29.9
Rated heat input for DHW heating (Q _{nw})	kW	27.3	31.7	34.9
Product ID	CE-0085CT0017			
IP rating	IP X4 to EN 60529			
NO _x	Category	6	6	6

Specification (cont.)

Rated heating output range (details to EN 15502)				
T _F /T _R = 50/30 °C (P(50/30))				
Natural gas	kW	1.9 - 19	1.9 - 25	1.9 - 32
LPG	kW	2.5 - 19	2.5 - 25	2.5 - 32
T _F /T _R = 80/60 °C (Pn(80/60))				
Natural gas	kW	1.7 - 17.5	1.7 - 23	1.7 - 29.3
LPG	kW	2.2 - 17.5	2.2 - 23	2.2 - 29.3
Gas supply pressure				
Natural gas	mbar	20	20	20
	kPa	2	2	2
LPG	mbar	50	50	50
	kPa	5	5	5
Max. permiss. gas supply pressure ^{*3}				
Natural gas	mbar	25.0	25.0	25.0
	kPa	2.5	2.5	2.5
LPG	mbar	57.5	57.5	57.5
	kPa	5.75	5.75	5.75
Sound power level				
(to EN ISO 15036-1)				
At partial load	dB(A)	32.8	32.8	32.8
At rated heating output (DHW heating)	dB(A)	49.1	50	50.4
Rated voltage				
Rated frequency	V	230		
Appliance fuse protection	Hz	50		
Backup fuse (power supply)	A	6.3		
	A	16		
RF module (integral)				
WiFi frequency band	MHz	2400 - 2483.5		
Max. transmitting power	dBm	17		
Low power radio frequency band	MHz	2400 - 2483.5		
Max. transmitting power	dBm	6		
Supply voltage	V $\overline{=}$	24		
Power consumption	W	4		
Power consumption	W	45	64	110
(in the delivered condition)				
Permissible ambient temperature				
– During operation	°C	+5 to +35		
– During storage and transport	°C	-5 to +60		
Electronic temperature limiter setting (TN)	°C	91		
Electronic temperature cut-out setting	°C	110		
Weight				
– Excl. heating water	kg	34.5	34.5	34.5
– Incl. heating water	kg	40.6	40.6	40.6
Permiss. operating pressure (PMS)				
	bar	3	3	3
	MPa	0.3	0.3	0.3
Water capacity (excl. diaphragm expansion vessel)				
	l	3.0	3.0	3.0
Max. flow temperature	°C	82	82	82
Max. flow rate	l/h	See residual head graph		
(Limit for the use of hydraulic separation)				
Nominal circulating water volume	l/h	752	988	1259
At T _F /T _R = 80/60 °C				
Diaphragm expansion vessel				
Capacity	l	10	10	10
Pre-charge pressure	bar	0.75	0.75	0.75
	kPa	75	75	75
Permiss. operating pressure				
	bar	3	3	3
	MPa	0.3	0.3	0.3
	MPa	0.1	0.1	0.1
Specific water flow rate	l/min	14.45	15.69	17
Max. DHW temperature	°C	60	60	60
Comfort factor	Stars	3	3	3
Dimensions				
Length	mm	360	360	360
Width	mm	450	450	450
Height	mm	700	700	700
Gas connection	R	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Standby instantaneous water heater				

^{*3} If the gas supply pressure is higher than the maximum permissible value, install a separate gas pressure governor upstream of the system.

Specification (cont.)

Rated heating output range (details to EN 15502)				
$T_F/T_R = 50/30\text{ °C (P(50/30))}$				
Natural gas	kW	1.9 - 19	1.9 - 25	1.9 - 32
LPG	kW	2.5 - 19	2.5 - 25	2.5 - 32
$T_F/T_R = 80/60\text{ °C (Pn(80/60))}$				
Natural gas	kW	1.7 - 17.5	1.7 - 23	1.7 - 29.3
LPG	kW	2.2 - 17.5	2.2 - 23	2.2 - 29.3
DHW and cold water connections	G	½	½	½
Permiss. operating pressure (DHW side)	bar	10	10	10
	MPa	1	1	1
Minimum pressure, cold water connection	bar	1.0	1.0	1.0
	MPa	0.1	0.1	0.1
Outlet temperature, adjustable	°C	30-60	30-60	30-60
Continuous DHW output	kW	26.2	30.4	33.5
Spec. flow rate	l/min	14.45	15.59	17.04
At $\Delta T = 30\text{ K (to EN 13203-1)}$				
Flue gas connection	Ø mm	60	60	60
Ventilation air connection	Ø mm	100	100	100
Supply values				
Relative to the max. load and 1013 mbar/15 °C				
With gas				
Natural gas E	m³/h	2.89	3.35	3.69
Natural gas LL	m³/h	3.36	3.90	4.29
LPG	kg/h	2.12	2.46	2.71
Flue gas parameters				
Temperature (at a return temperature of 30 °C)				
– At rated heating output	°C	41	46	59
– At partial load	°C	38	38	38
Temperature (at a return temperature of 60 °C, for DHW heating)				
	°C	70	74	77
Mass flow rate (for DHW heating)				
Natural gas				
– At rated heating output	kg/h	49.3	57.3	62.1
– At partial load	kg/h	3.2	3.2	3.2
LPG				
– At rated heating output	kg/h	49.2	57.1	61.1
– At partial load	kg/h	3.9	3.9	3.9
Available draught *4				
	Pa	250	250	250
	mbar	2.5	2.5	2.5
Temperature (for DHW heating)	°C	70	74	77
Max. temperature	°C	120	120	120
Max. amount of condensate	l/h	2.5	3.3	4.2
To DWA-A 251				
Condensate connection (hose nozzle)	Ø mm	20 - 24	20 - 24	20 - 24
Flue gas connection	Ø mm	60	60	60
Ventilation air connection	Ø mm	100	100	100
Standard seasonal efficiency [to DIN] at				
$T_F/T_R = 40/30\text{ °C}$	%	Up to 98 (H _s) [gross cv]		
Energy efficiency class		A	A	A

Note

The supply values are only for reference (e.g. in the gas contract application) or for a supplementary, rough estimate to check the volumetric settings. Due to factory settings, the gas pressure must not be altered from these values. Reference: 15 °C, 1013 mbar (101.3 kPa).

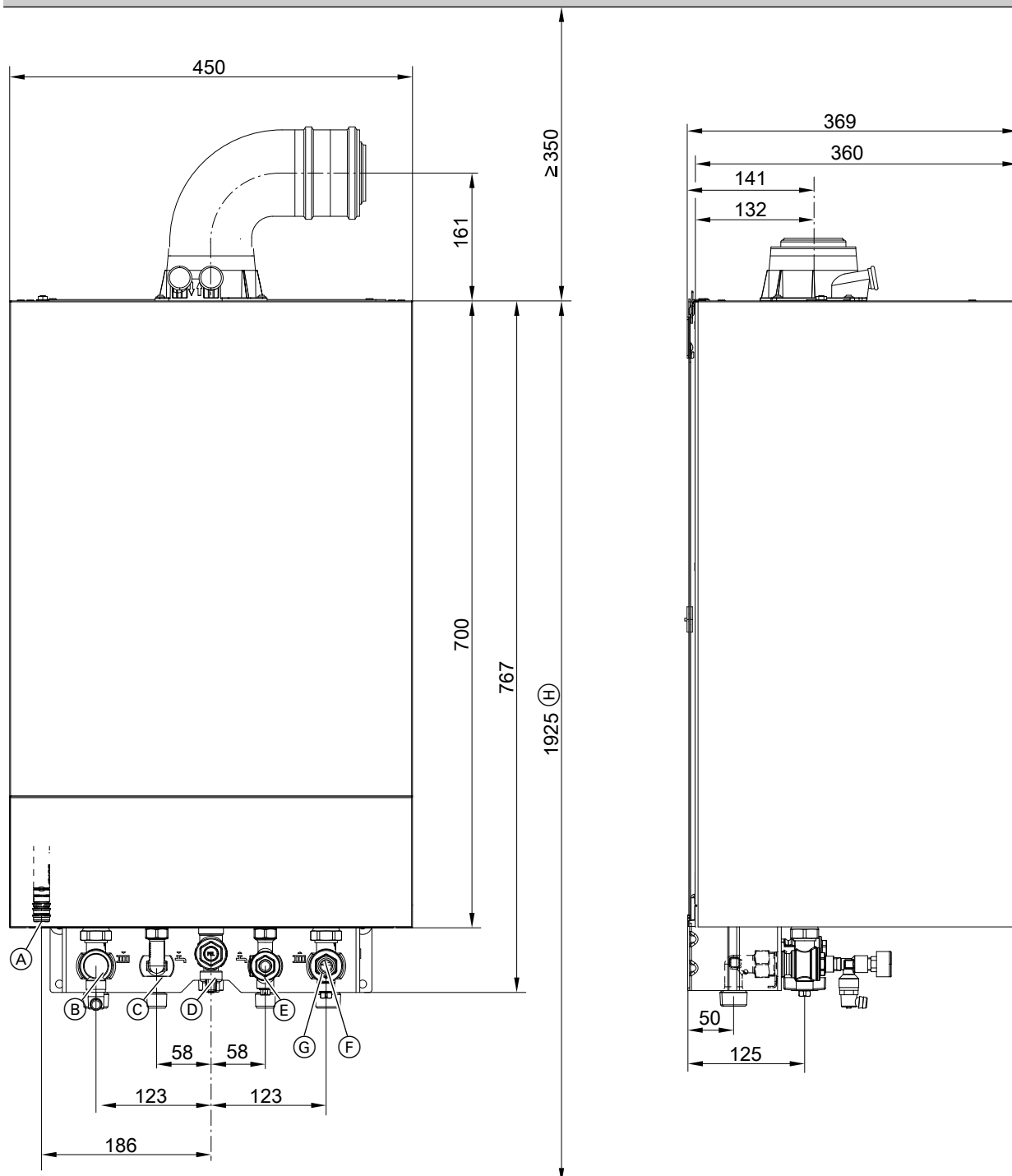


Illustration shows a gas condensing combi boiler

- | | |
|--|---|
| (A) Condensate drain | (E) Cold water (gas condensing combi boiler) |
| (B) Heating flow | Cylinder return (gas condensing system boiler) |
| (C) DHW (gas condensing combi boiler) | (F) Heating return |
| Cylinder flow (gas condensing system boiler) | (G) Filling/drain |
| (D) Gas connection | (H) Dimension for installation with DHW cylinder below the boiler |

Specification (cont.)

Note

The appliance is delivered fitted with a flexible power cable (2 m long). Lay the required power cables on site and route them into the boiler through the underside.

Variable speed heating circuit pump in the Vitodens 200-W

The integral circulation pump is a highly efficient pump with substantially lower power consumption than conventional pumps. The pump speed and consequently the pump rate are regulated subject to the outside temperature and the switching times for heating mode or reduced mode. The control unit transmits the currently specified speeds to the circulation pump via a PWM signal. The min. and max. speeds and the speed for reduced mode can be matched to the existing heating system via parameters at the control unit.

Setting (%) in group heating circuit 1:

- Min. speed: Parameter 1102.0
- Max. speed: Parameter 1102.1

- In the delivered condition, the minimum pump rate and the maximum pump rate are set to the following values:

Rated heating output in kW	Speed settings in the delivered condition in %	
	Min. pump rate	Max. pump rate
11	60	60
19	60	65
25	60	75
32	60	100

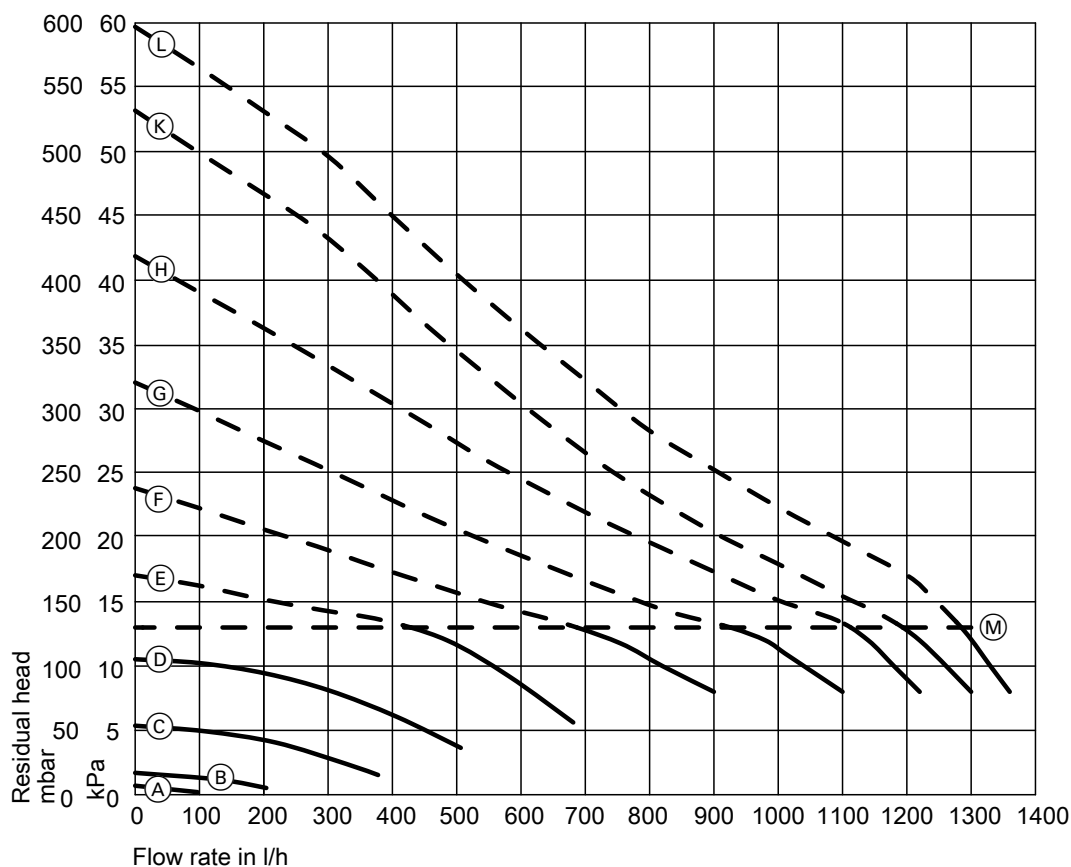
- In conjunction with a low loss header, heating water buffer cylinder and heating circuits with mixer, the internal circulation pump runs at a constant speed.

Specification – circulation pump

Rated heating output		11	19	25	32
Type		B2HF	B2HF B2KF	B2HF B2KF	B2HF B2KF
Circulation pump	Type	UPM3 15-75	UPM3 15-75	UPM3 15-75	UPM3 15-75
Rated voltage	V~	230	230	230	230
Power consumption					
– Max.	W	60	60	60	60
– Min.	W	2	2	2	2
– Delivered condition	W	14.6	21.9	34.3	60.0
Energy efficiency class		A	A	A	A
Energy efficiency index (EEI)		≤ 0.20	≤ 0.20	≤ 0.20	≤ 0.20

Specification (cont.)

Residual head of integral circulation pump



(M) Upper operational limit

Curve	Pump rate of circulation pump
(A)	10 %
(B)	20 %
(C)	30 %
(D)	40 %
(E)	50 %
(F)	60 %
(G)	70 %
(H)	80 %
(K)	90 %
(L)	100 %

Standby instantaneous water heater (gas condensing combi boiler)

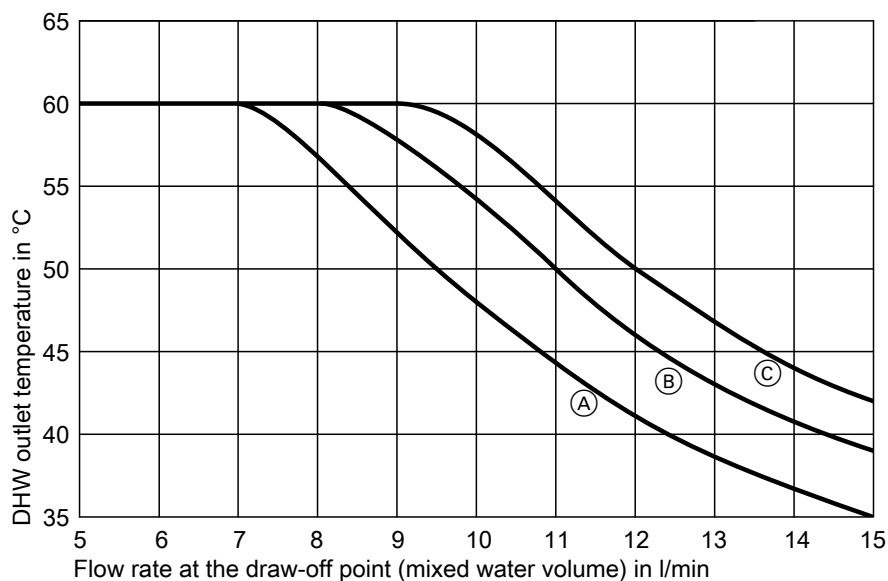
A standby instantaneous water heater is integrated into the Vitodens 200-W, type B2KF.

Output levels

Rated heating output, gas condensing combi boiler	kW	19.0	25.0	32.0
Continuous DHW output	kW	26.2	30.4	33.5
For DHW heating from 10 to 45 °C	l/h	737	775	839
Draw-off rate	l/min	3-12	3-14	3-16
Outlet temperature, adjustable	°C	30-60	30-60	30-60

Specification (cont.)

DHW temperature subject to flow rate



- Ⓐ Vitodens 200-W, 19 kW
- Ⓑ Vitodens 200-W, 25 kW
- Ⓒ Vitodens 200-W, 32 kW

The graph illustrates the changes in the outlet temperature, subject to the flow rate at the draw-off point.

If a greater volume of water is required, cold water needs to be admixed, which reduces the outlet temperature.

The illustrated outlet temperature characteristics are based on a cold water inlet temperature of 10 °C.

Minimum clearances

Space required in front of the Vitodens for maintenance:
Min. 700 mm

No maintenance clearances are required to the left or right of the Vitodens.

Subject to technical modifications.

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