

Datasheet

For part no. and prices: see pricelist



H₂ READY · 20%

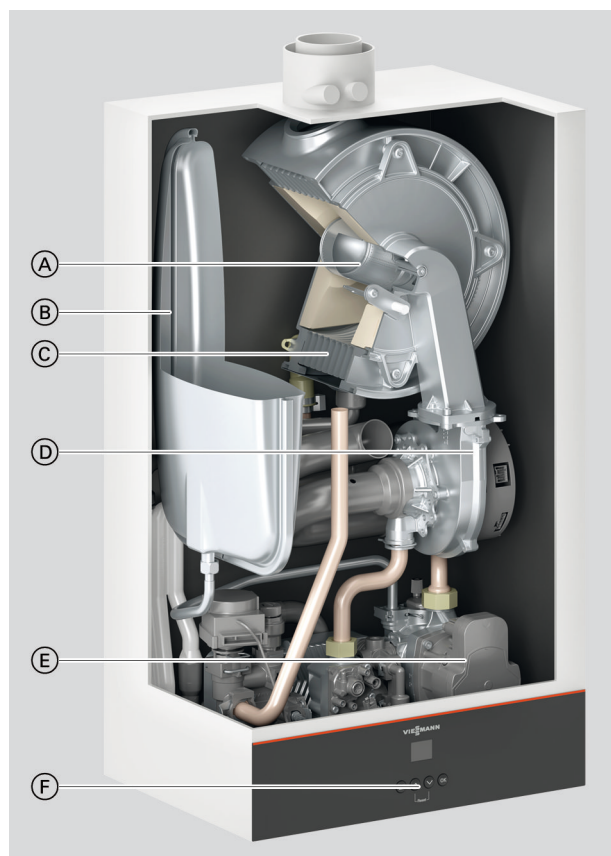
VITODENS CLASSIC Type BPKB-25

Wall mounted gas condensing boiler

5.0 to 25.0 kW

Natural gas version

Product description



- Ⓐ Modulating MatriX-Plus burner with pneumatic 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
- Ⓔ Integral, variable speed high efficiency circulation pump
- Ⓕ Digital boiler control unit with 7-segment display

The MatriX-Plus burner and the stainless steel Inox-Radial heat exchanger ensure the high energy efficiency of this combination, as well as its long-term high heating convenience. The Vitodens classic has a pneumatic combustion controller. Modulation range of 1:5. The integral, variable speed high efficiency circulation pump reduces power consumption by up to 70 %.

Recommended applications

- New build
- Modernisation

Benefits at a glance

- Seasonal central heating energy efficiency η_s of up to 92 % (label A)
- Low cycle frequency, even at low heat demand, due to optimised pauses and a wide modulation range down to 1:5
- Durable and efficient thanks to stainless steel Inox-Radial heat exchanger
- Modulating MatriX-Plus burner with pneumatic combustion controller for consistently high efficiency and clean combustion
- Power saving, high efficiency circulation pump
- Straightforward operation via control unit with LED display and buttons

Delivered condition

Wall mounted gas condensing boiler with Inox-Radial heat exchanger, modulating MatriX-Plus burner for natural gas to DVGW Code of Practice G260 [Germany], hydraulics and variable speed high efficiency circulation pump. Weather-compensated or constant temperature control unit. Fully plumbed and wired. Colour of the epoxy-coated casing: Vito-pearlwhite.

Integral diaphragm expansion vessel (8 litre capacity). Preset for operation with natural gas. Adjustment within gas groups. The gas condensing system boiler is suitable for operation with a hydrogen blend of up to 20 % by vol.

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

Product description (cont.)

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

Gas condensing combi boiler

Gas boiler, type B and C, category I _{2N} /I _{2H}		
Type		BPKB-25
Rated heating output range (to EN 15502)		
T _F /T _R = 50/30 °C		
Natural gas	kW	5.0 to 25.0
T _F /T _R = 80/60 °C		
Natural gas	kW	4.5 to 22.7
Rated heating output for DHW heating		
Natural gas	kW	4.5 to 28.0
Rated heat input (Q _n)		
Natural gas	kW	4.7 to 23.6
Rated heat input for DHW heating (Q _{nw})		
Natural gas	kW	4.7 to 29.1
Product ID		CE-0063DO3012
IP rating		IPX4D to EN 60529
NO _x		6
Gas supply pressure		
Natural gas	mbar	20
	kPa	2
Max. permiss. gas supply pressure ^{*1}		
Natural gas	mbar	25
	kPa	2.5
Sound power level		
(to EN ISO 15036-1)		
– At partial load	dB(A)	33.4
– at full load	dB(A)	49.3
– At rated heating output (DHW heating)	dB(A)	53.1
Power consumption		
(in the delivered condition)		
	W	76
Rated voltage		230
Rated frequency		50
Appliance fuse protection		2.5
Electronic temperature limiter setting (TN)		91
Electronic temperature cut-out setting		110
Electronic flue gas temperature limiter setting		95
Permissible ambient temperature		
– During operation	°C	+5 to +40
– During storage and transport	°C	-5 to +60
Weight		
– Excl. heating water and packaging	kg	31
– Incl. heating water	kg	35
Water capacity (excl. diaphragm expansion vessel)		3.0
Max. flow temperature		82
Max. flow rate		See residual head graphs
(Limit for the use of hydraulic separation)		
Nominal circulating water volume		990
At T _F /T _R = 80/60 °C		
Diaphragm expansion vessel		
– Contents	l	8
– Pre-charge pressure	bar	0.75
	kPa	75
Permiss. operating pressure		3
	MPa	0.3
Connections (with connection accessories)		
– Boiler flow and return		G¾
– Cold water and DHW		G½
Dimensions		
– Length	mm	300
– Width	mm	400
– Height	mm	700
Gas connection		¾

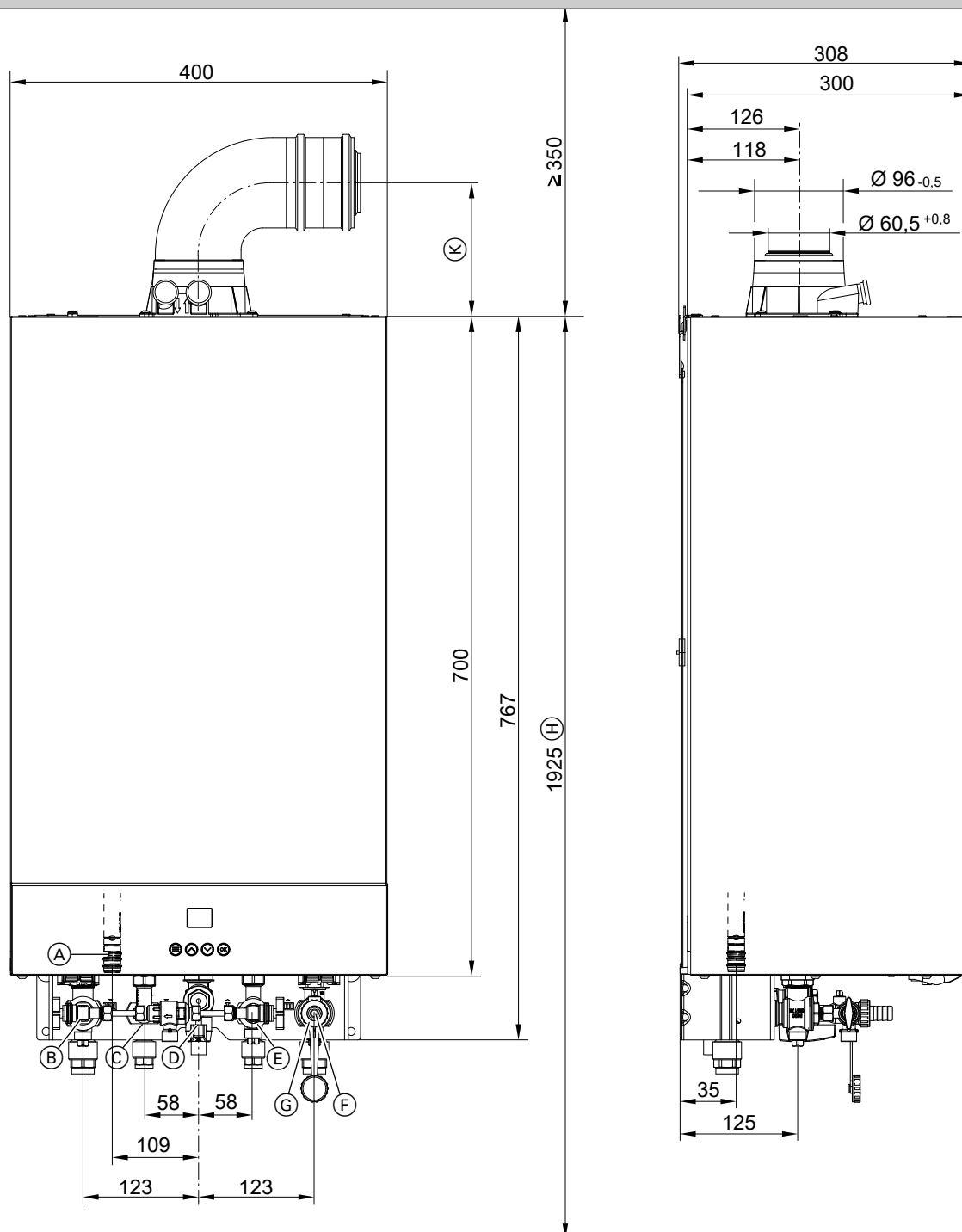
^{*1} If the gas supply pressure is higher than the maximum permitted value, install a separate gas pressure governor upstream of the system.

Specification (cont.)

Gas boiler, type B and C, category I _{2N} /I _{2H}		
Type		BPKB-25
Rated heating output range (to EN 15502)		
T _F /T _R = 50/30 °C		
Natural gas	kW	5.0 to 25.0
T _F /T _R = 80/60 °C		
Natural gas	kW	4.5 to 22.7
Standby instantaneous water heater		
DHW and cold water connections	G	1/2
Permissible operating pressure (DHW side)	bar	10
	MPa	1
Minimum pressure, cold water connection	bar	1
	MPa	0.1
Outlet temperature, adjustable	°C	10 to 60
Continuous DHW output	kW	29.1
Spec. water flow rate (D)	l/min	13:26
at ΔT = 30 K (EN 13203-1)		
Supply values		
Relative to the max. load and 1013 mbar/15 °C		
Natural gas H	m ³ /h	2.53
Natural gas E	m ³ /h	2.53
Flue gas parameters		
Temperature (at a return temperature of 30 °C)		
– At rated heating output	°C	48.7
– At partial load	°C	38.5
Temperature (at a return temperature of 60 °C, for DHW heating)	°C	74.6
Overheating temperature	°C	120
Mass flow rate (for DHW heating)		
Natural gas		
– At max. rated heating output	kg/h	50.4
– At partial load	kg/h	8.6
Available draught (with single connection)		
	Pa	250
	mbar	2.5
Max. amount of condensate		
To DWA-A 251		
Condensate connection (hose nozzle)		
	Ø mm	20 to 24
Flue gas connection		
	Ø mm	60
Ventilation air connection		
	Ø mm	100
Standard seasonal efficiency [to DIN] at		
T _F /T _R = 40/30 °C		
	%	Up to 98 (H _s) [gross cv]
Energy efficiency class		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).



- (A) Condensate drain
- (B) Heating flow
- (C) DHW
- (D) Gas connection
- (E) Cold water
- (F) Heating return

- (G) Filling/draining
- (H) Installation height (recommended)
- (K) Dimension: 161 mm – for external wall connection, Order nos. 7441467, 7411961
Dimension: 131 mm – for external wall connection, Order no. 7946886 (with reduced flue bend)

Specification (cont.)

Note

- This boiler (IP rating: IP X4D) is approved for installation in wet rooms inside safety zone 1, to DIN VDE 0100. Exposure to jets of water must be prevented.
- For open flue operation, the boiler may only be operated with a splash cover.
- Observe the requirements of DIN VDE 0100.
- National standards for electrical safety on installations must be observed.

Variable speed heating circuit pump

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 controlled 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 max. speed can be matched to the existing heating system using parameters on the control unit.

Speed settings in delivered condition:

- Min. pump rate 65 %
- Max. pump rate 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.

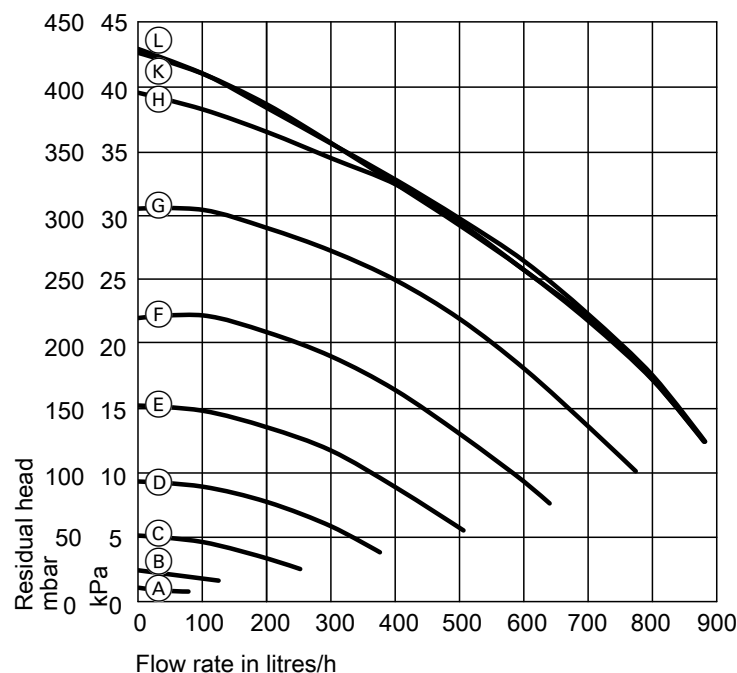
Setting (%) in group heating circuit 1:

- Speed: Parameter 4

Specification – circulation pump

Circulation pump	Type	UPM 4S 15-60
Rated voltage	V~	230
Power consumption		
– max.	W	60
– min.	W	2
– Delivered condition	W	55.2
Energy efficiency class		A
Energy efficiency index (EEI)		≤ 0.20

Residual head of the integral circulation pump



Specification (cont.)

Curve	Pump rate of circulation pump
(A)	90 %
(B)	80 %
(C)	70 %
(D)	60 %
(E)	50 %
(F)	40 %
(G)	30 %
(H)	20 %
(K)	10 %
(L)	0 %

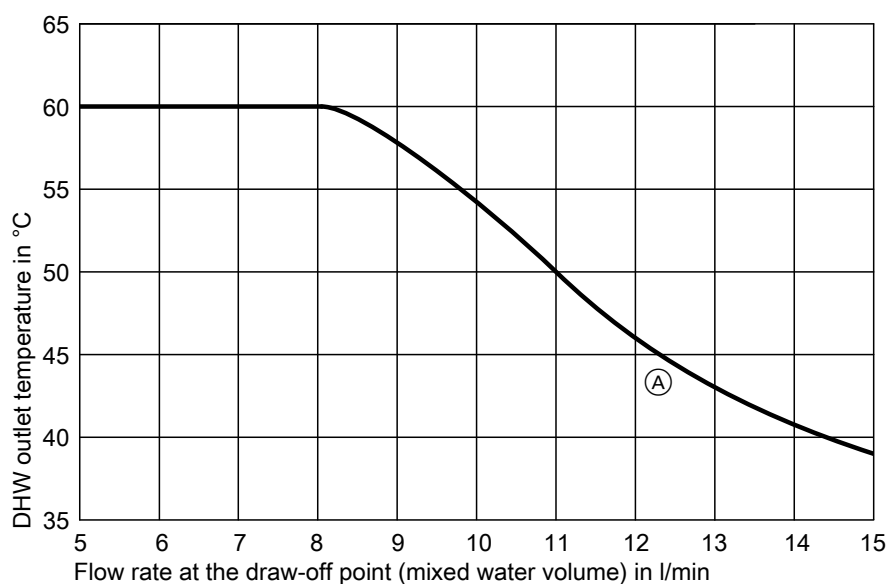
Standby instantaneous water heater

A standby instantaneous water heater is integrated into the Vitodens classic, type BPKB.

Output levels

Rated heating output, gas condensing combi boiler	kW	25.0
Continuous DHW output	kW	28.0
for DHW heating from 10 to 45 °C	l/h	666
Draw-off rate	l/min	2.5 to 12
Outlet temperature, adjustable	°C	30 to 60

DHW temperature subject to flow rate



(A) 25 kW

The diagram 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.

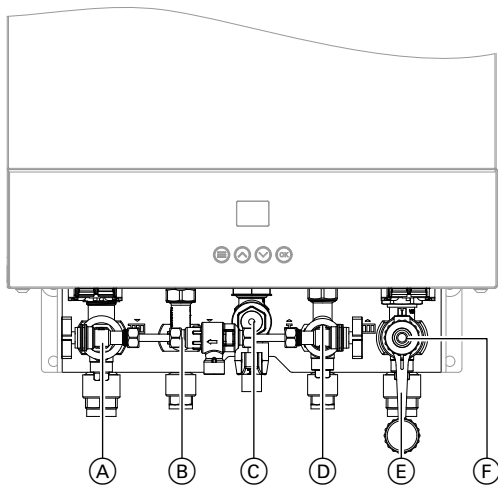
Minimum clearances

Maintain a clearance of 700 mm in front of the Vitodens for maintenance purposes.

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

Heating water and DHW connections

If the connections have not been fitted previously, make the connections on the heating water and DHW sides.



Specifications for threads in conjunction with connection accessories

- Ⓐ Heating flow R $\frac{3}{4}$ (male thread)
- Ⓑ DHW R $\frac{1}{2}$ (male thread)
- Ⓒ Gas connection R $\frac{3}{4}$ (male thread)
- Ⓓ Cold water R $\frac{1}{2}$ (male thread)
- Ⓔ Heating return R $\frac{3}{4}$ (male thread)
- Ⓕ Filling/draining

Scald protection

DHW temperatures of over 60 °C can occur with gas condensing combi boilers. Scald protection should therefore be installed on site in the DHW pipe.

Subject to technical modifications.

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