

Datasheet

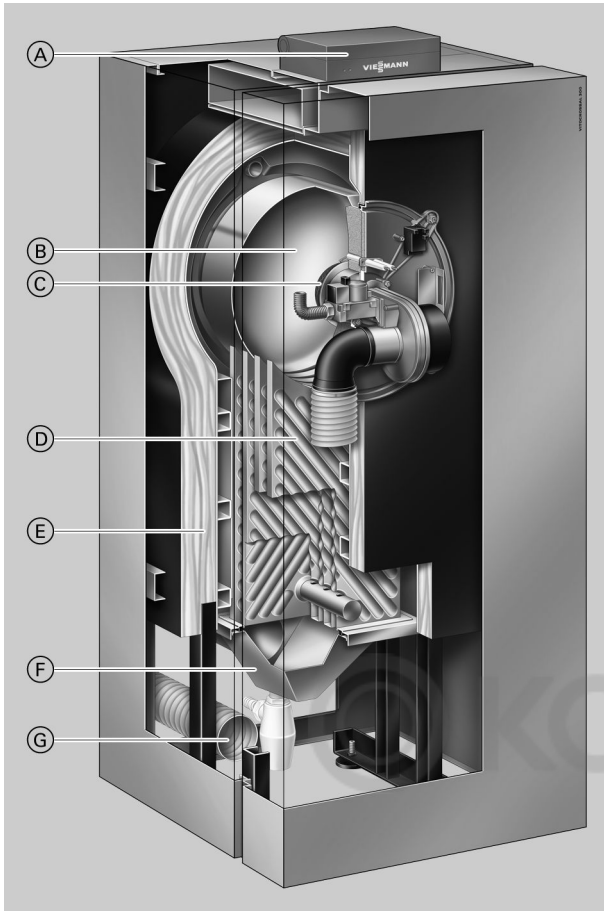
For part no. and prices: see pricelist



VITOCROSSAL 300 Type CU3A

Gas condensing boiler for natural gas and LPG
With modulating Matrix gas burner and Lambda Pro Control
combustion controller
For **open flue** and **room sealed** operation

Benefits



- (A) Digital Vitotronic boiler control unit
- (B) Water-cooled stainless steel combustion chamber
- (C) Modulating MatriX gas burner - for extremely clean combustion
- (D) Stainless steel Inox-Crossal heat exchanger
- (E) Highly effective thermal insulation
- (F) Flue gas collector with condensate drain pipe
- (G) Ventilation air pipe for room sealed operation

The Vitocrossal 300 is a premium product amongst floorstanding gas condensing boilers.

Its design allows it to utilise the condensing energy in the hot gases with exceptional intensity.

One particular feature is the room sealed operation. This allows the Vitocrossal 300 to be installed within the insulated building envelope. This is especially advantageous for the EnEV calculation [Germany].

The Inox-Crossal heat exchanger in the Vitocrossal 300 has been combined with another milestone of Viessmann heating technology – the MatriX gas burner. This reduces heating costs and ensures minimised emissions without compromise – these are so low that the Vitocrossal 300 performs significantly better than the limits set for the "Blue Angel" eco-label.

Benefits at a glance

- Standard seasonal efficiency [to DIN]: Up to 98 % (H_s) [gross cv]
- Inox-Crossal heat exchangers made of stainless steel for efficient utilisation of condensing technology – Self-cleaning effect due to the smooth stainless steel surfaces
- Modulating MatriX gas burner with a wide modulation range down to 20 % for particularly quiet, economical and environmentally responsible operation
- Lambda Pro Control combustion controller for all gas types – saves on costs by extending the inspection interval to 3 years [in Germany]
- Excellent controllability and reliable heat transfer through wide water galleries and large water content
- Easy to operate Vitotronic control unit with plain text and graphic display
- Room sealed or open flue operation
- Web-enabled through Vitoconnect (accessories) for operation and service via Viessmann apps

Specification

Gas boiler, types B and C

Rated heating output range			2.6 to 13	2.6 to 19	5.2 to 26	7 to 35	12 to 45	12 to 60
$T_F/T_R = 50/30\text{ °C}$	kW		2.6 to 13	2.6 to 19	5.2 to 26	7 to 35	12 to 45	12 to 60
$T_F/T_R = 80/60\text{ °C}$	kW		2.4 to 12.0	2.4 to 17.5	4.7 to 24.0	6.3 to 32.3	10.9 to 41.6	10.9 to 55.5
Rated heat input	kW		2.5 to 16.7	2.5 to 17.9	4.9 to 24.5	6.6 to 33	11.3 to 42.5	11.3 to 56.6
U-value of thermal insulation	W/m ² · K		0.5	0.5	0.5	0.5	0.5	0.5
Heating surface	m ²		0.9	0.9	1.4	1.8	2.9	2.9
Product ID	CE-0085BN0570							
Category		II _{2N3P}	II _{2N3P}	II _{2N3P}	II _{2N3P}	II _{2N3P}	II _{2N3P}	II _{2N3P}
Gas supply pressure	mbar		20	20	20	20	20	20
Max. perm. gas supply pressure ^{*1}	mbar		50	50	50	50	50	50
Power consumption (in the delivered condition)	W		30	30	37	56	68	115
Sound power level ^{*2}								
At partial load	dB(A)		30.4	30.4	31.3	32.6	32.8	32.8
At rated heating output	dB(A)		39	46.1	47.5	55.2	53.1	58.2
Weight	kg		119	119	122	125	155	160
Boiler with thermal insulation and Matrix gas burner								
Boiler water capacity	litres		53	53	51	49	71	71
Max. perm. operating pressure	bar		3	3	3	3	3	3
Min. perm. operating pressure	MPa		0.3	0.3	0.3	0.3	0.3	0.3
	bar		0.5	0.5	0.5	0.5	0.5	0.5
Perm. operating temperature (max. flow temperature)	MPa		0.05	0.05	0.05	0.05	0.05	0.05
	°C		95	95	95	95	95	95
Safety temperature (temperature limiter)	°C		110	110	110	110	110	110
Boiler connections (male thread)								
Boiler flow and return	G		1½	1½	1½	1½	1½	1½
Safety connection	G		1½	1½	1½	1½	1½	1½
Drain	R		1	1	1	1	1	1
Boiler body dimensions								
Length	mm		512	512	512	512	629	629
Width	mm		570	570	570	570	570	570
Height	mm		1372	1372	1372	1372	1372	1372
Total dimensions								
Total length a	mm		684	684	684	684	801	801
Total width	mm		660	660	660	660	660	660
Total height with Vitotronic (pivoted down in (B))	mm		1562	1562	1562	1562	1562	1562
Total height with Vitotronic (pivoted up in (A))	mm		1707	1707	1707	1707	1707	1707
Internal diameter of the pipe to								
– Expansion vessel	DN		20	20	20	20	20	20
– Safety valve	DN		15	15	15	15	20	20
Gas connection (male thread)	R		¾	¾	¾	¾	¾	¾
Condensate connection (trap)	Ø mm		32/20	32/20	32/20	32/20	32/20	32/20
Max. condensate volume (details according to Code of Practice DWA-A 251)	kg/h		1.72	2.51	3.43	4.62	5.95	7.92
Supply values								
Relative to the max. load with								
– Natural gas E	m ³ /h		1.30	1.90	2.61	3.52	4.47	5.95
– Natural gas LL	m ³ /h		1.51	2.20	3.04	4.10	5.19	6.91
– LPG	kg/h		0.95	1.39	1.93	2.60	3.34	4.45

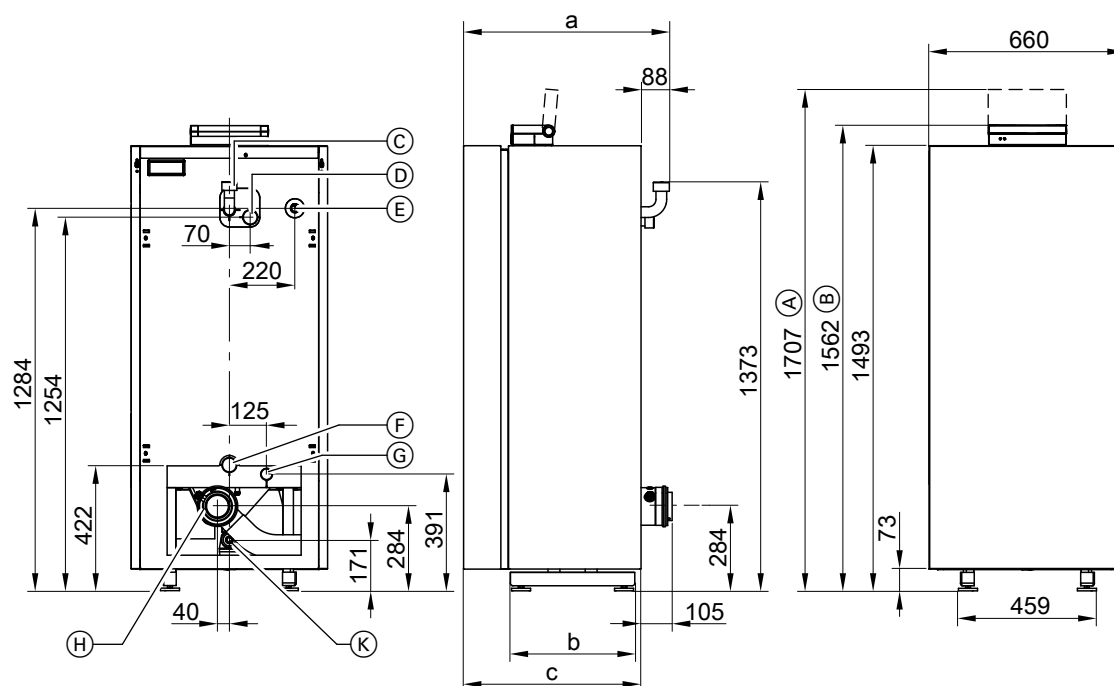
^{*1} If the gas supply pressure is higher than the maximum permissible value, install a separate gas pressure governor upstream of the heating system.

^{*2} Data according to EN ISO 15036-1 for room sealed operation

Specification (cont.)

Gas boiler, types B and C

Rated heating output range			2.6 to 13	2.6 to 19	5.2 to 26	7 to 35	12 to 45	12 to 60
$T_F/T_R = 50/30\text{ °C}$	kW		2.6 to 13	2.6 to 19	5.2 to 26	7 to 35	12 to 45	12 to 60
$T_F/T_R = 80/60\text{ °C}$	kW		2.4 to 12.0	2.4 to 17.5	4.7 to 24.0	6.3 to 32.3	10.9 to 41.6	10.9 to 55.5
Flue gas parameters^{*3}								
Temperature (at 30 °C return temperature)								
– At rated heating output	°C		45	45	45	45	45	45
– At lower heating output	°C		32	32	32	32	32	32
Temperature (at 60 °C return temperature)	°C		75	75	75	75	75	75
Mass flow rate for natural gas								
– At rated heating output	kg/h		23	34	46	62	80	106
– At lower heating output	kg/h		5	5	9	12	21	21
Mass flow rate for LPG								
– At rated heating output	kg/h		21	30	41	56	72	96
– At lower heating output	kg/h		4	4	8	11	19	19
CO ₂ emissions with natural gas								
– At rated heating output	%		7.7 to 9.2	7.7 to 9.2	7.7 to 9.2	7.7 to 9.2	7.7 to 9.2	7.7 to 9.2
– At lower heating output	%		7.7 to 9.2	7.7 to 9.2	7.7 to 9.2	7.7 to 9.2	7.7 to 9.2	7.7 to 9.2
CO ₂ emissions with LPG								
– At rated heating output	%		9.3 to 10.9	9.3 to 10.9	9.3 to 10.9	9.3 to 10.9	9.3 to 10.9	9.3 to 10.9
– At lower heating output	%		9.3 to 10.9	9.3 to 10.9	9.3 to 10.9	9.3 to 10.9	9.3 to 10.9	9.3 to 10.9
Available draught at the flue outlet								
	Pa		130	130	130	130	130	130
	mbar		1.3	1.3	1.3	1.3	1.3	1.3
NOx class (EN 15502)		%	6	6	6	6	6	6
Flue gas connection		∅ mm	80	80	80	80	110	110
Boiler flue connection internal diameter		∅ mm	80.5 +0.8/-0	80.5 +0.8/-0	80.5 +0.8/-0	80.5 +0.8/-0	110.5 +0.8/-0	110.5 +0.8/-0
Ventilation air connection		∅ mm	125	125	125	125	150	150
Boiler flue connection internal diameter		∅ mm	126 ±0.5	126 ±0.5	126 ±0.5	126 ±0.5	151.6 ±0.5	151.6 ±0.5
Standard seasonal efficiency [to DIN]		%	Up to 98 (H _s) [gross cv]					
At $T_F/T_R = 40/30\text{ °C}$								
Energy efficiency class			A	A	A	A	A	A



^{*3} Calculation values for sizing the flue system to EN 13384.

Flue gas temperatures measured as gross values at 20 °C combustion air temperature.

The flue gas temperature at a return temperature of 30 °C is significant for the sizing of the flue system.

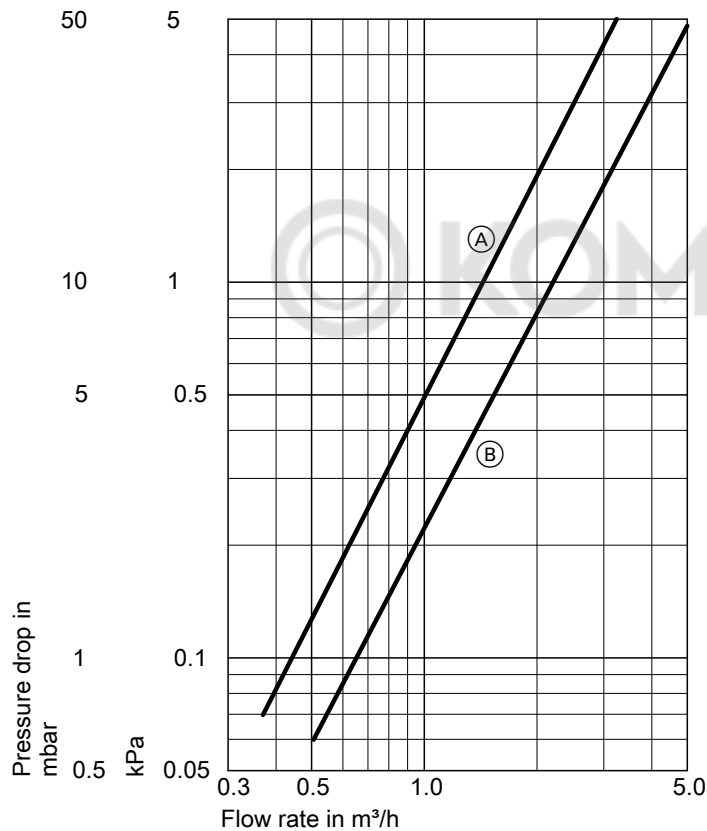
Specification (cont.)

- (A) Height with Vitotronic pivoted up
- (B) Height with Vitotronic pivoted down
- (C) Safety connection
(safety valve and air vent valve)
- (D) Boiler flow
- (E) Gas connection
- (F) Boiler return
- (G) Safety return and drain
(expansion vessel)
- (H) Boiler flue connection for balanced flue connection
- (K) Condensate drain

Table of dimensions

Rated heating output	kW	13 to 35	45 and 60
a	mm	684	801
b	mm	418	535
c	mm	595	712

Pressure drop on the heating water side



- (A) Rated heating output 13 to 35 kW
- (B) Rated heating output 45 and 60 kW

The Vitocrossal 300 is only suitable for fully pumped hot water heating systems.

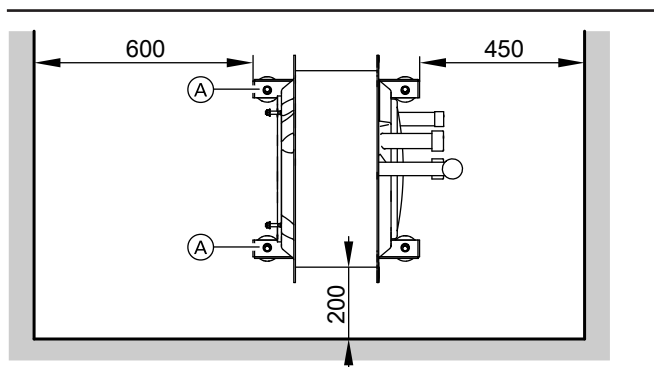
Rated heating output (kW)	$\Delta T = 10 \text{ K}$		$\Delta T = 15 \text{ K}$		$\Delta T = 20 \text{ K}$	
	Flow rate (m³/h)	Pressure drop (mbar)	Flow rate (m³/h)	Pressure drop (mbar)	Flow rate (m³/h)	Pressure drop (mbar)
13	1.12	6.1	0.74	3.8	0.56	1.5
19	1.63	12.8	1.09	6.0	0.82	3.5
26	2.24	23.0	1.49	10.8	1.12	6.2
35	3.01	40.5	2.01	18.9	1.51	11.0
45	3.87	28.5	2.58	13.4	1.94	7.8
60	5.16	48.8	3.44	23.3	2.58	13.5

$$\Delta T = T_F - T_R$$

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Specification (cont.)

Minimum clearances



(boiler body without thermal insulation)

Ⓐ Base rails

For **open flue** operation, the installation room must have a ventilation air aperture with an unobstructed cross-section of at least 150 cm² or 2 × 75 cm². The stated dimensions should be observed to ensure straightforward installation and maintenance.

KOMFORT

Subject to technical modifications.

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