

Datasheet

Part no. and prices: See pricelist

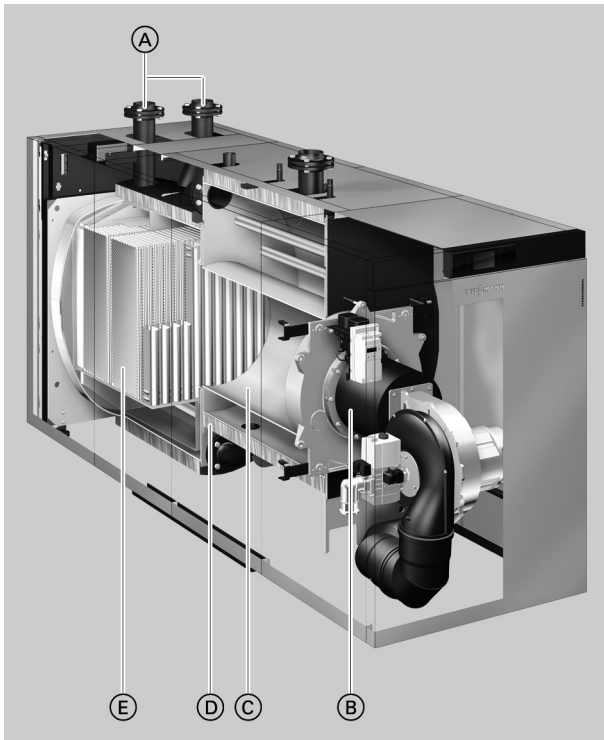


VITOCROSSAL 200 Type CRU

Gas condensing boiler for natural gas E and LPG

Benefits at a glance

- Standard seasonal efficiency [to DIN]: Up to 98 % (Hs) [gross cv]
- Stainless steel, corrosion-resistant Inox-Crossal heat exchanger ensures high operational reliability and a long service life
- Inox-Crossal heat exchanger for highly effective heat transfer and condensation rate
- Self-cleaning effect due to smooth stainless steel surface
- Clean combustion through low combustion chamber loading and straight-through design
- Highly efficient and compact MatriX-Disk burner for particularly quiet and environmentally responsible operation with a modulation range down to 1:6
- Split design for easy handling
- 2 return connectors for hydraulic connection optimised for condensing technology
- Easy to use Vitotronic control unit with colour touchscreen
- Integral WLAN for service interface
- Economical and safe operation of the heating system through the Vitotronic control system with communication capability, which, in conjunction with the Vitogate 300 (accessory), enables integration into building management systems.



- Ⓐ 2 return connectors
- Ⓑ MatriX-Disk burner
- Ⓒ Stainless steel combustion chamber
- Ⓓ Highly effective thermal insulation
- Ⓔ Stainless steel Inox-Crossal heat exchanger

Specification

Specification

Vitocrossal boiler

Rated heating output			
P_n : TF/TR = 80/60	kW	121 to 727	152 to 909
P_{cond} : TF/TR = 50/30	kW	133 to 800	167 to 1000
Rated heat input^{*1}	kW	127 to 762	159 to 953
Boiler product ID		CE-0085CS0411	
Permiss. operating temperature	°C	95	95
Permiss. flow temperature (= safety temperature)	°C	110	110
Max. permiss. operating pressure	bar	6	6
	MPa	0.6	0.6
Min. permiss. operating pressure	bar	0.5	0.5
	MPa	0.05	0.05
Test pressure	bar	7.8	7.8
	MPa	0.78	0.78
Boiler body dimensions			
Total length	mm	2241	2441
Length of the combustion chamber module	mm	1019	1219
Length of the heat exchanger module	mm	1272	1272
Width/installation width of base rails	mm	960/958	960/958
Height	mm	1676	1676
Overall dimensions			
Length	mm	3187	3389
Width	mm	1060	1060
Height	mm	1676	1676
Foundation dimensions			
Length	mm	2500	2700
Height	mm	1200	1200
Weight			
Combustion chamber module	kg	535	585
Heat exchanger module	kg	615	615
Burner	kg	120	120
Total weight, dry	kg	1435	1492
Water capacity	l	1150	1180
Connections			
Boiler flow	PN 6 DN	100	100
Boiler return	PN 6 DN	100	100
2nd boiler return	PN 6 DN	100	100
Flue gas parameters^{*2}			
Flue gas temperature (50/30 °C)			
– At rated heating output	°C	43	45
– At partial load	°C	34	35
Flue gas temperature (80/60 °C)			
– At rated heating output	°C	67	69
– At partial load	°C	63	63
Gas flow rate, natural gas E			
at 15 °C; 1.013 bar			
– At rated heating output	m ³ /h	80.6	100.8
– At partial load	m ³ /h	13.4	16.8
Gas flow rate, LPG P			
at 15 °C; 1.013 bar			
– At rated heating output	m ³ /h	30.8	39.0
– At partial load	m ³ /h	6.2	7.8
Flue gas connection	Ø mm	300	300
Draught at the flue outlet	Pa	70	70
	mbar	0.7	0.7
Minimum length, flue system			
Natural gas E	m	5	5
LPG	m	10	10

*1 Sized for up to mean sea level (MSL) 1500 m

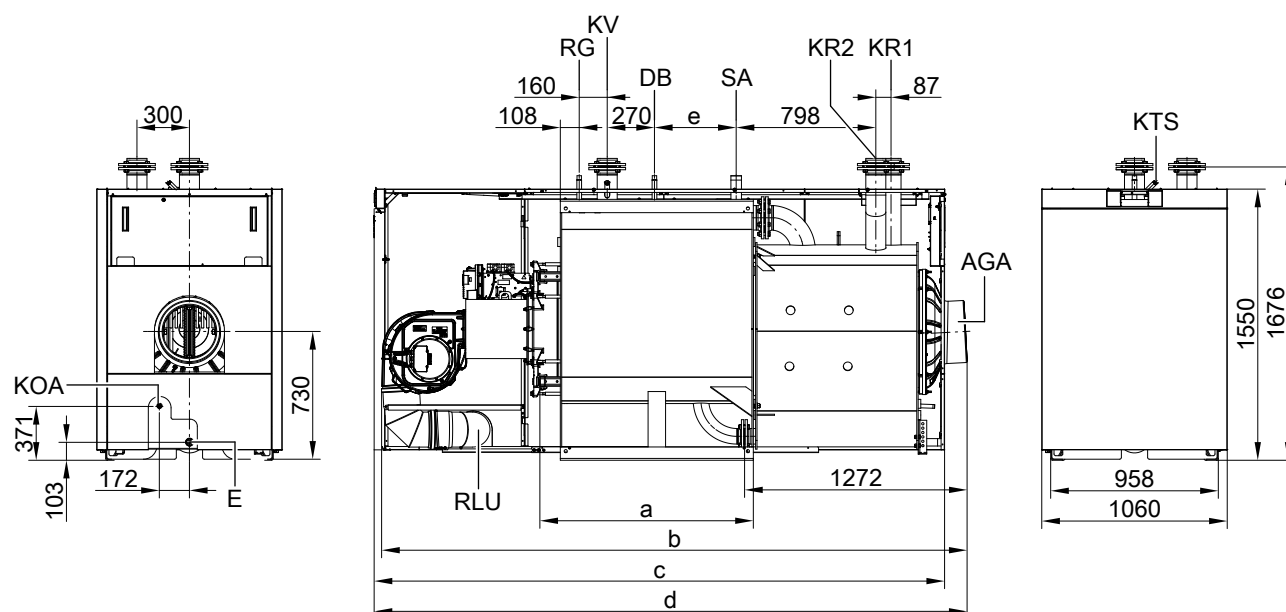
*2 Values for calculating the size of the flue system to EN 13384, based on 10 % CO₂ for natural gas

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

The details for partial load refer to the lower rated heating output. If the partial load differs (subject to burner operating mode), calculate the flue gas mass flow rate accordingly.

Specification (cont.)

Rated heating output			
P_n : TF/TR = 80/60	kW	121 to 727	152 to 909
P_{cond} : TF/TR = 50/30	kW	133 to 800	167 to 1000
Product parameters according to EnEV			
Standard seasonal efficiency [to DIN] relative to H_s [gross cv]			
At heating system temperature 40/30 °C	%	99	98
At heating system temperature 75/60 °C	%	96	96
Idle losses 30 K to EN 15502	kW	1.0	1.1
Idle losses 50 K to EN 15502	kW	2.7	2.8
Standby loss $q_{B,70}$	%	0.4	0.3



AGA Flue outlet, internal \varnothing 302

DB Female connection Rp 1/2 (female thread) for pressure limiter

E Drain R 1 1/4 (male thread)

KOA Condensate drain R 1/2 (male thread)

KR 1 Boiler return 1, DN 100 PN 6

KR 2 Boiler return 2, DN 100 PN 6

KTS Boiler water temperature sensor Rp 3/4 (female thread)

KV Boiler flow, DN 100 PN 6

RG Female connection Rp 1/2 (female thread) for additional control equipment

RLU Connection, room sealed operation: DN 200

SA Safety connection R 2 (male thread)

Dimensions

Rated heating output	kW	800	1000
a	mm	1019	1219
b	mm	3146	3346
c	mm	3060	3260
d	mm	3187	3389
e	mm	267	467

MatriX-Disk burner

Rated heating output			
P_n : TF/TR = 80/60	kW	121 to 727	152 to 909
P_{cond} : TF/TR = 50/30	kW	133 to 800	167 to 1000
Rated heat input^{*1}	kW	127 to 762	159 to 953
Burner type		MDI	
Burner product ID		CE-0085CS0412	
Voltage, 3/N/PE	V	400	400
Frequency	Hz	50	50
Current, max	A	16	16
Power consumption			
– At rated heating output	W	1500	2000
– At partial load	W	100	100

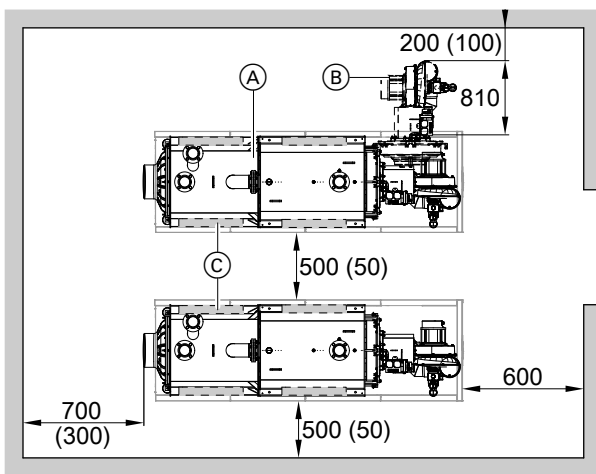
*1 Sized for up to mean sea level (MSL) 1500 m

Specification (cont.)

Rated heating output			
P_n : TF/TR = 80/60	kW	121 to 727	152 to 909
P_{cond} : TF/TR = 50/30	kW	133 to 800	167 to 1000
Gas supply pressure			
– Natural gas E	mbar	18 to 25	
	kPa	1.8 to 2.5	
– LPG P	mbar	42.5 to 57.5 ($p_N = 50$)	
	kPa	4.25 to 5.75 ($p_N = 3.7$)	
	mbar	25 to 45 ($p_N = 37$)	
	kPa	2.5 to 4.5 ($p_N = 3.7$)	
Sound power level to EN 15036	dB(A)	83	85

Siting

Minimum clearances



- (A) Boiler
- (B) Burner
- (C) Anti-vibration boiler supports

Observe the stated dimensions to ensure straightforward installation and maintenance. Where space is tight, only the minimum clearances (dimensions in brackets) need to be maintained. In the delivered condition, the burner door is fitted so it opens to the right. The hinge pins can be repositioned so the door opens to the left.

Siting

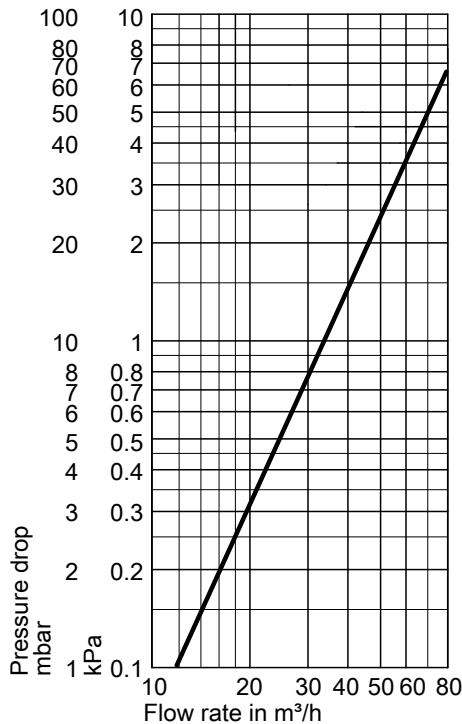
- Prevent air contamination by halogenated hydrocarbons (e.g. in sprays, paints, solvents and cleaning agents)
- Prevent very dusty conditions
- Prevent high levels of humidity
- Prevent frost and ensure good ventilation

Otherwise the system may suffer faults and damage.

In rooms where air contamination through **halogenated hydrocarbons** may occur, install the boiler only if adequate measures can be taken to provide a supply of uncontaminated combustion air.

Specification (cont.)

Pressure drop on the heating water side



The Vitocrossal 200 is only suitable for fully pumped hot water heating systems.

Delivered condition

Standard delivery:

- Boiler body with thermal insulation (combustion chamber module and heat exchanger module supplied separately).
- Boiler control unit, fully wired
- Boiler door with MatriX-Disk burner
- Mating flanges with screws and gaskets
- Safety equipment connection — no additional intermediate flow piece required

Control unit versions

For a single boiler system

- **Vitotronic 100, type CC11**
For the control unit with a constant boiler water temperature.
For weather-compensated or room temperature-dependent operation in conjunction with an external control unit.
- **Vitotronic 200, type CO11**
For weather-compensated operation and mixer control for up to 2 heating circuits with mixer. For the 2 heating circuits with mixer, the accessory "Extension for heating circuits 2 and 3" is required.

Control panel

- Vitocontrol control panel with e.g. Vitotronic 200-H, type HK1B or HK3B for 1 or up to 3 heating circuits with mixer on request.

For a multi boiler system (up to 8 boilers)

- **Vitotronic 300, type CM11**
For weather-compensated operation of a multi boiler system. This Vitotronic control unit also handles control of the boiler water temperature of a boiler within this multi boiler system.
Vitotronic 100, type CC11 and LON communication module
To control the boiler water temperature for each additional boiler in the multi boiler system.
- **Vitocontrol 200-M multi mode system controller**
For weather-compensated cascade control of boilers with a Vitotronic 100 control unit and a Vitobloc 200 CHP unit or other heat generators on request.

Control panel

- Vitocontrol control panel with e.g. Vitotronic 200-H, type HK1B or HK3B for 1 or up to 3 heating circuits with mixer on request.

Boiler accessories

See pricelist and technical guide.

Operating conditions

Operating conditions with Vitotronic boiler control units

For water quality requirements, see technical guide.

	Requirements
1. Heating water flow rate	None
2. Boiler return temperature (minimum value)	None
3. Low-end boiler water temperature	None
4. Lower boiler water temperature with frost protection	10 °C – ensured through the Viessmann control unit
5. Two-stage burner operation	None
6. Modulating burner operation	None
7. Reduced mode	None – total reduction is possible
8. Weekend setback	None – total reduction is possible

Design information

Siting for open flue operation

(B₂₃, B_{23P})

For open flue combustion equipment with a total rated output in excess of 50 kW, the fresh ventilation is deemed to have been verified if the combustion equipment is located in areas which provide an aperture or duct leading outdoors.

The cross-section of the aperture must be at least 150 cm² and must be 2 cm² larger for each additional kW above 50 kW rated output.

Pipes must be sized to provide equivalent flow rates. The required cross-section may be split over a maximum of two apertures or pipes.

Siting for room sealed operation

C₁₃, C₃₃, C₅₃

For room sealed operation. Route the ventilation air pipe to the boiler on site. Connect the ventilation air pipe to the integral connection for room sealed operation (DN 200). A room sealed set is not required.

Neutralisation

During condensation, acidic condensate is formed with a pH value of between 3 and 4. The condensate can be neutralised in a neutralising system with the aid of a neutralising medium.

For further information, see the technical guide.

For further information on design/engineering

See the technical guide to this boiler.

Tested quality



CE designation according to current EC Directives



Subject to technical modifications.

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