

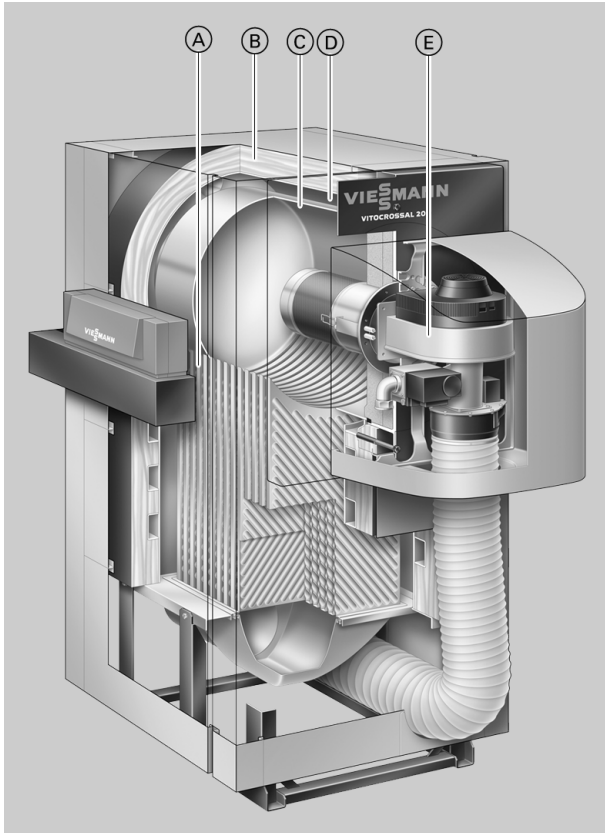
**Datasheet**

Part numbers and prices: see pricelist

**VITOCROSSAL 200** Type CT2Gas fired condensing boiler for natural gas E and LL  
With modulating MatriX cylinder burner

## Benefits at a glance

- Condensing Unit with MatriX cylinder burner as two-boiler system up to 1256 kW.
- Standard efficiency: up to 98% ( $H_g$ )/109% ( $H_i$ ).
- The stainless steel, corrosion-resistant Inox-Crossal heating surface ensures high operational reliability and a long service life.
- Inox-Crossal heating surface for highly effective heat transfer and high condensation rate.
- Self-cleaning effect through smooth stainless steel surface.
- MatriX cylinder burner for particularly quiet and environmentally responsible operation with a modulating range of 33 to 100%.
- Optional open flue or balanced flue operation.
- Cascade with pre-fitted accessories on the hydraulic and flue gas side.



- Ⓐ Inox-Crossal heating surface made from stainless steel
- Ⓑ Highly effective thermal insulation
- Ⓒ Water cooled stainless steel combustion chamber
- Ⓓ Wide water galleries – good natural circulation
- Ⓔ Modulating MatriX cylinder burner

## Boiler specification

### Specification

<b>Rated output</b>				
$T_V/T_R = 50/30\text{ °C}$	kW	135-404	168-503	209-628
$T_V/T_R = 80/60\text{ °C}$	kW	123-370	153-460	192-575
<b>Rated thermal load</b>	kW	127-381	158-474	198-593
<b>Product ID</b>		CE-0085 BS 0399		
<b>Permiss. operating temperature</b>	°C	95	95	95
<b>Permissible flow temperature</b> (= safety temperature)	°C	110	110	110
<b>Permissible operating pressure</b>	bar	5.5	5.5	5.5
<b>Boiler body dimensions</b>				
Length (dimension a)	mm	1315	1494	1550
Width excl. boiler door	mm	805	805	805
Width incl. boiler door	mm	845	845	845
Height (incl. connectors)	mm	1930	1930	1930
<b>Total dimensions</b>				
Total length incl. burner hood (dimension b)	mm	1820	1900	2055
Total width incl. cylinder	mm	1200	1200	1200
Total height	mm	1985	1985	1985
<b>Foundations</b>				
Length	mm	1250	1300	1500
Width	mm	900	900	900
Height	mm	100	100	100
<b>Weight</b>				
– Boiler body	kg	596	639	768
<b>Total weight</b>				
– Boiler with burner, thermal insulation and boiler control unit	kg	736	790	928
<b>Content boiler water</b>	litres	260	324	405
<b>Boiler connections</b>				
Boiler flow	PN 6 DN	100	100	100
Boiler return	PN 6 DN	100	100	100
Safety connection (safety valve)	PN 16 DN	50	50	50
Drain	R	1"	1"	1"
Condensate drain, flue gas collector/siphon	Ømm	32/20	32/20	32/20
<b>Flue gas parameters*<sup>1</sup></b>				
Temperature (at return temperature 30 °C)				
– at rated output	°C	45	45	45
– at partial load	°C	40	40	40
Temperature (at return temperature 60 °C)	°C	75	75	75
Mass flow rate (for natural gas)				
– at rated output	kg/h	578	719	900
– at partial load	kg/h	193	240	300
Available draught	Pa	70	70	70
to the flue outlet* <sup>2</sup>	mbar	0.7	0.7	0.7
<b>Flue gas connection</b>	Ø mm	250	250	250
<b>Standard efficiency</b>				
at heating system temp. 40/30 °C	%	up to 98 (H <sub>s</sub> )/109 (H <sub>i</sub> )		
at heating system temp. 75/60 °C	%	up to 95 (H <sub>s</sub> )/106 (H <sub>i</sub> )		
<b>Standby loss q<sub>b,70</sub></b>	%	0.25	0.24	0.23

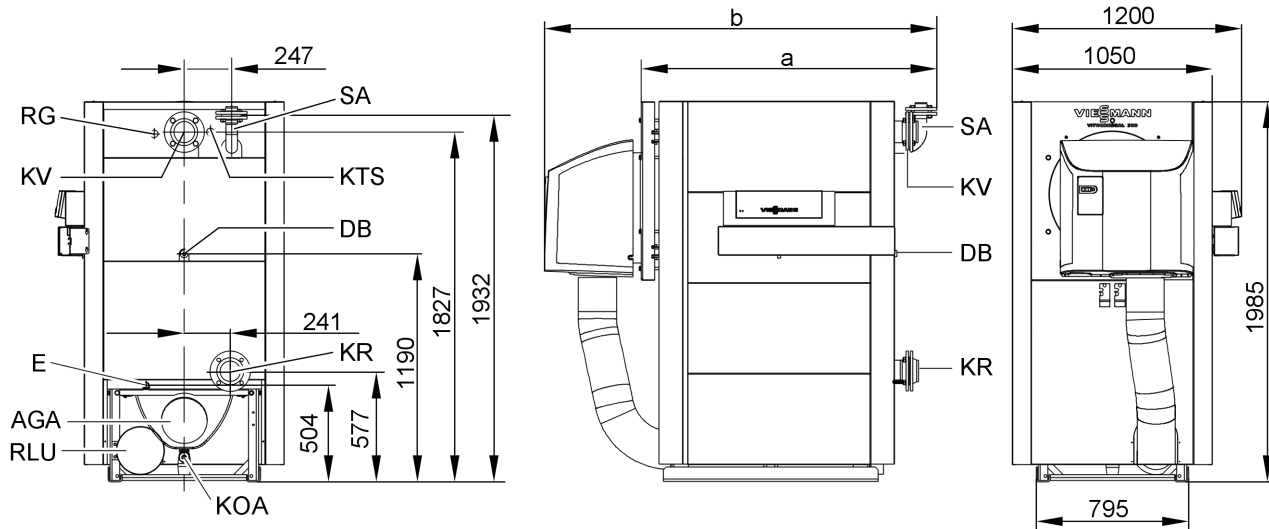
\*<sup>1</sup> Calculating values for sizing the flue system to EN 13384, based on 10 % CO<sub>2</sub> for natural gas.

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

The details for partial load refer to 33 % of rated output. Calculate the flue gas mass flow rate accordingly when the partial load differs from that stated above (subject to burner mode).

\*<sup>2</sup> When using the Vitocrossal 200 with moisture-resistant stacks, the draught may be max. 0 Pa.

## Boiler specification (cont.)



AGA Flue gas connection  
 DB G ½" fem. connection for pressure limiter  
 E Drain  
 KOA Condensate drain  
 KR Boiler return  
 KTS Boiler water temperature sensor

KV Boiler flow  
 RG Fem. connection G ½" for additional control equipment  
 RLU Ventilation air connection  $\varnothing$  200/250 mm for balanced flue operation (accessory)  
 SA Safety connection (safety valve)

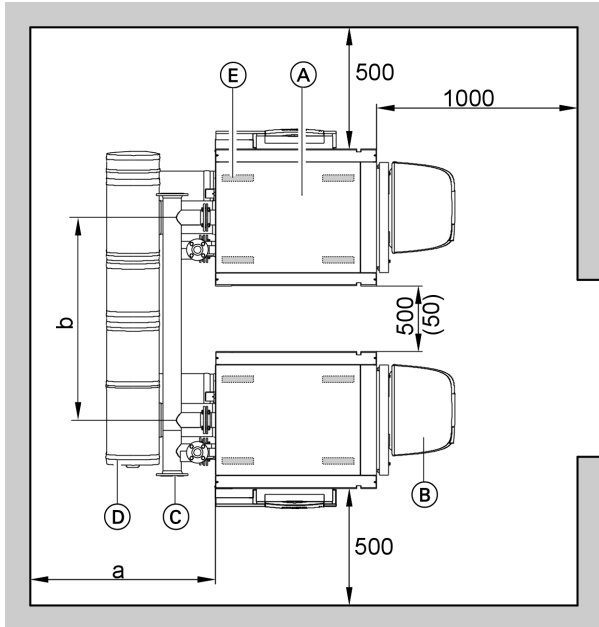
### Dimensions

Rated output	kW	404	503	628
a	mm	1315	1390	1550
b	mm	1820	1900	2055

## Boiler specification (cont.)

### Positioning

#### Minimum clearances



- Ⓐ Boiler
- Ⓑ Burner with burner hood
- Ⓒ Hydraulic system connection (accessory)
- Ⓓ Flue gas header (accessory)
- Ⓔ Anti-vibration boiler supports (accessory)

#### Positioning

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

To enable convenient installation and maintenance, observe the stated clearance dimensions; maintain the minimum clearances where space is tight (dimensions in brackets). In the delivered condition, the boiler door opens to the left. You can reposition the hinge brackets so that the door can open to the r.h. side.

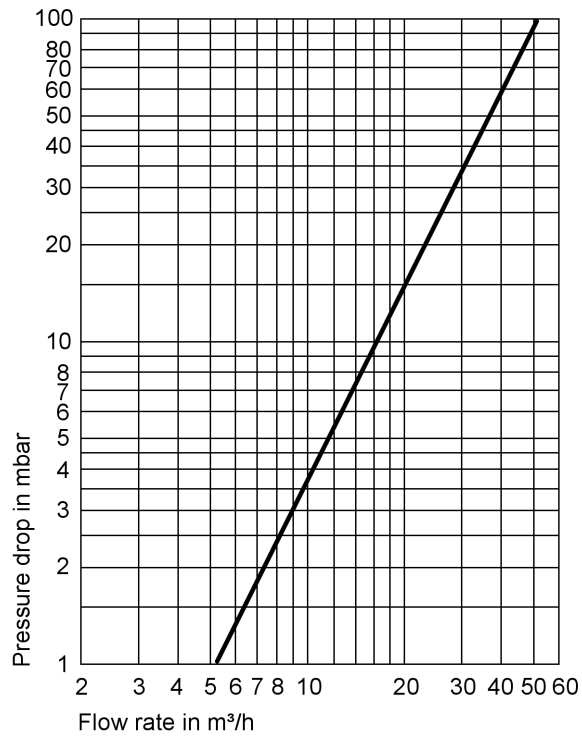
	Recommended clearance excl. accessories	In case of flue gas header (accessory) for two-boiler systems
Dimension a	700 mm	1000 mm
Dimension b	—	1550 mm

Otherwise, the system may suffer faults and damage. In rooms where air contamination from **halogenated hydrocarbons** is to be expected, operate the boiler only in balanced flue mode.

## Boiler specification (cont.)

### Pressure drop on the heating water side

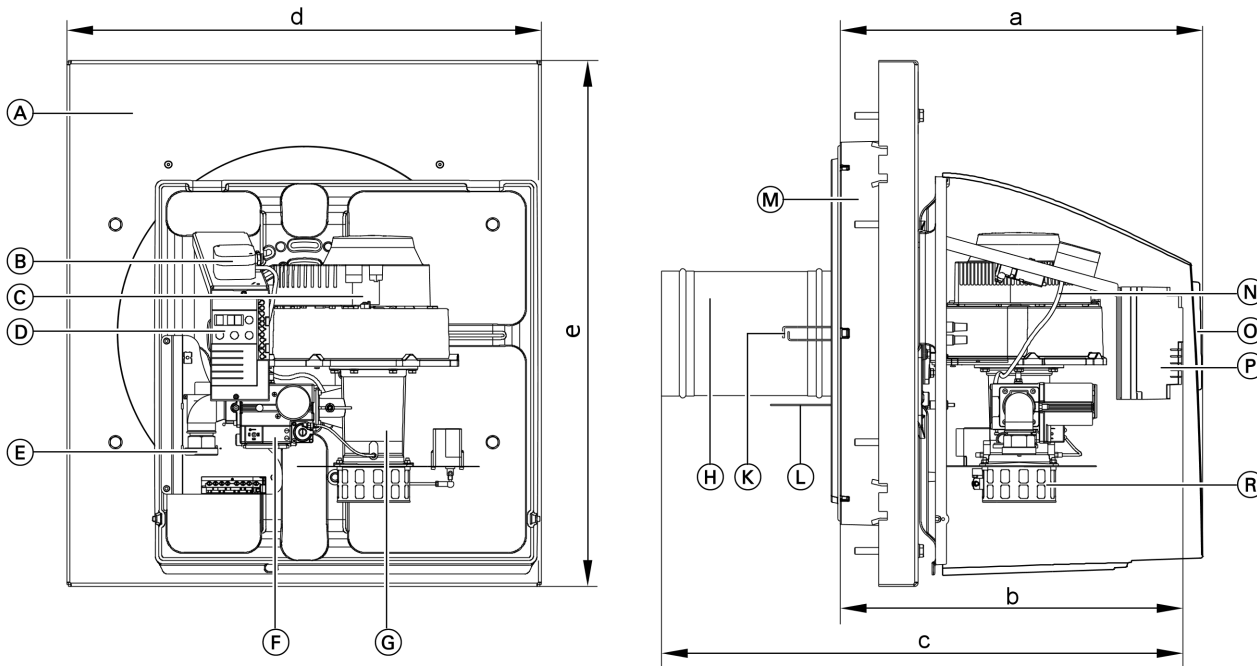
The Vitocrossal 200 is only suitable for fully pumped hot water heating systems.



## Specification, MatriX cylinder burner

### Specification

Rated boiler output	kW	404	503	628
$T_V/T_R$ 50/30 °C				
Burner output, lower/upper*1	kW	127/381	158/474	198/593
Burner type		VM IV-1	VM IV-2	VM IV-3
Product ID		CE-0085 BS 0400		
Voltage	V	230		
Frequency	Hz	50		
Power consumption				
at upper output	W	575	530	880
at lower output	W	80	85	95
Version		Modulating		
<b>Dimensions</b>				
Length (dimension b)	mm	632	632	632
Total length (dimension c)	mm	927	967	1027
Length incl. burner hood (dimension a)	mm	653	653	653
Width (dimension d)	mm	844	844	844
Height (dimension e)	mm	935	935	935
<b>Weight</b>	kg	41	48	50
Burner with combination valve and burner hood				
Gas supply pressure	mbar	20	20	20
Gas connection	R	1¼"	1¼"	1½"
<b>Connection values</b> relative to the max. load with				
– Natural gas E (5.45 kWh/m <sup>3</sup> )	m <sup>3</sup> /h	13.4-40.3	16.7-50.2	21.0-62.8
– Natural gas LL (8.13 kWh/m <sup>3</sup> )	m <sup>3</sup> /h	15.6-46.9	19.4-58.3	24.4-73.0



- (A) Boiler door
- (B) Air pressure switch
- (C) Fan
- (D) Display and programming unit
- (E) Gas supply pipe
- (F) Gas train
- (G) Venturi mixing pipe
- (H) Burner gauze assembly

- (K) Ignition electrodes
- (L) Ionisation electrode
- (M) Thermal insulation block
- (N) Electronic ignition
- (O) Burner hood
- (P) Burner control unit
- (R) Rotary valve damper with servomotor

5822 448 GB

\*1 Corresponds to the rated thermal load of the boiler.

## Delivered condition

Boiler body with fitted mating flanges and gaskets to all connectors and fitted protective crate, plus flue gas header.

- 1 Carton with thermal insulation
- 1 Carton with MatriX cylinder burner
- 1 Carton with burner hood
- 1 Carton containing the boiler control unit and 1 bag with technical documentation
- 1 Product pack (boiler coding card and technical documentation)

## Control unit versions

### For single boiler systems:

- without Vitocontrol control panel
  - Vitotronic 100** (type GC1)  
for operation with a constant boiler water temperature or for weather-compensated operation in conjunction with a control panel (see below) or an external control unit.
  - Vitotronic 200** (type GW1)  
for modulating boiler water temperature without mixer control
  - Vitotronic 300** (type GW2)  
for modulating boiler water temperature with mixer control for up to two heating circuits with mixer
- with Vitocontrol control panel
  - Vitotronic 100 (type GC1) and LON module** (accessories) and  
**Vitocontrol control panel** with Vitotronic 300-K (type MW1S) for weather-compensated operation and mixer control for up to 2 heating circuits with mixer and additional Vitotronic 200-H, type HK1S or HK3S for 1 or up to 3 heating circuits with mixer or  
**Control panel** with external control unit (on site)

### For multi-boiler systems:

- (up to 4 boilers)
- without Vitocontrol control panel
    - Vitotronic 100 (type GC1) and LON module in conjunction with a Vitotronic 300-K** (type MW1)  
for modulating boiler water temperature (one boiler is supplied with the standard controls for a multi-boiler system) and  
**Vitotronic 100 (type GC1) and LON module** for modulating boiler water temperature for each additional boiler in a multi-boiler system
  - with Vitocontrol control panel
    - Vitotronic 100 (type GC1) and LON module**  
for modulating boiler water temperature for each boiler in a multi-boiler system and  
**Vitocontrol control panel** with Vitotronic 300-K (type MW1S) for multi-boiler system, weather-compensated operation and mixer control for up to 2 heating circuits with mixer and additional Vitotronic 200-H, type HK1S or HK3S for 1 or up to 3 heating circuits with mixer or  
**Control panel** with external control unit (on site)

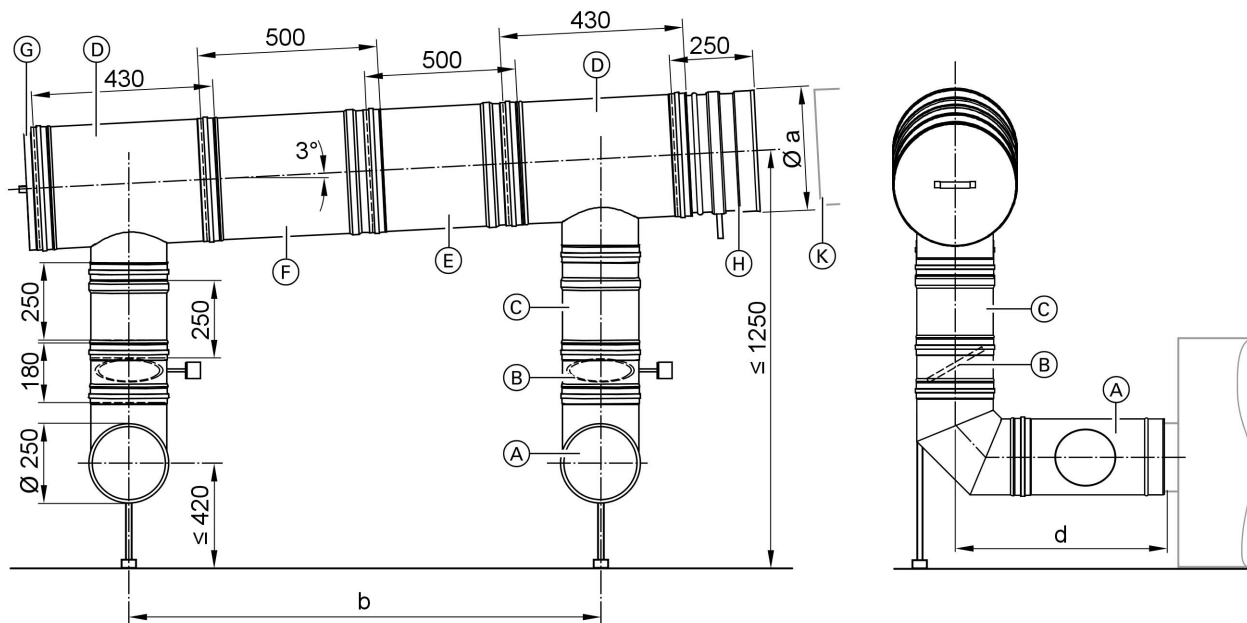


## Boiler accessories

### Stainless steel flue gas header for two-boiler system

Connection to the flue system, optional outlet on the l.h. or r.h. side.

**Example:** (outlet on the r.h. side)



- (A) Boiler flue connection with test ports and inspection aperture
- (B) Motorised flue gas damper
- (C) Sliding element, 250 mm
- (D) Tee connector
- (E) Sliding element, 500 mm

- (F) Longitudinal part 500 mm
- (G) Inspection cover
- (H) Flue pipe with condensate drain
- (K) Flue gas system

#### Dimensions

Internal diameter	mm	300	350	400
a	Ømm	300	350	400
b	mm	1550		
b <sub>max</sub>	mm	1680		
d	mm	703		

#### Selection table for the max. draught 70 Pa

Rated output (kW)	Diameter of the effective vertical flue pipe up to 30 metres (in mm)
2x370	Ø 300
2x460	Ø 350

#### Rated output (kW)

Rated output (kW)	Diameter of the effective vertical flue pipe up to 30 metres (in mm)
2x575	Ø 400

Use a flue pipe with the same diameter as that of the flue gas header.

Secure the boiler flue connection with a floor connector and keep free of load or torque stresses.

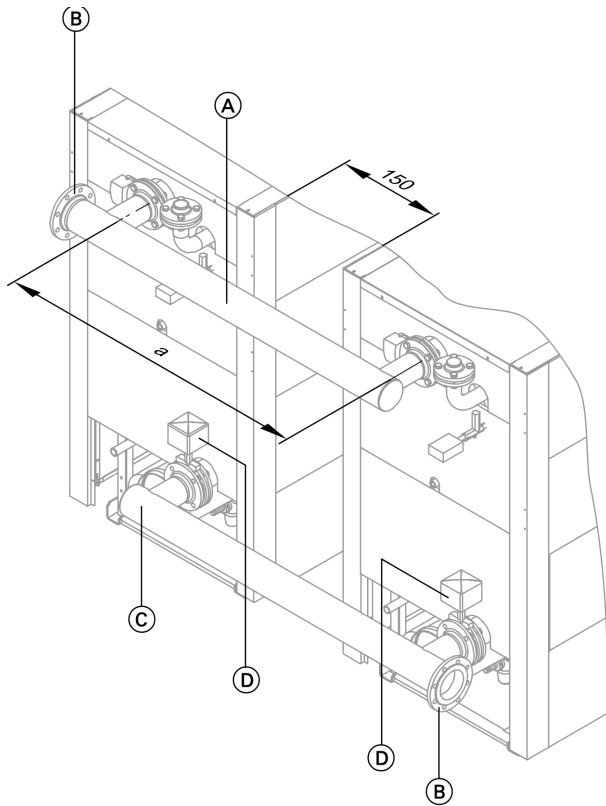
#### Note

Details refer to open flue operation.

## Boiler accessories (cont.)

### Hydraulic system pipework for two-boiler system

Dim. a: 1550 mm



Rated output in kW		Int. dia.
Single boiler	Dual-boiler system	
404	808	DN 100/125
503	1006	
628	1256	

- (A) Flow manifold
- (B) Mating flanges with gaskets
- (C) Return collector
- (D) Motorised butterfly valves

### Additional accessories

See pricelist and "Boiler accessories" datasheet.

### Operating conditions

For water quality requirements, see the technical guide to this boiler.

	Requirements
1. Heating water flow rate	None
2. Boiler return temperature (minimum value)	None
3. Lower boiler water temperature	None
4. Reduced mode	None – total reduction is possible
5. Weekend setback	None – total reduction is possible

### Design information

#### Neutralisation

During condensation an acidic condensate with a pH value of between 3 and 4 is produced. This condensate can be neutralised by processing it through a neutralising system.  
For further information, see the technical guide to this boiler and "Boiler accessories" datasheet.

5822 448 GB

## Design information (cont.)


### Burner adjustment

MatriX cylinder burner tested at operating temperature and adjusted in the factory.

### For further information on design/engineering

For further information regarding this boiler, see the technical guide and "Boiler accessories" datasheet.

## Tested quality

 CE designation according to current EC Directives.



Printed on environmentally friendly,  
chlorine-free bleached paper



Subject to technical modifications.

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