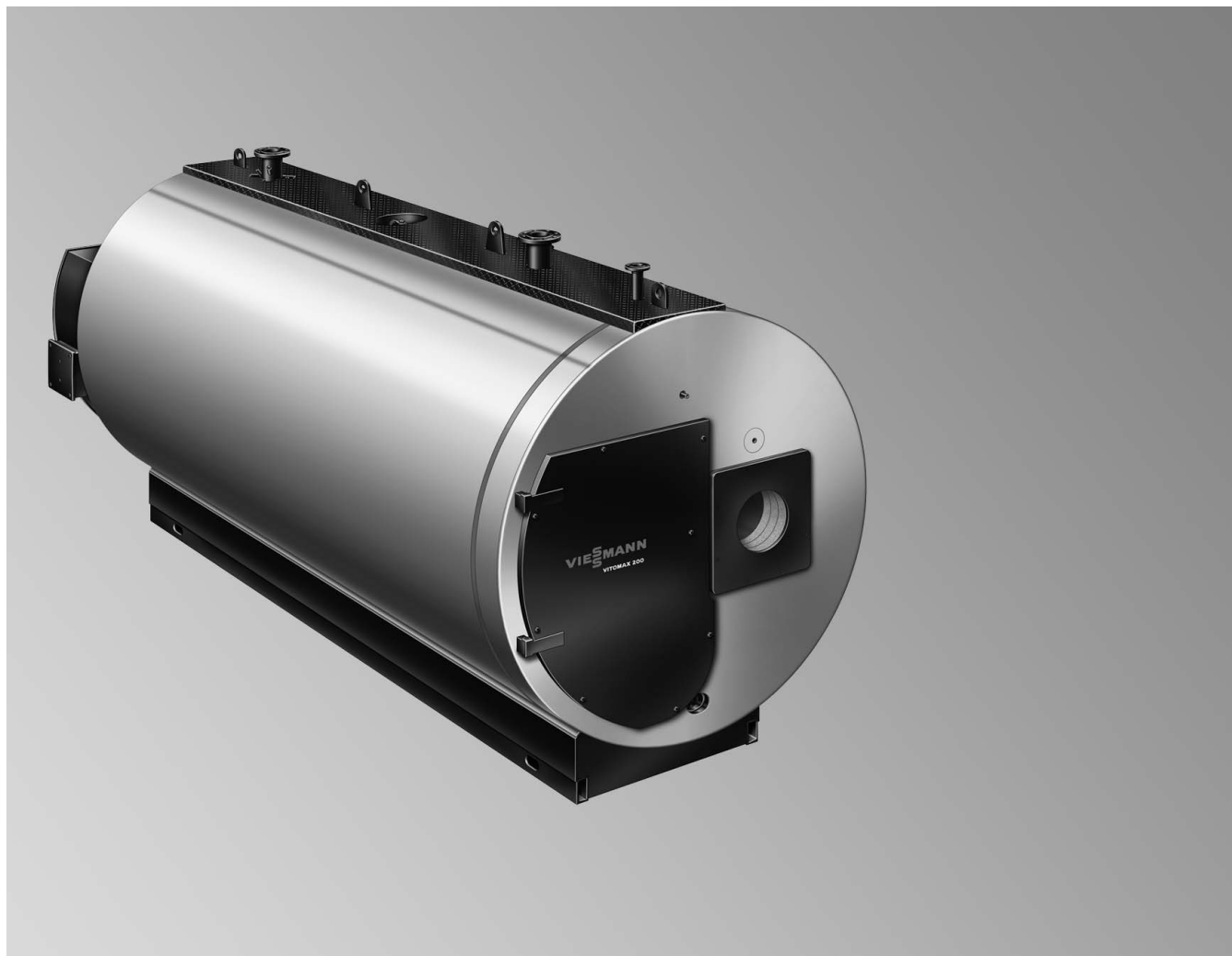


**Datasheet**

Part no.: see pricelist, prices on request

**VITOMAX 200-WS** Type M250

Oil/gas fired hot water boiler

Three-pass boiler

for permiss. flow temperatures (= safety temperatures) up  
to 110 °C

Permissible operating pressure 3 bar

## Specification

### Specification

Rated output	MW	1.75	2.33	2.91	3.49	4.65	5.82	6.98	8.14	9.30	11.63
Rated thermal load	MW	1.86	2.47	3.09	3.71	4.95	6.19	7.42	8.66	9.89	12.37
CE designation		CE-0085									
in accordance with the Gas Equipment Directive											
Permissible flow temperature*1 (= safety temperature)	°C	110	110	110	110	110	110	110	110	110	110
Hot gas pressure drop	Pa	650	700	750	750	800	800	900	950	1000	1050
	mbar	6.5	7.0	7.5	7.5	8.0	8.0	9.0	9.5	10.0	10.5
<b>Shipping dimensions</b>											
Total length	m	4.6	4.6	4.6	5.4	5.6	6.1	6.3	7.1	7.2	7.3
Total width	m	2.0	2.2	2.4	2.5	2.7	2.9	3.1	3.2	3.3	3.7
Total height	m	2.4	2.6	2.8	2.9	3.1	3.3	3.5	3.6	3.7	4.1
<b>Foundations</b>											
Length	m	4.1	4.1	4.2	4.9	5.1	5.4	5.6	6.4	6.5	6.7
Width	m	1.4	1.5	1.6	1.6	1.6	1.9	1.9	2.1	2.3	2.3
Total weight*2	kg	5100	5700	6800	8600	10700	12500	16400	18900	22000	27200
Boiler with thermal insulation											
Combustion chamber diameter	mm	845	965	1083	1066	1166	1294	1382	1382	1475	1623
Combustion chamber length	mm	3560	3560	3635	4400	4600	4940	5160	5930	6030	6200
Content boiler water	m <sup>3</sup>	6.1	7.6	8.7	11.1	14.0	15.9	18.7	22.5	25.5	31.4
<b>Boiler connections</b>											
Boiler flow and return	PN 16 DN	150	200	200	200	250	250	250	300	300	300
Safety valve connector											
– at the boiler, SIV1	PN 16 DN	65	80	80	100	125	125	150	150	150	200
– at the distributor*3, SIV2	PN 16 DN	–	–	–	–	–	–	–	–	–	2 × 100
DHW circulation pipe	PN 16 DN	65	80	80	100	100	125	125	125	150	150
Drain connector	PN 16 DN	40	40	40	40	40	40	50	50	50	50
<b>Flue gas parameters*4</b>											
– Temperature											
– at rated output	°C	150	150	150	150	150	150	150	150	150	150
– at min. rated output	°C	100	100	100	100	100	100	100	100	100	100
– Mass flow rate											
– for natural gas	kg/h	1.50 x rated thermal load in kW									
– for fuel oil EL	kg/h	1.52 x rated thermal load in kW									
– Required draught	Pa/mbar	0	0	0	0	0	0	0	0	0	0
Flue gas connection (internal)	Ø mm	400	440	500	550	600	700	750	800	900	1000
Flue gas connection (external)	Ø mm	408	448	510	560	610	710	760	810	910	1010
Gas content	m <sup>3</sup>	3.2	4.4	5.5	6.8	8.9	12.1	14.4	17.5	20.5	26.3
Combustion chamber and hot gas flues											

\*1 The maximum flow temperature lies approx. 15 K below the permissible flow temperature (= safety temperature).

\*2 Specific variations are possible.

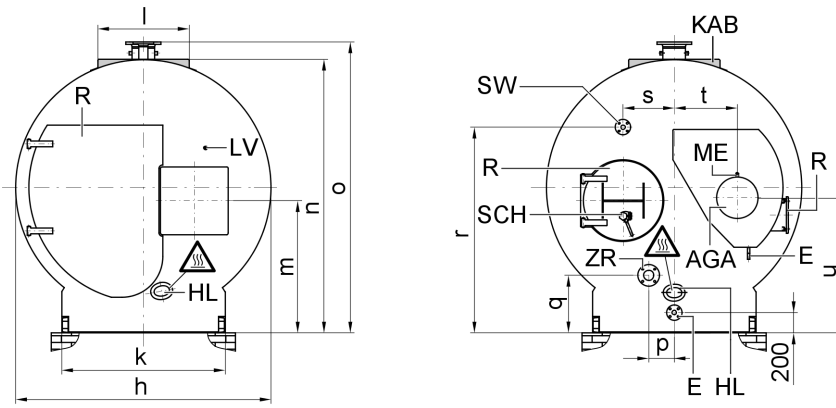
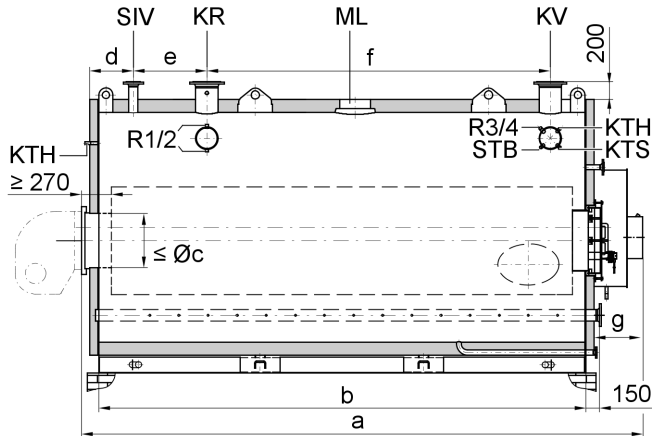
\*3 Distributor for fitting 2 safety valves with lower rated values available as accessory.

\*4 Values for calculating the size of the flue system to DIN 4705 relative to 13 % CO<sub>2</sub> for fuel oil EL and 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 50 % of rated output. Calculate the flue gas mass flow rate accordingly when the partial load differs from that stated above (subject to the burner mode).

## Specification (cont.)



Watch out! Hot surfaces.

AGA Flue outlet (upon request also available as top exit version)	ME Test port R 1/2"
E Drain connector	ML Manhole
HL Hand hole	R Cleaning aperture
KAB Boiler cover	SCH Inspection aperture
KR Boiler return	SIV Boiler connector for safety valve
KTH Fem. connection R 1/2" for boiler thermometer	STB Fem. connection R 1/2" for high limit safety cut-out
KTS Fem. connection R 1/2" for boiler water temperature sensor	SW Feedwater connector
KV Boiler flow	ZR DHW circulation pipe
LV Female test connection R 1/4"	

### Dimensions

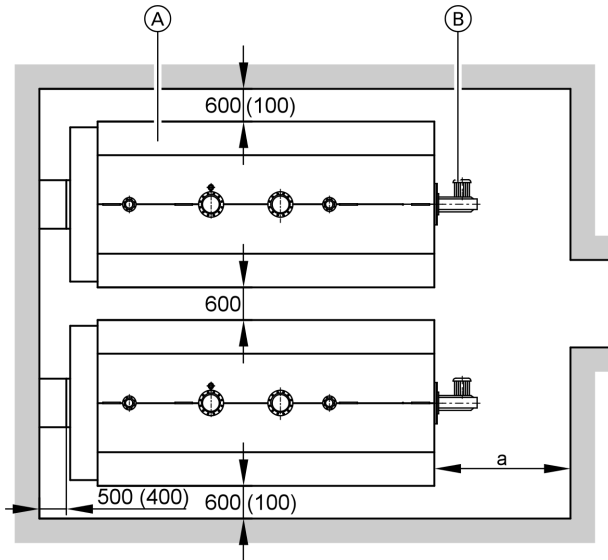
Rated output	MW	1.75	2.33	2.91	3.49	4.70	5.82	6.98	8.14	9.30	11.63
a	mm	4520	4520	4595	5360	5560	6020	6240	7010	7110	7280
b	mm	3830	3830	3905	4670	4870	5210	5430	6200	6300	6470
c	Ø mm	434	534	534	534	602	602	602	602	710	710
d	mm	340	350	350	360	370	370	390	390	420	420
e	mm	850	875	875	925	1050	1050	1150	1220	1330	1420
f	mm	2415	2335	2410	3115	2950	3490	3590	4270	4230	4310
g	mm	325	325	325	325	325	425	425	425	425	425
h	mm	2000	2200	2380	2420	2680	2850	3020	3110	3300	3620
k	mm	1200	1300	1400	1400	1400	1700	1700	1900	2100	2100
l	mm	700	700	800	800	800	900	900	900	1000	1000
m	mm	1160	1235	1330	1360	1510	1610	1675	1705	1825	1975
n	mm	2205	2405	2585	2625	2885	3055	3220	3310	3500	3820
o	mm	2400	2600	2780	2820	3080	3250	3420	3510	3700	4020
p	mm	295	335	240	255	340	335	360	460	465	495
q	mm	605	600	670	640	725	750	765	805	815	855
r	mm	1655	1790	1945	1995	2195	2370	2500	2580	2705	2945
s	mm	400	435	465	495	577	600	640	685	730	815
t	mm	535	610	670	675	770	830	875	890	950	1050
u	mm	1100	1190	1260	1320	1410	1550	1625	1720	1820	2000

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## Specification (cont.)

### Positioning

#### Minimum clearances



To enable convenient installation and maintenance, observe the stated clearance dimensions; maintain the minimum clearances where space is tight (dimensions in brackets).

- Ⓐ Boiler
- Ⓑ Burner

Rated output	MW	1.75	2.33	2.91	3.49	4.65	5.82	6.98	8.14	9.30	11.63
a	mm	3800	3800	3800	4600	4800	5200	5300	6000	6000	6200

Dim. a: This space in front of the boiler is required to enable the withdrawal of the turbulators.

#### Positioning

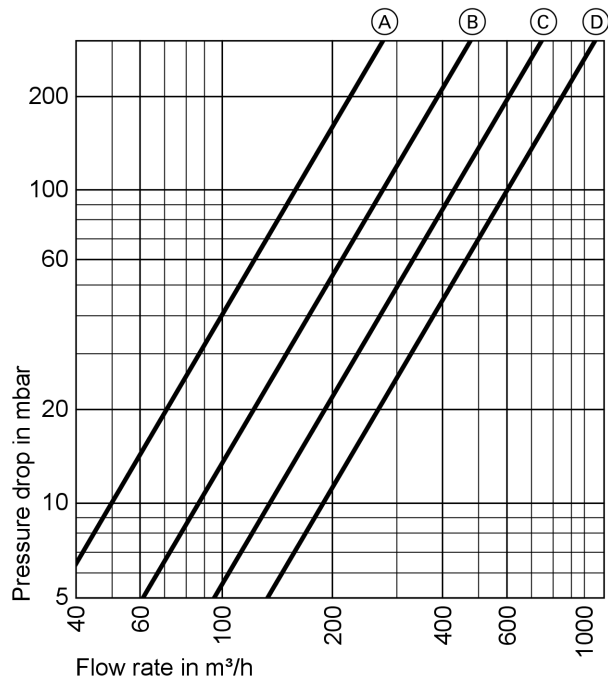
- Avoid air contamination by halogenated hydrocarbons (e.g. as in sprays, paints, solvents and cleaning agents)
- Avoid very dusty conditions
- Avoid high levels of humidity
- Protect against frost and ensure good ventilation

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

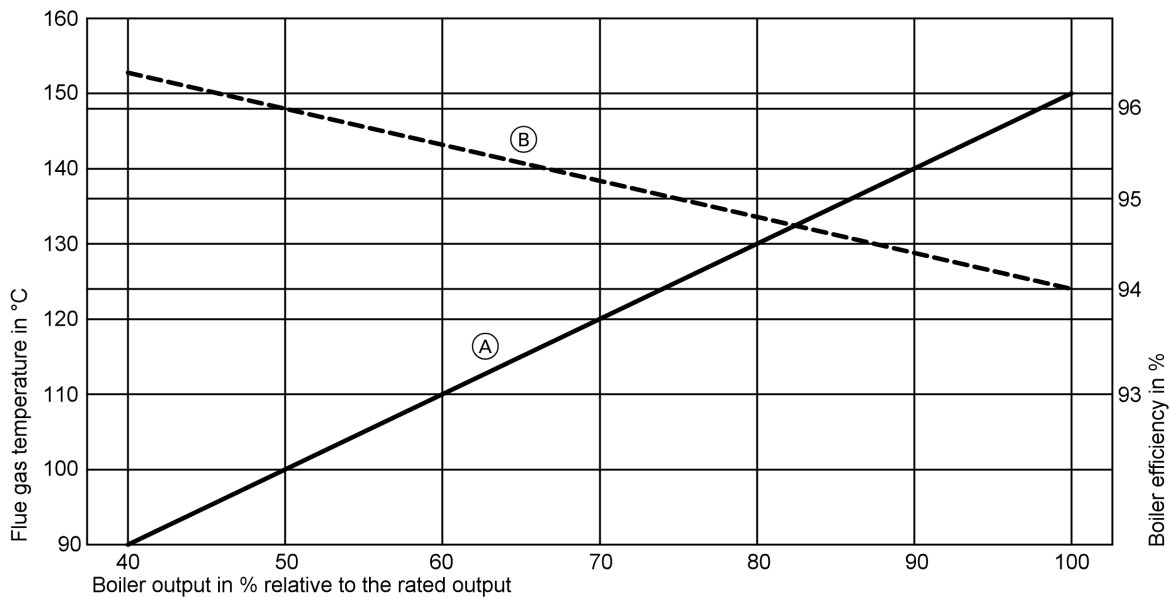


- (A) Boiler flow and return DN 150
- (B) Boiler flow and return DN 200

- (C) Boiler flow and return DN 250
- (D) Boiler flow and return DN 300

### Flue gas temperature and boiler efficiency

Subject to rated boiler output at a boiler water temperature of 80/60 °C and a residual oxygen content in the flue gas of 3 %



- (A) Flue gas temperature in °C
- (B) Boiler efficiency in %

## Delivered condition

Boiler body with burner plate, fitted cleaning door, flue outlet with clean-out aperture, fitted thermal insulation, fitted walk-on cover. With transport protection.  
The cleaning equipment and the combustion chamber sight glass are supplied inside the combustion chamber.

## Control unit versions

### For single boiler systems:

- with burner control panel
  - Vitotronic 100** (type GC1)  
for operation with a constant boiler water temperature or for weather-compensated mode in conjunction with a control panel or an external control unit.
  - Vitotronic 200** (type GW1)  
for modulating boiler water temperature
  - Vitotronic 200** (type GW2)  
for modulating boiler water temperature with mixer control up to 2 heating circuits

### For a single or multi-boiler system:

- with Vitocontrol control panel  
for a constant boiler water temperature or modulating boiler water temperature, boiler sequence control and controlled or uncontrolled heating circuits including DHW heating according to customer requirements

## 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)*1	65 °C
3.	Lower boiler water temperature	75 °C
4.	Two-stage burner operation	None
5.	Modulating burner operation	None
6.	Reduced mode	Not possible
7.	Weekend setback	Not possible

## Information

### Installation of a suitable burner

The burner must be suitable for the respective rated output and the pressure drop on the hot gas side of the boiler (see burner manufacturer's specification).  
Certain types of burners, e.g. atomisers, can necessitate boiler conversions. We therefore recommend checking with the factory that your burner is compatible.  
The material of the burner head must be suitable for operating temperatures of at least 500 °C.

#### Pressure-jet oil burner

The burner must be tested and identified to EN 267 and must conform to EN 12953-7.

#### Pressure-jet gas burner

The burner must be tested to EN 676 and be CE-designated in accordance with Directive 90/396/EEC and must conform with EN 12953-7.

#### Burner adjustment

Adjust the oil or gas throughput of the burner to the rated boiler output.

#### Burner connection

The burner plate can be prepared in the factory on request. For this purpose, please state the burner make and type when ordering. Otherwise, create the necessary blast tube aperture and fixing holes on site in the plain plate supplied.

## Fuels


Oil: Fuel oil EL to DIN 51603. These boilers are not approved for operation with fuel oil S (heavy oil).  
Gas: Natural gas and LPG in accordance with DVGW Code of Practice G260/I and II or in accordance with local regulations.  
Alternative fuels on request.

## For further information on design/engineering

See the technical guide to this boiler.

\*1 The technical guide system examples contains relevant examples for the installation of a return temperature raising facility.

## 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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