VIESMANN

VITOMAX 200-WS

Rated heating output 1.75 to 11.63 MW

Datasheet

VITOMAX 200-WS Type M250

Oil/gas low pressure hot water boiler
CE designation in accordance with the Gas Appliances Directive
Permissible operating pressure 3 bar

5822 543 GB 5/2013

Specification

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Rated heating output	**MW**	**1.75**	**2.33**	**2.91**	**3.49**	**4.65**	**5.82**	**6.98**	**8.14**	**9.30**	**11.63**
Rated heat input	MW	1.86	2.47	3.09	3.71	4.95	6.19	7.42	8.66	9.89	12.37
CE designation		see page 6									
Permiss. flow temperature[*1] (= safety temperature)	°C	110									
Pressure drop on the hot gas side	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
Shipping dimensions											
- Total length	m	4.6	4.6	4.7	5.5	5.7	6.1	6.3	7.1	7.2	7.4
- Total width	m	2.1	2.3	2.5	2.5	2.8	2.9	3.1	3.2	3.4	3.7
- Total height	m	2.5	2.7	2.9	2.9	3.2	3.3	3.5	3.6	3.8	4.1
Foundation											
- 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
Dry weight[*2] Boiler with thermal insulation	t	5.1	5.7	6.8	8.6	10.7	12.5	16.4	18.9	22.0	27.2
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
Boiler water **content**	m^3	6.1	7.6	8.7	11.1	14.0	15.9	18.7	22.5	25.5	31.4
Connections											
		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	PN 40 DN	40	40	40	40	40	40	-	-	-	-
	PN 16 DN	-	-	-	-	-	-	50	50	50	50
Flue gas parameters[*4]											
Temperature											
- at rated heating output	°C	150									
- at min. heating output	°C	100									
Mass flow rate											
- for natural gas	t/h	1.5225 x rated heat input in MW									
- for fuel oil EL	t/h	1.5 x rated heat input in MW									
Required draught	Pa/mbar	0									
Flue gas connection											
- internal	Ø mm	400	440	500	550	600	700	750	800	900	1000
- external	Ø mm	408	448	510	560	610	710	760	810	910	1010
Flue gas volume Combustion chamber and hot gas flues	m^3	3.2	4.4	5.5	6.8	8.9	12.1	14.4	17.5	20.5	26.3

*[*1] The maximum achievable flow temperature is approx. 15 K below the permissible flow temperature (= safety temperature).*

*[*2] Deviations are possible, subject to order.*

*[*3] Distributors for fitting 2 safety valves with smaller nominal diameters are available as accessories.*

*[*4] Calculation values for sizing the flue system to DIN 4705 relative to 13 % CO_2 for fuel oil EL and 10 % CO_2 for natural gas.*
Flue gas temperatures captured as gross values at 20 °C combustion air temperature.
The details for partial load refer to 50 % of the rated heating output. Calculate the flue gas mass flow rate accordingly if the partial load differs from that stated (subject to operating mode).

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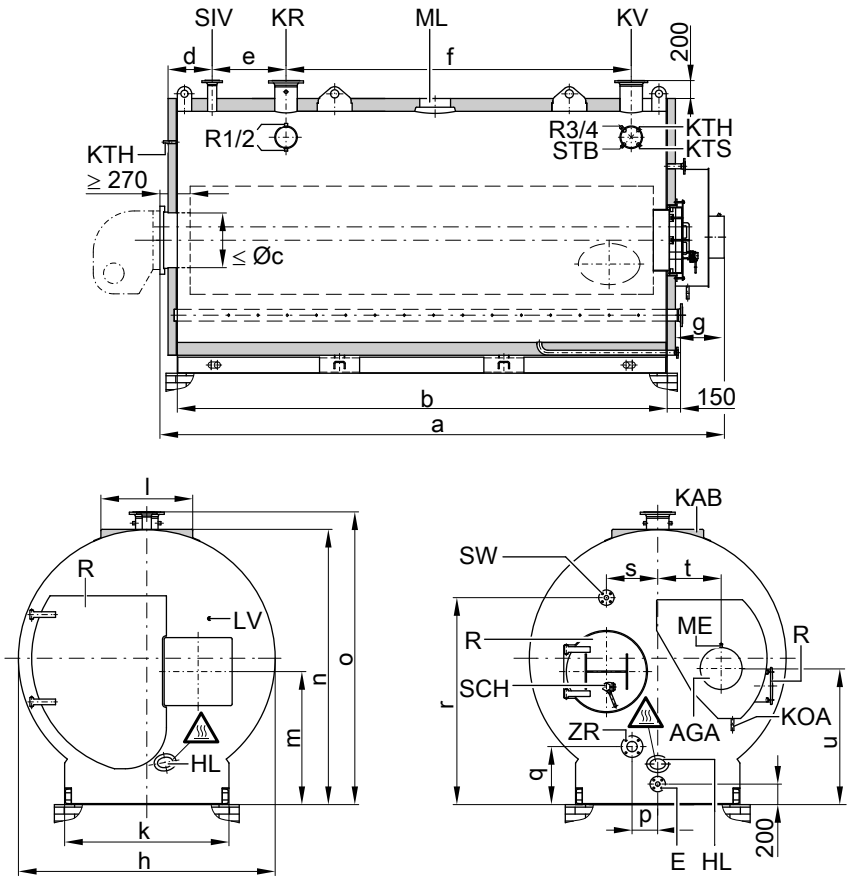
Specification (cont.)



⚠ Caution – hot surface!

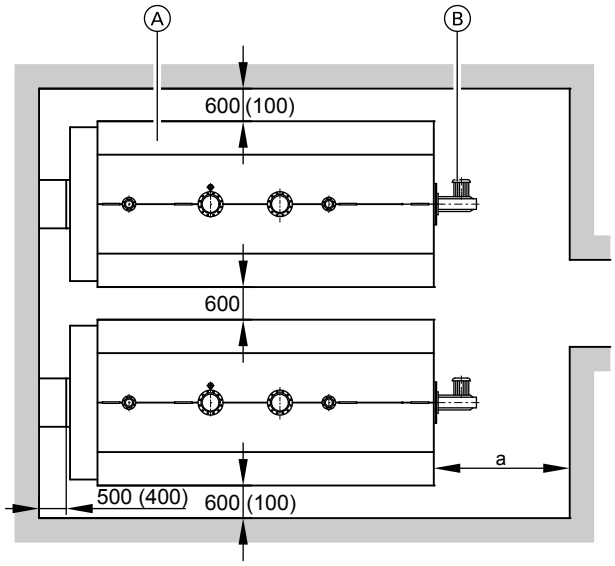
AGA Flue outlet (upon request also available as top exit version)
E Drain connector
HL Handhole
KAB Boiler cover
KOA Condensate drain R ½
KR Boiler return
KTH Fem. connection R ½ for boiler thermometer
KTS Fem. connection R ½ for boiler water temperature sensor
KV Boiler flow
LV Fem. test connection R ¼
ME Test port R ½
ML Manhole
R Cleaning aperture
SCH Inspection port
SIV Boiler connector for safety valve
STB Fem. connection R ½ for high limit safety cut-out
SW Feedwater connector
ZR DHW circulation pipe

Dimensions

Rated heating output	MW	1.75	2.33	2.91	3.49	4.65	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

Specification (cont.)

Recommended minimum clearances



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

Ⓐ Boiler
Ⓑ Burner

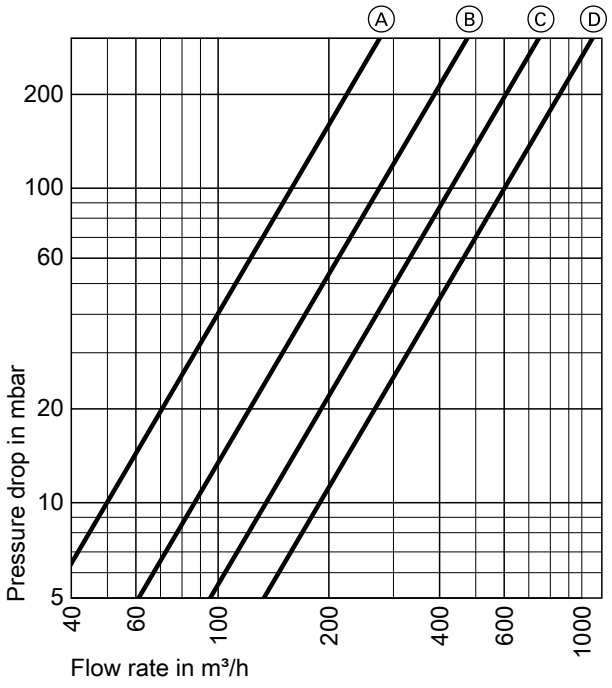
Rated heating output	MW	1.75	2.33	2.91	3.49	4.65	5.82	6.98	8.14	9.30	11.63
a	mm	3800	3800	3800	4600	4800	5200	5300	6000	6000	6200

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

Installation conditions
- Avoid air contamination by halogenated hydrocarbons (e.g. as contained in sprays, paints, solvents and cleaning agents)
- Avoid very dusty conditions
- Avoid 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.

Pressure drop on the heating water side



Boiler flow and return
Ⓐ DN 150
Ⓑ DN 200
Ⓒ DN 250
Ⓓ DN 300

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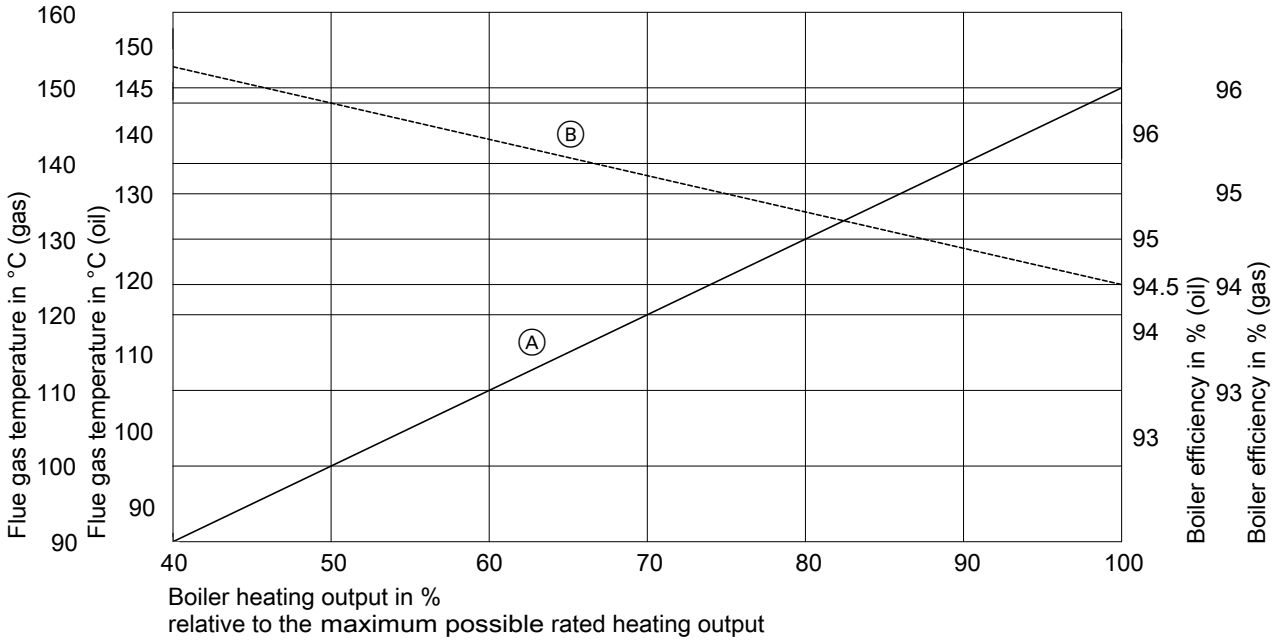
Specification (cont.)

Flue gas temperature and boiler efficiency

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



Ⓐ Flue gas temperature in °C
Ⓑ Boiler efficiency in % (lower limits averaged across all boiler sizes)

Delivered condition

Boiler shell with burner plate, fitted cleaning door, flue outlet with cleaning aperture, fitted thermal insulation, fitted walk-on boiler cover.
With transport protection.

The cleaning equipment and the combustion chamber sight glass are supplied inside the combustion chamber.
(Lower limits averaged across all boiler sizes.)

Control unit versions

For single boiler systems:

With **Vitotronic 100** burner control panel
- For operation with a constant boiler water temperature or for a modulating boiler water temperature in conjunction with a control panel or an external control unit

With **Vitotronic 200** burner control panel
- For modulating boiler water temperature
- For modulating boiler water temperature with mixer control up to two 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

		Requirements
1.	Heating water flow rate	None
2.	Boiler return temperature (minimum value)*5	65 °C
3.	Lower boiler water temperature	75 °C
4.	Two-stage burner operation	None
5.	Modulating burner operation	None

		Requirements
6.	Reduced mode	Not possible
7.	Weekend setback	Not possible

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

*5 *The technical guide (system examples) contains a relevant system example for the installation of a return temperature raising facility.*

Design information

Installation of a suitable burner

The burner must be suitable for the respective rated heating output and the pressure drop on the hot gas side of the boiler (see burner manufacturer's specification).
Burners with a special design, e.g. rotary 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 gas burner
The burner must be tested to EN 676 and be CE-designated in accordance with Directive 90/396/EEC and must conform to EN 12953-7.

Pressure-jet oil burner
The burner must be tested and designated to EN 267 and must conform to EN 12953-7.

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

Burner connection
On request, the burner plate can be prepared at the factory. For this, please state the burner make and type when ordering. Otherwise, create the blast tube aperture and fixing holes on site in the blank 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 G 260/I and II or in accordance with local regulations. Alternative fuels on request.

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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