VIESMANN

VITOMAX 200-HW

Heating output 8.0 to 16.5 MW

Datasheet

VITOMAX 200-HW Type M74A

High pressure hot water boilers
For permissible flow temperatures up to 150 °C
Compliant with the requirements of the
Pressure Equipment Directive 97/23/EC and the
TRD regulations, in conjunction with the
trade association agreements
Permissible operating pressure 6, 10 and 16 bar

5822 531 GB 5/2013

Specification - boiler general (for burner selection)

Note

All diagrams are schematic.

Tab. 1

Boiler size				1	2	3	4	5
Permissible combustion heating output[*1] to EN 12953-3								
- for natural gas			MW	8.82	11.00	13.15	15.39	18.15
- for fuel oil EL			MW	8.42	9.30	11.00	12.80	14.00
Length				**Combustion chamber dimensions**				
- Flame tube	a		mm	4830	5330	5820	6250	6750
- Reversing chamber	b		mm	500				
Diameter								
- Smooth pipe, internal	d1	6 bar	∅ mm	1145	1218	1316	1462	1608
		10 bar	∅ mm	1135	1208	-	-	-
- Corrugated pipe, internal	d1	10 bar	∅ mm	-	-	1300	1450	1600
		16 bar	∅ mm	1125	1200	1275	1425	1565
- Corrugated pipe, average	d2	10 bar	∅ mm	-	-	1350	1525	1650
		16 bar	∅ mm	1175	1250	1350	1500	1650
				Burner connections				
- Max. flame head diameter	c		∅ mm	715	715	815	915	1015
- Minimum flame head length	e		mm	360				
				Flame tube volume				
- Flame tube (average)			m³	4.89	6.11	7.73	10.32	13.57
- Flame tube plus reversing chamber			m³	6.28	7.73	9.61	12.53	16.21

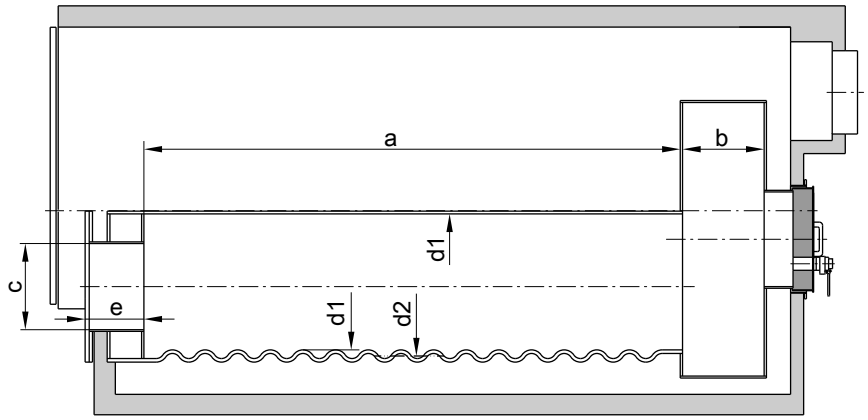


Fig. 1

Note

The type of flame tube depends on the pressure stage employed. Product-dependent tolerances are not taken into consideration.

Tab. 2 Max. pressure drop on the flue gas side

Boiler size		1	2	3	4	5
- for natural gas	mbar	11.9	13.1	16.3	14.5	16.3
- for fuel oil EL	mbar	9.8	8.2	10.2	8.8	8.3

*[*1] The maximum boiler output varies subject to the required emission values, the pressure stage and the fuel used. Agreement with the burner manufacturer is essential.*

Specification - boiler

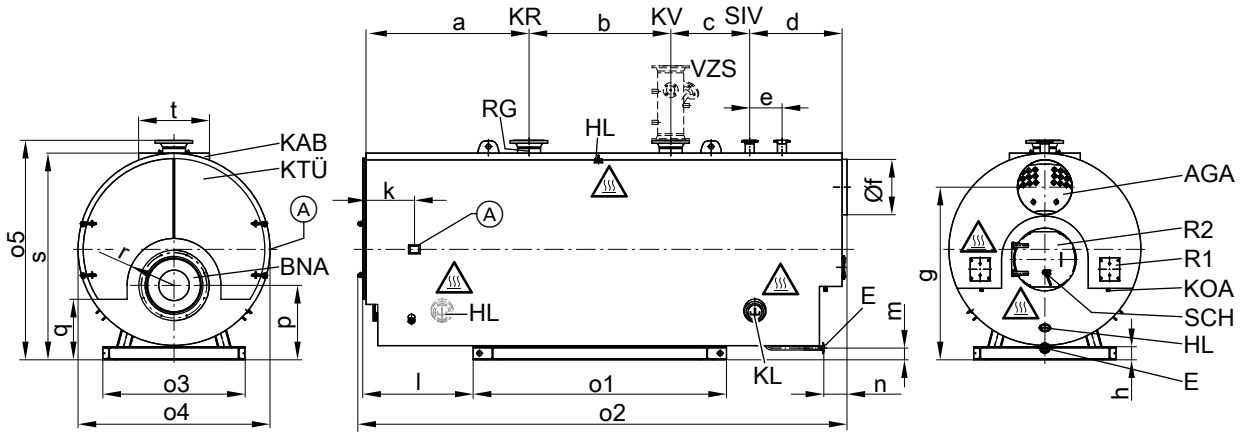


Fig. 2 ⚠ Caution – hot surface!

Ⓐ Type plate
AGA Flue outlet
E Drain outlet
BNA Burner connection
HL Handhole 100 x 150 mm
KAB Boiler cover
KL Headhole 220 x 320 mm
KOA Condensate drain R 1½
KR Boiler return
KTÜ Boiler door
KV Boiler flow
R1 Cleaning aperture, flue gas collector
R2 Combustion chamber cleaning aperture
RG Two female connections R ½ for additional control equipment
SCH Inspection port
SIV Safety valve connector
VZS Intermediate flow piece as accessory (required for ≥ 120 °C)

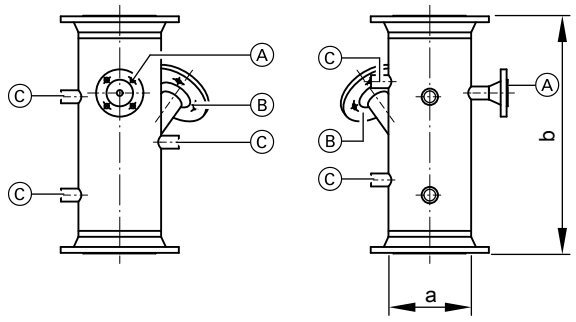
Tab. 3 Boiler dimensions*6

Boiler size		1	2	3	4	5
a	mm	2145	2350	2530	2690	2855
b	mm	1900	2050	2200	2400	2650
c	mm	982	1167	1227	1337	1462
d	mm	1285	1285	1435	1485	1485
e	mm	500	500	500	500	500
f*3	∅ mm	700	800	850	950	1000
g	mm	2365	2550	2680	2930	3150
h	mm	200	200	200	240	280
k	mm	710	750	750	790	830
l	mm	1430	1595	1715	1805	1910
m	mm	100	100	100	100	100
n	mm	310	310	360	410	410
o1	mm	3435	3685	3935	4265	4635
o2	mm	6516	7056	7596	8116	8656
o3	mm	2050	2140	2210	2450	2720
o4	mm	2670	2840	2985	3200	3475
o5	mm	3090	3260	3405	3660	3975
p	mm	1052	1090	1154	1271	1442
q	mm	915	910	935	1015	1145
r	mm	625	660	725	800	875
s	mm	2895	3065	3210	3465	3780
t	mm	1000	1000	1100	1100	1200

*6 *Nominal dimensions, subject to modification.*
*3 *Internal diameter, for external diameter: +10 mm*

Specification - boiler (cont.)

Intermediate flow piece (order separately)



a	DN	125	150	200	250	300	350	400
b	mm	500	500	500	550	550	600	600

Fig. 3

Ⓐ Connector for fitting assembly (pressure regulator, pressure limiter and pressure gauge) - DN 20 PN 40
Ⓑ Connector for water level limiter electrodes - DN 50 PN 40
Ⓒ Female connections for thermometer, sampling valve and other control equipment 5 x R ½

Tab. 4 Boiler

Boiler size					1	2	3	4	5
Permissible combustion heating output[*1]									
- for natural gas				MW	8.82	11.00	13.15	15.39	18.15
- for fuel oil EL				MW	8.42	9.30	11.00	12.80	14.00
CE designation					see "Tested quality", page 6				
Permiss. flow temperature[*4]									
- for perm. operat. pressure	6 bar			°C	145				
	10 bar			°C	150				
	16 bar			°C	150				
Boiler return temperature (minimum value)[*5]				°C	65				
Shipping dimensions (incl. packaging)									
- Total length				m	6.60	7.10	7.65	8.15	8.70
- Total width				m	2.70	2.90	3.00	3.25	3.50
- Total height				m	3.10	3.30	3.45	3.70	4.00
Dry weight[*6] - Boiler with thermal insulation									
- for perm. operat. pressure	6 bar			t	15.1	19.2	22.8	27.8	35.8
	10 bar			t	17.7	22.7	24.8	31.4	39.8
	16 bar			t	20.5	26.0	30.2	38.4	46.4
Boiler water content				m^3	15.3	18.7	22.2	26.6	33.8
Boiler connections					**Boiler flow and return**				
- for perm. operat. pressure	6 and 10 bar	Temperature spread	40 K	PN 16 DN	200	200	250	250	250
			30 K	PN 16 DN	200	250	250	300	300
			20 K	PN 16 DN	250	300	350	350	400
- for perm. operat. pressure	16 bar	Temperature spread	40 K	PN 25 DN	200	200	250	250	250
			30 K	PN 25 DN	200	250	250	300	300
			20 K	PN 25 DN	250	300	350	350	400
					Safety valve connector				
- for perm. operat. pressure	6 bar			PN 40 DN	100	100	100	125	150
	10 bar			PN 40 DN	65	80	80	100	100
	16 bar			PN 40 DN	65	65	65	80	80
Drain outlet				PN 40 DN	50				
Flue gas mass flow rate - for natural gas				t/h	1.5225 x combustion output in MW				
- for fuel oil EL				t/h	1.5 x combustion output in MW				
Flue gas volume				m^3	10.5	13.4	16.5	21.5	27.5

*[*1] The maximum boiler output varies subject to the required emission values, the pressure stage and the fuel used. Agreement with the burner manufacturer is essential.*
*[*4] The maximum achievable flow temperature is approx. 15 K below the permissible flow temperature (= safety temperature).*
*[*5] During the combustion of fuel oil S according to DIN 51603-5 the average boiler water temperature must be at least 90 °C. Use of fuel oil S with sizes 1 and 2 is only possible with special accessories.*
*[*6] Deviations of up to +10 % are possible, subject to order.*

Specification - boiler, general

Recommended minimum clearances

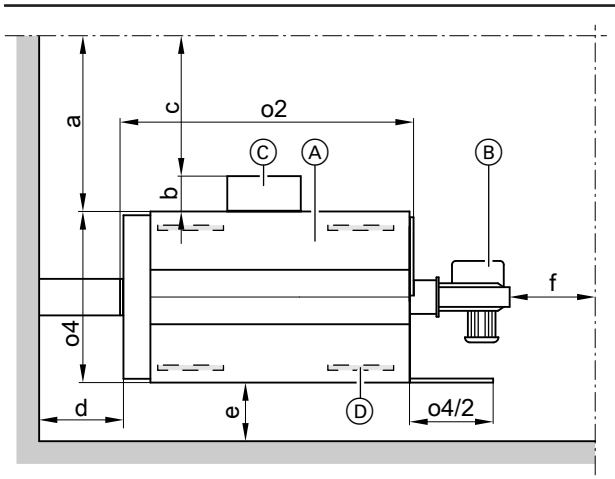


Fig. 4

Ⓒ Regulating and control system
Ⓓ Anti-vibration boiler supports (option)
a Control panel, not fitted
b Control panel depth
c Control panel, fitted
d,e,f Miscellaneous clearances
o2, o4 Max. length, max. width (see Table 3)

a/b/c	mm	≥1000/≥500/≥800
d/e/f[*7]	mm	≥500/≥300/≥500

Observe the given dimensions to **ensure easy installation and maintenance**. Where space is tight, only the minimum clearances must be maintained. Check clearances in accordance with the regulations applicable at the installation site, subject to fitted equipment (accessories).

Ⓐ Boiler
Ⓑ Burner

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
- Install on a level surface

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.

Delivered condition

- Boiler shell with burner connection flange and burner plate supplied
- Fitted boiler doors
- Bolted down cleaning cover
- Fitted thermal insulation and thermally insulated flue gas collector
- Fitted load-bearing boiler cover
- Turbulators (if installed)
- Turbulator extractor (if turbulators are installed)
- Packaging

Boiler accessories (optional)

- Flue gas/water heat exchangers
- Regulating and control systems
- Safety equipment
- Burner
- Platform
- Intermediate flow piece as an accessory (required for ≥ 120 °C)
- Valves/fittings

Operating conditions

Note
For water quality requirements, see the operating and service instructions.

[*7] ***For easy removal of the turbulators (if installed) and for cleaning purposes, we recommend the following:*** *leave one boiler length (o2) of space in front of the boiler door.*

Engineering information

Mounting a suitable burner

Note
See the burner manufacturer's specification.

- The burner must be suitable for the relevant rated heating output and the pressure drop on the hot gas side of the boiler.
- The material of the burner head must be suitable for operating temperatures of at least 500 °C.

Note
Burners with a special design, e.g. rotary atomisers, can hinder the opening of the cleaning doors. We therefore recommend checking with the factory that your burner is compatible.

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

Pressure-jet gas burner
- The burner must be tested to EN 676 and CE-designated in accordance with Directive 2009/142/EC.

Burner connection
On request, the burner plate can be prepared at the factory. For this, please state the burner make and type when ordering if the burner is not to be provided by us. Otherwise, create the blast tube aperture and fixing holes on site in the blank plate supplied.

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

Fuels

Oil
- Fuel oil EL to DIN 51603 part 1.
- Fuel oil S or SA to DIN 51603 part 3, 5.
  When using fuel oil S or SA, different output data (rated heating output, flue gas temperature, efficiency) may result.

Gas
- Natural gas, town gas and LPG according to DVGW Code of Practice G 260/I and II or local regulations.

(Alternative fuels on request.)

Tested quality

CE designation according to current EC Directives.

Subject to technical modifications.

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