

Datasheet

Part no.: see pricelist, price upon request

Not suitable for sizing the boiler. For this, see the separate technical guide.



File in:
Vitotec folder, register 22



VITOMAX 200 HW Type M238

Oil/gas fired high pressure hot water boiler
in accordance with the requirements of the EC Pressure
Equipment Directive and the TRD code of practice
Three-pass boiler
Permissible operating pressure 6 to 25 bar

Specification

Specification

Boiler size		1	2	3	4	5	6	7	8
Combustion output to EN 12953-3 for operation with natural gas	MW	4.00	5.10	6.80	9.05	11.30	13.55	15.75	18.20
Combustion output to EN 12953-3 for operation with fuel oil	MW	4.00	5.10	6.80	8.90	9.80	11.00	12.80	14.00
CE designation		in accordance with the Pressure Equipment Directive							
Permissible flow temperature*1 (= safety temperature) for permiss. operating pressure	6 bar °C 8 bar °C 10 bar °C 13 bar °C 16 bar °C 18 bar °C 20 bar °C 22 bar °C 25 bar °C					145 155 165 175 185 190 195 200 205			
Flue gas pressure drop for operation with natural gas	mbar	12.0	11.5	13.5	9.1	10.9	11.7	13.3	15.8
Flue gas pressure drop for operation with fuel oil	mbar	12.0	11.5	13.5	8.8	7.8	7.5	8.5	9.0
Shipping dimensions									
Total length	mm	5200	5700	6400	7100	7600	8200	8700	9200
Total width	mm	2600	2700	2900	3200	3300	3500	3600	3800
Total height	mm	3000	3100	3300	3500	3700	3800	4000	4200
Total weight*2 Boiler with thermal insulation for permiss. operating pressure	6 bar t 8 bar t 10 bar t 13 bar t 16 bar t 18 bar t 20 bar t 22 bar t 25 bar t	9.1 10.2 11.2 12.2 13.2 14.2 15.2 16.2 17.3	11.1 12.3 13.5 14.8 16.0 17.2 18.5 19.7 20.9	14.0 15.6 17.1 18.7 20.2 21.8 23.4 24.9 26.5	19.1 21.2 23.3 25.4 27.5 29.7 31.8 33.9 36.0	22.8 25.3 27.9 30.4 32.9 35.5 38.0 40.5 -	28.1 31.3 34.4 37.5 40.6 43.8 46.9 50.0 -	32.0 35.6 39.2 42.7 46.3 49.8 53.4 - -	38.0 42.2 46.4 50.6 54.9 59.1 - - -
Content boiler water	m ³	10.5	12.8	16.0	22.0	26.0	30.0	35.0	40.0
Boiler connections Boiler flow and return*3 at rated output*4 and temperature spread	20 K DN 30 K DN 40 K DN	200 150 125	200 150 150	250 200 150	250 200 200	300 250 200	350 250 250	350 300 250	400 300 250
Safety valve connector for permiss. operating pressure	6 bar PN 40 DN 8 bar PN 40 DN 10 bar PN 40 DN 13 bar PN 40 DN 16 bar PN 40 DN 18 bar PN 40 DN 20 bar PN 40 DN 22 bar PN 40 DN 25 bar PN 40 DN	65 50 50 40 40 40 40 32 32	65 65 65 50 50 40 40 40 40	80 80 65 65 50 50 50 50 40	100 80 80 65 65 50 50 50 50	100 100 80 80 65 65 65 65 -	100 100 100 80 80 65 65 -	125 100 100 100 80 80 80 - -	150 125 100 100 80 80 - - -
Flue gas connection	Ext. Ø mm Int. Ø mm	510 500	610 600	650 640	760 750	810 800	910 900	1010 1000	1110 1100
Combustion chamber volume (flame tube and reversing chamber)	m ³	2.55	3.34	4.61	5.96	7.36	9.38	12.37	15.93

Information regarding the combustion output:
The maximum boiler output varies subject to the required emission values, the pressure stage and the fuel used.
Check with the burner manufacturer.

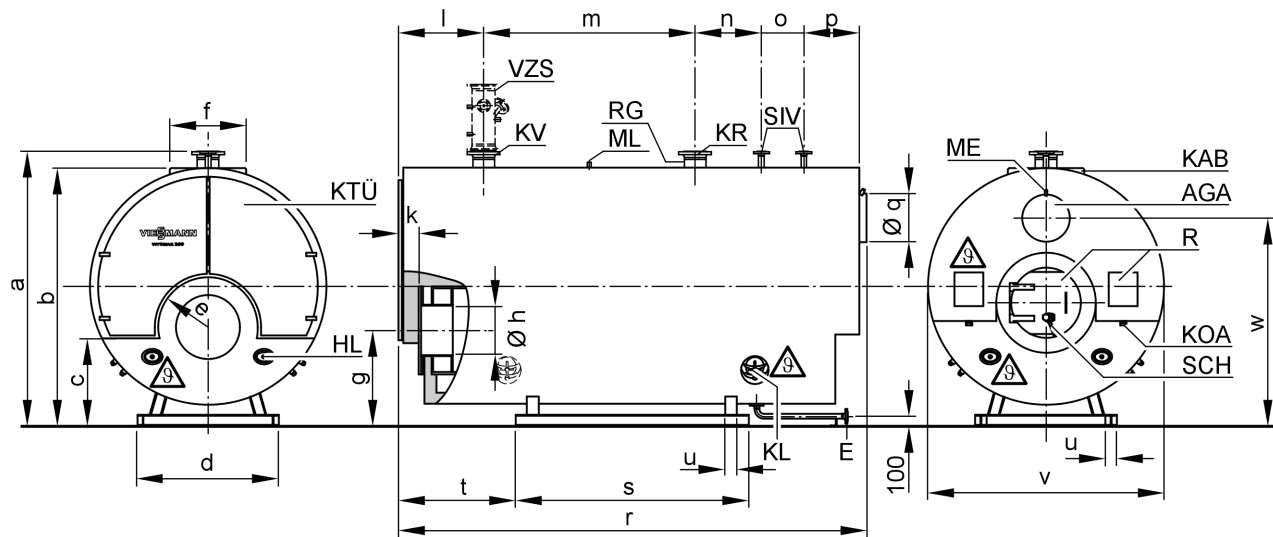
*1 The maximum achievable flow temperature is approx. 15 K below the permissible flow temperature (= safety temperature).

*2 Specific variations are possible.

*3 For boilers up to 10 bar, the flange connections are PN 16, from 13 to 18 bar they are PN 25 and from 20 to 25 bar they are PN 40.

*4 Alternative internal diameters are possible when the output is adjusted.

Specification (cont.)



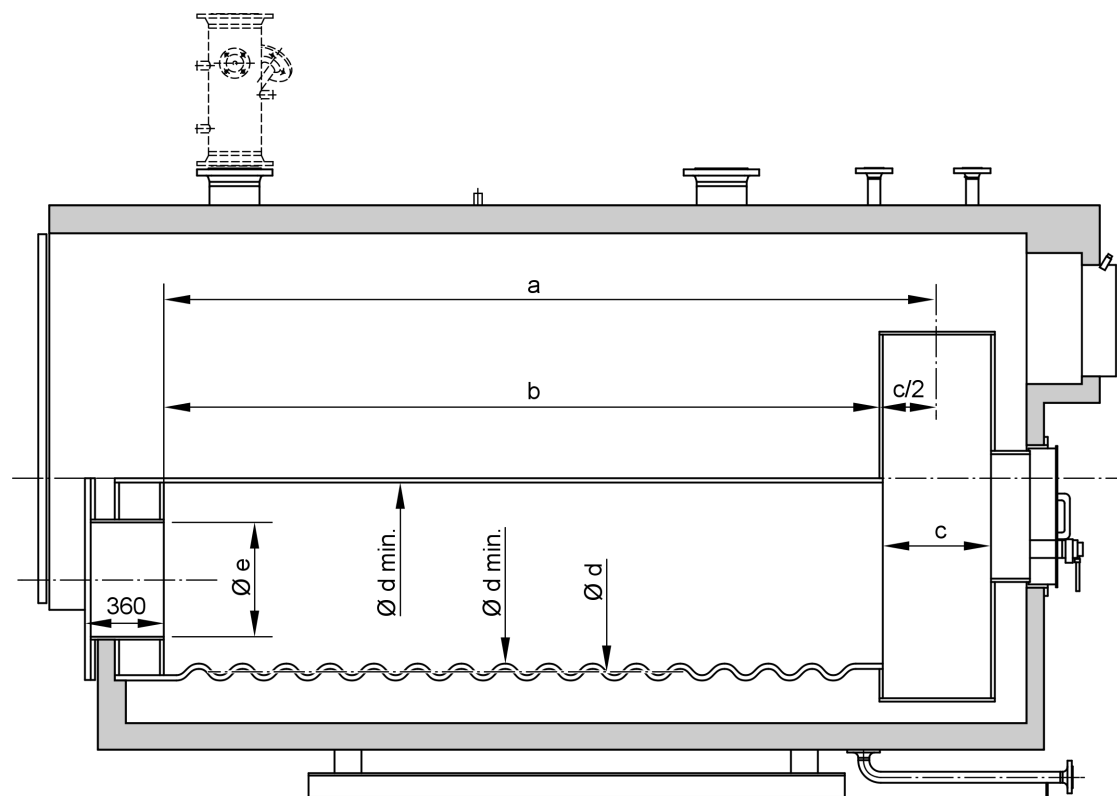
Watch out! Hot surfaces.

- | | |
|-----------------------------------|---|
| AGA Flue gas connection | KV Boiler flow |
| E Connector DN 40 PN 40 for drain | ME Female test connection R ½" |
| HL Hand hole | ML Manhole |
| KAB Boiler cover | R Cleaning aperture |
| KL Head hole | RG 2 fem. connections R ½" for additional control equipment |
| KOA Condensate drain R 2" | SCH Inspection aperture |
| KR Boiler return | SIV Safety valve connector |
| KTÜ Boiler door | VZS Intermediate flow piece as accessory |

Dimensions*1

Boiler size		1	2	3	4	5	6	7	8
a	mm	2900	3025	3175	3450	3600	3750	3975	4175
b	mm	2740	2865	3015	3290	3440	3590	3815	4015
c	mm	860	900	900	825	875	880	940	1055
d	mm	1500	1900	2000	2250	2400	2400	2750	2850
e	mm	475	515	565	595	640	690	765	840
f	mm	800	800	800	900	900	1000	1000	1100
g	mm	1010	1075	1125	1165	1200	1250	1375	1450
h	Ø mm	520	590	590	698	698	698	918	993
k	mm	220	225	245	265	275	285	295	305
l	mm	850	960	1080	1100	1110	1420	1430	1440
m	mm	2237	2287	2537	3137	3507	3537	3687	4037
n	mm	700	950	1200	1250	1280	1500	1800	1800
o	mm	450	450	450	450	500	500	500	550
p	mm	660	760	810	860	910	960	1060	1110
q	Ext. Ø mm	510	610	650	760	810	910	1010	1110
q	Int. Ø mm	500	600	640	750	800	900	1000	1100
r	mm	4950	5460	6130	6850	7360	7970	8530	8990
s	mm	2450	2775	3195	3520	3770	4045	4510	4735
t	mm	1245	1320	1430	1615	1750	1895	1900	2020
u (width boiler saddle profile IPB)	mm	120	160	200	200	200	200	280	280
v	mm	2510	2625	2775	3050	3200	3410	3525	3725
w	mm	2200	2320	2470	2740	2825	2985	3230	3375

Specification (cont.)



Boiler size			1	2	3	4	5	6	7	8
			maximum combustion output							
Natural gas	MW		4.00	5.10	6.80	9.05	11.30	13.55	15.75	18.20
	Flue gas pressure drop	mbar	12.0	11.5	13.5	9.1	10.6	11.7	13.3	15.8
Fuel EL to EN 12953-3	MW		4.00	5.10	6.80	8.90	9.80	11.00	12.80	14.00
	Output portion	%	100	100	100	98.3	86.7	81.2	81.3	76.9
	Flue gas pressure drop	mbar	12.0	11.5	13.5	8.8	7.8	7.5	8.5	9.0
			Combustion chamber dimensions							
Length										
– Approved for flames	Dimension a	mm	3550	3975	4575	5200	5700	6225	6675	7125
– Flame tube	Dimension b	mm	3300	3700	4300	4900	5400	5900	6350	6800
– Reversing chamber	Dimension c	mm	500	550	550	600	600	650	650	650
Diameter*1										
– Corrugated pipe, internal	Dimension d _{min.}	∅ mm	875	925	1025	1100	1175	1275	1425	1575
– Corrugated pipe, average	Dimension d	∅ mm	925	1000	1100	1175	1250	1350	1500	1650
– Smooth pipe, internal	Dimension d _{min.}	∅ mm	885	960	1060	1135	1210	1310	1460	–
			Burner connection dimensions							
Minimum burner head length		mm	360							
Max. burner head diameter	Dimension e	∅ mm	515	595	715	715	765	765	910	1015
			Combustion chamber volume							
Flame tube and reversing chamber		m ³	2.55	3.34	4.61	5.96	7.36	9.38	12.37	15.93
Flame tube (corrugated pipe)		m ³	2.22	2.91	4.09	5.31	6.63	8.45	11.22	14.54

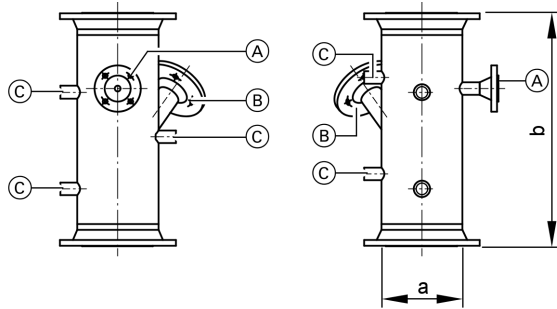
*1 Details refer to the maximum depth of corrugations or the smallest internal diameter. The type of flame tube depends on the pressure stages employed. Product-dependent tolerances are not taken into consideration.

Specification (cont.)

Intermediate flow piece

(order separately)

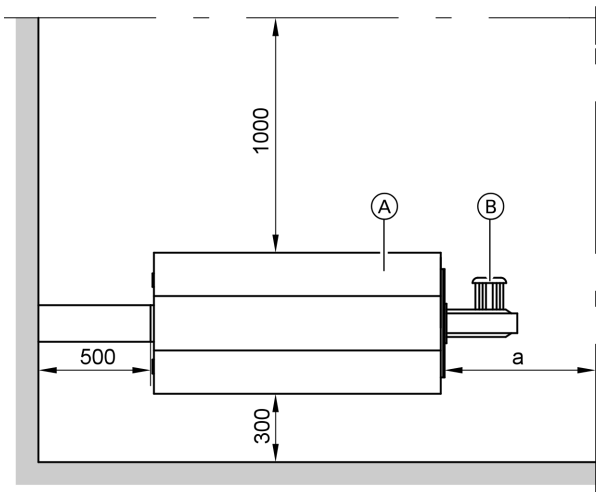
a	DN	125	150	200	250	300	350	400
b	mm	500	500	500	550	550	600	600



- (A) Connector DN 20 PN 40 for distribution pipe (pressure regulator, pressure limiter and pressure gauge)
- (B) Connector DN 50 PN 40 for electrode water level limiter
- (C) 5 fem. connections R 1/2" for thermometer, sample valve and additional control equipment

Positioning

Recommended distances



Observe the stated dimensions to ensure easy installation and maintenance.

Distances relate to the boiler.

The distance must be checked in accordance with the applicable code of practice at the installation site, subject to the equipment (accessories).

- (A) Boiler
- (B) Burner

Boiler size		1	2	3	4	5	6	7	8
a	mm	3300	3700	4300	4900	5400	5900	6350	6800
a _{min.}	mm	1400	1400	1500	1500	1700	1700	1900	2000

Dimension a: This distance is recommended for boiler cleaning.

Dimension a_{min.}: A bigger minimum size may be required because of the burner dimensions.

Specification (cont.)

Positioning

Install hot water boilers in rooms that comply with TRD 403 [or local regulations].

- 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.

Standard delivery

Boiler with fitted doors and thermal insulation, incl. transport protection.

Sight glass and flame tube gasket are supplied inside the boiler.

The burner plate is supplied separately.

Printed on environmentally friendly,
chlorine-free bleached paper



Subject to technical modifications.

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