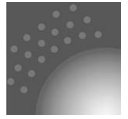


Datasheet

Part no.: see pricelist, prices on request



File in:
Vitotec folder, register 23



VITOMAX 100-LW Type M155

Oil/gas fired boiler
For operation with constant boiler water temperature

Specification

Specification

Rated output	kW	650	1000	1400	2000
Rated thermal load	kW	710	1090	1530	2185
CE designation		See page 7			
Permiss. flow temp.*1	°C	See page 7			
Permissible operating pressure	bar	8	8	8	8
Hot gas pressure drop	Pa	200	340	470	600
	mbar	2.0	3.4	4.7	6.0
Total dimensions					
Total length	mm	2480	2720	2980	3265
Total width	mm	1480	1620	1780	1950
Total height	mm	1680	1820	1980	2150
Height of anti-vibration boiler supports (loaded)	mm	37	37	37	37
Foundations					
Length	mm	2200	2400	2700	3000
Width	mm	1150	1200	1300	1300
Combustion chamber diameter	mm	700	825	914	1030
Combustion chamber length	mm	1590	1800	2020	2270
Weight	kg	1900	2600	3300	4400
Boiler with thermal insulation					
Content boiler water	litres	1370	1720	2470	3280
Connections					
Boiler flow and return	PN 16 DN	80	100	125	150
Safety connection (safety valve)	PN 16 DN	32	32	40	50
Drain	R	1¼"	1¼"	1¼"	1¼"
Flue gas parameters*2					
Temperature (at a boiler water temperature of 80/60 °C)					
– at rated output	°C	190	190	190	190
– at partial load	°C	130	130	130	130
Mass flow rate					
– at rated output	kg/h	1090	1670	2350	3350
– at partial load	kg/h	545	835	1180	1680
Required draught	Pa/mbar	0	0	0	0
Flue gas connection	∅ mm	250	300	350	400
Gas content	m ³	1.06	1.53	2.15	3.06
Combustion chamber and hot gas flues					

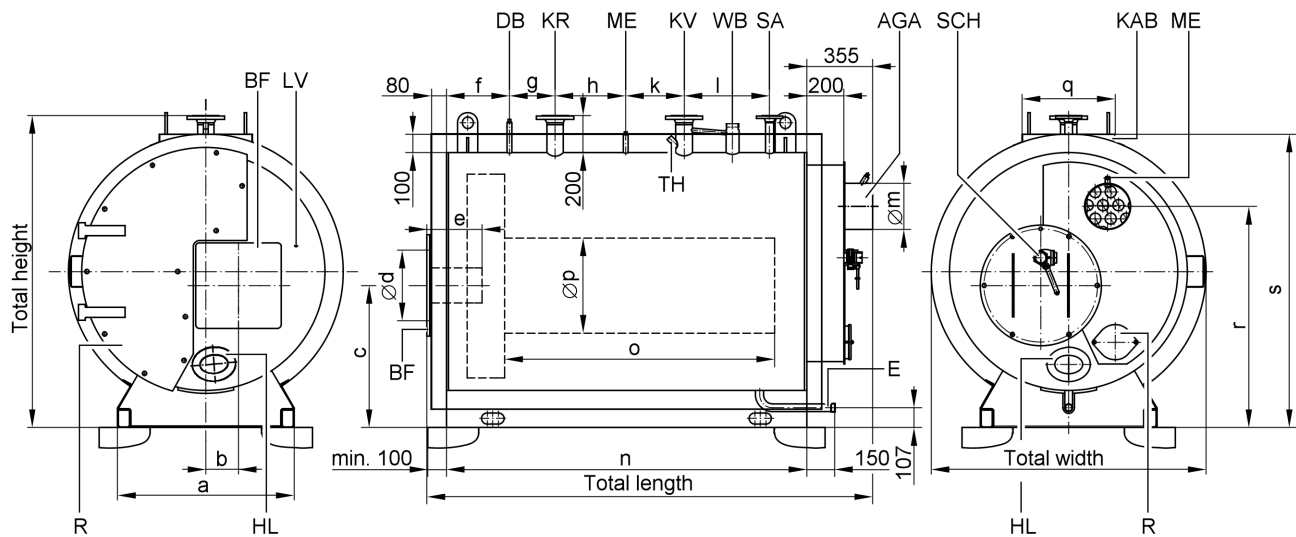
*1 The maximum possible flow temperature is approx. 15 K below the permissible flow temperature (= safety temperature).

*2 Values for calculating the size of the flue system to EN 13384 relative to 13% CO₂ for fuel oil EL and 10% CO₂ 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).

The flue gas temperature at a boiler water temperature of 80 °C is used to determine the application range of flue pipes with max. permissible operating temperatures.

Specification (cont.)



AGA Flue outlet	LV Fem. connection R $\frac{1}{4}$ " for air ratio pressure control
BF Burner connection flange	ME Test port R $\frac{1}{2}$ "
DB Fem. connection R $\frac{1}{2}$ " for maximum pressure limiter	R Cleaning aperture
E Drain R $\frac{1}{4}$ "	SA Safety connection (safety valve)
HL Handhole 100 x 150	SCH Inspection aperture
KAB Boiler cover, walk-on	TH Sensor well for control unit connection
KR Boiler return	WB Fem. connection R2" for water level limiter
KV Boiler flow	

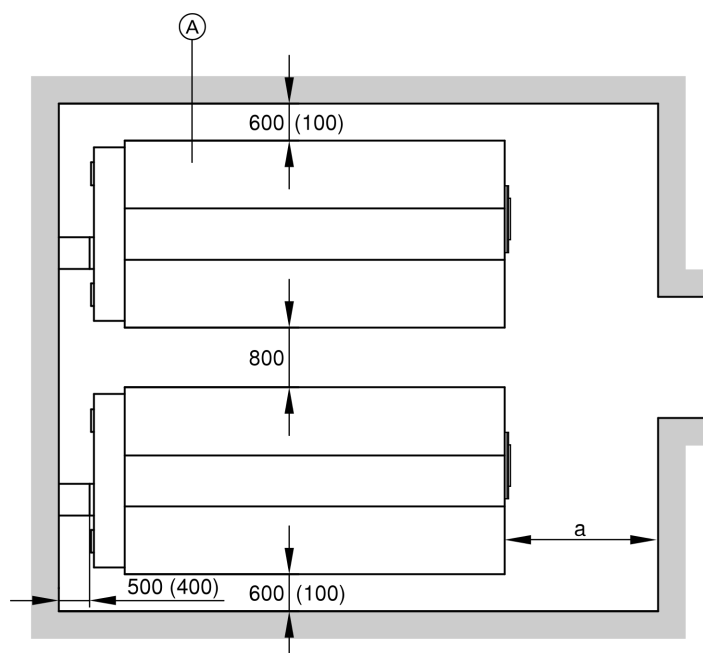
Dimensions

Rated output	kW	650	1000	1400	2000
a	mm	950	1000	1060	1110
b	mm	175	180	200	210
c	mm	765	835	930	1000
d	max. \varnothing mm	380	410	410	434
e	min. mm	265	280	295	320
f	mm	320	370	380	440
g	mm	295	330	320	350
h	mm	380	500	720	860
k	mm	305	330	340	350
l	mm	400	410	425	460
m	\varnothing mm	250	300	350	400
n	mm	1970	2210	2460	2750
o	mm	1590	1800	2020	2270
p	\varnothing mm	700	826	914	1030
q	mm	500	500	600	600
r	mm	1190	1270	1400	1540
s	mm	1580	1720	1780	2050

Specification (cont.)

Positioning

Minimum clearances



Ⓐ Boiler

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

Dimensions

Rated output	kW	650	1000	1400	2000
a	mm	1600	1800	2000	2300

Dim. a: This space in front of the boiler is required to enable the withdrawal of the turbulators and for cleaning the hot gas flues.

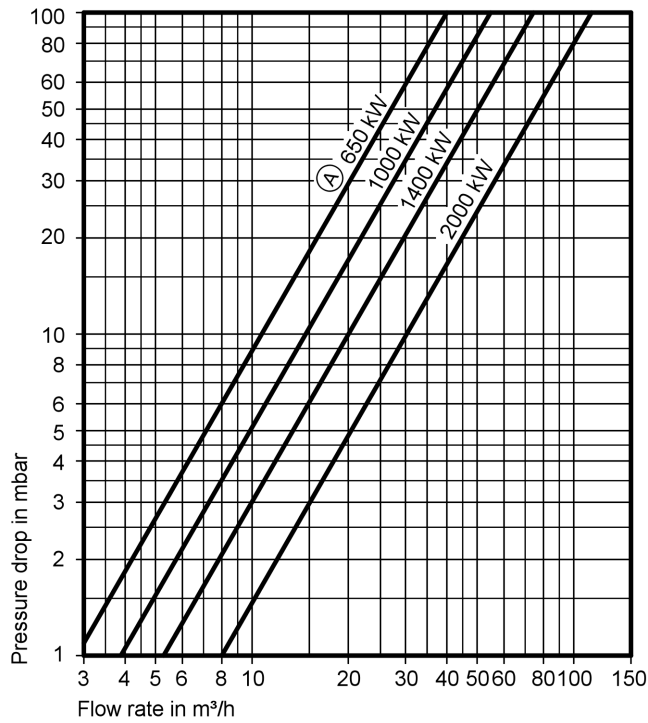
Positioning

- 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.)

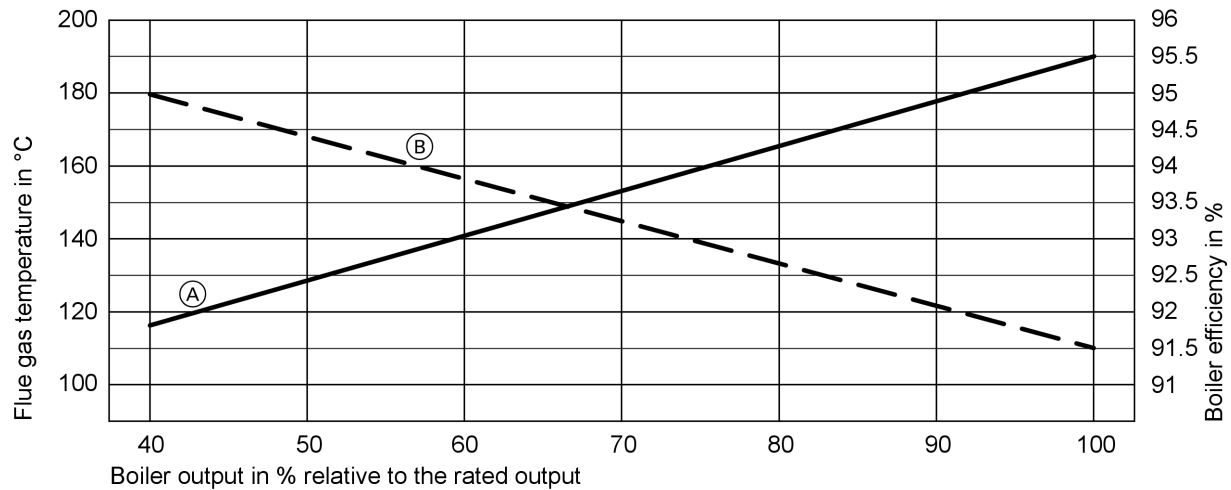
Pressure drop on the heating water side



(A) Rated output

Flue gas temperature and boiler efficiency

Subject to the 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 connection flange and enclosed burner plate. With fitted boiler door, fitted clean-out covers, fitted thermal insulation, fitted walk-on cover, fitted combustion chamber sight glass and cleaning equipment.

Control unit versions

Vitotronic 100

For constant boiler water temperature as a single boiler or base control unit in multi-boiler systems.

Vitotronic 300-K

For multi-boiler systems.

See separate datasheet.

Operating conditions

For water quality requirements, see the technical guide "Standard values for water quality".

	Requirements
1. Heating water volume flow	None
2. Boiler return temperature (minimum value)*1	– Oil operation 50 °C – Gas operation 55 °C
3. Lower boiler water temperature	70 °C
4. Two-stage burner operation	None
5. Modulating burner operation	None
6. Reduced mode	Not possible
7. Weekend setback	Not possible

Design 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).

The material of the burner head must be suitable for operating temperatures of at least 500 °C.

Certain types of burners, e.g. atomisers can obstruct the opening of the cleaning door. 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 90/396/EEC.

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 51306.

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.

*1 Corresponding installation diagrams for the installation of a return temperature raising facility can be found in the "Vitoplex, Vitorond and Vitomax" technical guide.

Design information (cont.)

Permissible flow temperatures

Hot water boilers for permissible flow temperatures (= safety temperatures)

- up to 110 °C

CE designation:

CE-0085 in accordance with the Gas Equipment Directive

- up to 120 °C

CE designation:

CE-0035 according to the Pressure Equipment Directive

Additional safety assemblies are required for operation with a safety temperature above 120 °C.

According to the Health & Safety at Work Act [Germany], the operation of this boiler must be supervised. In accordance with the conformity assessment diagram no. 5 of the EU Pressure Equipment Directive, these boilers are classified as category IV. Assembly, installation and operation are subject to approval by the appropriate local authority [check local regulations]. The system must be tested prior to commissioning. In place of an internal inspection, an annual external inspection and pressure test at least every three years is required.

The test must be carried out by an authorised body (e.g. TÜV [in Germany]).

For further information on design


see the "Vitoplex, Vitorond and Vitomax" technical guide.

Boiler accessories

Additional accessories (safety equipment)

See pricelist 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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