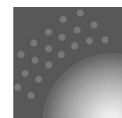


Datasheet

Part no.: see pricelist, prices on request

**VITOMAX 300-LT** Type M343

Low temperature oil/gas fired boiler
Three-pass boiler with multi-layered heating surfaces
For operation with modulating boiler water temperature.

Specification

Specification

Rated output	MW	1.86	2.30	2.90	3.50	4.10	4.70	5.90
Rated thermal load	MW	2.01	2.49	3.14	3.79	4.43	5.08	6.38
CE designation		see page 8						
Permissible flow temperature* ¹ (= safety temperature)	°C	see page 8						
Permissible operating pressure	bar	6	6	6	6	6	6	6
Hot gas pressure drop	Pa	600	650	850	900	950	1000	1050
	mbar	6	6.5	8.5	9	9.5	10	10.5
Shipping dimensions								
Total length	m	3.9	4.1	4.4	4.6	4.9	5.1	5.6
Total width	m	2.1	2.2	2.3	2.4	2.5	2.6	2.8
Total height	m	2.4	2.5	2.6	2.7	2.8	2.9	3.1
Total weight* ²	kg	5300	6300	7300	8200	9600	10600	13300
Boiler with thermal insulation and boiler control unit								
Combustion chamber diameter	mm	866	926	994	1050	1110	1160	1238
Combustion chamber length	mm	2977	3227	3477	3677	3850	4050	4485
Content boiler water	m ³	5.0	5.5	6.4	8.2	9.3	10.5	13.0
Boiler connections								
Boiler flow and return	PN 16 DN	150	150	200	200	200	250	250
Safety connection (safety valve)	PN 16 DN	65	65	80	80	80	100	100
Drain	PN 16 DN	40	40	40	40	40	40	40
Flue gas parameters*³								
Temperature (at boiler water temperature 60/40 °C)								
– at rated output	°C	170	170	170	170	170	170	170
– at partial load	°C	120	120	120	120	120	120	120
Temperature (at boiler water temperature 80/60 °C)								
– at rated output	°C	180	180	180	180	180	180	180
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
Flue gas connection (internal)	Ø mm	450	500	600	600	650	750	800
Gas content	m ³	3.1	3.7	4.6	5.4	6.5	7.5	9.5
Combustion chamber and hot gas flues								
Standard efficiency at heating system temp. 75/60 °C	%	96 (H _i)						

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

*²Specific variations are possible.

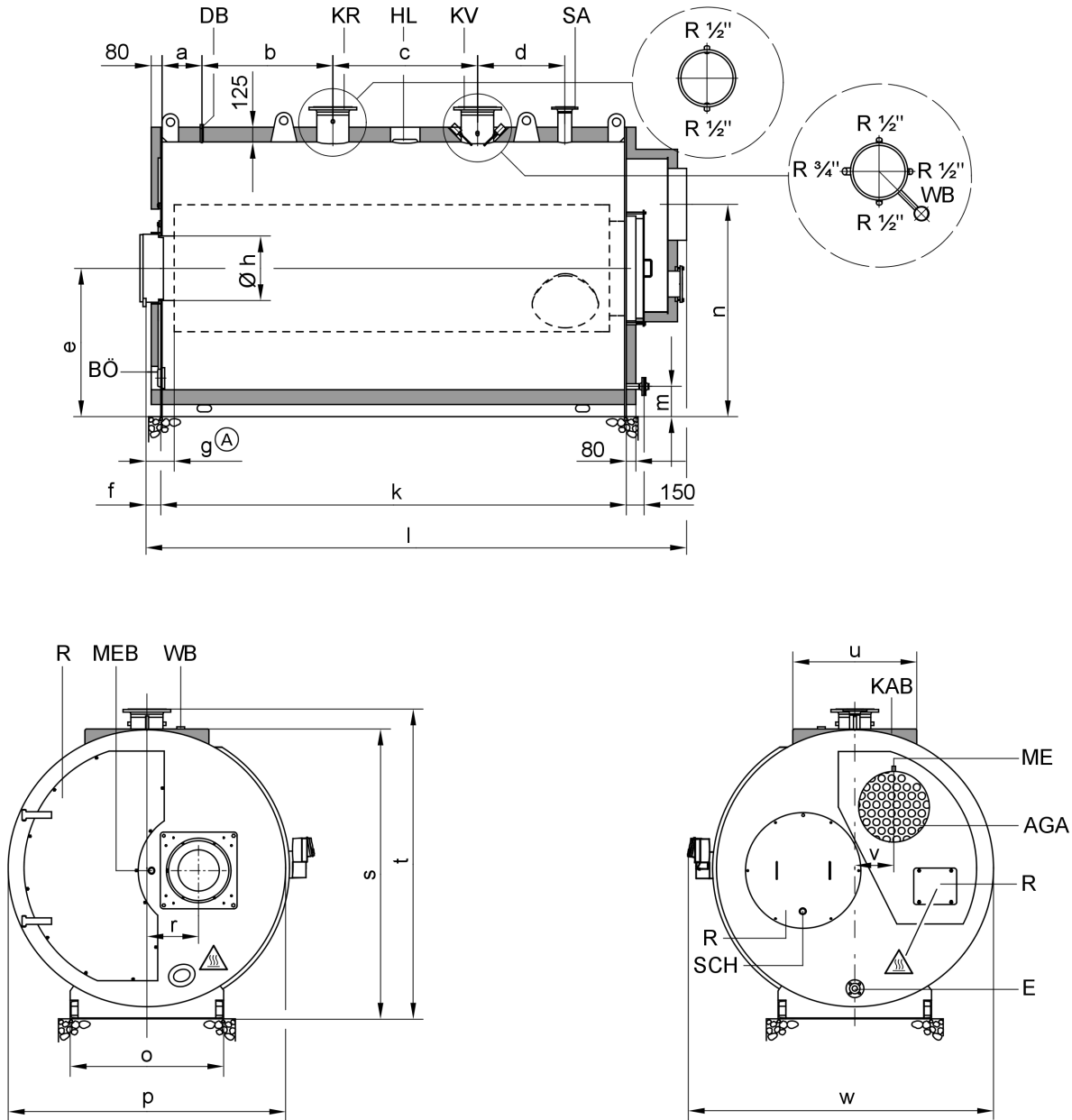
*³Values for calculating the size of the flue system to EN 13384 relative to 13 % CO₂ for fuel oil EL and 10 % CO₂ for natural gas. Flue gas temperatures measured as gross values at 20 °C combustion air temperature.


The details for partial load refer to 60 % 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 60 °C is significant for the sizing of the flue gas system.

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.)



 Watch out! Hot surfaces.

AGA Flue gas connection
 BÖ Inspection aperture
 DB R 1/2" fem. connection for maximum pressure limiter
 E Drain
 HL Hand hole
 KAB Boiler cover, walk-on
 KR Boiler return

KV Boiler flow
 ME Test port, fem. connection R 1/2"
 MEB Test port for burner, fem. connection R 1/4"
 R Cleaning aperture
 SA Safety connection (safety valve)
 SCH Inspection aperture
 WB Fem. connection R 2" for water level limiter

The Vitotronic may be fitted either on the r.h. or the l.h. side of the boiler.

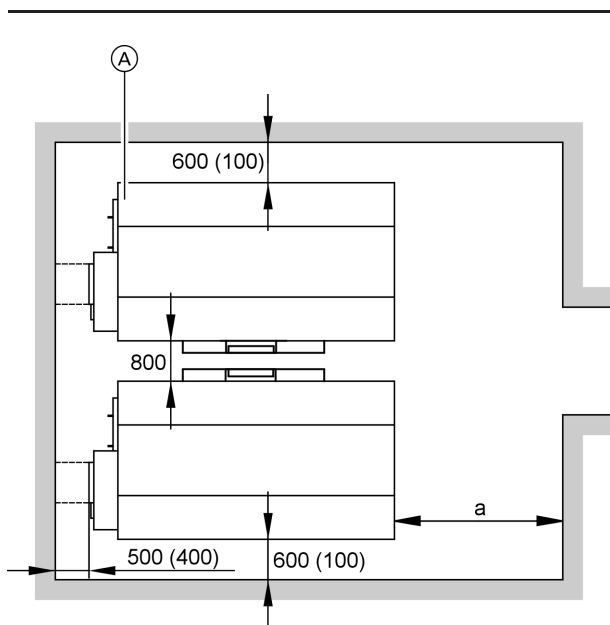
Specification (cont.)

Dimensions

Rated output	MW	1.86	2.30	2.90	3.50	4.10	4.70	5.90
a	mm	295	330	330	350	395	430	450
b	mm	925	985	1060	1110	1120	1160	1300
c	mm	1000	1080	1160	1226	1260	1340	1475
d	mm	610	655	700	740	775	810	900
e	mm	1050	1115	1195	1260	1370	1420	1510
f	mm	110	110	110	110	110	110	115
g *1	min. mm	265	265	265	265	265	265	270
h	max. Ø mm	410	410	520	520	520	520	590
k	mm	3247	3497	3747	3947	4120	4320	4755
l	mm	3830	4080	4330	4580	4805	5005	5550
m	mm	258	258	258	258	300	300	300
n	mm	1695	1720	1720	1800	1905	1970	2100
o	mm	1200	1200	1300	1300	1400	1400	1500
p	mm	2070	2160	2250	2350	2450	2550	2730
r	mm	282	304	324	347	386	404	469
s	mm	2180	2270	2360	2460	2600	2700	2880
t	mm	2350	2440	2530	2630	2770	2870	3050
u	mm	700	700	700	800	800	800	900
v	mm	150	235	290	330	360	370	395
w	mm	2255	2345	2435	2535	2635	2735	2915

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

Rated output	MW	1.86	2.30	2.90	3.50	4.10	4.70	5.90
a	mm	4000	4200	4400	4600	4800	5000	5400

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.

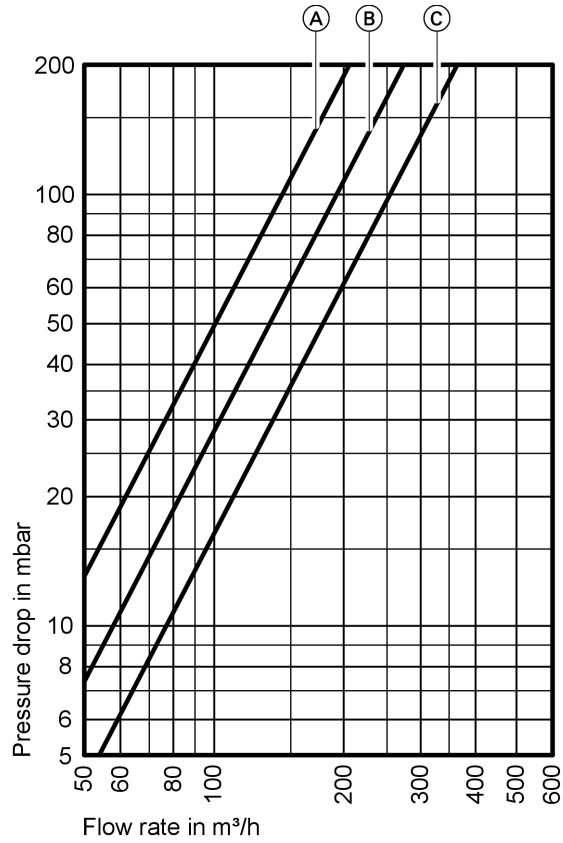
*1 To safeguard perfect function, maintain the required minimum blast tube length.

Specification (cont.)

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

This boiler is only suitable for pumped hot water heating systems.

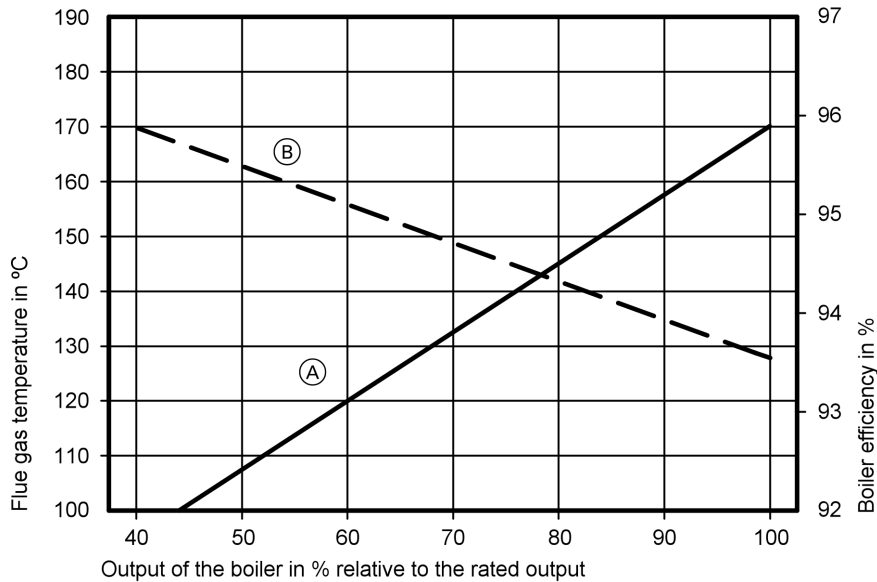


- (A) Rated output 1.86 and 2.30 MW
- (B) Rated output 2.90 to 4.10 MW
- (C) Rated output 4.70 and 5.90 MW

Specification (cont.)

Flue gas temperature and boiler efficiency

Subject to rated boiler output at a boiler water temperature of 60/40 °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, fitted cleaning door, flue outlet with clean-out aperture, fitted thermal insulation, fitted walk-on cover, routing ducts and cleaning equipment.

- 1 Carton containing the boiler control unit
1 Mounting bracket for boiler control unit

Burner on request.

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

Boiler accessories

Flue gas/water heat exchanger

For this boiler, it is recommended to condense the flue gas by means of a downstream stainless steel heat exchanger that converts the boiler into a condensing boiler.

For further information regarding the Vitotrans 300 flue gas/water heat exchanger, see the technical guide to this boiler.

Additional accessories (safety equipment)

On request.

Operating conditions with Vitotronic boiler control units

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

	Requirements	
	≥ 60 %	< 60 %
1. Heating water flow rate	None	
2. Boiler return temperature (minimum value)*1	– Oil operation 38 °C – Gas operation 45 °C	– Oil operation 53 °C – Gas operation 53 °C
3. Lower boiler water temperature	– Oil operation 50 °C – Gas operation 60 °C	– Oil operation 60 °C – Gas operation 65 °C
4. Two-stage burner operation	Stage 1 60 % of rated output	No minimum load required
5. Modulating burner operation	Between 60 and 100 % of rated output	No minimum load required
6. Reduced mode	Single boiler systems and lead boiler of multi-boiler systems – Operation with the lower boiler water temperature Lag boilers of multi-boiler systems – are shut down	
7. Weekend setback	as per reduced mode	

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 hinder 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 51603.

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.

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

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

Information (cont.)

or

- up to 120 °C

CE designation:

CE-0035 according to the Pressure Equipment Directive
Additional safety equipment is required for operation with a safety temperature of 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 must be categorised as class 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 examination and pressure test at least every 3 years is required. The test must be carried out by an authorised body (e.g. TÜV [in Germany]).

For further information on design/engineering

see the technical guide to this boiler.

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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