

## Datasheet

Part no. and prices: see pricelist



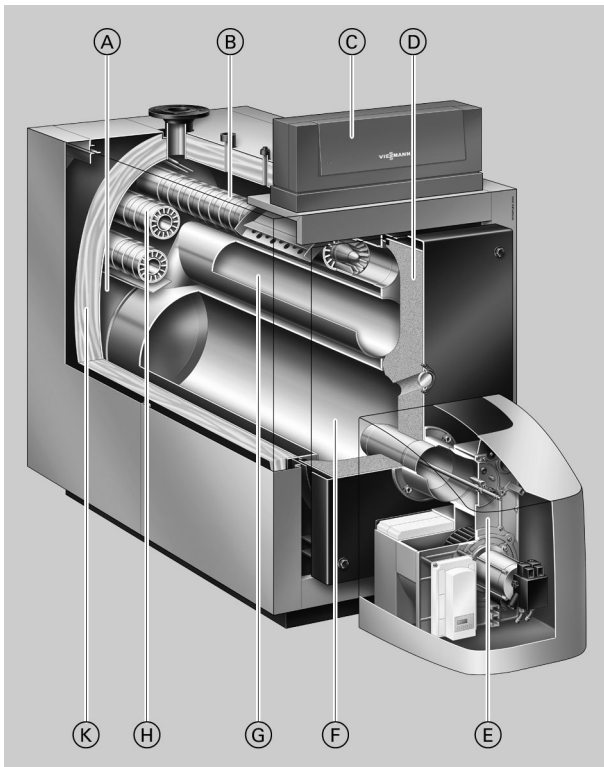
### **VITOPLEX 300** Type TX3A

Low temperature oil/gas boiler  
Three-pass boiler with multi layered convection heating surfaces  
For operation with a modulating boiler water temperature  
With a Vitotrans 300 as condensing unit

## Benefits at a glance

- Multi layered convection heating surfaces for high operational reliability and a long service life.
- Standard seasonal efficiency [to DIN] for operation with fuel oil/ natural gas:  
90 % (H<sub>s</sub>) [gross cv] / 96 % (H<sub>i</sub>) [net cv].
- Optional stainless steel flue gas/water heat exchanger enables use of condensing technology for higher standard seasonal efficiency.
- Three-pass boiler with low combustion chamber loading, resulting in clean combustion with low emissions.

- Wide water galleries and large water content provide excellent natural circulation and reliable heat transfer.
- The integral Therm-Control start-up system replaces the shunt pump or constant return temperature raising facility, thereby saving installation time and costs.
- No low water indicator required up to 300 kW.
- Economical and safe operation of the heating system is ensured by the digital Vitotronic control system with communication capability. Standardised LON BUS for complete integration into building management systems.



- Ⓐ Wide water galleries and large water content ensure excellent natural circulation and easy hydraulic connection
- Ⓑ Multi layered convection heating surfaces for high operational reliability and a long service life
- Ⓒ Vitotronic – the new generation of controllers: intelligent and easy to install, operate and service
- Ⓓ Thermal insulation on boiler door
- Ⓔ Viessmann Vitoflame 100 Unit burner
- Ⓕ Combustion chamber – hot gas flue 1
- Ⓖ Hot gas flue 2
- Ⓗ Hot gas flue 3
- Ⓚ Highly effective thermal insulation

## Boiler specification

### Specification

Rated heating output	kW	90	115	140	180	235	300	405	500
Rated heat input	kW	97	124	151	194	254	323	436	538
<b>CE designation</b> – compliant with Efficiency Directive – compliant with Gas Appliances Directive		CE-0085BT0478 CE-0085BT0478						—	—
<b>Permiss. flow temperature</b> (= safety temperature)	°C	110 (to 120 °C on request)							
<b>Permiss. operating pressure</b>	bar kPa	4 400							
<b>Pressure drop on the hot gas side</b>	Pa mbar	40 0.4	60 0.6	80 0.8	100 1.0	200 2.0	200 2.0	250 2.5	330 3.3
<b>Boiler body dimensions</b>									
Length (dim. q) <sup>*1</sup>	mm	1215	1420	1405	1600	1820	1820	1865	2010
Width (dim. d)	mm	575	575	650	650	730	730	865	865
Height (incl. connectors) (dim. t)	mm	1145	1145	1180	1180	1285	1285	1455	1455
<b>Overall dimensions</b>									
Total length (dim. r)	mm	1300	1500	1485	1680	1905	1905	1945	2090
Total length with burner and hood (dim. s)	mm	1700	1905	1910	2110	2330	2330	—	—
Total width (dim. e)	mm	755	755	825	825	905	905	1040	1040
Total height (dim. b)	mm	1315	1315	1350	1350	1460	1460	1625	1625
Service height (control unit) (dim. a)	mm	1485	1485	1520	1520	1630	1630	1795	1795
<b>Height</b>									
– adjustable anti-vibration feet	mm	28	28	28	28	—	—	—	—
– anti-vibration boiler supports (under load)	mm	—	—	—	—	37	37	37	37
<b>Foundation</b>									
Length	mm	1000	1200	1200	1400	1650	1650	1650	1800
Width	mm	760	760	830	830	900	900	1040	1040
<b>Combustion chamber diameter</b>	mm	380	380	400	400	480	480	570	570
<b>Combustion chamber length</b>	mm	800	1000	1000	1200	1400	1400	1400	1550
<b>Weight boiler body</b>	kg	350	394	460	490	650	742	940	1110
<b>Total weight</b> Boiler incl. thermal insulation and boiler control unit	kg	395	440	510	540	710	802	1075	1295
<b>Total weight</b> Boiler with thermal insulation, burner and boiler control unit	kg	420	464	540	570	740	832	—	—
<b>Boiler water content</b>	litres	170	210	250	290	470	430	590	630
<b>Boiler connections</b>									
Boiler flow and return	PN 6 DN	65	65	65	65	65	80	100	100
Safety connection (safety valve)	R	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½
Drain	R	1¼	1¼	1¼	1¼	1¼	1¼	1¼	1¼
<b>Flue gas parameters<sup>*2</sup></b>									
Temperature (at a boiler water temperature of 60 °C)									
– at rated heating output	°C	160							
– at partial load	°C	105							
Temperature (at a boiler water temperature of 80 °C)									
– at rated heating output	°C	175							
<b>Flue gas mass flow rate</b>									
– for natural gas	kg/h	1.5225 x combustion output in kW							
– for fuel oil EL	kg/h	1.5 x combustion output in kW							
Required draught	Pa/mbar	0	0	0	0	0	0	0	0
<b>Flue outlet</b>									
Nominal diameter	∅ mm	180	180	200	200	200	200	250	250
Outdoors	∅ mm	178	178	198	198	198	198	248	248

\*1 Boiler door removed.

\*2 Values for calculating the size of the flue system to EN 13384, relative to 13 % CO<sub>2</sub> for fuel oil EL and 10 % CO<sub>2</sub> for natural gas.

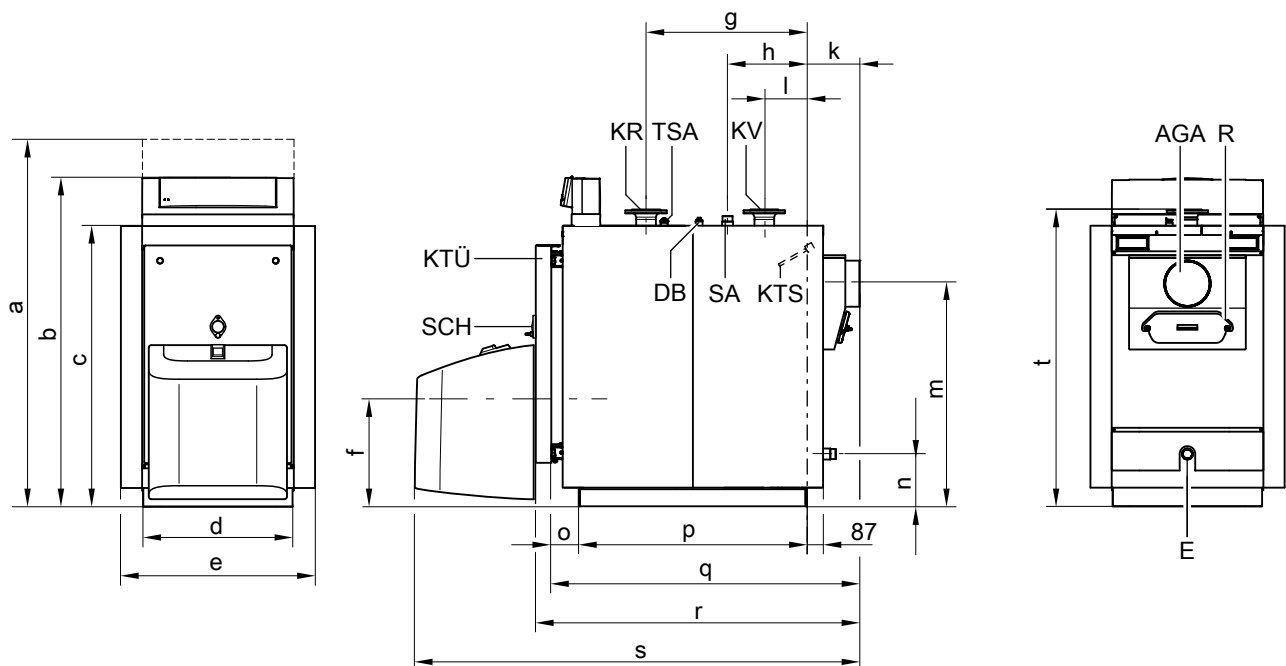
Flue gas temperatures as actual gross values at 20 °C combustion air temperature.

The details for partial load refer to an output of 60 % of the rated heating output. If the partial load differs from that stated above (depending on operating mode), calculate the flue gas mass flow rate accordingly.

## Boiler specification (cont.)

Rated heating output	kW	90	115	140	180	235	300	405	500
<b>Standard seasonal efficiency [to DIN]</b> (for operation with fuel oil/natural gas) At heating system temperature 75/60 °C	%	90 (H <sub>s</sub> ) [gross cv] / 96 (H <sub>i</sub> ) [net cv]							
<b>Standby loss</b> q <sub>B,70</sub>	%	0.40	0.37	0.32	0.34	0.37	0.29	0.25	0.23
<b>Matching Vitotrans 300</b>									
– gas operation	Part no.	Z010 326		Z010 327		Z010 328		Z010 329	
– oil operation	Part no.	Z010 330		Z010 331		Z010 332		Z010 333	
<b>Rated heating output</b> Boiler with Vitotrans 300									
– gas operation	kW	98.7	126.1	152.7	197.1	257.2	328.5	435.2	543.7
– oil operation	kW	95.8	122.5	148.8	191.7	250.3	319.5	429.5	529.9
<b>CE designation</b> Vitotrans 300 in conjunction with boiler as a condensing unit		CE-0085BT0479							
<b>Pressure drop on the hot gas side</b> Boiler with Vitotrans 300	Pa mbar	105 1.05	125 1.25	165 1.65	185 1.85	300 3.00	300 3.00	355 3.55	435 4.35
<b>Total length</b> Boiler with a Vitotrans 300 without burner	mm	1990		2290		2570		2950	
<b>Sound pressure level</b> <sup>*3</sup> 1 m in front of the boiler (stage 1/2) In the flue pipe (stage 1/2)	dB(A) dB(A)			<68/<69 <96/<103				— —	

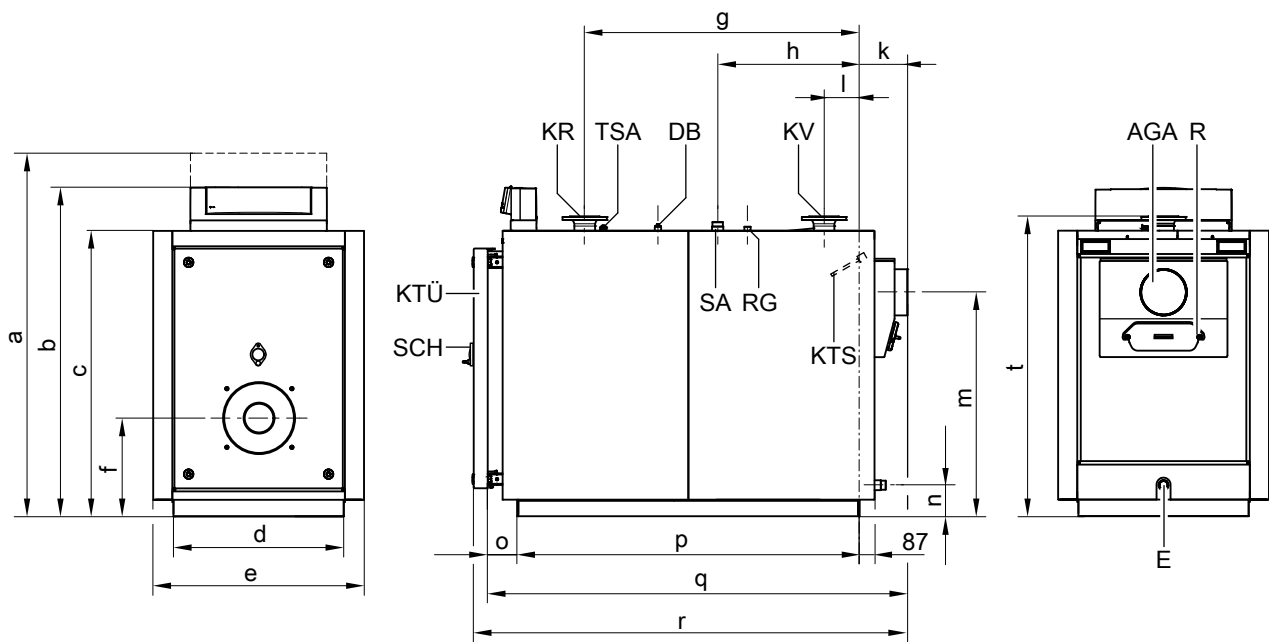
## Dimensions



90 to 300 kW

\*3 Standard values resulting from sound pressure level testing cannot be guaranteed, as sound pressure level tests are always dependent on the specific system. The data provided here refers to Vitoplex with Vitoflame 100 pressure-jet oil/gas burners.

## Boiler specification (cont.)



390 and 500 kW

AGA	Flue outlet	KV	Boiler flow
DB	Female connection R ½ for maximum pressure limiter	R	Cleaning aperture
E	Drain	RG	Female connection R ½ for additional control equipment
KR	Boiler return	SA	Safety connection (safety valve)
KTS	Boiler water temperature sensor	SCH	Inspection port
KTÜ	Boiler door	TSA	Sensor well for Therm-Control temperature sensor

### Dimensions

Rated heating output	kW	90	115	140	180	235	300	405	500
a	mm	1485	1485	1520	1520	1630	1630	1795	1795
b	mm	1315	1315	1350	1350	1460	1460	1625	1625
c	mm	1085	1085	1115	1115	1225	1225	1395	1395
d	mm	575	575	650	650	730	730	865	865
e	mm	755	755	825	825	905	905	1040	1040
f	mm	440	440	440	440	420	420	470	470
g	mm	620	825	810	1010	1180	1180	1145	1290
h	mm	320	395	325	425	410	610	710	785
k	mm	220	220	220	220	220	220	260	260
l	mm	165	165	150	150	155	155	165	165
m	mm	860	860	885	885	980	980	1110	1110
n	mm	200	200	190	190	135	135	135	135
o	mm	110	110	110	110	130	130	130	130
p (length of base rails)	mm	880	1085	1070	1270	1470	1470	1470	1615
q (transport dimensions)	mm	1215	1420	1405	1600	1820	1820	1865	2010
r	mm	1300	1500	1485	1680	1905	1905	1945	2090
s	mm	1700	1905	1910	2110	2330	2330	–	–
t	mm	1145	1145	1180	1180	1285	1285	1455	1455

Where access to the boiler room is difficult the boiler door can be removed.

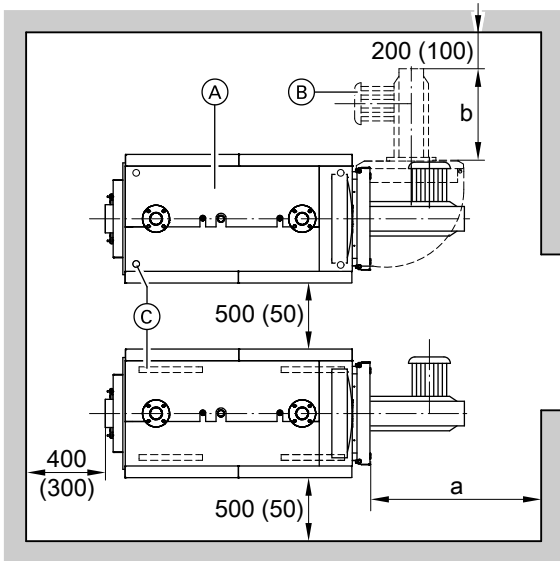
Dim. f: Observe the installed burner height.

Dim. q: Boiler door removed.

## Boiler specification (cont.)

### Siting

#### Minimum clearances



To ensure easy installation and maintenance, observe the stated dimensions. Where space is tight, only the minimum clearances (dimensions in brackets) need to be maintained. In the delivered condition, the boiler door opens to the left. The hinge pins can be repositioned so the door swings open to the right.

- (A) Boiler
- (B) Burner
- (C) Adjustable anti-vibration feet (90 to 500 kW) or anti-vibration boiler supports (235 to 500 kW)

Rated heating output	kW	90	115	140	180	235	300	405	500
a	mm	1100			1400	1600			

Dim. a: Maintain this space in front of the boiler to enable the removal of the internal pipes and for cleaning the hot gas flues.

Dim. b: Observe the installed burner length.

#### Siting conditions

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

### Burner installation

Boilers up to 115 kW:

The burner fixing hole circle, burner fixing holes and flame tube aperture comply with EN 226.

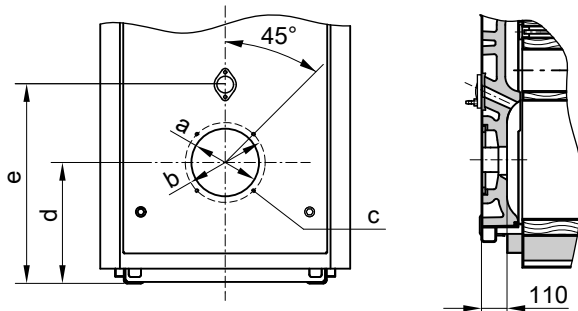
Boilers from 140 kW:

The burner fixing hole circle, burner fixing holes and flame tube aperture are as detailed in the table below.

The burner may be mounted directly on the hinged boiler door. If the burner dimensions deviate from those stated in the table below, use the burner plate included in the standard delivery.

Burner plates may be factory fitted on request (chargeable option).

For this, state the burner make and type when ordering. The flame tube must protrude from the thermal insulation of the boiler door.

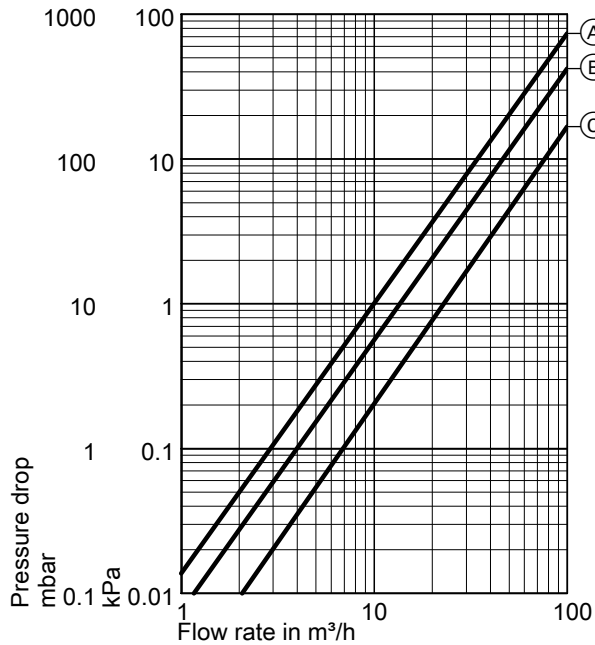


Rated heating output	kW	90	115	140	180	235	300	405	500
a	Ø mm	135	135	240	240	240	240	290	290
b	Ø mm	170	170	270	270	270	270	330	330
c	Number/thread	4/M 8	4/M 8	4/M 10	4/M 10	4/M 10	4/M 10	4/M 12	4/M 12

## Boiler specification (cont.)

Rated heating output	kW	90	115	140	180	235	300	405	500
d	mm	440	440	440	440	420	420	470	470
e	mm	650	650	650	650	670	670	780	780

### Pressure drop on the heating water side



The Vitoplex 300 is only suitable for fully pumped hot water heating systems.

- Ⓐ Rated heating output 90 to 235 kW
- Ⓑ Rated heating output 300 kW
- Ⓒ Rated heating output 390 and 500 kW

## Vitotrans 300 specification

### Specification

Vitotrans 300		Z010 326	Z010 327	Z010 328	Z010 329
– Gas operation	Part no.	Z010 330	Z010 331	Z010 332	Z010 333
– Oil operation	Part no.				
<b>Rated boiler heating output</b>	kW	90-125	140-200	230-350	380-560
<b>Rated heating output range of the Vitotrans 300 for</b>					
– Gas operation	from kW	8.7	12.7	21.8	33.3
	to kW	11.9	19.0	33.3	48.9
– Oil operation	from kW	5.8	8.8	14.9	22.9
	to kW	8.1	13.0	22.7	33.5
<b>Permiss. operating pressure</b>	bar	4	4	4	6
	MPa	0.4	0.4	0.4	0.6
<b>Permiss. flow temperature</b> (= safety temperature)	°C	110	110	110	110
<b>Pressure drop on the hot gas side</b>	mbar	0.65	0.85	1.00	1.05
	Pa	65	85	100	105
<b>Flue gas temperature</b>					
– Gas operation	°C	65	65	65	65
– Oil operation	°C	70	70	70	70
<b>Flue gas mass flow rate</b>	from kg/h	136	213	383	546
	to kg/h	213	341	596	954
<b>Overall dimensions</b>					
Total length (dimension h), incl. mating flanges	mm	666	777	856	967
Total width (dimension b)	mm	714	760	837	928
Total height (dimension c)	mm	1037	1152	1167	1350
<b>Transport dimensions</b>					
Length excl. mating flanges	mm	648	760	837	928
Width (dimension a)	mm	618	636	706	839
Height (dimension d)	mm	1081	1098	1172	1296
<b>Heat exchanger weight</b>	kg	94	119	144	234
<b>Total weight</b>	kg	125	150	188	284
Heat exchanger with thermal insulation					
<b>Capacity</b>					
Heating water	litre	70	97	134	181
Flue gas	m <sup>3</sup>	0.055	0.096	0.133	0.223
<b>Connections</b>					
Heating water flow and return	DN	40	50	50	65
Condensate drain	R	½	½	½	½
<b>Flue gas connection</b>					
– To the boiler	DN	180	200	200	250
– To the flue system	DN	150	200	200	250

#### Rated heating output range of the Vitotrans 300 and flue gas temperature

Heating output of the Vitotrans 300 with flue gas of 200/65 °C for gas operation and 200/70 °C for oil operation, with a heating water temperature rise in the Vitotrans 300 from 40 °C to 42.5 °C.

For conversion to other temperatures, see chapter "Output data".

#### Pressure drop on the hot gas side

Pressure drop on the hot gas side at rated heating output. The burner must be able to overcome the hot gas pressure drop of the boiler, that of the Vitotrans 300 and that of the flue. Viessmann Vitoflame 100 burners are unsuitable for use with the Vitotrans 300.

#### Tested quality

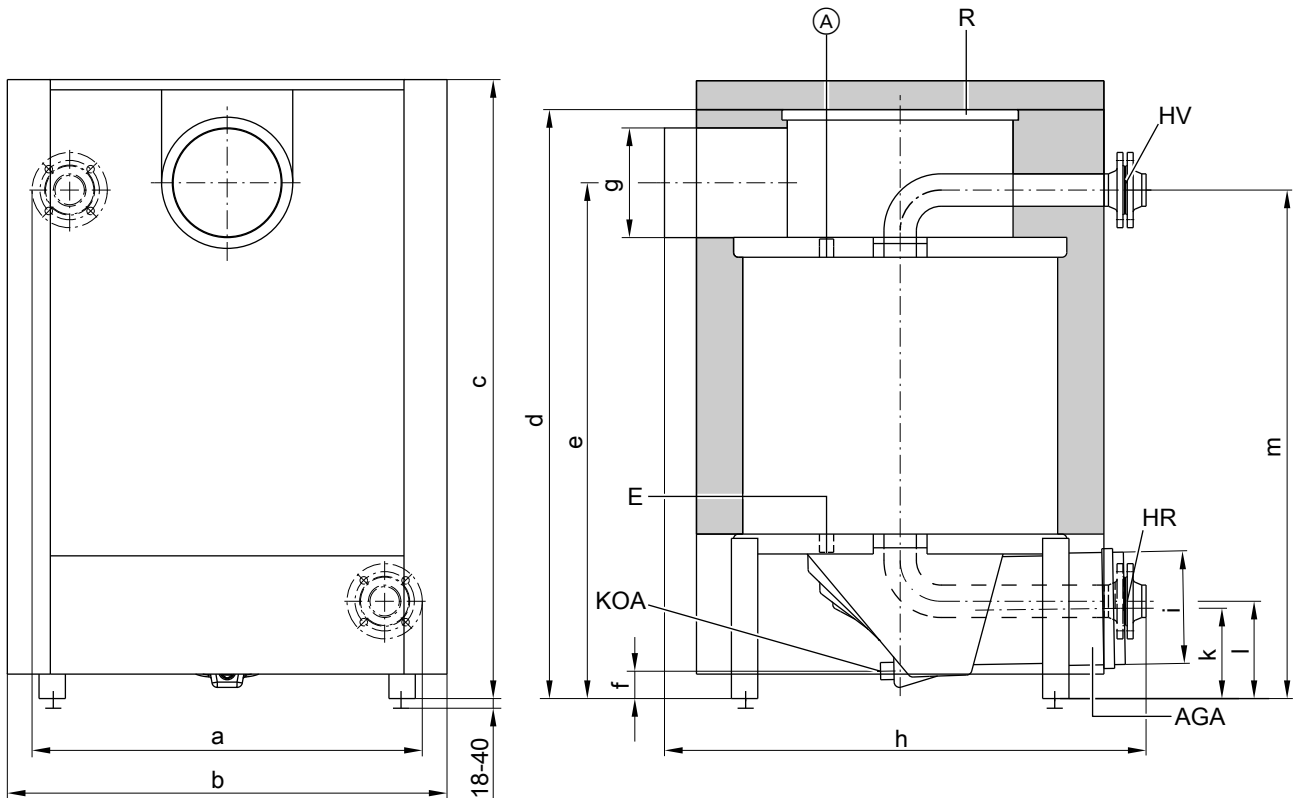


CE designation according to current EC Directives at a permissible flow temperature (safety temperature) of up to 110 °C to EN 12828.



## Vitotrans 300 specification (cont.)

### Dimensions



(A) Additional fem. connection R ½  
 AGA Flue outlet  
 E Drain R ½  
 HR Heating water return (inlet)

HV Heating water flow (outlet)  
 KOA Condensate drain Ø 32  
 R Cleaning aperture

#### Dimensions

Part no.		Z010 326	Z010 327	Z010 328	Z010 329
		Z010 330	Z010 331	Z010 332	Z010 333
a	mm	628	656	726	839
b	mm	714	746	818	912
c	mm	1022	1098	1151	1308
d	mm	965	1043	1096	1245
e	mm	851	907	960	1080
f	mm	73	53	51	88
g (internal)	∅ mm	181	201	201	251
h	mm	707	818	896	1015
i (internal)	∅ mm	151	201	201	251
k	mm	165	170	168	230
l	mm	170	172	181	232
m	mm	851	899	946	1075

#### Delivered condition

Heat exchanger body with fitted flue gas collector. Mating flanges are fitted to all connectors

1 box with thermal insulation

#### Connection on the flue gas side

Connect the boiler flue outlet and offset flue adaptor of the flue gas/water heat exchanger through a connection collar (accessories) (do not weld).

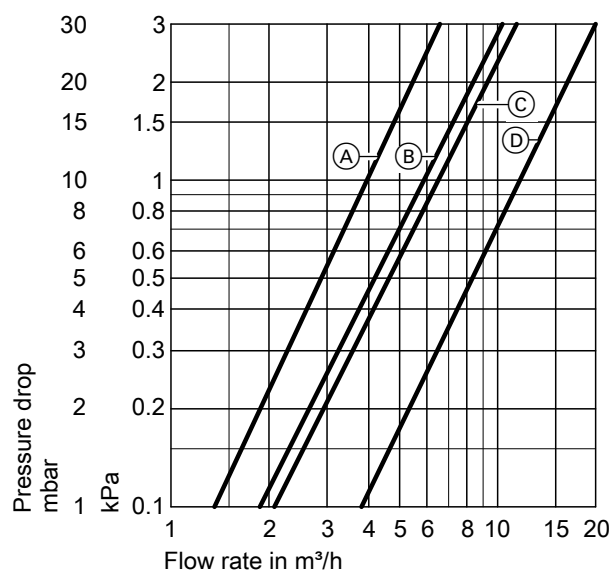
Height compensation:

- Vitoplex boiler through adjusting screws
- Vitorond boiler through on-site adaptor

## Vitotrans 300 specification (cont.)

### Pressure drop on the heating water side

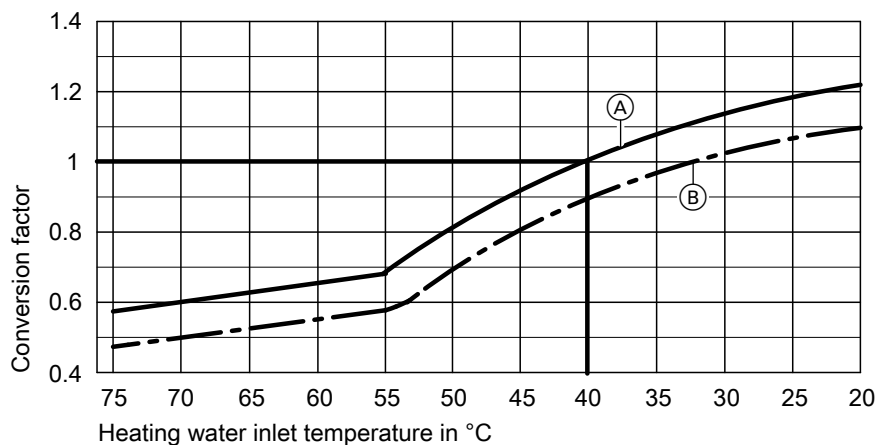
Part no. Z010 326 to Z010 333



Part no.	Curve
Z010 326	Ⓐ
Z010 330	Ⓐ
Z010 327	Ⓑ
Z010 331	Ⓑ
Z010 328	Ⓒ
Z010 332	Ⓒ
Z010 329	Ⓓ
Z010 333	Ⓓ

### Output data

Vitotrans 300 for gas operation



- Ⓐ Flue gas inlet temperature 200 °C
- Ⓑ Flue gas inlet temperature 180 °C

#### Conversion of the output data

The heating output data of the Vitotrans 300 flue gas/water heat exchanger refers to a flue gas inlet temperature of 200 °C and a heating water inlet temperature into the heat exchanger of 40 °C.

For different conditions the heating output can be calculated by multiplying the specified rated heating output by the conversion factor established from the diagram.

### Boiler delivered condition

Boiler body with fitted boiler door and cleaning cover.  
Mating flanges are fitted to all connectors.  
Adjusting screws are supplied in the combustion chamber.  
Cleaning equipment can be found on top of the boiler.

- 2 boxes with thermal insulation
- 1 box with boiler control unit and 1 bag with technical documentation
- 1 Vitoplex 300 coding card and technical documentation

## Boiler delivered condition (cont.)

- 1 Therm-Control
- 1 burner plate (from 140 kW)

- Vitoplex 300, 90 to 235 kW:  
Vitoflame 100 pressure-jet oil/gas burner, depending on order.
- Vitoplex 300, 300 to 500 kW:  
Suitable pressure-jet oil/gas burners are available from Weishaupt or ELCO and should be ordered separately (see pricelist). Delivery direct from Weishaupt or ELCO.

## Control unit versions

### For single boiler systems:

- **Vitotronic 100** (type GC1B)  
Boiler control unit for constant boiler water temperature
- **Vitotronic 200** (type GW1B)  
Weather-compensated boiler control unit
- **Vitotronic 300** (type GW2B)  
Weather-compensated boiler and heating circuit control unit for up to 2 heating circuits with mixers
- **Vitotronic 200-H** (type HK1B or HK3B)  
Weather-compensated heating circuit control unit for 1 or up to 3 heating circuits with mixers
- **Vitocontrol control panel**

### For multi boiler systems (up to 4 boilers):

- **Vitotronic 100** (type GC1B) and **LON module** with **Vitotronic 300-K** (type MW1B)  
For weather-compensated cascade control of up to 4 boilers and control of up to 2 heating circuits with mixers.  
(The first boiler is delivered with the standard control equipment for the multi boiler system.)
- **Vitotronic 100** (type GC1B) and **LON module** for every additional boiler in the multi boiler system
- **Vitotronic 200-H** and **LON module** (type HK1B or HK3B) for 1 or up to 3 heating circuits with mixers
- **Vitocontrol control panel**

## Boiler accessories

See pricelist and "Boiler accessories" datasheet.

## Operating conditions with Vitotronic boiler control units and Therm-Control

	Requirements	
	≥ 60 %	< 60 %
1. Heating water flow rate	None	
2. Boiler return temperature (minimum value) <sup>*4</sup>	None <sup>*5</sup>	
3. Lower boiler water temperature	– Oil operation 40 °C – Gas operation 50 °C	– Oil operation 50 °C – Gas operation 60 °C
4. Two-stage burner operation	Stage 1: 60 % of rated heating output	No minimum load required
5. Modulating burner operation	Between 60 and 100 % of rated heating output	No minimum load required
6. Reduced mode	Single boiler systems and lead boiler of multi boiler systems – Operation with lower boiler water temperature Lag boilers of multi boiler systems – Can be shut down	
7. Weekend setback	As per reduced mode	

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

## Operating conditions with Vitotronic boiler control unit without Therm-Control

	Requirements		
	< 40 %	> 40 % < 60 %	> 60 %
1. Heating water flow rate	None		
2. Boiler return temperature (minimum value)	– Oil operation 50 °C – Gas operation 60 °C	– Oil operation 40 °C – Gas operation 50 °C	None
3. Lower boiler water temperature	– Oil operation 55 °C – Gas operation 65 °C	– Oil operation 50 °C – Gas operation 60 °C	– Oil operation 40 °C – Gas operation 50 °C
4. Two-stage burner operation	No minimum load required		Stage 1: 60 % of rated heating output

<sup>\*4</sup> The technical guide "System examples" contains relevant sample systems for use of the Therm-Control start-up system.

<sup>\*5</sup> No requirements; only in conjunction with Therm-Control.

## Operating conditions with Vitotronic boiler control unit without Therm-Control (cont.)

Operation with burner load	Requirements		
	< 40 %	> 40 % < 60 %	> 60 %
5. Modulating burner operation	No minimum load required		Between 60 and 100 % of rated heating output
6. Reduced mode	Single boiler systems and lead boiler of multi boiler systems – Operation with lower boiler water temperature Lag boilers of multi boiler systems – Can be shut down		
7. Weekend setback	As per reduced mode		

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

## Design/engineering information

### Mounting a suitable burner

The burner must be suitable for the rated heating 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.

#### 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 adjustment

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

### Low water indication via minimum pressure limiter

According to EN 12828, the required low water indicator can be omitted for Vitoplex 300 boilers up to 300 kW rated heating output, as long as heating can be reliably prevented when there is a water shortage. If the boiler is installed at a higher point than most radiators/underfloor heating systems, a low water indicator and/or suitable alternative facility will be required.

Viessmann Vitoplex 300 are equipped with type-tested temperature controllers and high limit safety cut-outs. In the event of water shortage due to a leak in the heating system and simultaneous burner operation, the burner is automatically switched off. The switch-off occurs before the boiler and flue system reach impermissible high temperatures.

### Permissible flow temperatures

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

Up to 110 °C

#### ■ CE designation:

- CE-0085 (90 to 350 kW) compliant with Efficiency Directive and
- CE-0085 compliant with the Gas Appliances Directive

Above 110 °C (up to 120 °C) (with individual test certification on request)

#### ■ CE designation:

CE-0035 in compliance with the Pressure Equipment Directive  
For operation with safety temperatures in excess of 110 °C additional safety equipment is required.

Boilers with a safety temperature **above 110 °C** require supervision, according to the Health & Safety at Work Act [Germany]. In accordance with the conformity assessment diagram no. 5 of the EU Pressure Equipment Directive, these boilers must be classed as category III.

The system must be tested prior to commissioning.

- Annually: External inspection, inspection of the safety equipment and water quality.
- Every 3 years: Internal inspection (or water pressure test as an alternative).
- Every 9 years: Water pressure test (for max. test pressure see type plate).


An approved inspection body (e.g. TÜV [in Germany]) must carry out the test.

### For further information on design/engineering

See the technical guide to this boiler.

## Design/engineering information (cont.)

### Tested quality

 CE designation according to current EC Directives

Subject to technical modifications.

Viessmann Werke GmbH & Co. KG  
D-35107 Allendorf  
Telephone: +49 6452 70-0  
Fax: +49 6452 70-2780  
[www.viessmann.com](http://www.viessmann.com)

Viessmann Limited  
Hortonwood 30, Telford  
Shropshire, TF1 7YP, GB  
Telephone: +44 1952 675000  
Fax: +44 1952 675040  
E-mail: [info-uk@viessmann.com](mailto:info-uk@viessmann.com)

5414 660 GB