

## Datasheet

Part no. and prices: See pricelist



### **VITOPLEX 300** Type TX3A

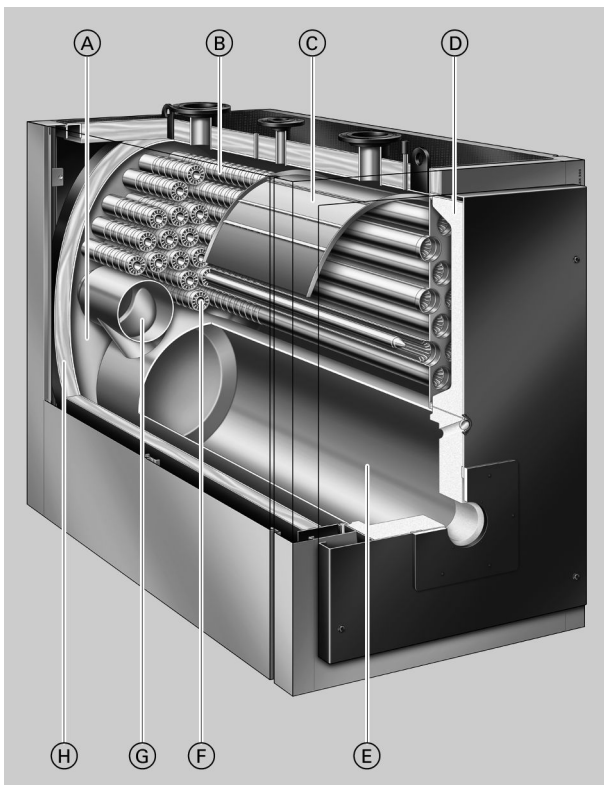
Low temperature oil/gas boiler

- Three-pass boiler with multi layered convection heating surfaces
- For operation with a modulating boiler water temperature
- With 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]
- Optional stainless steel flue gas/water heat exchanger enables use of condensing technology for higher standard seasonal efficiency [to DIN].
- 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.

- Fastfix installation system for rapid and simple installation
- From 620 kW with walk-on boiler cover for easier installation and maintenance.
- Easy to use Vitotronic control unit with colour touchscreen
- Integral WLAN for service interface
- Economical and safe operation of the heating system through the Vitotronic control system with communication capability which, in conjunction with Vitogate 300 (accessories), enables 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
- Ⓒ Water deflector; prevents cold return water from directly reaching the convection heating surfaces.
- Ⓓ Thermal insulation on boiler door
- Ⓔ Combustion chamber – hot gas flue 1
- Ⓕ Hot gas flue 3
- Ⓖ Hot gas flue 2
- Ⓗ Highly effective thermal insulation

## Boiler specification

### Specification

Rated heating output	kW	620	780	1000	1250	1600	2000
Rated heat input	kW	667	839	1075	1344	1720	2150
<b>CE designation</b>		CE-0085BT0478					
According to Gas Appliances Directive							
<b>Permiss. flow temperature</b> (= safety temperature)	°C	110 (up to 120 °C on request)					
<b>Permiss. operating pressure</b>	bar kPa	6 600					
<b>Pressure drop on the hot gas side</b>	mbar Pa	3.5 350	4.0 400	4.0 400	5.0 500	8.5 850	8.0 800
<b>Boiler body dimensions</b>							
Length (dim. k) <sup>*1</sup>	mm	2230	2230	2480	2480	3100	3100
Width (dim. c)	mm	1085	1085	1180	1180	1280	1280
Height (incl. connectors) (dim. e)	mm	1670	1670	1900	1900	2120	2120
<b>Total dimensions</b>							
Total length (dim. f)	mm	2320	2320	2570	2570	3220	3220
Total width							
– Incl. control unit (dim. a)	mm	1460	1460	1555	1555	1660	1660
– Excl. control unit (dim. b)	mm	1285	1285	1380	1380	1485	1485
Total height (incl. lifting eyes) (dim. h)	mm	1690	1690	1920	1920	2140	2140
Height of anti-vibration boiler supports (under load)	mm	37	37	37	37	37	37
<b>Foundation</b>							
Length	mm	1900	1900	2150	2150	2700	2700
Width	mm	1200	1200	1300	1300	1400	1400
<b>Combustion chamber diameter</b>	mm	620	620	720	720	720 <sup>*2</sup>	720 <sup>*2</sup>
<b>Combustion chamber length</b>	mm	1700	1700	1930	1930	2530	2530
<b>Weight boiler body</b>	kg	1650	1890	2560	2715	3545	4025
<b>Total weight</b>	kg	1750	1990	2705	2860	3725	4205
Boiler incl. thermal insulation and boiler control unit							
<b>Capacity boiler water</b>	litres	965	900	1510	1440	2475	2315
<b>Boiler connections</b>							
Boiler flow and return	PN 6 DN	100	100	125	125	150	150
Safety connection (safety valve)	PN 16 DN	50	50	65	65	65	65
Drain (male thread)	R	1¼	1¼	1¼	1¼	1¼	1¼
<b>Flue gas parameters<sup>*3</sup></b>							
Temperature (at 60 °C boiler water temperature)							
– At rated heating output	°C	160					
– At partial load	°C	105					
Temperature (at 80 °C boiler water temperature)							
– At rated heating output	°C	175					
Flue gas mass flow rate							
– 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					
<b>Flue gas connection</b>							
Nominal diameter	∅ mm	300	300	350	350	400	400
Outdoor	∅ mm	298	298	348	348	398	398
<b>Total gas capacity</b>	m <sup>3</sup>	0.80	0.80	1.25	1.25	1.90	2.00
Combustion chamber, hot gas flues, return pipes, bend and flue gas collector							
<b>Standard seasonal efficiency [to DIN]</b> (for operation with fuel oil/natural gas) For heating system temperature 75/60 °C	%	90 (H <sub>s</sub> ) [gross cv]					
<b>Standby loss</b> q <sub>B,70</sub>	%	0.15	0.13	0.13	0.12	0.12	0.11
<b>Matching Vitotrans 300</b>							
– Gas operation	Part no.	Z007212		Z007213		Z007214	
– Oil operation	Part no.	Z007215		Z007216		Z007217	

\*1 Boiler door removed.

\*2 Conical combustion chamber 720/840 mm (combustion chamber diameter front/rear)

\*3 Values for calculating the size of the flue system to EN 13384, relative to 13.2 % CO<sub>2</sub> for fuel oil EL and 10 % CO<sub>2</sub> for natural gas.

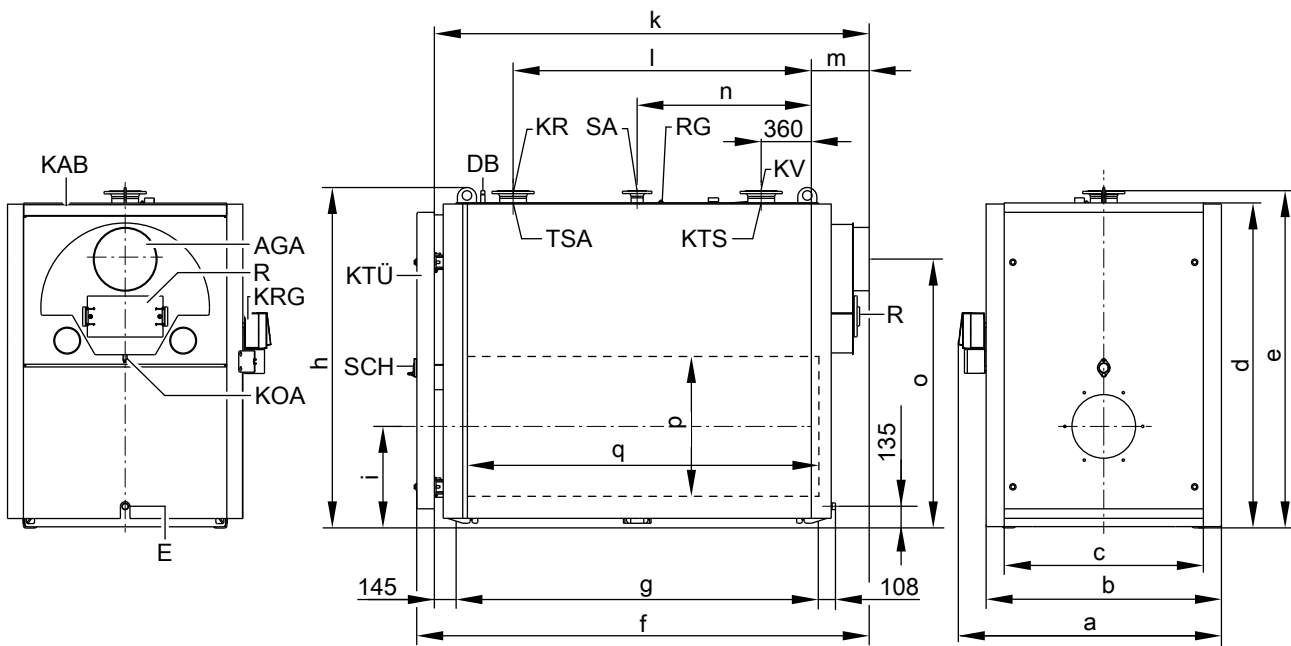
Flue gas temperatures as actual gross values at 20 °C combustion air temperature.

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

## Boiler specification (cont.)

Rated heating output	kW	620	780	1000	1250	1600	2000
<b>Rated heating output</b>							
Boiler with Vitotrans 300							
– Gas operation	kW	682	858	1100	1375	1760	2200
– Oil operation	kW	663	834	1070	1337	1715	2140
<b>CE designation</b>		CE-0085BT0479					
Vitotrans 300 in conjunction with boiler as a condensing unit							
<b>Pressure drop on the hot gas side</b>	mbar	3.9	4.6	5.0	6.4	9.5	9.75
Boiler with Vitotrans 300	Pa	390	460	500	640	950	975
<b>Total length</b>	mm	3770		3620		4430	
Boiler with Vitotrans 300 excl. burner							

## Dimensions



AGA	Flue outlet	KTS	Boiler water temperature sensor (shown offset)
DB	Female connection for maximum pressure limiter (R ½, male thread)	KTÜ	Boiler door
E	Drain	KV	Boiler flow
KAB	Boiler cover (walk-on)	R	Cleaning aperture
KOA	Condensate drain	RG	Female connection for additional control equipment (R ½, male thread)
KR	Boiler return	SA	Safety connection (safety valve)
KRG	Boiler control unit	SCH	Inspection port
		TSA	Sensor well for Therm-Control temperature sensor

### Dimensions

Rated heating output	kW	620	780	1000	1250	1600	2000
a	mm	1460	1460	1555	1555	1660	1660
b	mm	1285	1285	1380	1380	1485	1485
c	mm	1085	1085	1180	1180	1280	1280
d	mm	1590	1590	1815	1815	2035	2035
e	mm	1670	1670	1900	1900	2120	2120
f	mm	2320	2320	2570	2570	3220	3220
g (length of base rails)	mm	1775	1775	2005	2005	2610	2610
h	mm	1690	1690	1920	1920	2140	2140
i	mm	525	525	580	580	640	640
k (transport dimension)	mm	2230	2230	2480	2480	3100	3100
l	mm	1420	1420	1650	1650	2250	2250
m	mm	310	310	330	330	350	350
n	mm	890	890	1005	1005	1305	1305
o	mm	1270	1270	1480	1480	1690	1690



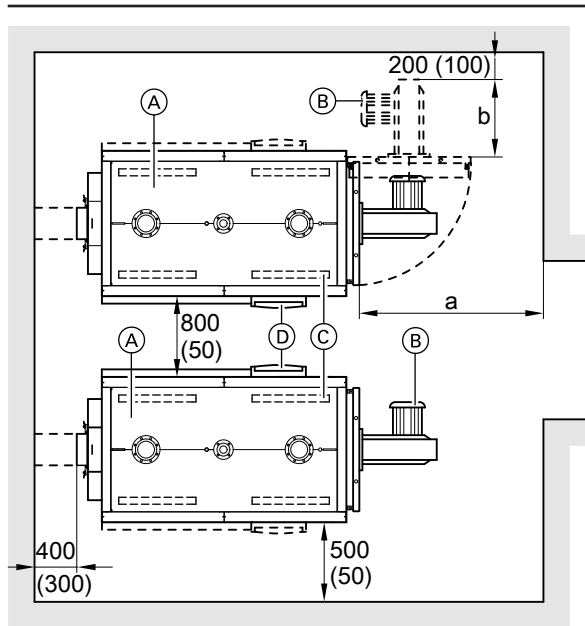
## Boiler specification (cont.)

Rated heating output	kW	620	780	1000	1250	1600	2000
p	∅ mm	620	620	720	720	720*2	720*2
q	mm	1700	2000	1930	2150	2530	2530

Dim. k: With boiler door removed

## Siting

### Minimum clearances



- (A) Boiler
- (B) Burner
- (C) Anti-vibration boiler supports
- (D) Boiler control unit

### Dimensions

Rated heating output	kW	620	780	1000	1250	1600	2000
a	mm	2000	2000	2400	2400	2900	2900
b	mm	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

## Burner installation

Fit the burner plate included in the standard delivery on the hinged boiler door. The burner must be fitted to the burner plate; mounting it directly onto the boiler door without a burner plate is not possible. Drill the supplied burner plate on site, in accordance with the burner dimensions.

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

Dim. a: Maintain this space in front of the boiler to enable the hot gas flues to be cleaned.

If the control units are fitted on opposite sides of the boilers, the 800 mm clearance between the individual boilers can be reduced to 50 mm.

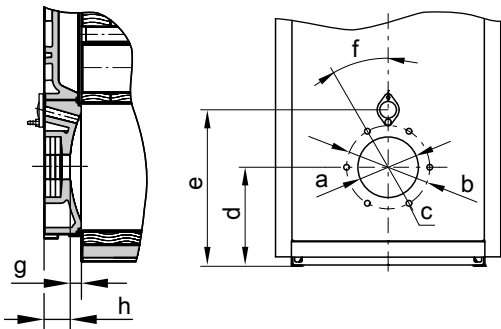
Otherwise, the system may suffer faults and damage.

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 plates may be factory fitted on request (chargeable option). If this is required, state the burner make and type when ordering. The flame tube must protrude from the thermal insulation of the boiler door.

The burner must not exceed a total weight of 180 kg, otherwise supports will need to be provided on site.

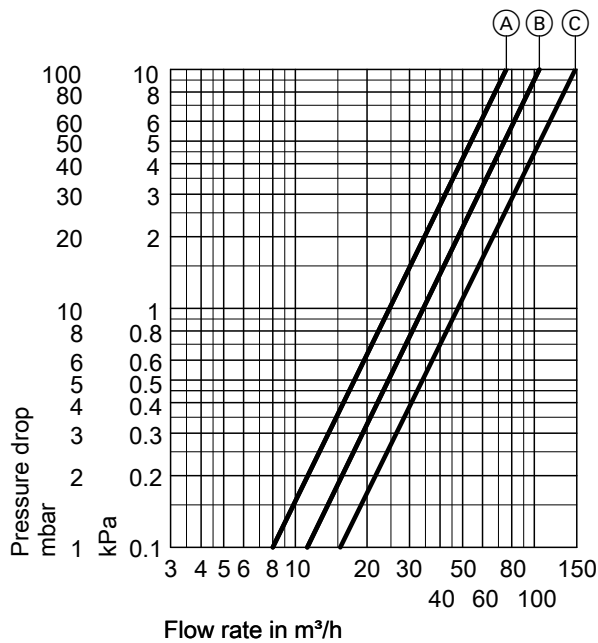
## Boiler specification (cont.)



### Dimensions

Rated heating output	kW	620	780	1000	1250	1600	2000
a	∅mm	350	350	400	400	400	400
b	∅mm	400	400	490	490	490	490
c	Quantity/ thread	6/M12					
d	mm	525	525	580	580	640	640
e	mm	785	785	885	885	970	970
f	°	15	15	30	30	30	30
g	mm	75	75	75	75	75	75
h	mm	150	150	150	150	170	170

## Pressure drop on the heating water side



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

- (A) Rated heating output 620 and 780 kW
- (B) Rated heating output 1000 and 1250 kW
- (C) Rated heating output 1600 and 2000 kW

## Vitotrans 300 specification

### Specification

Vitotrans 300 – gas operation	Part no.	Z007212	Z007213	Z007214
– oil operation	Part no.	Z007215	Z007216	Z007217
<b>Rated boiler heating output</b>	kW	620-900	630-1300	1600-2000
<b>Rated heating output of the Vitotrans 300 for</b>				
– gas operation	from kW	62.0	63.0	160.0
	to kW	94.5	136.0	204.0
– oil operation	from kW	43.0	44.0	115.0
	to kW	64.0	93.0	140.0
<b>Permiss. operating pressure</b>	bar	6	6	6
	kPa	600	600	600
<b>Permiss. flow temperature</b> (= safety temperature)	°C	110 (120)	110 (120)	110 (120)
<b>Pressure drop on the hot gas side</b>	mbar	0.4-0.8	0.4-1.6	1.0-1.75
	Pa	40-80	40-160	100-175
<b>Flue gas mass flow rate</b>	from kg/h	1010	1057	2670
	to kg/h	1500	2160	3300
<b>Overall dimensions</b>				
Total length (dim. f)	mm	1046	1046	1200
Total width (dim. m), incl. mating flanges	mm	1097	1097	1226
Total height (dim. i)	mm	1783	1783	2024
<b>Transport dimensions</b>				
Length (dim. f)	mm	1046	1046	1200
Width (dim. m), excl. mating flanges	mm	989	989	1112
Height (dim. a)	mm	1674	1674	1915
<b>Total weight</b> heat exchanger incl. thermal insulation	kg	355	355	470
<b>Content</b>				
Heating water	litres	215	215	295
Flue gas	m <sup>3</sup>	0.336	0.336	0.544
<b>Connections</b>				
Heating water flow and return	PN 16 DN	100	100	125
Condensate drain	∅ mm	32	32	32
<b>Flue gas connection</b> *4	DN	300	300	350

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

Heating output of the Vitotrans 300 with flue gas cooling of 200/65 °C during gas operation and 200/70 °C during 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

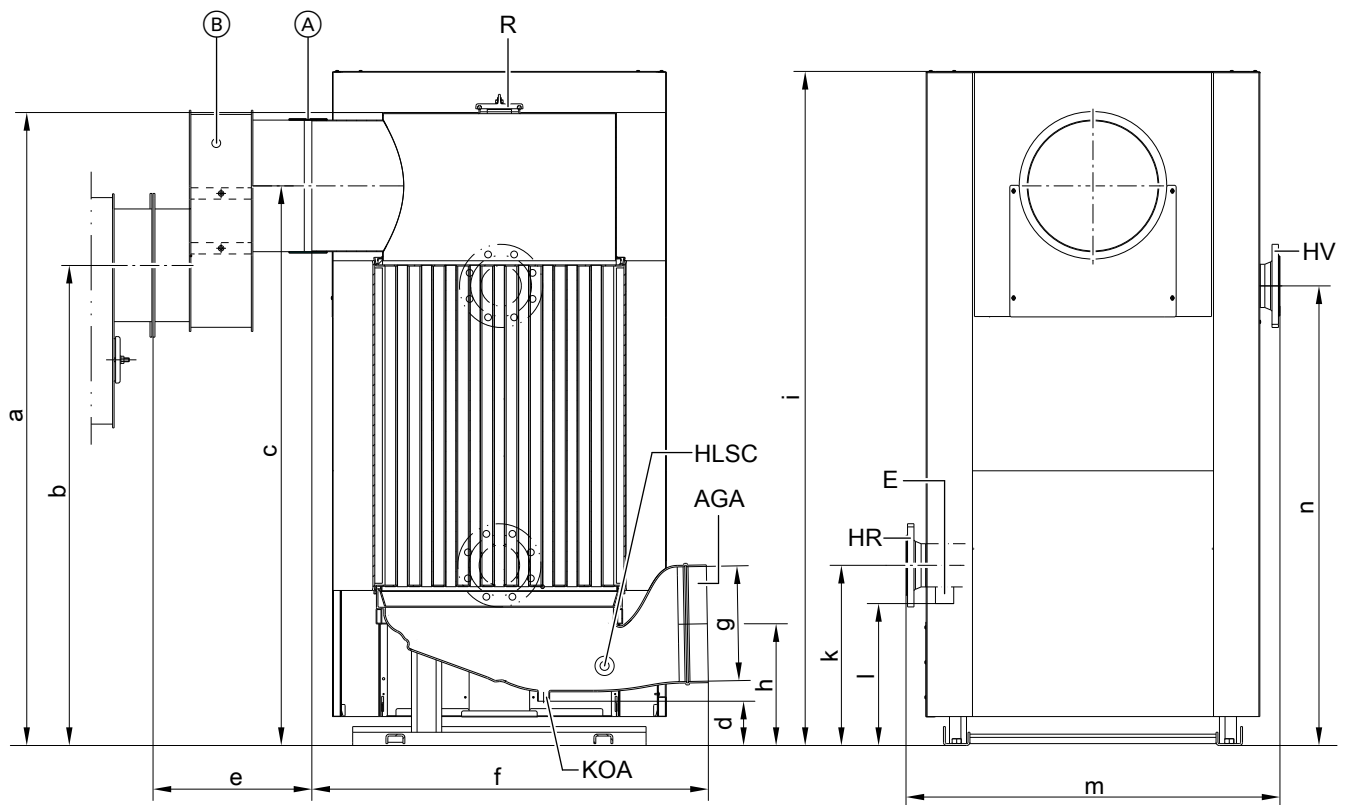
Pressure drop on the hot gas side at rated heating output. The burner must overcome the hot gas pressure drop of the boiler, the Vitotrans 300 and the flue pipe.

#### Tested quality

**CE** 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) Connection collar	HR Heating water return (inlet)
(B) Offset flue adaptor, only with part no. Z007212 and Z007215 for Vitoplex boilers	HV Heating water flow (outlet)
AGA Flue outlet	KOA Condensate drain
E Drain connector	R Cleaning aperture
	STB Fem. connection for flue gas high limit safety cut-out

### Dimensions

Part no.		Z007212		Z007213		Z007214	
		Z007215		Z007216		Z007217	
a	mm	1674		1674		1825	
b	mm	1270		1480		1690	
c	mm	1480		1480		1690	
d	mm	116		116		116	
e	mm	420		15		15	
f	mm	1046		1046		1200	
g (internal)	∅ mm	301		301		352	
h	mm	321		321		356	
i	mm	1783		1783		1934	
k	mm	476		476		580	
l	mm	375		375		469	
m	mm	989		989		1112	
n	mm	1215		1215		1297	

### Note

The height of the Vitotrans 300 can be adjusted via levelling bolts on the base plate or height-adjustable base rails.

### Delivered condition

Heat exchanger body with fitted flue gas header and integral feet.  
Mating flanges and screws are fitted to the connector.

- 1 Crate with offset flue adaptor
- 1 Box with thermal insulation for offset flue adaptor

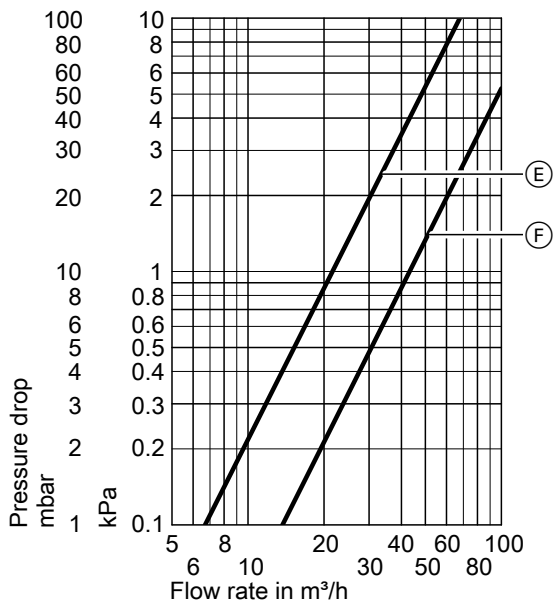
- 1 Box with thermal insulation for flue gas/water heat exchanger
- 1 Box with collar



## Vitotrans 300 specification (cont.)

### Pressure drop on the heating water side

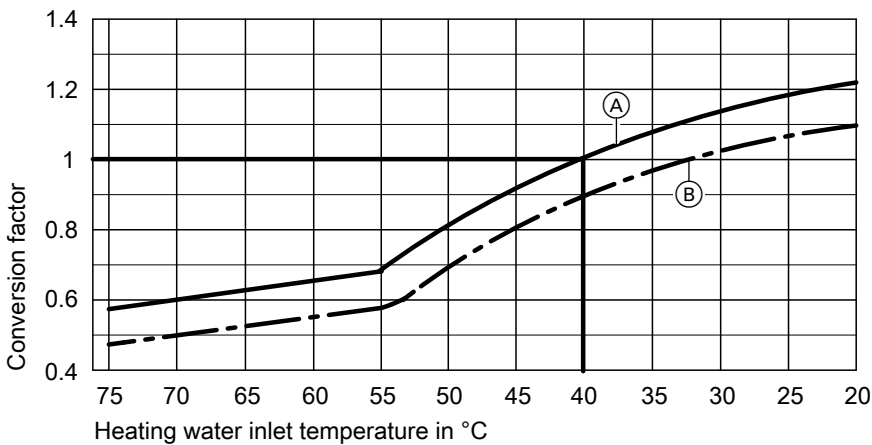
Part no. Z007212 to Z007217



Part no.	Curve
Z007212	Ⓔ
Z007213	
Z007215	
Z007216	
Z007214	Ⓕ
Z007217	

### 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, fitted cleaning cover and permanently fitted boiler cover.

Mating flanges are fitted to all connectors.

The adjusting screws and burner plate can be found inside the combustion chamber.

- 2 boxes with thermal insulation and 1 cleaning brush
- 1 coding card and technical documentation for Vitoplex 300
- 1 box with boiler control unit and 1 bag with technical documentation
- 1 Therm-Control

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## Control unit versions

### For a single boiler system

#### ■ Vitotronic 100, type CC1E

For the control unit with a constant boiler water temperature.  
For weather-compensated or room temperature-dependent operation in conjunction with an external control unit.

#### ■ Vitotronic 200, type CO1E

For weather-compensated operation and mixer control for up to 2 heating circuits with mixer. For the 2 heating circuits with mixer, the accessory "Extension for heating circuits 2 and 3" is required.

### For a multi boiler system (up to 8 boilers)

#### ■ Vitotronic 300, type CM1E

For weather-compensated operation of a multi boiler system. This Vitotronic control unit also handles control of the boiler water temperature of a boiler within this multi boiler system.

#### Vitotronic 100, type CC1E and LON communication module

To control the boiler water temperature for each additional boiler in the multi boiler system.

#### ■ Vitocontrol 100-M/200-M multi mode system controller

For weather-compensated cascade control of boilers with Vitotronic 100 control unit and a Vitobloc 200 CHP unit or other heat generators.

### Multi mode system controller in the control panel

For single and multi boiler systems

#### Vitocontrol 100-M

■ For operation of multi mode heating systems with up to 4 heat generators, with various combinations of oil/gas boilers, heat pumps, CHP units and solid fuel boilers. The Vitocontrol 100-M can operate a range of defined standard schemes. The schemes are available via the Viessmann Schematic Browser. For the compatibility of the Vitocontrol 100-M in conjunction with Viessmann control units, see the compatibility list. Connection to Vitoscada for web-based system visualisation is available as an option. This requires an internet connection.

Viessmann Schematic Browser: [www.viessmann-schemes.com](http://www.viessmann-schemes.com)

Compatibility list: [www.vitoccontrol.info](http://www.vitoccontrol.info)

#### Vitocontrol 200-M

■ For the operation of customer-specific multi mode energy systems with any number of heat generators in various combinations, as well as cooling, solar, ventilation and electricity components. Solutions are based on a modular system and can be flexibly extended with new functions and process applications. Connection to Vitoscada for web-based system visualisation is available as an option. This requires an internet connection.

## Boiler accessories

See pricelist.

## Operating conditions for systems with Vitotronic boiler protection

Vitotronic boiler protection, e.g. Therm-Control.

		Requirements	
<b>Operation with burner load</b>		<b>≥ 60 %</b>	<b>&lt; 60 %</b>
1.	Heating water flow rate	None	
2.	Boiler return temperature (minimum value) <sup>*5</sup>	None <sup>*6</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	If no heat is required, the boiler can be shut down.	
7.	Weekend setback	As per reduced mode	

<sup>\*5</sup> A suitable system example showing the installation of a return temperature raising facility can be found in the technical guide "System examples".

<sup>\*6</sup> No requirements; only in conjunction with Therm-Control.

## Operating conditions for systems with Vitotronic boiler protection (cont.)

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

## Operating conditions for systems with on-site boiler protection

Operation with burner load	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 45 °C – Gas operation 55 °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. 2-stage burner operation	No minimum load required		Stage 1: 60 % of rated heating output
5. Modulating burner operation	No minimum load required		Between 60 and 100 % of rated heating output
6. Reduced mode	If no heat is required, the boiler 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

Delivery without burner

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.

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.

### Permissible flow temperatures

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


- Up to 110 °C  
**CE designation:**  
CE-0085 in compliance 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** must be supervised in accordance with the Operational Safety Ordinance [Germany]. In accordance with conformity assessment diagram no. 5 of the Pressure Equipment Directive, these boilers must be classed as category IV.  
The system must be tested prior to its 1st commissioning.
    - Annually – external inspection, inspection of the safety equipment and water quality
    - Every 3 years – internal inspection (alternatively carry out a water pressure test)
    - Every 9 years – water pressure test (for max. test pressure, see the 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.

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## 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)

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