

Datasheet

Part no. and prices: See pricelist



Vertical DHW cylinder made from **stainless steel**

VITOCELL 300-V

Vitosilver

160 l, type EVIB-A, EVIB-A+
200 l, type EVIB-A, EVIB-A+
300 l, type EVIB-A
500 l, type EVIA-A

Vitopearlwhite

500 l, type EVIA-A

Vitographite

160 l, type EVIB-A
200 l, type EVIB-A

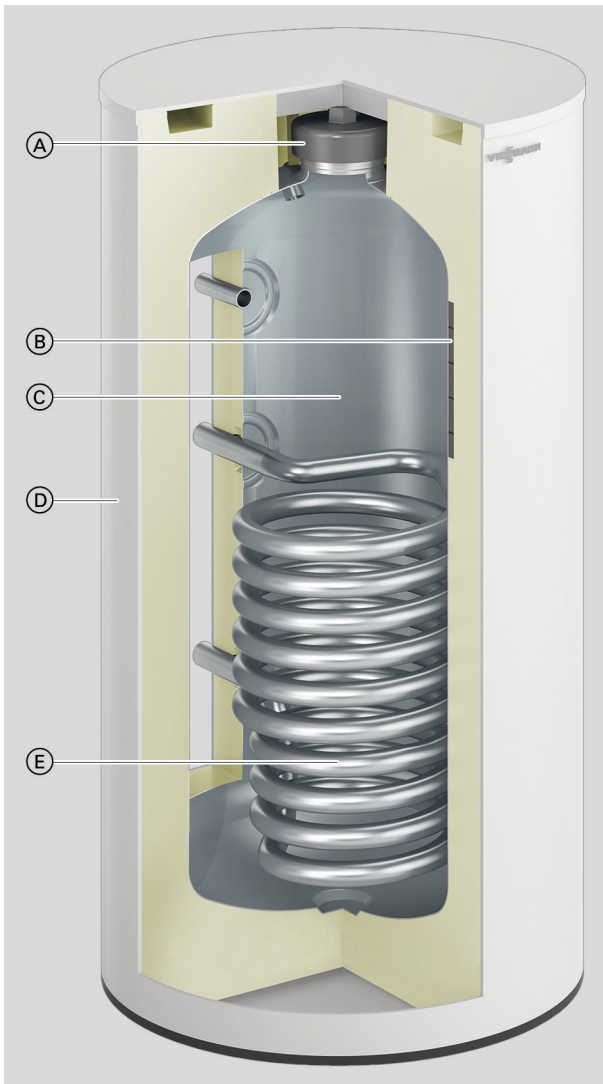
VITOCELL 300-W

Vitopearlwhite

160 l, type EVIB-A, EVIB-A+
200 l, type EVIB-A, EVIB-A+
300 l, type EVIB-A

Benefits

Type EVIB-A, 160 l



- Ⓐ Inspection and cleaning aperture
- Ⓑ Vacuum-insulated panel
- Ⓒ Stainless steel cylinder
- Ⓓ Highly effective all-round thermal insulation
- Ⓔ Indirect coil made from stainless steel

- Long lasting product thanks to corrosion-resistant stainless steel cylinder
- Hygienic and made to food hygiene standards with high surface quality
- Easy to maintain and no protective anode required, meaning no additional subsequent costs.
- Internal indirect coils that stretch right down to the cylinder floor heat up the entire water content

- High DHW convenience through rapid, even heat-up via generously sized indirect coils
- The DHW cylinder is equipped with vacuum-insulated panels for low heat losses.
- Available with 160 and 200 l capacity and with energy efficiency class A or A+
- Easy handling thanks to low weight and removable thermal insulation for version with 500 l capacity

Delivered condition

Type EVIB-A

DHW cylinder with **160, 200 and 300 l** capacity:

- Attached vacuum-insulated panels
- Sheet steel epoxy-coated casing: Vitopearlwhite or Vitosilver, or for 160 and 200 l capacity also in Vitographite
- Adjustable feet
- Cylinder and internal indirect coil made from stainless steel
- Clamping device for securing immersion temperature sensors to the cylinder jacket, each with fixing points for 3 immersion temperature sensors

Type EVIB-A+

DHW cylinder with **160 and 200 l** capacity:

- Attached vacuum-insulated panels
- Sheet steel casing, epoxy-coated: Vitopearlwhite or Vitosilver
- Adjustable feet
- Cylinder and internal indirect coil made from stainless steel
- Clamping device for securing immersion temperature sensors to the cylinder jacket, each with fixing points for 3 immersion temperature sensors

Benefits (cont.)

Type EVIA-A

DHW cylinder with **500 l** capacity:

- Removable thermal insulation
- Polystyrene casing: Vitoppearlwhite or Vitosilver
- Adjustable feet
- Cylinder and internal indirect coil made from stainless steel
- Thermometer
- Clamping device for securing immersion temperature sensors to the cylinder jacket, with fixing points for 3 immersion temperature sensors

Specification

Information on continuous output

When designing systems with the specified or calculated continuous output, allow for a matching circulation pump. The stated continuous output is only achieved if the heat generator's rated heating output is \geq the continuous output.

Sizing entry points

The actual dimensions of the DHW cylinder may vary slightly due to manufacturing tolerances.

Specification

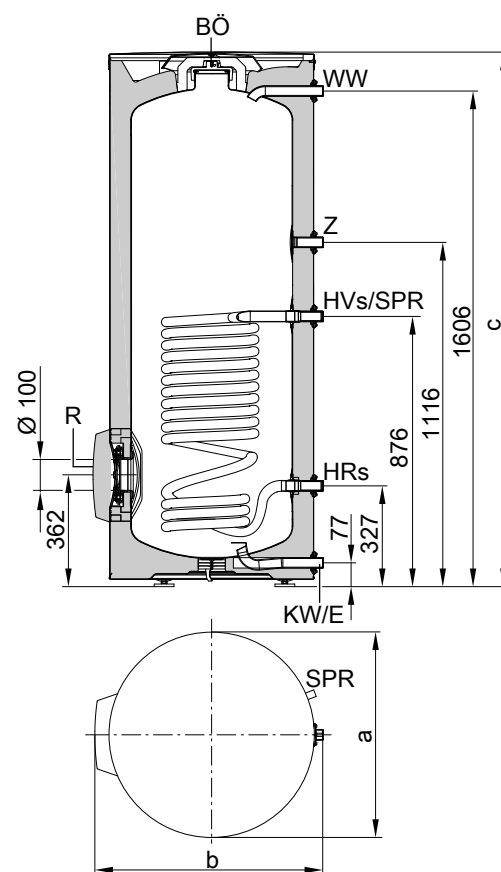
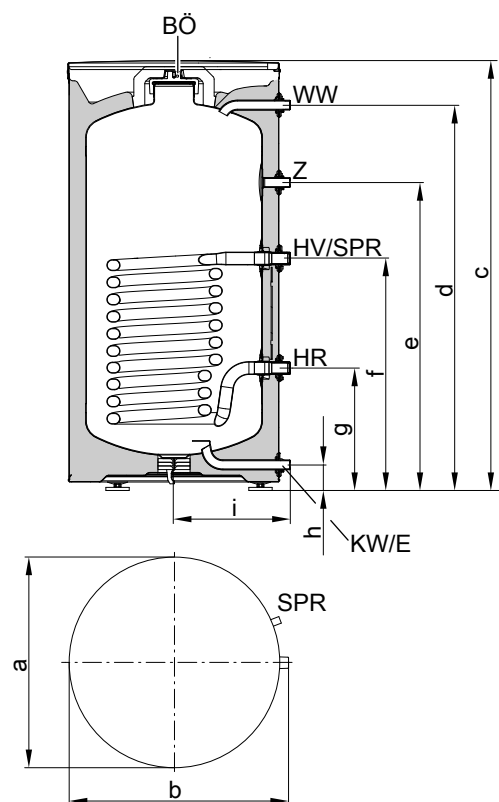
Type	EVIB-A+		EVIB-A			EVI-A
Cylinder capacity (AT: Actual water capacity)	160	200	160	200	300	500
Heating water capacity	7.4		7.4		11.0	12.9
Gross volume	167.4	207.4	167.4	207.4	311.0	512.9
DIN registration number	9W71-10MC/E					
Continuous output at heating water flow rate stated below						
– For DHW heating from 10 to 45 °C and the following heating water flow temperatures						
90 °C	kW	46		46	61	69
	l/h	1127		1127	1501	1688
80 °C	kW	38		38	51	58
	l/h	939		939	1252	1414
70 °C	kW	30		30	41	46
	l/h	747		747	998	1128
60 °C	kW	22		22	30	34
	l/h	547		547	733	830
50 °C	kW	13		13	18	20
	l/h	322		322	434	491
– For DHW heating from 10 to 60 °C and the following heating water flow temperatures						
90 °C	kW	39		39	52	59
	l/h	668		668	894	1011
80 °C	kW	31		31	41	46
	l/h	527		527	706	799
70 °C	kW	22		22	29	33
	l/h	372		372	501	568
Heating water flow rate for the stated continuous outputs	m ³ /h	3.0		3.0		3.0
Standby heat loss	kWh/24 h	0.71	0.75	0.98	1.04	1.18
Permissible temperatures						
– Heating water side	°C	160	160	160	160	160
– DHW side	°C	95	95	95	95	95
Permissible operating pressure						
– Heating water side	bar	10	10	10	10	10
	MPa	1	1	1	1	1
– DHW side	bar	10	10	10	10	10
	MPa	1	1	1	1	1
Dimensions						
Length a (Ø)						
– Incl. thermal insulation	mm	634	634	634	634	668
– Excl. thermal insulation	mm	—	—	—	—	—
Width b						
– Incl. thermal insulation	mm	661	661	661	661	706
– Excl. thermal insulation	mm	—	—	—	—	—
Height c						
– Incl. thermal insulation	mm	1190	1410	1190	1410	1740
– Excl. thermal insulation	mm	—	—	—	—	—
Height when tilted						
– Incl. thermal insulation	mm	1323	1520	1323	1520	1840
– Excl. thermal insulation	mm	—	—	—	—	—
Total weight incl. thermal insulation	kg	57	65	57	65	92
Heating surface	m ²	1.0		1.0		1.5
Connections (male thread)						
Heating water flow and return	R		1		1	1
Cold water, DHW	R		¾		¾	1¼
DHW circulation	R		¾		¾	1

Specification (cont.)

Type	EVIB-A+		EVIB-A			EVIA-A	
Cylinder capacity (AT: Actual water capacity)	I	160	200	160	200	300	500
Energy efficiency class		A+		A			A
Colour of the Vitocell 300-V							
– Vitosilver		X	X	X	X	X	X
– Vitopearlwhite		—	—	—	—	—	X
– Vitographite		—	—	X	X	—	—
Colour of the Vitocell 300-W							
– Vitopearlwhite		X	X	X	X	X	—

Dimensions of type EVIB-A, EVIB-A+, 160 and 200 l capacity

Dimensions of type EVIB-A, 300 l capacity



- BÖ Inspection and cleaning aperture
- E Drain outlet
- HR Heating water return
- HV Heating water flow
- KW Cold water
- SPR Clamping device for securing immersion temperature sensors to the cylinder jacket, each with fixing points for 3 immersion temperature sensors
- WW Domestic hot water
- Z DHW circulation

- BÖ Inspection and cleaning aperture, also for installation of an immersion heater EHE
- E Drain outlet
- HR Heating water return
- HV Heating water flow
- KW Cold water
- R Additional cleaning aperture and immersion heater
- SPR Clamping device for securing immersion temperature sensors to the cylinder jacket, each with fixing points for 3 immersion temperature sensors
- WW Domestic hot water
- Z DHW circulation

Dimensions of type EVIB-A, EVIB-A+

Cylinder capacity	I	160	200
a	mm	634	634
b	mm	661	661
c	mm	1190	1410
d	mm	1062	1282
e	mm	850	892
f	mm	642	642
g	mm	342	342
h	mm	77	77
i	mm	344	344

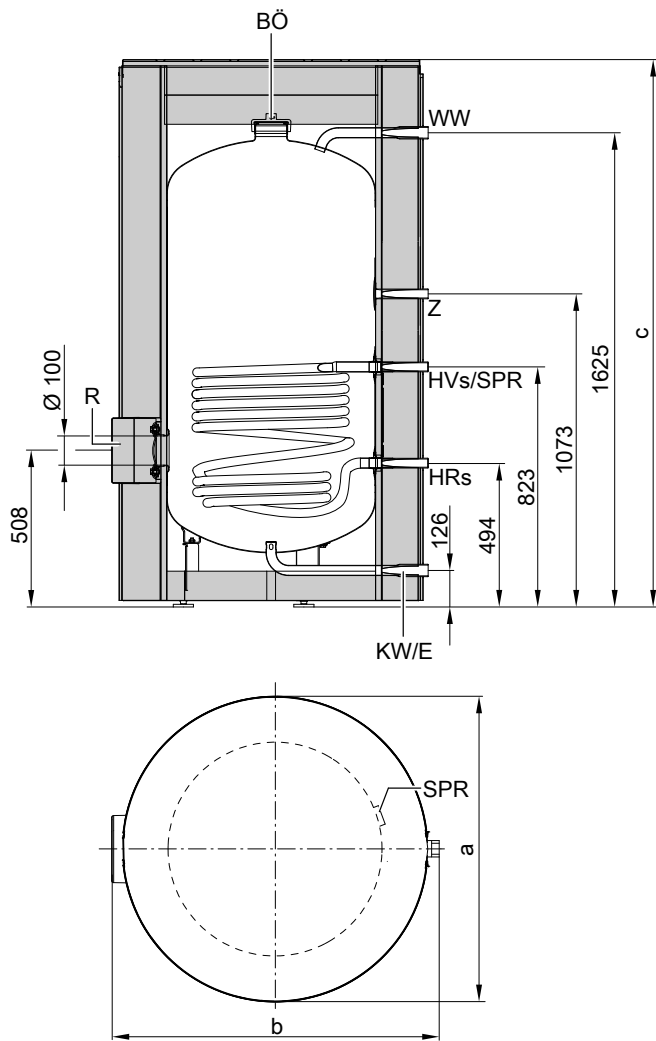
Dimensions of type EVIB-A

Cylinder capacity	I	300
a	mm	668
b	mm	706
c	mm	1740

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Specification (cont.)

Dimensions of type EVIB-A, 500 l capacity



- HR Heating water return
- HV Heating water flow
- KW Cold water
- R Additional cleaning aperture and immersion heater
- SPR Clamping device for securing immersion temperature sensors to the cylinder jacket, with fixing points for 3 immersion temperature sensors per clamping device
- WW Domestic hot water
- Z DHW circulation

Dimensions of type EVIA-A

Cylinder capacity	l	500
a	mm	1022
b	mm	1084
c	mm	1852

- BÖ Inspection and cleaning aperture, also for installation of an immersion heater EHE
- E Drain outlet

Performance factor N_L to DIN 4708, upper internal indirect coil

Cylinder capacity	l	160	200	300	500
Performance factor N_L					
Heating water flow temperature					
90 °C		3.5	6.6	10.5	21.5
80 °C		3.1	5.6	10.0	19.5
70 °C		2.3	4.6	9.5	17.0

- The performance factor N_L depends on the cylinder storage temperature T_{cyl} .
- Cylinder storage temperature T_{cyl} = cold water inlet temperature + 50 K +5 K/-0 K

Standard values for performance factor N_L

- $T_{cyl} = 60\text{ °C} \rightarrow 1.0 \times N_L$
- $T_{cyl} = 55\text{ °C} \rightarrow 0.75 \times N_L$
- $T_{cyl} = 50\text{ °C} \rightarrow 0.55 \times N_L$
- $T_{cyl} = 45\text{ °C} \rightarrow 0.3 \times N_L$

Peak output over 10 min, relative to performance factor N_L

Cylinder capacity	l	160	200	300	500
Peak output (l/10 min) for DHW heating from 10 to 45 °C					
Heating water flow temperature					
90 °C		251	340	430	634
80 °C		237	314	419	600
70 °C		207	285	408	556

Specification (cont.)

Max. draw-off rate over 10 min., relative to performance factor N_L

Cylinder capacity	l	160	200	300	500
Max. draw-off rate (l/min) for DHW heating from 10 to 45 °C, with reheating					
Heating water flow temperature					
90 °C		25.1	34.0	43.0	63.4
80 °C		23.7	31.4	41.9	60.0
70 °C		20.7	28.5	40.8	55.6

Drawable water volume

Cylinder capacity	l	160	200	300	500
Draw-off rate for cylinder volume heated to 60 °C	l/min	10	10	15	15
Drawable water volume without reheating	l	133	155	240	420
Water at t = 60 °C (constant)					

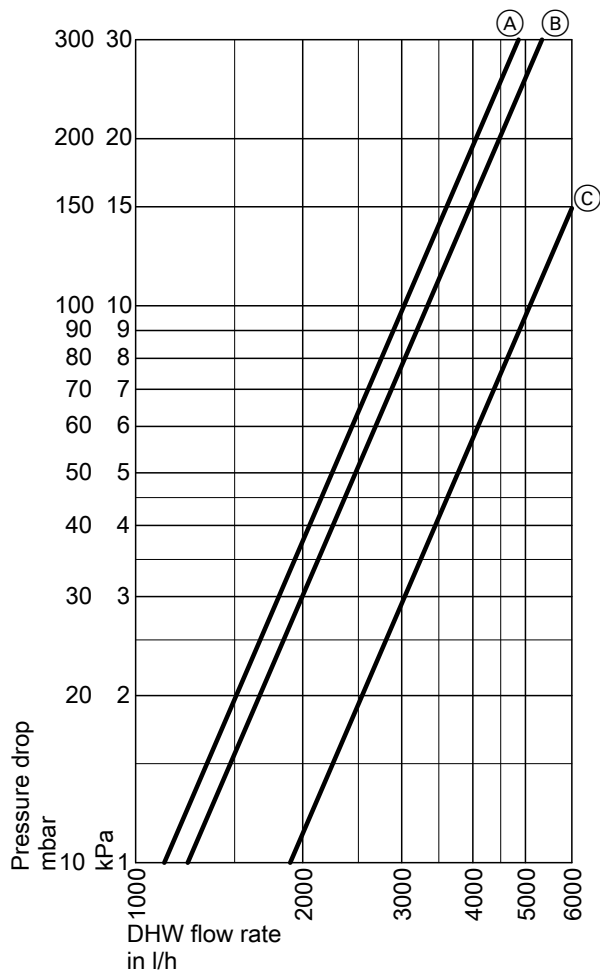
Heat-up time

The specified heat-up times will be achieved when the maximum continuous output of the DHW cylinder is made available at the relevant heating water flow temperature and when DHW is heated from 10 to 60 °C.

Cylinder capacity	l	160	200	300	500
Heat-up time (min.) at heating water flow temperature					
90 °C		17	19	21	25
80 °C		20	24	30	33
70 °C		30	37	40	46

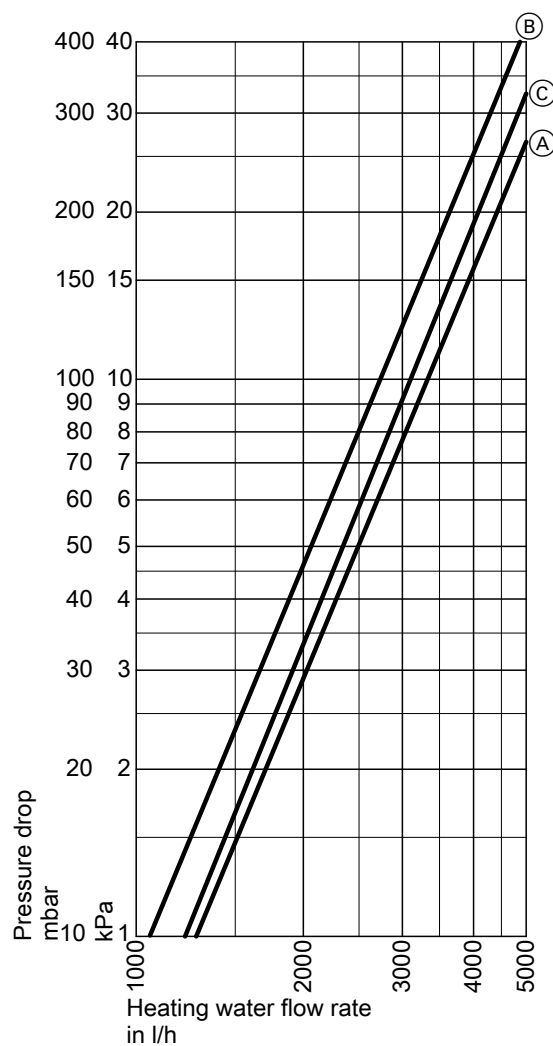
Specification (cont.)

Pressure drop on the DHW side



- (A) Cylinder capacity 160 and 200 l
- (B) Cylinder capacity 300 l
- (C) Cylinder capacity 500 l

Pressure drop on the heating water side



- (A) Cylinder capacity 160 and 200 l
- (B) Cylinder capacity 300 l
- (C) Cylinder capacity 500 l

Cylinder bank specification

The DHW cylinders can be combined into banks with up to 2 cylinders (300 l) and up to 3 cylinders (500 l). The heating water and DHW headers are available ex works and must be ordered separately. Cylinder banks consisting of more than 3 cylinders can be assembled from several cylinder banks of up to 3 cylinders each. Connection of these cylinder banks on the heating water and DHW side to be performed on site.

Cylinder bank specification (300 and 500 l capacity)

Notes on continuous output

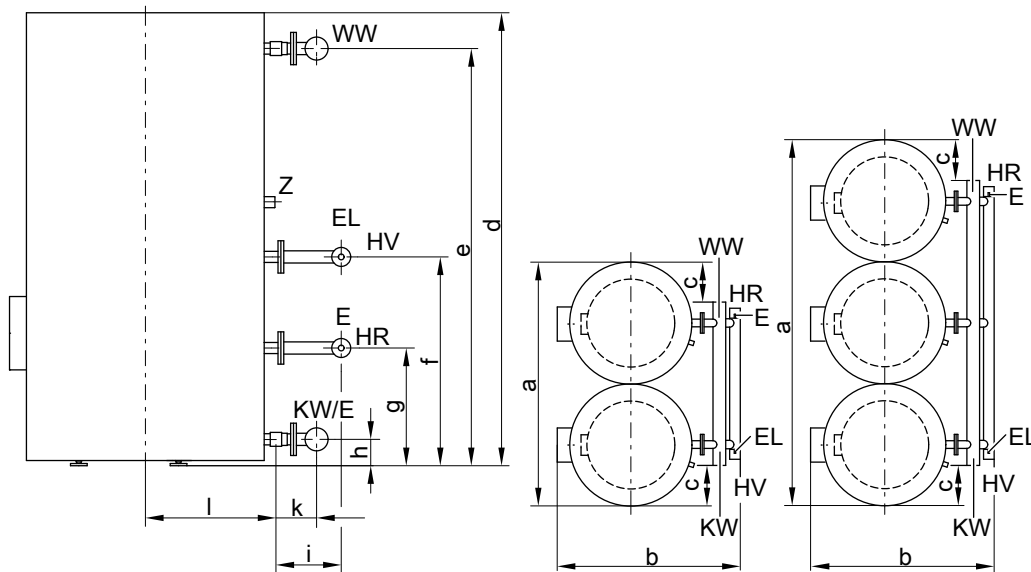
When designing systems with the specified or calculated continuous output, allow for a matching circulation pump. The stated continuous output is achieved only if the heat generator's rated heating output is \geq continuous output.

Cylinder bank specification (cont.)

Cylinder capacity	l	300	1000	500
Total cylinder bank capacity	l	600	1000	1500
Number of DHW cylinders		2	2	3
Arrangement		●●	●●	●●●
Continuous output at heating water flow rate stated below				
– For DHW heating from 10 to 45 °C and following heating water flow temperatures				
90 °C	kW	122	138	207
	l/h	3002	3376	5064
80 °C	kW	102	116	174
	l/h	2504	2828	4242
70 °C	kW	82	92	138
	l/h	1996	2256	3384
60 °C	kW	60	68	102
	l/h	1466	1660	2490
50 °C	kW	36	40	60
	l/h	868	982	1473
– For DHW heating from 10 to 60 °C and following heating water flow temperatures				
90 °C	kW	104	118	177
	l/h	1788	2022	3033
80 °C	kW	82	92	138
	l/h	1412	1598	2397
70 °C	kW	58	66	99
	l/h	1002	1136	1704
Heating water flow rate for the stated continuous outputs	m ³ /h	6	6	9
Dimensions incl. thermal insulation				
Length a	mm	1495	2085	3158
Width b	mm	1008	1376	1376
Height d	mm	1740	1852	1852
Weight	kg	211	252	379
DHW cylinders with thermal insulation and headers				
Heating water capacity including headers	l	27.4	33.0	50.9
Heating surface area	m ²	3.0	3.4	5.1
Connections				
Heating water flow and return (flanged connection)	R	2	2	2
Cold water, DHW (male thread)	R	1¼	1¼	1½

Cylinder bank specification (cont.)

Dimensions of cylinder bank



Example of 500 l capacity: Side view and plan view

E	Drain on the heating water side (female thread R ½)	HV	Heating water flow
EL	Air vent valve (female thread R ½)	KW/E	Cold water and drain on the DHW side
HR	Heating water return	WW	DHW
		Z	DHW circulation

Dimensions of cylinder bank

Cylinder capacity	l	300	1000	1500
Total cylinder bank capacity	l	600	1000	1500
Number of DHW cylinders		2	2	3
a	mm	1495	2085	3158
b	mm	1008	1376	1376
c	mm	226	402	404
d	mm	1740	1852	1852
e	mm	1606	1601	1601
f	mm	876	799	799
g	mm	327	470	470
h	mm	77	102	102
i	mm	220	210	210
k	mm	105	116	116
l	mm	360	538	538

Performance factor N_L to DIN 4708

Cylinder capacity	l	300	1000	1500
Total cylinder bank capacity	l	600	1000	1500
Number of DHW cylinders		2	2	3
Performance factor N_L				
Heating water flow temperature				
90 °C		36.0	65.8	95.0
80 °C		34.8	61.2	90.0
70 °C		33.2	54.0	85.0

- The performance factor N_L depends on the cylinder storage temperature T_{cyl}
- Cylinder storage temperature $T_{cyl} = \text{cold water inlet temperature} + 50 \text{ K} + 5 \text{ K}/-0 \text{ K}$

Standard values for performance factor N_L

- $T_{cyl} = 60 \text{ °C} \rightarrow 1.0 \times N_L$
- $T_{cyl} = 55 \text{ °C} \rightarrow 0.75 \times N_L$
- $T_{cyl} = 50 \text{ °C} \rightarrow 0.55 \times N_L$
- $T_{cyl} = 45 \text{ °C} \rightarrow 0.3 \times N_L$

Cylinder bank specification (cont.)

Peak output over 10 min, relative to performance factor N_L

Cylinder capacity	I	300		500
Total cylinder bank capacity	I	600	1000	1500
Number of DHW cylinders		2	2	3
Peak output (l/10 min) for DHW heating from 10 to 45 °C				
Heating water flow temperature				
90 °C		860	1268	1902
80 °C		838	1200	1800
70 °C		816	1112	1668

Max. draw-off rate over 10 min., relative to performance factor N_L

Cylinder capacity	I	300		500
Total cylinder bank capacity	I	600	1000	1500
Number of DHW cylinders		2	2	3
Max. draw-off rate (l/min) for DHW heating from 10 to 45 °C, with re-heating				
Heating water flow temperature				
90 °C		86.0	126.8	190.2
80 °C		83.8	120.0	180.0
70 °C		81.6	111.2	166.8

Drawable water volume

Cylinder capacity	I	300		500
Total cylinder bank capacity	I	600	1000	1500
Number of DHW cylinders		2	2	3
Draw-off rate for cylinder volume heated to 60 °C	l/min	30	30	45
Drawable water volume without reheating	I	480	840	1260
Water at $t = 60$ °C (constant)				

Design information

Heating water flow temperatures in excess of 110 °C

For these operating conditions, DIN 4753 recommends the installation of a type-tested high limit safety cut-out in the DHW cylinder, which limits the temperature to 95 °C.

Warranty

Our warranty for DHW cylinders requires that the water to be heated meets the DHW quality in accordance with current potable water regulations and that existing water treatment systems work properly.

Heat transfer surface

The corrosion-resistant, protected heat transfer surface (DHW/heat transfer medium) complies with EN 1717/DIN 1988-100 version 2.

Immersion heater

When using third party products, the threaded immersion heater must have an unheated length of at least 130 mm.

Technical guide

For further details regarding the design and sizing: See the "DHW heating technical guide".

Design information (cont.)

Intended use

The appliance is only intended to be installed and operated in sealed unvented systems that comply with EN 12828 / DIN 1988, or solar thermal systems that comply with EN 12977, with due attention paid to the associated installation, service and operating instructions. DHW cylinders are only designed to store and heat water of potable water quality. Heating water buffer cylinders are only designed to hold fill water of potable water quality. Only operate solar collectors with the heat transfer medium approved by the manufacturer.

Intended use presupposes that a fixed installation in conjunction with permissible, system-specific components has been carried out.

Commercial or industrial usage for a purpose other than heating the building or DHW shall be deemed inappropriate.

Any usage beyond this must be approved by the manufacturer for the individual case.

Incorrect usage or operation of the appliance (e.g. the appliance being opened by the system user) is prohibited and results in an exclusion of liability.

Incorrect usage also occurs if the components in the system are modified from their intended use (e.g. through direct DHW heating in the collector).

Adhere to statutory regulations, especially concerning the hygiene of potable water.

Accessories

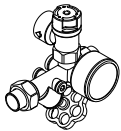
Safety assembly to DIN 1988

Components:

- Shut-off valve
- Non-return valve and test connector
- Diaphragm safety valve

Up to 200 l cylinder capacity

- 10 bar (1 MPa): **Part no. 7219722**
- **A** 6 bar (0.6 MPa): **Part no. 7265023**
- Pressure gauge
- DN 15/R ¾
- Max. heat input: 75 kW



Above 200 l cylinder capacity

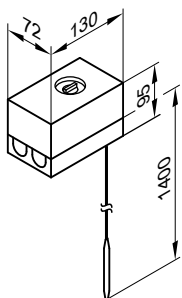
- 10 bar (1 MPa): **Part no. 7180662**
- **A** 6 bar (0.6 MPa): **Part no. 7179666**
- Pressure gauge connector
- DN 20/R 1
- Max. heat input: 150 kW



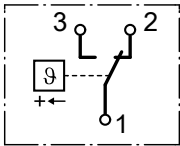
Temperature controller

Part no. 7151989

- With a thermostatic system
- With selector on the outside of the casing
- Without sensor well
- With top-hat rail to be fitted to the DHW cylinder or the wall



Specification

Connection	3-core lead with a cross-section of 1.5 mm ²
IP rating	IP 41 to EN 60529
Setting range	30 to 60 °C, adjustable up to 110 °C
Switching differential	Max. 11 K
Breaking capacity	6 (1.5) A 250 V~
Switching function	With rising temperature from 2 to 3 
DIN registration number	DIN TR 1168

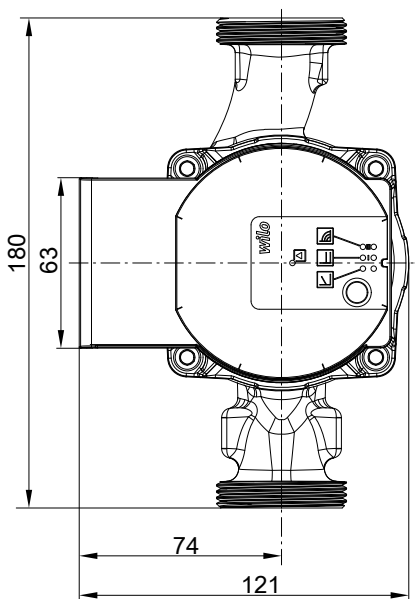
Accessories (cont.)

Circulation pump for cylinder heating

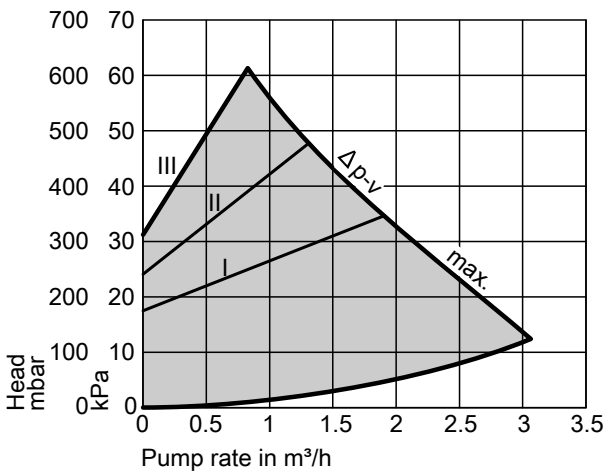
Pump type	Part no.
Para 25-180/6-43/SC 9	7172611
Para 30-180/6-43/SC 9	7172612

Pump type		Para 25-180/6-43/SC 9	Para 30-180/6-43/SC 9
Energy efficiency index EEI		≤ 0.2	≤ 0.2
Voltage	V~	230	230
Power consumption	W	3-43	3-43
Connection (A)	G	1½	2
Connecting cable	m	5.0	5.0
For heat generator		Up to 40 kW	From 40 to 70 kW

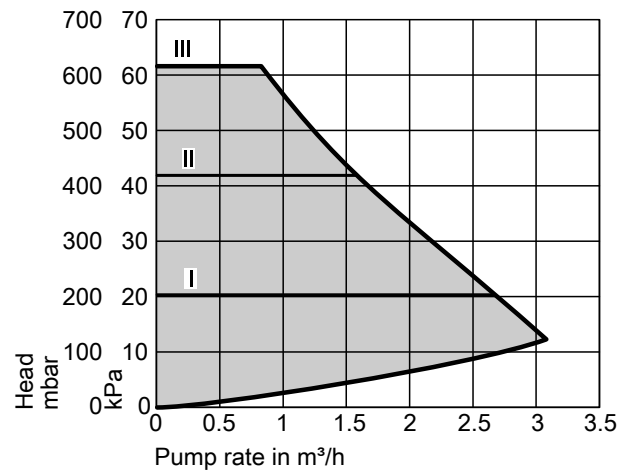
Dimensions



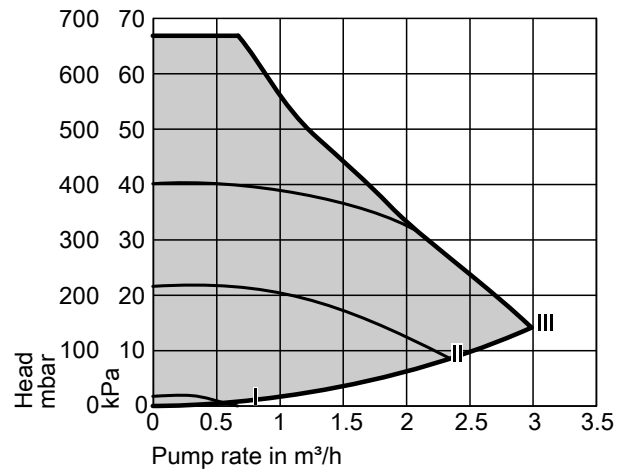
Curves



Δp-v (variable)



Δp-c (constant)



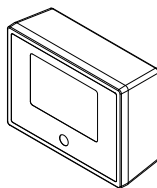
Constant speed

Accessories (cont.)

Thermometer, digital

Part no. ZK05265

- For wall mounting
- Digital display of two temperatures



Threaded elbow

For the installation of a cylinder temperature sensor for solar operation.

- Cylinder capacity up to 300 litres: **Part no. 7175213**
- Cylinder capacity 500 litres: **Part no. 7175214**

Immersion heater EHE

- Use the immersion heater only with very soft to medium hard water up to 14 °dH (hardness level 2, up to 2.5 mol/m³).
- The heating output can be selected: 2, 4 or 6 kW

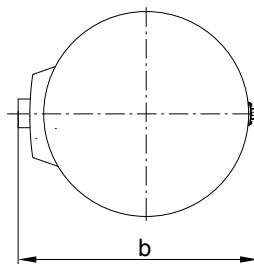
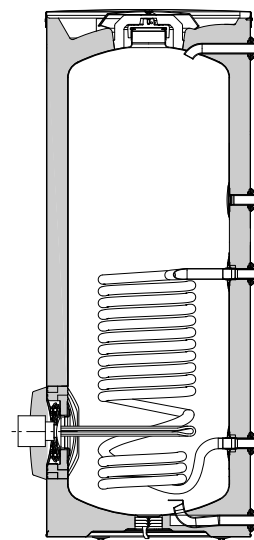
Components:

- High limit safety cut-out
- Temperature controller

Part no.

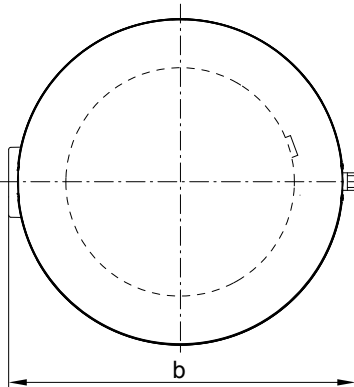
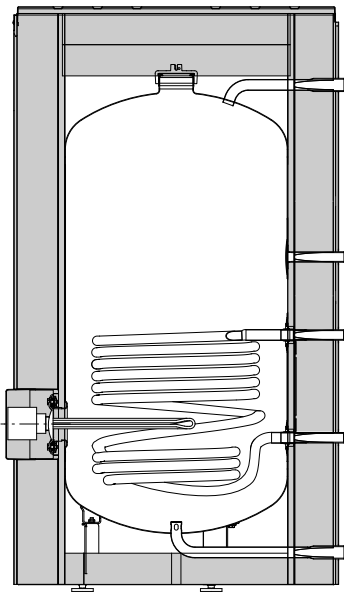
Cylinder capacity	l	300	500
Colour			
– Black		Z021953	—
– Vitosilver		—	Z012681
– Vitoppearlwhite		Z021954	Z021955

Installation position



300 l capacity

Accessories (cont.)



500 l capacity

Specification for immersion heater EHE

Output	kW	2	4	6
Rated voltage		1/N/PE 230 V/50 Hz		3/PE 400 V/50 Hz
IP rating		IP 45		
Rated current	A	8.7	17.4	8.7
Heat-up time from 10 to 60 °C				
– Cylinder volume 300 l	h	7.3	3.6	2.4
– Cylinder volume 500 l	h	11.4	5.7	3.8

Specification for immersion heater EHE in conjunction with Vitocell

Cylinder capacity	l	300	500
Content that can be heated by the immersion heater	l	256	390
Dimensions			
Width b (with immersion heater)	mm	792	1103
Minimum wall clearance for installation of the immersion heater EHE	mm	730	730
Weight			
Immersion heater EHE	kg	2	2

Transport aid

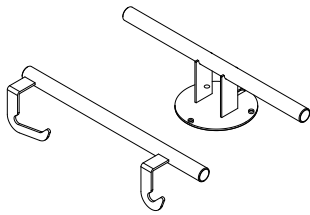
Part no. ZK05266

For easier handling of vertical DHW cylinders.

- For cylinder capacity up to 300 litres
- For DHW cylinders with rigid PUR foam thermal insulation

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Accessories (cont.)



Transport aid

Part no. ZK01793

For easier handling of vertical DHW cylinders.

- For cylinder capacity 500 litres
- For DHW cylinders with removable thermal insulation



Headers for cylinder banks

- **Heating water side**
 - Made from steel pipe
 - DN 50
- **DHW side**
 - Made from stainless steel
 - R 1¼
 - For cold water and DHW

Permissible operating pressure:

- DHW side: 10 bar (1.0 MPa)
- Headers on the heating water side: 18 bar (1.8 MPa) at 120 °C/
16 bar (1.6 MPa) at 160 °C

Permissible temperatures:

- DHW temperature: 95 °C
- Heating water flow temperature: 120 °C at 18 bar (1.8 MPa)/
160 °C at 16 bar (1.6 MPa)

Part no.

Total cylinder bank capacity	600 l	1000 l	1500 l
Heating water side			
Cylinder capacity			
300 l	7265134	—	—
500 l	—	ZK02892	ZK02893
DHW side			
Cylinder capacity			
300 l	7265138	—	—
500 l	—	ZK02894	ZK02895

Subject to technical modifications.

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