

## Technical Data

Part No. and prices: see Price List



Vitocell-V 100  
up to 500 litres capacity  
(160 and 200 litres without inspection port)



Vitocell-V 100  
from 750 litres capacity

File in:  
Vitotec 1 Manual, Index 15  
Vitotec 2 Manual, Index 25

### Vitocell-V 100

Type CVA

Vertical domestic hot water cylinder constructed from steel,  
with Ceraprotect enamel finish



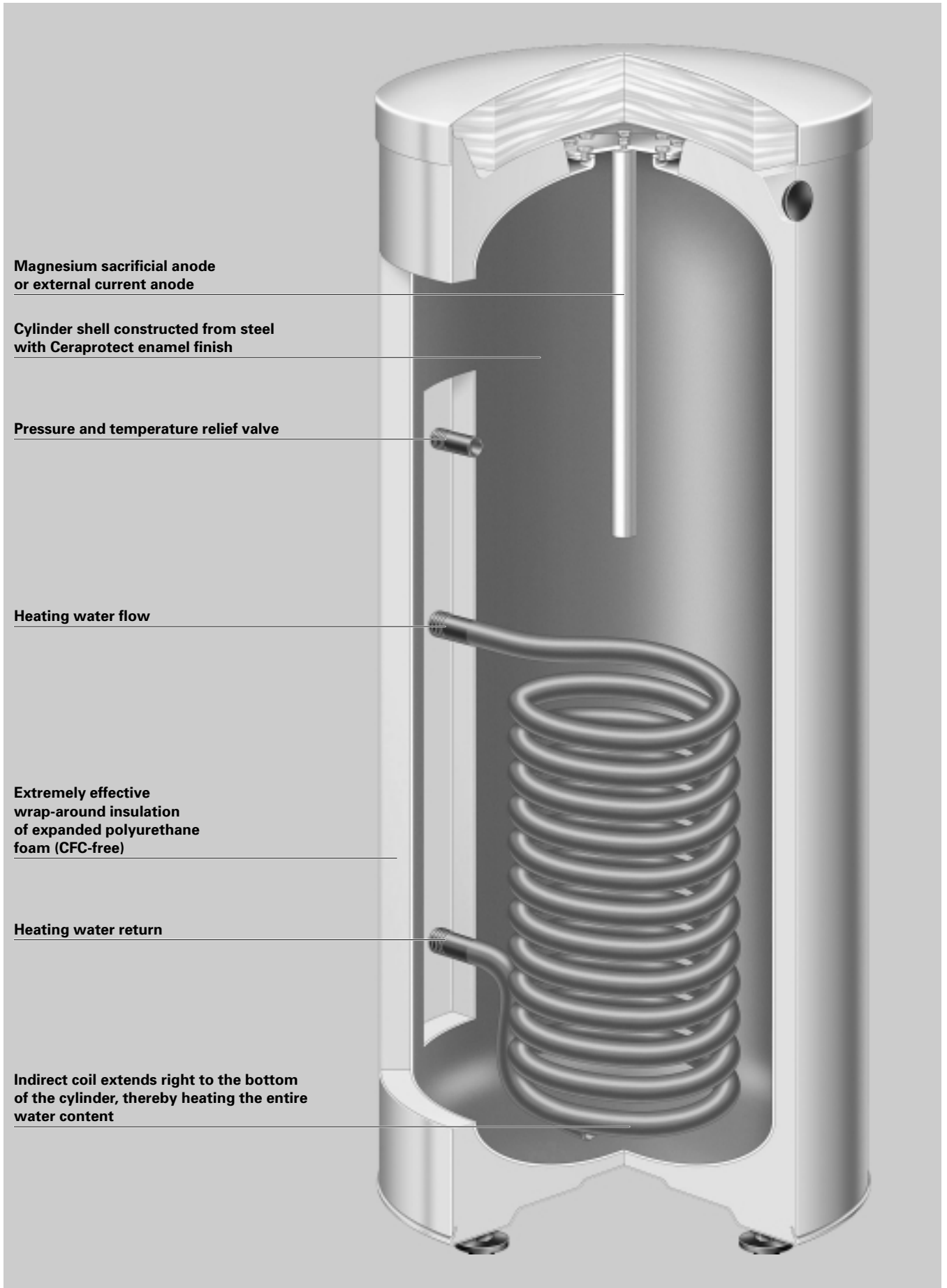
Certificated in accordance with DIN ISO 9001  
Certificate Reg. No. 12 100 5581

### VITOCELL-V 100

The floor-standing solution for a cost-efficient domestic hot water supply. The vertical version of the Vitocell 100 offers a storage capacity of up to 1000 litres.

#### The benefits at a glance:

- Corrosion-protected steel cylinder shell with **Ceraprotect enamel finish**, produced in-house. Magnesium anode provides additional cathodic protection. External current anode available as an accessory.
- **Indirect coil extends right to the bottom of the cylinder**, thereby heating the entire water content.
- **Extremely convenient domestic hot water supply** assured through fast, uniform heating via generously sized indirect coils.
- **Heat losses minimized** by highly effective wrap-around insulation of rigid expanded polyurethane foam (CFC-free) or soft foam.
- An **electrical immersion heater** can be supplied with the cylinder or retrofitted on request (Vitocell-V 100 with 300 and 500 litres capacity).



Technical data

DIN Reg. No. applied for

For domestic hot water applications in conjunction with boilers, district heating systems and modulating flow temperature heating systems, available with electrical immersion heater as an option for 300 and 500-litre capacity cylinders

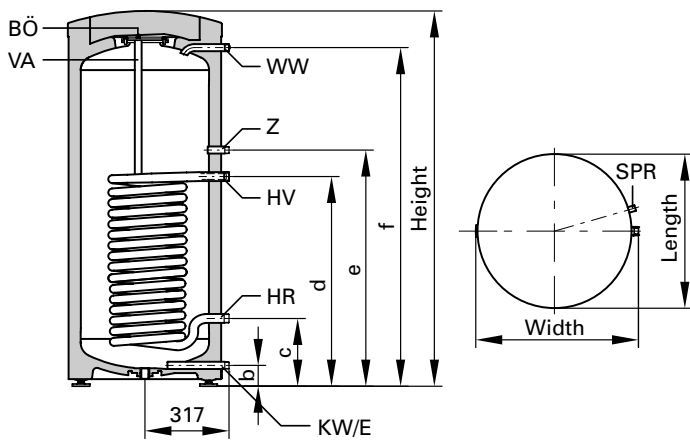
Suitable for heating systems with  
 ■ heating water flow temperatures up to **160 °C**  
 ■ working pressure on **primary water side** up to **25 bar**  
 ■ working pressure on **secondary water side** up to **10 bar**

Storage capacity		litr	160	200	300	500	750	1000
<b>Recovery capability</b> *1 with a temperature rise of the domestic hot water from <b>10 to 45 °C</b> and <b>heating water</b> flow temperature of ..... at the heating water flow rate stated below	90 °C	kW	40	40	53	70	123	136
		ltr/h	982	982	1302	1720	3022	3341
	80 °C	kW	32	32	44	58	99	111
		ltr/h	786	786	1081	1425	2432	2725
	70 °C	kW	25	25	33	45	75	86
		ltr/h	614	614	811	1106	1843	2113
60 °C	kW	17	17	23	32	53	59	
	ltr/h	417	417	565	786	1302	1450	
50 °C	kW	9	9	18	24	28	33	
	ltr/h	221	221	442	589	688	810	
<b>Recovery capability</b> *1 with a temperature rise of the domestic hot water from <b>10 to 60 °C</b> and <b>heating water</b> flow temperature of ..... at the heating water flow rate stated below	90 °C	kW	36	36	45	53	102	121
		ltr/h	619	619	774	911	1754	2081
	80 °C	kW	28	28	34	44	77	91
		ltr/h	482	482	584	756	1324	1565
	70 °C	kW	19	19	23	33	53	61
		ltr/h	327	327	395	567	912	1050
<b>Heating water flow rate</b> for the recovery capabilities stated	m <sup>3</sup> /h	3.0	3.0	3.0	3.0	5.0	5.0	
<b>Standby energy loss</b> *2	kWh/24 h	1.7	1.9	2.2	2.9	4.0	4.4	
<b>Dimensions with insulation</b>								
Length (dia.)	mm	581	581	633	748	950	1050	
Width	mm	605	605	703	827	1008	1108	
Height	mm	1189	1409	1752	1915	2030	2050	
Height with cylinder tilted	mm	1260	1460	1800	1980	2200	2245	
<b>Weight</b> Cylinder with insulation	kg	96	108	151	218	280	350	
<b>Heating water content</b>	ltr	5.5	5.5	10.0	13.0	28.1	34.2	
<b>Heat exchange surface area</b>	m <sup>2</sup>	1.0	1.0	1.5	2.0	3.7	4.5	
<b>Connections</b>								
Heating water flow and return	Ø" (male thread)	1	1	1	1	1¼	1¼	
Cold water, hot water	Ø" (male thread)	¾	¾	1	1¼	1¼	1¼	
Pressure and temperature relief valve	Ø" (male thread)	¾	¾	1	1	¾	¾	

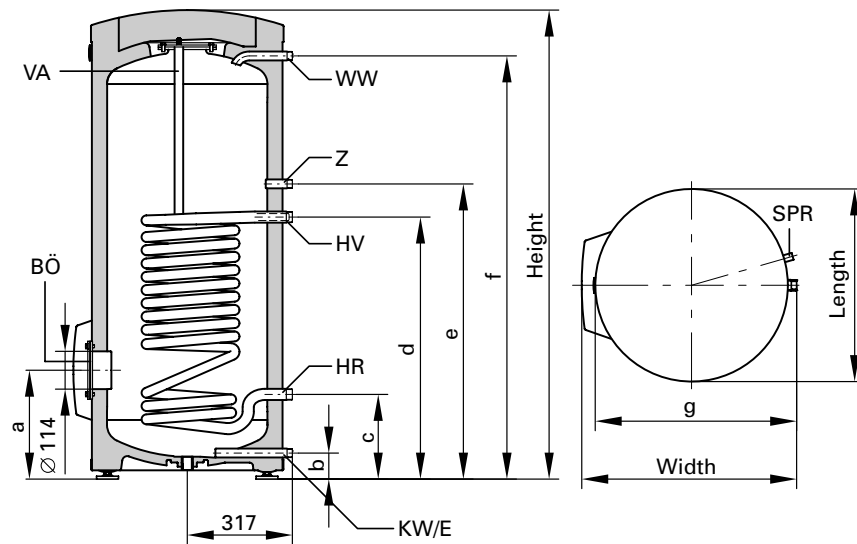
\*1For details of the recovery capability with other heating water flow rates, please refer to the Technical Guide for the Vitocell. When planning for the recovery capability as stated or calculated, allow for the corresponding circulation pump. The stated recovery capability is only achieved when the rated output of the boiler is equal to or greater than the recovery capability.

\*2Measured values to DIN 4753-8. The values are based on a room temperature of +20 °C and a domestic hot water temperature of 65 °C and can vary by 5%.

**Vitocell-V 100, up to 500 litres capacity, with rigid polyurethane foam insulation**



160 and 200 litres capacity



300 and 500 litres capacity

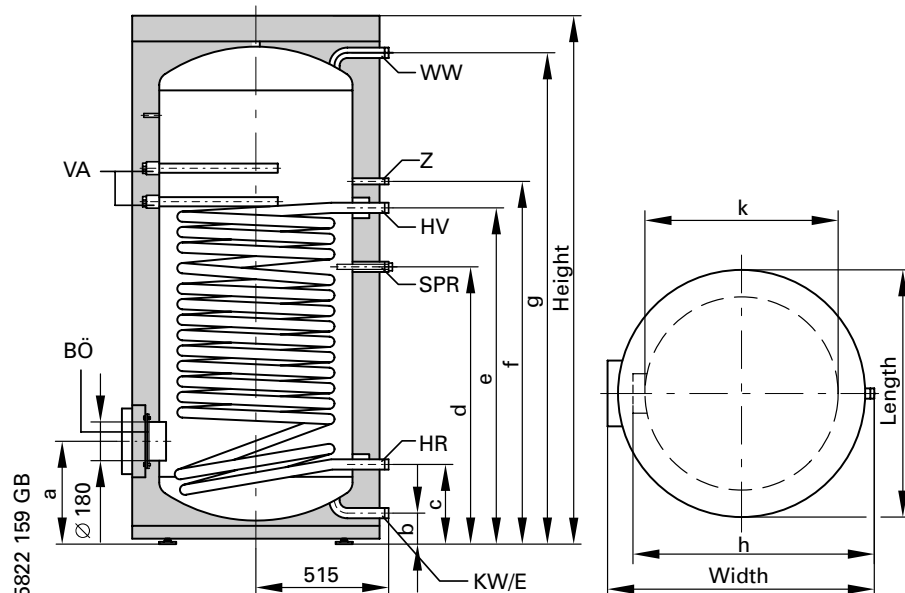
**Dimensions**

Cylinder capacity	litres	160	200	300	500
a	mm	—	—	339	402
b	mm	73	73	82	87
c	mm	250	250	266	329
d	mm	635	635	881	864
e	mm	885	885	1121	1210
f	mm	1051	1271	1606	1763
g	mm	—	—	660	774

**Legend**

- BO Inspection and clean-out opening or for installation of an electrical immersion heater (300 and 500-litre versions)
- E Drain
- HR Heating water return
- HV Heating water flow
- KW Cold water
- SPR Sensor well for cylinder temperature sensor or temperature regulator (at same height as connection HV)
- VA Magnesium sacrificial anode
- WW Hot water
- Z Pressure and temperature relief valve

**Vitocell-V 100, from 750 litres capacity, with soft polyurethane foam insulation**



**Dimensions**

Cylinder capacity	litres	750	1000
a	mm	378	387
b	mm	99	103
c	mm	288	297
d	mm	1079	1088
e	mm	1314	1325
f	mm	1417	1490
g	mm	1886	1900
h	mm	960	1060
k	Ø mm	750	850

**Legend**

- BO Inspection and clean-out opening
- E Drain
- HR Heating water return
- HV Heating water flow
- KW Cold water
- SPR 1½" dia. connection with coupling reducing to ½" dia. for cylinder temperature sensor or temperature regulator
- VA Magnesium sacrificial anode
- WW Hot water
- Z Pressure and temperature relief valve

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## Vitocell-V 100

### Performance factor $N_L$ to DIN 4708

Cylinder storage temperature<sup>\*1</sup> = cold water inlet temperature + 50 K  $\begin{matrix} +5K \\ -0K \end{matrix}$

Capacity per cylinder	ltr	160	200	300	500	750	1000
Heating water flow temperature		Performance factor $N_L$ <sup>*1</sup>					
90 °C		2.5	4.0	9.7	22.5	34.0	43.0
80 °C		2.4	3.7	9.3	21.5	31.0	42.0
70 °C		2.2	3.5	8.7	18.5	24.5	38.0

### Short-time recovery capability (10 minutes)

Based on performance factor  $N_L$

Domestic hot water rise from 10 to 45 °C

Capacity per cylinder	ltr	160	200	300	500	750	1000
Heating water flow temperature		Short-time recovery capability (ltr/10 min)					
90 °C		210	262	407	645	814	939
80 °C		207	252	399	627	769	923
70 °C		199	246	385	575	672	870

### Max. domestic hot water drawing rate (over 10-minute period)

Based on performance factor  $N_L$

With reheating

Domestic hot water rise from 10 to 45 °C

Capacity per cylinder	ltr	160	200	300	500	750	1000
Heating water flow temperature		Max. drawing rate (ltr/min)					
90 °C		21	26	41	65	81	94
80 °C		21	25	40	63	77	92
70 °C		20	25	39	58	67	87

### Domestic hot water drawing capability

Storage cylinder contents heated to 60 °C

Without reheating

Capacity per cylinder	ltr	160	200	300	500	750	1000
Domestic hot water drawing rate	ltr/min	10	10	15	15	20	20
Domestic hot water drawing capability	ltr	120	145	240	420	500	600
Water with t = 60 °C (constant)							

### Heating time

The stated heating times are achieved when the maximum recovery capability of the domestic hot water cylinder is made available at the respective flow temperature and with a domestic hot water rise from 10 to 60 °C.

Capacity per cylinder	ltr	160	200	300	500	750	1000
Heating water flow temperature		Heating time (minutes)					
90 °C		19	19	23	28	30	38
80 °C		24	24	31	36	38	44
70 °C		34	37	45	50	52	58

<sup>\*1</sup>The performance factor  $N_L$  varies according to the cylinder temperature  $T_{dhw}$ .

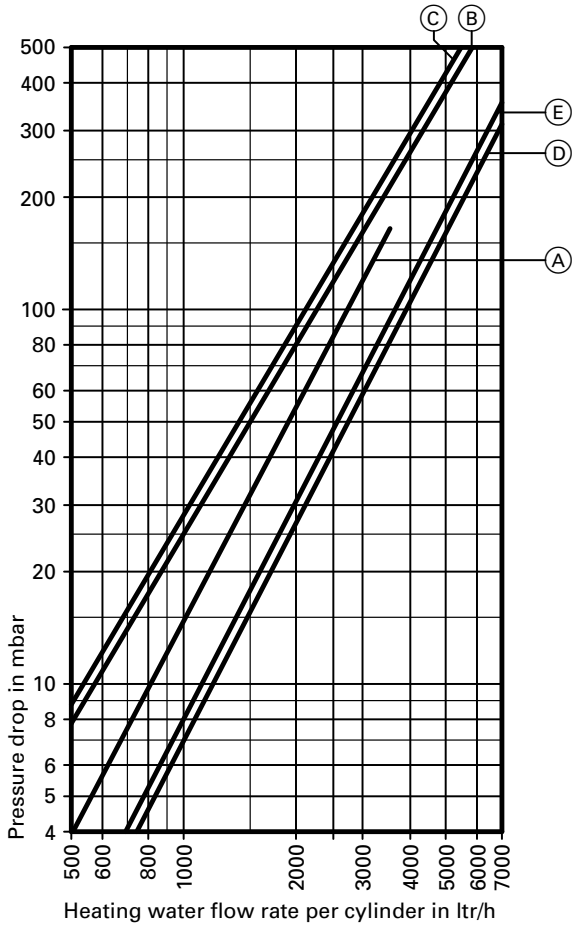
Guide values:  $T_{dhw} = 60\text{ °C} \rightarrow 1.0 \times N_L$

$T_{dhw} = 55\text{ °C} \rightarrow 0.75 \times N_L$

$T_{dhw} = 50\text{ °C} \rightarrow 0.55 \times N_L$

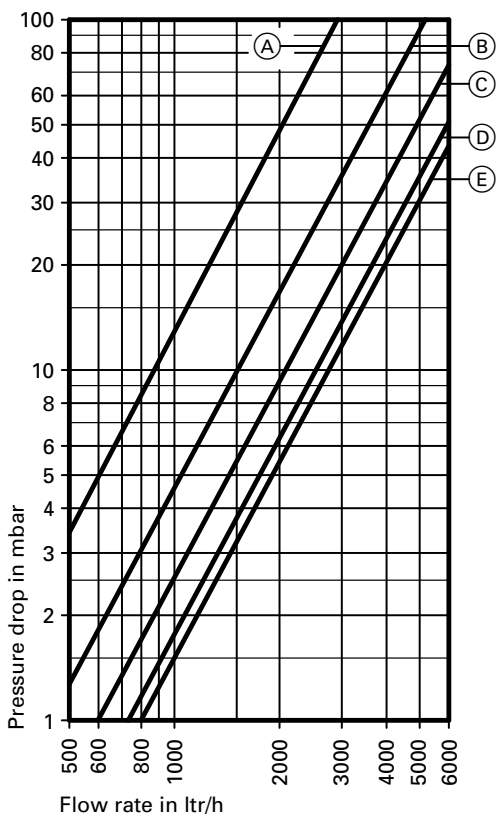
$T_{dhw} = 45\text{ °C} \rightarrow 0.3 \times N_L$ .

**Pressure drop on heating water side (primary circuit)**



- Ⓐ 160 and 200 litres capacity
- Ⓑ 300 litres capacity
- Ⓒ 500 litres capacity
- Ⓓ 750 litres capacity
- Ⓔ 1000 litres capacity

**Pressure drop on domestic hot water side (secondary circuit)**



- Ⓐ 160 and 200 litres capacity
- Ⓑ 300 litres capacity
- Ⓒ 500 litres capacity
- Ⓓ 750 litres capacity
- Ⓔ 1000 litres capacity

## Vitocell-V 100 with 300 and 500 litres capacity, as a cylinder battery

### Technical data

The domestic hot water cylinders with capacities of 300 and 500 litres can be combined into batteries of up to 2 or 4 cylinders. Headers for the heating water and domestic hot water are available ex works and must be ordered separately.

Batteries consisting of more than 4 cylinders are possible by combining several sub-batteries of up to 4 cylinders each. The connection of these cylinder batteries on the heating water and domestic hot water side forms part of the installation work for which the customer is responsible.

Storage capacity per cylinder		ltr	300	500	500	2000
<b>Total capacity of cylinder battery</b>		ltr	600	1000	1500	2000
<b>Number of cylinders</b>			2	2	3	4
Layout			●●	●●	●●●	●●●●
<b>Recovery capability*1</b> with a temperature rise of the domestic hot water from <b>10 to 45 °C</b> and <b>heating water flow</b> temperature of ..... at the heating water flow rate stated below	90 °C	kW	106	140	210	280
		ltr/h	2605	3440	5160	6880
	80 °C	kW	88	116	174	232
		ltr/h	2162	2850	4275	5700
	70 °C	kW	66	90	135	180
		ltr/h	1621	2211	3317	4422
	60 °C	kW	46	64	96	128
		ltr/h	1130	1572	2359	3145
	50 °C	kW	36	48	72	96
		ltr/h	885	1179	1769	2358
<b>Recovery capability*1</b> with a temperature rise of the domestic hot water from <b>10 to 60 °C</b> and <b>heating water flow</b> temperature of ..... at the heating water flow rate stated below	90 °C	kW	90	106	159	212
		ltr/h	1548	1823	2735	3646
	80 °C	kW	68	88	132	176
		ltr/h	1170	1513	2270	3027
	70 °C	kW	46	66	99	132
		ltr/h	791	1135	1702	2270
<b>Heating water flow rate</b> for the recovery capabilities stated		m <sup>3</sup> /h	6	6	9	12
<b>Standby energy loss*2</b>		kWh/24 h	4.4	5.8	8.6	11.5
<b>Dimensions with insulation</b>						
Length	mm	1461	1736	2724	3712	
Width	mm	1109	1254	1254	1254	
Height	mm	1752	1915	1915	1915	
<b>Weight</b> Cylinder with insulation and headers		kg	334	497	750	1016
<b>Heating water content</b> including headers		ltr	25	33	52	81
<b>Heat exchange surface area</b>		m <sup>2</sup>	3.0	4.0	6.0	8.0
<b>Connections</b>						
Heating water flow and return	DN	50	50	50	65	
Cold water, hot water	Ø" (male thread)	1¼	1¼	1½	2	
Pressure and temperature relief valve (DHW cylinder)	Ø" (male thread)	¾	1	1	1	

\*1When planning for the recovery capability as stated or calculated, allow for the corresponding circulation pump. The stated recovery capability is only achieved when the rated output of the boiler is equal to or greater than the recovery capability.

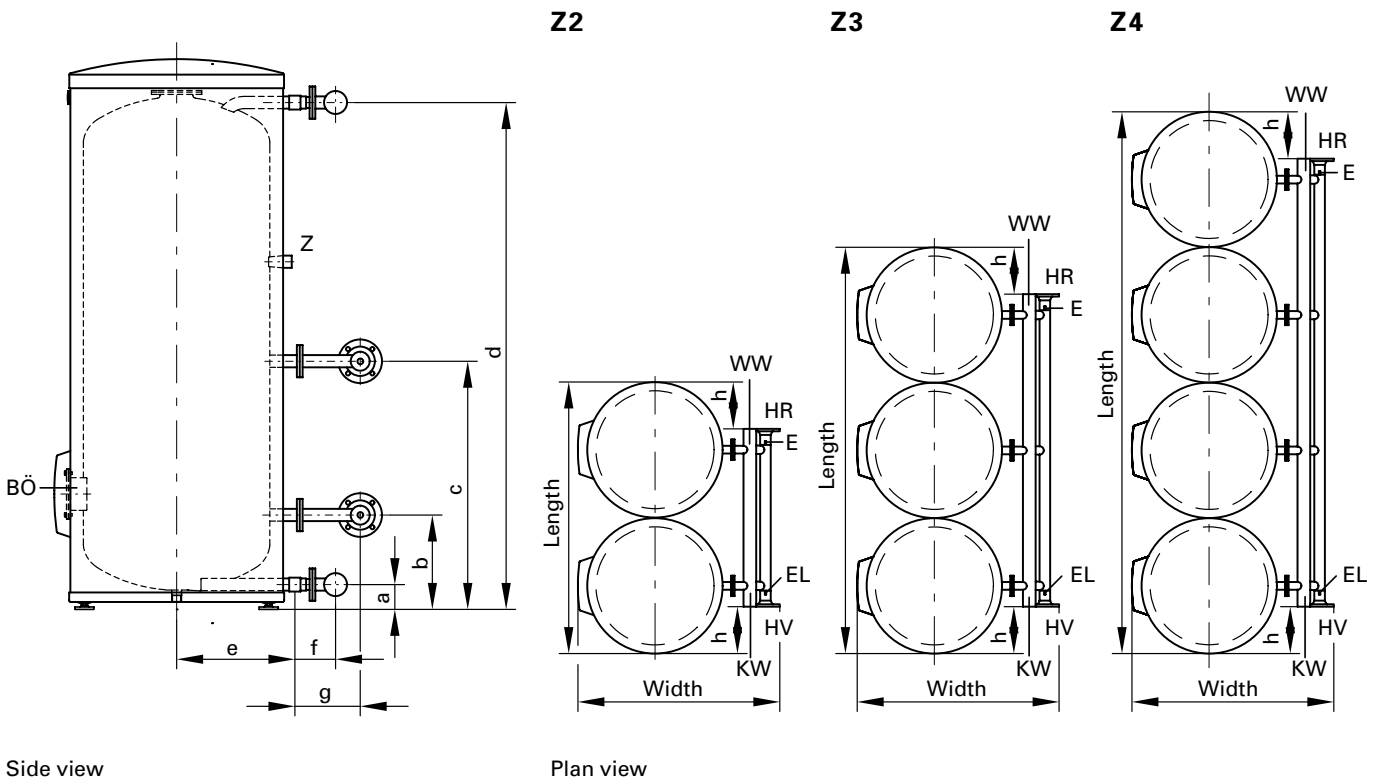
\*2Measured values to DIN 4753-8. The values are based on a room temperature of +20 °C and a domestic hot water temperature of 65 °C and can vary by 5%.

# Vitocell-V 100 with 300 and 500 litres capacity, as a cylinder battery

**For domestic hot water applications** in conjunction with boilers, district heating systems and modulating flow temperature heating systems, available with electrical immersion heater as an option

Suitable for heating systems with

- heating water flow temperatures up to **120 °C** | **160 °C**
- with working pressure on **primary water side** up to **18 bar** | **16 bar**
- working pressure on **secondary water side** up to **10 bar**



**Legend**

- |    |   |    |                      |    |                                       |
|----|---|----|----------------------|----|---------------------------------------|
| BÖ | Inspection and clean-out opening          | HR | Heating water return | WW | Hot water                             |
| E  | Drain (1/2" dia. female thread)           | HV | Heating water flow   | Z  | Pressure and temperature relief valve |
| EL | Vent connection (1/2" dia. female thread) | KW | Cold water           |    |                                       |

**Dimensions**

Capacity per cylinder		litr	300	500		
Total capacity of cylinder battery		litr	600	1000	1500	2000
Number of cylinders			2	2	3	4
a	mm		82	87	87	87
b	mm		266	329	329	329
c	mm		881	864	864	864
d	mm		1606	1763	1763	1763
e	mm		343	400	400	400
f	mm		127	130	135	139
g	mm		237	237	237	246
h	mm		206	264	264	264

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## Vitocell-V 100 with 750 and 1000 litres capacity, as a cylinder battery

### Technical data

The domestic hot water cylinders with capacities of 750 and 1000 litres can be combined into batteries of up to 2 or 4 cylinders. Headers for the heating water and domestic hot water side must be provided on site.

Batteries consisting of more than 4 cylinders are possible by combining several sub-batteries of up to 4 cylinders each. The connection of these cylinder batteries on the heating water and domestic hot water side forms part of the installation work for which the customer is responsible.

Storage capacity per cylinder		ltr	750	1000		
<b>Total capacity of cylinder battery</b>		ltr	1500	2000	3000	4000
<b>Number of cylinders</b>			2	2	3	4
Layout			●●	●●	●●●	●●●●
<b>Recovery capability*<sup>1</sup></b> with a temperature rise of the domestic hot water from <b>10 to 45 °C</b> and <b>heating water</b> flow temperature of ..... at the heating water flow rate stated below	90 °C	kW	246	272	408	544
		ltr/h	6045	6682	10023	13364
	80 °C	kW	198	222	333	444
		ltr/h	4864	5450	8175	10900
	70 °C	kW	150	172	258	344
		ltr/h	3686	4226	6339	8452
	60 °C	kW	106	118	177	236
		ltr/h	2604	2900	4350	5800
	50 °C	kW	56	66	99	132
		ltr/h	1346	1620	2430	3240
<b>Recovery capability*<sup>1</sup></b> with a temperature rise of the domestic hot water from <b>10 to 60 °C</b> and <b>heating water</b> flow temperature of ..... at the heating water flow rate stated below	90 °C	kW	204	242	363	484
		ltr/h	3524	4162	6243	8324
	80 °C	kW	154	182	273	364
		ltr/h	2648	3130	4695	6260
	70 °C	kW	106	122	183	244
		ltr/h	1824	2100	3150	4200
<b>Heating water flow rate</b> for the recovery capabilities stated		m <sup>3</sup> /h	10	10	15	20
<b>Standby energy loss*<sup>2</sup></b>		kWh/24 h	8.0	8.8	13.2	17.6
<b>Heating water content</b> excluding headers		ltr	56.2	68.4	102.6	136.8
<b>Heat exchange surface area</b>		m <sup>2</sup>	7.4	9.0	13.5	18.0

\*<sup>1</sup>When planning for the recovery capability as stated or calculated, allow for the corresponding circulation pump. The stated recovery capability is only achieved when the rated output of the boiler is equal to or greater than the recovery capability.

\*<sup>2</sup>Measured values to DIN 4753-8. The values are based on a room temperature of +20 °C and a domestic hot water temperature of 65 °C and can vary by 5%.

### Performance factor $N_L$ to DIN 4708

Cylinder storage temperature<sup>\*1</sup> = cold water inlet temperature + 50 K  $\begin{matrix} +5\text{K} \\ -0\text{K} \end{matrix}$

<b>Capacity per cylinder</b>	ltr	300	500		750	1000			
<b>Total capacity of cylinder battery</b>	ltr	600	1000	1500	2000	1500	2000	3000	4000
<b>Number of cylinders</b>		2	2	3	4	2	2	3	4
<b>Heating water flow temperature</b>		<b>Performance factor <math>N_L</math><sup>*1</sup></b>							
90 °C		30	64	107	142	90	115	178	240
80 °C		29	62	103	130	85	113	174	220
70 °C		28	54	91	121	68	103	162	205

### Short-time recovery capability (10 minutes)

Based on performance factor  $N_L$

Domestic hot water rise from 10 to 45 °C

<b>Capacity per cylinder</b>	ltr	300	500		750	1000			
<b>Total capacity of cylinder battery</b>	ltr	600	1000	1500	2000	1500	2000	3000	4000
<b>Number of cylinders</b>		2	2	3	4	2	2	3	4
<b>Heating water flow temperature</b>		<b>Short-time recovery capability (ltr/10 min)</b>							
90 °C		759	1200	1670	2045	1485	1750	2400	3020
80 °C		745	1175	1630	1900	1430	1730	2360	2820
70 °C		728	1075	1498	1810	1240	1630	2240	2670

### Max. domestic hot water drawing rate (over 10-minute period)

Based on performance factor  $N_L$

With reheating

Domestic hot water rise from 10 to 45 °C

<b>Capacity per cylinder</b>	ltr	300	500		750	1000			
<b>Total capacity of cylinder battery</b>	ltr	600	1000	1500	2000	1500	2000	3000	4000
<b>Number of cylinders</b>		2	2	3	4	2	2	3	4
<b>Heating water flow temperature</b>		<b>Max. drawing rate (ltr/min)</b>							
90 °C		76	120	167	204	149	175	240	302
80 °C		74	118	163	190	143	173	236	282
70 °C		73	107	150	181	124	163	224	267

### Domestic hot water drawing capability

Storage cylinder contents heated to 60 °C

Without reheating

<b>Capacity per cylinder</b>	ltr	300	500		750	1000			
<b>Total capacity of cylinder battery</b>	ltr	600	1000	1500	2000	1500	2000	3000	4000
<b>Number of cylinders</b>		2	2	3	4	2	2	3	4
<b>Domestic hot water drawing rate</b>	ltr/min	30	30	30	45	40	40	60	80
<b>Domestic hot water drawing capability</b>	ltr	480	840	1260	1680	1000	1200	1800	2400

Water with t = 60 °C (constant)

<sup>\*1</sup>The performance factor  $N_L$  varies according to the cylinder temperature  $T_{dhw}$ .

Guide values:  $T_{sp} = 60\text{ °C} \rightarrow 1.0 \times N_L$

$T_{sp} = 55\text{ °C} \rightarrow 0.75 \times N_L$

$T_{sp} = 50\text{ °C} \rightarrow 0.55 \times N_L$

$T_{sp} = 45\text{ °C} \rightarrow 0.3 \times N_L$ .

## EHO electrical immersion heater

### EHO electrical immersion heater (accessory) for installation in the Vitocell-V 100, 300 and 500 litres capacity

Only suitable for use with soft to medium-hard drinking water up to 14 °dH (grade 2 hardness)

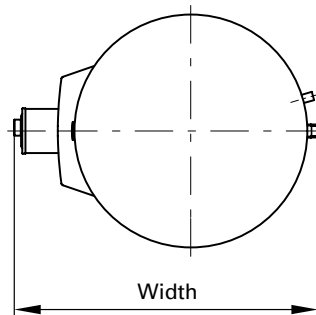
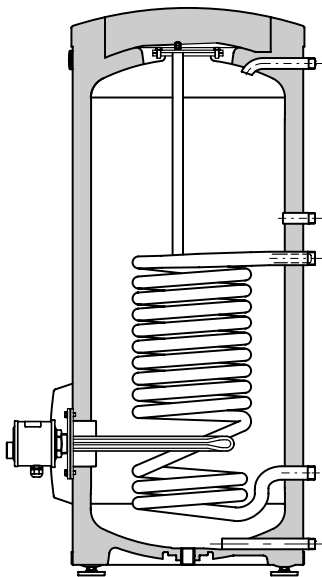
#### Current type and rated voltage 3/N/400 V/50 Hz

Degree of protection: IP 43

Rated consumption, normal/rapid heating	kW	2	4	6
Rated current	A	8.7	8.7	8.7
Heat-up time from 10 to 60 °C	300 ltr	h	7.4	3.7
	500 ltr	h	12.2	6.0

### Vitocell-V 100

<b>Cylinder capacity</b>	ltr	300	500
<b>Volume heatable with immersion heater</b>	ltr	254	418
<b>Dimensions</b>			
Width incl. electrical immersion heater	mm	820	940
<b>Weight</b>			
Vitocell-V 100	kg	151	218
EHO electrical immersion heater	kg	5	5
Total weight when in operation	kg	456	723

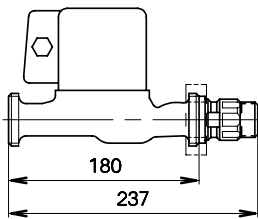


## Circulation pump for heating the cylinder Standard delivery of the Vitocell-V 100

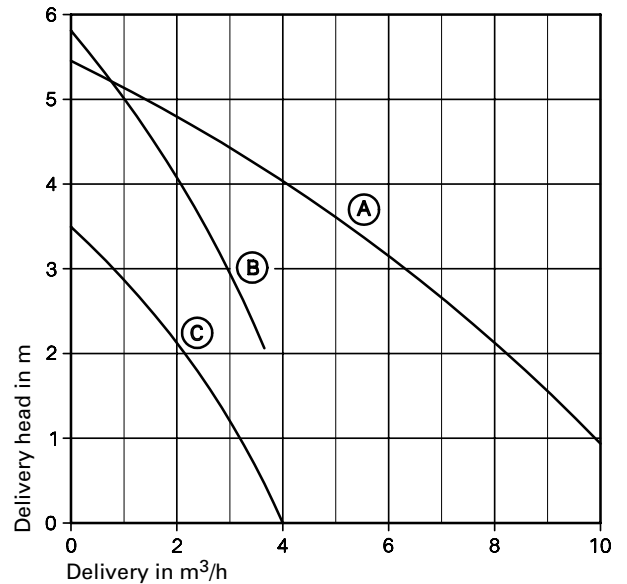
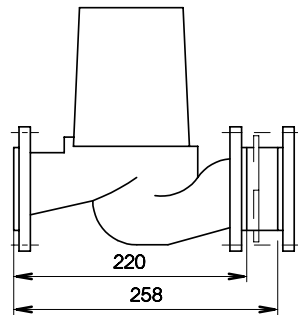
### Circulation pump for heating the cylinder

Part No.	7339 467	7339 468	7339 469
Pump type	UP 25-40	VIRS 30/6-1	VIS 40/80
Rated voltage	V~ 230	230	230
Rated current	A 0.3	0.63	0.9
Capacitor	$\mu$ F 2.5	3.6	4
Power consumption	W 55-65	110-140	127-176
Anschluss	$\varnothing$ " (fem. thread) 1	1¼	—
Connecting cable	DN —	—	40
	m 4.7	4.7	4.7

Part No. 7339 467  
Part No. 7339 468



Part No. 7339 469



- (A) Part No. 7339 469
- (B) Part No. 7339 468
- (C) Part No. 7339 467

## Standard delivery

### Vitocell-V 100 160 to 500 litres capacity

Constructed from steel, with Ceraprotect enamel finish.

- Domestic hot water cylinder with
  - fitted insulation comprising rigid expanded polyurethane foam
  - magnesium sacrificial anode
  - sensor well welded in for cylinder temperature sensor or temperature regulator
  - built-in thermometer (300 and 500-litre versions only) and
  - adjustable feet screwed in.

Epoxy resin coated sheet steel casing in a vito-silver finish.  
DHW cylinders with 200 and 300 litres capacity also available in a white finish.

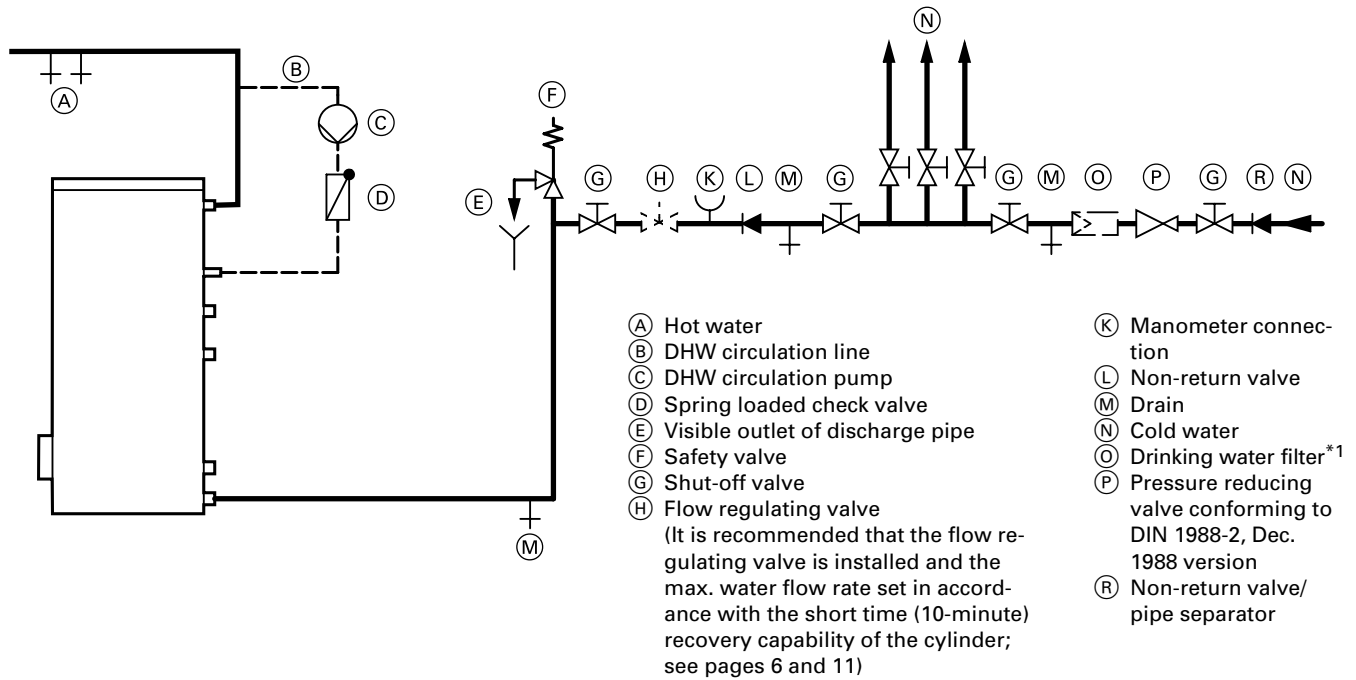
### Vitocell-V 100 750 and 1000 litres capacity

Constructed from steel, with Ceraprotect enamel finish.

- Domestic hot water cylinder with
  - separately packed insulation of soft polyurethane foam
  - magnesium sacrificial anodes
  - sensor well welded in for cylinder temperature sensor or temperature regulator
  - thermometer and
  - adjustable feet.

Plastic-coated insulation in a vito-silver finish.

**Domestic hot water connections (connection to DIN 1988)**



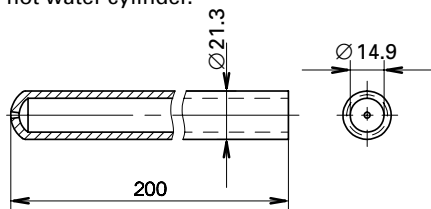
**The safety valve must be installed.**

**Recommendation:** Install the safety valve above the top edge of the cylinder to protect it from dirt, limescale and high temperatures. Furthermore, the cylinder does not need to be drained before work can be carried out on the safety valve.  
 \*1 According to DIN 1988-2, a drinking water filter must be installed in systems with metal piping. We recommend that a drinking water filter should also be installed in systems with plastic piping to prevent dirt from being introduced into the domestic hot water system.

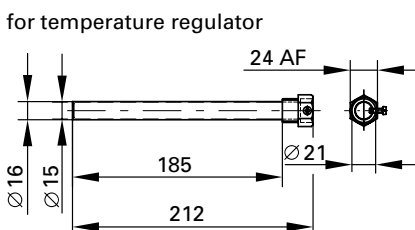
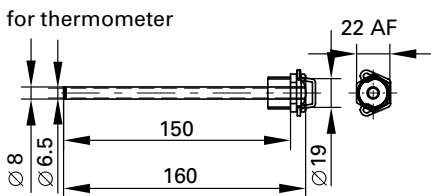
**Sensor well**

**Vitocell-V 100**  
 160 to 500 litres capacity

The sensor well is welded in the domestic hot water cylinder.



**Vitocell-V 100**  
 750 and 1000 litres capacity



**Technical guide**

For further information on planning and system design considerations, please refer to the "Technical guide for central domestic hot water supply with Vitocell domestic hot water cylinders".

**Heating water flow temperatures over 110 °C**

According to DIN 4753, in these operating conditions an individually tested high limit safety cut-out limiting the temperature to 95 °C must be installed in the domestic hot water cylinder.

**Note on the warranty**

Our warranty for domestic hot water cylinders states that the water heated should be of drinking water quality and that any water treatment equipment in use functions correctly.

**Heat exchange surfaces**

The corrosion-resistant, protected heat exchange surfaces (domestic hot water/heat transfer medium) correspond to Type C in accordance with DIN 1988-2.

**Electrical immersion heater**

Screw-in immersion heaters of other makes must have an unheated length of at least 100 mm and must be suitable for use in enamelled domestic hot water cylinders.

Subject to technical modifications.

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