

Technical Data Manual

Model Nos. and pricing: see Price List

VIESSMANN®

Vitocell 300-B, EVBA

Dual coil, indirect-fired domestic hot water storage tank
79 USG (300 L) capacity

Vitocell 300-B, EVBB

Dual coil, indirect-fired domestic hot water storage tank
119 USG (450 L) capacity



VITOCCELL® 300-B



Product may not be exactly as shown

Vertical indirect-fired domestic hot water storage tank of high-grade stainless steel with dual coils.

One heat exchanger coil facilitates heat transfer from the solar collectors to domestic hot water, a second heat exchanger coil allows reheating of the water content by the hot water heating boiler.

CAUTION

This tank version is not suitable for steam heating applications.



Benefits

Domestic hot water storage tank of high-grade stainless steel highly effective all-around thermal insulation.

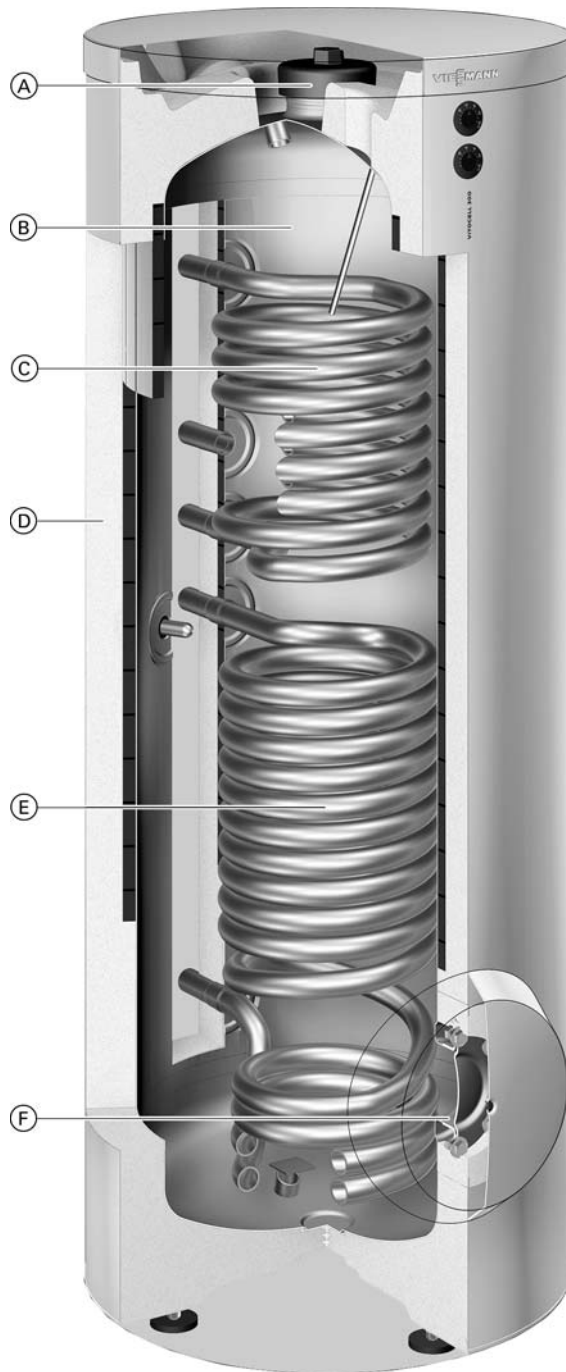
Fully hygienic, efficient and economical domestic hot water production by solar collectors and a hot water heating boiler. Heat from the solar collectors is transferred to the domestic hot water via the lower tank coil.

Benefits at a glance:

- Corrosion-resistant tank of high-grade stainless steel offers a long service life.
- Fully hygienic due to high quality homogeneous stainless steel surfaces.
- The high-alloy material is immune to cracking or peeling. The tank stays hygienic and requires only minimum service.
- Does not require a consumable anode for corrosion protection.
- The entire water content is heated by a 1 $\frac{3}{8}$ in. (35 mm) diameter (OD) stainless steel heat exchanger surface which extends to the bottom of the tank.
- Large heat exchanger surfaces allow fast and even heating of the entire water content, guaranteeing a high level of domestic hot water comfort.
- Standby losses minimized by highly effective HCFC-free insulation.
79 USG (300 L) version comes equipped with hard PUR foam.
119 USG (450 L) version comes equipped with removable soft PET insulation for easier handling.
- Two thermometers to show the DHW temperature at the top of the tank, and at the midpoint of the tank.
- Certified to CSA Low Lead Content Certification Program; including US Safe Drinking Water Act, NSF/ANSI 372 as well as other applicable US State requirements.

Cross Section

Vitocell 300-B, type EVBA 79 USG (300 L)



Legend

- Ⓐ Upper inspection and cleaning opening
- Ⓑ Stainless steel cylinder
- Ⓒ Upper indirect coil – DHW is reheated via the indirect coil
- Ⓓ Highly effective all-round thermal insulation
- Ⓔ Lower indirect coil – connection for solar collectors
- Ⓕ Front inspection and cleaning opening

Technical Data

For DHW production in conjunction with solar systems, heating boilers and heating systems, without low limit for dual coil operation.

Suitable for heating systems with:

- max. working pressure on heat exchanger side up to 220 psig at 392°F (200°C)
- max. working pressure on DHW water side of up to 150 psig at 210°F (99°C)
- max. testing pressure on DHW side of 300 psig

Model		300-B, EVBA				
Storage capacity		USG (L)				
Coil		upper *1				
Supply flow rate for the recovery rates stated		GPM (m ³ /h)	22 (5.0)	13.2 (3.0)	8.8 (2.0)	4.4 (1.0)
Recovery rates*3 with a DHW temperature increase from 50 to 113°F (10 to 45°C) and a supply water temperature of.....	194°F (90°C)	MBH (kW)	149 (44)	145 (43)	137 (40)	121 (36)
		GPH (L/h)	283 (1071)	279 (1058)	262 (991)	231 (876)
	176°F (80°C)	MBH (kW)	124 (36)	119 (35)	115 (34)	102 (30)
		GPH (L/h)	235 (891)	227 (861)	218 (826)	193 (733)
	158°F (70°C)	MBH (kW)	98 (29)	95 (28)	91 (27)	82 (24)
	GPH (L/h)	187 (707)	185 (701)	174 (658)	155 (588)	
Recovery rates*3 with a DHW temperature increase from 50 to 140°F (10 to 60°C) and a supply water temperature of.....	140°F (60°C)	MBH (kW)	72 (21)	68 (20)	67 (20)	61 (18)
		GPH (L/h)	136 (516)	135 (513)	128 (484)	115 (436)
	122°F (50°C)	MBH (kW)	42 (12)	40 (12)	40 (12)	37 (11)
		GPH (L/h)	80 (302)	78 (295)	76 (286)	69 (263)
	194°F (90°C)	MBH (kW)	128 (38)	122 (36)	120 (35)	107 (31)
	GPH (L/h)	171 (648)	165 (628)	159 (603)	142 (540)	
Recovery rates*3 with a DHW temperature increase from 50 to 140°F (10 to 60°C) and a supply water temperature of.....	176°F (80°C)	MBH (kW)	101 (30)	98 (29)	94 (28)	85 (25)
		GPH (L/h)	134 (509)	130 (494)	126 (477)	113 (430)
Recovery rates*3 with a DHW temperature increase from 50 to 140°F (10 to 60°C) and a supply water temperature of.....	158°F (70°C)	MBH (kW)	71 (21)	68 (20)	67 (20)	61 (18)
		GPH (L/h)	95 (360)	92 (349)	89 (338)	82 (308)
Insulation		PUR Foam				
Standby heat loss*4		BTU/h (°F/h)	151 (0.5)			
Dimensions*5						
Tank length without insulation		in. (mm)	--			
Overall length with insulation		in. (mm)	26¼ (667)			
Tank width without insulation		in. (mm)	--			
Overall width with insulation		in. (mm)	29 (744)			
Tank height without insulation		in. (mm)	--			
Overall height with insulation*6		in. (mm)	68¼ (1734)			
Tilt height without insulation		in. (mm)	--			
Tilt height with insulation		in. (mm)	72 (1825)			
Weight						
Tank with insulation		lbs (kg)	249 (113)			
Heat exchanger coil capacity		USG (L)	1.8 (6.7)			
Heat exchanger surface area		ft. ² (m ²)	9.6 (0.9)			
Connections						
Coils		∅ in. (male NPT thread)	1			
Domestic cold/hot water		∅ in. (male NPT thread)	1			
Recirculation		∅ in. (male NPT thread)	1			

*1 The upper coil is designated for connection to a hot water heating boiler or a heat pump.

*3 When planning for the recovery rate as stated or calculated, allow for the corresponding circulation pump. The stated recovery rate is only achieved when the rated output of the boiler is equal to or greater than that stated under "Recovery rate".

*4 Tested to AHRI Indirect-Fired water Heater Testing Standard IWH-TS-1.

*5 For other dimensions, see illustrations and tables on page 8.

*6 Adjustable feet can be adjusted up to 2 in. (50 mm).

For information regarding other Viessmann System Technology componentry, please reference documentation of the respective product.

Technical Data *(continued)*

For DHW production in conjunction with solar systems, heating boilers and heating systems, without low limit for dual coil operation.

Suitable for heating systems with:

- max. working pressure on heat exchanger side up to 220 psig at 392°F (200°C)
- max. working pressure on DHW water side of up to 150 psig at 210°F (99°C)
- max. testing pressure on DHW side of 300 psig

Model		300-B, EVBA				
Storage capacity		USG (L)				
Coil		lower*2				
Supply flow rate for the recovery rates stated		GPM (m ³ /h)	22 (5.0)	13.2 (3.0)	8.8 (2.0)	4.4 (1.0)
Recovery rates*3 with a DHW temperature increase from 50 to 113°F (10 to 45°C) and a supply water temperature of.....	194°F (90°C)	MBH (kW)	219 (64)	208 (61)	195 (57)	163 (48)
		GPH (L/h)	418 (1582)	396 (1501)	372(1409)	311 (1178)
	176°F (80°C)	MBH (kW)	183 (54)	174 (51)	163 (48)	137 (40)
		GPH (L/h)	348 (1317)	330 (1252)	311 (1178)	262 (991)
	158°F (70°C)	MBH (kW)	145 (43)	139 (41)	131 (38)	111 (32)
	GPH (L/h)	277 (1047)	263 (998)	249 (942)	211 (799)	
	140°F (60°C)	MBH (kW)	105 (31)	102 (30)	97 (28)	82 (24)
	GPH (L/h)	202 (766)	193 (733)	184 (696)	158 (599)	
	122°F (50°C)	MBH (kW)	61 (18)	61 (18)	58 (17)	51 (15)
	GPH (L/h)	119 (449)	114 (434)	110 (416)	97 (369)	
Recovery rates*3 with a DHW temperature increase from 50 to 140°F (10 to 60°C) and a supply water temperature of.....	194°F (90°C)	MBH (kW)	186 (54)	177 (52)	167 (49)	143 (42)
		GPH (L/h)	247 (937)	236 (894)	223 (845)	190 (720)
	176°F (80°C)	MBH (kW)	146 (43)	139 (41)	133 (39)	115 (34)
	GPH (L/h)	195 (737)	186 (706)	177 (670)	153 (578)	
	158°F (70°C)	MBH (kW)	103 (30)	98 (29)	94 (28)	83 (24)
	GPH (L/h)	137 (520)	132 (501)	126 (478)	111 (420)	
Insulation		PUR Foam				
Standby heat loss*4		BTU/h (°F/h)	151 (0.5)			
Dimensions*5						
Tank length without insulation		in. (mm)	--			
Overall length with insulation		in. (mm)	26¼ (667)			
Tank width without insulation		in. (mm)	--			
Overall width with insulation		in. (mm)	29 (744)			
Tank height without insulation		in. (mm)	--			
Overall height with insulation*6		in. (mm)	68¼ (1734)			
Tilt height without insulation		in. (mm)	--			
Tilt height with insulation		in. (mm)	72 (1825)			
Weight						
Tank with insulation		lbs (kg)	249 (113)			
Heat exchanger coil capacity		USG (L)	2.9 (11)			
Heat exchanger surface area		ft. ² (m ²)	16 (1.5)			
Connections						
Coils		∅ in. (male NPT thread)	1			
Domestic cold/hot water		∅ in. (male NPT thread)	1			
Recirculation		∅ in. (male NPT thread)	1			

*2 The lower coil is designated for connection to solar collector panels or heat pumps.

*3 When planning for the recovery rate as stated or calculated, allow for the corresponding circulation pump.

The stated recovery rate is only achieved when the rated output of the boiler is equal to or greater than that stated under "Recovery rate".

*4 Tested to AHRI Indirect-Fired water Heater Testing Standard IWH-TS-1.

*5 For other dimensions, see illustrations and tables on page 8.

*6 Adjustable feet can be adjusted up to 2 in. (50 mm).

For information regarding other Viessmann System Technology componentry, please reference documentation of the respective product.

Technical Data *(continued)*

For DHW production in conjunction with solar systems, heating boilers and heating systems, without low limit for dual coil operation.

Suitable for heating systems with:

- max. working pressure on heat exchanger side up to 220 psig at 392°F (200°C)
- max. working pressure on DHW water side of up to 150 psig at 210°F (99°C)
- max. testing pressure on DHW side of 300 psig

Model		300-B, EVBB				
Storage capacity		USG (L)				
Coil		upper *1				
Supply flow rate for the recovery rates stated		GPM (m ³ /h)	22 (5.0)	13.2 (3.0)	8.8 (2.0)	4.4 (1.0)
Recovery rates*3 with a DHW temperature increase from 50 to 113°F (10 to 45°C) and a supply water temperature of.....	194°F (90°C)	MBH (kW)	191 (56)	182 (53)	172 (50)	145 (43)
		GPH (L/h)	362 (1371)	346 (1311)	628 (1241)	280 (1061)
	176°F (80°C)	MBH (kW)	156 (46)	152 (44)	143 (42)	124 (36)
		GPH (L/h)	301 (1141)	288 (1092)	274 (1036)	235 (891)
	158°F (70°C)	MBH (kW)	126 (37)	121 (35)	115 (34)	99 (29)
	GPH (L/h)	239 (907)	230 (870)	218 (827)	189 (717)	
Recovery rates*3 with a DHW temperature increase from 50 to 140°F (10 to 60°C) and a supply water temperature of.....	140°F (60°C)	MBH (kW)	91 (27)	89 (26)	85 (25)	74 (22)
		GPH (L/h)	175 (663)	169 (638)	161 (610)	141 (535)
	122°F (50°C)	MBH (kW)	54 (16)	52 (15)	50 (15)	45 (13)
		GPH (L/h)	102 (388)	100 (377)	96 (363)	86 (327)
	194°F (90°C)	MBH (kW)	160 (47)	154 (45)	147 (43)	128 (38)
GPH (L/h)		214 (811)	206 (779)	196 (742)	171 (647)	
176°F (80°C)	MBH (kW)	126 (37)	122 (36)	116 (34)	102 (30)	
	GPH (L/h)	168 (638)	162 (615)	155 (587)	136 (517)	
158°F (70°C)	MBH (kW)	88 (26)	86 (25)	83 (24)	74 (22)	
	GPH (L/h)	118 (449)	115 (435)	110 (419)	99 (373)	
Insulation		Soft PET insulation				
Standby heat loss*4		BTU/h (°F/h)	287 (0.3)			
Dimensions*5						
Tank length without insulation		in. (mm)	23.9 (609.5)			
Overall length with insulation		in. (mm)	32¾ (832)			
Tank width without insulation		in. (mm)	32 (811)			
Overall width with insulation		in. (mm)	35 (888)			
Tank height without insulation		in. (mm)	74½ (1895)			
Overall height with insulation*6		in. (mm)	77(1960)			
Tilt height without insulation		in. (mm)	78 (1978)			
Tilt height with insulation		in. (mm)	--			
Weight						
Tank with insulation		lbs (kg)	220 (100)			
Heat exchanger coil capacity		USG (L)	2.6 (10)			
Heat exchanger surface area		ft. ² (m ²)	14 (1.3)			
Connections						
Coils		∅ in. (male NPT thread)	1			
Domestic cold/hot water		∅ in. (male NPT thread)	1¼			
Recirculation		∅ in. (male NPT thread)	1			

*1 The upper coil is designated for connection to a hot water heating boiler or a heat pump.

*3 When planning for the recovery rate as stated or calculated, allow for the corresponding circulation pump. The stated recovery rate is only achieved when the rated output of the boiler is equal to or greater than that stated under "Recovery rate".

*4 Tested to AHRI Indirect-Fired water Heater Testing Standard IWH-TS-1.

*5 For other dimensions, see illustrations and tables on page 9.

*6 Adjustable feet can be adjusted up to 2 in. (50 mm).

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Technical Data *(continued)*

For DHW production in conjunction with solar systems, heating boilers and heating systems, without low limit for dual coil operation.

Suitable for heating systems with:

- max. working pressure on heat exchanger side up to 220 psig at 392°F (200°C)
- max. working pressure on DHW water side of up to 150 psig at 210°F (99°C)
- max. testing pressure on DHW side of 300 psig

Model		300-B, EVBB				
Storage capacity		USG (L)				
Coil		lower*2				
Supply flow rate for the recovery rates stated		GPM (m ³ /h)	22 (5.0)	13.2 (3.0)	8.8 (2.0)	4.4 (1.0)
Recovery rates*3 with a DHW temperature increase from 50 to 113°F (10 to 45°C) and a supply water temperature of.....	194°F (90°C)	MBH (kW)	242 (71)	230 (67)	214 (63)	176 (52)
		GPH (L/h)	463 (1756)	438 (1658)	408 (1545)	335 (1269)
	176°F (80°C)	MBH (kW)	201 (59)	192 (56)	179 (53)	148 (43)
		GPH (L/h)	386 (1463)	365 (1383)	341 (1292)	282 (1068)
	158°F (70°C)	MBH (kW)	160 (47)	153 (45)	143 (42)	120 (35)
	GPH (L/h)	307 (1163)	291 (1103)	273 (1034)	228 (864)	
	140°F (60°C)	MBH (kW)	119 (35)	113 (33)	106 (31)	90 (26)
	GPH (L/h)	225 (852)	215 (812)	202 (766)	171 (649)	
	122°F (50°C)	MBH (kW)	68 (20)	67 (20)	64 (19)	56 (16)
	GPH (L/h)	132 (501)	127 (482)	121 (459)	106 (402)	
Recovery rates*3 with a DHW temperature increase from 50 to 140°F (10 to 60°C) and a supply water temperature of.....	194°F (90°C)	MBH (kW)	204 (60)	195 (57)	184 (54)	154 (45)
		GPH (L/h)	275 (1041)	261 (989)	245 (929)	206 (780)
	176°F (80°C)	MBH (kW)	163 (48)	155 (45)	145 (43)	124 (36)
	GPH (L/h)	216 (820)	207 (781)	195 (738)	166 (627)	
	158°F (70°C)	MBH (kW)	115 (34)	110 (32)	105 (31)	91 (27)
	GPH (L/h)	152 (579)	147 (555)	139 (528)	121 (458)	
Insulation		Soft PET insulation				
Standby heat loss*4		BTU/h (°F/h)	287 (0.3)			
Dimensions*5						
Tank length without insulation	in. (mm)	23.9 (609.5)				
Overall length with insulation	in. (mm)	32¾ (832)				
Tank width without insulation	in. (mm)	32 (811)				
Overall width with insulation	in. (mm)	35 (888)				
Tank height without insulation	in. (mm)	74½ (1895)				
Overall height with insulation*6	in. (mm)	77(1960)				
Tilt height without insulation	in. (mm)	78 (1978)				
Tilt height with insulation	in. (mm)	--				
Weight						
Tank with insulation	lbs (kg)	220 (100)				
Heat exchanger coil capacity		USG (L)	3.43 (13)			
Heat exchanger surface area		ft. ² (m ²)	18.3 (1.7)			
Connections						
Coils	∅ in. (male NPT thread)	1				
Domestic cold/hot water	∅ in. (male NPT thread)	1¼				
Recirculation	∅ in. (male NPT thread)	1				

*2 The lower coil is designated for connection to solar collector panels or heat pumps.

*3 When planning for the recovery rate as stated or calculated, allow for the corresponding circulation pump. The stated recovery rate is only achieved when the rated output of the boiler is equal to or greater than that stated under "Recovery rate".

*4 Tested to AHRI Indirect-Fired water Heater Testing Standard IWH-TS-1.

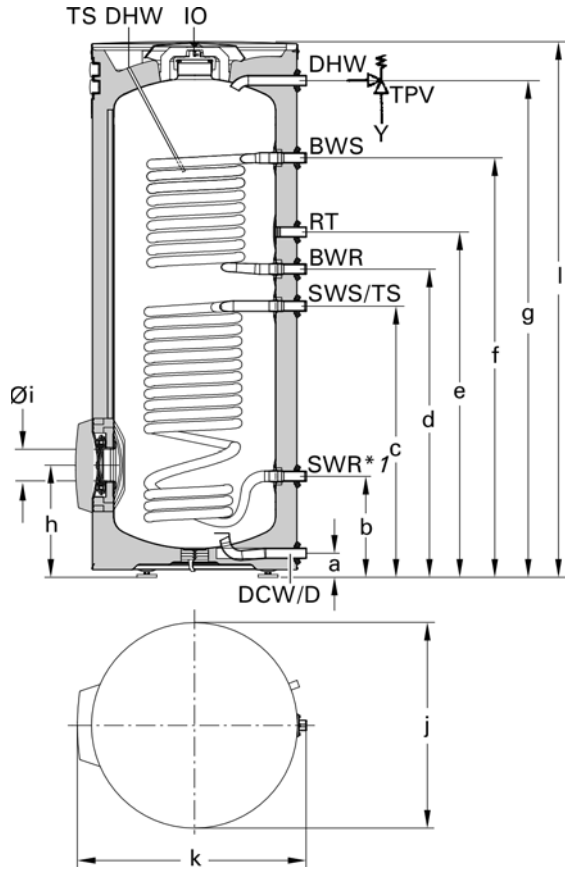
*5 For other dimensions, see illustrations and tables on page 9.

*6 Adjustable feet can be adjusted up to 2 in. (50 mm).

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Tank Dimensions

79 USG (300 L) Tank

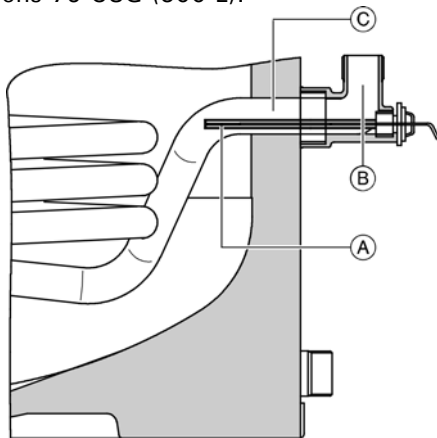


Dimensions		
Model	300-B, EVBA	
Storage capacity	USG (L)	79 (300)
a	in. (mm)	3 (77)
b	in. (mm)	12 ⁷ / ₈ (327)
c	in. (mm)	34 ¹ / ₂ (876)
d	in. (mm)	39 ¹ / ₄ (996)
e	in. (mm)	44 (1116)
f	in. (mm)	53 ³ / ₈ (1356)
g	in. (mm)	63 ¹ / ₄ (1607)
h	in. (mm)	14 ¹ / ₄ (362)
i	in. (mm)	4 (100)
j	in. (mm)	26 ¹ / ₄ (667)
k	in. (mm)	29 (744)
l	in. (mm)	68 ¹ / ₄ (1734)

Legend

- IO Inspection and clean-out Opening
- D Drain
- BWR Boiler Water Return (upper coil)
- SWR Solar Water Return (lower coil) or boiler return
- BWS Boiler Water Supply (upper coil)
- SWS Solar Water Supply (lower coil) or boiler supply
- DCW Domestic Cold Water
- TS DHW Sensor well opening ID ¹/₄ in. (7 mm) for DHW tank Temperature Sensor or tank temperature controller.
- TS Sensor well opening ID ⁵/₈ in. (17 mm) for thermometer sensors or Temperature Sensor
- DHW Domestic Hot Water
- RT DHW Recirculation Tapping
- TPV Temperature and Pressure relief Valve

DHW tank temperature sensor in solar heating applications 79 USG (300 L).



Legend

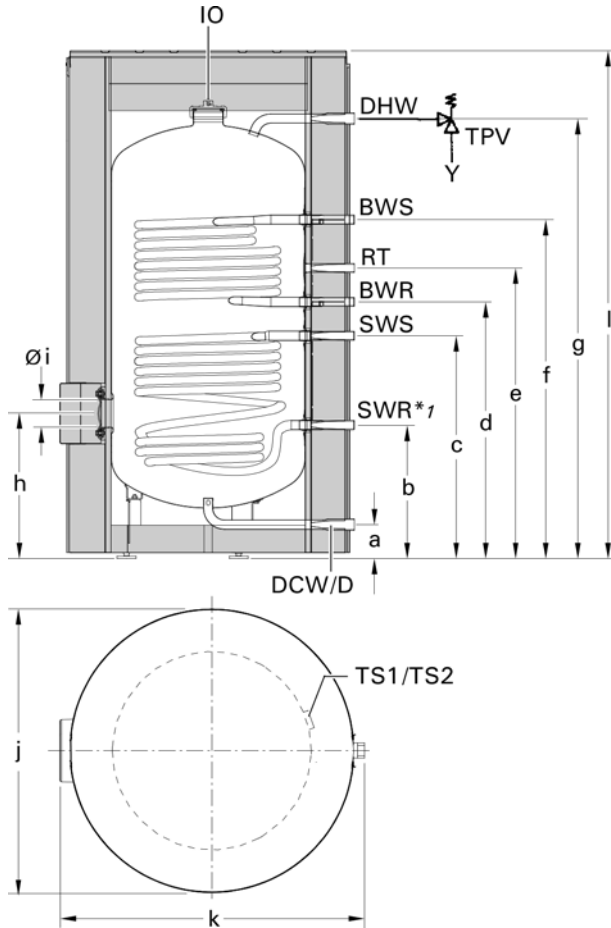
- (A) DHW tank temperature sensor for solar application (included with solar control unit)
- (B) Brass elbow with sensor well
- (C) Solar collector return connection.

* 1 For solar heating systems Viessmann recommends placement of the DHW tank temperature sensor in the solar collector return (SWR). This requires a brass elbow with sensor well (see price list, Vitocell 300 accessory).

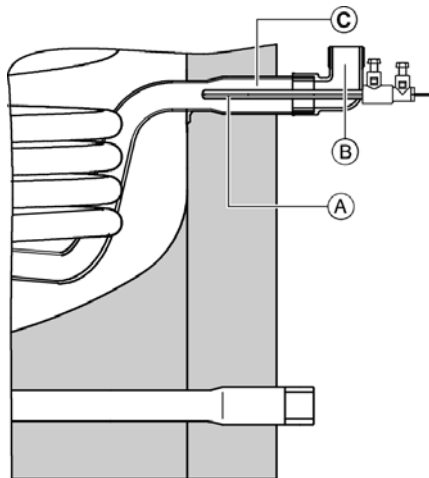
The DHW tank temperature sensor (TS) of the boiler control or temperature controller placed in (TS DHW).

Tank Dimensions *(continued)*

119 USG (450 L) Tank



DHW tank temperature sensor in solar heating applications 119 USG (450 L).



Legend

- (A) DHW tank temperature sensor for solar application (included with solar control unit)
- (B) Brass elbow with sensor well
- (C) Solar collector return connection.

Dimensions		
Model	300-B, EVBB	
Storage capacity	USG (L)	119 (450)
a	in. (mm)	3¾ (98)
b	in. (mm)	17¼ (441)
c	in. (mm)	36 (916)
d	in. (mm)	41 (1043)
e	in. (mm)	46 (1168)
f	in. (mm)	56 (1423)
g	in. (mm)	71½ (1821)
h	in. (mm)	19 (484)
i	in. (mm)	4 (100)
j	in. (mm)	32¾ (832)
k	in. (mm)	35 (888)
l	in. (mm)	77 (1960)

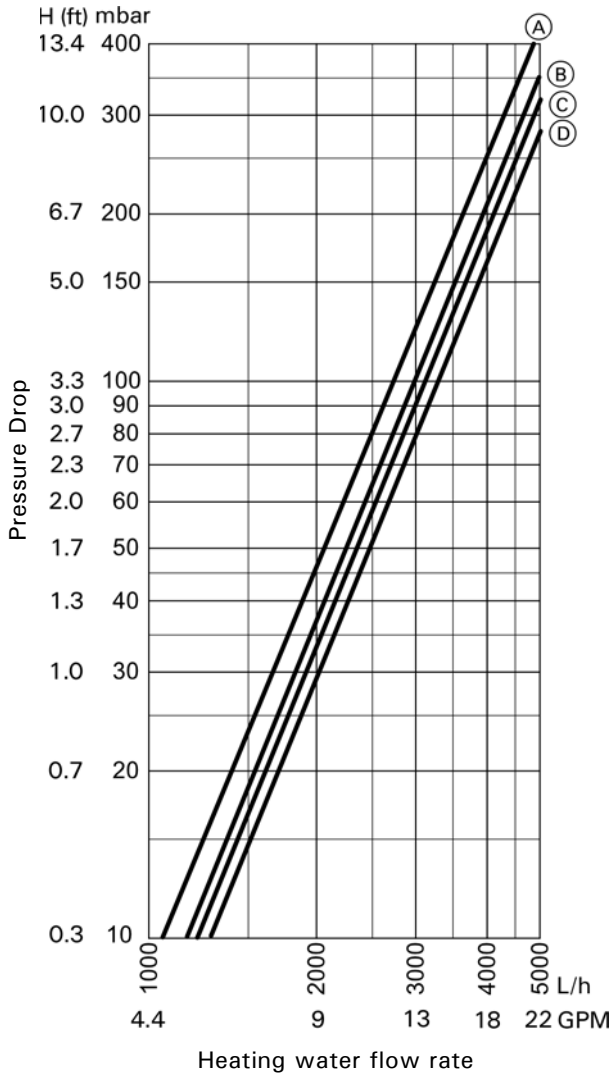
Legend

- IO Inspection and clean-out Opening
- D Drain
- BWR Heating Water Return (upper coil)
- SWR Solar Water Return (lower coil) or boiler return
- BWS Heating Water Supply (upper coil)
- SWS Solar Water Supply (lower coil) or boiler supply
- DCW Domestic Cold Water
- DHW Domestic Hot Water
- RT DHW Recirculation Tapping
- TPV Temperature and Pressure relief Valve
- TS1/TS2 Clamping system for fastening temperature sensors to the tank shell. Fastening channels for three temperature sensors per clamping system.

*1 For solar heating systems Viessmann recommends placement of the DHW tank temperature sensor in the solar collector return (SWR). This requires a brass elbow with sensor well (see price list, Vitocell 300 accessory). The DHW tank temperature sensor or temperature controller is placed in the sensor clamp located at BWS level.

Water Flow

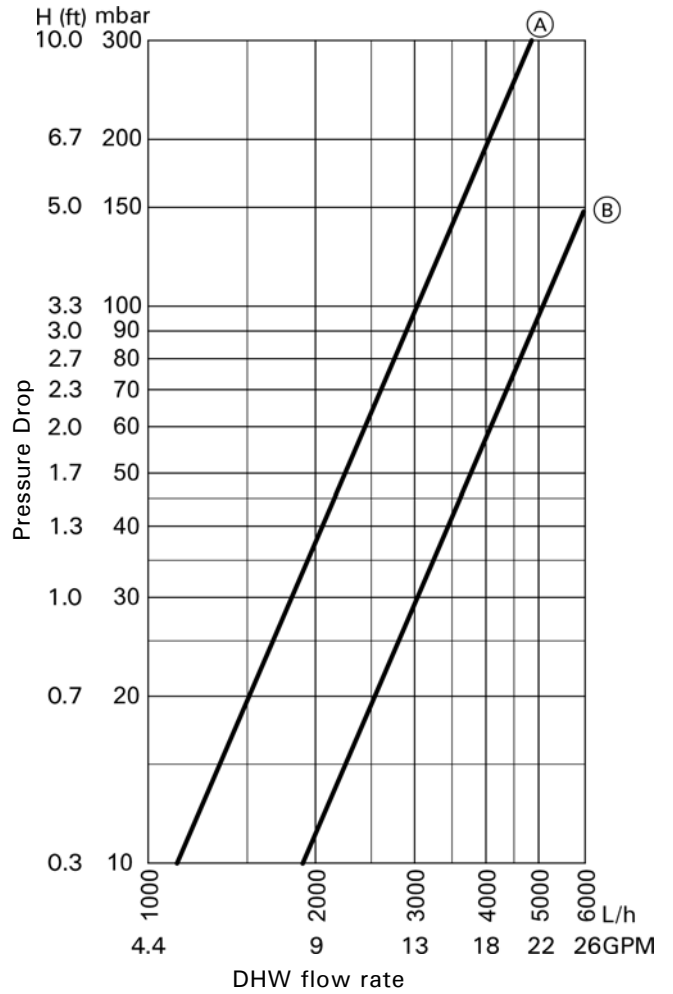
Pressure drop on the heating water side



Legend

- (A) Lower indirect coil, 79 USG (300 L) capacity
- (B) Upper indirect coil, 79 USG (300 L) capacity
- (C) Lower indirect coil, 119 USG (450 L) capacity
- (D) Upper indirect coil, 119 USG (450 L) capacity

Pressure drop on the DHW side



Legend

- (A) 79 USG (300 L) capacity
- (B) 119 USG (450 L) capacity

Performance Rating

Tested to AHRI Indirect-Fired water Heater Testing Standard IWH-TS-1

Storage	First draw test (USG)	Continuous draw rating (USG/hr)	First hour rating (USG)
EVBA 79 USG (300 L) Top heat exchanger	32	106	130
EVBA 79 USG (300 L) Bottom heat exchanger	45	160	196
EVBB 119 USG (450 L) Top heat exchanger	43	204	247
EVBB 119 USG (450 L) Bottom heat exchanger	106	239	345

Standard Equipment

Vitocell 300-B, EVBA 79 USG (300 L) capacity

DHW cylinder made from stainless steel.

- Integral welded sensor well internal dia. ¼ in. (7 mm) for cylinder temperature sensor
- Integral welded sensor well for temperature sensors or thermometer sensors internal dia. ⅝ in. (17 mm)
- Temperature and pressure relief valve
- Installation fittings
- Technical literature set
- 2 thermometers
- Adjustable feet
- Fitted thermal insulation
Color of the epoxy-coated sheet steel casing: Vitosilver
- Threaded elbow with solar sensor well (optional) [well internal dia. ¼ in. (6.5 mm)]

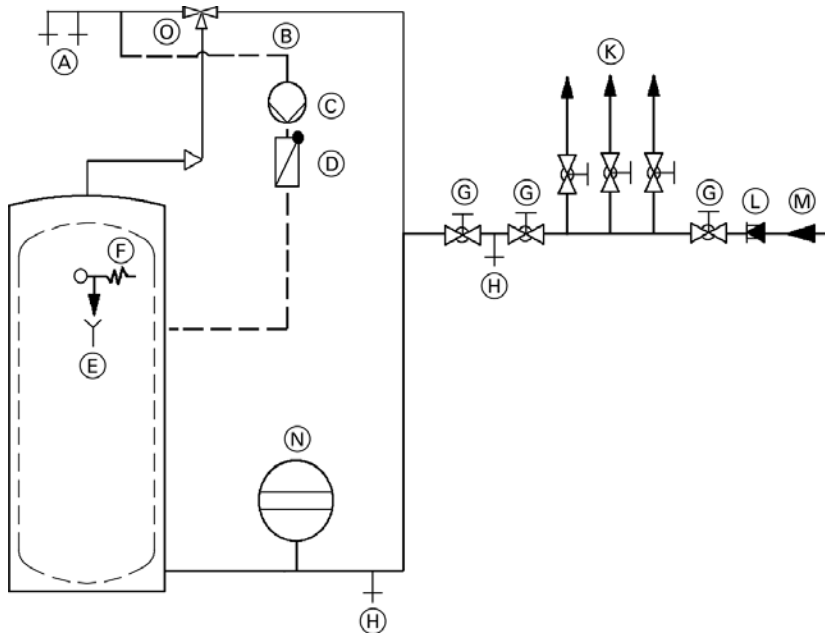
Vitocell 300-B, EVBB 119 USG (450 L) capacity

DHW cylinder made from stainless steel.

- Two clamping systems with 3 fastening channels for attaching temperature sensors to the tank shell.
- Integral welded sensor well for temperature sensors or thermometer sensors internal dia. ⅝ in. (17 mm)
- Temperature and pressure relief valve
- Installation fittings
- Technical literature set
- 2 thermometers
- Adjustable feet
- Separate carton with removable thermal insulation
Color of the plastic-coated thermal insulation: Vitosilver
- Threaded elbow with solar sensor well (optional) [well internal dia. ¼ in. (6.5 mm)]

System Design Guidelines

Domestic hot water connection



Legend

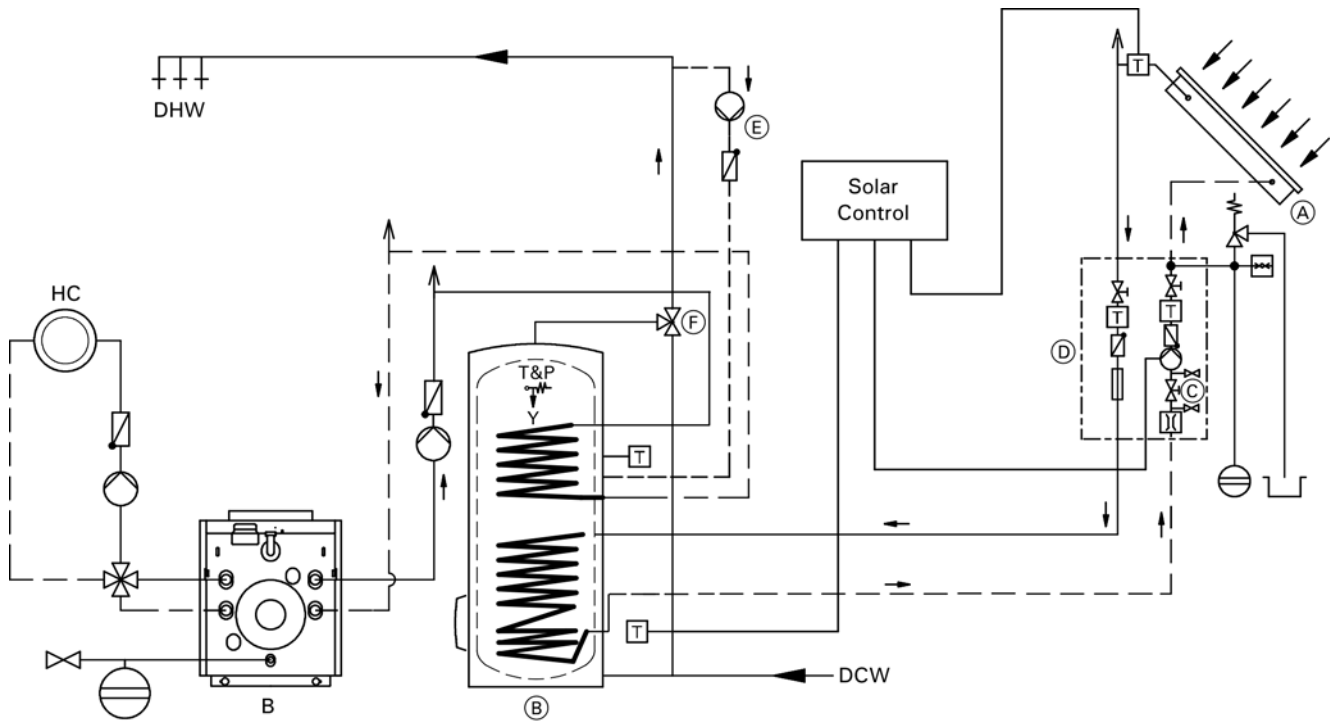
- (A) Domestic hot water supply
- (B) DHW recirculation line
- (C) DHW recirculation pump
- (D) Spring-loaded flow check valve
- (E) Discharge pipe
- (F) Pressure and temperature relief valve
- (G) Shut-off valve
- (H) Drain
- (K) Domestic cold water supply lines
- (L) Backflow preventer
- (M) Domestic cold water inlet
- (N) Precharged expansion tank
(required where backflow preventer is installed;
check local plumbing codes and requirements)
- (O) Thermostatic mixing valve/anti-scald valve for
solar applications (field supplied)

WARNING

Due to the potentially high DHW temperatures generated by the solar heating system, the domestic hot water temperature must be limited to a maximum of 140°F (60°C) by installing a mixing device, e.g. a thermostatic mixing valve. The mixing device does not completely eliminate the risk of scalding at the tap. The installation of a mixing tap is required.

System Design Guidelines *(continued)*

Installation Example




Legend

- (A) Solar collector
- (B) Vitocell 300-B
- (C) Filling valve
- (D) Solar-Divicon (pumping station)
- (E) Recirculation pump
- (F) Anti-scald tempering valve
- HC Heating circuit
- B Oil/Gas-fired boiler
- DCW Domestic Cold Water
- DHW Domestic Hot Water
- T&P Temperature and Pressure relief Valve

System Design Guidelines *(continued)*

Sensor wells for 79 USG (300 L) tank

The installed sensor wells are to be used for control sensors to ensure maximum operational safety (see page 8). For solar heating systems, Viessmann recommends placement of the DHW tank temperature sensor in the solar collector return. This requires a brass elbow with the sensor well (see pages 8 and 9).

 WARNING
<p>To ensure optimum, safe operation, the stainless steel well must be used. The well diameter is large enough to accommodate a wide variety of sensing bulbs. Always use spring clip to ensure proper contact of capillary bulb against the stainless steel well for proper sensing/heat transfer!</p>

Sensor clamps for 119 USG (450 L) tank

Sensor clamps are supplied with the tank.

Heating water supply temperature over 230°F (110°C)

These operating conditions require the installation of an additional safety high limit into the DHW storage tank, preventing the temperature from rising above 203°F (95°C). A domestic hot water tempering valve must be used.

Temperature and pressure relief valve


A 150 psi temperature and pressure relief valve (T&P relief valve) is supplied with the tank. The heating contractor must install the valve on each tank in a method meeting code requirements. If local codes require a different relief valve, substitute the manufacturer's supplied valve. Maximum operating pressure is 150 psig.

The T&P relief valve supplied with the tank is tested under ANSI Z21.22 Code for Relief Valves and Automatic Gas Shut-off Devices for Hot Water Supply Systems.

Tempering valve

Ensure that temperature tempering valve(s) is installed if the domestic hot water storage tank temperature exceeds 140°F (60°C) to protect from scalding. Consult plumbing codes and authorities for local requirements.

Installation of additional aquastat(s)

 WARNING
<p>In a multiple-tank installation, it is recommended that an additional high limit temperature device be installed in the common domestic hot water supply header to the system. This safety device should be wired in series to the operating control of the tank battery. The setting on this additional high limit temperature device should be approximately 9°F (5°C) higher than the operating high limit.</p>

Backflow preventers

Where backflow preventers are required, a domestic water expansion tank installation is recommended in the cold water inlet piping before the cold water enters the Vitocell. For the backflow device, observe local plumbing codes and regulations.

T&P Valve	150 psig
ASME pressure steam rating	see ratings marked on T&P valve
CSA temperature steam rating	205 MBH
Relief temperature	210°F (99°C)
Inlet thread	3/4" male
Outlet thread	3/4" female

Recirculation tapping

The recirculation tapping is on a separate tapping (see page 5). Cap this opening if the tank is not installed with recirculation.

Warranty consideration

Viessmann DHW tanks require that the water to be heated must be of drinking (potable) water quality and that any water treatment equipment in use must function correctly.

Viessmann accepts no responsibility for damage howsoever caused and reserves the right to withdraw the product warranty if the product has been improperly installed or misapplied by the installer, contractor or final user. In order to qualify for product warranty, strict adherence to the installation and service manuals must be assured.

In the event that Viessmann non-approved components are utilized, Viessmann reserves the right to withdraw all expressed or implied warranties without written notice.

The water to be heated with the Vitocell must be drinking (potable) water quality. If the tank is used to heat other media, the warranty will be null and void.

Damage resulting from excessive pressure or temperature is clearly not the responsibility of Viessmann.

The amount of chloride and sulfate acceptable to the tank is limited. In areas where high concentrations of chloride and sulfate are present in drinking water, please consult Viessmann for directions.

For full warranty details, please read the product warranty sheet.

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