

Installation, Operating and Service Instructions

for use by heating contractor

VIESSMANN®

Vitocell 300-V, EVIB

Single coil, indirect-fired domestic hot water storage tank
42 USG (160 L) capacity

Vitocell 300-V, EVIB

Single coil, indirect-fired domestic hot water storage tank
53 USG (200 L) capacity

Vitocell 300-V, EVIB

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

Vitocell 300-V, EVIB

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

VITOCCELL® 300-V



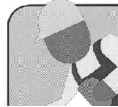
Safety, Installation and Warranty Requirements

Please ensure that these instructions are read and understood before commencing installation. Failure to comply with the instructions listed below and details printed in this manual can cause product/property damage, severe personal injury, and/or loss of life. Ensure all requirements below are understood and fulfilled (including detailed information found in manual subsections).

■ Licensed professional heating contractor

The installation, adjustment, service and maintenance of this equipment must be performed by a licensed professional heating contractor.

► *Please see section entitled "Important Regulatory and Installation Requirements".*



■ Product documentation

Read all applicable documentation before commencing installation. Store documentation near product in a readily accessible location for reference in the future by service personnel.

► *For a listing of applicable literature, please see section entitled "Important Regulatory and Installation Requirements".*



■ Advice to owner

Once the installation work is complete, the heating contractor must familiarize the system operator/ultimate owner with all equipment, as well as safety precautions/requirements, shutdown procedure, and the need for professional service annually before the heating season begins.

■ Warranty

Information contained in this and related product documentation must be read and followed. Failure to do so renders the warranty null and void.



In solar applications

! CAUTION

The heat transfer medium must be either potable water or contain only substances which are recognized as safe by the U.S. Food and Drug Administration.

The Pressure of the heat transfer medium must be maintained less than the normal minimum operating pressure of the potable water system

Heat transfer medium

! CAUTION

The heat transfer medium must be water or other non-toxic fluid having a toxicity rating or class of 1, as listed in clinical toxicology of commercial products, 5th edition.

This tank version is not suitable for steam heating applications.

The pressure of the heat transfer medium must be limited to a max. of 30 psig by an approved safety or relief valve.

Introduction

Safety, Installation and Warranty Requirements	2
Licensed professional heating contractor	2
Product documentation	2
Advice to owner	2
Warranty	2

Safety

Important Regulatory Requirements	4
Codes	4
Mechanical room	4
Working on the equipment	4
Instructing the system user	5
Initial startup	5
Operation	5
Technical literature	5

General Information

About These Instructions	6
Product Information	6
Tank Setup	6

Installation

Unpacking Models EVIB 42, 53 and 79	7
42 and 53 USG (160 and 200 L) Tank Connections	8
79 USG (300 L) Tank Connections	8
119 USG (450 L) Tank Connections	9
42 and 79 USG (160 and 300 L) Tank Installation	9
79 USG (300 L) Tank Installation	11
119 USG (450 L) Tank Installation	12
Boiler Water Connections (heat exchanger connection)	15
Domestic Water Connections	16
Multiple Tank Set-up	18
Recirculation Connections	19
Water Connections	20

Additional Information

42 and 79 USG (160 and 300 L) Pressure Drop Information ..	21
119 USG (450 L) Pressure Drop Information	22

Operation

Initial Startup	23
Domestic Hot Water Production	23
Temperature and Pressure Relief Valve	24
Shutdown	24

Service

Service and Cleaning	25
Necessary Tools	25
Service Procedures	25
Shut Down Heating Systems	26
Check all Connections	26
Ensure Proper Operation of all Safety Devices	26
Clean Outside of Tank	26
Place System in Operation Again	26
Cleaning the Inside of the 42 and 119 USG (160 and 450 L) Tanks	27

Parts

Installation Set 42 and 53 USG (160 and 200 L)	28
Installation Set 79 USG (300 L)	28
Installation Set 119 USG (450 L)	28

Maintenance

Spare Parts List	29
Maintenance Record	29

Important Regulatory Requirements

Codes

The installation of indirect-fired hot water storage tanks in boilers and solar system application might be governed by individual local rules and regulations for this type of product, which must be observed. Always use latest editions of codes.

THIS TANK MEETS NSF/ANSI 372 FOR LOW LEAD CONTENT.

In the Commonwealth of Massachusetts, all plumbing work must be done by a licensed plumber or gas-fitter and for gas installations, all gas piping must be done by a licensed gas-fitter.

Mechanical room

Ensure the mechanical room complies with the requirements of the system design guideline and/or Technical Data Manual (available from your Viessmann sales representative).

The tank must be installed in a mechanical room which is never subject to freezing temperatures.

Ensure water in tank is drained if not in use and danger of freezing exists in the mechanical room.

► Please carefully read this manual prior to attempting installation. Any warranty is null and void if these instructions are not followed.

This product must be installed observing not only the information and instruction provided in the pertinent product literature (see list on the following page), but also all local, provincial/state plumbing and building codes, as they apply to this product and all periphery equipment.

For information regarding other Viessmann System Technology componentry, please reference documentation of the respective product (available from your Viessmann sales representative).

We offer frequent installation and service seminars to familiarize our partners with our products. Please inquire.



WARNING

If the heating system itself is to be filled with Glycol or any other antifreeze, the system fill must be of non-toxic or food grade antifreeze. In any circumstance, a non-toxic fluid must be used. Ensure a copy of the Safety Data Sheet (SDS) is supplied to the operator/ultimate owner of the system. The use of Viessmann supplied "Tyfocor-HTL" solar fill is recommended for the solar heating circuit.

Working on the equipment

The installation, adjustment, service, and maintenance of this equipment must be done by a licensed professional heating contractor who is qualified and experienced in the installation, service, and maintenance of hot water heating systems. There are no user serviceable parts on this equipment.

Ensure main power supply to equipment, the heating system, and all external controls has been deactivated. Close main oil or gas supply valve. Take precautions to avoid accidental activation of power during service work.

► The completeness and functionality of field supplied electrical controls and components must be verified by the heating contractor. These include low-water cut-offs, flow switches (if used), staging controls, pumps, motorized valves, air vents, thermostats, temperature controls, etc.



CAUTION

The heating coil which is assembled with a rubber seal and glue in the tank is sensible to high temperatures. Exercise caution when welding and brazing: be sure not to exceed a temperature of 302°F (150°C) in the NPT fittings area.

Important Regulatory Requirements *(continued)*

Instructing the system user

The installer of the system is responsible to ensure the system operator/ultimate owner is made familiar with the system functioning, its activation, and its shut-down. The operator/ultimate owner should also be instructed to complete and mail the warranty registration form in order to be eligible for limited warranty.

Initial startup

Initial start-up must be performed by a qualified heating contractor. Completion of the Maintenance Record by the heating contractor is also required.

Operation

Please carefully read the operation and service sections of this manual prior to operation.

The installer of the system is responsible to ensure the system operator/ultimate owner is made familiar with the system functioning, its activation, and its shut-down. The operator/ultimate owner should also complete and mail the warranty registration form in order to be eligible for limited warranty.

Technical literature

Literature applicable to all aspects of the Vitocell:

- Technical Data Manual
- Installation, Operating and Service Instructions

For installations in Canada

Install in accordance with CSA B214 - Installation Code for Hydronic Heating Systems:

- a) The system shall be arranged to function automatically so that the pressure of the hydronic fluid entering the indirect-fired domestic-water heater is maintained at a level below that of the normal operating pressure of the domestic hot water leaving the indirect-fired domestic-water heater.
- b) A tag shall be securely affixed to the heat-source pressure-relief valve advising that the indirect-fired domestic-water heater shall be examined in case there has been a discharge from the heat-source pressure-relief valve.
- c) Isolation valves shall be installed on the inlet and outlet sides of the indirect-fired domestic-water heater.
- d) When used to heat domestic water, the heat-transfer fluid shall be
 - i) water;
 - ii) hydronic fluid (i.e., water possibly containing relatively harmless additives); or
 - iii) a relatively harmless fluid as defined by the Hodge and Sterner scale found in Table B.1 of CSA B214 - Installation Code for Hydronic Heating Systems

- The following topics must be covered:

Proper system operation sequence.

Explain the equipment as well as the need for combustion air. Demonstrate an emergency shut-down, what to do and what not.

Explain that there is no substitute for proper maintenance to help ensure safe operation.

- The Maintenance Record is located on page 26 of this manual.

- Failure to abide by all the requirements set out in the technical literature renders warranty null and void.

- Leave all literature at the installation site and advise the system operator/ultimate owner where the literature can be found. Contact Viessmann for additional copies.

About These Instructions



Take note of all symbols and notations intended to draw attention to potential hazards or important product information. These include "WARNING", "CAUTION", and "IMPORTANT". See below.



WARNING

Indicates an imminently hazardous situation which, if not avoided, could result in substantial product/property damage, serious injury or loss of life.

► Warnings draw your attention to the presence of potential hazards or important product information.



CAUTION

Indicates an imminently hazardous situation which, if not avoided, may result in minor injury or product/property damage.

► Cautions draw your attention to the presence of potential hazards or important product information.

IMPORTANT

► Helpful hints for installation, operation or maintenance which pertain to the product.



► This symbol indicates that additional, pertinent information is to be found.



► This symbol indicates that other instructions must be referenced.

Product Information

Vitocell 300-V, EVIB 42 USG (160 L) capacity
Vitocell 300-V, EVIB 53 USG (200 L) capacity
Vitocell 300-V, EVIB 79 USG (300 L) capacity
Vitocell 300-V, EVIB 119 USG (450 L) capacity

Indirect-fired domestic hot water storage tank with one heat exchanger coil for use with hot water heating boilers, residential/commercial heating plants, and low-temperature heating systems.

This tank version is not suitable for steam heating applications.

Tank Setup



CAUTION

Install the DHW tank in a frost-protected and draft-free room. Otherwise it must be drained when not in use, in order to reduce the risk of damages caused by freezing.

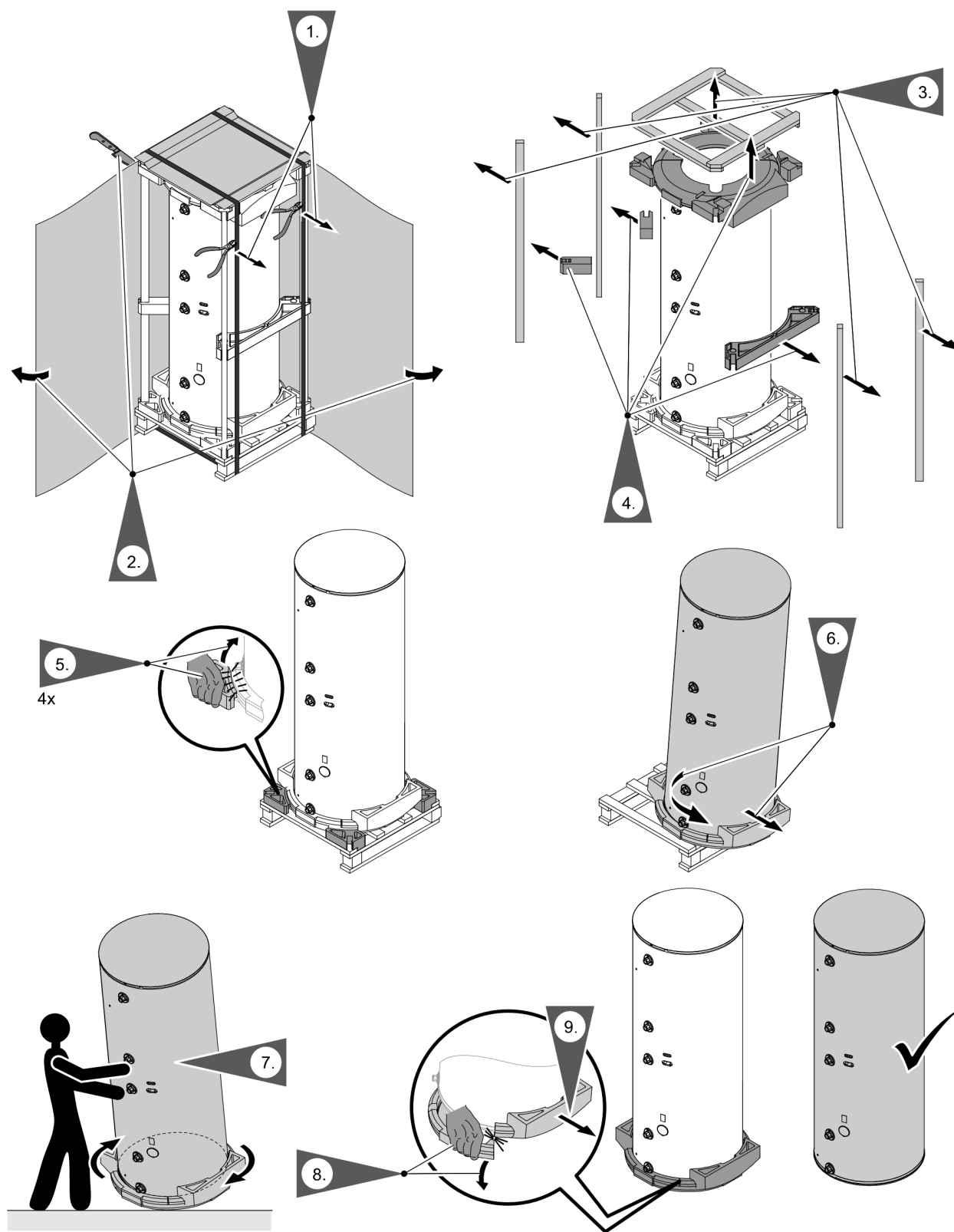
- Position tank carefully and remove packaging.
- Leave adequate clearance to the wall or other objects enabling easy access to the pressure relief valve.
- Install tank(s) on flooring or foundation capable of supporting the weight of the tank(s) filled with water.

Recommended service clearances

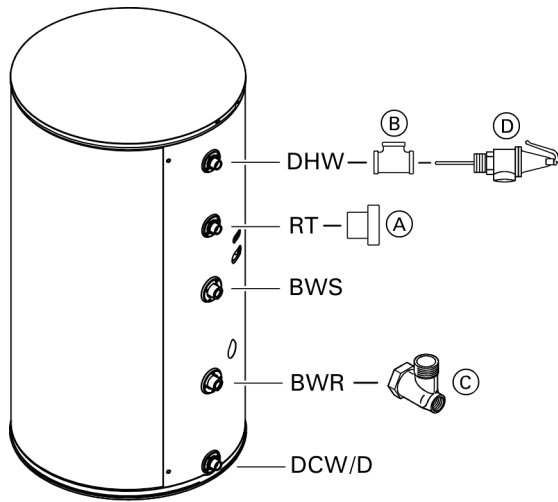
Rear		in. (mm)	18 (460)
Sides	May be reduced if rear pipe connections can be reached with less clearance	in. (mm)	12 (300)
Top		in. (mm)	12 (300)
Front		in. (mm)	29 (730)

Minimum clearances to combustibles

All sides	in. (mm)	0 (0)
Floor		combustible

Unpacking Models EVIB 42, 53 and 79

42 and 53 USG (160 and 200 L) Tank Connections



Legend

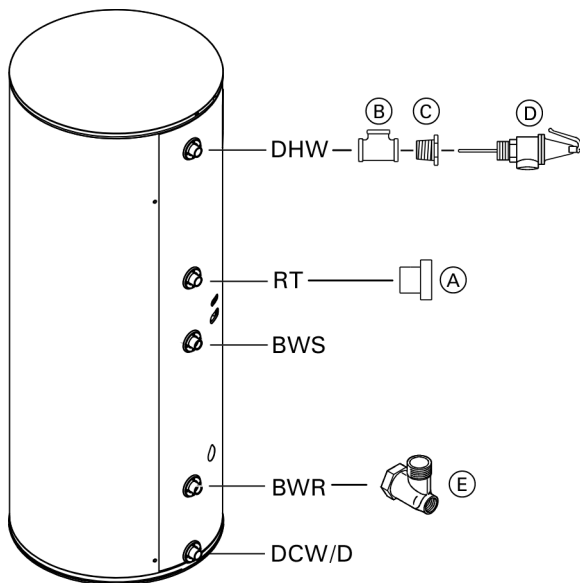
- DHW Domestic Hot Water supply
- RT Recirculation tapping (DHW)
- TS Clamping system for boiler control temperature sensor
- BWS Boiler Water Supply
- BWR Boiler Water Return
- DCW/D Domestic Cold Water supply/Drain

Supplied component sizes		Quantity
Part	Size	
(A) Cap	¾ in. NPT	1
(B) Tee	¾ in. NPT	1
(C) Solar elbow*	1 in. NPT	1
(D) Temperature and pressure relief valve	¾ in. NPT	1

* Optional for Solar applications only.

Connections		Size
BWS, BWR	Ø in. (male NPT)	1
DHW, DCW/D, RT	Ø in. (male NPT)	¾

79 USG (300 L) Tank Connections



Legend

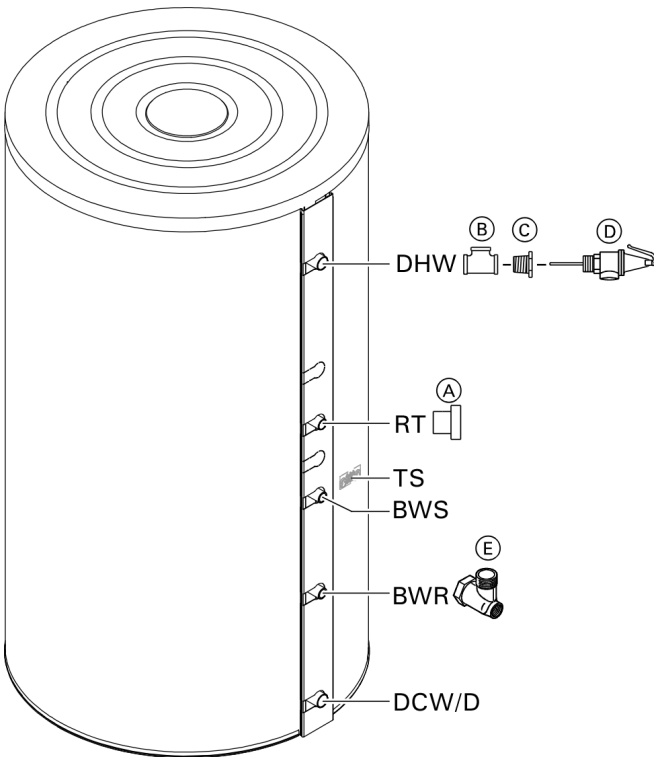
- DHW Domestic Hot Water supply
- RT Recirculation tapping (DHW)
- TS Clamping system for boiler control temperature sensor
- BWS Boiler Water Supply
- BWR Boiler Water Return
- DCW/D Domestic Cold Water supply/Drain

Supplied component sizes		Quantity
Part	Size	
(A) Cap	1 in. NPT	1
(B) Tee	1 in. NPT	1
(C) Reducer bushing	1 to ¾ in. NPT	1
(D) Temperature and pressure relief valve	¾ in. NPT	1
(E) Solar elbow*	1 in. NPT	1

* Optional for Solar applications only.

Connections		Size
BWS, BWR	Ø in. (male NPT)	1
DHW, DCW/D, RT	Ø in. (male NPT)	1

119 USG (450 L) Tank Connections



Supplied component sizes		Quantity
Component	Size	
(A) Cap	1 in. NPT	1
(B) Tee	1 1/4 in. NPT	1
(C) Reducer bushing	1 1/4 to 3/4 in. NPT	1
(D) Temperature and pressure relief valve	3/4 in. NPT	1
(E) Solar elbow*	1 in. NPT	Optional

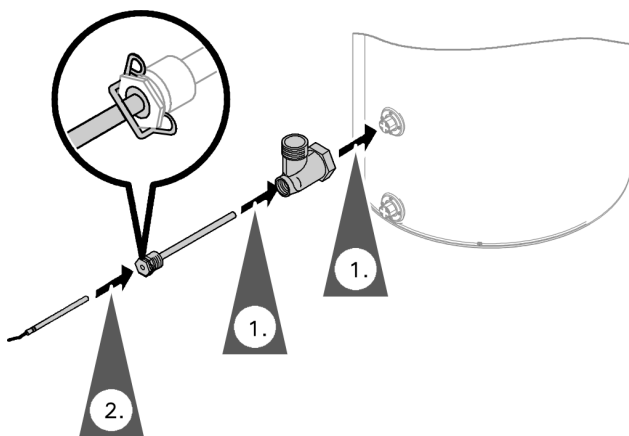
* Optional for Solar applications only.

Connections		Size
BWS, BWR, RT	Ø in. (male NPT)	1
DHW, DCW/D	Ø in. (male NPT)	1 1/4

Legend

- DHW Domestic Hot Water supply
- RT Recirculation Tapping (DHW)
- TS Clamp (behind the thermal insulation) for tank Temperature Sensor or temperature controller
- BWS Boiler Water Supply
- BWR Boiler Water Return
- DCW/D Domestic Cold Water supply/Drain

42 and 79 USG (160 and 300 L) Tank Installation



Temperature sensor installation for solar operation

The temperature sensor for solar operation is included in the solar control unit package. The brass elbow with sensor well is available as an option and must be used when solar connection is required.

- For solar operation, install the sensor well into the brass elbow and connect the assembly to the solar return line.
- Insert the temperature sensor until it bottoms out inside the sensor well.

IMPORTANT

Never wrap insulating tape around the sensor. Do not install solar tank sensor anywhere other than the brass elbow with sensor well.

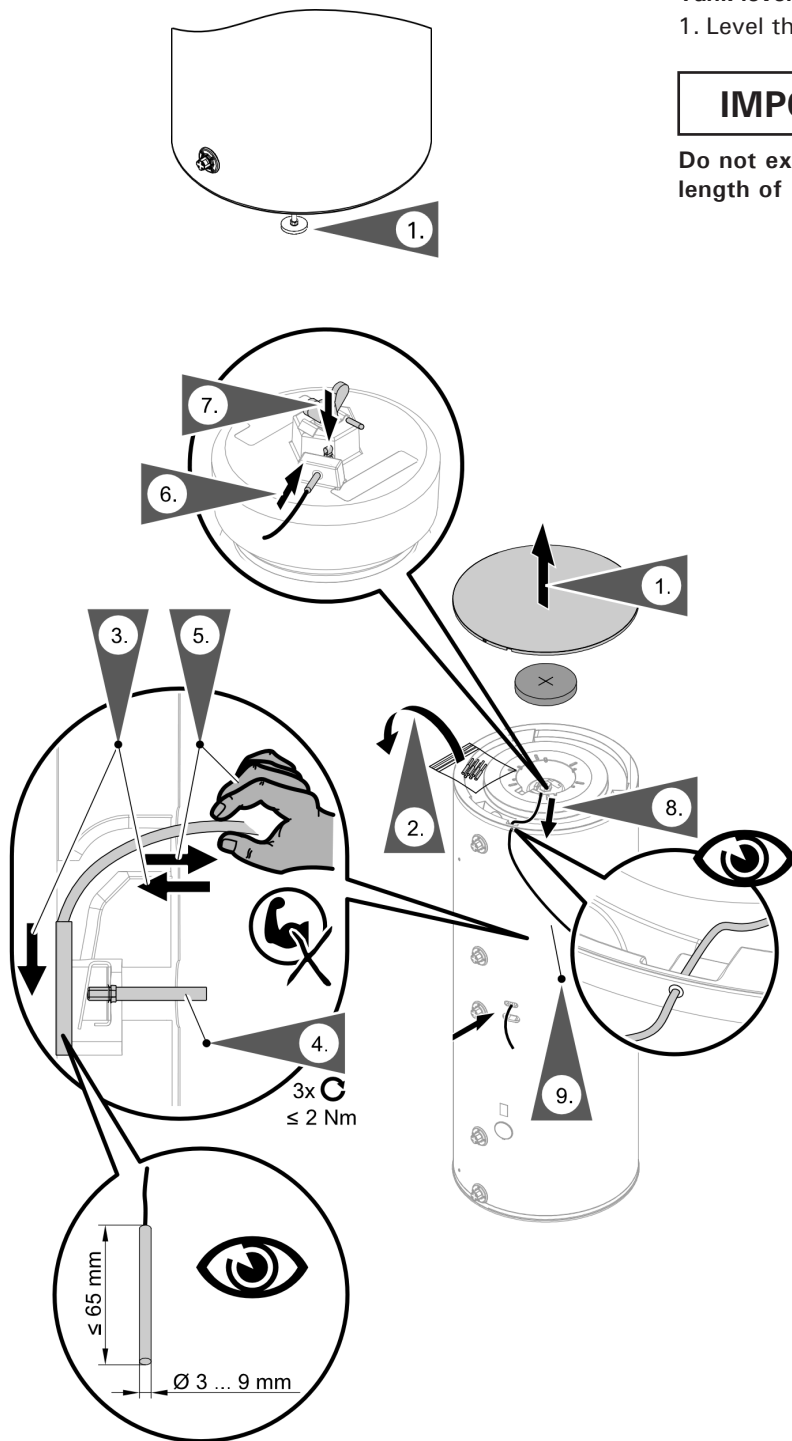
42 to 79 USG (160 to 300 L) Tank Installation *(continued)*

Tank levelling

1. Level the DHW tank with its leveling bolts.

IMPORTANT

Do not extend the leveling bolts beyond an overall length of 1 ½ in. (35 mm).



Tank temperature sensor, high limit safety sensor and optional wall thermometer sensor installation.

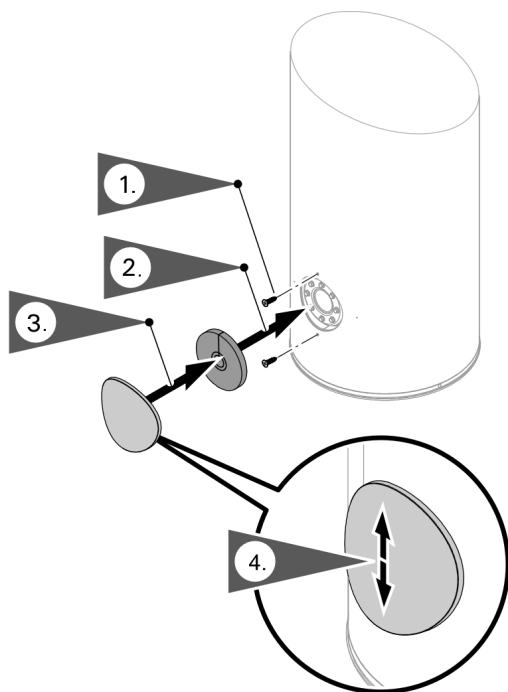
1. Remove the top cover and insulation.
2. Remove pouch.
3. Insert the tank temperature sensor into an opening in the clamping system until it bottoms out.
4. Hand-tighten the screw to hold the tank temperature sensor. Hold the sensor to keep it from twisting while tightening.

Note: Do not overtighten this screw!

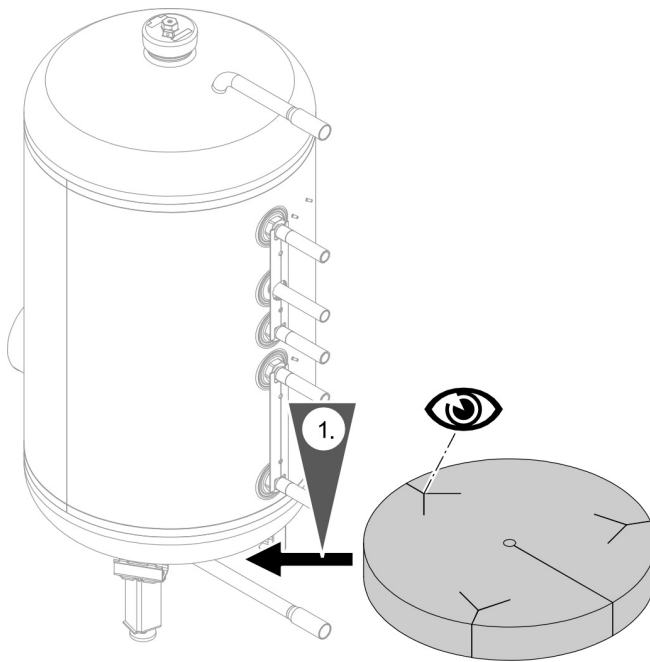
5. Gently pull on the sensor to check if it is tight enough.
6. Insert the wall thermometer sensor into the top cap hole until it bottoms out.
7. Secure the wall thermometer sensor with the clamp to keep it from pulling out.
8. Route the wall thermometer sensor cable through the opening in the insulation and through the jacket.
9. Attach the wall thermometer to the wall.
10. Reinstall the top cover insulation and cover.

79 USG (300 L) Tank Installation

Fitting the flange cover



119 USG (450 L) Tank Installation



Setting the DHW tank and fitting the thermal insulation mat at the bottom

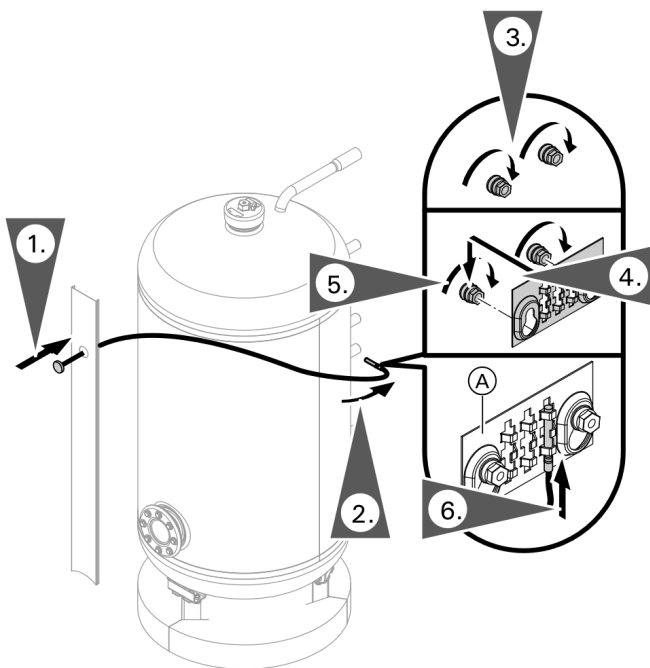
All necessary parts for enclosure assembly are packaged in a separate carton.



CAUTION

The thermal insulation must not come in contact with open flames. Exercise extreme caution when welding and soldering.

1. Fit the thermal insulation blanket below the tank prior to the installation of the tank itself.



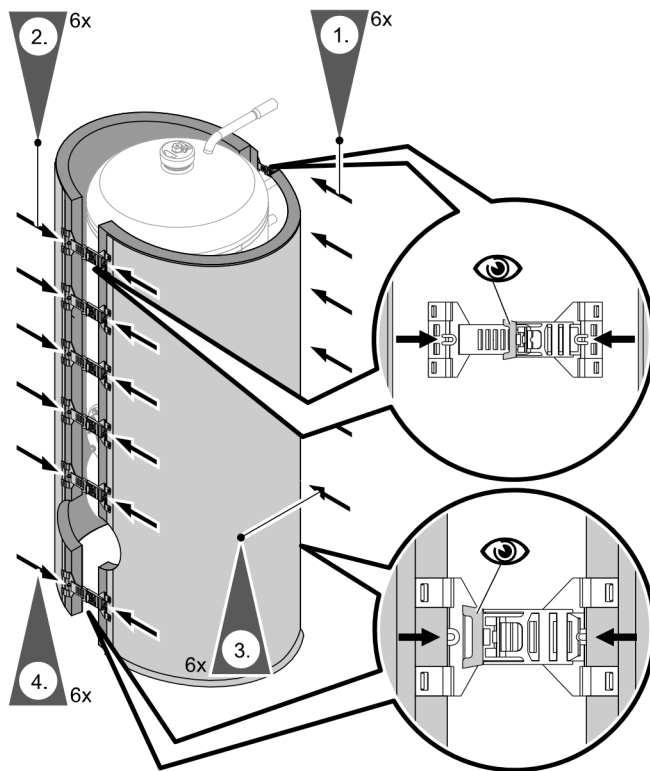
Fitting the thermometer sensor and tank temperature sensor

1. Guide the thermometer sensor through the cover strip and insert the thermometer.

Note: The cover strip is held in its vertical position by the straight capillaries. This is necessary for the rest of the installation.

2. Route the thermometer sensor capillaries to the back of the tank body.
3. Screw the nuts onto the threaded studs. Do not over tighten.
4. Push the clamps onto the threaded studs and align.
5. Tighten the nuts.
6. Depending on where the sensor is being fitted: Insert the thermometer sensors and tank temperature sensors into clamp (A) as far as they will go.

- Note:**
- Never wrap insulating tape around the sensors.
 - When the thermal insulation is being fitted, the tank temperature sensor leads are routed outwards through the apertures (slots) in the rear cover strip.
 - The tank includes one (1) thermometer.

119 USG (450 L) Tank Installation *(continued)***Fitting the thermal insulation jacket**

Note: ■ Ensure that no fleece remnants enter the DHW tank through the tank connections.
 ■ 2 people are required for the following work.

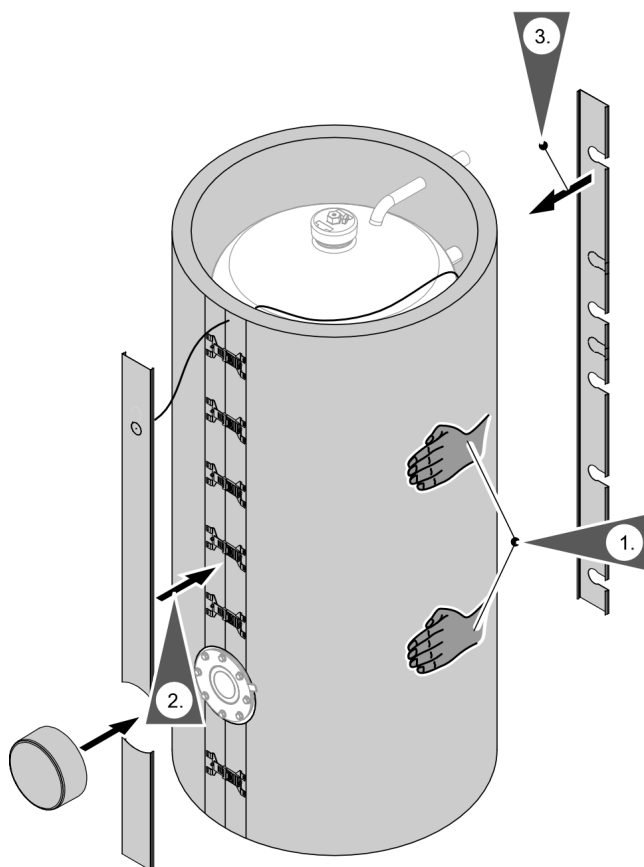
1. At the back of the tank: Attach 6 clip fastenings to the edges of the right and left sections of the insulation jacket and lay the thermal insulation jacket around the tank body.

Note: Leave the clip fasteners in the first notch.

2. At the front of the tank: Attach 6 clip fasteners to the edges of the right and left sections of the thermal insulation jacket.

3. Push the clip fasteners at the back of the tank as close together as possible.

4. Push the clip fasteners at the front of the tank as close together as possible.

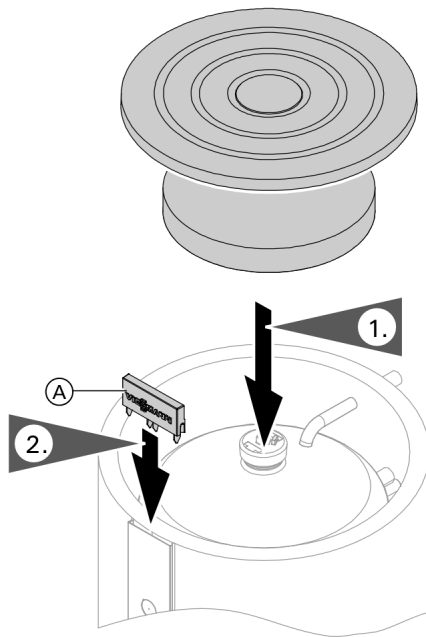
**Fitting the cover strips**

1. Fit the thermal insulation jacket evenly around the tank body by patting it.

2. Mount the front cover strip and flange cover.

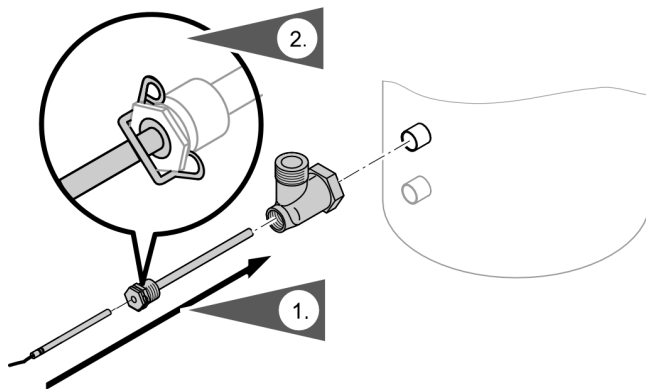
3. Fit the rear cover strip.

119 USG (450 L) Tank Installation *(continued)*



Legend

Ⓐ Cap with Viessmann logo



Fitting the tank temperature sensor elbow for solar operation (optional)

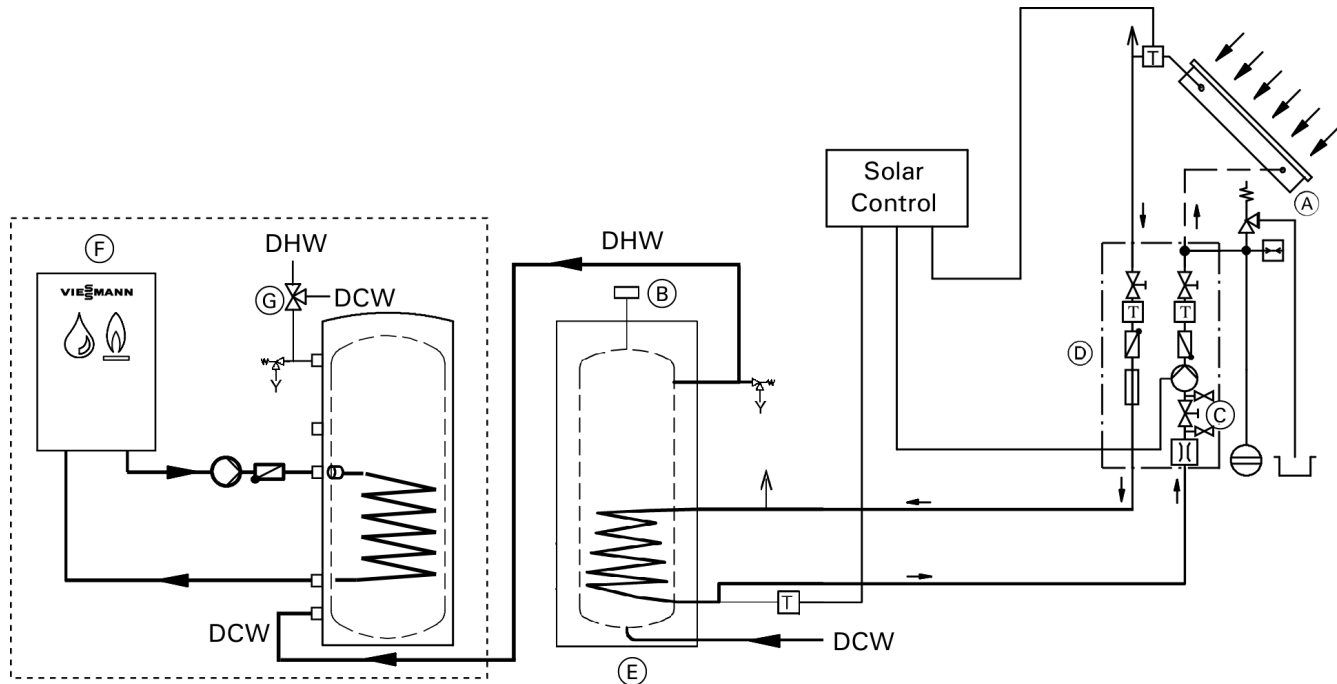
1. Seal threaded elbow and sensor well (accessories) into the heating water return connection (solar return).
2. Insert the tank temperature sensor (part of solar control unit standard delivery) into the sensor well as far as it will go and secure it against slipping out.

IMPORTANT

Never wrap insulating tape around the sensor. Do not install solar tank sensor anywhere other than the brass elbow with sensor well.

Boiler Water Connections (heat exchanger connection)

Recommended piping for solar application with an additional tank



Legend

- (A) Solar collector
- (B) High limit safety cut-out
- (C) Filling valve
- (D) Solar-Divicon
- (E) Vitocell 300-V
- (F) Individual DHW tank heating system
- (G) Anti-scald tempering valve



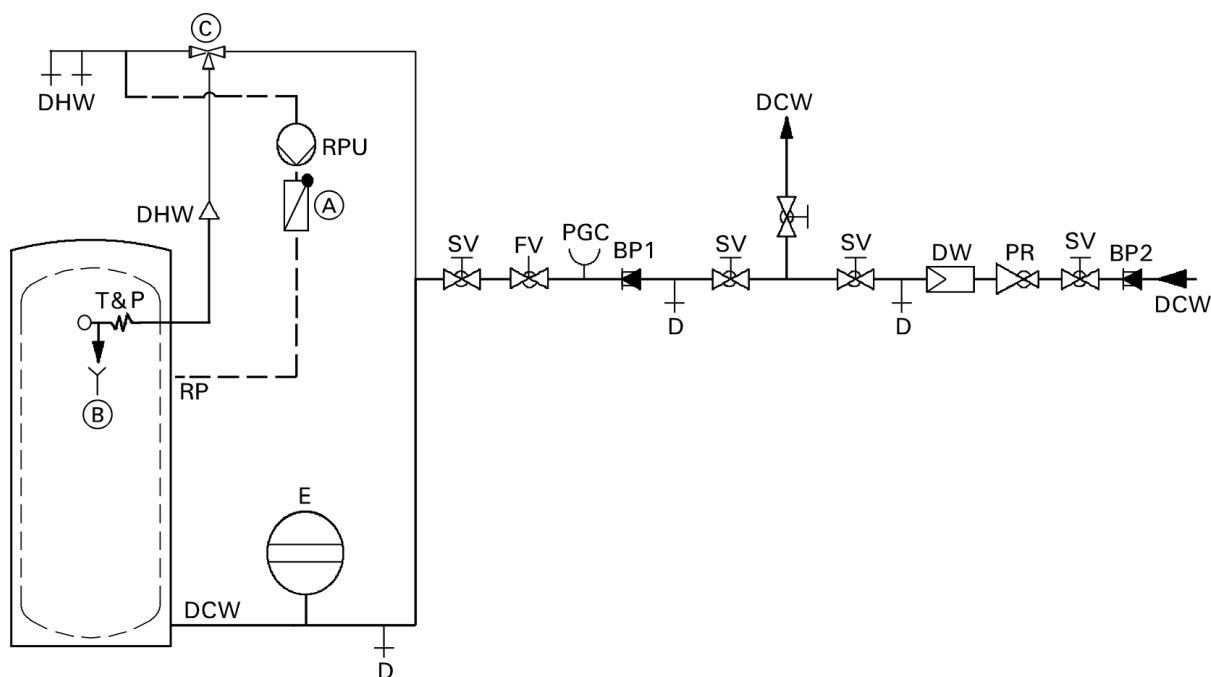
WARNING

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 anti-scald tempering valve. The tempering valve does not completely eliminate the risk of scalding at the tap. The installation of a mixing tap is recommended.

1. For boiler water supply temperatures over 203°F (95°C):
Remove plastic supply and return grommets (grommets are left-threaded).
2. Pipe supply line with an incline and install an air vent valve at the highest point.
3. For boiler water supply temperatures over 230°F (110°C):
Install a type-tested high limit safety cut-out, if no other has previously been installed in this system. For this purpose, install a dual thermostat (high limit thermostat and high limit safety cut-out).
4. Close off test nipples which are not used for the installation of a probe or sensor.

Note: Tee with sensor well for solar return must be ordered separately.

Domestic Water Connections



- Note:**
- Connect all pipe work with detachable fittings.
 - Seal connections that are not required with brass caps.
 - Equip the DHW circulation pipe with circulation pump, check valve and time switch. Gravity operation is only feasible to a limited degree.
 - Always install DHW group of tanks with connected DHW circulation.

1. Pipe together boiler and tank as illustrated. Connections must be accessible for service (use factory supplied adaptors).
2. Insulate domestic hot water supply piping.

IMPORTANT

This is a simplified conceptual drawing only! Piping and necessary componentry must be field verified. Proper installation and functionality in the field are the responsibility of the heating contractor.

Legend

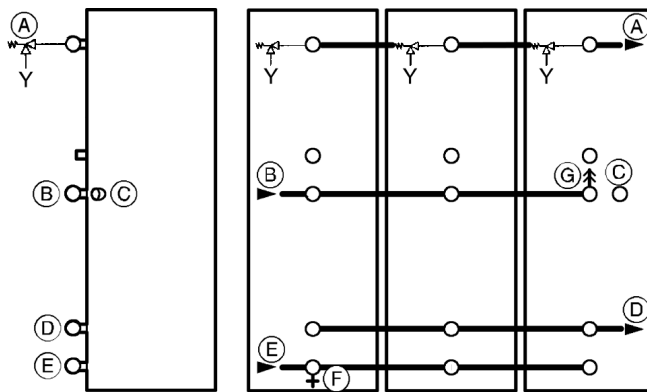
- (A) Spring-loaded flow check valve
- (B) Discharge pipe
- (C) Anti-scald tempering valve (field supplied)
- SV Shut-off valve
- FV Flow check valve
- PR Pressure reducing valve
- D Drain
- DCW Cold water supply lines
- PGC Pressure gage connection
- E Precharged expansion tank (required where backflow preventer is installed; check local plumbing codes and requirements)
- BP1 Backflow preventer
- BP2 Backflow preventer
- T&P Temperature and pressure relief valve
- DW Water filter
- DHW Domestic hot water supply
- RP Recirculation pipe
- RPU Recirculation pump

Multiple Tank Set-up [only for 79 and 119 USG (300 and 450 L) capacities]

Two tanks, each with 79 USG (300 L) content, or up to four tanks, each with 119 USG (450 L) content, may be installed side-by-side.

The tanks are controlled via one DHW tank aquastat. Individual control of tanks within the group of tanks is therefore not possible.

If control of individual tanks within a group of tanks is necessary, two alternatives exist. Either a 4-tank group can be separated into smaller groups, i.e. two batteries each consisting of two tanks (one DHW tank aquastat controls each group), or all tanks should be installed individually, i.e. individual tank set-up (one DHW tank aquastat controls each tank).



Legend

- (A) Domestic hot water supply and T&P valve connection
- (B) Boiler water supply
- (C) Operating aquastat
- (D) Boiler water return
- (E) Domestic cold water
- (F) Drain
- (G) Air vent

1. Install aquastat in the boiler water supply of the last tank receiving the boiler water in a group of tanks (see illustration).
2. Install domestic cold and hot water header lines (see illustration).
3. Install boiler water supply and return header lines (see illustration).
4. Make final cold and hot water connections.

IMPORTANT

Both the boiler supply/return header and the domestic hot/cold water header must be installed in a reverse return method. This ensures uniform heating of all tanks in the group. Header sizes for batteries up to four 79 to 119 USG (300 to 450 L) tanks are listed below.

5. Insulate header piping lines.

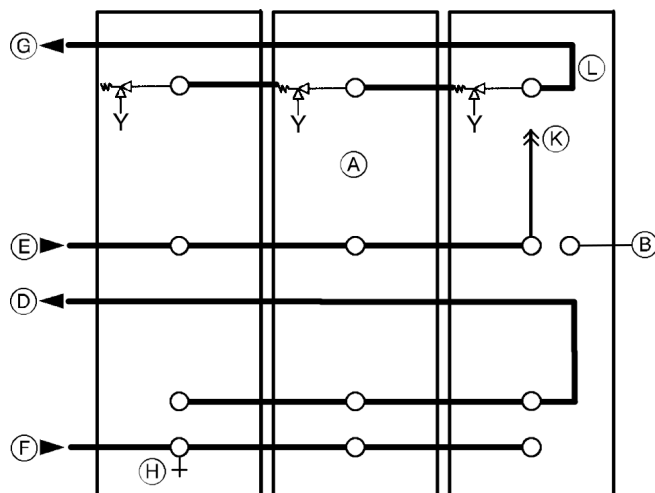


CAUTION

In commercial installations, we recommend the installation of an additional high limit aquastat in the main discharge pipe of domestic hot water from a group of tanks into the system, and to wire this additional high limit aquastat in series with the operating aquastat.

Storage capacity / Tank	USG (L)	79 (300)	119 (450)		
Number of tanks		2	2	3	4
Layout					
Connections (individual tank)					
Heating water supply/return (common header size)	Ø	2	2	2	2½
Domestic cold/hot water (common header size)	Ø	1¼	1¼	1½	2
Recirculation tapping	Ø	1	1¼	1¼	1¼

Multiple Tank Set-up [only for 79 and 119 USG (300 and 450 L) capacities] (continued)



Recommended piping of multiple tanks

Legend

- (A) Group of DHW tanks
- (B) Sensor/Operating aquastat well
- (D) Boiler water return
- (E) Boiler water supply
- (F) Domestic cold water supply
- (G) Domestic hot water
- (H) Drain
- (K) Air vent
- (L) Secondary high limit aquastat location

All piping reverse return or use balancing valves.

1. Pipe together boiler and tanks as illustrated. Connections must be accessible for service (use factory supplied adaptors).
2. For boiler water supply temperatures over 203°F (95°C): Remove plastic supply and return grommets (grommets are left-threaded).
3. Pipe supply line with an incline and install an automatic air vent at the highest point.
4. Install boiler sensor in sensor well (see page 9).
5. Insulate piping.

IMPORTANT

The circulation pump is activated by the operating aquastat or by the control system installed. The operating aquastat should be mounted on the tank which receives the boiler water supply last.

Viessmann recommends the installation of an additional high limit aquastat in the main discharge pipe of the DHW system. This aquastat should be wired in series with the operating aquastat and should be set approximately 9°F (5°C) higher than the operating aquastat.

Recirculation Connections

Pipe domestic hot water supply piping with tank as illustrated. Connections must be accessible for service (use factory supplied adaptors).

Install recirculation pump, flow check valve and recirculation timer (for shut-down during off-hours where feasible) on the recirculation piping side.

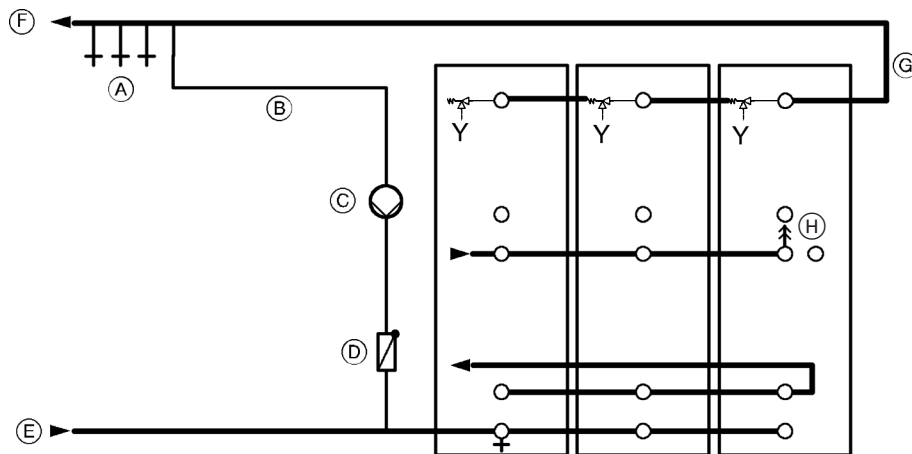
Gravity circulation of the recirculation system is restricted due to the upward-curved domestic hot water discharge piping inside the tank.

Connect tanks to existing recirculation piping. Cap off unused recirculation connections of individual tanks.

Saving Energy

A timer on the recirculation pump reduces the heat loss significantly in commercial applications during times when no or reduced demand for domestic hot water occurs.

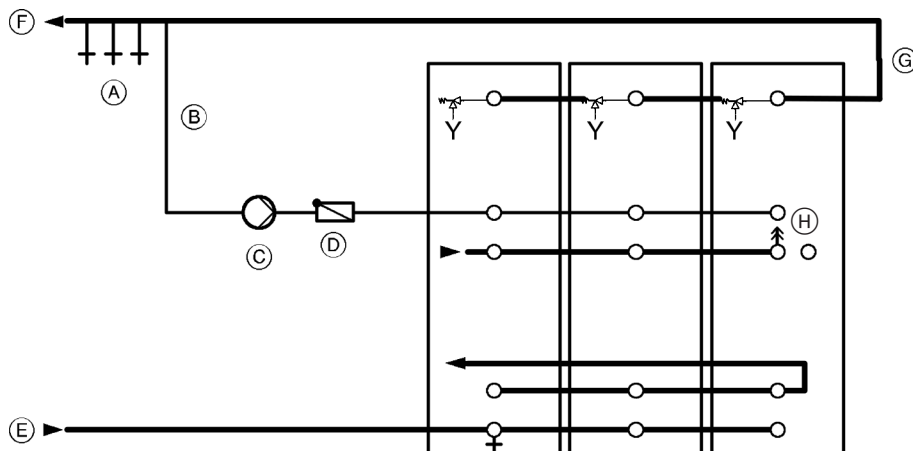
Connection of a recirculation system in a multiple tank installation for systems utilizing boilers or remote heating plants without low temperature boiler return water



Legend

- | | |
|------------------------------------|--|
| (A) Draw points | (E) Domestic cold water supply |
| (B) Recirculation piping | (F) Domestic hot water supply |
| (C) Circulation pump | (G) Secondary high limit aquastat location |
| (D) Spring-loaded flow check valve | (H) Air vent |

Connection of a recirculation system in a multiple tank installation for remote heating plants with low temperature boiler return water limit and/or for multiple recirculation lines



Legend

- | | |
|------------------------------------|--|
| (A) Draw points | (E) Domestic cold water supply |
| (B) Recirculation piping | (F) Domestic hot water supply |
| (C) Circulation pump | (G) Secondary high limit aquastat location |
| (D) Spring-loaded flow check valve | (H) Air vent |

Water Connections

Always ensure the use of type approved devices. Safety devices include the following components:

- Isolation valves
- Drain valve
- Pressure reducing valve
where required by local jurisdiction
- Drinking water filter
where required by local jurisdiction
- Backflow preventer
Where backflow preventers are required, a domestic water expansion tank installation is required in the cold water inlet piping before the cold water enters the tank. The backflow device must be installed according to the manufacturer's installation instructions. Observe local codes and regulations.
- Tempering valve
A tempering valve must be field installed where storage tank (domestic hot water temperature) exceeds local restricted temperatures or 140°F (60°C). Check code requirements.

IMPORTANT

In situations where a booster pump is used to maintain DHW pressure, Viessmann strongly recommends the installation of an oversized large expansion tank to ensure longer, less frequent pump cycles with less severe pressure gradients. If possible, use flexible piping before and after booster pump to isolate system piping from vibration and shocks.

- Temperature and pressure relief valve
A temperature and pressure relief valve (T&P 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, consult Viessmann Manufacturing for a substitute valve. The tank is approved for 150 psig. Maximum operating pressure is 150 psig.

The T&P 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.

T&P Valve set pressure	150 psig
CSA discharge capacity	205 MBH *
Relief temperature	210°F (99°C)
Inlet thread	¾" male
Outlet thread	¾" female

* 105 MBH for 42 USG (160 L)

Proper installation of the T&P valve shall include all of the following:

- The T&P valve shall be installed in the pipe connection point as shown in this manual.
- The discharge line from the T&P valve shall be Ø ¾ in. (19 mm) and run to a safe place of discharge approximately 1 ft. (305 mm) above the floor, close to a floor drain.
- The discharge line must be as short as possible and pitch downward from the T&P valve and terminate plain not threaded.



WARNING

The discharge line for the T&P valve must be oriented to prevent scalding of attendants.

- Do not route discharge line directly to the outdoors.
- Do not install any type of valve or restriction of any kind between the tank and the T&P valve, or between the T&P valve and the discharge line outlet.

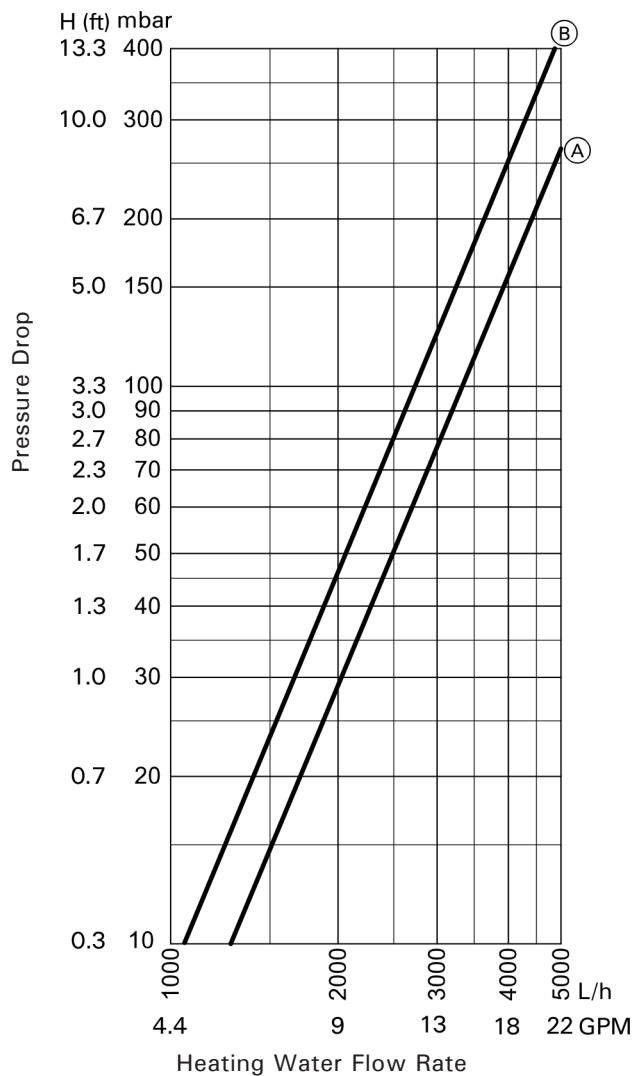


WARNING

The valve test lever must be operated at least once per year by the owner to ensure that waterways are clear. A licensed professional heating contractor shall reinspect the T&P valve at least once every three years. Failure to inspect can result in unsafe temperature or pressure build-up, which can result in death, serious injury or substantial product/property damage.

42 to 79 USG (160 to 300 L) Pressure Drop Information

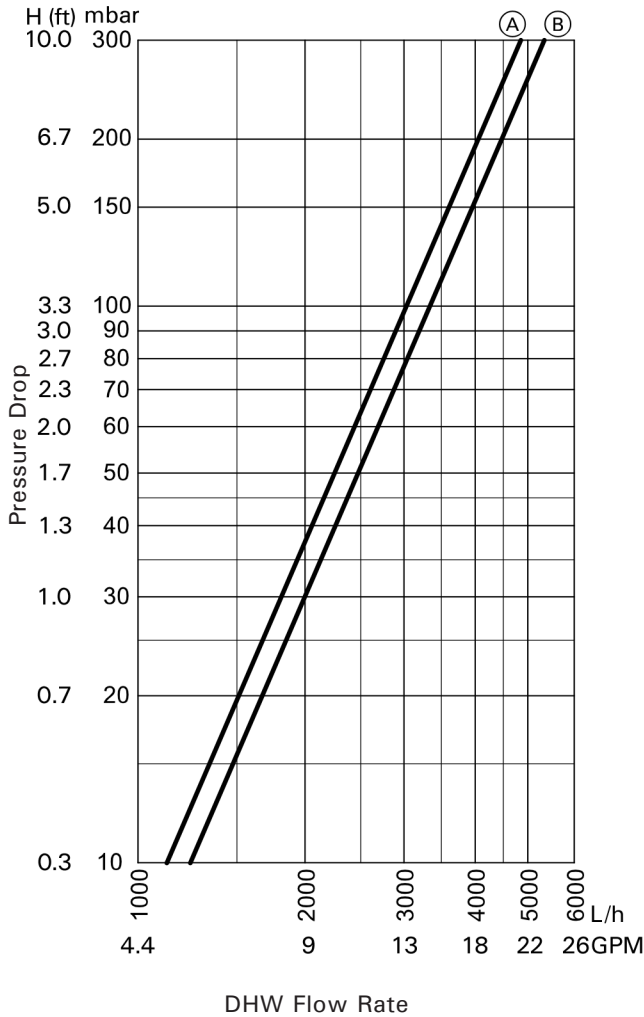
Pressure drop on the heating water side



Legend

- Ⓐ 42 and 53 USG (160 and 200 L) capacity
- Ⓑ 79 USG (300 L) capacity

Pressure drop on the domestic hot water (DHW) side

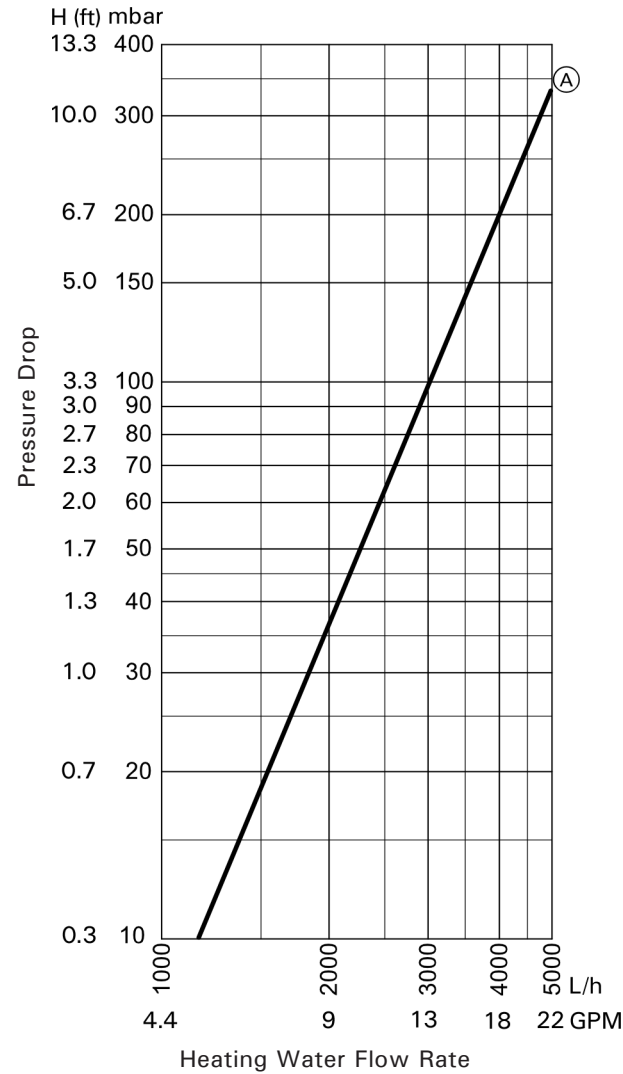


Legend

- Ⓐ 42 and 53 USG (160 and 200 L) capacity
- Ⓑ 79 USG (300 L) capacity

119 USG (450 L) Pressure Drop Information

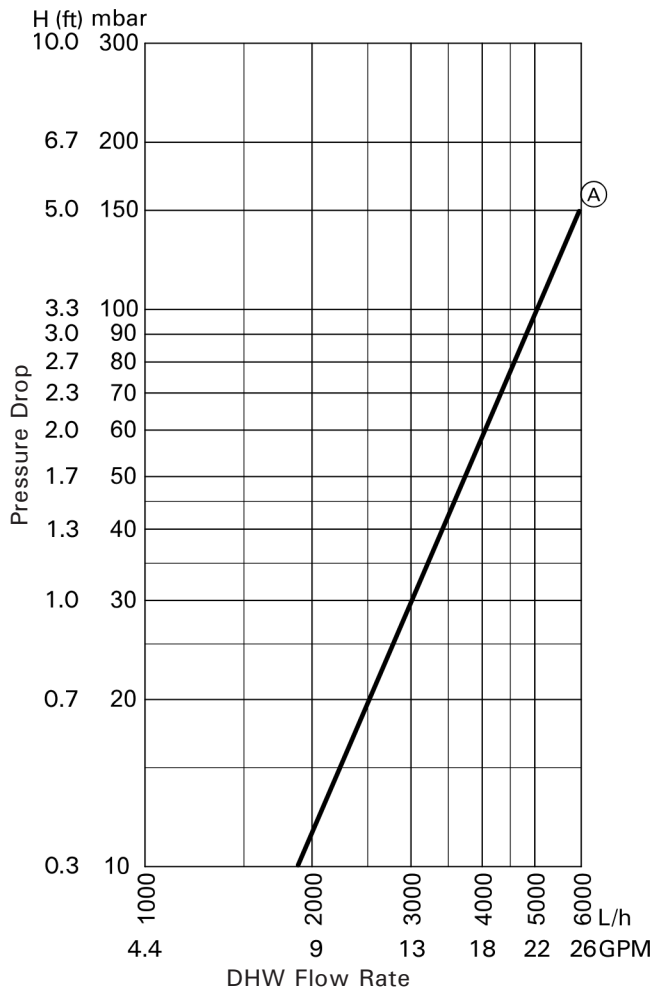
Pressure drop on the heating water side



Legend

(A) 119 USG (450 L) capacity

Pressure drop on the domestic hot water (DHW) side



Legend

(A) 119 USG (450 L) capacity

Initial Start-up

1. Fill tank with domestic drinking water.
2. Check heating side and domestic water side adaptors for leaks. Tighten if necessary.
3. Ensure that DHW tank temperature sensor is properly inserted into the mounting clamp.
4. Verify proper operation of temperature and pressure relief valve (T&P valve).
5. Activate power supply.

Domestic Hot Water Production



Ensure the instructions and requirements of the boiler control and system accessories are observed.

Domestic hot water production can occur via heating boiler, a remote heating plant or low temperature heating via bivalent operation.

The maximum heating supply temperature is 320°F (160°C), the maximum operating pressure is 150 psig on the tank.



WARNING

Domestic hot water temperatures over 125°F (52°C) can cause severe burns instantly or death from scalds. Children, disabled and elderly are at highest risk of being scalded. Feel water before bathing or showering. Temperature limiting valves are available and must be used where domestic hot water storage tank temperature exceed 140°F (60°C).

Domestic hot water production

1. Set the desired domestic hot water temperature (140°F (60°C) for example) on the operating control of the heating system.
2. The supply temperature for domestic hot water production is set on the heating system operating control. It should be approximately 27°F (15°C) above the desired domestic hot water temperature.
3. For your personal safety, we recommend the installation of a tempering valve to restrict the entry of excessively hot domestic hot water into the system. Hire a qualified heating contractor.

IMPORTANT

Domestic hot water may be preheated or heated to temperatures over 113°F (45°C) depending on system energy output and temperature characteristics.

Temperature and Pressure Relief Valve



WARNING

The possibility of mineral build-up on the T&P valve seat exists. Report dripping or discharges from the T&P valve to the heating contractor immediately.

- Ensure there is never any type of valve or restriction of any kind between the tank and the temperature and pressure relief valve (T&P valve), or between the T&P valve and the discharge line outlet. The discharge line must be oriented to enable unobstructed and visible flow of discharge water toward a floor drain.
- If you observe water being released out of the discharge pipe of the temperature and pressure relief valve, contact your heating contractor immediately.
- The valve test lever must be operated at least once per year by the heating contractor to ensure that waterway are clear. A licensed professional heating contractor shall reinspect the T&P valve at least once every three years. Failure to inspect can result in unsafe temperature or pressure build-up, which can result in substantial product/property damage, serious personal injury or loss of life.

Shutdown

If domestic hot water production is not desired and the risk of freezing temperatures in the mechanical room exists, please contact your heating contractor.

Service and Cleaning

IMPORTANT

If a water softener system is used in the domestic cold water inlet piping into the tank, the water treatment system should be inspected (serviced) at the same time. If a drinking water filter is used in the main line, the filter cartridge should also be investigated. All external equipment must be serviced regularly and function properly.

Inspection and (if necessary) cleaning of tank must take place within 2 years of initial start-up and as required thereafter. Reinspection time must not exceed 2 years. The internal cleaning of the domestic hot water tank including its potable water connections may only be performed by a licensed professional heating contractor. There are no user serviceable parts on this equipment. Clean tank enclosure with a commercially available alcohol-based glass cleaning agent and a soft clean cloth.

Necessary Tools



CAUTION

Never use a metal brush to clean tank interior or heat exchanger - only plastic material may be used.

Special Items

- Torque wrench

Cleaning supplies

- High pressure washer
- Chemical cleaning liquid
- Cleaning cloth

Parts

- Gasket for inspection opening

Service Procedures

Inspection and (if necessary) cleaning of tank must take place within 2 years of initial start-up and as required thereafter.

In the event that the building is unoccupied and not heated and the danger of frost within the structure exists, the tank as well as the heat exchanger coil must be drained.

In case the heating system is filled with an antifreeze (which must be of non-toxic composition), only the tank must be drained of domestic water and all valves in the domestic hot water and domestic cold water piping except for the main fill valve must remain open.

Ensure the DHW recirculation pump is deactivated (if applicable).

Shut Down Heating System

Ensure main power supply to equipment, the heating system and all external controls has been shut down. Take precautions in all instances to avoid accidental activation.

Check all Connections

1. Check heating side and domestic water side adaptors for leaks. Tighten if necessary.
2. Check sensor well for leaks. Tighten if necessary.

Ensure Proper Operation of all Safety Devices

Verify proper operation of temperature and pressure relief valve (T&P valve).

Clean Outside of Tank

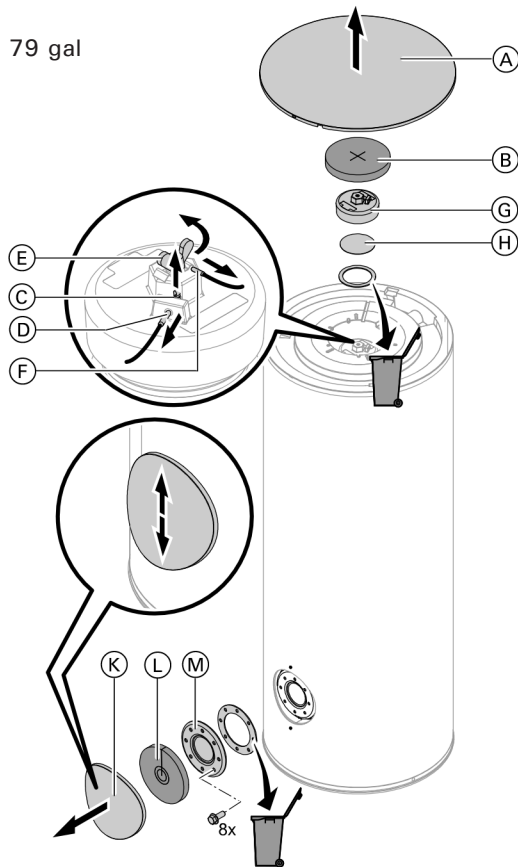
Clean tank encloser panel with a commercially available alcohol-based glass cleaning agent and a soft clean cloth.

Place System into Operation Again

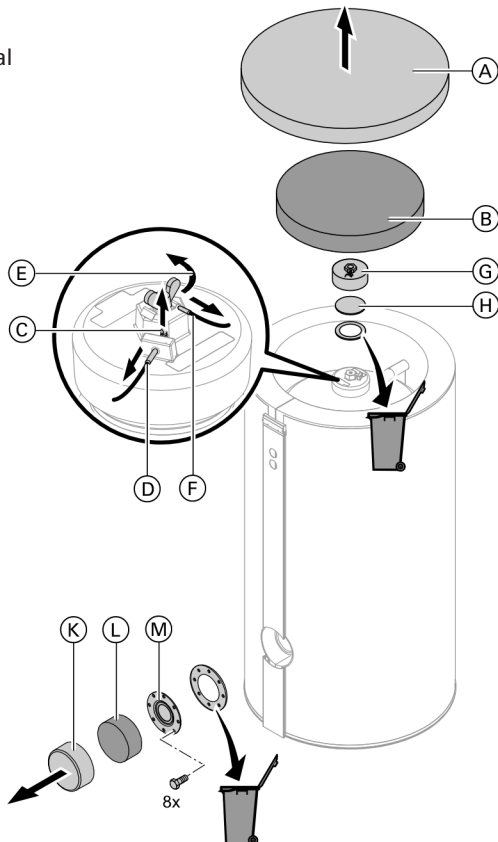
Ensure main power supply to equipment, the heating system and all external controls are reactivated.

Cleaning the Inside of the 42 to 119 USG (160 to 450 L) Tanks

42 to 79 gal



119 gal



! WARNING

Water being drained may be hot!

Note: The side clean out / inspection port applies only to the 79 USG (300 L) and the 119 USG (450 L) tanks.

1. Drain domestic water from DHW tank.
2. Remove top panel (A) insulation mat (B) and sensors (D) and (E).
3. Remove cleanout cover (G), dome cover (H) and gasket.
4. Remove lower cleanout cover (K) and insulation (L).
5. Remove 8 bolts (M10x25) from flange (M) and gasket.
6. To prevent chemicals from entering piping, disconnect tank from domestic cold water piping system.
7. Remove loose build-ups with a pressure washer.
8. Remove stubborn build-ups which are resistant to the pressure washer with a chemical cleaner.
9. Rinse interior of tank thoroughly after use of chemical cleaners.

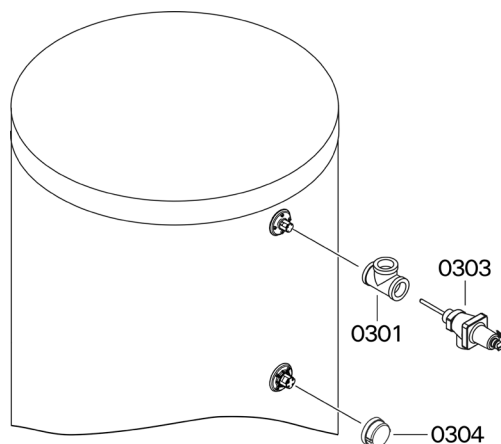
! CAUTION

Never use a metal brush to clean tank interior or heat exchanger - only non-metallic material may be used.

! WARNING

Never use any cleaners containing muriatic acid. Follow the manufacturer's instructions and warnings when utilizing chemical cleaners for deliming and cleaning devices. Solutions used for cleaning stainless steel equipment in food processing are usually suitable.

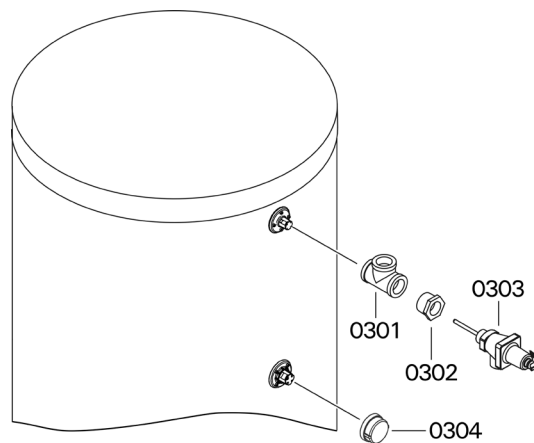
1. Reconnect tank to domestic water piping.
2. Replace gasket and dome cover (H) of cleanout cover (G), with a new seal every time tank is opened.
3. Fasten the cleanout cover (G) using a torque setting of: Inspection cover, top - 118 lb.ft (160 Nm).
4. Fill tank with domestic cold potable water.
5. Reinstall sensor (D) and (E) and top panel (A).
6. Replace gasket, reinstall lower cleanout cover (K) and insulation (L).
7. Reinstall 8 flange bolts (M) to a torque of 29.5 lb.ft (40 Nm).
8. Record the completion of these service procedures in the Maintenance Record on page 26.
9. Check all connections for leaks. Tighten if necessary.

Installation Set 42 and 53 USG (160 and 200 L)**Parts**0301 Tee $\frac{3}{4}$ in. brass0303 Temperature and pressure relief valve, $\frac{3}{4}$ " 150 psi0304 Cap $\frac{3}{4}$ in. brass**Installation Set 79 USG (300 L)****Parts**

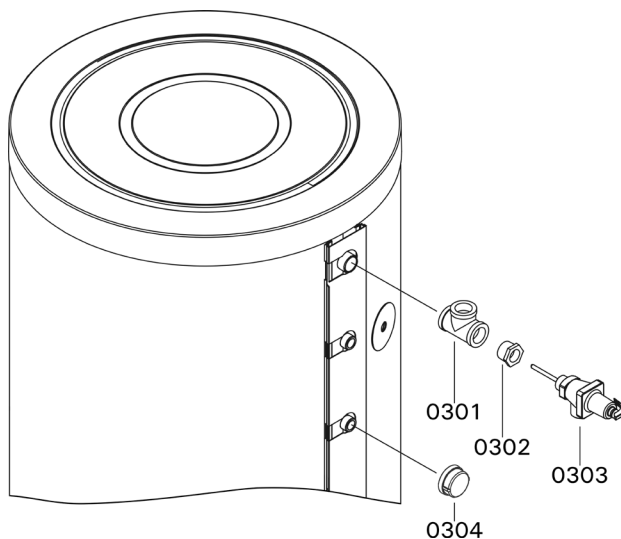
0301 Tee 1 in. brass

0302 Reducer bushing 1 to $\frac{3}{4}$ in.0303 Temperature and pressure relief valve, $\frac{3}{4}$ in. 150 psi

0304 Cap 1 in.

**Installation Set 119 USG (450 L)****Parts**0301 Tee $1\frac{1}{4}$ in. brass0302 Reducer bushing $1\frac{1}{4}$ to $\frac{3}{4}$ in.0303 Temperature and pressure relief valve, $\frac{3}{4}$ in. 150 psi

0304 Cap 1 in.



Spare Parts List



Information about the spare parts can be found in the Viessmann Spares-App.

Maintenance Record

	Startup	Maintenance/Service	Maintenance/Service	Maintenance/Service
date:				
by:				

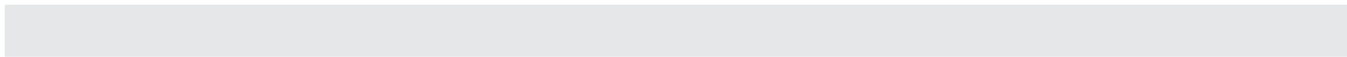
	Maintenance/Service	Maintenance/Service	Maintenance/Service	Maintenance/Service
date:				
by:				

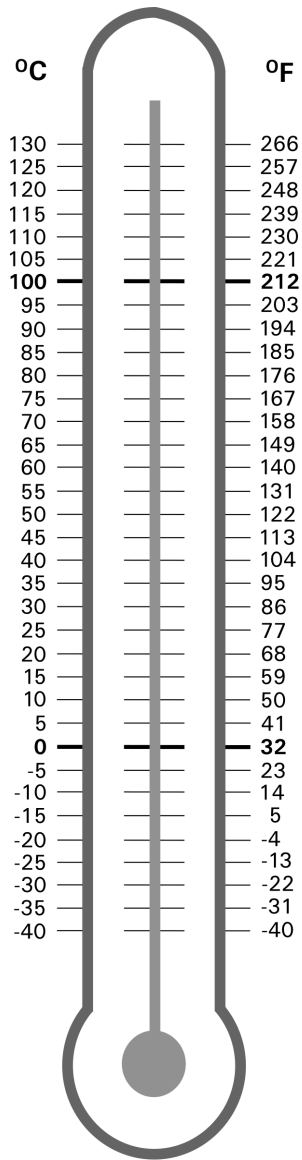
	Maintenance/Service	Maintenance/Service	Maintenance/Service	Maintenance/Service
date:				
by:				

	Maintenance/Service	Maintenance/Service	Maintenance/Service	Maintenance/Service
date:				
by:				

	Maintenance/Service	Maintenance/Service	Maintenance/Service	Maintenance/Service
date:				
by:				

	Maintenance/Service	Maintenance/Service	Maintenance/Service	Maintenance/Service
date:				
by:				





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Viessmann Manufacturing Company (U.S.) Inc.
45 Access Road
Warwick, Rhode Island · 02886 · USA
TechInfo Line 1-888-484-8643
1-800-288-0667 · Fax (401) 732-0590
www.viessmann-us.com · info@viessmann-us.com

Viessmann Manufacturing Company ULC
750 McMurray Road
Waterloo, Ontario · N2V 2G5 · Canada
TechInfo Line 1-888-484-8643
1-800-387-7373 · Fax (519) 885-0887
www.viessmann.ca · info@viessmann.ca