

Installation, Operating and Service Instructions

for use by heating contractor

VIESSMANN[®]

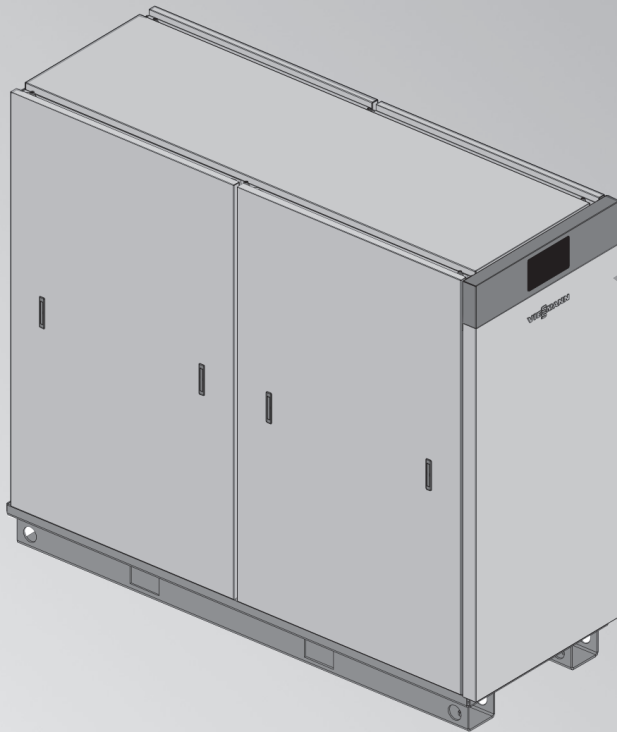
Vitotrans 300, S3HA Series

Indirect Fired Domestic Hot Water Unit – Single Wall

Vitotrans 300, D3HA Series

Indirect Fired Domestic Hot Water Unit – Double Wall

VITOTRANS 300



CAUTION

The Vitotrans 300 S3HA and D3HA series are not suitable for steam heating applications.

Product may not be exactly as shown

IMPORTANT

Read and save these instructions for future reference.

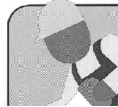
Safety, Installation and Warranty Requirements

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".*



■ 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.

■ 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".*



■ Warranty

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



Page

Introduction

Safety, Installation and Warranty Requirements.....2
 Licensed professional heating contractor2
 Product documentation2
 Advice to owner2
 Warranty2

Safety

Important Regulatory and Installation Requirements..... 5
 Codes5
 Mechanical room5
 Working on the equipment5
 Instructing the system user6
 Initial startup6
 Operation6
 Technical literature6

General Information

About These Instructions7
Product Information.....7
Mechanical Room.....7

Installation

General Installation Information8
Connecting to the Heating System - Supply and Return... 8
Connecting to the Heating System - Closely Spaced Tees .. 9
Connecting to the Heating System - Low Loss Header 9
Connecting to the Heating System - Direct Boiler
Connection 10
Single Direct 11
Single Direct with DHW Storage Tank 12
Multiple Direct..... 13
Multiple Direct with DHW Storage Tank..... 14
Single Solar Direct with DHW Storage Tank 15
Multiple Solar Direct with DHW Storage Tank..... 16
Recommended Minimum Service Clearances.....17
Unpacking and Placing the Unit.....18
Preparing the Unit for Installation 18
Installation Fittings19
Waterside Connections20
Drain Connections21
Pressure Relief Valve Connection21
Electrical Connections.....22
Initial System Fill.....29
Checking Heating Water Connections for Leakage29
Commissioning and Initial Start-up.....29
User Interface31
Instantaneous32
DHW Storage Tank.....32
DHW Recirculation Pump.....33
Time schedule33
Sanitation Function36
System Information..... 37
Commissioning38
Vitotrans 300 BACnet (IP) Points 41

Overview

Domestic Hot Water Production43
Temperature.....44
Instructing the System Operator.....44
Operating the Service Documents.....44

	Page
Operation	
Putting the Unit into Operation.....	45
User Interface	45
Fault Notification.....	46
Menu.....	46
Settings	46
Information	47
Trending	48
Alarms	49
Shutting Down the System.....	49
Troubleshooting.....	50
Service	
Safety Instructions	51
Service Equipment.....	52
Service and Cleaning	52
Preparing for Service	53
Heating System WYE Strainer.....	55
Domestic WYE Strainer	55
Heat Exchangers	56
Descaling Pump	57
System Pump	58
System Faults.....	60
System Pump Warning Codes.....	61
System Pump Fault Codes.....	61
Sensors and FHL Location.....	62
Temperature Sensors.....	63
Flow Sensors.....	63
Fixed High Limit	64
Completion of Service.....	65
Putting the Unit into Operation After Service	67
Faults	67
Fault History	68
Maintenance Mode / Relay Test.....	69
Maintenance Mode	70
Service	70
Restoring to Normal Operation.....	70
Wiring	
Wiring Diagram - S3HA 30, D3HA 30, S3HA 60 and D3HA 60	71
Wiring Diagram - S3HA 90 and D3HA 90	72
Specification	
Technical Data	73
Dimensions	74
Parts	
Parts List	75
Installation Fittings.....	86
Maintenance	
Maintenance	87
Maintenance Record.....	87

Important Regulatory and Installation Requirements

Codes

The installation of indirect-fired hot water heaters 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.

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

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



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.

- ▶ 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.

- ▶ 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.

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 operating and service section 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 Vitotrans:

- Technical Data Manual
- Installation, Operating and Service Instructions
- Wiring diagram

- ▶ The following topics must be covered:

Proper system operation sequence.

Explain the equipment as well. 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 87 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.




CAUTION

For the Vitotrans 300 S3HA series only 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. The pressure of the heat transfer medium must be limited to a max. of 30 psig by an approved safety or relief valve.

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

The Vitotrans is a domestic hot water heating system for direct (instantaneous) hot water heat or use with a field supplied domestic hot water storage / DHW storage tanks.

Mechanical Room

The Vitotrans 300 should be located in a heated indoor space, near a floor drain.

Prevent high levels of humidity.
Prevent freezing and ensure good ventilation.
Otherwise, the system may suffer faults and damage which is not covered under warranty.

General Installation Information

WARNING

If a DHW storage tank is used, the installer must verify proper operation of the tank temperature sensor with the original manufacturer of the tank. Viessmann strongly recommends the installation of a thermostatic tempering valve in the DHW supply line.

IMPORTANT

The examples on the following pages depict possible piping layouts of the Vitotrans 300, equipped with Viessmann System Technology. For system combinations, please install only feasible combinations listed in the Viessmann Price List. Please note that the following examples are simplified conceptual drawings only! Piping and necessary componentry must be field verified. Proper installation and functionality in the field is the responsibility of the heating contractor.

The schematics on the following pages are to be used as guidelines only. They do not display all system varieties, safety devices, or concepts possible. Specific system layouts may be further discussed with the local Viessmann sales representative office.

Clearances

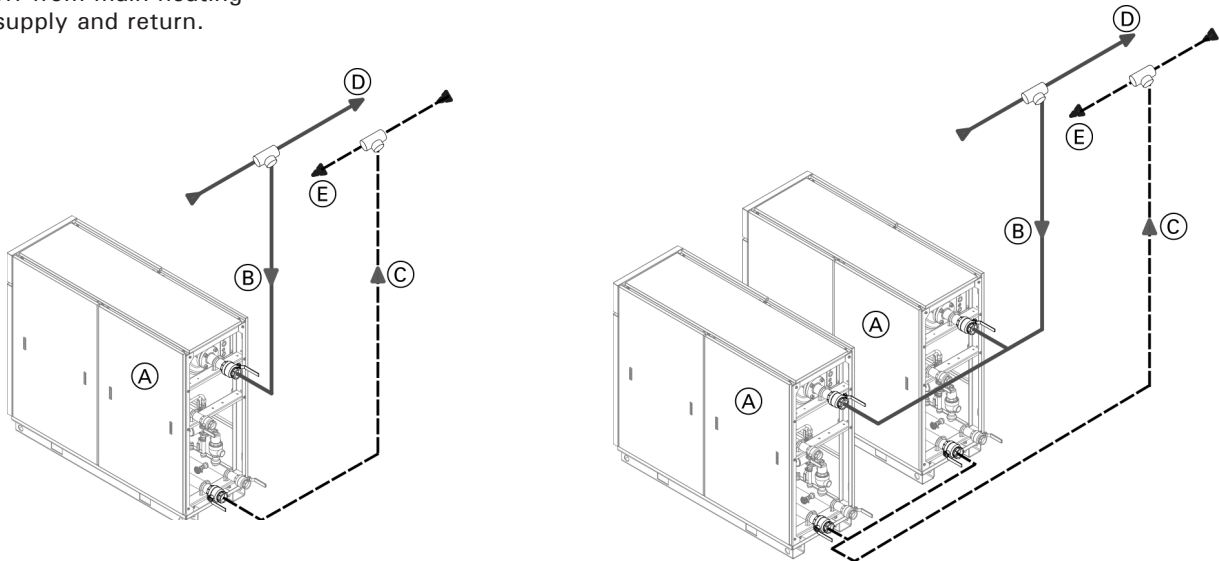
A minimum of 2 in. (51 mm) circumferential clearance from non-insulated hot water pipes to combustible construction must be maintained. In cases where the pipes are insulated with pipe insulation of sufficient thickness and insulation values, the above clearance may be reduced to 0 in. (refer to local codes).

Note: In the following piping layout examples all pumps are field supplied.

Install isolation valves in all heating, domestic piping and recirculation piping as necessary to service all equipment properly (e.g. pumps).

Connecting to the Heating System - Supply and Return

Branch off from main heating system supply and return.



Legend

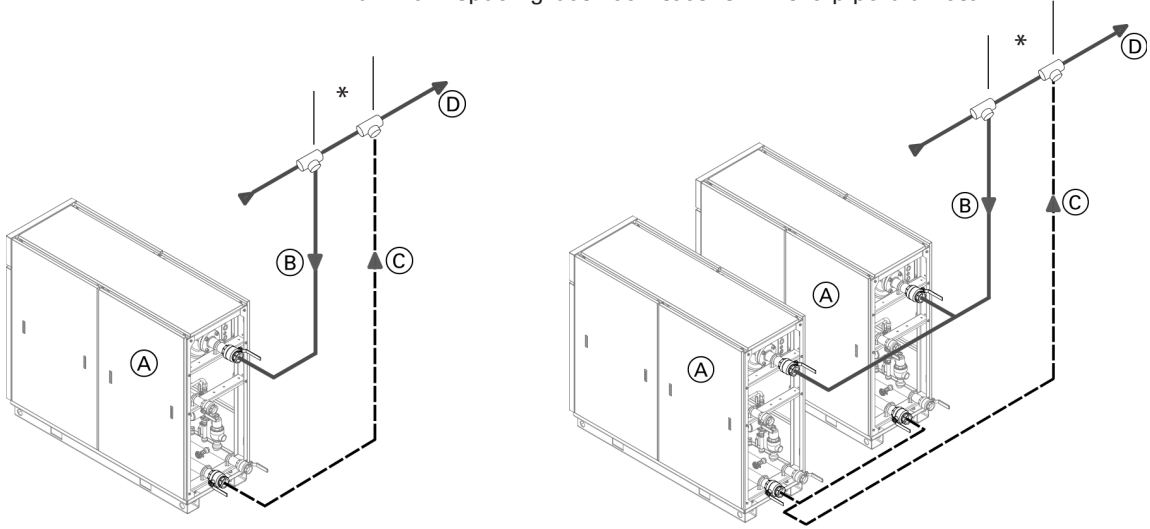
- (A) Vitotrans 300
- (B) Vitotrans supply
- (C) Vitotrans return
- (D) Heating system supply
- (E) Heating system return

The system heat source (boiler) should be set to supply water to the Vitotrans 300 at least 20°F (11°C) higher than the desired DHW setpoint. It is recommended that the Vitotrans 300 is connected close to the heat source.

Connecting to the Heating System - Closely Spaced Tees

Branch off from main heating system supply.

* Maximum spacing between tees is 4X the pipe diameter.



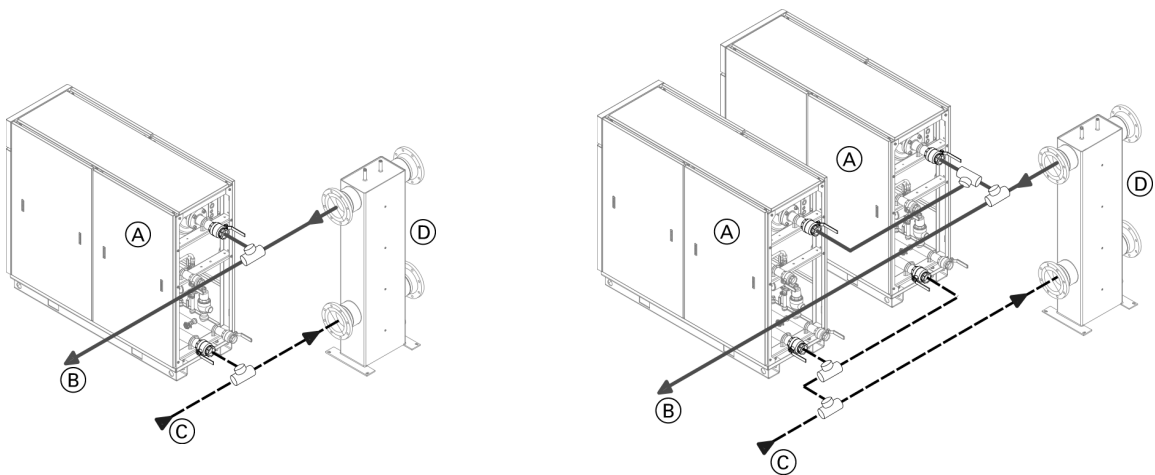
Legend

- (A) Vitotrans 300
- (B) Vitotrans supply
- (C) Vitotrans return
- (D) Heating system supply

The system heat source (boiler) should be set to supply water to the Vitotrans 300 at least 20°F (11°C) higher than the desired DHW setpoint. It is recommended that the Vitotrans 300 is connected close to the heat source.

Connecting to the Heating System - Low Loss Header

Branch off from main heating system supply and return from the system side of the low loss header.

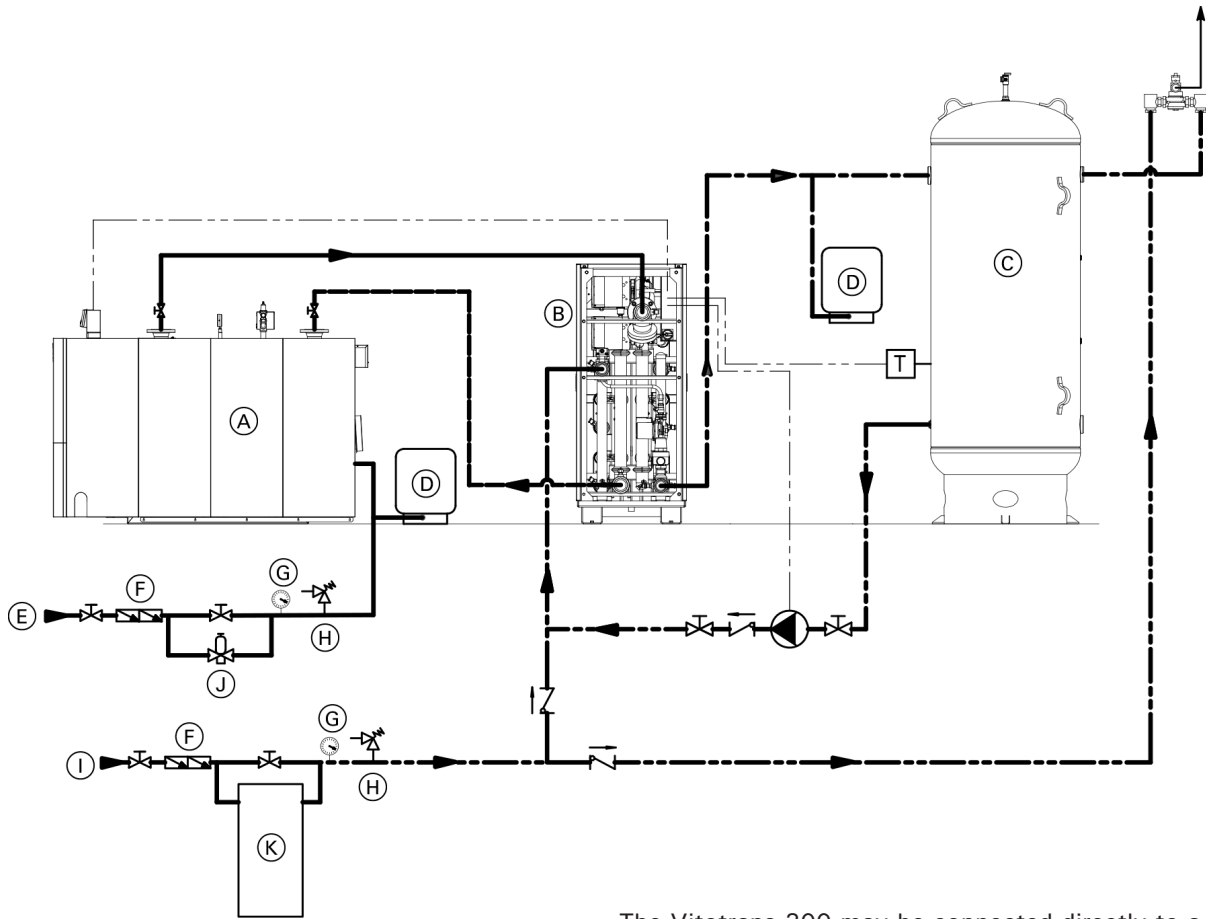


Legend

- (A) Vitotrans 300
- (B) Vitotrans supply
- (C) Vitotrans return
- (D) Connection to heating equipment

The system heat source (boiler) should be set to supply water to the Vitotrans 300 at least 20°F (11°C) higher than the desired DHW setpoint. It is recommended that the Vitotrans 300 is connected close to the heat source.

Connecting to the Heating System – Direct Boiler Connection



Legend

- (A) High Mass Boiler (example: CM2)
- (B) Vitotrans 300
- (C) DHW Storage Tank
- (D) Expansion tank
- (E) System Fill
- (F) Back Flow Preventor
- (G) Pressure Gauge
- (H) Safety Relief Valve
- (I) Domestic Cold Water (DCW)
- (J) Pressure Reducing Valve
- (K) Water Softener

The Vitotrans 300 may be connected directly to a hot water heating boiler when following the system design considerations below;

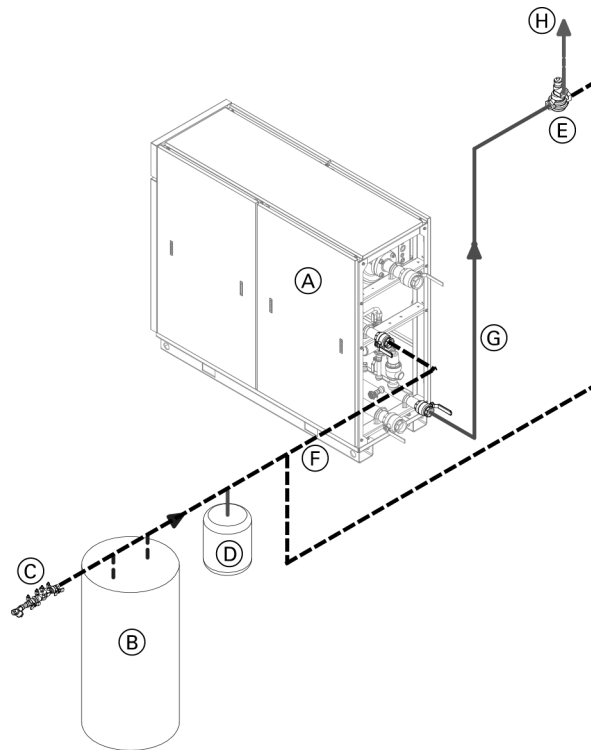
- DHW load type (constant load with minimal fluctuations) – Vitotrans directly connected to the hot water heating boiler operates optimally with steady DHW flow or gradual fluctuations to DHW flow
- Thermal mass/water content of the hot water heating boiler - High mass boilers are typically better suited for direct connection to the Vitotrans
- Modulation range of the hot water heating boiler – the boiler should be sized and selected based on matching the anticipated minimum and maximum DHW load
- Use with or without a DHW Storage Tank, a DHW storage tank will absorb small fluctuations in DHW temperature generated by rapid changes in DHW load

Taking into consideration the points above, the system designer will be able to optimize the system to ensure system performance, occupant comfort and longevity of the system.

The system heat source (boiler) should be set to supply water to the Vitotrans 300 at least 20°F (11°C) higher than the desired DHW setpoint. It is recommended that the Vitotrans 300 is connected close to the heat source.

Single Direct

Vitotrans 300 with
direct connection to building DHW system.



Legend

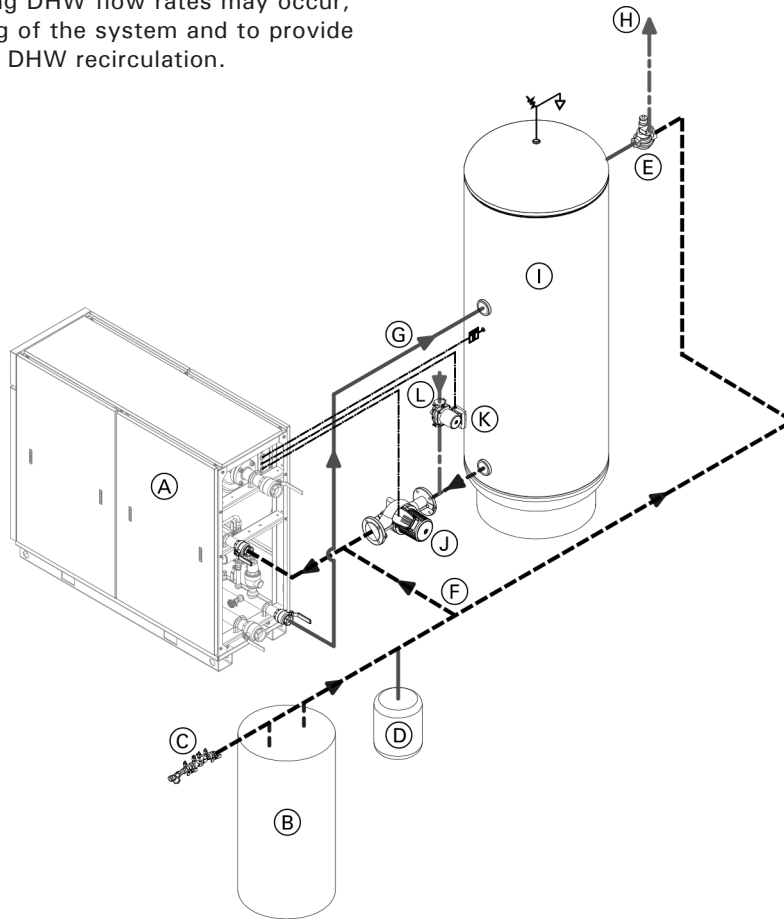
- (A) Vitotrans 300
- (B) Water softening equipment
- (C) Back flow preventer
- (D) Expansion tank
- (E) Point of source tempering valve
- (F) Domestic cold water (DCW)
- (G) Domestic hot water (DHW)
- (H) Tempered water building supply

Single Vitotrans 300, for use with direct / instantaneous domestic hot water heating. For use with long steady draws of DHW.

Minimum DHW flow activation adjust between 5 and 30 GPM (19 and 114 L/min). This is a user adjustable setting that can be set based on the DHW system operating characteristics.

Single Direct with DHW Storage Tank

Vitotrans 300 with ...
 DHW DHW storage tank, for system applications where low or fluctuating DHW flow rates may occur, to prevent short-cycling of the system and to provide added comfort through DHW recirculation.



Legend

- (A) Vitotrans 300
- (B) Water softening equipment
- (C) Back flow preventer
- Note:** for the type of backflow preventor consult the local plumbing code requirements.
- (D) Expansion tank - domestic water
- (E) Point of source domestic water tempering valve
- (F) Domestic cold water (DCW)
- (G) Domestic hot water (DHW)
- (H) Tempered DHW building supply
- (I) DHW DHW storage tank
- (J) DHW storage tank circulation pump
- (K) DHW recirculation pump
- (L) DHW recirculation line from building

Note: It is the responsibility of the system designer to ensure the sizing of the tank loading pump and corresponding DHW storage tank are sized for the required demand.

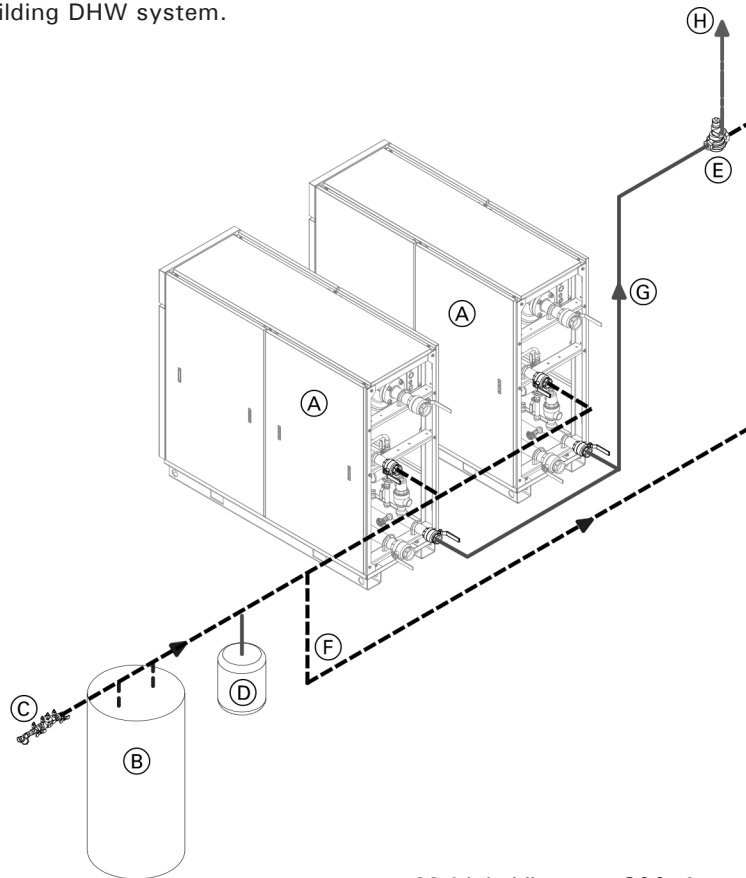
Single Vitotrans 300, for use with DHW storage tank, for stored domestic hot water with integration to the building recirculation pump and tank loading pump.

Note: A DHW storage tank is highly recommended for applications where fluctuating DHW system flow rates, particularly those flow rates below 30 GPM (114 L/min) for all Vitotrans 300 models sizes.

The DHW storage tank loading pump should be sized according to DHW storage tank's size and desired recovery time, but must not exceed the maximum flow for the associated Vitotrans 300 model size. It is recommended that the DHW storage tank loading pump should provide at least 30 GPM (114 L/m) of flow and be able to overcome the head losses of the Vitotrans 300 and the piping connecting it to the DHW storage tank. The minimum flow activation setting for the Vitotrans 300 can be set between 5 and 30 GPM (19 and 114 L/m) when used with a DHW storage tank. When determining the activation setpoint, consider the size of the DHW storage tank and the anticipated minimum constant DHW draw rate (based on usage patterns). It is also important to identify the minimum output of the heating system and use this as a factor when choosing a sufficient activation setting. This will help reduce short cycling of the heating equipment.

Multiple Direct

Multiple Vitotrans 300 with
direct connection to building DHW system.



Legend

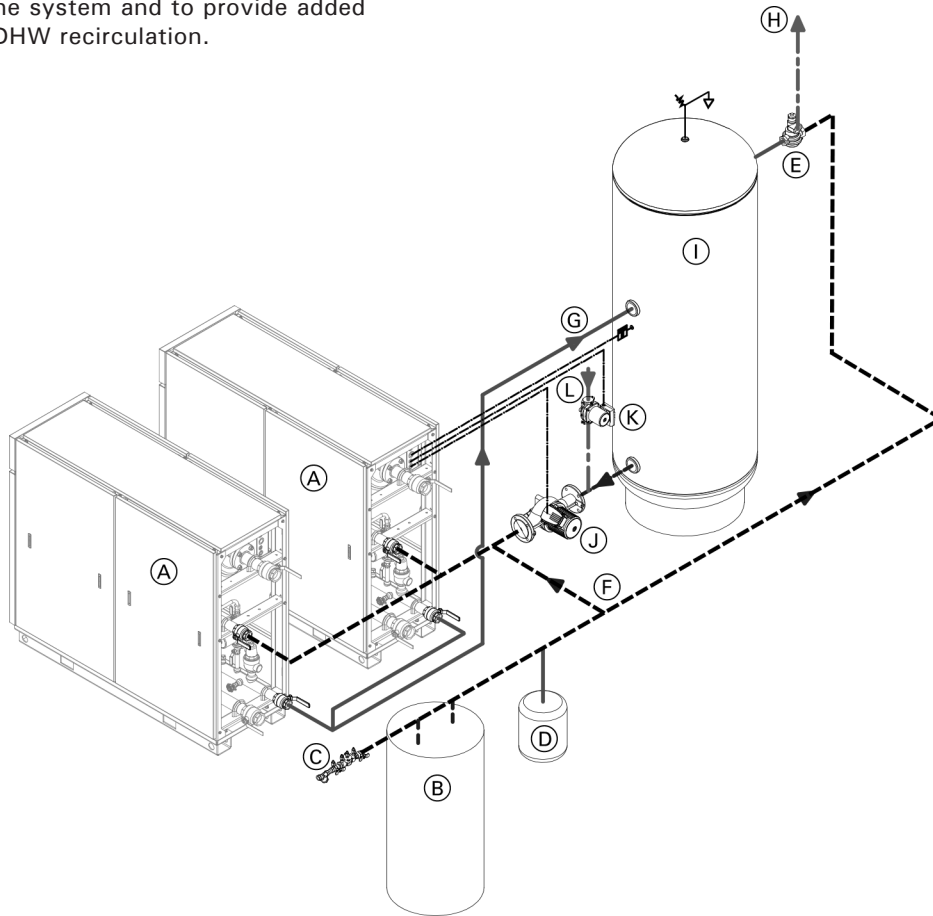
- (A) Vitotrans 300
- (B) Water softening equipment
- (C) Back flow preventer
- (D) Expansion tank
- (E) Point of source tempering valve
- (F) Domestic cold water (DCW)
- (G) Domestic hot water (DHW)
- (H) Tempered water building supply

Multiple Vitotrans 300, for use with direct / instantaneous domestic hot water heating. For use with long steady draws of DHW.

Minimum DHW flow activation adjust between 5 and 30 GPM (19 and 114 L/min). This is a user adjustable setting that can be set based on the DHW system operating characteristics.

Multiple Direct with DHW Storage Tank

Multiple Vitotrans 300 with ...
 DHW storage tank, for system applications where low or fluctuating DHW flow rates may occur, to prevent short-cycling of the system and to provide added comfort through DHW recirculation.



Legend

- (A) Vitotrans 300
- (B) Water softening equipment
- (C) Back flow preventer
- Note:** for the type of backflow preventor consult the local plumbing code requirements.
- (D) Expansion tank - domestic water
- (E) Point of source domestic water tempering valve
- (F) Domestic cold water (DCW)
- (G) Domestic hot water (DHW)
- (H) Tempered DHW building supply
- (I) DHW DHW storage tank
- (J) DHW storage tank circulation pump
- (K) DHW recirculation pump
- (L) DHW recirculation line from building

Note: It is the responsibility of the system designer to ensure the sizing of the tank loading pump and corresponding DHW storage tank are sized for the required demand.

Multiple Vitotrans 300, for use with DHW storage tank, for stored domestic hot water with integration to building recirculation pump and tank loading pump.

Note: A DHW storage tank is highly recommended for applications where fluctuating DHW system flow rates, particularly those flow rates below 30 GPM (114 L/min) for all Vitotrans 300 models sizes.

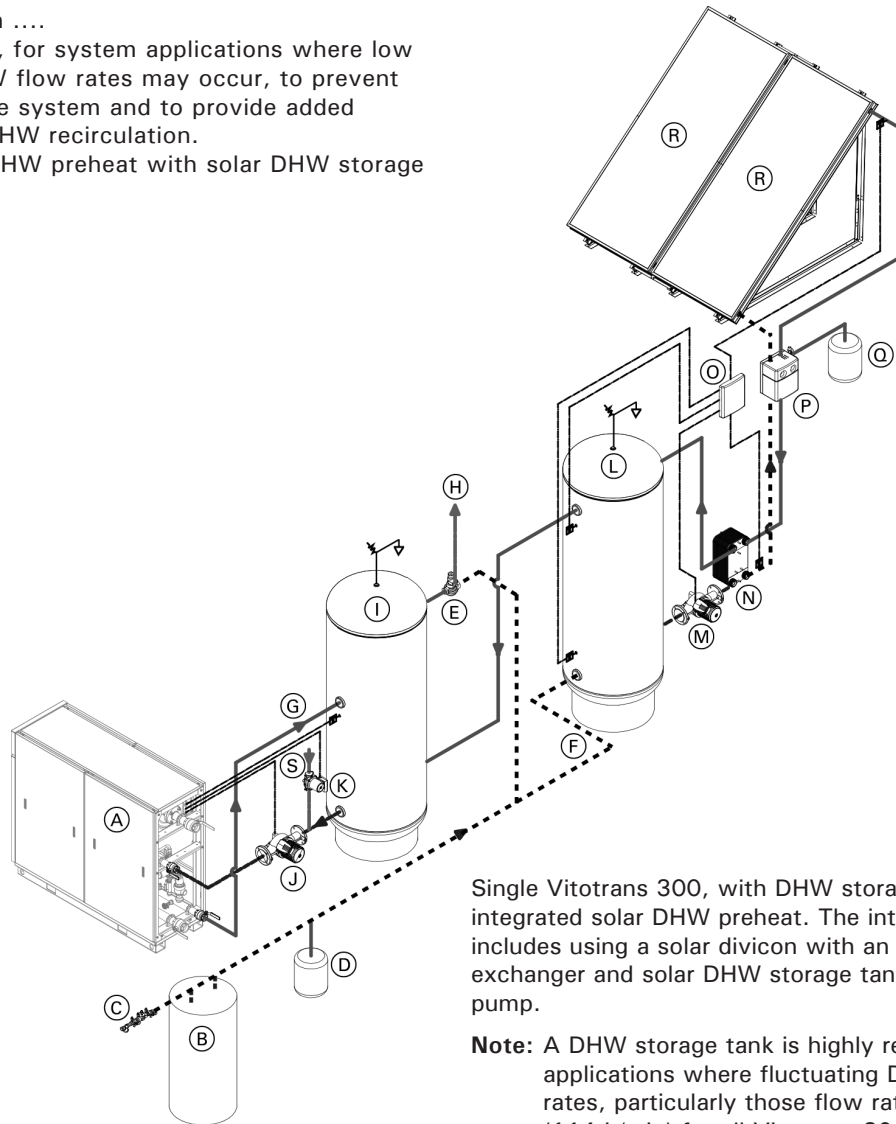
The DHW storage tank loading pump should be sized according to DHW storage tank's size and desired recovery time, but must not exceed the maximum flow for the associated Vitotrans 300 model size. It is recommended that the DHW storage tank loading pump should provide at least 30 GPM (114 L/m) of flow and be able to overcome the head losses of the Vitotrans 300 and the piping connecting it to the DHW storage tank. The minimum flow activation setting for the Vitotrans 300 can be set between 5 and 30 GPM (19 and 114 L/m) when used with a DHW storage tank. When determining the activation setpoint, consider the size of the DHW storage tank and the anticipated minimum constant DHW draw rate (based on usage patterns). It is also important to identify the minimum output of the heating system and use this as a factor when choosing a sufficient activation setting. This will help reduce short cycling of the heating equipment.

Single Solar Direct with DHW Storage Tank

Vitotrans 300 with

DHW storage tank, for system applications where low or fluctuating DHW flow rates may occur, to prevent short-cycling of the system and to provide added comfort through DHW recirculation.

Solar system for DHW preheat with solar DHW storage tank.



Legend

- (A) Vitotrans 300
- (B) Water softening equipment
- (C) Back flow preventer
- Note:** for the type of backflow preventor consult the local plumbing code requirements.
- (D) Expansion tank - domestic water
- (E) Point of source domestic water tempering valve
- (F) Domestic cold water (DCW)
- (G) Domestic hot water (DHW)
- (H) Tempered DHW building supply
- (I) DHW storage tank
- (J) DHW storage tank circulation pump
- (K) DHW recirculation pump
- (L) Solar DHW storage tank
- (M) Solar tank loading pump
- (N) Heat exchanger
- (O) Solar control unit
- (P) Solar Divicon
- (Q) Solar expansion tank
- (R) Solar panels
- (S) DHW recirculation line from building

Single Vitotrans 300, with DHW storage tank and integrated solar DHW preheat. The integrated solar includes using a solar divicon with an external heat exchanger and solar DHW storage tank with a circulation pump.

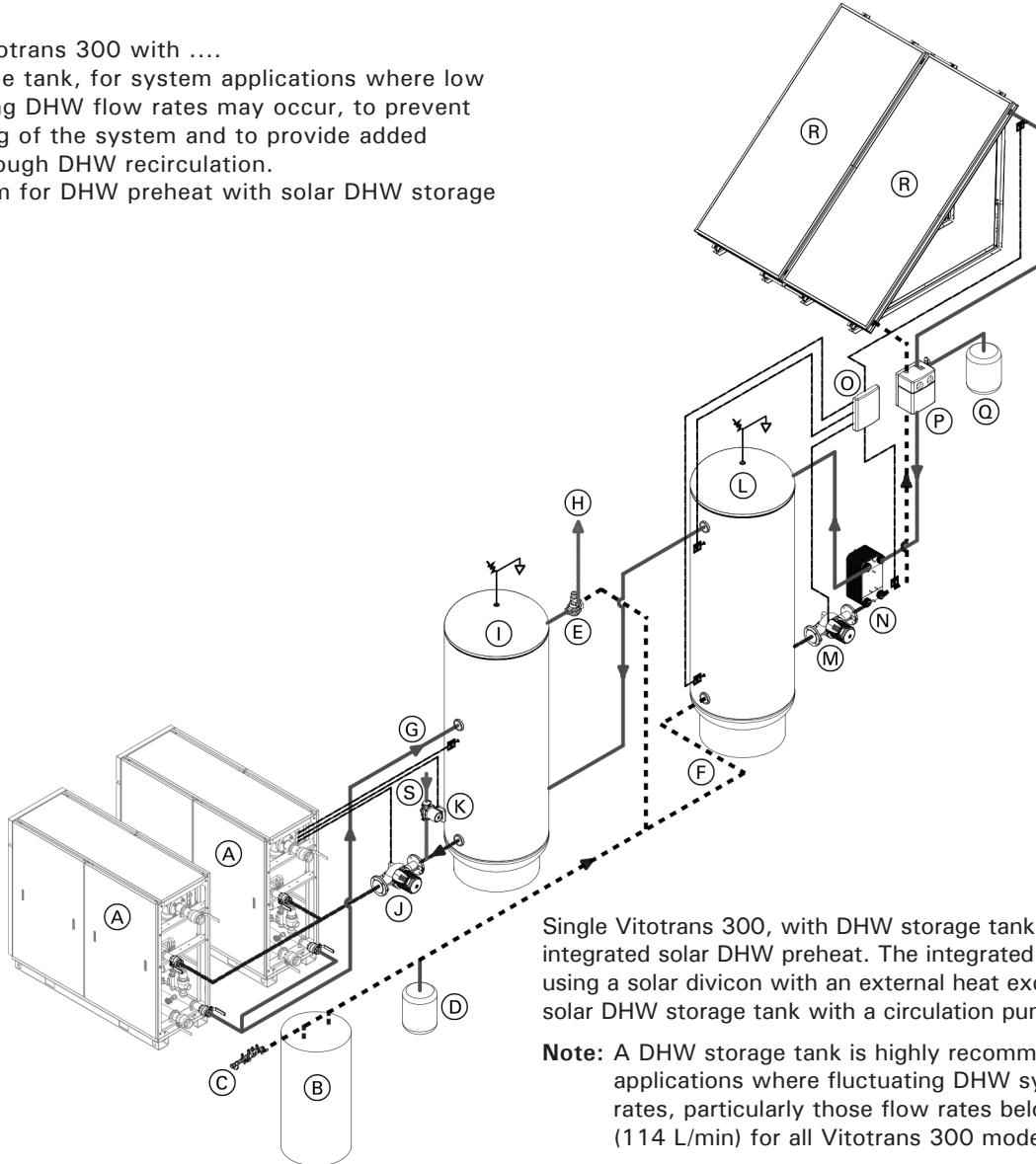
Note: A DHW storage tank is highly recommended for applications where fluctuating DHW system flow rates, particularly those flow rates below 30 GPM (114 L/min) for all Vitotrans 300 models sizes.

The DHW storage tank loading pump should be sized according to DHW storage tank's size and desired recovery time, but must not exceed the maximum flow for the associated Vitotrans 300 model size. It is recommended that the DHW storage tank loading pump should provide at least 30 GPM (114 L/m) of flow and be able to overcome the head losses of the Vitotrans 300 and the piping connecting it to the DHW storage tank. The minimum flow activation setting for the Vitotrans 300 can be set between 5 and 30 GPM (19 and 114 L/m) when used with a DHW storage tank. When determining the activation setpoint, consider the size of the DHW storage tank and the anticipated minimum constant DHW draw rate (based on usage patterns). It is also important to identify the minimum output of the heating system and use this as a factor when choosing a sufficient activation setting. This will help reduce short cycling of the heating equipment.

Note: It is the responsibility of the system designer to ensure the sizing of the tank loading pump and corresponding DHW storage tank are sized for the required demand.

Multiple Solar Direct with DHW Storage Tank

Multiple Vitotrans 300 with
 DHW storage tank, for system applications where low or fluctuating DHW flow rates may occur, to prevent short-cycling of the system and to provide added comfort through DHW recirculation.
 Solar system for DHW preheat with solar DHW storage tank.



Single Vitotrans 300, with DHW storage tank and integrated solar DHW preheat. The integrated solar includes using a solar divicon with an external heat exchanger and solar DHW storage tank with a circulation pump.

Note: A DHW storage tank is highly recommended for applications where fluctuating DHW system flow rates, particularly those flow rates below 30 GPM (114 L/min) for all Vitotrans 300 models sizes.

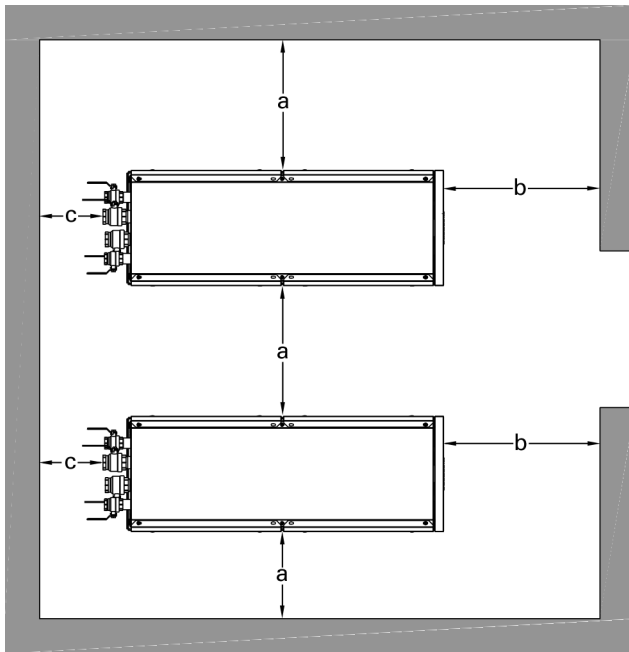
The DHW storage tank loading pump should be sized according to DHW storage tank's size and desired recovery time, but must not exceed the maximum flow for the associated Vitotrans 300 model size. It is recommended that the DHW storage tank loading pump should provide at least 30 GPM (114 L/m) of flow and be able to overcome the head losses of the Vitotrans 300 and the piping connecting it to the DHW storage tank. The minimum flow activation setting for the Vitotrans 300 can be set between 5 and 30 GPM (19 and 114 L/m) when used with a DHW storage tank. When determining the activation setpoint, consider the size of the DHW storage tank and the anticipated minimum constant DHW draw rate (based on usage patterns). It is also important to identify the minimum output of the heating system and use this as a factor when choosing a sufficient activation setting. This will help reduce short cycling of the heating equipment.

Note: It is the responsibility of the system designer to ensure the sizing of the tank loading pump and corresponding DHW storage tank are sized for the required demand.

Legend

- (A) Vitotrans 300 CA
- (B) Water softening equipment
- (C) Back flow preventer
- (D) Expansion tank
- (E) Point of source tempering valve
- (F) Domestic cold water (DCW)
- (G) Domestic hot water (DHW)
- (H) Tempered water building supply
- (I) DHW storage tank
- (J) DHW storage tank circulation pump
- (K) Building recirculation pump
- (L) Solar DHW storage tank
- (M) Solar tank loading pump
- (N) Heat exchanger
- (O) Solar control unit
- (P) Solar Divicon
- (Q) Solar expansion tank
- (R) Solar panels
- (S) DHW recirculation line from building

Recommended Minimum Service Clearances



To enable convenient installation and maintenance, observe the stated clearance dimensions. Maintain the minimum clearances where space is tight.

Models	S3HA 30	D3HA 30	S3HA 60	D3HA 60	S3HA 90	D3HA 90
a in. (mm)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)
b in. (mm)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)
c in. (mm)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)
Top in. (mm)	12 (300)	12 (300)	12 (300)	12 (300)	12 (300)	12 (300)

Mechanical room

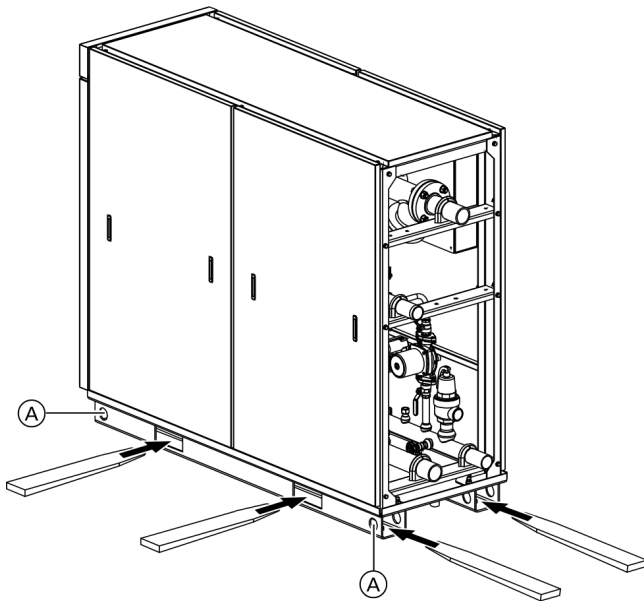
- Install on a level surface
- Avoid high levels of humidity
- Protect against frost
- Ensure good ventilation

Note: The system may suffer faults and/or damage if the above are not followed.

Minimum clearances to combustibles

Models	S3HA 30	D3HA 30	S3HA 60	D3HA 60	S3HA 90	D3HA 90
Top	0					
Sides	0					
Front	0					
Floor	combustible					

Unpacking and Placing the Unit



Remove the packaging from the Vitotrans. The Vitotrans can be positioned using a forklift, using the openings provided on the front, rear and sides.



It is essential to use appropriate lifting devices certified for lifting to a minimum of the Vitotrans weight.

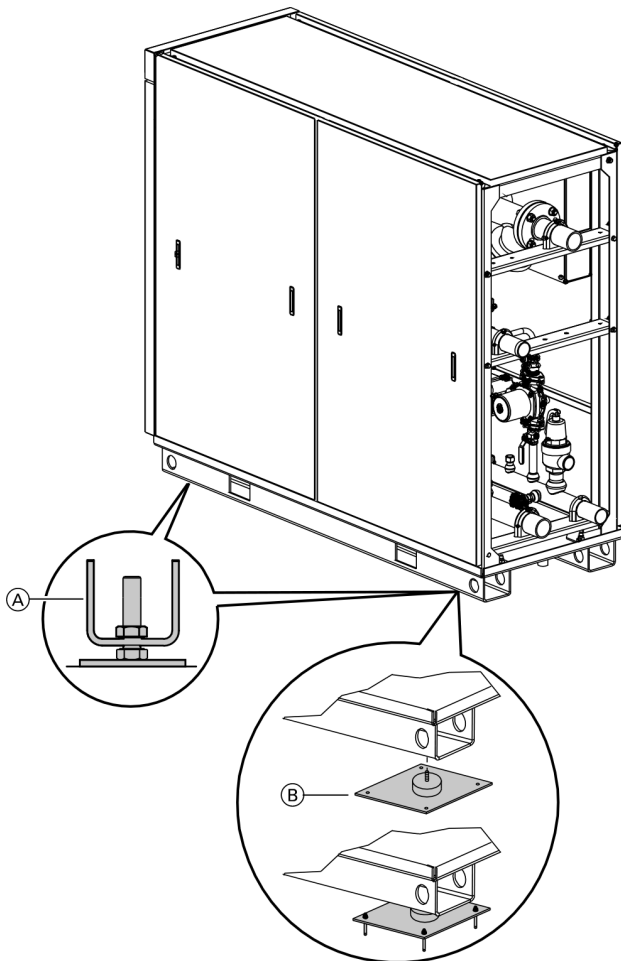
CAUTION

Take care to ensure unit is not damaged by the forklift during lifting.

Legend

(A) Crane lifting provisions (two on each side)

Preparing the Unit for Installation



Note: It is recommended that the levelling bolts included with the boiler are used when installing the Vitotrans on uneven surfaces.

1. Remove the Vitotrans from the wooden shipping pallet. Remove the 4 leveling bolts (A) from boiler's accessory package and install into the four corners of the boiler base.

Note: When using seismic brackets (B) (optional accessory) do not install levelling bolts.

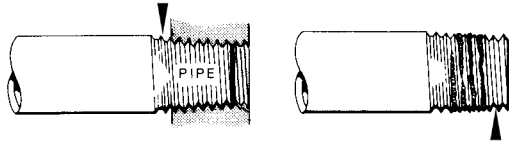


Refer to the Seismic bracket Installation Instructions when using the optional seismic mounts.

2. It is recommended to place a flat piece of steel plate under each leveling bolt for better weight distribution and adjustment.
3. Level the Vitotrans 300 with a slight slope towards the base pan drain opening, by adjusting the floor levelling bolts.

Installation Fittings

2 imperfect threads

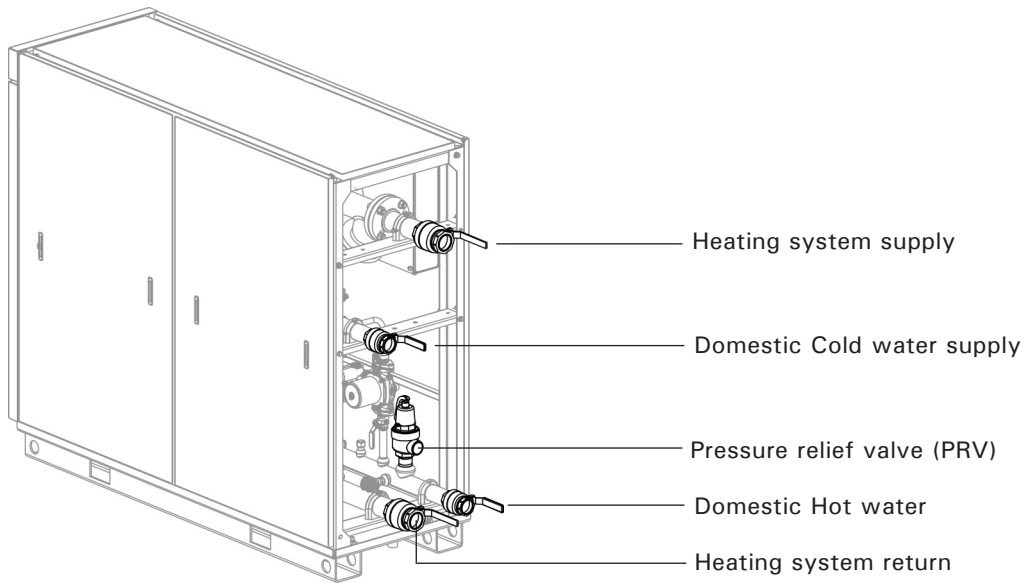


Leave 2 threads bare

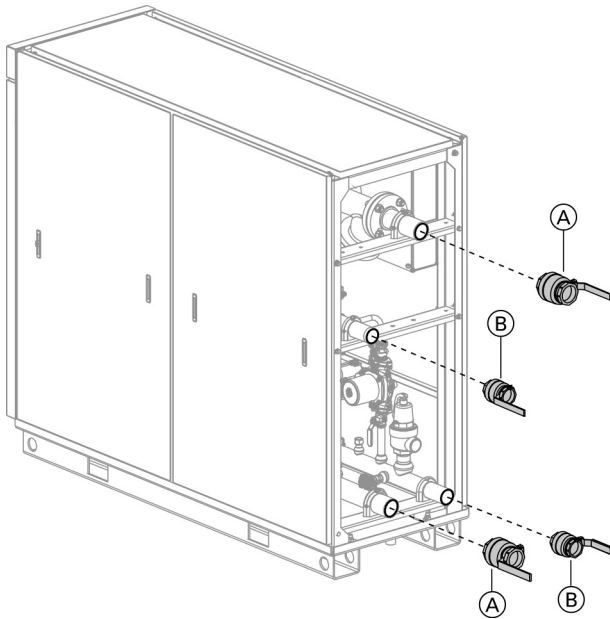
Proper piping practice

Support piping by proper suspension method.
Piping must not rest on or be supported by Vitotrans.

When installing the supplied valves to the domestic cold water supply and the domestic hot water supply of the Vitotrans 300 it is recommended that a thread sealant specifically for use with stainless steel pipe is used.



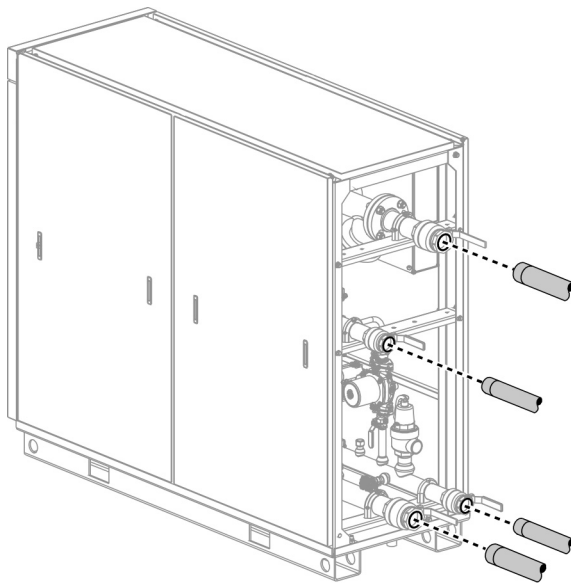
Waterside Connections



1. Install the heating system supply and return valves (A).
2. Install the domestic hot and domestic cold water valves (B).

Legend

- (A) 2 1/2 in. heating system valve
- (B) 2 in. low lead domestic water valve

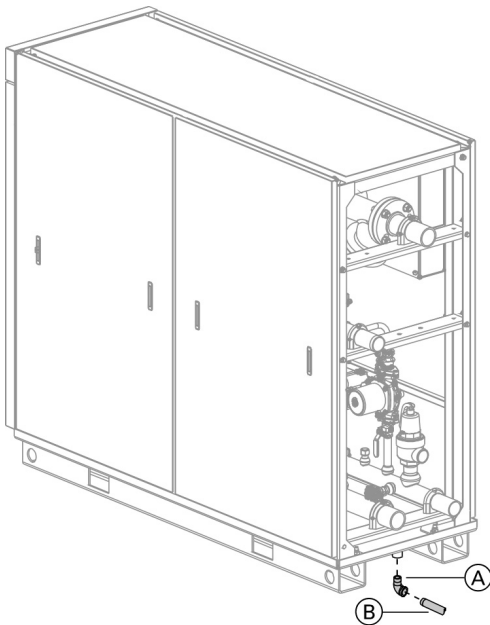


Note: Make all connections free of load and torque stresses.

The heating system must be properly flushed, especially if the Vitotrans is connected to an existing heating system in a retrofit application.

Connect the system to the Vitotrans according to the diagram starting on page 8.

Drain Connection



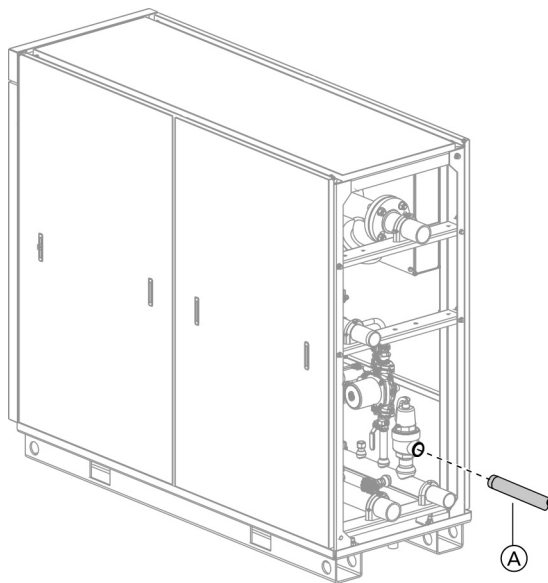
Legend

- (A) 3/4 in. street elbow
- (B) 3/4 in. pipe

Note: Pipe and fittings are field supplied.

1. Connect the piping (A) and (B) to the Vitotrans drip pan and then to the floor drain.

Pressure Relief Valve Connection



Legend

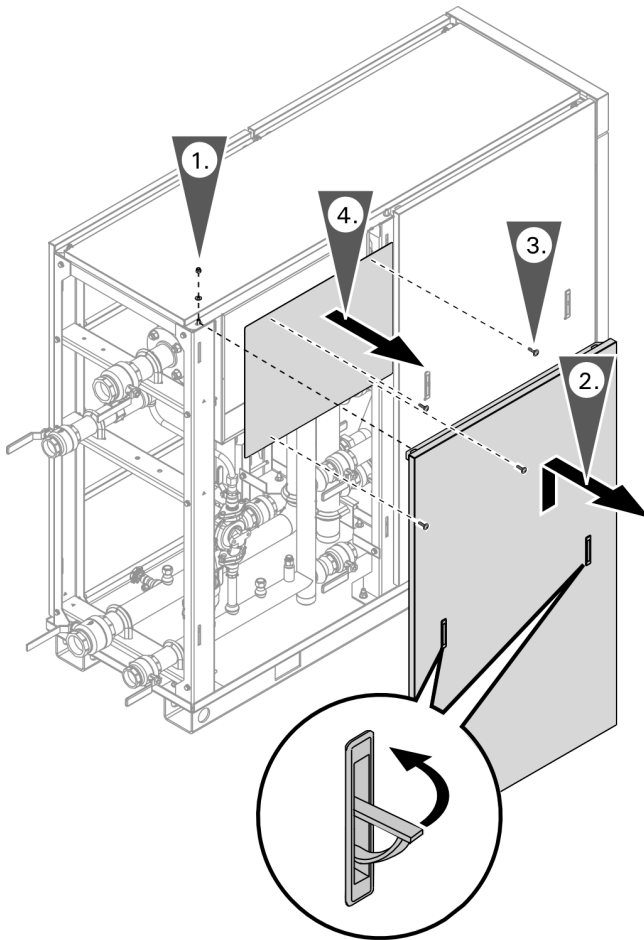
- (A) 1 1/2 in. pipe

Note: Pipe and fittings are field supplied.

No valve, shut-off device or obstruction of any kind must be used on the discharge side of the pressure relief valve.

The discharge side of the pressure relief valve must continue out of the rear of the Vitotrans in the same size as the outlet horizontally and then vertically downwards to end approx. 1 ft. (300 mm) above the floor and piped as close to a floor drain as possible. Do not install this discharge pipe to the outdoors or any area where freezing might occur or the discharge pipe could endanger life and equipment.

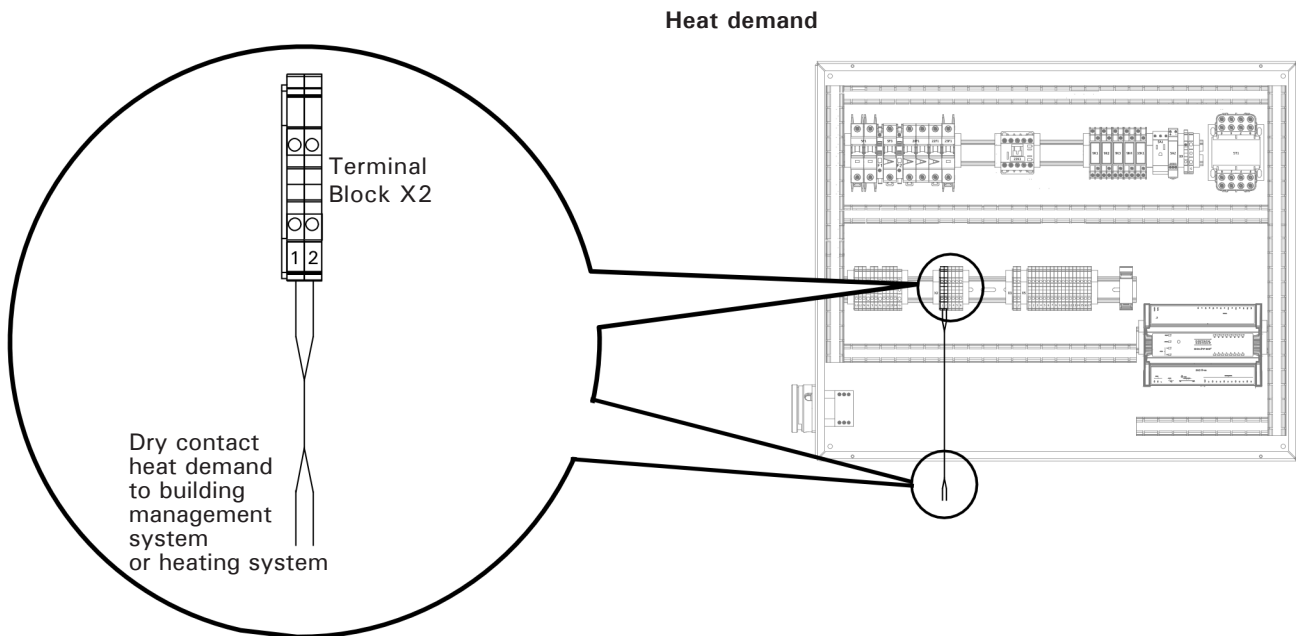
Electrical Connections



Accessing the junction box

1. Remove left rear side panel retaining nut and washer.
2. Lift left rear side panel handles and remove panel.
3. Remove junction box retaining screws.
4. Remove junction box cover panel.

Electrical Connections *(continued)*

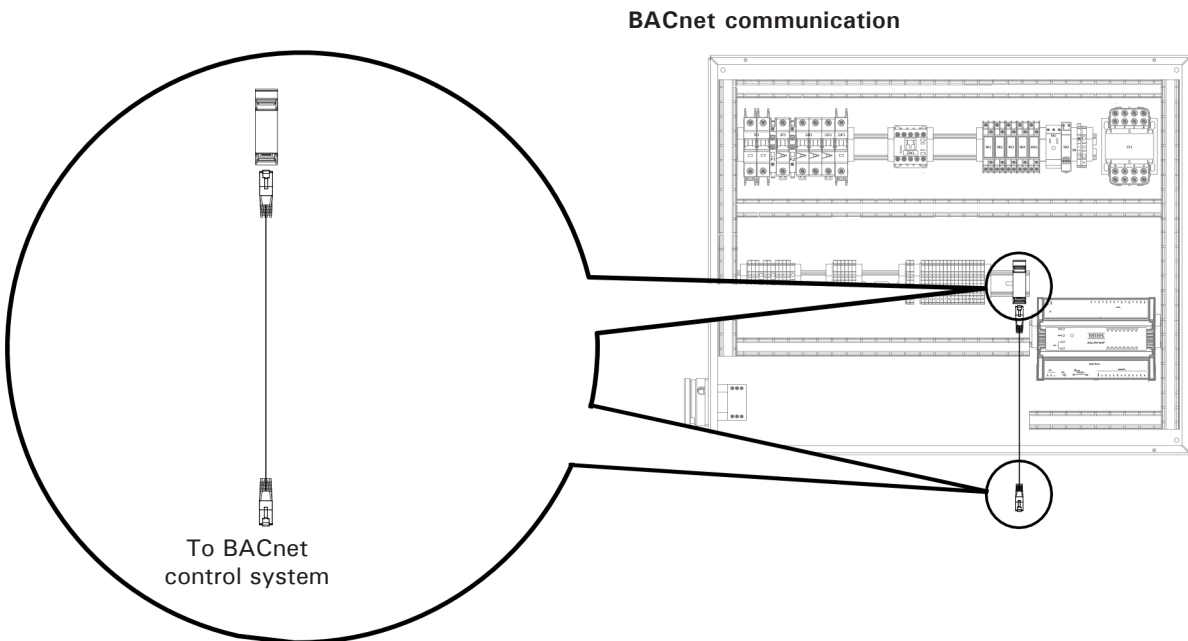


Connect the heat demand dry contacts from terminal block X2 terminals 1 and 2 to the external demand of the heat source control (building management system or heating system).

When installing multiple Vitotrans, wire the heat demand contact from each Vitotrans in parallel to the heat source control (building management system or heating system).

The system heat source (boiler) should be set to supply water to the Vitotrans 300 at least 20°F (11°C) higher than the desired DHW setpoint.

Electrical Connections *(continued)*



The transfer distances for LON are subject to the electrical properties of the respective cable. For this reason, only use the specified cable types. Use only one cable type within each LON.

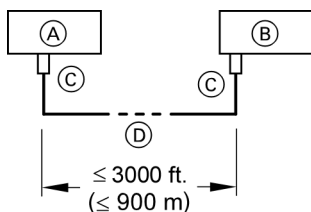
Cable types (on site):

- 2-core cable, CAT5, screened

All Viessmann appliances are connected with RJ45 connectors.

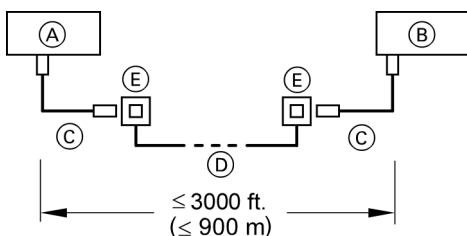
Note: When connecting devices and routing cables, observe the relevant safety requirements. Ensure the safe electrical separation of all on-site components (including PC/laptops).

Connection with on-site cable and RJ45 plug



Installation spacing ≤ 3000 ft. (≤ 900 m)
(with RJ45 connector)

Connection with RJ45 cable, on-site cable and RJ45 socket



Installation spacing ≤ 3000 ft. (≤ 900 m) (with RJ45 sockets)

Product information

The integrated BACnet (IP) allows the Vitotrans to be directly integrated into the BMS system. The Vitotrans must be integrated into the BACnet control system by an authorized contractor.

Functions

The integrated BACnet (IP) of the Vitotrans 300 enables system users to utilize the following functions in conjunction with a BACnet control system:

- Setting heating system parameters (temperature setpoint)
- Relaying fault and error messages
- Usage trends (temperature and flow rates for both heating system and DHW)

Legend

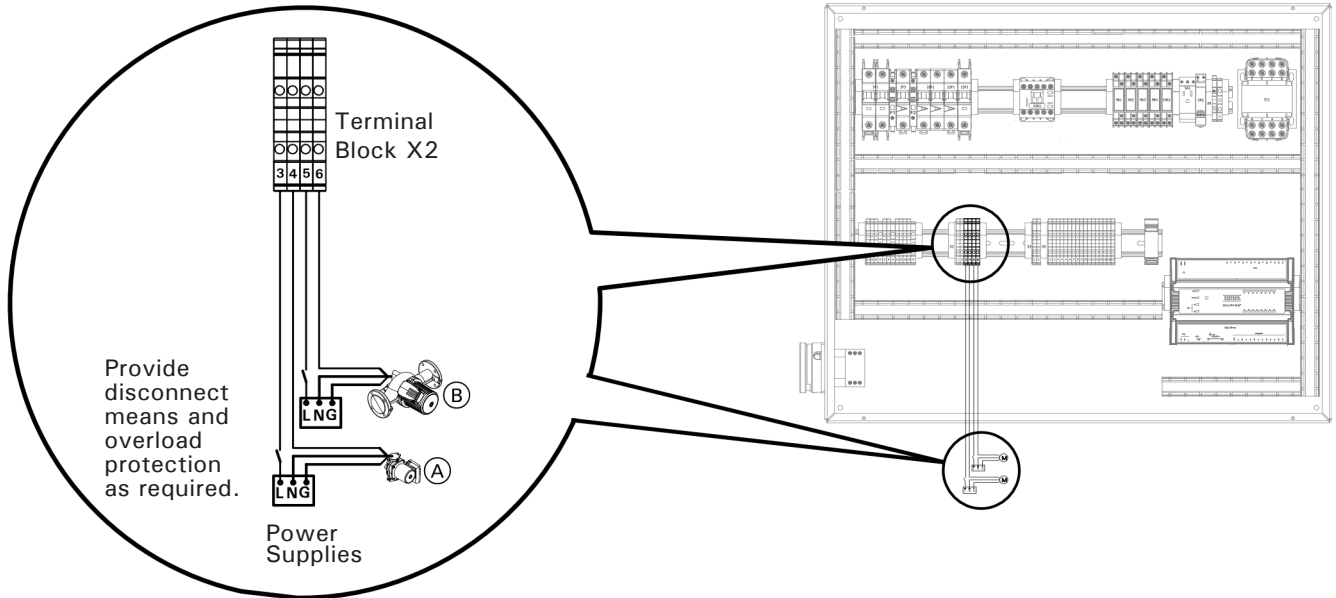
- Ⓐ Vitotrans 300
- Ⓑ BACnet (IP) BMS system
- Ⓒ RJ45 male plug end
- Ⓓ On-site cable (field supplied)

Legend

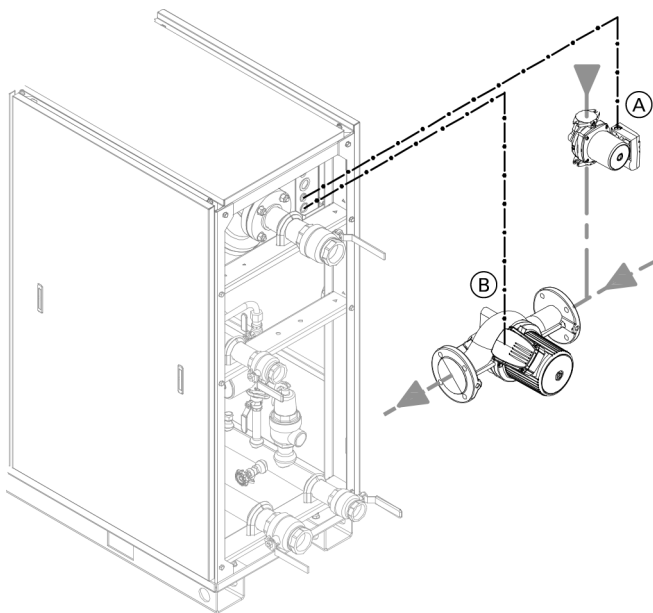
- Ⓐ Vitotrans 300
- Ⓑ BACnet (IP) BMS system
- Ⓒ LON cable (field supplied)
- Ⓓ On-site cable (field supplied)
- Ⓔ RJ45 sockets

Electrical Connections *(continued)*

Pump connections for systems with a DHW storage tank



Note: The dry contact relays for the DHW tank loading pump and DHW re-circ pump have a maximum rating of 2 FLA. Pumps exceeding this rating will require field supplied motor starter, contactor or relay.



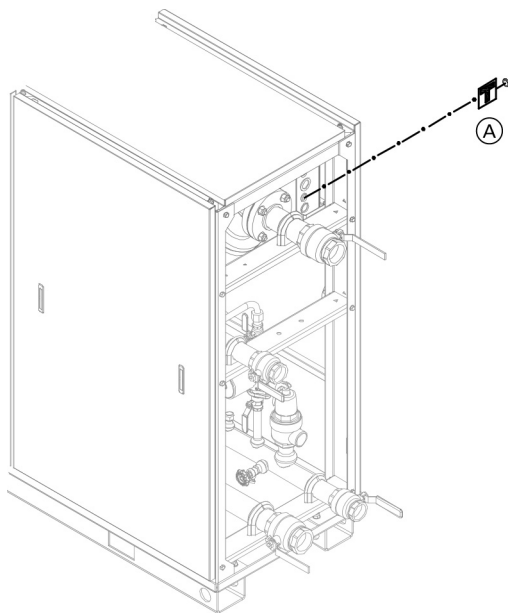
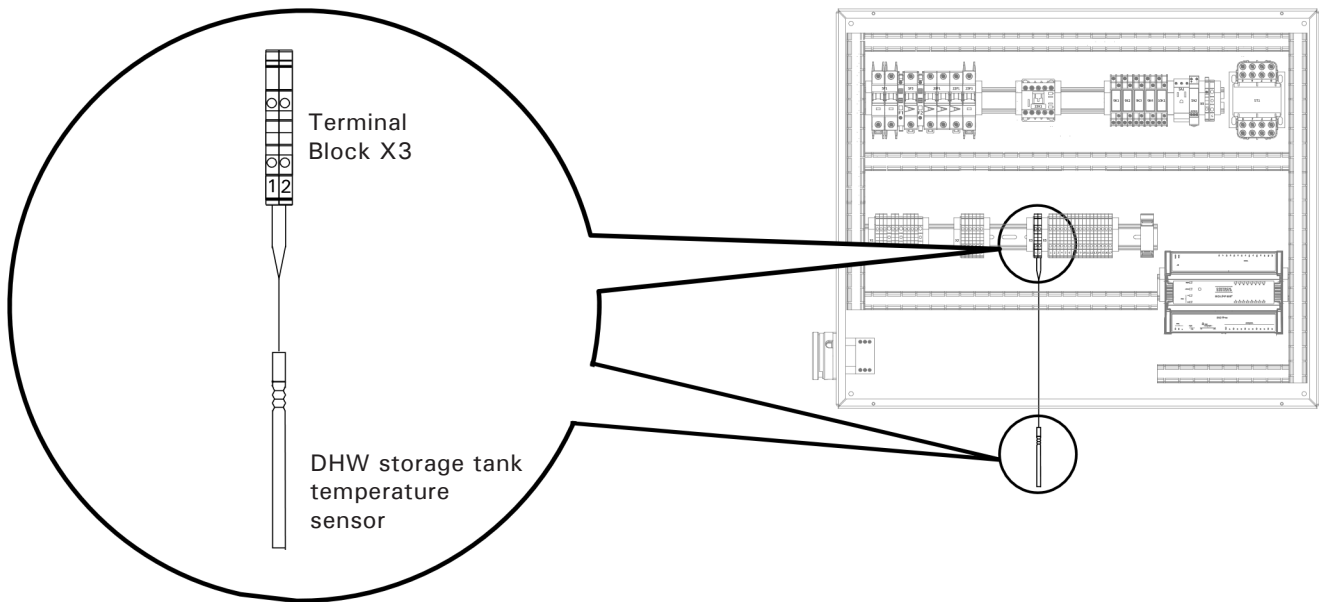
Legend

- (A) Building DHW re-circulation pump (field supplied)
(Vitotrans terminal block X2, terminals 3 and 4)
(Power supply 120VAC/1Ph/60Hz, Max. 2 FLA thru contacts)
- (B) DHW DHW storage tank loading pump (field supplied)
(Vitotrans terminal block X2, terminals 5 and 6)
(Power supply 120VAC/1Ph/60Hz, Max. 2 FLA thru contacts)

Note: See complete system layouts starting on page 8.

Electrical Connections *(continued)*

Temperature sensor for systems with a DHW storage tank

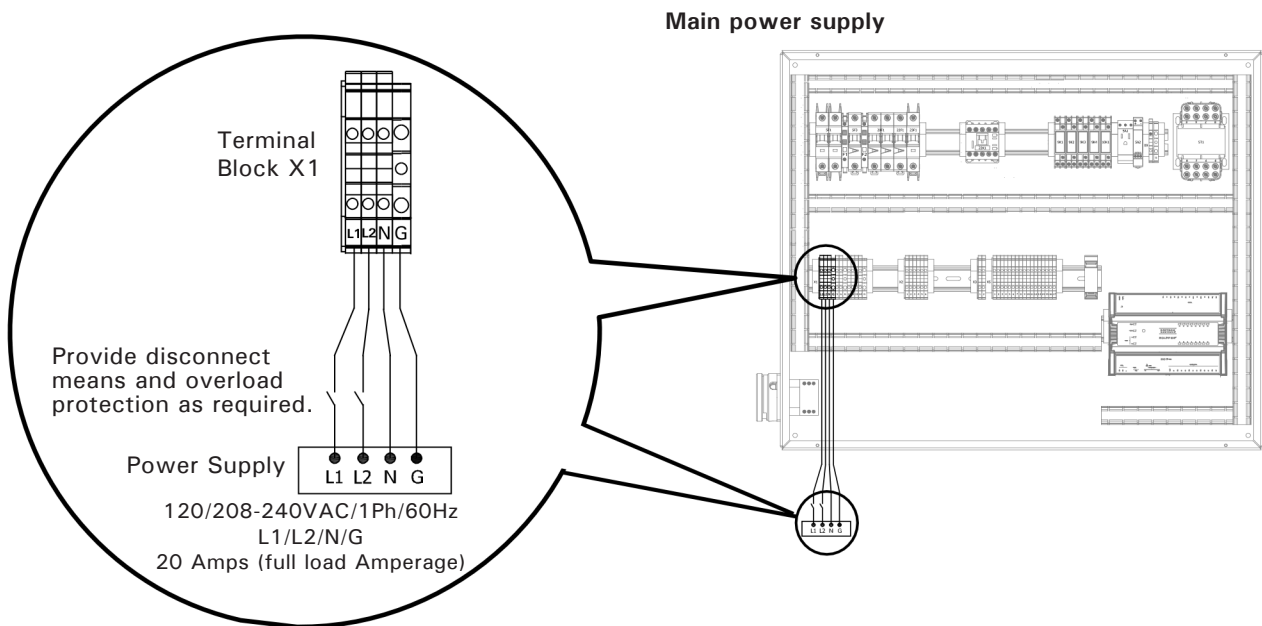


Legend

- Ⓐ DHW DHW storage tank temperature sensor (terminal block X3, terminals 1 and 2)

Note: See complete system layouts starting on page 8.

Electrical Connections *(continued)*



! WARNING

The control must be grounded.
Ensure that 'L', 'N' and 'G' are not interchanged.

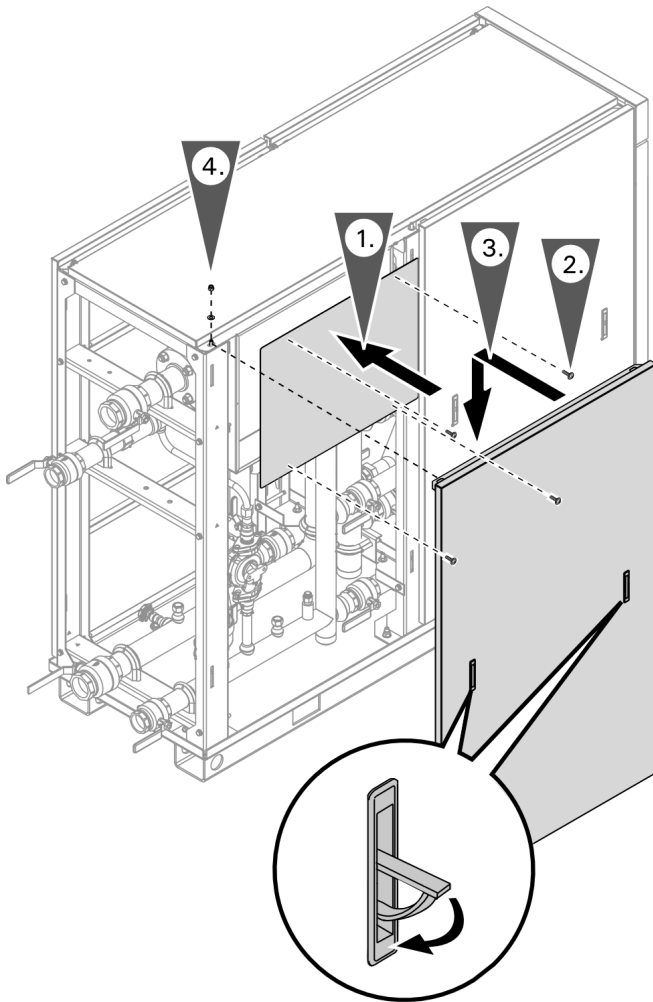
! WARNING

Incorrectly executed electrical installations can lead to injuries from electrical current and result in appliance damage.

IMPORTANT

Electrical installations must comply with the latest edition of:

- In the U.S.A., the National Electrical Code (NEC), ANSI/NFPA 70 and any other state, local codes and/or regulations.
- In Canada, the Canadian Electrical Code (CEC), CSA C22.1 Part 1 and any other province, territory, local codes and/or regulations.

Electrical Connections *(continued)***Closing the junction box**

1. Reinstall junction box cover panel.
2. Secure cover panel with retaining screws.
3. Position side panel using handles (bottom first).
4. Secure panel with retaining nut and washer and close handle.

Initial System Fill

Domestic (potable) water quality

Water treatment should be considered in areas with known problems, such as where a high mineral content and hardness exist (see chart below).

Water Content	Concentration
Chlorides	< 200 ppm
pH	6.0 - 9.0
Total hardness CaCO ₃	150 ppm



CAUTION

Before the Vitotrans is installed and piped into an existing system, the heating system itself must be properly flushed to remove dirt and system sludge. Accumulations in old heating systems will tend to settle in the Vitotrans and can lead to deposits which can cause hot spots, noise and water-side corrosion. For damages resulting from those kinds of impurities, the warranty will be null and void.

IMPORTANT

Only use antifreeze specific for hydronic heating systems. Do not use automotive glycol!

Please observe that an antifreeze/water mixture may require a backflow preventer within the automatic water feed and influence components such as diaphragm expansion tanks, radiation etc. A 40% antifreeze content will provide freeze-up protection to -10°F (-23°C).



CAUTION

Before the Vitotrans is installed and piped into an existing system, the heating system itself must be properly flushed to remove dirt and system sludge. Accumulations in old heating systems will tend to settle in the Vitotrans and can lead to deposits which can cause hot spots, noise and water-side corrosion. For damages resulting from those kinds of impurities, the warranty will be null and void.

IMPORTANT

Secure the discharge piping from the pressure relief valve with the appropriate hangers or brackets.

The Vitotrans should be filled and properly bled of air and the cold water fill pressure should not exceed 18-20 psig. All openings, as well as pipe connections on the Vitotrans, should be observed for possible leaks.

Heating system water quality

Treatment of boiler feed water should be considered in areas of known problems, such as high mineral content and hardness. In areas where freezing might occur, an antifreeze may be added to the system water to protect the system (maximum mix ratio - 50% / 50%). Please adhere to the specifications given by the antifreeze manufacturer for hydronic heating systems.

The Vitotrans 300 is only suitable for closed hot water heating systems with pumps.

IMPORTANT

Cold water fill pressure must equal expansion tank pressure.

The Vitotrans should be filled and properly bled of air and the cold water fill pressure should not exceed 18-20 psig. All openings, as well as pipe connections on the Vitotrans, should be observed for possible leaks.



WARNING

Fill only suitable water in boiler. Unsuitable water quality may damage the Vitotrans. Refer to the boiler manufactures requirements.

Checking Heating Water Connections for Leakage



WARNING

Working on pressure loaded parts can be dangerous. Connections around the heating water should only be opened if the Vitotrans is unpressurized.

IMPORTANT

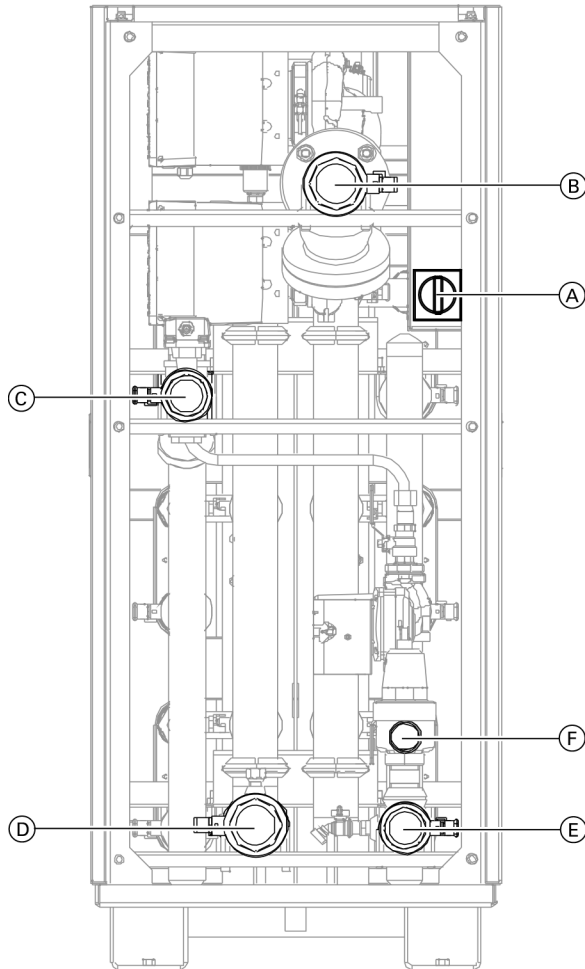
Ensure that connections for control equipment and minimum pressure monitor (low-water indicator) are also leakage-free.



CAUTION

Under-pressure in the Vitotrans can lead to material damages. Only empty Vitotrans with open ventilation with a suction pump.

Commissioning and Initial Start-up



Note: Check the heating system pressure.

Maximum operating pressure: 150 psi (10.3 bar)

Minimum operating pressure: 13 psi (0.9 bar)

1. Open the hydronic connection pottable water valves (C) and (E).
2. Verify the proper operation of the pressure relief valve (F).
3. Open the heating system valves (B) and (D).
4. Turn the Vitotrans main power switch (A) to the **ON** position.
5. Check all gaskets and plugs, and retighten if necessary.

Note: Check all connections on the heating water side for leaks approx. every 500 operating hours.

Legend

- (A) Main power switch
- (B) Heating system supply valve
- (C) Domestic cold water (DCW) valve
- (D) Heating system return valve
- (E) Domestic hot water (DHW) valve
- (F) Pressure relief valve

User Interface

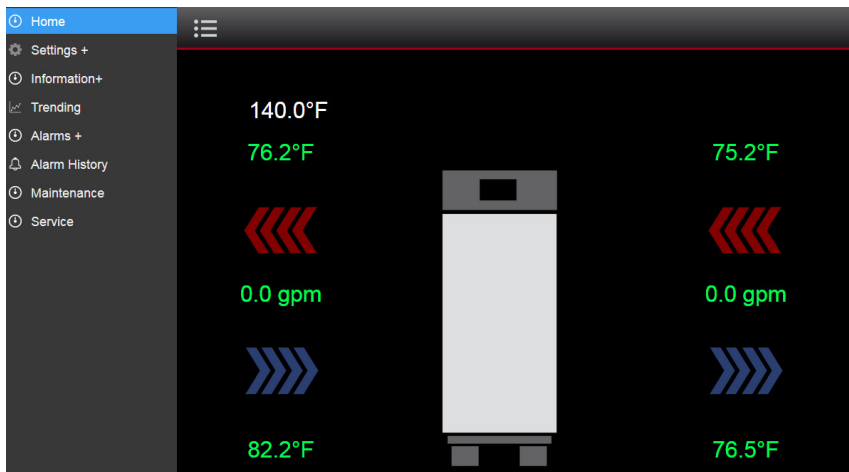


Log into the system by tapping the icon for the desired level of system access, no password is required for user level access. Service level access is password protected;

Service level password: viservice

To switch access levels, tap the circle icon located at the bottom of the screen to return to login screen.

The setting icon on the home screen is for adjustment of the screen settings only – do not adjust.



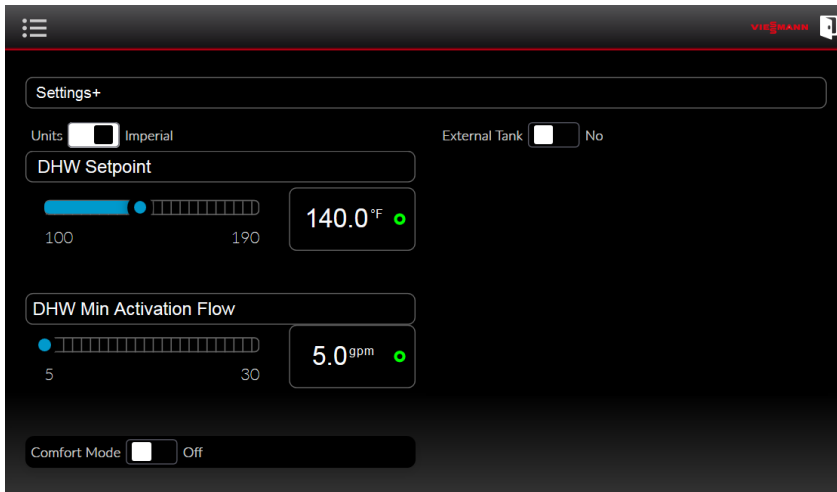
From the home screen select menu ☰. From the menu select **Settings +**.

The 'settings +' screen will provide access to system setpoints required for the initial set-up and configuration of the Vitotrans 300, based on system layout, temperature requirements and time schedules.

Note: The Vitotrans 300 is factory set to imperial units.

You can return to the home screen at any time by selecting menu ☰ then select **Home**.

Instantaneous



Units – The Units switch can be toggled to change between Imperial units (°F / GPM) and Metric units (°C / L/min.).

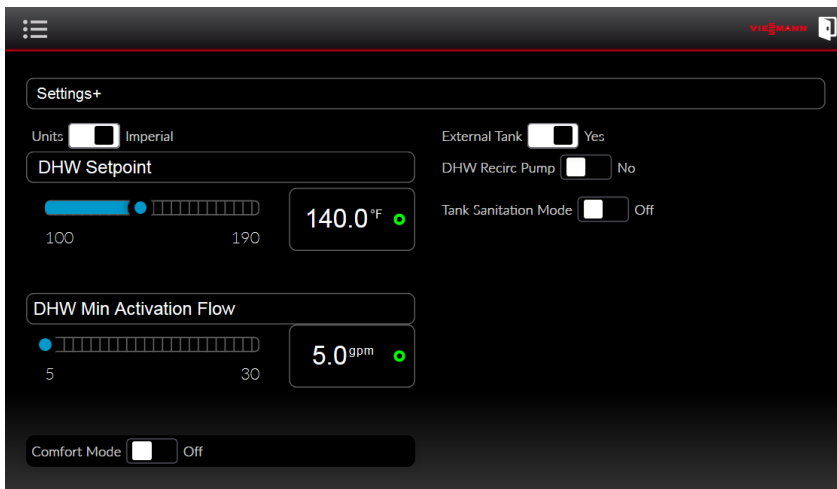
DHW Setpoint – This is the DHW setpoint adjustable from 100°F to 190°F (38°C to 88°C). Drag the slider to adjust the DHW setpoint.

DHW Min Activation Flow – This is the minimum flow rate of domestic water that is required to activate the Vitotrans 300. This is adjustable from 5 GPM to 30 GPM (19 L/min to 114 L/min). Drag the slider to adjust the DHW min. activation flow.

Comfort mode

When the Vitotrans 300 is in standby, this function will run the internal system pump at a constant minimum speed. This function can be used with a heating system or boiler that is set up to maintain a certain minimum system temperature. This is to ensure that hot water is always available at the Vitotrans 300 and that DHW can be produced without delay.

DHW DHW Storage Tank



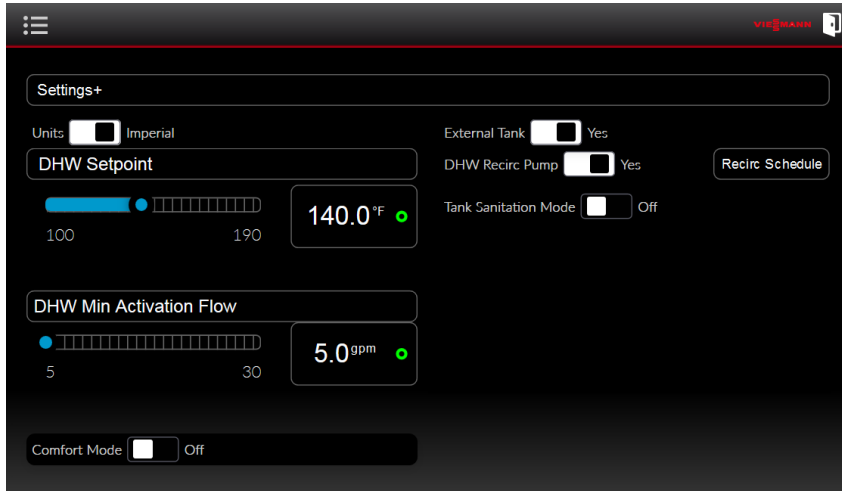
External Tank – When the external tank is switched to 'Yes', this allows the Vitotrans 300 to be set up for operation with an external DHW storage tank (See the recommended system layouts - starting on page 8).

When the 'external tank' function is set in the 'yes' position, the tank loading pump output is activated. The tank loading pump is connected to the control as shown on page 25.

The option for a building DHW recirculation pump and sanitation function will also become available and display on the **Settings +** screen.

Note: A DHW storage tank is highly recommended for applications where fluctuating DHW system flow rates, particularly those flow rates below 30 GPM (114 L/min) for all Vitotrans 300 models sizes.

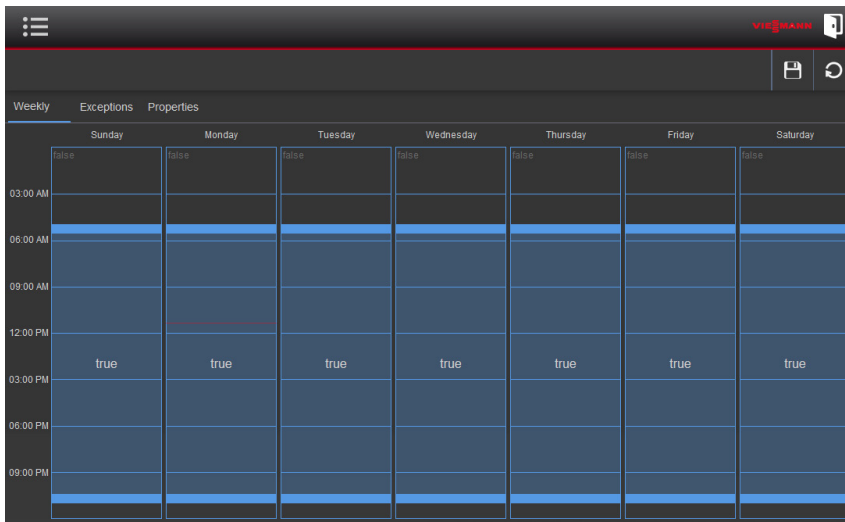
DHW Recirculation Pump



DHW Recirc Pump – This option is only available if external tank function has been selected. When the 'DHW recirc pump' is set in the yes position, the pump will run according to the set time schedule.

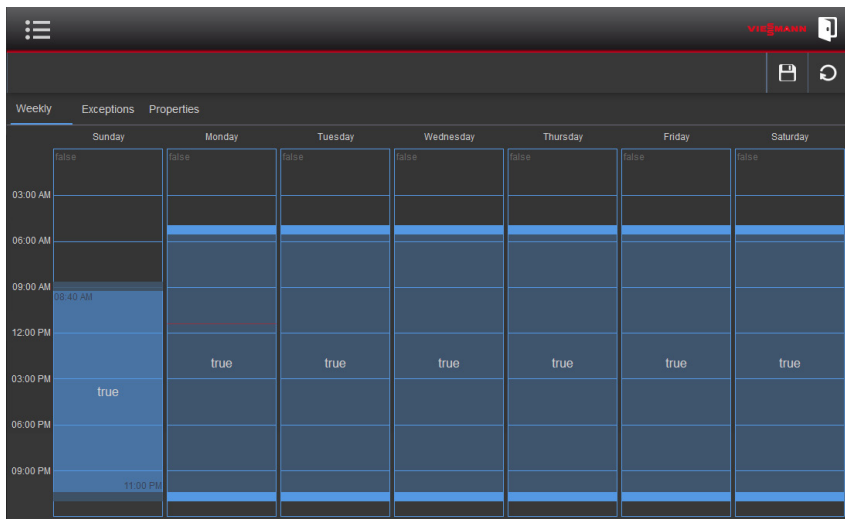
To set the recirculation pump schedule tap 'Recirc Schedule'.

Time Schedule



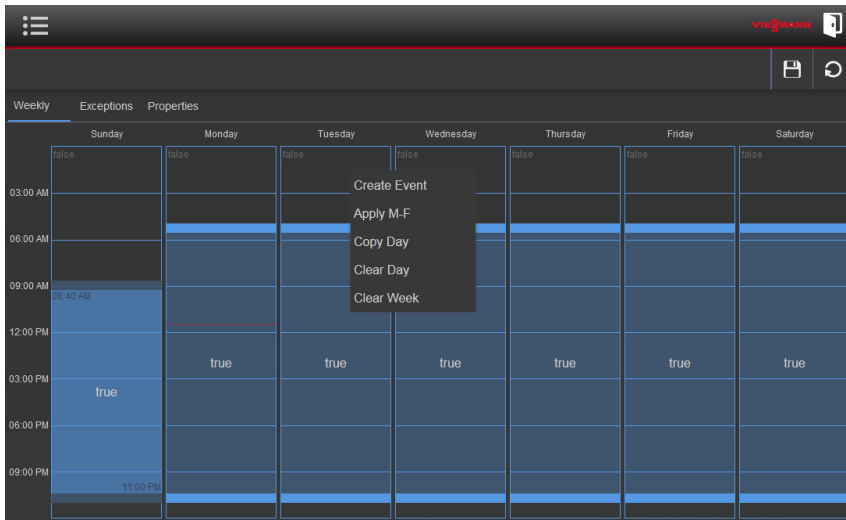
Recirc Schedule – Once the 'Recirc Schedule' is selected, a 7-day schedule will be displayed. Each day can be programmed with its own single or multiple unique run times.

The exceptions and properties tabs contain no usable functions.

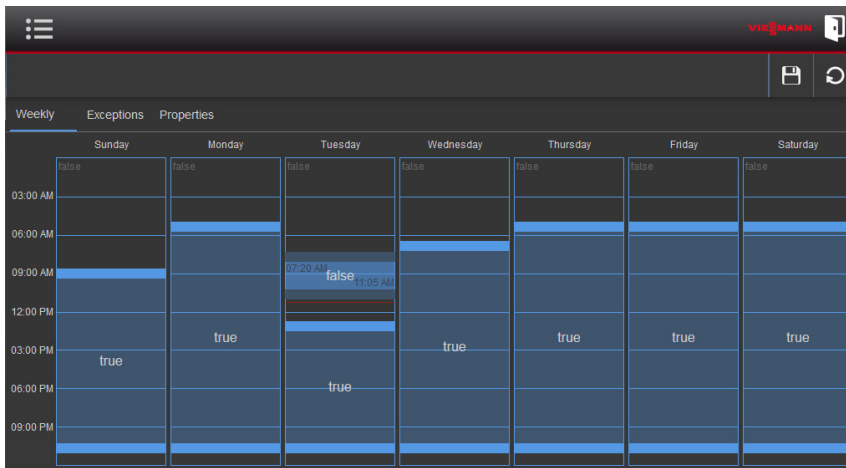


To adjust the schedule, drag the top or bottom blue edge (for each day) to adjust the start and stop times.

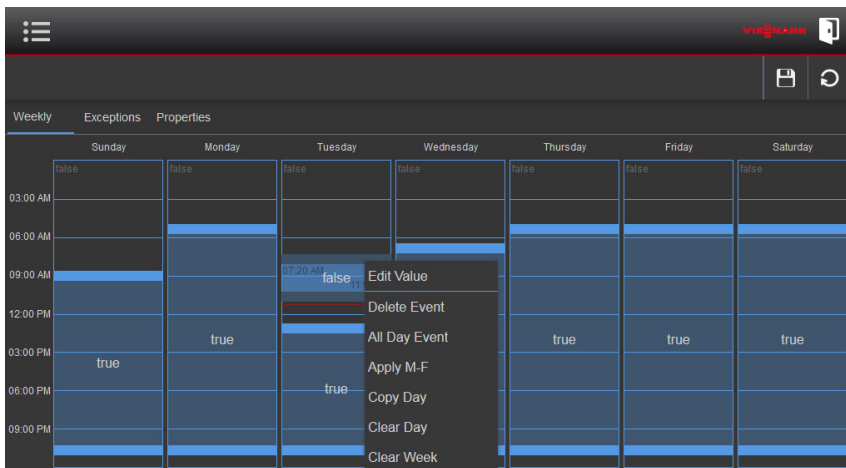
Time Schedule *(continued)*



To add additional run times per day, touch and hold on the desired day outside of the blue area. When the pop-up menu appears, select “Create Event”.



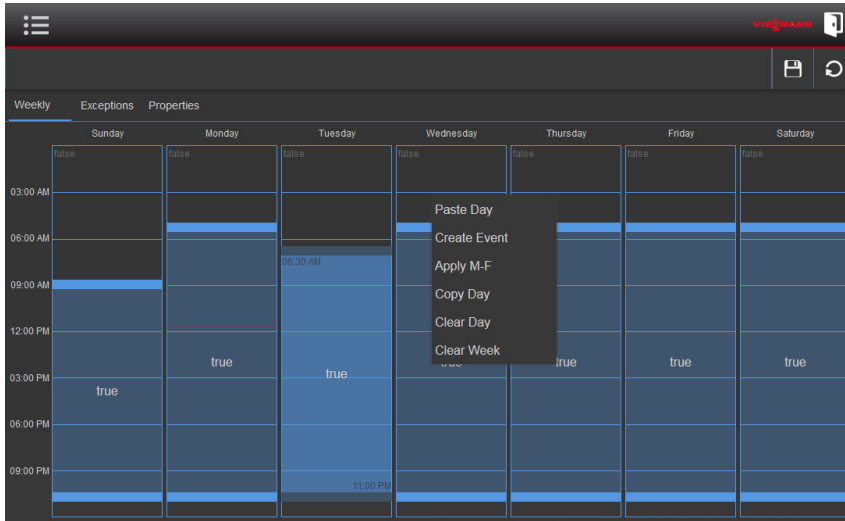
A block of time will appear for the day you selected and it will read false. Adjust the start and stop times for that block by dragging the top or bottom blue edge.



Once the second event is adjusted to the desired time, press and hold within the blue area of that event and select **Edit Value** to change the run time to “true” for the new time made above.


Note: The new run time will not take effect if left as ‘false’.


Time Schedule *(continued)*



If the same schedule is required for multiple days, it can be set for one day, then copied to other days. This can be done by touching and holding on the day outside of the blue area, then selecting “Copy Day” from the pop-up menu. Touch and hold on a day that requires the same schedule and select “Paste Day”, the schedule should be duplicated.

The exceptions and properties tabs contain no usable functions.

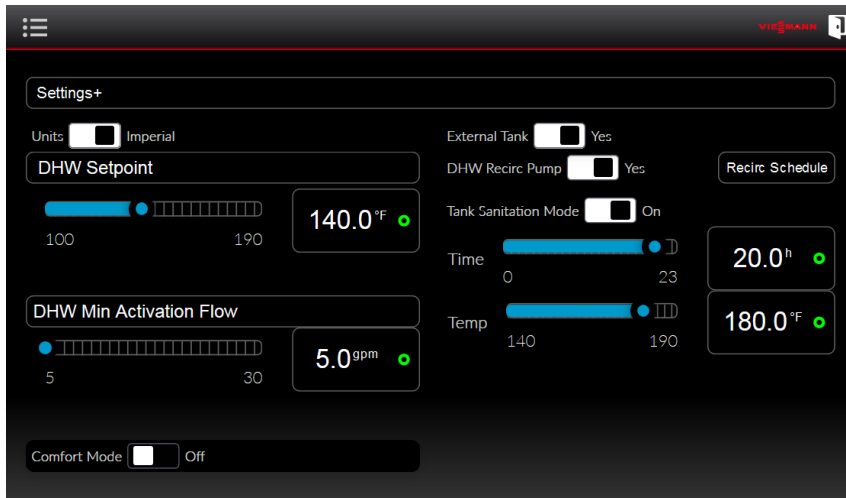
When the weekly schedule has been configured, press the **Save**  button in the upper right corner of the screen.

Note: To return to the ‘settings +’ screen select menu  then select **Settings +**.

 **WARNING**

Domestic hot water temperatures over 125°F (52°C) can cause severe burns instantly or loss of life 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 temperatures exceed 140°F (60°C).

Sanitation Function



Sanitation function – When the ‘Tank Sanitation Mode’ is set to ‘ON’, the start time and temperature setpoint hours will appear on the display. The Vitotrans 300 will perform a sanitation cycle for the external tank once per day at the selected time. Each cycle will increase the external tank temperature above the DHW setpoint to the sanitation function setpoint. The cycle will end once the setpoint has been reached or 1 hour has elapsed, whichever comes first.

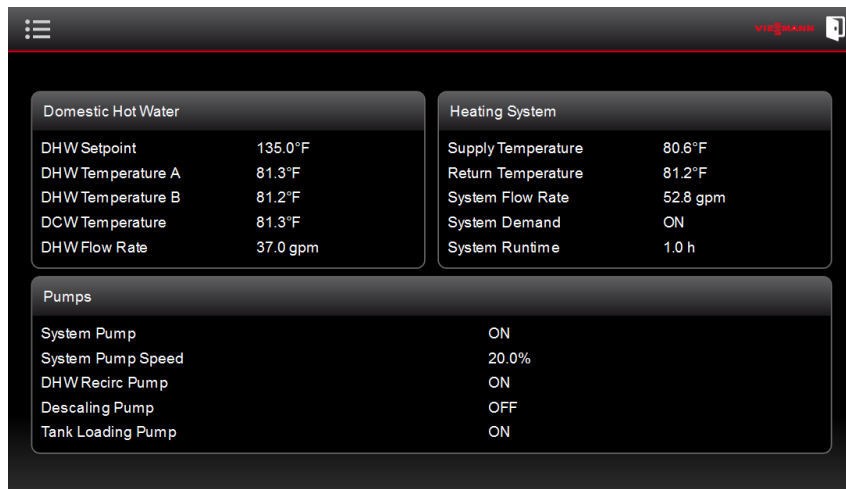
⚠ WARNING


Domestic hot water temperatures over 125°F (52°C) can cause severe burns instantly or loss of life 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 temperatures exceed 140°F (60°C).

Sanitation Time – This allows the selection of what time each day the sanitation function will start. The adjustable time slider selects the desired start time with 0 = 12:00 AM and 23 = 11:00 PM. Choose a time of day where the DHW draw from the external tank is expected to be minimal.

Sanitation Temperature – This is a temporary DHW tank setpoint during the sanitation cycle. It can be set from 140°F to 190°F (60°C to 88°C). Once the sanitation cycle is complete, the tank temperature will return to the DHW setpoint temperature. For proper operation the system supply temperature must be at least 20°F (11°C) higher than the sanitation setpoint temperature.

System Information



Select menu  then select the **Information +** button to display the Information screen. This screen displays the current system operating status (no adjustments can be made from this screen).

Pumps

System Pump A	Operational status of main system pump A, will run anytime there is demand for DHW.
System Pump A Speed	Modulating signal to pump A (20%-80%)
System Pump B (S3HA/D3HA 90 only)	Operational status of main system pump B, may run in conjunction with pump A when there is demand for DHW.
System Pump B Speed (S3HA/D3HA 90 only)	Modulating signal to pump B (20%-80%)
DHW Recirculation	Operational signal for DHW recirculation pump, will activate according to set time schedule.
Descaling Pump	Operational status of descaling pump, will run continuously whenever the unit is in standby.
Tank Loading Pump	Operational signal for DHW storage tank loading pump, will activate when there is a demand to recover the DHW storage tank.

Domestic Hot Water

DHW Setpoint	Domestic hot water setpoint temperature
DHW Temperature A	Dual sensor actual DHW temperature A
DHW Temperature B	Dual sensor actual DHW temperature B
DCW Temperature	Domestic cold water incoming temperature
DHW Flow Rate	Actual domestic hot water draw rate

Heating System

Supply Temperature	Actual heating system supply water temperature
Return Temperature	Actual heating system return water temperature
System Flow Rate	Actual heating system flow rate through the unit
System Demand	Call for heat to the heating system
System Runtime	Number of hours the system has been producing DHW

Commissioning

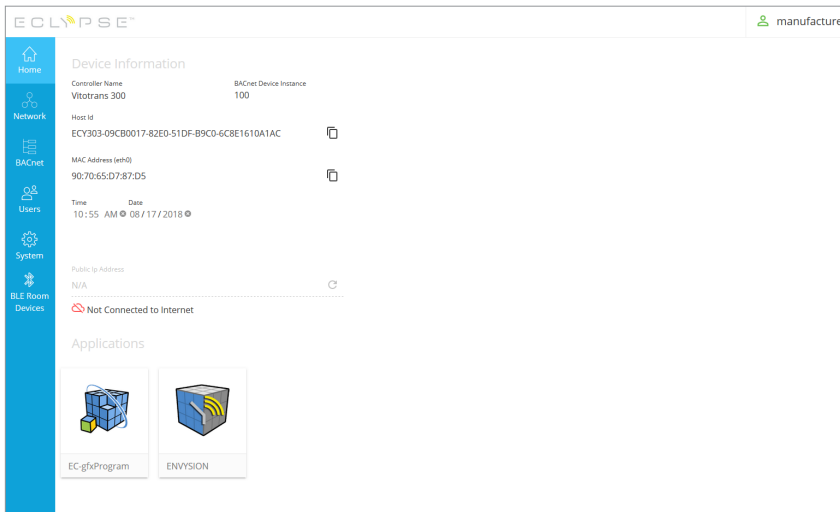
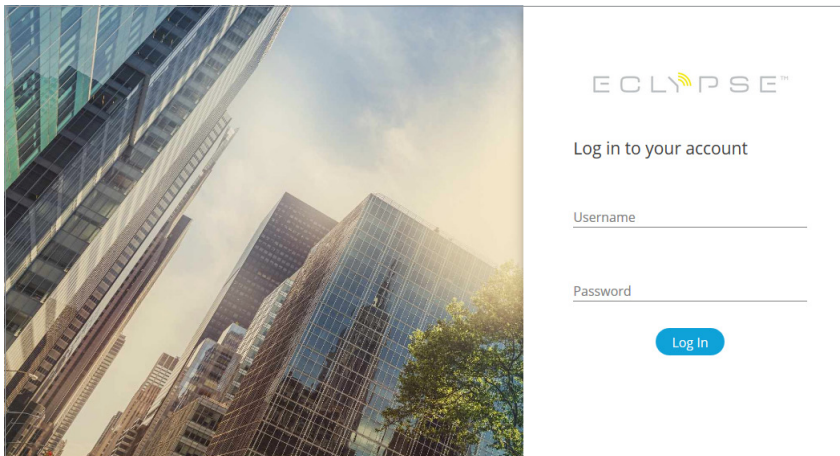
WARNING

The **MANUFACTURER** access level allows for changes to be made that can alter the function of the Vitotrans 300. Making changes other than what is detailed in these instructions may result in unwanted operation.

Devices Required for Commissioning:

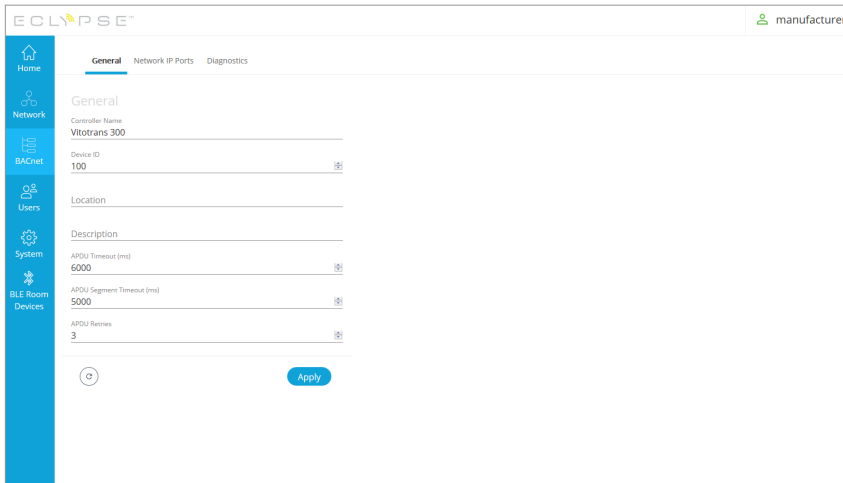
- PC Laptop with Ethernet port and web browser application
 - CAT5 / RJ45 network cable
1. Using the Network and Sharing Center, set Internet Protocol Version 4 (TCP/IPv4) to a static IP address of 192.168.0.XX (use any other than 50, 100, 101, 102).
 2. Plug the network cable into the RJ45 port located inside the control panel of the Vitotrans 300. (see page 24 for diagram of control panel layout)
 3. Open the web browser application and type 192.168.0.100 into the address bar.
 4. A login screen will appear, enter the following information:

Username: manufacturer
 Password: vimaster



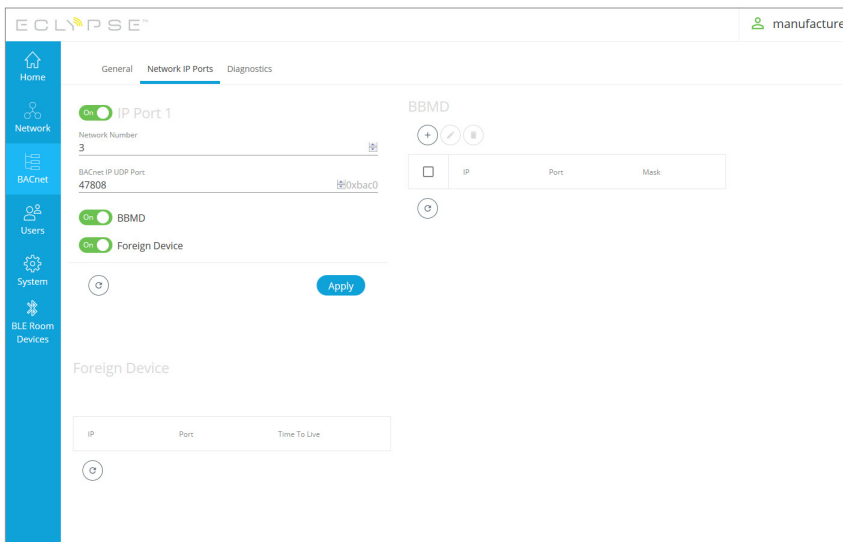
5. Once logged in, a menu pane on the left side of the screen will display the following tabs, note the actions that can be taken:
 - Home: Displays general device information, **No Changes** can be made.
 - Network: **No Changes** can be made to any settings within this tab.
 - BACnet: Changes can be made, see following steps.
 - Users: **No Changes** can be made to any settings within this tab.
 - System: Changes can be made, see following steps.
 - BLE Room Devices: Not Applicable

Commissioning *(continued)*



6. BACnet

- **General:** The “Controller Name” and “Device ID” can be changed.

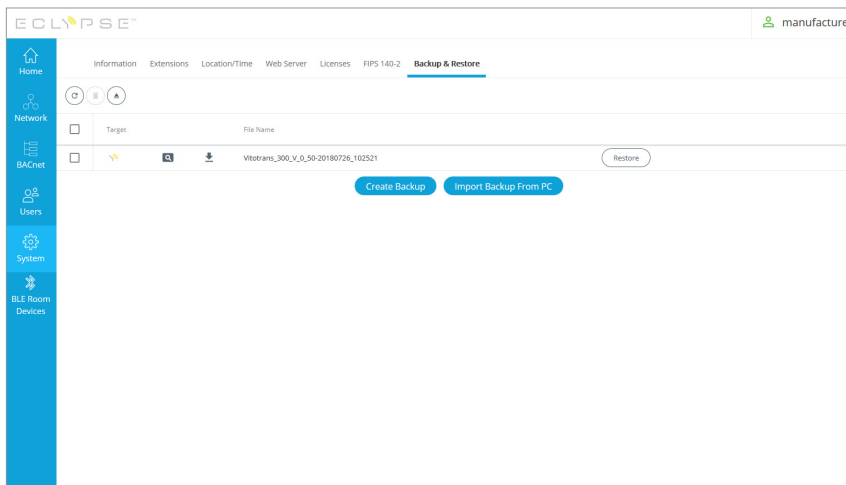
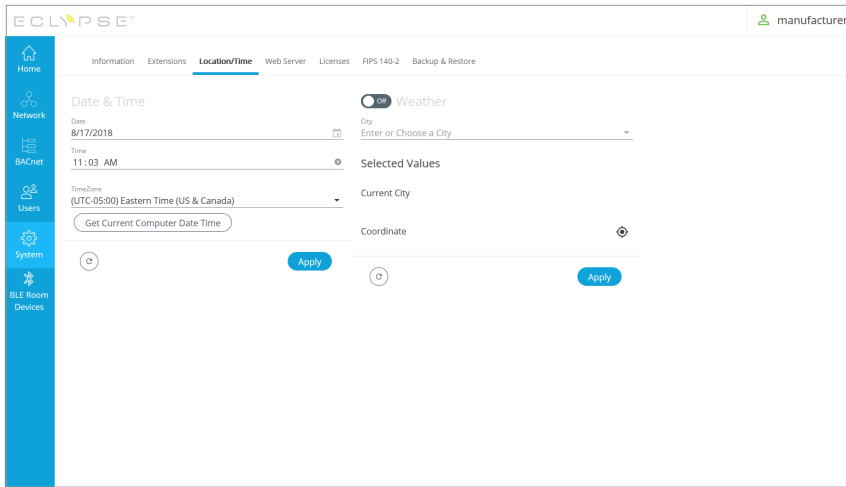
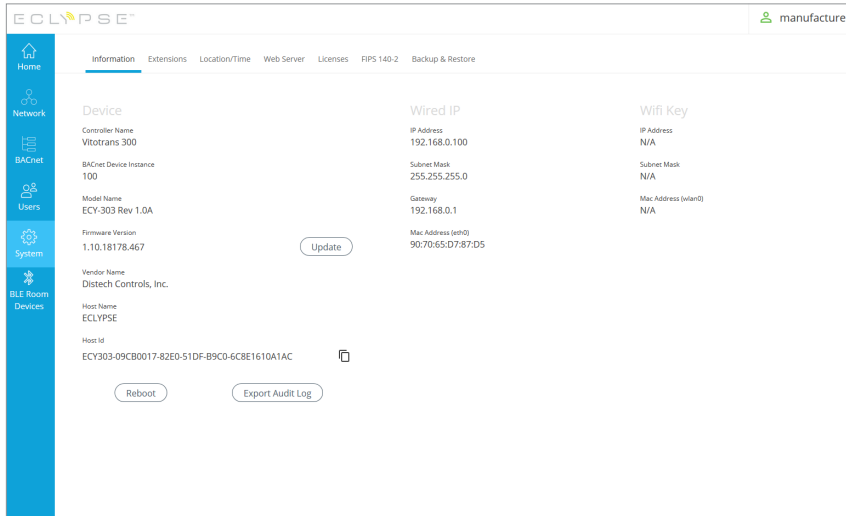


- **Network IP Ports:**
 - IP Port 1
 - BBMD (BACnet/IP Broadcast Management Device)
 - Foreign Device

Use BBMD and Foreign Device when communication with a different network is required.

- **Diagnostics:** **No Changes** can be made to the settings within this tab. (information only)

Commissioning *(continued)*



7. System

- **Information:** The controller firmware can be updated; Contact Viessmann Service for assistance with this function.
- **Extensions:** **No Changes** can be made to the settings within this tab.
- **Location/Time:** The date and time can be updated by clicking “Get Current Computer Date Time” then clicking “Apply” This may need to be done if the Vitotrans 300 is powered off for more than 20 days or if it is installed in a different time zone. The “Weather” function is not used and remain off.
- **Web Server:** **No Changes** can be made to the settings within this tab.
- **Licenses:** **No Changes** can be made to the settings within this tab.
- **FIPS 140-2:** **No Changes** can be made to the settings within this tab.
- **Backup & Restore:** Contact Viessmann Service for assistance with this function.
- Log out when setup is complete

Vitotrans 300 BACnet (IP) Points



WARNING

Attempting to modify points listed as „Do Not Change“ will result in undesired operation.

Name	Object ID	Read / Write	Note / Description
DHW Temp T1A	analogInput:101	Read only	DHW Dual Temp Sensor A (°F)
DHW Temp T1B	analogInput:102	Read only	DHW Dual Temp Sensor B (°F)
DCW Temp T2	analogInput:103	Read only	DCW Temp Sensor (°F)
Flow Rate DHW	analogInput:104	Read only	DHW Flow Rate (GPM)
Boiler Return Temp T4	analogInput:105	Read only	System Return Temp Sensor (°F)
External Tank Temp T5	analogInput:107	Read only	DHW Storage Tank Temp Sensor (°F)
Boiler Pump Speed P1A	analogOutput:107	Writable	Do Not Change
Boiler Pump Speed P1B	analogOutput:108	Writable	Do Not Change
DHW Stpt Temp	analogValue:1	Read / Write	DHW Setpoint Temp (100°F-190°F)
Min DHW Activation Flow	analogValue:2	Read / Write	DHW Min. Activation Flow (5-30GPM)
External Tank Differential	analogValue:4	Read / Write	Do Not Change
Tank Sanitize Stpt Temp	analogValue:5	Read / Write	Sanitize Function Setpoint Temp (140°F-190°F)
Tank Sanitize Time	analogValue:6	Read / Write	Sanitize Function Activation Time (0-23hr)
Number of HX	analogValue:7	Read / Write	Do Not Change
System Runtime	analogValue:8	Read / Write	System Runtime (hr)
Boiler Supply Temp T3	analogValue:10	Read / Write	System Supply Temp Sensor (°F)
Boiler Flow Rate	analogValue:11	Read / Write	System Flow Rate (GPM)
Pump P1 Head Pressure	analogValue:12	Read / Write	Do Not Change
DHW Temp T1A_C	analogValue:20	Read / Write	DHW Dual Temp Sensor A (°C)
DCW Temp T2_C	analogValue:21	Read / Write	DCW Temp Sensor (°C)
Boiler Return Temp T4_C	analogValue:22	Read / Write	System Return Temp Sensor (°C)
External Tank Temp T5_C	analogValue:23	Read / Write	DHW Storage Tank Temp Sensor (°C)
Flow Rate DHW_LPM	analogValue:24	Read / Write	DHW Flow Rate (LPM)
Boiler Supply Temp T3_C	analogValue:25	Read / Write	System Supply Temp Sensor (°C)
Pump P1 Head Pressure_Bar	analogValue:26	Read / Write	Do Not Change
Flow Rate Boiler_LPM	analogValue:27	Read / Write	System Flow Rate (LPM)
DHW Temp T1B_C	analogValue:28	Read / Write	DHW Dual Temp Sensor B (°F)
DHW Stpt Temp_C	analogValue:31	Read / Write	DHW Setpoint Temp (38°C-88°C)
Min DHW Activation Flow_LPM	analogValue:32	Read / Write	DHW Min. Activation Flow (19-114LPM)
External Tank Differential_C	analogValue:33	Read / Write	Do Not Change
Tank Sanitize Stpt Temp_C	analogValue:34	Read / Write	Sanitize Function Setpoint Temp (60°C-88°C)
PID DHW Stpt Input	analogValue:10001	Read / Write	Do Not Change
PID DHW Stpt Setpoint	analogValue:10002	Read / Write	Do Not Change
PID DHW Stpt Output	analogValue:10003	Read / Write	Do Not Change
PID P1 Limit Input	analogValue:10011	Read / Write	Do Not Change
PID P1 Limit Setpoint	analogValue:10012	Read / Write	Do Not Change
PID P1 Limit Output	analogValue:10013	Read / Write	Do Not Change
Safety High Limit	binaryInput:106	Read only	Do Not Change
Boiler Pump Cmd P1A	binaryOutput:101	Writable	Do Not Change
Internal Descaling Pump Cmd P2	binaryOutput:102	Writable	Do Not Change

Vitotrans 300 BACnet (IP) Points *(continued)*

Name	Object ID	Read / Write	Note / Description
Boiler Dmd	binaryOutput:103	Writable	Do Not Change
DHW Recirc Pump Cmd	binaryOutput:104	Writable	Do Not Change
External Tank Loading Pump Cmd	binaryOutput:105	Writable	Do Not Change
Boiler Pump Cmd P1B	binaryOutput:106	Writable	Do Not Change
Language	binaryValue:1	Read / Write	Language (English / French) - DISABLED
Units	binaryValue:2	Read / Write	Units (Imperial / Metric)
External Tank	binaryValue:3	Read / Write	External DHW Storage Tank (No / Yes)
DHW Recirculation	binaryValue:4	Read / Write	DHW Recirculation Pump (No / Yes)
Reset Dead Lock	binaryValue:6	Read / Write	Do Not Change
Service 1 HX	binaryValue:7	Read / Write	Service Mode (No / Yes)
Comfort mode	binaryValue:9	Read / Write	Comfort Mode (No / Yes)
DHW Flow Presence	binaryValue:11	Read / Write	Do Not Change
Boiler Flow Presence	binaryValue:12	Read / Write	Do Not Change
Reset System Runtime	binaryValue:13	Read / Write	Do Not Change
Tank Sanitation Mode	binaryValue:14	Read / Write	Tank Sanitation Function (No / Yes)
Fault - System Pump Comms	binaryValue:20	Read / Write	System Pump Communication (Normal / Fault)
Fault - DHW Flow Sensor	binaryValue:21	Read / Write	Flow Sensor (Normal / Fault)
Fault - System Pump Deadhead	binaryValue:22	Read / Write	System Pump Deadhead (Normal/Fault)
Fault - DHW Temp Sensor	binaryValue:23	Read / Write	DHW Temp Sensor (Normal / Fault)
Fault - Fixed High Limit	binaryValue:24	Read / Write	Fixed High Limit (Normal / Fault)
Fault - Fixed High Limit	binaryValue:25	Read / Write	DCW Temp Sensor (Normal / Fault)
Fault - System Return Temp Sensor	binaryValue:26	Read / Write	Return Temp Sensor (Normal / Fault)
Fault - DHW Tank Temp Sensor	binaryValue:27	Read / Write	Tank Temp Sensor (Normal / Fault)
Fault - General Fault	binaryValue:30	Read / Write	General Fault (Normal / Fault) - generated by any fault
PID DHW Stpt	loop:1	Read only	Do Not Change
PID P1 Limit	loop:2	Read only	Do Not Change
Alarm_Class-notificationClass	notificationClass:1	Read only	Do Not Change
DHW Recirc Pump Schedule	schedule:1	Read only	Do Not Change
DHW Recirc Pump Schedule 1	schedule:2	Read only	Do Not Change
Fault - System Pump	multiStateValue:1	Read / Write	System Pump Fault (Normal / Fault)
Warning - System Pump	multiStateValue:2	Read / Write	System Pump Warning (Normal / Fault)
DHW Temp T1A Trend Log-recordCount	trendLog:100101	Read only	Do Not Change
DCW Temp T2 Trend Log-recordCount	trendLog:100103	Read only	Do Not Change
Flow Rate DHW Trend Log-recordCount	trendLog:100104	Read only	Do Not Change
Boiler Return Temp T4 Trend Log-recordCount	trendLog:100105	Read only	Do Not Change
External Tank Temp T5 Trend Log-recordCount	trendLog:100107	Read only	Do Not Change
Boiler Supply Temp T3 Trend Log-recordCount	trendLog:300010	Read only	Do Not Change
Boiler Flow Rate Trend Log-recordCount	trendLog:300011	Read only	Do Not Change
DHW Temp T1A_C Trend Log-recordCount	trendLog:300020	Read only	Do Not Change
DCW Temp T2_C Trend Log-recordCount	trendLog:300021	Read only	Do Not Change
Boiler Return Temp T4_C Trend Log-recordCount	trendLog:300022	Read only	Do Not Change
External Tank Temp T5_C Trend Log-recordCount	trendLog:300023	Read only	Do Not Change
Boiler Supply Temp T3_C Trend Log-recordCount	trendLog:300025	Read only	Do Not Change
Flow Rate Boiler_LPM Trend Log-recordCount	trendLog:300027	Read only	Do Not Change

Domestic Hot Water Production

WARNING

The DHW fixed high limit is factory set to 210°F (99°C). Do Not Adjust!

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 temperatures exceed 140°F (60°C).



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

Domestic hot water production can occur via heating boiler or a remote heating plant.

The maximum heating supply temperature is 230°F (110°C), the maximum operating pressure is 150 psig. Do not use steam.

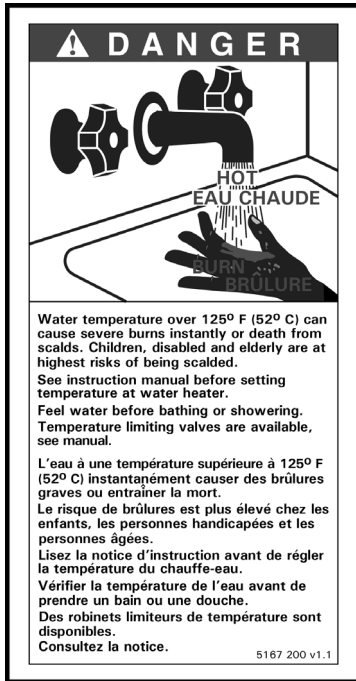
IMPORTANT

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

Domestic hot water production

1. Set the desired domestic hot water temperature 140°F (60°C) for example) on the Vitotrans 300 control.
2. The boiler water supply temperature for domestic hot water production is set on the heating system control. It should be approximately 20°F (11°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.

Temperature



Approximate time / temperature relationships in scalds		
°F (°C)	120 (49)	more than 5 min.
°F (°C)	125 (52)	1½ to 2 min.
°F (°C)	130 (54)	about 30 sec.
°F (°C)	135 (57)	about 10 sec.
°F (°C)	140 (60)	less than 5 sec.
°F (°C)	145 (63)	less than 3 sec.
°F (°C)	150 (66)	about 1½ sec.
°F (°C)	155 (68)	about 1 sec.

DHW tempering valve (field supplied)

An DHW tempering valve is recommended when domestic hot water supply is above 115°F (46°C).

Instructing the System Operator

The system manufacturer must hand over the operating instructions to the system operator and instruct him in its operation.

This includes all accessories that have been installed as components, such as remote controls. The system manufacturer must also provide instruction regarding maintenance work.

Operating and Service Documents

1. Complete customer information file and separate: Hand over segment for system operator to system operator. Retain segment for heating contractor in files.
2. Assemble all parts lists, operating and service instructions in a file and deliver to the system operator.

Putting the Unit into Operation

Turn main power on using the switch located on the rear of the Vitotrans 300.

User Interface

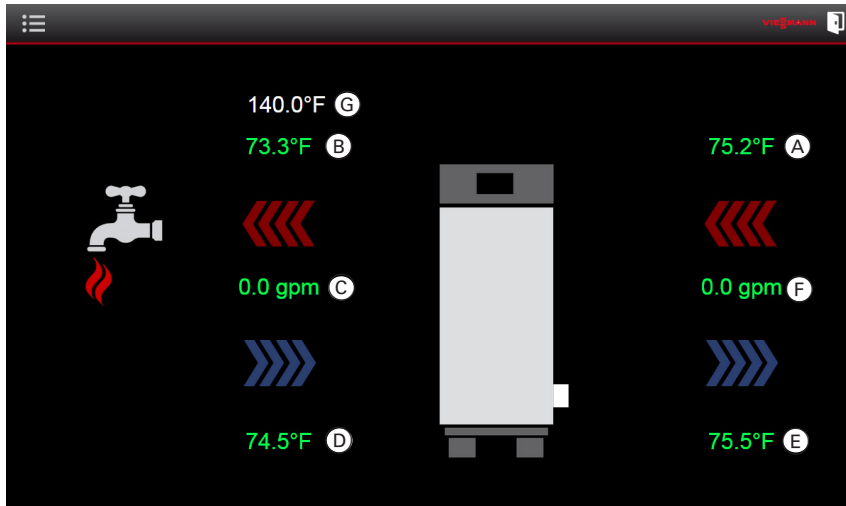


Log into the system by tapping the icon for the desired level of system access, no password is required for user level access. Service level access is password protected;

Service level password: viservice

To switch access levels, tap the circle icon located at the bottom of the screen to return to login screen.

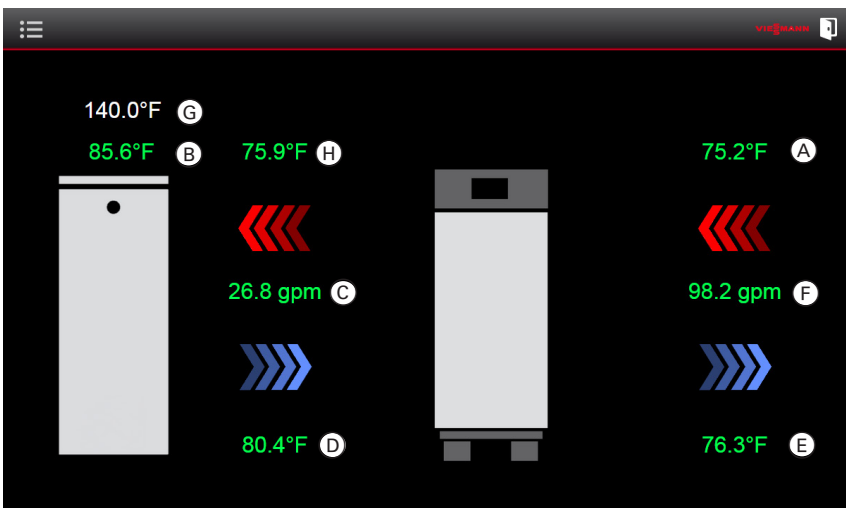
The setting icon on the home screen is for adjustment of the screen settings only – do not adjust.



On Demand Operation

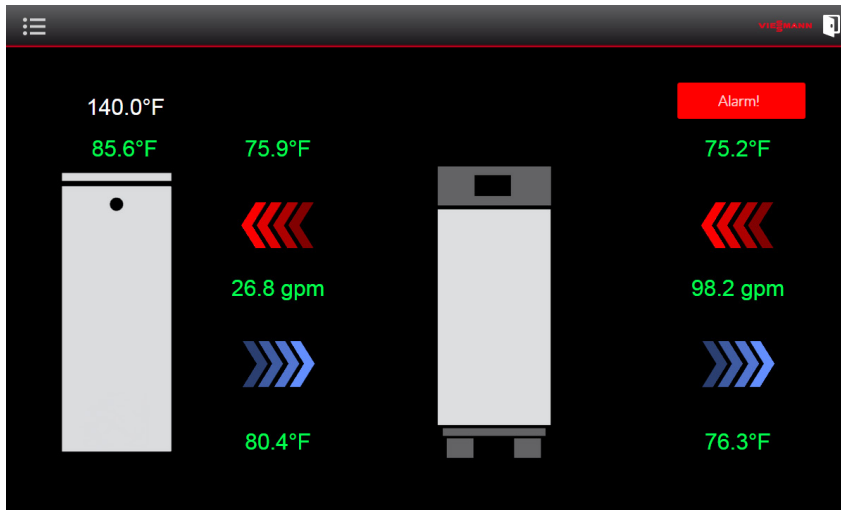
Once logged in, the Home Screen will be displayed (the home screen provides a system overview with the following information;

- DHW storage tank or direct DHW operation (tank or faucet graphic)
- The DHW storage tank or direct DHW actual temperature (B)
- The DHW storage tank or direct DHW setpoint temperature (G)
- DHW flow rate (C)
- DCW inlet temperature (D)
- DHW supply temperature to tank (H)
- Heating system supply temp. (A), heating system return temp. (E) and heating system flow rate (F)
- The red and blue arrows will become animated when the Vitotrans 300 is activate to show when there is a DHW demand and when the heating system side responds to the demand.



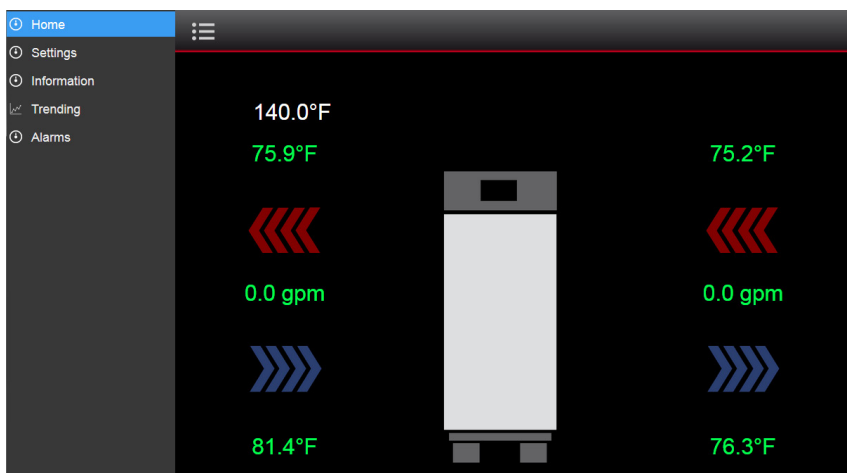
Operation With DHW storage tank

Fault Notification



- If a fault has occurred, an “Alarm!” will be displayed in the top right corner of the screen. For detailed fault information refer to page 49.

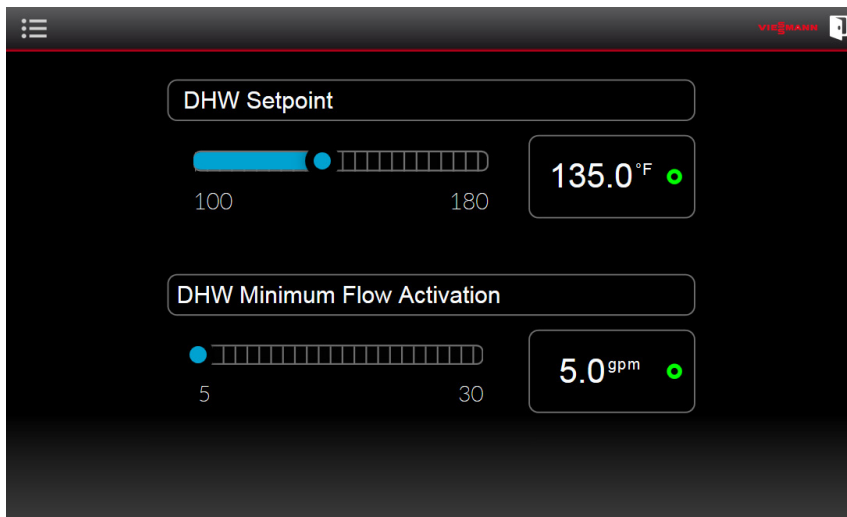
Menu



From the home screen select menu . The following items will be displayed:

- Home
- Settings
- Information
- Trending
- Alarms

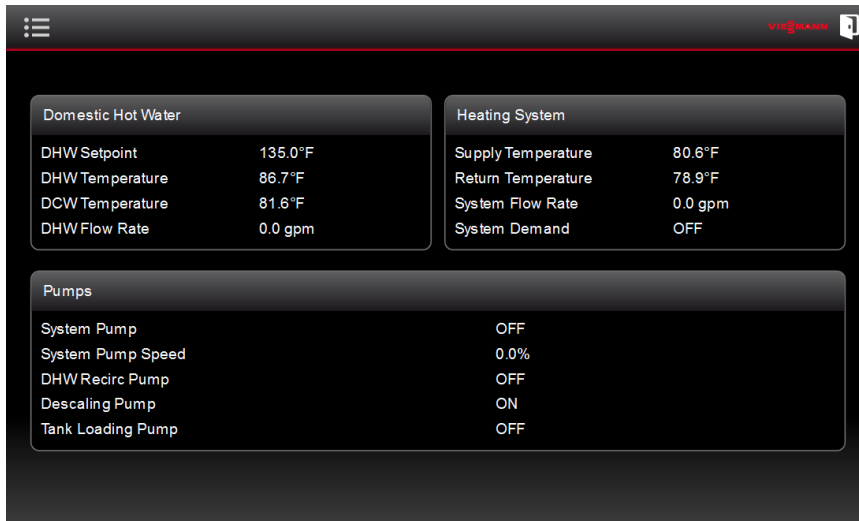
Settings



DHW Setpoint – This is the setpoint temperature of DHW supplied by the Vitotrans 300 and is adjustable from 100°F to 190°F (38°C to 88°C). This slider controls the DHW temperature setpoint for the DHW storage tank or direct DHW depending on which mode of operation is selected.

DHW Minimum Flow Activation – This is the minimum domestic water flow that is required to activate the Vitotrans 300. This can be set from 5 GPM to 30 GPM (19 L/min. to 114 L/min.).

Information



Displays the current operating condition.

Pumps

System Pump A	Operational status of main system pump A, will run anytime there is demand for DHW.
System Pump A Speed	Modulating signal to pump A (20%-80%)
System Pump B (S3HA/D3HA 90 only)	Operational status of main system pump B, may run in conjunction with pump A when there is demand for DHW.
System Pump B Speed (S3HA/D3HA 90 only)	Modulating signal to pump B (20%-80%)
DHW Recirculation	Operational signal for DHW recirculation pump, will activate according to schedule programmed by contractor.
Descaling Pump	Operational status of descaling pump, will run continuously whenever the unit is in standby.
Tank Loading Pump	Operational signal for DHW storage tank loading pump, will activate when there is a demand to recover the DHW storage tank.

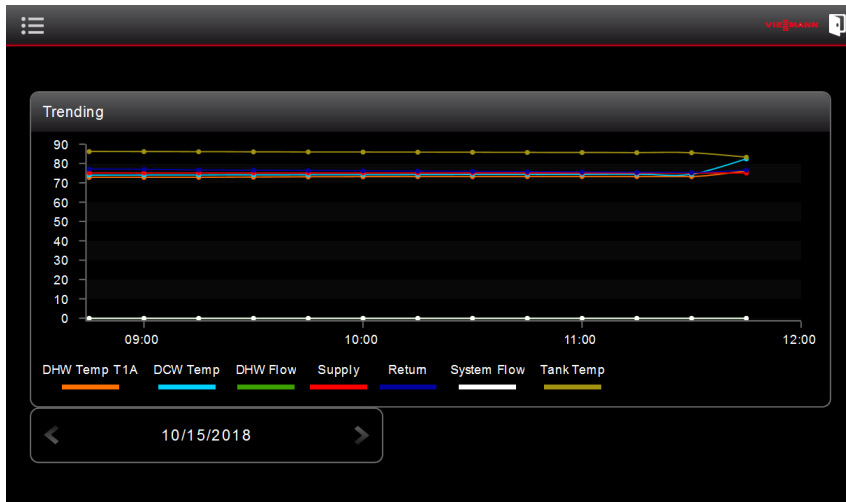
Domestic Hot Water

DHW Setpoint	Domestic hot water setpoint temperature
DHW Temperature	Dual sensor actual DHW temperature A
DCW Temperature	Domestic cold water incoming temperature
DHW Flow Rate	Actual domestic hot water draw rate

Heating System

Supply Temperature	Actual heating system supply water temperature
Return Temperature	Actual heating system return water temperature
System Flow Rate	Actual heating system flow rate through the unit
System Demand	Call for heat to the heating system

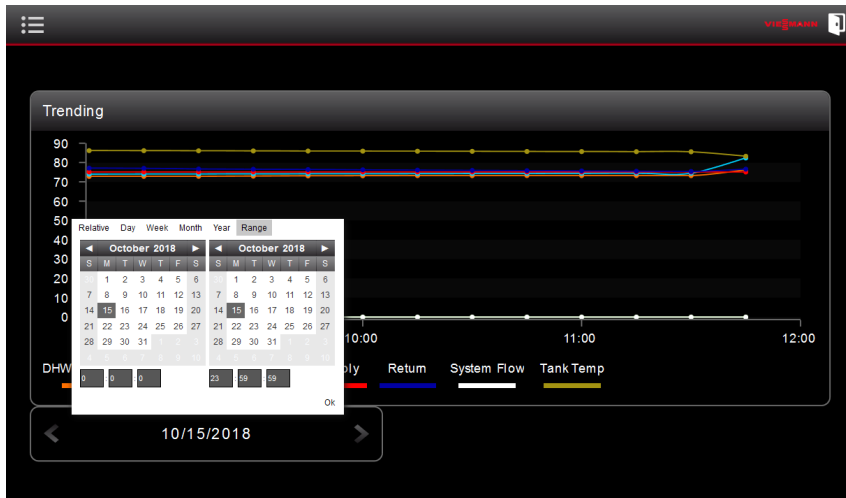
Trending



This screen will display the historical data points in 15-minute intervals over a 1-day period.

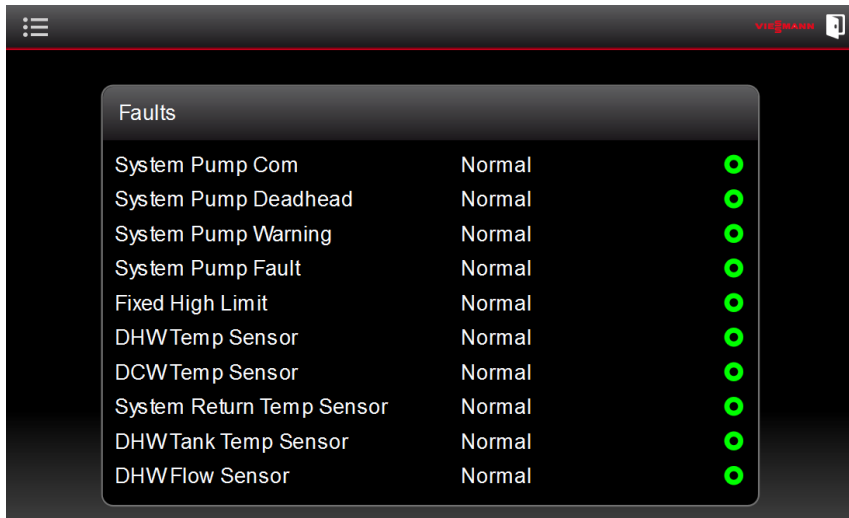
The following historical trends will be displayed on a vertical axis:

- DHW Supply Temp
- DCW Temp
- DHW Flow
- Supply
- Return
- System Flow



To view historical trending data, use the arrows at the bottom left of the screen to scroll between different dates.

Alarms

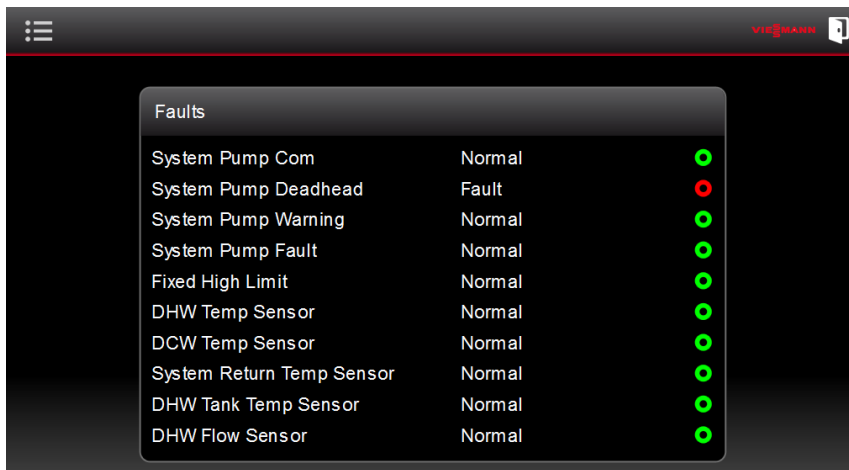


This screen will display the fault or alarm status of the sensors and components of the Vitotrans 300. For service contact a heating contractor.

The following are the possible faults that may occur accompanied by a status message):

- System Pump Communication
- System Pump Dead Head
- System Pump Warning
- System Pump Fault
- Fixed High Limit
- DHW Temperature Sensor
- DCW Temperature Sensor
- Return Temperature Sensor
- Tank Temperature Sensor
- Flow Sensor

The fault message is followed by an indicator ('Green' indicates Normal and 'Red' indicated a Fault).



Shutting Down the System

Shut down your heating system completely if it will not be needed for long periods (e.g. several months). We recommend you contact your local heating contractor if you are planning to take your heating system out of use for long periods. Your heating contractor can then take suitable steps such as frost protection for the system or heating surface preservation as required.

1. Turn OFF the ON/OFF switch.
Note: The system is no longer protected against frost.
2. Close isolation valves.

Troubleshooting

Note: Carry out measures in the described order.

Issues	System Characteristics	Measures
The Vitotrans is off.	Screen is blank after touch.	Turn the Vitotrans ON. Check main power supply breaker.
DHW is not hot enough.	DHW temperature not as hot as desired.	Check DHW setpoint and increase if necessary. Check heating system function and supply temperature, increase if necessary. Check heating system valves and ensure they are in open position. Check heating system side strainer for debris and flush if necessary.
Not enough DHW flow.	DHW supply flow is insufficient but the DHW meets desired temperature	Check valves and ensure they are in open position. Check DHW side strainer for debris and flush if necessary. Heat exchangers may be blocked and require cleaning or replacement.
DHW is too hot.	DHW supply flow is not adequate and warmer than desired.	Check DHW setpoint and decrease if necessary. Check heating system function and supply temperature, decrease if necessary. Verify all temperature sensors are installed correctly in wells.
Fault message displayed.	Vitotrans may or may not be operational.	Check fault message refer to page 60.
DHW storage tank is not hot enough.	DHW storage tank does not reach desired temperature.	Check DHW tank temperature setpoint and increase if necessary. Check heating system function and supply temperature, increase if necessary. Check tank loading pump function. Check that the temperature sensor has been installed correctly.
DHW storage tank is too hot.	DHW storage tank is hotter than desired.	Sanitation function may be enabled, contact your heating contractor to verify settings. Check DHW tank temperature setpoint and decrease if necessary. Check heating system function and supply temperature, decrease if necessary. Check that the tank temperature sensor is functioning and has been installed correctly.

Safety Instructions

Target group

These instructions are intended exclusively for qualified contractors.

- Work on gas installations must only be carried out by a licensed professional heating contractor.
- Work on electrical equipment must only be carried out by a qualified electrician.
- The system must be commissioned by the system installer or a qualified person authorized by the installer.
- This appliance has not been designed to be operated by individuals other than those qualified and trained.

Regulations

Observe the following when working on this system:

- Statutory regulations regarding the prevention of accidents
- Statutory regulations regarding environmental protection
- Codes of practice of the relevant trade associations.

Working on the system

- Where gas is used as the fuel, close the main gas shut-off valve and safeguard it against unintentional reopening.
- Isolate the system from the power supply (e.g. at the separate fuse or a main switch) and check that it is de-energized.
- Safeguard the system against reconnection.

Note: Electronic assemblies can be damaged by electrostatic discharges. Before beginning work, touch grounded objects, such as heating or water pipes, to discharge static loads.

Repair work

Note: Repairing components that fulfil a safety function can compromise the safe operation of your system. Replace faulty components only with original Viessmann spare parts.

Auxiliary components, spare and wearing parts

Note: Spare and wearing parts that have not been tested together with the system can compromise its function. Installing non-authorized components and making non-approved modifications or conversions can compromise safety and may invalidate our warranty. For replacements, use only original spare parts supplied or approved by Viessmann.

Checking the high limit safety cut-out setting

The high limit safety cut-out is preset to 210°F (99°C).

Service Equipment

Tools

- Assortment of flathead and Phillips screwdrivers
- Pipe wrenches
- Open-ended wrenches
- Pipe sealant
- Assortment of Hex keys
- Flashlight

Cleaning supplies

- Plastic hand brush
- Cleaning/service brush
- Vacuum cleaner
- Clean rags

Testing/analysis equipment

(use only calibrated equipment)

- Multimeter to measure 0-120VAC, 0-25 amps AC and 0-100 microamps DC.

Technical information

The following is a list of literature applicable to the Vitotrans 300:

- Installation, Operating and Service Instructions
- Technical Data Manual
- Wiring diagrams

For installation of the heating system, please refer also to the technical literature of other Viessmann System Technology devices:

- Installation Instructions for accessories
- Installation Instructions for Viessmann hot water heating boilers

Replacement parts

For a complete listing of replacement components, please see Parts List starting on page 75 of these instructions.

Order replacement components from your Viessmann distributor.



CAUTION

Use only original Viessmann recommended components when replacing defective parts. Installation of incorrect replacement parts can cause hazardous operation and will void warranty.

Service and Cleaning

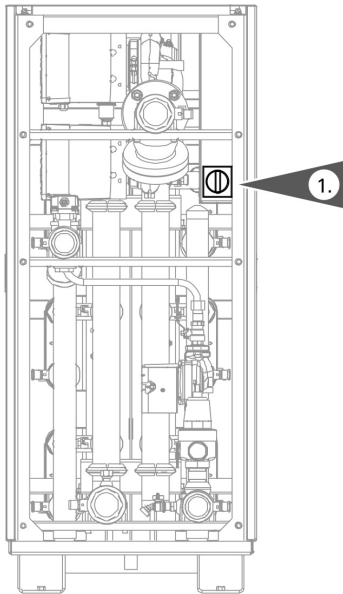
Inspection and (if necessary) cleaning of unit must take place within 2 years of initial start-up and as required thereafter. Reinspection time must not exceed 2 years. The internal cleaning of the Vitotrans including its potable water connections may only be performed by a licensed professional heating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

IMPORTANT

If a water softener system is used in the domestic cold water inlet piping into the Vitotrans, 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.

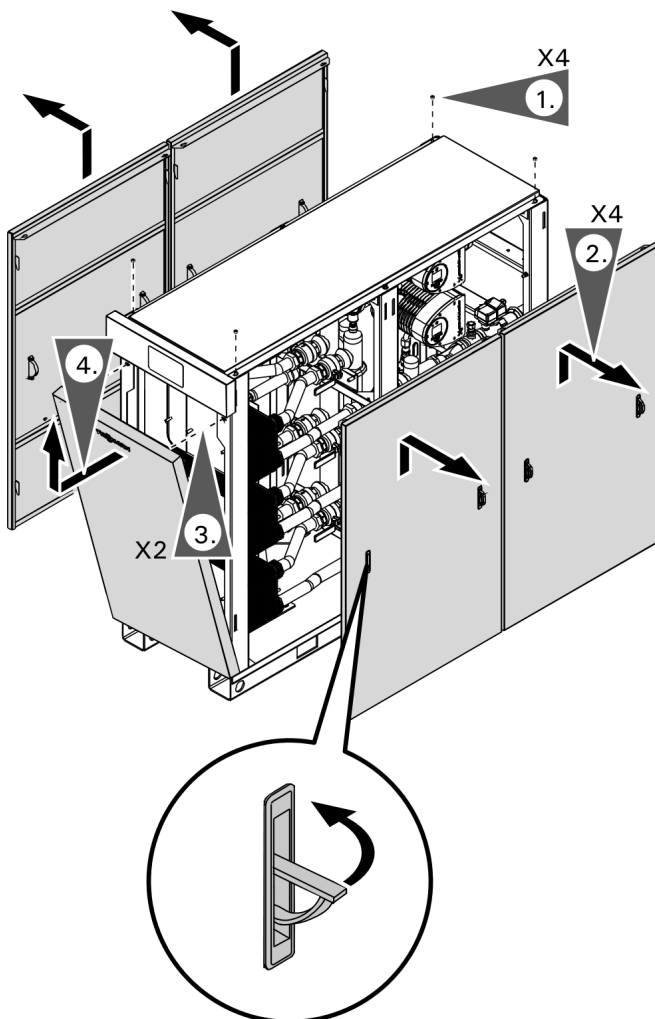
For water quality requirements refer to page 29. For maintenance schedule refer to page 87.

Preparing for Service



Power

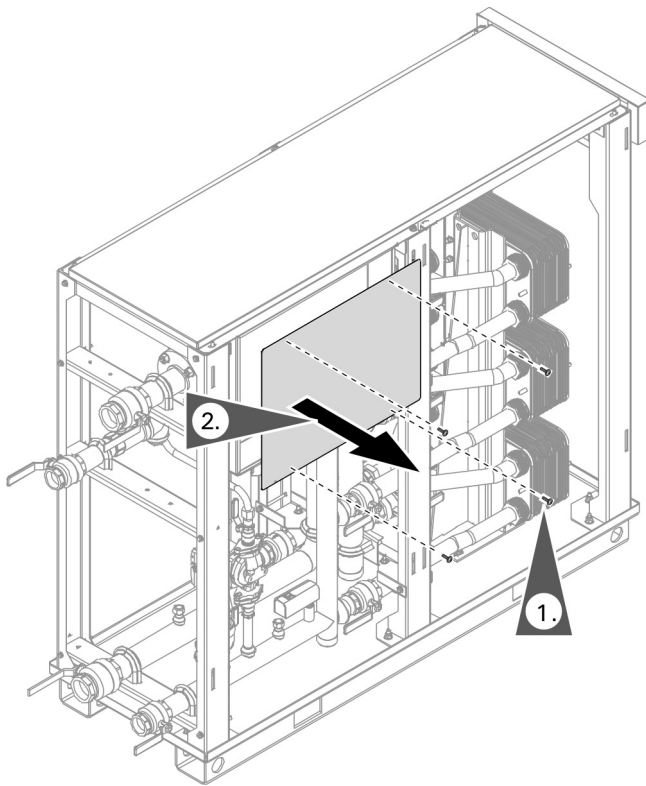
1. Turn the main power switch to the **OFF** position (lockout provisions are provided on the switch).



Removing the panels

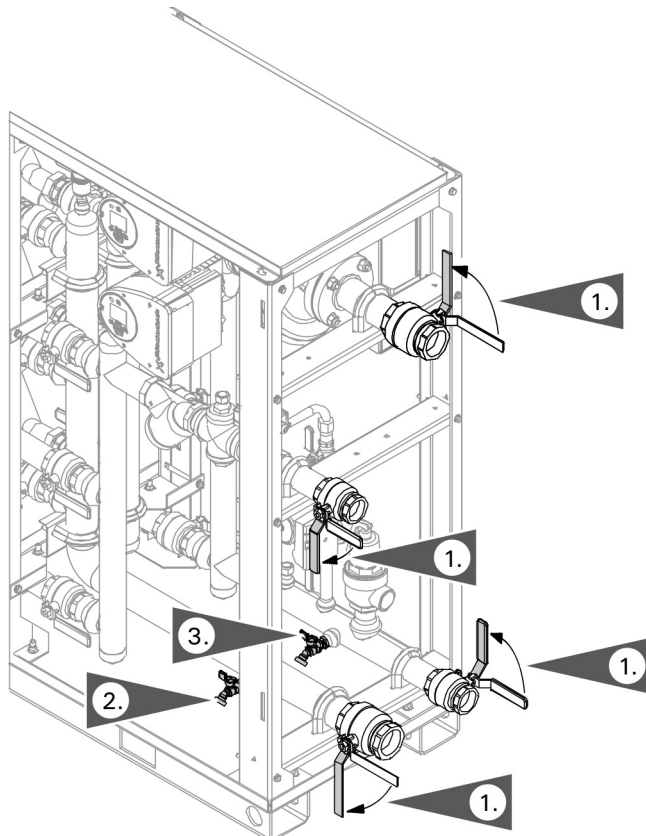
1. Remove the top locknuts.
2. Using handles lift and remove the side panels.
3. Remove front panel retaining screws.
4. Tilt forward, then lift and remove the front panel.

Preparing for Service *(continued)*



Accessing the junction box

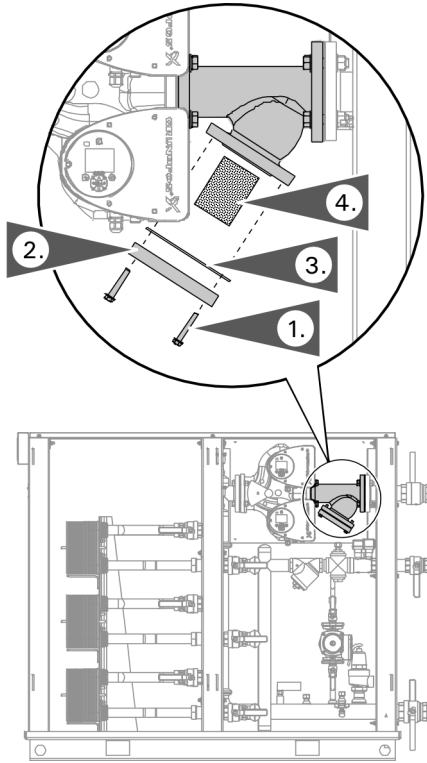
1. Remove junction box retaining screws.
2. Remove junction box cover panel.



Isolating from system hydraulics and draining the Vitotrans

1. Turn the hydronic connection valves to the closed position.
2. Connect a hose from the Vitotrans heating system drain shutoff valve and route to a floor drain (when servicing the heating system side). Open the valve.
3. Connect a hose from the Vitotrans DHW drain shutoff valve to a floor drain (when servicing the DHW side). Open the valve.

Heating System WYE Strainer



CAUTION

Hot surface, Do Not Touch.
Allow to cool before servicing.

IMPORTANT

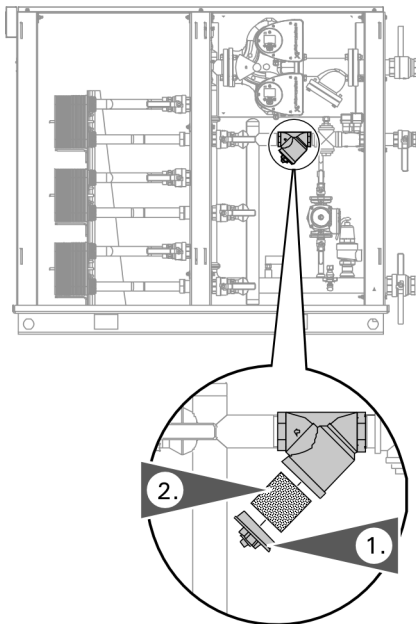
See preparing for service starting on page 53.

1. Remove filter cap retaining bolts.
2. Remove filter retaining cap.
3. Remove filter retaining cap gasket.
4. Remove filter and rinse out any accumulated debris. Inspect for damage and replace as necessary.
5. Reinstall in reverse order.

IMPORTANT

Refer to completion of service starting on page 65.

Domestic WYE Strainer



CAUTION

Hot surface, Do Not Touch.
Allow to cool before servicing.

IMPORTANT

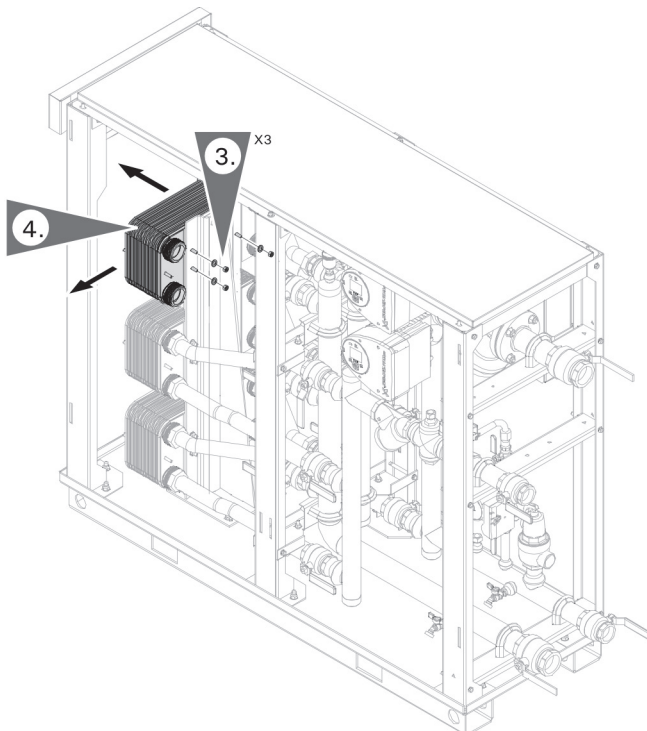
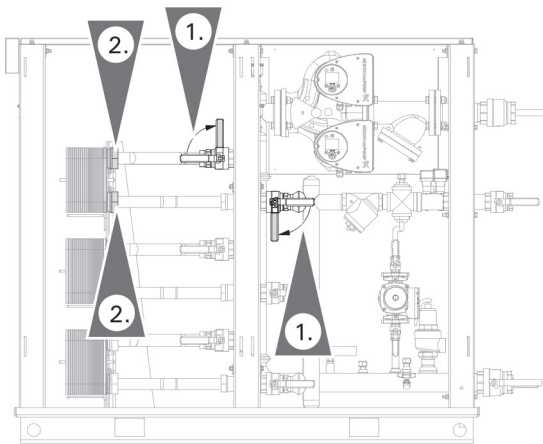
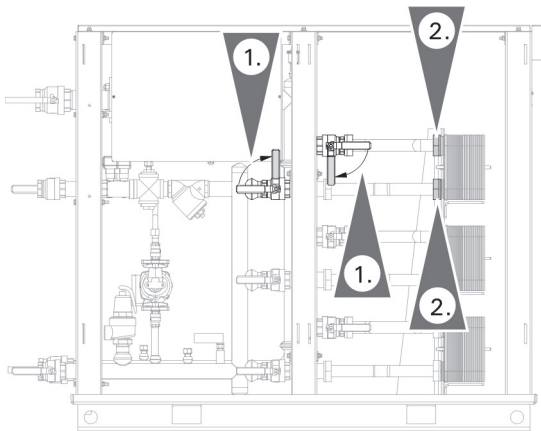
See preparing for service starting on page 53.

1. Remove filter cap.
2. Remove filter and rinse out any accumulated debris. Inspect for damage and replace as necessary.
3. Reinstall in reverse order.

IMPORTANT

Refer to completion of service starting on page 65.

Heat Exchangers



IMPORTANT

Allow to cool before servicing. See preparing for service starting on page 53.

Note: Check for visible leaks on the heat exchanger (double wall only). If leakage is found, replace heat exchanger.

- To isolate the heat exchanger, close the 4 isolation valves for the heat exchanger being serviced.
- Decouple the 4 flex pipes at the heat exchanger that is being serviced.

Note: Inspect each heat exchanger opening for flow restrictions.

Note: To remove the heat exchanger follow steps 3 and 4.

- Remove the 3 retaining nuts from the heat exchanger support bracket.
- Remove the heat exchanger.



It is recommended that two people complete this work.

- Reinstall in reverse order. Torque: 15 lb.ft (20 Nm).

IMPORTANT

Refer to completion of service starting on page 65.

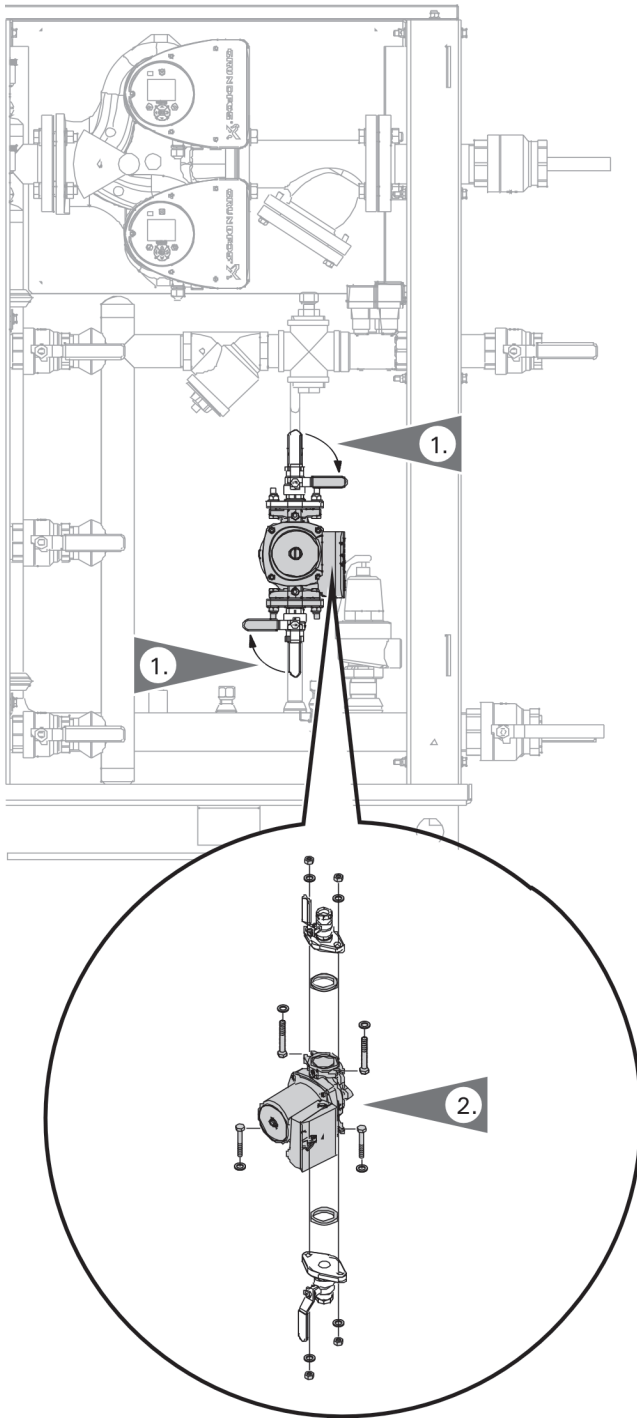
Note: The single wall heat exchanger weight is 53 lbs. (24 Kg)
The dual wall heat exchanger weight is 98 lbs. (44.6 Kg)

Cleaning the heat exchanger

The brazed plate heat exchangers operate with high turbulence flow, even at low flow rates. This high turbulence keeps small particles in suspension minimizing fouling and scaling. In some applications the fouling can be very high (e.g. when using extremely hard water at high temperatures). It is always possible to clean the heat exchanger by circulating a cleaning liquid. Use a weak acid, 5% phosphoric acid or if the exchanger is frequently cleaned, 5% oxalic acid. Pump the cleaning liquid through the exchanger. For optimum cleaning, the cleaning solution flow rate should be a minimum of 1.5 times the normal flow rate preferably in a back-flush mode. After cleaning, rinse the heat exchanger carefully with clean water and before the final rinse use a solution of 1-2% sodium hydroxide (NaOH) or sodium bicarbonate (NaHCO₃) to ensure all acid is neutralized. Clean at regular intervals.

Note: Only chemical cleaning is possible (use chemicals which do not attack copper and stainless steel)
A commercial cleaning kit is available.
If in doubt, consult a cleaning specialist.

Descaling Pump



! WARNING
DISCONNECT POWER BEFORE SERVICING THE VITOTRANS.

IMPORTANT

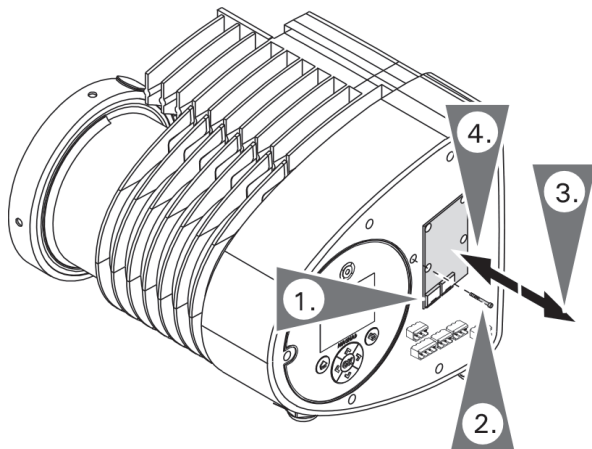
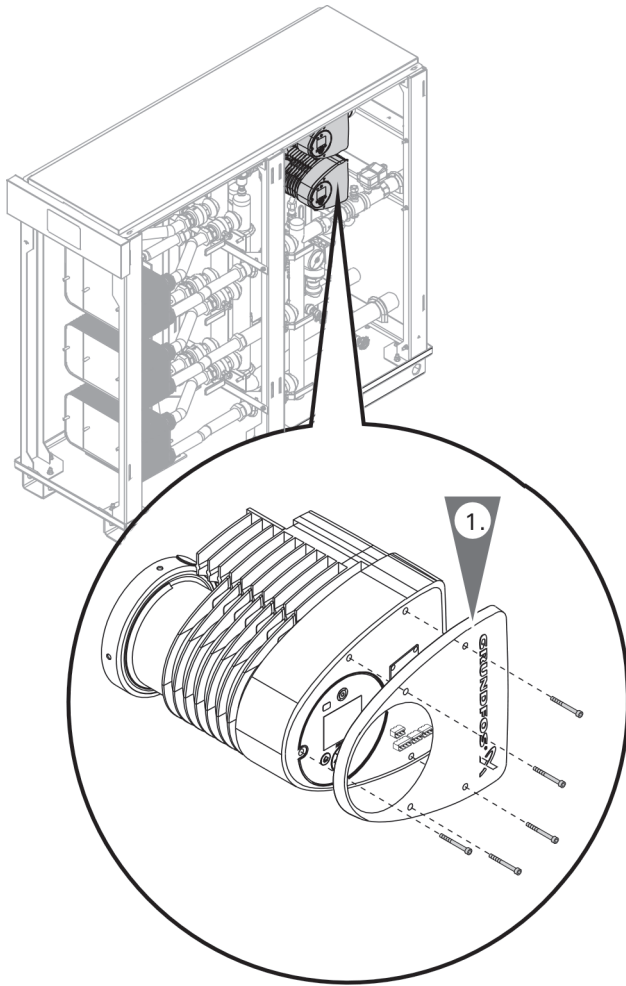
Allow to cool before servicing. See preparing for service starting on page 53.

1. Isolate the descaling pump, by closing the 2 descaling pump isolation valves.
2. Disconnect wiring to the pump (refer to the wiring diagram). Remove the 4 pump bolts (remove the top 2 first) and remove the pump.
3. Reinstall in reverse order.

IMPORTANT

Refer to completion of service starting on page 65.

System Pump



	WARNING Hot surface. Contact may cause burns. Do not touch.	
--	--	---

IMPORTANT

Allow to cool before servicing. See preparing for service starting on page 53.

 WARNING
DISCONNECT POWER BEFORE SERVICING THE VITOTRANS.


1. On a dual pump system, locate the faulty pump. and remove pump head cover.

Note: To determine the pump service procedure required, see 'System pump fault codes' on page 61.

IMPORTANT

Refer to completion of service starting on page 65.

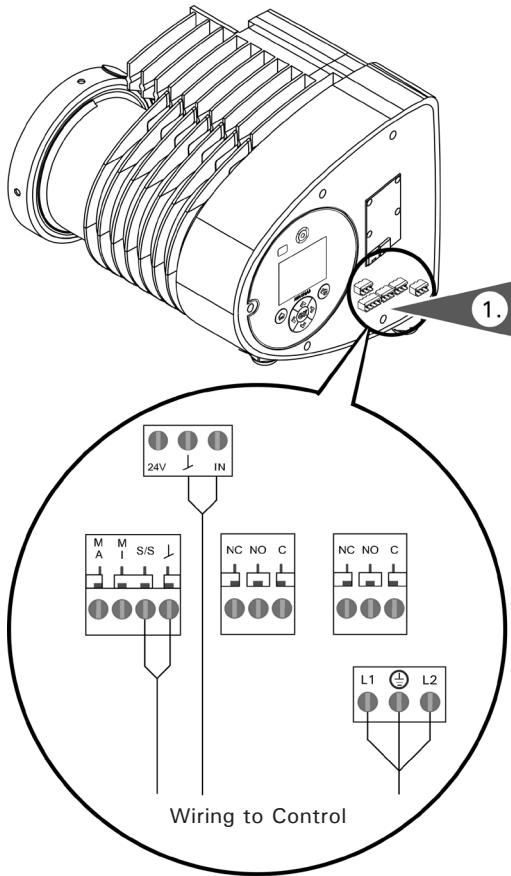
Note: The Vitotrans 300 is equipped with a variable speed internal heating system pump, that has been configured specifically for that Vitotrans 300 model.

 WARNING
Do not attempt to alter the configuration of the internal pump. In case of replacement, only use genuine Viessmann replacement parts. Failure to do so will compromise the functionality of the Vitotrans 300.

Replacing pump communication card

1. With the pump head cover off, disconnect cables from the communication card.
2. Remove mounting screw.
3. Remove card by pulling straight out from the pump head.
4. Replace card, reconnect wires and pump head cover.

System Pump *(continued)*



Check pump wiring

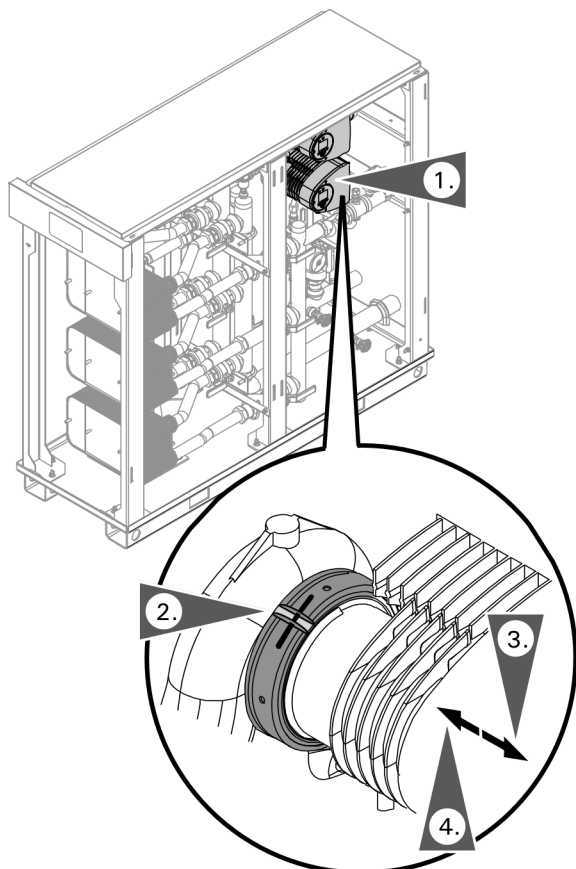
All wiring is routed back to the main control, refer to the wiring diagram on pages 71 and 72 for internal connections.



WARNING

DISCONNECT POWER BEFORE SERVICING THE VITOTRANS.

1. With the pump head cover off, check all pump wiring connections.
2. Correct faulty wiring.
3. Replace pump head cover.



Pump head removal

1. With the pump head cover off, disconnect the wiring.
2. Support pump head and release the pump head collar.
3. Remove pump head by pulling the pump head straight out from the pump body.
4. Replace the pump head, tighten collar and reconnect the wiring.



It is essential to use appropriate lifting devices certified for lifting to a minimum of the pump weight.

System Faults

System faults are displayed on the touch screen user interface.

Note: Carry out measures in the described order.
All system faults are saved to the fault memory.

System Fault Display	System Characteristics	Cause	Measures
Temp Sensor T1A/B Fault	Vitotrans is not producing DHW. System pump will not run. No boiler demand signal available.	Lead break or faulty sensor T1A/B.	Check sensor wiring connections and sensor. Replace sensor if necessary.
Pump P1 Dead Head Fault	Vitotrans is not producing DHW. System pump will remain powered but will not run. No boiler demand signal available.	System pump P1 has experienced excessive head pressure and is not able to provide flow.	Check internal isolation valves to ensure they are open.
Safety High Limit	Vitotrans is not producing DHW. System pump will no longer be powered. No boiler demand signal available.	The DHW supply temperature has exceeded the setting of the fixed high limit.	Wait for the DHW to cool. Reset the fixed high limit.
Flow Sensor Fault	Vitotrans will not respond to demand for DHW.	No flow of domestic water. Faulty sensor.	Verify domestic water flow through unit. Check sensor power supply. Check for signal. Refer to page 63. Replace sensor if required.
Temp Sensor T2 Fault	Vitotrans will continue normal operation, DCW temperature displayed as "0°F".	Lead break or faulty sensor T2.	Check leads and sensor, replace if required.
Temp Sensor T4 Fault	Vitotrans will continue normal operation, system return temperature displayed as "0°F".	Lead break or faulty sensor T4.	Check leads and sensor, replace if required.
Temp Sensor T5 Fault	Vitotrans will continue normal operation, DHW storage tank temperature displayed as "0°F".	Lead break or faulty sensor T5.	Check leads and sensor, replace if required.

System Pump Warnings Codes

System pump warnings are displayed on the touch screen user interface as a 'Pump P1 Warning'. System pump (P1) warning codes are displayed at the system pump. System pump may continue to run, but will display a yellow indicator light.

Remove right rear side panel to access the system pump.

Note: Carry out measures in the described order. 'Pump P1 Warning' is saved to the fault memory.

Pump Code Display	System Characteristics	Cause	Measures
77 (S3HA/D3HA-90 only)	Communication fault, twin-head pump.	Communication between pump heads disrupted or broken.	Check that the pump heads are powered. One pump head will display a yellow light and the second pump head no light will be displayed.
88	Internal sensor fault.	The pump is receiving a signal from the internal sensor which is outside the normal range.	Replace the pump head.
93	External sensor fault.	The pump is receiving a signal from the external control signal which is outside the normal range.	Does the electrical signal set (0-10VDC) match the control's output signal? Refer to page 69. If the control's output signal does not match replace the control PLC. If the control's output signal, does match replace the pump head.

System Pump Fault Codes

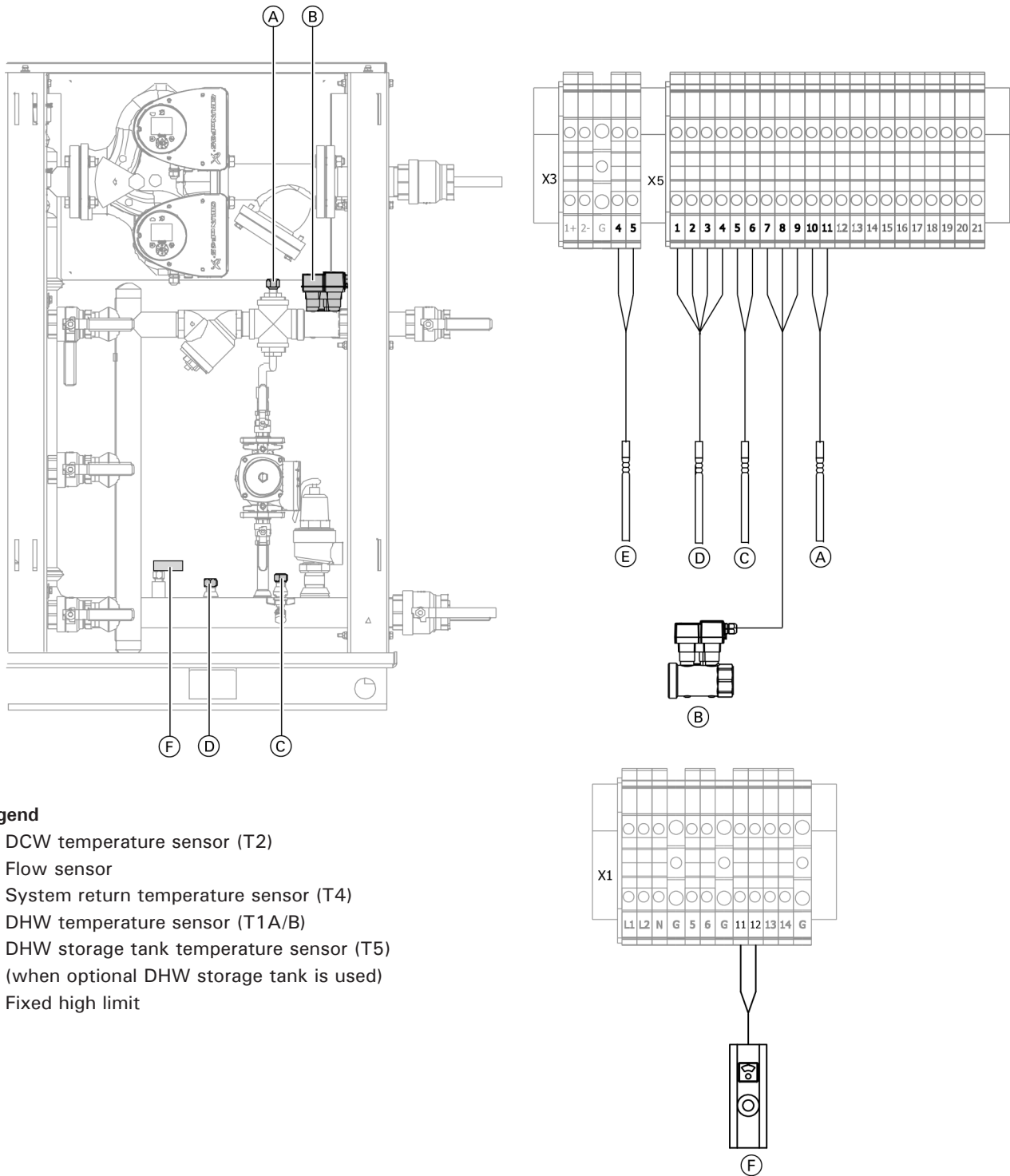
System pump faults are displayed on the touch screen user interface as a 'Pump P1 Fault'. System pump (P1) fault codes are displayed at the system pump. System pump will not operate and will display a red indicator light.

Remove right rear side panel to access the system pump.

Note: Carry out measures in the described order. 'Pump P1 Fault' is saved to the fault memory.

Pump Code Display	System Characteristics	Cause	Measures
10	Pump communication fault.	Internal pump communication fault.	Replace the pump head. See code (29) Forced pumping.
29	Forced pumping.	Other pumps or sources forcing flow through the pump even if the pump is stopped and switched off.	Check the system for correct position and / or defective check valves and replace, if necessary.
40, 75	Undervoltage.	Supply voltage to the pump too low.	Check that the power supply is within the specified range.
51	Blocked pump.	The pump is blocked.	Remove pump head and remove any foreign matter or impurities preventing the pump from rotating.
57	Dry running.	No water at the pump inlet or the water contains too much air.	Prime and vent the pump before a new start-up. Check that the pump is operating correctly. If not, replace the pump head.
64	High motor temperature.	Temperature in stator windings too high.	Replace the pump head.
72, 84, 155, 157	Internal fault.	Internal fault in the pump electronics.	Replace the pump head.
74	Overvoltage	Supply voltage to the pump too high.	Check that the power supply is within the specified range.

Sensors and FHL Location

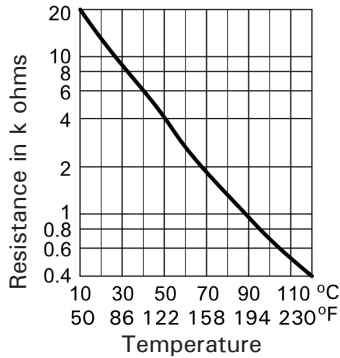


Legend

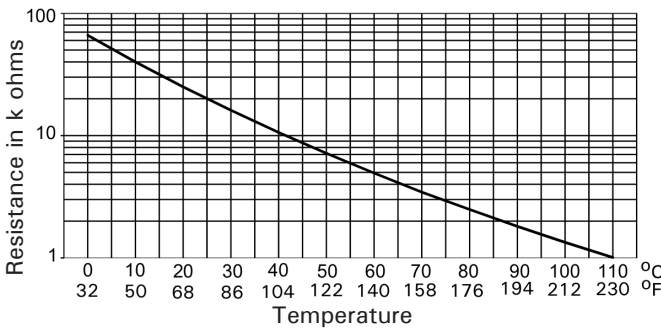
- (A) DCW temperature sensor (T2)
- (B) Flow sensor
- (C) System return temperature sensor (T4)
- (D) DHW temperature sensor (T1A/B)
- (E) DHW storage tank temperature sensor (T5)
(when optional DHW storage tank is used)
- (F) Fixed high limit

Temperature Sensors

Temperature sensor (NTC 10kΩ)



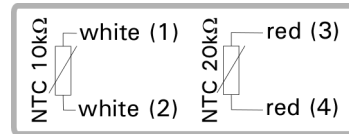
Temperature sensor (NTC 20kΩ)



1. Locate the sensor in the junction box and remove leads.
2. Check the sensor resistance and compare it with the curve.
3. In the case of severe deviation, check the installation and replace the sensor if required.

DHW temperature sensor

The DHW temperature sensor is a dual core NTC 10K / NTC 20K sensor.



The boiler return temperature sensor

- single core NTC 10K sensor.

The DCW temperature sensor

- single core NTC 10K sensor.

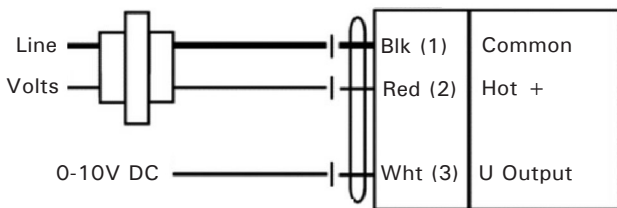
The DHW storage tank temperature sensor

- single core NTC 10K sensor.

Flow Sensor

1. Locate the sensor in the junction box and remove leads.
2. Check the sensor voltage (0-10VDC) signal.
3. In the case of severe deviation, check the installation and replace the sensor if required.

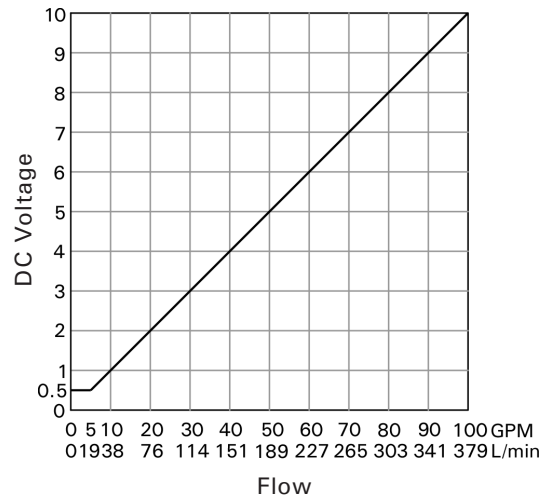
24V AC/DC Transformer



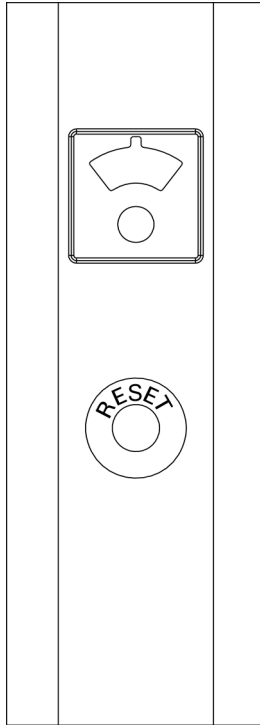
0V	Sensor has no supply voltage
0.3V	Sensor has supply voltage but is in error state
0.5V	Zero flow
10V	Maximum flow

Operation

The ultrasonic flow meter is an accurate repeatable liquid flow measurement meter by utilizing ultrasonic transit time technology. The transducers perform as both emitter and receiver to provide accurate signal reflection.



Fixed High Limit



Operation

The limit switch is factory preset to 210°F (99°C)

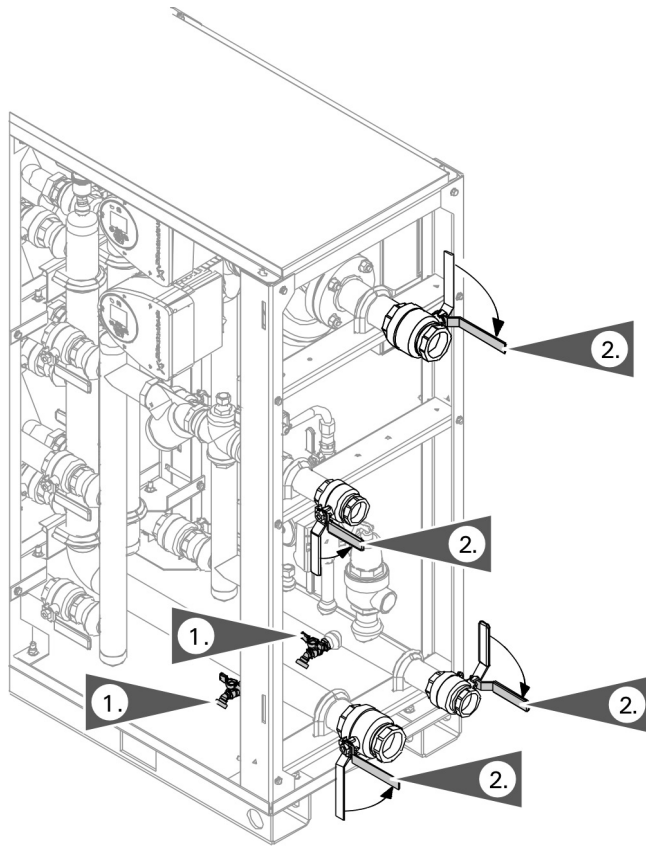
Shuts off pump when DHW temperature exceeds high limit setting. The pump will not restart until the temperature drops to the high limit setting minus the temperature differential, and the manual reset switch is reset.

Manual reset

Press the red reset button on the front of the case to make sure that the controller is not locked out on safety. When checking out the system, adjust the control point low enough so the temperature of the controlled DHW reaches the high limit setting, the system pump off and the Vitotrans controller locks out. When the temperature of the DHW drops to the high limit setting minus the differential, push the manual reset button and the system should be operative again. Reset the control to the proper high limit setting.

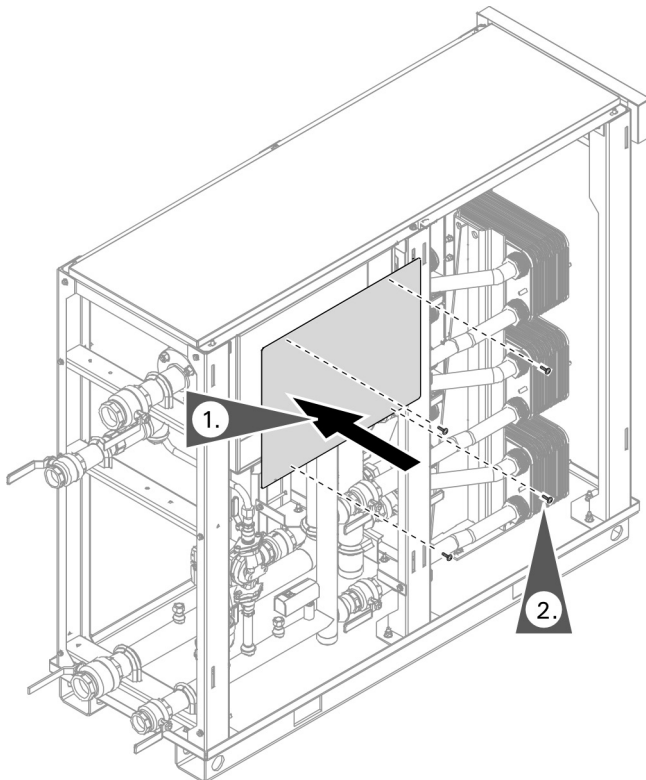
1. Locate the fixed high limit connection in the junction box.
2. Check the installation and check the voltage at each terminal.
3. In the case of no voltage, replace the fixed high limit.

Completion of Service



Close drain valves and open system hydraulic valves

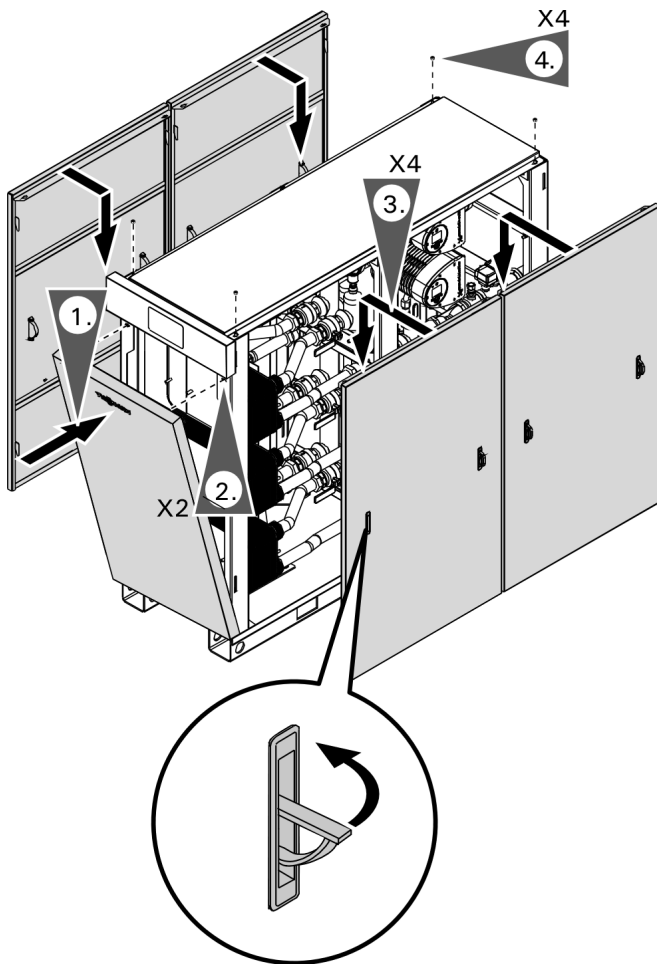
1. Close drain valve and remove drain hose.
2. Turn the hydraulic connection valves to the open position.
3. Check for leaks and correct any leaks before proceeding.



Reinstalling the junction box cover

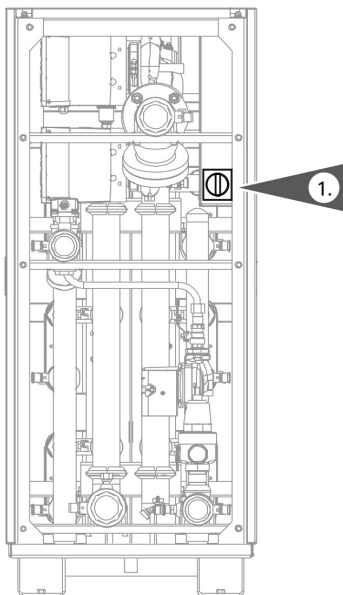
1. Install the junction box cover panel with retaining screws.

Completion of Service *(continued)*



Reinstalling the panels

1. Insert the bottom of the lower front panel in place and push to close.
2. Secure with retaining screws.
3. Using handles lift and install the side panels.
4. Secure with retaining screws.



Power

1. Turn the main power switch to the **ON** position.

Putting the Unit into Operation After Service

Turn main power on using the switch located on the rear of the Vitotrans 300.

User Interface



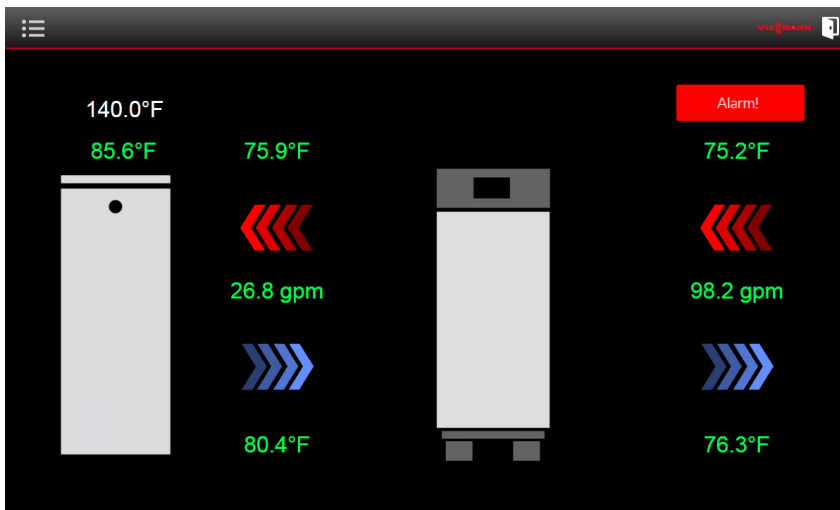
Log into the system by tapping the icon for the desired level of system access, no password is required for user level access. Service level access is password protected;

Service level password: viservice

To switch access levels, tap the circle icon located at the bottom of the screen to return to login screen.

The setting icon on the home screen is for adjustment of the screen settings only – do not adjust.

Faults



If a fault has occurred, an “Alarm!” will be displayed in the top right corner of the home screen. For detailed fault information refer to page 60.

Faults		
System Pump Comms	Normal	Green
System Pump Deadhead	Fault	Red (Reset)
System Pump Warning	Normal	Green
System Pump Fault	Normal	Green
Fixed High Limit	Normal	Green
DHW Temp Sensor	Normal	Green
DCW Temp Sensor	Normal	Green
System Return Temp Sensor	Normal	Green
DHW Tank Temp Sensor	Normal	Green
DHW Flow Sensor	Normal	Green

From the home screen select menu . From the menu select **Alarms +** to switch to the ‘Faults’ screen.

This screen will display the fault or alarm status of the Vitotrans 300’s sensors and components. The fault message is followed by an indicator on the far right of the screen (‘Green’ indicates Normal and ‘Red’ indicated a Fault).

The following faults will shut down the system until the fault is corrected and the **Reset** button is selected:

- System Pump Communication
- System Pump Dead Head
- System Pump Warning
- System Pump Fault
- Fixed High Limit

Fault History

Faults		
System Pump Comms	Normal	●
System Pump Deadhead	Normal	●
System Pump Warning	Normal	●
System Pump Fault	Normal	●
Fixed High Limit	Normal	●
DHW Temp Sensor	Normal	●
DCW Temp Sensor	Normal	●
System Return Temp Sensor	Normal	●
DHW Tank Temp Sensor	Fault	●
DHW Flow Sensor	Normal	●

The following faults will allow the system to continue to operate and when the fault is corrected the fault will automatically reset:

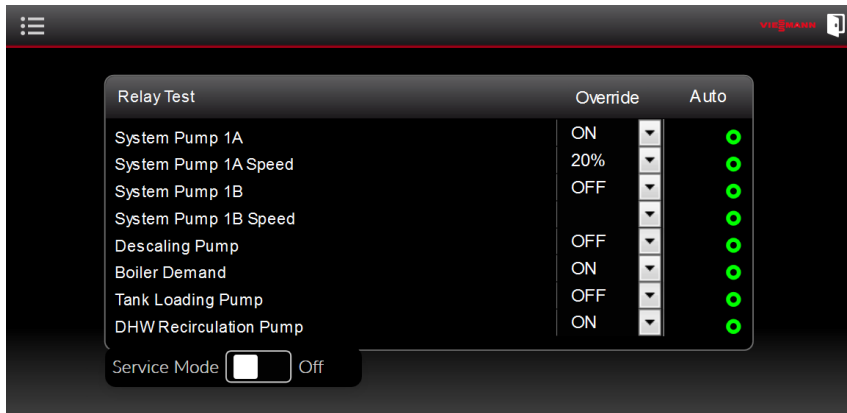
- DHW Temperature Sensor
- DCW Temperature Sensor
- Return Temperature Sensor
- Tank Temperature Sensor
- Flow Sensor

Alarm Console										Total Alarms	Unacked
Duration	Timestamp	To State	Ack State	NotifyType	Message Text	Source	UUID	From State		24	23
7/5/18 7/6/18 7/7/18 7/8/18 7/9/18	03:57:36 PM 5 Jul 2018	Normal	Unacked	Alarm	Vitotrans 300\Fault - General Fault\Normal	Device 100\Binary Value 30	e05813c8-4215-4b7	OffNormal			
7/5/18 7/6/18 7/7/18 7/8/18 7/9/18	03:57:36 PM 5 Jul 2018	Normal	Unacked	Alarm	Vitotrans 300\Fault - System Pump Deadhead\Normal	Device 100\Binary Value 22	5020f67c-ec11-440	OffNormal			
7/5/18 7/6/18 7/7/18 7/8/18 7/9/18	03:57:24 PM 5 Jul 2018	OffNormal	Unacked	Alarm	Vitotrans 300\Fault - General Fault\OffNormal	Device 100\Binary Value 30	9675a015-1de1-4e8	Normal			
7/5/18 7/6/18 7/7/18 7/8/18 7/9/18	03:57:24 PM 5 Jul 2018	OffNormal	Unacked	Alarm	Vitotrans 300\Fault - System Pump Deadhead\OffNormal	Device 100\Binary Value 22	b9c2a9c5-76bc-48c	Normal			
7/5/18 7/6/18 7/7/18 7/8/18 7/9/18	03:55:03 PM 5 Jul 2018	Normal	Unacked	Alarm	Vitotrans 300\Fault - General Fault\Normal	Device 100\Binary Value 30	688d68f1-8670-43cd	OffNormal			
7/5/18 7/6/18 7/7/18 7/8/18 7/9/18	03:55:03 PM 5 Jul 2018	Normal	Unacked	Alarm	Vitotrans 300\Fault - System Pump Deadhead\Normal	Device 100\Binary Value 22	966c318c-497c-4fc	OffNormal			
7/5/18 7/6/18 7/7/18 7/8/18 7/9/18	03:54:30 PM 5 Jul 2018	OffNormal	Unacked	Alarm	Vitotrans 300\Fault - General Fault\OffNormal	Device 100\Binary Value 30	c153b6df-9f50-46e	Normal			
7/5/18 7/6/18 7/7/18 7/8/18 7/9/18	03:54:30 PM 5 Jul 2018	OffNormal	Unacked	Alarm	Vitotrans 300\Fault - System Pump Deadhead\OffNormal	Device 100\Binary Value 22	981142c6-4f19-4e3	Normal			

Press the **Alarm History** button on the menu pane to display an ongoing history of previous faults.

Note: Alarms/Faults cannot be reset or cleared from this screen. Any fault that occurs is displayed as well as accompanied by a 'General Fault'.

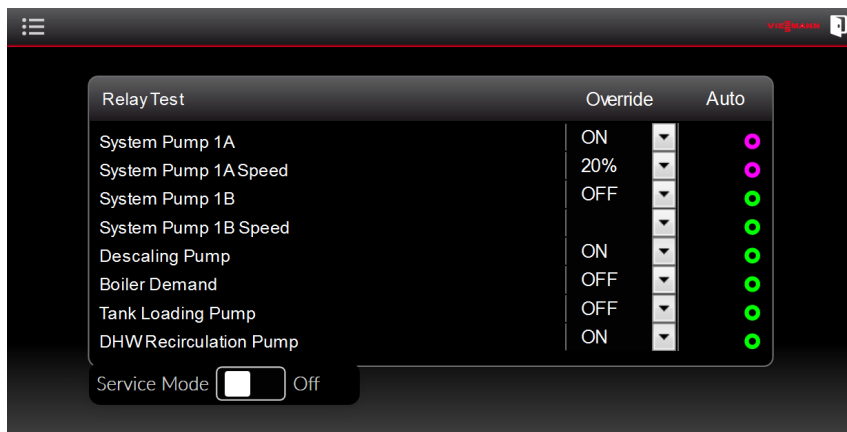
Maintenance Mode / Relay Test



Select menu then press the **Maintenance** button to allow access to testing and service functions.

To activate the 'override' (to test the outputs) select the button of the desired output. Pressing the will provide access to the 'Override' options, select the desired function.

The 'Auto' indicator will switch from 'green' to 'purple' (indicating that function is in the override mode). When relay testing is complete, select the 'purple' indicator. This will return the 'Auto' indicator to green.



Failure to return the 'Auto' indicator to green may cause undesired performance and/or function(s).

! WARNING

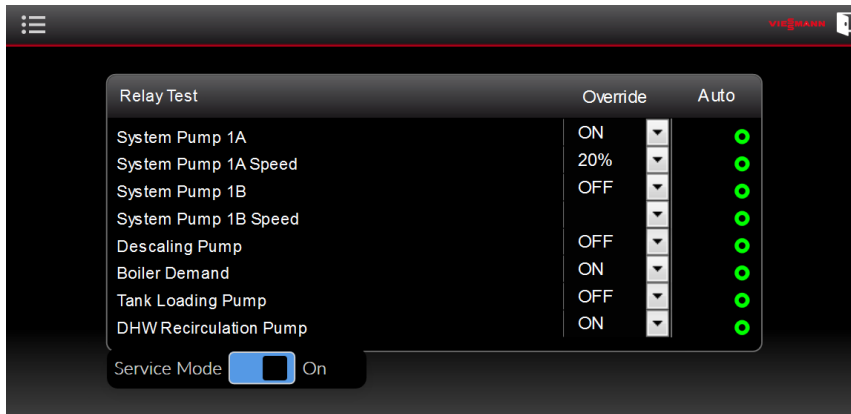
Enabling System Demand without adequate flow through the heating system or boiler may be unsafe. Ensure there is sufficient flow through the heating system or boiler before testing System Demand.

The following outputs can be tested and will operate as such:

Output	Override	Function
System Pump 1A	ON or OFF	This will turn the primary system pump ON or OFF. When turned ON, the pump will run at its lowest speed.
System Pump 1A Speed	20 or 80%	Once the primary system pump has been turned ON, this will enable the speed to be manually adjusted to either 20% or 80% modulation.
System Pump 1B	ON or OFF	(S3HA/D3HA 90 only) This will turn the secondary system pump ON or OFF. When turned ON, the pump will run at its lowest speed.
System Pump 1B Speed	20 or 80%	(S3HA/D3HA 90 only) Once the secondary system pump has been turned ON, this will enable the speed to be manually adjusted to either 20% or 80% modulation.
Descaling Pump	ON or OFF	This will turn the internal descaling pump ON or OFF.
Boiler Demand	ON or OFF	This will turn the relay (dry contact) for the system or boiler call for heat ON or OFF.
Tank Loading Pump	ON or OFF	This will turn the relay (dry contact) that controls the external tank loading pump ON or OFF (if installed).
DHW Recirculation Pump	ON or OFF	This will turn the relay (dry contact) that controls the DHW recirculation pump ON or OFF (if installed).

Outputs are based on Vitotrans 300 model and system configuration.

Maintenance Mode

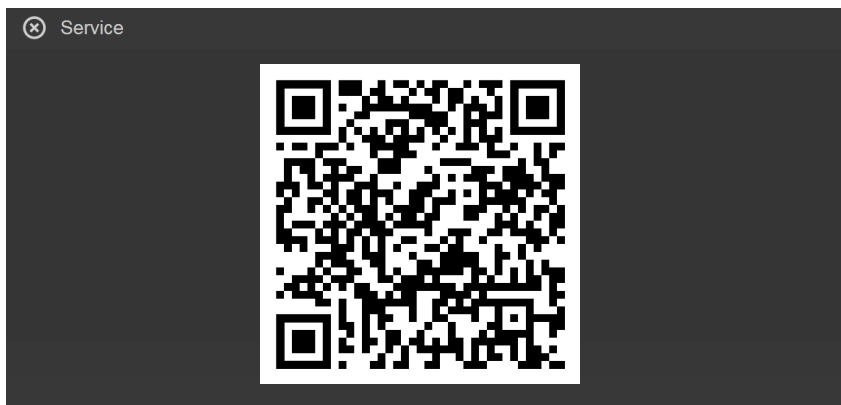


Service Mode - (S3HA/D3HA 60 & 90 only) Turn on the 'Service Mode' slide the switch to the on position. This function allows reduced operation the Vitotrans 300 while being serviced so that DHW production can continue uninterrupted. The heat exchangers can be isolated and removed one at a time for cleaning or serviced (see page 56) and the Vitotrans 300 will continue to operate with a reduced capacity using the remaining heat exchanger(s).

The Service Mode function does not have an automatic time out, turn the Service Mode switch to the "Off" position.

Note: this function is not available on the S3HA/D3HA 30 models.

Service



Select menu then press the **Service** button to display the service window. A QR code will appear. Scanning the QR code will bring all current documents for the Vitotrans 300.

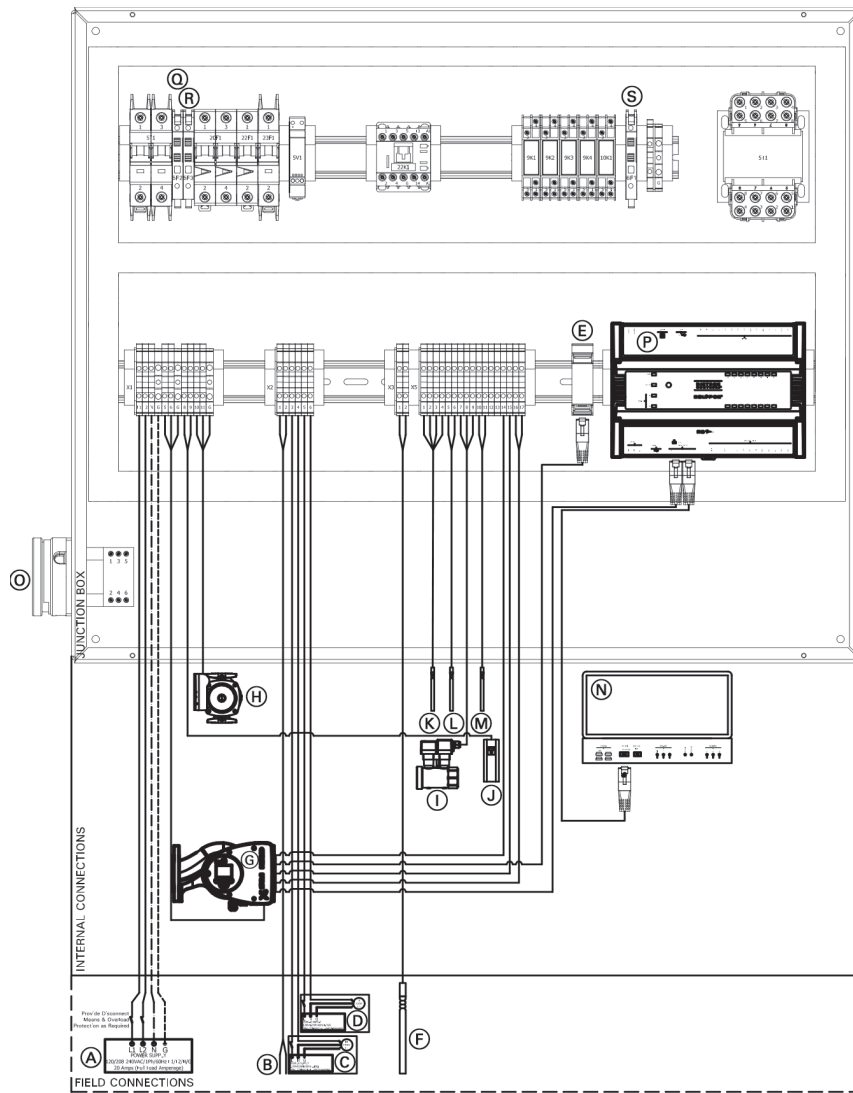
When finished with the QR code, press the "X" in the top left corner of the screen to close the service window.

Restoring to Normal Operation

When service work is complete in the CONTRACTOR access level, log out to prevent unwanted changes being made. This is done by pressing the "Door" icon in the top right corner of the screen. A window will pop up and prompt: "Do you want to leave this site?" Press "Leave".

To complete service log in as 'user'. For user log In see page 45.

Wiring Diagram - S3HA 30, D3HA 30, S3HA 60 and D3HA 60



Legend

- (A) Power supply 120/208-240VAC/1Ph/60 Hz L1/L2/N/G
- (B) Boiler demand (dry contact)
- (C) Building DHW re-circulation pump (dry contact)
- (D) DHW storage tank (dry contact)
- (E) BACnet (IP) communication RJ45
- (F) DHW storage tank temperature sensor
- (G) Heating system pump
- (H) Internal de-scaling pump
- (I) Domestic cold water flow sensor
- (J) Manual reset fixed high limit 210°F (99°C)
- (K) DHW temperature sensor
- (L) DCW temperature sensor
- (M) System return temperature sensor
- (N) Touch screen user interface
- (Q) Main disconnect switch
- (P) Control PLC
- (R) Fuse, T 0.5A/250VAC
- (S) Fuse, F 4A

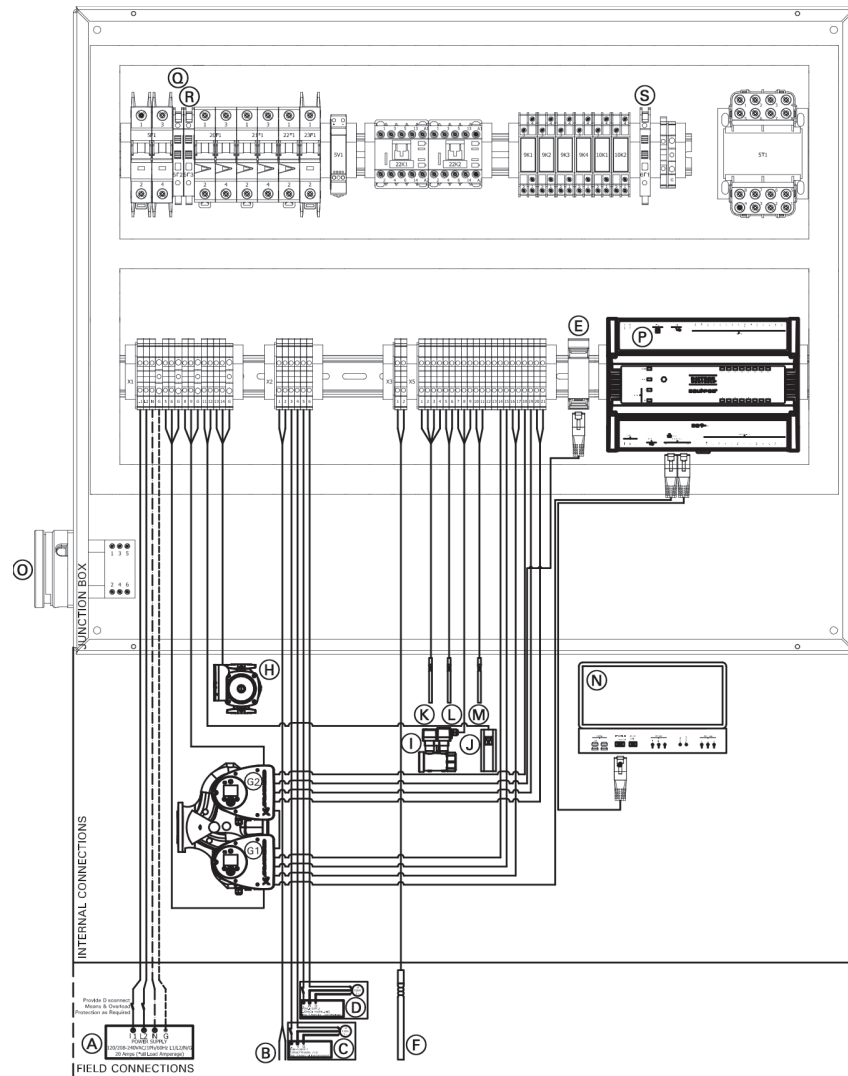
WARNING
DISCONNECT POWER BEFORE SERVICING THE VITOTRANS.

CAUTION
Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

If any of the original wires as supplied with the appliance must be replaced, it must be replaced with the exact equivalent.

Electrical Installations must comply with:
In the USA National Electric Code (NEC), ANSI/NFPA 70 and any other national, state and local codes and/or regulations.
In Canada, the Canadian Electrical Code (CEC), CSA C22.1 Canadian Electrical Code Part 1 and any other province, territory, local codes and/or regulations.

Wiring Diagram - S3HA 90 and D3HA 90



Legend

- (A) Power supply 120/208-240VAC/1Ph/60 Hz L1/L2/N/G
- (B) Boiler demand (dry contact)
- (C) Building DHW re-circulation pump (dry contact)
- (D) DHW storage tank (dry contact)
- (E) BACnet (IP) communication RJ45
- (F) DHW storage tank temperature sensor
- (G1) Heating system pump (head 1)
- (G2) Heating system pump (head 2)
- (H) Internal de-scaling pump
- (I) Domestic cold water flow sensor
- (J) Manual reset fixed high limit 210°F (99°C)
- (K) DHW temperature sensor
- (L) DCW temperature sensor
- (M) System return temperature sensor
- (N) Touch screen user interface
- (Q) Main disconnect switch
- (P) Control PLC
- (Q) Fuse, T 0.5A/250VAC
- (R) Fuse, T 0.25A/250VAC
- (S) Fuse, F 4A

! WARNING
DISCONNECT POWER BEFORE SERVICING THE VITOTRANS.

! CAUTION
 Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

If any of the original wires as supplied with the appliance must be replaced, it must be replaced with the exact equivalent.

Electrical Installations must comply with:
 In the USA National Electric Code (NEC), ANSI/NFPA 70 and any other national, state and local codes and/or regulations.
 In Canada, the Canadian Electrical Code (CEC), CSA C22.1 Canadian Electrical Code Part 1 and any other province, territory, local codes and/or regulations.

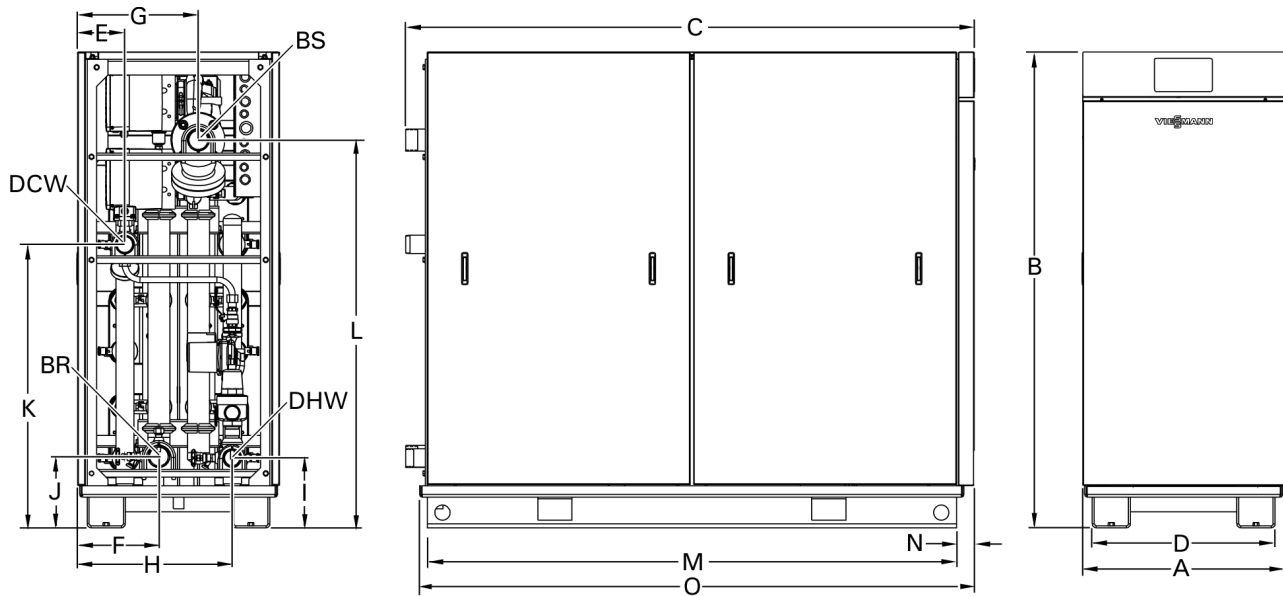
Technical Data

Models		S3HA 30	D3HA 30	S3HA 60	D3HA 60	S3HA 90	D3HA 90
Heating input	MBH	2100	2100	4200	4200	6300	6300
	(kW)	(615)	(615)	(1231)	(1231)	(1846)	(1846)
Power supply	Voltage (AC)	240	240	240	240	240	240
	Phase	1	1	1	1	1	1
	FLA	20	20	20	20	20	20
	Hz	60	60	60	60	60	60
Overall length	in.	73 ³ / ₄	73 ³ / ₄	73 ³ / ₄	73 ³ / ₄	73 ³ / ₄	73 ³ / ₄
	(mm)	(1896)	(1896)	(1896)	(1896)	(1896)	(1896)
Overall width	in.	26 ¹ / ₂	26 ¹ / ₂	26 ¹ / ₂	26 ¹ / ₂	26 ¹ / ₂	26 ¹ / ₂
	(mm)	673	673	673	673	673	673
Overall height * 1	in.	62 ¹ / ₄	62 ¹ / ₄	62 ¹ / ₄	62 ¹ / ₄	62 ¹ / ₄	62 ¹ / ₄
	(mm)	(1584)	(1584)	(1584)	(1584)	(1584)	(1584)
Weight (without water)	lb.	1037	1082	1123	1223	1273	1408
	(Kg)	(470)	(491)	(509)	(550)	(577)	(639)
Weight (with water)	lb.	1107	1155	1222	1319	1404	1549
	(Kg)	(502)	(524)	(554)	(598)	(637)	(703)
Water content heating system	USG	4.4	4.6	6.2	6.6	8.0	8.6
	(L)	(16.2)	(17.4)	(23.5)	(25.0)	(30.3)	(32.6)
Water content domestic	USG	4	4.2	5.7	6.1	7.7	8.3
	(L)	(15.1)	(15.9)	(21.6)	(23.1)	(29.1)	(31.4)
Heat exchanger surface area	ft. ²	69.6	81.2	139.2	162.4	208.8	243.6
	(m ²)	(6.47)	(7.54)	(12.93)	(15.09)	(19.40)	(22.63)
Max. boiler supply temperature	°F	230	230	230	230	230	230
	(°C)	(110)	(110)	(110)	(110)	(110)	(110)
Max. domestic hot water supply temperature (FHL)	°F	210	210	210	210	210	210
	(°C)	(99)	(99)	(99)	(99)	(99)	(99)
Maximum operating pressure	psig	150	150	150	150	150	150
	(bar)	(10.3)	(10.3)	(10.3)	(10.3)	(10.3)	(10.3)
Boiler supply connection (NPT)	in.	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂
	(mm)	65	65	65	65	65	65
Boiler return connection (NPT)	in.	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂
	(mm)	65	65	65	65	65	65
DCW connection (NPT)	in.	2	2	2	2	2	2
	(mm)	50	50	50	50	50	50
DHW connection (NPT)	in.	2	2	2	2	2	2
	(mm)	50	50	50	50	50	50
Max DHW flow	GPM	60	60	120	120	180	180
	(L/min)	(227)	(227)	(454)	(454)	(681)	(681)
Heating system circulating pump * 2	Model	65-150	65-150	65-150	65-150	65-150 Dual	65-150 Dual

* 1 Overall height does not include leveling feet or seismic brackets.

* 2 The heating system circulating pump is built for the Vitotrans 300 and any replacement parts must be ordered from Viessmann.

Dimensions



Dimensions

Models	S3HA 30	D3HA 30	S3HA 60	D3HA 60	S3HA 90	D3HA 90
A in. (mm)	26 ½ (673)	26 ½ (673)	26 ½ (673)	26 ½ (673)	26 ½ (673)	26 ½ (673)
B*1 in. (mm)	62 ¼ (1584)	62 ¼ (1584)	62 ¼ (1584)	62 ¼ (1584)	62 ¼ (1584)	62 ¼ (1584)
C in. (mm)	74 ¾ (1896)	74 ¾ (1896)	74 ¾ (1896)	74 ¾ (1896)	74 ¾ (1896)	74 ¾ (1896)
D in. (mm)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)
E in. (mm)	6 ¼ (157)	6 ¼ (157)	6 ¼ (157)	6 ¼ (157)	6 ¼ (157)	6 ¼ (157)
F in. (mm)	10 ¾ (271)	10 ¾ (271)	10 ¾ (271)	10 ¾ (271)	10 ¾ (271)	10 ¾ (271)
G in. (mm)	15 ¾ (403)	15 ¾ (403)	15 ¾ (403)	15 ¾ (403)	15 ¾ (403)	15 ¾ (403)
H in. (mm)	20 ¼ (516)	20 ¼ (516)	20 ¼ (516)	20 ¼ (516)	20 ¼ (516)	20 ¼ (516)
I*1 in. (mm)	9 ¼ (232)	9 ¼ (232)	9 ¼ (232)	9 ¼ (232)	9 ¼ (232)	9 ¼ (232)
J*1 in. (mm)	9 ¼ (237)	9 ¼ (237)	9 ¼ (237)	9 ¼ (237)	9 ¼ (237)	9 ¼ (237)
K*1 in. (mm)	37 ¼ (943)	37 ¼ (943)	37 ¼ (943)	37 ¼ (943)	37 ¼ (943)	37 ¼ (943)
L*1 in. (mm)	50 ¾ (1291)	50 ¾ (1291)	50 ¾ (1291)	50 ¾ (1291)	50 ¾ (1291)	50 ¾ (1291)
M in. (mm)	69 ½ (1765)	69 ½ (1765)	69 ½ (1765)	69 ½ (1765)	69 ½ (1765)	69 ½ (1765)
N in. (mm)	2 ¼ (59)	2 ¼ (59)	2 ¼ (59)	2 ¼ (59)	2 ¼ (59)	2 ¼ (59)
O in. (mm)	72 ¾ (1850)	72 ¾ (1850)	72 ¾ (1850)	72 ¾ (1850)	72 ¾ (1850)	72 ¾ (1850)

Note: dimensional tolerance of ± ¼ in. (± 5 mm)

Legend

- BS Boiler Supply (heating system supply)
- BR Boiler Return (heating system return)
- DHW Domestic Hot Water
- DCW Domestic Cold Water

*1 *Height Does not include the use of leveling feet [+ up to 2 in. (50 mm)], or seismic feet [+ 2 ½ in. (60 mm)].

Parts List

Model No.	Serial No.
S3HA 30	7723997□□□□□□□□□□
S3HA 60	7723998□□□□□□□□□□
S3HA 90	7723999□□□□□□□□□□
D3HA 30	7725000□□□□□□□□□□
D3HA 60	7725001□□□□□□□□□□
D3HA 90	7725002□□□□□□□□□□

Ordering Parts:

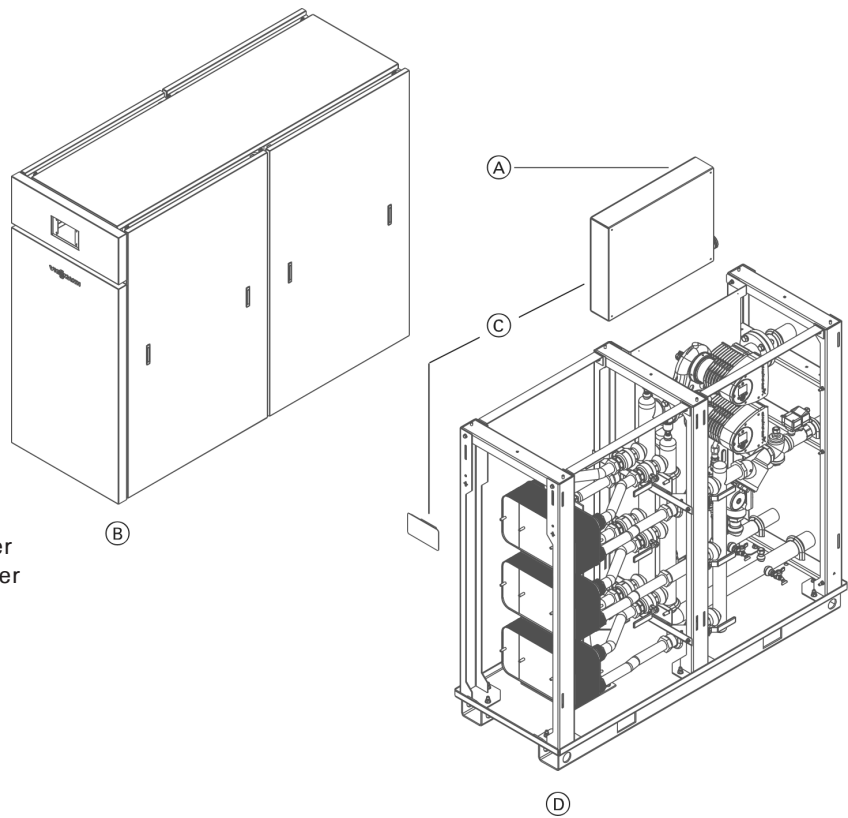
Please provide Model and Serial Number from rating plate (A) when ordering replacement parts. Order replacement components from your Viessmann distributor.

Overview of Assemblies

- (A) Rating Plate with Serial Number
(affixed on Control Assembly cover, beneath side panel of Vitotrans 300)
- (B) Enclosure Assembly
- (C) Control Assembly
- (D) Heat Exchanger Assembly

Other Parts (not illustrated)

- 0001 Installation Set (see page 86)
- 0002 Technical Literature Set
- 0003 Technical Data Manual
- 0004 Installation, Operation and Service Instructions
- 0005 Wiring Diagram
- 0006 Warranty Sheet
- 0007 Parts List, Vitotrans 300
- 0008 Parts List, Installation Set
- 0009 Touch-up paint stick, Vitotec silver
- 0010 Touch-up spray paint, Vitotec silver



Parts List *(continued)*

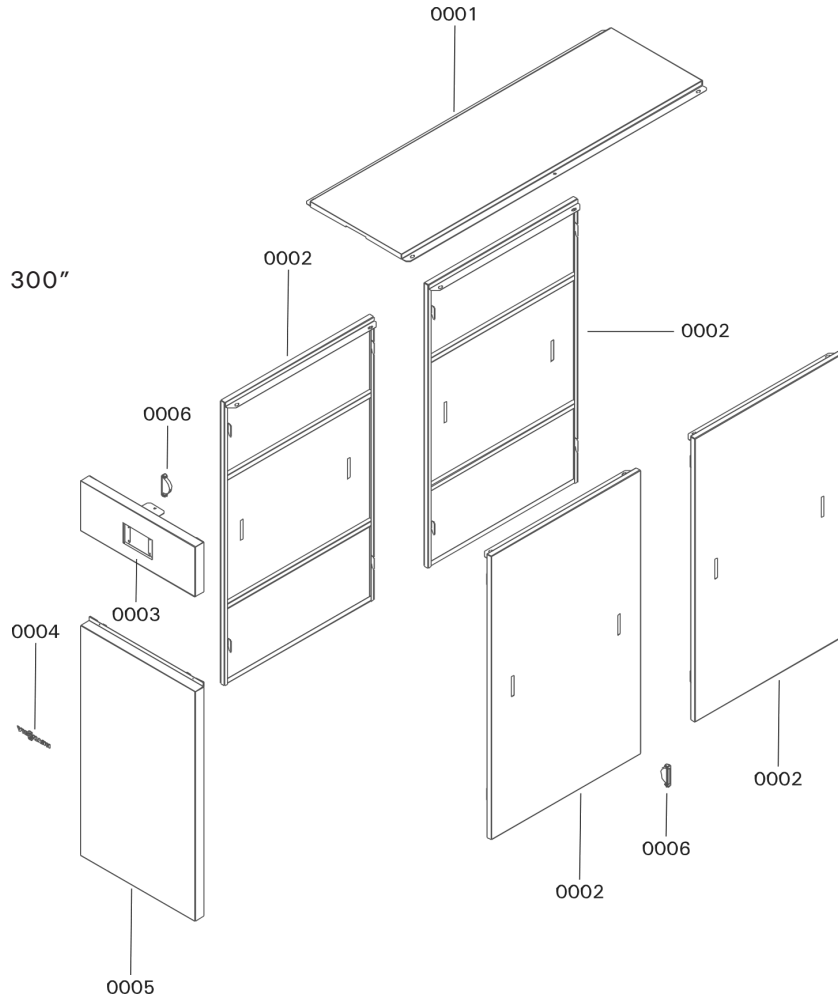
Model No.	Serial No.
S3HA 30	7723997□□□□□□□□
S3HA 60	7723998□□□□□□□□
S3HA 90	7723999□□□□□□□□
D3HA 30	7725000□□□□□□□□
D3HA 60	7725001□□□□□□□□
D3HA 90	7725002□□□□□□□□

Parts for Enclosure Assembly

- 0001 Top panel
- 0002 Side panel
- 0003 Front panel, top
- 0004 Nameplate, "Viessmann"
- 0005 Front panel, bottom
- 0006 Handle (each)

Other Parts (not illustrated)

- 0007 Label GRY/CLR "VITOTRANS 300"



Parts List *(continued)*

Model No.	Serial No.
S3HA 30	7723997□□□□□□□□□□
D3HA 30	7725000□□□□□□□□□□

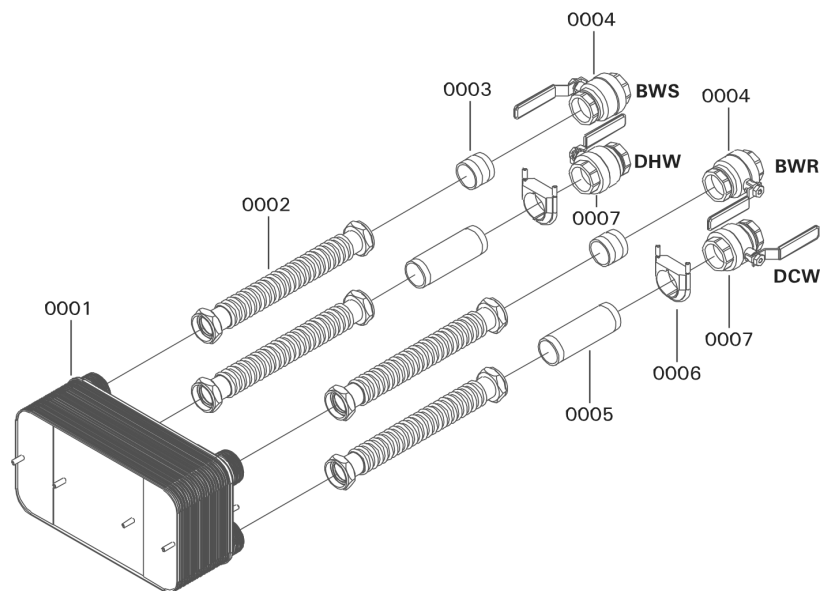
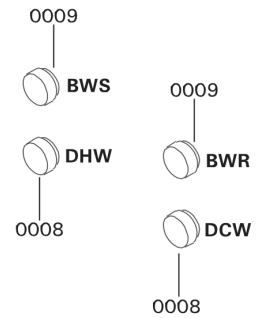
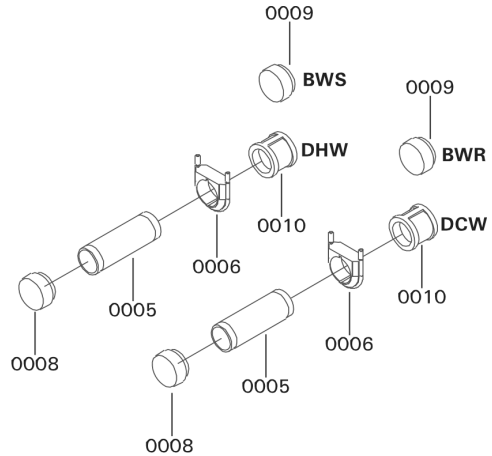
Parts for Single Heat Exchanger Units

- 0001 Plate heat exchanger LC 110, 2 in. *1
- 0002 Flex pipe, 2 x 18 in. SS *2
- 0003 Nipple, 2 x 2 in. BMI
- 0004 Ball valve, 2 in.
- 0005 Nipple, 2 x 7 in. SS *2
- 0006 Clamp, 2 in.
- 0007 Ball Valve, 2 in. lead free *2
- 0008 Cap, 2" SS *2
- 0009 Cap, 2 in. BMI
- 0010 Coupling, 2 in. SS *2

*1 Important: Use double wall plate heat exchanger for D3HA 30.

*2 Important: Ensure only stainless steel or lead free replacement parts are used on domestic water side.

- BWS Boiler Water Supply
- BWR Boiler Water Return
- DHW Domestic Hot Water
- DCW Domestic Cold Water



Parts List *(continued)*

Model No.	Serial No.
S3HA 60	7723998□□□□□□□□
D3HA 60	7725001□□□□□□□□

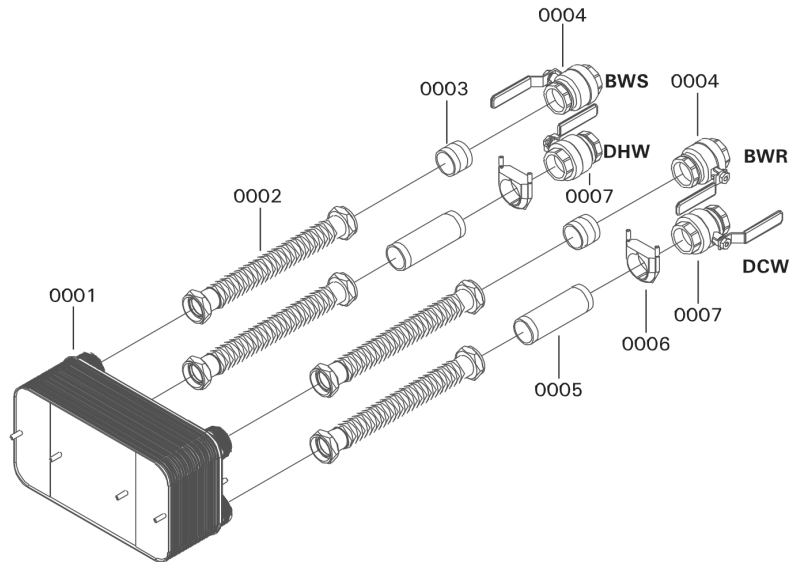
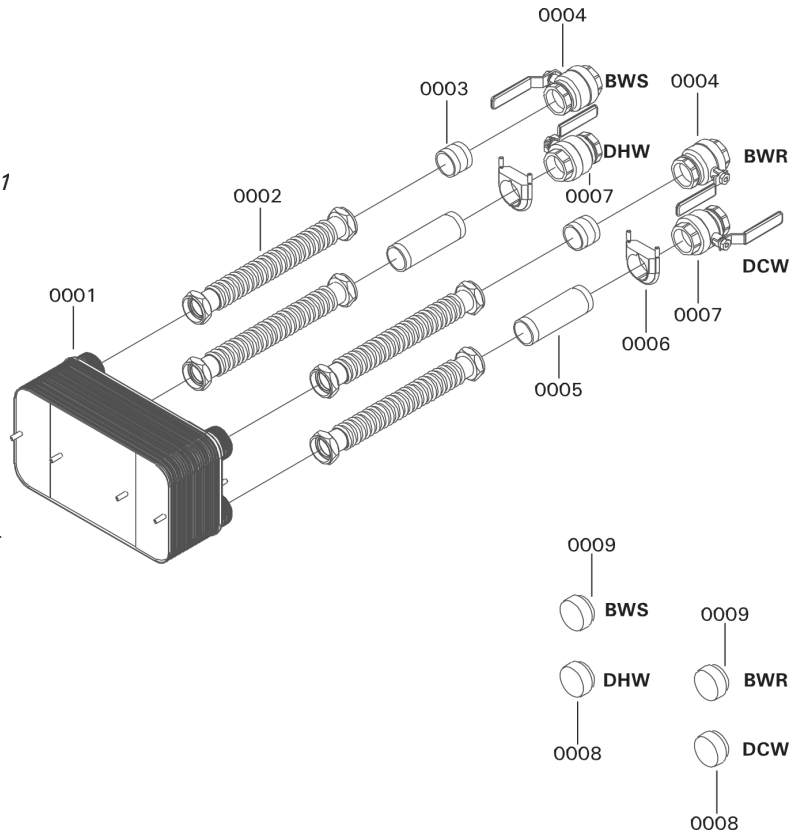
Parts for Double Heat Exchanger Units

- 0001 Plate heat exchanger LC 110, 2 in. *1
- 0002 Flex pipe, 2 x 18 in. SS *2
- 0003 Nipple, 2 x 2 in. BMI
- 0004 Ball valve, 2 in.
- 0005 Nipple, 2 x 7 in. SS *2
- 0006 Clamp, 2 in.
- 0007 Ball Valve, 2" lead free *2
- 0008 Cap, 2 in. SS *2
- 0009 Cap, 2 in. BMI

*1 Important: Use double wall plate heat exchanger for D3HA 60.

*2 Important: Ensure only stainless steel or lead free replacement parts are used on domestic water side.

- BWS Boiler Water Supply
- BWR Boiler Water Return
- DHW Domestic Hot Water
- DCW Domestic Cold Water

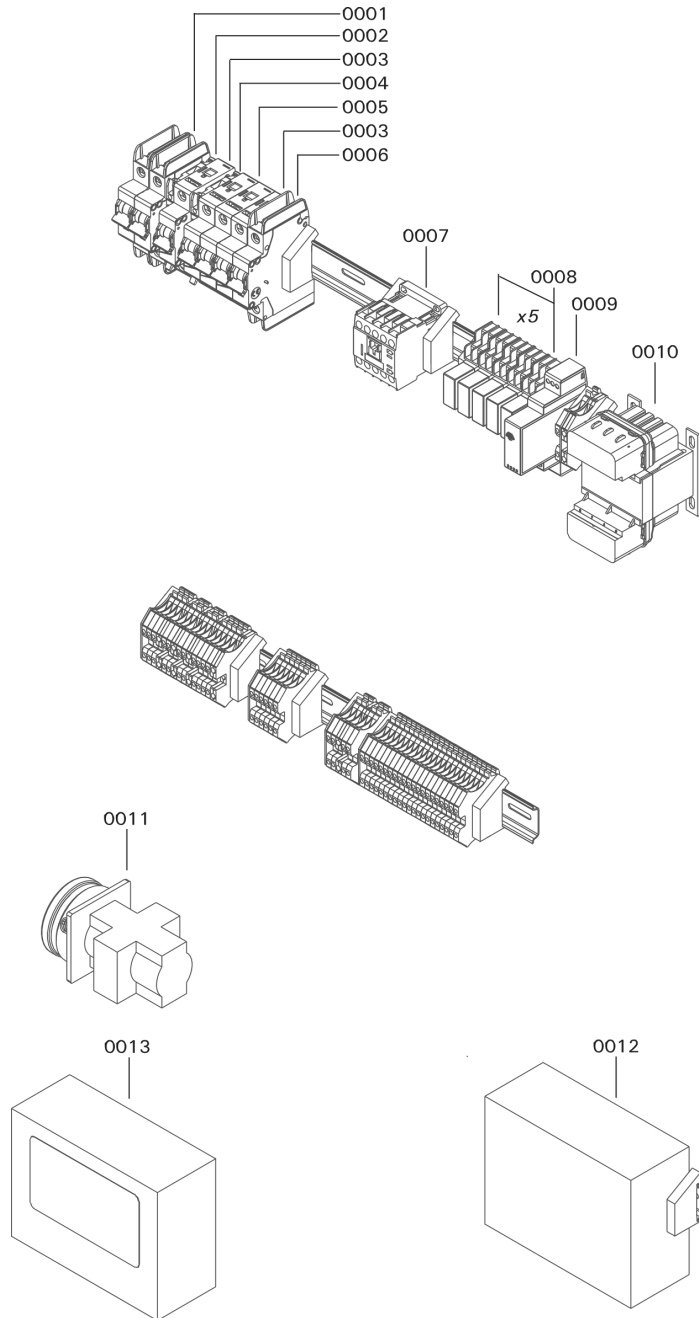


Parts List *(continued)*

Model No.	Serial No.
S3HA 30	7723997□□□□□□□□
S3HA 60	7723998□□□□□□□□
D3HA 30	7725000□□□□□□□□
D3HA 60	7725001□□□□□□□□

Parts for Control Assembly
for units with a single head pump

- 0001 Circuit breaker, 20A 2P
- 0002 Fuse T 0.5A (set of 5)
- 0003 Fuse, T 0.25A/250VAC
- 0004 Fuse F 4A (set of 5)
- 0005 Circuit breaker, 10A 2P
- 0006 Circuit breaker, 5A 1P
- 0007 Contactor, 12A 3P 120V
- 0008 Relay, 24V
- 0009 Power Supply, 5VDC 7.5W
- 0010 Transformer, 120/240-12/24V 50VA
- 0011 Disconnect switch, 20A 3P
- 0012 Controller, ECY-303
(factory programmed)
- 0013 Circuit Board
control software and touchscreen

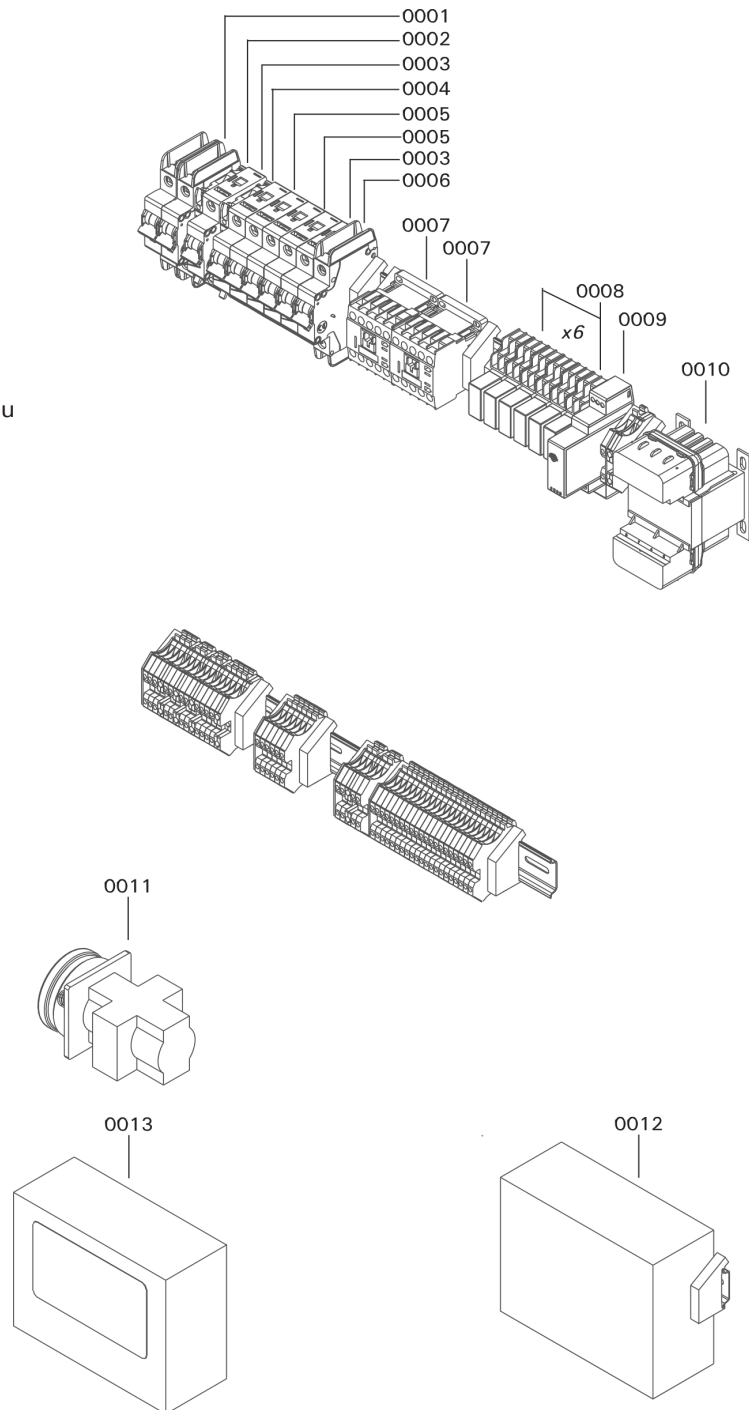


Parts List *(continued)*

Model No.	Serial No.
S3HA 90	7723999□□□□□□□□
D3HA 90	7725002□□□□□□□□

Parts for Control Assembly
for units with a dual head pump

- 0001 Circuit breaker, 20A 2P
- 0002 Fuse T 0.5A (set of 5)
- 0003 Fuse, T 0.25A/250VAC
- 0004 Fuse F 4A (set of 5)
- 0005 Circuit breaker, 10A 2P
- 0006 Circuit breaker, 5A 1P
- 0007 Contactor, 12A 3P 120V
- 0008 Relay, 24V
- 0009 Power Supply, 5VDC 7.5W
- 0010 Transformer, 120/240-12/24V 50VA
- 0011 Disconnect switch, 20A 3P
- 0012 Controller, ECY-303
(factory programmed)
- 0013 Circuit Board control software and tou



Parts List *(continued)*

Model No.	Serial No.
S3HA 30	7723997□□□□□□□□
S3HA 60	7723998□□□□□□□□
S3HA 90	7723999□□□□□□□□
D3HA 30	7725000□□□□□□□□
D3HA 60	7725001□□□□□□□□
D3HA 90	7725002□□□□□□□□

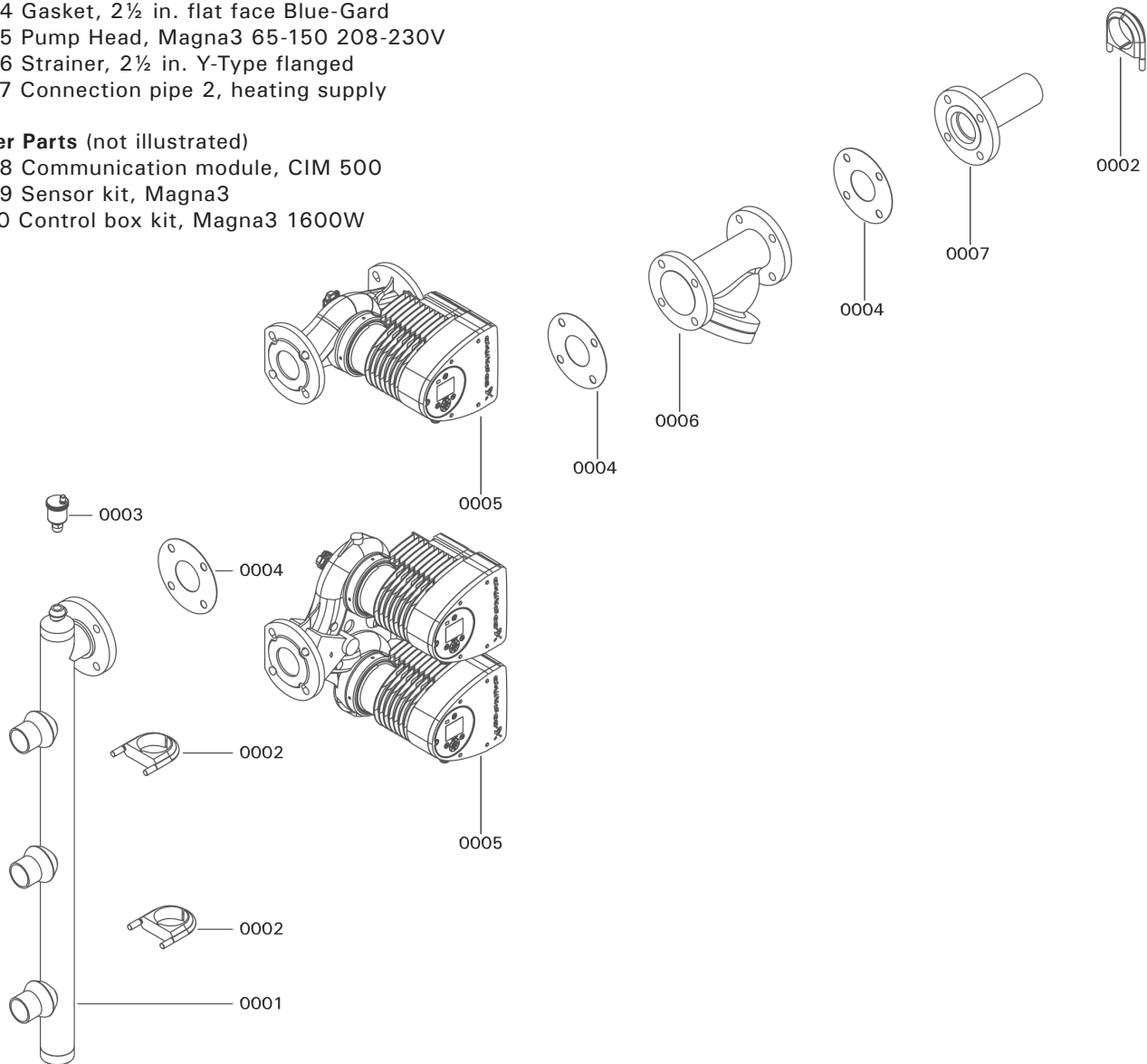
Parts for Hydraulics

Connection Pipe for Boiler Water Supply

- 0001 Connection pipe 1, heating supply
- 0002 Clamp, 2½ in.
- 0003 Air vent with shut-off base, 3/8 in.
- 0004 Gasket, 2½ in. flat face Blue-Gard
- 0005 Pump Head, Magna3 65-150 208-230V
- 0006 Strainer, 2½ in. Y-Type flanged
- 0007 Connection pipe 2, heating supply

Other Parts (not illustrated)

- 0008 Communication module, CIM 500
- 0009 Sensor kit, Magna3
- 0010 Control box kit, Magna3 1600W



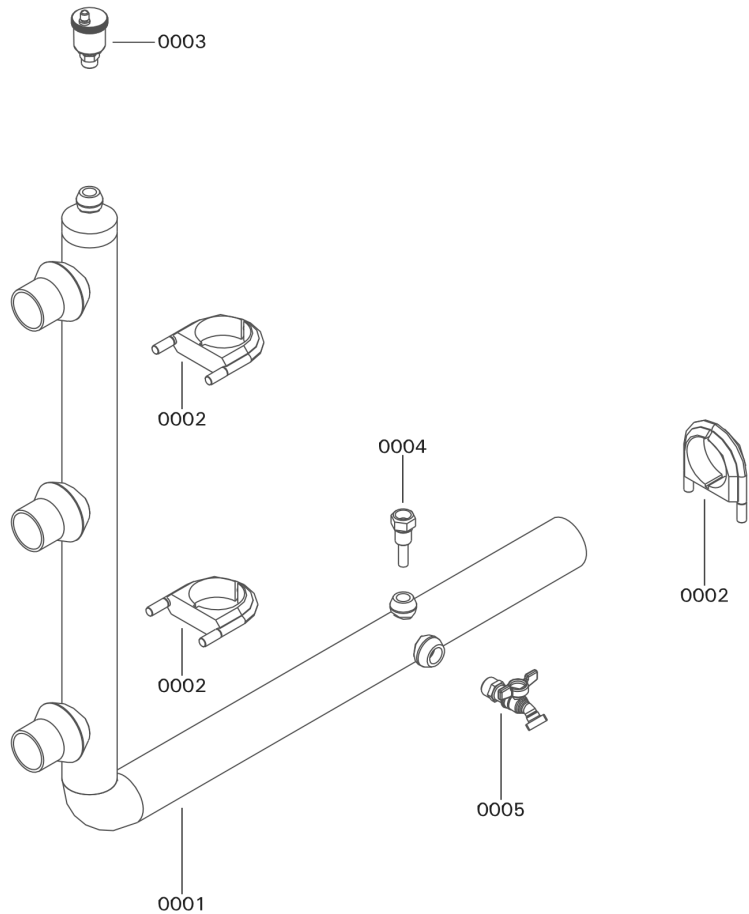
Parts List *(continued)*

Model No.	Serial No.
S3HA 30	7723997□□□□□□□□
S3HA 60	7723998□□□□□□□□
S3HA 90	7723999□□□□□□□□
D3HA 30	7725000□□□□□□□□
D3HA 60	7725001□□□□□□□□
D3HA 90	7725002□□□□□□□□

Parts for Hydraulics

Connection Pipe for Boiler Water Return

- 0001 Connection pipe, heating return
- 0002 Clamp, 2½ in.
- 0003 Air vent with shut-off base, 3/8 in.
- 0004 Sensor well, TH 60V
- 0005 Drain valve, ¾ in.



Parts List *(continued)*

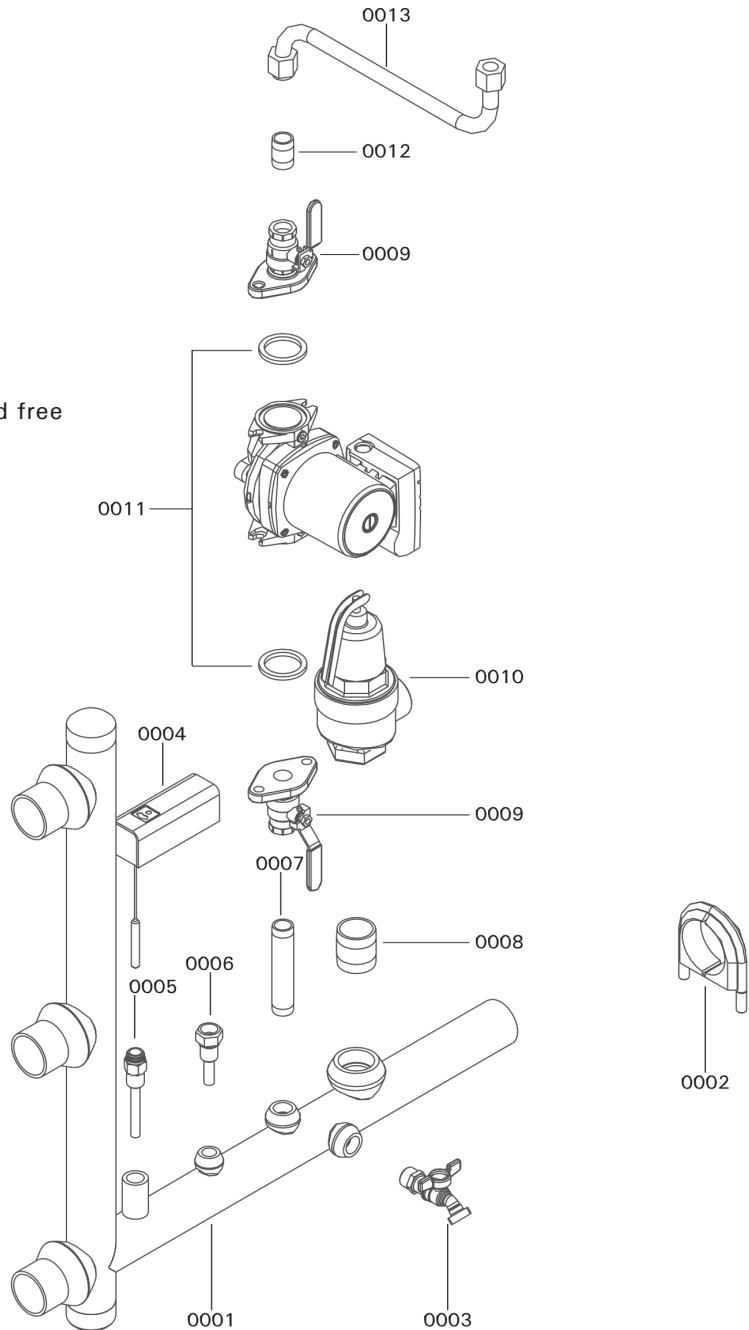
Model No.	Serial No.
S3HA 30	7723997□□□□□□□□□□
S3HA 60	7723998□□□□□□□□□□
S3HA 90	7723999□□□□□□□□□□
D3HA 30	7725000□□□□□□□□□□
D3HA 60	7725001□□□□□□□□□□
D3HA 90	7725002□□□□□□□□□□

Parts for Hydraulics

Connection Pipe for Domestic Hot Water *1

- 0001 Connection pipe, DHW hydraulic SS
- 0002 Clamp, 2 in.
- 0003 Drain valve, 3/4 in. lead free
- 0004 Aquastat, L4006H1004/U
- 0005 Sensor well, 1/2 x 3 in. SS
- 0006 Sensor well, TH 60V SS
- 0007 Nipple, 3/4 x 5 in. SS
- 0008 Nipple, 1 1/2 x 2 in. SS
- 0009 Flange set, 3/4 in. Check-Trol lead free
- 0010 Pressure relief valve, 1 1/2 in. 150 psi lead free
- 0011 Pump, NBF-36 BRZ lead free
- 0012 Nipple, 3/4 x 1 in. SS
- 0013 Flex pipe, 3/4 x 24 in. SS

*1 Important: Ensure only stainless steel or lead free replacement parts are used on domestic water side.



Parts List *(continued)*

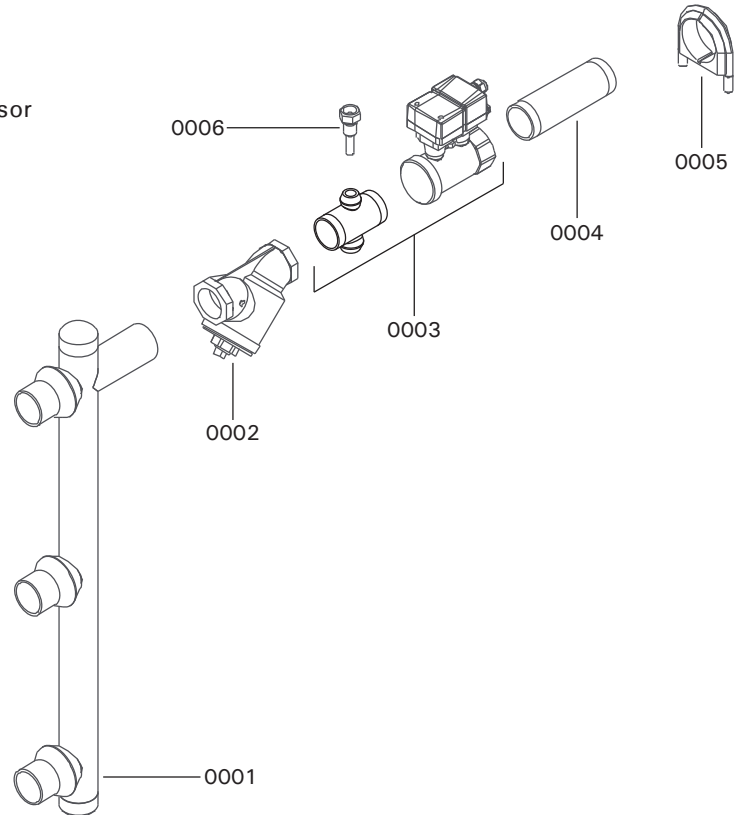
Model No.	Serial No.
S3HA 30	7723997□□□□□□□□
S3HA 60	7723998□□□□□□□□
S3HA 90	7723999□□□□□□□□
D3HA 30	7725000□□□□□□□□
D3HA 60	7725001□□□□□□□□
D3HA 90	7725002□□□□□□□□

Parts for Hydraulics

Connection Pipe for Domestic Cold Water *1

- 0001 Connection pipe, DCW hydraulic SS
- 0002 Strainer, 2 in. Y-Type lead free
- 0003 DCW Connection Pipe Cross & Flow Sensor
- 0004 Nipple, 2 x 6 in. SS
- 0005 Clamp, 2 in.
- 0006 Sensor well, TH 60V SS

*1 Important: Ensure only stainless steel or lead free replacement parts are used on domestic water side.



Installation Fittings

Model No.	Serial No.
S3HA 30	7723997□□□□□□□□□□
S3HA 60	7723998□□□□□□□□□□
S3HA 90	7723999□□□□□□□□□□
D3HA 30	7725000□□□□□□□□□□
D3HA 60	7725001□□□□□□□□□□
D3HA 90	7725002□□□□□□□□□□

Ordering Parts:

Please provide Model and Serial Number (A) when ordering replacement parts. Order replacement components from your Viessmann distributor.

Parts

- 0002 Ball valve, 2½ in.
- 0003 Ball valve, 2 in. *1
- 0004 Immersion sensor, for low-loss header
- 0005 Leveling bolt (each)

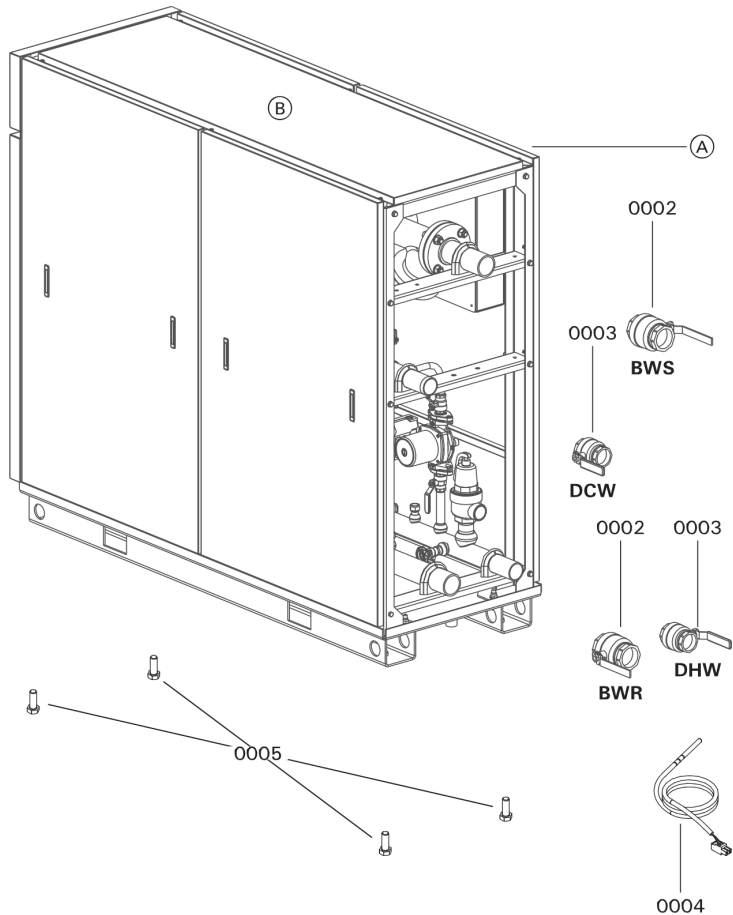
Other Parts (not illustrated)

- 0011 Technical Literature Set
- 0012 Technical Data Manual
- 0013 Installation, Operation and Service Instructions
- 0014 Wiring Diagram
- 0015 Warranty Sheet
- 0016 Parts List, Vitotrans 300
- 0017 Parts List, Installation Set
- 0018 Touch-up paint stick, Vitotec silver
- 0019 Touch-up spray paint, Vitotec silver

*1 Important: Ensure only stainless steel or lead free replacement parts are used on domestic water side.

- BWS Boiler Water Supply
- BWR Boiler Water Return
- DHW Domestic Hot Water
- DCW Domestic Cold Water

(A) Rating Plate with Serial Number (affixed on Control Assembly cover, beneath side panel of Vitotrans 300)



Maintenance

Interval	Maintenance
Weekly	Double-Wall heat exchangers only. Check for leakage.
Quarterly	Every three months. Check the operation of the high limit switch install on the DHW manifold.
Semi-annually	Evert six months. Check the strainers on both the boiler water and the domestic water piping side.
Annually	Once a year. Check the temperature sensors.
	Once a year. Check the operation of the internal system pump and internal descaling pump.
Periodic	Periodic cleaning of the heat exchanger may be necessary, depending on conditions and settings.

Maintenance Record

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

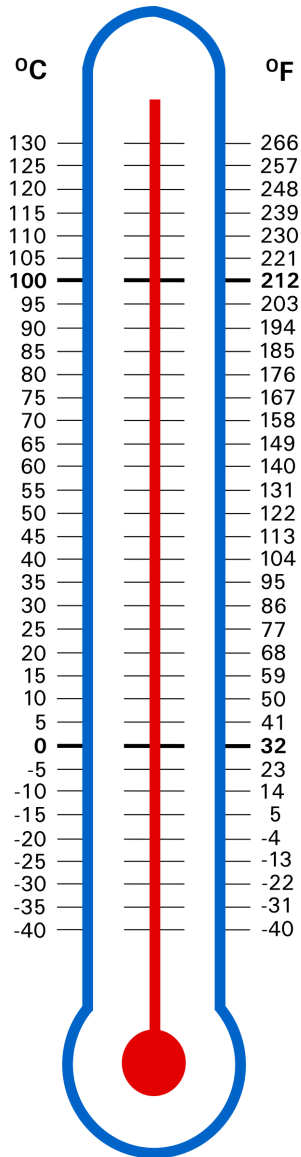
	Maintenance/Service	Maintenance/Service	Maintenance/Service	Maintenance/Service
date:				
by:				

	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:				



Printed on environmentally friendly
(recycled and recyclable) paper.



Technical information subject to change without notice.

Scan for
digital copy
of this
document



Viessmann Manufacturing Company Inc.
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

Viessmann Manufacturing Company (U.S.) Inc.
45 Access Road
Warwick, Rhode Island • 02886 • USA
TechInfo Line 1-844-649-5886
1-800-288-0667 • Fax (401) 732-0590
www.viessmann-us.com • info@viessmann-us.com