



flowvess[®]

HWF Expansion Vessel

OPERATION AND MAINTENANCE MANUAL

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General Information

These instructions are to assist in the installation of the flowvess HWF Expansion Vessels please follow them carefully.

If, having read this Operation & Maintenance Manual, there is any doubt about any aspect of the installation please don't hesitate to contact our technical team.

Definitions of Safety Warnings and Precautions



WARNING!

Indicates a potentially hazardous situation which, if not avoided, can result in serious injury or death.



CAUTION!

Indicates a potentially hazardous situation which, if not avoided. Can result in minor to moderate injury, or serious damage to the product.

Safety

Information

It is essential that correct and safe working practices are adhered to at all times when installing, operating and/or maintaining any piece of equipment. Always consult safety data sheets, operating and maintenance manuals, Health & Safety legislation and recommendations and specific requirements of any equipment manufacturer, site controller, building manager or any other persons or organisation relating to the procurement, installation, operation and/or maintenance of any piece of equipment associated or in conjunction with any product provided by **flowtech** Water Solutions.

This document is intended for ALL installers, operators, users and persons carrying out maintenance of this equipment and must be kept with the equipment, for the life of the equipment and made available to all persons at all times. Prior to carrying out any work associated with the set it is essential that the following sheets are read, fully understood and adhered to at all times.

Equipment must only be installed, operated, used, and/or maintained by a competent person. A competent person is someone who is technically competent and familiar with all safety practices and all of the hazards involved.

Any damage caused to any equipment by misapplication, mishandling or misuse could lead to risk of Electrocutation, Burns, Fire, Flooding, death or injury to people and/or damage to property dependent upon the circumstances involved. **flowtech** Water Solutions accepts no responsibility or liability for any damage, losses, injury, fatalities or consequences of any kind due to misapplication, mishandling or misuse of any equipment, or as a result of failure to comply with this manual.

Failure to install, operate, use or maintain the equipment in accordance with the information contained within this document could cause damage to the equipment and any other equipment subsequently connected to it, invalidating any warranties provided by **flowtech** Water Solutions to the buyer.

Safety Warnings &

Precautions

These instructions should be read and clearly understood before working on the system. Please read this manual carefully and all of the warning signs attached before installing or operating the equipment keep this manual handy for your reference. This equipment should be installed, adjusted and serviced by trained and qualified personnel. Failure to observe this precaution could result in bodily injury.



WARNING! - It is strongly recommended that the system is protected by a suitable pressure relief valve set at or below the maximum tank pressure rating. Failure to install a relief valve may result in tank explosion in the event of a system malfunction or over pressurization, resulting in property damage, serious personal injury or death.



WARNING! - If the pressure tank leaks or shows signs of corrosion or damage do not use it.



CAUTION! - It is strongly recommended that all electrical equipment conforms to National Electrical Codes and local regulations. Only qualified personnel should perform installation, alignment and maintenance. The manufacturer reserves the right to alter the technical data in order to make improvements or update information.



CAUTION! - Failure to observe these rules will render the guarantee invalid. The same applies to repair jobs and/or replacement. Your legal rights are not affected.



CAUTION! - The manufacturer declines all responsibility in the event of damage or injury caused as a result of tampering with the equipment.



CAUTION! - To prevent personal injury, ensure all water pressure is released from the pressure system prior to work being performed. Ensure pumps are disconnected and / or electrically isolated.

Customer / Contractor Responsibilities

It is the responsibility of the customer and/or the contractor:

- To ensure that anyone working on the equipment is wearing all necessary protective gear and/or clothing.
- Is aware of appropriate health & safety warnings.
- Has read the information in this section of the manual.

General Information

Flowtech HWF expansion vessels are designed designed for use in well water or potable water booster systems.

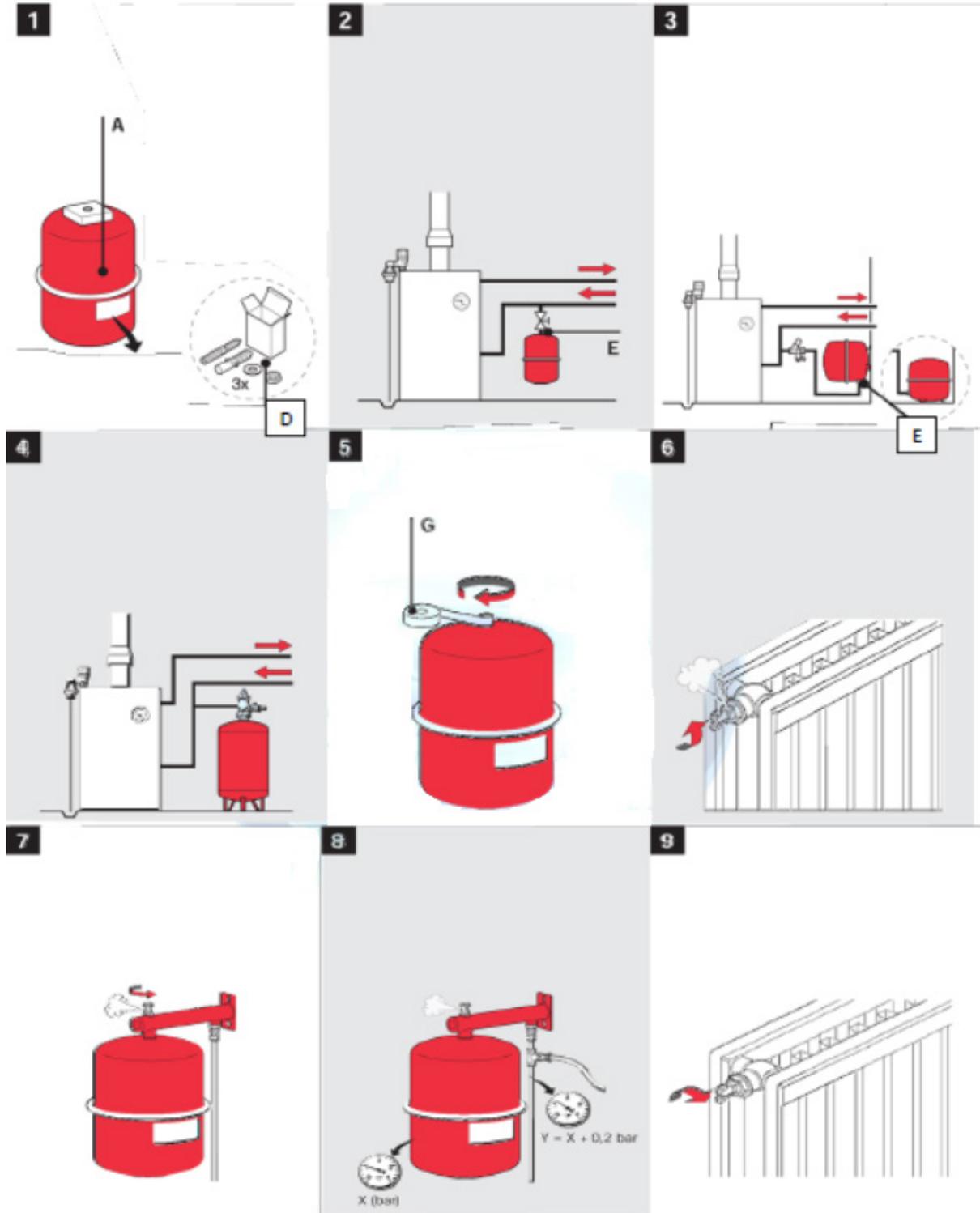
The air and water is permanently separated in the expansion vessel by a butyl diaphragm. All Flowvess HWF vessels are suitable for floor standing applications only. The air pressure must be adjusted up or down to suit site conditions.

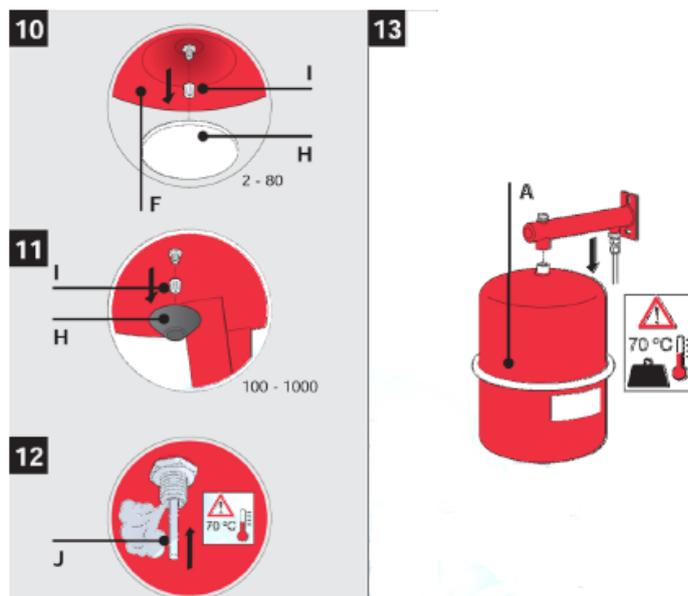
CAUTION: To prevent personal injury, ensure all water pressure is released from the pressure system prior to work being performed. Ensure pumps are disconnected and / or electrically isolated.

WARNING: It is strongly recommended that the system is protected by a suitable pressure relief valve set at or below the maximum tank pressure rating. Failure to install a relief valve may result in tank explosion in the event of a system malfunction or over pressurization, resulting in property damage, serious personal injury or death.

WARNING: If the pressure tank leaks or shows signs of corrosion or damage do not use it.

These instructions have been prepared to acquaint you with the correct method of installing and operating your Flowvess expansion vessel. We urge you to study this document carefully and follow all of the recommendations. In the event of installation difficulties or the need for further advice, you should contact **flowtech** water solutions on 0333 200 1756.





This manual is for the Flowvess HWF-V expansion vessels with a capacity of 2 to 1000 litres. The package includes an expansion vessel (A) and an installation kit (D) (fig 1). See the label for the maximum working pressure and the pre-charge. Flowvess expansion vessels are pressure equipment, and conform to Pressure Equipment Directive 97/23/EC.

Application

Flowvess expansion vessels are intended solely for use in closed central heating and cooling systems (using additives based on up to max. 50% glycol) with a maximum supply temperature of 120 °C. Min/max permissible temperature on the membrane is -10 °C/70°C. See the label for the maximum permissible working pressure.

Safety

The expansion vessel comes pre-charged. Damage may result in serious injuries.

The bracket must be able to carry the weight of a full expansion vessel.

Prevent overpressure in the installation. Install a safety valve.

Set the opening pressure of the safety valve to a value that is equal to or lower than the maximum working pressure shown on the label.

The connection between the expansion vessel and the boiler must always be open.

The installation must be carried out by approved personnel only.

Observe local regulations and guidelines.

Flush the installation before installing the vessel (never via the safety valve) and check the installation by examining it for leaks.

Fitting

Expansion vessels with a capacity of between 2 and 25 litres are installed suspended from the water nipple (E). Use a wall bracket as appropriate. (fig 2)

Expansion vessels with a capacity of between 35 and 80 litres are installed either with the water nipple (E) pointing down, or standing on the floor. (fig 3)

Expansion vessels with a capacity of between 100 and 1000 litres are installed standing on the floor. (fig 4) Install the vessel in the return line, as close as possible to the boiler, on the intake side of the pump. Install the vessel so that the water it contains cannot circulate.

1. Put Teflon tape (G) (do not use hemp!) on the expansion vessel connection. (fig 5)
2. Screw the expansion vessel to the installation T-piece or expansion pipe)

First use

(a) Open the bleed points. (fig 6, 7)

(b) Fill the installation slowly until the fill pressure in the expansion vessel is 0.2 bar higher than the pre-charge. Bleed the system during filling. (fig 8)

(c) Bleed the pipe to the expansion vessel. (fig 8)

(d) Close the bleed points. (fig 9)

(e) Heat the system as high as possible for half a day and bleed regularly.

(f) When the water temperature has fallen to approx. 50 °C, top up the installation to 0.5 bar above the pre-charge of the expansion vessel. Ensure that the filling hose is bled.

It is recommended that the expansion vessel is checked annually by approved personnel.

De Installation

1. Allow the installation to cool down and release the pressure from it.
2. Remove the cover cap (H) and the plug (I). (fig 10, 11)
3. Push the inner valve (J) in to drain the pressure from the expansion vessel. (fig 12)
4. Unscrew the expansion vessel (A). (fig 13)

Caution: a full expansion vessel is heavy!

The water in the expansion vessel may be hot.

Observe the local regulations when you dispose of the expansion vessel.



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WATER SOLUTIONS

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MEMBERS AREA

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Our member's will be granted exclusive access to our technical resource library. Within this resource is a wide range of product information including data sheets, technical drawings, O&M Manuals and training videos



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AFTER SALES SERVICE

At **flowtech**[®] we operate a network of Service Engineers located throughout the UK who are supported by our offices located in and Greater Manchester. The distribution of engineers means that in the majority of cases we are less than 4 hours away from attending a customer call out.

We place great emphasis on providing technical back up to support our Service Engineers in resolving some difficult operational and technical issues. We pride ourselves on completing a project on time, within budget and never leaving a problem unresolved, or a customer waiting. This quality of service has made us the first choice for our customers.

FOR FURTHER INFORMATION OR ASSISTANCE

contact us

Flowtech Water Solutions are experts in water services and water booster sets. We have continuously supplied a wide range of standard and custom products since being founded in 1996.

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