



# flowvess<sup>®</sup>

PWF Expansion Vessel

## OPERATION AND MAINTENANCE MANUAL

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## General Information

These instructions are to assist in the installation of the flowvess PWF 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

**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 PWF-V expansion vessels with a capacity of 2 to 500 litres. See the label for the maximum working pressure and the pre-charge. Flowvess expansion vessels are pressure equipment, and conform to EU Directive 2014/68/EG.

## Application

Flowvess expansion vessels are intended for use with potable and pressurised systems.

(glycol max. 50%).

Min.- / max. system temperature:

2 - 500 Litre: - 10 °C / + 100 °C;

750 - 5000 Litre : - 10 °C / + 50 °C.

## Installation

Install and operate vessels only if the vessel is free from visible damage. In order to keep within the operating- and maintenance manual (B), a declaration of operating parameters, appropriate safety accessories must be fitted. Disregard of this manual may to defects in the vessel, impairment of its function, personal injury or damage to property. To ensure a constant pressure in the mains water supply to the vessel, a pressure reducing valve must be fitted upstream in the pipeline after the water meter.

The installation must be carried out by approved personnel only. Observe local regulations at all times.

Installation

2 – 35 litres must be mounted with the water connection pointing downwards (C).

50 - 5000 litres (and 24 horizontal) vessels are to be installed upright.

Apply (PTFE) synthetic tape (D) to the connection of the vessel (do not use hemp under any circumstances! ).

In case of potable water installations fit the vessel in the cold water feed pipe.

First use

1. Shut off the water pipe and remove pressure from the water system.
2. Set the pre-charge of the expansion vessel 0,2 bar lower than the set pressure of the pressure reducing valve (please see the vessel label for the factory pre-charge):
  - Remove the cover (E) and the valve cap (F).
  - Measure the pressure (P).
  - If the pressure is too high at the gas top-up valve (S), blow off some gas.

If the pressure is too low, top it up, e.g. with a nitrogen canister. Put the valve cap (F) and safety cap (E) in again.

3. Re-open the water pipe.
4. Check the seals on tightness.

## Maintenance

The vessel must be checked annually. Should water escape from the safety valve, proceed as follows:

Check the outward condition of the vessel for damage or corrosion.

Check the gas pre-charge and, if necessary, set to the correct pressure as described in point 2:

- Shut off the Airfix P from the system.
- Drain the Airfix P.
- Exchange the vessel or diaphragm.
- Check the gas pre-charge and if necessary set to the required value as described in point 2:

## De Installation

Shut off the water supply and drain the vessel on the water side.

Remove the cover (E) and the valve cap (F).

Remove pressure (P) from the vessel at the gas top-up valve (S).

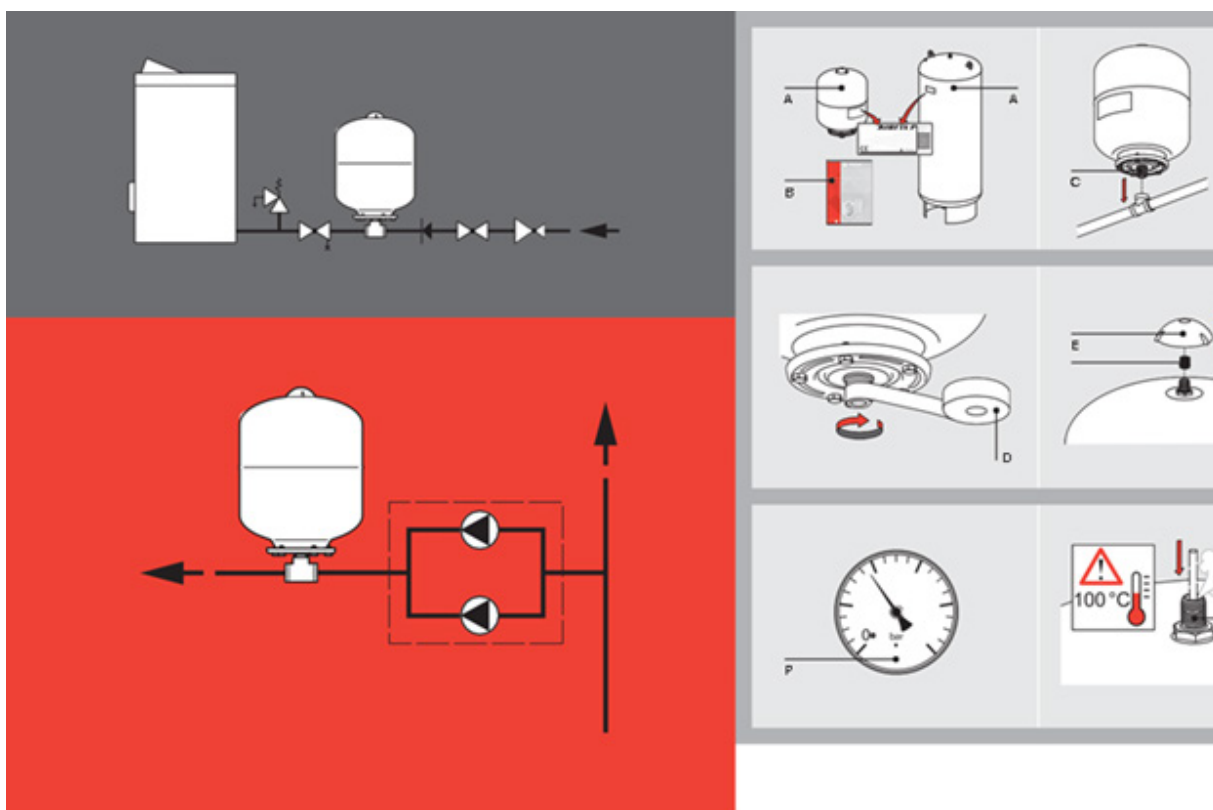
Unscrew the vessel (A).

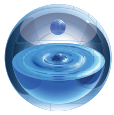
Be careful, the weight of the vessel may be greater than expected, as it may be filled with water.

The water in the vessel may be hot!

Only check the system when the water has cooled off.

Dispose in compliance with local regulations.





**flowtech**<sup>®</sup>  
WATER SOLUTIONS

# flowzone<sup>®</sup>

MEMBERS AREA

This section of the **flowtech**<sup>®</sup> website holds information exclusively for members. Members will need to log in to gain access to these pages.

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



# flowcare<sup>®</sup>

AFTER SALES SERVICE

At **flowtech**<sup>®</sup> 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.

### MANUFACTURE & SUPPLY

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