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WATER SOLUTIONS

flowvess©

PWP Expansion Vessel

OPERATION AND MAINTENANCE MANUAL

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General Information

These instructions are to assist in the installation of the flowvess PWP 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 **flow**tech 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 Electrocution, Burns, Fire, Flooding, death or injury to people and/or damage to property dependent upon the circumstances involved. **flow**tech 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 **flow**tech Water Solutions to the buyer.

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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.

Description

Flowvess PWP-V expansion vessels are ideally suited for a wide range of applications, including booster systems, thermal expansion, heating expansion, irrigation systems, and hydraulic hammer arresting.

Efficient and cost effective, Flowvess tanks are designed with a patented controlled action CAD2 diaphragm assembly. It features a chlorine resistant 100% butyl diaphragm with a precision moulded copolymer polypropylene liner for superior air and water separation.

The CAD2 diaphragm assembly is clenched together with a positive lock internal clench ring which contains drawdown water in a pre-charged air atmosphere, thus providing separation between the diaphragm and tank wall. This “air buffer” design means few problems with condensation.

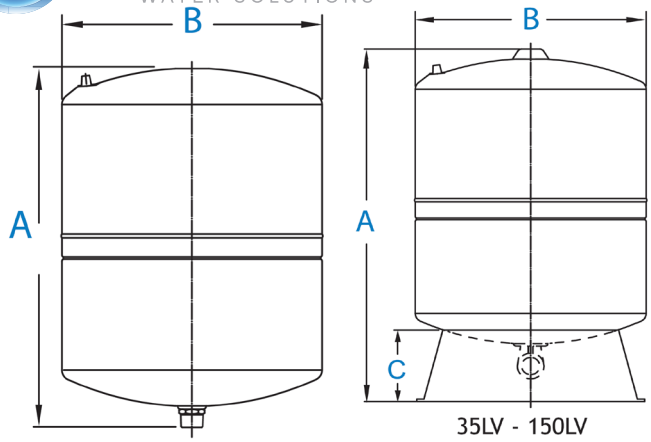
General Information

Flowtech PWP-V expansion vessels are designed to accommodate the natural expansion of water in a closed heating system or in a potable water application.
The air and water is permanently separated in the expansion vessel by a butyl diaphragm.
All Flowvess PWP-V vessels are suitable for floor standing applications.
The air pressure must be adjusted up or down to suit site conditions.

Technical Characteristics

Suitable for Potable and Heating Applications
Max Temp 90°C
Max Pressure 10 bar
System Connection (stainless steel): 1.0”bspf

Model	Nominal Volume (Litres)	Dim A In mm	Dim B In mm	Dim C In mm	Shipping (box) Weight (kg)
Flowvess PWP-V 2	**2**	**20.9**	**12.60**	**-**	**1.13**
Flowvess PWP-V 8	**8**	**31.56**	**20.20**	**-**	**2.47**
Flowvess PWP-V 12	**12**	**36.70**	**23.00**	**-**	**3.21**
Flowvess PWP-V 18	**18**	**36.70**	**27.90**	**-**	**4.07**
Flowvess PWP-V 24	**24**	**44.70**	**29.00**	**-**	**5.52**
Flowvess PWP-V 35	**35**	**48.10**	**31.80**	**-**	**7.28**
Flowvess PWP-V 35	**35**	**48.10**	**31.80**	**-**	**7.28**
Flowvess PWP-V 60	**60**	**62.00**	**38.90**	**5.00**	**11.28**
Flowvess PWP-V 80	**80**	**81.50**	**38.90**	**12.70**	**16.24**
Flowvess PWP-V 100	**100**	**80.40**	**43.00**	**12.90**	**19.72**
Flowvess PWP-V 150	**150**	**93.80**	**53.00**	**13.85**	**76.30**



Installation

- An isolating and drain down valve must be installed in between the system and the expansion vessel (and autofiller if fitted) to enable correct commissioning of the vessel.
- The installation should be indoors and not subject to freezing conditions.
- The vessel should be installed so that in the event of water leaking from the vessel or any associated pipe work this will not cause damage to surroundings, the manufacturers will not accept claims for damage caused by water leaks.
- The factory pre charge is 1.4 bar, this will need adjusting depending upon system conditions, to check the vessel pressure correctly and readjust if necessary the system must not be pressurised with water.
- The vessel must not be supported by the pipe work.
- The vessel should be connected to the return pipe work on heating systems, potable system installations vary, please contact our technical help line if required.

Troubleshooting

- Problem: - Safety relief valve leaks/passes
- Solution: - Dirt under seat of valve. Safety relief valve faulty. Incorrect pressure in vessel.
- Problem: - Pressure in system slowly decreases.
- Solution: - System is not entirely sealed, check for leaks and repair.
- Problem: - Pressure rises quickly on increase
- Solution: - Too much air in vessel in temperature. Insufficient air in vessel Vessel not sized correctly

All vessels should be checked annually for the correct pressure and adjusted if required.

Failure to have the correct pressure will reduce the life expectancy of the vessel

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MEMBERS AREA

This section of the **flow**tech© 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©
AFTER SALES SERVICE

At **flow**tech© 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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Membership No. 700106

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