

## **‘Burstock’ range of Expansion Vessels**

**PV25W, PV60W, PV80W, PV100W  
PV200W, PV300W, PV400W,  
PV500W, PV800W, PV1000W**

### **IMPORTANT NOTE**

**THESE INSTRUCTIONS MUST BE READ  
AND UNDERSTOOD BEFORE INSTALLING,  
COMMISSIONING, OPERATING OR  
SERVICING EQUIPMENT**

# Customer After Sales Services

Telephone: **01202 662555** E-mail: **service@hamworthy-heating.com** Fax: **01202 662522**

## **Technical Enquiries**

To supplement the detailed technical brochures, technical advice on the application and use of products in the Hamworthy Heating range is available from our technical team in Poole and our accredited agents.

## **Site Assembly**

Hamworthy offer a service of site assembly for many of our products where plant room access is restricted. Using our trained staff we offer a higher quality of build and assurance of a boiler built and tested by the manufacturer.

## **Commissioning**

Commissioning of equipment by our own engineers, accredited agents or specialist sub-contractors will ensure the equipment is operating safely and efficiently.

## **Service Contracts**

Regular routine servicing of equipment by Hamworthy service engineers inspects the safety and integrity of the plant, reducing the risk of failure and improving performance and efficiency. Service contracts enable you to plan and budget more efficiently.

## **Breakdown service, repair, replacement**

Hamworthy provide a rapid response breakdown, repair or replacement service through head office at Poole and accredited agents throughout the UK.

## **Spare Parts**

We offer a comprehensive range of spare parts, providing replacement parts for both current and discontinued products. Delivery options are available to suit you. Please refer to our website for more details.

# **BURSTOCK**

## **Installation, operating and maintenance instructions**

### **General safety instructions**

'Burstock' diaphragm pressure expansion vessels are pressure devices. A diaphragm separates the water and gas within the assembly. The assemblies are certified to the Pressure Equipment directive 97/23/EC for the construction, manufacturing and 1st test at the factory. Please refer to the Declaration of Conformity for the scope of assembly. Please refer to the type plate or the Declaration of Conformity for the selected technical specification for the fulfilment of the basic security requirements of Annex I of the Directive 97/23/EC.

### **Mounting, operation, test before operation, regular check-up**

This equipment must be installed by a competent person. All installations MUST conform to the relevant safety and building regulations. Necessary tests before operation, after fundamental changes in the installation and periodic inspection. Recommendations regarding periodic check-up: see paragraph "periodic check-up".

The expansion vessel should not be installed if any external damage is noted after delivery.

### **Changes to the 'Burstock'**

Physical changes are not permitted to the unit. Only vessels meeting the manufacturers specification should be installed. Any spare parts obtained for the vessel must be to the original manufacturers specifications.

### **Observe the parameters**

Details concerning manufacturer, year of manufacture, serial number and the technical data are provided on the name plate. Suitable measures must be taken so that the specified permissible maximum and minimum operating parameters (pressure, temperature) are adhered to. Exceeding the permissible operating pressure of the water and the gas systems both during operation and when filling the gas system must be avoided. On no account must the gas pre-pressure exceed the permissible operating pressure. Even with vessels having a permissible operating pressure above 4 bar, the gas pre- pressure for storage and transport may not exceed 4 bar. An inert gas, for instance nitrogen, should be used for the gas charge.

### **Corrosion**

Expansion vessels are made of steel and are coated on the outside and inside. A wear allowance (corrosion allowance) was not provided for. If an expansion vessel is used in systems with potable and non-potable water no corrosion of the vessel is to be expected.

### **Thermal protection**

In water heating systems, a warning instruction must be provided by the operator near the expansion vessel if persons are endangered by excessive surface temperatures.

### **Place of installation**

Adequate load carrying capacity of the place of installation must be ensured taking into account the expansion vessel filled with water. A drain must be provided for the draining water and a cold water admixture facility must be provided if required (see also "Assembly" section). An installation in seismic areas is not allowed.

Failure to heed these instructions especially the safety instructions can result in the destruction of and defects on the expansion vessel, endanger persons and impair the operation. Any claims for warranty and liability are excluded if these instructions are not adhered to.

## Operating areas

'Burstock' expansion vessels are suitable for use in systems with potable and non-potable water (water heating systems, pressure boosting systems, water supply systems), fire-fighting systems and floor heating for volume expansion, for pressure surge damping, for water storage or as control vessels. The glycol content in the water may not exceed 50%. When dosing additives, the instructions of the manufacturers with regard to the reliable dosing quantities, especially with regard to corrosion, must be observed. 'Burstock' expansion vessels are not suited for oil and are not admitted for media belonging to the fluid group 1 according to the Directive 97/23/EC (e.g. for toxic media).

type	flow fitting	circulated	bladder diaphragm
'Burstock'	no	no	yes

## Permissible operating parameters

max perm. operating temperature:  $t_{max} + 70\text{ °C}$   
min. operating temperature:  $t_{min} - 10\text{ °C}$   
(only when appropriate anti-freeze is added to non-potable water systems)  
max. continuous operating temperature of the diaphragm:  $t + 70\text{ °C}$   
max permissible operating pressure:  $p_{max}$  according to name plate  
min. operating pressure:  $p_{min} 0\text{ bar}$   
Gas space: Nitrogen  
(Fluid group 2 acc. to Directive 97/23/EC)  
Water space: Water,  
Water/glycol mixture  
(max. glycol share of 50%)  
(Fluid group 2 acc. to Directive 97/23/EC)

## General installation Instructions

**Install** in a frost-free room so that inspection is possible from all sides, the gas filling valve and the water isolation and drain are accessible and the name plate remains visible.

**A Stress-free installation** of the expansion vessel is required with no additional loads imposed by pipelines or equipment!

### Installation on site

Pressure switch, manometer etc. may not be mounted on diaphragm suspension nut.

These accessories can be installed in the pipework between the expansion vessel and the system for example.

**A Wall bracket** for the 'Burstock' PV25W (available as a kit with Burstock PV25W).

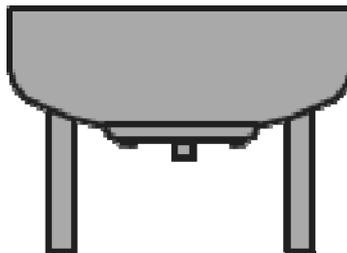
### Installation position

All available as a Vertical installation with a separate mounting bracket available for the PV25W (available as a kit)

## Installation 'Burstock'

'Burstock' only has one connection and the units are not circulated. The isolation and drain fitting must be provided by the customer.

**Note:** Any water side isolation valve must be of the 'lock shield' type only.



## Installation in domestic hot water heating systems

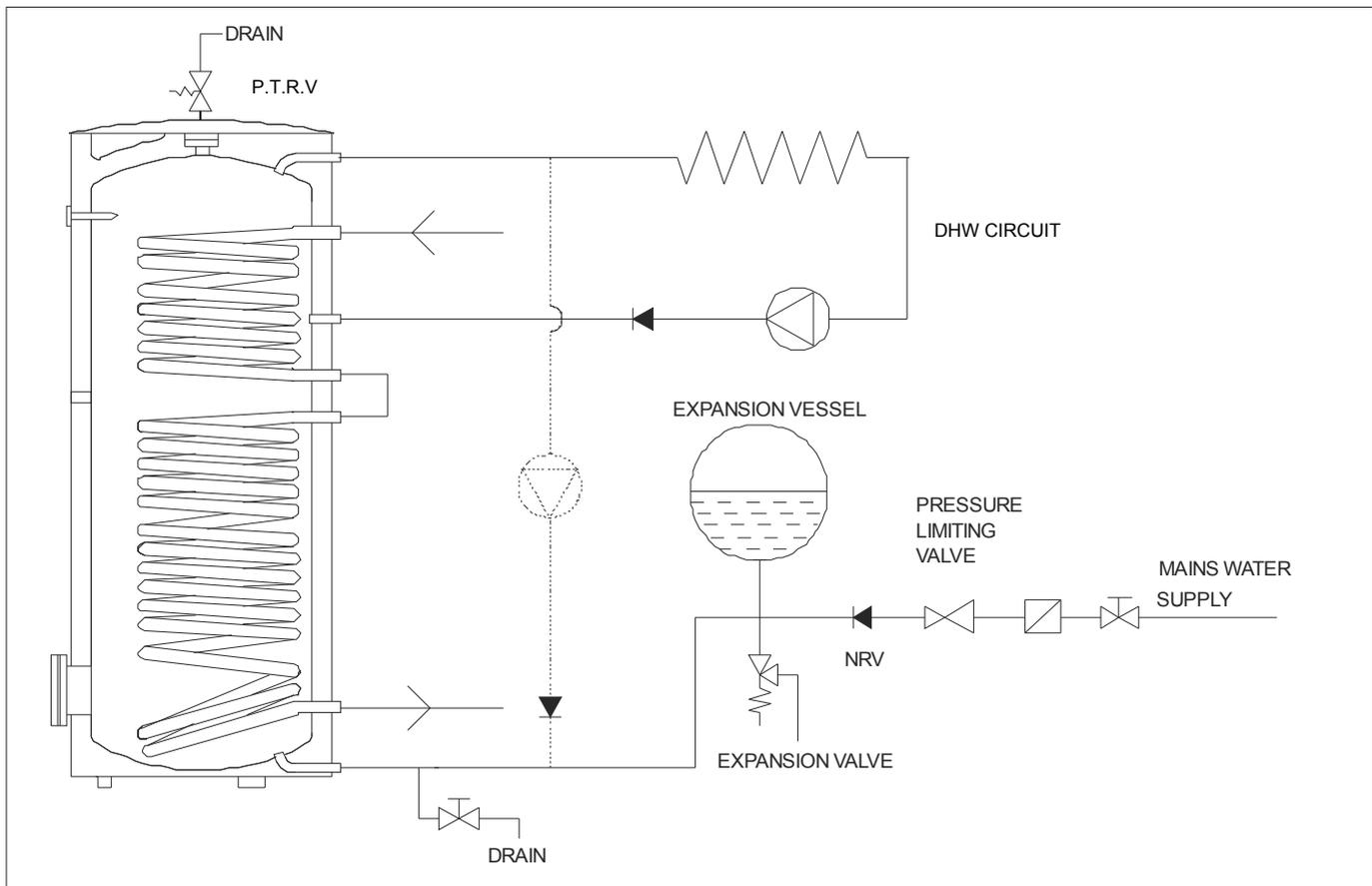
**Pressure regulation** : It is recommended that the Burstock expansion vessels be used in conjunction with the manufacturers unvented supply kit

**Expansion relief valve** : The opening pressure may not be above the permissible operating pressure of the expansion vessel which should generally be installed directly at the cold water inlet without isolation to the hot water storage tank.

Always install the expansion vessel in the cold water supply to the hot water storage tank and not in pipelines carrying hot water.

### Unvented Kits :

The manufacturers unvented kits are usually provided with an expansion vessel connection located in the correct position and after any back flow preventing non return valve.



An expansion vessel installed into a typical unvented system.

## Start-up

**Attention!** If the pre-pressure  $p_c$  is incorrectly set, the operation of the expansion vessel is not guaranteed or only insufficiently so, which may lead to an increased wear of the diaphragm.

### Adjusting pre-pressure $p_c$ to minimum supply pressure of the system

Pressure adjustment of the gas pre-charge should only be made when the expansion vessel is empty of water.

Measure the factory-set pre-pressure  $p_c$  on the gas filling valve with a manual pressure gauge.

If the pressure is too high, drain gas from the gas filling valve, if the pressure is too low, replenish gas for example with a nitrogen cylinder

Enter newly adjusted pre-pressure  $p_c$  on the name plate

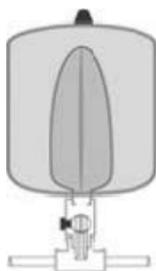
**Caution!** The closing cap of the gas valve has a sealing function and must be tightened once the pre-pressure has been set.

It is recommended that :

In **water heating systems** ♦ s. p. 3

$p_c$  = setting value of the pressure reducing valve in the manufacturers unvented supply kit.

If the **pre-pressure  $p_c$**  is set at the gas valve according to our recommendations then the necessary water supply for low wear operation is always ensured.



Pre-pressure  $p_c$

The expansion vessel is now ready for operation again.

**Note:** before setting the system to operate, ensure any waterside isolation valves to the expansion vessel are fully open.

## **Maintenance**

All associated heating or hot water systems & appliances must be safely turned off and isolated before commencing any maintenance operation on the expansion vessel.

### **External check**

Vessel damage (for instance corrosion) visible?

In the case of large vessels, involve service, specialists or experts when in doubt, replace smaller vessels. Check the pre-charge valve and, if available, gas pressure gauge for leaks. When carrying out maintenance work on the pre-charge valve, the vessel gas system must also be drained.

### **Diaphragm inspection**

Briefly actuate the pre-charge valve, if water escapes:

Contact Hamworthy Heating Ltd Service Department.

### **Pressure setting**

Isolate and drain the expansion vessel

Check gas pre-charge pressure and reduce or increase as required to ensure it meets the installed system requirements pc.

Ensure the gas pre-charge valve screw cap is fully refitted.

Open any waterside isolation valves before reinstating the system to normal operation.

**The expansion vessel is now ready for operation again.**

### **Periodic check-up**

#### **Classification of the 'Burstock' into Chart 2 of Annex II of the Directive 97/23/EC and recommended maximum test periods**

Valid in case of the strict observation of the 'Burstock'- mounting, operating, and maintenance instructions and alternating stress up to 20% of the admissible operating excess pressure:

**external inspection:** no requirement

**internal inspection:**

The actual periods must be determined by the operator based on a safety assessment with consideration of the real operational conditions and in view of the valid national regulations.

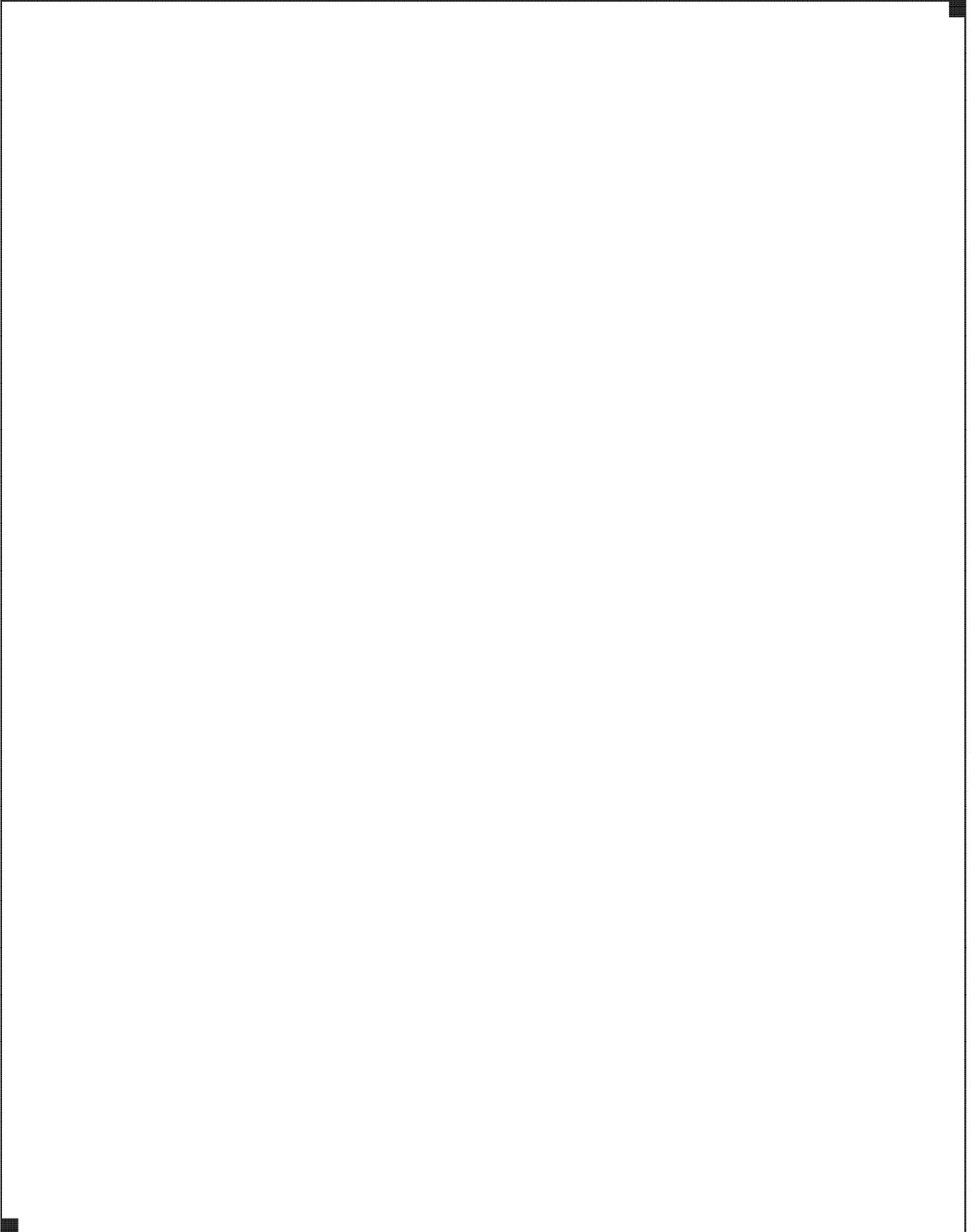
'Burstock' Expansion Vessel Range - Part Numbers

PV25W.....	532712084
PV60W.....	532712085
PV80W.....	532712086
PV100W.....	532712087
PV200W.....	532712088
PV300W.....	532712089
PV400W.....	532712090
PV500W.....	532712091
PV800W.....	532712092
PV1000W.....	532712093
PV25W + Wall Mounting Bracket kit.....	563605641
Wall Mounting Bracket for PV25W.....	530101090

**NOTES:**

Suppliers Declaration of Conformity is available on request.

# Notes



# Hamworthy Heating Accredited Agents

## **Southern Ireland (Sales & Service)**

HEVAC Limited  
Naas Road, Dublin 12, Ireland  
tel: **00 353 141 91919** fax: **00 353 145 84806**  
email: **info@hevac.ie**

## **Scotland (Sales & Service)**

McDowall Modular Services  
2 Penson Road, Queenslie Industrial Estate, Glasgow, G33 4AG  
tel: **0141 336 8795** fax: **0141 336 8954**  
email:  
**MMS.McDowallModularServices@hamworthy-heating.com**

## **Northern Ireland (Sales & Service)**

HVAC Supplies Limited  
Unit A6, Dargan Court, Dargan Crescent, Belfast BT3 9JP  
tel: **028 9077 7737**  
email: **hvacsupplies@btconnect.com**

## **North East England (Service)**

Allison Heating Products  
12 Sunnyside Lane, Cleadon Village, Sunderland SR6 7XB  
tel: **0191 536 8833** fax: **0191 536 9933**  
email: **allison.heating@gmail.com**

# Hamworthy Heating Customer Service Centre

## **Sales**

tel: **01202 662552**  
email: **sales@hamworthy-heating.com**

## **Technical Enquiries**

tel: **01202 662505**  
email: **technical@hamworthy-heating.com**

## **Servicing**

tel: **01202 662555**  
email: **service@hamworthy-heating.com**

## **Spares**

tel: **01202 662525**  
email: **spares@hamworthy-heating.com**

British engineering excellence from Hamworthy Heating;  
the commercial heating and hot water specialists.



## **Customer Service Centre**

Hamworthy Heating Limited,  
Wessex House,  
New Fields Business Park,  
Stinsford Road,  
Poole,  
Dorset,  
BH17 0NF

Telephone: **01202 662500**  
Fax: **01202 662522**  
Email: **service@hamworthy-heating.com**  
Website: **www.hamworthy-heating.com**