

# Expansion Vessel

## Model EVCP – Heating – 4, 5 or 6 bar - Datasheet

### Description

Range of expansion vessels for accommodating the thermal expansion of sealed heating systems. Model EVCP is rated at 4, 5 or 6 bar depending on size and approved for primary circuit unvented heating applications. These systems normally feature a pressurisation unit such as the Arrow Valves "Autofill". For wholesome water or heating applications where 10 bar rating is required, refer to model [EVUP](#).

### Connection

BSP Male connection  
See code in table for size e.g. 25MP = 1" male parallel.

### Specification

Pressure Supply                      Dependant on Size (See Table)  
Temperature                         -10° to 99° C  
Approval

### Materials

Body                                     Mild Steel – red epoxy powder  
Membrane (bag)                    Butyl rubber

### Applications

- Unvented Heating Systems
- Commercial (non drinking)

### Fitting Kit

The vessel must be pre-charged with air before use and periodically (e.g. annually) thereafter. The vessel must be drained of water before charging. To achieve this proper isolator and drain tap should be used as shown below. This unit features a union connection (O-ring face seal), full bore ball valve, tamperproof cap and a wire lock.



Ball Valve – Wired, Drain Tap & Union Model BVEV

### Pre-charge Pressure

The air pressure – with zero water pressure – is normally set at 0.2 bar less than the switch-on pressure of the pressurisation unit. A Schrader valve (as found on a car tyre) is located in the top of the vessel.

### Vessel Sizing

- The vessel capacity is based on these factors –
- System volume (a water meter is recommended upstream of the "Autofill" unit to confirm system volume)
  - Cold fill pressure
  - Flow and return temperatures
  - Highest system pressure permissible

### Guide only

For systems with 82 / 72° C flow and return and cold fill pressure up to 1.5 bar, a good rule of thumb is, 1 litre vessel capacity minimum per KW boiler output – round up to larger vessel capacity (e.g. 160 KW boiler may require 200 litre vessel. For higher cold fill pressures, a larger vessel is required. Please contact us with your values.



105 Litre Vertical  
EVCP105

### Water Regulations

Several safety devices are required for unvented heating systems. Clause R17.3 suggests the expansion capacity should be 4% of volume of the hot water storage system. G17.1 requires safety devices.

### Dimensions

Lt	Diameter mm	Height mm	Connection
4	225	195	3/4"
8	220	295	3/4"
12	294	281	3/4"
18	290	400	3/4"
24	324	415	3/4"
35	404	408	3/4"
50	404	530	3/4"
80	450	608	3/4"
105	500	665	3/4"
150	500	897	3/4"
200	600	812	3/4"
250	630	957	3/4"
300	630	1105	3/4"
400	630	1450	3/4"
500	750	1340	1"
600	750	1555	1"
700	750	1755	1"

### Codes and Descriptions

Size	Code	Description
4 Lt	EVCP4	Exp. Vessel 5 bar Ø225X195 High
8 Lt	EVCP8	Exp. Vessel 5 bar Ø220x295 High
12 Lt	EVCP12	Exp. Vessel 4 bar Ø294X281 High
18 Lt	EVCP18	Exp. Vessel 4 bar Ø290X400 High
24 Lt	EVCP24	Exp. Vessel 4 bar Ø324X415 High
35 Lt	EVCP35	Exp. Vessel 4 bar Ø404X408 High Legs
50 Lt	EVCP50	Exp. Vessel 4 bar Ø404X530 High Legs
80 Lt	EVCP80	Exp. Vessel 6 bar Ø450X608 High Vert
105 Lt	EVCP105	Exp. Vessel 6 bar Ø500X665 High Vert
150 Lt	EVCP150	Exp. Vessel 6 bar Ø500X897 High Vert
200 Lt	EVCP200	Exp. Vessel 6 bar Ø600X812 High Vert
250 Lt	EVCP250	Exp. Vessel 6 bar Ø630X957 High Vert
300 Lt	EVCP300	Exp. Vessel 6 bar Ø630X1105 High Vert
400 Lt	EVCP400	Exp. Vessel 6 bar Ø630X1450 High Vert
500 Lt	EVCP600	Exp. Vessel 6 bar Ø750X1340 High Vert
600 Lt	EVCP600	Exp. Vessel 6 bar Ø750X1555 High Vert
700 Lt	EVCP700	Exp. Vessel 6 bar Ø750X1755 High Vert
Expansion Vessel Isolators		
DN20	BVEV20SNDT	Ball Valve Exp.Vess. Wired Drain Tap Econ.
DN20	BVEV20FUDT	Ball Valve Exp.Vess. Wired Drain Tap Union
DN20	BVEV20FUDTL	Ball Valve Exp.Vess. Large Drain Tap Union
DN25	BVEV25FUDT	Ball Valve Exp.Vess. Wired Drain Tap Union
DN25	BVEV25FUDTL	Ball Valve Exp.Vess. Large Drain Tap Union

### Options

- Please contact us for –
- "Autofill" Pressurisation Units (legally fill without filling loop)
  - Volumetric Water Meter and Isolating Valves
  - Dosing Pots
  - Expansion (Pressure Relief) Valves

### Arrow Valves Ltd

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Arrow Valves Ltd reserve the right to change specifications, design and materials at any time without notice.  
All unit-less dimensions in mm.  
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