

Expansion Vessel

Model EVCP – Heating – 3, 5 or 6 bar - Datasheet

Description

Range of expansion vessels for accommodating the thermal expansion of sealed heating systems. Model EVCP is rated at 3, 5 or 6 bar depending on size and meets the requirements for primary circuit unvented heating applications. These systems normally feature a pressurisation unit such as the Arrow Valves "Autofill®".

The nitrogen-filled EVCP is less prone to pressure drop than an air-filled expansion vessel, as nitrogen is an inert gas which does not oxidise. The vessel can be topped up with regular air as required and comes with a 5 year guarantee as standard.

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)

Specification		
Max. Working Pressure	bar	5 (4 litre vessels) 3 (8 to 35 litres) 6 (50 to 800 litres)
Max. Flow Operating Temperature	°C	120
Max. Vessel Operating Temperature	°C	70
Factory Pre-charge	bar	1.5 (Nitrogen)
Materials		
Shell, Connections		Carbon Steel
Diaphragm		Synthetic Rubber
Coating		Powder Epoxy

Applications

- Unvented Heating Systems
- Commercial (non-drinking)



Fitting Kit

The vessel must be pre-charged with nitrogen / air before use and periodically (e.g. annually) thereafter. The vessel must be drained of water before charging. To achieve this, an appropriate 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 the same as 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
- Flow and return temps.
- Cold fill pressure
- Static head above vessel

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.

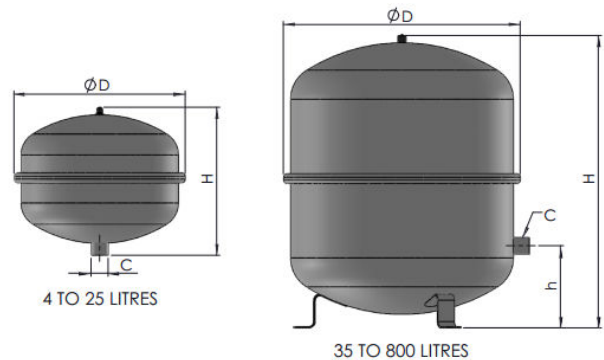
Water Regulations

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.

100 Litre Vertical
EVCP100



Dimensions



Lt	øD (mm)	H (mm)	h (mm)	Connection	Weight (kg)
4	225	195		3/4"	< 1
8	272	236		3/4"	1.7
12	272	313		3/4"	2.8
18	308	360		3/4"	3.6
25	308	481		3/4"	4.4
35	376	466	130	3/4"	5.6
50	441	487	175	3/4"	9.6
80	512	558	172	1"	13.3
100	512	669	172	1"	15.8
140	512	890	172	1"	19.9
200	634	758	205	1"	37
250	634	890	205	1"	45
300	634	1090	235	1"	52
400	740	1066	245	1"	65
500	740	1290	245	1"	79
600	740	1530	245	1"	85
800	740	1995	245	1"	103

Codes and Descriptions

Size	Code	Description
4 Lt	EVCP4	4 Lt Exp Vessel 5 bar Ø225X195 High
8 Lt	EVCP8	8 Lt Exp Vessel 3 bar Ø272x236 High 3/4" BSP
12 Lt	EVCP12	12 Lt Exp Vessel 3 bar Ø272X313 High 3/4" BSP
18 Lt	EVCP18	18 Lt Exp Vessel 3 bar Ø308X360 High 3/4" BSP
25 Lt	EVCP25	25 Lt Exp Vessel 3 bar Ø308X481 High 3/4" BSP
35 Lt	EVCP35	35 Lt Exp Vessel 3 bar Ø376X466 High 3/4" BSP
50 Lt	EVCP50	50 Lt Exp Vessel 6 bar Ø441X487 High 3/4" BSP Legs
80 Lt	EVCP80	80 Lt Exp Vessel 6 bar Ø512X558 High 1" BSP Legs
100 Lt	EVCP100	100 Lt Exp Vessel 6 bar Ø512X669 High 1" BSP Legs
140 Lt	EVCP140	140 Lt Exp Vessel 6 bar Ø512X890 High 1" BSP Legs
200 Lt	EVCP200	200 Lt Exp Vessel 6 bar Ø634X758 High 1" BSP Legs
250 Lt	EVCP250	250 Lt Exp Vessel 6 bar Ø634X890 High 1" BSP Legs
300 Lt	EVCP300	300 Lt Exp Vessel 6 bar Ø634X1090 High 1" BSP Legs
400 Lt	EVCP400	400 Lt Exp Vessel 6 bar Ø740X1066 High 1" BSP Legs
500 Lt	EVCP500	500 Lt Exp Vessel 6 bar Ø740X1290 High 1" BSP Legs
600 Lt	EVCP600	600 Lt Exp Vessel 6 bar Ø740X1530 High 1" BSP Legs
800 Lt	EVCP800	800 Lt Exp Vessel 6 bar Ø740X1995 High 1" BSP Legs
Expansion Vessel Isolators		
DN20	BVEV20SNDT	DN20 Economy Expansion Vessel Isolator.
DN20	BVEV20FUDT	DN20 Ball Valve Exp.Vess. Wired Drain Tap Union
DN20	BVEV20FUDTL	DN20 Ball Valve Exp.Vess. Large Drain Tap Union
DN25	BVEV25FUDT	DN25 Ball Valve Exp.Vess. Wired Drain Tap Union
DN25	BVEV25FUDTL	DN25 Ball Valve Exp.Vess. Large Drain Tap Union

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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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