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.

100 Litre Vertical EVCP100

Connection

BSP Male connection (See code in table for size)

Specification

Max. working pressure	4 litres	5 bar
	8 to 35 litres	3 bar
	50 to 800 litres	6 bar
Max. flow operating temperature		120º C
Max. vessel operating temperature		70º C
Factory pre-charge		1.5 bar - nitrogen

Materials

Shell, Connections	Carbon Steel
Diaphragm	SBR – Styrene-Butadiene 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 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
- Cold fill pressure
- Flow and return temps.
- Static head above vessel

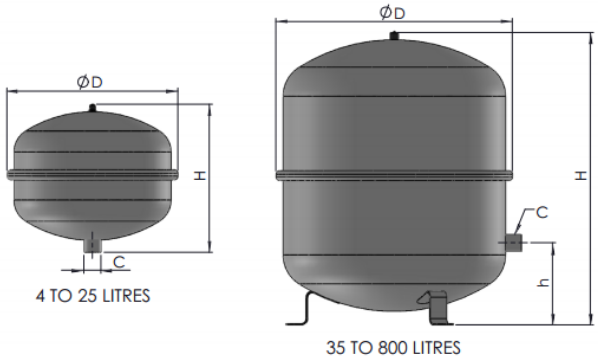
Guide only

For systems with 82 / 72º 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.

Dimensions



Lt	øD (mm)	H (mm)	h (mm)	Connection	Weight (kg)
4	225	195		¾"	< 1
8	272	235		¾"	1.7
12	272	315		¾"	2.3
18	308	365		¾"	2.8
25	308	485		¾"	3.5
35	376	465	130	¾"	5.7
50	441	495	175	¾"	7.5
80	512	570	175	1"	9.9
100	512	680	175	1"	11.2
140	512	895	175	1"	14.5
200	634	760	205	1"	37
250	634	890	205	1"	45
300	634	1090	245	1"	52
400	740	1090	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	Exp. Vessel 5 bar Ø225X195 High
8 Lt	EVCP8	Exp. Vessel 5 bar Ø272x235 High
12 Lt	EVCP12	Exp. Vessel 4 bar Ø272X315 High
18 Lt	EVCP18	Exp. Vessel 4 bar Ø290X400 High
25 Lt	EVCP25	Exp. Vessel 4 bar Ø308X365 High
35 Lt	EVCP35	Exp. Vessel 4 bar Ø376X465 High Legs
50 Lt	EVCP50	Exp. Vessel 4 bar Ø441X495 High Legs
80 Lt	EVCP80	Exp. Vessel 6 bar Ø512X570 High Vert
100 Lt	EVCP100	Exp. Vessel 6 bar Ø512X680 High Vert
140 Lt	EVCP140	Exp. Vessel 6 bar Ø512X895 High Vert
200 Lt	EVCP200	Exp. Vessel 6 bar Ø634X760 High Vert
250 Lt	EVCP250	Exp. Vessel 6 bar Ø634X890 High Vert
300 Lt	EVCP300	Exp. Vessel 6 bar Ø634X1090 High Vert
400 Lt	EVCP400	Exp. Vessel 6 bar Ø740X1090 High Vert
500 Lt	EVCP500	Exp. Vessel 6 bar Ø740X1290 High Vert
600 Lt	EVCP600	Exp. Vessel 6 bar Ø740X1530 High Vert
800 Lt	EVCP800	Exp. Vessel 6 bar Ø740X1995 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

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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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