

PRESSURE EXPANSION VESSELS WITH FIXED GAS FILLING

EVN4 - EVN140



IMPROVE EFFICIENCY AND LIFESPAN

IMPROVE SYSTEM EFFICIENCY AND LIFESPAN WITH SPIROEXPAND PRESSURISATION SYSTEM.

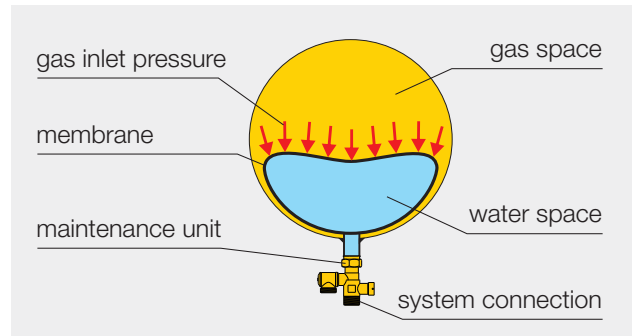
Temperature fluctuations in heating and cooling, cause the system water to expand and contract, resulting in volume changes in the system.

The system water expands when the water temperature rises, increasing the pressure and load on individual components (including the circulation pump, couplings, etc.) and pipes. If the pressure in a system is too high it will affect the components' lifespan or result in leakage. When the temperature drops, the volume decreases, which reduces the pressure on the system. A too low system pressure can result in air intake which reduces system efficiency and can cause corrosion; a heating or cooling system's greatest enemy.

Non-optimal pressure build-up in a system has very serious consequences for entire system performance (efficiency) and lifespan. Investment in a high quality pressurisation system tailored to your heating or cooling system's requirements is essential in optimising system pressure. Optimised system pressure maximises system component functioning and guarantees trouble-free, cost-effective performance.

Function and construction

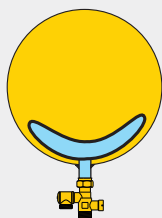
Closed expansion vessels are primarily a safety device for systems that use water as a heat transfer medium to transfer energy from the heating and/or cooling system to a living or user space. An expansion vessel also helps improve system efficiency and reliability by optimising



Impact of gas pre-pressure

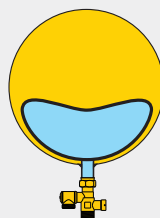
system component functioning and by protecting these components.

A standard expansion vessel has two chambers separated by a membrane. Spirotech expansion vessels comprise of a high-quality bag, which completely encloses the system water. This prevents the system water from coming into contact with the vessel's sheet metal wall, which reduces corrosion. The space in the membrane serves to absorb the change in water volume during heating. The pre-pressure in the expansion vessel gas area pushes the system water back into the system when it cools down.



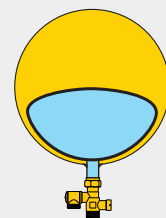
Lowest system water temperature.

The expansion vessel contains the entire hydraulic seal.



The system water temperature increases.

The space in the membrane absorbs the water volume change.



Highest system water temperature.

The bag has absorbed the entire volume increase.

Impact of gas pre-pressure

SAFETY EXPANSION VESSELS

FOR HEATING, AIR-CONDITIONING AND COOLING WATER SYSTEMS

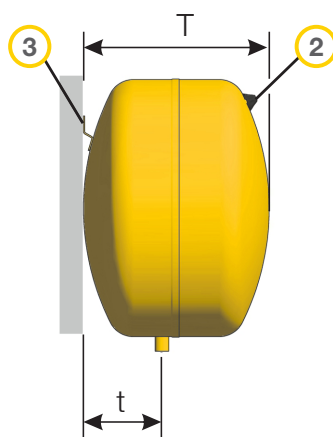
Safety expansion vessel for closed hot water, heating, air-conditioning and cooling water systems based on EN12828, with non-replaceable membrane to collect the water and gas filling with pressure relief valve, including connection for a maintenance unit (accessory).

TECHNICAL DATA

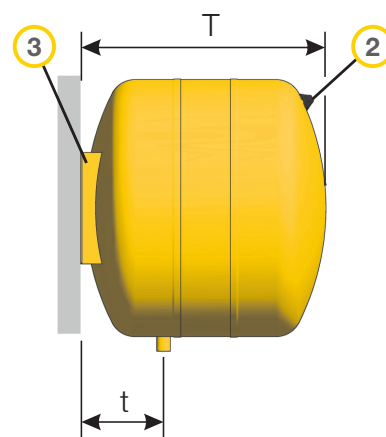
EVN4 - EVN140



EVN4 - EVN140



EVN4 - EVN100



EVN140

- 1 Expansion joint (integration in the system return line, max. continuous temperature load at the joint of 70 °C).
- 2 Pressure relief valve with cap and valve protection cap.
- 3 Wall bracket for EVN4 -EVN100 designed as a single-point bracket. The EVN140 has a four-point bracket for wall or floor mounting.

- Tested according to the 2014/68/EU pressure equipment directive.
- Maximum system temperature without/with supply tank: 90/110 °C.
- Maximum temperature at joint: 70 °C.
- Maximum operating pressure: 3 bar.
- Permitted system medium: Water or water/glycol mix.
- Unique warranty period of 5 years.

Type	Volume [Litres]	Pre-pressure [bar]	Diameter D [mm]	Depth T [mm]	Joint t [mm]	Joint [°]	Weight [kg]
EVN4	4	0,8	360	197	80	Rp3/4	3,5
EVN8	8	0,8	360	197	80	Rp3/4	3,5
EVN12	12	0,8	360	197	80	Rp3/4	3,5
EVN18	18	0,8	360	237	80	Rp3/4	3,8
EVN25	25	1,0	400	252	90	Rp3/4	5,0
EVN35	35	1,0	440	290	110	Rp3/4	7,0
EVN50	50	1,0	500	318	145	Rp3/4	10,5
EVN80	80	1,0	600	368	165	Rp3/4	14,5
EVN100	100	1,0	600	433	184	Rp3/4	16,0
EVN140	140	1,0	600	572	193	Rp3/4	20,0

CONNECTION ACCESSORIES FOR EXPANSION VESSELS

The Spirotech maintenance unit is a connection accessory for expansion vessels. Expansion vessels with constant inlet pressure should be checked regularly to ensure long-term proper operation of the vessel and system (recommended annually, but at least every 2 years). The inlet pressure in the vessel must be checked in depressurized condition on the water side and corrected if necessary.

With this maintenance unit you can shut off and drain the expansion vessel when performing maintenance. You can also use the rotating tap that is present on this unit as a filling and draining tap. You no longer need a separate fill and drain valve.

The Spirotech maintenance unit is available in the following variants:

Type	Connection	Thread	Height [mm]
E50110	¾"	bu/bu	104 mm
E50207	1"	bu/bi	101 mm
E50307	¾"	bu/bi	87 mm

Draad:

bu = male thread
bi = female thread

Technical data:

max. working pressure: 10 bar
max. operating temperature: 95 °C



Maintenance unit

FOR MORE INFORMATION ABOUT SPIROEXPAND PRODUCTS, VISIT OUR WEBSITE.

Heating and cooling systems are complex, especially when used in combination with other systems and installations.

This makes it more difficult to detect and analyse malfunctions, especially in the event of a breakdown.

Thanks to our years of knowledge and experience in the field of system water quality, fault detection and analysis in HVAC systems has become our expertise. We offer expert advice and solutions and use this to fix problems. Feel free to contact us if we can help you further with your heating or cooling systems.



Visit [spirotech.co.uk](https://www.spirotech.co.uk) for other solutions or more information.