

robokit

sealed system kit



Application Guide

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Introduction

Sealed Systems are the most commonly used form of central heating used in Europe, and most of the other parts of the world.

Ease of installation makes it particularly attractive to the installer, alleviating the need to fit, feed and vent tanks in a central heating system.

A closed or sealed heating system must include an expansion vessel and other ancillary components (sealed system kit) to accommodate expansion of the water.

Robokit Sealed System Kit



The Robokit sealed system kit contains;

- Wall mounting bracket
- Quattro four-way manifold with tappings for direct system connection via a 15mm nut and olive cone and connection for the expansion tank.
- Safety relief valve complete with pressure gauge and 15mm compression outlet connection
- Filling loop with braided hose,
- Double check valve with integral ball isolating valve
- Isolating valve
- Diaphragm expansion vessel complying with BS EN 13831*

NOTE: The expansion vessel must be sized to suit the volume change of water within the heating system.

Advantages

- System Flexibility - due to component siting alternatives.
- Cost Savings - due to considerably reduced installation time.
- No Feed and Expansion Tank - hence avoiding "pumping over" problems, risk of freezing up etc.
- Longer Life - due to virtual elimination of corrosion problems.
- Noise Reduction - due to higher system pressure, boiler noise (localised heating) is significantly reduced or eliminated.
- Low Maintenance Costs - as equipment is virtually maintenance free, other than for periodic operational checks.

Applicable Standards

Domestic sealed heating systems should take due account of the following British Standards.

BS 7074: Part 1: 1989 - "Application, selection and installation of expansion vessels and ancillary equipment for sealed water systems. Code of practice for domestic heating and hot water supply".

BS 7074: Part 2: 1989 - "Application, selection and installation of expansion vessels and ancillary equipment for sealed water systems. Low and Medium temperature hot water heating systems".

BS EN 12828: 2003 - "Heating systems in buildings. Design for water based heating systems".

BS EN 14336: 2004 - "Heating systems in buildings. Installation and commissioning of water based heating systems".

Locations

The expansion vessel should be connected to the system at a point close to the pump inlet in order to maintain positive pressures throughout the system.

Suitable expansion vessel locations are given in Fig. 1, depending on pump location.

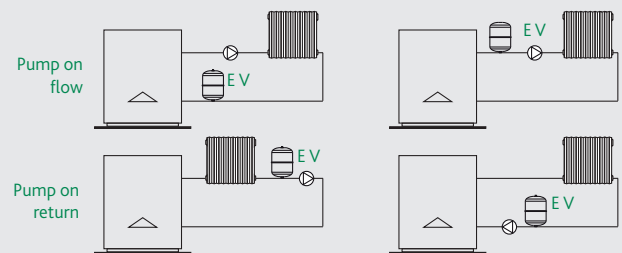
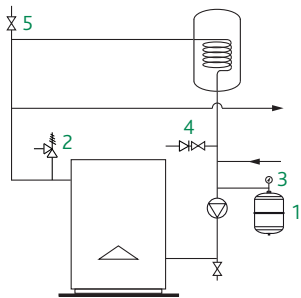


Fig. 1 - Expansion Vessel Location

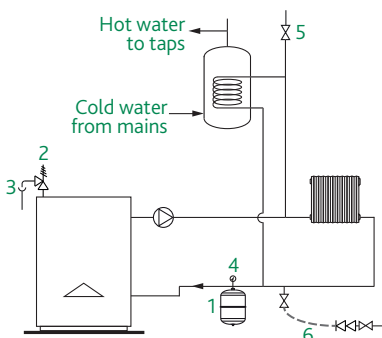
* The expansion vessel is not supplied with the Robokit sealed system kit.

Typical Systems



- 1 Expansion vessel
- 2 Safety valve
- 3 Pressure gauge
- 4 Filling point
- 5 Automatic air vent

Fig. 2 - Typical System



- 1 Expansion vessel
- 2 Safety valve
- 3 Tundish
- 4 Pressure gauge
- 5 Automatic air vent
- 6 Filling loop

Fig. 3 - Typical System

- The Safety valve should be fitted either on, or close to the boiler on the flow pipe.
- The pressure gauge should be fitted preferably close to the expansion vessel and/or the boiler, in such a position that it can be easily read from the filling point.
- The filling Point should be near the key components, particularly the pressure gauge, and should be a temporary connection to allow filling from the water mains, incorporating a double check valve and isolating valves.

Main Components - Robokit Sealed System Kit

Safety Valve

Altecnic's range of safety valves are available in a range of sizes from ½" to 1" BSP and are available with either male or female connections.

For use in domestic installations Altecnic's range comes complete with compression nut and olive to make it easy for the installer to fix the discharge pipe without the need for necessary "expensive fittings".

Altecnic range of safety valves are used by leading manufacturers in the UK.

The range intended for use with potable and domestic hot water are WRAS approved products.



Altecnic Ltd Mustang Drive, Stafford, Staffordshire ST16 1GW

T: +44 (0)1785 218200 E: sales@altecnic.co.uk

Registered in England No: 2095101

altecnic.co.uk

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Main Components - Robokit Sealed System Kit

The Quattro

Altecnic have produced a neat, simple four way connector to make the installation as simple as possible.

The quattro facilitates the connection of the water inlet, safety valve, pressure vessel and the system.

It is supplied complete with a compression screw and olive for use with copper tube.

The quattro is the only four way connection which gives the installer the possibility for either left or right installation on the system.

Mounting Bracket

A robust zinc coated mounting bracket, which allows positive mounting of the expansion vessel, not leaving it unsupported on the pipework.

The bracket is designed to fit the Altecnic range of expansion tanks, up to 25 litres.



Ecofil Filling Loop

The Ecofil filling loop comprises a double check valve with integral ball isolating valve, flexible hose and a ball isolating valve.

The inlet connection to the double check and ball valve is supplied with a compression nut and olive for use with copper tube.

The Ecofil filling loop complies with water regulations and uses WRAS approved components.

Water regulation G24.1 and 24.2 compliant.

