

Let's Learn about Safety Relief Valves (SRVs)

What's the difference between a Safety Relief Valve and a Pressure Relief Valve?

Nothing, different manufacturers use different terminology to describe the same product. Safety Relief / Pressure Relief valves are also called Expansion Relief Valves.

Why do I need a Safety Relief valve – where is it used?

Safety Relief valves are normally installed in sealed heating systems that include a closed expansion vessel or a hot water cylinder.

These valves are used for relieving excess pressure on boilers in heating systems and on stored hot water cylinders in domestic hot water systems.

SRVs are also used in Solar Heating systems and in water distribution systems generally.

How does the Safety Relief valve work?

The SRV will discharge water in the event that the pressure reaches the maximum set limit. When the calibrated pressure is reached, the valve opens and, discharges through an outlet pipe and tundish to a suitable drain.

This prevents the pressure of the system from reaching levels which would be dangerous for the boiler, hot water storage cylinder and the components in the system itself.

Where should the Safety Relief valve be installed in a Heating Circuit?

In a sealed heating circuit building regulations state, where possible, to install an SRV close to the heat source on the flow circuit.

It should be installed in the cold water supply before the water heater ensuring that there are no other fittings or narrowing of pipework between the water heater and the valve.

To comply with Water Regulations, valves should not be connected directly to a drain – the discharge should pass through a visible tundish with an AUK3 air gap and be located adjacent to the SRV, to allow vented water to escape.

The discharge pipe must be the same size as the valve discharge outlet, must not be longer than 2 metres and have no more than 2 elbows.

The SRV should be located at a maximum distance of 1 metre from the boiler.

Technical Bulletin

Safety Relief Valves

Due to the high temperature of the discharge, the terminal point of the discharge pipe should be located where sudden discharge cannot cause scalding or injury.

Can the valve be installed in any position?

Yes, providing it isn't installed upside down.

Are there different types of Safety Relief valves – Which one should I choose?

Yes, there are standard SRVs for heating systems as well as Solar rated versions along with Temperature and Pressure Relief valves (T&P valves).

SRVs for standard heating systems tend to have an EPDM diaphragm whereas SRVs used in Solar heating have a Silicone or Elastomeric diaphragm rated for higher working temperatures.

SRVs are also available with or without an integrated pressure gauge.

What does the Colour of Cap mean?

These can indicate the application (i.e. Red for Heating / Orange for Solar) but this practice is not consistent between manufacturers.

Where can I find the Pressure Rating of the SRV?

The pressure rating is displayed on the top of the cap.

Can the Cartridge be replaced?

No, removal of the cartridge means the valve is no longer calibrated and will invalidate any warranty.

Does the Safety Relief valve need regular maintenance servicing?

Yes, it is normal practice to service SRVs annually.

In a heating system, the SRV can be inactive for a long period of time. Impurities may collect under the seat.

Rotation of the knob manually will help flush and wash the seating area of debris.

Technical Bulletin

Safety Relief Valves

What Glycol levels are suitable for Safety Relief valves?

SRVs are recommended for water with a 50% maximum percentage of glycol.

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Got a Problem? - Common Trouble Shooting Issues

Please ensure that the SRV is installed and commissioned in accordance with the manufacturers Installation and Maintenance instructions.

Please check that all connections are tight and that the treaded connection on the valve body is not mechanically overstressed.

If a Safety Relief valve is passing water what could be the cause?

The System has reached the pressure set point of the safety relief valve, so the valve has activated - this is what the valve is designed to do.

The most common reasons for activation are an incorrectly sized expansion vessel, incorrect pre-charge setting in the vessel or a failed expansion tank (so there is nowhere for the expansion to go).

System pressure is correct, but the Safety Relief valve is still passing.

The Valve has activated at some point in time and has not correctly re-seated.

This can be due to a few factors which include:

1. System debris is sitting under the seat not allowing it to re-seat correctly
2. System pressure has not reduced significantly for the seat to drop and is being held open via pressure.
3. System pressure is very close to set point of the valve, the water can create a valley so water can pass through.