



Using your **SENSOR-MAX**
HIGH PRESSURE 2.8 bar CUT-OUT
MODEL **31750-0000** (14 litre)
MODEL **31755-0000** (17 litre)
with a
WATER STORAGE HEATER

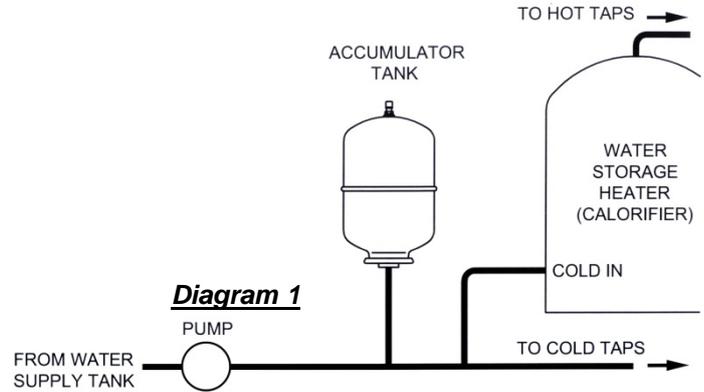
How to convert a conventional water pressure system to the **SENSOR-MAX** system

1. Why is conversion necessary?

Water pressure systems that include a water storage heater need an expansion tank, to stop the safety valve weeping every time the water is heated. Evaporation of escaping water will lead to a build-up of salts in the safety valve, preventing it from closing fully

In some conventional pressure systems, the accumulator tank also functions as an expansion tank. See *diagram 1*.

SENSOR-MAX does not require an accumulator tank, but the water storage heater needs an expansion tank. The system layouts are different.



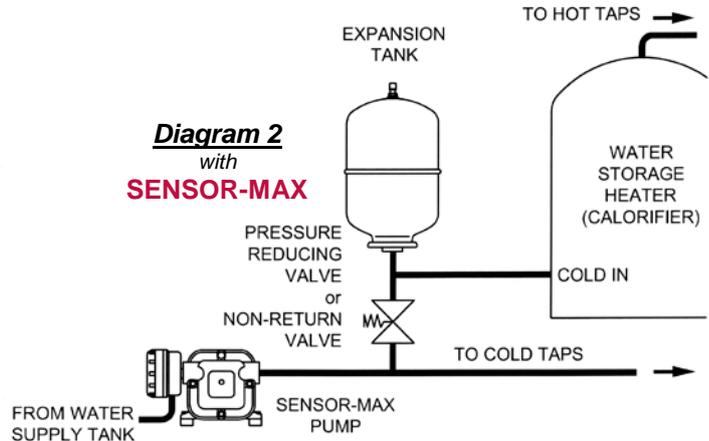
2. How to make the conversion

To convert an existing system of the kind shown in *Diagram 1*, remove the accumulator tank and fit a valve and expansion tank as shown in *diagram 2*. Set the gas pressure in the expansion tank **before** fitting it in the system.

3. Do I need a non-return valve or a pressure-reducing valve?

If your calorifier has a 5 bar (or higher pressure) relief valve, a **non-return valve** is all you need to prevent backflow of hot water into the cold water delivery line from the pump.

If your calorifier has a relief valve setting of 3.5 bar or less (virtually all European-built calorifiers), you will need a **pressure-reducing valve**, which will also act as a non-return valve. 'Seaward' and most other American-built calorifiers are fitted with a 5 or 10 bar relief valve, so do not need a pressure-reducing valve.



4. What gas pressure do I need in my expansion tank?

Before you fit the expansion tank, set the gas pressure to that of the pressure-reducing valve, if fitted (see **TABLE 1**). If not, set the gas pressure to 3 bar. Use a car tyre gauge and foot pump

TABLE 1 - Selecting a valve

Calorifier relief valve opening pressure		
2.5 bar	3.5 bar	5+ bar
Pressure reducing valve		Non-return valve
CW395 (½" BSP) set at 1.5 bar	CW396 (½" BSP) set at 1.8 bar	CW91 (½" BSP) CW92 (¾" BSP)
Recommended gas pressure in expansion tank		
1.5 bar	1.8 bar	3 bar

TABLE 2 - Selecting an expansion tank

EXPANSION TANK SIZE	Maximum recommended calorifier size		
	2.5 bar calorifier	3.5 bar calorifier	5+ bar calorifier
CW269 (2 Lt)	28 litres	30 litres	33 litres
CW385 (5 Lt)	70 litres	75 litres	80 litres
CW288 (8 Lt)	110 litres	120 litres	130 litres
CW291 (20 Lt)	280 litres	300 litres	330 litres