pegasus

water softeners

Introduction to the Pegasus range of water softeners

The problem

Reduction in the hardness of water is a common form of water treatment. Hard water is created when naturally soft rain water percolates through subterranean rock strata and dissolves solids such as calcium and magnesium, resulting in hard scale. This scale impacts on all areas of industry and housing world-wide and causes unnecessary energy usage, creates health hazards – not to mention being unsightly.

Studies have shown that a 25mm thick layer of limescale on a heat exchange surface will reduce heat transfer by 90% and this has significant implications for energy costs. Just a 1mm layer of limescale will increase energy costs by 7.5%, while a 12mm layer will raise energy costs by 65%. Limescale has the potential to impair performance at many locations in a water system.

In addition to the increased energy costs, scale deposition can cause overheating on heat exchange surfaces resulting in the premature failure of mechanical plant items. Hard minerals left in solution also significantly impair the performance of soaps and detergents requiring greater quantities to achieve the desired cleaning performance, and impacting on the volume of chemical waste discharged into our sewers.

Model range

The solution

The most cost-effective and efficient way to alleviate scale problems is to remove the dissolved hard mineral salts from the water, replacing them with ‘soft salts’ which are soluble and do not produce hard scale. The Pegasus water softener range has been carefully selected to overcome scale issues across a wide range of flows and applications.

All Pegasus products use the ‘ion-exchange’ process to produce ‘soft water’. Raw, hard water passes through a high quality resin column contained within a pressure vessel. The resin attracts calcium and magnesium ions from the feed water and exchanges them for sodium ions.

Goodwater Limited 23-24 Ivanhoe Road, Hogwood Lane Industrial Estate
Finchampstead, Wokingham, Berkshire, RG40 4QQ, United Kingdom
tel +44 (0)118 973 5003 **fax** +44 (0)118 973 5004 **e-mail** info@goodwater.co.uk **web** www.goodwater.co.uk

a goodwater product

pegasus

water softeners

Simplex or Duplex?

When the resin becomes exhausted it must be regenerated. This cycle is triggered by a volumetric controller or by a timer depending on the control function selected. Regeneration uses a brine solution which is drawn through the resin column. This action creates a chemical exchange whereby the calcium and magnesium ions captured on the resin are displaced by sodium ions in the brine. The waste water is flushed to drain.

The Pegasus control valves are sized and specified according to the flow rate required by the application and the anticipated usage pattern. The range can cover flows from 20-50,000 L/hr with inlet and outlet ports between ¾" and 3". Higher flow ratings are possible and your Goodwater representative should be consulted if the need arises.

Simplex units

Simplex softeners are single vessel units supplied with a range of timer or meter controlled valve options. They are generally sized to give one or more day's supply of softened water output before requiring regeneration.

Duplex units

Duplex softeners are twin vessel units with a range of meter controlled valve options. The units offer continuous usage by having one vessel in standby mode at all times. The water throughput is metered, and when one vessel becomes exhausted regeneration is automatically initiated whilst the second vessel is switched into service.

Goodwater has full technical details on all of our softeners to assist the specifier, buyer or building owner in selecting the correct unit for their application. Additionally we have a dedicated team of representatives on hand to offer technical and commercial advice.

It is also worth noting that hard water and its associated scale formation can also be controlled by a physical water conditioner. Each method has its own unique benefits; it's simply a question of deciding which best suits specific needs. Goodwater recognises the benefit of both options and is pleased to be able to offer our Phoenix Physical Conditioners® as an alternative to the Pegasus range.

Soft
0-100 mg/l as calcium carbonate

Slightly hard & hard
100-200 mg/l as calcium carbonate

Hard & very hard
above 200 mg/l as calcium carbonate

Goodwater Limited 23-24 Ivanhoe Road, Hogwood Lane Industrial Estate
Finchampstead, Wokingham, Berkshire, RG40 4QQ, United Kingdom
tel +44 (0)118 973 5003 **fax** +44 (0)118 973 5004 **e-mail** info@goodwater.co.uk **web** www.goodwater.co.uk

a goodwater product