

SnowPure

High Technology Water

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High Technology Products

MVR -- Mechanical Vapor Recompression

1.0 About SnowPure

SnowPure is a US technology company headquartered in California. Started in 1977 we were based in continuous purification technologies. SnowPure started the world's first EDI technology research and development, and our EDI technology products now have nearly 40 years of development history.

With the rapid growth of the global economy and the world population, human dependence on energy and resources have grown too. Therefore, energy conservation, and resource conservation and recycling have created a global demand for technologies to help in conservation.

In this environment, SnowPure has developed many different technologies after many years of technical research and technological innovation. This includes membrane technology, film evaporation technology, and other energy saving technology,

With many global partners and years of good relations and cooperation, SnowPure can provide customers around the world with the most cost-effective MVR (Mechanical Vapor Recompression) equipment and technology, combined with many of the world's leading advanced technologies. We offer our customers a package of MVR solutions.

2.0 MVR Technical Principles

Mechanical Vapor Re-compression (MVR) is a proven energy-saving evaporative technology, using low-value waste steam and heat:

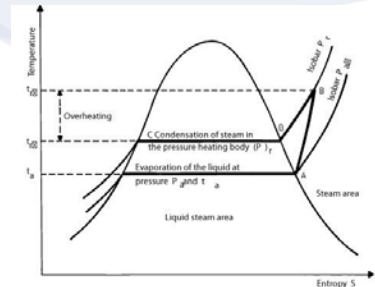
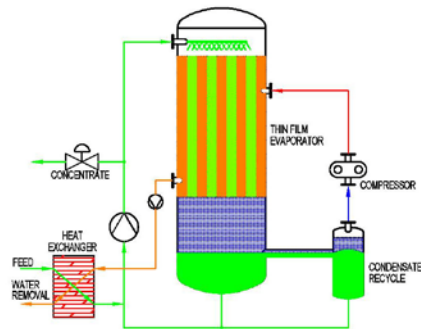
- MVR's theoretical basis is Boyle's law

makers of
Electropure EDI
products

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- From the physics, ($PV / T = K$), It is known for a gas that Pressure * Volume / Temperature is constant—which means that during compression as the volume of gas decreases, the pressure and the temperature increase. From this, energy can be reused.
- According to this principle, the energy normally lost in the compression is recovered, leading to a highly-efficient evaporation process.
- Since this compression is realized by a simple mechanical compressor, the process is called MVR.

3.0 MVR Technical Characteristics

- MVR technology reuses secondary steam instead of live primary steam so uses only a small amount of fresh steam
- MVR technology does not require a cooling tower, greatly reducing the use of cooling water
- MVR technology is more efficient than traditional multi-effect evaporation technology which saves energy, greatly reducing operating costs
- MVR technology is truly energy-saving, water-saving, environmentally sound, and helps with resource recycling
- MVR technology achieves low temperature evaporation, greatly reducing the impact on the material

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- MVR technology system structure is simple, fully-automated, with continuous operation
- MVR system consists of heaters, compressors, separators, pumps, piping, instrumentation, and electrical control components

4.0 MVR Applications

MVR energy-saving, low-temperature evaporation technology is widely used in many applications, including:

- Industrial Wastewater treatment discharge concentration
- Chemical industry for evaporation, crystallization, and purification
- Salt brine concentration
- Beverage industry (milk, juice, sugar, etc) concentration
- Food industry (MSG, soy, protein, sugar) concentration
- Pharmaceutical industry (medicines, vitamins) concentration