

What is desuperheater in refrigeration?How It Works??

Desuperheater Coils. Packless desuperheaters are organised specifically to remove heat from the superheated refrigerant discharge vapor of air conditioning, refrigeration, or heat pump systems for the purpose of heating potable water.

A Desuperheater is a device which has the capability to transfer heat to or from the ground, which can be later utilized for any purpose. It uses the earth all the time without the need of any heat source (Usually in the winter) or a heat sink (In the summers). This process takes benefits of the moderate temperatures in the ground for boosting efficiency and reducing the operational costs of heating and cooling systems which when combined with solar heating form a geosolar system with even a greater efficiency. A Desuperheater can have a variety of uses from heating the in your storage to other household related applications.

What are some applications of superheaters?

- Power generation
- Process controllability
- Thin pipes and lighter flanges
- Prevents lubrication degradation

Desuperheater Fundamentals:

Compressor Type	Discharge Temperature
Screw (Indirect cooled)	70 to 80°C
Screw (Injection cooled)	50 to 60°C
Reciprocating	85 to 110°C
Boosters (Rotary & Reciprocating)	75 to 85°C

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In a usual AC & R system, the refrigerant temperature rises in tune of 80°C to 120°C after compression. The refrigerant is further put to the air/ water cooled condenser to condense near about 40°C.

While the condensing of refrigerant in the condenser, the total heat contained in this high Temperature/high pressure gas gets wasted to the atmosphere.

This superheat of the gas has a substantial heat potential provided the same is reclaimed efficiently and is optimized for energy saving

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services to manage, control, measure and regulate the safer and efficient utilization of highly corrosive media and natural resources.

What is the desuperheating theory?

Superheated steam is a steam which is at a temperature higher than the saturation temperature for the steam pressure. If further heated is added to this batch of steam, then the steam will,

1. Will be at a higher temperature than the saturation temperature
2. Contain more energy than the saturated steam
3. Has a greater specific volume than the saturated steam

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