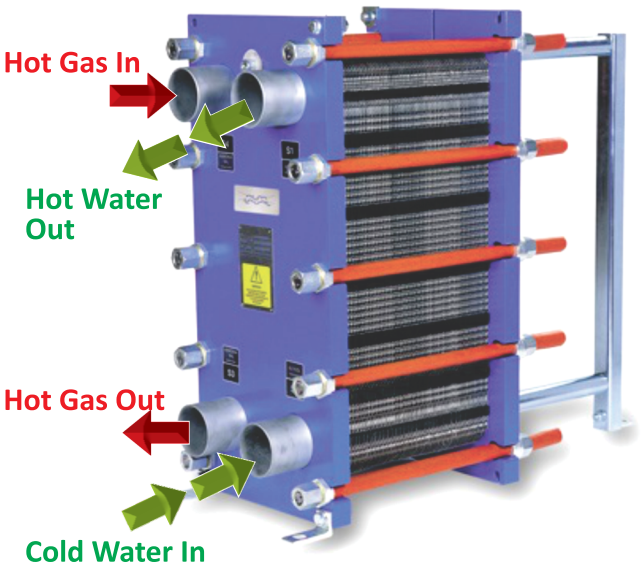
DESUPERHEATER / HOT WATER GENERATION UNIT



WHY DESUPERHEATER ?

- Energy costs are rising day by day Refrigeration and Boiler plants require lot of energy inputs like Electrical power and Fuel Oil.
- Desuperheater can **conserve a lot of energy** from available resources within the plant.

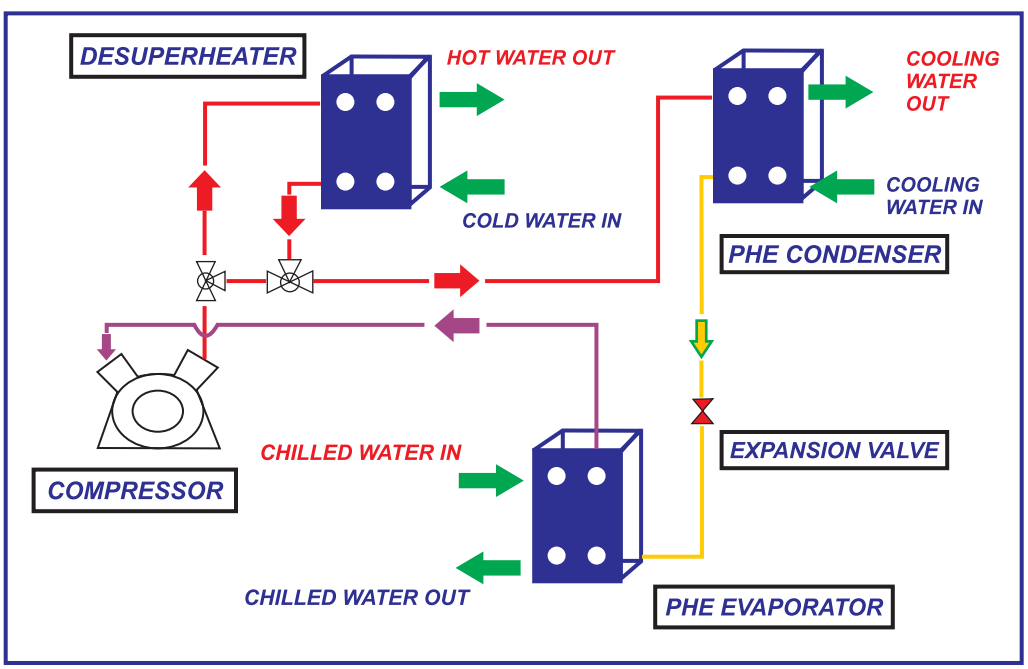
APPLICATION OF DESUPER HEATER

- Desuperheater utilizes heat energy available in Refrigeration Cycle which otherwise goes waste.

- Hot Water generated thus can be used for :-
  - ✓ *Boiler Feed Water*
  - ✓ *Raw Syrup preparation*
  - ✓ *CIP (Cleaning in place)*
  - ✓ *Pasteurization*
  - ✓ *Washing of cans & utensils*
  - ✓ *Anywhere in the process wherever the temp range from 30 °C to 70 °C is required.*

LOCATION OF DESUPERHEATER IN CHILLER PLANT

Desuper heater is a energy saving equipment (heat exchanger) installed between compressor and condenser



HOT WATER GENERATION CAPACITY

The table shows hot water generation capacity for various capacities of compressor

Sr.no	Module No	Refrigeration Capacity TR	Connected Comp./Motor	Hot Water Capacity (30 ºC to 70 º C)
1	HWG – 30	22.5 TR	PC-2 / 30 HP	235 Ltrs / Hr
2	HWG – 50	34.5 TR	KC-2 / 50 HP	365 Ltrs / Hr
3	HWG – 75	56.8 TR	KC-3 / 75 HP	590 Ltrs / Hr
4	HWG – 120	85.5 TR	KC-4 / 120 HP	898 Ltrs / Hr
5	HWG – 150	113.5 TR	KC-6 / 150 HP	1180 Ltrs / Hr

SALIENT FEATURES OF DESUPERHEATER

1. **UTILISATION**
   Desuperheater will heat water from @ + 30º C to +70 º C at the optimum rate when the refrigeration plant is operated.
2. **POWER / FUEL SAVING**
   - ❑ Since waste heat is used to heat water, there is no additional expenses, hence total heat generated will save equivalent amount of fuel / electrical power.
   - ❑ Indirect benefit in reduction of electrical power in cooling tower by approx. 12% if the flow of water and air reduced to optimum.
3. **REDUCTION IN CONDENSER LOAD**
   Since @ 15% condenser load is shared by Desuperheater, condenser becomes more efficient resulting in reduction of discharge pressure. This reduces power consumption and improves the plant performance.
4. **AVOIDS FOULING OF PHE CONDENSER**
   Desuperheater avoids the scaling, fouling of PHE condenser as refrigerant temp at the input of condenser is reduced.
5. **MAINTENANCE**
   The Desuperheater (PHE) can be opened without disturbing main pipeline. Easy access is available for maintenance & inspection. Maintenance can be carried out without shutdown.
6. **LONG LIFE**
   The heat exchangers plate are fabricated from SS316 which is resistant to corrosion & has a very long life.
7. **EXPANSION FEASIBILITY**
   The construction of PHE is such that addition of plates to increase capacity can be very easily done on site.
8. **TECHNOLOGY**
   We design Desuperheater to optimise performance as per plant parameters. This system design is backed up by world leader ALFA LAVAL state of the art technology.
9. **INSTALLATION**
   We carry out installation suitable for plant layout.
10. **LOWER PAY BACK PERIOD**
    For properly maintained plant PAY BACK PERIOD is less than one year.

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