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**Reheat Cycle:**

- The efficiency of the Rankine cycle can increase by expanding the steam in the turbine in two stages, and reheat it in between.
- In other words, modify the simple ideal Rankine cycle with reheat process.
- Reheating is a practical solution to the excessive moisture problem in turbines, and it is commonly used in modern steam power plants.

**EX(3): Calculate the cycle efficiency and (S.S.C) for steam entering the turbine at (42 bar) and (500 °C ) and condenser pressure of (0.036 bar) . Assume that the steam is just dry saturated on leaving the first turbine and is reheated to its initial temperature. Neglect pump work?**

**RANKINE CYCLE WITH REGENERATION:**

Internal heat is exchanged between the expanding fluid (steam) in the turbine and compressed fluid (water) before heat addition. The aim is to increase the cycle efficiency .Heat exchanged in turbine is not practical, hence feed water heating. The compressed water out of the pump is heated in a number of steps rather than continuously ,by steam bled from the turbine at selected stage .These heat exchangers are called feed water heaters (F.W.H) .

**TYPES OF F.W.H:**

- 1) Open or direct contact F.W.H.
- 2) Closed with drains cascaded backward.
- 3) Closed with drain pumps forward.