

### Features

- Designed to demonstrate process of crystallization of salts.
- Comprehensive Instrumentation Panel with all necessary measuring instruments & Safety Devices.

Tesca Cooling Crystallization Unit is designed to demonstrate process of crystallization of dissolved substances from solutions to be transformed into a solid and separated. A pump delivers a saturated potassium sulphate solution in a circuit with a tank. To prevent premature Crystallization, the solution is heated above saturation temperature using a heating circuit. Both circuits are connected by two heat exchangers. A small amount of this under saturated solution is fed through the crystallization cell as a bypass. To crystallize this part of solution, it is cooled by cooling water using two heat exchangers. Reducing the temperature converts the solution into an oversaturated, metastable state

Detailed Operation & Maintenance Manual is provided along with the trainer.



### Specifications

- **Tanks**
  - Stirred tank : approx. 25L
  - For under-saturated solution: @ 25L
  - Heating circuit: @ 32L
- **Pump (solution)**
  - Max. flow rate: @ 21l/min
  - Max. head : @ 38m
- **Pump (heating circuit)**
  - Max. flow rate : @ 6L/min
  - Max. head: @ . 9m
- Crystallization cell
  - Diameter : @ 40mm
  - Height: @ 80mm
- Heater power output: @ 2kW
- Measuring ranges
  - Temperature : 3 x 0 ... 100°C. 1x 0.. 80°C
  - Flow rate 1 x 0 .. 12L/min

### Experiment Capabilities

- Fundamental principle of cooling crystallization
- Investigation of the factors influencing crystallization process
  - Concentration of the solution
  - Temperature
  - Time

### Services Required:

- Electric Supply 230 V AC, Single Phase, Earthed.
- Cooling Water: Cold water supply & Drain.

Note: Specifications are subject to change.

### **Tesca Technologies Pvt. Ltd.**

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