

# GPC VC0

## Evaporation - crystallization

### DESCRIPTION

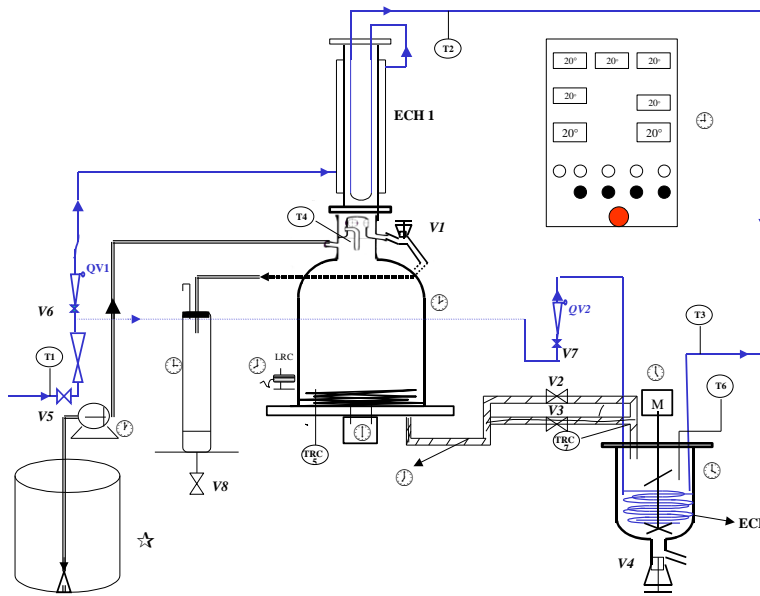
- This unit combines, in series, two methods of separating the components of a mixture:
  - ⇒ Evaporation : This step allows for the partial or complete separation of a liquid from a mixture through the process of evaporation. The evaporation of liquid may leave the remaining solution saturated with respect to a specific solute.
  - ⇒ Crystallisation : In this step the solution is cooled resulting in the crystallisation of solute because of lower solubility at low temperatures. The mixture studied consists of a solvent (e.g.: water) and a solid body (e.g.:  $\text{FeSO}_4$  or  $\text{CuSO}_4$ ).
- The unit is semi-automatic and works in continuous mode. A user manual is included.



### SUGGESTED APPLICATIONS

- Study of a batch or continuous process
  - Thermal and matter balances
  - Study of crystallisation balancing
  - Kinetic study of crystallisation
- Effect of agitation and temperature

# GPC VCO



## MAIN COMPONENTS

1. **Supply tank - polyethylene**
  2. **Supplying diaphragm pump P1**
    - flow rate :0-16 L/h
  3. **Evaporator**
    - Borosilicate glass
    - With an electric resistance
  4. **Receiver of the distillate : 2 L**
  5. **Crystallizer**
    - Borosilicate glass
    - With a stainless steel coil
  6. **Agitator**
    - Agitation speed 50-2000 min<sup>-1</sup>
  7. **Electric heating resistance of the crystallizer**
    - Power = 2000 watts
    - Permits adjustment of the temperature of the evaporator
    - Stainless steel resistance 316 L
  8. **Condenser of the evaporator ECH 1**
    - 1 part in stainless steel, 1 part in borosilicate glass
  9. **Cooling coil of the crystallizer ECH 2**
    - Stainless steel 316 L
  10. **Electric heating cord**
    - Power 33 Watts
- QV1** : Water flow rate on the evaporator exchanger (0-100 l/h)
- QV2** : Water flow rate on the crystallizer coil (0-60 l/h)

## TEMPERATURE MEASUREMENTS

- T1** : Water inlet into the double-walled of the condenser ECH1
- T2** : Water outlet of the condenser ECH1
- T3** : Water outlet of the crystallizer coil
- T4** : Vapour temperature
- TRC5** : regulated temperature in the evaporator
- T6** : Temperature into the crystallizer
- TRC7** : Regulated temperature on the Evaporator-crystallizer line

## DIMENSIONS

- Length : 2 200 mm
- Width : 800 mm
- Height : 2 400 mm
- Weight : 150 kg