

Gas/liquid absorption demonstration

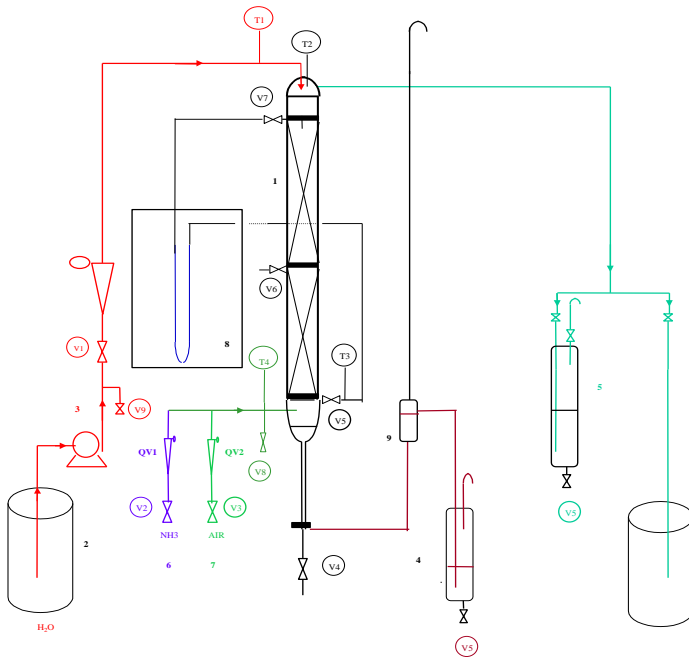
DESCRIPTION

- Specific operation, which allows the separation of the components of a gaseous mixture through a liquid solvent, by affinity (solubility). The unit enables the absorption of ammonia or carbon dioxide, mixed with air, through the use of an aqueous solvent.
- The unit is designed to familiarize students with the hydrodynamics of a column and with the process of absorption.
- The flow rates of the fluids are measured and controlled : the unit is monitored by manometers and thermometers.
- Technical documentation and instructions are provided.



PEDAGOGIC APPLICATIONS

- Study of a process
- Determination of the matter exchange coefficients (HUT-NUT)
- Determination of the theoretical number of changes
- Efficiency and obstruction of the column
- Material balance by continuous monitoring of pH and regulation of the flow rates of various fluids
- Industrial applications



1. Absorption column

- Borosilicate glass
- Diameter : 50 mm
- Height : 400 mm

2. Supplying tank

- Polyethylene
- Volume 5 litres

3. Supplying diaphragm pump

- Adjustable flow rate : 0-30 L/h to 8 bar
- Polypropylene body
- T(amb) : 45°C
- Self-priming and chemical-proof

4. Extract receiver

- Borosilicate glass
- Volume 1 litre

5. Purified gas receiver

- Borosilicate glass
- Volume 1 litre

6. Inert gas flow meter

- Nozzle valve
- Flow rate 0-50 L/min STP

7. Absorbing gas flow meter

- Nozzle valve
- Flow rate 0-25 L/min STP

8. Pressure losses panels (in mm of H₂O)

9. Barometric leg

- Makes it possible to control the phase in the top column

TEMPERATUR SENSORS

- T1 : Solvent inlet
 T2 : Temperature on the top of the column
 T3 : Temperature of substructure
 T4 : Gaseous mix inlet

UTILITIES

Electricity : 230 V – 50 Hz

DIMENSIONS

Length : 700 mm

Width : 610 mm

Height : 1000 mm