



Controlled absorption & Regeneration unit

Référence : OTP-ABS



Understand the continuous absorption process

OTP pilots allows work on an industrial scale in various fields:

chemical engineering, maintenance, supervision

GENERAL SPECIFICATIONS

Absorption:

- SS gear pump.
- SS heat exchanger (cooler).
- Two section of glass column. Packing: Raschig rings in glass.
- Cool exchanger line allows to cool the solvent.

Regeneration:

- Two section of glass regeneration column. Packing: Rashig rings in glass.

- Glass exchanger shell, SS tube, system reflux.
- A SS heat Exchanger, with steam pneumatic control valve.
- Thermosiphon reboiler with glass shell and a SS tube heat exchanger heated by steam.

Instrumentation

- 12 temperature probes Pt100Ω.
- 2 air mass flow transmitters.
- 1 water cooling transmitter.
- 3 flow transmitter (supply, and low absorption and regeneration columns).
- Differential pressure transmitter.
- Rate control.
- Absorption level transmitter.
- Vapor/regeneration pressure transmitter.
- 2 CO₂ transmitter analyzers.

Dim : 290 x 100 x 390cm – 1000 kg
SS tubular framework 40 x 40mm

Categories: Absorption Chemical processing Educational Engineering Pilots +

Reference: OTP-ABS

DESCRIPTION

Absorption and regeneration

The solute migration phenomenon from the gas to the liquid phase occurs when both phases are contacted in the packing

of the reverse flow absorption column. This highlights the absorption operation (solvent purification).

The regeneration phenomenon is observed on the second column, which is continuously fed.

An energy-saving heat exchanger is placed between the two columns to optimize the power spent on the unit.

A second heat exchanger is placed on the absorption side to cool the fluid returning to the head of the column.

The third heat exchanger, placed on the regeneration side, allows the solution to be heated in order to be regenerated in column **2**.

The use of such a unit allows one to remove CO₂ from air using monoethanol amine and to recover pure CO₂ to capture it.

Study of the transitional phases

Starting the unit

Put equilibrium conditions

Stop the unit

Research of the optimum operating parameters

Feed rate, preheating temperature, reflux rate, column pressure losses

Study of the effectiveness of the process

Mass balance, thermal balance, yield, productivity

Study of the technologies implemented



Unités livrées avec un manuel pédagogique
et dossier technique



Possibilité d'adapter les unités à vos
besoins



Mise en service, formation des
formateurs