SOLID / LIQUID DISCONTINUOUS EXTRACTION (SOXHLET)

Non contractual photo

SERVICE : 230 V / 50 HZ / SINGLE PHASE: 3 KW. COLD WATER 20 ° C / 3 BAR: 0.6 M3 / H. SEWER.
DIMENSIONS : 1,8 M X 0,85 M X 2,95 M

WEIGHT : 180KG

REFERENCE : MP1036

Principle of operation

The solid-liquid extraction is a semi-continuous process, coupling distillation with a "SOXHLET" type cartridge containing the solid product impregnated with an active ingredient (solute) to be extracted by dissolution in a hot solvent.
The distillation column generates solvent vapors which are condensed; this pure hot solvent feeds the cartridge containing the inert solid and the solute.
When the cartridge is full, the solution obtained (solvent and solute) empties automatically by siphoning (leaching) and then returns to the boiler where the solvent is again brought to the boil. The leaching can also be carried out by continuous passage of the solvent or by successive manual draining.
The solvent can also be fed in a single "pass" for the infusion and the extract obtained is manually withdrawn

Educational Objectives :

- Influence of the type of solvent.
- Influence of the residence time.
- Influence of the operating principle.
- Material balance. - Calculation of the exchange coefficients of matter.

Technical specifications :

Equipment

- Boiler made of borosilicate glass, electric heating, equipped with a minimum safety level and maximum temperature safety.
- Column in borosilicate glass, in one unpacked element.
- Inclined condenser in 316L stainless steel, borosilicate glass ferrule.
- Extraction cartridge, type "SOXHLET", borosilicate glass with quick opening
- 316L stainless steel connection pipes.
- Support frame in 304L stainless steel tubes and aluminum nuts.

Instrumentation

- Condenser cooling water supply equipped with a float flowmeter
- Control and control cabinet, IP55, equipped with emergency stop, operating buttons and the following interfaces:
- Boiler heating control regulator.
- Digital temperature indicator of two Pt100 ? probes.