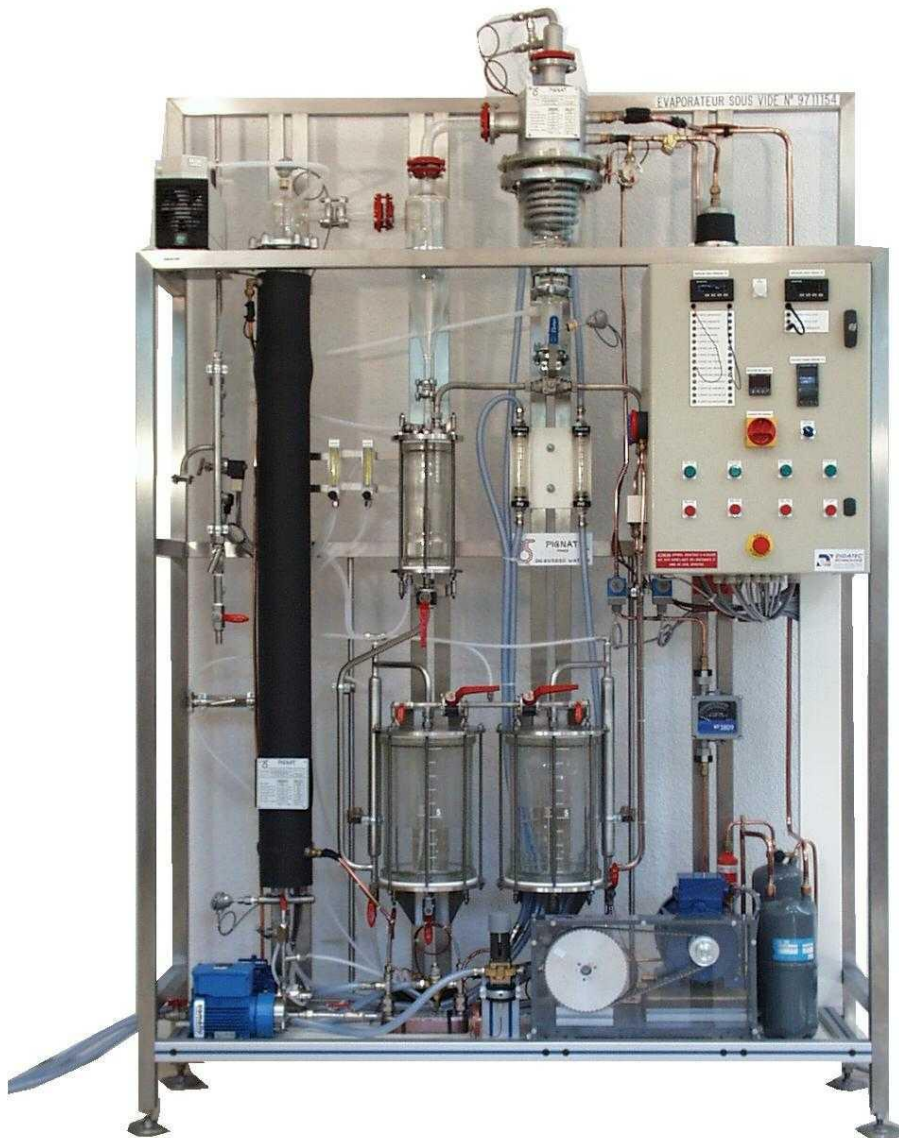


GPC V40

Vacuum evaporator - Heat pump



This unit is delivered complete with instrumentation and with technical and instruction manuals.

This unit has been designed for a number of different programs: energy engineering, chemical engineering, process engineering.

GPC V40

SUGGESTED APPLICATIONS

⇒ **Practical experience with the parts associated with the evaporation process in a heat pump**

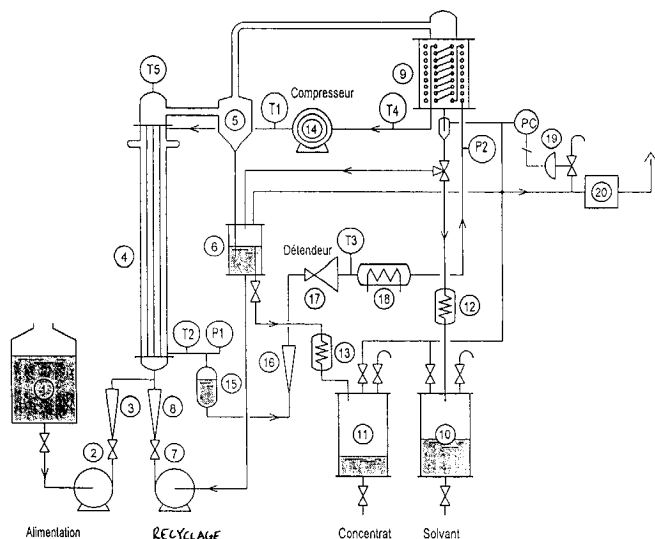
- Installation
- Identifying the components and determining their function
- Starting
- Adjustment
- Efficiency optimisation
- Phase changes associated with the refrigerant
- Thermal exchanges
- Pressure, power and temperature control

⇒ **Use of Instruments**

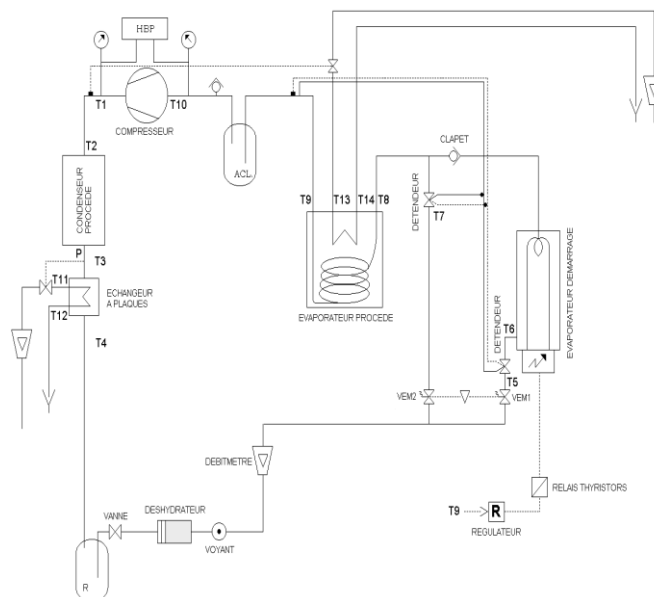
- Balances, efficiencies, powers
- Compression refrigeration cycle
- Order of parameters– output – pressure – temperature
- Checking and control
- System inertia

GPC V40

Description



PRINCIPLE DIAGRAM



REFRIGERATING CYCLE DESCRIPTION

DESCRIPTION

- 1 Feed tank 35 L in polyethylene
- 2 Stainless steel centrifugal feed pump
- 3 Feed rotameter 0-16 L/min
- 4 Heating tube (process) condenser
Stainless steel ribbon pan – 7 tubes 20-240 mm – length 0.85 m
Below stainless steel collander, inside diameter 100 mn – 30 bars working pressure (430 psi)
0.4 m² exchange surface, exterior non-conducting heat, DN100 superior protecting glass
- 5 DN 100 glass cyclone separator
- 6 DN 100 glass level pot, cover and stainless steel
- 7 Stainless steel centrifugal return pump
- 8 Return rotameter 0 – 200 L/h
- 9 Condenser (process, evaporator)
Tube stainless steel double pipe coils 10-12 mm in twice 9 threads (50 and 110 mm)
Global plunger 4.5 m exchange surface 0.15 m²
Glass collander DN 150 cover and DN 100 inlet protecting glass stainless steel
- 10 DN 150 glass 5 L solvent receiver cover and stainless cooling
- 11 DN 150 glass 5 L concentrator cooling
- 12 Stainless steel pipe coil solvent cooling
- 13 Stainless steel pipe coil concentrator cooling
- 14 R134a compressor
- 15 Sheet metal case
- 16 flow meter 0 – 200L/h
- 17 Thermostatic pressure reducing valve
- 18 Starting electric heating cartridge
- 19 Leak automatic micro valve for adjustment
- 20 Vacuum pump

INSTRUMENTATION

- P1 Bourdon manometer – at the condenser outlet
- P2 Bourdon manometer – at the evaporator outlet
- PT4 Absolute pressure transmitter to adjustment
- T1 Compressor outlet temperature sensor
- T2 Condenser outlet temperature sensor
- T3 Evaporator inlet temperature sensor
- T4 Evaporator outlet temperature sensor
- T5 Heating tube outlet temperature sensor (process)

GPC V40

SPECIFICATIONS

This unit separates two components of a liquid mixture such as water and glycerine..

- Refrigerant : R 134 a
- Power at the heating tube
(condenser R 134 a : 6 kW)
- Condenser temperature :
R 134 a : + 65°C maximum
- Evaporation temperature
R 134 a : +12°C
- Temperature measurements
 - Through sensors Pt 100 Ω for the process
 - Through thermal converter type T for the R 134 a
 - Pressure measurement through Bourdon manometer-

Dimensions

Height	2 700 mm
Width	600 mm
Length	1 800 mm
Weight	300 kg.

Utilities

Electric feeding - triphase
400 V – 50 Hz – 20 Amp.
maximum

Water : of the network
10 L/minimum – 05 bar (8
psi) minimum

Shipping

Packing size

Height	900 mm
Width	2 000 mm
Length	2 900 mm
Weight	450 kg