

CONTINUOUS DISTILLATION UNIT



Experimental capabilities

- Study of a distillation process
- Thermal and material balances
- Determination of the number of theoretical plates

Operating principle

The GPCD40 bench allows the study of continuous distillation.

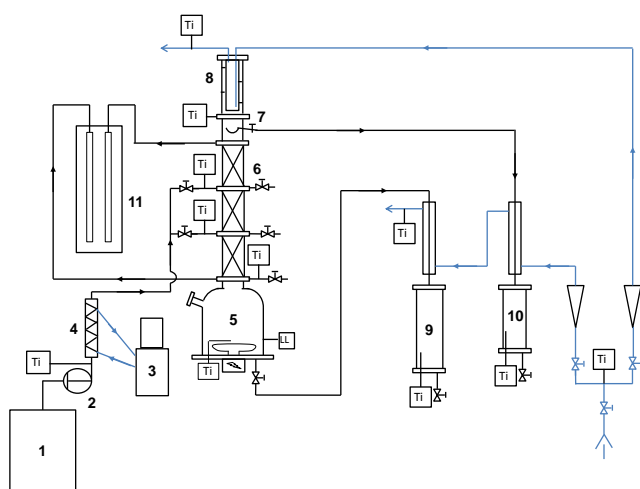
The mixture to be separated will be composed of ethanol and water. The mixture will be sent in the boiler, which consists of 4 heating resistors. The resistors will allow to bring the mixture to a boil, so to evaporate and recover the ethanol which has the lowest boiling point.

The robust design of this equipment makes it perfectly suited for school use.

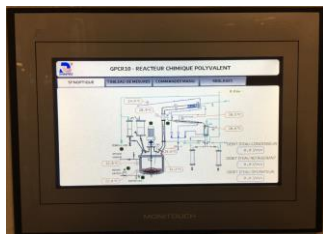
Its anodized aluminum structure on wheels makes it very robust as well as a great flexibility of integration into your premises. The manufacture of this equipment meets the European machine directive

Illustrations

Technical details



Supervision Screen 7"



Software for data acquisition via USB under Windows 7...

1. Supply canister in polyethylene , volume 20 liters
2. Power metering pump, stainless steel 316L- PTFE, manual control, flow 16L/h
3. Thermostatic bath, Power 2kW, Volume 5 liters
4. Power preheater with two valves for feed at 33% and 66% of the column
5. Boiler in borosilicate glass, electric heating 1,2 kW, equipped with a minimum level of safety and a maximum temperature safety, volume 2 liters useful
6. Column in borosilicate glass, DN50, in three elements of 330 mm with trim Multiknitt
7. Glass borosilicate column head , DN50, with temperature socket, equipped with an electromagnetic valve timer to control the reflux ratio
8. Vertical condenser in stainless steel 316L, borosilicate glass ferrule, simple effect with the baffles
9. Receiver of the residue of borosilicate glass, fitted with a drain valve in stainless steel 316L, useful volume 5 liters
10. Receiver of distillate in borosilicate glass, equipped with a drain valve in stainless steel 316L, useful volume 2 liters
11. Column manometer with differential sensor dP

Services required

Documentation

- Electrical supply: 230 V - 50 Hz - 20 A
- Electrical supply type: 1-Phase + Neutral + Earth.
- Water supply: 15 L/min - 3 bars
- Water evacuation: at ground level
- Dimensions: (LxWxH mm): 2000 x 600 x 2800
- weight (Kg): 200

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Software supervision included
- Certificate of conformity CE

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

DIDATEC– Zone d'activité du parc – 42490 FRAISSES- FRANCE
Tél. +33(0)4.77.10.10.10 – Fax+33(0)4.77.61.56.49 – www.didatec-technologie.com
email : service_commercial@didatec-technologie.com

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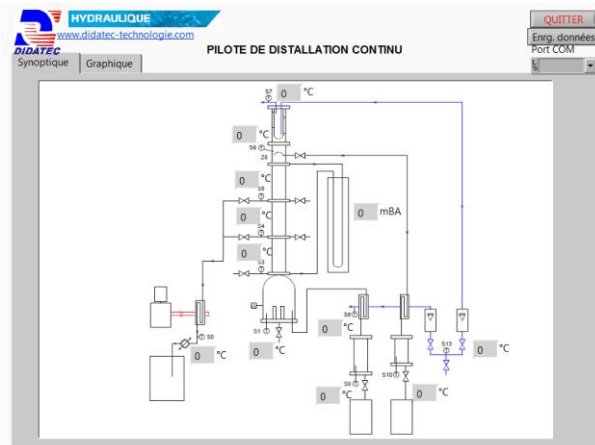
GPCD40



Monitoring: Parameter setting, Plot of curve

The bench is also equipped as standard with a monitoring and configuration software. The connection towards the PC is made via a standard USB port. The software is divided into three parts:

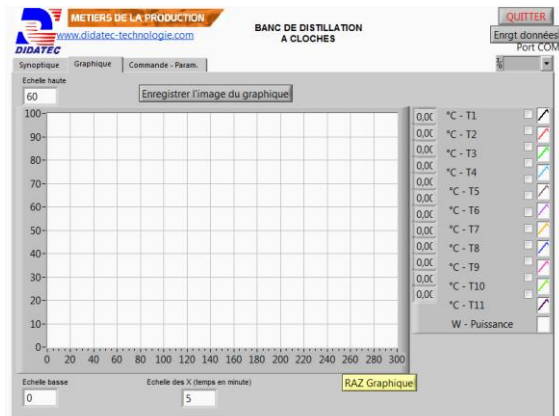
BLOCK DIAGRAM:



We find in this window the block diagram of the machine with the location of various measures of process and their values.

GRAPHICS:

We find in this graph window, the possibility of drawing the measurement curves as a function of the time by selecting the desired quantities.



CONTROL-PARAMETER :



We find in this window the possibilities to control the reflux ratio and the power adjustment of resistors in the boiler

DIDATEC – Zone d'activité du parc – 42490 FRAISSES- FRANCE
Tél. +33(0)4.77.10.10.10 – Fax+33(0)4.77.61.56.49 – www.didatec-technologie.com
email : service_commercial@didatec-technologie.com

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Illustrations non contractuelles / Illustrations not contractual

version : FT-GPCD40-STD-E