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| **Product Name :** Vapour Jet Refrigeration Trainer | **Product Code :** RAC0014 |
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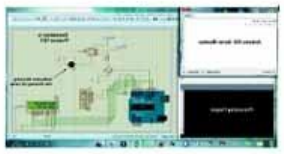


**Description :**

Vapour Jet Refrigeration Trainer

**Technical Specification :**

The system includes two refrigerant circuits: one circuit is used for cold production (refrigeration cycle), the other circuit is used for the generation of motive vapour (vapour cycle).
The vapour jet compressor compresses the refrigerant vapour and transports it to the condenser.
A transparent tank with a water-cooled pipe coil serves as condenser.
In the refrigeration cycle some of the condensed refrigerant flows into the evaporator connected to the intake side of the vapour jet compressor.
The evaporator is a so-called flooded evaporator where a float valve keeps the filling level constant.
The refrigerant absorbs the ambient heat or the heat from the heater and evaporates.
The refrigerant vapour is aspirated by the vapour jet compressor and compressed again.
In the vapour cycle a pump transports the other part of the condensate into a vapour generator.
An electrically heated tank with water jacket evaporates the refrigerant.
The generated refrigerant vapour drives the vapour jet compressor.
All relevant measured values, such as temperature and pressures, are measured and displayed in the experimental unit.
The heater power at the evaporator is adjustable.
The cooling water flow rate at the condenser is adjusted using a valve.
FEATURES:
Clockwise and anticlockwise Rankine cycle- energy balances- calculation of the coefficient of performance of the refrigeration circuit.
Thermodynamic cycle in the log p-h diagram – operating behavior under load.

Understanding compression refrigeration systems based on the vapour jet method.
SPECIFICATION:
Vapour jet compressor :
dmin convergent-divergent nozzle: approx. 1,7mm
dmin mixing jet: approx. 7mm
Condenser :
Tank: approx. 3,5L
Pipe coil area: approx. 0,17m2
Evaporator :
Tank: approx. 3,5L
Heater power: 4x 125W
Vapour generator :
Refrigerant tank: approx. 0,75L
Water jacket: approx. 9L
Heater power: 2kW
Pump :
Max. Flow rate: approx. 1,7L/min
Max. Head: approx. 70mWS
Measuring ranges :
Current: 0…2,5A
Voltage: 0…230VAC
Temperature: 10x -20…200°C
Pressure: 2x 0…10bar / 2x -1…1,5bar
Flow rate (cooling water): 6…75g/s
Required for operation :
230V, 50Hz, 1 phase
230V, 60Hz, 1 phase

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