CRM016

FAILURE SIMULATION REFRIGERATOR

Experimental capabilities

- **Study of a refrigerator**
- **Identification of the components of a refrigerator refrigeration system**
- **Commissioning and measurement of operating parameters**
- **Adjustments and validation of proper functioning**
- **Fault simulation and diagnostics**

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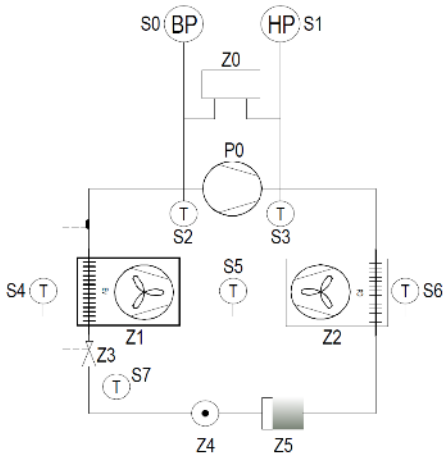
Operating principle

Refrigerator consists of a hermetic compressor condensing unit, an air condenser and a forced convection evaporator.
The operation is thermostatic type with forced start position for large loads. Temperature from +1°C to +10°C indoors, compliant with European standards.
The refrigerator is a vertical refrigerated display case whose components are far enough apart to be identifiable.
The refrigerator is equipped with instrumentation (flow, temperature, pressure, electrical power) allowing the complete study of the process.
The rugged design of this equipment makes it perfectly suited for use in schools.
Its anodized aluminum structure on wheels gives it great robustness and flexibility of integration into your premises. The manufacture of this equipment complies with the European machinery directive

Technical details



The bench is equipped with an electrical box including the safety (circuit breaker, AU, indicators ...) and the display of temperature measurements.

1. Commercial refrigerator with shelves, light and temperature controller. Capacity : approx. 350L
2. Hermetic piston compressor (operating between 0 to 6°C)
3. Forced air condenser with fan
4. Regulator
5. Forced air evaporator with fan
6. Manually reset safety HBP pressure switch
7. Structure in movable screwed aluminum profile on directional casters with brake
8. Integrated instrumentation:
   Touch screen with measurement display:
   - Compressor inlet temperature
   - Compressor outlet temperature
   - Condenser outlet temperature
   - Temperature inlet regulator
   - Temperature air inlet evaporator
   - Temperature air outlet evaporator
   - Compressor suction pressure (BP)
   - Compressor discharge pressure (HP)
   - Energy consumed
   - Instantaneous electrical power
9. Fault simulation
   Failures are simulated from the touch screen, a screen page is accessible by code and allows to activate one or more failures.

Services required

- Alimentation électrique : 230 Vac – 50 Hz – 6 A
- Power supply type: 1 phase(s) + Neutral + Earth.
- Dimensions: (LxWxH mm): 1250 x 780 x 2000
- weight (Kg): 130

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

Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Electrical diagram
- Fluidic diagram
- Enthalpy diagram
- Certificate of conformity CE

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