

MAINTENANCE OF AN ICE MACHINE



Experimental capabilities

- Study of a pallet ice cube machine system with hot gas demolding
 - Identification and mapping
 - Commissioning and measurement of operating parameters
 - Adjustments and validation of proper operation
 - Fault simulation and diagnostics
 - Operation and maintenance of an ice maker
 - Mechanics of ice cube molding and demolding
 - Measurement of electrical power, temperatures, pressure and refrigerant flow
 - Study and tracing of the enthalpy cycle of the machine
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Operating principle

The maintenance system is based on a machine a pallet ice maker. It includes a refrigeration unit, an ice molding and demoulding system, an ice storage and preservation bin and all the accessories and components necessary for the operation of the machine.

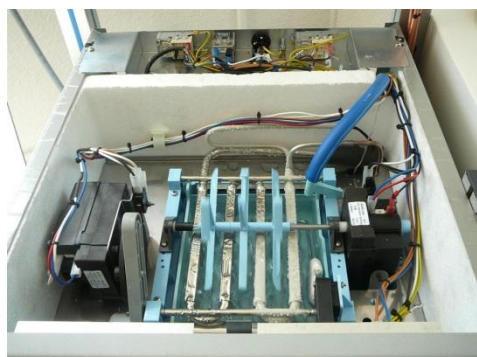
The upper wall is transparent in order to visualize the process of making and demoulding ice cubes. The bench is fully instrumented to analyze the operation of the system.

A touch screen allows the creation of 7 failures on the system.

The robust design of this device makes it suitable for use in schools.

The equipment is set up on an Anodized aluminium frame on caster wheels. This gives it great strength and a flexibility of integration into your premises. The manufacture of this equipment complies with the European standard for machinery manufacturing.

Illustrations



Technical details

The trainer is installed on an aluminum profile structure equipped with 4 directional castors with brake including :

1. Electrical power supply box with general disconnector, white voltage indicator light and differential circuit breaker
2. Color touch screen for the display of measurements (temperatures x7, electrical power consumed) and activation of failures
3. Pallet ice maker running on R290 with transparent walls to visualize the compressor area and transparent cover to visualize the molding part of the ice cubes
4. Ice cube recovery tray with drain for water and "full tank" thermostat (the thermostat has been lowered to reduce the time to reach the filling level)."
5. Ice machine start-up switch.
6. HP and LP safety pressure switch
7. Low pressure manometer
8. High pressure manometer
9. Float refrigerant flow meter by magnetic transmission

Services required

- Electrical supply : 230 Vac – 50 Hz – 10 A
- Electrical network : 1 phase(s) + Neutral + Earth.
- Water supply : 10 L/min – 2 bars
- Water drain : on the floor
- Dimensions: (LxWxH mm): 1030 x 695 x 1580
- weight (Kg): 65

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
- Lab exercises
- Technical documentation of the components
- Wiring diagram
- Schematic diagram
- Enthalpic diagram
- Certificate of conformity CE