HENGSEN REFRIGERATION · TECHNICAL CENTER

Cold room engineering, design and installation configuration

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Applies to	Turn-key cold room projects	Issued by	Engineering Department

1. Cold room dimensions and requirements

1.1 Room volume

Length × width × height = storage volume in m³ — measure the clear internal dimensions of the finished box, not the footprint of the building.

1.2 To be specified by the buyer

- Panel material of the shell.
- Insulation material of the panels.
- Wall panel thickness.
- Entry and exit of the cold room: persons in/out and vehicle load in/out (trolleys, pallet trucks).

1.3 Door dimensions

Length × width × height of the door opening, plus:

- Requirements for the door lock.
- Door type selection (hinged, sliding, double-leaf).
- Door opening direction — left or right, in-swing or out-swing.

2. Equipment and control system configuration

2.1 Condensing units and unit racks

- Copeland semi-hermetic condensing units (assembled in our plant).
- Tecumseh condensing units (Italian technology, assembled in our plant).
- Bitzer condensing units (German Bitzer compressors, assembled in our plant).
- Domestic-brand units: Daming, Bolang, Xuemei and similar.
- Three control systems available: automatic temperature control, automatic defrost, automatic alarm.

3. Air-cooled or water-cooled configuration

- Air-cooled: air-cooled evaporator fans / piping — the default for rooms without a water circuit.
- Water-cooled: water-cooled unit dimensions, drain piping and inlet/outlet pipe layout; pump and cooling tower configuration; pipe-coil or rack-type evaporator, or evaporator fans.

4. Refrigeration requirements of the user

- Fresh-keeping store: +5 … −5 °C.
- Cold store: −10 … −18 °C.
- Quick-freeze store: −25 … −45 °C.

5. Auxiliary facilities requirements

- Room floor 10–15 cm higher than the outside floor.
- Unit foundation 25–30 cm higher than the room floor.
- For units with a cooling tower: water piping routed to the tower and the unit position (the user may source the tower locally).

6. Vehicle-load floor reinforcement

Where the cold room is entered by vehicles (in addition to people), the floor must follow the special construction scheme below:

- 10 cm gravel fill under the base slab, poured with 5–10 cm concrete.
- Position the wall panels, lay the floor insulation.
- Assemble wall panels on site; foam-seal wall panels and floor insulation.
- Anti-slip / wear layer on the room floor.
- Ø10–Ø14 threaded steel mesh laid, poured with 10–25 cm concrete.
- Floor tiles laid where the user requires.
- For large cold rooms, consider a steel roof structure. The buyer provides dimension and door-opening drawings; we carry out design, configuration and quotation scientifically.