

AIRCOOLER CORPORATION

MFG: WALK-IN COOLER&FREEZER

STANDARD SPECIFICATIONS

FOR COOLERS & FREEZERS

FEATURES OF AIRCOOLER'S "UNIFOAM" COOLERS & FREEZERS:

- 3-1/2" TO 5" THICKNESSES AIRCOOLER "UNIFOAM" prefabricated modular panel construction.
- 36"x78" flush door jamb and door perimeter.
- magnetic door gaskets.
- Kason #1245 cam lift hinges.
- Kason #1229C keyed door latch.
- Pre wired switch and pilot light and mounted vapor proof light fixture.
- Solar digital thermometer.
- Wall closures and cove base included.
- Heated air vent and 4 sided door heater cable. (freezer only)

Cooler and Freezer Specifications

1. General:

AIRCOOLER UNIFOAM walk-in coolers and freezers provided under this specification, related provisions and drawings shall be of prefabricated, modular design and construction. This design shall allow for accurate and convenient field assembly which will facilitate future enlargement or relocation provisions. The walk-in coolers and freezers shall be provided complete by one manufacturer and clearly labeled with code approvals and industry standard markings.

The walk-in cooler and freezer manufacturer shall provide and submit: product data; scaled shop drawing plans, elevations and details; rough-in drawings; cut sheets of buyout accessories; installation and maintenance manuals with copies of all warranties.

2. Modular Panel Fabrication:

The prefabricated, insulated panels shall be of modular design with standard sizing to be completely interchangeable in the field. Each panel shall consist of uniform and precise exterior and interior metal pans. All panel corners shall be a true ninety degree angle. Vertical corner interior of corner panels and tee panels to be fabricated with a NSF radius. Panels are to be injected with "Foamed-in-Place" urethane insulation and have tongue and groove mating edges. The tongue edge of each panel shall be provided with a NSF Listed gasket to provide an air tight joint. Panels shall be rigidly coupled by cam action locking device located a maximum of four feet on center apart from each other. The cam locks shall be operated from the interior of the walk-in cooler or freezer by use of a hex wrench. Each hex wrench access port shall be covered with a snap-in button plug. Maximum deflection of ceiling panels shall not exceed L/240 of span under a load of 15 pounds per square foot.



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3. Insulation:

Each prefabricated panel shall be "Foamed-in-Place" (injected) with U.L. Listed, Class 1 urethane foam insulation which has a flame spread rating less than 25 and smoke density less than 450 when tested in accordance to ASTM E84 (UL 723). The thermal conductivity or "K" factor of the insulation shall be 0.12 BTU/hr./ft squared per degree Fahrenheit / inch of thickness. Overall panel thickness shall be 4". (5" thickness available) Foam insulation shall be dimensionally stable from -100 degrees Fahrenheit to +200 degrees Fahrenheit.

4. Metal Finishes:

Prefabricated panel exterior and interior metal finishes may be specified one or a combination of the following:

- 26 Ga. stucco embossed galvanized steel. (ASTM A527)
- 26 Ga. stucco embossed baked white enamel on galvanized steel. (ASTM A525)
- 24 Ga. smooth baked white enamel on galvanized steel. (USDA)
- .032 stucco embossed aluminum.
- .040 stucco embossed aluminum.
- 24 Ga. to 20 Ga.type 304, No. 4 finish stainless steel.
- 16 Ga. type 304, No. 2 finish stainless steel. (for floor only)
- .10 smooth aluminum with nonskid strips or aluminum tread plate. (for floor only)

5. Floor Construction: (select one)

Floorless: Finished floor and/or concrete slab are provided by the General Contractor or others. Wall panels are anchored to the concrete with drive pins. This floor application is recommended for use only with walk-in cooler applications at temperature above freezing and no space or basement below the floor.

Prefabricated floor: Prefabricated floor panels shall be of similar construction to the other panels with a fully formed NSF interior radius and stamped corners. Floor panels shall be designed to withstand a uniformly distributed weight load of 600 pounds per square foot. Wall panels shall be set in a continuous groove of floor panels and attached to the floor panels with cam locks.

Insulated concrete slab depression: FSEC shall provide a sub floor membrane of asphalt emulsion applied to a clean, smooth and level concrete sub floor depression and covered with foil coated Kraft waterproof paper, Fortifier "Polyfoil Barrier" or equal (0.01 perm as determined by ASTM-E96-80) extending under wall panels. The joints shall be lapped by a minimum 6 inches. Two layers of two inch thick rigid polyurethane board insulation (Trymer 1800 rigid foam insulation or equal) shall be installed before or after erection of wall panels depending upon specified technique. Joints shall be splinted or staggered. A vapor permeation separation of organic 15 pound felt protective slip sheet shall be applied over the insulation, flashed up the height of cove and joints overlapped a minimum of 6 inches. Finished floor wearing surfaces shall be supplied and installed by others.



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6. Doors and Hardware:

The standard swing door clear opening size shall be 34" wide by 78" high and hinged per the FSEC supplied drawings. Swing doors shall be flush. Doors shall be finished to match the metal finish of wall panels unless otherwise specified. Each door shall be provided with a three sided snap-in magnetic gasket with an adjustable sweep gasket to seal the bottom of the door. The door and door frame section shall be of the same core thickness and construction as specified for the other panels. Doors shall be mounted with a minimum of two Kason #1245 or equal cam lift hinges, one Kason # 1229C or equal keyed door latch with interior safety release, one Kason model.

#1094 or equal door closer, one 2" solar power digital thermometer and one pre wired pilot light and switch to interior mounted 100 watt vapor proof light fixture with protective globe. Freezer door jamb shall be provided with heater cable with a stainless steel threshold and one heated air vent to equalize pressure between the interior compartment and exterior spaces.

7. Available Optional Accessories:

- Hermetically sealed triple paned view port windows. (heated for freezers)
- Interior and exterior kick plates in stainless steel or aluminum diamond plate finish.
- Flush mounted stainless steel cased temperature alarm with digital LED display and audio and visual alarms with 30 minute delay and silencer button.
- Built-in interior ramp for prefabricated floor.
- Exterior ramp for prefabricated floor.
- Entrance door strip curtains.
- Double acting traffic doors.
- Sliding & custom swing doors.
- 4" Surface mounted dial thermometer.
- Stainless steel or aluminum diamond plate corner guards and wainscot.
- Ceiling enclosures to match walk-in wall panel finish to 24" in height.
- Fluorescent light fixtures with low temperature ballast for freezer applications.
- Outdoor roof cap or membrane.
- Suspended ceiling hangers / structural support for oversized walk-in compartments.
- 30" wide by 30", 40" or 60" solid reach-in doors.
- Glass reach-in doors provided with lights and shelving.
- Wire shelving, cantilever shelving and dunnage rack.

8. Quality Assured:

Each AIRCOOLER UNIFOAM prefabricated panel uses only the highest quality of materials and U.L. Listed and recognized component parts. Each panel is subjected to a five point quality check system to delivery a product of the highest standards.

9. Installation Instructions:

A complete set of shop drawings, parts lists, packing slips and set of instructions covering the assembly of the walk-in panels and accessories shall be supplied.



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System Specifications

1. Refrigeration System:

The refrigeration system shall be U.L. Listed and of standard manufacturer as supplied by AIRCOOLER. The system shall be contained within a galvanized steel housing for all weather protection with a control panel for all electrical components.

2. Condensing Unit:

The system shall be equipped with a factory new hermetic or semi-hermetic compressor motor as manufactured by Copeland or equal. Each unit shall be supplied with a crankcase heater, liquid line with filter drier and sight glass, suction line with filter, receiver with fusible plug and shutoff valve, compressor start kit for single phase units, contactor for three phase units, time clock (for freezers only) and high/low pressure control. Each condensing unit shall employ refrigerant R-22 and R-404A for medium and low temperature application respectively. All condensing unit selections are based on capacities engineered to operate in 100 degree Fahrenheit ambient conditions. All condensing units are shipped with a holding charge of dry nitrogen.

3. Evaporator Coil:

The condensing unit is capacity matched to a NSF, U.L. Listed evaporator coil constructed of a rust-free aluminum housing consisting of staggered copper tubes expanded into corrugated aluminum fins for increased heat transfer. Medium temperature applications employ "off-cycle" defrost using 115 volt fan motors. Low temperature applications employ electric defrost method using 230 volt fan motors and heating element. Evaporators are supplied with mounted TX valve and solenoid valve. Thermostat is shipped loose.

4. Installation Instructions:

A complete set of manufacturer's instruction and maintenance manuals covering the installation and service of the condensing unit and evaporator coil shall be supplied. It is recommended to use only a bonded, EPA certified and licensed refrigeration contractor for a safe and proper installation of the refrigeration system.



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5. Heat Load Calculations for Refrigeration

Equipment Selection:

The following charts are heat load calculations for walk-in cooler and freezer requirements for product storage set according to the following list of engineering perimeters:

- Wall and infiltration gains are designed to ambient condition of 100 degrees Fahrenheit.
- Cooler and freezer construction is 4 inches thick Class I polyurethane insulation.
- Walk-in cooler and freezer compartment height is 8 feet.

6. Heat Load Selection Charts:

“ Unknown specific product load calculated to a product holding temperature only. No product heat load pull-down temperature requirement is considered.

“ Infiltration and heat load due to reach-in doors, glass reach-in doors or glass view windows of any type are not considered.

“ Allowances for sun effect is not considered.

“ Allowances for elevation not considered.

“ Heat gains due to process equipment motor loads are not considered.

“ Refrigeration system equipment running time is 18 hours per day.

With the continuation of product engineering and improvements, AIRCOOLER reserves the right to change the specifications and details of its product without prior notice.



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