

WALK-IN COOLER AND FREEZER MANUAL



Specifications Installation Instructions Trouble Shooting Warranty Drawings Quote Form

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GENERAL

Walk-ins shall be constructed of prefab, precision-formed, modular panels designed for accurate, rapid field assembly. Walk-ins shall be test assembled at the factory and shall be equal to those manufactured by U.S. Cooler.

DRAWINGS AND INSTRUCTIONS

Each walk-in shall have a set of installation instructions and lay-out drawing. All panels shall have panel identification corresponding with the lay-out drawing to facilitate rapid and accurate field erection.

PANEL CONSTRUCTION

Each panel shall consist of inner and outer metal skins, a 4" insulation core, and be equipped with cam-action locking devices. The locking devices shall be operable from inside the walk-in and a hex-shaped wrench shall be supplied. Press-fit plug buttons shall be provided to seal wrench holes after assembly is complete. Construction shall be as approved by the National Sanitation Foundation International and shall bear the NSF® Seal of Approval.

All panels shall be connected to one another by placing the tongue of the insulation core of one panel into the groove of the core insulation of the adjacent panel. The resultant tongue and groove joint shall be sealed at both sides by double barreled NSF® approved gaskets. In order to avoid future swelling and mold formation, no wood shall be permitted in the manufacture of the tongue and groove panel profile.

PARTITIONS

When specified, walk-ins shall be divided into compartments by the use of panels that are constructed in accordance with the specifications for all panels.

FLOOR SCREEDS

Floor screeds shall be provided for all floorless walk-ins. The screeds shall be vinyl, and have NSF® approved cove both inside and out.

PANEL FINISH Metal finish of the panels shall be as follows. (Specify finish desired, combinations may be used)

Interior or exterior walls, ceilings, and exterior floors

- 26 gauge stucco embossed galvalume
- 26 gauge bright stucco embossed galvanized steel
- 26 gauge white stucco embossed galvanized steel
- 26 gauge tan stucco embossed galvanized steel
- 24 gauge smooth stainless steel

Interior floors (When specified)

- 22 gauge smooth stainless steel (Extruded Polystyrene)
- 20 guage smooth galvanized steel (used for use with quarry tile application)
- .100 Aluminum (Polyurethane)

INSULATION

Panel insulation shall be Extruded Polystyrene or Faomed In-Place Polyurethane, manufactured in an HFC and CFC free process. Door insulation may be Polyurethane.

Coolers

Extruded Polystyrene: All wall and ceiling insulation shall be 4" thick, high quality, rigid extruded polystyrene, 1.6 lb density. K factor of not more than .139 and an R-factor of not less than 7.2 per inch, initial fresh R-28.8 minimum total wall R factor. Vapor transmission shall be less than 1 perm and foam core material must meet: Owens Corning - UL Foam Core 5 flame spread rating with average smoke rating less than 175. (UL 723) Dow – UL Foam Core 15 flame spread rating with average smoke rating less than 165. (UL 723) Foamed in-place polyurethane: All wall and ceiling insulation shall be 4" thick, high quality, foamed in-place polyurethane, 2.2 lb density. K factor of not less than .141 and an R-factor of not less than 7.1 per inch, initial fresh R-28.4 minimum total wall R factor. Vapor transmission shall be less than 1 perm and foam core material must meet: UL Foam Core 25 flame spread rating with average smoke rating less than 450. (ASTM E-84)

Freezers

Extruded Polystyrene: All wall and ceiling insulation shall be 4" thick, high quality, rigid Extruded Polystyrene, 1.6 lb. density. K factor of not more than .125 and an R factor of no less than 8 per inch, initial fresh R-32 minimum total walls R factor. Vapor transmission shall be less than 1 perm and foam core material must meet: Owens Corning - UL Foam Core 5 flame spread rating with average smoke rating less than 175. (UL 723) Dow – UL Foam Core 15 flame spread rating with average smoke rating less than 165. (UL 723)

Foamed In-Place Polyurethane: All wall and ceiling insulation shall be 4" thick, high quality foamed in-place polyurethane, 2.2 lb. density. K factor of not more than .125 and an R factor of no less than 8 per inch, initial fresh R-32 minimum total walls R factor. Vapor transmission shall be less than 1 perm and foam core material must meet: UL Foam Core 25 flame spread rating with average smoke rating less than 450. (ASTM E-84)

PASSAGE DOORS

(Standard door is 34"x76"; alternate sizes are available upon request).

Cooler Doors

Door shall be flush mounted, positioned and hinged per drawings. Doors shall be provided with suitable sweep and magnetic gaskets. Door shall be provided with door closer, one pre-wired vapor proof light fixture, light switch with pilot light, dial thermometer, manual internal lock override, chrome plated cam lift spring loaded hinges, and chrome plated door latches with strike. Doors on outdoor walk-ins shall have weather protected light switch and door drip cap.

Freezer Doors

Freezer doors shall be identical to cooler doors, but with the addition of UL approved heater wire on all four sides. Freezer doors shall include a heated pressure relief port in a nearby panel.

Door Options

Customer shall specify requirements for 3 hinges, view windows, locking bars, internal ramps, external ramps, and diamond tread plate.

Optional Doors

Optional sliding and overhead doors are available; customer to specify.

Specifications (continued)

GLASS DOORS (When specified)

Glass door openings shall be provided as necessary for the doors being installed. Sill height shall be per customer specification. Wood framing of the opening shall be required to assist with the installation of the glass doors.

RAIN ROOF PACKAGE (When specified)

(For use on walk-ins installed outside) (Specify whether walk-in is free standing or which wall is butted)

A single-ply membrane roof shall be supplied to provide a water resistant covering of the ceiling panels. Membrane material shall be provided in one complete roll designed for the size of the walk-in. No welding of seams shall be required for installation.

SLOPED ROOF PACKAGE (When specified) (For use on walk-ins installed outside) (May be required at certain snow loads; consult U.S. Cooler)

In order to form a sloped roof profile, suitable quantities of sloped foam shall be provided. The foam shall be cut in a manner that upon installation, a 1/4":1' slope is obtained. The membrane roof shall be increased in size appropriately, in order to provide the additional material required to properly cover the resultant profile.

Walk-in Cooler/Freezer Exploded View



About Us

U.S. Cooler Company, a division of Craig Industries, was founded on August 28, 1986 as a family owned business dedicated to providing customized solutions for cold storage applications. The company's "customer first" strategic marketing focus coupled with sound fiscal management has resulted in successive years of sales growth.

At U.S. Cooler, we manufacture both standard and custom sized walk-in coolers and freezers for many applications including foodservice, convenience stores, warehouses, floral, and the list goes on.

Customer Service:

Your calls are important to us and we want to make sure there is someone available to help you at all time throughout the day. Your calls are always answered with a real person ready to assist your needs; no automated phone systems.

From your first call to the finished product, we take the extra step to ensure our products and services surpass your expectations.

Fast Quotes:

Due to our automated systems, we are able to return your quote (with a detailed drawing) within 24 hours.

Quality Product: U.S. Cooler strives to have the highest quality product in the industry. U.S. Cooler has the ability to use two types of insulation, Extruded Polystyrene and Polyurethane. We believe different types of insulation should be used in the applications they perform best in. Our floors, walls and ceilings are manufactured using Extruded Polystyrene and our doors are made from Polyurethane.

Before any walk-ins are shipped out of our manufacturing plant, we set-up the unit to make sure it fits together properly to ensure ease of set-up for our customers in the field.

Online Tools: One of our goals here at U.S. Cooler is to make the process of buying and installing a walk-in as easy and convenient as possible. There are many tools available to you on our site such as on-line purchasing, job order status, refrigeration estimates, live webcam, and instant real-time drawings.

Installation Instructions (continued)















General:

- Check bill of lading for correct number of skids.
- Put on gloves before handling any panels.
- Check and report to trucking company and U.S. Cooler any damaged or missing items immediately.
- Remove packing list at end of skid and installation pack on door.
- Locate freezer/cooler drawing in installation pack (see figure 1) along with cam wrench (large L shaped allen wrench).

Tools Required:

- Cam-lock wrench (Provided)
- Gloves for handling panels
- Caulk gun and NSF silicone caulk
- Power drill with phillips driver and 1/8" drill bit
- 1/2" metal drill bit (for side mount refrigeration units)

Floor Installation (Floored Units):

Locate skid(s) that have panel numbers starting with the letter F. These are floor panels. Using chalk line, measure out and mark floor for location of box. Lay the F1 floorpanel in the location designated on the floor plan drawing (see figure 2). Take the F2 floor panel and fit male side of F1 panel into female side of F2 panel. Align both ends until they are even (see figure 3). Insert cam wrench into center hole on F1 panel. If hook is showing, back cam counter clockwise until you reach a stop, but do not force cam. Turn cam wrench clockwise until a solid stop is reached (see figure 4). Again, do not force past stop. Check to see if F1 and F2 floor panels are firmly attached together. If not, repeat this step. Otherwise, lock remaining cams and go to next panels until all floor panels are assembled.

Screeding Installation (Floorless Units):

Using chalk line, mark location of box walls according to enclosed plans (see figure 5). Add 1/2" to each side for screeding oversize. Lay two beads of silicon caulk within the 4" wall location (see figure 6). Gray screeding can optionally be screwed down with Tapcon screws placed directly in the center of screeding (see figure 7). Seal top of screeding where it contacts metal skin with NSF approved silicone caulk.

Wall Panels Installation:

Start with corner wall consisting of W1 and the adjacent wall panel that forms the corner (see figure 8). On floor-less walk-ins, work panels into pre-installed screeding. On floored units, place male bottom of wall panel in female groove of floor panel. Make sure the floor arrow on the wall panel is pointing down. Once corner is assembled correctly, install W2 wall panel with W1 panel, male edge will be inserted into female edge of W2 panel. Special care should be given to ensure that top edges and sides of wall panels are flush (see figure 9). Take cam wrench and insert it into center hole of W1 panel. Be sure cam lock is set by first turning wrench in a counter clockwise direction until stop is felt. Do not force cam. After checking set of cam, turn wrench in a clockwise direction until stop is felt (see figure 10). Again, do not force cam. Check to see if panels are firmly locked together. If not, repeat this step. If they are, finish panel installation by locking all wall cams. Do not lock the panels to the floor until all wall and ceiling panels have been locked together. Continue installing wall panels by alternating from the lowest wall number to the highest wall number. On combination units, install center wall before continuing into adjacent section.

If the floor is uneven, adjustments must be made to ensure wall panels are flush at the top. When installing door panel, remove door by lifting door in an upward direction on panel and set aside until the frame is installed.

Door Installation:

Standard Nominal Units:

Doors on quick ship units can be installed in any of the standard full size wall panel locations, while special order units have fixed door locations. A door threshold bar must be installed in the floor panel where the door is going to be installed. Place the hooks of the door threshold bar, with the hooks going in the same direction of the cams, in to the slots on the cams. The hook on the bar should contact the pins in the cams. Gently tap the threshold bar in the direction of the cams and hooks until it quits moving, locking it in place with the cam pins (approx. $1\frac{1}{2}$ "). Continue installation of wall panels.

Custom Unit with Floor:

Check your drawing to locate where the door will be installed. 3 screws are provided to screw threshold to floor.

Cooler without Floor:

Angle brackets should be installed on exterior door legs using angle brackets and scews provided.

WARNING: Risk of fire or electrical shock. Connect only to a grounded circuit protected by a ground fault circuit interrupter (GFCI). Failure to do so can result in death or serious injury.

Ceiling Panels Installation:

Once wall panels are installed, proceed with C1 ceiling panel by placing it in location according to drawing (see figure 11). Align it so it is even on all edges. Many times uneven floors may cause ceiling to either be slightly bigger or smaller than wall panels. If this is the case, split the difference. All panels are made to allow adjustments due to varying installation conditions. Lock all cams according to previous instruction. After locking C1 panel, lift C2 panel into location so male side of C1 fits into female side of C2. Line up both ends and lock all cams (see figure 12). Continue installing ceiling panels from smallest number to largest number.

Door Adjustments:

After all panels have been installed, mount door to hinges and close walk-in door. If the door does not shut correctly, verify that the reveal between the door and frame is even around the perimeter (see figure 13). A reveal that increases or decreases across the top of the door indicates one leg of the door frame is lower than the other and will need to be shimmed to correct the condition. The door and frame should be flush around the perimeter. If one corner of the door protrudes from the frame, it indicates that the bottom of one door leg is not aligned with the other leg & the frame has a slight twist. Unlock the cams around the perimeter of the frame and move the door leg in or out to correct the condition, then re-lock the cams. Once box is completely installed and door alignment is verified, screw the threshold down to the threshold hold down bar on floored boxes and to the floor on floorless boxes with the stainless steel screws provided. On floorless units, attach L-shaped hold down bracket to door legs and floor (see figure 14).

Caulking Instructions:

It is advisable to caulk all joints inside walk-in. This will provide for an even better sealed unit. Use NSF approved silicone type caulking.















Rain Roof Installation:

Install evaporator coil prior to rain roof installation and apply silicone caulking around the carriage bolt heads to avoid perforating the rain roof. For rain roof installation, place vinyl-roofing material, with flaps underneath, on top of walk-in across narrow end. Allow 6" of vinyl to lap over each of the three sides. Carefully unroll vinyl material across walk-in until vinyl flap falls into position. Take a stainless steel screw and square plate and screw through plate and flap in the middle of flap. Then screw a plate at each end of flap. Install screw and plate in 1' increments across flap. Continue to roll out vinyl until the end or the next flap, then repeat screwdown process. Once the end is reached, it should lap over end by at least six inches. For units installed up against buildings, lap vinyl 1 foot up the wall, fold vinyl back and run two beads of Mastik caulk along wall edge 3" above walk-in. Then fold vinyl twice so there is 4" left to fasten plastic strip to building. Fasten plastic strip over vinyl with stainless steel screws or galvanized nails. Place round piece of vinyl over each corner to protect against vinyl puncture. Place a bead of caulking around top sides of walk-in 5" below top of unit. Place plastic strip on top of vinyl so bottom of plastic strip falls 6" from the top. Screw into side of walk-in with stainless steel screws. Fold corners and continue around box on all four sides. Note: If vinyl hangs over more, cut off extra or fold extra under plastic strips.

Refrigeration Installation:

- Remote System: Install evaporator coil and run the appropriate refrigeration and electric lines.
- Saddle mount units: Set refrigeration system over notched wall panel with compressor mounted on outside of walk-in.
- Side mount refrigeration: Drill through wall with 1/2' drill bit and bolt unit on with provided bolts.
- Top mount self-contained refrigeration system: Place unit in prefabricated hole in top of walk-in with air flow marker pointing away from wall. Caulk around perimeter of refrigeration unit.

With the exception of PRO3 and Apex, all refrigeration units must have a condensation line run to the outside of the walk-in. When running any utilities, including those for refrigeration, drill into the wall panel (NOT ceiling) of the walk-in. After running any utilities, caulk around drilled holes. Follow all local building and electrical codes during installation. All refrigeration components must be installed by a certified refrigeration contractor, who must be present at startup. This may affect your warranty.

Troubleshooting:

Ceiling overhangs walls:

If walls are racked at the top, loosen wall cams and adjust walls so the tops of the walls line up. If walls are level at the top, loosen corner wall panel and bump out wall panel to line up with outer edge of ceiling. Lock ceiling to wall and relock corner seam.

Door doesn't shut:

Check to make sure door closer is working properly and it is catching the hook. Check to make sure walls aren't racked. See installation instructions for further door alignment information.

Door sags:

Check to make sure the floor is level. If not, shim as needed under correct door leg.

Ceiling panels won't pull down to lock into walls:

If walls have been locked to walk-in floor, unlock walls from the floor, lock ceiling panels down to walls and relock walls to floor.

Cam wrench is binding in cam hole:

Only insert the wrench far enough to catch the mechanism. Make sure you are inserting the tapered end of the wrench in the hole.

Cam lock not engaging (locking):

Make sure adjoining wall panels are flush on sides and top, so cams are lined up properly. Before locking, be sure to reset cam by turning it counter-clockwise until it resets. Do not over-reset cam. Then relock cam.

Door thermometer reads incorrect temperature:

Door thermometer doesn't register proper temperature. Make sure that the temperature probe is toward the center of the walk-in. Door thermometer may need to be calibrated. Place index finger on wide end of pointer. Insert screwdriver in pointer's slot and turn either clockwise (lowering temperature) or counter-clockwise for raising temperature

U.S. Cooler Ten Year Limited Warranty

U. S. Cooler Company, Inc. warrants to the original purchaser that the walk-in panels manufactured by the company are free from any defect in material or workmanship under conditions of normal use and service. The obligation of the manufacturer under this warranty shall be limited to repairing or replacing at their option FOB factory, panels of said walk-in which proves defective within ten years from the date of purchase. All hardware carries a standard one-year warranty.

Refrigeration equipment carries a standard one-year factory warranty for compressor and accessories. The obligation of the manufacturer under this warranty shall be limited to repairing or replacing at their option FOB factory, any part of said refrigeration system which proves defective within one year from the date of purchase. An extended four-year compressor warranty and a 1st day through 5th year labor warranty are also available as an option.

This warranty is in lieu of all other warranties expressed or implied and does not apply to equipment which has been subject to any accident, alteration, abuse, misuse or improper installation. U.S. Cooler Company, Inc. expressly disclaims all other warranties expressed or implied. The standard warranty does not include any labor charges for replacement or repair of defective parts. In no event shall U.S. Cooler Company, Inc. be liable for any special, direct or indirect, incidental or consequential damages or for any lost product, lost profits or revenues or other losses or damages caused by lost product or lost profits or revenues, whether for breach of warranty or otherwise. U.S. Cooler's warranty does not cover any products installed outside of the continental United States.

For warranty work on your U. S. Cooler walk-in cooler or freezer, call our Customer Service Department immediately. You will then be advised of the proper procedure to follow. NO warranty work is to be performed without an authorization number, which will be provided by the Customer Service Manager. U.S. Cooler assumes no responsibility for work performed without an authorization number.

Customer Service Contact Information:

U.S. Cooler Company 401 Delaware Quincy, IL 62301

Toll Free: 800.521.2665 Phone: 217.228.2421 Fax: 217.228.2424 Email: customerservice@uscooler.com Company Website: www.uscooler.com



Door Drawings



Ceiling and Footing Drawings



Refrigeration Drawings



Refrigeration Drawings





US COOLER QUOTE FORM						
Dealer Name				Job Ref		
Contact				Phone		
Address			Stata	- Fax Zin		
			Siale		0:	L en eth
	□ Indoor □ Outdoor		ain Root	Overall	Size	Length
			Sutted on	wall		Height
COOLER DETAILS						
Dimensions:	Length		Width	Height		
Metal Type	Insulation	_	Floor Insula	tion		Other Options
<u>Ext</u> Int	4" Extrude	d	☐ 4" Extruded (Stand.)			Strip Curtain
	alvanized 4" FIP Uret		thane 4" Ext. w/ Reinforce.			Interior Kick Plate
□ □ White Galv.	□ Tread P		Smooth Galva	Ivanized Inside Ramps		
	□ No Floor				Outside Ramps	
# of Standard Door	# of Standard Doors (34" x 76")			ors	US Cooler to Supply	
# of Other Doors - I	List size(s) below		Brand			
Size Size						
Type	Phase		Refrigerant	Voltage		Compressor
	☐ Single		404A	208/220		
□ Side	Three		22	□ 115		Outdoor
☐ Top ☐ Pre-assembled				□ 460 □	30 ☐ Semi Herm.	
Holding Temp.	Brand		Accessories			Product Information
	Copeland Russell		Labor Warranty	ranty		Incoming Product
	Bohn Winter Cor			controls		Product Temp
Compressor Cover						
FREEZER DETAILS						
Freezer Dimensions:	Length	-		Height		
Metal Type Ext Int	Insulation	hd	Floor Insula	tion Stand)		Other Options
Galvanized		thane	4" Extruded (nforce.		Interior Kick Plate
Galvalume (Stand.)		Tread Plate			Exterior Kick Plate	
			Smooth Galva	anized		Outside Ramps
Li Stainless Steel						
# of Standard Doors (34" x 76") # of Glass Doors US Cooler to Supply						
# of Other Doors - List size(s) below Brand						
Size Size						
FREEZER REFRIGERATION DETAILS						
Туре	Phase		Refrigerant	Voltage		Compressor
Remote			404A	□ 208/220 □ 460		Indoor
						Semi Herm.
Pre-assembled						Hermetic (Stand.)
Holding Temp.	Brand		Accessories	I		Product Information
	Copeland		Ext. 4 Yr. Comp Warranty			Incoming Product
		hn U Labor Warranty				Product Temp
□ □ □ Compressor Cover						
Notos: Freight To:						
Truck Line:						