SPECIFICATIONS FOR
WALK-IN COOLERS & FREEZERS

GENERAL

Standard walk-in panels to be constructed of 4”, 5", 6",8",10" or 12 ” thick prefabricated panels.

PANEL CONSTRUCTION

Panels consist of die-formed interior and exterior metal pans fastened to a perimeter high-density extruded insulation and or urethane foam hard rail frame for maximum structural strength. EISA Compliance Title 111,section 312 approved.
These rails come in three sytles, tongue-and-groove camlock, flat camlock and sliplock in design to ensure joints are airtight and vapor proof. Panels shall be modular in design for quick field assembly and future modification flexibility. Cam-lock fasteners are used to secure adjacent panels. These cam locks are lever acting with eccentric hooked locks and mating pins securely anchored in the adjacent panel to assure the ease of alignment and positive seal. Cam-lock spacing shall not exceed 48” on center. Access ports for cam locks will be covered with snap-in cap plugs.

INSULATION

Foam used in the construction of the walk-in cooler/freezer is Authofroth and is listed with The Director of Certified Insulation Material, Department of Consumer Affairs under CA-T073 tested at UL with flame spread 20 and smoke 289. The flash temperature is 914 Degrees F and the self-ignition temperature is more than 968 degrees F to ASTM 1929.

METALS AND FINISHES

Standard metal is 26-gauge bright white or silver stucco embossed galvanized steel interior/exterior. Minimum steel thickness is 0.019” with G-90 galvanized coating. Optional metal types include 26 Ga. painted stucco embossed galvanized steel with several colors to chose from, including embossed aluminum, .040 smooth aluminum painted, and 24 Ga. type 304 #4 finish stainless steel.

COOLER & FREEZER SPECIFICATIONS

FLOOR CONSTRUCTION

If a floor is not required, alignment channel is provided. Channel is designed to be anchored to masonry floors and to provide a template for wall panels.

When a floor is required, the floor panels shall be 4” or 5” thick and constructed with metal bonded to ¾” exterior grade plywood and then foamed-in-place. Standard floor finish is .040 smooth aluminum. Optional floor finishes are 22 Ga. smooth stainless steel type 304 #4 finish and aluminum diamond tread plate. Floors shall be NSF Certified and designed and manufactured to support uniformly distributed loads up to 700 pounds per square foot.

DOORS

Standard door shall be infitting, flush design unless otherwise specified. The door edge shall consist of a PVC perimeter into which the interior and exterior metal skins are secured and shall create a thermal break between metal facings. The PVC frame includes a PVC bulb type compression gasket with magnetic steel core to maintain an airtight seal and to allow quick replacement as needed. Freezer doors have concealed heated jamb and threshold heater, easily accessible for replacement or service. Heated pressure relief vent port shall be provided on freezer applications. Cooler doors do not require a door heater. An NSF Certified 2 ½" thermometer shall be flush mounted on the door frame.
The door hinges shall be heavy-duty cam-lift design in bright chrome finish. Hinges have steel pins with nylon bushings and shall be of sufficient size and number to support twice the weight of the door. The door latch shall be made of similar materials and finish as the door hinges. The latch shall incorporate an inside safety release that complies with OSHA standards. All doors shall be self-closing without assistance when opened up to 90 degrees and shall remain open when opened above 90 degrees. The bottom of the door shall have a flexible sweep.

LIGHTING

Each entrance door shall have a vapor-proof light fixture, shipped loose, for mounting on the interior of the door section. The light fixture shall include a shatterproof globe cover (light bulb not included). When ordered, an optional one-way or three-way light switch with pilot light is available factory installed and shall be flush-mounted on the exterior of the door section. All wiring within the door section, heater (if required), switch, and light fixture, is factory installed in conduit and terminates at a junction box above the door. Field connection by others is required for complete operation 120 volt, 60 cycle, 1-phase. All components to be U.L. approved.

WALK-IN COOLER & FREEZER SPECIFICATIONS

OPTIONAL EQUIPMENT

The following are typical options offered by American Walk in Coolers.

View Window: Standard sizes are 14” x 14” and 14” x 24” triple pane glass with and without heater wire. Lighting can be added per request.

Temperature Alarm: Standard version is High / Low Temperature Alarm & Monitor with Power Failure Alarm & Monitor (Battery Backup with built in recharging circuitry)

- Field Adjustable High and Low Alarm Temperature Setpoints
- Field Selectable High / Low Temperature Alarm Display in F or C.
- Field Adjustable Time Delay
- Audible Visual and Remote Alarm Notification
- Built-In Power Supply
- Surface or Flush Mount
- Probes: 25 foot leads included

Vinyl Strip Curtain: PVC flexible .060 vinyl 6” strips with 1” overlap for standard cooler and freezer door applications. NSF Certified slide-in aluminum mounting bar. Larger and thicker strips available for larger doors.

Enclosure Panel: Metal of material matching the exposed walk-in exterior can be provided to close off space between the box top and the ceiling with or without track; maximum 24” high without support.

Door Closer: Heavy duty steel construction with hydraulic or spring mechanism automatically brings door to full close position within 10 degrees of closed position (included as standard equipment for boxes shipped to California location).

Doors: Sliding Doors, manual or electric, Bi-Parting, Lift-Up, Roll-Up Insulated doors are available. Oversize and custom door sizes are available.

Glass Doors and Stationary Glass Windows: Glass Door frames and Stationary Window frames are aluminum with 2 or 3 panes of glass. Medium temperature doors include door frame heaters. Low temperature doors have door frame and door heaters. Available with or without anti-sweat controller. Glass doors are self-closing with magnetic gaskets to provide a tight seal. Interior fluorescent lights and wire shelving are included when glass door package is purchased. CEC Title 20 compliant doors and windows are available.

Outdoor Roof Membrane: Custom prefabricated reinforced thermoplastic membrane, leak-proof, resistant to chemicals, fire and high winds; used with or without sloped foam insert. Note: should be installed by authorized contractor.

Refrigeration: American Walk in Cooler is supplier of a national brand of remote and self-contained indoor and outdoor condensing units with matching evaporator coils.

TESTING & APPROVALS

Electrical and refrigeration components are Underwriters Laboratories and National Sanitation Foundation Listed or Certified.
Panels Certified to NSF/ANSI Standard #7.
SGS US Testing Company, Inc. Report Number 740813-1
Flame spread and smoke developed per UL-723, ASTM E84-95b, ANSI/NFPA No. 255, and UBC No. 8-1.
Los Angeles Research Report Number 25314
National Sanitation Foundation (NSF) - Compliance with NSF standard #7Component # N017217
Coolers/freezers, by the City of Los Angeles.
California Energy Commission (CEC) Title 20 compliant.
State of Oregon Manufacturer # M564 Insignia Registration Program

To promote continuous improvement, specifications are subject to change without notice.

Publication No. RU-ASE-0612A

Russell

ASLE

SLIM-TEMP DISPLAY CASE UNIT COOLER ELECTRIC DEFROST

The ASLE is specifically designed for use in low temperature reach-in display cases. Its slim profile takes up less room and maximizes available shelf space.

ASLE 25-46	ASLE 35-70	ASLE 55-117
ASLE 25-58	ASLE 45-94	ASLE 65-150

Features:

- All models require externally equalized Thermostatic Expansion valves.
- ASLE capacity ratings at -10°F evaporator temperature.
- All Aluminum low silhouette housing.
- Fan motors are totally enclosed, permanently lubricated and thermally protected.
- Electrical connection made at internal terminal blocks located at end opposite refrigerant connections.
- UL & cUL listed. NSF approved.

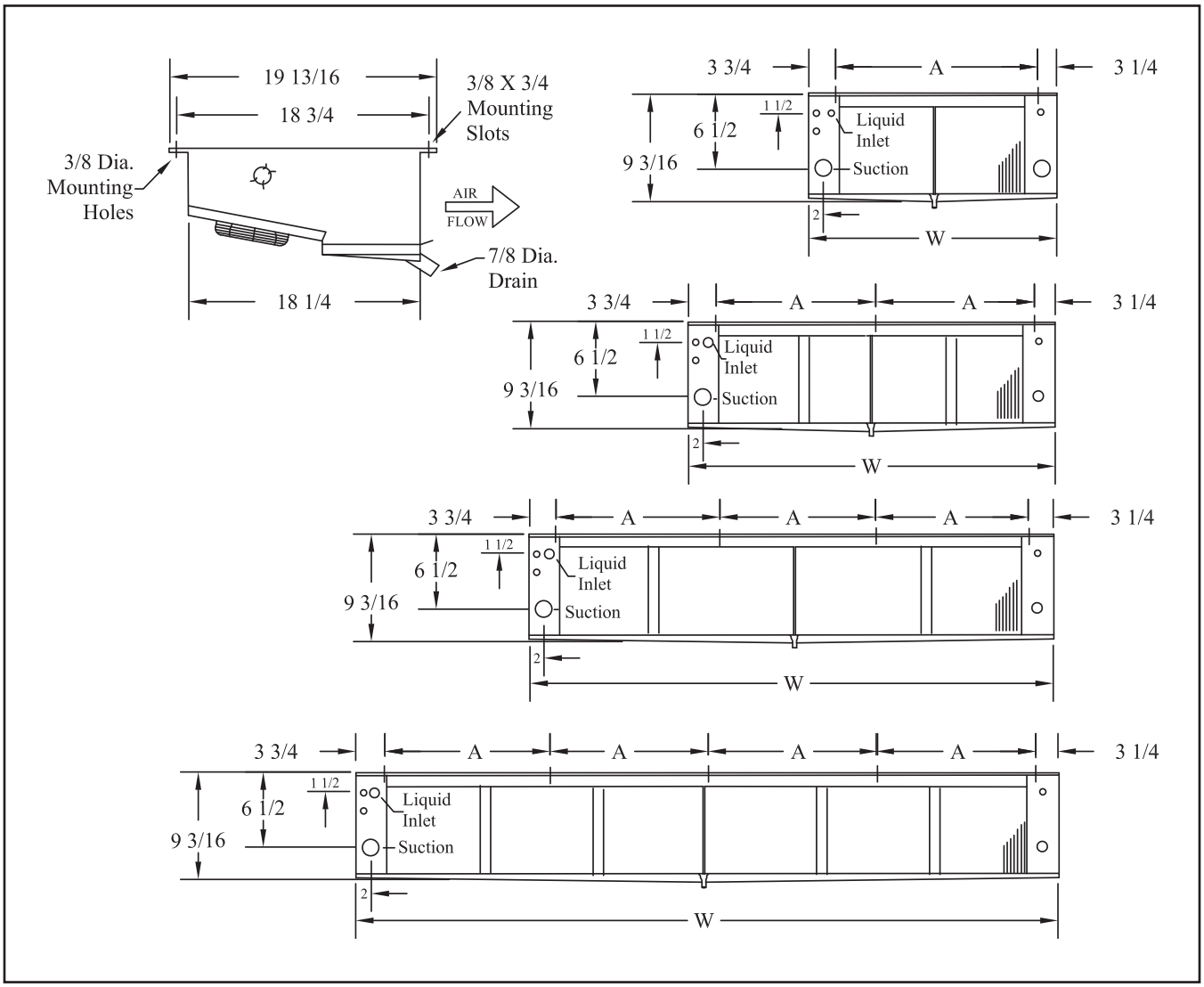
c UL us NSF

SLIM-TEMP DISPLAY CASE UNIT COOLER

Specifications - Electric Defrost Models

Model Number	BTUH 10° TD	Fan Motors	CFM	Shaded Pole Motor Amps 230V /1	EC Motor Amps 230V/1	Defrost 230V/1		Connections		Dimensions*		Ship WT (Lbs)
						Watts	Amps	Liquid	Suction	A	W	
ASLE 25-46	4,600	2-16 watt	950	1.1	0.58	1,300	5.7	1/2FN	7/8 ODS	39	46-3/16	83
ASLE 25-58	5,800	2-16 watt	1,000	1.1	0.58	1,970	8.6	1/2FN	7/8 ODS	49	56-3/16	105
ASLE 35-70	7,000	3-16 watt	1,425	1.7	0.87	1,850	8.1	1/2FN	7/8 ODS	31	69-3/16	125
ASLE 45-94	9,400	4-16 watt	1,900	2.2	1.16	2,400	10.5	1/2FN	1-1/8 ODS	28¼	92-3/16	151
ASLE 55-117	11,700	5-16 watt	2,375	2.8	1.45	3,000	13.1	1/2FN	1-1/8 ODS	36	115-3/16	185
ASLE 65-150	15,000	6-16 watt	2,850	3.3	1.74	3,500	15.2	1/2FN	1-1/8 ODS	32¾	138-3/16	222

* All dimensions are in inches.



Due to continuing product development, specifications are subject to change without notice.

Publication No. RU-AAX-0516A

Russell

All-Temp

LOW PROFILE UNIT COOLER

Small to Medium Walk-Ins
Coolers and Freezer Applications

Air Defrost
3,900 to 39,000 BTUH

Electric Defrost
3,600 to 28,000 BTUH

Hot Gas Defrost
3,600 to 28,000 BTUH

c UL us

NSF

ALL-TEMP

Features

The Russell All-Temps are the original low profile unit coolers that established the industry standard as being the all-purpose design for walk-in coolers, freezers and other applications. The units feature an air draw-through design, easy access for serviceability, and are available in air, electric and hot gas defrost models.

SIZES
There are a wide array of sizes available with capacities ranging from 3,600 to 39,000 BTUH at a 10° TD spanning from 740 to 4,980 cfm. One through six fan models are available.

HOUSING
The embossed Aluminum casing is lightweight yet durable. Each fan section is baffled to prevent short cycling of the air. The unit is designed to mount flush to the ceiling and meets all NSF requirements. The top pan is slotted for simple installation. Drain fittings are installed in the bottom of the drain pan for easy field connection and the drain fitting can be quickly replaced without replacing the entire drain pan. The end panels can now be slid out from the front of the unit for easy serviceability from the front or end of the unit.

COIL
Copper hairpins are staggered and mechanically expanded into corrugated Aluminum fins and tube sheets to achieve maximum heat transfer. Die formed fin collars provide even fin spacing and are available in 4, 6 and 8 fins per inch. Sweat connections are standard on all models.

MOTORS
High efficiency single-speed and dual-speed Electronically Commutated (EC) motors are available in 115V and 208/230V. The dual-speed EC motors are compliant with California Title 24 regulations. Single-speed PSC motors are available in 115V, 208/230V and 460V. All motors include thermal overload protection.

CONFIGURATIONS
Units are available as Configurable (no mounted accessories) or Pre-assembled with the most requested options installed for your convenience.

Pre-assembly Code[1]:
- Blank = Configurable
- T = Factory mounted TXV
- L = Factory mounted TXV, Liq. Line Solenoid (LLS) and Mechanical T-Stat
- M = Master Configuration with mounted TXV, T-Stat, LLS and copper Tee

FANS
Heavy duty 12" Aluminum fans are balanced to provide vibration-free operation. Our low throw black plastic fan guards provide an optimal air pattern. The optional epoxy resin high throw fan guard moves air up to 25 feet.

ELECTRICAL
Available in 115V, 208/230V and 460V (see pages 4 and 5). All components are factory wired to convenient screw-type terminal strips. A large compartment is supplied internal to the unit for all electrical components and is easily accessible by opening the slide out end panel. All models are UL and cUL listed and are available in 60 or 50 Hz.

AIR DEFROST
Air Defrost models (prefix "AA") are designed for use in coolers of 35°F and warmer. Complete air defrost systems for off-cycle or timed air defrost are available.

ELECTRIC DEFROST
Electric Defrost models (prefix "AE") are designed for use in coolers and freezers between 34°F to -20°F. Internal coil heaters provide rapid and efficient defrost. A lower heater is installed close to the drain pan for fast, reliable drainage. A defrost termination fan delay thermostat (DTFD) terminates the defrost cycle when the temperature is satisfied. The fan delay allows the warm coil to cool after a defrost cycle prior to the fans turning on. A heater safety thermostat is installed to prevent heaters from overheating above 75°F. Complete electric defrost refrigeration systems are available from Russell.

HOT GAS DEFROST
There are two types of Hot Gas Defrost models available: Hot Gas 3 Pipe (prefix "AH") and Hot Gas Reverse Cycle 2 Pipe (prefix "AG"). Hot Gas Defrost models are designed for use in coolers and freezers between 30°F to -20°F. All models include a fixed DTFD factory wired and a hot gas drain pan circuit to defrost the drain pan. On all Hot Gas models, the drain fitting is located on the left-hand rear of the unit when facing the fan guards. Complete Hot gas defrost refrigeration systems are available from Russell.

Optional Features

- Coated Aluminum fins (Russproof, ElectroFin[2], or Heresite[2]) or Copper fins
- Coated housing (same options as above)
- Epoxy resin high throw guards for up to 25 ft.
- Adjustable termination/ fan delay control*
- Insulated drain pan*

* These options require the units to be built as Revision B models.

1. Codes T, L and M are intended for units in finished goods inventory only. Call out separate options for units built with normal lead times.
2. ElectroFin and Heresite coatings are not NSF approved. NSF approval label will be removed from unit if ordered with these coatings.

LOW PROFILE UNIT COOLER

Electronically commutated motors bring energy efficiency to the refrigeration Unit Cooler market . Features of the EC motors we offer include:

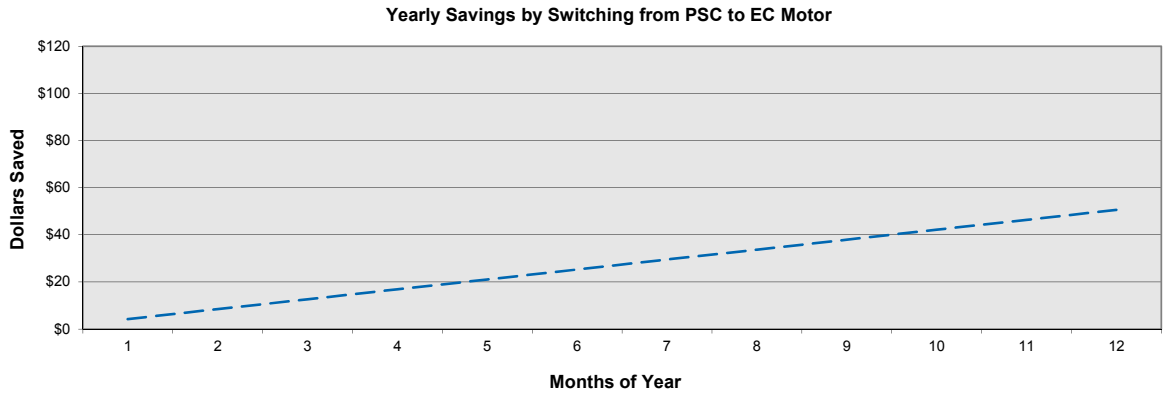
- Integrated control with sealed construction
- Locked rotor with overload fold-back protection
- Durable ball bearing construction for long commericial life
- Unique hall sensor design prevents synching or resonance
- Threaded shaft uses hubless fan blade
- Available in single or dual speed configurations

Energy Savings by Switching from PSC to Efficient EC Motor

Chart is based on Energy Cost of $0.10 per kWh.

Motor Change	Std Motor Power Watts/ Mtr	Change to Motor Power Watts/Mtr	Reduced Power Watts/ Mtr	Run Time Hrs/ Day	Motor Energy Savings kWh/Yr	Motor Energy Savings $/Yr	Reduced Box Load MBTU/Yr	Cond. Unit Energy Savings $/Yr	Yearly Saving $ Per MTR	Pay back in Yrs
PSC to EC	85	47	38	22	305	31	1041	20	51	2.0

Subtract 6% from total savings for medium temperature air defrost units that run 24 hours per day.
PSC = 1/20 HP PSC motor
EC = 50 Watt Electronically Commutated motor



MODEL NUMBER NOMENCLATURE

A A 1 8 - 41 C - A E L

All-Temp

Type of Defrost
A = Air Defrost
E = Electric Defrost
H = Hot Gas 3 Pipe
G = Hot Gas Rev. Cycle 2 Pipe

Number of fans

Fins per inch

BTUH in hundreds

Revision Code*

Pre-assembly Code
Blank = Configurable
T = Mounted TXV (only)
L = Mounted TXV, LLS, T-Stat
M = Master Configuration
See features page for configuration descriptions

Motor Type
P = PSC
E = Single Speed ECM
D = Dual Speed ECM

Voltage Code
A = 115/1/60
D = 208-230/1/60
E = 208-230/3/60
F = 460/1/60
L = 100/1/50
M = 200-220/1/50
N = 200-220/3/50
P = 350/1/50

* Hot Gas Defrost models (AG, AH) are not available in Revision Code “C” configuration and must be designated as Revision Code “B”.

ALL-TEMP

Performance and Electrical Data - Air Defrost Models

	Model Number	BTUH* Capacity @ 25°F S.T.		CFM	Total Fan Motor AMPS - 1 Phase				
					Single and Dual^ Speed EC Motors†		Single Speed PSC Motors		
		10° TD	12° TD		115V	208-230V	115V	208-230V	460V
8 FPI	AA18-41C	4,100	4,900	800	0.8	0.5	1.0	0.5	0.4
	AA18-53C	5,300	6,400	770	0.8	0.5	1.0	0.5	0.4
	AA18-66C	6,600	7,900	740	0.8	0.5	1.0	0.5	0.4
	AA28-76C	7,600	9,100	1,460	1.6	1.0	2.0	1.0	0.8
	AA28-97C	9,700	11,600	1,420	1.6	1.0	2.0	1.0	0.8
	AA28-106C	10,600	12,700	1,540	1.6	1.0	2.0	1.0	0.8
	AA28-122C	12,200	14,600	1,380	1.6	1.0	2.0	1.0	0.8
	AA28-134C	13,400	16,100	1,480	1.6	1.0	2.0	1.0	0.8
	AA38-160C	16,000	19,200	2,310	2.4	1.5	3.0	1.5	0.8
	AA38-195C	19,500	23,400	2,220	2.4	1.5	3.0	1.5	1.2
	AA48-212C	21,200	25,400	3,080	3.2	2.0	4.0	2.0	1.6
	AA48-264C	26,400	31,700	2,960	3.2	2.0	4.0	2.0	1.6
	AA58-275C	27,500	33,000	3,850	4.0	2.5	5.0	2.5	2.0
	AA68-318C	31,800	38,200	4,620	4.8	3.0	6.0	3.0	2.4
	AA68-390C	39,000	46,800	4,440	4.8	3.0	6.0	3.0	2.4
6 FPI	AA16-39C	3,900	4,700	830	0.8	0.5	1.0	0.5	0.4
	AA16-48C	4,800	5,800	800	0.8	0.5	1.0	0.5	0.4
	AA16-58C	5,800	7,000	780	0.8	0.5	1.0	0.5	0.4
	AA26-70C	7,000	8,400	1,540	1.6	1.0	2.0	1.0	0.8
	AA26-87C	8,700	10,400	1,500	1.6	1.0	2.0	1.0	0.8
	AA26-115C	11,500	13,800	1,560	1.6	1.0	2.0	1.0	0.8
	AA36-145C	14,500	17,400	2,400	2.4	1.5	3.0	1.5	1.2
	AA36-170C	17,000	20,400	2,340	2.4	1.5	3.0	1.5	1.2
	AA46-192C	19,200	23,000	3,200	3.2	2.0	4.0	2.0	1.6
	AA46-230C	23,000	27,600	3,120	3.2	2.0	4.0	2.0	1.6
	AA56-245C	24,500	29,400	4,000	4.0	2.5	5.0	2.5	2.0
	AA66-295C	29,500	35,400	4,800	4.8	3.0	6.0	3.0	2.4
	AA66-345C	34,500	41,400	4,680	4.8	3.0	6.0	3.0	2.4
4 FPI	AA14-42C	4,200	5,000	830	0.8	0.5	1.0	0.5	0.4
	AA24-84C	8,400	10,100	1,660	1.6	1.0	2.0	1.0	0.8
	AA24-105C	10,500	12,600	1,620	1.6	1.0	2.0	1.0	0.8
	AA34-130C	13,000	15,600	2,490	2.4	1.5	3.0	1.5	1.2
	AA44-170C	17,000	20,400	3,320	3.2	2.0	4.0	2.0	1.6
	AA54-215C	21,500	25,800	4,150	4.0	2.5	5.0	2.5	2.0
	AA64-255C	25,500	30,600	4,980	4.8	3.0	6.0	3.0	2.4

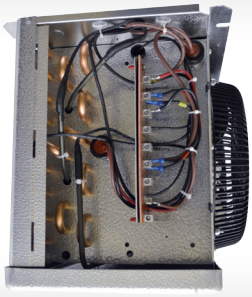
Use EC motors for 50 Hz operation.

* Standard rating based on R404A refrigerant with 100°F liquid temperature. Consult factory for other operating conditions.

† These Electronically Commutated (EC) Motors are not available in 460V or 575V.

^ Dual-speed EC motors are compliant with California Title 24 regulations.

End panels slide out for easy serviceability from the front or ends of the unit



LOW PROFILE UNIT COOLER

Performance and Electrical Data - Electric Defrost Models

	Model Number	BTUH* Capacity @ 10° T.D. Suction Temperature				CFM	Motor Amps[1]			Heater Amps[2]			Heater Watts
							Single and Dual^ Speed EC Motors†	Single Speed PSC Motors		230V		460V	
		-30°F	-20°F	-10°F	+20°		230V	230V	460V	1 PH	3 PH	1 PH	
6 FPI	AE16-36C	3,400	3,600	3,700	3,900	830	0.5	0.5	0.4	4.4	3.8	2.2	1,000
	AE16-41C	3,900	4,100	4,300	4,800	800	0.5	0.5	0.4	4.4	3.8	2.2	1,000
	AE16-46C	4,400	4,600	4,800	5,800	780	0.5	0.5	0.4	4.4	3.8	2.2	1,000
	AE26-60C	5,700	6,000	6,200	7,000	1,540	1.0	1.0	0.8	7.0	6.0	3.5	1,600
	AE26-75C	7,100	7,500	7,800	8,700	1,500	1.0	1.0	0.8	7.0	6.0	3.5	1,600
	AE26-92C	8,700	9,200	9,600	11,500	1,560	1.0	1.0	1.2	8.7	7.5	4.4	2,000
	AE36-120C	11,400	12,000	12,500	14,500	2,400	1.5	1.5	1.2	13.0	11.3	6.4	3,000
	AE36-140C	13,300	14,000	14,600	17,000	2,340	1.5	1.5	1.2	13.0	11.3	6.4	3,000
	AE46-164C	15,000	16,400	17,100	19,200	3,200	2.0	2.0	1.6	17.4	15.1	8.7	4,000
	AE46-185C	17,600	18,500	19,200	23,000	3,120	2.0	2.0	1.6	17.4	15.1	8.7	4,000
	AE56-210C	20,000	21,000	21,800	24,500	4,000	2.5	2.5	2.0	21.7	18.8	10.9	5,000
	AE66-245C	23,300	24,500	25,500	29,500	4,800	3.0	3.0	2.4	25.0	21.7	12.5	5,750
	AE66-280C	26,600	28,000	29,100	34,500	4,680	3.0	3.0	2.4	25.0	21.7	12.5	5,750
4 FPI	AE14-37C	3,500	3,700	3,800	4,200	830	0.5	0.5	0.4	4.4	3.8	2.2	1,000
	AE24-72C	6,800	7,200	7,500	8,400	1,660	1.0	1.0	0.8	8.7	7.5	4.4	2,000
	AE24-85C	8,100	8,500	8,800	10,500	1,620	1.0	1.0	0.8	8.7	7.5	4.4	2,000
	AE34-105C	10,000	10,500	10,900	13,000	2,490	1.5	1.5	1.2	13.0	11.3	6.4	3,000
	AE44-140C	13,300	14,000	14,600	17,000	3,320	2.0	2.0	1.6	17.4	15.1	8.7	4,000
	AE54-180C	17,100	18,000	18,700	21,500	4,150	2.5	2.5	2.0	21.7	18.8	10.9	5,000
	AE64-215C	20,400	21,500	22,400	25,500	4,980	3.0	3.0	2.0	25.0	21.7	12.5	5,750

* Standard rating based on R404A refrigerant with 100°F liquid temperature. Consult factory for other operating conditions.
† These Electronically Commutated (EC) Motors are not available in 460V or 575V.
^ Dual-speed EC motors are compliant with California Title 24 regulations.
1. All fan motors are wired for single phase.
Use EC motors for 50 Hz operation.

Mounts flush to the ceiling to maximize headroom and space

UL certified for use with multiple refrigerants

Single fan through six fan models are available

ALL-TEMP

Performance and Electrical Data - Hot Gas Defrost Models

	Model Number		BTUH Capacity @ 10°T.D. Suction Temperature				CFM	Fan Motor Amps[1] Single and Dual^ Speed EC Motors†		Fan Motor Amps[1] Single Speed PSC Motors†			Heat Exchange Field Installed
			-30°F	-20°F	-10°F	+20°		115V	230V	115V	230V	460V	
6 FPI	AG16-36B	AH16-36B	3,400	3,600	3,700	3,900	830	0.8	0.5	1.0	0.5	0.4	HX-25
	AG16-41B	AH16-41B	3,900	4,100	4,300	4,800	800	0.8	0.5	1.0	0.5	0.4	HX-25
	AG16-46B	AH16-46B	4,400	4,600	4,800	5,800	780	0.8	0.5	1.0	0.5	0.4	HX-25
	AG26-60B	AH26-60B	5,700	6,000	6,200	7,000	1,540	1.6	1.0	2.0	1.0	0.8	HX-25
	AG26-75B	AH26-75B	7,100	7,500	7,800	8,700	1,500	1.6	1.0	2.0	1.0	0.8	HX-50
	AG26-92B	AH26-92B	8,700	9,200	9,600	11,500	1,560	1.6	1.0	2.0	1.0	0.8	HX-50
	AG36-120B	AH36-120B	11,400	12,000	12,500	14,500	2,400	2.4	1.5	3.0	1.5	1.2	HX-50
	AG36-140B	AH36-140B	13,300	14,000	14,600	17,000	2,340	2.4	1.5	3.0	1.5	1.2	HX-75
	AG46-164B	AH46-164B	15,000	16,400	17,100	19,200	3,200	3.2	2.0	4.0	2.0	1.6	HX-75
	AG46-185B	AH46-185B	17,600	18,500	19,200	23,000	3,120	3.2	2.0	4.0	2.0	1.6	HX-75
	AG56-210B	AH56-210B	20,000	21,000	21,800	24,500	4,000	4.0	2.5	5.0	2.5	2.0	HX-75
	AG66-245B	AH66-245B	23,300	24,500	25,500	29,500	4,800	4.8	3.0	6.0	3.0	2.4	HX-100
	AG66-280B	AH66-280B	26,600	28,000	29,100	34,500	4,680	4.8	3.0	6.0	3.0	2.4	HX-100
4 FPI	AG14-37B	AH14-37B	3,500	3,700	3,800	4,200	830	0.8	0.5	1.0	0.5	0.4	HX-25
	AG24-72B	AH24-72B	6,800	7,200	7,500	8,400	1,660	1.6	1.0	2.0	1.0	0.8	HX-50
	AG24-85B	AH24-85B	8,100	8,500	8,800	10,500	1,620	1.6	1.0	2.0	1.0	0.8	HX-50
	AG34-105B	AH34-105B	10,000	10,500	10,900	13,000	2,490	2.4	1.5	3.0	1.5	1.2	HX-50
	AG44-140B	AH44-140B	13,300	14,000	14,600	17,000	3,320	3.2	2.0	4.0	2.0	1.6	HX-75
	AG54-180B	AH54-180B	17,100	18,000	18,700	21,500	4,150	4.0	2.5	5.0	2.5	2.0	HX-75
	AG64-215B	AH64-215B	20,400	21,500	22,400	25,500	4,980	4.8	3.0	6.0	3.0	2.4	HX-100

† These Electronically Commutated (EC) Motors are not available in 460V or 575V.

^ Dual-speed EC motors are compliant with California Title 24 regulations.

1. All fan motors are wired for single phase.

Hot Gas reverse cycle includes a fixed defrost termination control and a fixed fan delay control (factory wired) and a check valve between the hot gas drain pan circuit and the coil.

Use EC motors for 50 Hz operation.

Russell's All-Temp Low Profile Unit Cooler can be used in combination with R-Series Next-Gen MiniCon Condensing Units, providing complete refrigeration solutions for small to medium walk-ins

LOW PROFILE UNIT COOLER

Physical Data

MODELS		TXV* TYPE	REFRIGERANT CONNECTIONS				NO. OF HANGERS	DIMENSIONS (Inches)				APPROX. SHIP WT. (LBS)
AA	AE/AG^/AH^		All LIQUID†	AA SUCTION	AE/AG/AH SUCTION	HG		A	B	C	W	
18-41C	—	EXT	1/2 ODS	5/8 ODS	—	—	2	19	—	—	27	33
18-53C	—	EXT	1/2	5/8	—	—	2	19	—	—	27	34
18-66C	—	EXT	1/2	5/8	—	—	2	19	—	—	27	36
28-76C	—	EXT	1/2	5/8	—	—	2	33	—	—	41	48
28-97C	—	EXT	1/2	7/8	—	—	2	33	—	—	41	51
28-106C	—	EXT	1/2	7/8	—	—	2	37	—	—	45	58
28-122C	—	EXT	1/2	7/8	—	—	2	33	—	—	41	60
28-134C	—	EXT	1/2	7/8	—	—	2	37	—	—	45	63
38-160C	—	EXT	1/2	1-1/8	—	—	2	55	—	—	63	79
38-195C	—	EXT	1/2	1-1/8	—	—	2	55	—	—	63	84
48-212C	—	EXT	1/2	1-1/8	—	—	3	36-1/2	36-1/2	—	81	127
48-264C	—	EXT	1/2	1-1/8	—	—	3	36-1/2	36-1/2	—	81	151
58-275C	—	EXT	1/2	1-1/8	—	—	3	54-1/2	36-1/2	—	99	197
68-318C	—	EXT	1/2	1-1/8	—	—	4	37	36	36	117	243
68-390C	—	EXT	1/2	1-1/8	—	—	4	37	36	36	117	267
16-39C	16-36C^	EXT	1/2 ODS	5/8 ODS	5/8 ODS	5/8 ODS	2	19	—	—	27	41
16-48C	16-41C^	EXT	1/2	5/8	5/8	5/8	2	19	—	—	27	44
16-58C	16-46C^	EXT	1/2	5/8	5/8	5/8	2	19	—	—	27	47
26-70C	26-60C^	EXT	1/2	5/8	7/8	5/8	2	33	—	—	41	54
26-87C	26-75C^	EXT	1/2	7/8	7/8	5/8	2	33	—	—	41	55
26-115C	26-92C^	EXT	1/2	7/8	7/8	5/8	2	37	—	—	45	62
36-145C	36-120C^	EXT	1/2	7/8	7/8	5/8	2	55	—	—	63	78
36-170C	36-140C^	EXT	1/2	1-1/8	1-1/8	5/8	2	55	—	—	63	85
46-192C	46-164C^	EXT	1/2	1-1/8	1-1/8	5/8	3	36-1/2	36-1/2	—	81	124
46-230C	46-185C^	EXT	1/2	1-1/8	1-1/8	5/8	3	36-1/2	36-1/2	—	81	147
56-245C	56-210C^	EXT	1/2	1-1/8	1-1/8	5/8	3	54-1/2	36-1/2	—	99	195
66-295C	66-245C^	EXT	1/2	1-1/8	1-1/8	5/8	4	37	36	36	117	238
66-345C	66-280C^	EXT	1/2	1-1/8	1-1/8	5/8	4	37	36	36	117	262
14-42C	14-37C^	EXT	1/2 ODS	5/8 ODS	5/8 ODS	5/8 ODS	2	19	—	—	27	42
24-84C	24-72C^	EXT	1/2	7/8	7/8	5/8	2	37	—	—	45	49
24-105C	24-85C^	EXT	1/2	7/8	7/8	5/8	2	37	—	—	45	55
34-130C	34-105C^	EXT	1/2	7/8	7/8	5/8	2	55	—	—	63	79
44-170C	44-140C^	EXT	1/2	7/8	1-1/8	5/8	3	36-1/2	36-1/2	—	81	144
54-215C	54-180C^	EXT	1/2	1-1/8	1-1/8	5/8	3	54-1/2	36-1/2	—	99	191
64-255C	64-215C^	EXT	1/2	1-1/8	1-1/8	5/8	4	37	36	36	117	257

^ Hot Gas Defrost models (AG, AH) are not available in Revision Code "C" configuration and must be designated as Revision Code "B".
† Sweat connection at the distributor. Mounted TXV outlet size may vary. All factory mounted Liquid Line Solenoids have 3/8" outlets.
* External equalized.

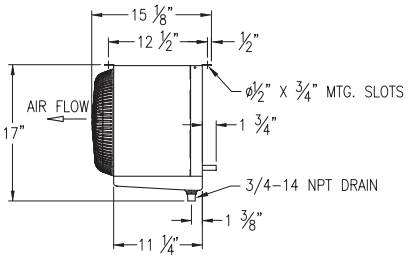
Installation Notes:

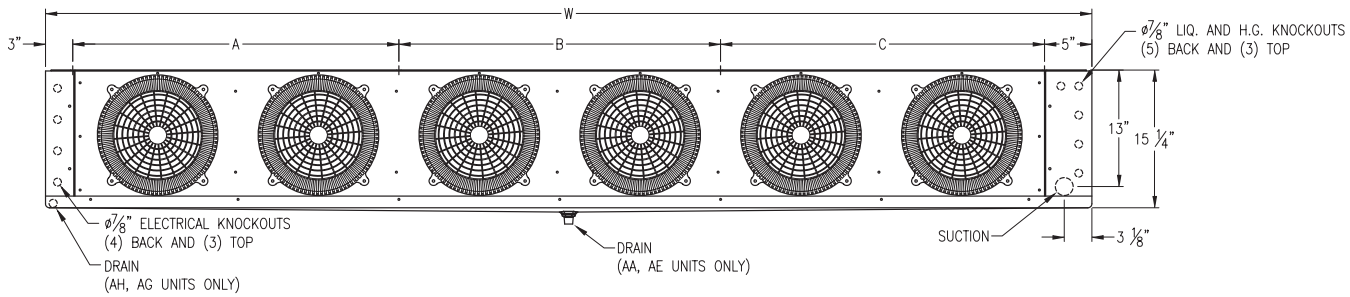
(1) Install 12" away from back wall.

(2) Drain connection on AA and AE units are centered on drain pan; and on the left rear corner (facing air discharge) on AG and AH models.

(3) For long air throw requirements, specify high throw fan guard.

(4) Unit height at drain end of hot gas models is as follows: 1,2, and 3 fan models = 15-7/8"; 4,5, and 6 fan models = 16-1/4".





ALL-TEMP

Electric Defrost Kits

MODEL NUMBER	1 UNIT COOLER PER SYSTEM		2 UNIT COOLERS PER SYSTEM		3 UNIT COOLERS PER SYSTEM	
	230V	460V	230V	460V	230V	460V
AE16-36C	ED-5	ED-17	ED-20*	ED-22	ED-30	ED-32
AE16-41C	ED-5	ED-17	ED-20*	ED-22	ED-30	ED-32
AE16-46C	ED-5	ED-17	ED-20*	ED-22	ED-30	ED-32
AE26-60C	ED-5	ED-17	ED-20*	ED-22	ED-30	ED-32
AE26-75C	ED-5	ED-17	ED-20*	ED-22	ED-30	ED-32
AE26-92C	ED-5	ED-17	ED-20*	ED-22	ED-30	ED-32
AE36-120C	ED-5	ED-17	ED-20*	ED-22	ED-33	ED-32
AE36-140C	ED-5	ED-17	ED-20*	ED-22	ED-33	ED-32
AE46-164C	ED-6	ED-17	ED-23*	ED-22	ED-35	ED-32
AE46-185C	ED-6	ED-17	ED-23*	ED-22	ED-35	ED-32
AE56-210C	ED-7	ED-17	ED-23*	ED-22	ED-35	ED-34
AE66-245C	ED-7	ED-17	ED-23*	ED-22	ED-35	ED-34
AE66-280C	ED-7	ED-17	ED-23*	ED-22	ED-35	ED-34
AE14-37C	ED-5	ED-17	ED-20*	ED-22	ED-30	ED-32
AE24-72C	ED-5	ED-17	ED-20*	ED-22	ED-30	ED-32
AE24-85C	ED-5	ED-17	ED-20*	ED-22	ED-30	ED-32
AE34-105C	ED-5	ED-17	ED-20*	ED-22	ED-33	ED-32
AE44-140C	ED-6	ED-17	ED-23*	ED-22	ED-35	ED-32
AE54-180C	ED-7	ED-17	ED-23*	ED-22	ED-35	ED-34
AE64-215C	ED-7	ED-17	ED-23*	ED-22	ED-35	ED-34

KIT NO.	TIMER	AUXILIARY SWITCH	BLOCK-OUT RELAY	DEFROST CONTACTOR	FAN CONTACTOR	SEQUENCING RELAY
ED5-230/1	1	—	1-15A	—	—	—
ED5-230/3	1	—	1-15A	—	—	—
ED6-230/1	1	—	1-20A	—	—	—
ED6-230/3	1	—	1-20A	—	—	—
ED7-230/1	1	—	1-25A	—	—	—
ED7-230/3	1	—	1-25A	—	—	—
ED10-230/1	1	—	1-30A	—	—	—
ED11-230/3	1	1	—	1-30A	—	—
ED17-460/3	1	1	—	1-15A	1-15A	—
ED18-460/3	1	1	—	1-20A	1-20A	—
ED12-460/3	1	1	—	1-30A	1-25A	—
[1]ED210-230/1	1	—	1-30A	—	—	—
[1]ED213-230/1	1	1	—	1-50A	—	—
[1]ED213-230/3	1	1	—	1-50A	—	—
ED20-230/1	1	—	1-30A	—	—	2
ED22-460/3	1	1	—	2-15A	1-25A	2
ED23-230/1	1	1	—	2-25A	—	2
ED23-230/3	1	1	—	2-25A	—	2
ED30-230/1	1	—	1-30A	—	—	3
ED32-460/3	1	1	—	3-10A	1-25A	3
ED33-230/1	1	1	—	3-16A	—	3
ED34-460/3	1	1	—	3-16A	1-25A	3
ED35-230/1	1	1	—	3-33A	—	3
ED35-230/3	1	1	—	3-33A	—	3

[1] For use with 2 evaporators , 1/2 through 3 HP R-series systems ONLY!

Electric defrost kits consist of components that are necessary to control the defrost cycle. The kits are available as a factory installed option when ordered with a condensing unit. Not all Ed-Kits are available for all condensing unit models. The contents of each kit is described below, along with the function of each component.
* - 1/2 through 3 HP condensing units require ED-210 or ED-213 for systems with 2 evaporators.

Timer: Initiates the defrost cycle. Also used as a override protection for defrost termination.

Auxiliary Switch: It's mounted on the compressor contactor and prevents the defrost contactor from operating whenever the compressor is energized.

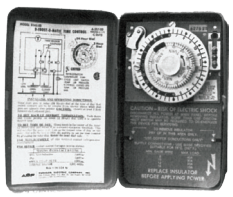
Block-Out Relay: Serves the same function as auxiliary switch. Used when defrost contactor is not required (lower wattage single phase only).

Defrost Contactor: Carries amperage load for heaters.

Fan Contactor: Used with 460V motors or when 230V motors are wired 3 phase.

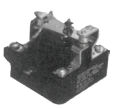
Sequencing Relays: Provides interconnection of multiple unit coolers on a single system so that each unit cooler is allowed to individually terminate defrost on temperature.


SEQUENCING RELAY


TIMER


DEFROST CONTACTOR

FAN CONTACTOR


BLOCK-OUT RELAY


AUXILIARY SWITCH

Due to continuing product development, specifications are subject to change without notice.

Publication No. RU-REL-0413A

Russell

R Series

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS 1/2 TO 6-1/2 HP

1/2 to 3 HP

4 to 6 HP

c UL us

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Description

Minicon R-series condensing units are ideally suited for use in a variety of commercial applications such as cafeterias, convenience stores, restaurants and fast food outlets. Minicon units offer a winning combination of quality, economy, and flexibility coupled with lower long term operating costs.

This low profile product line has been designed around environmentally safer refrigerants. Units are available with a choice of compressors: low cost hermetic, efficient and quiet scroll compressors or heavy duty semi-hermetic and discus compressors.

In addition to the basic Indoor and Outdoor models described in this bulletin, Russell can also provide pre-engineered system packages with matching evaporators and accessories.

The standard R-series condensing unit is designed for operation in ambient air temperatures up to 110°F. Oversized condensers are available for most models. Contact our Applications Engineering department for requirements exceeding 110°F ambient temperature.

Features

Indoor/Outdoor Models (REH/RES/RED/REO)

- Hermetic, Semi-hermetic or Scroll compressor.
- Generously sized condenser, Copper tubes/ Aluminum fins
- Large electrical control panel for power and control circuits
- Compressor contactor or start kit
- Encapsulated high and low pressure controls (adjustable low pressure control on low temp models)
- Refrigerant receiver with shutoff valve and relief plug
- PSC motors are standard for all condenser fans
- All-weather housing
- UL and cUL listed for indoor or outdoor use

Optimized Packaged Units (RLH / RLS / RLD / RLO)

- Includes all Indoor model features - plus:
- Liquid line kit with filter/drier and sight glass with moisture indicator
- Suction line piping to exterior of cabinet
- Low Ambient - flooded head pressure control valve
- Crankcase heater
- Electric defrost timer with defrost contactor/relay on low temperature models (ED10-230/1)
- Air Defrost Timer (2-1/2 through 6 HP High and Medium temp models only, optional for other HP)

Options

- Factory installed air defrost timer
- Factory installed electric defrost timer with contactor
- Low ambient flooded control (STD on RL models)
- Mild ambient fan cycle control (for 2 fan units only)
- Suction line piping to exterior of cabinet (STD on RL models)
- Suction line kit with filter and piping
- Liquid line (piping only)
- Liquid line kit with piping, filter/ drier and sight glass (STD on RL models
- Suction accumulator
- Oil separator (not available with mounted accumulator)
- Crankcase heater
- Copper fins, or coated condenser coil
- Tiered stacking
- Liquid line solenoid
- Fused disconnect
- High ambient oversized condenser coil - contact Applications
- Spring mounting for semi-hermetic compressors

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

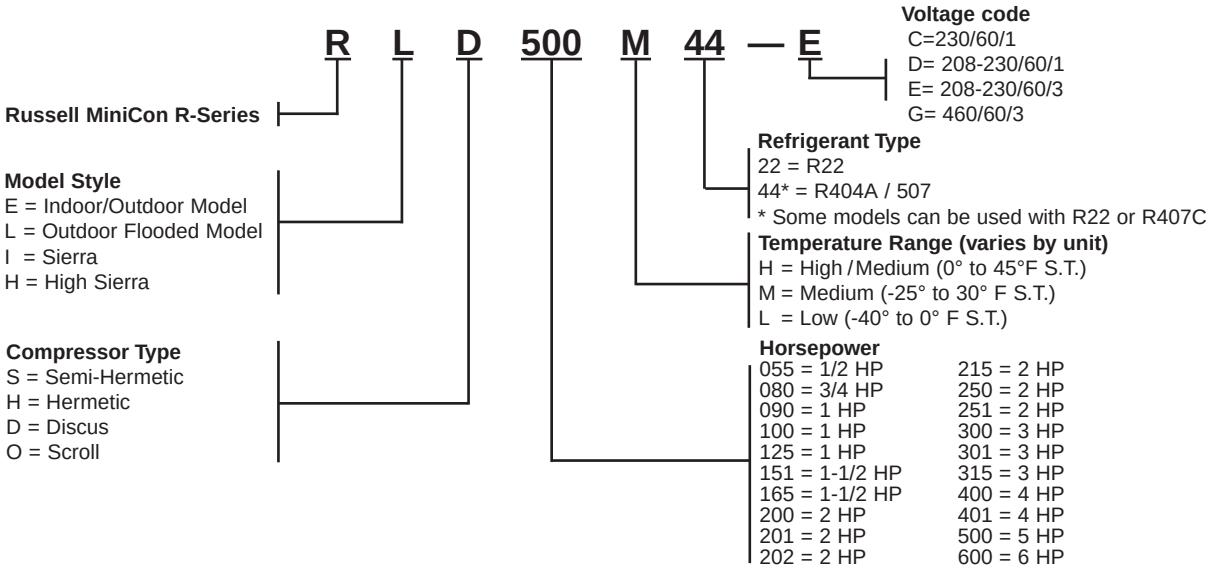
Features and Options

	DESCRIPTION	STANDARD UNITS				PACKAGED UNITS			
		REH	RED	RES	REO	RLH	RLD	RLS	RLO
COMPRESSOR	Hermetic	**STD**	N/A	N/A	N/A	**STD**	N/A	N/A	N/A
	Discus	N/A	**STD**	N/A	N/A	N/A	**STD**	N/A	N/A
	Semi-Hermetic	N/A	N/A	**STD**	N/A	N/A	N/A	**STD**	N/A
	Scroll	N/A	N/A	N/A	**STD**	N/A	N/A	N/A	**STD**
ELECTRICAL CONTROLS	Oil failure control (as required)	N/R	STD	STD	N/R	N/R	STD	STD	N/R
	Encapsulated high and low pressure controls**	STANDARD				STANDARD			
	Compressor contactor (1Ø or 3Ø), start kit (1Ø)	STANDARD				STANDARD			
	Control transformer (460v to 230V) as required	STANDARD				STANDARD			
CONDENSER	Copper tubes, Aluminum fins	STANDARD				STANDARD			
	Fan motor(s) - overload protection	STANDARD				STANDARD			
	Fan blade(s) - individually balanced	STANDARD				STANDARD			
	Fan guard(s)	OPTIONAL				OPTIONAL			
PIPING COMPONENTS	Suction line (vibrasorber† and piping only)	OPTIONAL				STANDARD			
	Suction kit (vibrasorber†, piping and suction filter)	OPTIONAL				OPTIONAL			
	Suction line accumulator	OPTIONAL				OPTIONAL			
	*Liquid line kit	OPTIONAL				STANDARD			
	Discharge vibrasober	N/R	STD††	STD††	N/R	N/R	STD††	STD††	N/R
RECEIVER	Shut-off valve(s)	STANDARD				STANDARD			
	Fusible plug	STANDARD				STANDARD			
HOUSING	Galvanized steel all weather housing	STANDARD				STANDARD			
	Control panel	STANDARD				STANDARD			
LOW AMBIENT CONTROLS	SIERRA	See publication No. 506				NOT AVAILABLE			
	HIGH SIERRA	See Publication No. 508				NOT AVAILABLE			
	Fan cycle control (2 Fan models only)	OPTIONAL				OPTIONAL			
	Flooded head pressure control	OPTIONAL				STANDARD			
DEFROST PROVISIONS	Air defrost time clock	OPTIONAL				STD on 3-6 HP			
	Electric defrost package	OPTIONAL				(1)	(1)	(1)	(1)
TESTING	UL and C-UL listed	STANDARD				STANDARD			
	Leak and dielectric tested before shipping	STANDARD				STANDARD			
	Dry Nitrogen shipping charge (25 to 35 PSI)	STANDARD				STANDARD			

STD = Standard Feature N/R = Not Required N/A = Not Available OPT = Optional Feature

† Vibrasorber not required for Hermetic and Scroll compressors. Vibrasorber not included for 1/2 through 2HP models. Add kit SPR-VB if suction vibrasorber required.
††Standard for 2-1/2 through 6HP Models. For 1/2 to 2HP models, add kit number SPR-VB to include vibrasorbers and compressor spring mounting.
*Liquid line kit includes: piping, filter drier, sight glass/moisture indicator.
** Adjustable low pressure control on low temp models in lieu of fixed control.
(1) Electric defrost kit is included on Low temperature models. ED-10-230/1 for 1/2 to 3 HP models, and ED11-230/3 for 4 to 6 HP models.

MODEL NUMBER NOMENCLATURE



DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Capacity Data - Medium Temp Hermetic R404A Rating

R404A MEDIUM TEMPERATURE - **HERMETIC** - CAPACITY (BTUH)

	MODEL	+30°F	+25°F	+20°F	+10°F	0°F	-10°F	-20°F	-25°F
90°F Ambient	R*H055M44†	6,920	6,250	5,620	4,500	3,500	2,660	1,930	1,610
	R*H080M44†	8,280	7,490	6,760	5,440	4,310	3,370	2,600	2,270
	R*H090M44†	9,560	8,700	7,890	6,420	5,130	4,030	3,100	2,710
	R*H100M44†	10,340	9,240	8,230	6,440	4,950	3,700	2,610	2,100
	R*H125M44†	14,370	12,920	11,560	9,120	7,030	5,240	3,740	3,080
	R*H151M44	17,920	15,900	14,000	10,630	7,820	5,510	3,620	2,820
	R*H200M44	19,470	17,420	15,510	12,030	9,040	6,550	4,520	3,680
	R*H251M44	21,560	19,290	17,190	13,420	10,220	7,550	5,380	4,450
	R*H301M44	29,370	26,270	23,360	18,080	13,580	9,790	6,730	5,490
	R*H325M44	32,160	28,800	25,620	19,910	15,090	11,060	7,710	6,260
	R*H400M44	45,080	40,010	35,350	27,080	20,240	14,690	10,350	8,600
	R*H500M44	51,320	45,680	40,490	31,380	23,840	17,680	12,700	10,600
95°F Ambient	R*H055M44†	6,620	5,970	5,120	4,070	3,160	2,380	1,710	1,420
	R*H080M44†	7,840	7,080	6,090	4,890	3,870	3,010	2,320	2,030
	R*H090M44†	9,080	8,260	7,140	5,800	4,620	3,610	2,770	2,420
	R*H100M44†	9,730	8,690	7,380	5,760	4,410	3,260	2,240	1,750
	R*H125M44†	13,570	12,180	10,390	8,160	6,250	4,620	3,240	2,640
	R*H151M44	16,830	14,860	13,050	9,840	7,170	4,980	3,180	2,420
	R*H200M44	18,270	16,310	13,820	10,650	7,940	5,680	3,860	3,110
	R*H251M44	20,290	18,130	15,390	11,960	9,060	6,640	4,670	3,840
	R*H301M44	27,650	24,690	21,900	16,850	12,550	8,960	6,100	4,960
	R*H325M44	30,190	26,960	23,920	18,520	13,940	10,110	6,910	5,500
	R*H400M44	42,300	37,480	33,040	25,210	18,750	13,550	9,500	7,880
	R*H500M44	48,440	43,050	36,380	28,110	21,270	15,700	11,190	9,270
100°F Ambient	R*H055M44†	6,290	5,670	5,080	4,020	3,110	2,330	1,650	1,360
	R*H080M44†	7,390	6,670	6,010	4,810	3,790	2,940	2,260	1,980
	R*H090M44†	8,600	7,810	7,070	5,720	4,550	3,540	2,710	2,370
	R*H100M44†	9,120	8,140	7,240	5,640	4,290	3,130	2,080	1,550
	R*H125M44†	12,770	11,450	10,210	7,980	6,060	4,430	3,050	2,450
	R*H151M44	15,710	13,840	12,120	9,070	6,540	4,460	2,750	2,030
	R*H200M44	17,070	15,200	13,450	10,280	7,590	5,370	3,590	2,850
	R*H251M44	19,030	16,970	15,060	11,650	8,770	6,380	4,430	3,600
	R*H301M44	25,930	23,100	20,440	15,630	11,550	8,160	5,510	4,470
	R*H325M44	28,200	25,120	22,260	17,130	12,800	9,160	6,110	4,740
	R*H400M44	39,570	34,990	30,790	23,390	17,320	12,460	8,710	7,200
	R*H500M44	45,580	40,460	35,760	27,540	20,760	15,240	10,750	8,840
110°F Ambient	R*H055M44†	5,630	5,050	4,520	3,550	2,720	2,000	1,380	1,110
	R*H080M44†	6,490	5,850	5,250	4,170	3,260	2,520	1,930	1,700
	R*H090M44†	7,600	6,900	6,230	5,020	3,960	3,070	2,340	2,040
	R*H100M44†	7,930	7,060	6,270	4,850	3,630	2,540	1,490	950
	R*H125M44†	11,210	10,000	8,880	6,860	5,130	3,650	2,380	1,820
	R*H151M44	13,510	11,830	10,290	7,560	5,310	3,450	1,940	1,270
	R*H200M44	14,700	13,010	11,430	8,590	6,210	4,260	2,700	2,040
	R*H251M44	16,510	14,680	12,970	9,930	7,360	5,240	3,520	2,790
	R*H301M44	22,550	19,980	17,560	13,260	9,610	6,660	4,440	3,630
	R*H325M44	24,350	21,560	19,010	14,440	10,570	7,310	4,490	3,210
	R*H400M44	34,180	30,140	26,420	19,890	14,590	10,410	7,220	5,930
	R*H500M44	39,960	35,370	31,180	23,840	17,820	12,900	8,860	7,110

Models with † can be used with R407C between the ranges of 0°F and +30°F. Multiply capacity of models 055 thru 125 (only) by .83.

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Dual Refrigerant - Medium Temp R22 Rating

R22 MEDIUM TEMPERATURE - **HERMETIC** - CAPACITY (BTUH)

	MODEL	+30°F	+25°F	+20°F	+10°F	0°F
90°F Ambient	R*H055M44	7,200	6,570	5,850	4,730	3,640
	R*H080M44	8,620	7,870	7,040	5,720	4,490
	R*H090M44	9,950	9,140	8,210	6,750	5,340
	R*H100M44	10,760	9,710	8,560	7,070	5,650
	R*H125M44	14,950	13,570	12,030	9,580	7,320
	R*H151M44	16,780	15,700	13,980	10,730	8,140
	R*H200M44	18,430	17,020	15,500	12,140	9,040
	R*H251M44	19,970	18,640	17,170	13,540	10,850
	R*H301M44	30,550	27,590	24,300	18,990	14,130
	R*H325M44	33,450	30,240	26,650	20,910	15,700
	R*H400M44	42,210	37,400	33,470	25,890	19,900
	R*H500M44	51,250	46,060	42,110	32,950	24,800
95°F Ambient	R*H055M44	6,890	6,270	5,330	4,280	3,290
	R*H080M44	8,160	7,440	6,340	5,140	4,030
	R*H090M44	9,450	8,680	7,430	6,090	4,810
	R*H100M44	10,120	9,130	7,680	6,350	5,190
	R*H125M44	14,120	12,790	10,810	8,570	6,500
	R*H151M44	15,940	14,680	13,040	9,410	7,460
	R*H200M44	17,300	16,110	14,380	11,190	8,260
	R*H251M44	18,580	17,520	16,010	12,560	10,100
	R*H301M44	28,760	25,930	22,780	17,700	13,980
	R*H325M44	31,400	28,310	24,880	19,450	15,370
	R*H400M44	40,920	36,610	31,970	26,480	19,500
	R*H500M44	47,870	42,950	37,840	29,520	23,240
100°F Ambient	R*H055M44	6,550	5,960	5,290	4,230	3,240
	R*H080M44	7,690	7,010	6,260	5,060	3,950
	R*H090M44	8,950	8,210	7,360	6,010	4,740
	R*H100M44	9,490	8,550	7,530	6,330	5,170
	R*H125M44	13,290	12,030	10,620	8,380	6,310
	R*H151M44	14,870	13,670	12,240	9,250	7,090
	R*H200M44	16,170	15,010	13,440	10,370	7,590
	R*H251M44	17,430	16,040	14,890	11,630	9,450
	R*H301M44	26,970	24,260	21,260	16,420	12,870
	R*H325M44	29,330	26,380	23,160	17,990	14,260
	R*H400M44	39,110	34,910	30,750	23,580	18,020
	R*H500M44	45,040	40,370	36,460	28,350	21,600
110°F Ambient	R*H055M44	5,860	5,310	4,710	3,730	2,830
	R*H080M44	6,750	6,150	5,460	4,380	3,400
	R*H090M44	7,910	7,250	6,480	5,280	4,120
	R*H100M44	8,250	7,420	6,530	5,400	4,380
	R*H125M44	11,660	10,500	9,240	7,210	5,340
	R*H151M44	12,380	11,440	10,070	7,470	5,670
	R*H200M44	13,770	12,580	11,060	8,390	6,460
	R*H251M44	15,470	13,570	12,280	9,500	7,820
	R*H301M44	23,460	20,980	18,270	13,930	10,500
	R*H325M44	25,330	22,640	19,780	15,170	11,440
	R*H400M44	35,550	31,650	27,480	20,890	15,720
	R*H500M44	37,410	33,430	29,520	22,790	16,880

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Capacity Data - Medium Temp R404A Rating

R404A MEDIUM TEMPERATURE - **SEMI HERMETIC** - CAPACITY (BTUH)

	MODEL	+25°F	+20°F	+15°F	+10°F	+5°F	0°F	-5°F
90°F Ambient	R*S075M44†	5,880	5,270	4,680	4,130	3,610	3,130	2,700
	R*S100M44†	8,740	7,860	7,040	6,290	5,600	4,970	4,390
	R*S150M44†	11,270	10,070	9,010	8,050	7,170	6,340	5,540
	R*S200M44†	15,220	13,620	12,150	10,810	9,600	8,510	7,540
	R*S250M44	18,020	16,110	14,350	12,720	11,240	9,900	8,690
	R*S300M44	28,110	25,130	22,370	19,840	17,510	15,390	13,460
95°F Ambient	R*S075M44†	5,510	4,930	4,370	3,840	3,350	2,890	2,480
	R*S100M44†	8,260	7,420	6,640	5,920	5,260	4,660	4,120
	R*S150M44†	10,670	9,520	8,490	7,580	6,730	5,940	5,180
	R*S200M44†	14,400	12,870	11,470	10,210	9,060	8,030	7,120
	R*S250M44	16,980	15,160	13,480	11,940	10,530	9,260	8,120
	R*S300M44	26,700	23,820	21,170	18,740	16,510	14,470	12,630
100°F Ambient	R*S075M44†	5,150	4,580	4,050	3,550	3,080	2,650	2,260
	R*S100M44†	7,770	6,970	6,230	5,550	4,930	4,360	3,840
	R*S150M44†	10,060	8,960	7,980	7,100	6,300	5,550	4,820
	R*S200M44†	13,570	12,120	10,800	9,610	8,530	7,560	6,700
	R*S250M44	15,950	14,210	12,620	11,160	9,830	8,630	7,560
	R*S300M44	25,260	22,490	19,960	17,630	15,500	13,560	11,810
110°F Ambient	R*S075M44†	4,400	3,910	3,440	2,990	2,570	2,190	1,850
	R*S100M44†	6,800	6,080	5,420	4,810	4,250	3,750	3,290
	R*S150M44†	8,860	7,850	6,960	6,170	5,440	4,760	4,110
	R*S200M44†	11,940	10,650	9,480	8,420	7,470	6,630	5,870
	R*S250M44	13,880	12,330	10,910	9,620	8,450	7,400	6,470
	R*S300M44	22,330	19,810	17,510	15,400	13,480	11,740	10,170

R404A MEDIUM TEMPERATURE - **DISCUS** - CAPACITY (BTUH)

	MODEL	+40°F	+30°F	+25°F	+20°F	+10°F	0°F	-10°F
90°F Ambient	R*D500M44††	66,700	54,330	48,830	43,720	34,630	27,000	20,650
	R*D600M44††	77,920	63,980	57,730	51,910	41,490	32,650	25,240
95°F Ambient	R*D500M44††	63,420	51,560	46,300	41,430	32,750	25,480	19,430
	R*D600M44††	74,080	60,760	54,790	49,220	39,280	30,860	23,820
100°F Ambient	R*D500M44††	60,100	48,810	43,790	39,140	30,880	23,960	18,230
	R*D600M44††	70,210	57,530	51,850	46,560	37,090	29,080	22,390
110°F Ambient	R*D500M44††	53,450	43,300	38,780	34,610	27,180	20,980	15,870
	R*D600M44††	----	51,030	45,950	41,210	32,720	25,560	19,580

R404A MEDIUM TEMPERATURE - **SCROLL** - CAPACITY (BTUH)

	MODEL	+35°	+30°	+25°	+20°	+15°	+10°	0°
90°F Ambient	R*O200M44	22,590	20,970	18,770	17,890	16,480	15,070	12,530
	R*O250M44	27,900	25,840	23,860	21,960	20,200	18,440	15,290
	R*O315M44	32,050	29,930	27,750	25,610	23,540	21,480	17,610
	R*O350M44	38,310	35,840	33,300	30,430	28,180	25,950	21,400
	R*O400M44	45,320	41,700	38,770	35,670	32,820	30,190	25,550
	R*O600M44	51,920	49,240	45,530	42,340	38,840	35,540	29,670
	R*O650M44	63,020	59,090	55,220	51,210	47,120	43,820	36,250
95°F Ambient	R*O200M44	21,930	20,350	18,820	17,360	16,000	14,630	12,160
	R*O250M44	27,080	25,050	23,160	21,320	19,610	17,900	14,840
	R*O315M44	31,110	29,050	26,940	24,860	22,860	20,850	17,090
	R*O350M44	37,190	34,790	32,330	29,540	27,370	25,190	20,770
	R*O400M44	44,000	40,480	37,640	34,630	31,970	29,310	24,800
	R*O600M44	50,400	47,800	44,200	41,100	37,800	34,500	28,800
	R*O650M44	60,240	56,520	52,860	49,060	45,560	42,050	34,840
100°F Ambient	R*O200M44	21,060	19,540	17,500	16,670	15,360	14,050	11,680
	R*O250M44	26,000	24,080	22,240	20,470	18,830	17,190	14,250
	R*O315M44	29,870	27,890	25,870	23,870	21,940	20,020	16,410
	R*O350M44	35,710	33,400	31,040	28,360	26,260	24,190	19,940
	R*O400M44	42,240	38,870	36,140	33,250	30,590	28,140	23,810
	R*O600M44	48,390	45,890	42,440	39,460	36,200	33,120	27,650
	R*O650M44	57,410	53,900	50,450	46,860	43,190	40,230	33,390
110°F Ambient	R*O200M44	20,040	18,320	16,950	16,150	14,880	13,030	11,310
	R*O250M44	24,750	22,580	21,540	19,830	18,240	15,940	13,810
	R*O315M44	28,450	26,150	25,060	23,120	21,260	18,560	15,900
	R*O350M44	34,020	31,320	29,100	26,590	24,620	22,420	18,700
	R*O400M44	40,240	36,440	33,880	31,170	28,680	26,090	22,320
	R*O600M44	46,090	43,020	39,780	36,990	33,930	30,710	25,920
	R*O650M44	52,330	48,490	45,450	42,280	39,030	36,410	30,290

Models with † can be used with R407C between the ranges of -5°F and +25°F suction temp.
Models with †† can be used with R407C between the ranges of -10°F and +45°F suction tem
Multiply the capacity of designated R404A models by .83 to obtain R407C capacity.

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Dual Refrigerant - Medium Temp R22 Rating

R22 MEDIUM TEMPERATURE - **SEMI HERMETIC** - CAPACITY (BTUH)

	MODEL	+40°F	+35°F	+30°F	+25°F	+20°F	+15°F	+10°F
90°F Ambient	R*S075M44	9,390	8,480	7,580	6,740	5,960	5,260	4,550
	R*S100M44	12,550	11,460	10,350	9,340	8,410	7,570	6,710
	R*S150M44	17,270	15,510	13,950	12,420	11,110	9,930	8,870
	R*S200M44	23,400	21,270	19,140	17,270	15,400	13,680	11,960
	R*S250M44	26,210	23,820	21,440	19,260	17,240	15,430	13,570
	R*S300M44	35,880	32,610	29,330	26,320	23,510	21,010	18,520
95°F Ambient	R*S075M44	9,020	8,150	7,280	6,480	5,730	5,050	4,370
	R*S100M44	12,060	11,010	9,950	8,980	8,080	7,270	6,450
	R*S150M44	16,600	15,100	13,500	11,980	10,690	9,540	8,510
	R*S200M44	22,500	20,450	18,400	16,600	14,800	13,150	11,500
	R*S250M44	25,200	22,904	20,608	17,810	16,510	14,760	13,010
	R*S300M44	34,500	31,350	28,200	25,300	22,600	20,200	17,800
100°F Ambient	R*S075M44	8,660	7,830	6,990	6,230	5,510	4,850	4,200
	R*S100M44	11,580	10,570	9,560	8,630	7,760	6,980	6,200
	R*S150M44	15,940	14,400	12,900	11,510	10,250	9,130	8,130
	R*S200M44	21,600	19,640	17,670	15,940	14,210	12,630	11,040
	R*S250M44	24,192	22,000	19,790	17,720	15,820	14,140	12,470
	R*S300M44	33,120	30,100	27,080	24,290	21,700	19,400	17,090
110°F Ambient	R*S075M44	8,080	7,300	6,520	5,820	5,140	4,530	3,920
	R*S100M44	10,790	9,850	8,910	8,050	7,230	6,510	5,790
	R*S150M44	14,500	13,100	11,800	10,510	9,310	8,260	7,320
	R*S200M44	20,120	18,300	16,470	14,860	13,250	11,770	10,290
	R*S250M44	22,530	20,496	18,450	16,430	14,660	13,100	11,580
	R*S300M44	30,850	28,040	25,220	22,630	20,220	18,080	15,920

R22 MEDIUM TEMPERATURE - **DISCUS** - CAPACITY (BTUH)

	MODEL	+40°F	+35°F	+30°F	+25°F	+20°F	+15°F	+10°F
90°F Ambient	R*D500M44	66,700	61,050	55,400	50,200	45,350	40,770	36,200
	R*D600M44	80,258	71,429	65,899	59,462	53,467	47,701	42,735
95°F Ambient	R*D500M44	64,100	58,700	53,300	48,300	43,600	39,200	34,800
	R*D600M44	76,302	68,679	62,583	56,434	50,697	45,864	40,458
100°F Ambient	R*D500M44	61,500	49,920	51,200	46,400	41,900	37,640	33,400
	R*D600M44	72,316	58,406	59,256	53,406	47,957	44,039	38,203
110°F Ambient	R*D500M44	57,300	52,490	47,700	43,200	39,000	35,060	31,100
	R*D600M44	---	61413	52561	47329	42446	41020	33702

R22 MEDIUM TEMPERATURE - **SCROLL** - CAPACITY (BTUH)

	MODEL	+40°F	+35°F	+30°F	+25°F	+20°F	+15°F	+10°F
90°F Ambient	R*O200M44	N/A	21,660	20,490	18,820	17,410	15,900	14,380
	R*O250M44	N/A	26,110	24,110	21,950	20,540	18,700	16,870
	R*O315M44	N/A	31,360	29,020	26,620	24,180	22,050	19,910
	R*O350M44	N/A	29,030	35,770	32,850	29,160	26,810	24,450
	R*O400M44	N/A	44,620	41,110	38,590	34,700	31,640	28,590
	R*O600M44	N/A	53,970	49,830	45,250	42,250	38,640	35,040
	R*O650M44	N/A	59,570	56,490	53,410	49,730	46,050	42,370
95°F Ambient	R*O200M44	N/A	21,020	19,890	18,270	16,900	15,430	13,960
	R*O250M44	N/A	25,340	23,400	21,310	19,940	18,155	16,370
	R*O315M44	N/A	30,440	28,170	25,840	23,470	21,400	19,330
	R*O350M44	N/A	28,180	34,720	31,890	28,310	26,020	23,730
	R*O400M44	N/A	43,320	39,910	37,460	33,680	30,715	27,750
	R*O600M44	N/A	52,390	48,370	43,930	41,010	37,510	34,010
	R*O650M44	N/A	57,830	54,840	51,850	48,280	44,705	41,130
100°F Ambient	R*O200M44	N/A	20,390	19,300	17,730	16,400	14,970	13,550
	R*O250M44	N/A	24,580	22,700	20,680	19,350	17,620	15,880
	R*O315M44	N/A	29,530	27,330	25,070	22,770	20,760	18,760
	R*O350M44	N/A	27,340	33,680	30,940	27,470	25,240	23,020
	R*O400M44	N/A	42,030	38,720	36,340	32,670	29,800	26,920
	R*O600M44	N/A	50,820	46,920	42,620	39,780	36,390	32,990
	R*O650M44	N/A	56,100	53,200	50,300	46,840	43,370	39,900
110°F Ambient	R*O200M44	N/A	19,190	18,170	16,690	15,440	14,100	12,760
	R*O250M44	N/A	23,140	21,360	19,460	18,210	16,590	14,950
	R*O315M44	N/A	27,800	25,730	23,600	21,430	19,540	17,660
	R*O350M44	N/A	25,730	31,690	29,120	25,860	23,760	21,670
	R*O400M44	N/A	39,550	36,440	34,200	30,740	28,050	25,340
	R*O600M44	N/A	47,830	44,160	40,110	37,440	34,250	31,050
	R*O650M44	N/A	50,900	48,260	45,630	42,490	39,350	36,200

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Capacity Data - Low Temperature R404A / R22

R404A LOW TEMPERATURE - **HERMETIC** - CAPACITY (BTUH)

	MODEL	0°F	-5°F	-10°F	-15°F	-20°F	-25°F	-30°F	-35°F	-40°F
90°F Ambient	R*H075L44	4,580	4,040	3,490	2,920	2,340	1,670	-----	-----	-----
	R*H100L44	5,930	5,200	4,480	3,780	3,070	2,340	-----	-----	-----
	R*H165L44	10,600	9,430	8,260	7,080	5,900	4,880	3,930	3,110	-----
	R*H215L44	17,080	15,270	13,450	11,340	9,230	7,660	-----	-----	-----
	R*H315L44	21,710	19,150	16,580	14,180	11,780	9,890	7,920	7,010	6,100
95°F Ambient	R*H075L44	4,400	3,880	3,350	2,800	2,250	1,600	-----	-----	-----
	R*H100L44	5,700	5,000	4,300	3,630	2,950	2,250	-----	-----	-----
	R*H165L44	10,190	9,070	7,940	6,810	5,670	4,690	3,770	2,840	-----
	R*H215L44	16,420	14,680	12,930	10,900	8,870	7,360	5,940	-----	-----
	R*H315L44	20,870	18,410	15,940	13,630	11,320	9,508	7,610	6,560	-----
100°F Ambient	R*H075L44	4,230	3,730	3,220	2,690	2,160	1,540	-----	-----	-----
	R*H100L44	5,480	4,800	4,130	3,490	2,840	2,160	-----	-----	-----
	R*H165L44	9,790	8,710	7,630	6,540	5,450	4,510	3,620	2,880	-----
	R*H215L44	15,770	14,090	12,420	10,470	8,520	7,070	-----	-----	-----
	R*H315L44	20,040	17,670	15,310	13,090	10,870	9,130	7,310	6,470	5,630
110°F Ambient	R*H075L44	3,950	3,490	3,010	2,520	2,020	1,440	-----	-----	-----
	R*H100L44	5,120	4,480	3,860	3,260	2,650	2,020	-----	-----	-----
	R*H165L44	9,200	8,190	7,170	6,150	5,130	4,240	3,410	2,710	-----
	R*H215L44	14,830	13,250	11,670	9,840	8,010	6,650	-----	-----	-----
	R*H315L44	18,830	16,610	14,390	12,300	10,220	8,590	6,870	6,090	5,290

Low Temperature hermetic compressor models are not suitable for use with R22.

R404A LOW TEMPERATURE - **SEMI HERMETIC** - CAPACITY (BTUH)

	MODEL	0°F	-5°F	-10°F	-15°F	-20°F	-25°F	-30°F	-35°F	-40°F
90°F Ambient	R*S050L44	3,120	2,810	2,500	2,190	1,880	1,620	1,360	1,150	940
	R*S075L44	5,200	4,680	4,160	3,700	3,230	2,810	2,400	2,030	1,670
	R*S100L44	7,080	6,400	5,720	5,150	4,580	4,010	3,440	2,970	2,500
	R*S150L44	10,920	9,940	8,950	8,010	7,080	6,240	5,410	4,740	4,060
	R*S200L44	14,360	12,950	11,550	10,300	9,050	7,910	6,760	5,880	5,000
	R*S300L44	21,740	19,560	17,370	15,340	13,320	11,500	9,680	8,120	6,560
95°F Ambient	R*S050L44	3,000	2,700	2,400	2,100	1,800	1,550	1,300	1,060	900
	R*S075L44	5,000	4,500	4,000	3,550	3,100	2,700	2,300	1,880	1,600
	R*S100L44	6,800	6,150	5,500	4,950	4,400	3,850	3,300	2,760	2,400
	R*S150L44	10,500	9,550	8,600	7,700	6,800	6,000	5,200	4,420	3,900
	R*S200L44	13,800	12,450	11,100	9,900	8,700	7,600	6,500	5,480	4,300
	R*S300L44	20,900	18,800	16,700	14,750	12,800	11,050	9,300	7,500	6,300
100°F Ambient	R*S050L44	2,880	2,600	2,310	2,020	1,730	1,490	1,250	1,060	870
	R*S075L44	4,800	4,320	3,840	3,410	2,980	2,600	2,210	1,880	1,540
	R*S100L44	6,530	5,910	5,280	4,760	4,230	3,700	3,170	2,740	2,310
	R*S150L44	10,080	9,170	8,260	7,400	6,530	5,760	5,000	4,370	3,750
	R*S200L44	13,250	11,960	10,660	9,510	8,360	7,300	6,240	5,430	4,610
	R*S300L44	20,070	18,050	16,040	14,160	12,290	10,610	8,930	7,490	6,050
110°F Ambient	R*S050L44	2,690	2,430	2,160	1,890	1,620	1,400	1,170	990	820
	R*S075L44	4,480	4,030	3,580	3,190	2,790	2,430	2,070	1,760	1,440
	R*S100L44	6,090	5,510	4,920	4,440	3,950	3,460	2,960	2,570	2,160
	R*S150L44	9,390	8,550	7,700	6,900	6,090	5,370	4,660	4,080	3,500
	R*S200L44	12,340	11,150	9,940	8,860	7,790	6,800	5,820	5,070	4,300
	R*S300L44	18,700	16,820	14,940	13,200	11,450	9,890	8,330	6,990	5,640

R22 LOW TEMPERATURE - **SEMI HERMETIC** - CAPACITY (BTUH)

	MODEL	0°F	-5°F	-10°F	-15°F	-20°F	-25°F	-30°F	-35°F	-40°F
90°F Ambient	R*S050L44	3,440	3,020	2,600	2,220	1,820	1,510	1,200	970	730
	R*S075L44	5,670	5,030	4,370	3,830	3,280	2,810	2,340	1,960	1,560
	R*S100L44	7,490	6,660	5,830	5,100	4,370	3,780	3,180	2,710	2,240
	R*S200L22	8,840	7,780	6,710	5,880	5,050	4,370	3,700	3,120	2,550
	R*S200L44	14,360	12,740	11,130	9,680	8,220	7,020	5,830	5,050	4,270
95°F Ambient	R*S050L44	3,300	2,900	2,500	2,130	1,750	1,450	1,150	930	700
	R*S075L44	5,450	4,830	4,200	3,680	3,150	2,700	2,250	1,880	1,500
	R*S100L44	7,200	6,400	5,600	4,900	4,200	3,630	3,050	2,600	2,150
	R*S200L22	8,500	7,480	6,450	5,650	4,850	4,200	3,550	3,000	2,450
	R*S200L44	13,800	12,250	10,700	9,300	7,900	6,750	5,600	4,850	4,100
100°F Ambient	R*S050L44	3,170	2,790	2,400	2,050	1,680	1,400	1,110	900	680
	R*S075L44	5,240	4,640	4,040	3,540	3,030	2,600	2,160	1,810	1,440
	R*S100L44	6,920	6,150	5,380	4,710	4,040	3,490	2,930	2,500	2,070
	R*S200L22	8,160	7,190	6,200	5,430	4,660	4,040	3,410	2,880	2,360
	R*S200L44	13,250	11,760	10,280	8,930	7,590	6,480	5,380	4,660	3,940
110°F Ambient	R*S050L44	2,970	2,610	2,250	1,917	1,575	1,305	1,035	837	630
	R*S075L44	4,905	4,347	3,780	3,312	2,835	2,430	2,025	1,692	1,350
	R*S100L44	6,480	5,760	5,040	4,410	3,780	3,267	2,745	2,340	1,935
	R*S200L22	7,650	6,732	5,805	5,085	4,365	3,780	3,195	2,700	2,205
	R*S200L44	12,420	11,025	9,630	8,370	7,110	6,075	5,040	4,365	3,690

R*S200L22 is not a dual refrigerant condensing unit
There are no R22 ratings for models R*S150L44 & R*S300L44

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Capacity Data - Low Temperature R404A / R22

R404A LOW TEMPERATURE - **SCROLL** - CAPACITY (BTUH)

	MODEL	0°F	-5°F	-10°F	-15°F	-20°F	-25°F	-30°F	-35°F	-40°F
90°F Ambient	R*O200L44	11,670	10,690	9,690	8,800	7,910	7,080	6,300	4,850	4,530
	R*O250L44	14,210	13,340	12,470	11,420	10,370	9,250	7,960	6,970	5,980
	R*O300L44	16,440	15,120	13,790	12,790	11,710	9,970	8,930	7,830	6,720
	R*O301L44	19,330	17,670	16,000	14,550	12,960	11,590	10,470	9,420	8,360
	R*O400L44	24,820	22,610	20,400	18,360	16,320	14,510	12,810	10,840	8,860
	R*O500L44	29,350	26,860	24,360	21,980	19,830	17,790	15,326	14,010	12,350
	R*O600L44	34,410	31,320	28,230	25,550	22,770	20,400	17,930	15,970	14,010
95°F Ambient	R*O200L44	11,330	10,370	9,400	8,540	7,670	6,870	6,110	4,700	4,390
	R*O250L44	13,800	12,950	12,100	11,080	10,060	8,980	7,720	6,760	5,800
	R*O300L44	15,960	14,670	13,380	12,410	11,360	9,680	8,670	7,600	6,520
	R*O301L44	18,760	17,150	15,530	14,120	12,580	11,250	10,160	9,140	8,110
	R*O400L44	24,090	21,950	19,800	17,820	15,940	14,080	12,430	10,520	8,600
	R*O500L44	28,490	26,070	23,650	21,340	19,250	17,270	14,880	13,600	11,990
	R*O600L44	33,400	30,400	27,400	24,800	22,100	19,800	17,600	15,500	13,600
100°F Ambient	R*O200L44	10,160	9,310	8,430	7,660	6,880	6,170	5,490	4,720	3,940
	R*O250L44	13,250	12,440	11,620	10,640	9,660	8,630	7,420	6,490	5,570
	R*O300L44	15,330	14,090	12,850	11,920	10,910	9,300	8,330	7,300	6,260
	R*O301L44	18,010	16,470	14,910	13,560	12,080	10,800	9,760	8,780	7,790
	R*O400L44	23,130	21,080	19,010	17,110	15,210	13,520	11,940	10,100	8,260
	R*O500L44	27,350	25,030	22,710	20,490	18,480	16,580	14,590	13,060	11,510
	R*O600L44	32,070	29,190	26,310	23,810	21,220	19,010	16,710	14,880	13,060
110°F Ambient	R*O200L44	9,530	8,730	7,910	7,180	6,450	5,780	5,140	4,420	3,690
	R*O250L44	12,420	11,660	10,890	9,980	9,060	8,090	6,950	6,090	5,220
	R*O300L44	14,370	13,210	12,050	11,170	10,230	8,720	7,810	6,840	5,870
	R*O301L44	16,890	15,440	13,980	12,710	11,330	10,130	9,150	8,230	7,300
	R*O400L44	21,690	19,760	17,820	16,040	14,260	12,680	11,190	9,470	7,740
	R*O500L44	25,650	23,470	21,290	19,210	17,330	15,550	13,680	12,240	10,800
	R*O600L44	30,060	27,360	24,660	22,320	19,890	17,820	15,660	13,950	12,240

Low Temperature hermetic compressor models are not suitable for use with R22.

R404A LOW TEMPERATURE - **DISCUS** - CAPACITY (BTUH)

	MODEL	0°F	-5°F	-10°F	-15°F	-20°F	-25°F	-30°F	-35°F	-40°F
90°F Ambient	R*D300L44	30,890	27,820	24,760	21,900	19,040	16,640	14,250	12,120	9,990
	R*D400L44	35,470	31,670	27,880	25,280	22,680	20,130	17,580	15,550	13,520
	R*D500L44	41,080	37,240	33,390	29,850	26,320	23,350	20,390	18,000	15,600
95°F Ambient	R*D300L44	29,700	26,750	23,800	21,050	18,300	16,000	13,700	11,240	9,600
	R*D400L44	34,100	30,450	26,800	24,300	21,800	19,350	16,900	14,560	13,000
	R*D500L44	39,500	35,800	32,100	28,700	25,300	22,450	19,600	16,840	15,000
100°F Ambient	R*D300L44	28,520	25,680	22,850	20,210	17,570	15,360	13,160	11,190	9,220
	R*D400L44	32,740	29,240	25,730	23,330	20,930	18,580	16,230	14,360	12,480
	R*D500L44	37,920	34,370	30,820	27,560	24,290	21,560	18,820	16,610	14,400
110°F Ambient	R*D300L44	26,560	23,930	21,290	18,830	16,370	14,310	12,270	10,430	8,600
	R*D400L44	30,500	27,240	23,970	21,730	19,500	17,310	15,130	13,380	11,640
	R*D500L44	35,320	32,010	28,710	25,670	22,630	20,080	17,530	15,480	13,420

R22 LOW TEMPERATURE - **DISCUS** - CAPACITY (BTUH)

	MODEL	0°F	-5°F	-10°F	-15°F	-20°F	-25°F	-30°F	-35°F	-40°F
90°F Ambient	R*D300L44	27,770	24,600	21,430	18,830	16,230	14,100	11,960	10,090	8,220
	R*D400L44	32,040	28,550	25,070	21,950	18,830	16,180	13,520	11,340	9,160
	R*D500L44	38,800	34,580	30,370	26,680	22,990	19,820	16,640	14,040	11,440
95°F Ambient	R*D300L44	26,700	23,650	20,600	18,100	15,600	13,550	11,500	9,700	7,900
	R*D400L44	30,800	27,450	24,100	21,100	18,100	15,550	13,000	10,900	8,800
	R*D500L44	37,300	33,250	29,200	25,650	22,100	19,050	16,000	13,500	11,000
100°F Ambient	R*D300L44	25,640	22,710	19,780	17,380	14,980	13,010	11,040	9,320	7,590
	R*D400L44	29,570	26,360	23,140	20,260	17,380	14,930	12,480	10,470	8,450
	R*D500L44	35,810	31,920	28,040	24,630	21,220	18,290	15,360	12,960	10,560
110°F Ambient	R*D300L44	24,000	21,300	18,500	16,300	14,000	12,200	10,400	8,730	7,110
	R*D400L44	27,720	24,705	21,690	18,990	16,290	13,995	11,700	9,810	7,920
	R*D500L44	33,570	29,925	26,280	23,085	19,890	17,145	14,400	12,150	9,900

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Electrical Data

MODEL NUMBER	COMP. MODEL	AMPS @ 208/230/1/60					AMPS @ 208/230/3/60					AMPS @ 460/3/60				
		COMPRESSOR		COND	TOTAL	MCA	COMPRESSOR		COND	TOTAL	MCA	COMPRESSOR		COND	TOTAL	MCA
		RLA	LRA	FLA	UNIT†	‡	RLA	LRA	FLA	UNIT†	‡	RLA	LRA	FLA	UNIT†	‡
R*H055M44	RST45C1E	4.6	26.5	0.5	6.1	15.0	---	---	---	---	---	---	---	---	---	---
R*H080M44	RST55C1E	6.1	33.7	0.5	7.6	15.0	---	---	---	---	---	---	---	---	---	---
R*H090M44	RST64C1E	8.0	43.0	0.5	9.5	15.0	---	---	---	---	---	---	---	---	---	---
R*H100M44	RST70C1E	6.9	46.0	0.5	8.4	15.0	4.9	36.0	0.5	6.4	15.0	---	---	---	---	---
R*H125M44	RST97C1E	9.0	51.0	1.0	11.0	15.0	5.4	36.0	1.0	7.4	15.0	---	---	---	---	---
R*H151M44	CS10K6E	9.8	56.0	1.0	11.8	15.0	6.7	51.0	1.0	8.7	15.0	3.2	25.0	0.8	4.5	15.0
R*H200M44	CS12K6E	9.8	56.0	1.0	11.8	15.0	6.7	51.0	1.0	8.7	15.0	---	---	---	---	---
R*H251M44	CS14K6E	11.2	61.0	1.0	13.2	16.0	8.4	55.0	1.0	10.4	15.0	4.2	28.0	0.8	5.5	15.0
R*H301M44	CS18K6E	14.4	82.0	1.0	16.4	19.9	9.4	65.5	1.0	11.4	15.0	4.2	33.0	0.8	5.5	15.0
R*H325M44	CS20K6E	16.7	96.0	1.0	18.7	22.9	10.2	75.0	1.0	12.2	15.0	4.6	40.0	0.8	5.9	15.0
R*H400M44	CS27K6E	21.5	121.0	3.1	25.6	31.0	12.1	105.0	3.1	16.2	19.2	7.5	52.0	2.5	10.5	15.0
R*H500M44	CS33K6E	27.6	125.0	3.1	31.7	38.6	16.8	102.0	3.1	20.9	25.1	8.9	48.0	2.5	11.9	15.0
R*H075L44	RST70C1E	6.9	46.0	0.5	8.4	15.0	4.9	36.0	0.5	6.4	15.0	---	---	---	---	---
R*H100L44	RST97C1E	9.0	51.0	1.0	11.0	15.0	5.4	36.0	1.0	7.4	15.0	---	---	---	---	---
R*H165L44	CF06K6E	10.2	59.2	1.0	12.2	15.0	6.3	52.0	1.0	8.3	15.0	3.3	25.4	0.8	4.6	15.0
R*H215L44	CF09K6E	15.0	87.0	1.0	17.0	20.7	9.2	72.2	1.0	11.2	15.0	4.9	35.8	0.8	6.2	15.0
R*H315L44	CF12K6E	18.4	105.0	1.0	20.4	25.0	11.0	85.0	1.0	13.0	15.8	5.9	42.0	0.8	7.2	15.0
R*S075M44	KAN-007E	5.4	36.0	0.5	6.9	15.0	3.1	19.9	0.5	4.6	15.0	-----	-----	-----	-----	-----
R*S100M44	KAR-010E	6.6	40.0	0.5	8.1	15.0	3.9	27.0	0.5	5.4	15.0	-----	-----	-----	-----	-----
R*S150M44	KAG-010E	---	---	---	---	---	3.8	27.0	1.0	5.8	15.0	-----	-----	-----	-----	-----
R*S200M44	KAK-02^{x}E	9.5	55.0	1.0	11.5	15.0	6.1	50.0	1.0	8.1	15.0	---	---	---	---	---
R*S250M44	ERC-02^{x}E	---	---	---	---	---	7.9	46.0	1.0	9.9	15.0	3.1	23.0	0.8	4.4	15.0
R*S300M44	ERF-031E	15.3	86.0	3.1	19.4	23.2	11.1	82.0	3.1	15.2	18.0	5.2	41	2.5	8.2	15.0
R*S050L44	KAN-005E	3.2	24.0	0.5	4.7	15.0	2.0	13.2	0.5	3.5	15.0	---	---	---	---	---
R*S075L44	KAM-007E	5.0	36.0	0.5	6.5	15.0	2.9	19.9	0.5	4.4	15.0	---	---	---	---	---
R*S100L44	KAJ-01^{x}E	6.2	40.0	0.5	7.7	15.0	4.1	27.0	0.5	5.6	15.0	1.9	15	0.4	2.8	15.0
R*S150L44	KAL-01^{x}E	8.9	55.0	1.0	10.9	15.0	5.9	50.0	1.0	7.9	15.0	3.1	25	0.8	4.4	15.0
R*S200L22	KAK-020E	---	---	---	---	---	6.1	50.0	1.0	8.1	15.0	-----	-----	-----	-----	-----
R*S200L44	EAV-021E	13.2	102.0	1.0	15.2	18.5	6.6	50.0	1.0	8.6	15.0	3.5	26.6	0.8	4.8	15.0
R*S300L44	LAH-032E	15.0	105.0	1.0	17.0	20.7	11.5	112.0	1.0	13.5	16.4	5.4	56.0	0.8	6.7	15.0
R*O200M44	ZS15K4E	12.2	61.0	1.0	14.2	17.3	8.3	55.0	1.0	10.3	15.0	3.9	27.0	0.4	4.8	15.0
R*O250M44	ZS19K4E	14.7	73.0	1.0	16.7	20.4	8.6	63.0	1.0	10.6	15.0	4.5	31.0	0.4	5.4	15.0
R*O315M44	ZS21K4E	14.7	88.0	3.1	18.8	22.5	10.0	77.0	3.1	14.1	16.6	5.1	39.0	2.5	8.1	15.0
R*O350M44	ZS26K4E	18.6	109.0	3.1	22.7	27.3	12.2	88.0	3.1	16.3	19.4	6.4	44.0	2.5	9.4	15.0
R*O400M44	ZS30K4E	24.1	129.0	3.1	28.2	34.2	13.5	99.0	3.1	17.6	20.9	7.4	49.5	2.5	10.4	15.0
R*O600M44	ZS38K4E	28.5	169.0	3.1	32.6	39.8	19.2	123.0	3.1	23.3	28.1	8.6	62.0	2.5	11.6	15.0
R*O650M44	ZS45K4E	---	---	---	---	---	21.4	156.0	3.1	25.5	30.9	8.3	75.0	2.5	11.3	15.0
R*O200L44	ZF06K4E	12.2	61.0	1.0	14.2	17.3	8.3	55.0	1.0	10.3	15.0	3.9	27.0	0.8	5.2	15.0
R*O250L44	ZF08K4E	14.7	73.0	1.0	16.7	20.4	8.6	63.0	1.0	10.6	15.0	4.5	31.0	0.8	5.8	15.0
R*O300L44	ZF09K4E	14.7	88.0	1.0	16.7	20.4	8.9	77.0	1.0	10.9	15.0	5.1	39.0	0.8	6.4	15.0
R*O301L44	ZF11K4E	18.6	109.0	1.0	20.6	25.2	11.4	88.0	1.0	13.4	16.3	6.4	44.0	0.8	7.7	15.0
R*O400L44	ZF13K4E	24.1	129.0	3.1	28.2	34.2	13.5	99.0	3.1	17.6	20.9	7.4	49.5	2.5	10.4	15.0
R*O500L44	ZF15K4E	28.5	169.0	3.1	32.6	39.8	19.2	123.0	3.1	23.3	28.1	8.6	62.0	2.5	11.6	15.0
R*O600L44	ZF18K4E	---	---	---	---	---	21.4	156.0	3.1	25.5	30.9	8.3	75.0	2.5	11.3	15.0
R*D500M44	2DD-R63KE	---	---	---	---	---	20.0	120.0	3.1	24.1	29.1	9.4	60.0	2.5	12.4	15.0
R*D600M44	2DL-R78KE	---	---	---	---	---	28.4	169.0	3.1	32.5	39.5	12.5	85.0	2.5	15.5	18.6
R*D300L44	2DF-F16KE	---	---	---	---	---	15.2	102.0	3.1	19.3	23.1	7.3	52.0	2.5	10.3	15.0
R*D400L44	2DL-F20KE	---	---	---	---	---	23.6	161.0	3.1	27.7	33.6	7.8	60.0	2.5	10.8	15.0
R*D500L44	2DA-F23KE	---	---	---	---	---	25.8	161.0	3.1	29.9	36.4	8.7	60.0	2.5	11.7	15.0

x variable character based upon voltage ordered.
†Total Unit Amps includes approximate allowance for control circuit as follows: 1A - 208/230V; 0.5A - 460V.
‡MCA Minimum Circuit Ampacity does not include evaporator(s) electrical requirements. (Evaporator fan motor amps, defrost heater amps)

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Specifications

MODEL NUMBER	COMP. MODEL	NOM HP	REC'R @ 90% R404A (LBS)	CONN. (ODS,in.)		FIG.	DIMENSIONS (in.)			APPROX. SHIP WT.	SOUND DATA dbA†
				LIQ.	SUC.		L	W	H		
R*H055M44	RST45C1E	1/2	5.1	3/8	5/8	A	28-1/4	27-3/4	17-1/4	152	68
R*H080M44	RST55C1E	1/2	5.1	3/8	5/8	A	28-1/4	27-3/4	17-1/4	152	68
R*H090M44	RST64C1E	3/4	5.1	3/8	5/8	A	28-1/4	27-3/4	17-1/4	160	68
R*H100M44	RST70C1E	3/4	5.1	3/8	5/8	A	28-1/4	27-3/4	17-1/4	167	68
R*H125M44	RST97C1E	1.0	8.6	3/8	5/8	B	28-1/4	39-3/4	17-1/4	195	72
R*H151M44	CS10K6E	1.5	8.6	3/8	7/8	B	28-1/4	39-3/4	17-1/4	205	72
R*H200M44	CS12K6E	1.5	8.6	3/8	7/8	B	28-1/4	39-3/4	17-1/4	228	72
R*H251M44	CS14K6E	1.75	8.6	3/8	7/8	B	28-1/4	39-3/4	17-1/4	235	72
R*H301M44	CS18K6E	2.0	8.6	3/8	7/8	C	28-1/4	39-3/4	20-1/4	253	73
R*H325M44	CS20K6E	3.0	13.7	1/2	1-1/8	C	28-1/4	39-3/4	20-1/4	273	73
R*H400M44	CS27K6E	4.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	390	75
R*H500M44	CS33K6E	5.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	405	75
R*H075L44	RST70C1E	3/4	5.1	3/8	5/8	A	28-1/4	27-3/4	17-1/4	157	68
R*H100L44	RST97C1E	1.0	5.1	3/8	5/8	A	28-1/4	27-3/4	17-1/4	180	72
R*H165L44	CF06K6E	1.5	8.6	3/8	7/8	B	28-1/4	38-1/4	17-1/4	195	74
R*H215L44	CF09K6E	2.0	8.6	3/8	7/8	B	28-1/4	38-1/4	17-1/4	243	75
R*H315L44	CF12K6E	3.0	13.7	1/2	1-1/8	C	28-1/4	38-1/4	20-1/4	255	77
R*S075M44	KAN-007E	3/4	6.0	3/8	5/8	A	28-1/4	27-3/4	17-1/4	215	67
R*S100M44	KAR-010E	1.0	5.1	3/8	5/8	A	28-1/4	27-3/4	17-1/4	220	67
R*S150M44	KAG-010E	2.0	10.0	3/8	7/8	B	28-1/4	39-3/4	17-1/4	245	70
R*S200M44	KAK-02ˣE	2.0	8.6	3/8	7/8	B	28-1/4	39-3/4	17-1/4	270	70
R*S250M44	ERC-02ˣE	2.5	13.7	1/2	1-1/8	B	28-1/4	39-3/4	20-1/4	340	70
R*S300M44	ERF-031E	3.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	415	70
R*S050L44	KAN-005E	1/2	5.1	3/8	5/8	A	28-1/4	27-3/4	17-1/4	189	67
R*S075L44	KAM-007E	3/4	5.1	3/8	5/8	A	28-1/4	27-3/4	17-1/4	205	67
R*S100L44	KAJ-01ˣE	1.0	8.6	3/8	5/8	A	28-1/4	27-3/4	17-1/4	220	70
R*S150L44	KAL-01ˣE	1.5	8.6	3/8	7/8	B	28-1/4	39-3/4	17-1/4	248	70
R*S200L22	KAK-021E	2.0	10.0	3/8	7/8	B	28-1/4	38-1/4	17-1/4	290	70
R*S200L44	EAV-021E	2.0	8.6	3/8	7/8	B	28-1/4	39-3/4	17-1/4	290	70
R*S300L44	LAH-032E	3.0	13.7	1/2	1-1/8	C	28-1/4	39-3/4	20-1/4	383	70
R*O200M44	ZS15K4E	2.0	13.7	1/2	7/8	C	28-1/4	39-3/4	20-1/4	215	71
R*O250M44	ZS19K4E	2.5	13.7	1/2	1-1/8	C	28-1/4	39-3/4	20-1/4	230	72
R*O315M44	ZS21K4E	3.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	305	72
R*O350M44	ZS26K4E	3.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	325	72
R*O400M44	ZS30K4E	4.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	352	74
R*O600M44	ZS38K4E	6.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	383	74
R*O650M44	ZS45K4E	6.5	24.3	5/8	1-1/8	D	33	43-3/4	32-1/4	405	76
R*O200L44	ZF06K4E	2.0	13.7	1/2	7/8	C	28-1/4	39-3/4	20-1/4	230	71
R*O250L44	ZF08K4E	2.5	13.7	1/2	7/8	C	28-1/4	39-3/4	20-1/4	240	73
R*O300L44	ZF09K4E	3.0	13.7	1/2	1-1/8	C	28-1/4	39-3/4	20-1/4	245	73
R*O301L44	ZF11K4E	3.0	13.7	1/2	1-1/8	C	28-1/4	39-3/4	20-1/4	255	73
R*O400L44	ZF13K4E	4.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	352	73
R*O500L44	ZF15K4E	5.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	367	74
R*O600L44	ZF18K4E	6.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	383	76
R*D500M44	2DD-R63KE	5.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	630	78
R*D600M44	2DL-R78KE	6.0	24.3	5/8	1-1/8	D	33	43-3/4	32-1/4	630	78
R*D300L44	2DF-F16KE	3.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	575	78
R*D400L44	2DL-F20KE	4.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	600	78
R*D500L44	2DA-F23KE	5.0	24.3	1/2	1-1/8	D	33	43-3/4	32-1/4	620	78

x variable character based upon voltage ordered.

† Estimated dbA values at 10 feet from the unit. Correction factors: Deduct 6 dbA. for 20 to 40 feet, 12 dbA @ 40 to 60 feet. Ratings at the outlet of the discharge air. The actual measurements may vary depending upon installation variables. Environmental factors may have a significant influence on this data.

DUAL REFRIGERANT AIR COOLED CONDENSING UNITS

Physical Dimensions - All Models

FIG. A

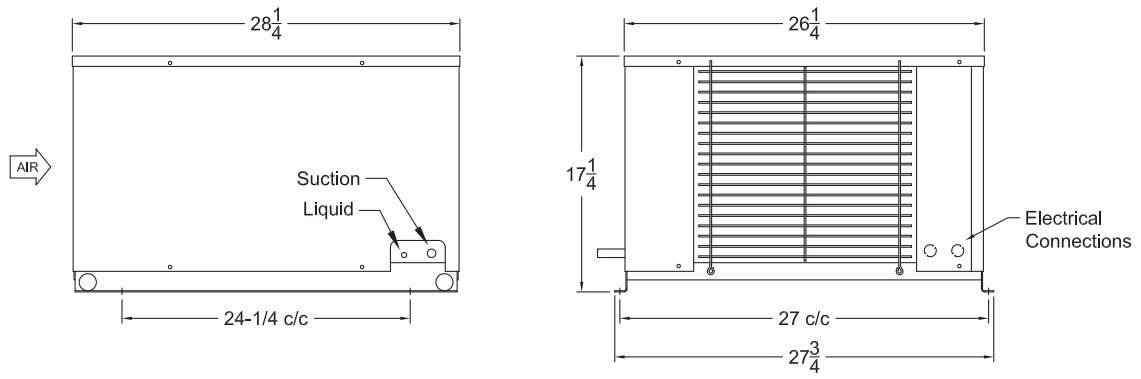
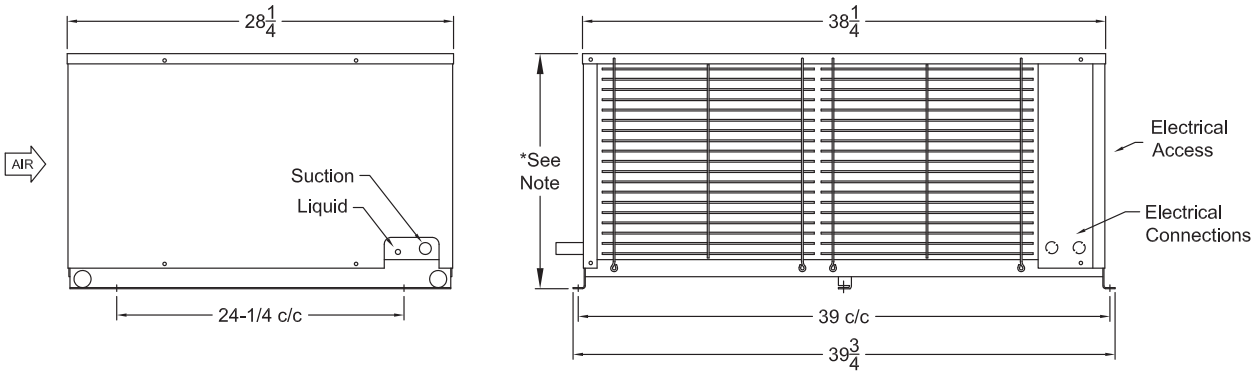
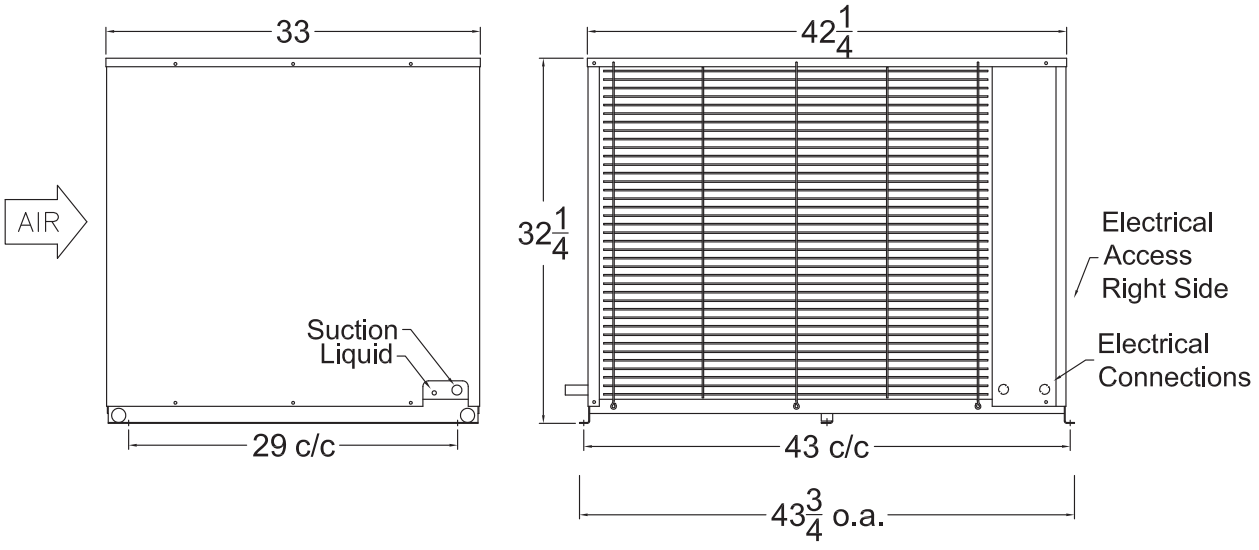


FIG. B & C



* Figure B - 17-1/4" height (Uses 2 grill pieces as shown).
Figure C - 20-1/4" height (Single grill piece, not shown).

FIG. D



Due to continuing product development, specifications are subject to change without notice.

CDS

Commercial Display Systems

Manufacturers of quality cooler and freezer doors

(800) 478-3790 • (818) 361-8160

ECO SERIES DOOR

ECOlogically Engineered for a Green Planet!

- Brighter
- Energy Efficient
- Less Glare
- Longer Lasting
- Reduced Maintenance

The Eco door with the most advanced technology available is engineered to bring you the most energy efficient door on the market today. With the features listed below you can see why the ECO door is designed with a Green Planet in mind.

Features:

The ECO door incorporates a 2 pane Low E gas filled glass package with a non heated door frame rail for an Energy Free EISA compliant cooler door. Designed with low wattage frame heaters, superior insulated frame construction and a Low Voltage, Low Wattage LED lighting system CDS delivers the most energy efficient brilliantly lit customer friendly door available.

LED Lighting VS Florescent Lighting

The LED Door

The Florescent Door

CDS Doors with Hi-Def LED Lighting:

Increase your sales with the exclusive CDS Hi-Def LED lighting system designed with an anti glare guard for the mullion cover that completely hides the entire LED fixture providing a view from the side with no glare from an exposed florescent lamp and makes your products jump off the shelf.

Free Lighting:

To see how fast these lights will pay for themselves ask a sales associate today to compare the cost of operation between the traditional florescent lighting and the exclusive LED technology offered by CDS.

Standard Features:

All the quality components found on the rest of the CDS doors are designed into the ECO door. The Kwik Level, Kwik Torque, Kwik Lock hold open system, triple seal gasket, and the triple bearing hinge pin give you the quality and dependability you have come to expect from a CDS manufactured product.

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ADVANTAGE SERIES

The Advantage Series door provides elegant styling for the upscale store environment. With all the features of our Legacy Series doors including the Kwik Torque™, Kwik Level™, Triple Bearing top hinge pin, Triple Seal Door Gasket, and the most innovative Hold Open System™ on the market today. The Advantage difference is in the RLS (Refracted lighting System), complete Reversibility a flat mullion design, Energy Free Cooler Door, and an extra measure of insulation for the frame and door.

The Enhanced Details Are The Advantage Difference!

- *Triple Bearing Top Hinge Pin*
- *Kwik Torque™ Closure Adjustment*
- *Kwik Level™ Door Alignment*
- *Triple Seal Gasket*
- *Positive Hold Open Lock*
- *Field Reversible*

• Exclusive Kwik Lock™ Hold Open & Kwik Torque™ System

Holds the door open at a full 90° angle. Simply pull the door to a 90° angle and it smoothly locks in place. Release the door by pushing lightly for a quick air tight seal.

• RLS Lighting System

With its unique design this lighting system increases the amount of light at the center of the shelf. The T-8 lighting and electronic ballast bring to life the vibrant colors on all your packaged product.

• Advantage Series Door Plug

For heated door applications. This is the smallest profile available. The unique plug design and flat mullion allow this door to be easily reversed in the field.

The Advantage Series Doors

(800) 478-3790
(818) 361-8160

LEGACY SERIES

Styling And Performance Make All The Difference!

With over 50+ years of hands-on experience comes the finest quality door on the market with features that put the Legacy Series door in a class of its own.

FEATURES:

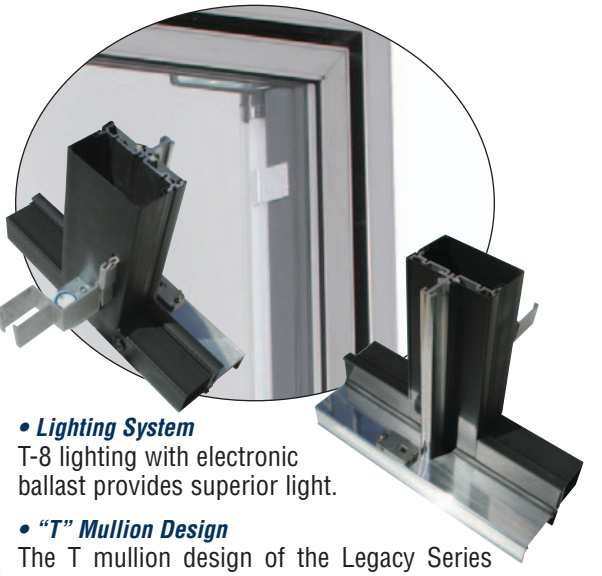
This unique design includes a hinge system which opens the door away from the frame to reduce the possibility of fingers being pinched between the frame and the door.

• Hinge System

Super strong machined aluminum triple bearing top Hinge Pin reduces friction increasing the life of the hinge system.

• Exclusive Kwik Level™ Door Alignment System

Placed at the top of the door for simple and easy adjusting from one door to the next.

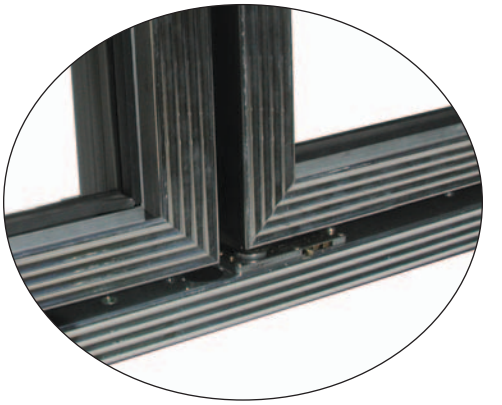


• Lighting System

T-8 lighting with electronic ballast provides superior light.

• "T" Mullion Design

The T mullion design of the Legacy Series doors assures strength and support for the walk in box header panels.



• Kwik Torque™ Door Adjustment

This unique design makes adjusting tension a snap. Just 3 to 4 clicks and the door shuts and seals with ease.

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The Legacy Series Doors

The Cave Double Swing Walk Thru Door (HDW)

THE CAVE DOOR

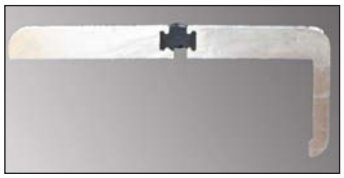
There is no other door manufactured today that compares to the heavy duty construction of the CDS Cave Door. Designed for high volume, high traffic Beer Cave applications the superior Heavy Duty construction will stand up in the toughest environments. Whether it is the delivery driver slamming into the door with his 2 wheeler or the customer ramming the door with a shopping cart the CDS Heavy Duty Cave door is engineered to take the beating and perform like the day it was first installed.

The Cave Double Swing Walk Thru Door (Double Acting) Features:

- Energy Free Door and Frame
- Single and Double door construction
- 3/8" Aluminum frame construction with thermal break
- 3-1/2" frame depth
- 3-1/2" door thickness with thermal break
- Double seal
- Black or Silver finishes
- Heavy Duty composite & stainless steel Hinge
- 24" x 62" Double pane window
- 10" Diamond plate kick plate, in & out
- Push bar with rubber inserts, in & out

Heavy Duty Hinges

Heavy Duty composite & stainless steel Hinge



Glass

24" x 62" Double pane window

Frame Profile

3/8" Aluminum frame construction with thermal break

Kick Plate

10" Diamond plate kick plate, in & out

(800) 478-3790
(818) 361-8160

SHELVING/FINISHES

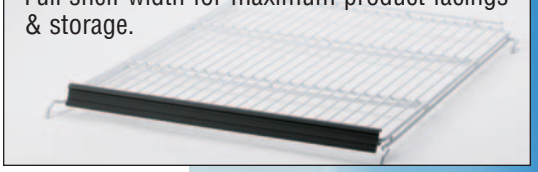
The exclusive CDS shelving design provides a full width shelf, which gives you increased product facings and storage. The bow truss system eliminates shelf sag making the CDS shelf the strongest shelving system on the market.

Features To Meet Your Needs!

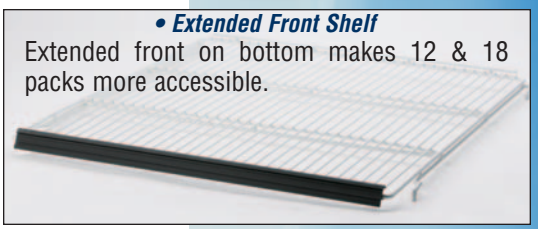
• PVC Sliders
For normal temp applications.

• Aluminum View Windows
Heated & non-heated.

• Flat Shelves
Full shelf width for maximum product facings & storage.



• Extended Front Shelf
Extended front on bottom makes 12 & 18 packs more accessible.



• Optional Handles
Choose from a variety of handles to match your decor.

• Corner Shelves
Extends around corner doors for maximum display and well supported.

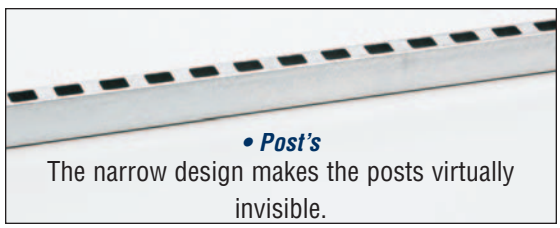
• Standard FInishes
Six to choose.

Smooth & Serrated Silver & Gold, Black, Satin Silver

• Vertical Can & Bottle Shelf
Excellent for merchandising individual loose cans or bottles.

• Shelving Accessories
Side, front & rear product stops

• Baskets
Ideal for bulky items or mass displays.



• Post's
The narrow design makes the posts virtually invisible.

• Entrance Door
Available in all glass, solid panel or 1/3 - 2/3 glass/solid panel designs. Available with roll-away beverage rack.

• Deli Boards w/Baskets or Hooks

CDS Commercial Display Systems
650 Jessie Street • San Fernando, CA 91340
(800) 478-3790
(818) 361-8160
Fax (818) 361-8152

Enclosed with the Installation manual there is a setup drawing, showing the identification and proper placement of your Walk–in.

Panels, **C**eilings, **D**oors and **F**loors code reads as follows:

W – Wall Panels for floor panels.

N – Wall Panels without floor panels.

C – Ceilings Panels.

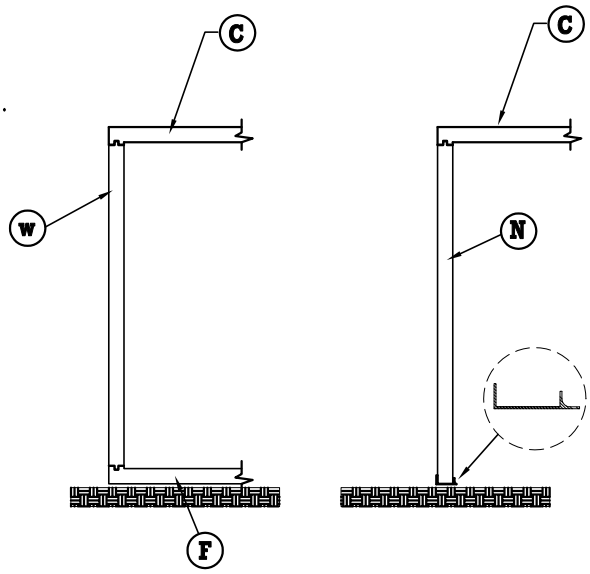
F – Floor Panels.

D – Door and Door Frame.

H – Header Panels

T – Top Header on Glass Doors.

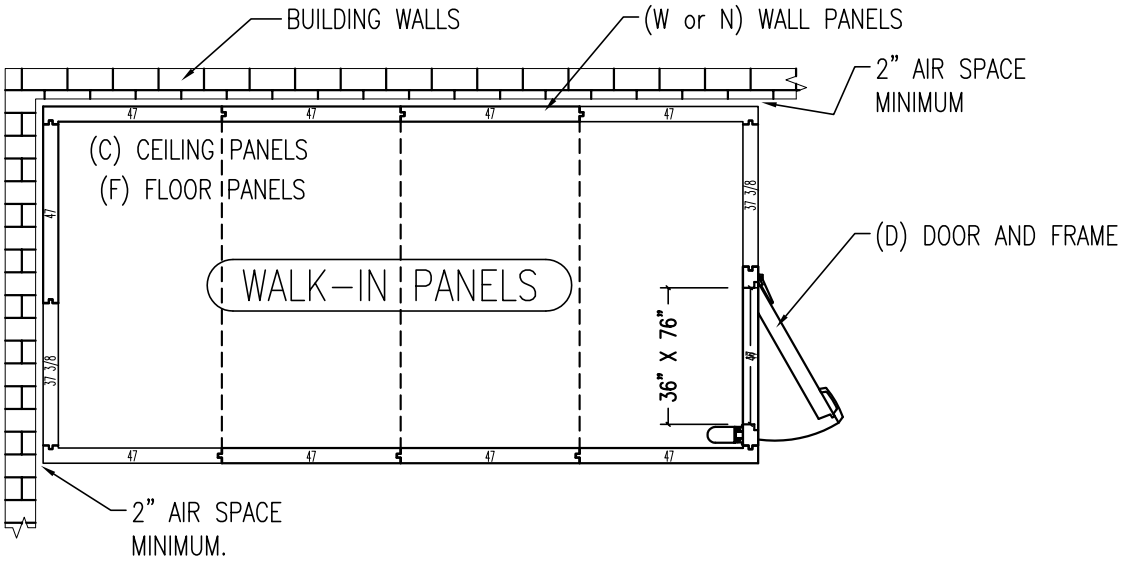
B – Bottom Sill on Glass Doors.



(See drawings attachment)

Having a SUCCESSFUL INSTALLATION begins with having a level concrete Floor. If the Floor is not Level, it will be necessary to install shims, under each floor panel cam–lock. If Walk–In does not have Floor Panels, then under the Walk–in's (Wall panels) Vinyl screed.

A minimum of 2" clearance between existing building walls and Walk–in is necessary for proper air circulation.



	INSTALLATION MANUAL		
		DRW BY: LG	DATE:
		REVISIONS:	
		SHEET: 1 OF 10	

WALK-IN INSTALLATION WITH FLOOR

1– Set the floor Panels according to the setup Drawing.
(All Panels have labels, and are identified in the shop drawing)

2– Make sure that all Floor Panels are Level. If not, using Shims under cam–locks of the Floor around the Outside Edge is suggested to level floor panels.

3– After all floor panels are level, firmly and securely lock all Floor Panels together with the Hex wrench. Turn it clockwise approximately 3/4 of a full turn and repeat until all Floor Panels are Securely Locked Together.

4– Begin with two Corner Panels and secure to Floor panels to start making a corner. Make sure that the top of each wall panel is flush with each other.

5– Select next adjacent wall panel(s) towards opposite corner of same floor panel.

6– Finish corner by installing ceiling panel, and continue assembling in corresponding floor/ walls/ ceiling in "rings."

NOTE: DO NOT REMOVE DOOR FROM FRAME

7– Door frame must be level with adjacent and flush (on top) with adjacent wall panels. Measure the top and bottom of the door opening to make sure both measurements are the same. (see page 8 for details)

8– Repeat steps 4 and 5.

9– Install the Last ceiling panel to close the box.

10– Cover wrench holes with plastic buttons.

Installation Completed

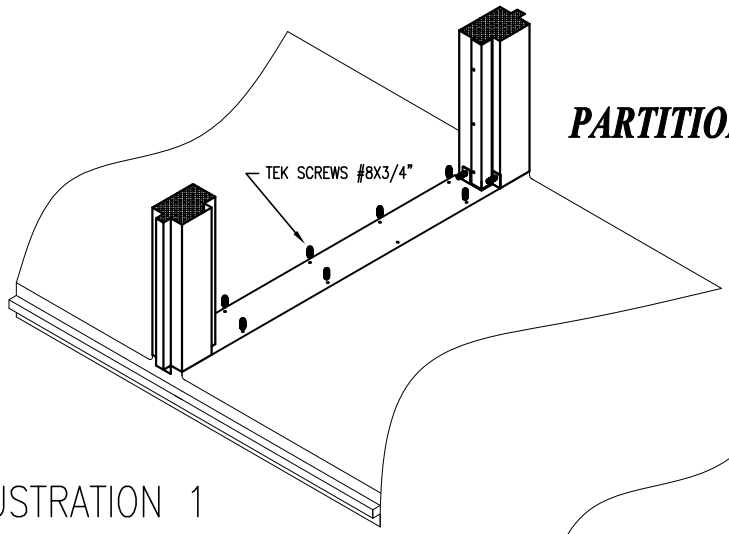
SECURING DOOR SILL PLATE (THRESHOLD) TO FLOOR

ACROSS THE BOTTOM OF EACH DOOR OPENING IS A STAINLESS STEEL THRESHOLD.

INSTALL THRESHOLD AND DRILL 3/16" DIAMETER HOLES THROUGH PRE-DRILLED HOLES IN THRESHOLD PLATE.

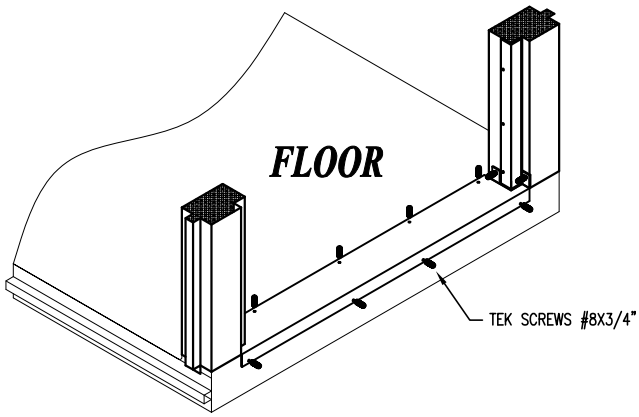
SECURE WITH STAINLESS STEEL FLAT HEAD SCREWS PROVIDED IN THE HARDWARE KIT. (See Illustration 1-3)

Note: Cooler with No Floor will not have threshold



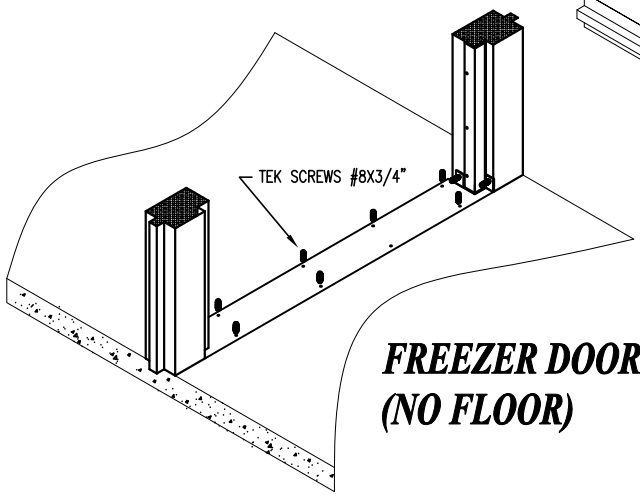
PARTITION FLOOR

ILLUSTRATION 1



FLOOR

ILLUSTRATION 2



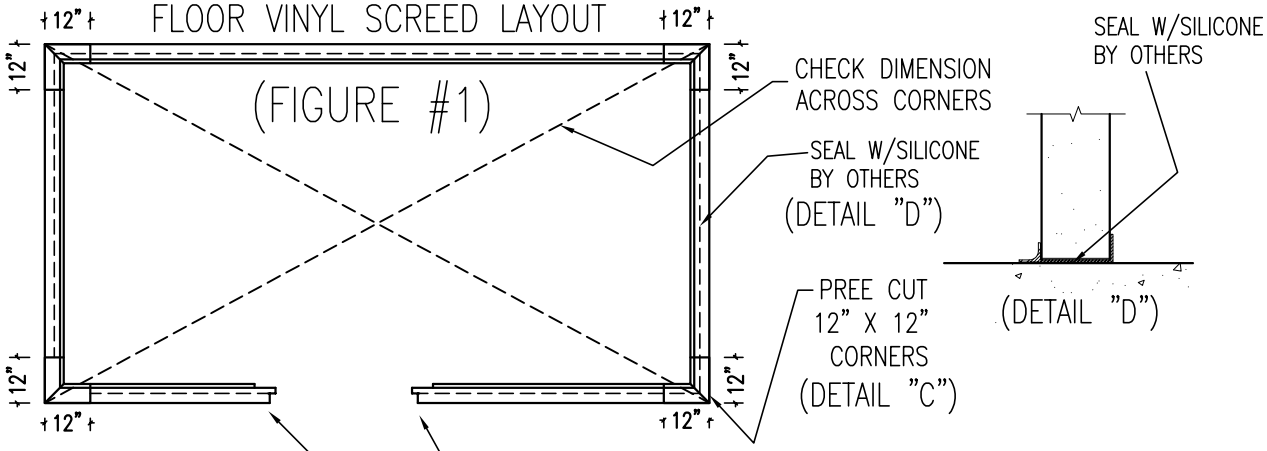
FREEZER DOOR (NO FLOOR)

ILLUSTRATION 3

/	***INSTALLATION MANUAL***		
		DRW BY: LG	DATE:
		REVISIONS:	
		SHEET: 4 OF 10	

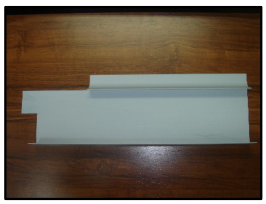
WALK-IN INSTALLATION WITH NO FLOOR

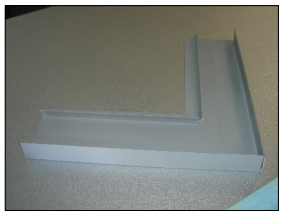
1–USE A CHALK LINE TO MARK THE INSTALLATION AREA TO THE DIMENSIONS OF THE WALK–IN AS SHOWN IN THE DRAWING. (SEE FIGURE #1) MEASURE DIAGONALLY FROM CORNER TO CORNER TO BE SURE THE FLOOR VINYL SCREEDS IS SQUARE. (SEE FIGURE #1)



DOOR FRAME CUT (DETAIL "A")

DOOR FRAME CUT (DETAIL "B")





DETAIL "A" DETAIL "B" DETAIL "C"

2–APPLY A BEAD OF SILICONE ALONG THE BOTTOM OF THE VINYL SCREED. THEN PLACE THE VINYL SCREED ALONG THE CHALK LINES.

(NOTE: LEAVE THE VINYL SCREED LOOSE UNTIL THE WALK-IN IS ASSEMBLED.)

(See Figure 2, page 7 for details)

3–Seal with silicone both the inside and the outside edges of the wall panels

4– Begin with two Corner Panels and secure to Start making a Corner.

WALK-IN INSTALLATION WITH NO FLOOR

5– Select next joining Panels to form next opposite walk–in corner.

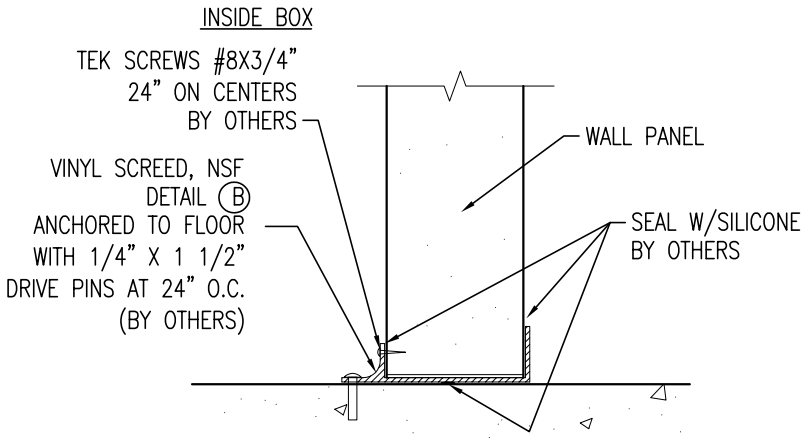
6–Install shims under vinyl screed corners and across as needed to ensure support panel joints and levelness of panel.

7– Begin at one end of the walk–in, positioning roof panels, locking them to adjacent wall panels, and continue assembling in "rings."

8– Make sure that the top of each Wall Panel is flush with one another.

9– Once the entire walk–in is assembled, then secure the vinyl screed to the floor by using a 1/4" pin–grip under all walls and door frame legs.

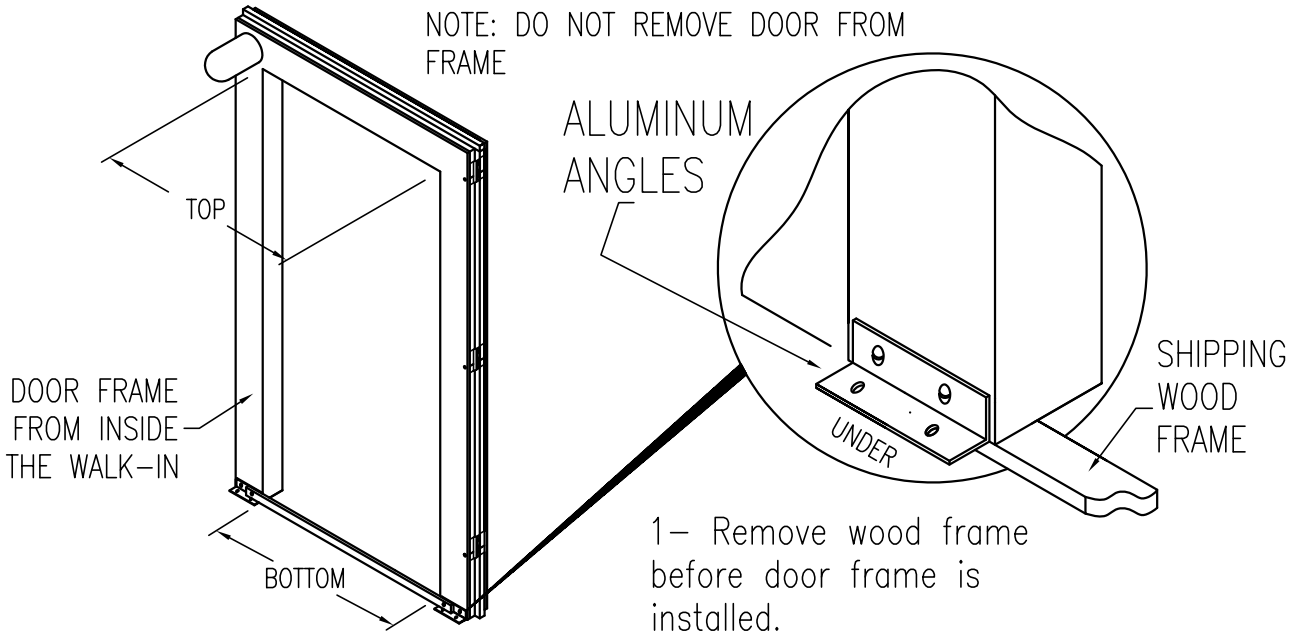
10–Seal with silicone both the inside and the outside edges of the wall panels



VINYL SCREED/WALL PANEL ASSEMBLY DETAIL

(FIGURE #2)

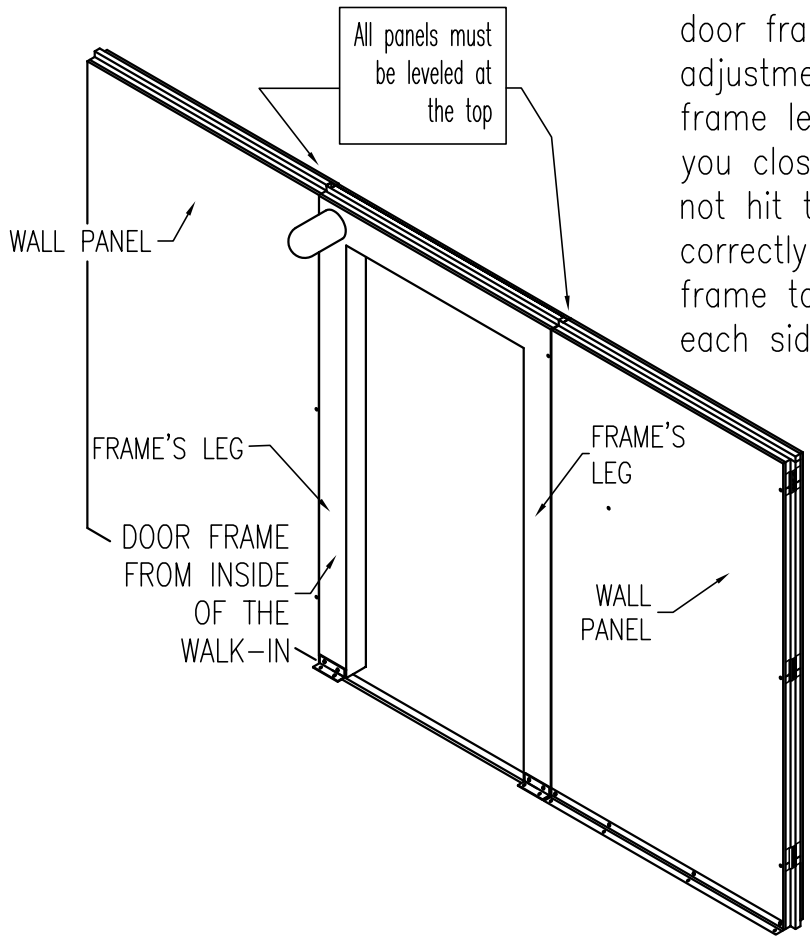
INSTALLATION DOOR INSTRUCTION OVER CEMENT/ TILE FLOOR



1- Remove wood frame before door frame is installed.

2- Measure the top of the door opening and measure the bottom of the door opening to make sure both measurements are equal.

3- If the measurements are different, unfasten the cam-locks of the panels and on top, left and right side of door frame. then make necessary adjustments by pushing out the frame legs enough to ensure when you close the door, the door does not hit the frame and closes correctly. Then, secure the door frame to the adjacent wall panels on each side.



4- Lastly, once door frame's top and bottom measurements are equal and the door closes correctly, secure door frame's position to floor using aluminum angles.

	INSTALLATION MANUAL		
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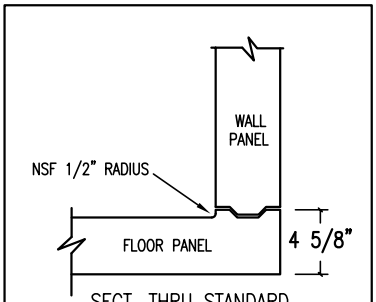
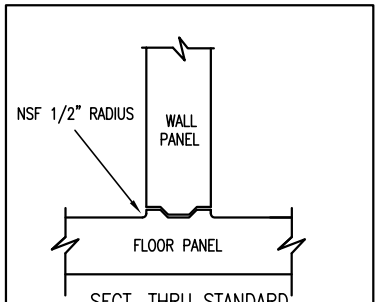
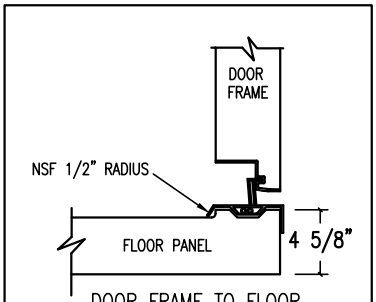
SECTION CONSTRUCTION DETAILS



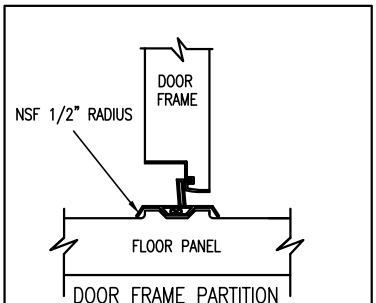
SECT. THRU STANDARD WALL TO FLOOR PANEL



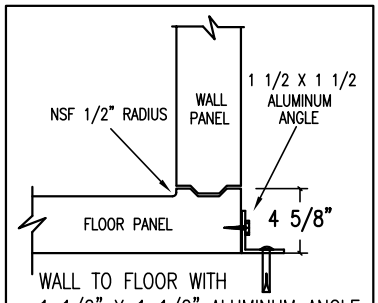
SECT. THRU STANDARD PARTITION WALL TO FLOOR PANEL



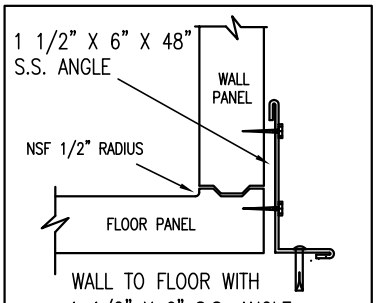
DOOR FRAME TO FLOOR PANEL



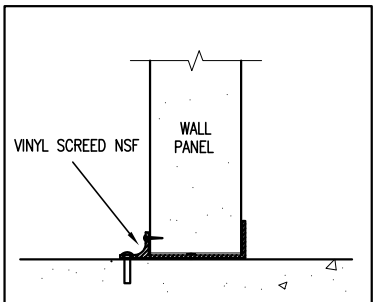
DOOR FRAME PARTITION TO FLOOR PANEL



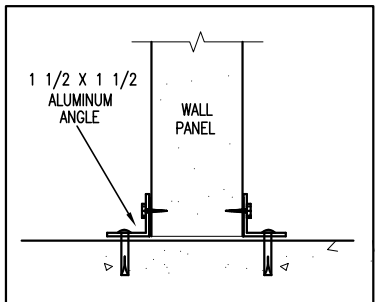
WALL TO FLOOR WITH 1 1/2" X 1 1/2" ALUMINUM ANGLE FOR OUTDOOR



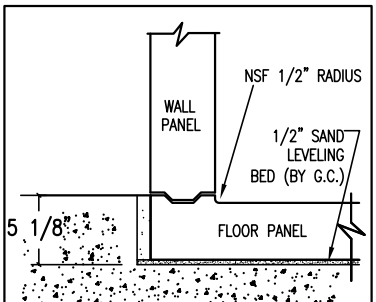
WALL TO FLOOR WITH 1 1/2" X 6" S.S. ANGLE FOR OUTDOOR



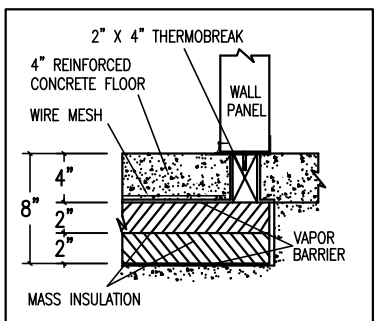
NO FLOOR CONSTRUCTION WALL



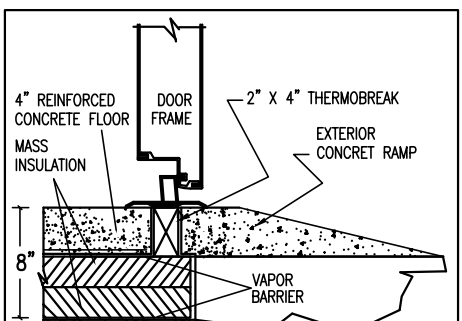
NO FLOOR CONSTRUCTION WALL WITH 1 1/2 X 1 1/2 ALUMINUM ANGLE



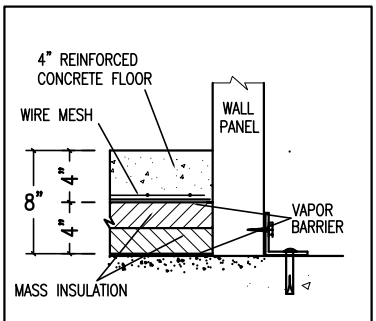
SECT. THRU DEPRESSED FLOOR



SECT. THRU WALL TO FLOOR MASS INSULATED DEPRESSION



SECT. THRU DOOR TO FLOOR MASS INSULATED DEPRESSION



SECT. THRU WALL TO FLOOR INTERIOR MASS INSULATED

(WILL VARY DEPENDING BY JOB AND CONDITIONS)

INSTALLATION MANUAL

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INSTALLATION MANUAL

DRW BY: LG	DATE:
REVISIONS:	
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ITEM # 77

NSF

PathoGuard™
ANTIMICROBIAL
GUARDS AGAINST GERMS
PathoGuard protection is available for most Kason latches and handles.
Details on pages B3 – 6.

77 ROLLING RADIAL LATCH

- For lighter weight foam doors.
- Radial tongue combined with a roller strike for easiest closing and smoothest opening walk-in doors.
- Releases with minimum pressure or pull from outside or from inside with Kason inside release handle.
- Mate with Kason door closer for effortless closure.
- Adjustable strike assures exact door alignment.
- Padlocking provision standard on all models.

SPECIFICATIONS

MATERIAL:
High pressure die-cast zinc.

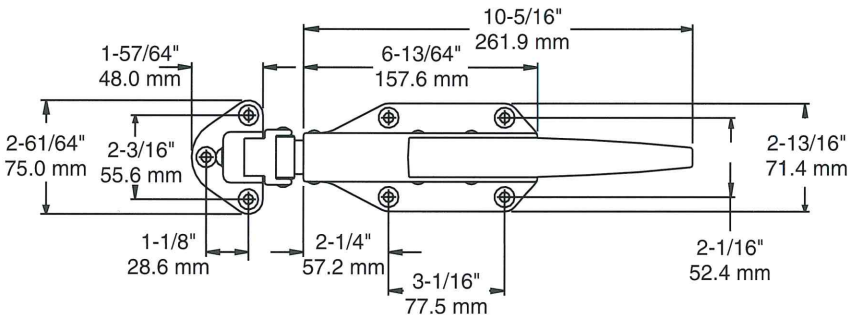
FINISH:
Polished chrome models listed. Also available in brushed chrome, Tuffkote or powder coated for severe environmental applications.

MOUNTING:
Holes drilled and countersunk for 1/4" (6.0 mm) screws.

PACKAGING:
6 per carton.

WEIGHT:
Approx. 24 lb. (11.3kg) per carton.

INSIDE RELEASE:
Order separately. See pages B-20 and B-21 for selection.



Model No.	Description	Offsets
0077CH0004C	Cylinder Locking , Heavy Spring	–1/8" to 1/4" (–3.2 to 6.4 mm)
0077CH0008C	Cylinder Locking , Heavy Spring	3/4" to 1-1/2" (19.0 to 38.1 mm)
0077CH0012C	Cylinder Locking , Heavy Spring	1-3/4" to 2-1/2" (44.5 to 63.5 mm)
0077CL0004C	Cylinder Locking, Light Spring	–1/8" to 1/4" (–3.2 to 6.4 mm)
0077CL0008C	Cylinder Locking, Light Spring	3/4" to 1-1/2" (19.0 to 38.1 mm)
0077CL0012C	Cylinder Locking, Light Spring	1-3/4" to 2-1/2" (44.5 to 63.5 mm)
0077CL0026C	Body assembly for No. 77C Latches.	
0077H00004C	Latch, Heavy Spring	–1/8" to 1/4" (–3.2 to 6.4 mm)
0077H00008C	Latch, Heavy Spring	3/4" to 1-1/2" (19.0 to 38.1 mm)
0077H00012C	Latch, Heavy Spring	1-3/4" to 2-1/2" (44.5 to 63.5 mm)
0077L00004C	Latch, Light Spring	–1/8" to 1/4" (–3.2 to 6.4 mm)
0077L00008C	Latch, Light Spring	3/4" to 1-1/2" (19.0 to 38.1 mm)
0077L00012C	Latch, Light Spring	1-3/4" to 2-1/2" (44.5 to 63.5 mm)
0077L00026C	Body assembly for No. 77 Latch	

Cylinder locking latches may be keyed alike or differently; 5 key changes available; please specify.

NSF

ITEM # 1245

ITEM # 1246

NSF

REVERSIBLE CAM-RISE HINGES

- Industry standard self-closing cam-rise hinges.
- Door opens with minimum effort.
- Strong self-lubricating nylon cam delivers smooth, trouble-free door operation.
- Cam-rise action reduces gasket wear, even with irregular floors.
- Built-in dwell holds door open beyond 90°.
- Doors lift off without disassembly or removing hinges.
- Simple manual operation reverses hinges for use on right- or left-opening door.

SPECIFICATIONS

MATERIAL:
High pressure die-cast zinc with self-lubricating nylon cam.

FINISH:
See ordering information. Powder coated finishes available for severe environmental applications.

OFFSETS:
See ordering information.

MOUNTING:
Drilled and countersunk for 1/4" (6.0mm) flat head screws.

LOAD RATING:
See Hinge Selector Chart, Group D.

1245

PACKAGING:
3 pair per carton.

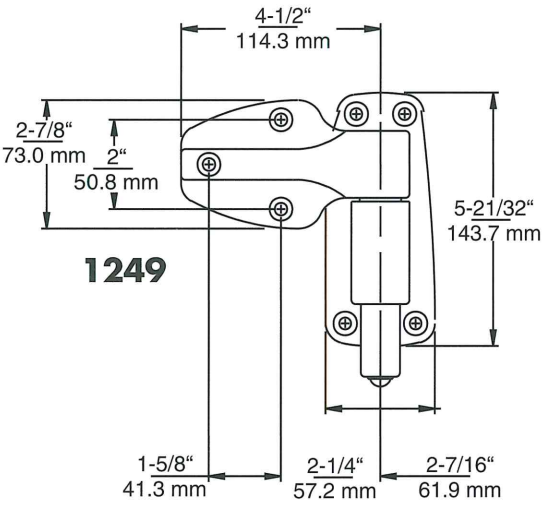
WEIGHT:
Approx. 18 lb. (8.2kg) per carton.

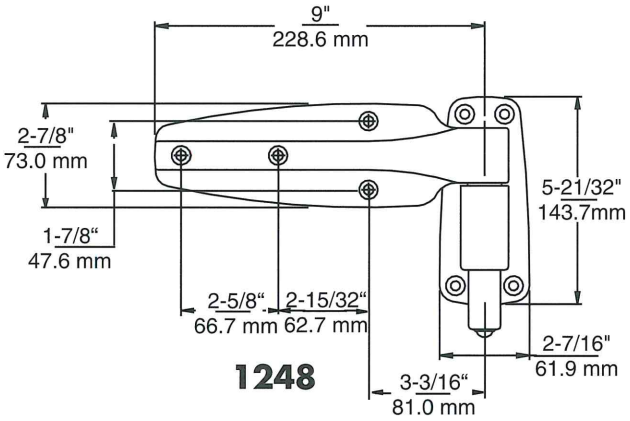
1246

PACKAGING:
3 pair per carton.

WEIGHT:
Approx. 12 lb. (5.4kg) per carton.

KASON





ITEM # 1249

NSF

ITEM # 1248

NSF

SPRING ASSISTED HINGES

- Spring mechanism adds extra closing force to overcome air resistance on heavy walk-in doors.
- Special high-lift cam system outperforms similar spring hinges.
- Cam-rise action reduces gasket wear, even with irregular floors.
- Built-in dwell holds door open beyond 90°.
- Simple manual operation reverses hinges for use on right- or left-opening door.

SPECIFICATIONS

MATERIAL:
High pressure die-cast zinc with self-lubricating nylon cam.

FINISH:
See ordering information. Tuffkote also available.

MOUNTING:
Drilled and countersunk for 1/4" (6.0mm) flat head screws.

LOAD RATING:
See Hinge Selector Chart, Group D.

OPTION:
Pair of hinges may be ordered one with spring and one without spring.

1248 HINGE

PACKAGING:
3 pair per carton.

WEIGHT:
Approx. 19.5 lb. (8.85kg) per carton.

1249 HINGE

PACKAGING:
3 pair per carton.

WEIGHT:
Approx. 13 lb. (5.9kg) per carton.

Model No.	Item	Offset	Finish
1248000004	Hinge	Flush (0.0 mm)	Polished Chrome
1248000016	Hinge	1-1/8" (28.6 mm)	Polished Chrome
1248000020	Hinge	1-1/4" (31.8 mm)	Polished Chrome
1248000024	Hinge	1-3/8" (34.9 mm)	Polished Chrome
1248000022	Hinge	1-1/2" (38.1 mm)	Polished Chrome
1248000025	Hinge	1-5/8" (41.3 mm)	Polished Chrome
1248000026	Hinge	1-3/4" (44.5 mm)	Polished Chrome
1248000027	Hinge	1-7/8" (47.6 mm)	Polished Chrome
1248000030	Hinge	2" (50.8 mm)	Polished Chrome
1248000028	Hinge	Flush (0.0 mm)	Brushed Chrome
1248000040	Hinge	1-1/8" (28.6 mm)	Brushed Chrome
1248000044	Hinge	1-1/4" (31.8 mm)	Brushed Chrome
1248000048	Hinge	1-3/8" (34.9 mm)	Brushed Chrome
1248000049	Hinge	1-5/8" (41.3 mm)	Brushed Chrome
1248000050	Hinge	1-3/4" (44.5 mm)	Brushed Chrome
1248000051	Hinge	1-7/8" (47.6 mm)	Brushed Chrome
1248000078	Hinge	2" (50.8 mm)	Brushed Chrome

Model No.	Item	Offset	Finish
1249000004	Hinge	Flush (0.0 mm)	Polished Chrome
1249000016	Hinge	Flush (0.0 mm)	Brushed Chrome

1890 Swarthmore Avenue, PO Box 2020, Lakewood, NJ 08701
Phone: 800-526-3694, 732-363-4700, Fax: 732-364-8110
www.keilhardware.com • www.componenthardware.com

PROJECT NAME: _____

LOCATION: _____

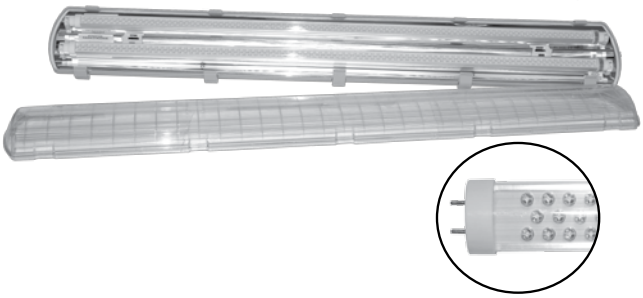
SPECIFIER ITEM NO. _____ **QTY:** _____

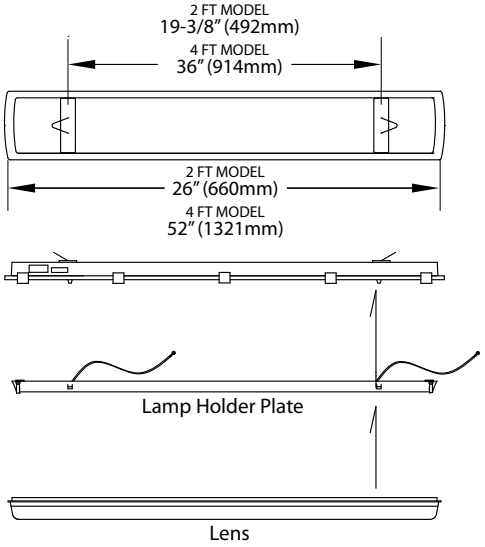
KEIL PART NO. _____

Keil® LED Light Fixture for Walk-In Coolers and Freezers

LED Series

LED24X419C	24” 5700K to 6300K
LED48X62221C	48” 5500K to 6500K
LED48X62221N	48” 4500K to 5500K
LED48X62221W	48” 2700K to 3500K





Dimensions shown in inches (mm) are for reference only and are subject to change.

100-240V
LED48 Series - T8 LED
LED24 Series - T9 LED
Operating Temperature: -40ºF to 104ºF (-40ºC to 40ºC)

Approximate shipping weight - 10 lbs
Warranty - 5 year lamp/5 year fixture

Low profile, high output, energy efficient LED lights

Specifically designed for walk-in refrigeration applications
- Operating temperature from -40ºF to 104ºF (-40ºC to 40ºC)
- LED lamps reject little heat into refrigerated space
- NSF listed; supplied with NEC-approved luminaire disconnects
- Corrosion-free, high impact polycarbonate housing
- Instant on even in freezers; no ballast to warm up
- Resilient, one-piece silicone gasket rated IP-65 for damp and wet locations

Environmentally friendly, energy efficient
- Mercury-free
- 50,000+ hours rated life; reduces landfill waste; lowers maintenance costs
- Exceeds Federal Energy Act requirement
- Contributes to LEED® energy use reduction credits

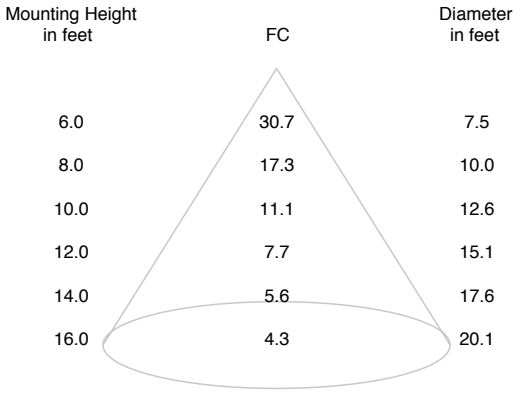
Bright, focused light
- Lumens per watt output surpasses fluorescent and incandescent fixtures
- Instant on even in freezers; no ballast to warm up
- Clear, high impact polycarbonate lens with ribs for maximum light dispersion
- High polish aluminum reflector improves light output
- No ultraviolet emission; does not attract insects

Low profile
- Only 4-1/2” high for limited clearance applications

Specifications

Model	Watts	Lumens
LED24X419C	9	800
LED48X62221C	44	3470
LED48X62221N	44	3250
LED48X62221W	44	3000

CONE OF LIGHT DIAGRAM



REFRIGERATION LIGHTING

1808 LED FIXTURE

- Low profile high impact Lexan globe with anti-glare technology.
- Preferred fixture for replacing inefficient lighting.
- Designed to reduce electrical usage by 85%.
- Minimal heat generation will lower utility cost.
- Exceeds Federal Energy Act Requirements.
- Rated for 50,000+ hours of Life.
- 4000K color temperature.
- Designed for damp/ wet /cooler/ freezer environments.
- 5 year limited warranty on the light engine.
- LM-79 Tested.

Prison Package:

- Tamper resistant fastener kit option avaliable.

SPECIFICATIONS

MATERIAL:
Lexanlens Aluminum housing

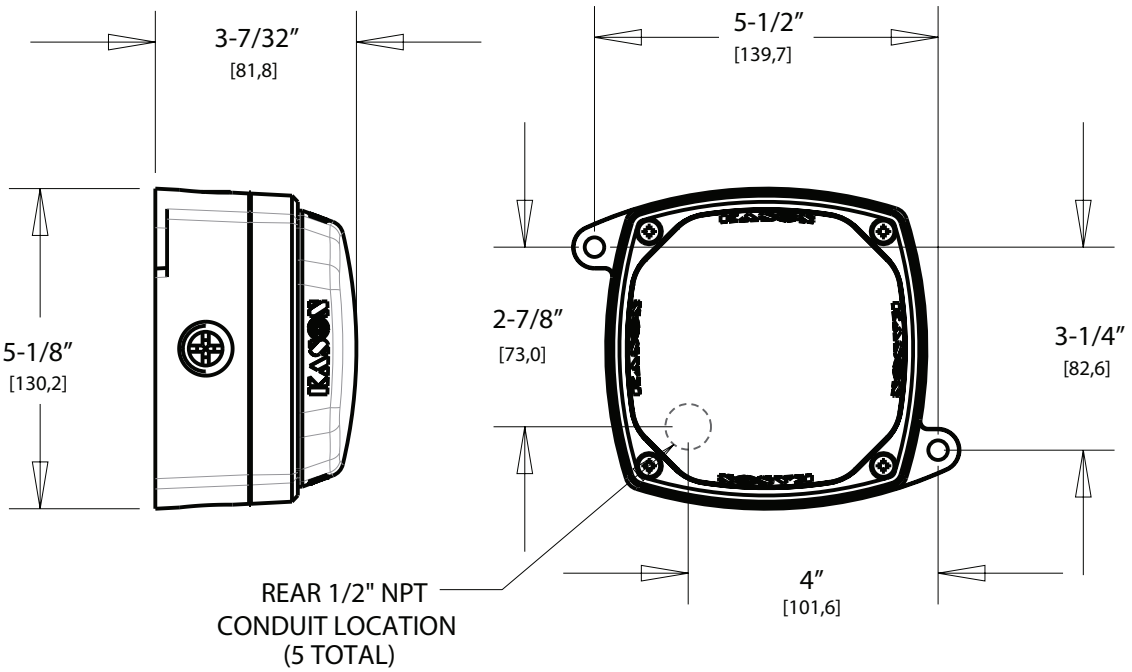
MOUNTING:
Surface mount

ELECTRICAL:
1160 Total Lumens
90-305 VAC, 50/60 Hz.
86 Lumens/ Watt
.12 Amps
Watts: 14.0 W
Powerfactor 0.9
CRI85

SAFETY STANDARDS:
RoHS
UL listed US and Canada,
File No. E333932
NSF Listed
IP-65
Energy Star Certified
Patent Applied

Temperature Ratings:
Operating Temperature:
-40°F [-40°C] to 104°F [40°C]

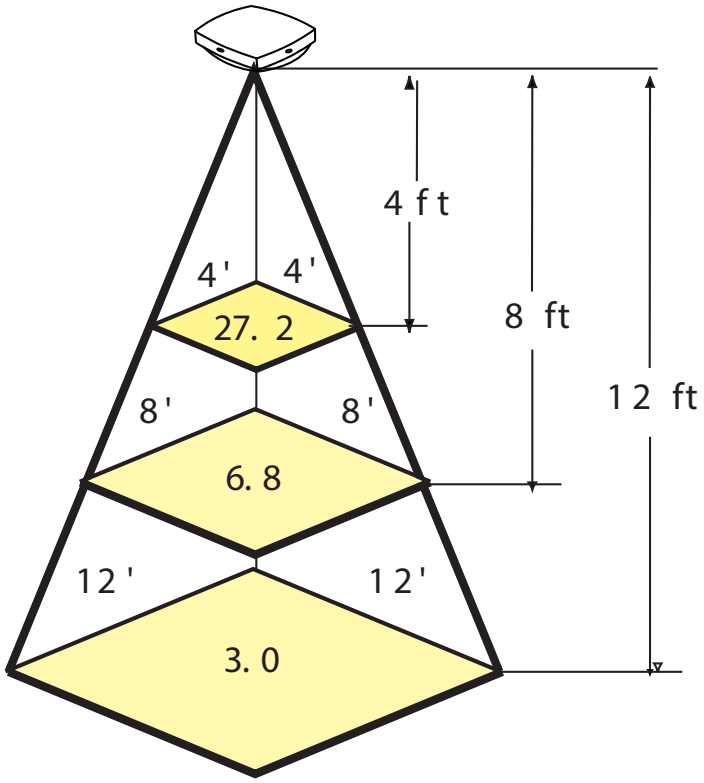
Model No.	Description	Weight
11808000000	14 Watt, VP, 90-305 V, LED Fixture	1.7 lbs./ unit
11808CE0000	14 Watt, VP, 90-305 V, LED Fixture	1.7 lbs./ unit



Kason® Industries, Inc. 57 Amlajack Blvd. Newnan, GA 30265
www.kasonind.com greenguard@kasonind.com 1.800.935.3550

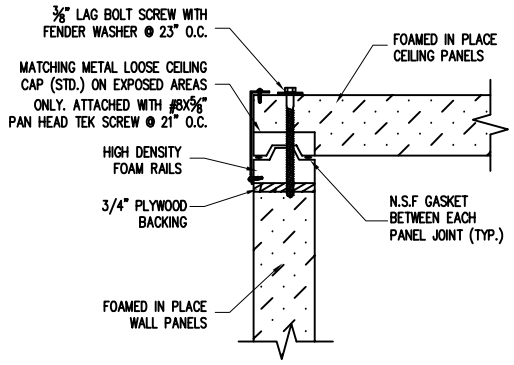
12/4/2014

1808 LED LIGHT DISTRIBUTION

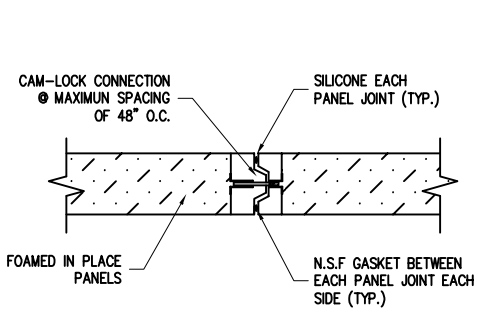


LIGHT DISTRIBUTION FOR 1808 LED		
Height in Feet	Average FC for Single Fixture Over Indicated Area	
	8′ x 8′	12′ x 12′
5	9.3	5.1
8	6.8	4.0
9	-	3.7
12	-	3.0

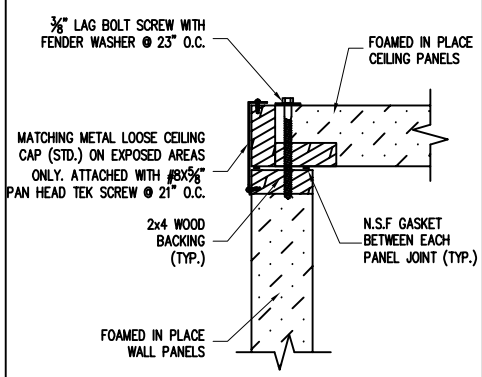
Kason® Industries, Inc. 57 Amlajack Blvd. Newnan, GA 30265
www.kasonind.com greenguard@kasonind.com 1.800.935.3550



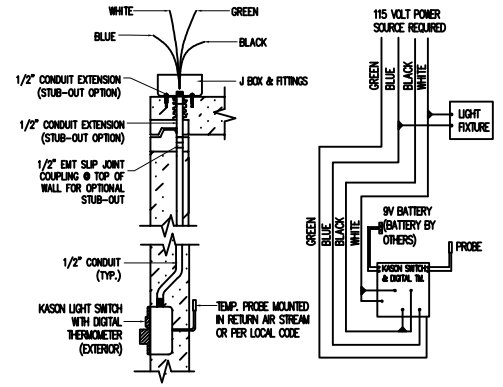
C1.1.2 Wall To Ceiling Connection
(Lag Down–Freezer)



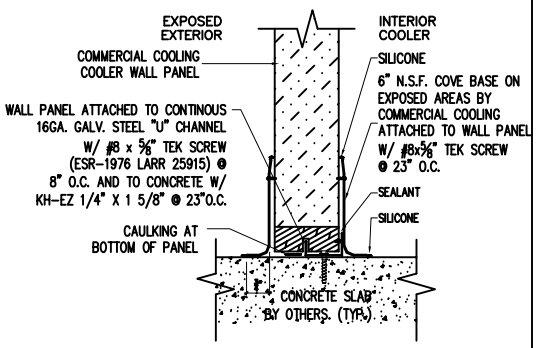
C1.3 Panel To Panel Connection
(Cam–Lock)



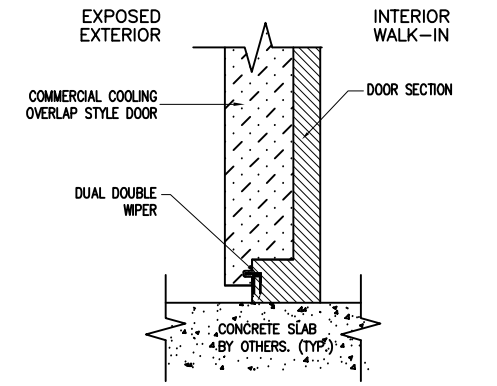
C1.2 Wall To Ceiling Connection
(Lag Down–Cooler)



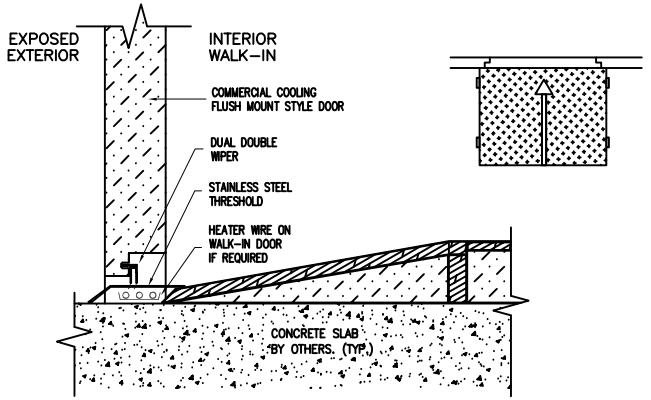
S2.2 KASON Light Switch & Digital Thermometer
(Stub Out)



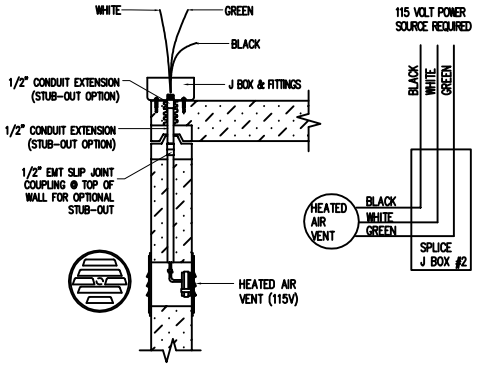
F1.1 Wall Panel To Concrete Floor
(Standard)



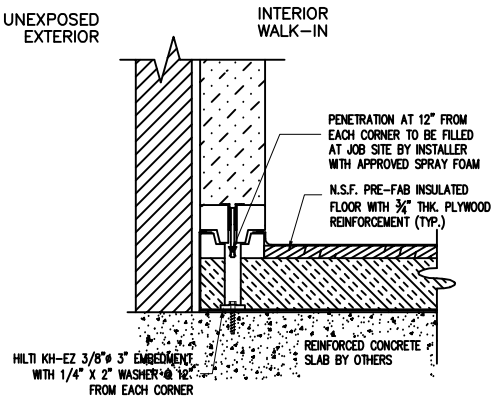
D1.1 Walk–In Door
(Standard Overlap)



D2.4 Door To N.S.F Floor
(Interior Ramp)



A3.1 Heated Air Vent
(Stub Out)



N.S.F Floor Panel to Floor Connection
(Unexposed Area)

Federal Law Minimum R Value Requirement as of Jan 2009

	Min. R Value for Commercial Cooling Sections				Mean Temp (°F)	Federal Law Min. R=
	3.5"	4"	5"	5.5"		
Cooler	26.6	30.4	38	41.8	55	R=25
Freezer		34.0	42.5	46.7	20	R=32
Floor	29.7	34.0	42.5	46.7	20	R=28

Sec. 340 of the Energy Policy and Conservation Act (42 U.S.C.6311)
ASTM method C-518

JOB NO.:	PANEL QTY.	DATE: 06–22–2015	SHEET:
15–3368	–	DRAWN: VICTOR SCALE: NTS	2 OF 2

CUSTOMER:

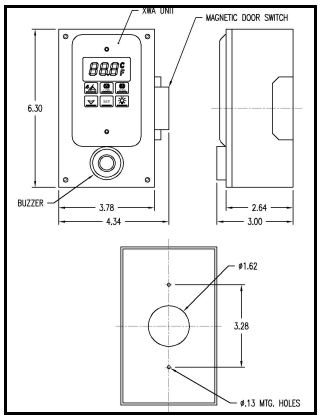
JOB NAME:

AMERICAN WALK-IN COOLERS

NSF Certified

XWA11V-KIT

Walk-In Temp / Door /Alarm / Light Module with Mounting Box and Wiring



1. GENERAL DESCRIPTION

Model **XWA11V-KIT, 100x64 mm** format, is a microprocessor based light and alarm management controller, suitable for temperature monitoring in a walk-in cooler or freezer. It is provided with two (2) relay outputs that supply 120 Volts to control lights and signal an alarm. It is also provided with one (1) NTC probe input for temperature measurement. To ease installation on existing walk-in coolers the unit has been installed in a VBOX pre-wired with an outboard buzzer, magnetic door switch (MDS), a 9V battery harness, a pigtail harness for the unit power and the light. There is also a five pin port that allows the user to program the parameter list with a **"Hot Key".**

2. GENERAL WARNINGS

2.1 ⚠ PLEASE READ BEFORE USING THIS MODULE

- This manual is part of the product and should be kept close to the instrument for easy and quick reference.
- The instrument shall not be used for purposes different from those described hereunder. It cannot be used as a safety device.
- Check the application limits before proceeding.

2.2 ⚠ SAFETY PRECAUTIONS

- Check if the supply voltage is correct before connecting the instrument.
- Do not expose to water or moisture: use the controller only within the operating limits avoiding sudden temperature changes with high atmospheric humidity to prevent the formation of condensation.
- Warning: disconnect all electrical connections before performing any maintenance operation.
- Fit the probe where it cannot be damaged by the end-user. The instrument must not be opened.
- In case of failure or faulty operation send the instrument back to the distributor (see address) with a detailed description of the fault.
- Consider the maximum current that can be applied to each relay (see Technical Data).
- Ensure that the wires for the probe and digital inputs, are separated and far enough from loads and the power supply without crossing or intertwining. (*UL SPEC 0873)*
- *The box supplied is not suitable for exterior use. If a water tight box is required contact the distributor.*

3. INTERFACE

set	In Programming Mode press to **select** a parameter or to **confirm** an operation. Press and hold this key for more than 5s **to turn controller OFF.** Press and hold this key for more than 1s **to turn the controller back ON.**
HIGH	Press to see the HIGH Temp ALARM (**ALU** parameter)
LOW	Press to see the LOW Temp ALARM (**ALL** parameter)
	In Programming Mode press to browse parameter codes. Press to increase the displayed value. Press to mute the buzzer (+ relay) when an ALARM is happening. **Hot key programming**: with the instrument on, insert the hot key and then press the UP button.
	In Programming Mode press to browse parameter codes. Press to decreases the displayed value.
	Switch ON and OFF the light in the cold room.

KEY COMBINATIONS: PRESS SIMULTANEOUSLY


To lock and unlock the Keyboard.


To enter the Programming Mode.


To exit the Programming Mode.


To enter a new value for the HIGH Temp ALARM (**ALU**).


To enter a new value for the LOW Temp ALARM (**ALL**).

3.1 USE OF LEDS

Each LED function is described in the following table:

LED	MODE	Function
`	ON	ALARM signaling
	ON	The light is on
°C	ON	Celsius degrees operation
°F	ON	Fahrenheit degrees operation

4. TEMP ALARMS SETTING

4.1 HOW TO SET THE MIN TEMPERATURE ALARM

- **To modify the minimum (LOW)** Temp **ALARM:** press the set + LOW keys for 3s until the minimum Temp alarm is displayed.
- Change the value using the **UP** and **DOWN** keys.
- Press the **SET** key to confirm the new value and exit.

4.2 HOW TO SET THE MAX TEMPERATURE ALARM

- **To modify the max (HIGH) Temp ALARM:** press the set + HIGH keys for 3s until the max Temp alarm is displayed.
- Change the value using the **UP** and **DOWN** keys.
- Press the **SET** key to confirm the new value and exit.

5. PROGRAMMING

5.1 HOW TO CHANGE A PARAMETER VALUE MAIN MENU

1. Enter the Programming Mode by pressing the **SET** and **DOWN** key for **3s** (` and start blinking).
2. Select the required parameter.
3. Press the "**SET**" key to display its value (now only the LED is blinking).
4. Use "**UP**" or "**DOWN**" to change its value.

Press "**SET**" to store the new value and move to the following parameter.
To exit: Press **SET + UP** or wait 15 s without pressing a key.
NOTE: The set value is stored even when the procedure is exited by waiting for the time-out to expire.

5.2 THE HIDDEN MENU (PR2)

The hidden menu includes all the parameters of the instrument.

5.2.1 HOW TO CHANGE A PARAMETER VALUE MAIN MENU

1. Enter the Programming Mode by pressing the Set + **down** key for **3s** (` and starts blinking).
2. When a parameter is displayed, **release and re-press** the **SET + down** for more than **7s**.
3. The **Pr2** label will be displayed immediately followed from the HY parameter. **NOW YOU ARE IN THE HIDDEN MENU.**
4. **Select** the required parameter.
5. Press the "**SET**" key to display its value (Now only the LED is blinking).
6. Use "**UP"** or "**down"** to change its value.
7. Press "**SET**" to store the new value and move to the following parameter.

To exit: Press **SET + up** or wait **15s** without pressing a key.
NOTE: The set value is stored even when the procedure is exited by waiting for the time-out to expire.

5.2.2 HOW TO MOVE A PARAMETER FROM THE HIDDEN MENU TO THE FIRST LEVEL AND VICEVERSA

Each parameter present in the HIDDEN MENU can be removed or put into "THE FIRST LEVEL" (user level) by pressing **"SET + down"**.
In HIDDEN MENU when a parameter is also present in First Level the **decimal point LED is on**.

5.3 HOW TO LOCK THE KEYBOARD

1. Keep the **UP** and **DOWN** keys pressed for more than **3s**.
2. The "**POF**" message will be displayed and the keyboard will be **locked**. At this point it will be possible only to see the Set Point or the MAX or MIN Temp stored.
3. If a key is pressed more than **3s** the "**POF**" message will be displayed.

5.4 TO UNLOCK THE KEYBOARD

Keep the **UP** and **DOWN** keys pressed together for more than **3s**. The "**PON**" message will be displayed.

6. LIGHT MANAGEMENT

6.1 TIMED REGULATION: I1L = Y

With **i1L = y** the light remains on at least for the **LHt** parameter.
The **LHt** timer is re-initialized every time the light button is pushed.
With **LHt=0** the light remains on until the light button is pushed again.

The light is switched on every time one of the following conditions happens:

- the door is open (**i1F = dor**)
- the presence sensor is activated (**i2F = LHt**)
- the light button is pushed

The light is switched off when any of the following conditions occur:

- the **LHt** timer is exhausted
- the door is closed (**i1F = dor**)
- the presence sensor is de-activated (**i2F = LHt**)
- Light button regulation: i1L = n

The **light button has a higher priority than digital inputs** therefore:
- if the light was switched on by button the digital input can not modify its status.
- if the light was switched on by digital input, the light button can modify its status.

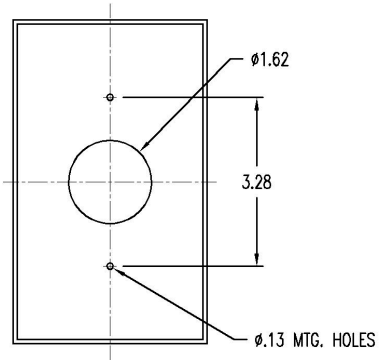
7. INSTALLATION AND MOUNTING

7.1 MOUNTING OF XWA11V-KIT

The **XWA11V** must be mounted on a vertical panel using the VBOX wall mount box. The back of the box has two screw mounting holes and a larger hole for the electrical connections to pass through.

The Temp range allowed for correct operation is 32 – 140°F. Avoid installation in places subject to strong vibrations, corrosive gases, excessive dirt or humidity. The same recommendations apply to probes.

The Door Switch Magnet should be mounted no more than ¾" of an inch from the switch.



8. ELECTRICAL CONNECTIONS

The instrument is provided with .250" Fast-On connectors to connect the probe and digital inputs. Relays and power supply have a .250" Fast-on connection. Heat-resistant 90°C copper wire has to be used. Before connecting cables make sure the power supply complies with the instrument requirements. Separate the probe wires from the power supply wires and, from the outputs and the power connections. Do not exceed the maximum current allowed on each relay and in case of heavier loads use a suitable external relay.
Note: Maximum current allowed for all the loads is 15A.

8.1 PROBE CONNECTIONS

The probe shall be mounted with the bulb upward to prevent damage due to casual liquid infiltration. It is recommended to place the thermostat probe away from air streams to correctly measure the average room temperature. The probe can be extended up to 300 ft using standard thermostat wire. Check calibration when running long lengths over 100ft.

8.2 BATTERY BACK-UP

Battery Back-up will automatically power the XWA display in case of a power failure for up to 36 hours. Display will flash when battery runs low. (Battery not included)

9. USE OF THE PROGRAMMING "HOT KEY "

The XWA11V units can UPLOAD or DOWNLOAD the parameter list from its own E2 internal memory to the **"HOT KEY"** and vice versa.

9.1 HOW TO PROGRAM AN INSTRUMENT USING A HOT KEY (DOWNLOAD)

1. Turn **OFF** the instrument.
2. Insert a **programmed "HOT KEY" into the 5 PIN receptacles** and then turn the Controller **ON**.
3. Automatically the parameter list of the "**HOT KEY**" is downloaded into the Controller memory, the "**doL**" message is blinking followed by a flashing "**END**".
4. After 10 seconds the instrument will restart working with the new parameters.
5. Remove the "**HOT KEY**."

NOTE: The "**Err**" message is displayed for failed programming. In this case turn the unit off and then on if you want to restart the download again or remove the "**HOT KEY** to abort the operation.

10. ALARM SIGNALS

Message	Mode	Cause	Outputs
"P1"	Flashing	Probe failure	Alarm output ON
"PoF"	Flashing (3s)	Keyboard locked	Not changed
"Pon"	Flashing (3s)	Keyboard un-locked	Not changed
"HA"	Alternated with temp	Maximum T° alarm	Alarm output ON
"LA"	Alternated with temp	Minimum T° alarm	Alarm output ON
"dA"	Alternated with temp	Door switch alarm	Alarm output ON
"EA"	Alternated with temp	External alarm	Alarm output ON
"PAn"	Alternated with temp	Serious external alarm	Alarm output ON
dEF	Alternated with temp	Defrost is running	Not changed
Display	Flashing	Battery is low	Not changed

The alarm message is displayed until the alarm condition is reset.
Silencing buzzer
Once the alarm signal is detected the buzzer can be silenced by pressing the **UP** key.

10.1 ALARM RECOVERY

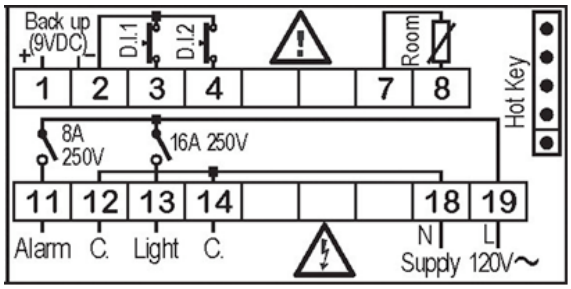
Probe alarms: "**P1**" (probe1 faulty), "**P2**"; they automatically stop 10s after the probe restarts normal operation. Check connections before replacing the probe.
T° alarms "**HA**" and "**LA**" automatically stop as soon as the thermostat T° returns to normal values or when the defrost starts.

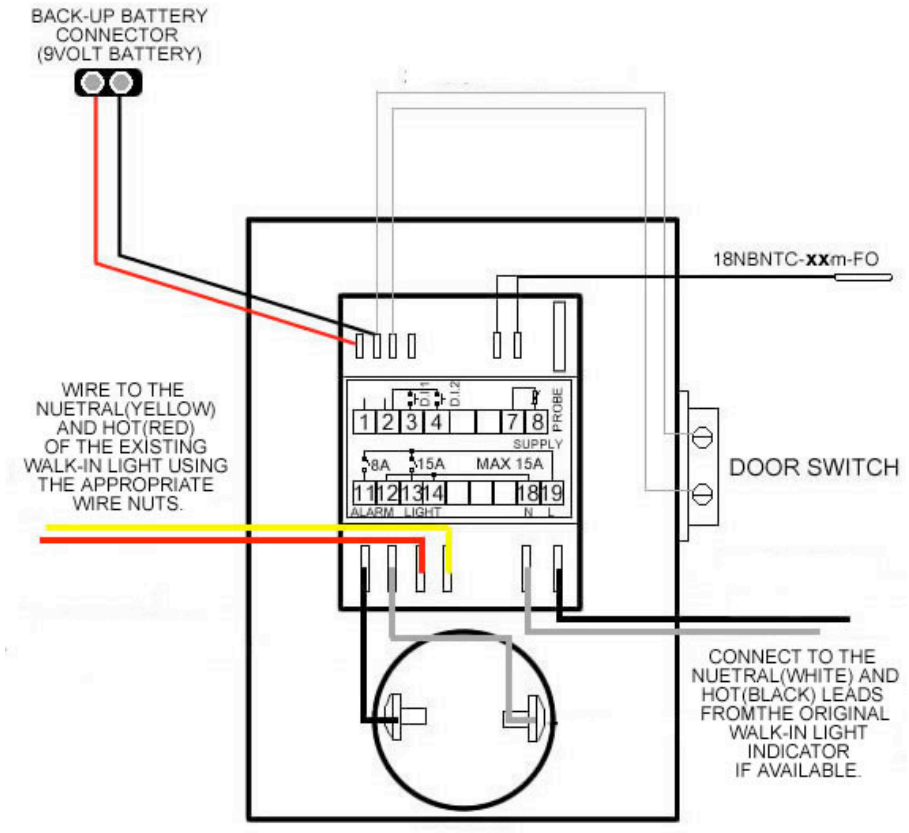
Door switch alarm "**dA**" stops as soon as the door is closed.
External alarms "**EAL**", "**BAL**" stops as soon as the external digital input is disabled.

11. TECHNICAL DATA

Housing: self extinguishing ABS
Case: face 100x64 mm; depth 45.5mm
Mounting: J-box or wall-mount option
Frontal protection: IP65
Connections: .250" fast-on for power, .250" fast-on for probes and Digital Inputs
Power supply: 120Vac ± 10%, optional 230Vac ± 10% (use same connections)
Power absorption: 4VA max.
Ambient Temperature: 32 – 131°F (0-55°C)
Display: 3 digits, red LED, 14.2 mm high.
Inputs: 1 NTC probe
Digital inputs: 2 free voltages
Relay outputs: Relay Contacts
Light: relay SPST 15A, 120Vac;
Alarm: relay SPST 8A, 120Vac
Other output: alarm buzzer
Data storing: on the non-volatile memory (EEPROM).
Measuring and regulation range:
NTC probe: -40÷110°C (-40 - 230°F)
Resolution: 1 °F
Accuracy: ±1 °F

12. CONNECTIONS





The XWA11V-KIT is pre-wired with four 8 inch long flying leads of 18 AWG wire. WHITE (neutral) and BLACK (hot) are for the power supply to the unit and YELLOW (neutral) and RED (hot) are for power supply to the light. All other connections are made inside the VBOX. ***Connections to these wires should be done to conform to local codes and regulations. If conduit is required it is necessary to run the probe and digital input wires separate from the LINE VOLTAGE wires as described in the UL Spec. 0873.***

- ***The Door Switch Magnet should be mounted no more than ¾" of an inch from the switch.***
- ***If power is not supplied to the existing J-Box (handy box,) 120 volts AC needs to be supplied and connected to the WHITE AND BLACK leads as indicated above.***

13. PARAMETER MAP

LABEL	DESCRIPTION	VALUE	LEVEL	RANGE
ot	Thermostat probe calibration	0	Pr2	[-12,0°C <> 12,0°C] [-21°F <> 21°F]
CF	T° measurement unit	F	Pr2	°C <> °F
rES	Resolution (only °C)	in	Pr2	dE <> in
UT	Display update	60	Pr2	0 <> 255 (sec)
OnF	Off function enabling	y	Pr2	N <> Y
ALU	High Temp alarm setting	50	Pr1	°C[ALL <> 150,0°] °F[ALL <> 302°]
ALL	Low Temp alarm setting	30	Pr1	°C[-50.0° <> ALU] °F[-58 <> ALU]
AFH	Temp alarm differential	2	Pr2	[0,1°C <>25,5°C] [1°F <> 45°F]
ALd	Temp alarm delay	30	Pr1	0 <> 255 (min.)
dAo	Delay of Temp alarm at start-up	1.3	Pr2	0 <> 24.0 (Hrs.)
EdA	Alarm delay at the end of defrost	30	Pr2	0 <> 255 (min.)
dot	Delay of Temp alarm after closing the door	15	Pr2	0 <> 255 (min.)
LHt	Light timer	15	Pr1	0 <> 255 (min.)
doA	Open door alarm delay	15	Pr1	0 <> 255 (min.)
OA1	First relay configuration	ALr	Pr2	ALr - LHt - OnF
oA2	Second relay configuration	LHt	Pr2	ALr - LHt - OnF
AOP	Alarm relay polarity	oP	Pr2	OP - CL
i1P	Digital input 1 polarity	oP	Pr2	OP - CL
i1L	Door switch to turn light ON	y	Pr2	n - Y
i1F	Digital input 1 operating mode	dor	Pr2	EAL - dor- dFr - LHt
i2P	Digital input 2 polarity	cL	Pr2	OP - CL
i2F	Digital input 2 operating mode	PAn	Pr2	EAL - Pan - dFr - LHt
did	Time interval/delay for digital input alarm	0	Pr2	0 <> 255 (min.)
tbA	Alarm relay disabling	n	Pr2	n - Y
PbC	Kind of probe	ntc	Pr2	PtC - ntC
dP1	Real T° Probe 1		Pr2	(probe value)
rEL	FW release		Pr2	read only
Ptb	Parameter map		Pr2	read only

14. PARAMETER LIST

Ot **Thermostat probe calibration:** (-12.0÷12.0°C/ -21÷21°F) allows to adjust possible offset of the thermostat probe.
CF **T measurement unit**: °C = Celsius; °F = Fahrenheit. When the measurement unit is changed the Set Point and the values of some parameters have to be modified.
rES **Resolution (for °C)**: (in = 1°C; dE = 0.1 °C) allows decimal point display.
Ut **Display update**: The time delay of the T readout (0÷255s)
onF **Off function enabling**: **n =** off function disabled; **y =** off function enabled;
ALU **High T° alarm setting**: (ALL ÷ 150°C or 302°F); when this T° is reached and after the ALd delay time the HA alarm is enabled.
ALL **Low T° alarm setting**: (- 50°C or -58°F ÷ ALU); when this T° is reached and after the ALd delay time, the LA alarm is enabled,.
AFH **Temperatrue alarm differential**: (0,1÷25,5°C; 1÷45°F) differential for T° alarm Set Point and fan regulation Set Point, always a positive value
ALd **Temperarture alarm delay**: (0÷255 min) time interval between the detection of an alarm condition and the corresponding alarm signaling.
dAO **Delay of T° alarm at start-up**: (0min÷23h 50min) time interval between the detection of the T° alarm condition after the instrument power on and the alarm signaling.
EdA **Alarm delay at the end of** defrost: (0÷255 min) Time interval between the detection of the T° alarm condition at the end of defrost and the alarm signaling.
dot **Delay of T° alarm after closing the door**: (0÷255 min) Time delay to signal the T° alarm condition after closing the door.
LHt **Light timer**: (0-255 min) The time the light will stay on after pressing the light switch on the keyboard.
doA **Open door alarm delay**:(0÷255 min) delay between the detection of the open door condition and its alarm signaling: the flashing message “dA” is displayed.
oA1 **First relay configuration: (14-15): ALr =** alarm; **LHt** = light; **onF =** on/off relay
oA2 **Second relay configuration: (14-16): ALr =** alarm; **LHt** = light; **onF =** on/off relay
AOP **Alarm relay polarity:** cL = closing contacts; oP = opening contacts.
i1P **Digital input 1 polarity (1-2)**: CL : the digital input is activated by closing the contact; OP the digital input is activated by opening the contact
i1L **Door switch to turn light ON(1-2):** (y / no) To turn the light ON automatically when the door is open. The light will turn off based on LHt . Keyboard switch must be turned ON first.
i1F **Digital input 1 operating mode(1-2): EAL** = external alarm; **dor** = door switch; **dFr** = A defrost is running; **LHt** = keep light ON (signal from occupancy sensor) override LHt.
i2P **Digital input 2 polarity (1-3)**: CL : the digital input is activated by closing the contact; OP the digital input is activated by opening the contact
i2F **Digital input 2 operating mode**: configure the digital input function:
EAL = External alarm;
PAn = Panic alarm;
dFr = A defrost is running a CT switch is required
LHt = Keep light ON (signal from occupancy sensor) override LHt.
did **Time interval/delay for digital input alarm**:(0÷255 min.) If I2F=EAL or PAn (external alarms), “did” parameter defines the time delay between the detection and the successive signaling of the alarm.
tbA **Alarm relay & Buzzer disabling:** (**y** or **no**) press any key
Pbc **Type of probe (PTC, NTC)**
dP1 **Probe Reading**
rEL **Software release** for internal use.
Ptb **Parameter table code:** read only.

c UL us
120Vac

CE

WEISS INSTRUMENTS

Weiss Instruments, Inc. 905 Waverly Ave. Holtsville, NY 11742 • 631-207-1200 www.weissinstruments.com

XWA11V Walk-in Alarm / Door / Alarm / Light Unit Operation Manual

In Normal Operation the Indicator will display the temperature. 36°F

CHECK ALARM SETPOINTS (Cooler HA = 50°F, LA = 30°F / Freezer HA = 30°F, LA = -20°F)

To SEE the HIGH Alarm Set Point Press and release the HIGH Key, It will display the High Set Point for 5 seconds. The Temp alarm will go ON if the temp exceeds the Set Point after 15 minutes. The display will read HA alternating with the Temp.

To SEE the LOW Alarm Set Point Press and release the LOW Key it will display the Low Set Point for 5 seconds. The Temp alarm will go ON if the temp exceeds the Set Point after 15 minutes. LA, alternating with the Temp.

CHANGE ALARM SETPOINTS

1. To Change the HIGH Alarm Set Point Press BOTH the HIGH + set for 7 seconds and the LED above the will blink.
2. Release and scroll UP to adjust the Set Point up, or Scroll DOWN to adjust the Set point down.
3. Press set to confirm the change.
4. For Low Set Point repeat the procedure with the LOW + set

LIGHT OPERATION

Press the light switch to turn ON the inside light; it will automatically go OFF after 15 minutes.

DOOR SWITCH

If the door switch is used opening the door will automatically turn the light ON, and will automatically go OFF after 15 minutes.

If the Door is left open longer than 15 minutes the DOOR Alarm will go off, dA alternating with the temperature reading.

ALARM SIGNALS

P1	Flashing	PROBE FAILURE
HA	Alternated with temp	HIGH TEMP ALARM
LA	Alternated with temp	LOW TEMP ALARM
dA	Alternated with temp	DOOR OPEN ALARM
PAn	Alternated with temp	PANIC ALARM (need opt. panic switch)