Aladdin Temp-Rite®...better by degrees.

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ALI GROUP

AC10
AIR CURTAIN
REFRIGERATOR

Manual P/N 12767
Rev. F 12/07/2018

INSTALLATION, OPERATION & SERVICE MANUAL

Aladdin Temp-Rite® AC10 AIR CURTAIN REFRIGERATOR
QUICK REFERENCE SHEET

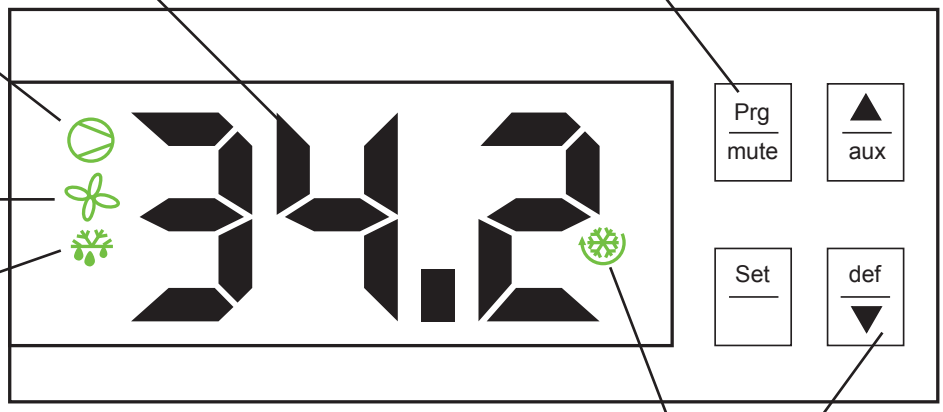
Set point:
- Press and hold “Prg” for more than 5 seconds. “ST” should be displayed
- Press “Set” to see the current set point
- Press ▲ or ▼ to change set point to desired value
- Press “Set” to store new value
- To exit press and hold “Prg” for more than 5 seconds.

Current temperature displayed. when unit is on

Compressor is running

Fan is running

Defrost is running



Running Pre-chill cycle

Pre-chill cycle:
Press and hold the ▲ and ▼ buttons together for more than 5 seconds. The unit will run continuously without regard for set point unit it reaches 28°F or the lower alarm limit

Manual defrost:
To start or stop a defrost cycle press and hold “def” for 5 seconds

NOTE:
Icons will blink to alert the user that a function has been called for, but is delayed. An example would be the blinking fan icon upon start up to indicate the 60 second start delay or a blinking defrost icon to indicate that defrost will begin upon the door closing.

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I. INTRODUCTION

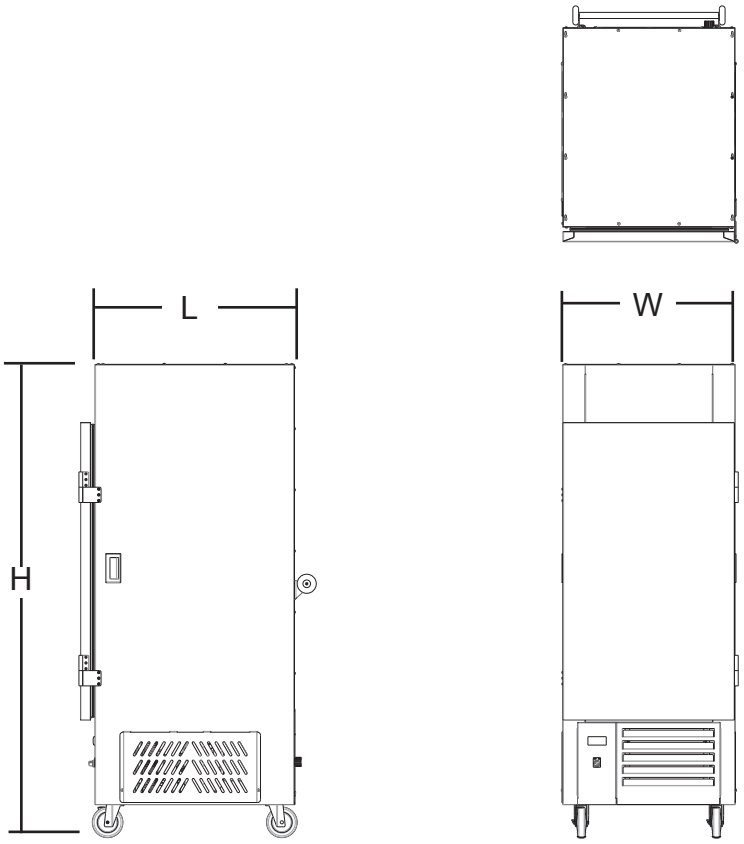
The Aladdin Temp-Rite AC10 high performance air curtain refrigerator is uniquely designed to maintain temperatures of refrigerated pre-plated and pre-packaged products temporarily for food preparation tasks. The horizontal and vertical flow of chilled air across the main opening allows these perishable items to be displayed during service with the door wide open, giving users convenient and unimpeded access during tray assembly meal times.

The condensing unit is located in the base of the cabinet for a lower center of gravity and added stability during transport. Enhanced ventilation is provided by removable louvered front, rear and side grills. Removable access panels located at the front and back of the unit permits easy access for servicing and cleaning the compressor and for servicing the electrical wiring. Air circulation fans and finned, forced convection coil is contained within a top mounted housing. The system has sufficient capacity to maintain cabinet temperatures with the door open for 90 minutes in a normal hospital kitchen environment if recommended procedures are followed. All condensate water is removed automatically by an electric evaporator.

STANDARD FEATURES:

- Stainless steel exterior and interior
- Automatic condensate evaporator
- R404A Refrigeration system
- Automatic or manual defrost cycles
- Non-marking casters, (2) swivel with locks
- Full 270º door swing with magnetic catch for open position
- Flush recessed side grip handles for easy positioning/cabinet maneuvering
- 20 Adjustable, removable stainless steel tray slides for 10 standard 18” x 26” (45.7 cm x 66 cm) sheet pans with slanted positioning option
- Removable interior panels and brackets for easy cleaning
- Easy to read exterior digital thermometer
- Bottom mounted compressor for stability
- Seven foot cord and plug assembly
- ETL Listed

II. SPECIFICATIONS



AC10 Air Curtain	
Height (H)	77.64” (197.2 cm)
Width (W)	28.82” (73.2 cm)
Depth (D)	38.83” (98.63 cm)
Tray slides	10 @ 4.5” (11.4 cm)
Shipping weight	510 lbs (231.3 kg)
Electrical	
Condensing unit size	1/2 HP
Wattage	1725
Amps	15.4 amps
Plug	NEMA 5-20P

These air curtain refrigerator models conform to the Energy Conservation Program mandate enacted by the Department of Energy. The design and intended use category for these models are defined by DOE final ruling (78FR at 64200-300) within the regulation requirements of 10 CFR 429.

III. RECEIVING INSPECTIONS

Your Aladdin AC10 air curtain refrigerator is factory tested for performance and is free from defects when shipped. The utmost care has been taken in packaging this product to protect against damage in transit.

You should carefully inspect your AC10 unit to assure that no damage has occurred in transit. If, however, damage is detected, see the following damaged goods policy. Under no condition may a damaged unit be returned to Aladdin Temp-Rite without first obtaining written permission (return authorization). No credit will be issued for claims not reported to Aladdin within ten (10) business days from receipt of shipment.

IMPORTANT NOTE:
Aladdin Temp-Rite does not recommend laying the unit down on its front, side or back. However, if you must, please be certain to allow the unit to remain in an upright position for 24 to 48 hours before attempting to place the unit into service to assure that the compressor oils and refrigerant may settle.

ALADDIN DAMAGED GOODS POLICY

There are two types of damaged merchandise:

- Visual Damage
- Concealed Damage

Visual Damage – When the product being received is visibly damaged.

1. Receiver should not accept merchandise with visual damage.
2. Receiver must sign delivery receipt “refused merchandise due to damage” and specify damage.
3. Receiver should call Aladdin Customer Service immediately after refusal.
4. Carrier will notify Aladdin Traffic Department and a claim will be filed.
5. Carrier will send acknowledgement of claim within 7 days after receiving.

Concealed Damage – When damaged merchandise cannot be externally detected.
Any receiving operation should be looking for this type of damage. Sometimes, however, depending on the type of product, it is almost impossible to notice.

1. Merchandise must not be removed from point of delivery and all packaging must be kept intact.
2. Receiver must contact Aladdin customer service to report damage.
3. Aladdin traffic department will request inspection based on the dollar value of the cargo.
4. Aladdin traffic department will file a claim based on the findings of the inspection.

Failure to comply with these policies will result in the customer’s responsibility to file claims.

IV. SAFETY

If you know how to correctly install, operate, clean and service the AC10 unit, your satisfaction with the equipment will be increased and safety will be enhanced. In accordance with generally accepted product safety labeling guidelines, the following three signal words are used throughout this manual to alert you to potential hazards and to tell you how to avoid them.

The purchaser/user has the best knowledge and is in the best position to determine the operating conditions, appropriateness of the product for the operating environment, and safe use of the product. Aladdin Temp-Rite does not warrant, implied or expressly, that the product is fit for a particular use or operating environment.

WARNING: The word "Warning" identifies a potentially hazardous situation which, if not avoided COULD result in death or serious personal injury.

CAUTION: The word "Caution" identifies a potentially hazardous situation which, if not avoided MAY, result in minor or moderate injury. The word "Caution" may also be used to alert against unsafe practices and property damage only accidents.

"Important" is used to identify installation, operation or maintenance information which is important but not hazard related.

V. INSTALLATION

Electrical

- Check the data plate for proper voltage and amp draw
- WARNING: This unit uses a three-pronged grounded plug. Verify that the AC10 is plugged into a properly grounded outlet to avoid the possibility of electrical shock. Do not cut or remove the grounding prong from the plug or use an extension cord
- Use a dedicated electrical outlet with a receptacle for a grounding plug

Location

Selecting a proper location for your AC10 is important to proper operation.

- Location should be level
- Keep away from extreme heat
- Keep away from steamers
- Don't place near or under a ventilation duct or hood
- Keep a minimum 6" clearance from the back of the unit
- Ensure the door may open 270° degrees

Clearance

For proper operation and longevity, your AC10 needs an adequate air supply to the compressor. Allow a minimum of 6" between the back grill of the unit and the wall for proper air flow.

Installation

☑ Inspect the unit for damage if you have not already done so (see Section III)
☑ Remove all packaging material (Save until you are sure there is no shipping damage)
Do Not Lay Unit down
☑ Tray slides have tabs formed into the side. Simply put the tab into the square hole in the side of the cabinet and push down to secure. The tray slides can be installed in a horizontal or sloped position which will allow the product to slide forward on the sheet pans.
☑ Locate unit (see Location above)
☑ Plug the unit in (see Electrical above)
☑ Turn the selector switch to the ON position, the display should illuminate
☑ Keep the door closed until unit cools down to setpoint

VI. OPERATION

Operating parameters

During tray assembly, the open door holding time may be affected by the following factors:

- Room ambient temperatures
- Humidity levels
- Air disruption (such as a hood, vent, or air return)
- Amount of time air curtain is allowed to precondition air
- Amount of time unit is allowed to precondition the food
- Food temperatures when placed into the units
- Type of food, food packaging, and profile of food
- Condition of the unit (regularly maintained and cleaned condensing unit)

Open door operation

To better maximize efficiency of the 90 mins designed for open door access please do the following:

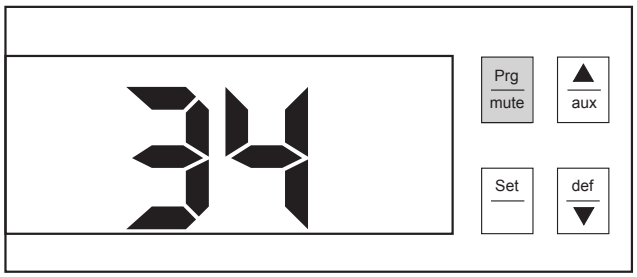
- Set temperature should remain at factory pre-set 34°F (1.1°C)
- **Keep empty pans in the cabinet for better performance** (there should be a pan at every level)
- Plug in unit one hour before service with door closed to allow pre-chill
- Load unit from bottom to top with PRE-CHILLED food at 40°F (4.4°C) or colder
- Ensure trays are pushed to the back wall
- Close door and allow inside temperature to stabilize to set temperature
- Unload cabinet from top to bottom

The unit is equipped with an automatic condensate evaporator. To prevent water spills, leave unit plugged in with door closed after use. Aladdin recommends a defrosting after each use. Elevated internal cabinet temperature indicates defrost cycle is required.

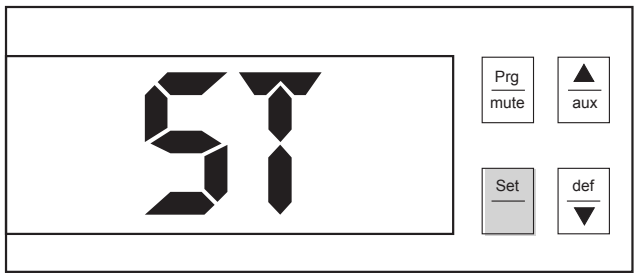
Manual defrost:
To start or stop a defrost cycle
press and hold "def" for 5 seconds

During open door operation, your AC10 unit knows when the door is open and will not go into an auto or timed defrost cycle. Instead, the defrost icon will blink, letting you know that defrost will occur upon the door closing.

Set point

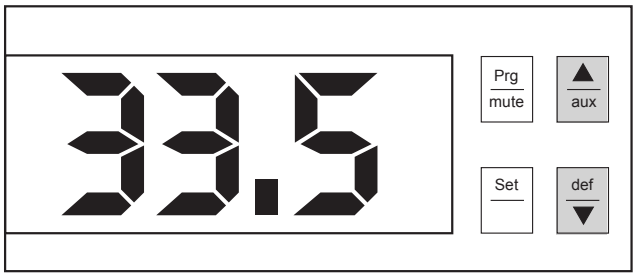


Press and hold “Prg” button for 5 seconds



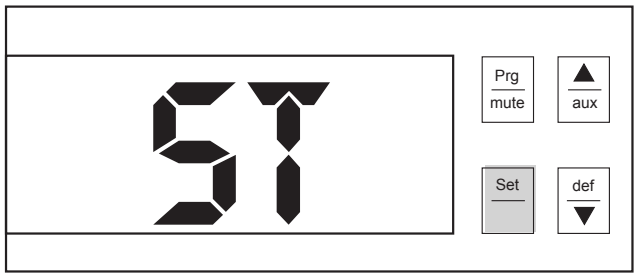
“ST” should be displayed

Press “Set” button

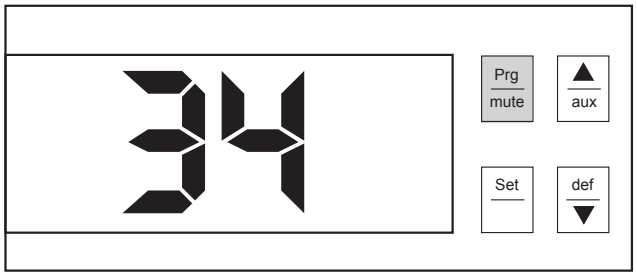


Use ▲ or ▼ button to change set point to desired value

Factory preset is 34 ◦F

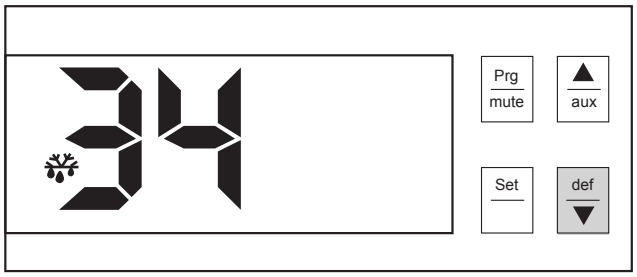


Press “Set” button to save value



Press and hold “Prg” button for 5 seconds to exit

Manual defrost



To start or stop a defrost press and hold “def” button for more than 5 seconds.

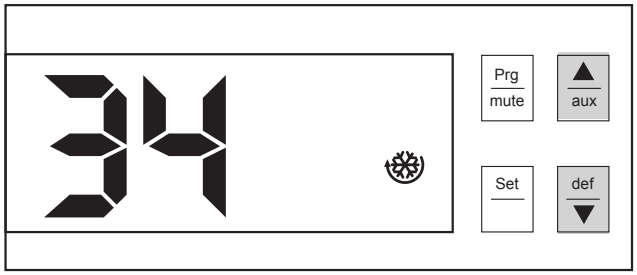
.”dFb” will be momentarily displayed

will be displayed during defrost

NOTE: if you stop a defrost the next time the door is closed the unit will resume the normal auto/timed defrost intervals.

Pre-chill cycle

This cycle is used to pre-chill food before tray assembly to extend cold food temperature performance.



Press and hold the ▲ and ▼ buttons together for more than 5 seconds. The unit will run continuously without regards to set point unit it reaches 28°F or the lower alarm limit

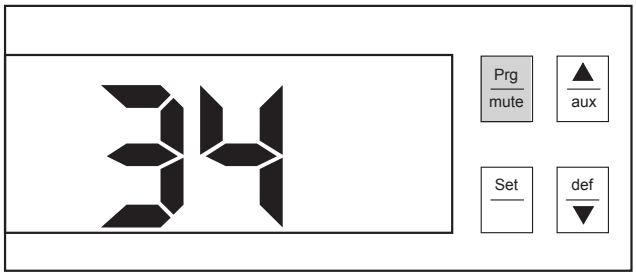
“ccB” will be momentarily displayed

will be displayed during a pre-chill cycle

Error codes

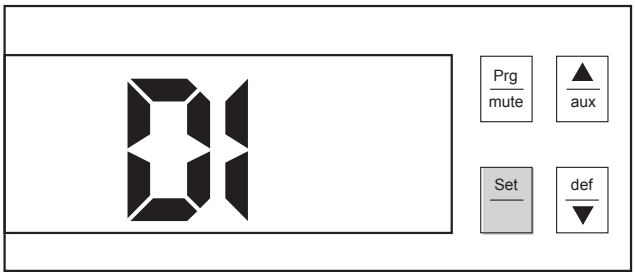
Code	Description
E0	Check thermistor
LO	Low temperature < 28°F
HI	High temperature > 45°F
HF	Power failure occurred

Defrost interval



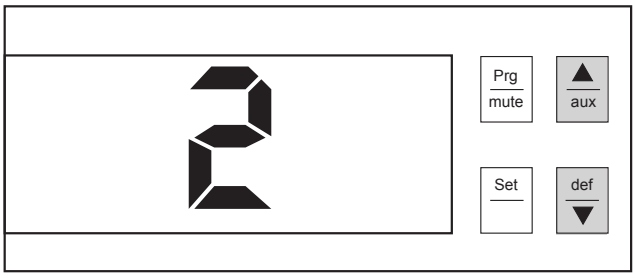
Press and hold “Prg” button for 5 seconds

Display will change to last set parameter.



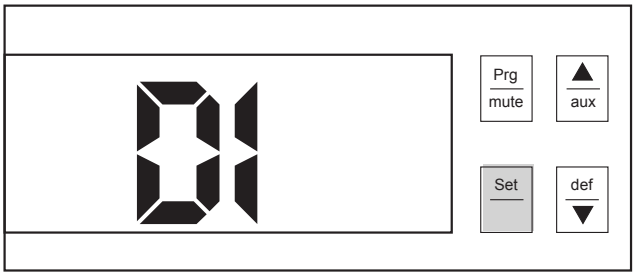
Press ▲ or ▼ until “d1” is displayed

Press “Set” button

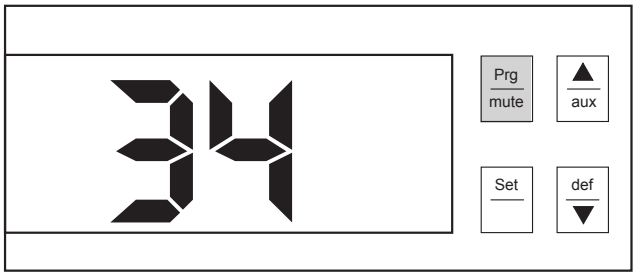


Use ▲ or ▼ button to change defrost interval to desired value

Factory preset is 2 hours

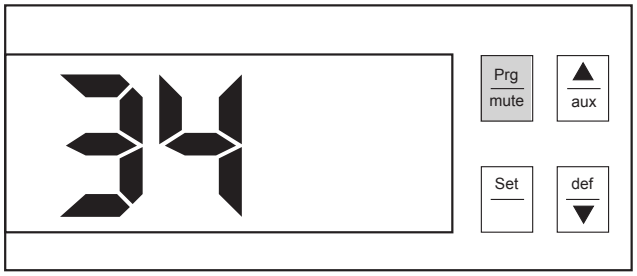


Press “Set” button to save value



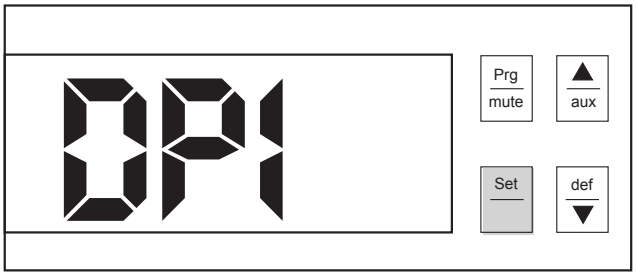
Press and hold “Prg” button to exit

Defrost duration



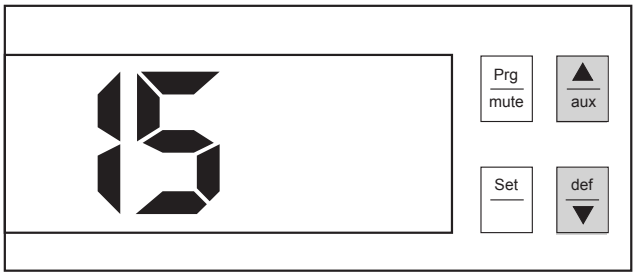
Press and hold “Prg” button for 5 seconds

Display will change to last set parameter.



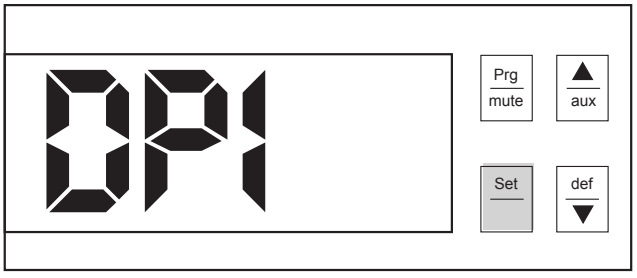
Press ▲ or ▼ until “dPI” is displayed

Press “Set” button

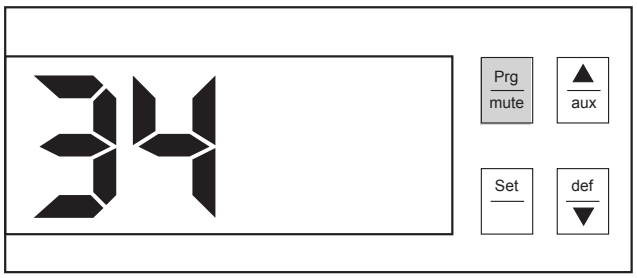


Use ▲ or ▼ button to change defrost interval to desired value

Factory preset is 15 minutes



Press “Set” button to save value



Press and hold “Prg” button to exit

VII. CLEANING / MAINTENANCE

WARNING

Risk of electrical shock. Disconnect electrical power supply before cleaning any parts of the unit or prior to any service.

Risque de des chocs èlectriques, dèbrancher l'alimentation avant l'entretien.

Cleaning the condenser

The most important thing you can do to ensure a long, reliable service life of your AC10 unit is to regularly clean the condenser coil. The condensing unit requires regular scheduled cleaning to keep the finned condenser coil clean of lint and dust accumulation. Keeping the condenser clean allows the cabinet to operate efficiently, use less energy, and achieve top performance.

To clean the condenser, first disconnect the electrical power to the cabinet and remove the front louver assembly. To remove the front louver panel simply pull the assembly down and out, the louver assembly is held in place with magnets. This gives complete access to the front of the condenser. Vacuum any dirt, lint, or dust from the finned condenser coil, compressor and other cooling system parts. If significant dirt is clogging the condenser fins *(take care not to bend any of the condenser fins as this will reduce performance and compressor life)*, use a soft brush or compressed air to blow this clear. Replace panel, plug in unit, and turn back on.

Stainless steel cleaning guide

Stainless steel should be cleaned with warm water, mild soap and a soft cloth. Apply with a damp cloth and wipe in the direction of the metal grain. A stainless steel polish may be used to renew and protect the finish.

Do not use gritty or abrasive cleaners as they may tend to mark and scratch the surface.

Do NOT use cleansers containing chlorine, this may promote corrosion of the stainless steel.

Check the ingredients of any cleaning solutions or disinfectants used as they may contain chlorinated solvents which may cause a chemical reaction with the stainless steel. This could damage the surface and cause rusting.

Care should also be taken to avoid splashing the unit with water containing chlorinated cleansers when mopping the floor around the unit.

For stubborn odors, use baking soda and water (Ratio: 1 TBSP soda to 1 pint water). Unit must be cleaned with warm water to remove any baking soda residue.

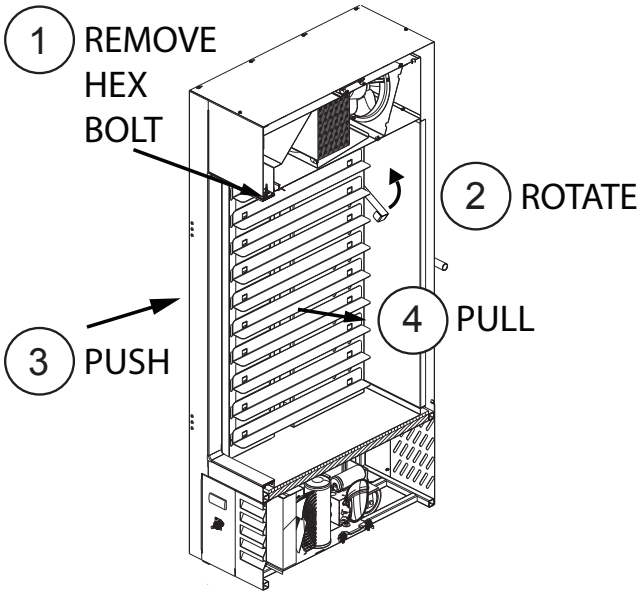
Interior cleaning

For routine cleaning, it is not necessary to remove the interior side panels (left and right side). These panels are critical to the performance of the air curtain.
Door gaskets may be cleaned with baking soda. The door gasket is removable for cleaning when necessary.

Side panels should be removed to clean any major spills that flow behind the panels.

Removing the side panels.

Make sure all sheet pans are out of the unit. Remove the 5/16” hex bolt in the top air deflector, then remove the top air deflector. Then reach into the unit and rotate the panel lock bracket 90 degrees from the wall. You can now push the side panel back and pull away from the wall.



Routine visual check

Inspect door gaskets. They should “snap”against door jamb before closure is complete. Visually check that the gaskets are sealed in their retainers and inspect for wear and tear. Replace if gaskets are torn or broken.

Inspect bumpers for damage or wear.
Inspect cord for damage or wear.
Remove any debris such as mop strings, hair and hair nets from casters and replace when tread is 1/4” thick or less.

Reverse door direction

The AC10 has a universal door that the orientation can be changed in the field with alternate hinges (Right 11669, Left 11670).
1) Ensure the unit is empty and unplugged.
2) Lift the door off the hinges.
3) Move the universal hinge covers from one side to the other.
4) Remove the hinges from the door.
5) Bolt the new hinges on the door.
6) Switch locations of the magnet and bolts on the inside of the door.
7) Lift the door back onto the unit.

VIII. TROUBLESHOOTING

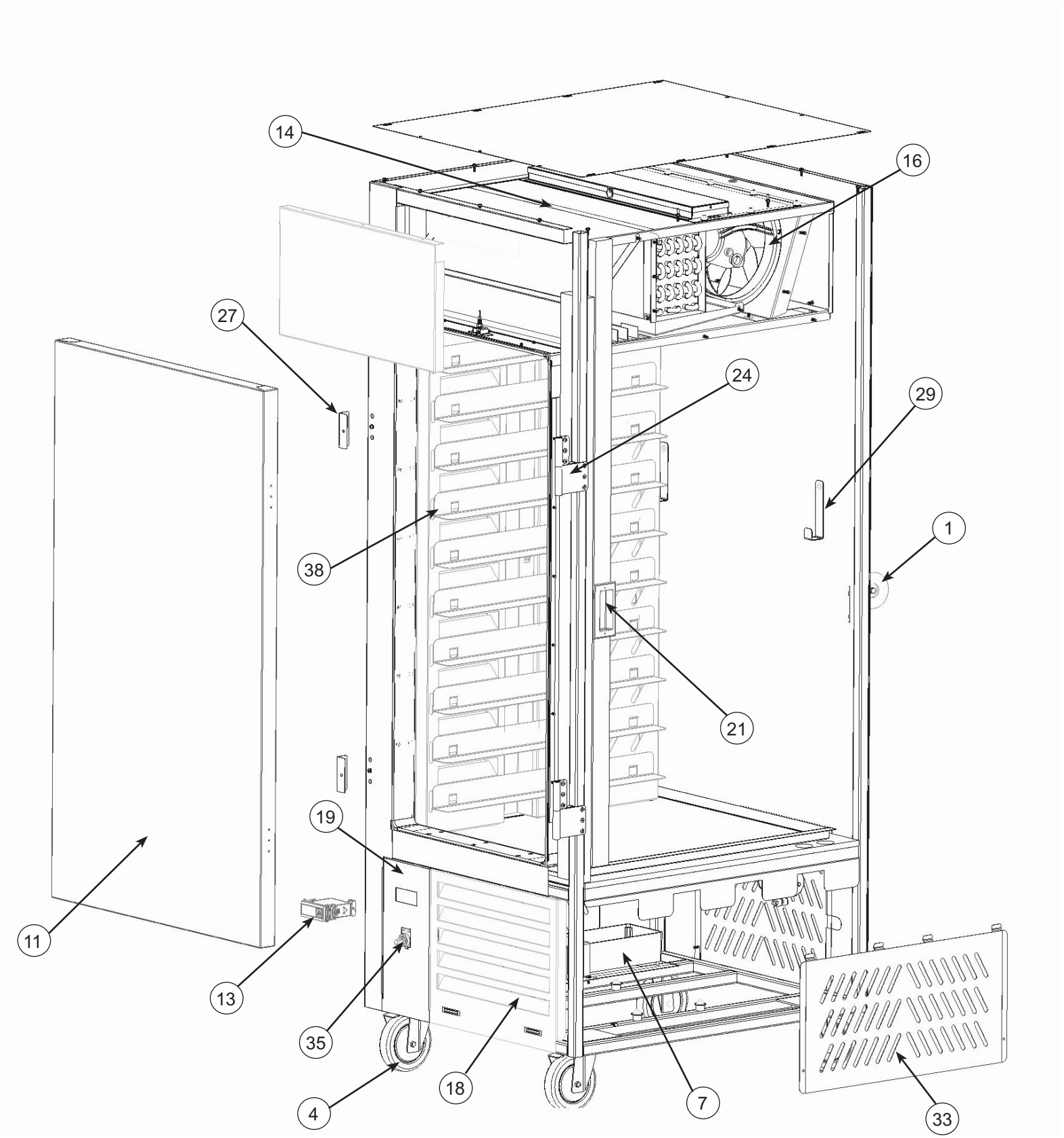
Problem	Cause / Solution
1) Cabinet air temperature too high	1) Set point may be too high - check the set point 2) Inadequate air circulation - rearrange product load to improve air circulation and flow. Keep empty pans in position. 3) Unit may need to be manually defrosted 4) Unit may be in defrost cycle, see display. Close door and wait 20 minutes for defrost cycle to finish. 5) Clean the condenser 6) Damaged door gasket
2) Condensing unit fails to start - no hum	1) Line disconnected - reconnect 2) Overload protection - determine reason & correct, replace if necessary 3) Unit may need to be defrosted or has tripped off due to overload. Wait 30 minutes, unit will self-reset.
3) Condensing unit fails to start - hum but trips on overload protector	1) Improperly wired - check wiring against diagram 2) Low voltage - determine reason & correct 3) Starting capacitor defective - determine reason & replace 4) Relay not closing - determine reason & correct, replace if necessary 5) Compressor motor has winding open or shorted - replace compressor 6) Internal mechanical trouble in compressor - replace compressor 7) Unit may need to be defrosted or has tripped off due to overload. Wait 30 minutes unit will self-reset
4) Condensing unit starts, but fails to switch off or “start” winding	1) Improperly wired - check wiring against diagram 2) Low voltage - determine reason & correct 3) Relay failing to open - determine reason & correct, replace if necessary 4) Run capacitor defective - determine reason & replace 5) Excessively high discharge pressure - check discharge shut off valve, or insufficient cooling on condenser - replace 6) Compressor motor has winding open or shorted - replace compressor 7) Internal mechanical trouble in compressor - replace compressor
5) Condensing unit start and runs , but short cycles on overload protector	1) Additional current passing through overload protector - check wiring diagram. Check for added fan motors, pumps, etc., Connected to wrong side of protector 2) Low voltage to unit (or unbalanced if three phase) - determine reason & correct 3) Overload protector defective - check current - replace protector 4) Excessive discharge pressure - check ventilation, restrictions in cooling medium, restrictions in refrigeration system 5) Compressor too hot (return gas) - check refrigerant charge (fix leak) if necessary 6) Compressor motor has winding shorted - replace compressor
6) Condensing unit runs but short cycles on	1) Overload protection - see #3 reference 2) Thermostat - differential set too close 3) High pressure “cut-out” due to: a) Insufficient air - check air supply to condenser and correct b) Overcharge - reduce refrigerant charge c) Air in system - purge

Problem	Cause / Solution
7) Condensing unit operates for prolonged time	1) Shortage of refrigerant -fix leak, add charge 2) Control contacts stuck or frozen closed - clean contacts or replace control 3) Excessive heat load placed into cabinet - allow unit sufficient time for removal of latent heat 4) Prolonged or too frequent door openings - plan or organize schedule to correct condition 5) Evaporator coil iced - defrost 6) Restriction in refrigeration system - determine locations & remove 7) Dirty condenser - clean condenser 8) Filter dirty - clean or replace 9) Unit may need to be defrosted 10) Damaged door gasket
8) Start capacitor open, shorted or blown	1) Relay contacts not opening properly - clean contacts or replace relay, if necessary 2) Prolonged operation on start cycle due to: a) Low voltage to unit - determine reason & correct b) Improper relay - replace c) Starting load too high 3) Excessive short cycling (see # 5) and correct 4) Improper capacitor - determine correct size
9) Relay defective or burned out	1) Incorrect relay - check & replace 2) Incorrect mounting angle - remount relay in correct position 3) Line voltage too high or too low - determine reason & correct 4) Excessive short cycling - determine reason (see # 5) & correct 5) Relay being influenced by loose vibration mounting - remount rigidly
10) Suction line frosted or sweating	1) Overcharge of refrigerant - correct charge 2) Evaporator fan not running - determine reason & correct
11) Liquid line frosted or sweating	1) Restriction in dehydrator or mounting - find & tighten 2) Liquid shut off (king valve) partially closed - open valve fully
12) Noisy condensing unit	1) Loose parts or mounting - find & tighten 2) Tubing rattle - reform to free contact 3) Bent fan blade causing vibration - replace blade 4) Fan motor bearing worn - replace motor
13) Error messages	1) Sensor failure 2) Under temperature 3) Over temperature 4) Door switch

IX. PARTS

#	Qty	PN	Description
1	2	97202	bumper, donut
2*	2	28305	bumper bolt 1/4”-20 x 3/4” SS HEX
3*	2	28331	bumper lock washer 1/4” SS
4a	2	92516	caster 5” swivel with brake
4b	2	97223	caster 5” swivel NO brake
5*	16	29253	caster flat washer 5/16” SS
6*	16	39684	caster nyloc nut 5/16-18 SS
7	1	97239	condensate pan
8*	1	11229	condensing unit
9*	1	12108	cord assembly
10*	1	97210	defrost heating element
11a	1	12441	door stainless universal
11b	1	13595	door glass universal (w handle)
12*	6	12050	door to hinge bolt 10-32 x 1/2” SS pan
13	1	13649	controller (programmed)
14	1	12422	evaporator
15*	1	97211	expansion valve
16	2	97203	fan 8” ring
17*	1	97217	filter/dryer
18	1	12433	front panel louvered
19	1	12434	front panel controller
20a*	1	13202	gasket door - stainless
20b*	1	13635	gasket door - glass
21	2	97200	grips, side, recessed
22*	2	12045	magnet catch
23*	1	11212	handle push assembly (bracket, rod, bumpers)
24a	2	11669	hinge right hand door (stainless door)
24b*	2	11670	hinge left hand door (stainless door)
24c*	2	13597	hinge right hand door (glass door)
24d*	2	13614	hinge left hand door (glass door)
25*	6	12050	hinge to front bolt 10-32 x 1/2” SS pan

#	Qty	PN	Description
26*	6	12052	hinge to side bolt 10-32 x 1/2: SS flat head
27	2	12850	hinge cover
28*	2	12050	hinge cover bolt 10-32 x 1/2” SS pan
29	2	11387	plenum bracket
30*	1	11660	rear panel
31*	1	97216	relay compressor
33	2	98272	side panel louvered
35	1	12082	switch on/off
36*	1	12624	thermocouple
37*	1	98096	thermostat high limit
38	20	97199	tray slide (each)
39*	1	12108	plug assembly 5-20P
40*	1	13058	twist lock plug assembly L5-20P
41*	1	21043	switch (glass door)
42*	1	99594	handle (only) glass door
43*	2	11140	handle bolt 10-24x7/8” (glass door)
*item NOT shown			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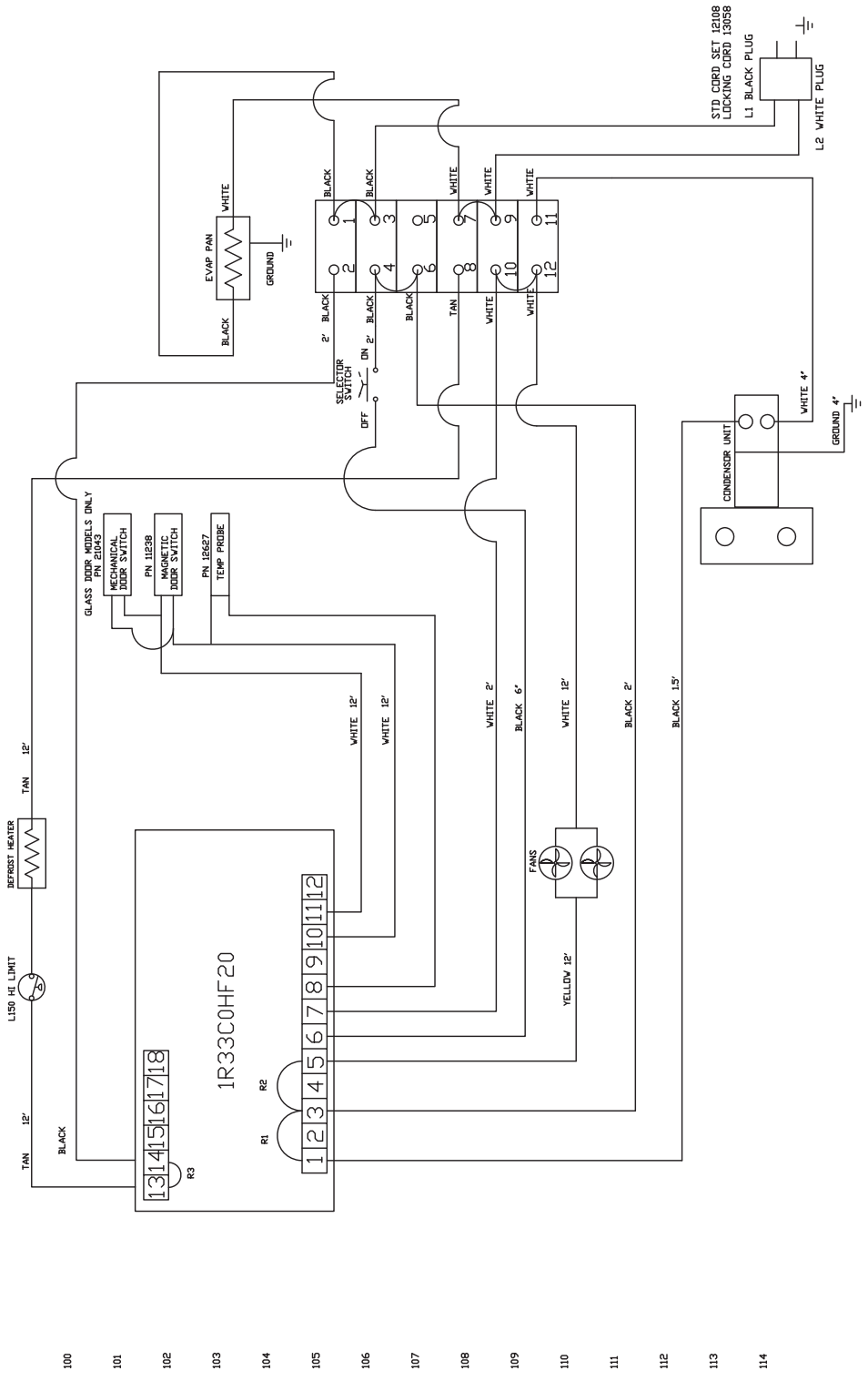
X. WIRING DIAGRAM



XI. WARRANTY & LIABILITY

ALADDIN TEMP-RITE®
EQUIPMENT
LIMITED WARRANTY

Effective July, 2015

Aladdin Temp-Rite® ("ATR") warrants to the original purchaser that the equipment listed below shall be free from defects in material and workmanship under normal use for the applicable warranty term set forth below. ATR's obligation under this warranty is limited to the repair or replacement, at the sole option of ATR, of any part which upon inspection and examination by ATR or its authorized agent is found to be defective. A written description detailing the nature of the claimed defect, together with the equipment claimed to be defective if required by ATR, must be delivered to ATR or its authorized agent within 30 days of discovery of the claimed defect (but in no event later than 30 days after the expiration of the applicable warranty term).

EQUIPMENT	WARRANTY TERM		COMPRESSOR WARRANTY TERM* PARTS ONLY**
	PARTS	LABOR	
AC10SL, AC10SR AC10SL-LP, AC10SR-LP	One year	One year	Five years

*The warranty term commences 30 days after the date of ATR's invoice for the equipment.

**The compressor warranty covers the compressor only and does not include any shipping charges, other transportation costs, any external parts or electrical components, labor, refrigerants and taxes.

THE WARRANTIES AND REPRESENTATIONS OF ATR CONTAINED HEREIN ARE EXPRESSLY IN LIEU OF, AND THE BUYER WAIVES, ANY AND ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ANY OTHER REMEDIES AGAINST ATR, WHETHER BASED UPON CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE. ATR SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES OR ECONOMIC LOSS OF ANY NATURE (INCLUDING WITHOUT LIMITATION LOSS OF REVENUES AND/OR PROFITS) THAT MAY BE CLAIMED TO RESULT FROM ANY NEGLIGENCE OR BREACH OF WARRANTY OR CONTRACT BY ATR.

Exceptions and Exclusions

This warranty is issued only to the original purchaser, and is not transferable and applies only to the products installed within the United States of America, its territories and Canada. During the term of any labor warranty, ATR will pay all pre-approved shipping charges incurred in returning defective equipment to ATR and labor costs incurred in the removal and reinstallation of such equipment. Contact ATR before returning any defective equipment or otherwise performing any warranty repairs. ATR assumes no liability for any work or repair performed without its prior approval. After the expiration of any labor warranty, the original purchaser is responsible for all shipping charges incurred in returning defective equipment to ATR and labor for removing and reinstalling such equipment. ATR shall not be responsible for the replacement of expendable items like lamps and fuses or product failure resulting from normal wear and tear, improper installation, misuse, sabotage, abuse, neglect, accident, unauthorized alterations to repair, or other factors beyond the control of ATR. Neither this warranty, nor the liability of ATR may be modified or extended by action of any agent, distributor or other person or by custom or practice.

CALL ATR TOLL FREE AT 1-800-888-5426 IF YOU HAVE ANY QUESTIONS ABOUT THIS WARRANTY OR YOUR ATR PRODUCT.

Aladdin Temp-Rite®

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