



# Arctic Griddle AG-3000

## User Manual

v1.1

September 3, 2020



# Table of Contents

PLEASE READ FIRST .....	3
Safety Warnings .....	4
Warranty .....	6
Shipping Notice .....	8
Specifications .....	9
Unpacking the Unit .....	10
Installation .....	11
Front Panel.....	13
Back Panel.....	15
Airflow Clearance, Layout, and Fans.....	16
Temperature Regulation and Sensing.....	17
Fuse Replacement.....	18
Condenser/Fan Cleaning.....	19
Error and Alert Messages.....	22
Electrical Block Diagram.....	24
Refrigeration Block Diagram .....	25
Troubleshooting Guide .....	26
Document Revisions.....	28

## PLEASE READ FIRST

If you read nothing else in the user manual, please read the following critical information regarding the use and maintenance of your AG-3000 unit.



When you receive your AG-3000, wait a minimum 6 hours before plugging in and running your unit for the first time. If your unit is shipped in any position other than right side up, oil and liquid refrigerant can migrate from where it should be to locations within the unit that can cause damage upon startup. Leaving your unit in the upright position for several hours will allow most of this to correct itself.



While the unit is a fraction of the size of other units on the market, we still recommend that the unit be lifted and transported by two individuals. This not only protects the unit from being dropped but will also save your back.



The unit must be plugged into a Ground Fault Circuit Interrupter (GFCI) protected outlet for the safety of the AG-3000 operators and your customers. Operating without a GFCI can present a shock hazard to anyone who touches the machine in the event of a malfunction.



The most important thing you can do to keep your Arctic Griddle running for a long time is to keep your unit's condenser coils very clean. If the coil unit is dirty the high temperature refrigerant coming from the compressor cannot be properly cooled. This causes the compressor to run hot which significantly shortens its lifespan. The Arctic Griddle was designed to easily facilitate the cleaning of the condenser coils so please take advantage of this. Obvious failure to keep the coils clean will void your warranty. Please see the condenser cleaning guidelines within this user manual for details.

## Safety Warnings



As stated previously, the unit must be plugged into a GFCI protected outlet for the safety of the AG-3000 operators and your customers. Operating without a GFCI can present a shock hazard to anyone who touches the machine in the event of a malfunction. If the unit trips the GFCI, unplug the unit and inspect it inside and out for signs for damage. If the unit trips the GFCI randomly but shows no sign of damage, the GFCI may be sensitive and need to be replaced.



Always unplug the power cord when moving or performing maintenance on the unit. Ensure that the unit is disconnected before removing any of the external cover panels.



Do not operate your machine if the power cord is damaged or pulled out from the machine in any manner. A cable gland is in place and fully tightened to prevent the power cord from being pulled out. However, with enough force this can still be overcome. Do not undo the cable gland under any circumstances. Should the cable be pulled from the machine it is likely that the cable conductors could contact the machine frame and cause a shock hazard.



The internal fuse inside of the unit should not blow under normal operating conditions. In the event that a fuse does blow, first unplug the unit and inspect it inside and out for any signs of damage. If no sign of damage is present, replace the damaged fuse with one of the exact same rating. Do not replace with a higher current rated fuse which could pose a fire hazard. A slow blow fuse is required.



Since the height of the Arctic Griddle is just over 13 inches, it must be placed on a table or stand. The weight of the unit is 82 lbs. While this is much lighter than most of the units on the market, careful consideration must be given to where and how the Arctic Griddle is placed. It is up to the end user to ensure that the location selected for the machine can handle the weight and will be highly stable even under the somewhat heavy force required to roll ice cream.



Do not make physical alterations of any kind to the machine without prior consent from Arctic Griddle LLC. Doing so may present a safety hazard and will void your warranty.



The Arctic Griddle should only be lifted from the bottom of the unit using a two-person lift. Do not try to lift the unit from the top cover lip or from the sides. A single person lift, while possible, is not recommended as it can be hard on the back and is likely to result in the unit being tilted, causing oil and refrigerant to migrate to areas it does not belong within the refrigeration system.



The edges of the machine may be sharp. Use caution when cleaning the machine to not run your hands or fingers against the sharp edges. If the machine is opened for servicing, additional locations inside the machine may be sharp and should be approached with caution.

## Warranty

**STANDARD ONE YEAR MANUFACTURER WARRANTY:** The manufacturer warrants this product to be free from defects in workmanship and materials, under normal use and conditions, for a period of one (1) year for the original invoice date. Shipping and handling fees are to be paid for by the Company during the first year for any parts, and if necessary, a first replacement machine. If additional replacement machines are to be sent the shipping charges will be covered by the Customer. The manufacturer agrees, at its option during the warranty period, to repair any defect in material or workmanship or to furnish a repaired or refurbished product of equal value in exchange without charge (except for a return box and shipping supplies in the event the customer does not retain the original packaging). Such repair or replacement is subject to verification of the defect or malfunction. In the event that a replacement machine is sent to the customer, the damaged machine must be returned to Arctic Griddle LLC within 30 days of receipt of the replacement machine for the existing warranty to remain valid.

**WARRANTY LIMITATIONS** This warranty does not include:

- Any condition resulting from the extended use of the machine outside the stated operational temperature range stated within this document
- Any condition resulting from physical alterations to any part of the machine
- Any condition resulting from other than ordinary wear or any use for which the product was not intended, such as use in rental or contract trade
- Any condition resulting from incorrect or inadequate maintenance or care
- Damage resulting from misuse, abuse, negligence, or accidents
- Dissatisfaction due to buyer's remorse
- Damages incurred during transportation
- Damages incurred during assembly or maintenance

The Company makes no express warranty or condition whether written or oral and the company expressly disclaims all warranties and conditions not stated in this limited warranty. To the extent allowed by the local law of jurisdictions outside the United States, the Company disclaims all implied warranties or conditions, including any implied warranties of merchantability and fitness for a particular purpose. For all transactions occurring in the United States, any implied warranty of condition of merchantability, satisfactory quality, or fitness for a particular purpose is limited to the duration of the express warranty set forth above. Some states or countries do not allow a limitation on how long an implied warranty lasts or the

exclusion of limitation of incidental or consequential damages for consumer products. In such states or countries, some exclusions or limitations of this limited warranty may not apply to the Purchaser. For consumer transaction, the limited warranty terms contained in this statement, except to the extent lawfully permitted, do not exclude, restrict, or modify but are in addition to the mandatory statutory rights applicable to the sale of this Product to the Purchaser. Please retain invoices for a minimum of one year for warranty purposes.

CLAIM PROCEDURES: Claims for defective merchandise must be made within ONE year from invoice date. Claims for missing parts must be made within 60 calendar days after the merchandise is received.

- Any claim for defective merchandise returns must be packed in original packaging
- We reserve the right to specify that items be returned to the original warehouse for inspection or be inspected by our representative in the field
- Pictures are required to claim defective merchandise
- The damaged machine must be returned to Arctic Griddle LLC for your warranty to remain valid. If we provide a replacement machine and the damaged unit is not returned within 30 days of receiving the replacement, the existing warranty will be null and void.
- If the claim is justified, the item(s) or part(s) will be repaired or replaced or a credit will be issued. It is our policy to replace parts whenever possible this warranty gives you specific legal rights. You may have other rights, which vary from state to state.

## Shipping Notice

**PLEASE READ!!!:** When the unit is received or picked up from the freight shipper, please carefully inspect the box for any signs of damage. If the box does show signs, please take the time to open the box and look for damage on the unit. If there is damage to the unit and you sign the shipping paperwork, Arctic Griddle LLC may not be able to make a damage claim on the shipment. In which case, Arctic Griddle LLC will not cover the shipping costs to have the machine returned for repairs.

If some small signs of damage are witnessed on the machine at the time of receiving it from the shipper, please carefully document this on the shipping paperwork before signing. If significant damage is present, refuse to take the shipment and do not sign the paperwork. Contact Arctic Griddle LLC immediately. Please save the copies of the shipping paperwork in either case.



## Specifications

Minimum Recommended Pan Temperature <sup>2</sup> @ 74°F (23° C) Room Temperature	-25° C (short term operation) / -20° C (continuous operation)
Recommended Operating Temperature	65° F to 90° F
Default Airflow Direction <sup>3</sup>	Back to Front
Voltage	115 VAC / 60 Hz
Current (Running)	9 Amps Avg.
Inrush Current	90 Amps (4 cycles)
Power (-20° C Running Temp / Start Up )	900W / 1000W
Power Cord/Plug	NEMA-15 6ft long
Refrigerant	R404A (0.8 lbs.)
Noise Level (for standard fan set) <sup>2</sup>	65 dbA @ 1 meter from front of unit
Size	28.25" deep, 22.25" wide, 13.25" height
Weight	82 lbs.
Pan Size	19" x 19"
Pan Material/Thickness	304 Stainless Steel / 1.5 millimeters
Safety Standards (Certification NOT Complete) <sup>4</sup>	UL 621, CSA 120-13
Sanitation Standards (Certification NOT Complete) <sup>4</sup>	NSF 7
Warranty - (Parts/Labor/Shipping)	1 Year
Money Back Return Policy <sup>5</sup>	30 Days

<sup>1</sup> All specifications subject to change

<sup>2</sup> The specified operating temperatures are for the recommended standard fans.

<sup>3</sup> The recommended airflow is from the back of the unit to the front with 6-8 inches of clearance behind the unit. However, the airflow can be reversed if desired. Contact us for additional information.

<sup>4</sup> Unit has passed preliminary design review with ETL/Intertek but full certification is not complete.

<sup>5</sup> A full refund of the machine price will be provided. Shipping is not covered in the refund.

## Unpacking the Unit

Your new Arctic Griddle unit arrives in a double walled cardboard box and is packed with multiple foam inserts to protect the machine during shipping. Please do what you can to retain the box and foam inserts in their original condition so they can be used for return shipment should the machine need to be sent back for warranty repairs. If these are discarded or destroyed and the machine needs to be returned, the customer is responsible for any costs to send out a return box, as is stated in our warranty terms.

To properly remove the unit, start by cutting the taped seams on the top side of the box only. Once cut, unfold each flap and remove the foam inserts. On top of the unit will be a set of scrapers and a bag containing spare parts. Please retain this bag for troubleshooting and repairs when needed.

Removal of the unit from the box will require two people. It should only be done by lifting from under the bottom of the machine. A 1" lip around the base of the machine provides a convenient location to get a proper hold of the machine. (UNDER NO CIRCUMSTANCES SHOULD YOU TRY TO LIFT THE UNIT BY HOLDING ONTO THE TOP AS THIS MAY DAMAGE THE MACHINE)

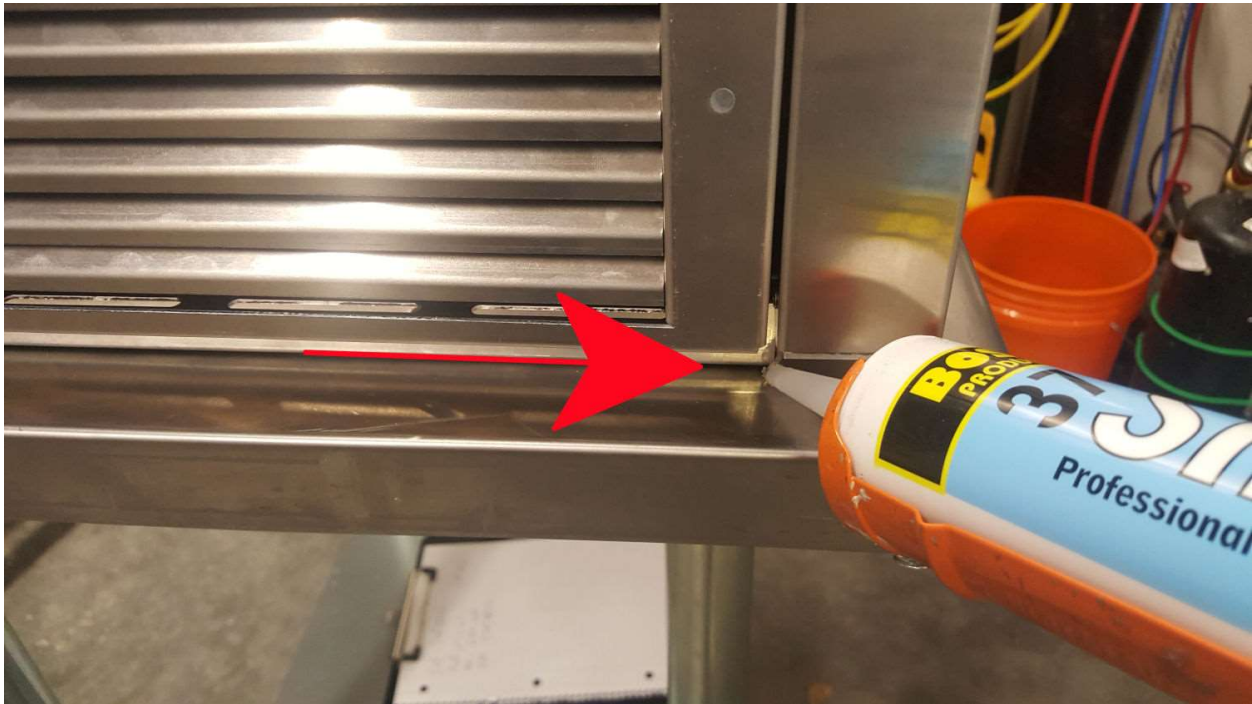


**Figure 1: Unpacking your Arctic Griddle unit**

## Installation

Because the Arctic Griddle AG-3000 weighs over 80 lbs., NSF guidelines require that the unit must either be mounted on 4" legs or mounted flush to the surface it is resting on and sealed around the edges using an NSF approved silicone sealant. Mounting the Arctic Griddle on legs is not practical since the rolling process will put a lateral force on the unit that will cause it to slide and possibly become unstable. Therefore, the only recommended solution is a flush mount install with edge sealing. This sealing is required to prevent any spilled material or vermin from entering the unit from underneath where it cannot be cleaned.

If you intend to use your machine for catering or plan on moving your unit frequently, this sealing requirement can be a problem. Keep in mind it is only required to meet the NSF guidelines, if this is not of immediate concern, it need not be done. But, if not sealed, we recommend frequent moving of the unit so that the area underneath can be properly sanitized.



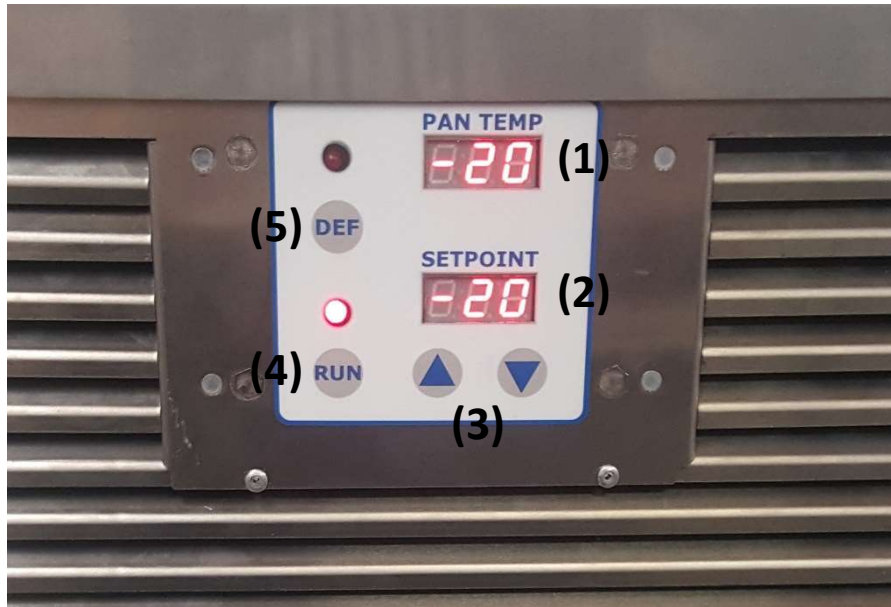
**Figure 2: Sealing your unit to the counter or table**

In order to prevent the Arctic Griddle from sliding on the table it is mounted to during the rolling process, thin neoprene strips can be attached to the bottom side of the unit. These strips, along with the weight of the unit, will prevent it from slipping on most table top surfaces. If slipping does still occur, there are two additional measures that can be taken. The first is to seal the unit to the table using NSF approved silicone, as is required to meet NSF guidelines. If, however, sealing the unit to the table is not desired, two bolts installed through the table top will provide a backstop.



**Figure 3:Optional table stops for your unit**

## Front Panel



**Figure 4: Arctic Griddle Front Control Panel**

- 1) Pan Temperature Display – Displays the measured current temperature in degrees Celsius. Also displays the pressure differential with Pxx (where xx is pressure) following a turn off of the pan and any error codes with Exx (where xx is the code). The pressure differential Pxx must be below 50 PSI before the machine can start. Once below 50 PSI, this will display the pan temperature as normal. When both up and down buttons are pressed this will also display the compressor discharge temperature for diagnostics.
- 2) Setpoint Temperature – Displays the current setpoint for the pan in degrees Celsius.
- 3) Up/Down Setpoint Buttons – Controls the current setpoint temperature. Pressing both the up and down button simultaneously will display the internal compressor discharge temperature on the pan temperature LED display.
- 4) Run Button and LED – Starts and stops the pan cooling. The LED will be on when running.
- 5) Defrost Button and LED – The front panel defrost button engages the two different defrost solenoids within the pan. A single press of the button will engage the low power defrost system for 10 seconds. This mode of defrost is recommended to be used right before rolling the ice cream as it provides an even release of the ice cream from the pan. The second mode of defrost is the higher power defrost. This mode is started by holding down the defrost button for approximately 3 seconds. This engages a different valve which injects hot gas from the compressor directly into the coils of the ice cream pan, warming the pan temperature. This defrost mode will stay on until the pan

temperature reaches 0° C. This method is recommended for raising the pan temperature quickly, primarily for cleaning purposes. (Please note the AG-3000 fast defrost mode is slower than other machines on the market. This is for a reason. Very fast temperature changes of the pan cause the different materials to expand and contract at different rates, which can damage the pan and cause hot spots.) For either defrost mode, it can be stopped early at any point by pressing the defrost button a second time.

## Back Panel

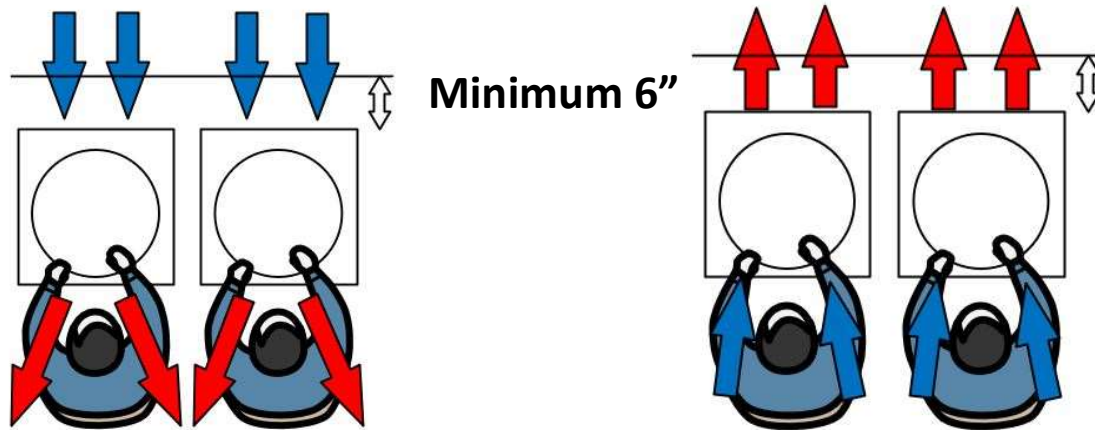


**Figure 5: Arctic Griddle Back Panel**

1) Power On/Off Switch – Turns power on and off to the unit. (YOU MUST STILL UNPLUG THE POWER CORD WHEN WORKING INSIDE THE UNIT)

2) Power Cord – Main power cord input. The user should not try to adjust or modify this in anyway. DO NOT PULL on the power cord. The cord grip should prevent the cable from being stressed under normal conditions but excess force on the cable should be avoided since it can damage the internal wiring and create a safety hazard.

## Airflow Clearance, Layout, and Fans



**Figure 6: Airflow Direction and Required Spacings**

Knowing and paying attention to the airflow of your pan is critical, especially if you plan to operate more than one unit in close proximity. The air flow of the Arctic Griddle can be either from the back to the front or from the front to the back. We recommend the unit be operated with the air flow from the back of the unit to the front, because when operated the other way the hot air tends to build up behind the machines and can cause the machine to overheat. A minimum of 6" of clearance behind the machine is required for proper operation.

For operating multiple units side by side, the airflow must be in the same direction for all units. This prevents the hot air exhaust from one unit feeding into the cool air intake side of another. If operating pans with different airflow directions, we recommend spacing these pans out by 2-3 ft.

The default fan configuration for the Arctic Griddle is recommended for most rolled ice cream applications. The selected fans provide an optimal amount of cooling capability while balancing fan noise. For other applications such as molecular gastronomy, biological testing, or electronic cooling a better choice of fans may be determined. Please contact us before purchasing if you plan to use the Arctic Griddle in applications other than rolled ice cream.



## Temperature Regulation and Sensing

Not all rolled ice cream machines sense and regulate temperature in the same way. Knowing how the Arctic Griddle handles these two issues is important for getting the most out of your machine.

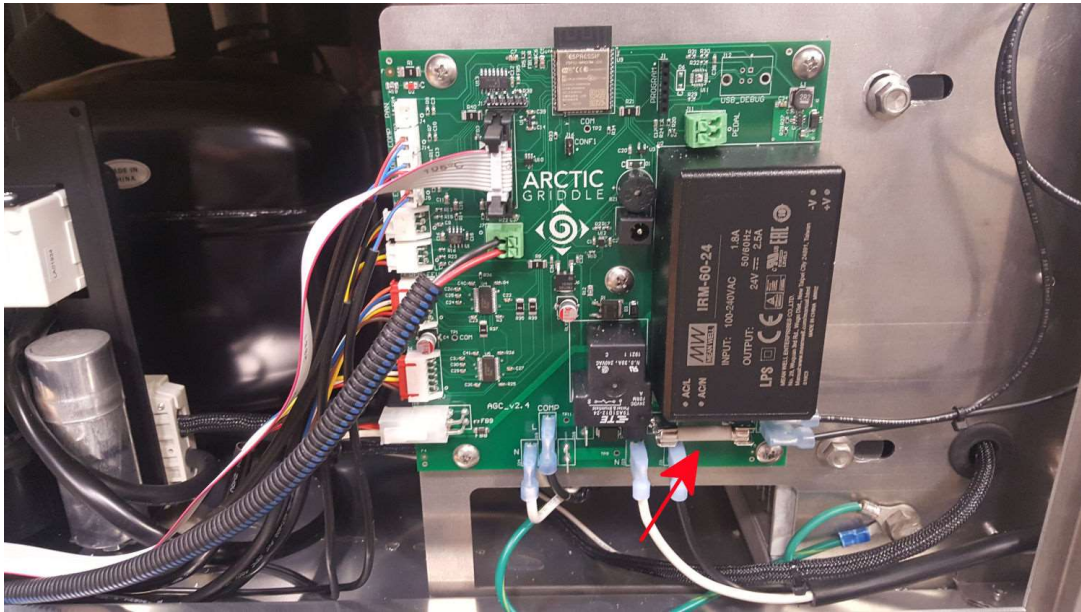
Temperature regulation in a rolled ice cream machine is handled in one of several ways. Either the compressor is shut off periodically in order to allow the temperature to rise or a solenoid is turned on allowing a portion of the refrigerant to bypass the pan coils, thereby reducing the total cooling capacity of the pan. The compressor turn on/off method is not recommended for several reasons, the most problematic is that the compressor is not designed for this and will greatly shorten its lifespan.

The AG-3000 uses the second approach. It uses an electronic expansion valve (EEV) to allow a small portion of the refrigerant to bypass the condenser, reducing the total amount of cooling provided by the machine. This valve can be adjusted very precisely and allows for a very consistent temperature control. A proportion – integral – derivative (PID) control loop is able to stabilize the pan temperature normally to within  $\pm 1.0^{\circ}\text{C}$  of the setpoint. In the event the setpoint is changed by several degrees it will take a few minutes for the control loop to stabilize at the new temperature, but the overshoot should not exceed  $1^{\circ}\text{C}$ .

How a rolled ice cream machine senses temperature during the ice cream making process is highly dependent on where the temperature sensors are placed within the system. Some machines place the temperature sensor directly on or next to the refrigeration coils. The benefit of this approach is it reads a very stable temperature regardless of what is placed on the pan. The primary downside is it doesn't tell you anything about the actual pan/ice cream temperature. It also provides less overall cooling because it will cycle on/off more often, even during the ice cream making process, which is what you don't want.

The AG-3000 uses a single temperature sensor placed at the output of the evaporator coils (i.e. the pan top). This temperature sensor measures the temperature of the coils at a point away from the influence of the actual ice cream temperature. This allows for more stable temperature control of the refrigeration system. This also has the added benefit that the sensor does not need to be potted in the pan top insulation. This means that if the sensor fails it can be easily replaced. Should this sensor fail on a Chinese machine it most likely cannot be repaired.

## Fuse Replacement



**Figure 7: Programmable/Adjustable Settings**

In the event the machine does not power on when plugged in and the power switch enabled, it is likely that the fuse has blown. To change the fuse the right side panel must be removed. (BEFORE REMOVING ANY PANEL MAKE SURE TO UNPLUG THE MACHINE FROM THE WALL POWER) To remove the right panel, unscrew the two screws at the bottom of the panel and pull the panel down and out. With the panel removed, the fuse should now be visible at the location shown in Figure 7. Before replacing the fuse, check the machine for any signs of visible damage as the fuse should not blow under normal operating conditions. If no signs of damage are present then you can replace the fuse. The fuse should only be changed out with the same rated fuse (1/4" x 1-1/4", 110 VAC or 240 VAC, 15 Amps, slow blow). Make sure to replace the side panel and screws before plugging the machine back in and testing. If the replacement fuse blows upon turning the machine back on do not attempt again. Contact Arctic Griddle LLC immediately. Arctic Griddle LLC provides spare fuses with the machine when shipped. Contact us for additional fuses if needed.

## Condenser/Fan Cleaning

Keeping the condenser coils clean is the most important thing you can do to keep your pan operating for a long time. If the condenser coils are dirty, the air flow through the unit will be severely restricted, preventing the system from getting the heat generated by the compressor out. This heat build-up causes the pan not to cool as efficiently and will lead to premature failure of the compressor over time.

In most rolled ice cream machines the condenser cannot be accessed for cleaning without a significant amount of effort in disassembling the unit. We designed the Arctic Griddle to make it easy to access the condenser coils for cleaning. We recommend cleaning the coils once a month when operating in a relatively clean environment. If operating in a dirty environment, such as a dusty outdoor festival, it should be cleaned more often.



Figure 8: Fan cover panel screw removal

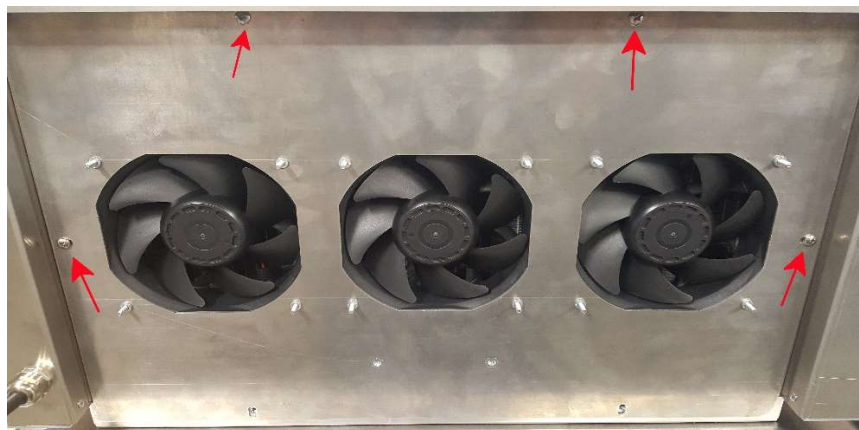


Figure 9: Fan assembly panel screw removal

The following steps should be followed to clean the outer side of the condenser coils:

- 1) **(CAUTION)** Unplug the power cord from the outlet
- 2) Place the unit so there is room to drop the back panel flat
- 3) Remove the 2 screws holding the fan cover panel in (see Figure 8) and pull the panel down and out
- 4) Remove the 4 screws holding the fan assembly to the machine (see Figure 9) and drop the panel down flat
- 5) Remove the power cord attached to the fan panel (see Figure 10) and set the fan assembly aside for now
- 6) Clean the surface of the condenser coils with a damp rag (do not press hard enough to damage the aluminum fins of the coils)
- 7) Blow through the condenser with compressed air to blow out any small dust trapped in the condenser
- 8) Clean the fan blades and fan grates
- 9) Reconnect the power cable to the fan assembly and reinstall the 4 screws holding the fan assembly to the machine (Make sure the two bottom hole openings are lined up properly so the fan cover can be reinstalled)
- 10) Reinstall the fan cover panel

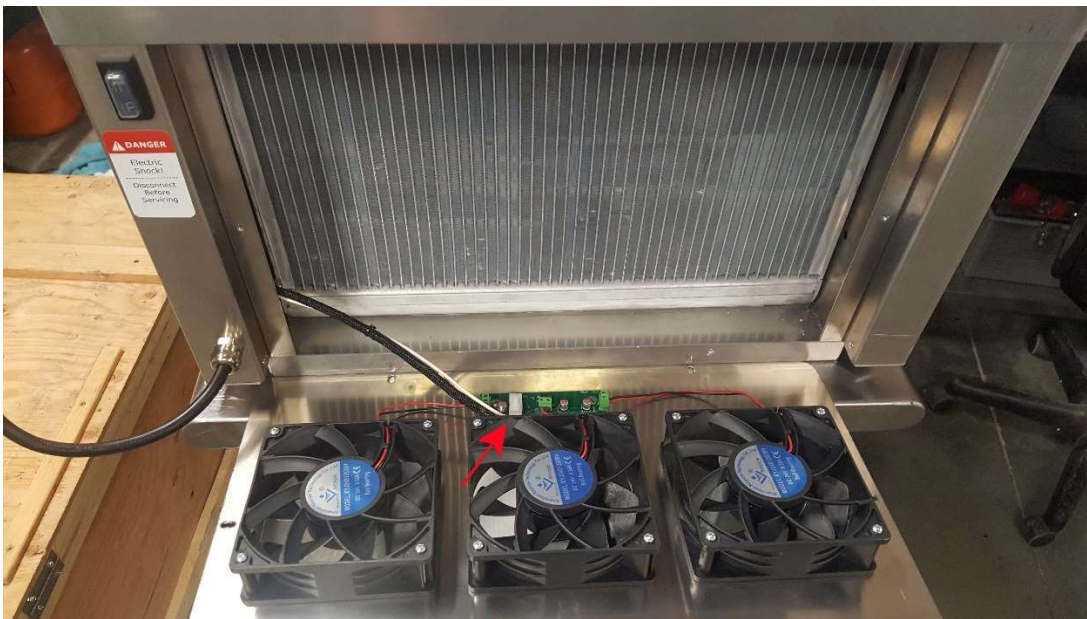


Figure 10: Fan panel removal

The inside side of the condenser coils must also be cleaned. Follow the steps below to clean the inner side of the condenser coils:

- 1) **(CAUTION)** Unplug the power cord from the outlet
- 2) Place the unit so there is room to drop the left panel flat
- 3) Remove the 2 screws holding the left panel in at the bottom edge (see Figure 11)
- 4) Pull the panel down and out
- 5) Clean the surface of the condenser coils with a damp rag or brush (do not press hard enough to damage the aluminum fins of the coils)
- 6) Reinstall the left panel and 2 screws



**Figure 11: Left panel removal for condenser cleaning**

## Error and Alert Messages

Error and alert messages are displayed in the pan temp LED window of the front panel controller. Errors shutdown the unit and prevent it from operating. Alerts are cautionary in that they will send a beep and display on the LED panel but will not stop operation. Alerts should be paid attention to as they will likely lead to errors if not addressed.

When the pan is first powered on, or immediately following turning off the cooling system, the pan temp display may read a Pxx value, where (xx) is the internal pressure differential in PSI, if the value is greater than 50. This is the maximum pressure differential that is safe to start the compressor. This value will come down as the pressures equalize while the compressor is not running. This is not an error message, rather this is a safety feature of the unit to protect it from rapid cycling of the compressor.

The unit must be power cycled to reset any errors. However, this should only be done after resolving the problem. The alerts will not shutdown the unit but is a warning that something in the system is no longer working as designed.

The current error messages are:

<b>Display Error</b>	<b>Possible Problem</b>	<b>Solution</b>
<b>E1</b> The high-pressure safety switch has tripped.	Lack of airflow	Clean the coils as shown in this manual and ensure at least 6" of airflow clearance between the front and back of unit
	High ambient temperature	The unit is not designed for continuous outdoor use past 90 degrees F.
	Dead fan	Remove the back panel and ensure all three fans are operational
	Restriction in refrigeration lines	Contact Arctic Griddle LLC
<b>E2</b> High compressor output temperature	Lack of airflow	Clean the coils as shown in this manual and ensure at least 6" of airflow clearance between the front and back of unit
	High ambient temperature	The unit is not designed for continuous outdoor use past 90 degrees F. (or contact us for larger fans)
	Dead fan	Remove the back panel and ensure all three fans are operational

	Loss of refrigerant	Contact Arctic Griddle LLC
--	---------------------	----------------------------

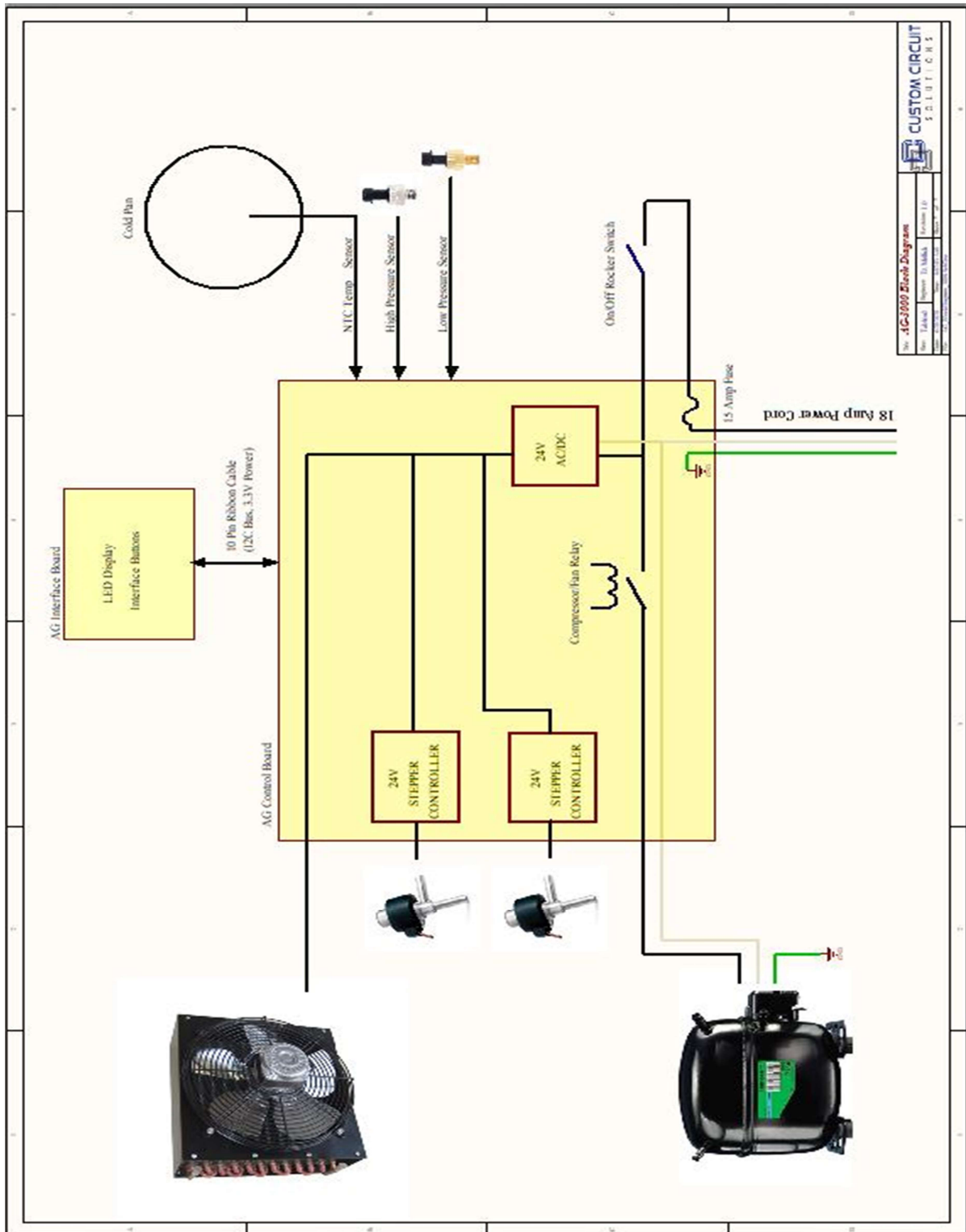
Alerts are notified by sending an audible beep while running and by the display of one of three LED dots on the pan temperature display.

**Low Pressure Alert** – This alert notifies the user that the low-pressure switch has been tripped. One possible cause of this is the system operating for too long with too low of an operating setpoint. Raise the setpoint temperature to above -25 deg C and see if the problem resolves itself after a power cycle of the unit. Other possible causes of this are a restriction in the refrigeration lines and the loss of refrigerant. If either of these are suspected please contact Arctic Griddle LLC.

**High Compressor Discharge Temperature** – This alert is triggered at a compressor discharge temperature of 88 degrees C. This is a warning that the system is beginning to overheat from its optimal operating temperature. The unit will flag an error and shutdown once it reaches 95 deg C. Read our troubleshooting guide below to resolve the problem. If none of the solutions apply, your unit may need higher power fans for your specific application.

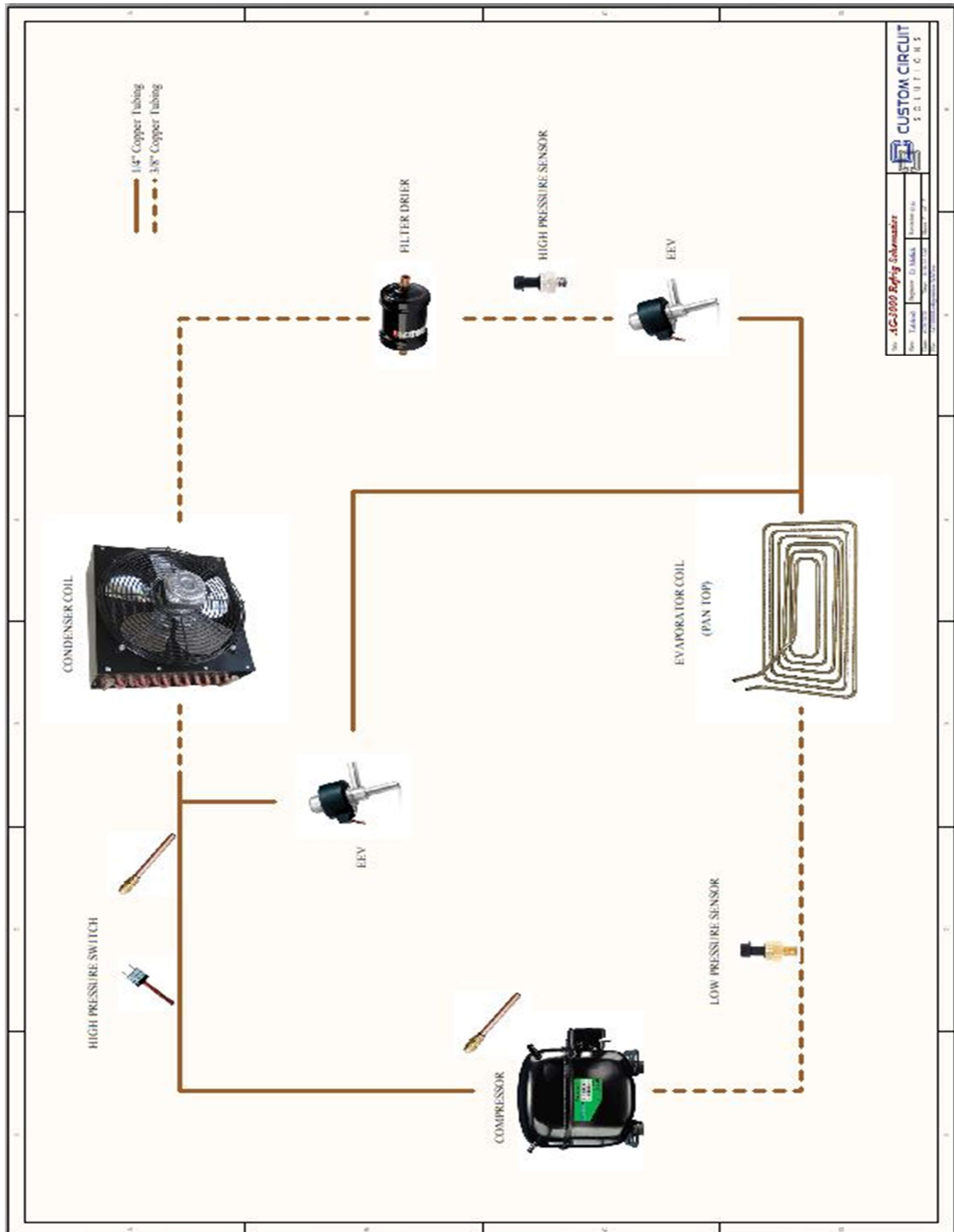
Alert	Possible Problem	Solution
<b>Low Pressure</b>	Pan setpoint too low for too long	Raise the temperature of the pan to at least -25 degrees C.
	Restriction in refrigeration lines	Contact Arctic Griddle LLC
	Loss of refrigeration	Contact Arctic Griddle LLC
<b>High Temp Warning</b>	Lack of airflow	Clean the coils as shown in this manual and ensure at least 6" of airflow clearance between the front and back of unit
	High ambient temperature	The unit is not designed for continuous outdoor use past 90 degrees F.

# Electrical Block Diagram





# Refrigeration Block Diagram



## Troubleshooting Guide

Symptom	Possible Problem	Solution
Unit runs but fails to reach the setpoint	Dirty condenser coils	Clean the coils as shown in this manual
	Poor airflow around the unit	Provide adequate spacing in front and behind the unit for proper airflow
	Excessive airflow across pan surface	Shield the pan from any airflow across the pan which can turn the unit into an air conditioner
	Direct sunlight	Block any direct sunlight hitting the pan surface. The unit cannot operate properly with the additional thermal load.
	Setpoint too low for conditions	The absolute minimum setpoint the unit can achieve depends on many environmental factors. A temp of -30C can be achieved under few conditions but -20C should be achieved under all. We recommend normal operation at -20C.
	Dead fan	Remove the back panel with the fans attached and start the unit to verify all three fans are operational. Only replace with same 24VDC fans.
Front panel display doesn't turn on when flipping the power switch	Fuse may have blown	The fuse should not blow under normal operation. With unit unplugged, check inside and out for signs of damage before replacing fuse and testing again. Only replace with same size fuse as factory installed.
	Ribbon cable may be disconnected	If the unit beeps when turning on but the front panel fails to light up, the ribbon cable may have become disconnected. This can happen if the unit is mishandled during transport. The retention clips on both ends of the cable are designed

		<p>to prevent this; however, the connectors can still come out enough to become disconnected. They can be snapped back into place.</p>
	<p>Circuit breaker may have tripped</p>	<p>The AG unit has a high in-rush current when the compressor turns on. Only one AG unit should be operated on a 15 Amp circuit. Two units can be operated on a 20 Amp circuit. If other devices are being powered from the same circuit it may be enough to trip the circuit breaker upon compressor startup.</p>
	<p>GFCI outlet may have tripped</p>	<p>Check for tripped GFCI outlet. If tripped, test the AG unit on a different GFCI circuit (not just different outlet on same GFCI circuit). If the machine trips the GFCI a second time immediately send the unit in for inspections. If the second GFCI doesn't trip replace the first GFCI unit.</p>

## Document Revisions

<b>Date</b>	<b>Revision</b>	<b>Changes</b>
6/20/2020	1.0	First public release
9/3/2020	1.1	Added shipping notice section