

# Gen III Adda

By Dairy Tech LLC



SIMPLER  
SMARTER  
STRONGER



#### **WARNING**

Read and fully understand owner's manual before using this machine. Failure to follow operating instructions could result in death or serious injury.



## **OWNER'S MANUAL**

**For All Gen3 Adda 10G, 30G & 60G**



# **User's Manual for Gen3 Adda 10G, 30G & 60G Pasteurizers**

---

© Dairy Tech, LLC  
PO Box 250  
Severance, CO 80546  
Phone 866.384.2697 • Fax 970.454.8898  
[www.DairyTechInc.com](http://www.DairyTechInc.com)  
Service@DairyTechLLC.com

# Table of Contents

|                                        |    |                                           |    |
|----------------------------------------|----|-------------------------------------------|----|
| Say “Hello” to Adda.....               | 1  | Adjusting Settings .....                  | 24 |
| For Your Safety.....                   | 1  | Important Settings:.....                  | 24 |
| Disclaimers .....                      | 2  | Owner’s Manual .....                      | 25 |
| Product Warranty .....                 | 3  | Contacting Support .....                  | 25 |
| Product Registration .....             | 3  | Pasteurizing and Warming Colostrum in     |    |
| Important Safety Instructions .....    | 4  | Perfect Udder® Bags .....                 | 26 |
| Installation.....                      | 5  | Using the BagGuard .....                  | 26 |
| Choosing and Preparing a Location..... | 5  | Quality Control and System Monitoring     |    |
| Unpacking .....                        | 5  | .....                                     | 27 |
| Mounting the Motor.....                | 5  | Helpful Hints for Pasteurization.....     | 27 |
| Mounting the Control Panel .....       | 7  | Energy and Time Saving Tips .....         | 28 |
| Mounting Adda 10G to the Platform..... | 8  | Troubleshooting Adda .....                | 29 |
| Lid Storage .....                      | 8  | No Power to the Control Panel: .....      | 29 |
| Connecting the Milk Spigot.....        | 9  | Adda Does Not Heat:.....                  | 30 |
| Connecting the Hoses .....             | 9  | 240 VAC is Getting to the Heating         |    |
| Cooling Tank Option .....              | 10 | Elements, but Still No Heat:.....         | 32 |
| Cleaning your Pasteurizer .....        | 11 | Adda Does Not Get to Temperature, but     |    |
| Water Quality .....                    | 12 | the Element is Hot or Heats Slowly: ..... | 32 |
| Electrical Requirements.....           | 13 | Cold water is coming into the system: ..  | 33 |
| International Installations:.....      | 13 | Water is Leaking from Under the Unit:..   | 33 |
| External Circuit Breakers .....        | 13 | Cooling Solenoid Valve Will Not Stop      |    |
| Internal Fusing .....                  | 14 | Running: .....                            | 34 |
| Filling and Emptying the Tank .....    | 15 | Adda Will Not Cool:.....                  | 34 |
| When Service is Required .....         | 15 | Colostrum is Separated or Congealed:..    | 34 |
| First Use of Adda .....                | 16 | Stir Motor is NOT Turning:.....           | 35 |
| Charging the Jacket with Water.....    | 16 | Stir Motor is Turning Slowly: .....       | 35 |
| Operating Adda.....                    | 17 | Application is non-responsive .....       | 35 |
| Understanding the Push-Button          |    | Error Symbols.....                        | 36 |
| Interface on the Control Box .....     | 17 | Adda Wiring Diagram .....                 | 39 |
| Light Sequence.....                    | 18 | Adda 10G/30G Wiring Options .....         | 40 |
| Using the Perfect Udder® App .....     | 19 | Adda 60G Wiring Options .....             | 41 |
| Perfect Udder® App Key Features: ..... | 19 | Adda Time and Temperature Defaults        | 42 |
| App Overview .....                     | 20 | Adda Function Diagram .....               | 42 |
| What’s on the Dashboard:.....          | 20 | Replacement Parts.....                    | 43 |
| Machine Information Screen .....       | 21 |                                           |    |
| Program Selection.....                 | 22 |                                           |    |
| Bottom Menu .....                      | 23 |                                           |    |
| Test Mode .....                        | 23 |                                           |    |
| Test Mode Functions:.....              | 23 |                                           |    |
| Machine History .....                  | 23 |                                           |    |

---

## Say “Hello” to Adda

*Every newborn calf represents an opportunity for you to improve your herd’s production and health. The most influential, cost-effective way to accomplish this is to ensure she receives the correct volume of high quality, pathogen-free colostrum within the first hour of her life.*

Thank you for purchasing the Gen3 Adda Pasteurizer and Warmer for colostrum and milk – SIMPLER • SMARTER • STRONGER. She is specifically engineered to maximize the efficiency of our Perfect Udder® bags and our proven pasteurization technology. Your satisfaction with this product is very important to us. This guide will help you understand how your Pasteurizer operates, and how to get the most benefit from it for you and your dairy operation.

### Did you know?

On-site visits are also available to investigate any problems more thoroughly you may be encountering with calf health. Additional charges may apply for on-farm consultations. Contact your Dairy Tech, LLC representative for more information.

## For Your Safety

### SAFETY SYMBOLS

-  CAUTION
-  HIGH VOLTAGE
-  HOT SURFACE
-  IMPORTANT

Safety Symbols are used to alert you to potential physical injury hazards. Obey all safety messages that follow these symbols.

If you are burned by the heating coil, hot water, steam or hot colostrum, contact a physician, or other medical personnel for expert advice, or go to an emergency treatment facility.

### **Please read this guide carefully and thoroughly before installing and operating the Pasteurizer.**

This unit contains HIGH VOLTAGE electricity that can cause serious harm or death. For your safety, the recommendations and information in this manual must be followed to minimize the risk of serious burn or electrocution, as well as to prevent property damage, personal injury, or death. These

## Disclaimers

THIS PASTEURIZER IS INTENDED TO BE USED IN THE MANNER DESCRIBED IN THIS USE AND CARE GUIDE. IT IS NOT INTENDED TO PASTEURIZE MILK OR OTHER GOODS FOR HUMAN CONSUMPTION.

Dairy Tech, LLC has provided this use and care guide to assist you in the assembly, installation, and maintenance of your Adda Model Pasteurizer (the "Pasteurizer"). Serious injury and even death to persons and livestock can occur from improper installation and use of the Pasteurizer. Serious property damage can result from improper installation and use of the Pasteurizer. We recommend professional installation by qualified plumbers and electricians familiar with such devices.

DAIRY TECH, LLC RECOMMENDS THAT INSTALLATION OF ANY ELECTRICAL, MECHANICAL, GAS OR PLUMBING DEVICES REQUIRED FOR THE INSTALLATION, OPERATION AND MAINTENANCE OF THE DAIRY TECH PASTEURIZERS BE DONE ONLY BY QUALIFIED INDIVIDUALS.

It is your responsibility, or the responsibility of the electrician, plumber or other qualified installation expert, to obtain all necessary permits and certifications required by your town, county, state or other jurisdiction before installation of the Pasteurizer. It is your responsibility to read and understand the operational requirements of the Pasteurizer before using it and to observe all safety precautions. It is also your responsibility to see that your personnel are properly trained to operate and maintain the Pasteurizer.

DAIRY TECH, LLC PROVIDES YOU WITH INSTRUCTIONS AND WARNINGS IN THIS USE AND CARE GUIDE, BUT WE ARE UNABLE TO COVER ALL POSSIBLE CONDITIONS AND SITUATIONS THAT MAY OCCUR IN YOUR DAIRY OPERATION. IT MUST BE UNDERSTOOD THAT COMMON SENSE, CAUTION AND CAREFULNESS ARE FACTORS WHICH CANNOT BE BUILT INTO THE PASTEURIZER. THESE FACTORS MUST BE SUPPLIED BY THE PERSON(S) INSTALLING, MAINTAINING OR OPERATING THE PASTEURIZER.

Under no circumstances is Dairy Tech, LLC, its directors, officers, shareholders or employees responsible for damage to property or injury to persons or livestock resulting from the improper installation or use of the Pasteurizer. Installation by an unqualified individual and improper use and improper maintenance may also void any equipment warranty that Dairy Tech, LLC offers.

This use and care guide is based on information and data considered to be accurate; however, no warranty is expressed or implied regarding the accuracy of the information or data herein or the results to be obtained from the use of this data or information.

If you believe the Pasteurizer is operating incorrectly, please refer to the trouble shooting guide included with these instructions before calling our service department. If you still have questions, contact your local representative or call 1-866-384-2697 and we will help you to address your needs.



## Product Warranty

This product is warranted to be free of manufacturing defects for up to 12 months from the date of purchase. All parts will be covered by a free replacement guarantee not including shipping or service. This warranty is intended for equipment in use under normal operating conditions and does not cover damages

incurred by improper use or unforeseen acts of nature. Determination of covered defects, damages or repairs is at the discretion of Dairy Tech, LLC.

To obtain warranty service, you must obtain a Return Material Authorization ("RMA"). RMA number can be requested from Dairy Tech, LLC by calling 1.866.384.2697.

You will need your product identification information, including model number and serial number (*if applicable*) and a detailed description of the problem you are experiencing. You must also include proof of the date of original purchase as evidence that the product is within the applicable warranty period.

After obtaining your RMA number, you must, within thirty (30) days, send the product to:

**Dairy Tech, LLC**  
**10027 CR 70**  
**Windsor, CO 80550**

or an Authorized Dairy Tech LLC Dealer.

You are responsible for the cost of insuring and shipping. Products shipped to our Service Department must be properly packaged to prevent damage in transit. The Dairy Tech RMA number must be prominently displayed on the outside of the package. If you send the product to the Service Department without RMA number prominently displayed on the outside of the package, it will be returned unopened.



Parts not returned will be charged to customer at retail pricing.

## Product Registration

If this product was purchased directly from Dairy Tech in Windsor, CO, it has already been registered and no further action is required. If the product was purchased through a distributor or other representative, please call Dairy Tech, LLC. at 866-384-2697 within 10 days of receipt to register the Pasteurizer.

Failure to do so may result in a decreased or voided warranty period for your unit. When calling, please have the serial number which can be found on the back side of the Pasteurizer.

You may also register on-line at [www.dairytechinc.com](http://www.dairytechinc.com) where you can "Contact Us", fill in your and then use the notes section to provide the product model, serial number, and type the word 'Register'.



**WARNING** To reduce the risk of electric shock, burns, serious injury or death to persons when using the Pasteurizer, follow these basic precautions.

## Important Safety Instructions

- Read all instructions before using Adda.
- Do not operate the Pasteurizer without ensuring that the water jacket is completely full of water. If water is not present, the heaters will become damaged beyond repair.
- Always disconnect the electrical power before attempting service. All power sources must be disconnected before the cover is removed for repair.
- Do not allow children to operate or play around the Adda. Close observation of children is necessary when the unit is used with children nearby.
- Do not reach into Adda when the power is ON, and the propeller is turning as this can cause serious harm.
- Hot surfaces include the water, baskets, motor, propeller, Perfect Udder® bags, electrical fixtures, hoses, heating elements, draining water and the colostrum. Touching these surfaces during operation may result in severe burns. Do not touch hot surfaces.
- This equipment is designed to operate in an ambient temperature range of 35°F - 104°F (2°C - 40°C), altitude up to 6560 ft (2000 m), maximum relative humidity 80% for temperatures up to 88°F (31°C) decreasing linearly to 50% RH at 104°F (40°C), for indoor use only.
- Do not change pasteurization temperature and dwell time without consulting a technical expert at Dairy Tech, LLC.
- Do not repair or replace any part of Adda or attempt any servicing unless specifically recommended in the trouble-shooting portion of this manual. Any modifications made to the unit beyond these instructions will void all warranties.
- Always clean the unit immediately after each use, according to the instructions in the "Cleaning of your Pasteurizer" section of this manual. Build-up of residue on the propeller or tank will decrease heating and cooling efficiency, as well as harbor potentially harmful pathogens.
- During the heating cycle, always make certain the lid is closed.
- Use Adda only for its intended purpose. DO NOT use for milk intended for human consumption as this product has not been approved for such use.
- Do not touch the motor, hoses, lid, handle, or brass fittings while the unit is hot and working.
- Do not attempt to tilt the machine while it is full. It is extremely heavy and can cause severe injury to the operator.
- To prevent severe burns to employees or calves, always allow Adda to complete the selected program before handling or feeding the colostrum/milk to your calves.
- Adda must be electrically grounded. DO NOT modify the plug that is provided with Adda. Always have a certified electrician confirm proper power supply and connections, or warranty can be voided.
- Adda must be installed on a level surface to evenly distribute weight to all the support structures.



**WARNING:** Install the unit according to the installation instructions. To reduce the risk of fire, electric shock, serious injury or death to persons, read the important safety instructions before operating this Pasteurizer.



Before using this unit for the first time, wash out the inside of the tank with hot soapy water and rinse clean.

**NOTE:** If you have an uneven floor or need to raise the height of your machine, you may purchase adjustable leveling feet.



## Installation

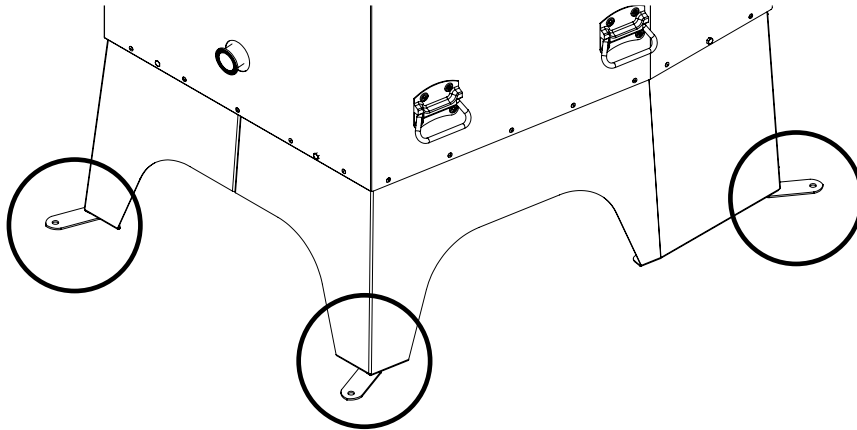
### Choosing and Preparing a Location

- Choose an indoor spot that will be protected from the elements. Extreme heat and freezing temperatures will damage the unit.
- Cold water is required for water supply and cooling.
- Floor drains located near the unit will allow for proper cleaning and rinsing of the product as well as to clean up colostrum spills.
- Avoiding extremely drafty areas will improve heating efficiency of the unit.
- Always have 2 people lift and carry the unit grasping with both hands on the sides of the unit. Never attempt to move the unit while it is full of water, milk or colostrum

### Unpacking

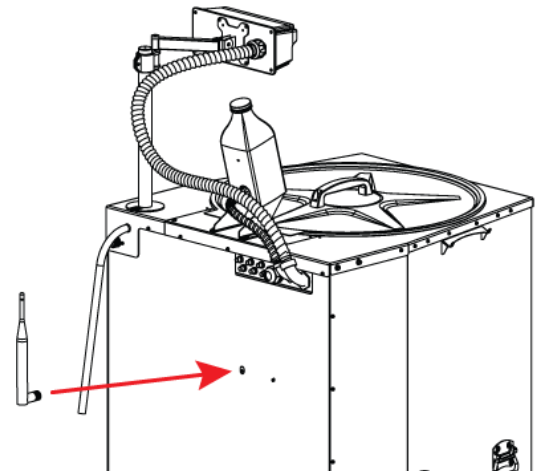
Use care when unpacking your Adda Model Pasteurizer. It will have arrived in one box or crate. Please make a note of any cautionary labels that are used on the carton suggesting orientation, where to cut with a knife, fragile, etc.

**Figure 1** Remove Screws to unpack, then remove bolts to remove tabs (60G ONLY)



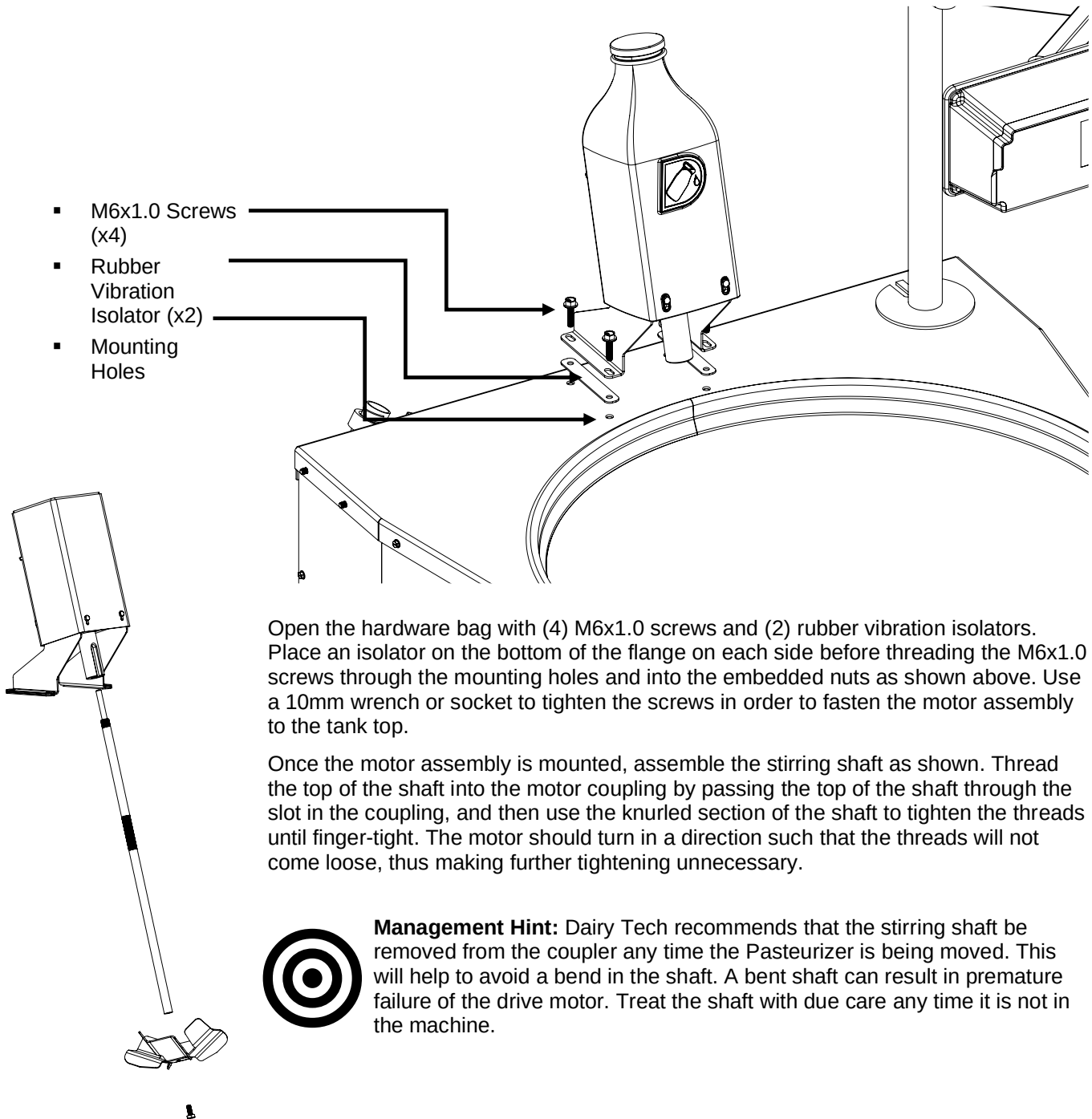
### Installing Bluetooth Antenna

Locate the included bluetooth antenna. Mount it to the post on the back of Matilda and position as shown.



## Mounting the Motor

When the Adda is shipped, the motor assembly is wrapped in foam and packed in the tank. The motor assembly will have all electrical terminations already connected, and it will have flexible conduit already attached to it. Remove the motor assembly from the tank and set it upright near the four mounting holes at top rear of the machine.



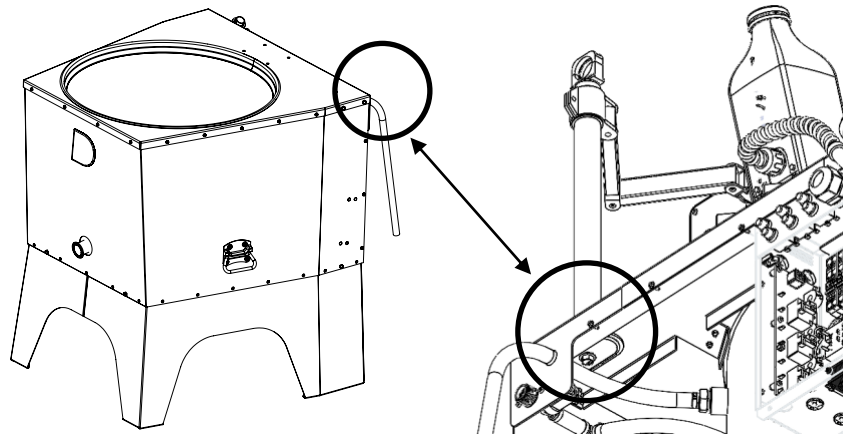
## Mounting the Control Panel

Adda is shipped with the control box/stand detached from the machine and packed inside the tank of the unit. In order to begin using the Pasteurizer, the control stand must be mounted. Gently remove the controller/stand from the tank. The control support consists of a hinged arm that is clamped onto a round vertical post that mounts to the Pasteurizer top panel.

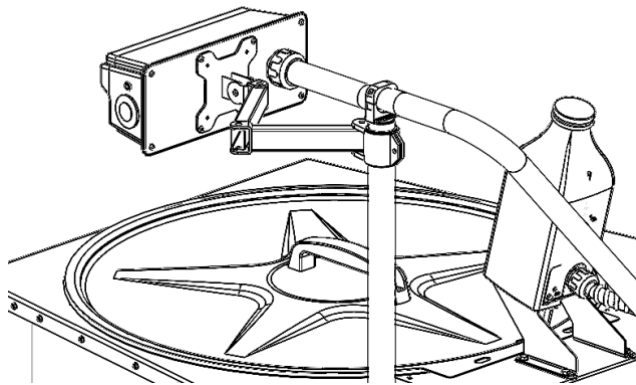
Remove the back panel and locate the necessary installation hardware found in a bag in the lower left-hand corner of the machine or under the machine. Panel removal also allows access for control support installation and any necessary wiring.

At the bottom of the post, there is a single bolt holding the oval-shaped bottom plate of the stand loosely onto the post. Unscrew the bolt and remove the bottom plate.

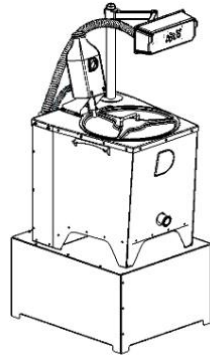
There is a single bolt hole on the case of the machine. Pass the bolt through the bottom plate, and through the hole in the case to screw into the bottom of the post. Tighten the bolt until the post is tight and does not wobble.



Once the control stand is mounted, place the cable conduit in the supplied conduit clip as shown in the image below.



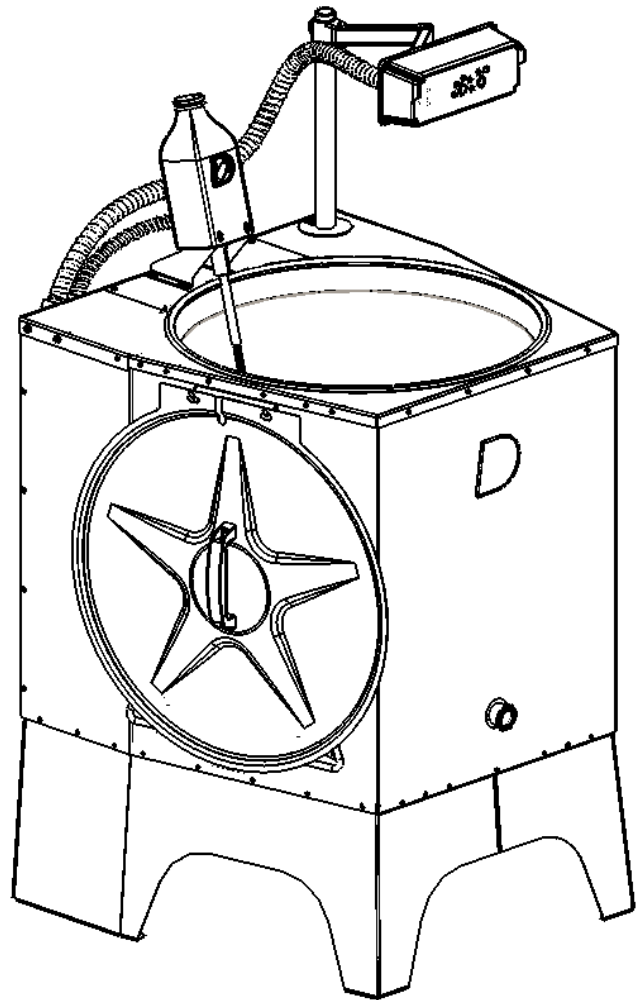
## Mounting Adda 10G to the Platform



The Adda 30G and Adda 60G each come with a fully assembled leg stand to support the machines. The Adda 10G ships inside of the base platform. Remove the machine first, then the platform, and turn upright. With an assistant, carefully lift the Pasteurizer out of the stainless steel box and set the Adda 10G to the side. Turn the box over and move it to the location where you wish to install the machine. Lift the Pasteurizer and place it on the box so that the sides and front line up with the mounting holes. You will find 4 bolts included in the packaging for the Adda 10G cabinet to the support box. *Refer to the illustration.*

## Lid Storage

The lid is packaged with the unit and can be hung from the two holes in the tab at the top of the lid. This provides a convenient place to store the lid while the unit is being cleaned or filled. *See illustration for proper lid storage.*



## Connecting the Milk Spigot

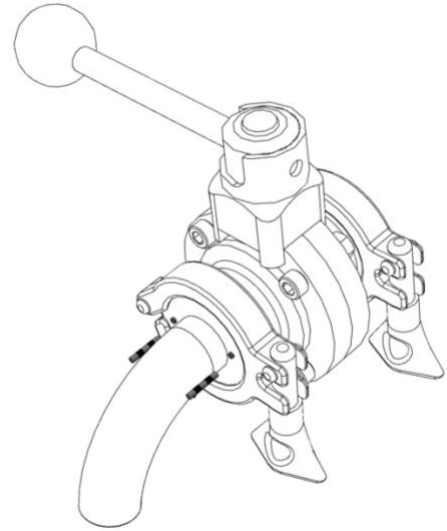
Adda Pasteurizers come supplied with the highest quality 304SS butterfly drain valve. These are installed on the front flange of the tank drain much the same as connections are made to a bulk tank flange using the clamps provided. Make certain to include the gasket between each fitting. These parts can then be easily removed for thorough cleaning in a sink.

Filling Perfect Udder® Bags from the tank is easy.

**BagFiller 1B:** Fill one bag at a time.

**BagFiller 6B:** Fill up to 6 bags at a time.

Visit [www.dairytechinc.com](http://www.dairytechinc.com) for more information.

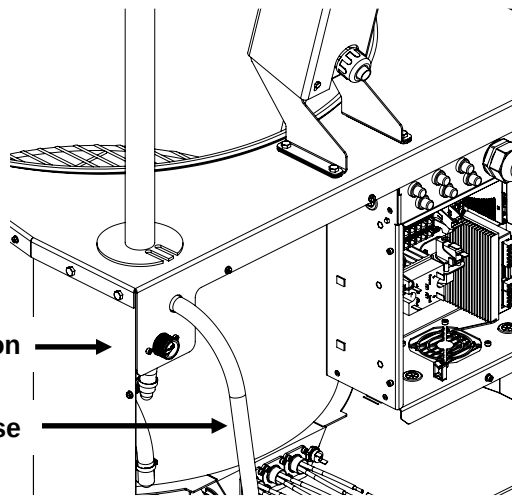


## Connecting the Hoses



**WARNING: It is important to keep water turned on anytime the Pasteurizer is in operation to prevent damage to the heating elements.**

**Cold Water Connection:** A 6' (1.8 m) black supply hose is supplied with the machine. This hose with factory ends supplies all the cold water to cool the product when pasteurization is finished. Connect to any normal domestic pressure cold water source, but it **MUST BE ON AT ALL TIMES DURING OPERATION**. Using the supplied hose, attach one end to the threaded solenoid valve on the back of the unit, with the other end going to a regular hose bib supply. **NOTE:** If water pressures exceed 80psi (5.5BAR), install a pressure reducer.



Cold Water Connection →

Drain Hose →

**Water Drain:** The drain hose is connected internally and must not be tampered with or obstructed in any way. It should be directed to a drain, cistern, stock tank or other collection system. Do not connect the drain hose to another hose or to any system that can create back-pressure. This will prevent proper water circulation. If you wish to salvage the wastewater, direct the drain line to a 5-gallon bucket and place an inexpensive sump pump in that bucket to send water where it needs to go. This prevents any back pressure to the unit.

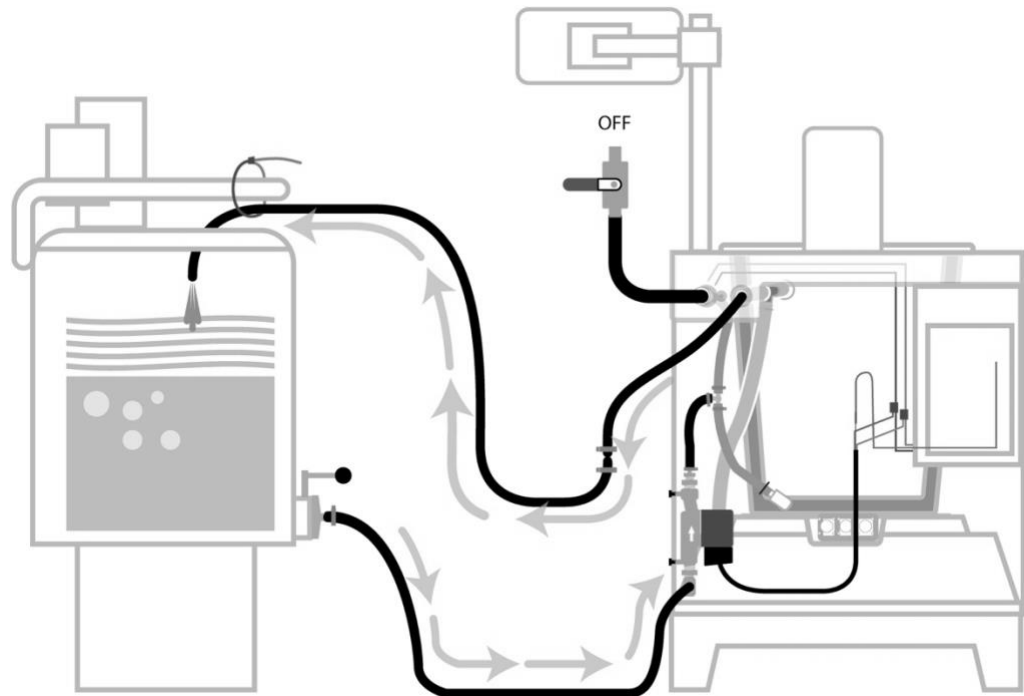
## Cooling Tank Option

The entire family of Dairy Tech equipment utilizes cold water for indirect cooling after warming and pasteurization processes. Due to variable temperatures of incoming cold water on dairies, this may create limitations in speed of cooling as well as timeliness of the cooling process. Water is also a valuable resource for most dairies and where possible, we must work together to conserve.

In light of these considerations, Dairy Tech offers the ability to utilize independent cooling tanks to serve as a reservoir for cooling water. These tanks provide a large batch of chilled water that can be used to quickly and efficiently cool milk or colostrum post-pasteurization AND they allow for recycling of water indefinitely. See the image below for a better understanding and contact our sales team [Sales@dairytechllc.com](mailto:Sales@dairytechllc.com) for more information about cooling tank size recommendations and availability. Your Adda Pasteurizer is already designed with a reserved spot to locate the circulating pump and automation of the process.

### Parts you would need:

- MP-Cooling Transfer Pump Kit
- O-MPV100L 1PH (100L cooling tank to accompany a 10G Model)
- O-MPV300L (300L cooling tank to accompany a 30G Model)
- O-MPV650L (650L cooling tank to accompany a 60G Model)



## Cleaning your Pasteurizer

Before using this unit for the first time, wash out the inside of the tank with hot soapy water and rinse clean. Adda should be cleaned thoroughly after each use, or if it will not be used again to pasteurize within the next hour.



**NOTE:** NEVER SPRAY Adda's CONTROLLER ENCLOSURE WITH WATER!! Serious Electrical System Damage can occur and will void your warranty.



**HELPFUL TIP:**  
Always keep the lid closed to keep insects and other contaminants out of the tank.

1. Be sure the equipment is powered OFF.
2. With the stir motor stopped, raise the lid from the milk pot and place it on the hook on either side of the unit after thorough cleaning in a sink.
3. Perform a warm water rinse to remove milk and dirt. *(Avoid hot water rinse as this can cause calcium deposits to stick to surfaces at this step.)*
4. Clean the following milk surfaces with hot water and soap. We routinely recommend a powerful dish soap such as DAWN. Go over all the exposed surface areas with the included scrub brushes and appropriate disinfectants. A mild scrub pad may be used to remove any residue on the following components:
  - a. Motor shaft, coupler, and propeller *(shaft can be unthreaded for cleaning by grasping the coupler with the slot facing forward and unthread the shaft by grasping the knurling mid shaft for a better grip.)*
  - b. Thermocouple well at bottom of pot
  - c. Milk tank and drain spigot/valve. *(The milk exit valve should be completely disassembled at least weekly so that the black rubber gasket can be thoroughly cleaned and replaced as needed).*
  - d. Accessory spigots, pitchers, pumps, or hoses
5. For stubborn residues or buildup, consult with your dairy chemical distributor. Avoid the use of acids on non-stainless-steel surfaces as they may corrode some of the brass or aluminum parts on the equipment. Follow manufacturers handling recommendations for all chemicals.
6. Perform a final hot water rinse of all surfaces and allow to dry completely if possible.
7. Spray the stainless-steel surfaces with a disinfectant and allow it to dry on the surface. This will help to eliminate the build-up of a biofilm. *Dairy Tech recommends Effersan reconstituted tablets as a proven disinfectant for the final spray of the milk surfaces.*



Poor water quality will have an adverse effect on heating element longevity as well as the other components of this equipment that are in contact with water of poor quality.

## Water Quality

Dairy Tech LLC is not responsible for your water quality and the effects that it may have on our equipment.

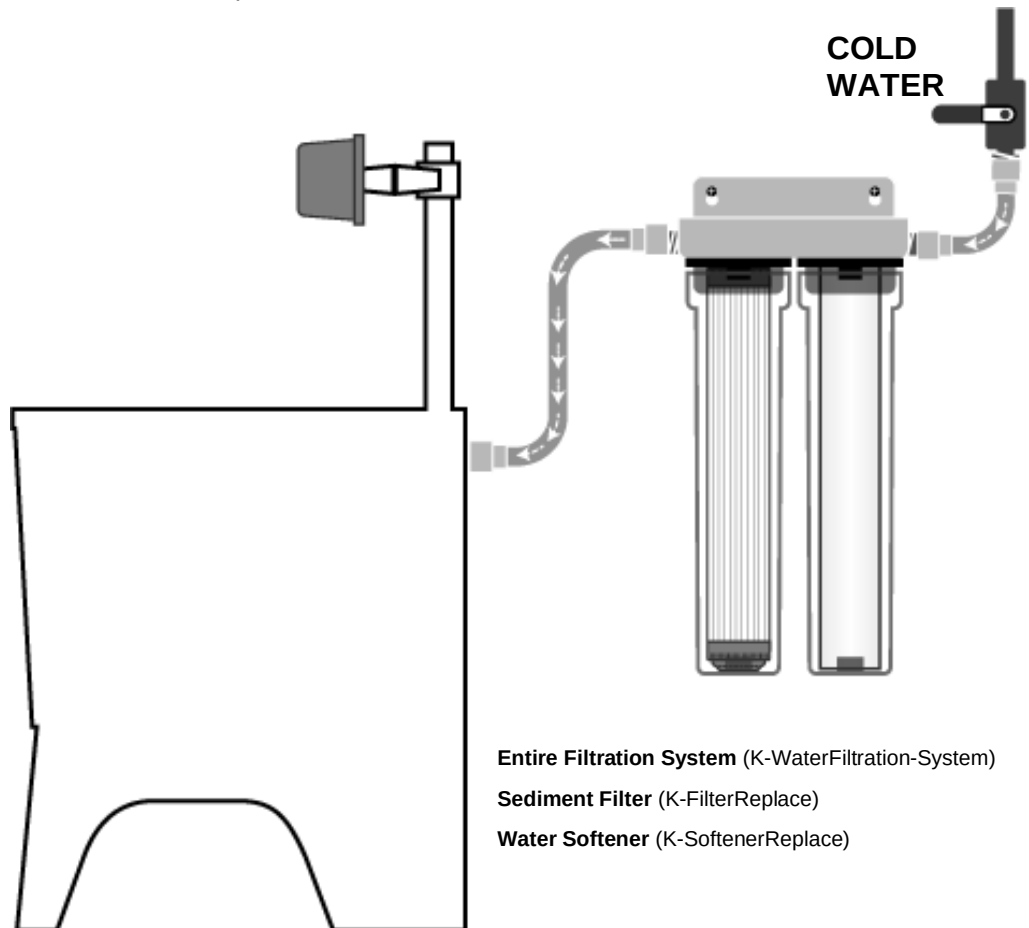
If you have dirty, hard, or otherwise poor-quality water, consider purchasing and installing a Dairy Tech water filtration/softener system (*see part number below*).

### Dairy Tech recommends the following steps:

Test a sample of water that will be used with the Dairy Tech equipment. Local experts will be able to tell you if your water quality will be detrimental to electric heating elements and other components of our system.

**If the starting water quality is acceptable**, take additional samples at monthly intervals to help determine how often to replace the cartridges in your system.

**If your water quality is NOT acceptable**, install the water filtration/softener system and replace cartridges every 3 months or anytime they are visibly dirty, or if water flow is compromised.



**NOTE:** This filtration system will not remove chemicals or disinfect water and is not intended for drinking water.



**WARNING:** ALL CONNECTIONS SHOULD BE PERFORMED BY AN ELECTRICIAN OR OTHER TRAINED PERSONNEL.

## Electrical Requirements

The electrical supply cord is included with your purchase. Local ordinances and electrical codes will dictate wire sizing, lengths and connections including the need for power kill switches in some locations. Always check with your local electrician for installation assistance. Instructions and a wiring diagram are provided for your benefit but always call our service department for additional assistance. Failure to meet these requirements will void the warranty and could result in serious damage to the unit, bodily injury, or death. The receptacle may need to be fitted with a water-resistant cover for added protection.

The receptacle should be sharing minimal usage with other equipment to avoid unexpected outages and tripping of the breaker. If the power is lost, but returns within 2 hours, the cycle will resume automatically in most instances.

Check your electrical system to make certain it is properly grounded to avoid the possibility of electrical shock.

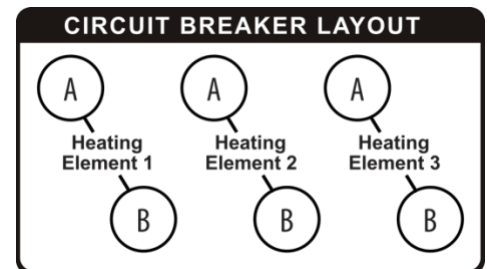
| Specifications                   | 10G                        | 30G                        | 60G                        |
|----------------------------------|----------------------------|----------------------------|----------------------------|
| Power Input Circuit Breaker Size | 30A                        | 30A                        | 50A                        |
| Heater Circuit Breaker Size      | 15A                        | 15A                        | 20A                        |
| Fuse Size (F1/F2)                | 3A                         | 3A                         | 3A                         |
| Floor Dimensions W x D in (mm)   | 22.0 x 26.8<br>(560 x 680) | 33.1 x 31.3<br>(840 x 796) | 35.1 x 35.0<br>(892 x 888) |
| Empty Weight Lbs (kg)            | 151 (68)                   | 242 (110)                  | 369 (167)                  |
| Operating Weight Lbs (kg)        | 234 (106)                  | 492 (223)                  | 868 (394)                  |

## International Installations:

Adda can utilize a variety of power sources. Consult the wiring options diagram in this owner manual ([page 42](#)) as well as those on the machine for further instruction and options. Follow the labels attached to the back of the machine for specific wiring instructions in these instances.

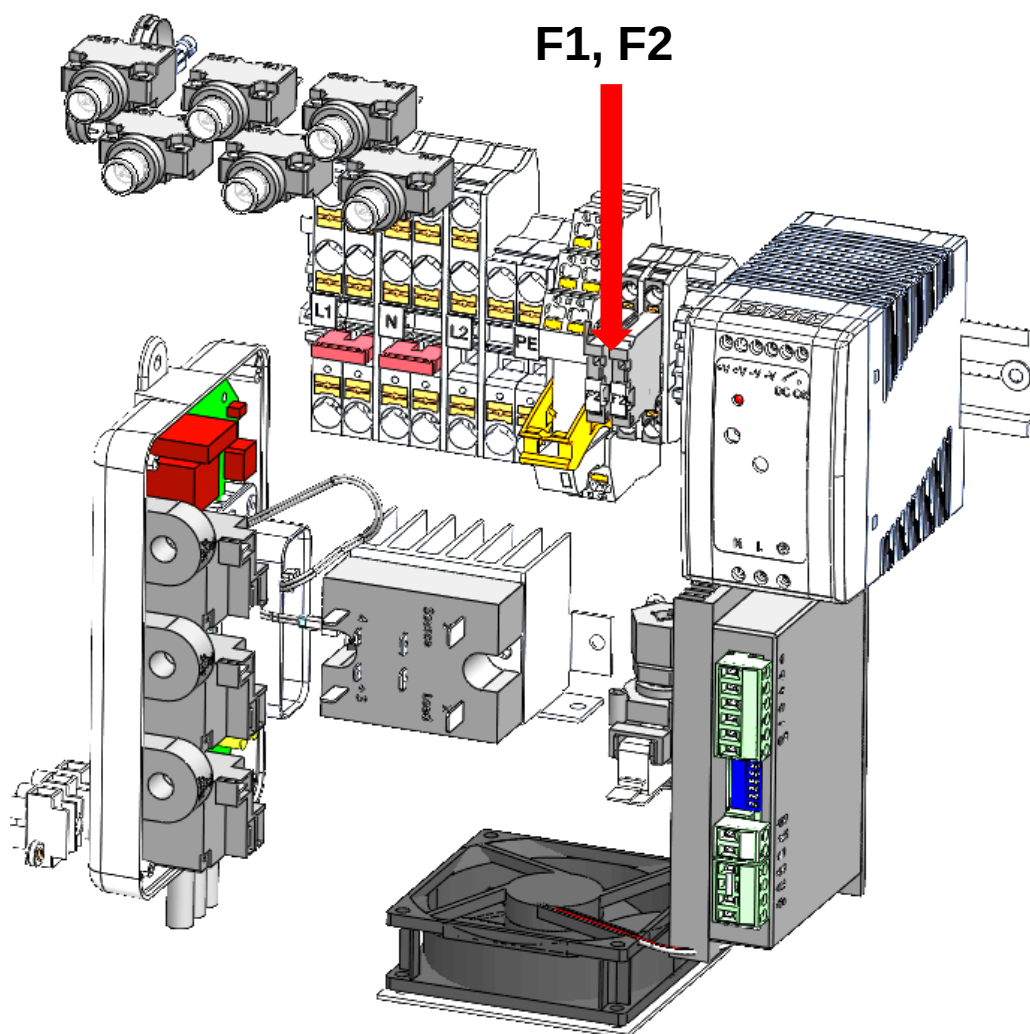
## External Circuit Breakers

The unit is equipped with 6 external circuit breakers on the back of the unit. These circuit breakers protect both sides of the heating elements from internal and external damage, as well as on the unit itself. *Refer to Troubleshooting for further information.*



## Internal Fusing

There are two fuses located inside the internal electrical box that protect the input for the power supply for the system. They are located in fuse blocks that are mounted on the DIN rail as shown in the figure below. If the controller is not getting power, check to make sure that these fuses have not blown. Blown fuses likely indicate a short in the system.



## Filling and Emptying the Tank

While some dairies may elect to have the milk line pump directly into the Pasteurizer, many dairies will be dealing with volumes that can be dumped into the unit from milk cans or collection buckets. You may need to provide a sturdy step for short employees who may have trouble comfortably dumping the milk, or colostrum into the unit.

- Try to avoid excessive splashing or spilling of the product as it is being poured into the unit.
- Clean spills with a damp cloth as quickly as possible.
- Do not overfill the tank as the milk, or colostrum will splash out from under the lid while being stirred.

**To remove the milk:** Open the spigot to fill buckets, bottles or storage bags.



**DO NOT TILT THE EQUIPMENT TO GET MILK/COLOSTRUM OUT!** This may cause undue stress on the support system and could potentially damage the unit or harm the operator. Any residual milk or colostrum can easily be wiped or brushed from the unit.

## When Service is Required

If you purchased Adda from an authorized dealer, contact them directly with inquiries or repair questions. For prompt service, work through the troubleshooting guide in this manual to give an accurate description of the problem.

The Dairy Tech, LLC. service department can also assist when needed  
1-866-384-2697



REPAIR BY AN  
UNAUTHORIZED  
SERVICE  
TECHNICIAN MAY  
VOID YOUR  
WARRANTY.

## First Use of Adda



FAILURE TO FOLLOW THESE INSTRUCTIONS MAY DAMAGE THE UNIT AND VOID THE WARRANTY.



**Before you process your first tank of colostrum/milk, you need to charge the jacket with water to prevent damage to the heating elements.**

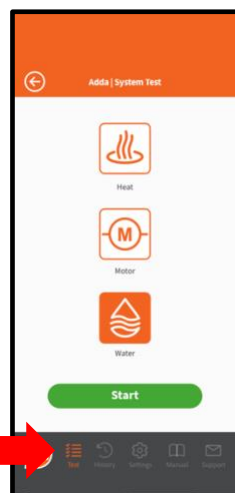
**This is very important.**

### Charging the Jacket with Water

**Step 1.** Make sure that the water line is connected and turned ON, and the drain directed to the floor drain.

**Step 2.** Plug in the unit to the power source.

**Step 3.** The power switch for the unit is located on the right side of the orange control box (See *Figure*). This is a mechanical switch that pushes a pulse of air to activate an internal switch inside the electrical box. There is not a noticeable click felt at the switch. Simply press and release the button and give the unit a second to power up.



**NOTE:** The Adda machine will automatically start filling the water jacket for the first 4 times of use. These automatic fills will last for 2 minutes.

This will open the water inlet solenoid valve on the back of the machine, allowing water to flow into the water jacket. It may take several minutes to completely fill the jacket. You will know the jacket is full when water flows continuously from the drain hose. The "Fill" cycle may be cancelled at that time by pressing the "Start/Cancel" button on your machine's controller box.

If the automatic feature fails, open the Perfect Udder app and go to the test screen, tap the water icon, then "START" to fill the jacket manually. App instructions begin on [page 19](#). Testing details are found on [page 23](#).



## Operating Adda

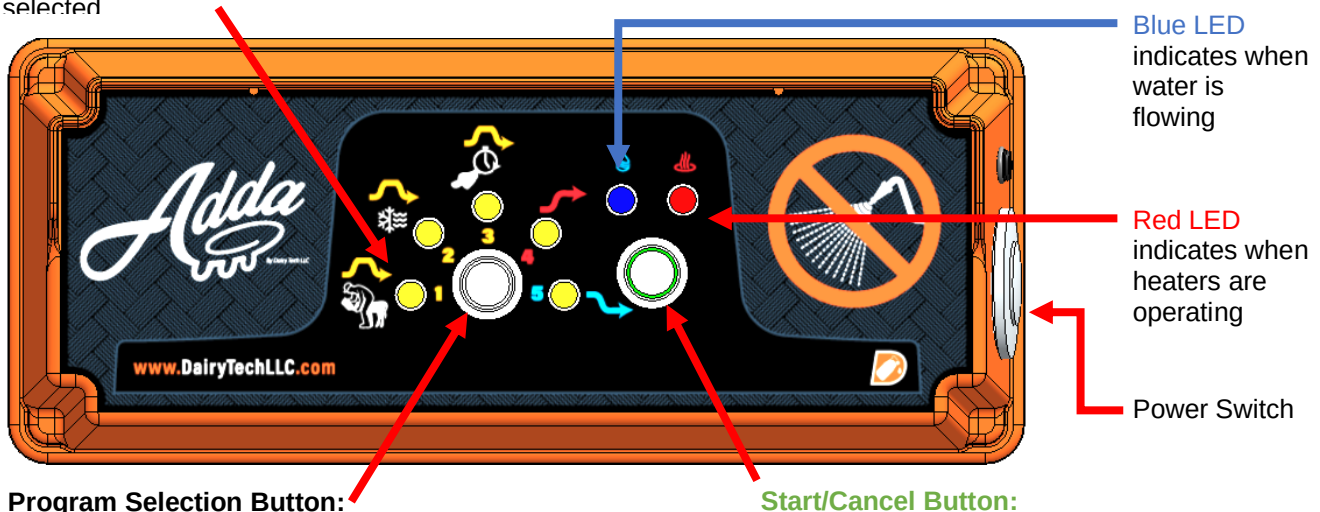
**Be sure the Pasteurizer is charged with water using the instructions on page 17 prior to the first use of your Pasteurizer.**

Using Adda is simple. We have redesigned the user interface on the machine to operate with only two buttons. One to select the desired program, the other to start/cancel that program. All SETTINGS adjustments are now handled in the new Perfect Udder® app. **Our Pasteurization Technology ensures that your colostrum/milk will be heat-treated with precision through either interface.** Please familiarize yourself with each setting before running a cycle. This chapter will explain the programming choices and how they function.

### Understanding the Push-Button Interface on the Control Box

**Amber LED's (1-5)** indicate which program is selected

Adda's can now be run using the new push buttons on the orange bezel, or the new Perfect Udder® Mobile Application.



#### Program Selection Button:

Use button to select a program when the machine is in the "Inactive" state.

Presses on this button are ignored when the machine is running a program.

1. **Pasturize Feed Now**
2. **Pasturize to Store**
3. **Pasturize to Feed Later**
4. **Warm**
5. **Cool/Store**

#### Start/Cancel Button:

- Press the Start/Cancel button when the machine is inactive to start the selected program. You'll hear the "Program Start" sound, and the machine will enter the "Program Active" state.
- To cancel a running program, hold the Start/Cancel button. The "Program Cancel" sound will play, and the machine will return to the "Inactive" state.

## Light Sequence

During each process of the machine, the LED lights will indicate the current status through a light sequence on the button LED's.

### 1. Powering On the Machine

When you turn on the machine, all the LED lights will turn on for 2 seconds and then go off. You'll hear a "moo" sound, indicating the machine is ready.

If the machine was running a program before being turned off, it will try to resume it. If it can't, the machine will go into a "Colostrum Discard" state.

### 2. Program Inactive

Solid Amber LED on the Program Indicator LED and a solid Green Ring on the Start/Cancel Button indicates "waiting for input to start selected cycle". (*Push Green LED to start selected cycle*)

### 3. Program In Progress

While a program is running, both the Program Indicator LED and the Start/Cancel button LED will blink slowly, showing that the program is active.

### 4. Program Complete

When a program is finished, the Program Indicator LED will stay on, and the Start/Cancel button LED will blink twice quickly, followed by a pause (*double blink pattern*).

- The "Program Complete" sound will play every 60 seconds to remind you that the program has ended.
- Press any button after the program is complete to return the machine to the "Inactive" state.

### 5. Program Resume Logic

Programs will resume if powered off for less than 120 minutes. However, if a "Pasteurize & Feed Later" program was running and the feeding time passed while the power was off, the program won't resume. The machine will enter the "Discard State."

### 6. Colostrum Discard State

If the program can't be resumed, you'll hear a discard sound (toilet flush), and the program lights will flash to indicate the colostrum should be discarded.

Press any button briefly to replay the discard sound. Hold the "Start" switch to exit the discard state, and the machine will go into the inactive state.

### 7. Critical Fault

If there's a major issue, the critical fault alert will sound (three quick tones that repeat), and the Program Indicator LEDs will light up in sequence, flashing in a clockwise rotation. The Water and Heat LEDs will remain off.

You can check the App to see what caused the fault.



## Using the Perfect Udder® App

The Perfect Udder® app is your essential tool for managing Dairy Tech's machines with ease. This user-friendly app allows you to make settings adjustments, monitor machine performance, and streamline colostrum processing tasks from your phone. Simply scan the QR code to download it directly.

With this intuitive app, you can ensure proper colostrum management, access process data, and stay informed on the operational status of your equipment.

### Perfect Udder® App Key Features:

1. **Ensure Proper Use by Employees:** Monitor machine performance to verify that your team is using Adda machines correctly.
2. **Owner's Manual Access:** Easily access the owner's manual, available in multiple languages, directly from the app.
3. **Manage Multiple Machines:** Name each Adda machine for easier tracking and management from your mobile device.
4. **Upgrade Adda Firmware:** Perform firmware updates for your Adda machine with a simple button press to ensure you're running the latest version.

More features will continue to be added as the app evolves. Download it now for ongoing support!

**Scan the QR code to download the Perfect Udder® app from Google Play!**



## App Overview

Once you've downloaded and opened the app, you'll be greeted by the **information dashboard**. This is where you can see all powered-on, compatible Dairy Tech equipment within range, providing an overview of each machine's status.

### What's on the Dashboard:

1. **Temperature Format:** Choose between Fahrenheit or Celsius for your readings.
2. **Machine Names**
3. **Current Temperatures:** View the name and operating temperature of each connected machine.
4. **Program Status:** See if machines are:



Idle/Ready



In Progress: This icon will vary depending on the program in progress.



Ready to FEED



Ready to STORE



Program Complete



Program Cancelled



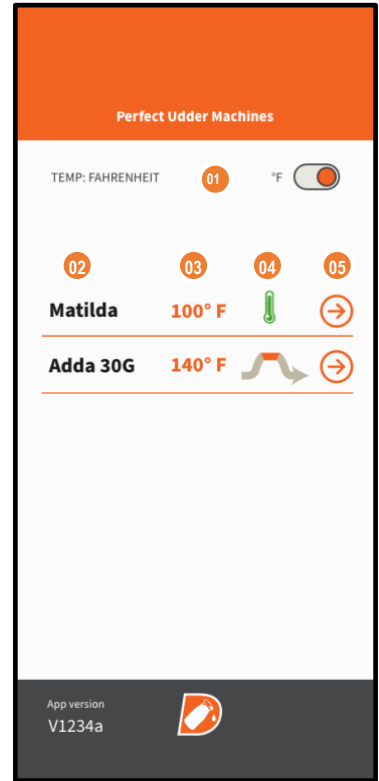
Error



Warning

5. **Interacting with a Machine:**

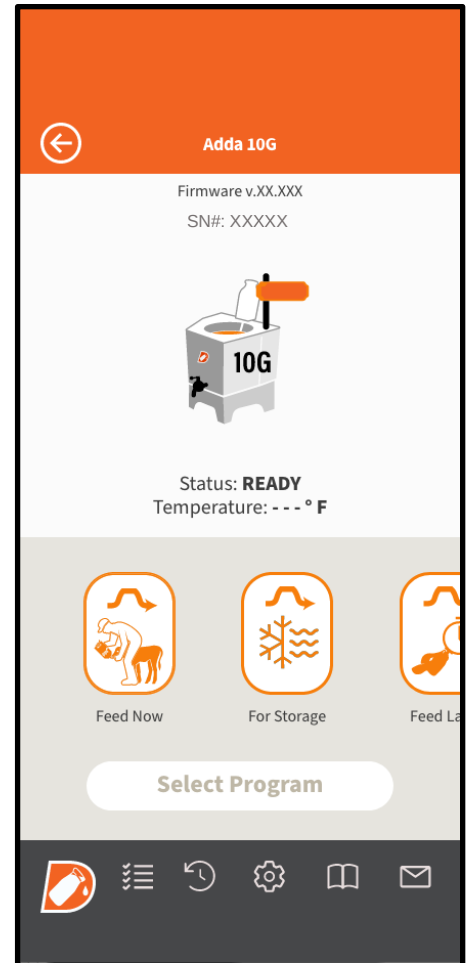
To interact with a specific machine, tap the **Right Arrow** button next to its name to access detailed information and available program options.



## Machine Information Screen

When you select a machine from the dashboard, you'll be taken to a detailed screen showing the following:

1. **Firmware Version:** Displays the machine's current software version.
2. **Serial Number**
3. **Status:** Indicates the machine's operational state (e.g., *Ready, In Progress*).
4. **Temperature:** Current temperature reading for the batch being processed.
5. **Program Options:** Scroll horizontally to access all programs.
  - a. **Pasteurize, Feed Now:** For immediate feeding.
  - b. **Pasteurize, to Store:** Cool and store for later use.
  - c. **Pasteurize, Feed Later:** For Milk ONLY, schedule future feeding.
  - d. **Warm:** Warm pasteurized milk or colostrum.
  - e. **Cool:** Cool the product for storage.
6. **Bottom Menu Options:**
  - a. **Home:** (DT Logo) Returns to dashboard
  - b. **Test:** Perform system checks.
  - c. **History:** View logs of past cycles.
  - d. **Settings:** Adjust machine settings.
  - e. **Owner's Manual:** Quick access to operation instructions.
  - f. **Contact Support:** Customer support contact information.



## Program Selection

Adda offers five different program options to cater to your specific needs. Tap on the program you wish to use, then tap **Start**.



**PASTEURIZE, FEED NOW:** Colostrum or Milk is pasteurized then cooled to a predetermined FEEDING TEMPERATURE for immediate use.



**PASTEURIZE, TO STORE:** Colostrum or Milk is pasteurized then cooled to a predetermined COOL temperature for storage in a refrigerator or freezer for future use.



**PASTEURIZE, FEED LATER:** *(For MILK ONLY. Do not use this for colostrum):* Milk is pasteurized then cooled to a predetermined COOL temperature and held at that temperature until the next predetermined FEED LATER TIME is reached *(see Feed Later Times in Settings)*. At that time, Adda will begin warming the milk to the specified FEEDING TEMPERATURE.



**WARM:** is to be used when you would like to warm pasteurized colostrum or milk to a feeding temperature.

In this program, Adda will warm to your pre-set Feeding Temperature and then hold there for your pre-set FEED NOW HOLD Time. If you are warming colostrum in a Perfect Udder Bag, do not take the bags from the machine early as there may still be ice in the bag which will lead to poor colostrum absorption and loss of energy for the calf.



**COOL:** is to be used when you would like to cool pasteurized colostrum or milk to a feeding temperature.

In this program, Adda will cool to your pre-set COOL HOLD Temperature and then hold there for your pre-set COOL HOLD Time.

**Adjusting Program Settings:** Each program's parameters, such as temperatures and times, can be modified within the **Settings** menu. *Refer to the **Adjusting Settings** section for more details.*

## Bottom Menu



Home



Test



History



Settings



Manual



Support



## Test Mode

To perform a system test on a machine, or to charge the water jacket before the first use:

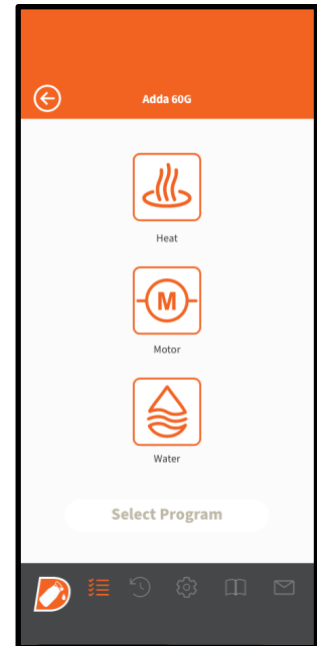
1. Tap the **Right Arrow** next to the machine's name.
2. Select **TEST** from the bottom menu.

### Test Mode Functions:

**Note:** Only one test can be run at a time.

- **HEAT:** Powers the heating elements and shows temperature and current readings. Alerts will appear if the current draw is outside the specified range.
- **MOTOR:** Starts the motor. If the motor doesn't run, troubleshoot using the app's instructions.
- **WATER:** Activates the water valve for the water jacket, useful for initial setup and testing.

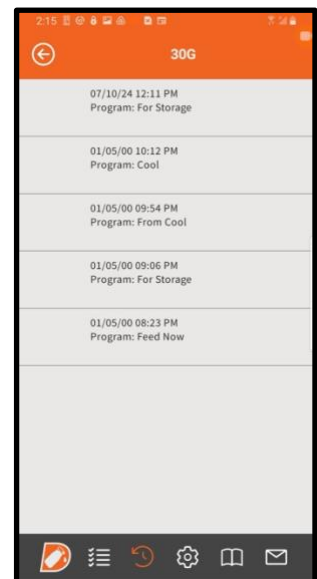
When finished, tap **CANCEL** to end the test, **HOME** to return to the main screen or **BACK** to make further adjustments.



## Machine History

You can view the logs of all past cycles by selecting **History** from the bottom menu. The log helps diagnose errors or incomplete cycles.

Dairy Tech technicians may request log files to better understand any issues you encounter.





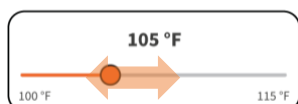
## Adjusting Settings

Access **Settings** from the machine information screen to modify the machine's configuration. If it's your first time, you'll be prompted to set up a password.

Settings Overview:



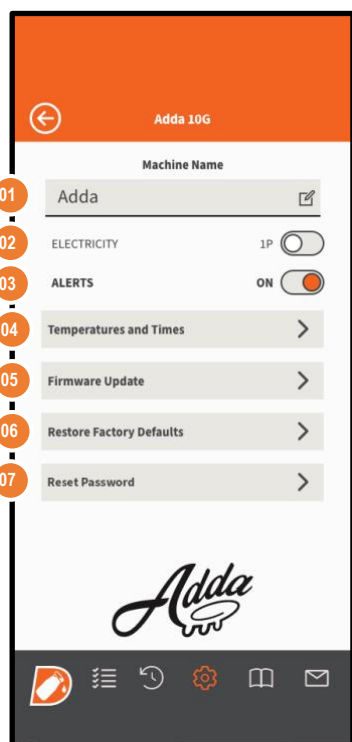
**Toggle:** This allows you to pick between two options. Slide the toggle left or right to make your selection. For instance, the default temperature format is Fahrenheit. To change it to Celsius, slide the toggle to the left.



**Temperature Slider:** This allows you to change a temperature setting in whole degrees, by moving the slider to the right to increase the temperature, or to the left to decrease the temperature.



**Time Wheel:** This allows you to change a time setting by sliding your finger up to increase the length of time, or down to decrease the length of time.



### Important Settings:

1. **Machine Name:** Tap the "EDIT" icon to rename your Adda (*up to 8 characters*) for easy identification.
2. **Electricity Settings:** Switch between 3-phase and 1-phase. **WARNING:** *This setting MUST match machine power supply.*
3. **Alerts:** Turn audible alerts on the machine "On" or "Off".
4. **Temperature & Time Adjustments:**
  - a. **Feed Temperature and Hold Time:** The default "FEEDING TEMPERATURE" is set at 105°F (40°C). Only increase this temperature in extremely cold conditions. **WARNING:** *Feeding at a temperature HIGHER than 110°F/43°C can cause serious injury to the calf.* The "FEED HOLD TIME" setting dictates how long the cycle will hold the colostrum/milk at the selected feeding temperature after a 'PASTEURIZE/FEED NOW' or "WARM" cycle. Once the colostrum/milk in the tank reaches the feeding temperature, Adda will hold the fluid at its feeding temperature until the "FEED HOLD TIME" has elapsed, at which point the cycle will end and sound an audible warning that the product is now ready to feed.
  - b. **Cool Temperature and Hold Time:** The default "COOL TEMPERATURE" is 90°F (32°C). This is the temperature that the unit will COOL to when a cycle has completed pasteurization. The Adda uses your water supply to cool the colostrum: make sure to select a "COOL TEMP" that is at least 10°F (6°C) HIGHER than the temperature of your supply water. If you set a COOL TEMP that is too close to the supply water temperature, the unit will take an excessively long time to cool, thus wasting water. If you set a COOL TEMP below that of your water supply temperature, the unit will never reach your setting and will continue to dump water until the unit is shut off.  
Adda cannot detect the temperature inside of the bag, only the water bath; therefore, we must ask her to continue to hold at the COOL TEMP for a

period of time to make certain that excess heat is removed from the Perfect Udder® bags. The default cooling hold time is 15 minutes.

**c. Pasteurization Temperature and Dwell Time:**

**NOTE: Years of research has proven that the temperature and dwell for proper colostrum pasteurization is 140°F (60°C) for 60 minutes. Changes to either of these settings are strongly discouraged. ADJUST WITH CAUTION.**

- d. **Feed Later Schedule:** This setting allows you to set up 2 separate feeding times.
- e. **Temperature Calibration:** Adda is calibrated by Dairy Tech before leaving the factory. Before adjusting the calibration, make sure that you are using a high-quality secondary thermometer. The temperature reading is calibrated to the pasteurization temperature since this is the most critical value being measured by the machine, and thus it is very important that the calibration is performed with the colostrum/water heated to the PASTEURIZE TEMP. If the temperature reading is calibrated to any other temperature (like the FEED TEMP, or the COOL TEMP), the reading may be inaccurate at the PASTEURIZE TEMP. Allow a pasteurization cycle to climb to the pasteurization temperature and wait until it is at this level for five minutes. Now it is okay to check the water bath temperature with a high-quality thermometer. If the control does not match very closely, then you can adjust. If the control reads high, reduce offset, if the control reads low, increase offset. Use the slider to decrease or increase this setting to your desired temperature.

- 5. **Firmware Updates:** When a firmware update is available, you'll see an orange dot on the SETTINGS icon and "Firmware Update" will be highlighted in orange. Tap FIRMWARE UPDATE to install the latest version.
- 6. **Restoring Factory Defaults:** This option returns "Times and Temperatures" settings to factory defaults. Be aware that this action cannot be undone.
- 7. **Resetting Your Password:** When you access the SETTINGS menu on a new Adda for the first time, you'll be prompted to create a password. Simply enter any password of your choice and submit it. The app will remember this password for future use on the same phone, so you won't need to enter it again. **NOTE: If you connect a new phone to the system, you'll be prompted to enter the password again.**  
**Forgot your password?** No worries! If the password is lost or forgotten, the system has a default password that can be retrieved. Just contact your Dairy Tech Dealer or reach out to our Service Department at **1-866-384-2697** for assistance.



## Owner's Manual

Access the owner's manual directly through the app. View or download older versions as needed via a provided link.



## Contacting Support

For help or troubleshooting, tap **CONTACT** from the bottom menu to find Dairy Tech's support contact details.

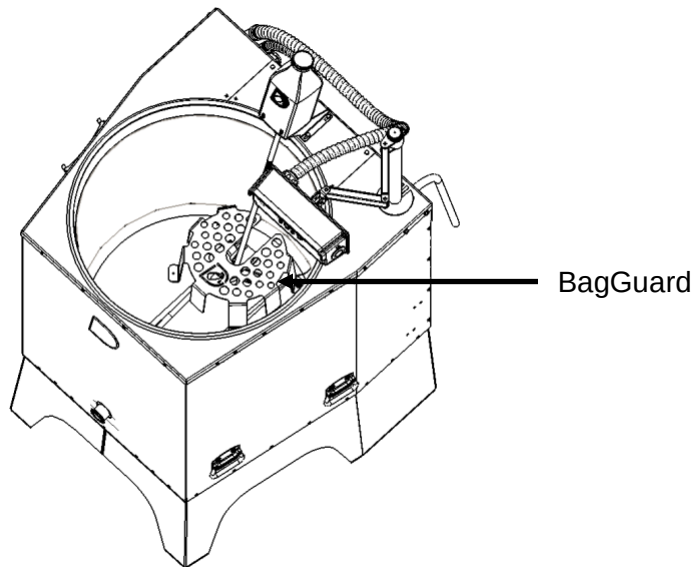
## Pasteurizing and Warming Colostrum in Perfect Udder® Bags

Perfect Udder® is a unique colostrum management system in a bag. This allows for collection, pasteurization, storage and feeding of correct amounts of colostrum in a timely manner to your calves.

### Using the BagGuard

A Perfect Udder® BagGuard is included with each Adda series Pasteurizer to protect the colostrum bags from contacting the propeller of the machine. The guard is to be used only when Perfect Udder® bags are being pasteurized in a batch of milk or a water bath. Always be certain to choose a profile of 140°F (60°C) for 60 minutes for colostrum. Clean the BagGuard thoroughly after each use.

Do not lay bags on dry rack. Use of the BagGuard without enough water or milk to submerge the bag(s) will not allow the Pasteurizer to function properly and will damage the heaters of the unit.



**NOTE:** To properly install the BagGuard, align the two holes on the bag guard with the studs on the tank bottom. The small hole mates with a welded stud on the tank, and the large hole mounts around the thermo-bung on the tank.

## Quality Control and System Monitoring

The following recommendations should be carried out when the system is first installed and then on a monthly schedule to make certain that the pasteurization process is working adequately.

- **Follow all instructions for proper installation by thoroughly reading the manual.**
- **Use quality colostrum in the machine. The process can be overwhelmed if there are too many bacteria to begin with.**
- **Handle the colostrum cleanly after pasteurization to prevent recontamination.**
- **Verify display temperatures periodically with a second thermometer to be sure that the displayed reading matches closely with a trusted calibrated source. See “Temperature Calibration” in SETTINGS.**

## Helpful Hints for Pasteurization

Time pasteurization so that it happens as quickly as possible after harvest of the colostrum. If pasteurization is not going to be started within the first couple hours after collection, it is highly recommended that the colostrum be cooled before later pasteurization so that spoilage and pathogenic bacteria do not multiply in the product.

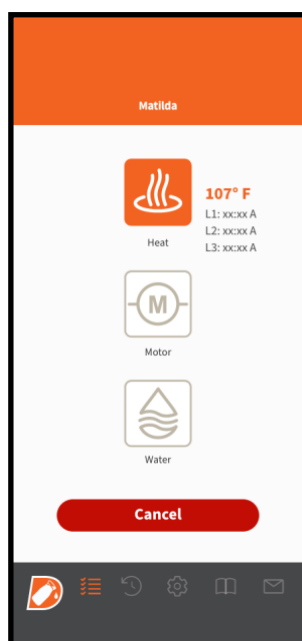
1. **Will I need to add anything to the colostrum after it has been pasteurized?**  
Not usually. There are certain vitamins that are heat sensitive and may be decreased in concentration due to the pasteurization process, but to our knowledge, no cases of deficiency or hypovitaminosis have been attributed to proper pasteurization. There may be circumstances due to regional or farm-specific conditions that would dictate supplementation of vitamins, minerals or even added fat/protein. Always check with your local veterinarian if there are such suspicions and treat according to their instructions.
2. **What if the colostrum becomes spoiled before I pasteurize it?** This condition is common and can happen at times even when the same successful routines have been followed. There are spoilage bacteria in colostrum that release acid as their by-products. This is usually lactic acid, but there are also others. The release of acid from these proliferating bacteria then drives down the pH of the colostrum making it more acidic. Colostrum that is high in acid will be safe for calves to drink after pasteurization. However, low pH can lead to rancid odors and flavors that might decrease consumption by the calves. Digestibility might also be different which can lead to scours. In cases of severe drop in pH, the colostrum will separate completely with a very thick layer of “cheese” on top or thick like pudding throughout the product. This is not due to overheating. Protein denaturation and separation is made worse by the added heat of the pasteurization process. Heat combined with spoiled colostrum of low pH is a bad recipe which is why we recommend that you always try to pasteurize as soon as possible after harvest.

3. **What is the optimal routine for handling colostrum?** We recommend that colostrum be pasteurized immediately after harvest and then either fed at once or cleanly transferred to a colostrum bank to be refrigerated or frozen. The colostrum can then be warmed to body temperature prior to feeding.
4. **Are there ways to preserve the colostrum if refrigeration is not an option?** Yes. Potassium Sorbate and other preservatives can be added to colostrum that is already pasteurized and this will help to prevent the growth of any remaining bacteria in the product. It is important to note that Potassium Sorbate will not kill existing bacteria, but it will prevent any new growth.  
**NOTE:** Do not add Potassium Sorbate prior to pasteurization as it will cause a lower pH and the symptoms described above including thickened or separated product and bad flavors.
5. **Will I harm immunoglobulins if I pasteurize colostrum?** NO. When done properly colostrum can be successfully pasteurized to eliminate the same pathogens that can be found in the milk. These pathogens are even more dangerous in colostrum since these bacteria and viruses can easily pass through the gut wall along with the large proteins that impart immunity to the calf. Colostrum can be safely pasteurized at 140F for 60 minutes to remove pathogens without significant damage to immunoglobulins. Colostrum pasteurization should be as much a part of herd biosecurity as milk pasteurization.

## Energy and Time Saving Tips

1. Pasteurize the milk/colostrum as quickly as possible after collection. This will prevent the excessive growth of bacteria in the colostrum and also take advantage of the heat to improve energy efficiency.
2. Avoid placing the unit in an area of high drafts to prevent convection heat losses while pasteurizing.
3. Colostrum can be stored in the refrigerator for 24-48 hours if it is handled cleanly once it has been pasteurized. Filling Perfect Udder® Colostrum management bags allow for a disposable system that makes it easy to keep track of dates and colostrum quality. These bags also allow the product to be warmed more quickly when they are needed for the newborn and can then be fed without recontamination of the product. Order more bags from your local veterinary supply dealer or online at [www.dairytechinc.com](http://www.dairytechinc.com).
4. Do not try to use plastic calf bottles in Adda. It is impossible to transfer heat across the thick plastic to ensure adequate pasteurization.
5. Always wear nitrile or latex gloves when handling the colostrum to prevent the spread of pathogens from your skin surface.
6. Keep the lids closed on Adda when not in use. This will keep the heat inside and prevent contamination with dirt and insects.
7. Water quality is very important. The heating elements will be inefficient if deposits begin to build up and they will also experience early failure. If signs of poor water quality exist, we recommend a filter and water softener combination (part no. K-WaterFiltration-System) available at [www.dairytechinc.com](http://www.dairytechinc.com)
8. Adda can be turned off during non-busy times to conserve energy.

# Troubleshooting Adda



## SAFETY SYMBOLS

- ⚠ CAUTION
- ⚡ HIGH VOLTAGE
- 🔥 HOT SURFACE
- 🎯 IMPORTANT

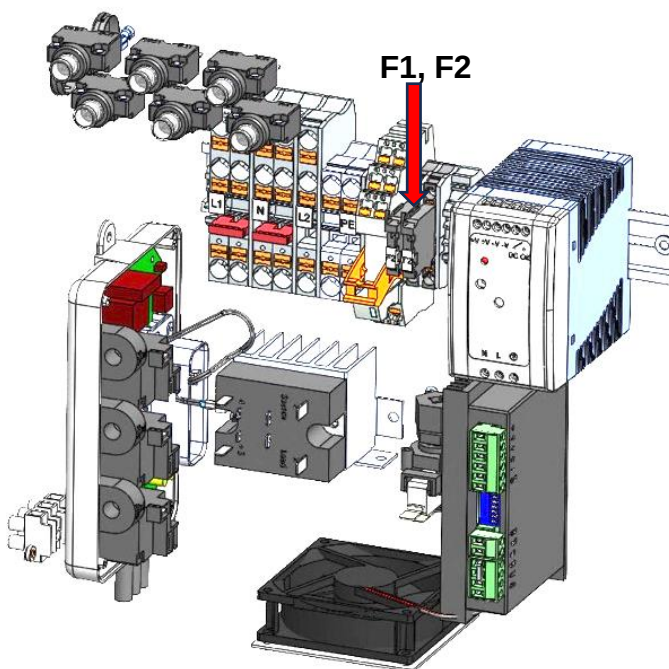
MOTOR, WATER.

This guide is intended for use as a troubleshooting directive. All electrical testing, and repairs should be performed by an experienced professional or technician trained in the electrical trade.

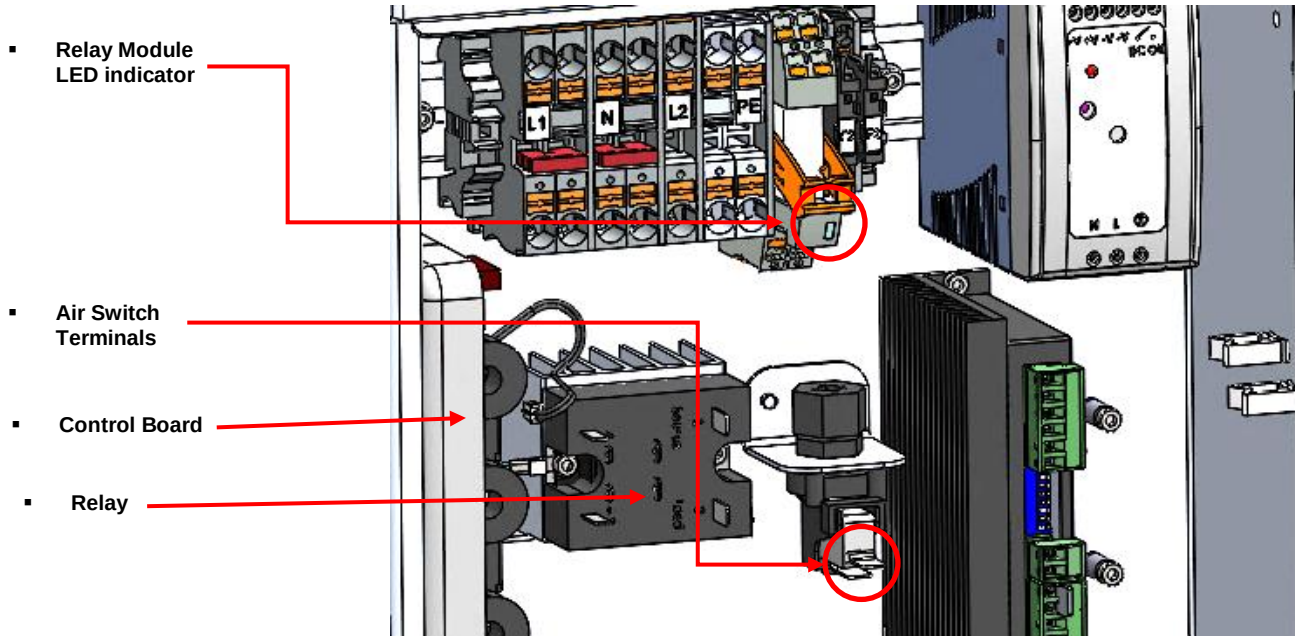
Remember, if you are experiencing issues with your Adda, you can go into her settings and scroll to “TEST”. Once you are there, you can perform a checkup on the three main components: HEAT,

## No Power to the Control Panel:

1. Check to be certain unit is plugged into correct power outlet and that there is power at the outlet.
2. Check fuses F1 & F2 on the DIN rail in the back of the machine. These are the Line 1 and Line 2 supply fuses. If blown, replace with 5x20mm 3.0A 250V fast blow fuses. **DO NOT REPLACE WITH OVERSIZED FUSES.**
3. Turn on the power button on the bezel and ensure the button LED's are illuminated. If the buttons LED's are not illuminated, then the controller is likely not getting power.
4. With the power cord plugged in, check to see if the orange indicator LED on the relay module is lit up. This will indicate that the relay module (used to switch power to the control board) is receiving power.



5. Check the voltage between the terminals on the air switch. If the switch is open (control power off), there should be 240 VAC present between the two terminals. Once the switch is closed (control power on), the potential (voltage) difference will be zero.

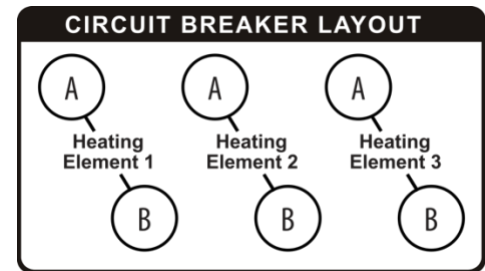


6. There should be a blue flashing LED on the controller simulating a heartbeat and that the controller is functioning properly. If the blue LED isn't flashing, the controller itself could be malfunctioning or internally damaged. This is only rarely seen. Call Dairy Tech Support for assistance.

## Adda Does Not Heat:

### Check the Circuit Breakers

1. **Inspect Breakers:** Make sure the breakers on the back of the machine are not tripped. A tripped breaker will have its black reset button protruding from the threaded steel housing.
2. **Reset Breakers:** If the breaker is tripped, reset it by pushing the black button back in.
3. **Repeated Tripping:** If the breaker trips immediately after resetting, this indicates that one of the heater wires may be shorting to ground and needs replacement.
  - a. **Inspect Wiring:** Check for damage to the power cord, wire insulation in the electrical box, terminal blocks, and heaters. If any damage is found, have the system checked by a certified electrician before operating the machine again.



### Check the Over-Temperature Switch

1. **Function:** The over-temperature switch is located near the heating elements inside the back panel. It cuts off power to the heating elements if the water jacket temperature exceeds 172°F (80°C), and it won't reset until the temperature drops below 140°F (60°C).
2. **Error Code:** If the over-temperature switch trips, the system will cut power and display an error code on the phone screen when the machine is selected.
3. **Testing the Switch:**
  - a. Unplug the Unit: Disconnect the machine from the power source.
  - b. Check Continuity: Remove the spade connectors from the switch terminals and use a multimeter set to "Resistance" to check continuity across the switch.
  - c. Open/Closed Status: If the switch is open, wait until the water jacket cools below 140°F for it to close. If the switch has failed open, contact Dairy Tech for a replacement part.

### Test the Relays

1. **Power to Relays:** The machine only sends power to the relays controlling the heating elements when instructed to do so, either by starting a cycle or using the test function.
2. **Idle State:** In the idle state, no power should be going to the relays or the Solid-State Relay (SSR).
3. **Use "Test: Heat" Function:** This function will keep power enabled to the relays for a longer period, allowing for easier testing. Once the function is enabled:
  - a. **Check Power to Relays:** Test for power at the terminals on top of the 3 relays on the control board.
    - i. **Relays 1 & 3:** If there is power to relays 1 and 3 but not to relay 2 (middle), proceed to check the SSR.

### Test the Solid State Relay (SSR)

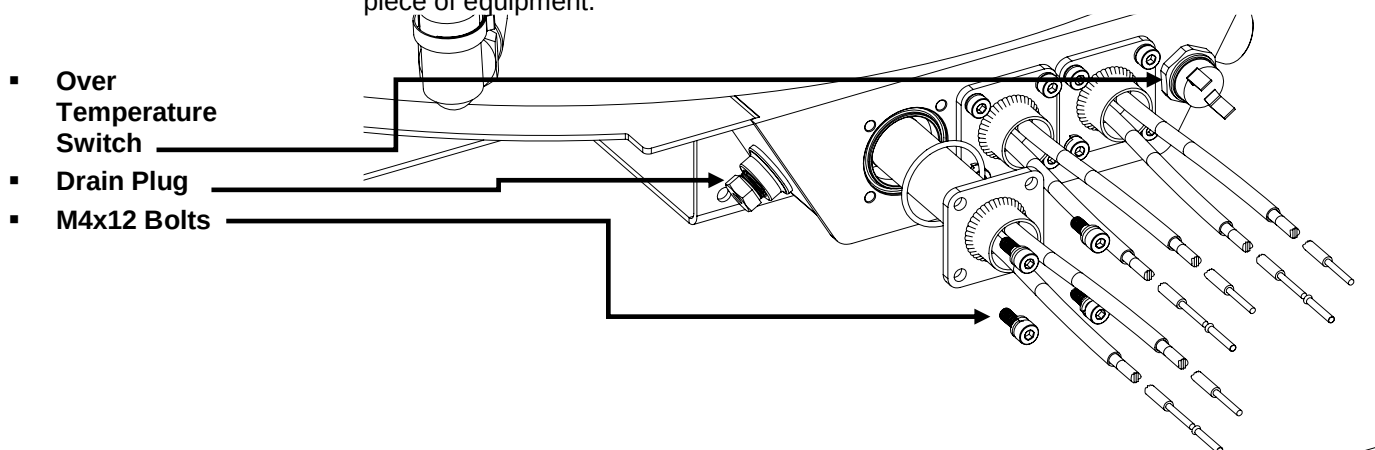
1. **Check Voltage Across SSR Terminals:**
  - a. Terminals 1 and 2: Measure across terminals 1 and 2 for 230VAC to verify the relay is closed.
  - b. Check DC Signal: Measure across SSR pins 3 and 4 for 24VDC to confirm the control signal is reaching the SSR.
2. **If Voltage is Incorrect:** If the readings differ, further inspection of the SSR or control signals may be necessary.

## 240 VAC is Getting to the Heating Elements, but Still No Heat:

1. Check for continuity through the heating elements. If no continuity, order a replacement from Dairy Tech, LLC.

**HEATING ELEMENTS:** The heating elements can be replaced when necessary. Start by disconnecting all power to the unit before removing the back panel. Next, remove the brass drain plug and drain the tank of water. Electrical connections to the elements are disconnected from the relays and thermostat. Loosen the 4 bolts that attach the heating element. Use caution when removing to retain the O-ring which is necessary for installation of the replacement element.

Take this opportunity with the element out of the hole to inspect for excessive amounts of deposits in the heater reservoir. Flush deposits out with a hose. If severe, the unit can be tipped forward at a slight angle and a gallon of vinegar can be poured into the element hole until it is full. This acid will help to remove other deposits in the heater reservoir and on other elements. Leave vinegar in place for several hours for best results. Severe deposits may also warrant the installation of a water softener for this piece of equipment.



Replace the element using the O-ring and reconnect the wires the opposite of their removal. **DO NOT OVER-TIGHTEN THE MACHINE BOLTS WHEN REPLACING THE HEATING ELEMENT AS THE THREADS MAY STRIP.** Torque machine bolts to 25 in-lbs.

## Adda Does Not Get to Temperature, but the Element is Hot or Heats Slowly:

Check the internal resistance of the (3) elements by removing the spade terminals for each element from the circuit breaker and the relay, respectively and measuring the resistance through the element. The values of the resistances measured should be within 10-15% of each other. If one of the elements is significantly different from the other two, it should be replaced. As a rule, the resistance values for the elements on the three respective Adda models should be:

- 10G:  $\geq 35.4\Omega$
- 30G:  $\geq 31.1\Omega$
- 60G:  $\geq 19.2\Omega$

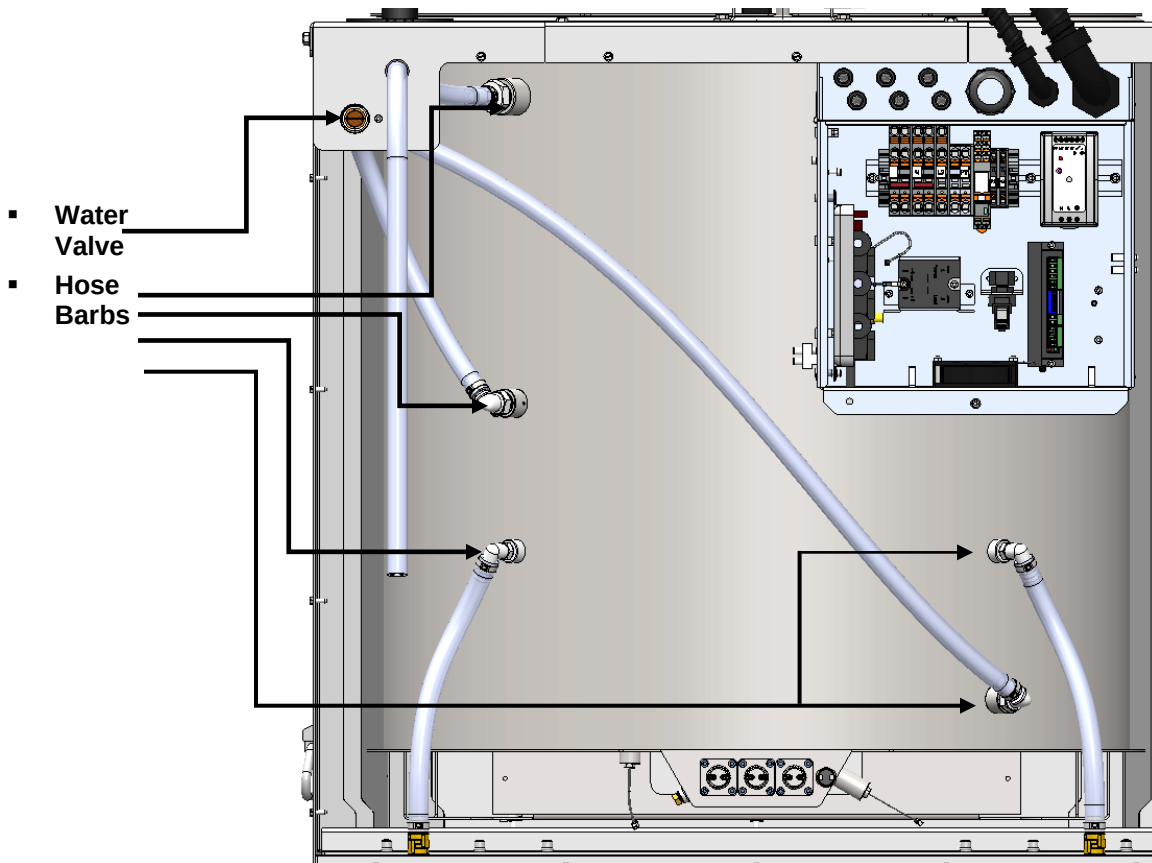
Make certain that the agitator motor is turning during the cycle. Replace if it is not working.

### Cold water is coming into the system:

If there is a leak in the system, such as a leaking cold-water solenoid valve, the heater cannot keep up and the colostrum will not heat properly. If the solenoid valve is leaking, water will flow continuously out of the discharge hose. Repair the leak or replace the valve.

### Water is Leaking from Under the Unit:

With power disconnected from the unit, open the back panel and check the heating elements, over-temperature switch, drain plug (See illustration on previous page), water valve and hose barbs on the side of the tank for leaks. Also check the thermostat in the bottom of the tank and for damage to the tank itself.



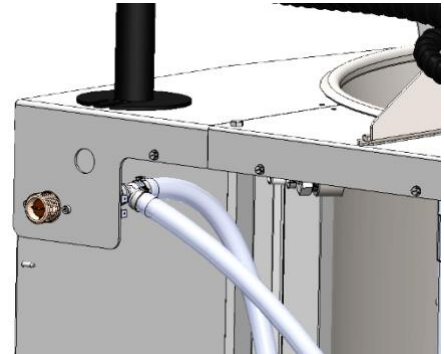
### Cooling Solenoid Valve Will Not Stop Running:

1. Check the power supply to the valve. If there is power keeping it open during unwanted times, the control could be malfunctioning, especially if the Blue "Water" LED is on at inappropriate times. Replace control.
2. It is possible that some debris has held the solenoid open. Disconnect power and remove tubing from valve inside cabinet. Blow into the supply hose to eject any debris from the valve or force water backward through the valve. The valve may need to be replaced if it is not closing when power to the solenoid is cut off.

### Adda Will Not Cool:

At the end of the heating and time-out cycle, the cooling solenoid valve should automatically open and allow cool water into the machine.

- Make certain the discharge drain is not blocked, kinked, or obstructed with back pressure of any kind.
- Make certain the cold-water supply to the unit is always on. It is common to find that someone has shut the valve not knowing its importance.
- Check the cooling solenoid valve.
- Troubleshoot valve by opening the Perfect Udder app, selecting the machine, then pressing SETTINGS > TEST > WATER > START. Is there power to the solenoid valve? If the power is on but water will not flow, replace the valve.
- No power to the valve? Check for 24V DC power at the water valve terminals. Replace if necessary.
- Check the water supply to make sure screens and filters are free from debris and kinks in the hoses.
- Check that water is not flowing out of the pressure relief valve at the bottom of the machine. That would indicate the drain is blocked.



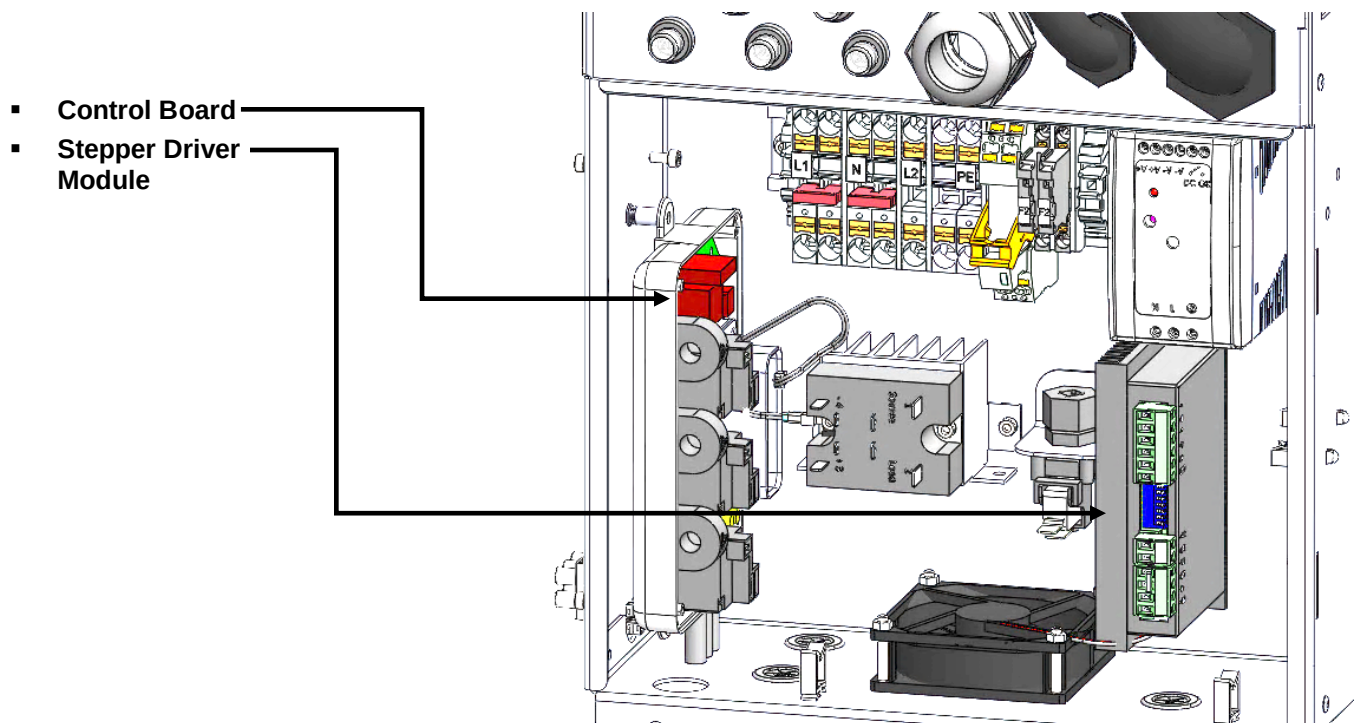
### Colostrum is Separated or Congealed:

The most common cause for colostrum to separate or congeal is acidification. Fermentation of the colostrum by bacteria will cause the release of lactic acid and other acidic by-products resulting in a lower pH. This in turn allows it to separate. The heat of pasteurization will exacerbate this problem. To control this, cool the colostrum during holding stages or pasteurize the colostrum sooner after collection to prevent the start of fermentation.

1. A less common cause is temperatures that are too high (*rarely a problem since our units cannot superheat water*). However, this could be the result of a modified PASTEURIZATION TEMPERATURE. Check this setting to verify that it is set to 140°F (60°C).

## Stir Motor is NOT Turning:

- Make certain that the wires to the motor have not been damaged or pulled out of either the motor housing, or the Stepper Driver Module.
- Ensure that there are no loose connectors on the Stepper Driver Module (see figure): Call Dairy Tech Support for assistance in properly re-locating any loose connections.
- Troubleshoot motor by opening the Perfect Udder app, selecting the machine, then pressing SETTINGS > TEST > MOTOR > START. If there is power to the motor and it will not turn, replace the motor.
- If there is no power to the motor, check the Perfect Udder app screen for errors.
- If the motor sounds like it is on, but the stir shaft is not turning; check to make sure the couplings between the motor and the stir shaft coupling are fully tight. You can remove the motor to check rotation of the motor output shaft.



## Stir Motor is Turning Slowly:

Make certain that the DIP switches on the Stepper Driver Module are properly configured according to the picture below.



## Application is non-responsive.

If your application becomes unresponsive, exit completely out of the app and reopen it. If problem persists try restarting your phone and power cycling your machine.

**Note:** For a stable connection, the distance between your phone and machine needs to be within 100ft, however there are variables that may decrease that range. You will need to experiment with this distance to determine what range works best in your environment.

## Error Symbols

If a problem is detected, Adda will display a RED symbol to help you determine what the issue could be. Tapping on the error number will give additional information about the error. Additional troubleshooting steps are given in the table below.

| Symbol                                                                              | Issue                                 | Solution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | Tank Temperature Failed to Rise       | <p>This failure will occur if the tank temperature does not reach its set temperature within 120 minutes of the cycle start time.</p> <ul style="list-style-type: none"> <li>• Check that the water supply has not been turned off.</li> <li>• Check the heating elements for damage.</li> <li>• Check the line voltage and wiring.</li> <li>• Try power cycling the machine and checking if the problem persists.</li> <li>• Check the 1 Phase / 3 Phase machine setting.</li> <li>• Check if the circuit breakers need to be reset.</li> <li>• Check the line voltage and wiring.</li> <li>• Check for other temperature sensor faults.</li> </ul> |
|   | Water Valve Electrical Error          | <ul style="list-style-type: none"> <li>• Check the solenoid valve for visual damage and/or scorching.</li> <li>• Check the terminals on the back of the solenoid valve to ensure they are receiving 24 VDC when the BLUE LED is on at the controller interface</li> </ul>                                                                                                                                                                                                                                                                                                                                                                            |
|  | Motor Temperature Over or Under Limit | <ul style="list-style-type: none"> <li>• Do not operate the machine in freezing conditions.</li> <li>• Do not operate the machine if the air temperature exceeds 50°C (122°F).</li> <li>• When powered off, check that the propeller shaft rotates freely, and the propeller is clean.</li> <li>• Try power cycling the machine and checking if the problem persists.</li> </ul>                                                                                                                                                                                                                                                                     |

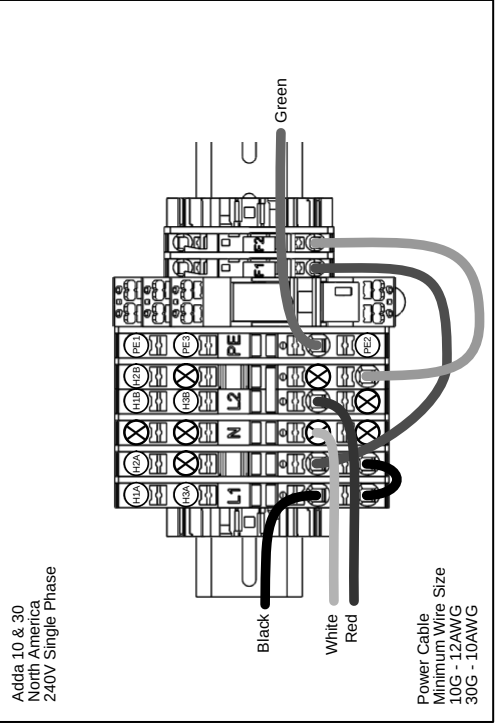
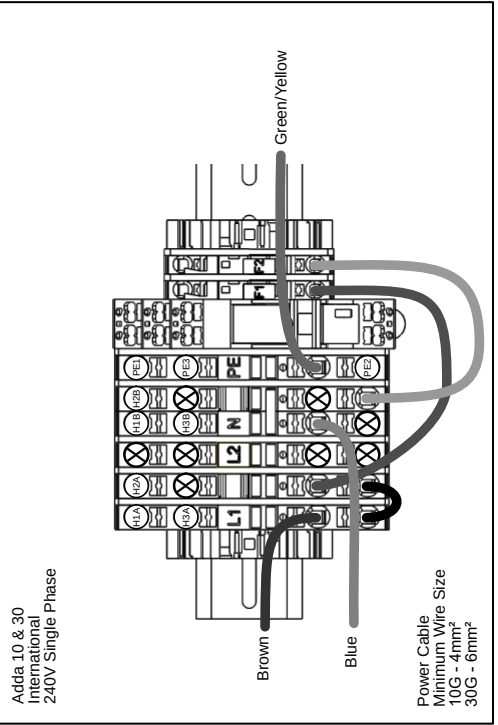
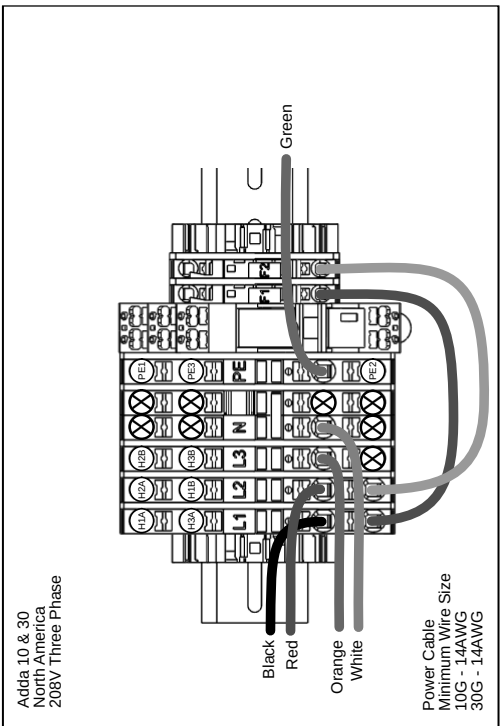
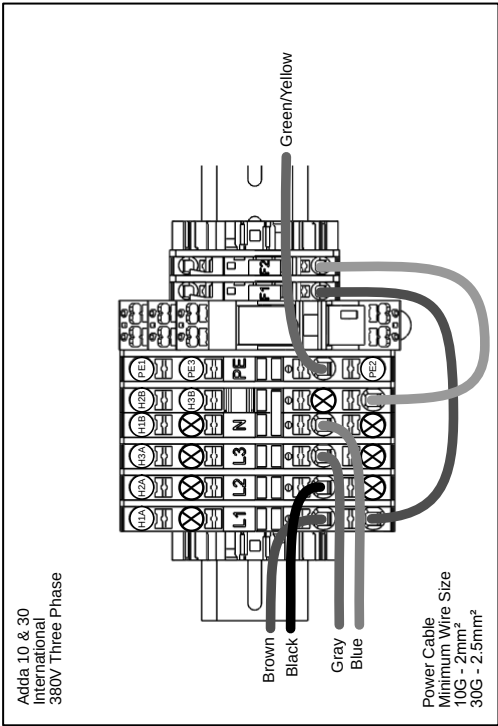
|                                                                                   |                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | The Tank Temperature Sensor measurement was out of range.                                                       | <ul style="list-style-type: none"> <li>• Check that the Tank Temperature Sensor is plugged into the Controller PCB.</li> <li>• Try power cycling the machine and checking if the problem persists.</li> <li>• It is possible that the water jacket is too hot. Check to make sure that the jacket is completely full of water by opening the water valve and ensuring that water flows out of the drain hose immediately.</li> </ul>                                                                                                                |
|                                                                                   | The Process Temperature Sensor measurement was out of range.                                                    | <ul style="list-style-type: none"> <li>• Check that the Process Temperature Sensor is plugged into the Controller PCB.</li> <li>• Verify that the temperature of the fluid in the tank matches the temperature reported by the machine using an independent thermometer.</li> <li>• Try power cycling the machine and checking if the problem persists.</li> </ul>                                                                                                                                                                                  |
|                                                                                   | The temperature of the heater SSR was outside of its operating range.                                           | <ul style="list-style-type: none"> <li>• Do not operate the machine in freezing conditions.</li> <li>• Do not operate the machine if the air temperature exceeds 50°C (122°F).</li> <li>• Check if the air flow to Controller Board and SSR is blocked, and check if the fan is still spinning (the fan should be on at all times when the controller is powered).</li> <li>• Check that the SSR Temperature Sensor is plugged into the Controller Board.</li> <li>• Try power cycling the machine and checking if the problem persists.</li> </ul> |
|                                                                                   | A large temperature difference was measured between the Tank Temperature Sensor and Process Temperature Sensor. | <ul style="list-style-type: none"> <li>• This could indicate that one of the temperature sensors has failed and needs to be replaced.</li> <li>• Check to make sure that there is fluid present in the tank.</li> <li>• Check that the water jacket is full.</li> <li>• Ensure the water solenoid valve is closing.</li> <li>• Check for other temperature sensor faults.</li> </ul>                                                                                                                                                                |

|                                                                                   |                                                                               |                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Element #1, #2, or #3 was using more current than expected.                   | <ul style="list-style-type: none"> <li>• Check that the voltage across indicated heating element does not exceed 250 VAC.</li> <li>• Disconnect power and check that element resistance is greater than 18 <math>\Omega</math>.</li> </ul>                                                         |
|                                                                                   | Element #1, #2, or #3 was using less current than expected                    | <ul style="list-style-type: none"> <li>• Check that the voltage across the middle heating element is at least 200VAC.</li> <li>• Disconnect power and check that element resistance is less than 30 <math>\Omega</math>.</li> </ul>                                                                |
|                                                                                   | The temperature sensors in the tank measured a significant difference.        | <ul style="list-style-type: none"> <li>• Check that the tank is full of water.</li> <li>• Check that the solenoid valve turns off when tank is full during heating.</li> </ul>                                                                                                                     |
|                                                                                   | The 24VDC, 3.3VDC, or 1.8VDC line in the control board measured out of range. | <ul style="list-style-type: none"> <li>• Try power cycling the machine and checking if the problem persists.</li> <li>• Check if the wires have been disconnected from the temperature switch terminals.</li> <li>• Check for continuity between the over-temperature switch terminals.</li> </ul> |
|                                                                                   | The control board relay #1, #2, or #3 output driver reported an error.        | <ul style="list-style-type: none"> <li>• Try power cycling the machine and checking if the problem persists.</li> <li>• Check for additional error codes.</li> </ul>                                                                                                                               |
|                                                                                   | The control board SSR #2 output driver reported an error.                     | <ul style="list-style-type: none"> <li>• Check the solid-state relay wiring.</li> <li>• Check for additional error codes.</li> </ul>                                                                                                                                                               |

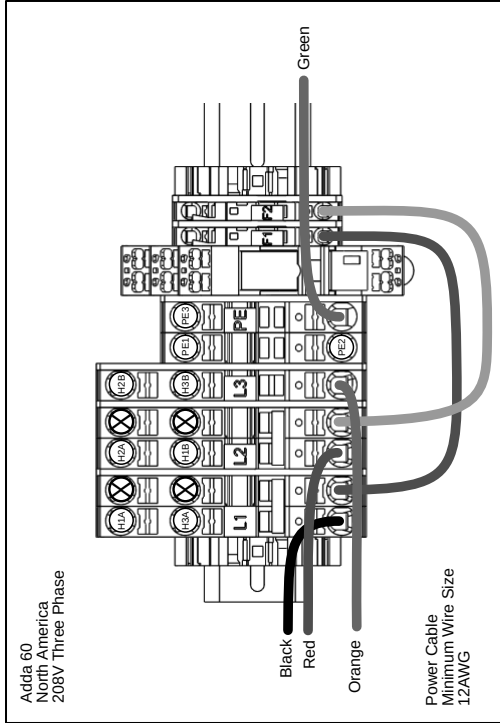
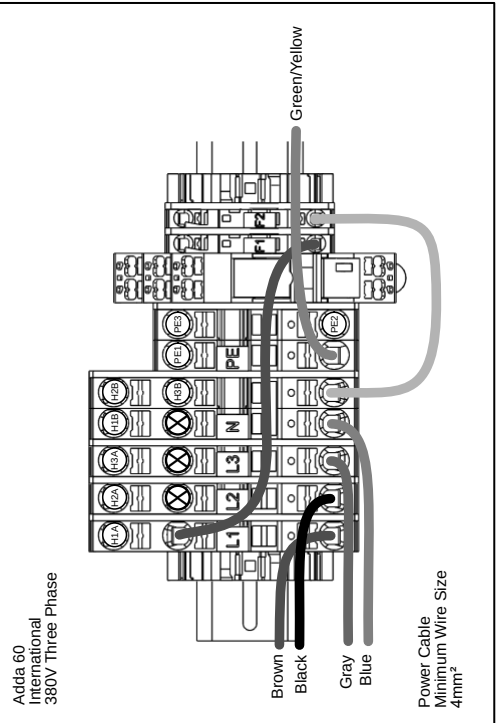
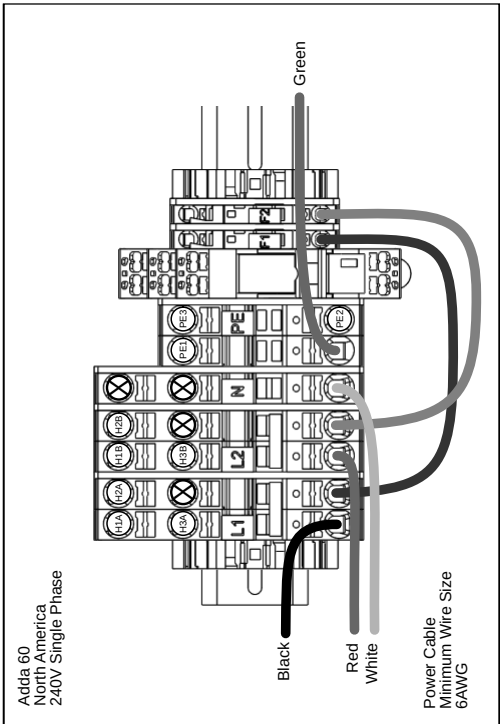
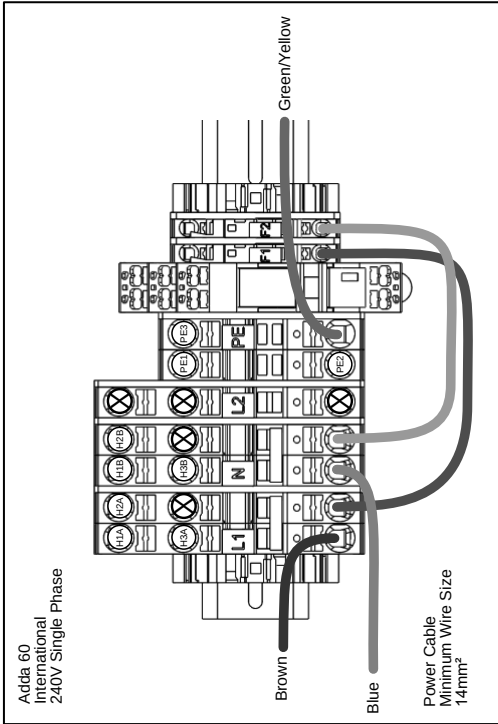
**NOTE:** This is only a basic list of possible error symbols, possible issues and solutions. For the most comprehensive diagnostic tool, please use the Perfect Udder® App. It not only has the most up-to-date trouble shooting guides, it also gives you the ability to monitor individual machine performance and install system software updates.



# Adda 10G/30G Wiring Options



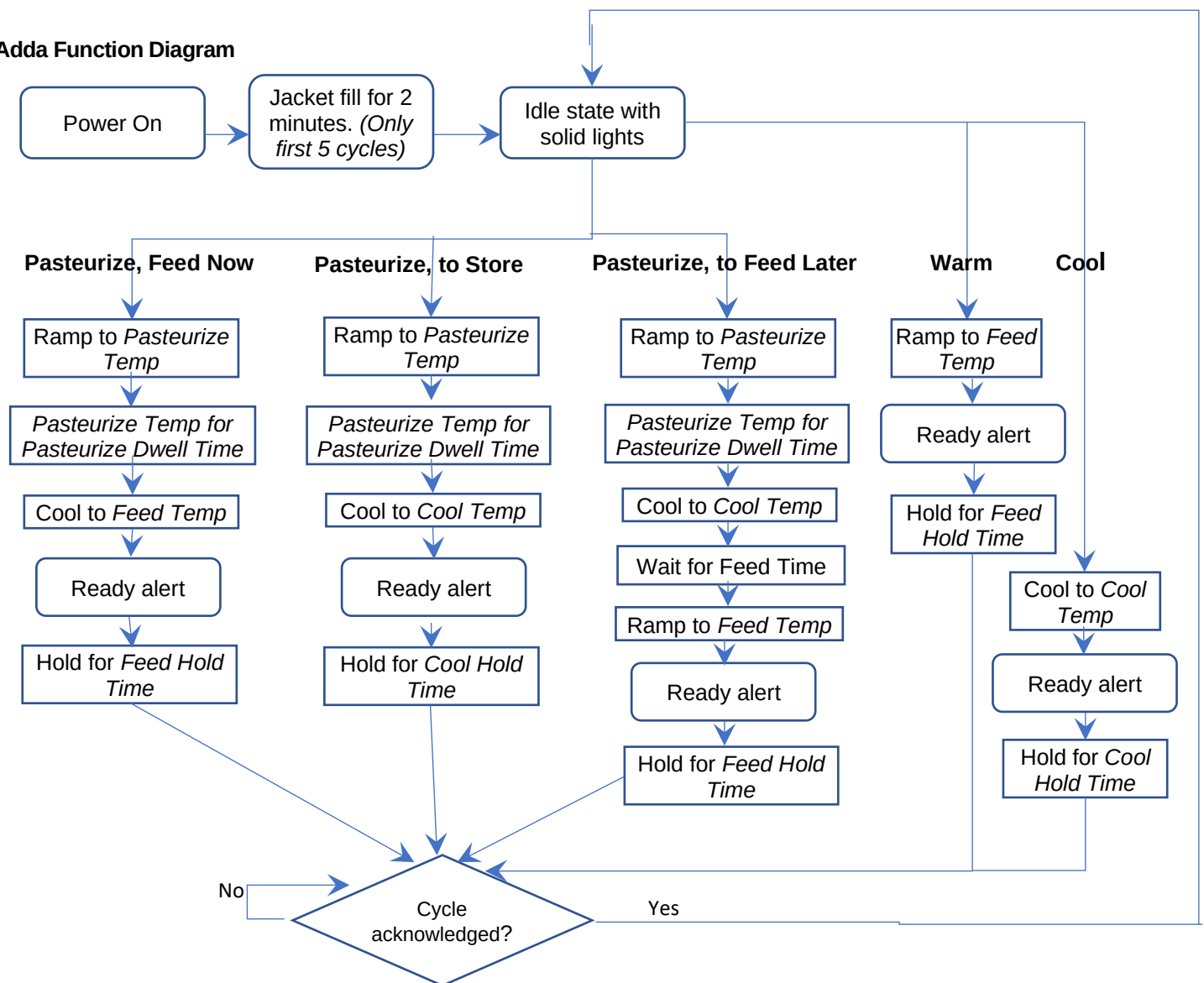
# Adda 60G Wiring Options



# Adda Time and Temperature Defaults

| Times and Temperatures Settings |          |          |          |
|---------------------------------|----------|----------|----------|
| Name                            | Default  | Min      | Max      |
| Feed Temp (°F/°C)               | 105/40.5 | 90/32.2  | 115/46.1 |
| Feed Hold Time                  | 5        | 2        | 120      |
| Cool Temp (°F/°C)               | 90/32.2  | 40/4.4   | 110/43.3 |
| Cool Hold Time                  | 15       | 10       | 200      |
| Temp Calibration (°F/°C)        | 0        | -18/-10  | +18/+10  |
| Pasteurize Temp                 | 140/60   | 130/54.4 | 161/71.7 |
| Pasteurize Dwell Time           | 60       | 1        | 200      |

## Adda Function Diagram



# Replacement Parts

**This section lists the replacement parts and their part numbers. If you need assistance, please visit our website, or call our Service Department at 866.384.2697.**

| Part Name                 | DESCRIPTION                                           |
|---------------------------|-------------------------------------------------------|
| ME-AirSwitch              | 220v rated air switch with push button via air tubing |
| ME-PowSupply-Adda         | 24V 96W Industrial DIN Rail Power Supply              |
| ME-Panel-LED              | LED Panel Indicator, 24V, 8mm                         |
| ME-fanDC24V               | 80mm Fan 24VDC                                        |
| ME-Relay-Adda             | Relay Module                                          |
| ME-TB-FuseBlk             | Fuse Terminal Block PT 4                              |
| QE-Fuse 5x20mm            | 5x20mm glass cartridge fuse 3A 250V                   |
| QE-Speaker                | Loudspeaker PUI Audio                                 |
| QE-RelaySS-240            | 240V solid state relay                                |
| MP-ValveClampSS1"         | Stainless steel sanitary clamp 1"                     |
| MP-ValveSS1"              | Stainless steel 1" sanitary butterfly valve           |
| MP-Spigot                 | Stainless steel custom flanged spigot 1"              |
| QE-PCA-Combined12123      | Controller board.                                     |
| MP-Gasket 1"              | 1" sanitary gasket for stainless steel tube           |
| QP-Valve 24VDC            | Water Valve, 24VDC, GHT to 12mm Barb                  |
| ME-Step Motor             | IP65 NEMA 23 Stepper Motor                            |
| ME-Step Driver            | 5.6A Digital Stepper Drive                            |
| MH-Flex Coupler           | 10mm Flexible Shaft Coupling                          |
| QE-TempSensorRingTerminal | NTC Surface Temp Sensor                               |
| ME-ThermistorProbe        | Thermistor probe for all Addas, 2 per unit.           |
| MM-3D182-Step Tower Assy  | Stepper Motor Stir Tower Assembly                     |
| MM-MotorCoverBottle       | White Cast Motor Cover                                |
| MP-ValRelief              | Pressure Relief Valve 4.5#                            |
| MH-Control Mount Arm      | Mount for control box.                                |
| QE-Thermostat-80C         | Thermostat, OverTemp                                  |
| QE-CircuitBreaker15       | Circuit Breaker, 88-15A(m)-Metal+Cap (10G & 30G ONLY) |

| <b>10G Only</b>          |                                       |
|--------------------------|---------------------------------------|
| BM-shaft10G              | 10G Stirring Shaft                    |
| BM-Prop -10G             | 10G Stainless Steel stirring prop     |
| BM-10G-Tank              | 10G Milk Tank                         |
| BM-LidSS-10G             | 10G Lid                               |
| BE-elem1500w Bolt-In     | 10G Heat Element, 1500W, Flange Mount |
| BM-BagGuard              | 10G BagGuard                          |
| <b>30G Only</b>          |                                       |
| AM-shaft30G              | 30G Stirring Shaft                    |
| MM-5D290-Prop30/60G      | 30G Stainless Steel stirring prop.    |
| AM-30G-Tank              | 30G Milk Tank                         |
| AM-LidSS-30G             | 30G Lid                               |
| AE-elem 1850w Bolt-In    | 30G Heat Element, 1850W, Flange Mount |
| AM-BagGuard              | 30G BagGuard                          |
| <b>60G Only</b>          |                                       |
| JM-2548-StirShaft        | 60G Stirring Shaft                    |
| MM-5D290-Prop30/60G      | 60G Stainless Steel stirring prop.    |
| JM-tank60G               | 60G Milk Tank                         |
| JM-LidSS                 | 60G Lid                               |
| JE-element 3000w Bolt-In | 60G Heat Element, 3000W, Flange Mount |
| JE-CircuitBreaker20      | Circuit Breaker, 88-20A(m)-Metal+Cap  |
| JM-BagGuard              | 60G BagGuard                          |