

# SPACEMAN<sup>USA</sup>

COMMERCIAL ICE CREAM & FROZEN BEVERAGE EQUIPMENT

## MACHINE MANUAL



## MODEL SM-6228H

SOFT SERVE - COUNTERTOP - ONE FLAVOR

### Customer Service

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8 AM – 5 PM Mountain

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# INTRODUCTION

## WELCOME TO YOUR MACHINE:

Welcome to your Spaceman USA Model 6228H soft serve machine, engineered and designed to provide dependable operation and a consistent, quality product:

- ◆ One-flavor countertop soft serve machine with portion control
- ◆ Digital control system for automatic regulation and maximum customization
- ◆ Approved for dairy and nondairy products
- ◆ Hopper refrigeration to maintain product temperature below 40°F (4°C)
- ◆ Digital viscosity-control system to adjust and maintain product consistency

This machine manual is intended to instruct users on the installation, operation, cleaning, and routine maintenance procedures. Information contained in this manual may be subject to change. Please check online or contact Spaceman USA Technical Support at (720) 328-1020 for continued updates, training, and detailed information about your Spaceman machine.

## LOOK OUT FOR THESE ICONS:



**WARNING:** Denotes an action that WILL cause harm to the operator or machine if performed incorrectly.



**CAUTION:** Informs the operator of a task that may lead to harm if protocol is not properly performed.



**IMPORTANT:** Represents a vital mechanical step or note that the user must be aware of.



**NOTE:** Non-hazard, but pay extra attention.

Green boxes throughout the manual represent instructions for machines with air pumps. Users without air pumps can disregard these boxes.

## FOLLOW INSTRUCTIONS TO BE SAFE:



**CAUTION:** This machine has many built-in safety features to protect the operator while the machine is running.

**Be cautious and follow instructions carefully when operating, cleaning, and servicing the machine.**

All personnel operating this machine **MUST** read and understand this manual in its entirety. Failure to comply with this manual may damage the machine and cause severe injury to the operator.

# TABLE OF CONTENTS

## WHAT DO YOU WANT TO DO?

<b>Learn about the manual .....</b>	<b>1</b>
<b>Quickly refresh your knowledge on basic machine operation and parts .....</b>	<b>3</b>
<b>Ensure installation requirements .....</b>	<b>5</b>
<b>Unpack machine .....</b>	<b>6</b>
<b>Perform routine maintenance .....</b>	<b>7</b>
Clean .....	8
Drain frozen product .....	8
Disassemble parts .....	9
Wash parts .....	11
Assemble parts .....	13
Sanitize .....	15
<b>Manage frozen product .....</b>	<b>17</b>
Add product to machine .....	17
Freeze product .....	18
Dispense product .....	18
Reset machine after freeze-up .....	18
Use STANDBY mode for breaks in machine use .....	19
Adjust and maintain product consistency .....	19
Change product temperature in hoppers .....	20
Change date and time .....	20
Adjust advanced settings .....	20
<b>Troubleshoot problems .....</b>	<b>21</b>
<b>View machine specifications, including parts and wiring diagrams.....</b>	<b>23</b>

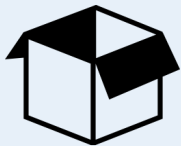
# QUICK OPERATION REFRESH



**WARNING:** The Quick Operation Refresh is for experienced 6228H operators and for reference **ONLY**. Detailed start-up instructions **MUST** be followed to ensure proper installation, cleaning, and operation of the machine. Failure to do so may result in **severe** damage or injury.

## INSTALLATION AND SETUP

1



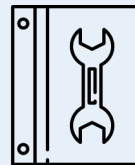
Unpack and inspect machine, parts, and accessories.

2



Place machine in appropriate food preparation area. Comply with all installation requirements (Page 7).

3



Read and understand ALL safety and standard operating procedures.

## CLEANING AND PREPARATION

4



Fully disassemble machine, and prepare parts for cleaning.

5



Thoroughly clean and scrub machine hoppers, cylinders, and all parts.

6



Lubricate and re-assemble all machine parts.

7



Fully sanitize machine.

## OPERATION

8



Prepare product in a separate container, and ensure product is thoroughly mixed.

9



Add product to hoppers and prime the cylinder using the prime plug.

10



Turn machine to FREEZE mode, and wait for product to reach frozen consistency.

11



Slightly adjust viscosity setting as necessary to adjust product firmness.

# QUICK OPERATION REFRESH

## MACHINE PARTS



Dispensing Door Assembly (1),  
with included parts:



Star Cap (1)



Beater Rod (1)



Gasket (1)



Beater Guide (1)



Draw Handle (1), with  
Adjusting Screw (1)



Hand Screws  
(4)



Prime Plug (1), with  
O-Rings (2)



Retention Pin (1),  
with Nut (1)



Draw Valve (1),  
with O-Rings (2)



Beater (1)



Scraper Blade Clips (2)



Scraper Blades (2)



Beater Shoes  
(1 Left and 1 Right)



Hopper Agitator (1)  
(if included)



Drive Shaft (1)



Drive Shaft Gasket (1)



Hopper Lid (1)



Air Tube (1) and Cap (1)



O-Ring Removal Tool (1)



Brush Kit (1)



Internal Drip Tray (1)



Front Drip Tray (1), with  
Splash Shield (1)



Air Pump Assembly  
(if included)

# INSTALLATION REQUIREMENTS

## ELECTRICAL REQUIREMENTS

In the United States, it is required that this machine be installed in compliance with the National Electrical Code (NEC), ANSI/NFPA 70-1987 to practically safeguard persons and property from hazards arising from the use of electricity. The unit must be installed into a properly grounded receptacle for the cord and plug provided. The machine is labeled with detailed electrical specifications. Refer to the wiring diagrams for the correct power connections.

## REFRIGERANT REQUIREMENTS

Spaceman USA requires that only the specified refrigerant be used in your machine. Alternative refrigerants may cause damage to the cooling system and/or prevent the machine from operating at optimal performance. If you require an alternative refrigerant, please call Spaceman USA Technical Support for a list of compatible alternatives for your compressor.

**Main compressor:** 1x 4400 BTU, R404A

## MACHINE PLACEMENT REQUIREMENTS

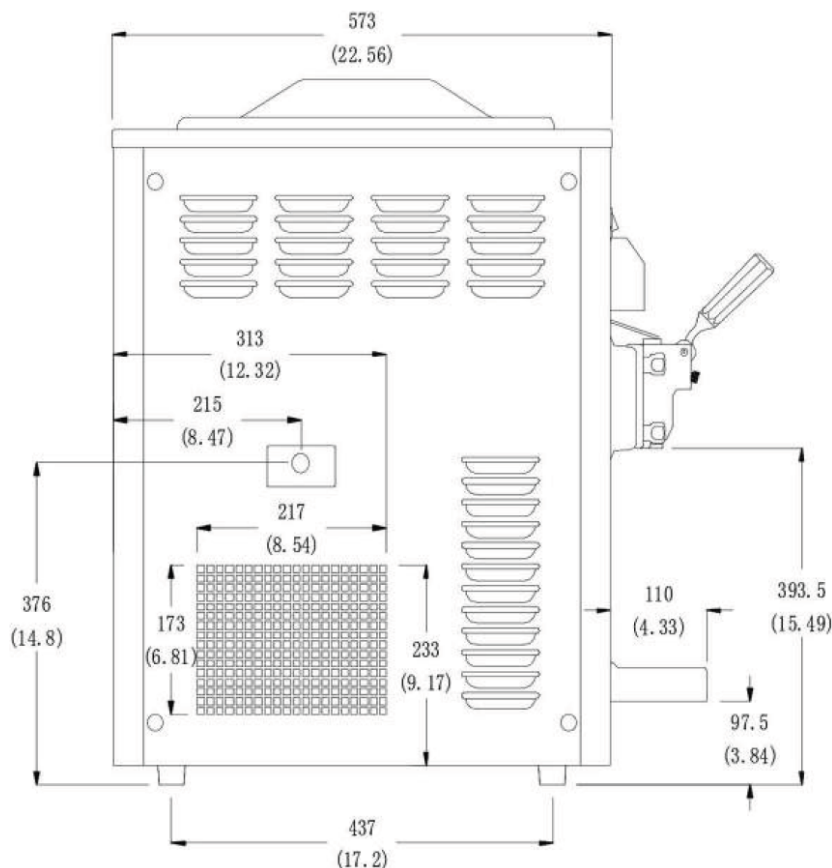


**CAUTION: The machine must be placed on a level surface away from walls and other objects.** Failure to comply will damage the machine and refrigeration components and will void all warranties.



**CAUTION: The machine is designed to operate in normal ambient temperatures of 60 to 75°F.** Operating in higher ambient temperatures will result in degraded performance.

- ◆ Place on a flat, level, and solid surface fitted to the machine dimensions.
- ◆ Ensure a minimum 6-inch clearance on all sides, front, and back.
- ◆ Completely clear area of dust, grease, and airborne particles.
- ◆ Place away from hot equipment such as stoves, frying baskets, ovens, etc.



## 1. UNPALLETIZE MACHINE

Unpalletizing requires lifting.



**Two or more personnel should remove the machine from its packaging and place it in its final operating location.**

Failure to do so may result in severe injury or damage.

1. Cut packing straps, and remove cardboard lid and outer sides from the pallet. **DO NOT** cut cardboard.
2. Remove plastic wrapping around machine.
3. Cut stabilizing straps, being careful not to scratch or dent the machine panels.
4. Prepare the table or stand that the machine will be placed on.
5. If the table or stand has casters, lock all casters prior to setting the machine on top.
6. Place the machine on top of the stand, countertop, or table.
7. Place the machine in its final location according to the Installation Requirements (Page 5).

## 2. CHECK FOR SHIPPING DAMAGE

Inspect the machine for any shipping damage. If you find any, contact Spaceman USA Technical Service immediately after unpalletizing. Our technicians will help you assess the damage and determine the appropriate action prior to accepting the delivery.

## 3. UNPACK AND INSPECT PARTS

Refer to the detailed parts diagrams on the back pages if necessary.

1. Remove all packaged parts and accessories from your machine.
2. Organize items on a clean table or operating area using the checklist below.
  - Hopper Lid
  - Front Drip Tray + Splash Shield
  - Dispensing Handle
  - Retention Pin with Nut
  - Start-Up Kit
  - Brush Kits (1 Large and 1 Small)
  - Machine Manual
3. Inspect for damage immediately upon unpacking, and call Spaceman USA Technical Service if you discover any damaged or missing parts.
4. Clean and properly lubricate machine parts prior to machine operation.

After unpacking and inspecting the parts, you are ready to disassemble the machine and prepare for the first operation. **Read about Routine Maintenance (Page 7) carefully prior to disassembling your machine for the first time.**

# ROUTINE MAINTENANCE

## ROUTINE MAINTENANCE OPERATIONS:

- ◆ **Clean and Lubricate** Daily
- ◆ **Replace Wearable Parts** Every 1 to 3 months\*
- ◆ **Internal Cleaning** Quarterly\*\*

\* Based on machine usage and cleaning intervals; a Tune-Up Kit is available with all wearable parts (O-rings, gaskets, etc.) except scraper blades

\*\* Based on cleanliness of location and proximity to powder-based machines

For optimal machine performance and many years of efficiency and reliability from your machine, Spaceman USA recommends cleaning and sanitizing the machine and its parts **daily**. The machine comes equipped with a brush kit specifically designed to efficiently and properly clean the machine.



**Tune-Up Kit**



**WARNING:** If this is the first time operating the machine, you **MUST** clean and sanitize **ALL** parts prior to running the machine.



**IMPORTANT:** Cleaning and sanitizing schedules are governed by state or local regulatory agencies and **MUST** be followed accordingly. Routine maintenance **MUST** be performed a minimum of once every three days.



### CAUTIONS:

- ◆ Do **NOT** run the machine without properly lubricating required parts.
- ◆ Do **NOT** clean the machine with abrasive or toxic chemicals and cleaners. Doing so may cause damage to the stainless steel material.
- ◆ **ONLY** use Spaceman-USA-included cleaning brushes and lubrication.
- ◆ **NEVER** use metal objects to clean or operate the machine.
- ◆ **ALWAYS** replace wearable parts a minimum of every 3 months.
- ◆ **ALWAYS** prime machine prior to operating.
- ◆ **ALWAYS** inspect parts for excess wear and damage.



**NOTE:** Additional brushes, lubrication, wearable parts, and tools can be purchased from Spaceman USA to ensure proper maintenance. Extra wearable parts (except scraper blades) are found in the Start-Up Kit.



# CLEANING: 1. DRAIN PRODUCT

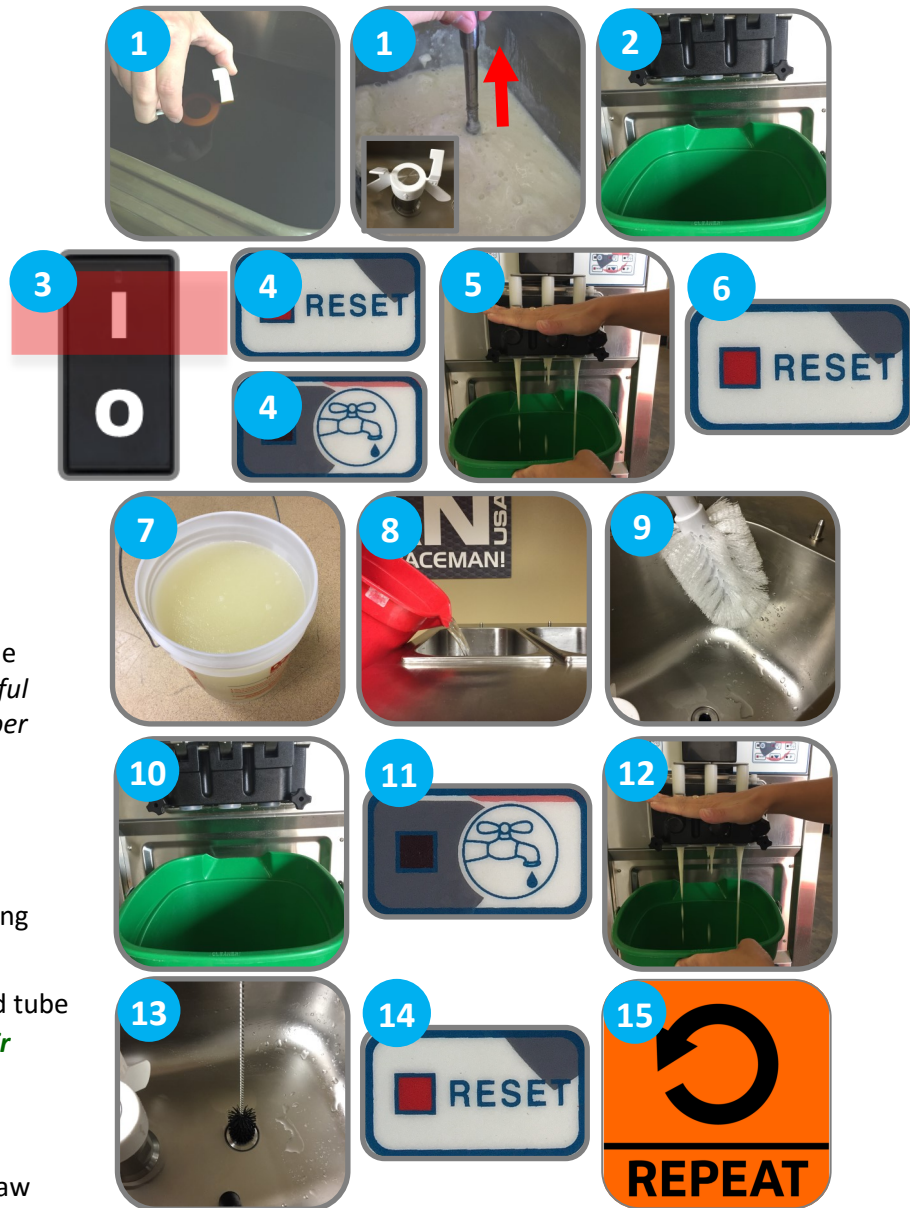


**NOTES:** To expedite draining, turn off machine 30 minutes prior to soften product.  
To expedite process, keep a bucket nearby to temporarily store removed parts.



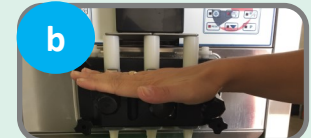
**CAUTION:** Never use warm water when rinsing the machine to prevent damage.

1. Remove hopper lid, air tube, and (if present) agitator; *if machine has air pump, do not disconnect air tube*
2. Place a bucket or other container below dispensing assembly
3. Turn power switch to ON
4. Press RESET button; press WASH button
5. Move draw handle to OPEN position (DOWN); CLOSE draw handle (UP) when product flow slows significantly
6. Press RESET button to pause wash cycle
7. Remove product and dispose or refrigerate it
8. Fill hopper with one gallon of COOL water
9. Use cool water and the large brush to scrub the sides and bottom of the hopper; *be VERY careful not to damage the low-mix sensor in the hopper*
10. Place a bucket or other container below the dispensing assembly
11. Press WASH button
12. OPEN draw handle to drain water and remaining product; CLOSE when finished
13. Use the small brush kit to clean inside the feed tube at the bottom of the hopper; *if machine has air pump, this step is not necessary*
14. Press RESET to pause wash cycle
15. Repeat steps 9 to 15 until water exiting the draw valve is clear and free of product



16. If machine has air pump:

- a. Press RESET button
- b. OPEN draw handle (DOWN) for 10 to 15 seconds to relieve pressure in cylinders



# CLEANING: 2. DISASSEMBLE



**NOTE:** Prepare dishwashing area prior to disassembly, use bucket to temporarily store large removed parts and a small container for O-rings, and have a towel nearby to capture excess water.



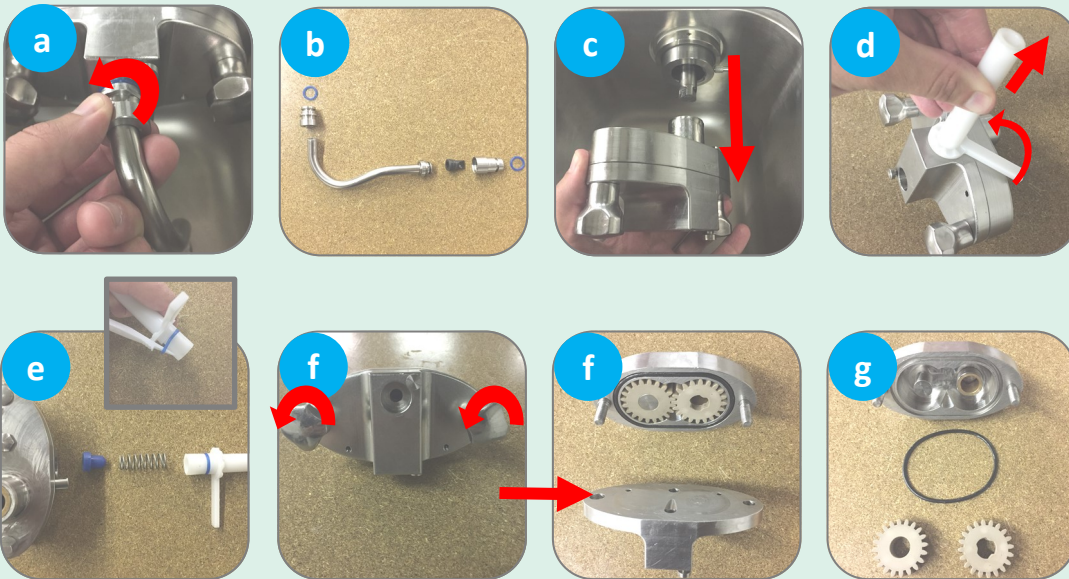
**CAUTION:** Always separate O-rings and gaskets from metal parts to prevent damage while washing.

## 1. Turn power switch OFF



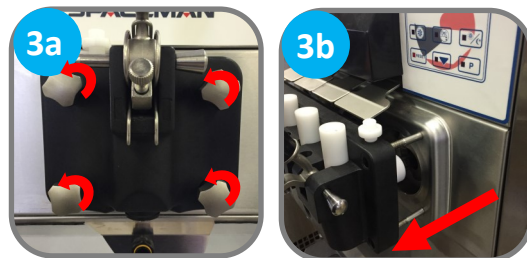
## 2. If machine has air pump, disassemble it

- OPEN draw handle to verify zero pressure in cylinder;** twist air tube connector to unlock and disconnect air tube
- Take air tube apart completely; air tube has O-rings (3), connectors (2), and check valve (1)
- Push in and rotate air pump 1/4 turn clockwise; pull to remove
- Rotate suction tube to unlock and remove suction tube, spring, and stopper out of air pump; *watch that spring doesn't fly out*
- Take suction tube apart completely; suction tube has O-ring (1), spring (1), and stopper (1)
- Unscrew bolts on air pump housing; separate air pump cover from shell
- Remove gears and O-ring from shell



## 3. Remove dispensing door

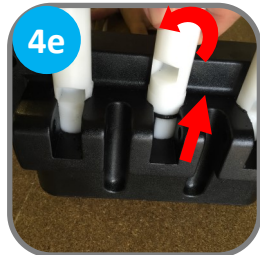
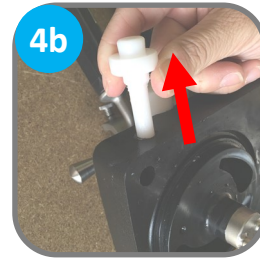
- Remove dispensing-door hand-screws (4)
- Remove dispensing door assembly from cylinder



## CLEANING: 2. DISASSEMBLE

### 4. Disassemble dispensing door

- Remove beater guide from door assembly; remove gasket from door assembly using O-ring removal tool
- Remove prime plug from door assembly; remove O-rings (2) from prime plug using O-ring removal tool
- Unscrew and remove retention nut; remove retention pin
- Remove draw handle, pushing down first to pop up draw valve, then pulling out
- Remove draw valve, *twisting while removing to prevent damage*
- Remove O-rings (2) from draw valve using O-ring removal tool
- Rotate star cap so that tab is accessible; snap off star cap



### 5. Disassemble beater assembly and drive shaft

- Remove beater assembly from cylinder
- Remove scraper blades (2) from beater assembly; separate scraper blade clips (2) from scraper blades
- Pull off beater shoes (2)
- Remove drive shaft from inside cylinder using a dry towel; separate gasket from drive shaft



**NOTE:** If you experience assembly difficulty with drive shaft, Spaceman offers a specialized removal tool for purchase.

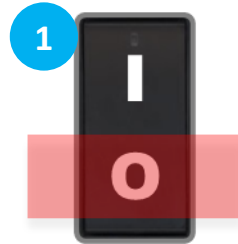
### 6. Remove internal drip tray and front drip tray + splash shield



# CLEANING: 3. WASH ALL PARTS

**CAUTION:** Never wash parts in a dishwasher. Always hand-wash components with nontoxic, food-safe cleaners.

1. Verify power switch is in the OFF position
2. Use the large brush and cool water to thoroughly clean inside the cylinder; *be sure to scrub the back of the cylinder and verify the cylinder is free of ALL product*
3. Thoroughly clean and dry the rear of the cylinder with the supplied black brushes and a clean, dry towel
4. Gently clean and wipe down the outside of the machine
5. Carefully and thoroughly wash all parts removed from the machine using supplied brushes, sponges, and clean towels; *if machine has air pump, be sure to include all air pump parts in cleaning*
6. When cleaning the dispensing door assembly, clean the priming port with a small brush
7. Carefully and thoroughly clean all gaskets and O-rings removed from the machine; *be sure to wipe gaskets and O-rings to remove excess lubricant*
8. Verify all parts are clean and free of all food product prior to re-assembling machine





# CLEANING: 4. ASSEMBLE



**CAUTION:** Never force the installation of any parts. All parts fit correctly without force. If parts don't seem to fit, remove all parts and repeat assembly.

## 1. Verify power switch is in the OFF position



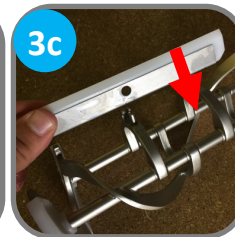
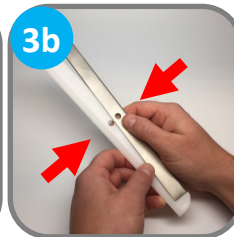
## 2. Install drive shaft

- Place drive shaft gasket on drive shaft
- Seal gasket open space with Spaceman lubricant, extending onto drive shaft and *avoiding the top square part*
- Insert drive shaft into rear shell bearing at the back of the cylinder, and turn it until the key engages firmly into the socket (when inserted correctly, the drive shaft will no longer turn 360°)



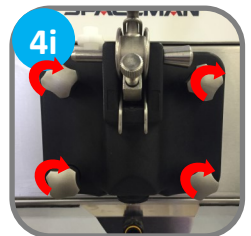
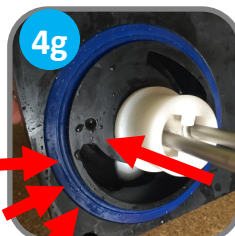
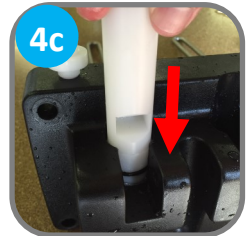
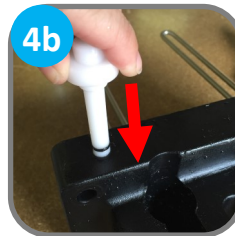
## 3. Install beater assembly

- Attach beater shoes (2) onto beater; when properly placed, neither shoe overhangs beater edge
- Install scraper blade clips (2) onto scraper blades (2)
- Fit scraper blades onto beater
- Insert beater assembly into cylinder, *making sure beater shoes stay in place*; turn assembly until it engages the drive shaft key and no longer turns 360°



## 4. Install dispensing door

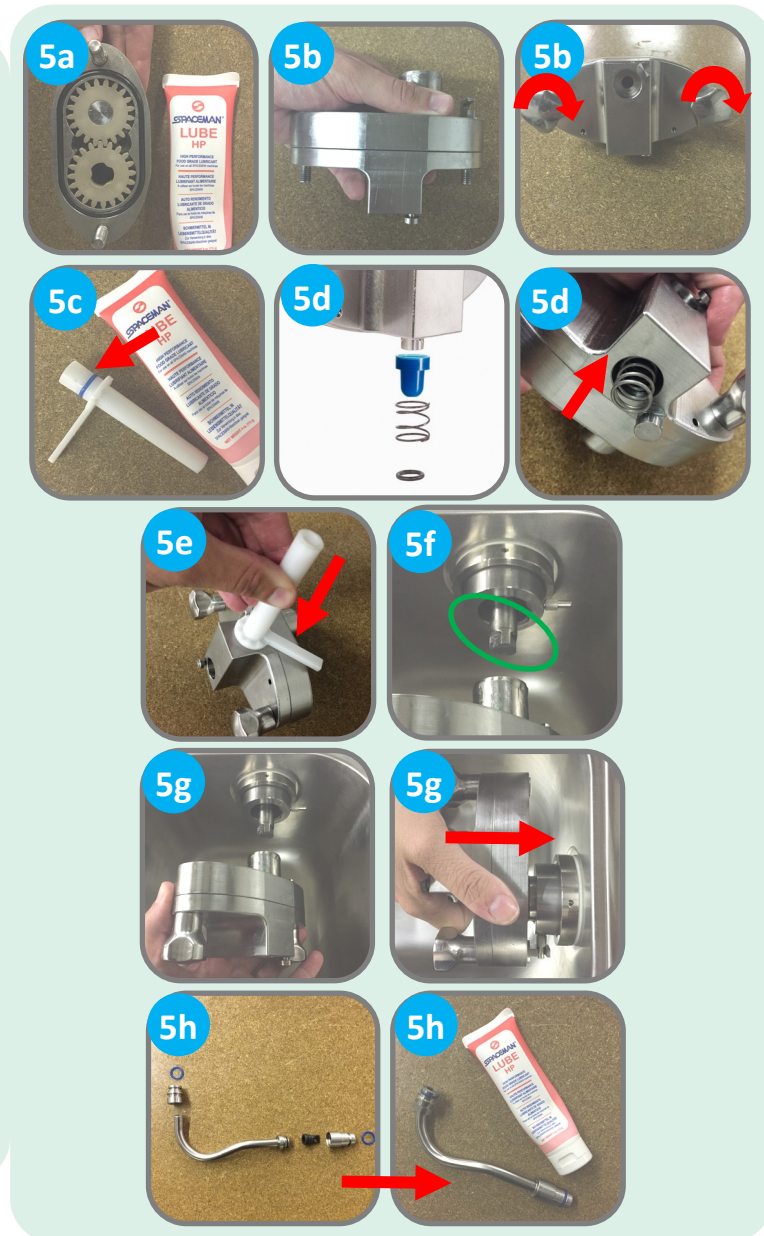
- Place O-rings (2) on draw valve; place O-rings (2) on prime plug; coat all ring areas with Spaceman lubricant
- Push prime plug into hole on top of dispensing door
- Insert draw valve into dispensing door, O-rings-first
- Set draw handle into slot on dispensing door, with adjustment screw facing down
- Slide retention pin through draw handle; secure with nut
- Snap star cap onto bottom of dispensing door
- Fit gasket into grooves on back of door, flat side out; slide beater guide over beater rod, with flanged edge against the door
- Insert dispensing door assembly into cylinder, beater rod first, pushing handle all the way up as you insert
- Secure door assembly in a cross-pattern using hand-screws (4)



# CLEANING: 4. ASSEMBLE

## 5. If machine has air pump, assemble and install it

- Place O-ring on rear shell, coating with Spaceman lubricant; install gears into shell (they only fit one direction)
- Connect cover and shell, ensuring they fit flush; secure with hand-screws
- Place O-ring on suction tube; lightly lubricate O-ring area
- Place air pump stopper into air pump spring, verifying orientation of stopper in spring; insert into housing **stopper-first**
- Insert suction tube into pump; rotate to lock, and turn to desired overrun setting
- Coat air pump drive shaft with Spaceman lubricant
- Install air pump onto machine:
  - insert at an angle
  - while pushing air pump in, slightly rotate back and forth until the gear engages the air pump drive shaft
  - push in and rotate counter-clockwise to lock in place
- Assemble air tube; air tube has O-rings (3), connectors (2), and check valve (1); lubricate O-ring areas
- If machine will go unused, install air tube into hopper, but do not connect to air pump; otherwise, set air tube aside until after machine has been primed



## 6. Install hopper lid, agitator, and drip trays

- Coat inside of agitator (if present) with Spaceman lubricant and install with arrow pointing up
- Install internal and front drip trays
- If machine will be left unused, install air tube and place hopper lid on top; otherwise, set air tube aside until after machine has been primed

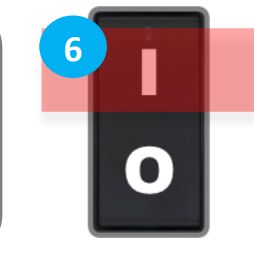


# SANITIZATION

**IMPORTANT:** After sanitizing the machine, DO NOT rinse or touch areas that have been sanitized. Product must be added immediately. If new product will not be added immediately, rinse machine with clean water and loosen door hand-screws to allow cylinder to air-dry. Sanitize machine before using again.

**CAUTION:** Always use food-grade, no-rinse sanitizer to sanitize. If warm water is required to dissolve sanitizer, allow the solution time to cool before adding to machine.

1. Verify assembly is complete
2. If installed, remove hopper lid and air tube
3. Verify draw valve is in the CLOSED position (UP)
4. Mix a minimum of 2 gallons of food-grade sanitizer in a bucket or container
5. Pour half the food-grade sanitizer solution into hopper
6. Turn power switch ON
7. Press RESET button; press WASH button to begin cycle
8. Allow solution to agitate for 5 to 10 minutes; *NEVER leave machine on WASH for more than 10 minutes*
9. While agitating, gently use a clean brush to scrub and distribute sanitizer solution along hopper walls
10. Place a bucket or container below the draw valve
11. OPEN the draw valve (DOWN) and drain solution from the machine
12. Press RESET button to stop cycle







# FROZEN PRODUCT OPERATION

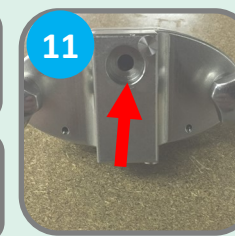
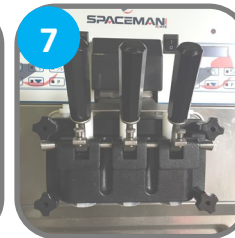
## ADD PRODUCT TO MACHINE



**NOTE:** The mix-low lights illuminate **RED** when a hopper is low on product mix and automatically de-illuminate when machine is filled.



1. Verify machine has been recently sanitized (within 1 hour); if machine has not been recently sanitized, verify door hand-screws are tight, and perform sanitizing steps (Page 15)
2. Thoroughly mix and prepare at least 2 gallons of product according to manufacturer instructions; mix should be cool and smooth (free of large chunks)
3. Place bucket or large container below draw valve
4. Pour 0.25 gallons of product into hopper
5. If machine has air pump, *do not* fill product over small air inlet holes on the bottom of the air pump
6. OPEN draw handle (DOWN); sanitizer will start to flow out draw valve
7. Once sanitizer has been purged from the machine and a steady stream of product is flowing from the spout, CLOSE draw handle (UP)
8. Pour remaining product into hopper
9. Raise the prime plug on the top of the dispensing door until flow is 100% product
10. Push prime plug back down
11. If machine has air pump:
  - Press RESET, then press WASH
  - Ensure product is coming out of the large hole near the top of the air pump
  - Press RESET
12. Wash air tube and cap; install air tube in hopper (inlet hole on side of air tube at bottom)
13. Install air pump air tube, inserting air tube into hopper, then rotate and insert air pump connector into air pump; rotate connector to lock in place
14. Replace hopper lid
15. Product is now ready to freeze



# FROZEN PRODUCT OPERATION

## FREEZE PRODUCT



**CAUTION:** *Never* disconnect air pump (if present) with the machine running. If disconnecting air pump, *first* press RESET to stop operations and open draw handles for 10 to 15 seconds to relieve pressure in cylinder.

1. Verify cylinder is full of mixed product and primed
2. Press FREEZE button
3. The motor will begin to agitate the product, and the cooling system will begin to freeze the product
4. Freezing product takes approximately 10 minutes
5. When product reaches the set viscosity, it is ready to dispense (viscosity can be changed in the Settings menu, Page 19)

## DISPENSE PRODUCT



CLOSED



OPEN

1. OPEN draw handle (DOWN) until desired amount is dispensed
2. CLOSE draw handle (UP) when finished dispensing



Adjustment screws below draw handles control dispensing speed.

- Tighter (clockwise) reduces speed
- Looser (counter-clockwise) increases speed

## MACHINE POWER RESET

**IMPORTANT:** Machine shuts down automatically if cylinder experiences freeze-up (usually because the viscosity is set too high for the selected product) to prevent motor damage. Use the green reset button to return the machine to normal operation.



### Proper Machine Reset

1. Switch power switch OFF
2. Press green reset button on side or back of machine
3. Wait 15 to 20 minutes; switch power ON
4. Press RESET, then WASH button on front
5. Observe machine performance and return to normal use if functioning properly



**CAUTION:** If machine makes any abnormal noise during reset, immediately switch power OFF and contact service



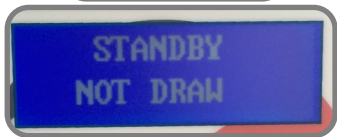
**NOTE:** If machine doesn't turn on, turn power OFF, wait 30 minutes, and repeat steps 1 to 5. If problem persists, contact service team.

# FROZEN PRODUCT OPERATION

## STANDBY MODE

**IMPORTANT:** When the machine will **NOT** be utilized for several hours, place it in **STANDBY** mode to conserve electricity and reduce product loss.

In **STANDBY**, product remains below 41°F in both the cylinder and hopper, but will **NOT** be frozen.



### To enter **STANDBY** mode:

- ◆ Press **RESET** button, then **STANDBY** button.
- ◆ Display reads **STANDBY** when machine is in **STANDBY** mode.

### To exit **STANDBY** mode:

- ◆ Press **RESET** button.
- ◆ Machine is ready for a new mode selection.

## NIGHTLY STANDBY PROCEDURE

**Machines without air pumps** experience the best-quality product after leaving machine in **STANDBY** overnight using the following procedure.

### Store closing:

1. With machine in **FREEZE** mode, remove air tube
2. Clean air tube and insert into machine upside-down (inlet hole on the side of the air tube at the top)
3. Confirm product is above low-mix line in hopper
4. Press **RESET**, press **STANDBY**

### Store opening:

5. Open draw handle to draw 6 to 8 oz. of product; discard product
6. Press **RESET**, press **FREEZE**
7. Wait until machine finishes freeze cycle and motor stops turning
8. Remove and clean air tube
9. Insert air tube into machine with correct orientation (inlet hole on the side of the air tube at the bottom)
10. Machine is ready for normal operation

## ADJUST PRODUCT CONSISTENCY

**IMPORTANT:** Make only small adjustments to viscosity setting; allow at least 10 to 15 minutes between adjustments to evaluate product firmness. Viscosity setting **should not** need continuous adjustment and should be set between 1.75 and 3.25, with 2.50 a good starting place.



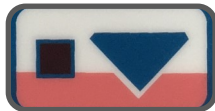
Press **RESET** to stop machine functions. Press and hold **RESET** until display shows settings (viscosity is the first setting shown). *If you scroll past the viscosity setting, hit **RESET** until it comes back around.*



Press **STANDBY** to increase viscosity (more firm).



Press **P** to decrease viscosity (less firm).



Press and hold **ARROW** for 3 seconds to save changes.



Press **RESET** to return to normal machine operation.



Press **FREEZE** to return to freezing operation.

## MAINTAIN PRODUCT CONSISTENCY

**Machines without air pumps** can experience product consistency changes if they go unused for an extended period of time. Product may become icy or dense if left in the freezing cylinder too long, often occurring during a business's longer slow-periods.

What to do: Add air to the freezing cylinder by following the closing/opening procedures in the previous column, **omitting Step 4.**

## CHANGE PRODUCT TEMPERATURE IN HOPPER

**IMPORTANT:** If temperature setting is too cold, product will freeze around the sides of the hopper and potentially cause damage. Hopper temperature should be set above freezing between 37 and 40°F.



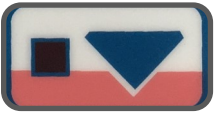
Press RESET to stop machine functions. Press and hold RESET until display shows settings. Viscosity is the first setting shown; press RESET again (without holding), and temperature will be next. *If you scroll past the temperature setting, hit RESET until it comes back around.*



Press STANDBY to increase temperature (warmer).



Press P to decrease temperature (cooler)



Press and hold ARROW for 3 seconds to save changes.



Press RESET to return to normal machine operation.



Press FREEZE to return to freezing operation.

## CHANGE DATE AND TIME



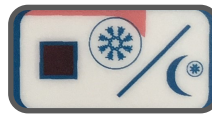
Press RESET to stop all machine functions. Press and hold RESET until display shows settings.

Viscosity is the first setting shown; press RESET again twice (without holding) to reach the date/time setting.

*If you scroll past the date/time setting, hit RESET until it comes back around.*



Press FREEZE to toggle cursor between date/time fields. Once highlighted, a field can be changed.



Press STANDBY to increase highlighted number.



Press P to decrease highlighted number.



Press and hold ARROW for 3 seconds to save changes.



Press RESET to return to normal machine operation.



Press FREEZE to return to freezing operation.

## ADJUST ADVANCED SETTINGS

There are several advanced settings that can be configured from the machine displays. Call Spaceman Technical Support to adjust advanced settings.

# TROUBLESHOOTING

## **PROBLEM: HOPPER ISN'T COLD ENOUGH**

### **Probable Cause**

1. Warm product was recently added
2. Hopper temperature setting is too high
3. Temperature offsets need adjustment

### **Remedy**

1. Allow at least 1 hour after adding new mix for hopper temperatures to stabilize
2. Adjust hopper temperature warmer (Page 20)
3. Call Spaceman Technical Support

## **PROBLEM: HOPPER IS FREEZING**

### **Probable Cause**

1. Inadequate mix in hopper
2. Hopper temperature setting is too low

### **Remedy**

1. Ensure hopper is at least half full
2. Adjust hopper temperature warmer (Page 20)

## **PROBLEM: PRODUCT IS TOO SOFT**

### **Probable Cause**

1. Machine isn't cleaned/lubricated adequately
2. Inadequate mix in hopper
3. Improper mixing of product
4. Machine doesn't have adequate ventilation
5. Viscosity adjustment is set incorrectly

### **Remedy**

1. Clean and properly lubricate machine daily
2. Ensure hopper is at least half full
3. Follow manufacturer instructions for mixing product; ensure correct mix ratios
4. Ensure at least 6-in. clearance on all sides
5. Raise viscosity setting as required (Page 19)

## **PROBLEM: STOP 1—LOW TEMP PROTECT**

### **Probable Cause**

1. Inadequate mix in hopper
2. Improper mixing of product
3. Air tube isn't installed correctly
4. Viscosity adjustment is set incorrectly
5. Product is being drawn too quickly

### **Remedy**

1. Ensure hopper is at least half full
2. Follow manufacturer instructions for mixing product; ensure correct mix ratios
3. Clean air tube, ensure proper orientation
4. Lower viscosity setting as required (Page 19)
5. Ensure air tube isn't clogged, allow machine 2 to 3 seconds between servings

## **PROBLEM: STOP 2—MOTOR OVERLOAD**

### **Probable Cause**

1. Viscosity adjustment is set incorrectly
2. Inadequate mix in hopper
3. Improper mixing of product
4. Air tube isn't installed correctly
5. Product is being drawn too quickly

### **Remedy**

1. Lower viscosity setting as required (Page 19)
2. Ensure hopper is at least half full
3. Follow manufacturer instructions for mixing product; ensure correct mix ratios
4. Clean air tube, ensure proper orientation
5. Ensure air tube isn't clogged, allow machine 2 to 3 seconds between servings to recover

## PROBLEM: STOP 4—TEMPERATURE

### Probable Cause

1. Malfunctioning temperature probe

### Remedy

1. Replace temperature probe

## PROBLEM: STOP 6—MOTOR AMP

### Probable Cause

1. Malfunctioning power board

### Remedy

1. Replace power board

## PROBLEM: MACHINE IS MAKING NOISE

### Probable Cause

1. Improper assembly
2. Wearable parts need replacement
3. Internal cleaning/maintenance required
4. Damaged internal parts

### Remedy

1. Stop machine use, drain product with machine powered OFF; clean and inspect parts.
2. Replace wearable parts (including scraper blades) at least once every 3 months
3. Contact Spaceman USA Technical Support
4. Inspect parts carefully for damage, ensure proper assembly; replace as required

## PROBLEM: PRODUCT LEAKS EXCESSIVELY INTO INTERNAL DRIP TRAY

### Probable Cause

1. Improper or inadequate lubrication of drive shaft gasket
2. Damaged, missing, or improperly installed drive shaft gasket

### Remedy

1. Use sufficient food-grade lubricant, and add sufficient lubricant inside drive shaft gasket during assembly (Page 13)
2. Replace drive shaft gaskets every 1–3 months

## PROBLEM: PRODUCT LEAKS EXCESSIVELY FROM DISPENSING DOOR SPOUT

### Probable Cause

1. Improper or inadequate lubrication of draw valve and draw valve O-rings
2. Cracked, broken, or worn draw valve O-rings

### Remedy

1. Use sufficient food-grade lubricant when assembling draw valves (Page 13)
2. Replace O-rings every 1-3 months

## PROBLEM: MACHINE SHUTS DOWN AUTOMATICALLY

### Probable Cause

1. Cylinders are experiencing freeze-up (usually due to viscosity being set too high for selected product)

### Remedy

1. Reset machine (Page 18), and lower viscosity as required (Page 19)

# MACHINE SPECIFICATIONS

## SM-6228H

SOFT SERVE FREEZER

### PRODUCT INFORMATION

Type	Counter Top
Flavors	1
Cooling	Air Cooled
Freezing Cylinders	1x 1.7 L / 1.8 qt
Product Mix Hoppers	1x 12.0 L / 12.7 qt
Output (4 oz Servings)	30.0 qt / hr 241 servings / hr
Motor	1x 1.2 HP, 900W
Compressor (Main)	1x 4400 BTU, R404A
Compressor (Auxilliary)	1x 480 BTU, R134A

### FEATURES

Machine Controls	Single, Digital
Refrigerated Hopper	Yes, Digital Control
Hopper Agitator	Yes
Temperature Display	Yes
Standby Mode	Yes
Low Mix Indicator Light	Yes
Low Mix Indicator Alarm	No
Low Temperature Protection	Yes
Motor Amperage Protection	Yes, Mechanical
High Pressure Protection	Yes
Thermal Overload Protection	Yes



### DESCRIPTION

A single flavor, gravity feed, countertop soft serve freezer. Capable of producing a variety of products including: Soft Serve, Frozen Yogurt, Ice Cream, Custards, and Sorbets. Digital control system automatically regulates and maintains consistent product quality. Refrigerated hopper and Standby Mode keeps product fresh, even overnight. Great Medium capacity machine for any application.

### CUSTOM OPTIONS

*Air Pump, Water Cooled, Air Chute, Spinner (1)*

### ELECTRICAL SPECIFICATIONS

	Maximum Fuse Size	Min. Circuit Ampacity	Poles (P) Wires (W)
208-230/60/1	1 x 20A	1 x 13A	2P / 3W

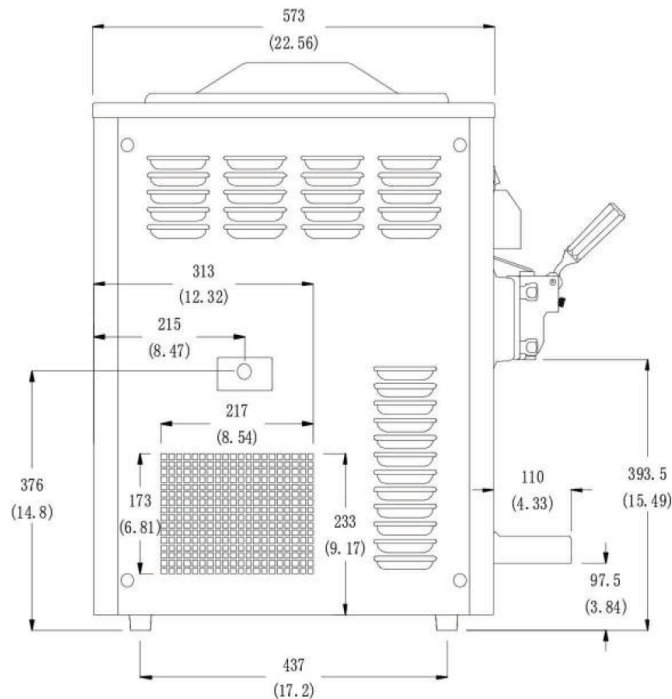
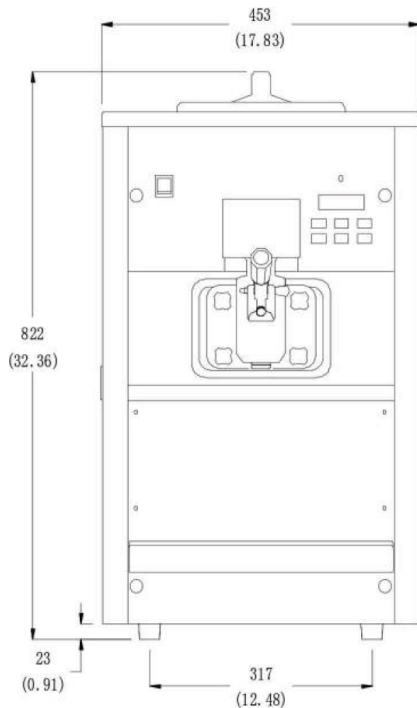
*Electrical Plug: 1x NEMA L6-20*

### SIZE SPECIFICATIONS

	Machine		Shipping	
Weight	115 kg	245 lbs	120 kg	267 lbs
Depth (mm / in)	573*	22.6*	785	31.0
Width (mm / in)	453*	17.9*	520	20.5
Height (mm / in)	822	32.4	1010	39.8

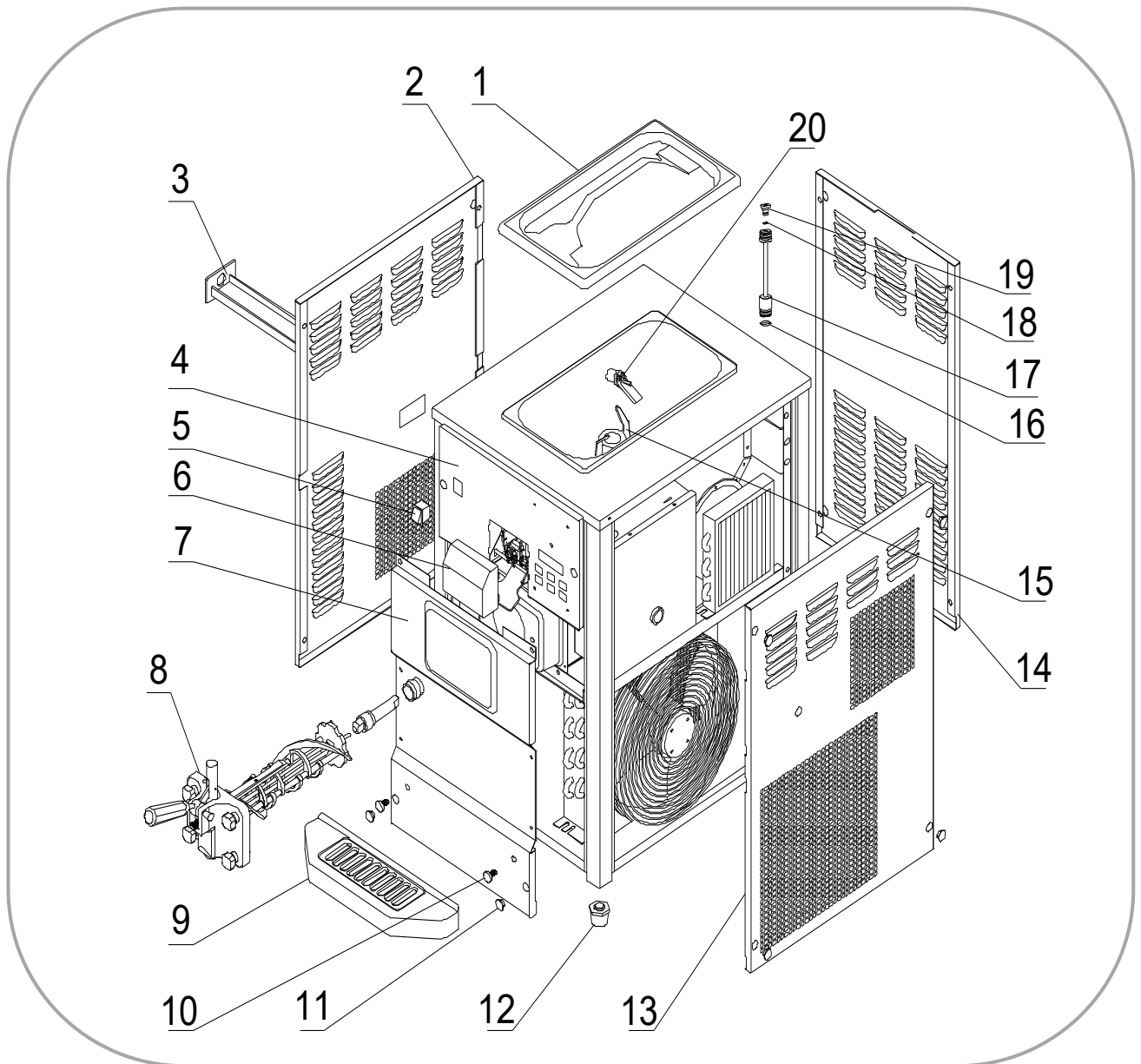
*Shipping Volume: 0.41 CBM / 14.56 CBF*

*\* Machine Requires Minimum 6" Clearance on all sides*





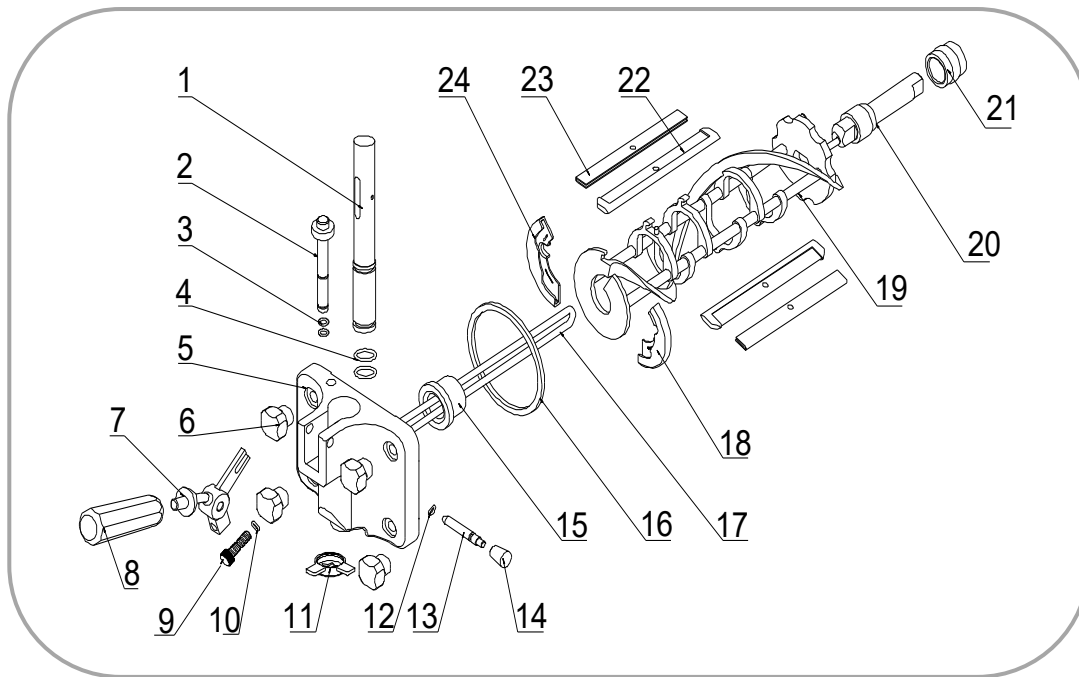
# SPECS—EXTERNAL PARTS



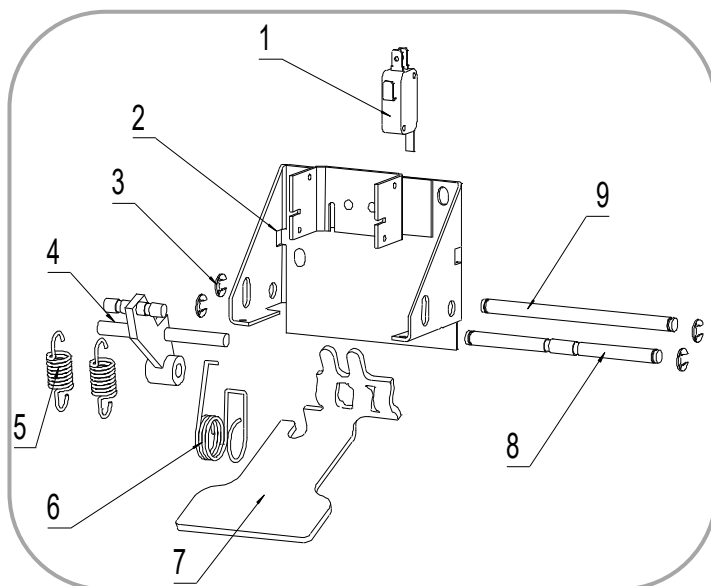
Item	Part #	Description	Item	Part #	Description	Item	Part #	Description
1	3.4.03.01.004	Hopper Lid	9	3.4.04.01.002	Drip Tray	17	2.1.1.22.0002	Air Tube
2	2.3.4.18.007	Panel - Left	10	3.6.39.004	Drip Tray Mount	18	3.4.08.01.028	O-Ring - Cap
3	3.4.04.02.003	Internal Drip Tray	11	3.4.07.01.001	Bolt Cover	19	2.1.3.23.0001	Air Tube Cap
4	2.3.4.07.002	Panel - Front - U	12	3.3.05.03.001	Leg	20	3.1.03.04.009	Low Mix Sensor
5	3.1.03.03.003	Power Switch	13	2.3.4.20.006	Panel - Right			
6	3.4.07.07.004	Switch Cover	14	2.3.4.13.003	Panel - Rear			
7	2.3.4.17.007	Panel - Front - L	15	2.1.1.23.0001	Agitator Blade			
8	2.1.1.15.0003	Dispensing Door	16	3.4.08.01.002	O-Ring - Air Tube			

# SPECS—OPERATING PARTS

## Dispensing Door and Beater

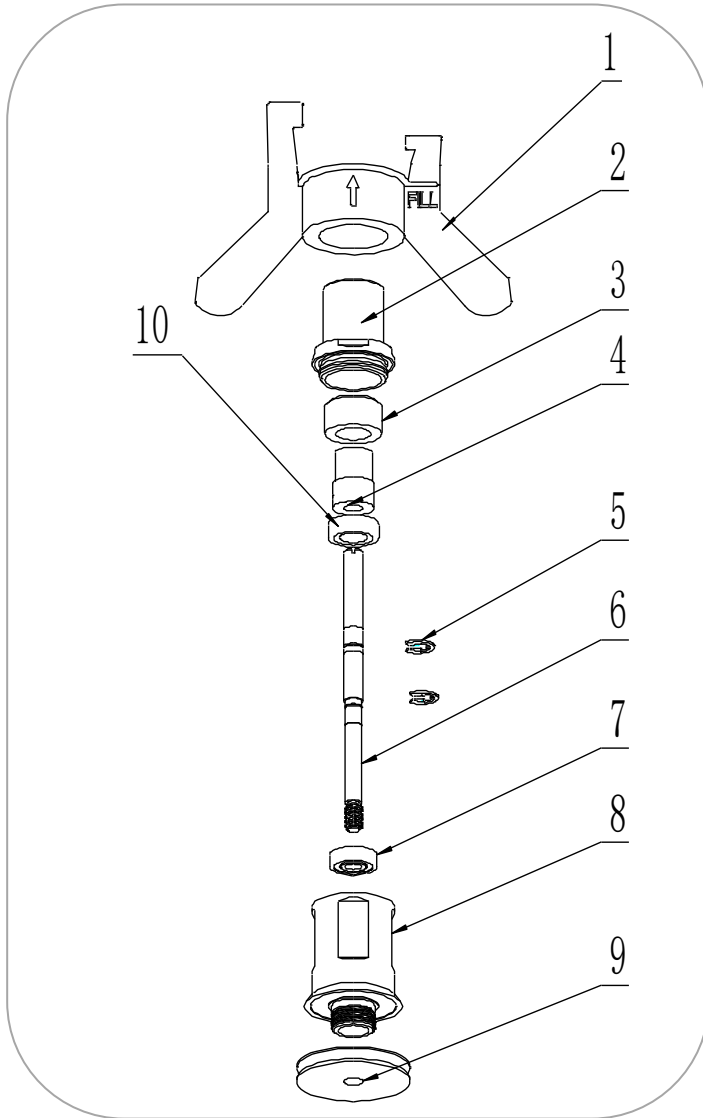


Item	Part #	Description	Item	Part #	Description	Item	Part #	Description
1	2.1.3.01.0002	Draw Valve	9	3.6.39.009	Adjustment Screw	17	2.1.1.11.0001	Beater Rod
2	2.1.3.02.0015	Prime Plug	10	3.4.08.01.012	O-Ring - Screw	18	3.4.01.02.002	Beater Shoe - R
3	3.4.08.01.013	O-Ring - Plug	11	3.4.05.03.004	Star Cap	19	2.1.1.10.0002	Beater
4	3.4.08.01.006	O-Ring - Valve	12	3.4.08.01.013	O-Ring - Pin	20	2.1.3.25.0001	Drive Shaft
5	2.1.3.14.0002	Dispensing Door	13	2.1.3.27.0001	Retention Pin	21	3.4.07.05.002	Drive Shaft Gasket
6	2.1.3.32.0001	Hand Screws	14	2.1.3.27.0025	Nut - Retention Pin	22	3.4.02.01.002	Scraper Blade
7	2.1.3.26.0004	Handle Seat	15	3.4.01.03.001	Beater Guide	23	2.3.4.04.001	Scraper Blade Clip
8	3.4.05.01.001	Dispensing Handle	16	3.4.08.01.029	Door Gasket	24	3.4.01.01.002	Beater Shoe - L



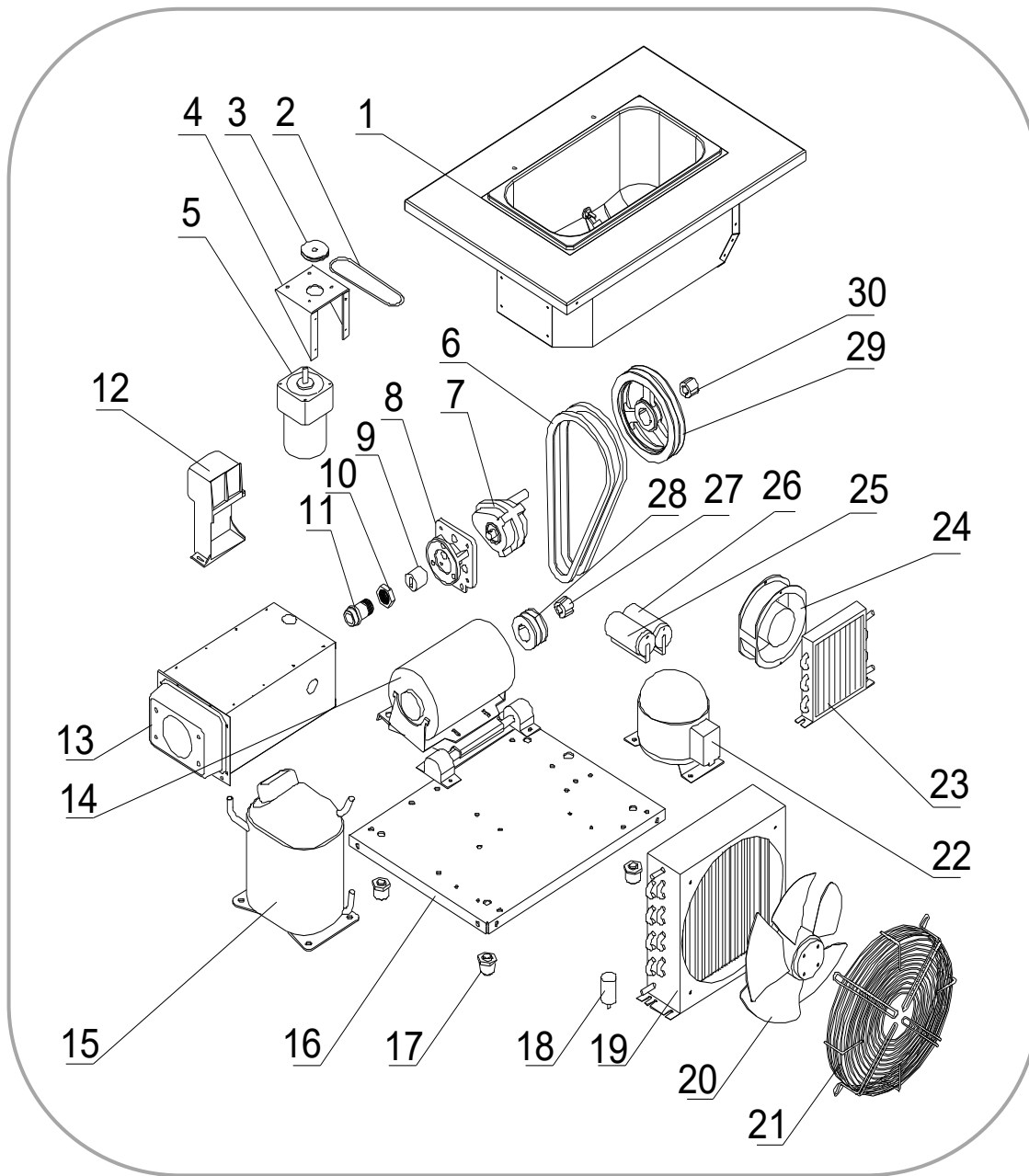
Item	Part #	Description
1	3.1.03.01.004	Switch - Draw
2	2.1.1.19.0010	Switch Mount
3	3.6.34.002	C-Clip - #6
4	2.1.1.19.0006	Draw Switch Lever
5	3.6.02.002	Spring - Draw
6	3.6.01.001	Spring - Return
7	2.1.4.05.017	Draw Arm
8	2.1.4.05.001	Retention Pin - F
9	2.1.4.05.002	Retention Pin - R

## Hopper Agitator



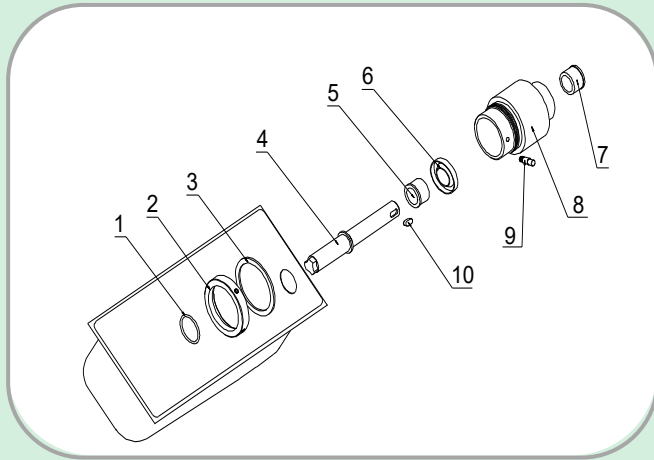
Item	Part #	Description
1	2.1.1.23.0001	Agitator Blade
2	2.1.4.02.005	HA Housing Cap
3	2.1.4.02.002	HA Main Magnet
4	2.1.4.02.003	HA Shaft Magnet
5	3.6.34.003	C-Clip
6	2.1.3.42.0003	Drive Shaft
7	3.3.02.07.004	HA Bearing -Lower
8	2.1.4.02.001	HA Housing
9	2.1.4.02.015	Pulley - HA
10	3.3.02.07.003	HA Bearing - Upper

# SPECS—INTERNAL PARTS

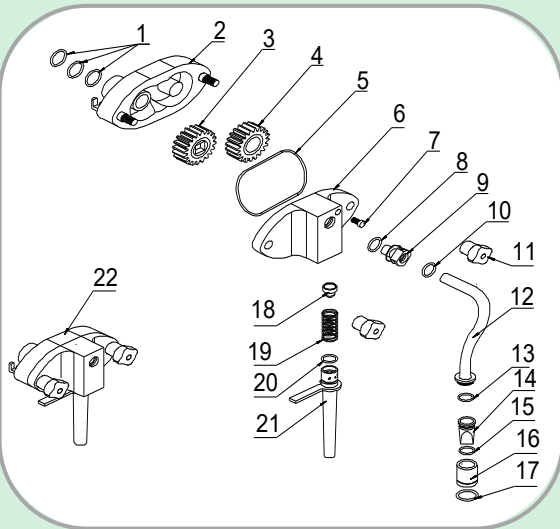


Item	Part #	Description	Item	Part #	Description	Item	Part #	Description
1	2.1.1.03.0015	Hopper	11	3.3.02.02.001	Rear Shell Bearing	21	3.2.03.04.002-1	Fan Cover
2	2.1.4.08.045	Belt - Agitator	12	3.2.01.04.011	Start Component	22	3.2.01.01.002	Compressor - Aux
3	3.3.04.04.008	Pulley - 34mm	13	2.1.1.06.0026	Cylinder	23	3.2.02.01.001	Condenser - Aux
4	2.3.4.45.007	HA Mount	14	3.3.01.05.003	Motor - 900W	24	3.2.03.01.001	Fan Motor - Aux
5	3.3.01.01.001	HA Motor	15	3.2.01.02.033	Compressor - Main	25	3.1.02.22.009	Capacitor - Running
6	3.3.03.01.018	Belt - XPA982	16	2.2.4.01.0003	Chassis	26	3.1.02.22.061	Capacitor - Start
7	3.3.02.01.002	Gear Box	17	3.3.05.03.001	Leg	27	3.3.04.01.005	Bushing - 1008
8	2.1.3.15.0002	Gear Box Mount	18	3.2.03.04.002-2	Capacitor - Fan	28	3.3.04.02.001	Pulley - 63x2-1008
9	3.3.02.04.001	Drive Coupling	19	3.2.02.01.003	Condenser - Main	29	3.3.04.02.007	Pulley - 182x2-1008
10	3.3.02.02.010	Nut - RS Bearing	20	3.2.03.04.002	Fan Motor - Main	30	3.3.04.01.005	Bushing - 1008

# SPECS—AIR PUMP PARTS

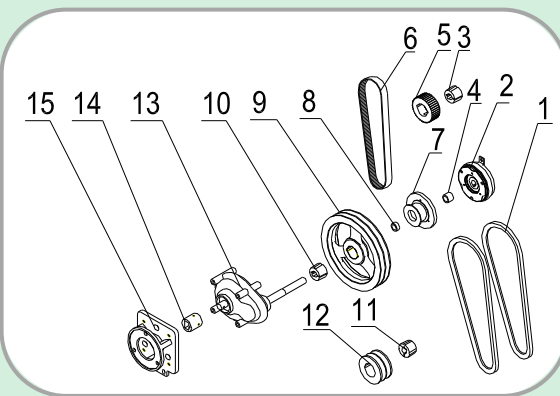


Item	Part #	Description
1	3.4.08.03.010	Nylon Ring - Shaft
2	2.1.4.01.016	Nut - Pump Seat
3	3.4.08.03.012	Nylon - Pump Seat
4	2.1.4.01.018	Drive Shaft - Pump
5	3.3.02.06.001	Bearing - Front
6	3.3.02.09.002	Bearing Gasket
7	3.3.02.06.001	Bearing - Rear
8	2.1.4.01.017	Air Pump Seat
9	3.6.39.010	Lock Pin
10	3.6.33.002	Drive Shaft Key



Item	Part #	Description
1	3.4.08.01.025	O-Ring
2	2.1.4.01.004	Air Pump Shell
3	2.1.4.01.013	Driving Gear
4	2.1.4.01.012	Driven Gear
5	3.4.08.01.004	Air Pump Gasket
6	2.1.4.01.003	Air Pump Cover
7	2.1.4.01.029	Lock Nut
8	3.4.08.01.003	O-Ring - Connector
9	2.1.4.01.023	Connector—Pump
10	3.4.08.01.008	O-Ring - Connector
11	2.1.4.01.002	Hand Screws

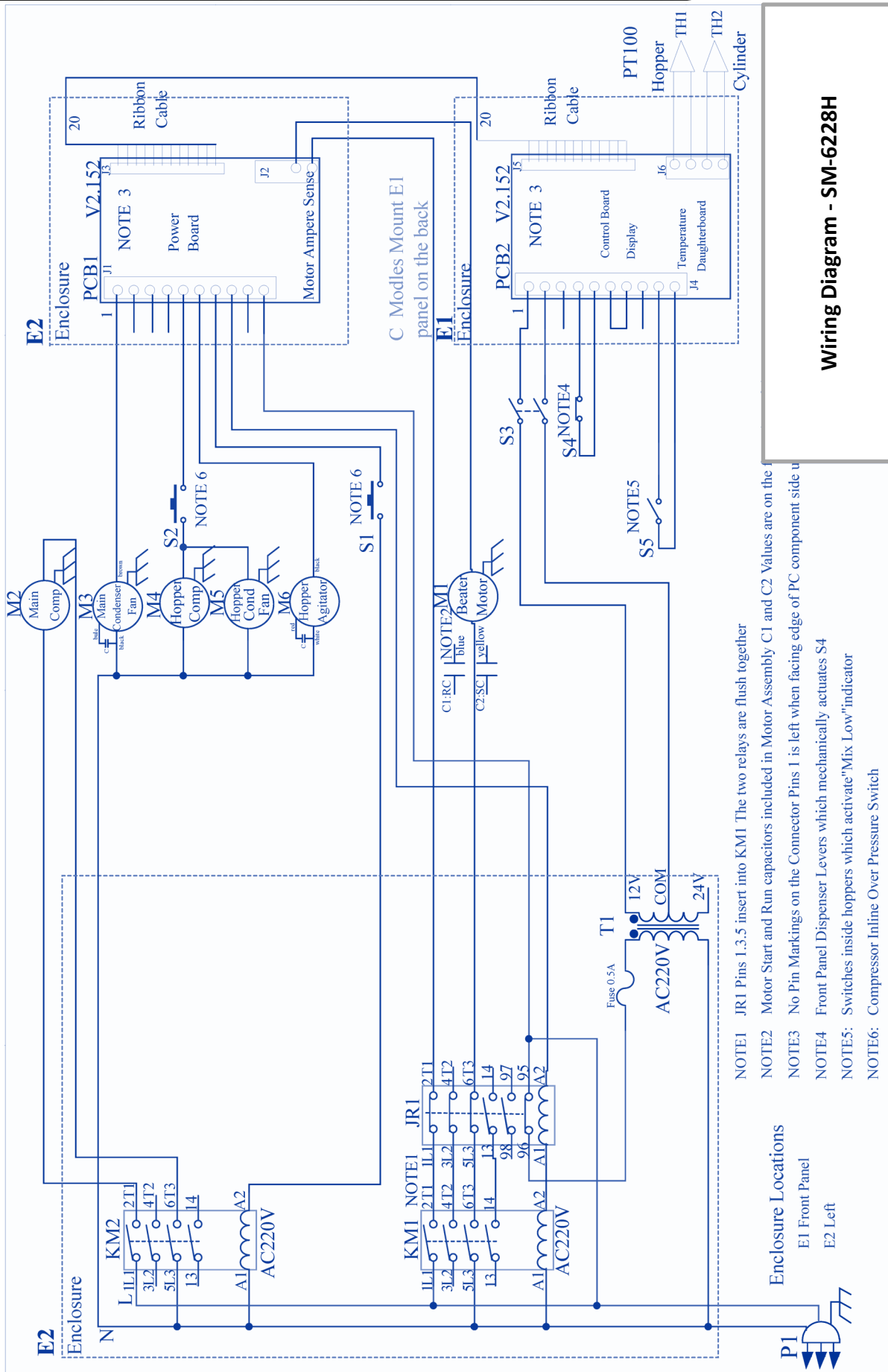
Item	Part #	Description
12	2.1.4.01.043	Air Tube - Left
13	3.4.08.01.003	O-Ring - Tube
14	2.1.4.01.035	Check Valve
15	3.4.08.01.023	O-Ring - Valve
16	2.1.4.01.039	Connector - Hopper
17	3.4.08.01.037	O-Ring - Connector
18	3.4.07.06.003	Plug
19	3.6.03.003	Spring
20	3.4.08.01.003	O-Ring - Suction
21	2.1.4.01.049	Suction Tube - 200
22	2.1.1.13.0001	AP Assembly



Item	Part #	Description
1	3.3.03.01.002	Belt - XPA950
2	3.1.01.06.001	Micro Clutch
3	3.3.04.01.005	Bushing - 1008
4	3.3.04.06.001	Bushing - Clutch
5	3.3.04.03.001	Pulley - 63-5-1008
6	3.3.03.02.013	Belt - 5M740
7	3.3.04.03.002	Pulley - 50-5M
8	3.3.04.06.002	Bushing - Clutch

Item	Part #	Description
9	3.3.04.02.007	Pulley - 182x2-1008
10	3.3.04.01.005	Bushing - 1008
11	3.3.04.01.005	Bushing-1008
12	3.3.04.02.001	Pulley - 63x2-1008
13	3.3.02.01.007	Gear Box - Long
14	3.3.02.04.001	Drive Coupling
15	2.1.3.15.0002	Gear Box Mount

# SPECS—WIRING



NOTE1 J1 Pins 1..3.5 insert into KM1. The two relays are flush together  
 NOTE2 Motor Start and Run capacitors included in Motor Assembly C1 and C2. Values are on the  
 NOTE3 No Pin Markings on the Connector Pins 1 is left when facing edge of PC component side u  
 NOTE4 Front Panel Dispenser Levers which mechanically actuates S4  
 NOTE5: Switches inside hoppers which activate "Mix Low" indicator  
 NOTE6: Compressor Inline Over Pressure Switch

Item	Part #	Description	Item	Part #	Description	Item	Part #	Description
M1	3.3.01.05.003	Motor - 900W	M6	3.3.01.01.001	Agitator Motor	PC1	2.2.1.01.0007	Power Board
M2	3.2.01.02.033	Compressor - Main	JR	3.1.01.02.011	Thermal Relay	PC2	2.2.1.01.0004	Control Board
M3	3.2.03.04.001	Fan Motor - Main	KM	3.1.01.01.010	Contactors	DC	3.1.01.05.004	Power - Clutch
M4	3.2.01.01.002	Compressor - Aux	T	3.1.01.04.007	Transformer	S1/2	3.2.04.06.004	Pressure Switch
M5	3.2.03.01.001	Fan Motor - Aux	TH	3.1.02.13.020	Thermostat	S3	3.1.03.03.003	Power Switch
						S4	3.1.03.01.004	Draw Switch
						S5	3.1.03.04.009	Low Mix Sensor
						F	3.1.02.08.002	Fuse - 0.5A



