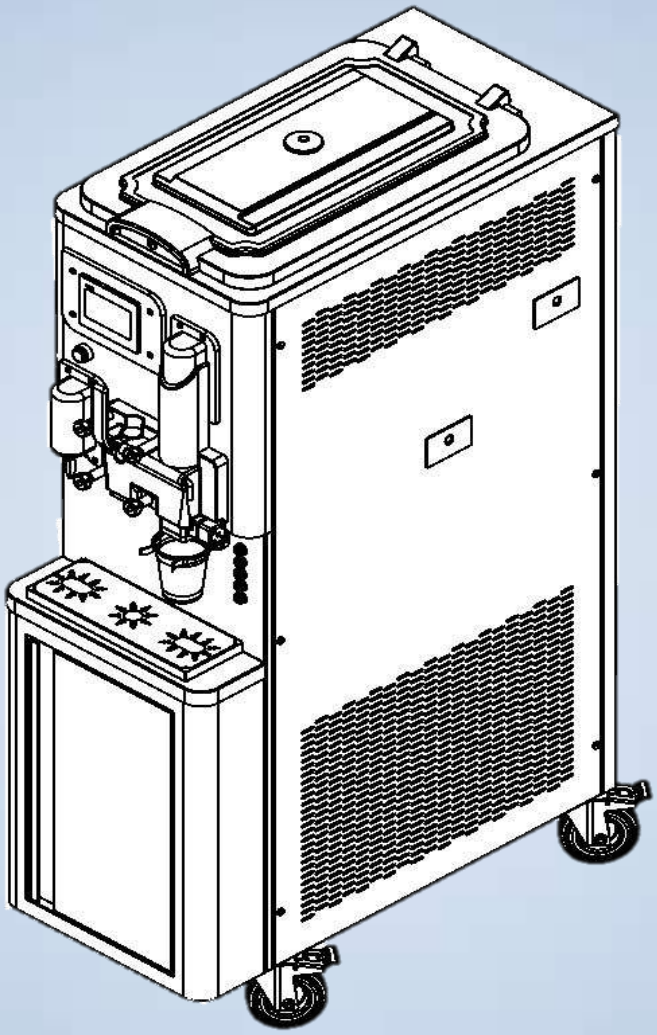

SOFT-SERVE & FROZEN YOGURT FREEZER USER GUIDE

SEMSMC

1.TABLE OF CONTENTS

2.CONGRATULATIONS AND THANK YOU!

If you encounter a problem with the Soft Serve Ice Cream Machine, please contact your local service technician.

Please familiarize yourself with the machine by taking some time to study this manual. If you get to know this little ice-cream factory, it has the potential of making good profit**.**

Notice and no warrantee: These pages are provided as a service and informational purpose only, and on the assumption that the recipient of the Soft-Serve Freezer and the operator of the Soft-Serve Freezer is competent to perform the required tasks, including, but not limited to operation and/or repair of power equipment, for which the information is provided, and that person is knowledgeable and mindful of proper safety precautions. Neither nor any of their respective employees make any claims about the suitability or fitness of the information contained herein which is provided strictly on an "as-is" basis, without any express or implied warranty, guarantee, assurance of quality, conformity of specifications, reliability, functionality, or suitability. In no event shall and/or its employees be held liable, whether in contract or tort, to any party for any direct, indirect, punitive, or consequential damages, including, but not limited to lost profits and business interruption, arising out of any errors, typographical or otherwise, inaccuracies, omissions, or delays arising out of or pertaining to the use, reliance on, or inability to use any type of information, part, or good, even if notified in advance about the possibility of such action. Information in this manual is subject to change without notice. All rights reserved.

BEFORE USING THE MACHINE READ CAREFULLY THIS MANUAL. PAY ATTENTION TO THE SAFETY INSTRUCTIONS.

3.SYMBOLS IN MANUAL

	**WARNING** When you see this symbol on your freezer or in this manual, be alert to the potential for personal injury. Follow recommended precautions and safe operating practices.
	**ELECTRIC DANGER** This symbol indicates the presence of electric shock hazards.
	**NOTE** It points out significant information for the stuff involved.
	**PROTECTIONS** This symbol means that operator must use protection against an implicit risk of accident.
	**MACHINE OPERATOR** He/She is the person who has no specific expertise and she/he will operate the freezer.
	**MAINTENANCE ENGINEER** He/She is a skilled engineer for the operation of the machine under normal conditions; he/she is able to carry out interventions on mechanical parts and all adjustments, as well as maintenance and repairs. He/She is qualified for interventions on electrical and refrigeration components.

MODEL		SERIAL NO		
TYPE	SOFT-SERVE MILK SHAKE MACHINE			
VOLTAGE	V	PH	Hz	kW
FUSE	A		Condensation	
GAS	kg		Gas Type	
CE				

3. A brief description of the problem

5. ELECTRICAL CONNECTION NOTICE

1. Please make sure that the power supply conforms to the electrical data label (Rating Plate).

2. Check the data label (Rating Plate) for the required circuit breaker amperage. Only plug into an electrical wall socket that complies with the required amperage of the machine.

3. Machine should be installed according to the local authority electrical code/regulations it is used in, as well as to other work health and safety requirements. If you are not sure, please contact your local authority for details.

4. This symbol indicates the presence of electric shock hazards. Inside the enclosures of the machine there are electrical shock hazards, therefore, **DO NOT** remove any panels if you are not a qualified technician of an authorized service provider.

5. **WARNING**: To avoid risk of injury from electric shock, if you are not a qualified and duly authorized service technician, do not open the enclosure panels on the sides and back of the machine.

6. The power supply must be properly grounded to prevent electrical shock. Check with a qualified installer for compliance.

7. The fuse must be 220-240V, 50 Hz 16 Amp or 380-400V, 50 Hz 16 Amp (Before plugging in the machine, see metallised label on the back of the machine.)

6. WARNINGS & SAFETY

Read and understand all safety messages in this manual. Read and understand the safety decals on your freezer. Take notice of the location of all decals on the freezer and keep the safety decals in good condition. Check them periodically and replace missing, damaged or illegible safety decals. The safety decals must remain in place and legible for the life of the freezer.

Keep your Freezer clean and tidy! When it needs repairing, work with an authorized service agent.
is concerned about the safety of the person/s using the machine. Therefore please take note and abide by amongst others, the following WARNINGS:

- The weight of the machine is no less than 205 kg. Moving it must only be done by persons who are trained and qualified to move a weight of at least 205 kg in the shape and size of the machine.
- **Do NOT** touch barrel feeder hole during cleaning.
- Always follow local authority food safety and other health codes.
- Always follow in-store operating and food hygiene safety and other health code
- Do not clean the machine with high-pressure water.

- Use potable water to clean the parts.
- **Do NOT** use the Machine before studying this User Guide. Failure to follow this instruction may result in equipment damage, poor performance, health hazards or personal injury.
- Only use food-grade lubricant when changing or replacing the O-rings on the pistons.
- A potential risk exists if the User Guide instructions and other safety precautions are not strictly followed.

- **Do NOT** allow anyone to attempt any repairs to the machine, unless the main power supply to it has been disconnected from the power supply point.
- Never open the panels to reach inside the Freezer body. (Only by authorized technicians)
- Technical maintenance must be done by authorized technicians.
- **Do NOT** allow untrained personnel to operate the Soft-Serve Freezer.

- **Do NOT** insert or remove the beater from the freezing barrel while the Machine is connected to the power supply. First isolate the power supply.
- **Do NOT** remove the hopper cover (lid) unless you are filling or re-filling the hopper with the mix.
- **Do NOT** switch ON the Machine at the wall socket switch when the following has not yet been done: (a) the beater is inserted properly (b) the barrel head is fitted correctly and the four nuts screwed on correctly and tightly, and (c) the barrel is flooded with Mix.
- When removing, replacing or cleaning the removable parts do so with caution because the beater blades have sharp edges that can easily cause injury.

WINTER STORAGE

If the place of business is to be closed and the machine won't run during the winter months, it's important to protect the freezer.
Disconnect the freezer from the main power source to prevent possible electrical damage.

For **WATER-COOLED** freezers, disconnect the water supply. Use the air pressure on the outlet side to blow out any water remaining in the condenser. This is extremely important. Failure to follow this procedure may cause severe and costly damage to the refrigeration system.

7. PARTS IDENTIFICATION

7.1 Exploded View of Machine

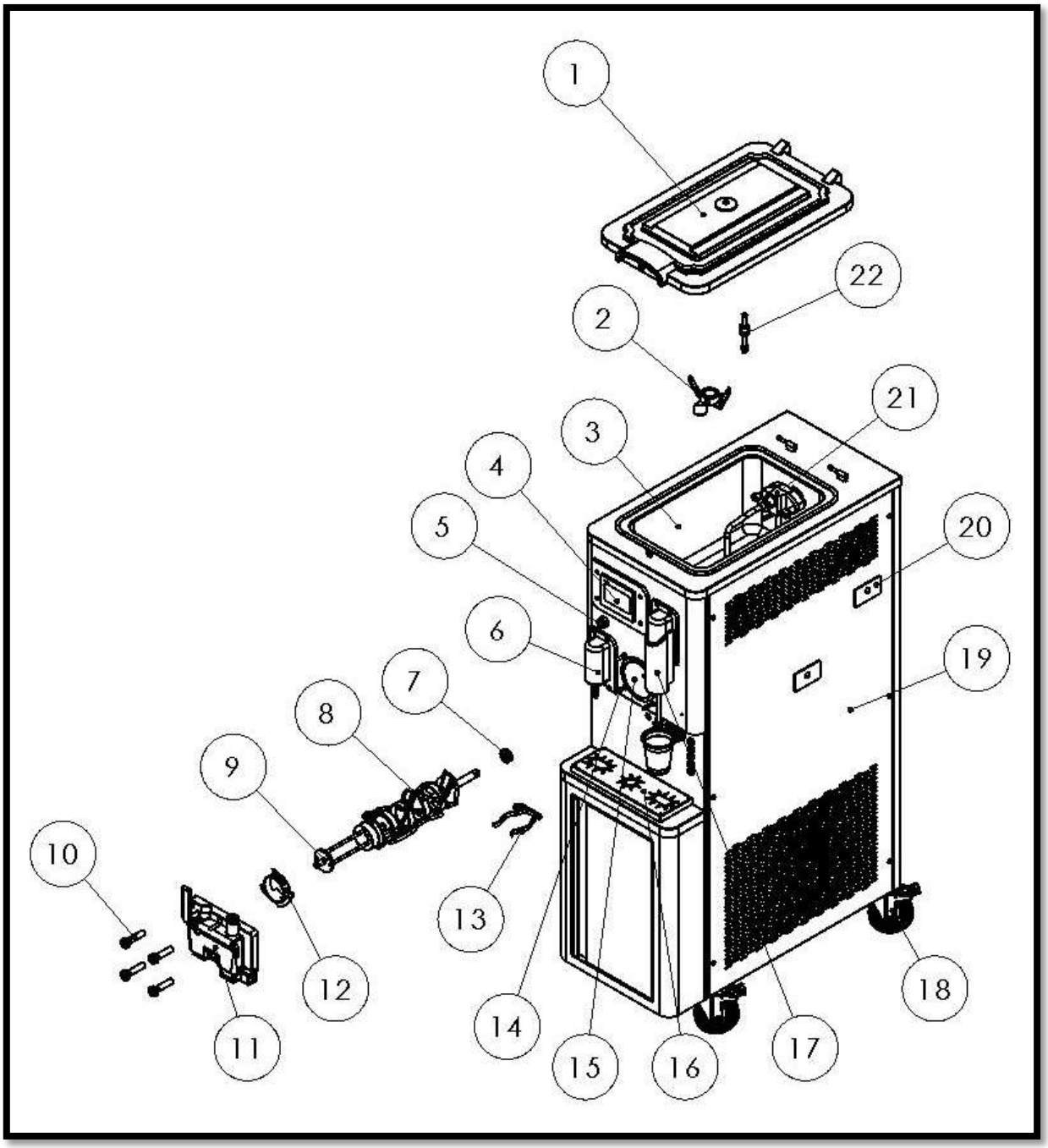

Figure 1

NO	PART NAME	QUA.
1	Hopper Cover	1
2	Hopper Agitator	1
3	Hopper	1
4	Control Panel	1
5	Twist Button	1
6	Twist Group	1
7	Beater Seal	1
8	Metal Beater	1
9	Dasher	1
10	Head Screws	4
11	Dispensing Head Group	1
12	Plastic Pusher	1
13	Cup Holder	1
14	Stud	4
15	Beater	1
16	Stud	4
17	Milkshake Twist Group	1
18	Wheel	4
19	Side Panel (Right)	1
20	Drain Drawer	2
21	Pump Group	1
22	Liquid Level Sensor	1

Table 1

7.2 Exploded View of Dispensing Head

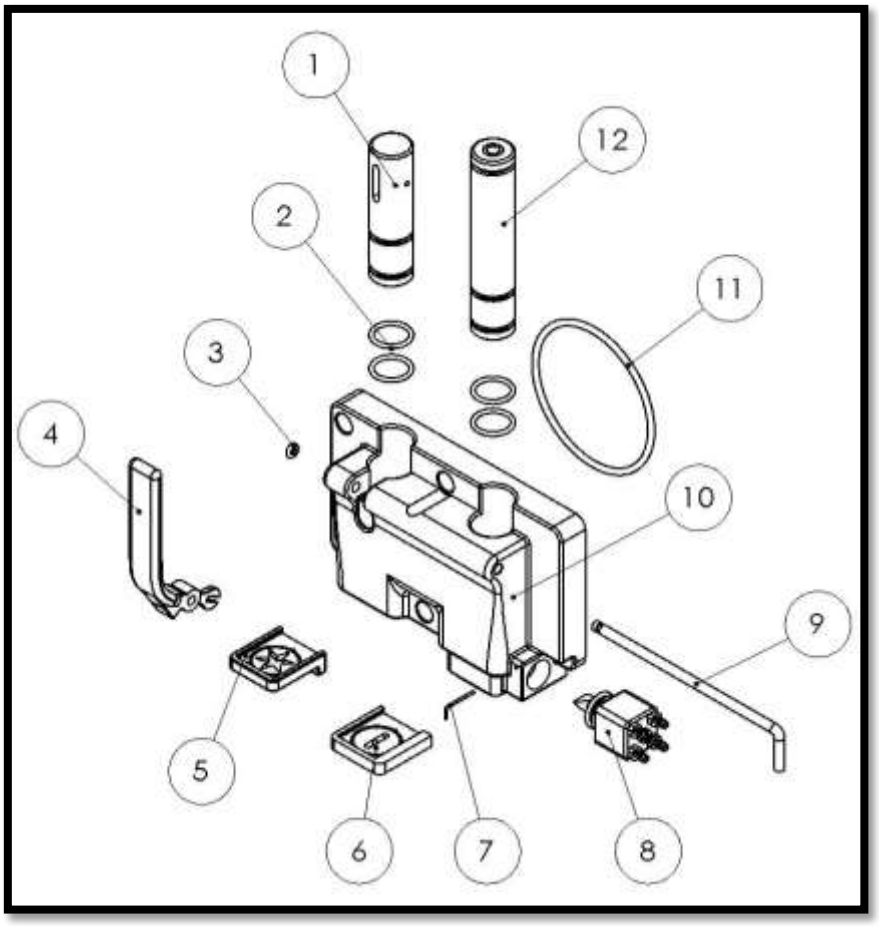

Figure 2

NO	PART NAME	QUA.
1	Piston	1
2	27,2 x 3,53 mm O-Ring	4
3	4,8 x 3,53 mm O-Ring NBR	1
4	Handle	1
5	Ice-cream nozzle	1
6	Milkshake nozzle	1
7	Syrup Pin	1
8	Syrup Check Valve Group	1
9	Lifter Rod	1
10	Dispensing Head Group	1
11	120,02 x 5,33 mm Silicon O-Ring	1
12	Side Piston Thamson	1

Table 2

7.3 Exploded View of Beater

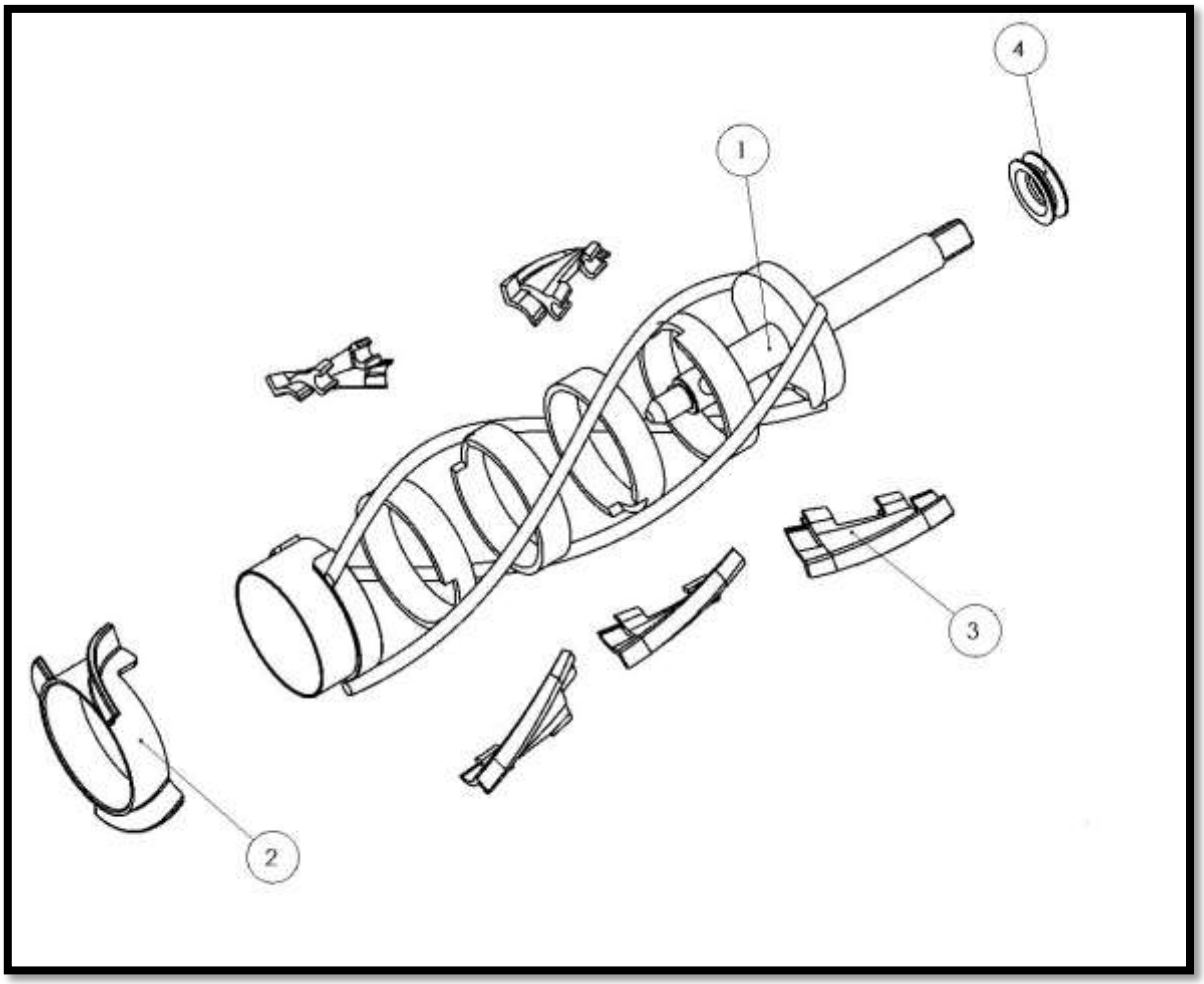

Figure 3

NO	PART NAME	QUA.
1	Beater	1
2	Plastic Pusher	1
3	Scrapper Blades	5
4	Beater Seal	1

Table 3

7.4 Exploded View of Dasher

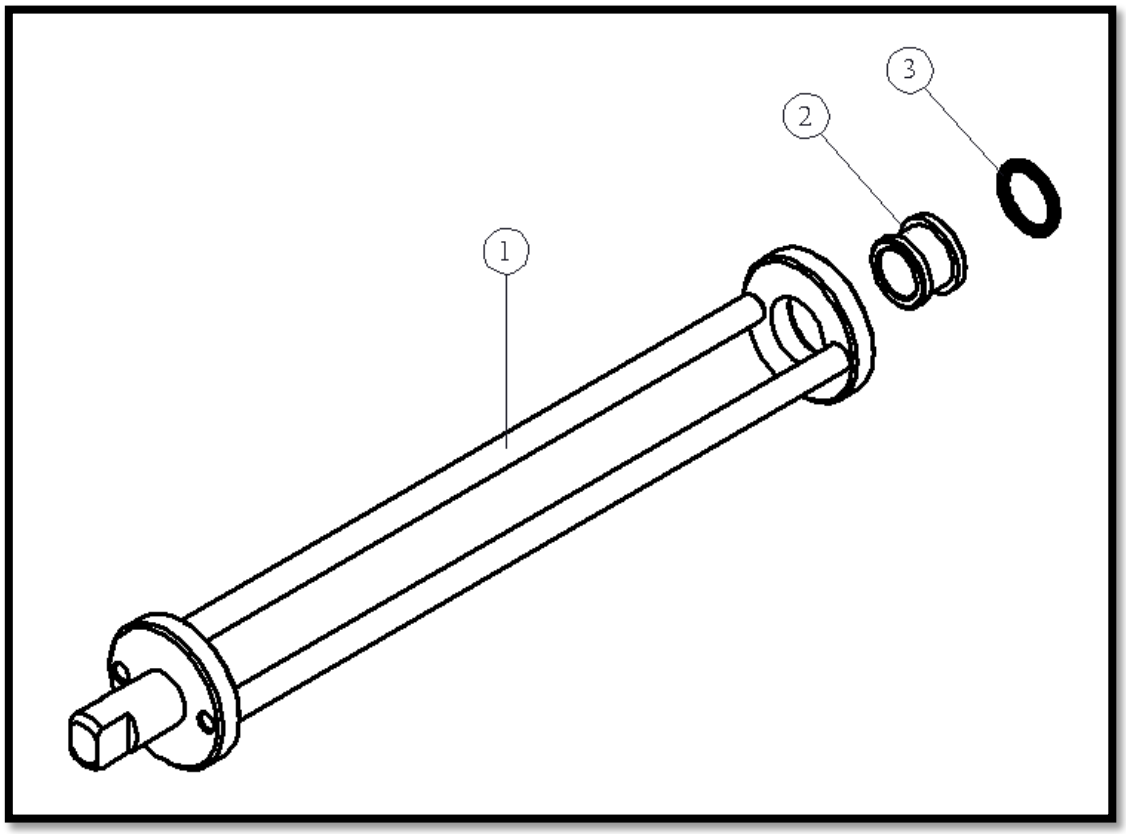

Figure 4

NO	PART NAME	QUA.
1	Dasher_Slot	1
2	Dasher Delrin Bushing-Slot	1
3	13,95 x 2,62 mm O-ring NBR	1

Table 4

7.5 Exploded View of Aeration Pump

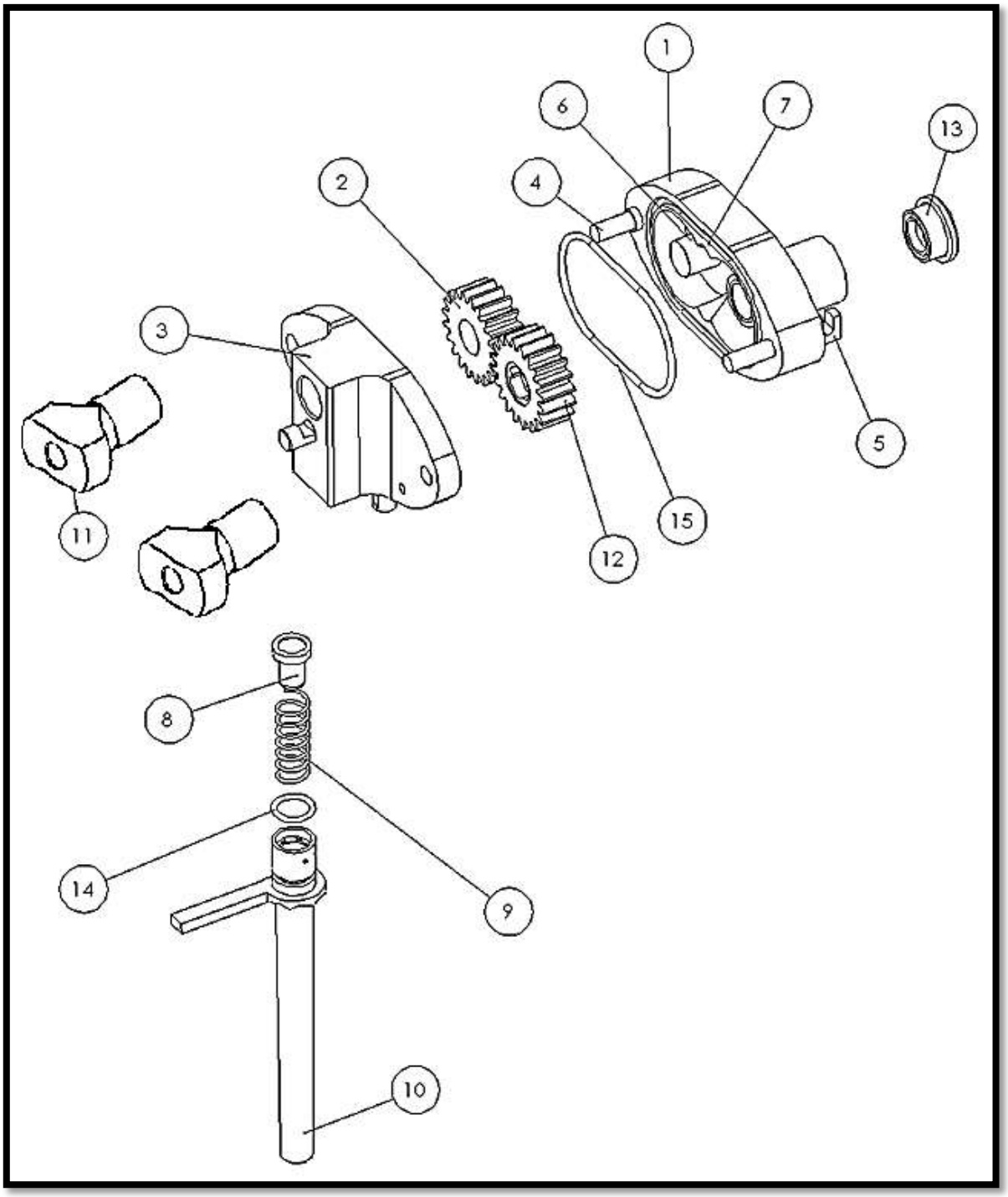

Figure 5

NO	PART NAME	QUA.
1	Pump Body	1
2	Driven Gear	1
3	Pump Cover	1
4	Pin	1
5	Pump Stopper Pin	1
6	Driven Gear Shaft	1
7	Driven Gear Bolt	1
8	Spring Support	1
9	Pressure Spring	1
10	Feeding Tube_L	1
11	Handle Knob	2
12	Driving Gear	1
13	Pump Seal Blue	1
14	14,35 x 2,62 mm Silicon O-Ring-Yellow	1
15	74 x 3 mm Silicon O-Ring	1

Table 5

7.6 Exploded View of Compression Feed Pipe

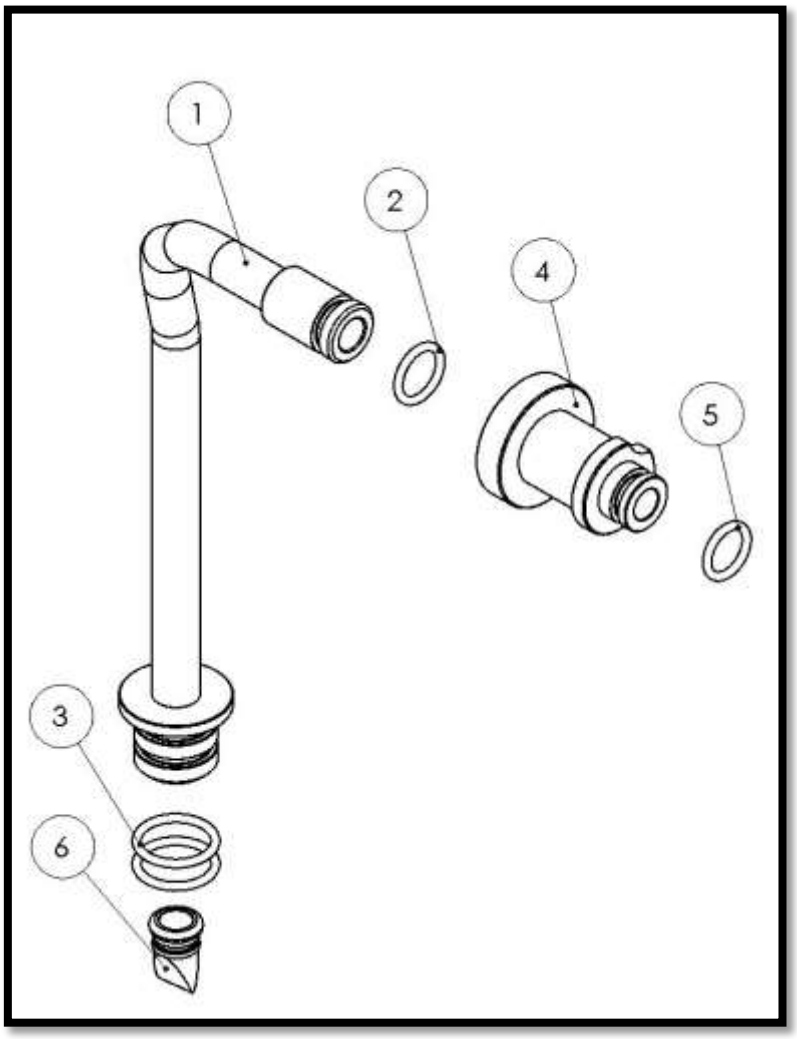

Figure 6

NO	PART NAME	QUA.
1	Compression Feed Pipe	1
2	13,95 x 2,62 mm NBR O-Ring	1
3	20,63 x 2,62 mm O-Ring	2
4	Pipe Connection Plastic	1
5	13,10 x 2,62 mm O-Ring Brown	1
6	Silicon Check Valve	1

Table 6

7.7 Exploded View of Liquid Level Sensor

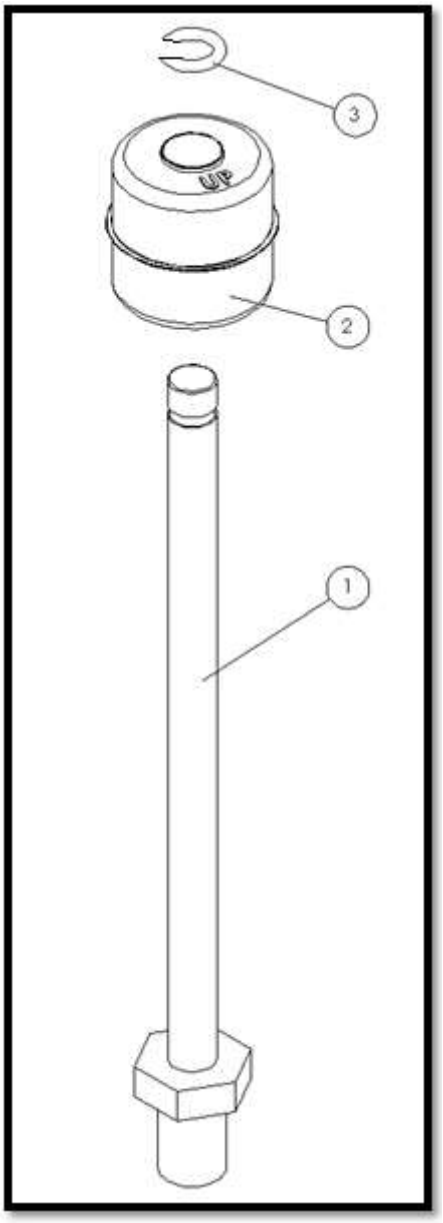

Figure 7

NO	PART NAME	QUA.
1	ENSIM L125 Liquid Level Sensor Body	1
2	PLS Liquid Level Sensor Float	1
3	Plastic Ring	1

Table 7

8. MACHINES WITH AIR-COOLED CONDENSER

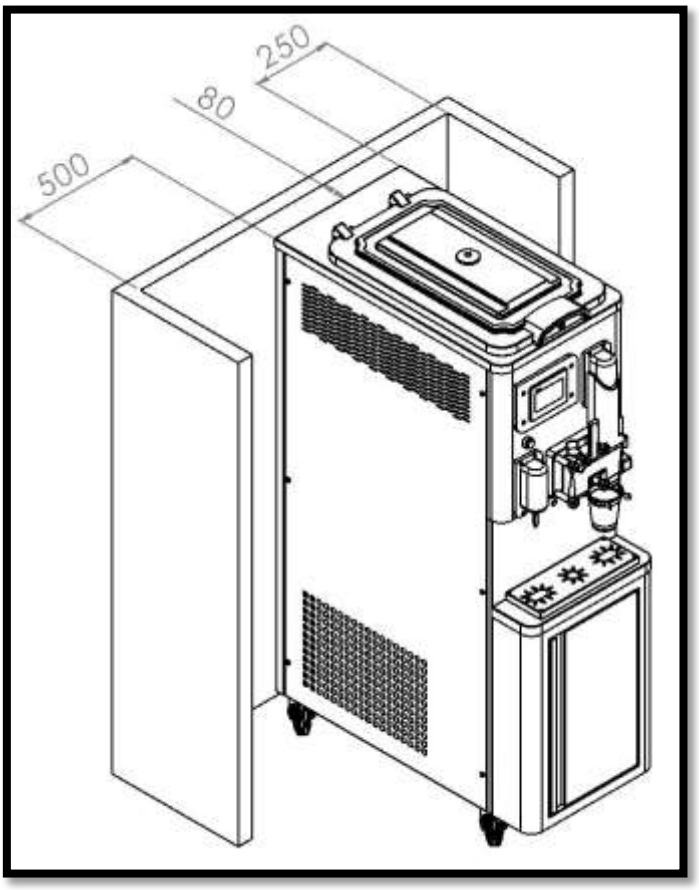

Figure 8

Machines with air-cooled condenser must have a clearance of at least **80mm** between the back side and any other object behind it. There must be a clearance of at least **500mm** between the left side (square perforated) of the freezer and any adjacent object and there must be a clearance of at least **250mm** between the right side (slot perforated) of the freezer and any adjacent object.

The clearance will allow sufficient amount of air flow across the condensers. Failure to allow adequate clearance can reduce the refrigeration capacity of the freezers and cause permanent damage to the compressors.

Position the machine for easy accessibility for cleaning, servicing and maintenance. A clean environment is also essential for the proper performance of the freezer.

Attention: The freezer must not be exposed to direct sunlight. If it stands in direct sunlight the performance will decrease. As the air temperature increases the performance decreases. This is true for all refrigeration equipment.

9. MACHINES WITH WATER-COOLED CONDENSER

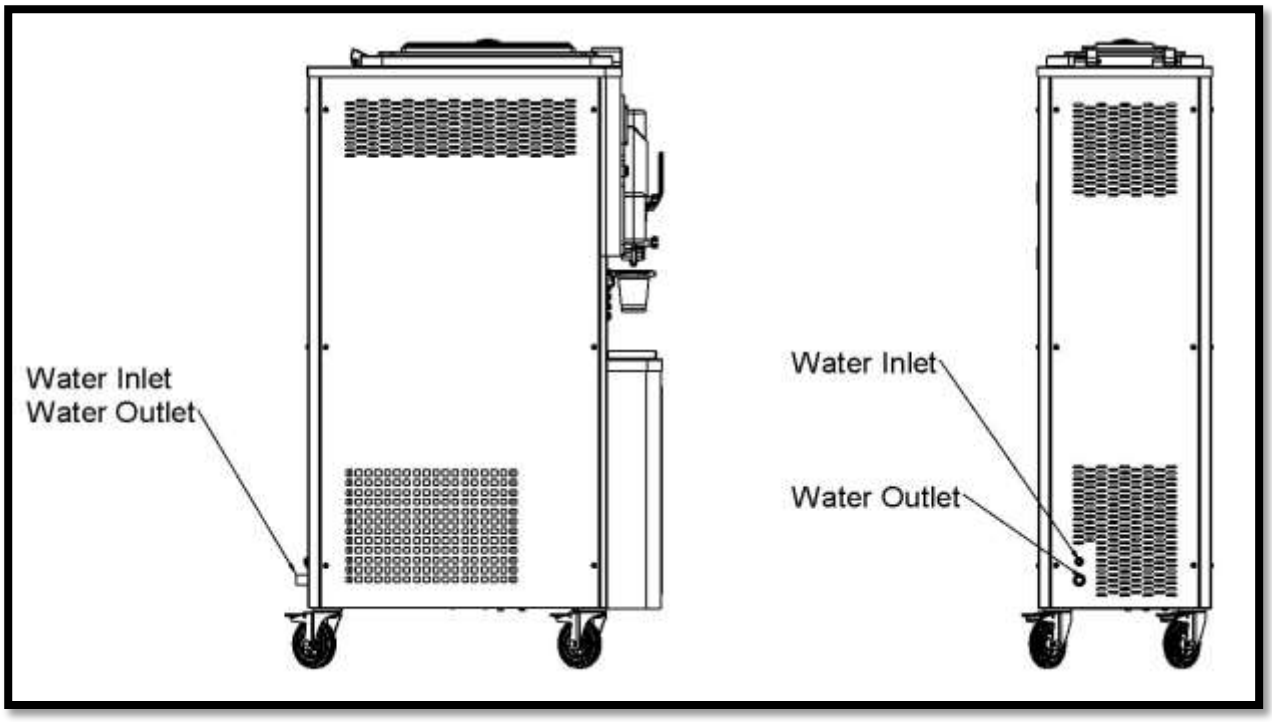

Figure 9

Figure 10

Water-cooled machine must be connected to running water supply, or a cooling tower. Water must have a pressure between **1-10 bar** and a delivery at least equal to the estimated hourly consumption.

Connect inlet pipe marked by plate “Water Inlet” to water supply installing a shut-off valve, and outlet pipe marked by plate “Water Outlet” to a drain pipe, installing a shut-off valve.

If water valve is retarded, this operation will have to be carried out by skilled personnel. Valve adjustment must be carried out in such a way that no water flows when machine is off and lukewarm water flows when machine is on.

Water consumption increases if temperature of entering water is above 20°C.

The filter should be cleaned every 3 months. (See disassembling in Figure 10)

The use of potable water in the cooling system is recommended.

10. CONTROL PANEL

Figure 10: Main Menu

WASH

In the WASH mode the Soft-serve in the barrel will be agitated, however no refrigeration will occur.

STAND-BY

In the STAND BY mode the barrel will retain frozen product in a semi-soft state for prolonged periods of non-use. Both barrel and hopper will be chilled.

ICE-CREAM

In the ICE-CREAM mode both barrel and hopper will be chilled. The Soft-Serve will be ready for dispensing.

WASH TIME

The machine should be washed every 14 days. It shows the remaining time for the next wash.

TOTAL SALES

It shows the number of ice cream sold. If you take ice cream for at least 2 seconds, ice cream sale counter works.

HOPPER TEMPERATURE & LOW MIX WARNING

The hopper temperature is written above the hopper picture. If the amount of the ice cream mixture in the hopper is very low, the picture flashes and low mix warning appears on the screen.

HARDNESS VALUE

This number shows the hardness of Soft-Serve. When the number reaches %100, the product is ready.

The water drop image appears when the cleaning mode is active. It uses for washing if you have a water connection during cleaning.

SETTINGS

Press the “Settings” button to access the settings menu. (Figure 12)

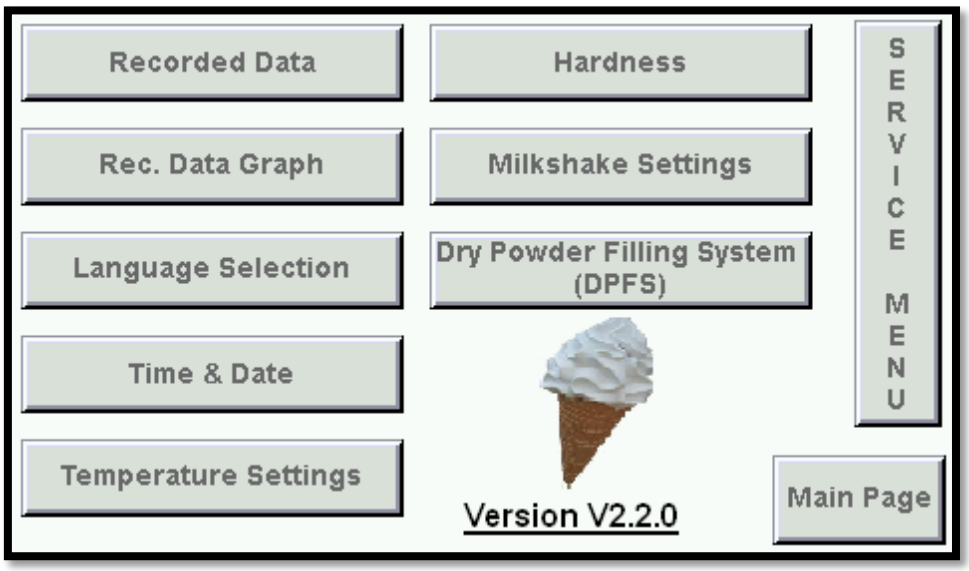

Figure 11: Settings Menu

RECORDED DATA - GRAPH

Press the “Recorded Data” button to see the heat treatment data. By pressing “Rec. Data Graph”, you can see the “Temperature-Time” graph too. (Figure 12 – Figure 13)

LANGUAGE SELECTION

You can select the language of the menu. (Figure 14)

TIME & DATE

This menu is restricted. The values can’t be changed without the written approval of the technical service.

TEMPERATURE SETTINGS

This menu is restricted. The values can’t be changed without the written approval of the technical service.

SERVICE MENU

This menu is restricted. The values can’t be changed without the written approval of the technical service.

HARDNESS

You can set the hardness value. (Figure 15)

MİLKSHAKE SETTINGS

You can set the milkshake features. (Figure 16)

DRY POWDER FILLING SYSTEM (DPFS)

You can prepare the powder mixture by following the steps. (Figure 17)

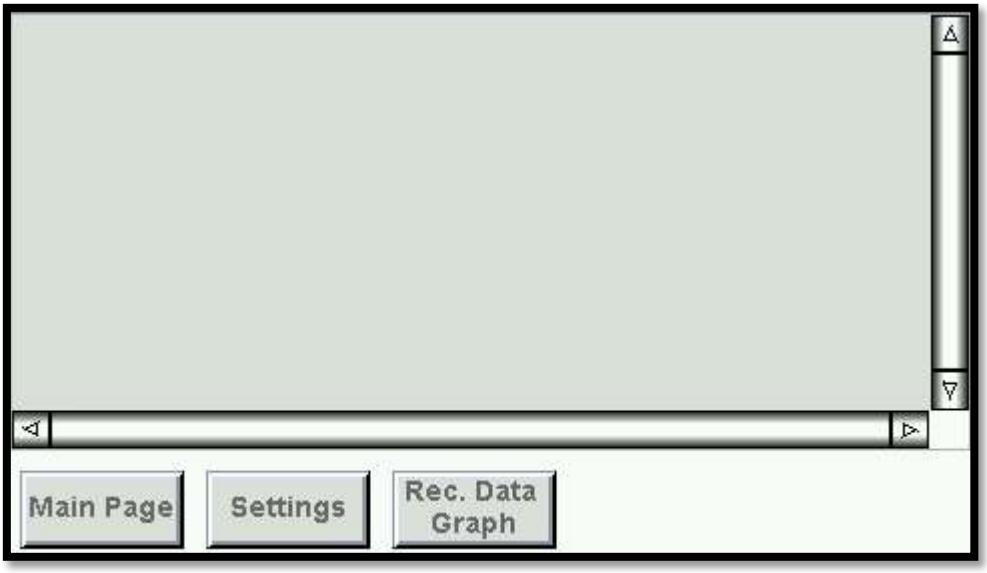

Figure 12: Recorded Data

The hopper and barrel temperatures are automatically recorded every 5 minutes during heat treatment.

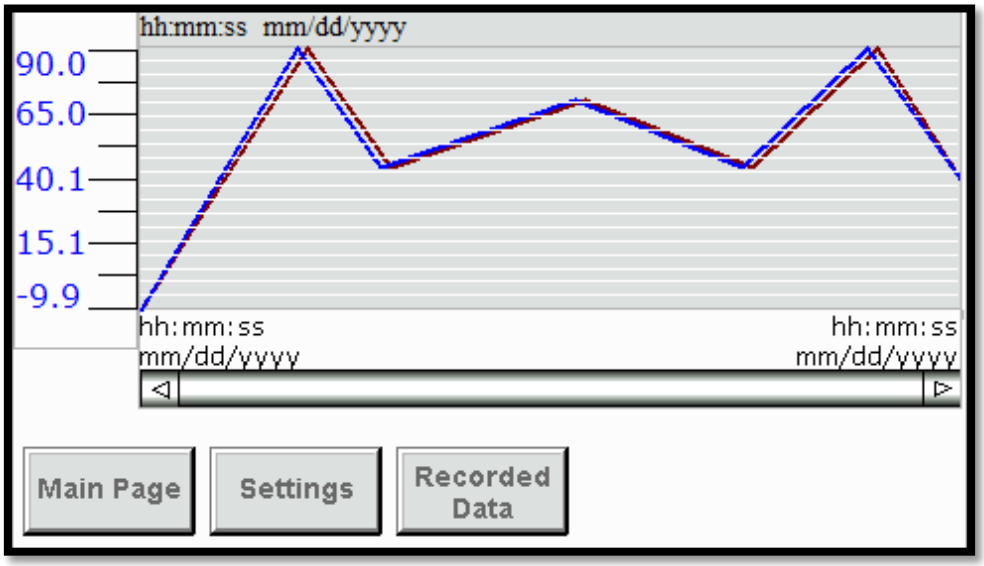

Figure 13: Recorded Data Graph

You can see the Temperature-Time graph of the heat treatment operation. Red line shows the hopper and blue line shows the cylinder temperature.

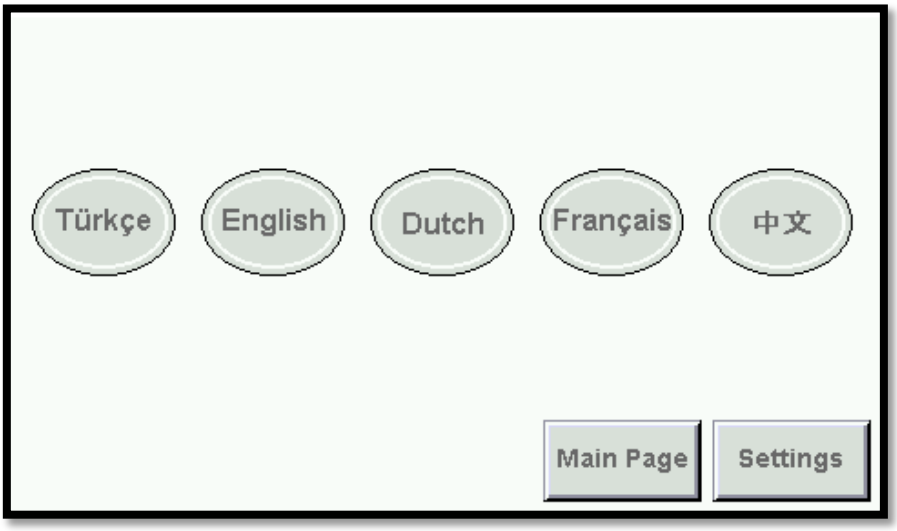

Figure 14: Language Selection

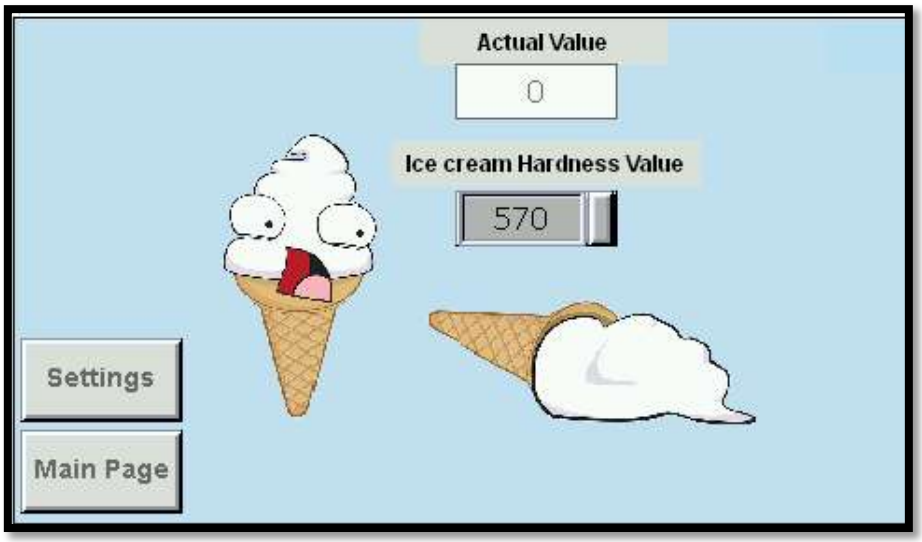

Figure 15: Hardness

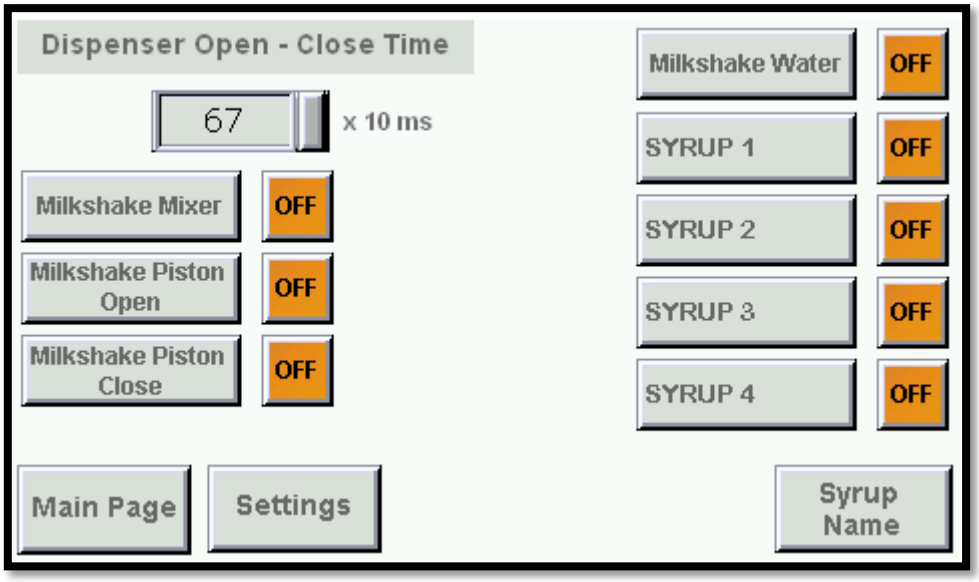

Figure 16: Milkshake Setting

If you press Syrup Name button, the screen in Figure 17 opens.

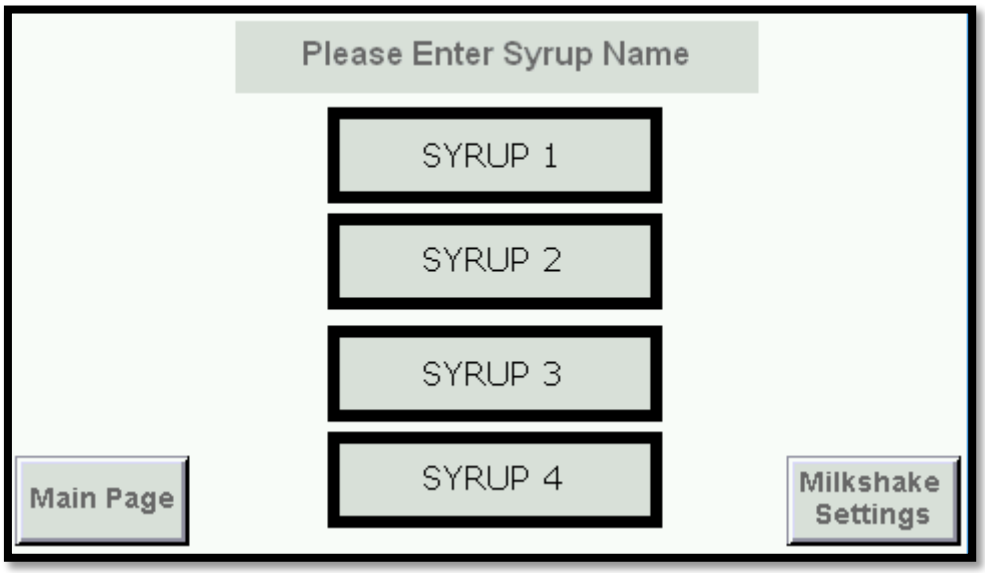

Figure 17

You can change syrup names in this screen.

DRY POWDER FILLING SYSTEM (DPFS)

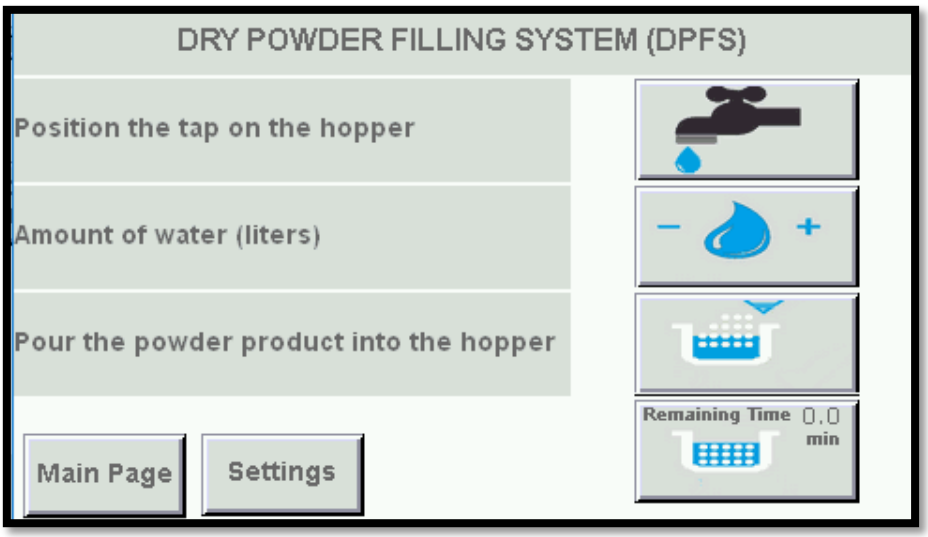

Figure 18: Dry Powder Filling System

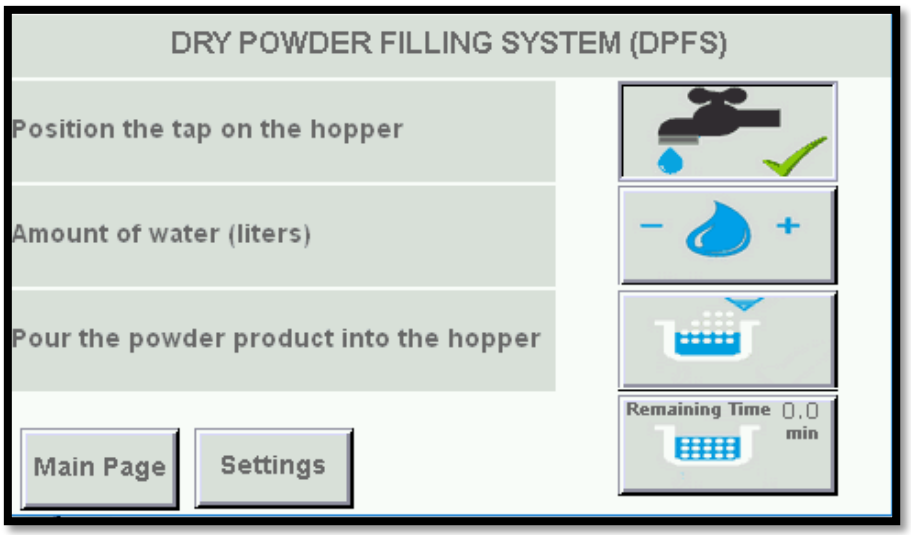

Figure 19

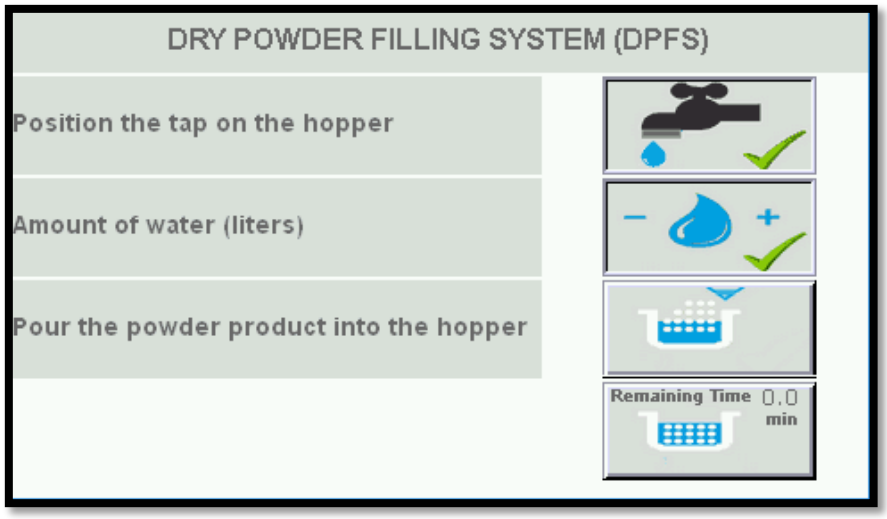

Figure 20

You can set the amount of water needed for the mixture with the help of this button. (Figure 20)

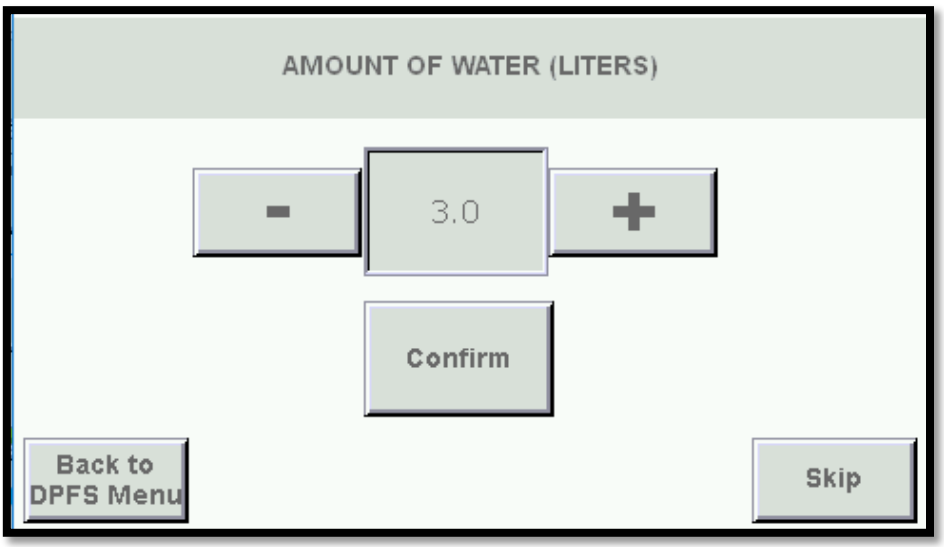

Figure 21

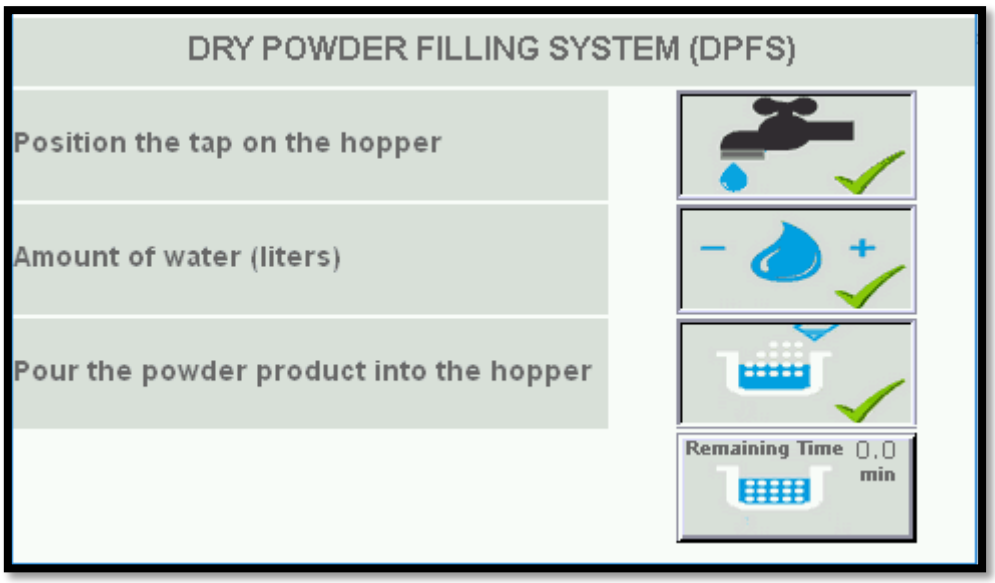

Figure 22

After completing all the steps, your mix starts to prepare.

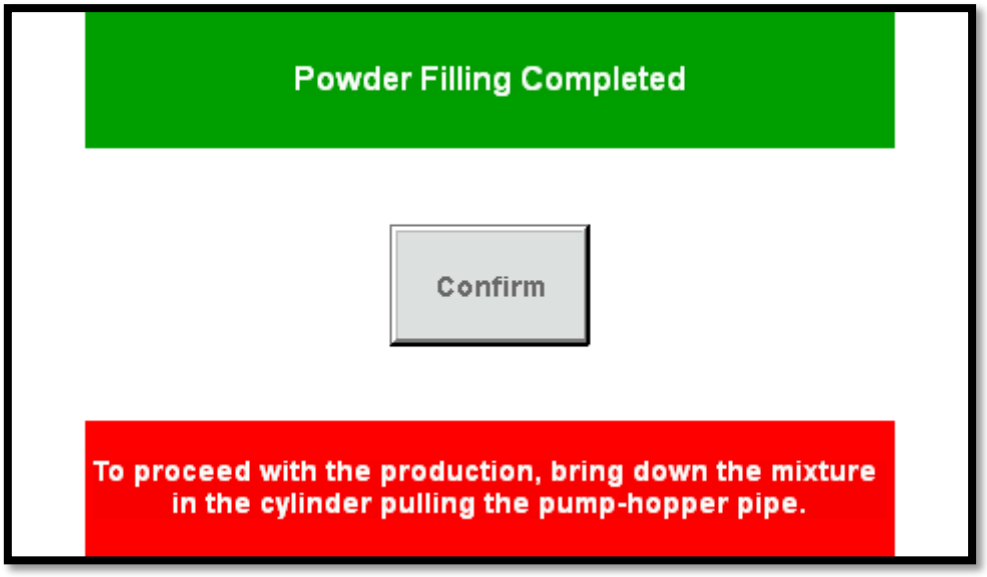

Figure 23

TIME & DATE

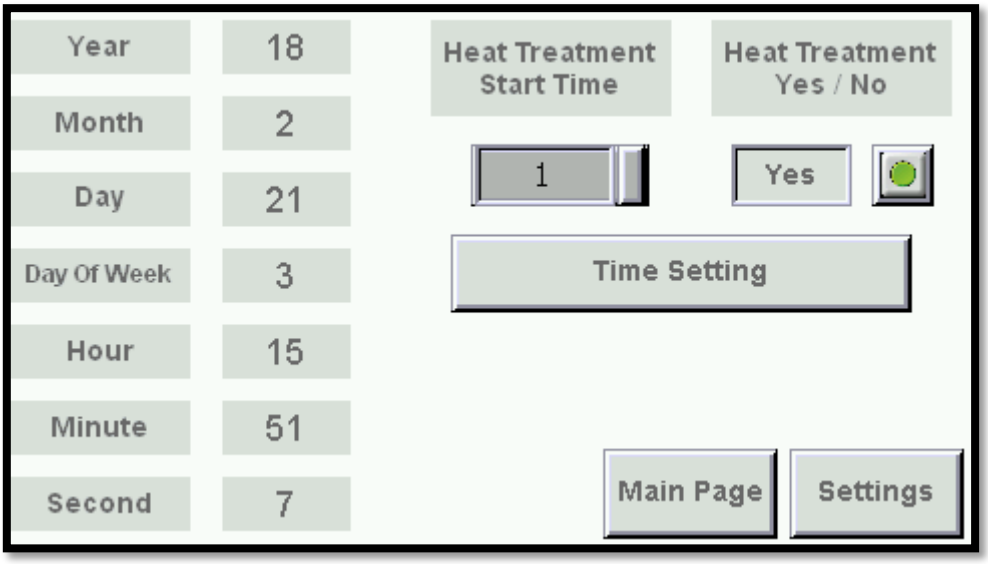

Figure 24

Factory settings for the heat treatment start time: 1:00 A.M.

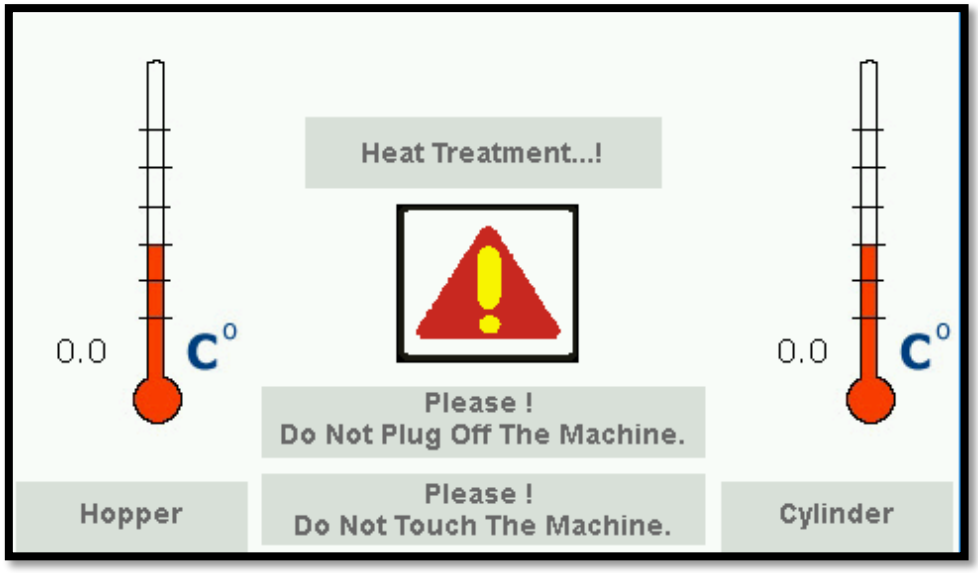

Figure 25: Heat Treatment Screen

During the heat treatment operation, you can see the temperatures of the hopper and cylinder.

WARNING AND ERROR SCREENS

Figure 26: Washing warning

Figure 27: Washing screen

The machine must be washed every 14 days. This warning appears in the last day.
After seeing the warning in the Figure 26, if you don't wash the machine, you will see the screen in Figure 27 and machine will be locked until it is washed.

Figure 28: Standby Failure

Figure 29: Heating Failure

Figure 30: Cooling Failure

Figure 31: Hopper Cover is Open Failure

Figure 32

If a problem occurs during heat treatment, the machine gives error messages shown in 28-29-30-31. The freezer must be washed and then the hopper must be refilled with ice-cream mixture.
If the hopper cover isn't closed, heat treatment operation won't start and the error message in Figure 32 is shown.

Figure 33

The hopper must be filled with ice cream up to the level of the suction tube handle before heat treatment. If it isn't filled, heat treatment operation won't start and the error message in Figure 33 is shown.

Figure 34

Figure 35

Because of hopper cover or low mix errors, if the machine can't start heat treatment operation for 3 times in a row, error message in Figure 34 is shown and the freezer locks itself and won't run until it is washed.
If heat treatment operation is finished successfully, freezer shows the message in Figure 35.

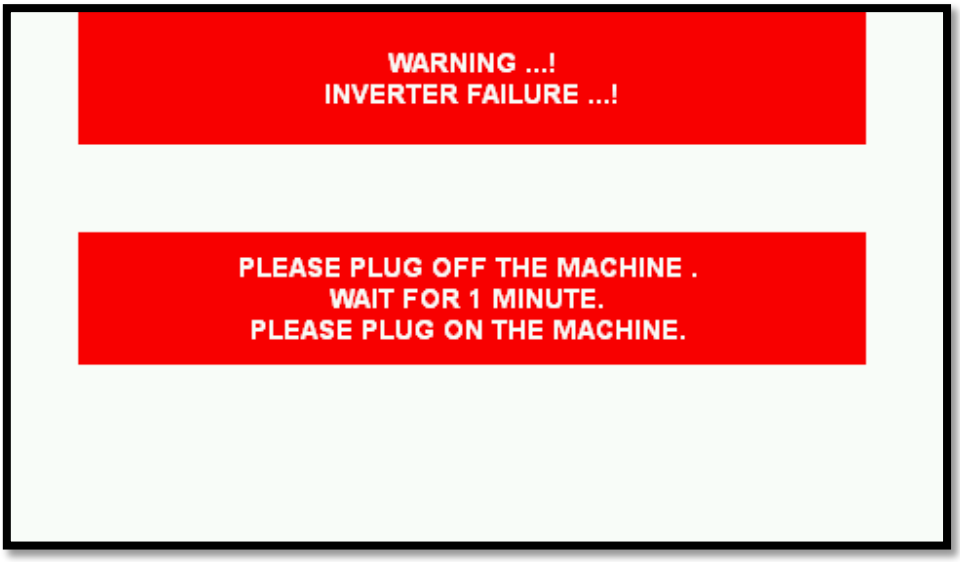

Figure 36: Inverter Failure

Inverter failure warning is shown in Figure 36.

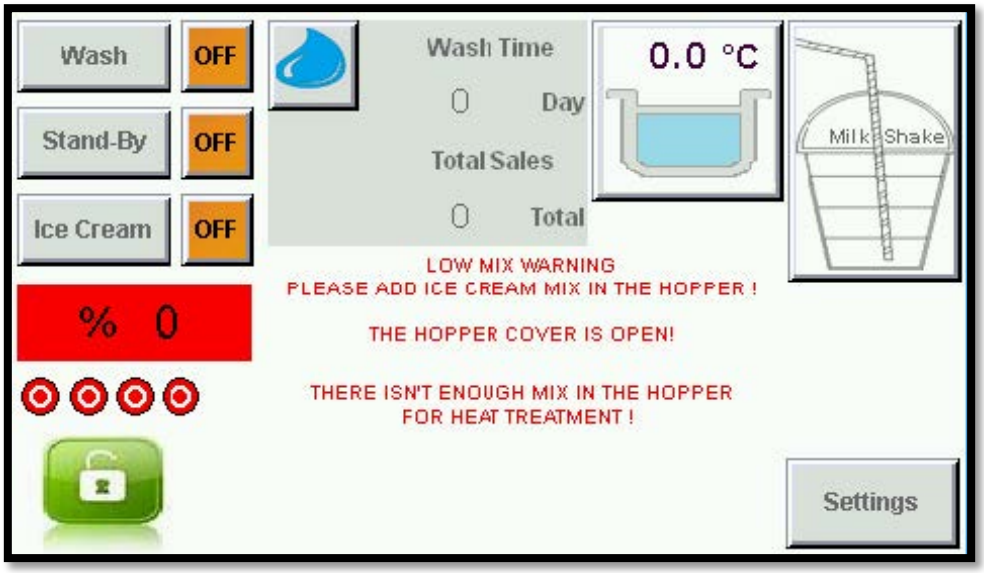

Figure 37 Main Menu Warnings

Low mix, hopper cover and low mix for heat treatment warnings in the main menu are shown in Figure 37.

SCREEN LOCK

Figure 38

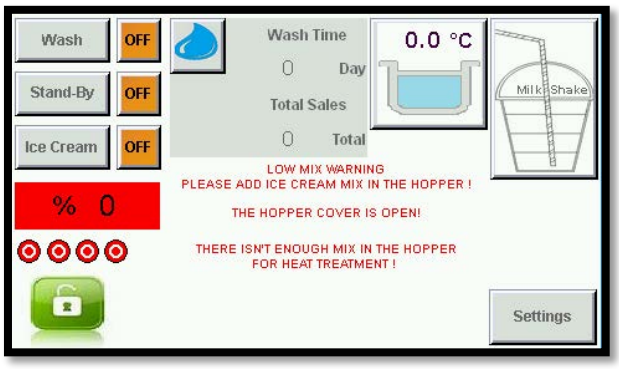

Figure 39

You can activate the screen lock by pressing “Enable” button in the service menu. When you activate the screen lock, green lock image appears on the main page. This image indicates that the page is not locked. If you want to lock the screen, click on the picture.

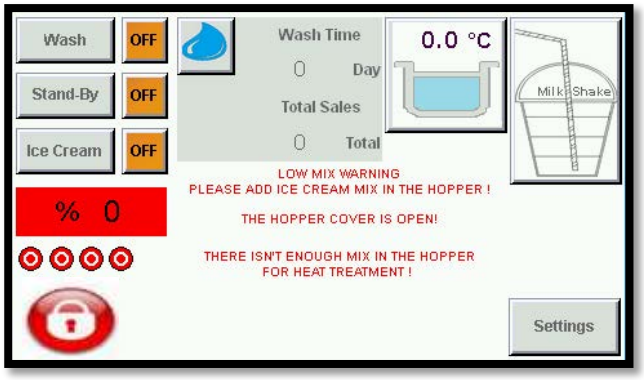

Figure 40

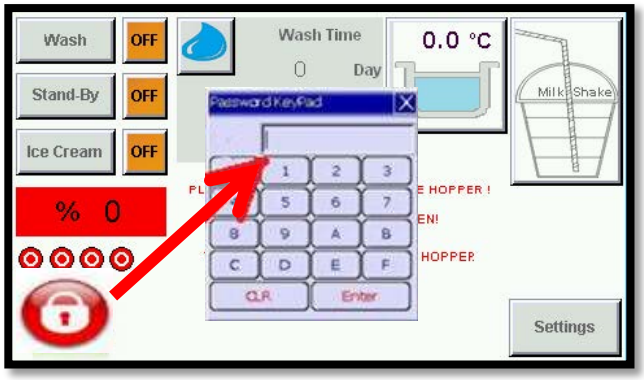

Figure 41

When the screen is locked the lock image turn red and the modes on the screen not be changed. If you want to unlock the screen, click on the picture and enter the password.

Figure 42

Figure 43

You can disable the screen lock by pressing “Disable” button in the service menu.

DISPENSING MILKSHAKE SCREEN

Figure 44

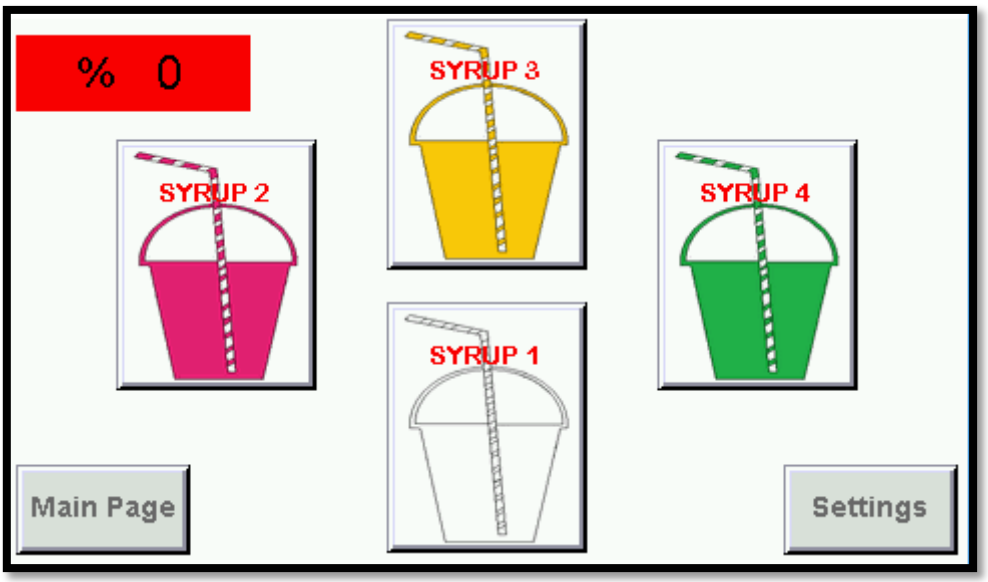

Figure 45

Select an option from control screen. Every cup corresponds to a milkshake flavour. The product is dispensed according to the select.

11. OPERATING PROCEDURE

1. Always wash your hands with soap and potable water before assembling the machine. (Preferably use new paper towels to dry your hands)

2. Only use the removable parts after they have been washed sanitized and air-dried.

3. Fit the beater assembly only when the active mode is cancelled or machine is off.

4. Follow all the instructions of this manual and the operating procedures of the store owner, and at all times follow recognized in-store hygiene procedures, in particular those in respect of dairy products.

5. Repairs must be done by the persons who are authorized if not, any product failure warrantee will become invalid and void.

12. PREPARATION AND START UP PROCEDURE

12.1 PREPARATION

Make sure that all the removable parts have been washed with potable water and sanitized, and then air dried before they are used.

Attention: NEVER ASSEMBLE OR DISASSEMBLE ANYTHING UNLESS YOU HAVE:

1. Cancelled the active mode. (Stand by-Wash-Ice cream)
2. Switched off the power at the wall and un-plugged the power cable.

You must use food grade lubricant to do the assembly described below.

Prepare the mixture as shown in product description.

12.2 STARTING THE MACHINE

Let the Barrel fill up with the MIX (The Barrel will be full when the air stops bubbling from the Barrel)

Fill the hopper, up to the level of the suction tube handle (Figure 46-47). **Do NOT fill above the suction tube handle. It will leak into the drive shaft and cause problems.** Wait till all the air has bubbled out of the barrel. The barrel will be full when the bubbling stops.

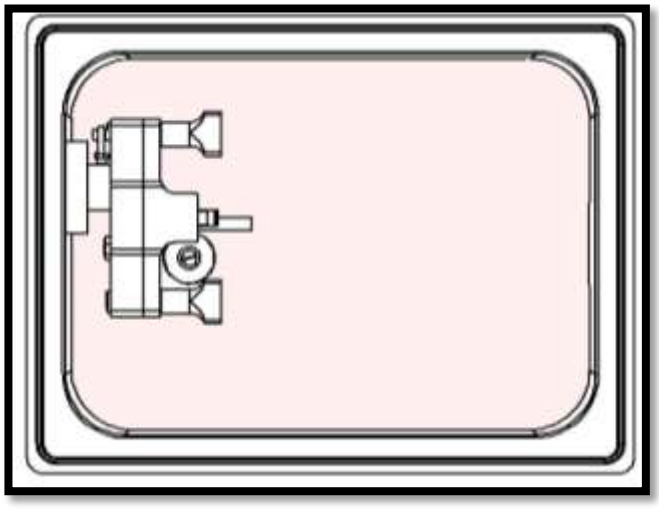

Figure 46

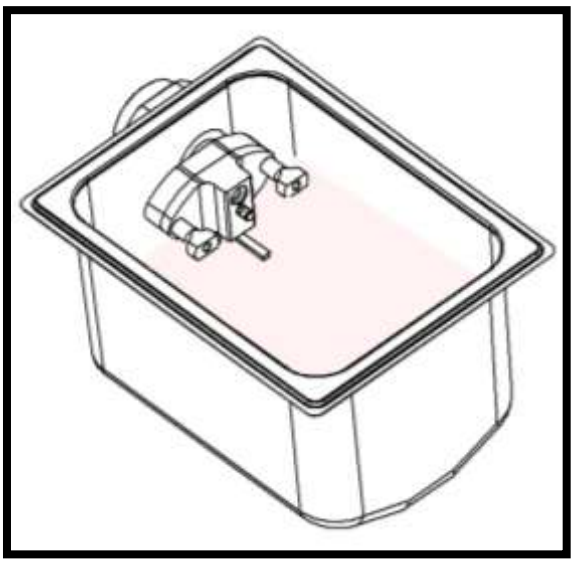

Figure 47

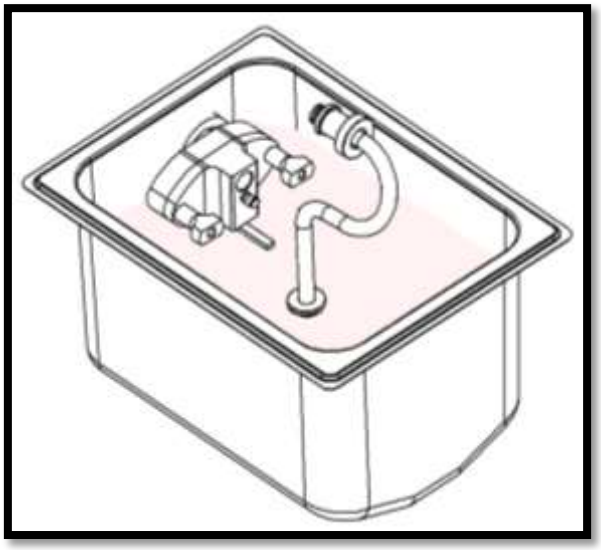

Figure 48

Carefully insert the Compression Feed Pipe into the Barrel Feeder Tube hole on the floor of the hopper.

Now proceed to connect the Compression Feed Pipe assembly into position by pressing the bottom end into the hole in the hopper floor. Initially keep it at 90º to its final direction feed.

Then close the Hopper Cover and turn the control panel to the **WASH** mode to start the aeration pump.

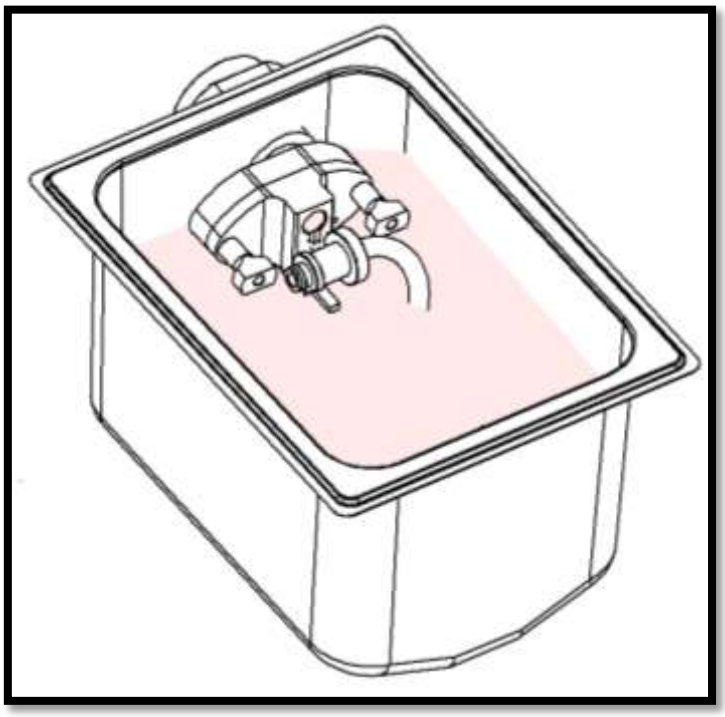

Figure 49

Wait 2 minutes and open the Hopper Cover. When you open the cover, wash mode is automatically turned off and pump will stop in a few seconds. If the mix is pumping out of the hole, as shown in the picture above, pump is working properly. Wait the pump to stop (Figure 50) and then the Aeration Pump Connecting Tube can be connected.

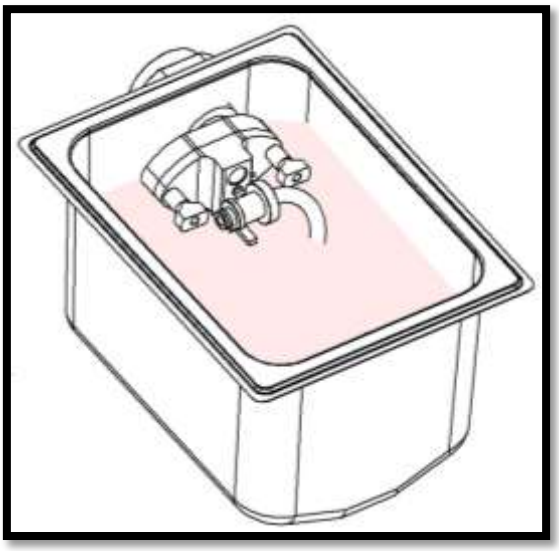

Figure 50

Now the pump has stopped pumping which indicates that the pump is off. Now connect the aeration pump connecting tube.

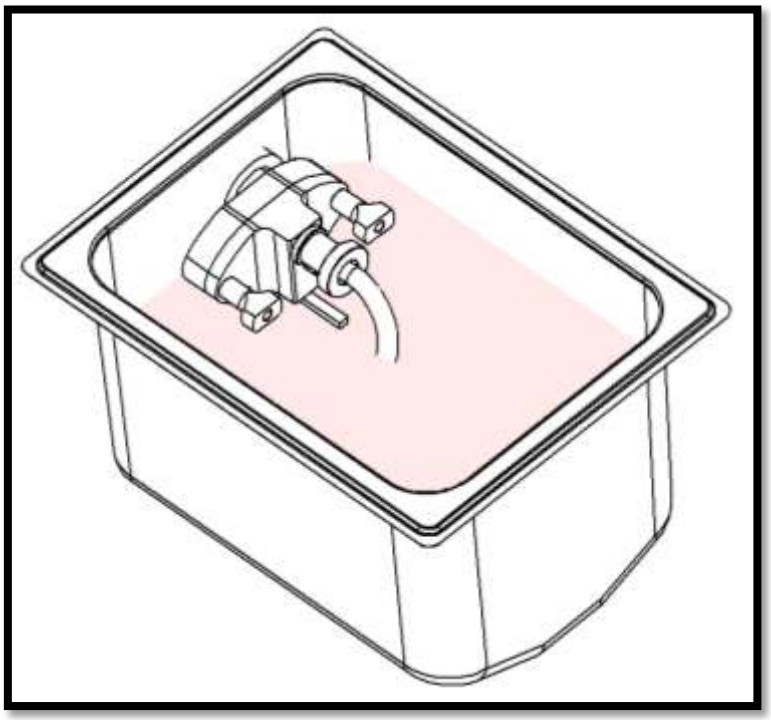

Figure 51

Turn the aeration compression feed pipe towards the pump and connect. Lock the plastic sliding fitting into position as shown on the picture.

Close the hopper cover and turn the freezer to WASH mode again and wait 2 minutes. Then discharge ice cream to take out pressure. Otherwise, the barrel can freeze and it may damage the freezer. When you pull the Dispensing Handle, if there is no pressure, you must check the pump assembly.

After taking the pressure out, the freezer is ready to use. You can operate the freezer by control panel.

Place the hopper cover, set the hardness value on the control panel (Figure Then wait till the freezing down has completed. The freezer will stop and become quiet and hardness value will be %100 on the main page screen when the Soft-serve is frozen down. (*Once the machine has reached the selected hardness the refrigeration compressor will automatically stop for pre-set intervals*).

12.3 DISPENSING ICE CREAM

After the Freezer has frozen down and stopped, pull the Dispensing Handle and dispense about 300 grams of Soft-Serve into a washed and sanitized beaker. (Discard the Soft-serve if not used immediately).

NOTICE: The temperature of the Soft-serve should be between: -6.5ºC and -8.0ºC.

When a serve is dispensed the Freezer is automatically activated by the movement detector switch when it senses the cone in hand being held below the dispense head nozzle.

13. STEP-BY-STEP CLEANING - SANITIZING PROCEDURE

When properly used and cared for the machine will provide a consistent quality Soft-Serve or Frozen Yoghurt. Like all equipment used to manufacture food products it will require daily cleaning and regular maintenance. A specified amount of care and attention is required including but not limited to everything prescribed in this manual.

Attention: Because of bacteria population increases very fast, cleaning and sanitizing is vital. Extra attention must be given for cleaning and sanitizing properly.

13.1 CLEANING PROCEDURE

Follow these steps for cleaning: (All water used must be potable water)

1. Pull the handle to take ice cream for dispensing the pressure in the system.
2. Remove the compression feed pipe. Never remove the pipe without dispensing some ice cream. Otherwise, the mix can squirt.
3. Remove the aeration pump.
4. Fit the Pump Cleaning Plug to the Pump Hole.

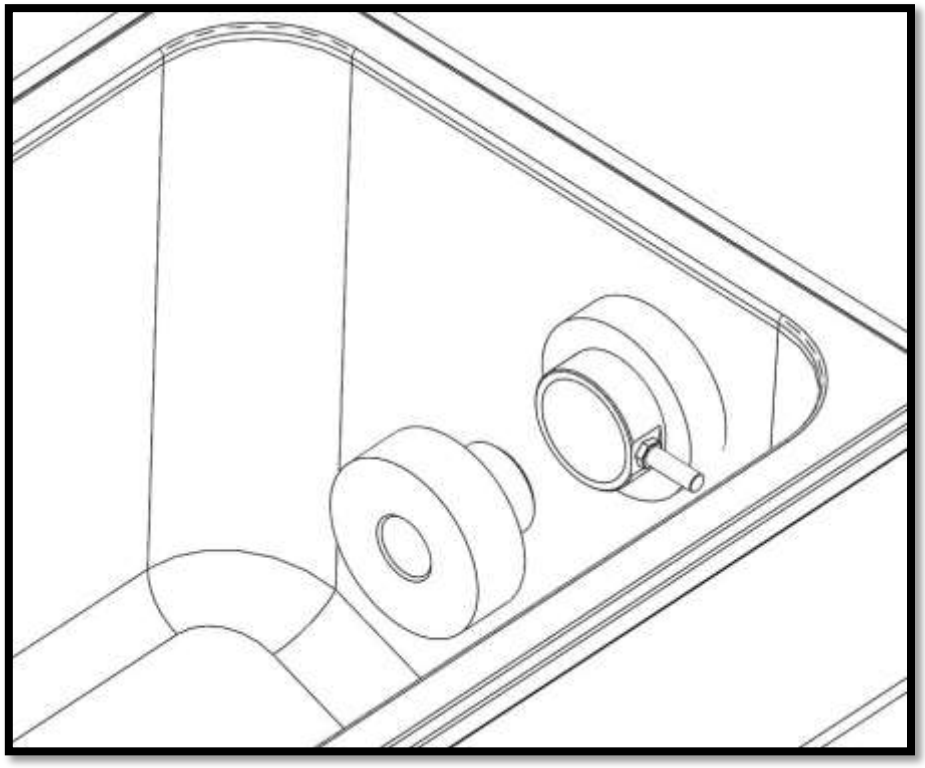

Figure 52

5. Close the hopper cover, turn the machine to “WASH” mode and wait 3 minutes.
6. Place an empty container under the dispense head and drain the remaining Soft-Serve and liquid into a clean, sanitized bucket. Immediately place a tight sealing lid onto the bucket and store refrigerated (preferably below 5ºC)
7. Fill the hopper with cold water and allow the machine to run for 2-3 minutes before draining the water into the bucket.
8. Fill the hopper with warm water. Allow the machine to run for approximately 5 minutes before draining the liquid into the bucket.
9. Repeat step 8 until the water runs clear.
10. Press the wash button again and cancel the wash mode. **Don’t unplug the power.**
11. Remove the screws of the Dispense Head.
12. Remove and disassemble the dispense Head, Piston, Beater and O-rings.(Please use the o-ring remove apparatus.)
13. Remove and disassemble hopper agitator.
14. Remove the liquid level sensor. Remove the retaining ring and float.
15. Wash and sanitize hopper, barrel and all the removable parts according to the sanitizer manufacturer’s instructions and allow the parts to air-dry. Do not use any chemicals other than the approved Sanitizer during the cleaning process.
16. Clean all the parts with the brushes refer to the brush cleaning procedure. (Chapter 13.2)
17. Assemble all the parts, ensuring the O-rings and their groves are properly lubricated.
18. Start by lubricating the harmonica-shaped Beater Shaft seal and slip it onto the beater shaft:
    a. Place the beater into the barrel and turn it slowly until it locks into position.
    b. Place the dasher.
    c. Lubricate the smaller O-rings, slip them onto the piston and place the piston into the dispense head.
    d. Lubricate the large O-ring and place into the back of the dispense head.

19. Place the dispense head back onto the machine and tighten the screws in a cross-wise manner.
20. The dispense head mustn't be assembled back for at least 5 minutes.

Do NOT touch barrel feeder hole during the cleaning process!

For optimal machine-performance, the condenser must be cleaned from dust and dirt regularly by an authorized technician.

The nozzle must be cleaned and sanitized every 6 hours.

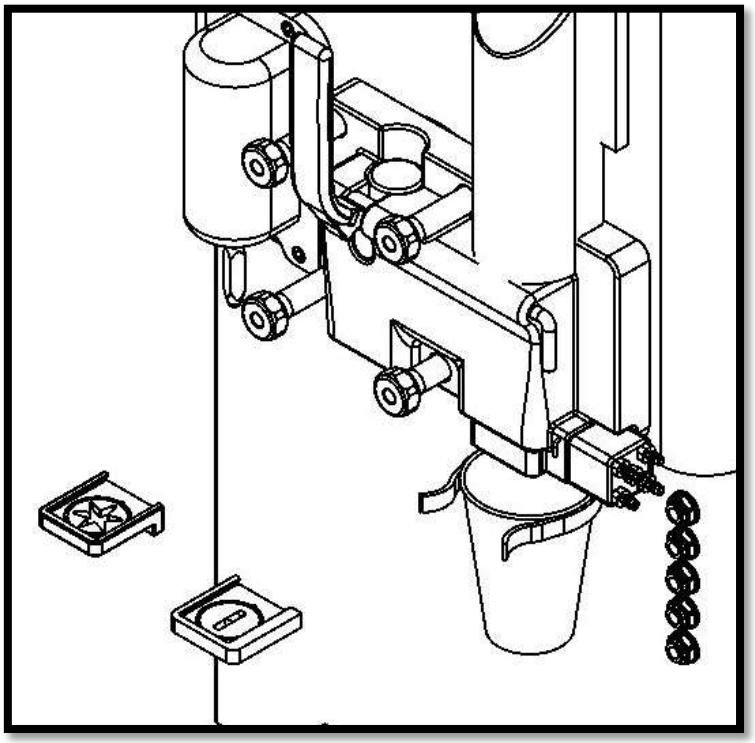

Figure 53

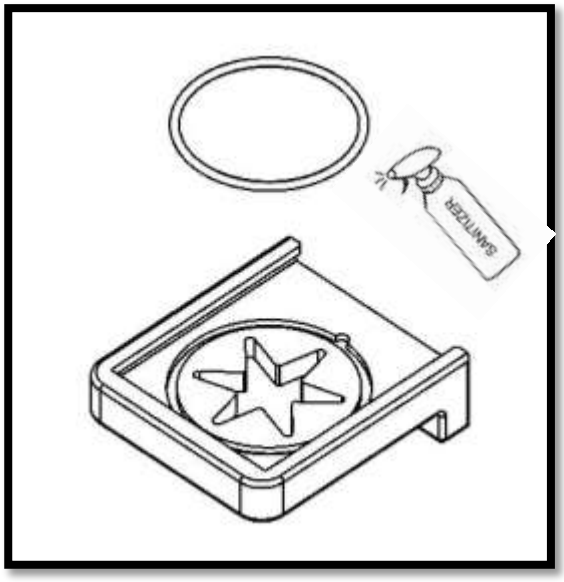

Figure 54

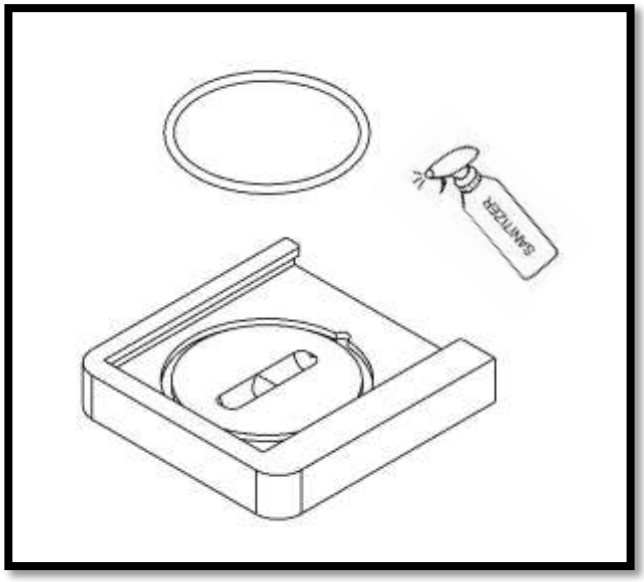

Figure 55

Remove the nozzle from the head. Clean and disinfect the nozzle and o-ring.

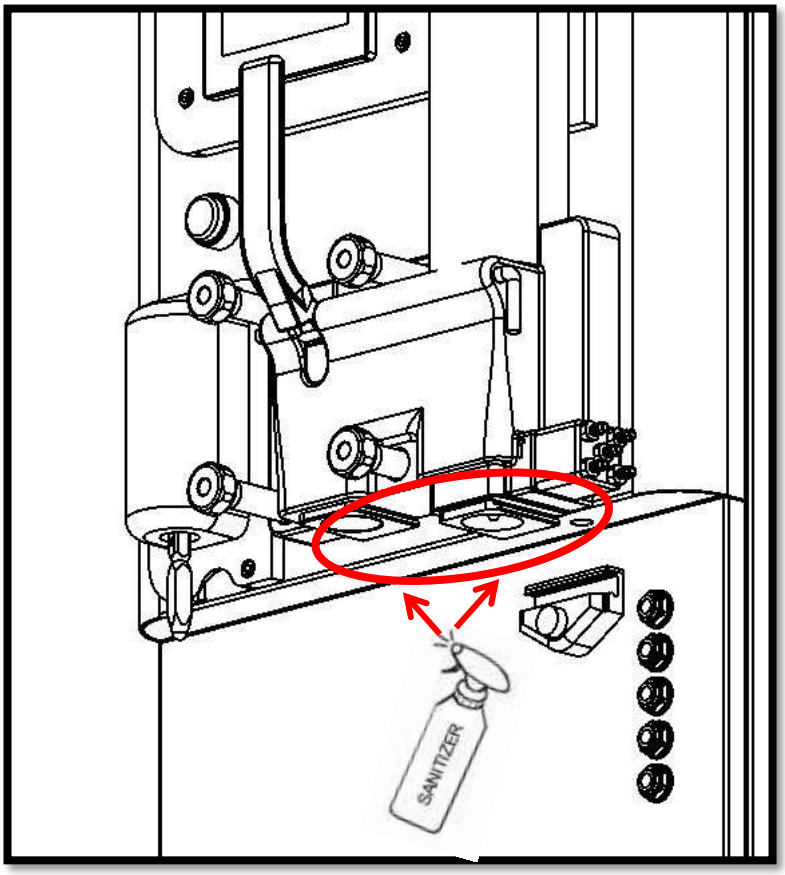

Figure 56

Clean the under area of the head with a sanitizer.

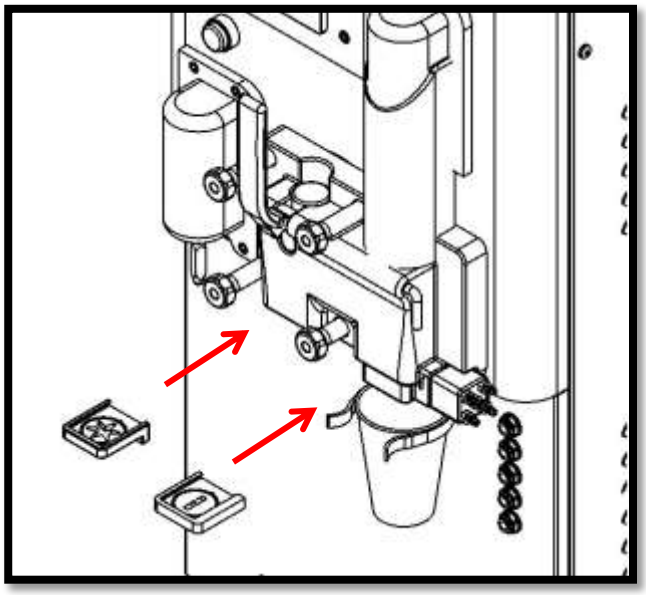

Figure 57

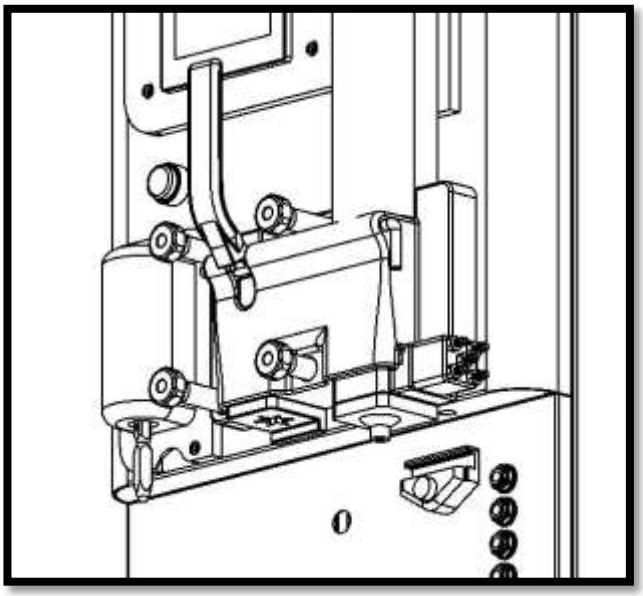

Figure 58

After complete the cleaning process, lubricate the o-ring and replace the nozzle.

For water-cooled machines, the filter must be cleaned every 3 months.

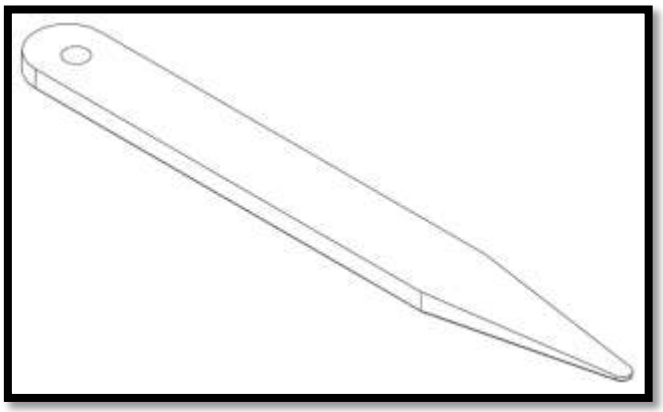

Figure 59

13.2 BRUSH CLEANING PROCEDURE

*Optional – highly recommends the brush set for a proper detailed cleaning.

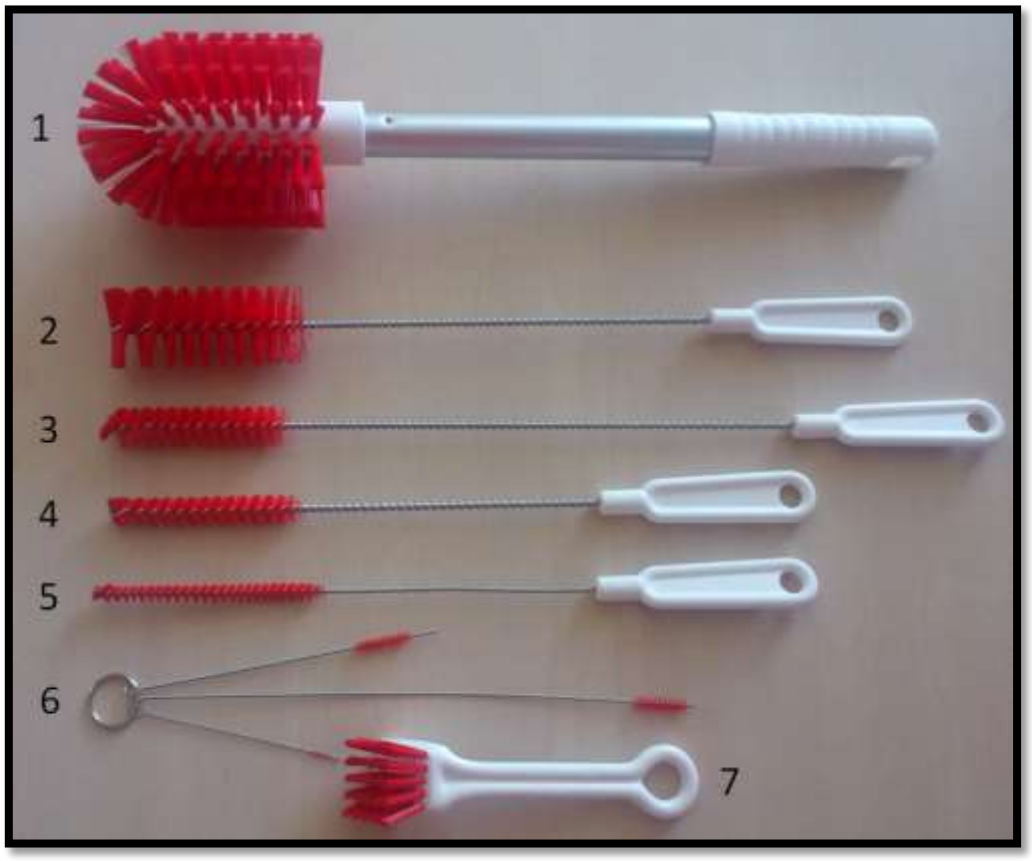

Figure 60

No	Part Name	Area of Usage
1	Brush - Ø90x120x440	Barrel, Hopper, Drip Tray
2	Brush - Ø40 x100x400	Head (Piston Grove), Barrel Feeder Hole
3	Brush - Ø20x90x450	Pump cover and Pump body holes, Outer Air Tube, Scrapper Blades, Pusher, Dasher, Head Screw Holes
4	Brush - Ø15x90x350	
5	Brush – Ø9x110x350	Barrel Feeder Hole, Pump Feeder Tube, Inner Air Tube, Compression Feed Pipe, Head (Motion Pin Hole), Liquid Level Sensor
6	Triple Brush - Ø6 Ø5 Ø2	Pump Cover, Pump Feeder Tube, Air Tube, Compression Feed Pipe, Head
7	Hand Brush - 30x35x170	Nozzle, Head (Back Side), Drip Tray, Pump

Table 8

Make sure all brushes are available for brush cleaning.

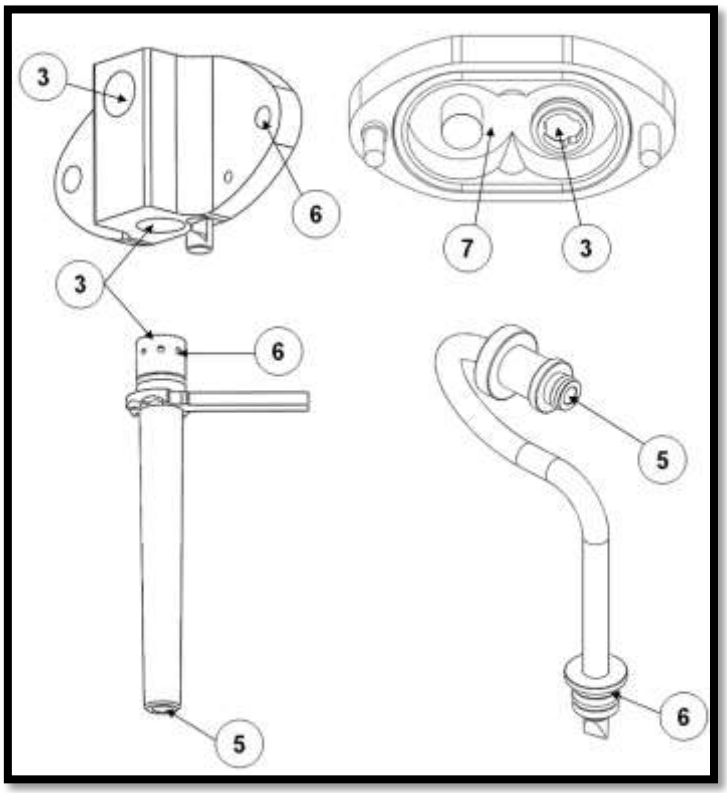

Figure 61

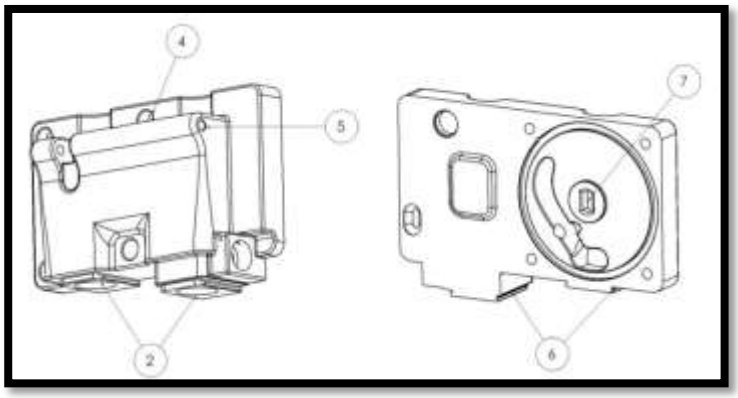

Figure 62

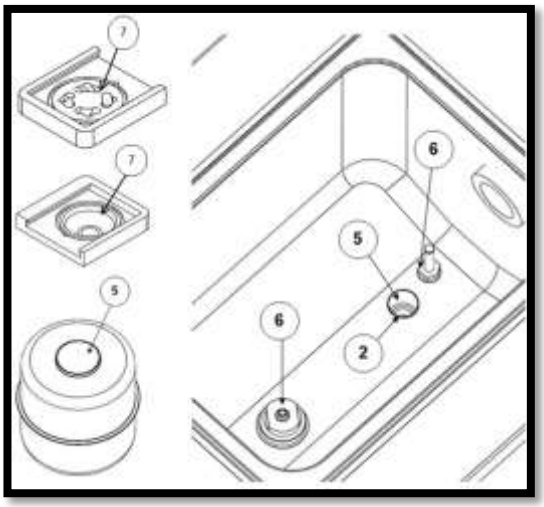

Figure 63

13.3 SANITIZING PROCEDURE

After cleaning procedure, hopper, barrel and all the removable parts must be sanitized. It is recommended to use approved “Sanitizer” during disinfection. (Please contact to provide approved “Sanitizer”.)

The sanitizer is based on alcohol and QAC.
It is suitable for metals against corrosion.
It provides a fast and effective disinfection.
It is a volatile material, so it leaves no residue on the applied surface.

- Keep out of reach of children.
- Rinse well after application.
- Avoid eye contact. In case of contact, wash with water immediately.
- Avoid skin contact.
- Do not use for face, body, hand and food cleaning.
- Keep in a cool place.
- Do not expose to direct sunlight.

Directions to Use

It is a ready to use solution. Apply through spraying and wiping. It is recommended to wait at least 5 minutes after spraying.

The sanitizing solution mustn’t be mixed with water.

14. STEP-BY-STEP ASSEMBLY PROCEDURE

14.1 DISPENSING HEAD ASSEMBLY

14.1.1 Dispensing Head O-Ring Assembly: Again, place a small amount of lubricant onto your index- and middle finger and hold the large DISPENSING HEAD SEAL O-RING between the lubricated fingers and your thumb. Gently pull the O-ring through your lubricated fingers until it is entirely covered. The coating of lubricant should be thicker than on the piston as it will prevent the O-ring from slipping during the later stages of the assembly. Place the O-ring gently into the designated groove of the Dispensing head and press firmly into place.

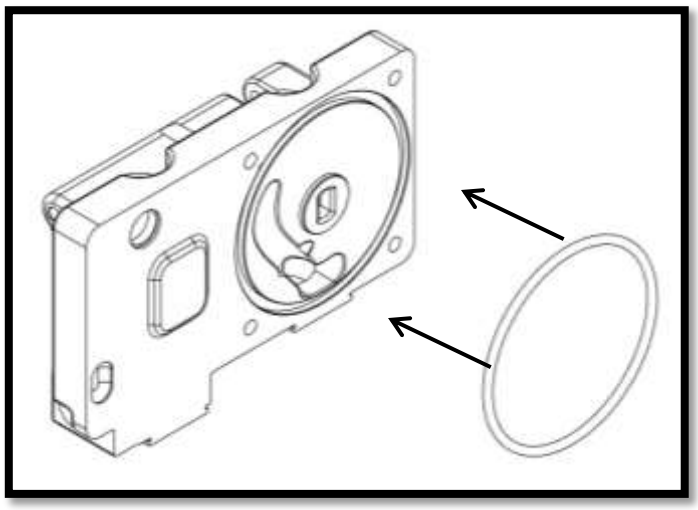

Figure 64

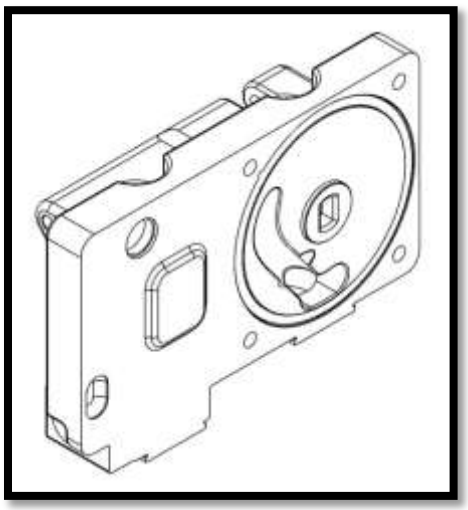

Figure 65

14.1.2 Dispensing Head Piston – O-Ring Assembly: Assemble the Dispensing Head piston using food grade lubricant. Slip the appropriate O-rings onto the piston.

Place a small amount of lubricant onto your middle and index finger and evenly coat the piston's entire surface. The coating must be all-encompassing but must not be too thick; a very thin layer will suffice.

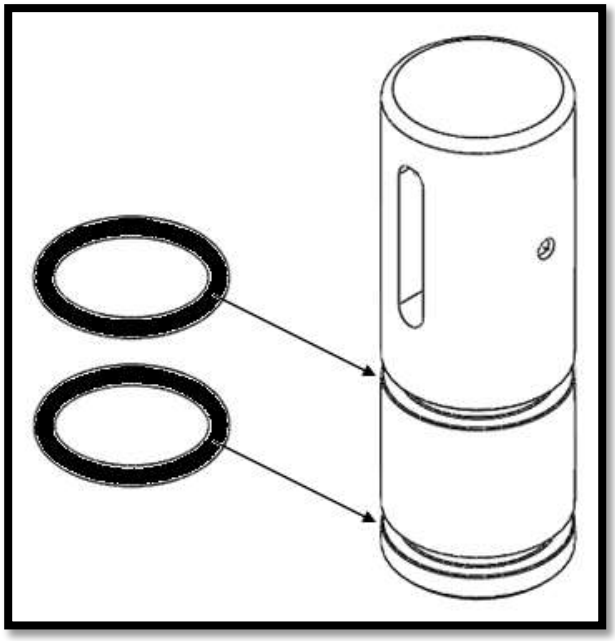

Figure 66

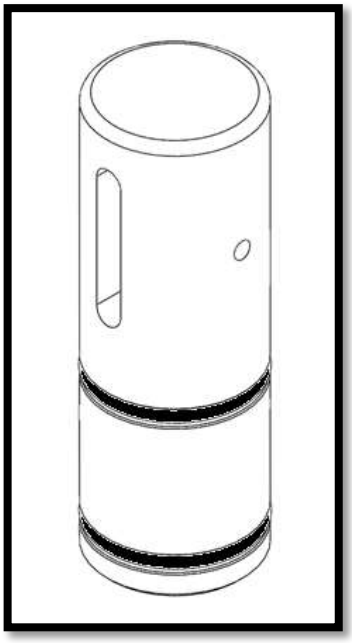

Figure 67

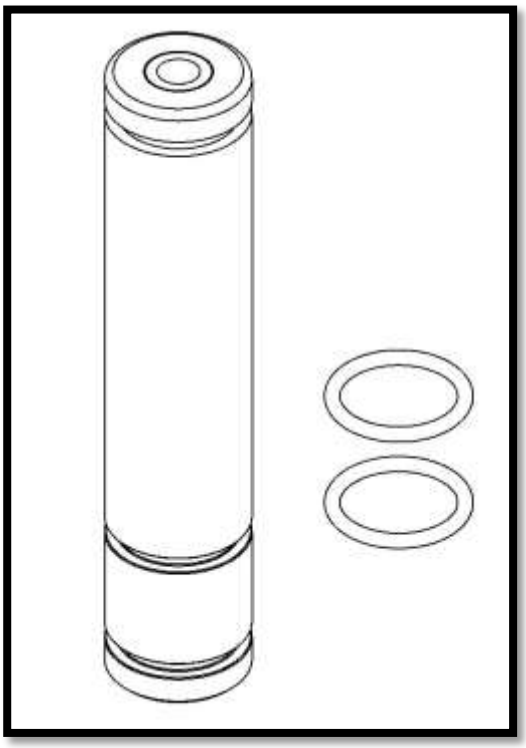

Figure 68

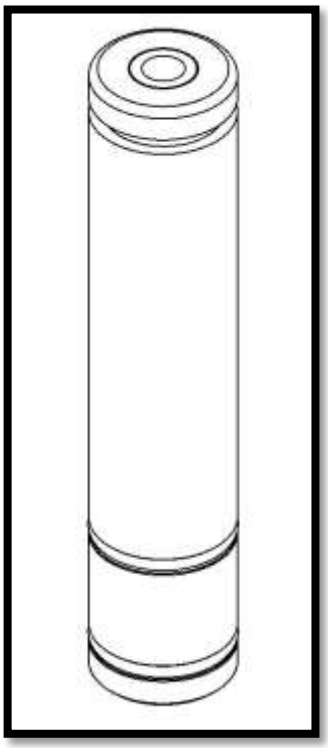

Figure 69

14.1.3 Dispensing Head Piston Assembly: Insert the lubricated piston into the dispense head. This motion should be quite free and without too much force. If the piston does not move freely, a little more Lubricant is required.
In that case, remove the piston, add a little more lubricant as prescribed above and re-insert.

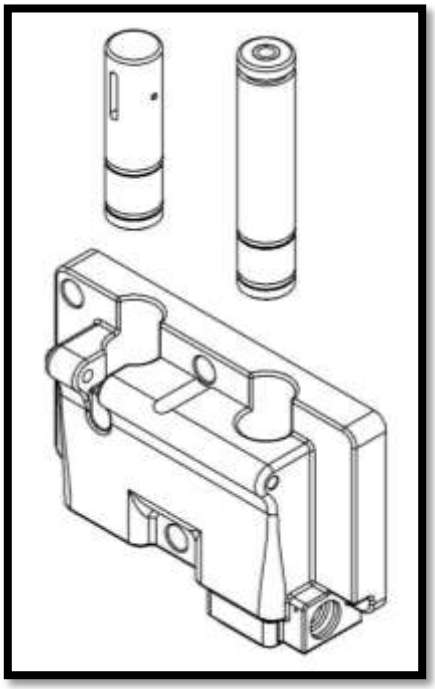

Figure 70

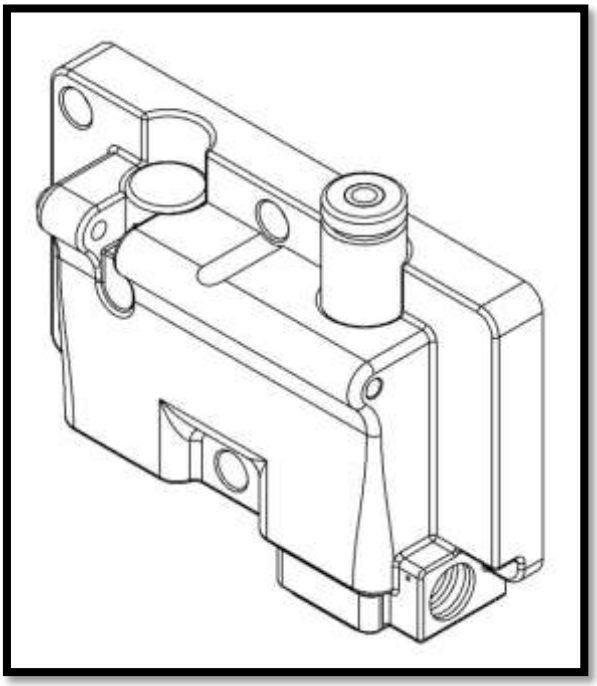

Figure 71

14.1.4 Dispensing Head Nozzle – O-Ring Assembly: Lubricate the O-Ring and place it gently into the designated groove on the nozzle. Then place the nozzle.

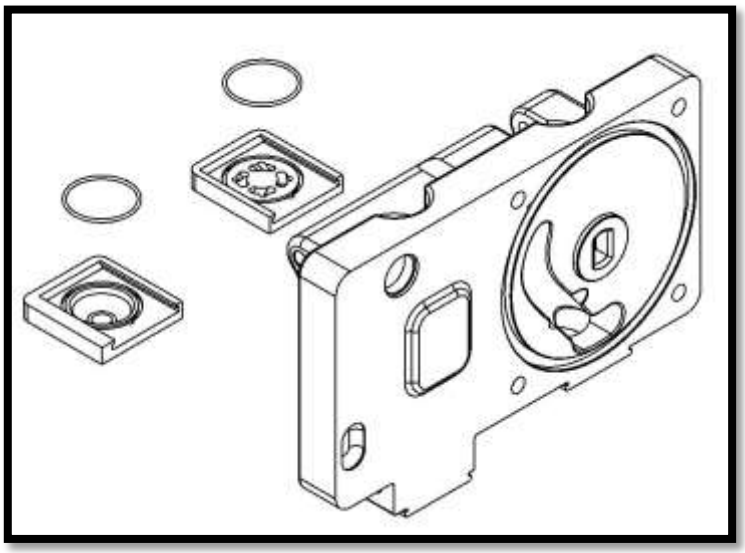

Figure 72

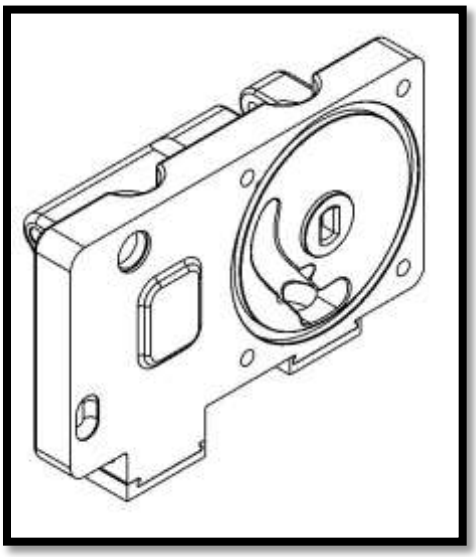

Figure 73

14.1.5 Dispensing Head Piston Lifter Assembly:

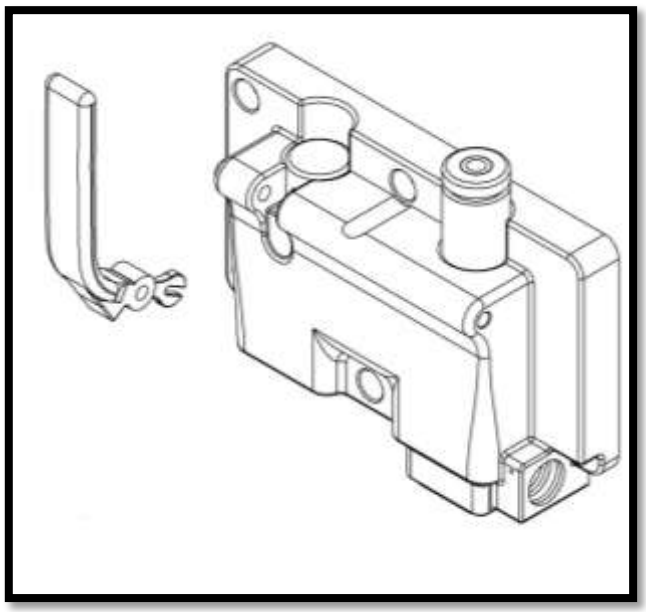

Figure 74

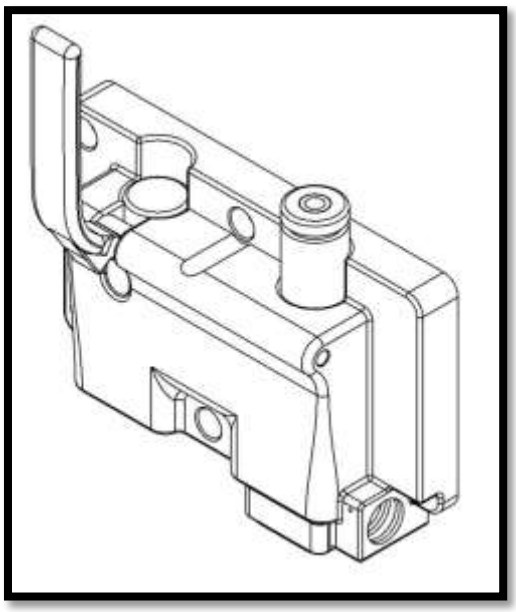

Figure 75

14.1.6 Dispensing Head Lifter Rod Assembly:

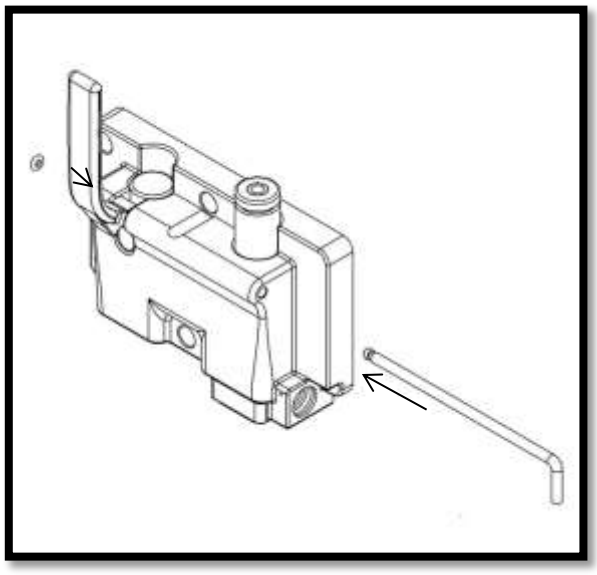

Figure 76

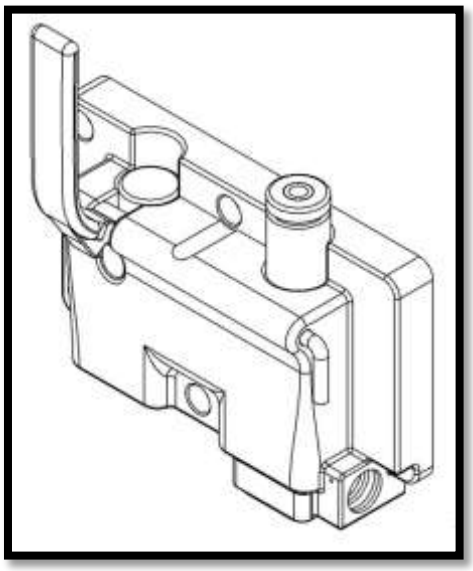

Figure 77

14.1.7 Syrup Check Valve Assembled:

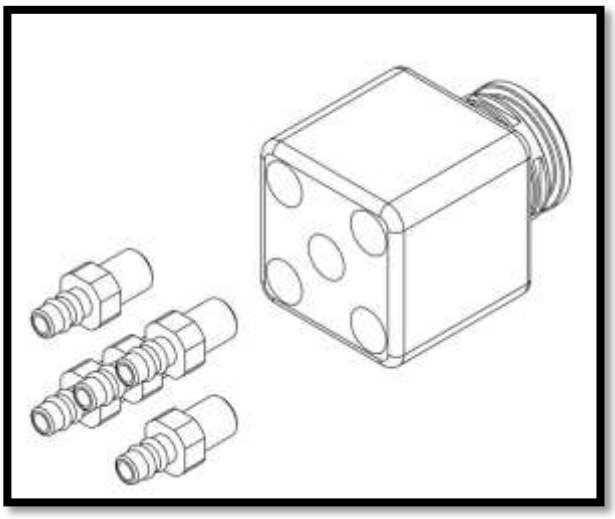

Figure 78

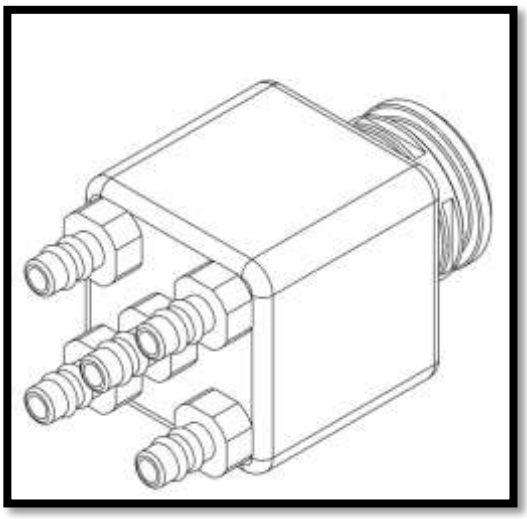

Figure 79

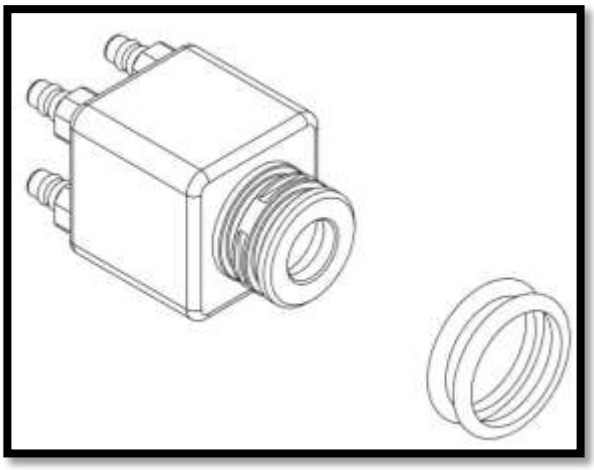

Figure 80

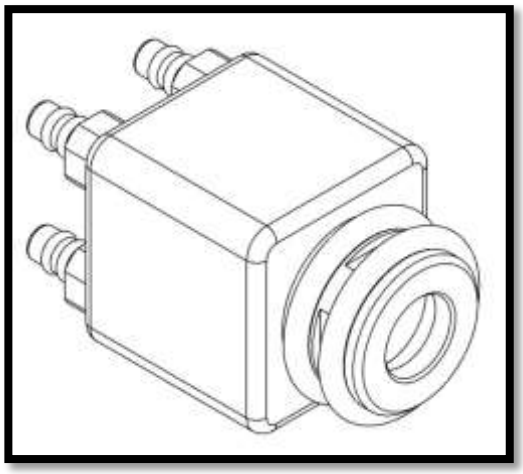

Figure 81

Lubricate the O-Rings with food grade lubricant and place it as shown.

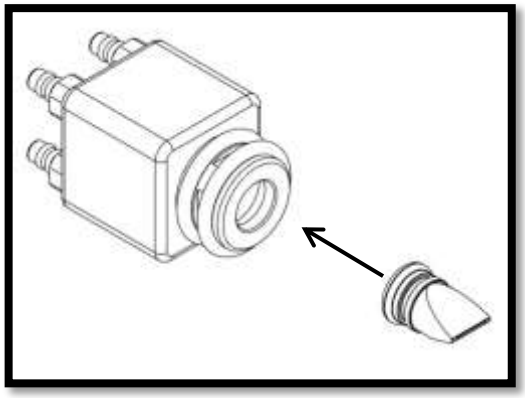

Figure 82

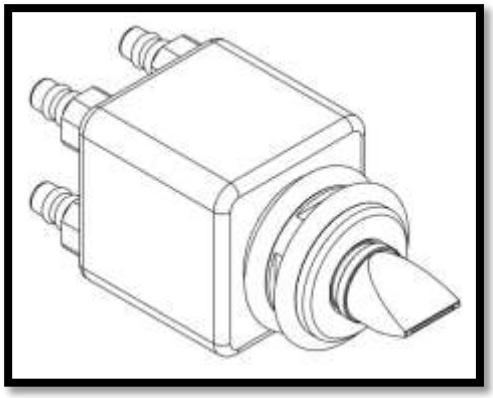

Figure 83

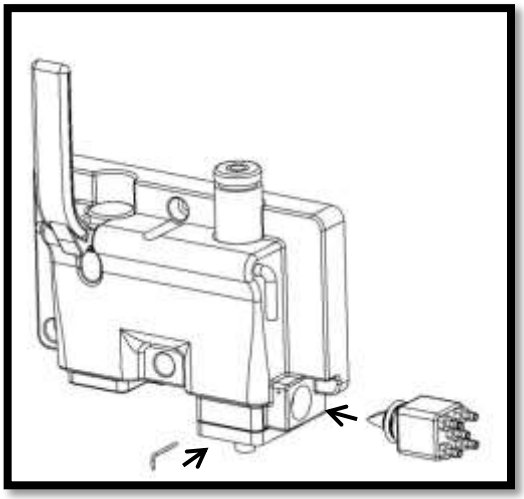

Figure 84

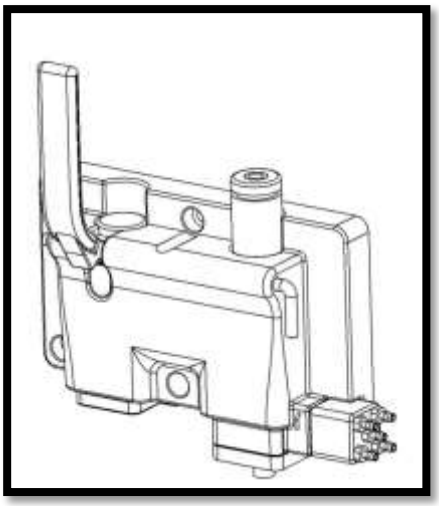

Figure 85

14.1.8 Dispensing Head Assembled:

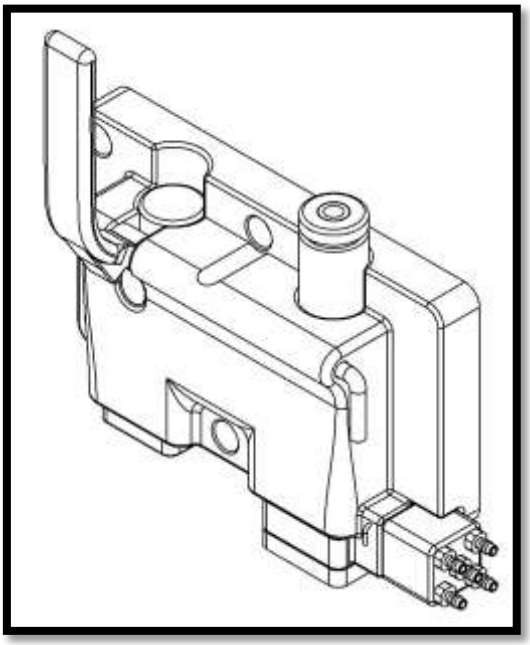

Figure 86

14.2 BEATER ASSEMBLY

14.2.1 Pusher Assembly:

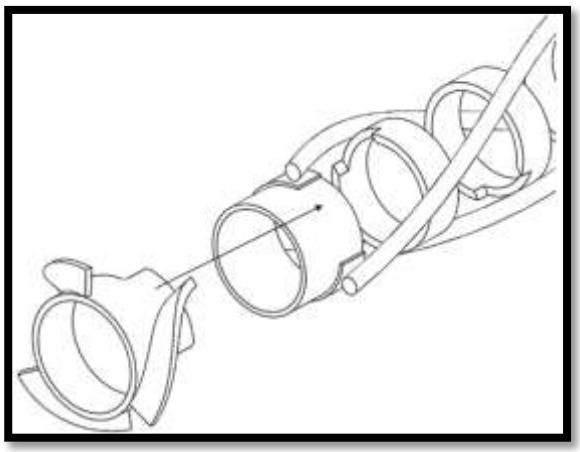

Figure 87

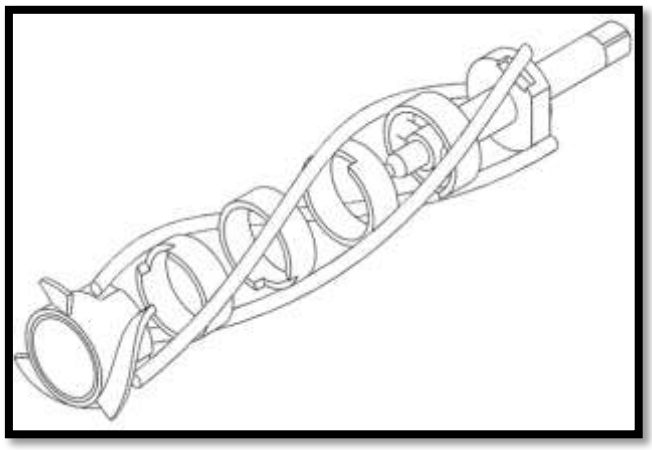

Figure 88

14.2.2 Blade Assemble Positions: Slots on the beater rings, shows blade mounting positions.

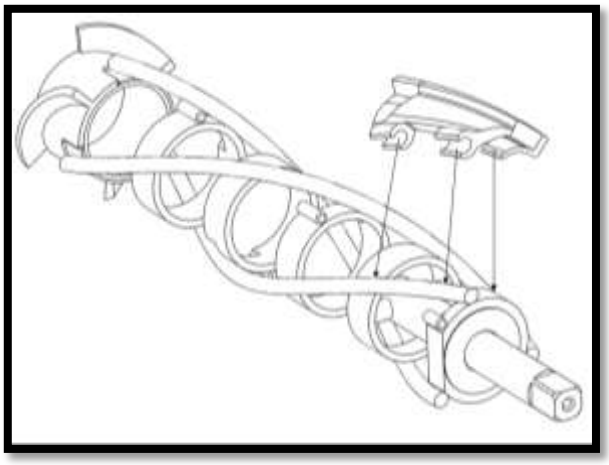

Figure 89

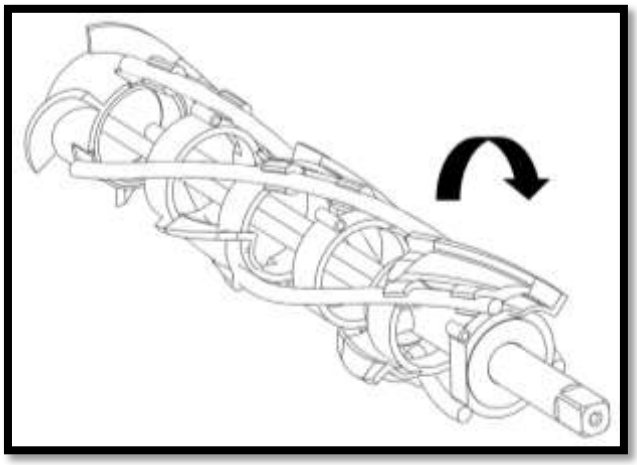

Figure 90

The beater turns **CLOCKWISE**, so the blades should be mounted as shown in the picture. Otherwise it may cause damage. Control the blades carefully after mounting. If you mount the blades opposite direction, the beater can't be mounted.

14.2.3 Seal Assembly: Lubricate the TWO faces of the Beater Drive Shaft Seal and slip over the drive shaft.

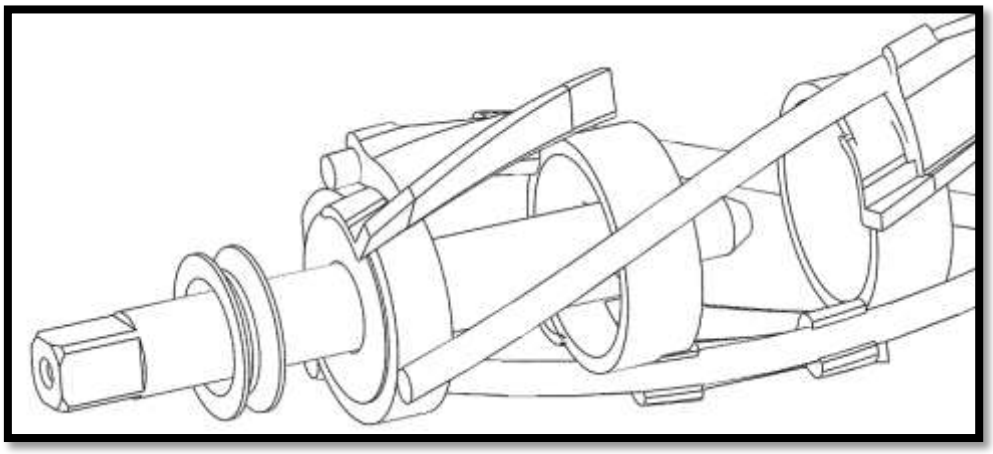

Figure 91

14.2.4 Beater Assembled

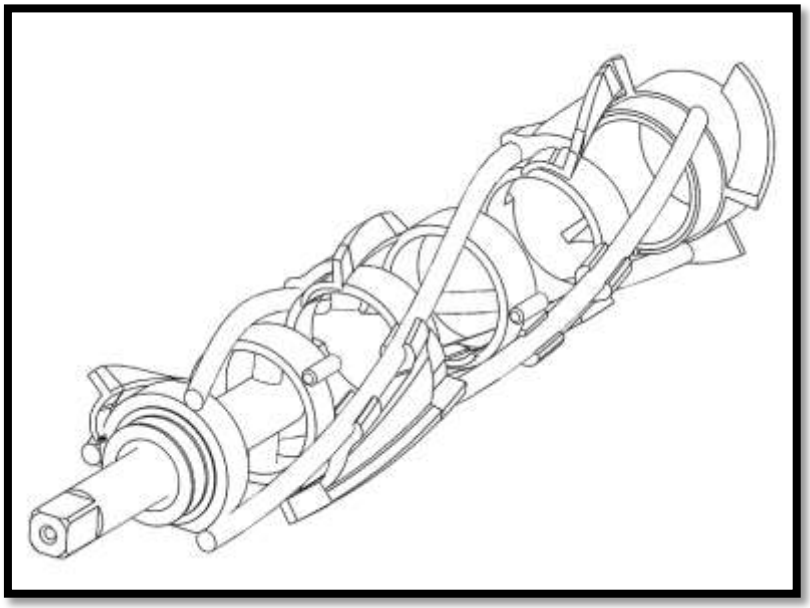

Figure 92

14.2.5 Dasher Assembly

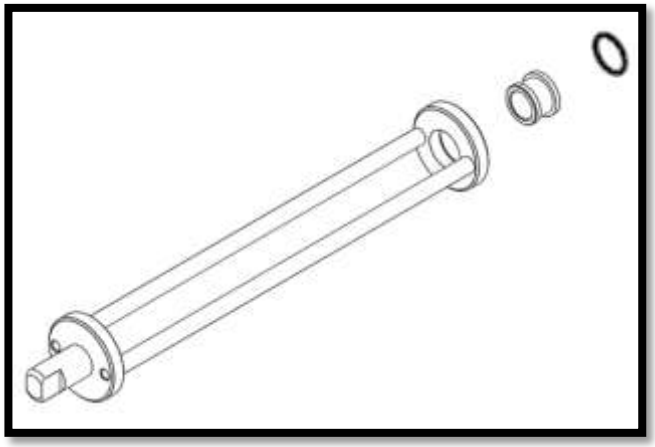

Figure 93

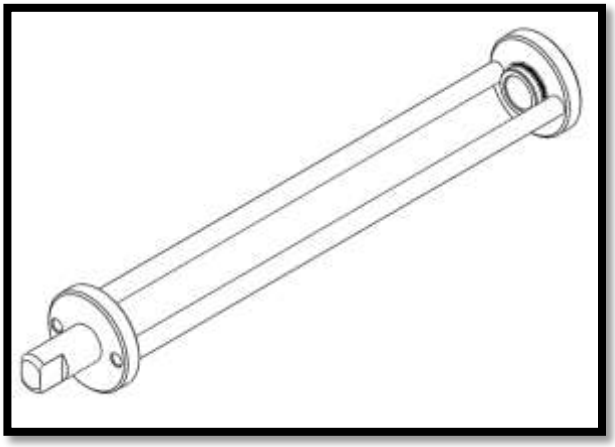

Figure 94

14.3 INSERTING THE ASSEMBLED BEATER INTO THE BARREL

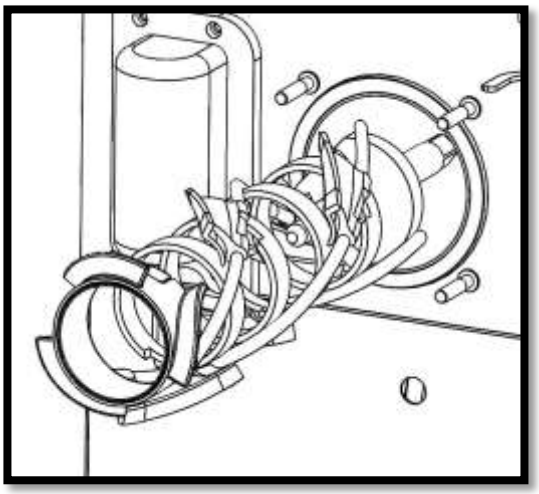

Figure 94

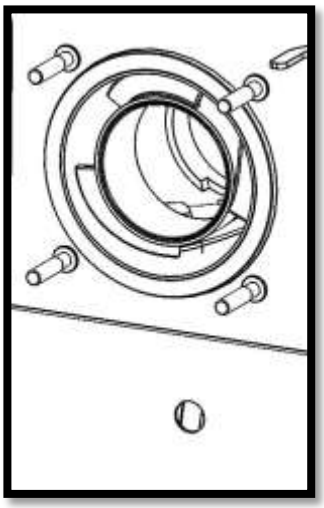

Figure 96

Make sure the barrel is free of any obstruction before you insert the beater. The beater must slide in easily with a final firm push and some turning to align the shaft with the gearbox socket.

When it is pushed in the silicon seal will push it out a few millimeters like a spring. Do not be concerned about this, as you place the dispensing head on, the dispense head will push it into position.

If the beater doesn’t fit to the barrel easily, check the direction of the scrapper blades.

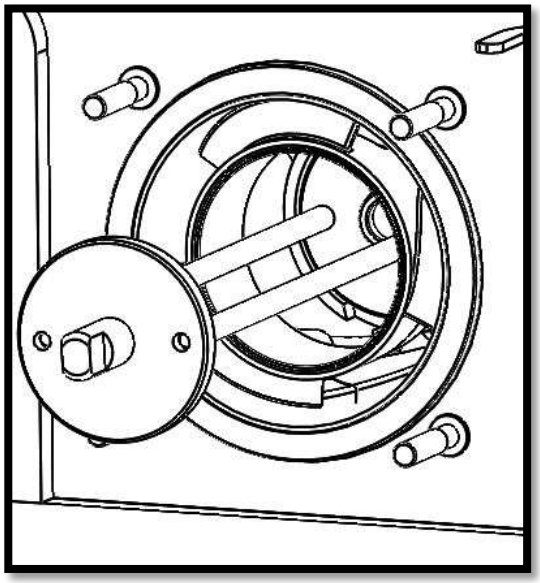

Figure 97

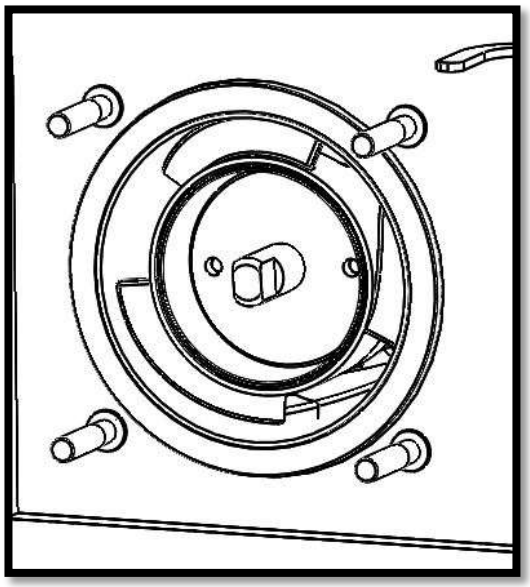

Figure 98

After placing the beater, place the dasher. The front side of the dasher should be placed upright as shown in the picture. You can now proceed to put the dispensing head on as described below.

14.4 FITTING THE ASSEMBLED DISPENSING HEAD

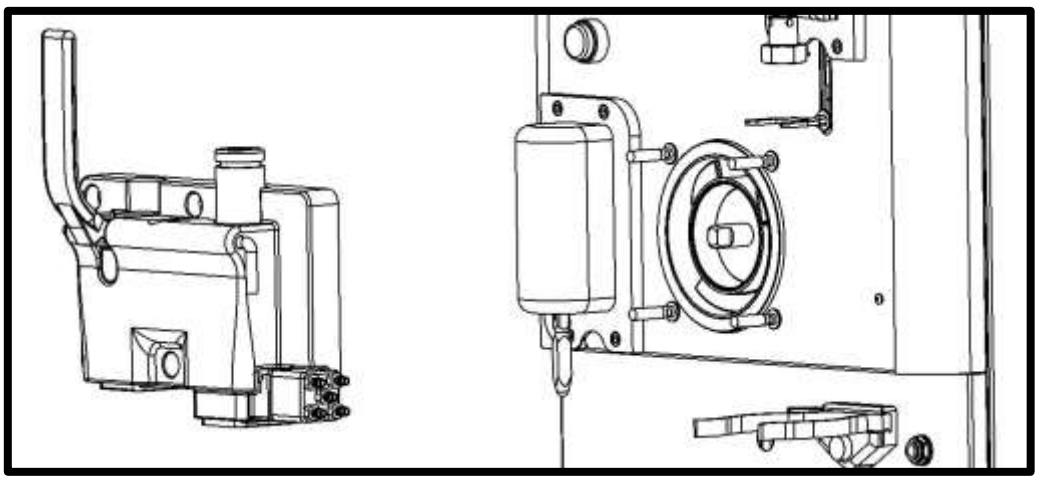

Figure 99

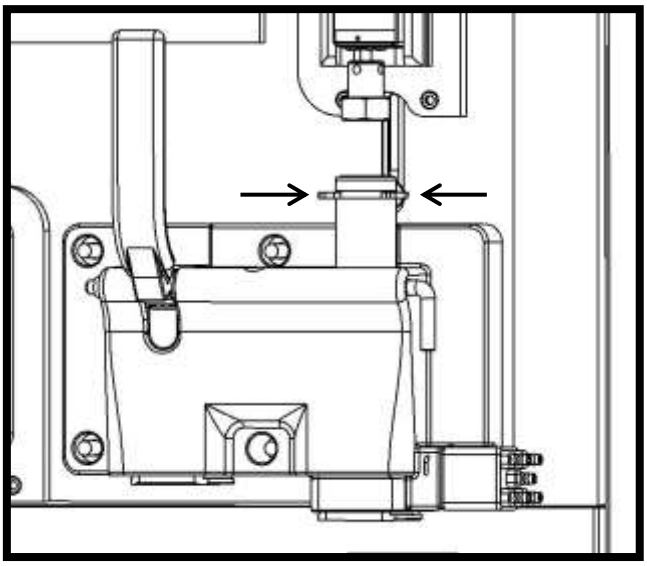

Figure 100

Side piston must be positioned align by piston holder. (Figure 100)

14.4.1 Placing the Dispense Head:

Place the dispense head over the 4 fitting bolts. Make sure the dispense handle is in the **UP** position so Soft-Serve liquid does not run out.

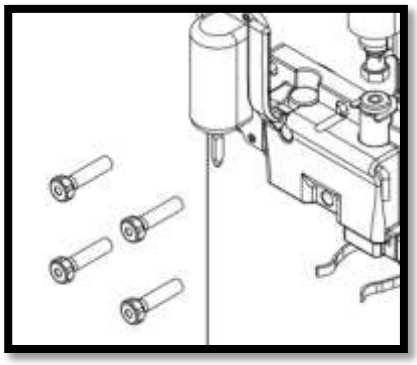

Figure 101

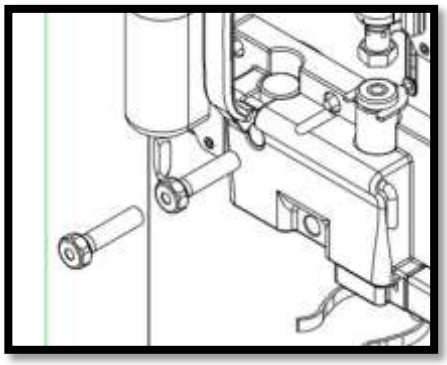

Figure 102

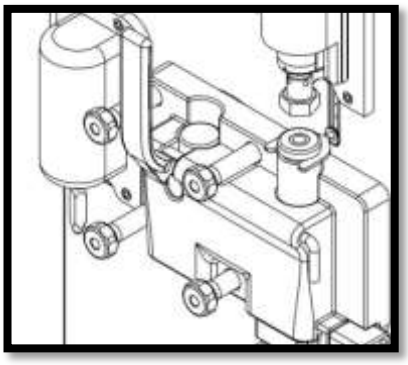

Figure 103

14.4.2 Tightening the Screws:

Tighten the 4 Dispense Head Screws in a cross order (i.e., left-hand top and right-hand bottom and then right-hand top and left-hand bottom.

14.4.3 Milkshake Blended Shaft Assembly:

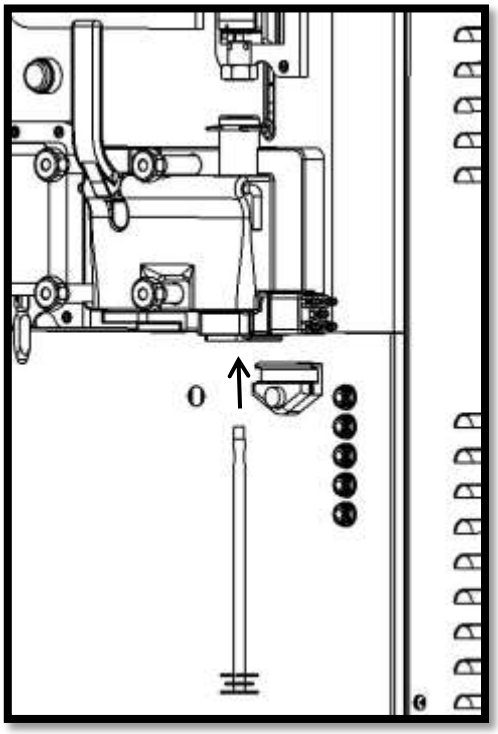

Figure 104

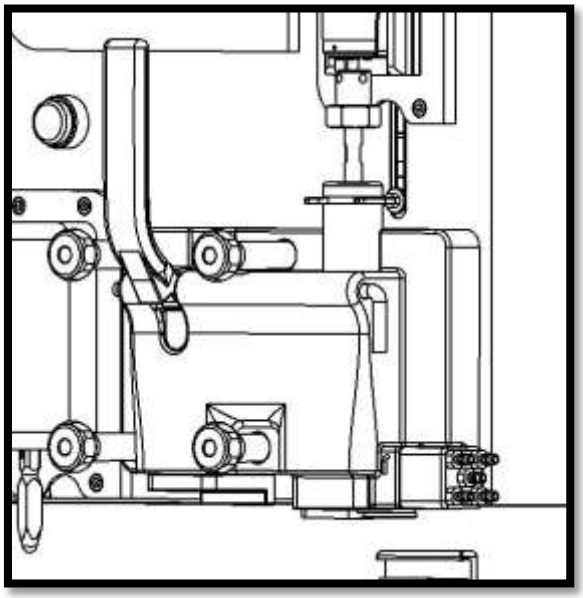

Figure 105

Install the shaft with the aid of key as shown.

14.5 COMPRESSION FEED PIPE ASSEMBLY

14.5.1 O-Ring Assembly:

Lubricate and place the O-rings.

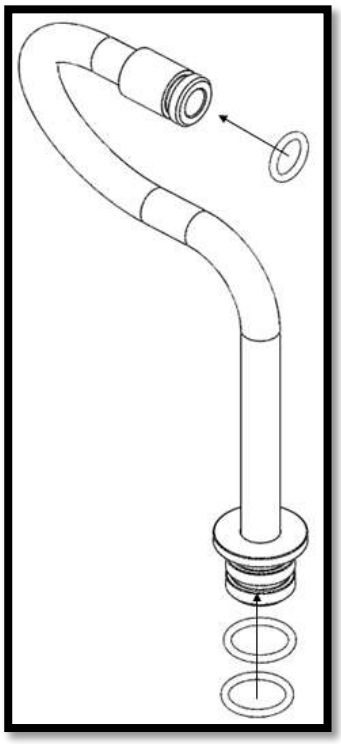

Figure 106

14.5.2 Pipe Connection Assembly:

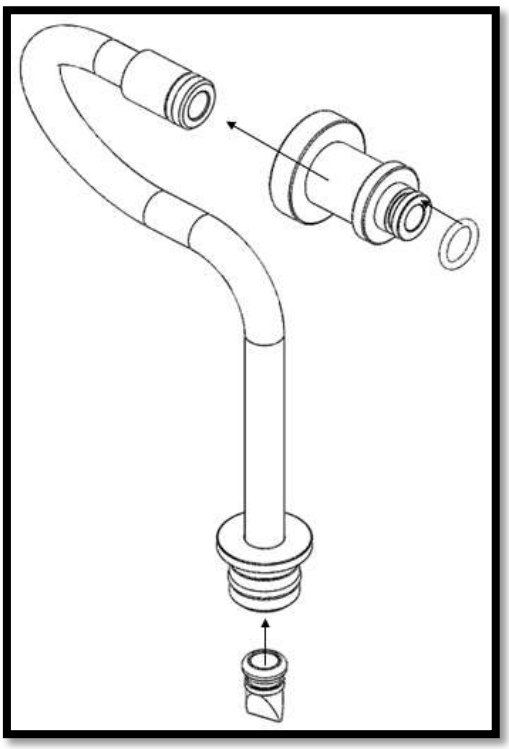

Figure 107

14.5.3 Check Valve Assembly:

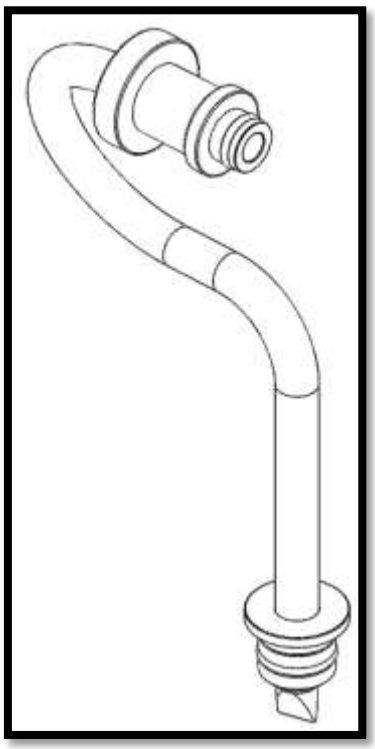

Figure 108

14.6 THE AERATION PUMP ASSEMBLY

14.6.1 Aeration Pump Cover Assembly:

14.6.1.1 Aeration Pump Cover Disassembled:

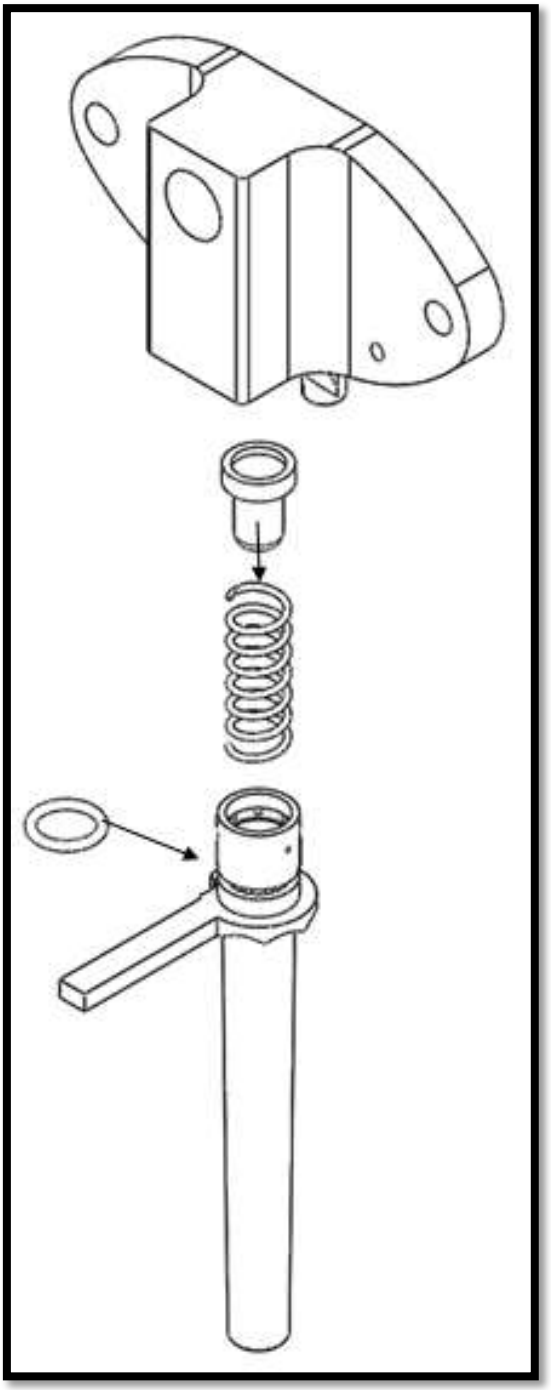

Figure 109

14.6.1.2 Pump Cover O-Ring and Relief Spring Assembly

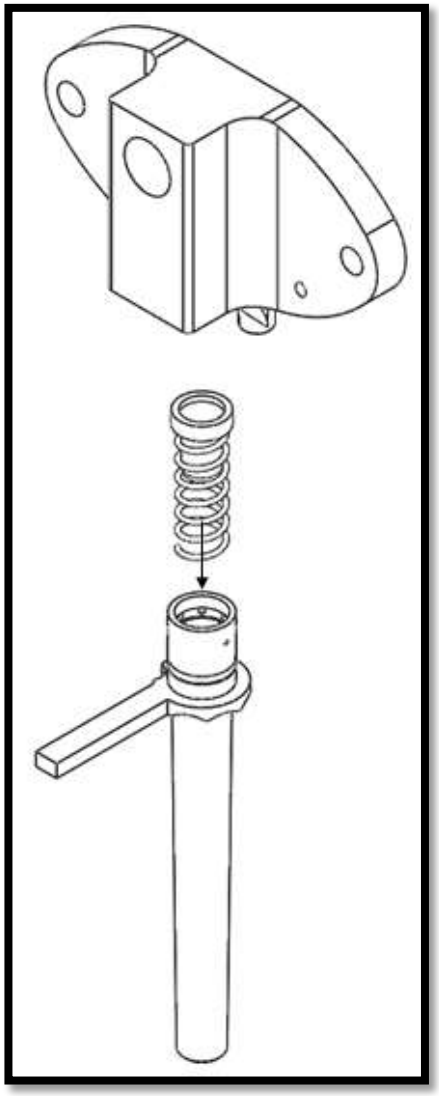

Figure 110

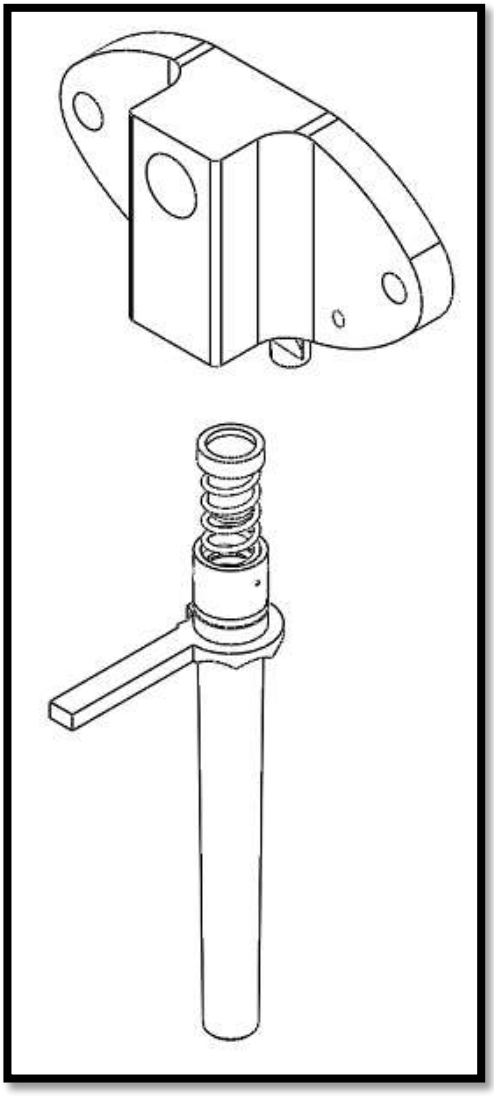

Figure 111

Lubricate the O-Ring and place it gently to the O-Ring slot on the feeding tube. Then place the “Pump Cover Relief Spring” (Pressure Spring) and the “Spring Support” as shown in the picture.

14.6.1.3 Feeder Tube Assembly

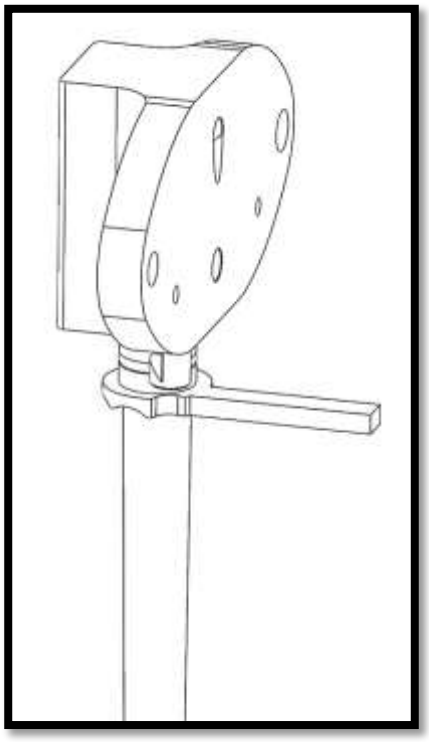

Figure 112

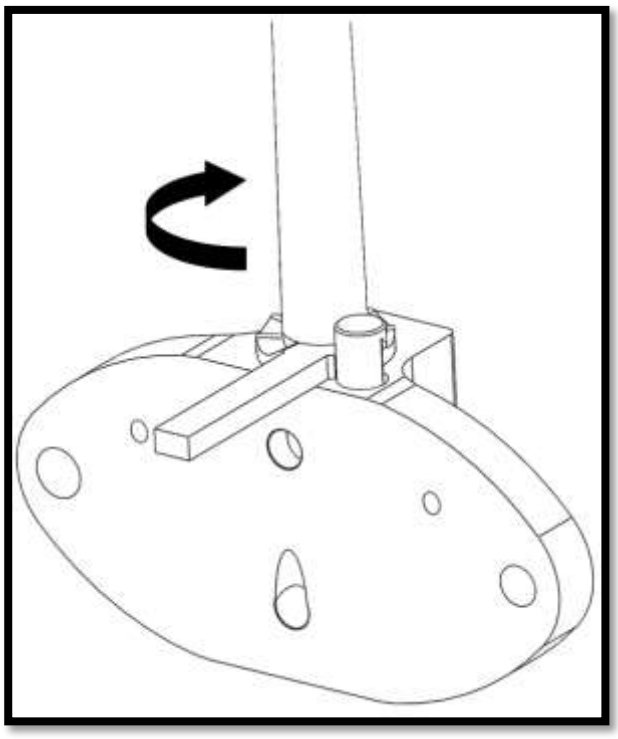

Figure 113

Mount the “Feeder Tube” to the “Pump Cover”. Then turn the feeder tube **CLOCKWISE**.

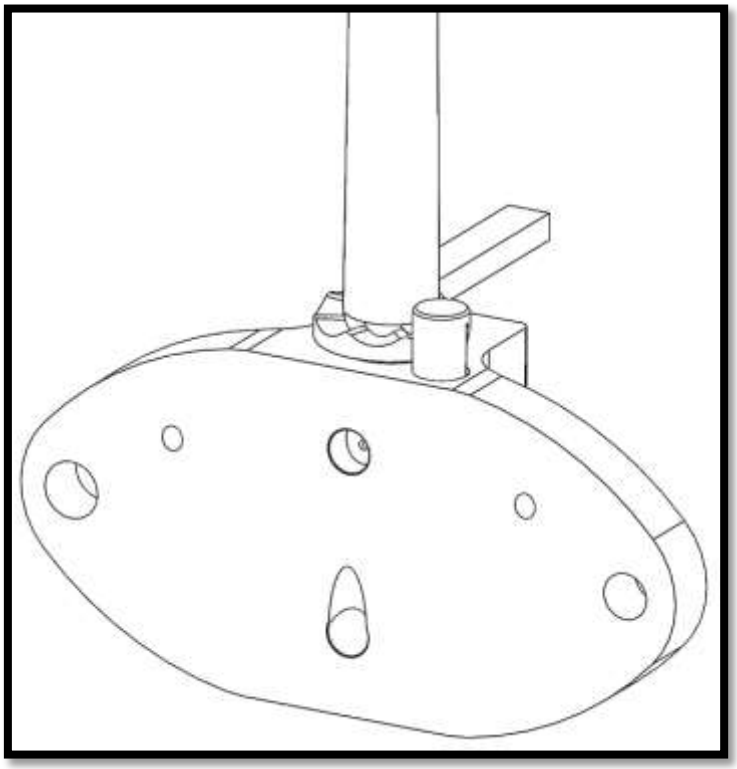

Figure 114

14.6.2 Aeration Pump Feeder Tube – Air Adjustment

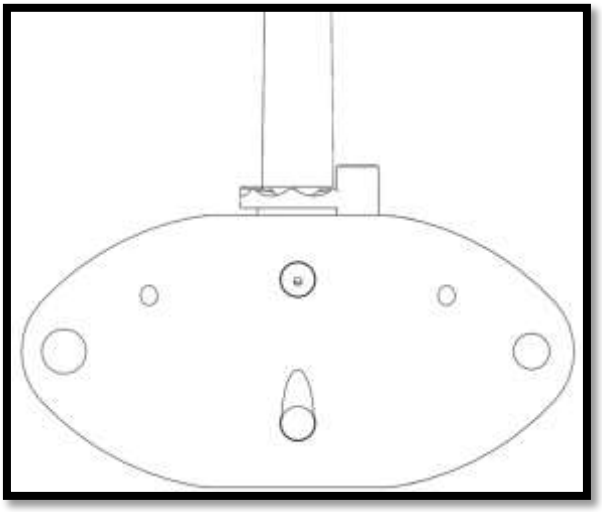

Figure 115

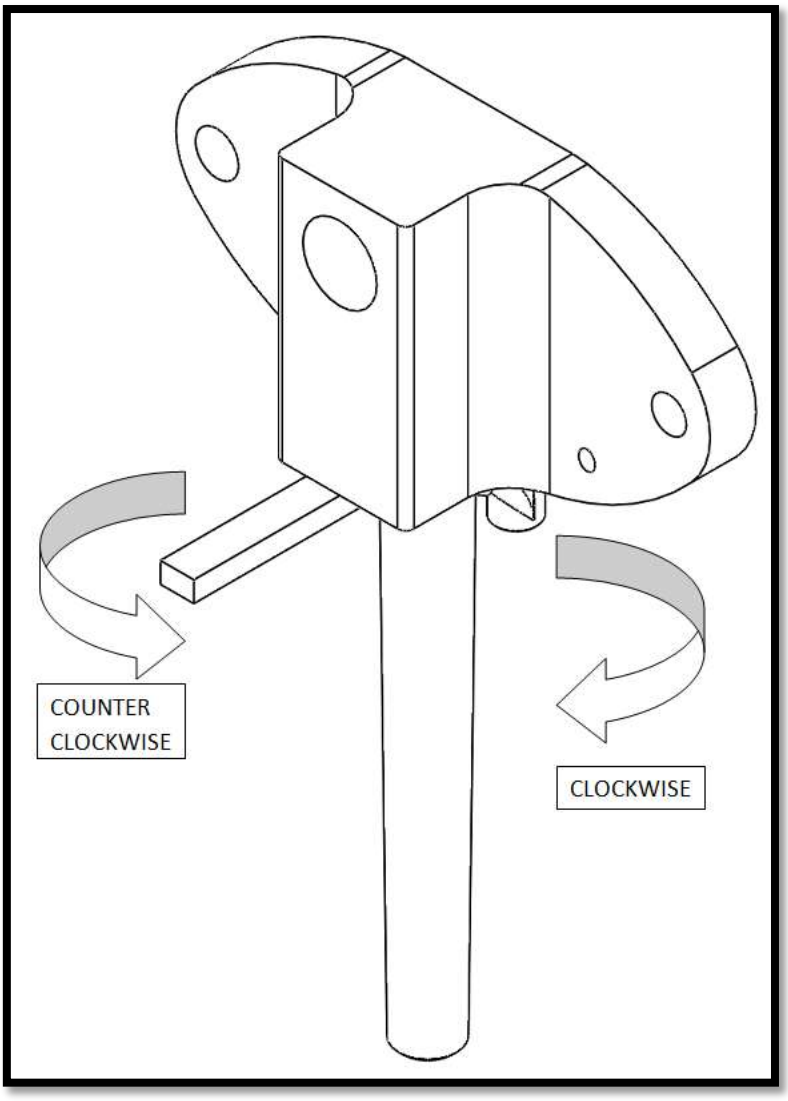

Figure 116

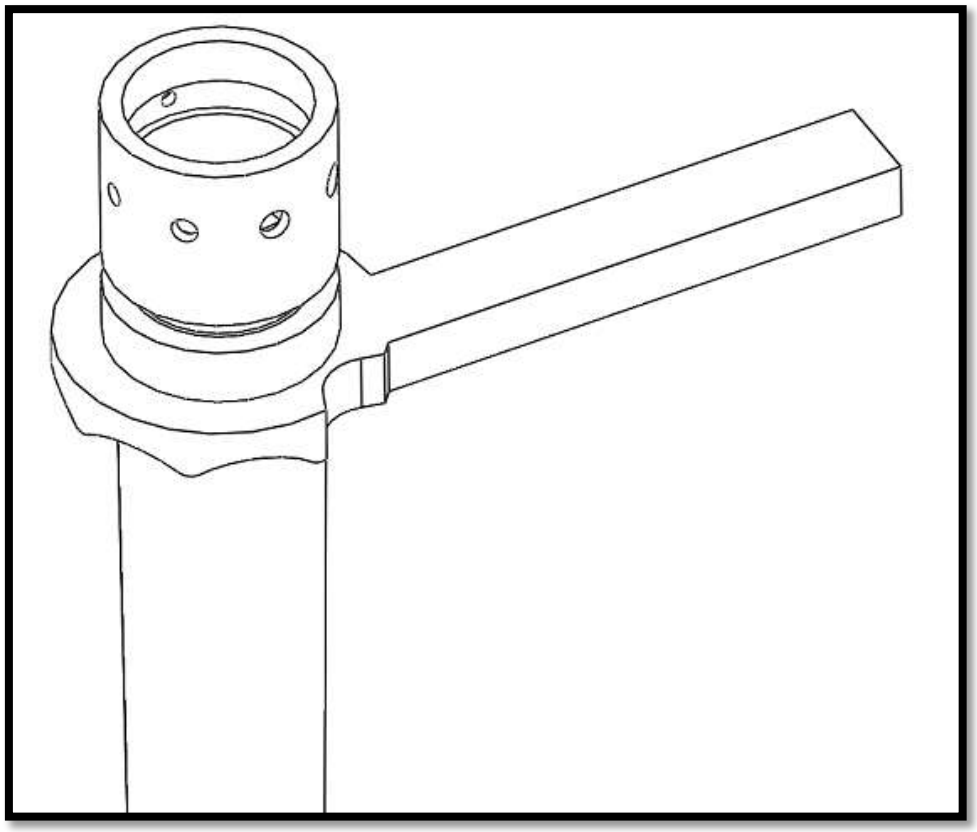

Figure 117

There are 6 different hole sizes as shown in the picture.

- Turning the feeder tube **CLOCKWISE**, causes **LARGER** hole size and **LOWER OVERRUN**.

- Turning the feeder tube **COUNTER-CLOCKWISE** causes **SMALLER** hole size and **HIGHER OVERRUN**.

14.6.3 Pump Body Assembly

14.6.3.1 Pump Body Disassembled

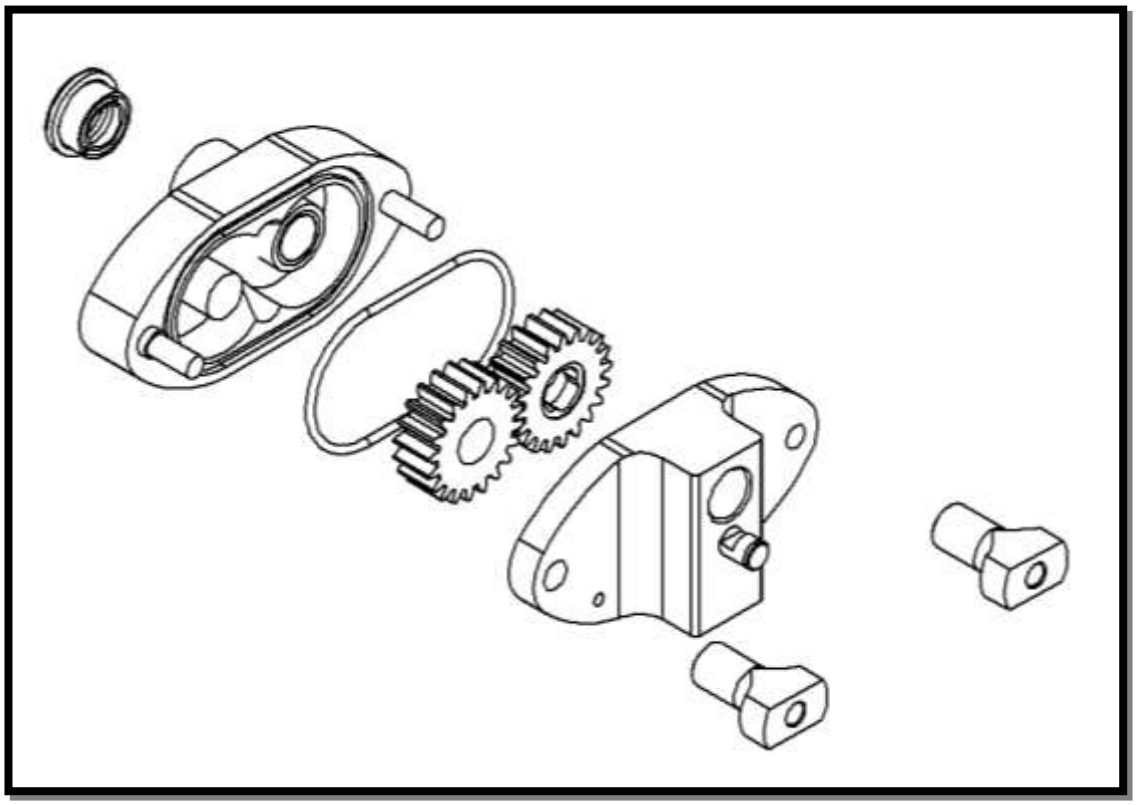

Figure 118

14.6.3.2 Gears and O-Ring Assembly

First mount the drive gear, then the driven gear. Grease the inner diameters with a little grease. Don’t forget to lubricate the O-Ring before placing.

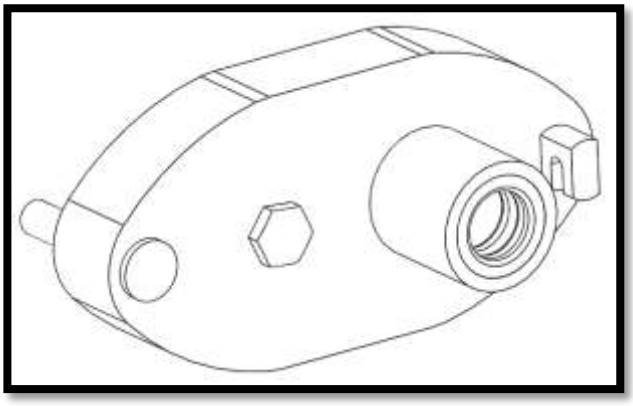

Figure 119

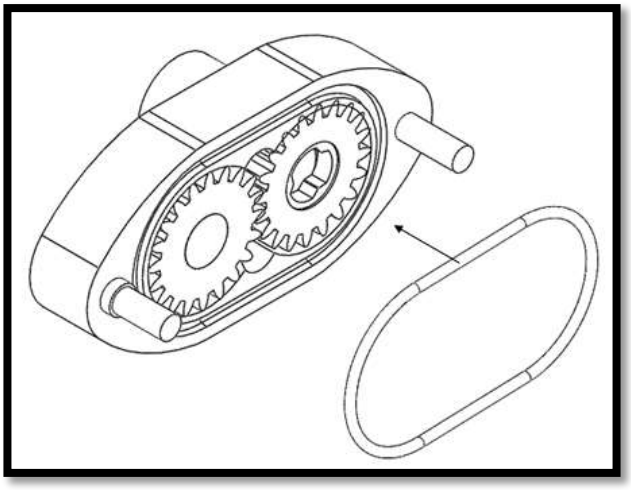

Figure 120

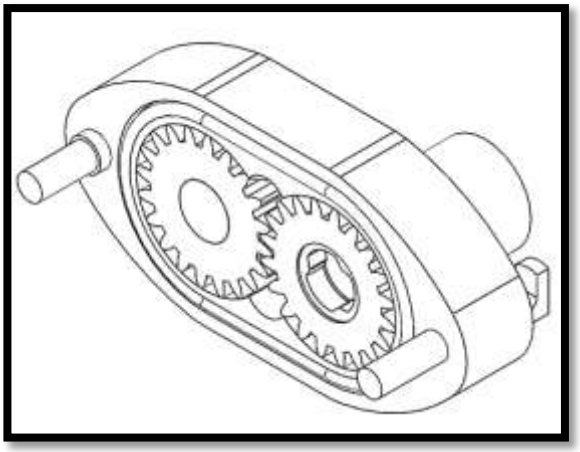

Figure 121

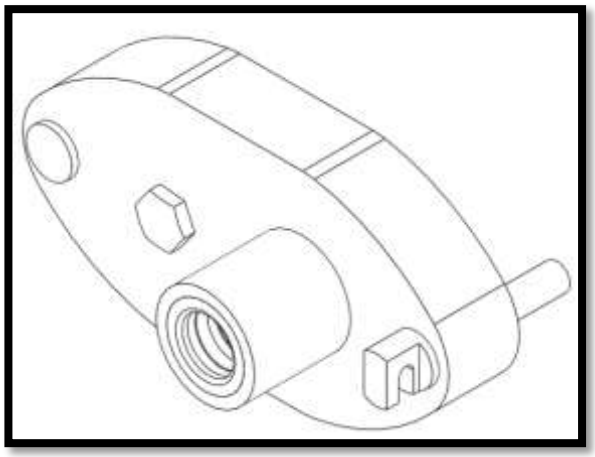

Figure 122

14.6.3.3 Drive Shaft Assembly

Grease the shaft with a little grease.

14.6.4 Pump Body – Pump Cover Assembly

Mount the Pump Cover and Pump Body and tighten the handle nuts.

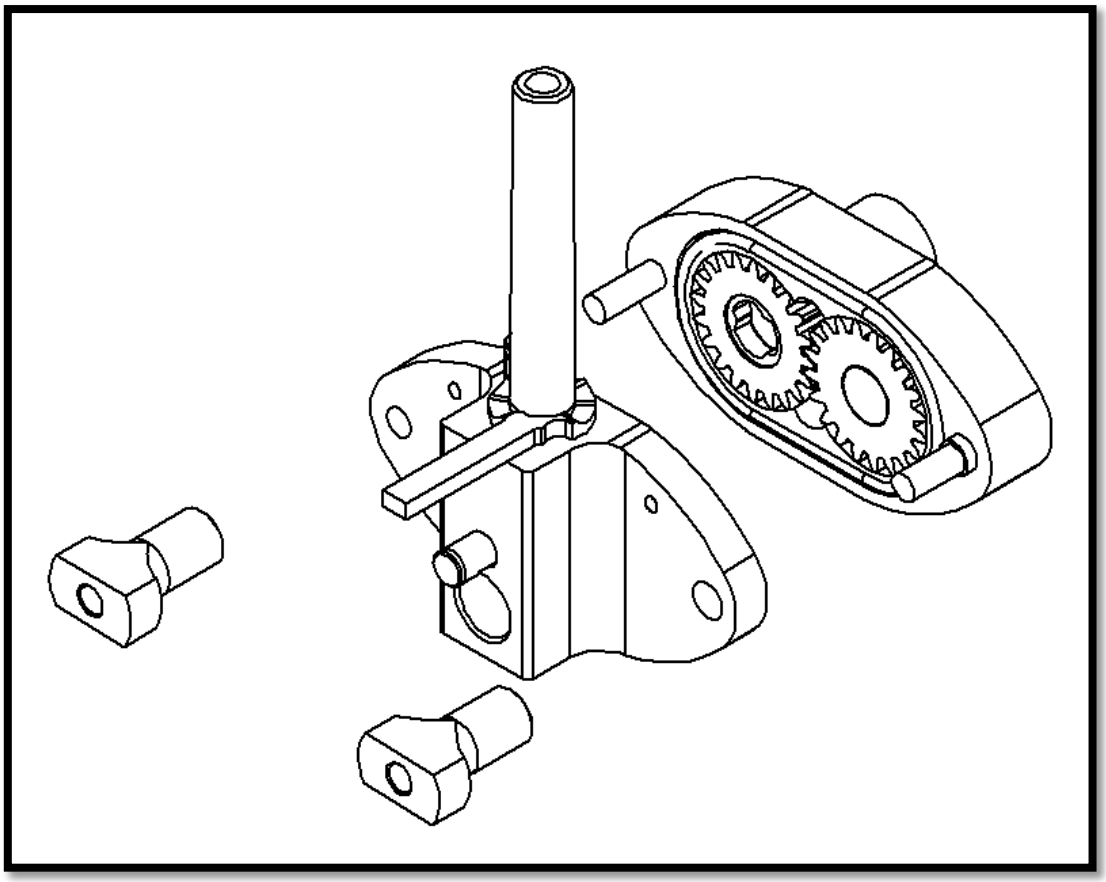

Figure 123

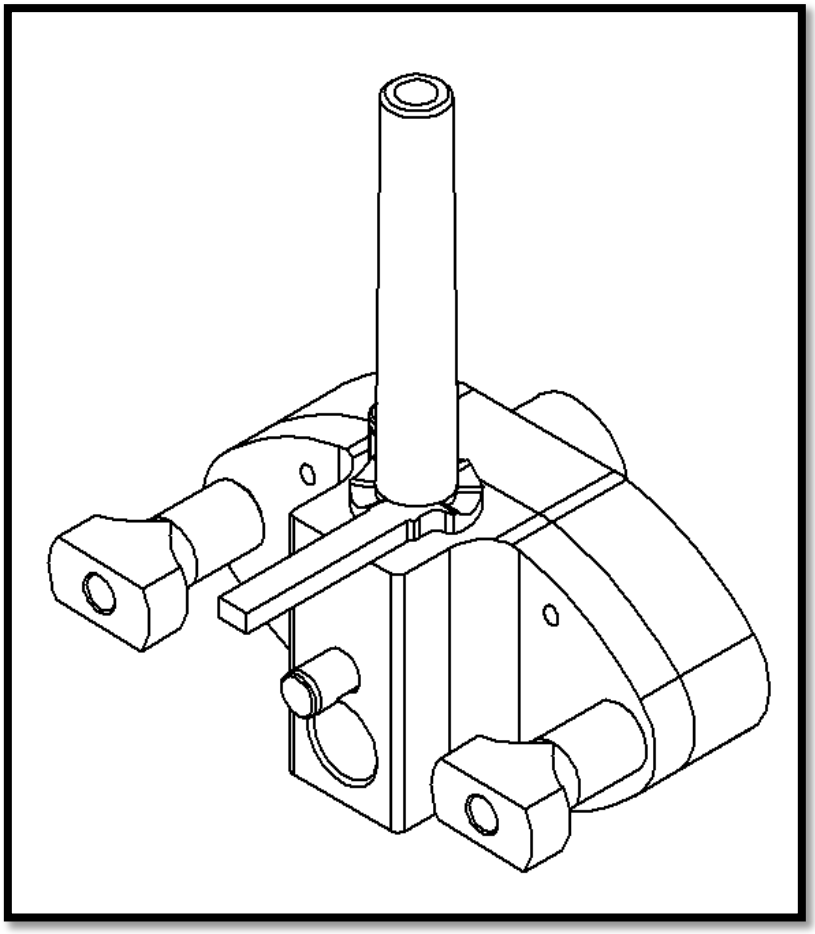

Figure 124

14.7 ASSEMBLY OF PUMP TO THE MACHINE

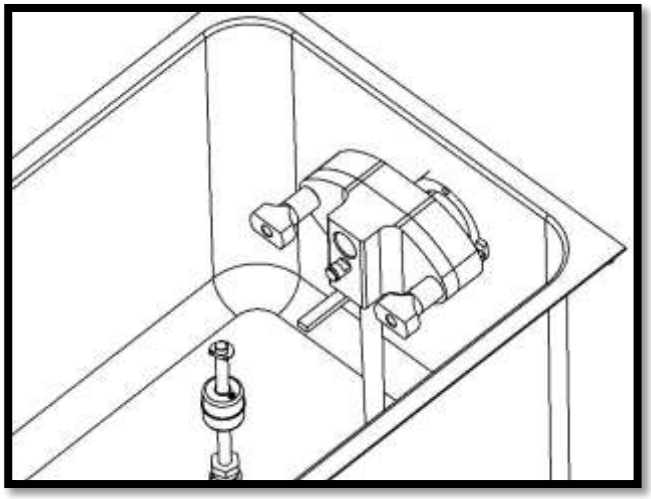

Figure 125

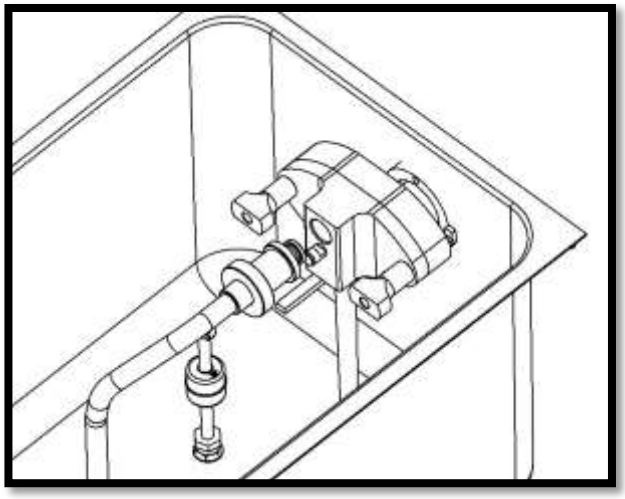

Figure 126

- The pump could be easily mounted by turning it. The pin must match with the slotted part.
- Connect the Feeding Tube with the pump by turning and pushing forward.

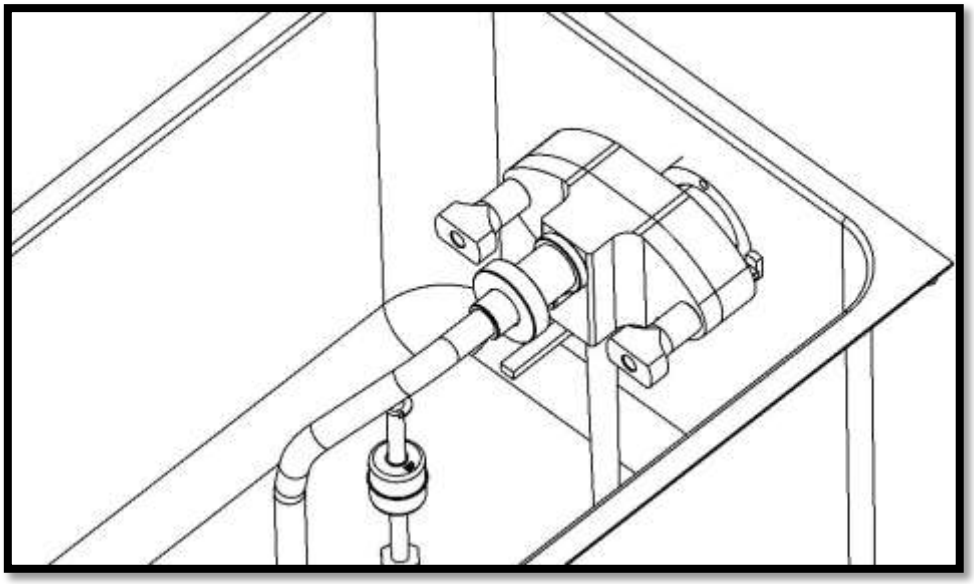

Figure 127

14.8 ASSEMBLY OF HOPPER AGITATOR TO THE MACHINE

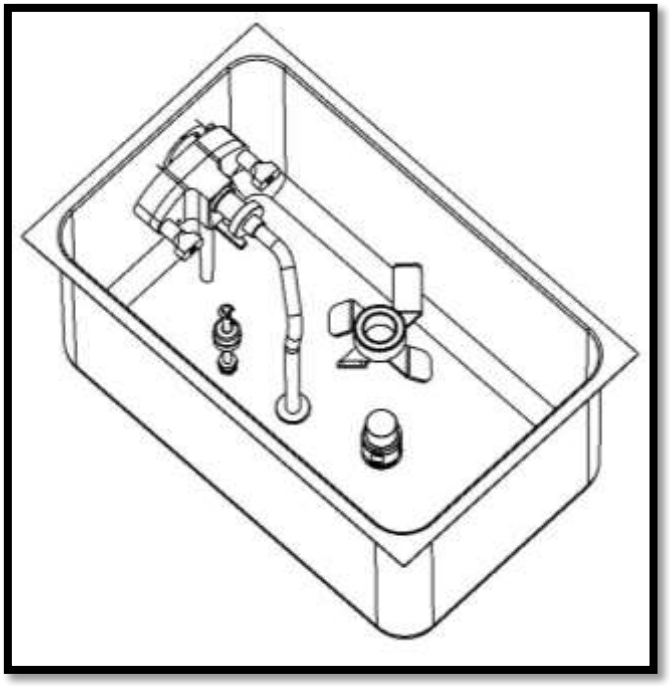

Figure 128

Check the position of the agitator. It must be placed as shown in the picture.

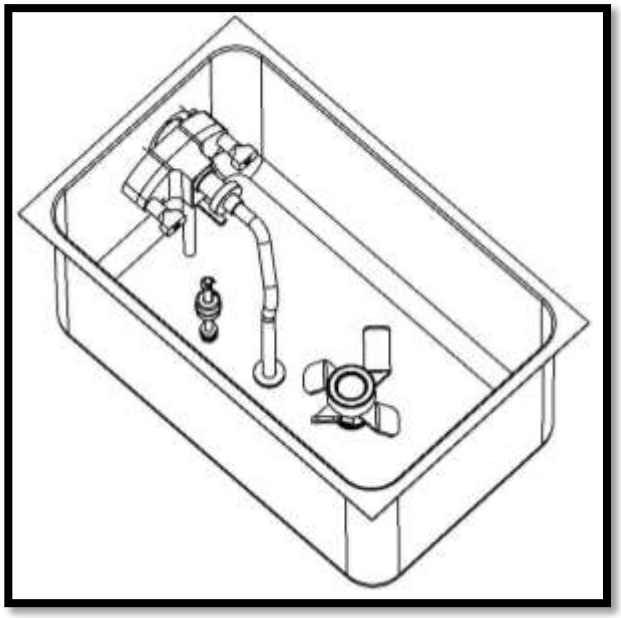

Figure 129

14.9 LIQUID LEVEL SENSOR ASSEMBLY

Place the liquid level sensor float on the body. Make sure the float is placed correctly. The up side of the float is marked as shown in the picture. After placing float, place the Ring to the groove.

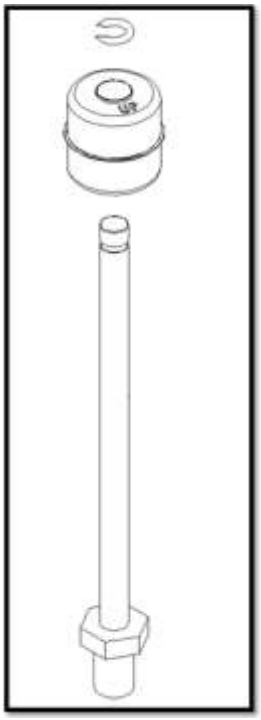

Figure 130

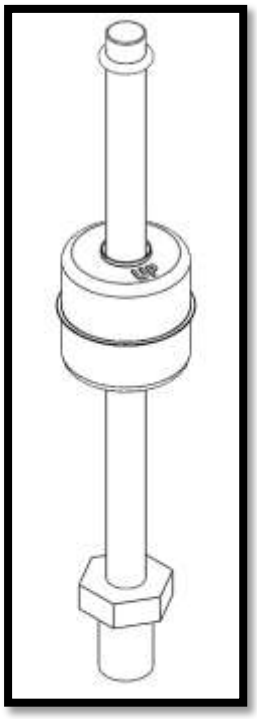

Figure 131

14.10 HOPPER COVER ASSEMBLY

Place the HOPPER COVER in position. You should place the Hopper Cover before running the machine. Otherwise the machine will lock itself and won't run.

15. HEAT TREATMENT

When the easy to operate Heat Treatment mode is selected; Smach® Heat Treatment Freezers will switch to an automated daily heating of the product in the machine to a temperature of 67°C (152.6°F) for 30 minutes and then automatically cool it to below 5°C (41°F) in the stand-by mode till switched to freezing mode again. Under sanitary operating conditions a dairy based product can be used for up to two weeks before the machine must be stopped, switched off, disassembly, washed, sanitized and air-dried before being used again.

The Heat Treatment cycle will automatically lock out the freezing mode after 14 days to ensure that the machine is cleaned. If the equipment is operated under sanitary conditions, including personal hygiene conditions, the Heat Treatment will deliver the same results as low heat pasteurization. For the required results follow the Operating Manual sanitary instructions. Ensure that the machine is on stand-by or in freeze mode when not in Heat Treatment mode during the maximum 14 day Heat Treatment cycle. Always comply with local authority food health and safety standards and requirements. assumes no liability for any food health and safety issues.

The Objectives are Heat Treatment Process in ice cream/milkshake:

The unhealthy bacterias that are reproducible active forms in the mix are destroyed, in other words it is being safe for consuming by people,

In terms of other microorganisms, obtain a specified reduction level providing to extend shelf life not ruin taste of the mix,

Increasing of taste to heal the quality,

Milk proteins are bonded water at maximum level.

Heat Treatment Operation in the Soft Ice Cream/Milkshake Machine

Agitation should be sufficient to ensure that the temperature throughout the hopper and barrel is constant and uniform.

Hopper must be enclosed during heat treatment to ensure both product and headspace temperatures meet the temperature specified, and to protect product from contamination with condensate or extraneous matter.

During heat treatment operation, if the hopper cover opens, the machine will automatically stop and give error message.

The hopper must be filled with ice cream/milkshake mixture up to the level of the suction tube handle to make heat treatment operation successfully. If the mixture isn't enough, heat treatment operation won't start and the machine locks itself until it is cleaned.

16. POSSIBLE FAILURES AND SOLUTIONS

Attention: DO NOT ALLOW ANY TECHNICAL MAINTENANCE OR REPAIRS BEFORE DISCONNECTING THE FREEZER FROM THE POWER SUPPLY.

If the solutions listed below in the Trouble Shooting guide do not resolve your operational problems, call an authorized service agent for further assistance.

TROUBLESHOOTING GUIDE

	Problem	Cause	Solution
1	Machine does not run	No electricity//power	Check if plugged in and switch on at wall socket
		Head and/or Hopper cover aren't closed.	Ensure that, the head and hopper cover is closed.
		No mix in the hopper.	Re-fill the hopper.
		There is voltage fluctuation.	Plug off and wait for 30 seconds and plug on again. Check if there is another machine is connected in the same socket.
		Liquid level sensor hasn't been assembled correctly.	Check the position of the float. The upper side of float is marked 'UP'

2	Compressor starts, then stops after a few seconds.	a) Air-cooled machine: No air circulation b) Water-cooled machine: No water circulation	a)Check the clearances around the machine. b)Check the water inlet, outlet and filter. Check that pipe is not squashed nor bent.
3	Machine fails to cut-off when running on Ice cream mode	a) Air-cooled machine: Air circulation is restricted. b) Water-cooled machine: Water circulation is restricted.	a)Check the clearances around the machine. b)Check the water inlet, outlet and filter. Check that pipe is not squashed nor bent.
		Too much air in the freezer-barrel	Open Dispense head and drain-off ½ liter of product.
		No mix in the Hopper	Re-fill the Hopper
4	Machine works, but no product comes from the Dispense Head.	Dispense head is blocked with ice.	Place the machine onto Wash mode and allow the product to thaw. Remove 1 liter mix and re-start the machine.
		Mixing instuctions of Soft-serve was not followed	Drain the machine and re-fill with proper mix.
		The frozen product is too hard	Set the Control Panel to Wash mode and allow the product to soften.
		Pump is not working.	Re-assemble the pump properly. Check all the parts assembled correctly.
		Scrapper blades didn't assambled correctly.	Re-assemble the beater.
5	Machine runs, but Product is too soft	Mixing instuctions of Soft-serve was not followed	Drain the machine and re-fill with proper mix.
		Machine remained idle without dispensing product for too long.	Remove 1 liter of frozen product and allow the machine to recover.
		Too much frozen product is dispensed at a time.	Allow the machine to recover; then continue to draw within the production-limits for this model.
6	Mix leaks from the Dispense Head	Piston O-rings are missing	Drain the machine and add piston O-rings
		Piston O-rings are worn	Drain the machine and replace the piston O-rings
		Nozzle O-ring is missing.	Add nozzle O-Ring.
		Nozzle O-ring is worn.	Replace the nozzle O-Ring.
		Dispense Head O-ring is missing or displaced	Drain the machine and add or adjust O-ring
		Dispense Head bolts are not tightened sufficiently or are tightened unevenly	Tighten Disphense head screws evenly and properly
7	Mix leaks from the Drip Tube	Beater-seal is missing	Drain the machine and add Beater-Seal
		Beater-seal is worn	Drain the machine and replace beater-seal.

WARRANTY DOCUMENT AND CONDITIONS

SEAL&SIGNATURE

1) The failures results from misusage of product or usage of other applications.
2) After the delivery, the failures resulted from moving, carrying of the machine.

On the condition that any distortions made on warranty or on the serial number the product will be out of the warranty.