

User Guide

AccuFoamer™



AccuFoamerTM

Laboratory Foaming Device

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Distributed by:

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Innovators in Instrumentation Technology

IMPORTANT



PRECAUTIONS WHEN USING THE AccuFoamer

1. **CAUTION:** The AccuFoamer has multiple hot surfaces such as the lids, tanks, and discharge nozzle. **DO NOT TOUCH HOT SURFACES—SERIOUS BURNS COULD OCCUR.**
2. **CAUTION:** Always **WEAR SAFETY GLASSES** when working with the AccuFoamer.
3. **CAUTION:** Always **WEAR THERMALLY-INSULATED GLOVES** when working with the AccuFoamer. The samples and surface can be very hot and can cause serious burns.
4. Exercise caution when foaming a sample. **DO NOT PLACE HANDS DIRECTLY BELOW THE DISPENSING NOZZLE AT ANY TIME.** Be careful of splatter and spray from the dispensing nozzle.
5. Do not place combustible materials near or on the AccuFoamer or expose the AccuFoamer to flammable vapors.
6. High voltage is present inside the AccuFoamer cabinet. **DO NOT PROBE INTO THE CABINET WITH CONDUCTIVE MATERIALS, TOOLS, OR HANDS.**
7. Uncontrolled compressed air is dangerous. Ensure the **TANK LIDS ARE PROPERLY LATCHED** before closing the cover and pressurizing the tanks.
8. The AccuFoamer is controlled by electronic valves. Failure can occur without notice. Keep a container under the nozzle at all times to prevent spills.
9. Follow your company and laboratory safety procedures while operating the AccuFoamer.

10. Please contact InstroTek at 919.875.8371 if you have any question that is not answered in this manual or for any concern that is not covered by this manual.



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Introduction

Congratulations on the purchase of your InstronTek® AccuFoamer™. The AccuFoamer is an ideal device for repeatable batching of foamed asphalt samples in the laboratory. The unit is designed to fit on a laboratory countertop and can easily be used to check the proper ratio of bitumen to foaming additive used in Warm Mix Asphalt (WMA) for a variety of different conditions. The AccuFoamer includes pressurized reservoirs for bitumen and liquid additives and can accurately batch 200 to 5000 grams of foamed asphalt through the mixing chamber.

The AccuFoamer is electronically controlled. Software controls allow the operator to adjust the bitumen temperature, perform calibrations and manually or automatically dispense the foamed asphalt. The flow rate of bitumen and foaming agent is controlled by air pressure. Therefore, using a combination of air pressures, a wide range of foaming agent application rates can be replicated.

Background of Operation

Creating foamed asphalt must be performed under carefully controlled temperature and pressure conditions. Maintaining a consistent temperature is critical when working with bitumen, so the bitumen tank temperature is controlled using a heater jacket coupled to a temperature controller. In addition to stringent temperature controls, the applied pressure determines the rates the foaming agent and bitumen are dispensed. The AccuFoamer was developed to create the conditions and operations necessary to produce properly foamed asphalt. To accomplish this, the AccuFoamer incorporates two tanks (see Figure 1): one for the foaming agent (normally water) and one for the bitumen. Each tank is connected to a separate and independently regulated airline capable of achieving a precise pressure so that the foaming agent and bitumen can be dispensed precisely. Once the foaming agent and the bitumen are at the required temperatures and pressures, valves are then opened for the foaming agent and bitumen. Pressure forces the foaming agent and bitumen into the mixing lines at independent rates. When the foaming agent and bitumen come together in the mixing chamber, a mixture of foamed asphalt is formed. This mixture then flows out of the unit into a container at a constant rate. The device regulates the time the foamed asphalt is dispensed to achieve the desired amount of foamed asphalt.

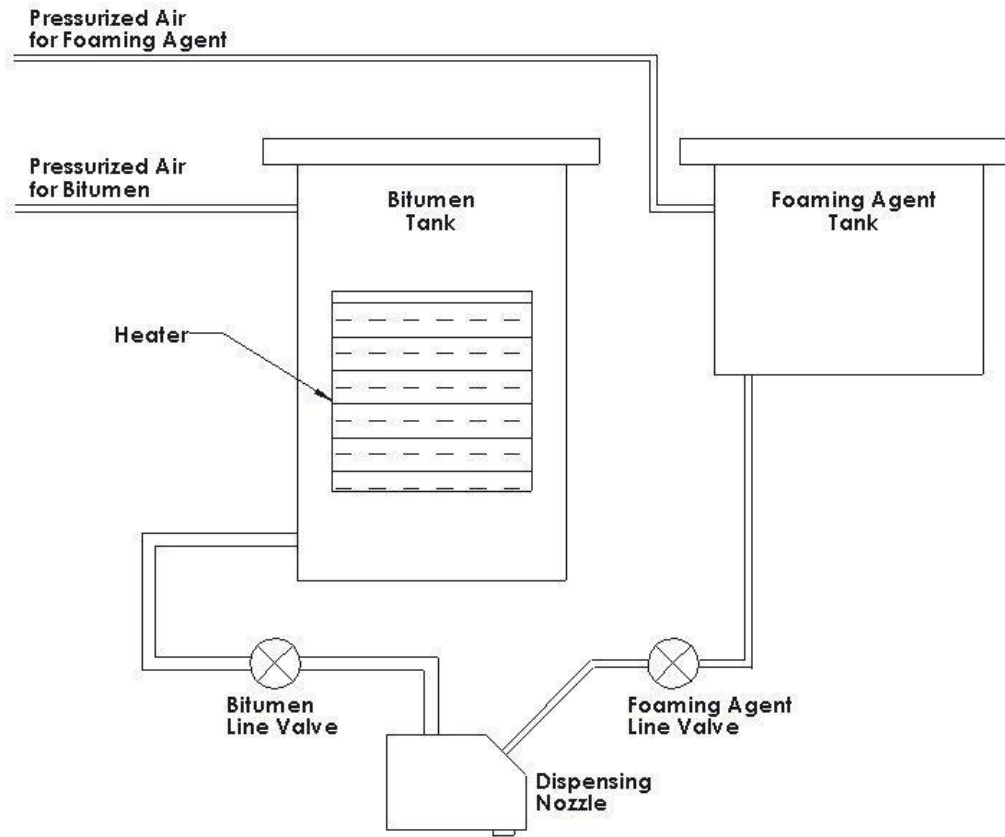


Figure 1: AccuFoamer Schematic

Device Specifications

- Electrical Requirement
 - Power – 1200 VA
 - 100 - 240VAC, Single Phase, 50/60 Hz
 - Markets outside the USA/Canada will need to supply a computer power cord with the appropriate plug
 - Fuses: 250VAC, 10AMP, 5 x 20 mm
- Compressed Air Source
 - 40 - 125 psi (276 - 862 kPa)

- Air Dryer Inlet – Female ¼ inch NPT
- Dispensing Pressures
 - Bitumen – 5 – 30 psi (34 – 207 kPa)
 - Foaming Agent – 5 – 30 psi (34 – 207 kPa)
- Dimensions
 - (37” x 20” x 30”) (94 cm x 51 cm x 75 cm) (L x D x H)
 - Dispensing valve is on right side of device – allow room to place a container under the valve
- Weight
 - 110 lbs (50 kg)

Installing the Device

- Remove the box and inspect the device for any damage during shipping. If any damage, please report this to InstroTek *before* using the device.
 - NOTE: *Device went through quality testing before shipping, so there may be residual oil or bitumen in the bitumen tank.*
- When you receive your AccuFoamer, unpack the device and place it inside on a flat, level surface large enough for the AccuFoamer to sit on, preferably a sturdy workbench. Use the adjustable feet to level the device.
- Ensure that there is space to place and remove a container from the dispensing nozzle on the right-hand side of the machine.
- Provide a scale accurate to at least the nearest 1 gram for calibrating the device.

Device Capacities

- Bitumen – 1.25 gallons (5 L)
- Foaming Agent – 0.25 gallon (1 L)

Device Components

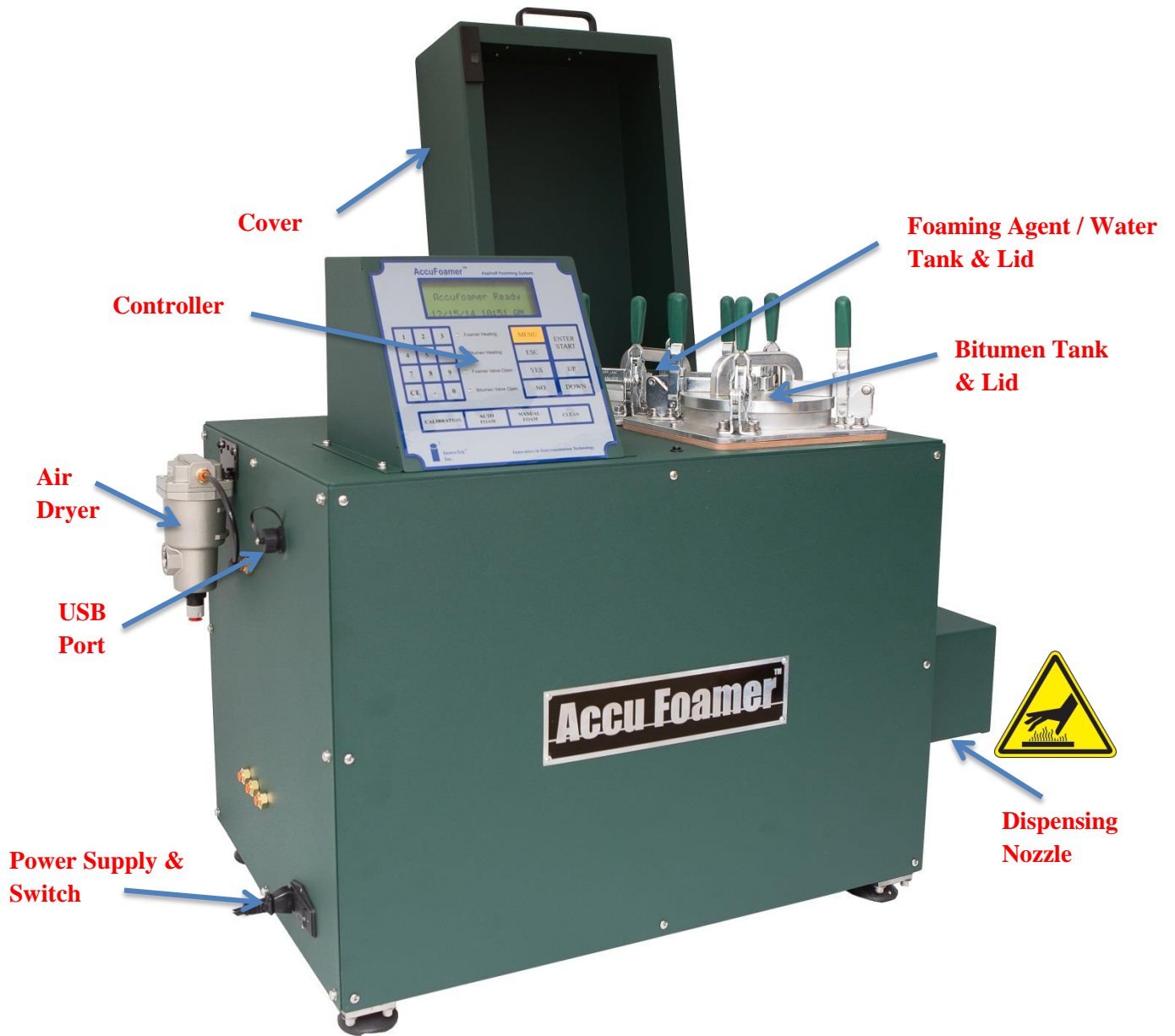


Figure 2: Components of the AccuFoamer

Controller

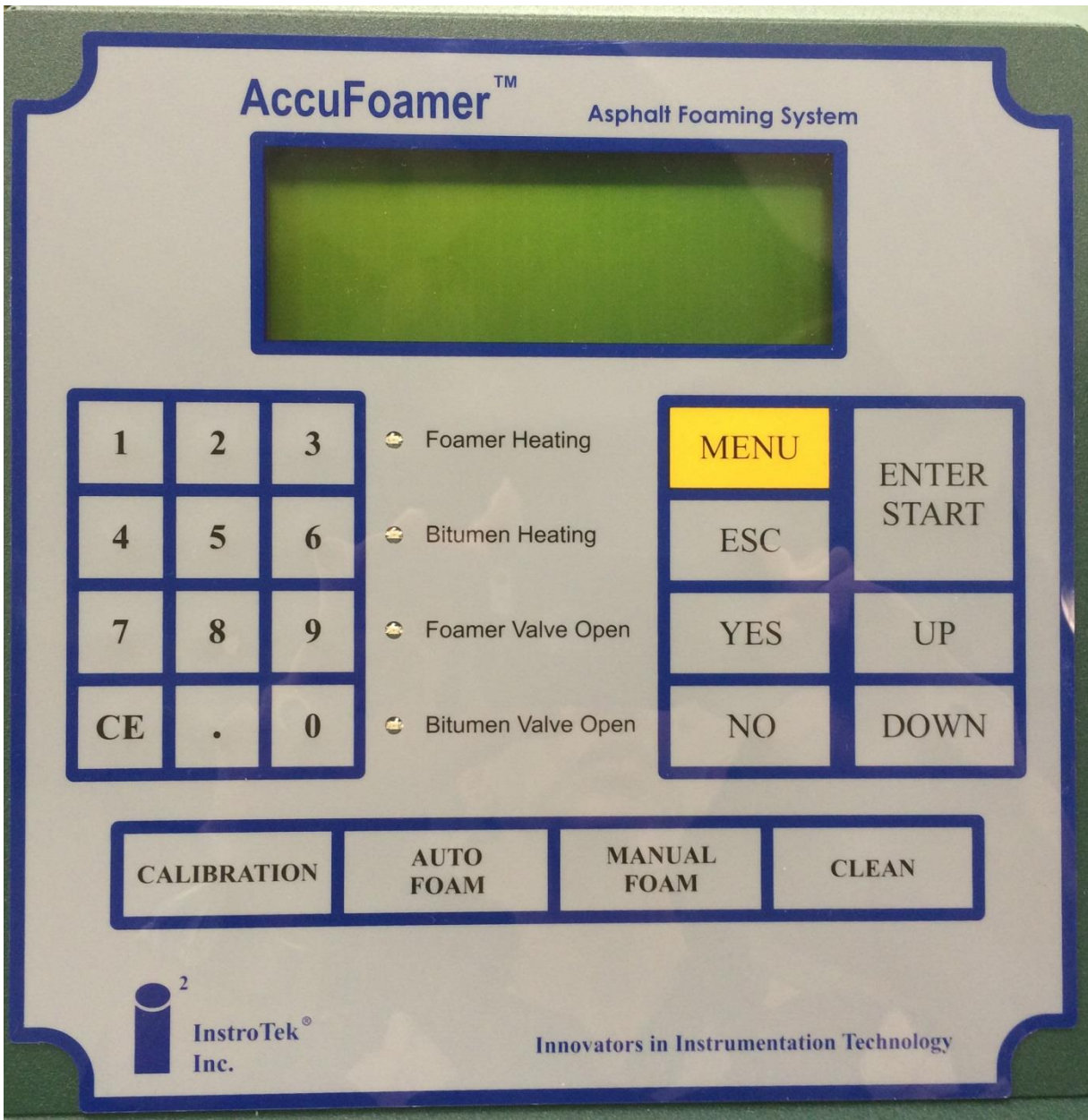


Figure 3: AccuFoamer Controller

Controller Buttons

ENTER / START – Button to start the test/calibration or select an option.

ESC – Button to stop the test/calibration or escape from a menu.

UP – Button to scroll up through a menu.

DOWN – Button to scroll down through a menu.

CALIBRATION – Press to enter the Calibration Menu to perform, review, or enter a calibration. Choice of two types of calibrations: Quick or Extended.

AUTO FOAM – Using the selected calibration, the program calculates the necessary flow rates and pressures to produce a desired amount of foamed asphalt.

MANUAL FOAM – Operator enters pressures and dispensing time to produce a desired amount of foamed asphalt.

CLEAN – Function that raises the tank temperature to allow the operator to drain the residual asphalt and foaming agent from the tanks.

BITUMEN HEATING – Lights that show when the heating elements are on for the bitumen.

FOAMING AGENT / BITUMEN VALVE OPEN – Lights that show when the valves are open to release the foaming agent and bitumen.

Starting the Device

1. Heat bitumen in a separate oven to the desired foaming temperature.
2. Turn **ON** the unit (Note: Main power switch is on the left side of the device.)
3. Preheat the bitumen tank by pressing *Menu*, then (2) *Start Heating*. Set the desired temperature. The screen will show the current temperature at the bottom of the tank. Allow 30 minutes to warm up the unit or until the main screen reads the desired temperature of the bitumen. (Note: Preheating may be necessary to remove the bitumen lid because of residual bitumen on the rim of the tank.)



CAUTION: DURING PRE-HEATING, THE LID, TANKS, AND DISPENSING VALVE WILL BECOME VERY HOT!

4. Fill Bitumen Tank and Foaming Agent Tank with sufficient amounts of bitumen and foaming agent. Then, secure the lids on the tanks by pressing the handles opposite one another toward each other. Ensure that the lids are tightly latched.



CAUTION: WHEN FILLING THE TANKS, WEAR APPROPRIATE SAFETY GEAR TO PREVENT BURNS DUE TO SPLASHING HOT BITUMEN.

5. Connect compressed air source (40 - 125 psi (276 - 862 kPa)) to Air Dryer.
6. Close the cover. The cover will engage the interlock switch; this allows the tanks to be pressurized. If air is escaping from the lids, retighten the bitumen and foaming agent lids.



CAUTION: SYSTEM IS PRESSURIZED WHEN COVER IS CLOSED. TO RELEASE PRESSURE, OPEN COVER. DO NOT OPEN TANK LIDS UNTIL PRESSURE RELEASE IS DONE.

7. Press *ESC* to exit the manual temperature mode. Then select *YES* to continue heating the tank.
8. Select the desired operation mode: *Calibration*, *Auto Foam*, *Manual Foam*, or *Cleaning*.
9. Follow the instructions on the screen to perform the desired operation.

Calibration

In order to precisely control the rate at which the foaming agent and the bitumen are mixed, the amount of foaming agent and bitumen discharged must be calibrated for different pressures. To dispense a given amount of bitumen with a specified percentage of water, several factors must be known: dispensing time, bitumen flow rate, and foaming agent flow rate. Pressure controls the rate at which the bitumen or the foaming agent flows out the dispensing nozzle. Therefore, a calibration is performed independently for the bitumen and foaming agent at different pressures to determine the relationship between the flow rate and applied air pressure. Once the relationships are known, the necessary bitumen and foaming agent flow rates can be predicted.

NOTE: Bitumen has different flow rates for different temperatures because the viscosity significantly changes with temperature; therefore, the AccuFoamer will need to be calibrated at the desired mixing temperature of the bitumen. If the user would like to use the same bitumen at a different temperature, a new calibration will need to be performed at the new temperature. The device holds up to 9 different calibrations.



1. Press the *Calibration* button on the control panel. Press 2 (*New Calibration*).

```
-Calibration-  
1. Use for AUTO Foam  
2. New Calib.  
3. Review Calib.
```

2. Enter the Calibration name. Press the *Up/Down* buttons to select a letter or number. The keypad can be used to enter numbers. Then, press *Yes* to move to the next character. When finished, press *Enter*.

Enter Calibration
Name

<UP> <DWN> to Scroll
A
<YES> to Advance
<ENTER> to Accept

3. Select the Calibration Type: 1 (*Quick Calibration*) or 2 (*Extended Calibration*) (Differences in calibrations explained below.)

-Select Cal Type-
1. Quick Calibration
2. Extended Calib.
<ESC> to Exit

Quick Calibration

Quick Calibration dispenses bitumen and foaming agent for 2 pressures for predetermined times. The cumulative or total weights are measured to determine the flow rates. The flow rates are fit versus the air pressure to define a calibration curve.

Foaming Agent

4. Tare scale with weight of *empty* container.
5. Place container under nozzle. (The first run is a purging run at 30 psi to ensure the foaming agent flows smoothly.)
6. Press *Enter* to dispense foaming agent. Enter total (cumulative) weight.
7. Repeat Steps 5 and 6 for 30 psi and 5 psi.

Bitumen

8. Enter desired temperature. Allow temperature to stabilize for 30 minutes to ensure it is well heated. To ensure a uniform temperature throughout the bitumen tank, it may be necessary to stir the bitumen 15-30 minutes before dispensing.


```
Bitumen Temp:300 F
Change Value?
<YES> or <NO>
<ESC> to Exit
```

9. Tare scale with weight of empty container.
10. Place container under nozzle. (The first run is a purging run at 5 psi to ensure the bitumen flows smoothly.)
11. Press *Enter* to dispense bitumen. Enter total (cumulative) weight.

```
Don't Empty Bucket!
Total Mass: 50 g
<ENTER> to Accept
<ESC> to Exit
```

12. Repeat Steps 10 and 11 for 5 psi and 30 psi.

Extended Calibration

Extended Calibration allows the operator to adjust the number of pressures and times used to calibrate the flow rates of the bitumen and foaming agent. Once the flows rates are measured for different pressures, a calibration curve is developed.

Foaming Agent

13. Enter the start (minimum) pressure (recommend 5 psi).

```
Start Press: 5 PSI
Change Value?
<YES> or <NO>
<ESC> to Exit
```

14. Enter the final (maximum) pressure (recommend 30 psi).

```
Final Press: 30 PSI
Change Value?
<YES> or <NO>
<ESC> to Exit
```

NOTE: *The maximum pressure for the foaming agent is limited to 30 psi.*

15. Enter the increment between pressures (recommend 5 psi).

```
Increment:  5  PSI
Change Value?
<YES> or <NO>
<ESC> to Exit
```

16. Tare scale with weight of empty container.

17. Place container under nozzle. (The first run is a purging run at 30 psi to ensure the foaming agent flows smoothly.)

18. Press *Enter* to dispense foaming agent. Enter total (cumulative) weight.

19. Repeat Steps 17 and 18 for the remaining pressures.

Bitumen

20. Enter the starting (minimum) pressure (recommend 5 psi).

```
Start Press: 5  PSI
Change Value?
<YES> or <NO>
<ESC> to Exit
```

21. Enter the final (maximum) pressure (recommend 30 psi).

```
Final Press: 30  PSI
Change Value?
<YES> or <NO>
<ESC> to Exit
```

NOTE: *The maximum pressure for bitumen is limited to 30 psi.*

22. Enter the increment between pressures (recommend 5 psi).

```
Increment:  5  PSI
Change Value?
<YES> or <NO>
<ESC> to Exit
```

23. Enter the desired temperature. Allow temperature to stabilize for 30 minutes to ensure it is well heated. To ensure uniform temperature in the bitumen tank, it may be necessary to stir the bitumen 15-30 minutes before dispensing.

```
Bitumen Temp:300 F
Change Value?
<YES> or <NO>
<ESC> to Exit
```

24. Enter the bitumen discharge time for each pressure (recommend 15 seconds).

```
Discharge Time:15 s
Change Value?
<YES> or <NO>
<ESC> to Exit
```

25. Tare scale with weight of empty container.

26. Place container under nozzle. (The first run is a purging run at 5 psi to ensure the bitumen flows smoothly.)

27. Press *Enter* to dispense bitumen. Enter total (cumulative) weight.

```
Don't Empty Bucket!
Total Mass: 50 g
<ENTER> to Accept
<ESC> to Exit
```

28. Repeat Steps 26 and 27 for the remaining pressures.

Calibration Menu

The Calibration menu allows the operator to perform, review, or manually enter a calibration.

```
-Calibration-
1. Use for AUTO Foam
2. New Calib.
3. Review Calib.
```

```
-Calibration-
4. Enter Calib.
5. Erase Calib.
```

Select the desired option by selecting the appropriate number.

Use for AUTO Foam

Select the calibration used in the Auto Foam function.

New Calibration

Perform a calibration using either the Quick or Extended calibration procedure.

Review Calibration

Review the flow rates of bitumen and foaming agent at different pressures that are used to calculate the calibration curves.

Enter Calibration

Manually enter the flow rates of bitumen and foaming agent at different pressures that are used to calculate the calibration curves. This can be used if the memory is lost, or if a partial calibration was done.

Erase Calibration

Delete a calibration to create space for a new calibration for a different binder or temperature.

Auto Foam

Auto Foam is designed to allow the operator to quickly dispense a desired amount of foamed asphalt. The operator needs to know the desired weight of foamed asphalt and percentage of foaming agent.

1. Press the *Auto Foam* button on the scalar.
2. Verify the appropriate calibration is used.

Program A:
Selected For AUTO
Foam

3. If no calibration or the wrong calibration is selected, press *Esc*. Then press the *Calibration* button on the scalar. Select *1* (*Use for AUTO Foam*).

```
-Calibration-
1. Use for AUTO Foam
2. New Calib.
3. Review Calib.
```

Then select the number (0-9) assigned to the desired program.

4. Enter the desired amount of foamed asphalt (binder and foaming agent).

NOTE: The maximum output of foamed asphalt is limited by the bitumen tank capacity to approximately 5000 g.

```
Input Foamed Asphalt
Weight:1000 grams
<ENTER> to Continue
<ESC> to Exit
```

5. Enter the desired percentage (%) of foaming agent.

```
Input %
Foaming Agent: 1.0
<ENTER> to Continue
<ESC> to Exit
```

6. Device will display the calculated bitumen flow rate and foaming agent flow rate.

```
FA Flow: 0.59 g/s
```

```
Bit Flow: 59.9 g/s
```

7. Fill tanks and lock lids. Then close cover.
8. Device will display target settings and actual values. When the temperature is +/- 3°F (+/- 2°C) of target temperature, press *Start*.

NOTE: To ensure uniform temperature in the bitumen tank, it may be necessary to stir the bitumen 15-30 minutes before dispensing.



NOTE: If no foamed asphalt has been dispensed within 30 minutes, it is necessary to run a trial run to ensure bitumen and water run smoothly.

9. Place bucket under nozzle. Then press *Start* to release foamed asphalt.

Manual Foam

Manual Foam requires the operator to calculate flow rates and dispensing time to dispense the desired amount of foamed asphalt.

1. Press the *Manual Foam* button on the scalar.
2. Enter the desired Foaming Agent Pressure. *Yes* to change, *NO* to keep the default value.
3. Enter the desired Bitumen Pressure.
4. Enter the desired Bitumen Temperature.
5. Enter the desired Foaming Dispensing Time.
6. Fill tanks and lock lids. Then close cover.
7. Device will display target settings and actual values for tank pressures and temperatures. When the temperature is +/- 3°F (+/- 2°C) of target temperature, press *Start*.

NOTE: To ensure uniform temperature in the bitumen tank, it may be necessary to stir the bitumen 15-30 minutes before dispensing.

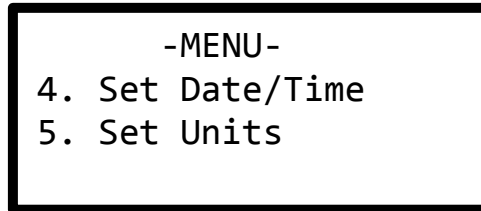
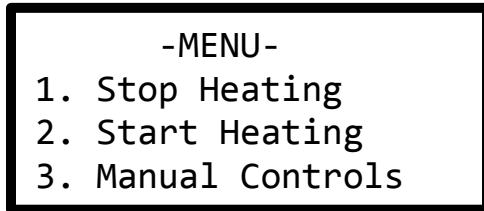


NOTE: If no foamed asphalt has been dispensed within 30 minutes, it is necessary to run a purge run to ensure bitumen and water run smoothly.

8. Place bucket under nozzle. Then press *Start* to release foamed asphalt.

Menu Button Options

The Menu button on the scalar allows the operator to start and stop heating, change pressures in the bitumen and foaming agent tanks, open and close dispensing valves, and set the date/time and units.



Stop Heating

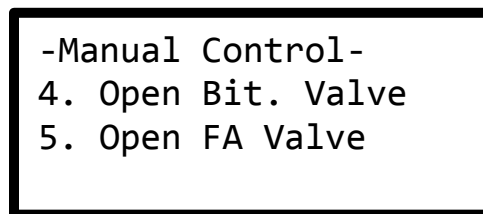
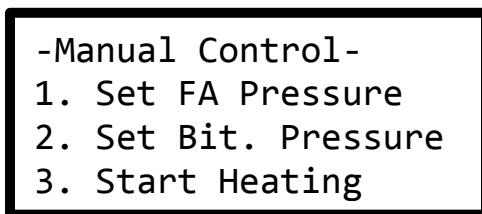
Stop heating the bitumen tank.

Start Heating

Start heating the bitumen tank to a given temperature. The heater can be left on while performing other functions such as preparing for a calibration or dispensing foamed asphalt.

Manual Controls

Manual Controls allows the operator to adjust the pressure and temperature manually to dispense bitumen and foaming agent manually.



1. Set FA Pressure – Adjust foaming agent pressure
2. Set Bit. Pressure – Adjust bitumen pressure
3. Start Heating – Adjust bitumen temperature and keep the heater running
4. Open Bit. Valve – Opens the bitumen valve for a given length of time
5. Open FA Valve – Opens the foaming agent valve for a give length of time.

Set Date/Time

1. Enter Date and Time using number pad. Press *Enter* to move to the next digit and *CE* to move back one digit. Use *Up/Down* keys to change AM/PM.

MM/DD/YY
01/01/15 12:16 AM↑↓
Press YES to Store
CE:← ENTER:→

2. Press *Yes* to store date and time.

Set Units

Press *Yes* to change units between US Customary to Metric for the applied pressure and temperature. The weights are always in (g)rams and flow rate is grams/second.

Cleaning

Cleaning is essential. Cleaning of water nozzle must be performed *before* foaming and *after* usage for the day to prevent clogging the nozzle. All foaming agent lines should be cleaned periodically by flushing the foaming agent line with clean water. The bitumen tank and lines can generally be cleaned by blowing out the bitumen into a container.

CLEAN Button

The CLEAN button applies air pressure and opens the bitumen and foaming agent valves to purge the tanks. The bitumen tank is heated to allow the bitumen to easily flow from the tank.

1. Press the *CLEAN* button to start the purge procedure.
2. Select the nozzle to clean: *Bitumen* or *Water*
3. Bitumen Clean: The device will heat the bitumen tank up to 350°F (176°C) to



help the binder flow out of the tank. When the bitumen temperature is hot enough, press *Enter* to go to the next screen.

```
TARGET TEMP:350  F
ACTUAL TEMP:350  F
<START> TO CONTINUE
<ESC> TO EXIT CLEAN
```

4. Press *Enter* to open the bitumen valve or foaming agent valve and dispense the liquid into an empty container. Press *ESC* when the tank is empty.

```
Releasing Bitumen

<ESC> to Exit
```

Cleaning Surface

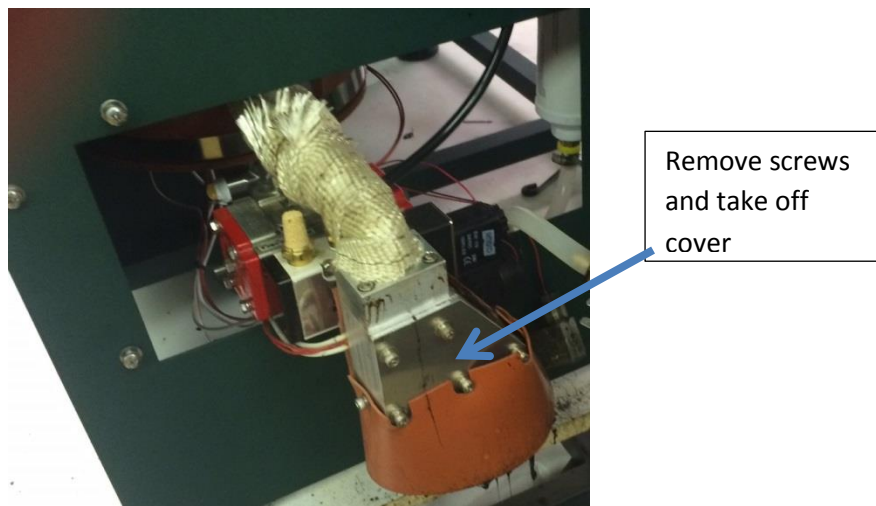
To clean the surface, lids, and handles of the device, usage of a mild solvent, such as WD40, is acceptable. *Strong solvents such as acetone may damage the paint.* To clean the surface, do NOT soak the surface with solvent, but spray the solvent on a rag. This helps prevent solvent and bitumen residue from dripping into the cabinet.

Nozzle Cleaning

To access the nozzles, remove the cover on the right side of the Accufoamer covering the nozzles and mixing chamber.

Bitumen Nozzle:

The bitumen line can become clogged at the nozzle. Turn on the heaters to heat up the mixing chamber and nozzles. When the mixing chamber is hot, remove the front cover of the mixing chamber. The clog can be removed by putting a sharp tool like a dental pick into the nozzle, and moving the tool to loosen the clog from the edges of the nozzle. Replace the front cover of the mixing chamber.



Also, a 3mm brush from a *spray gun nylon tube brush set* will also work to clean out the nozzle. (These can be found online.)



Water Nozzle:

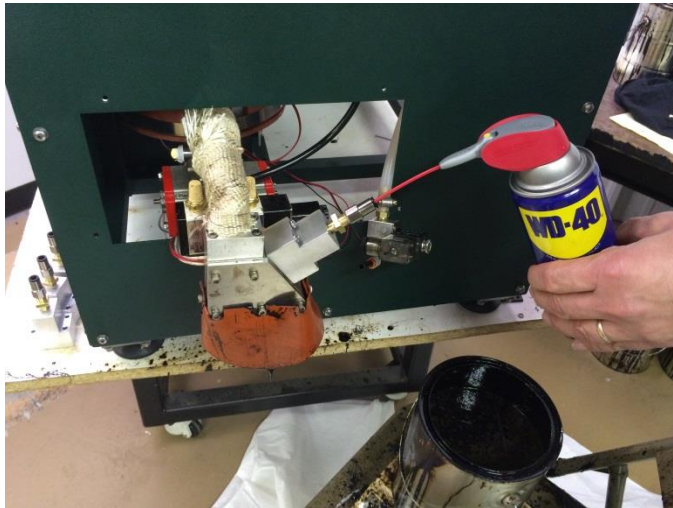
If water doesn't come out of the mixer, clean the water nozzle.

1. Push down the black plunger on the bottom push to connect fitting and pull the solenoid valve away. The hose will slip out of the bottom connector.



2. Place the solenoid aside.

3. Place can of WD-40 (or other solvent) all the way into the nozzle.



4. Place rag around the end of the fitting to keep lubricant from ejecting. Spray until WD-40 flows freely from the bottom of the Mixer. Slide tubes together between solenoid and nozzle until they snap.



5. If needed, the nozzle can be easily removed by unscrewing the nozzle from the aluminum block. Use compressed air to blow out any material. Blow air into both sides of the hole to remove blockages. When screwing the nozzle back into the block, make certain the threads are aligned properly, so that the

block is not cross threaded. Finger-tighten the nozzle so that it is easy to remove later. Do not use a wrench to tighten the nozzle.

6. If water leaks from the ¼ OD plastic tube, it needs to be replaced with Instrotek number 1017079.

Installing Software Updates

Firmware updates can be installed using a USB storage device (such as a USB thumb drive).

1. Download the update file to the USB storage device.
2. Turn OFF the AccuFoamer.
3. Insert the USB storage device into the USB slot on the left side of the machine. (The slot has a cover to keep the USB slot clean.)
4. Turn ON the AccuFoamer and allow the program to load. After several minutes, the program will stop.
5. Turn OFF the machine and remove the USB device. Then, restart the AccuFoamer to insure the update installed properly. The new version will appear on the startup screen.

Troubleshooting

Symptom	Possible Solution
Does not power on	<ul style="list-style-type: none"> • Check power supply connections (Plugs, Wall Outlet) • Check power supply voltage is correct (100-240VAC, Single Phase – 15 Amp Circuit) • Ensure the power switch is “On” • Check fuse beside power switch • Contact InstroTek if the unit does not power on when the correct voltage is supplied to the machine
System does not pressurize	<ul style="list-style-type: none"> • System will not pressurize if the Cover is open. • Check the air connection to the machine • Ensure proper air is supplied (min 40 psi – max 125 psi) • Ensure there are no air leaks (Tank lids, tank drains, etc.) • Contact InstroTek if the unit will not pressurize with the correct compressed air settings
Bitumen tank will pressurize, but during a calibration or foaming no bitumen will discharge	<ul style="list-style-type: none"> • Ensure the bitumen is at the correct temperature • Ensure there is sufficient bitumen in the tank to run the machine • The system may have cold bitumen in the lines; Clean the lines by leaving the heat on for 30 minutes and then run the Clean function. • The spray nozzle may be clogged, follow instructions under Nozzle Cleaning.
Foaming agent tank will pressurize, but during a calibration or foaming no foaming agent will discharge	<ul style="list-style-type: none"> • Ensure there is sufficient foaming agent in the tank to run the machine • Run the Clean function for the Foaming Agent • The spray nozzle may be clogged, follow instructions under Nozzle Cleaning.
System will pressurize, but will not stay at a constant pressure	<ul style="list-style-type: none"> • Ensure the lids to the tanks are properly sealed • Check the incoming air for leaks. • Change pressure of tanks manually to reset automatic valves • Contact InstroTek for further internal checks

Please contact InstroTek, for any issue not listed here. Also, *PLEASE* contact InstroTek before performing any service on the AccuFoamer that is outside of routine cleaning or maintenance listed in this manual.

Warranty Statement

1. **INSTROTEK** extends a **1-YEAR LIMITED WARRANTY** on the AccuFoamer to the original purchaser of this equipment. This warranty covers defects in *material, workmanship, operation under the conditions of normal use, and proper maintenance*. *This warranty includes all components EXCEPT for normal wear components and GASKETS.*
2. **INSTROTEK** will replace, free of charge, any part found to be defective within the warranty period. This warranty is void if inspection shows evidence of abuse, misuse, or unauthorized repair.
3. *THIS WARRANTY COVERS REPLACEMENT OF DEFECTIVE MATERIALS AND WORKMANSHIP ONLY.* It *DOES NOT COVER* shipping charges and/or duties or taxes in the transport to *and* from the factory or authorized service center. If return of the product to the owner is necessary, please include return shipping instructions, contact name, phone number, and a description of the action needed.
4. **INSTROTEK's** liability is in all cases limited to the replacement price of this product. **INSTROTEK SHALL NOT BE LIABLE FOR ANY OTHER DAMAGES, WHETHER CONSEQUENTIAL, INDIRECT, OR INCIDENTAL ARISING FROM USE OF THIS PRODUCT.**
5. Call InstroTek, Inc. for shipping details at (919) 875-8371