FOAM TRAINING

Rod Riska

SmartFOAM

- **How Foam Systems Work**
- **Flushing Foam Systems and Routine Maintenance**
- **Foam Calibration**
- **Smart Foam Features**
- **SmartFOAM Passwords**
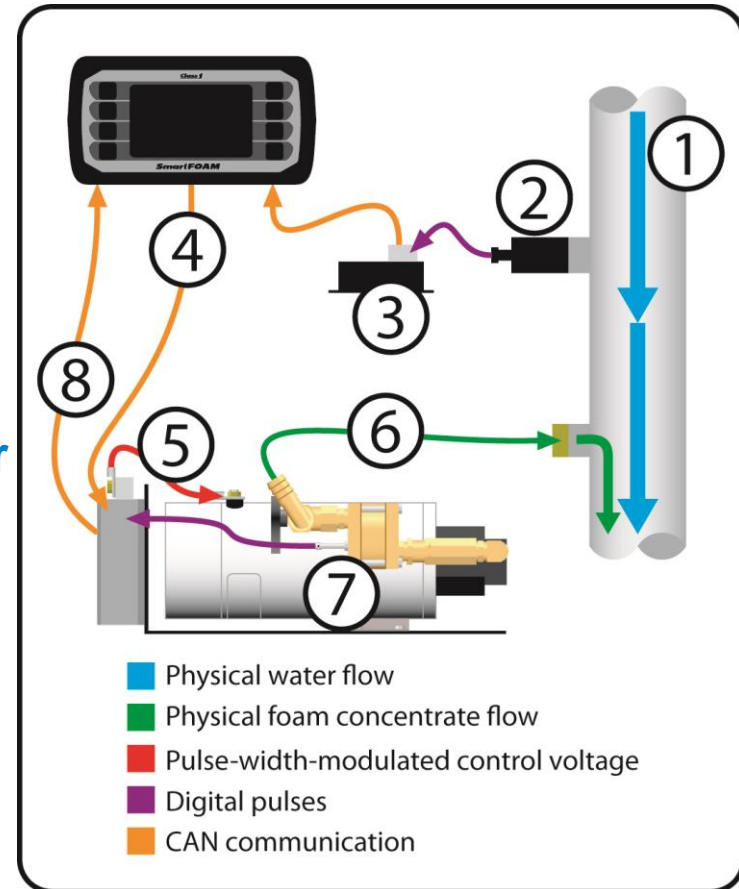- **Video Availability**
- **Hands on Display**

Theory of Operation

1. **Water flows past water flow sensor**
2. **Pulses are sent to sensor module**
3. **Sensor module transmits CAN data to the SmartFOAM controller**
4. **SmartFOAM calculates desired foam rate and transmits CAN request to motor driver**
5. **Motor driver send PWM control to motor**
6. **Foam pump begins discharging foam**
7. **Foam flow sensor sends pulses to motor driver**
8. **Motor driver transmits CAN message indicating foam flow rate**

Physical water flow
Physical foam concentrate flow
Pulse-width-modulated control voltage
Digital pulses
CAN communication

Approved Class "A" foam concentrates do not deteriorate rapidly like Class "B" concentrates. As long as an approved Class "A" foam concentrate is used and the system is operated within 10-12 weeks no flushing is required. When Class "B" foam concentrate is used, always FLUSH the system, then switch back to Class "A

Tank Selector is used for flushing the system, switching between different on foam sources.

"M" or **"A"** denote Manual or Air operation.

"S" is for single tank/Flush installations

"D" is for dual tanks/flush installation

Bypass is included on every unit. **"Bypass Only"** is used when an OEM chooses their own system flush/tank selector

MST

BYPASS

ADT

MDTII

Routine Maintenance

Foam Strainer provide protection to the foam pump.

Inline Strainer is an economical strainer solution for "non-flush" applications

FS Style (FS15 and FS25) is used for flushing applications

FS15 (1.5") version is for Class A Foam A Only

FS25 (2.5") version is Class A or B Foam compatible

Inline Strainer

FS style strainer (1.5" or 2.5")

Things to Remember

Flush After Every Use if Using B Foam

Don't Mix Class A and Class B Foam

Check Strainers

Run Units Regularly

Foam Calibration

Enter the password "1560". The controller will show the foam flow calibration screen.

1. Set the bypass valve's handle to BYPASS.

2. Place a graduated measure container at the outlet of the bypass hose capable of containing the expected volume of foam concentrate: 5 gallons (19 liters) minimum.

3. Start the Hale SmartFOAM foam pump by pressing the ON/OFF button.

4. Watch the level of foam in the graduated measure container and stop the foam pump when at the desired level by pressing the ON/OFF button again.

5. Adjust the reading on the display to match the actual volume by using the INCR and DECR arrow buttons.

6. Press the SAVE button.

7. Repeat the procedure to verify that the setting is correct.

a. Press the SAVE button again if the value was modified.

8. Set the bypass valve's handle back to INJECT.
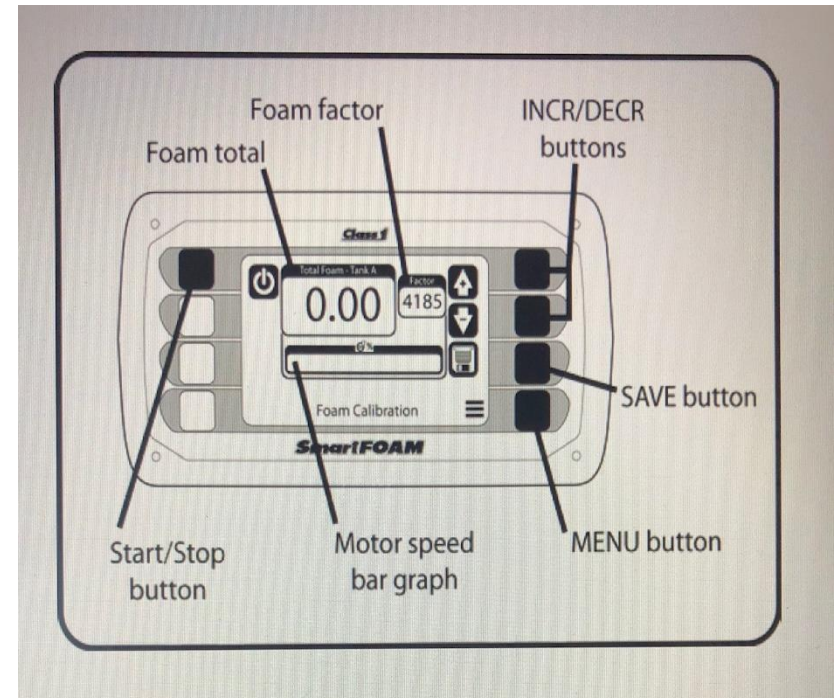
Section 1 Foam Performance

Model (12 or 24 volt)	Max Foam Flow Rate (GPM)	Max Injection Pressure (PSI)	Max Water Flow - GPM (0.1% Foam injection)	Max Water Flow - GPM (0.3% Foam injection)	Max Water Flow - GPM (0.5% Foam injection)	Max Water Flow - GPM (1% Foam Injection)
1.7A HP	1.7	400	1700	566	340	170
2.1A	2.1	250	2100	700	420	210
3.3	3.3	400	3300	1100	660	330
5.0	5.0	250	5000	1666	1000	500
6.5	6.5	200	6500	2166	1300	650
Dual 6.5	13.0	200	13000	4333	2600	1300

Piston Pump
1.7 & 2.1

Gear Pump
3.3+

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✓ **Class A only systems (1.7A and 2.1A)**

- 1.7A for water flows up to **170 GPM** at 1.0% injection
- 2.1A for water flows up to **210 GPM** at 1.0% injection

✓ **Class A/B systems (3.3, 5.0, and 6.5)**

- 3.3 for water flows up to **330 GPM** at 1.0% injection
- 5.0 for water flows up to **500 GPM** at 1.0% injection
- 6.5 for water flows up to **650 GPM** at 1.0% injection

✓ **Class A/B dual-pump system (two 6.5s)**

- For water flows up to **1300 GPM** at 1.0% injection

SmartFOAM utilizes UltraView display technology

✓ **Continues operation during sensor failure**

✓ **Allows unmatched system configurability**

✓ **Touch screen and physical buttons**

✓ **Plain text warnings and instructions (multi-language capable)**

✓ **On-screen user tutorials**

✓ **Maintenance minder**

✓ **Multi-pump arrangements controlled by a single display**

✓ **Logs operational data**

Continues Operation Even if Sensor Fails "Open Loop"

Water flowmeter reads water flow rate and sends that reading to the motor driver

1. **User Turns on Foam System and sets desired Foam Percentage**

2. **Motor driver detects that no signal is coming from the foam flow sensor and sends error message to display "Check foam sensor"**

3. **System goes into "Open Loop" mode and uses a preprogrammed setting to run the electric motor for the current water flow rate.**

WATER FLOW SENSOR

FOAM FLOW TABLE

OPEN-LOOP

FOAM CONTROLLER

FOAM PUMP
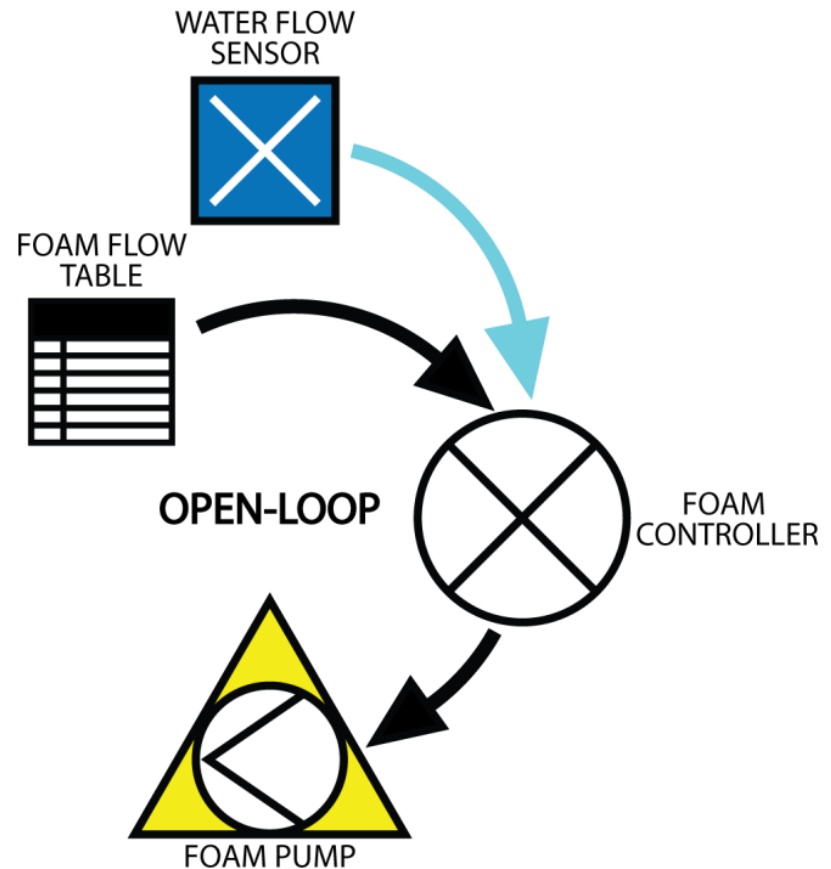
Flexible display formats (configurable in menu)

✓ **SmartFOAM display format**

      Modern look with all information displayed at once

✓ **FoamLogix display format**

      Classic FoamLogix look – no training required for existing FoamLogix users

✓ **Simple analog display format**

      Basic foam system look
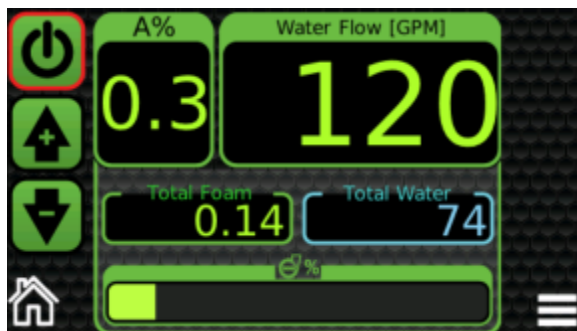
Modern

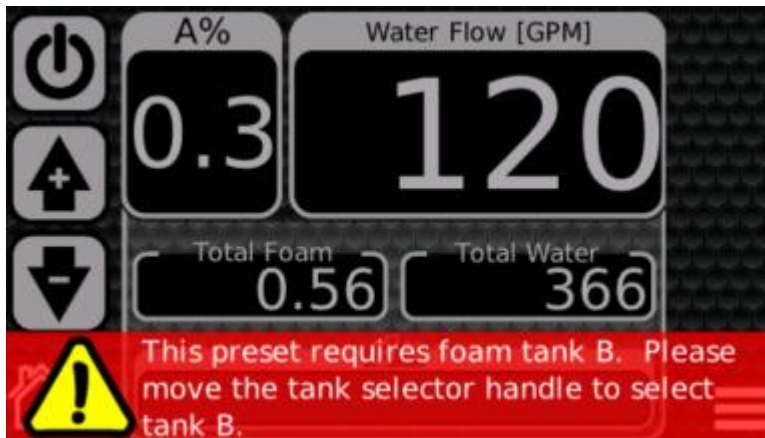Classic
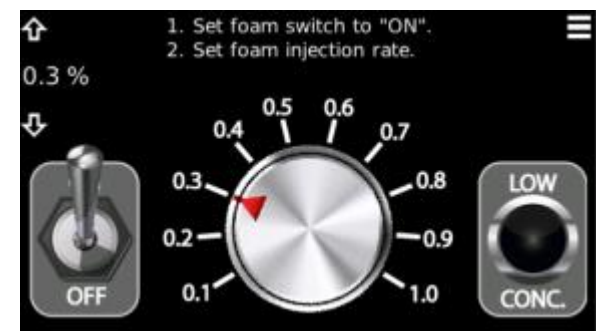
Basic

Up to six fully configurable presets

✓ **Easily select the desired foam percentage per situation**

✓ **Colors, text, and foam percentage are configurable**

Plain text warnings and instructions

✓ **No cryptic warning messages to decode**

✓ **On-screen tutorials for calibration and configuration**
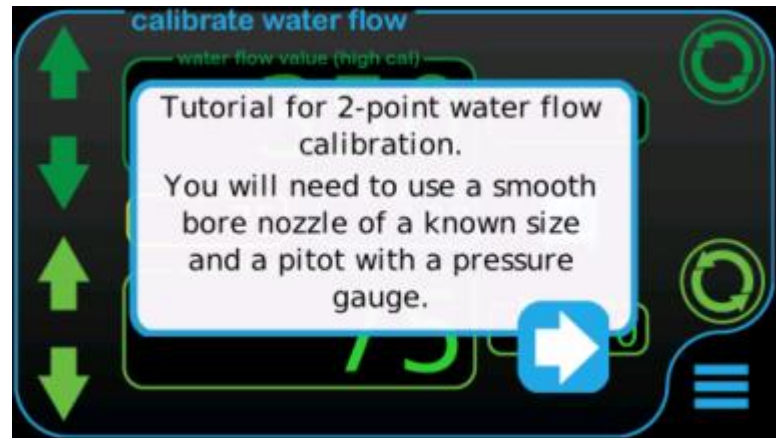
Maintenance Minder

✓ **On-screen maintenance reminders**

- Show due date
- Press the "i" button to see a detailed list of the maintenance items
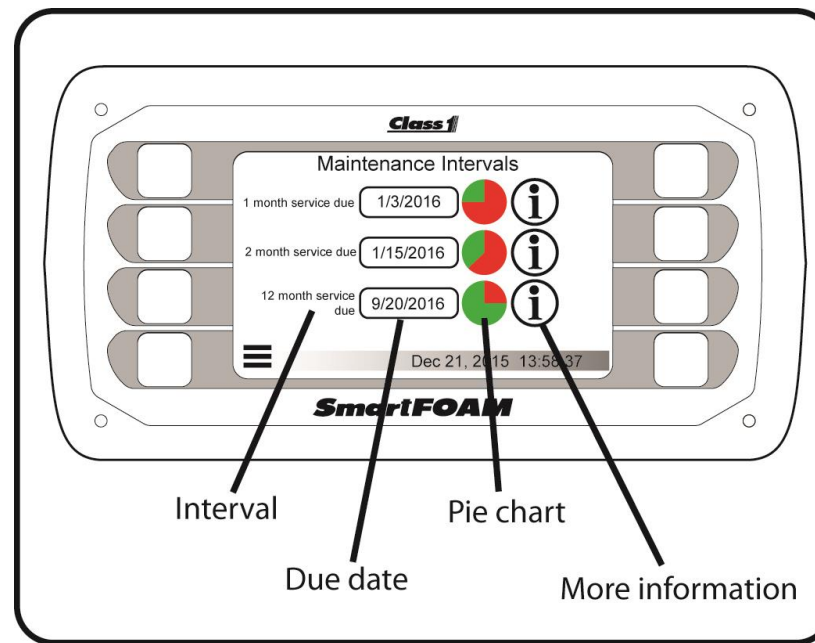
Multi-pump arrangements

✓ **Control any two of our standard foam pumps (1.7A, 2.1A, 3.3, 5.0, 6.5) as two individual systems from a single display**

- Perfect solution for apparatus with primary and auxiliary pumps
- Common interface for both systems
- Reduces pump panel space (single display)
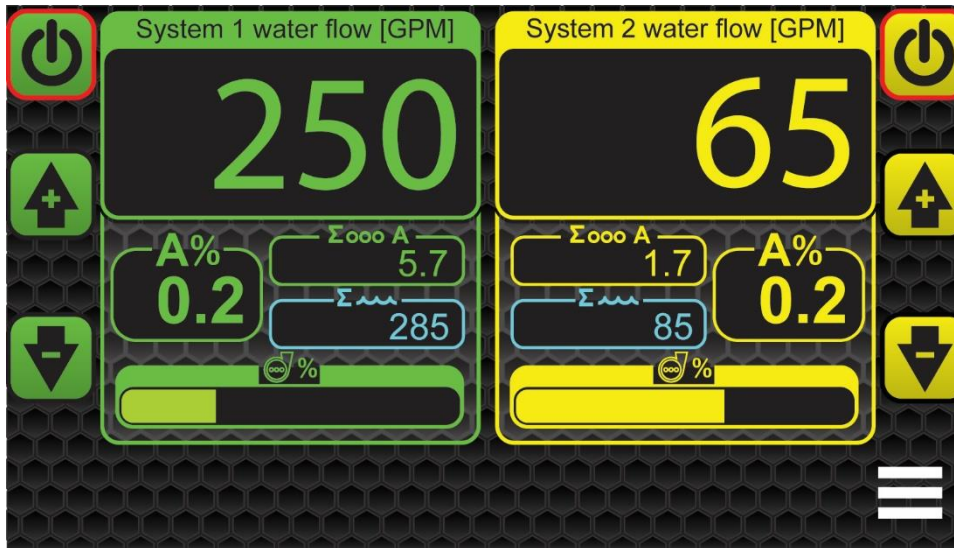
Logs operational data

✓ **All data is logged and time-stamped for detailed analysis**

- Data is logged every second
- Over 200 hours (rotating buffer, oldest data is overwritten)
- Validate water/foam usage
- Exports "comma separated value" (CSV) data to USB flash drive
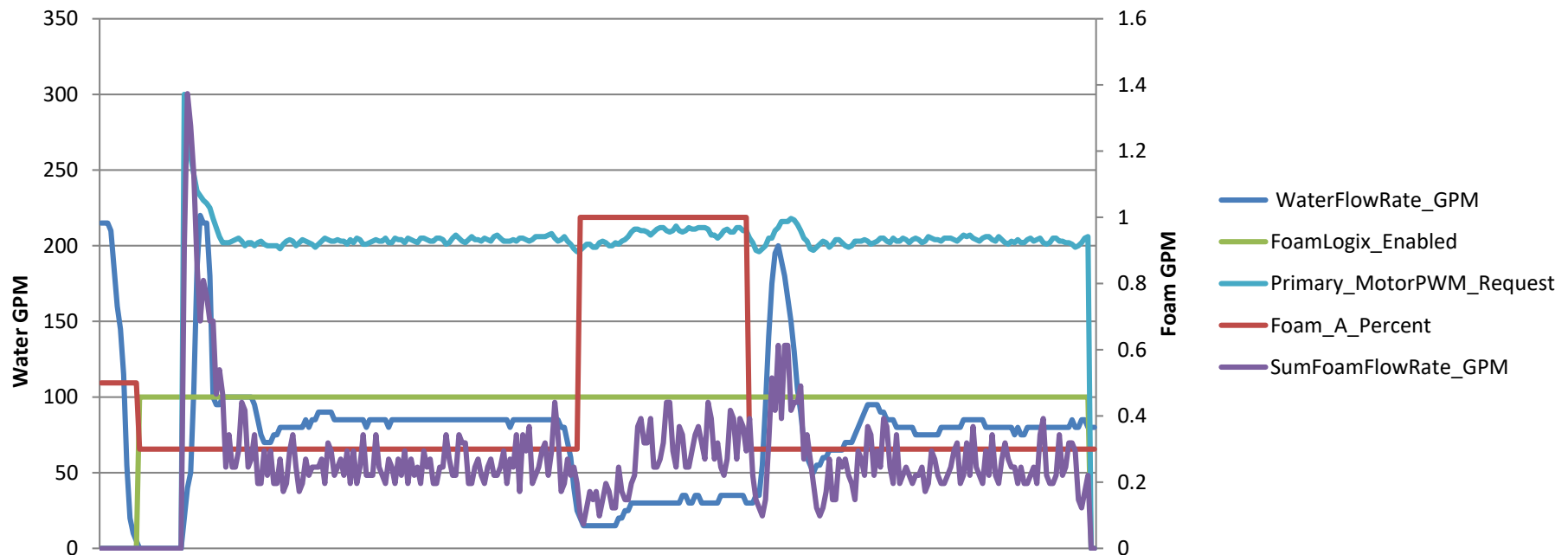
SmartFOAM passwords

1023 – Preset configuration

1849 - User menu

2314 - OEM menu

57643 - Factory menu

9999 - Maintenance Interval screen

1560 - Foam calibration

6679 - Water calibration

9766 - Direct water calibration

66876 – Dual motor amperage limit, Motor 1

66878 - Dual motor amperage limit, Motor 2

Save Pic of these on your phone

Video Guide

- **Main Screen**
- **Preset Setup**
- **Operation**
- **Calibration Settings**
- **Maintenance Minder**
- **Flushing Water System**
- **Dual System Setup**
- **Changing the Graphic Interface**

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SmartFOAM
QUICKSTART VIDEO GUIDE

Use the QR Scanner on your phone or use the link provided to navigate to the video guide to setting up your system.

Menu Screens
This guide shows how to navigate through the different screens on your SmartFOAM system.
https://www.youtube.com/watch?v=fuI4gNkyva8

Maintenance Minder
This guide shows how see the current maintenance status on your unit and which ones will need to be reset after the service has been performed.
https://www.youtube.com/watch?v=sVW5JKOvCcc

SmartFOAM Presets Setup
This guide shows how to setup the presets on your SmartFOAM system. They can be changed to "A" or "B" foam and setup to match your SOP.
https://www.youtube.com/watch?v=iLzchItMVUg

Flushing Your System
This guide shows how to flush your system after operation is complete.
https://www.youtube.com/watch?v=lR52UWeQVds

SmartFoam Operation
This guide shows how to operate your SmartFOAM system.
https://www.youtube.com/watch?v=pIZ4JHvq5DM

Dual System Setup
This guide shows how to setup your foam system for dual pump operation when two foam pumps are present.
https://www.youtube.com/watch?v=y0DhW1I9Iho

Calibration Settings
This guide shows how to calibrate water, foam a, and foam b on your SmartFOAM system.
https://www.youtube.com/watch?v=H2YRitCYw84

Changing the Graphic Interface
This guide shows how to change the user interface of the operation screen from foamlogix, analog screen, or the new SmartFOAM screen.
https://www.youtube.com/watch?v=-vF2CLvstD4

REV	DATE	DESCRIPTION	APVD	AUTHOR	PART NUMBER
A	10OCT2018	ORIGINAL RELEASE	JDF	JDF	FSG-INS-00057

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- Questions?

- Hands on Display