



SmartFOAM

Electronic Foam Proportioning Systems

Models:

Class A only – 1.7AHP, 2.1A

Class A/B – 3.3, 5.0, 6.5

FOAM OPERATION QUICKSTART

FSG-MNL-00179

HALE PRODUCTS, INC / CLASS 1
607 NW 27th Avenue • Ocala, FL 34475
U.S.A. Telephone: 352-629-5020
FAX: 800-533-3569

GODIVA LTD.
Charles Street • Warwick, England CV34 5LR
Phone: 44-1-926-623600



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DESCRIPTION

Operation of Hale SmartFOAM systems is controlled by the UltraView SmartFOAM controller display. The Hale SmartFOAM system constantly monitors water and foam concentrate flow values, maintaining foam injection at the specified concentrate injection rate. The system responds to variations in water flow by increasing or decreasing the speed of the foam pump.

On initial power up of the apparatus, the Hale SmartFOAM system begins a brief self-diagnostic routine (see Figure 44: **Controller Unit Initialization**). When completed, the system enters the preset screen and waits for operator action.

PRESET SCREEN

The SmartFOAM system initializes to the preset screen. The preset screen allows the operator to choose any one of the six presets to start the system and show the operation screen. The HOME button goes to the operation screen. The MENU button goes to the main menu.

OPERATION SCREEN

The operation screen shows all of the pertinent operating parameters: foam concentrate percentage, water flow rate, total foam flowed, total water flowed, and motor percent effort bar graph. The operation screen also allows the operator to turn the system ON/OFF with the ON/OFF button and to change the foam concentrate percentage with the INCREASE/DECREASE foam percent buttons. The HOME button goes back to the preset screen. The MENU button goes to the main menu.

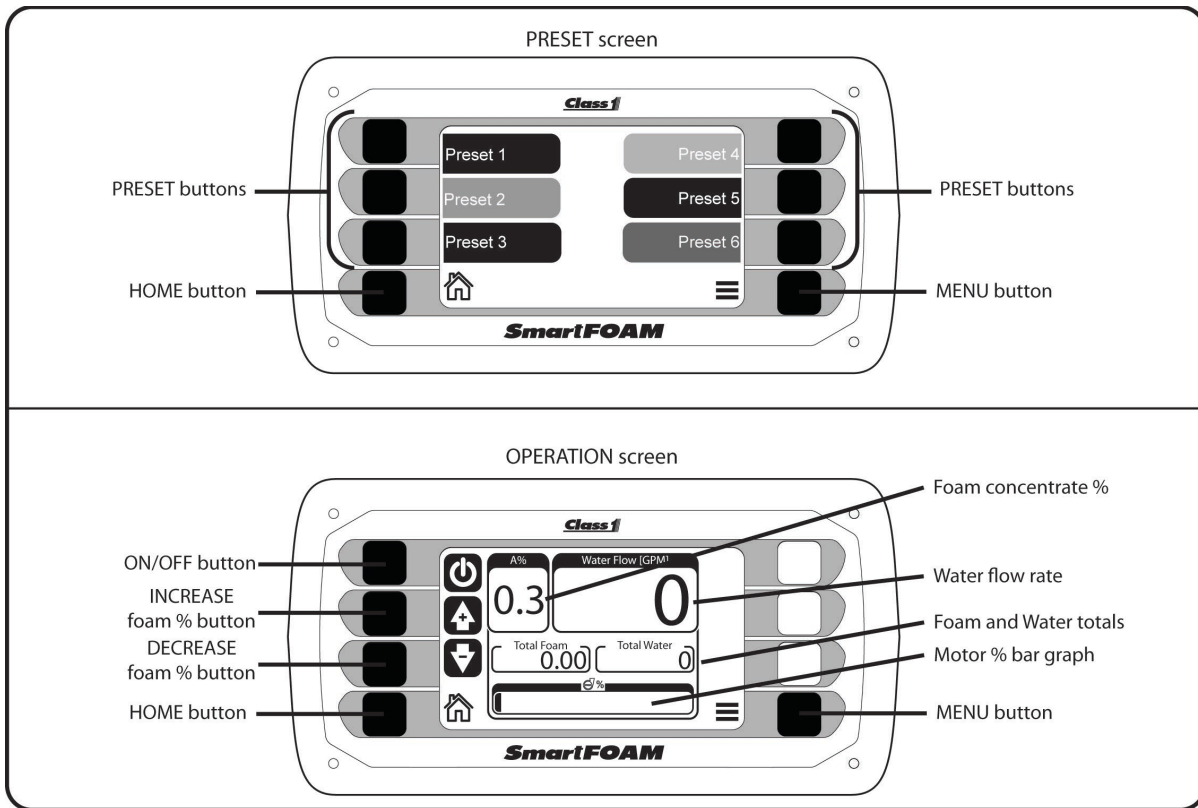


Figure 1: Preset and Operation Screens

The display's border color on the operation screen indicates the system's power condition and the foam concentrate tank currently selected.

- Gray - the system is currently OFF.
- Green - the system is currently ON and foam tank A is selected.
- Yellow - the system is currently ON and foam tank B is selected (the foam B color is selectable in the USER menu to be either red or yellow).
- Red - the system is currently ON and foam tank B is selected (the foam B color is selectable in the USER menu to be either red or yellow).

When the ON/OFF button is pressed the border color will change from gray to green (or yellow/red). If water flow is present the foam pump starts and injects foam concentrate into the discharge stream.

Note: If the operation screen was entered by pressing one of the preset buttons then the foam system will be ON.

The bar graph lights when foam is being injected and indicates system capacity.

When the ON/OFF button is pressed again the border color will change to gray indicating that the system is in STANDBY mode and the foam pump STOPS. However, other system monitoring functions continue (water flow rate, total water flowed).

DISPLAYED INFORMATION

Water Flow

The water flow display shows the current flow rate of water or foam solution per minute in the Hale flow sensor monitored discharges. The flow rate is determined by the paddlewheel flow sensor rate and the water flow calibration factor.

Foam Concentrate Percent

The foam concentrate percent display shows the foam concentrate injection rate setting (0.1% to 9.9%).

Total Water Flow

The total water flow display shows the total amount of water or foam solution pumped through the flow sensor monitored discharges. This totalized value may be reset in the main menu. It is also reset any time the SmartFOAM controller power is disrupted.

Total Foam Flow

The total foam flow display shows the total amount of foam concentrate pumped for the currently selected foam tank. This totalized value may be reset in the main menu. It is also reset any time the SmartFOAM distribution box power is disrupted.

Motor Percent Bar Graph

The bar graph indicates what capacity of the motor is currently being used to inject the foam concentrate from 0% to 100%. The bar graph fills from the left (0%) to the right (100%).

When water is flowing the bar graph begins showing to indicate foam concentrate is being injected. The amount of bar graph showing provides an indication of the approximate pump capacity being used.

RESET WATER/FOAM TOTALS

The totalized values for water and foam concentrate pumped are cleared from memory by using the Reset (Zero) Total buttons in the main menu.

Enter the main menu by pressing the MENU button from the preset or operation screen. Press the Reset Total Water and/or Reset Total Foam buttons.

Note: These totals are also automatically reset any time the system power is disrupted.

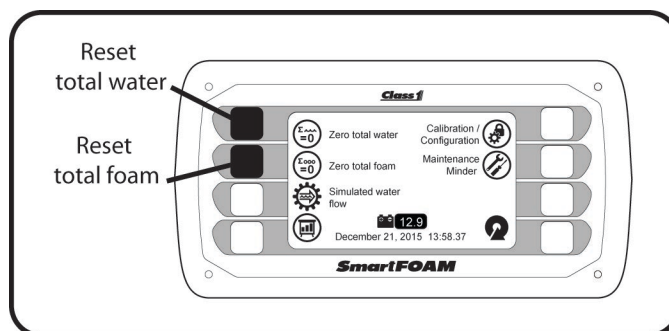


Figure 2: Reset Water/Foam Totals

FOAM CONCENTRATE INJECTION RATE

The foam concentrate injection rate can be changed by pressing the HOME button to go back to the preset screen and select another preset OR by pressing the INCREASE/DECREASE foam percent buttons on the operation screen.

WARNING MESSAGES

Several safety features are incorporated into the Hale SmartFOAM system to protect the foam concentrate pump, electric motor and apparatus wiring while maintaining personnel safety.

Messages appearing on the display alert the operator to adverse conditions that could cause damage to Hale SmartFOAM system components, the apparatus, or which could cause personnel injury.

The messages appear on a colored warning ribbon (red or blue) at the bottom of the screen.

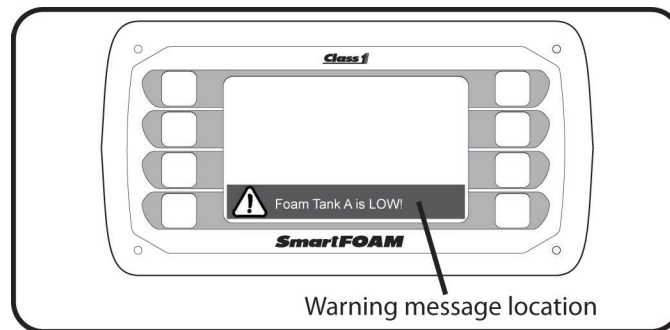


Figure 3: **Warning Message Location**

This warning ribbon also contains an icon to inform the operator of the severity of the warning.

Informational



Caution



Operation Halted



The warning ribbon will contain text informing the operator of what has happened, what will happen, or what the operator needs to do.

A warning message may be dismissed by pressing the screen anywhere on the warning ribbon. If the warning is still active the warning message will appear again after the inhibit time has expired (default is 60 seconds – configurable in the OEM menu).

Low Foam Tank Level

The Hale SmartFOAM foam pump is interlocked with the foam concentrate tank level switch. When the low level switch is activated (foam tank is empty) the low tank caution message will be shown and the foam pump will continue to run for 60 seconds. At the 60 second limit the system and pump will be forced OFF and the foam is empty operation halted message will be displayed.

If the ON button is pressed before refilling the foam tank, the system runs for 30 seconds before shutting down again and showing the foam is empty operation halted message.

Foam Priming Error

In the event there is no foam feedback signal being received when the foam pump starts (indicating a lack of foam concentrate flow) the foam pump motor ramps up to full speed attempting to establish foam concentrate flow. The attempting to prime caution message will appear informing the operator how many seconds the system will continue to run before shutting down due to loss of foam prime.

If the system operates for a period of 35 seconds (configurable in the Factory menu) without a feedback signal the system turns itself OFF and shows the loss of prime operation halted message.

PRIMING THE FOAM PUMP

In some instances, the foam tank may run dry while operating the Hale SmartFOAM system. The foam pump is designed to pump liquid. When the fire pump is running the foam pump may not pump efficiently against 100 to 150 PSI (7 to 10 BAR) back pressure. To re-establish foam concentrate flow quickly the following procedure is used.

1. Turn the bypass valve to the BYPASS position.
2. With the fire pump flowing water from foam discharge and the Hale SmartFOAM ON, observe the hose from the bypass valve.
3. When foam concentrate flows from the hose turn the bypass valve back to the INJECT position.
4. The pump is now primed and ready for normal operation.

NORMAL OPERATION SUMMARY

1. Energize the system.
 - a. Apply power to the apparatus. The SmartFOAM controller initializes and shows the preset screen.
2. Select foam tank (excluding 1.7AHP and 2.1A systems).
 - a. If the system is equipped with dual foam tanks, place the selector to the desired tank.
3. Begin foam injection.
 - a. Establish water flow and then press one of the preset buttons on the preset screen. Operation may also be started by pressing the HOME button to go to the operation screen and then press the ON button.
4. Change injection rates.
 - a. Use the INCREASE/DECREASE buttons on the operation screen OR press the HOME button to go back to the preset screen and choose another preset.
5. Read total water/foam usage.
 - a. Read the total displays on the operation page.
6. Reset totalized values.
 - a. Press the MENU button to go to the main menu and press the reset water/foam total button(s).
7. End foam injection.
 - a. Press the OFF button on the operation screen. The system will stop the foam pump and the display borders will change to gray to indicate the system is OFF.
8. Clean the Strainer