



QUICK START GUIDE

SAM (GENERATION 2)

FOAM/CAFS ADDENDUM



BY

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NOTICE

THIS GUIDE IS INTENDED FOR QUICK REFERENCE ONLY. DO NOT USE IT TO REPLACE REQUIRED TRAINING, STANDARD OPERATING GUIDELINES REQUIRED BY THE AUTHORITY HAVING JURISDICTION, THE OPERATION INSTALLATION MAINTENANCE MANUAL, OR APPROPRIATE QUALIFICATIONS.

1. SAFETY

Firefighting is an inherently risky activity. Knowledge and training may manage that risk. This document is not a training manual and does not provide all detailed operation. This guide serves as a quick reference for SAM operation. AHJ (Authority Having Jurisdiction) shall provide training and guidelines for system operation.

1.1 DANGERS, WARNINGS, CAUTIONS, and NOTICES

DANGERS, WARNINGS, CAUTIONS, and NOTICES consist of two parts: A heading (that identifies possible result if disregarded) and a statement of the hazard (that provides the minimum precautions). The following warnings and cautions are used throughout the Hale SAM manuals.

ATTENTION ▲ DANGER

INDICATES A HAZARDOUS SITUATION, WHICH IF NOT AVOIDED WILL RESULT IN SERIOUS INJURY OR DEATH.

ATTENTION ▲ WARNING

INDICATES A HAZARDOUS SITUATION, WHICH IF NOT AVOIDED COULD RESULT IN SERIOUS INJURY OR DEATH.

ATTENTION ▲ CAUTION

INDICATES A POTENTIALLY HAZARDOUS SITUATION, WHICH IF NOT AVOIDED MAY RESULT IN MINOR OR MODERATE INJURY.

IMPORTANT ▲ NOTICE

ADDRESSES PRACTICES NOT RELATED TO PERSONAL INJURY.

1.2 SAM General DANGER, WARNING And NOTICES

IMPORTANT ▲ NOTICE

ACTIVATING A FOAM OFF BALLOON TURNS OFF THE SMARTFOAM SYSTEM, TURNING OFF FOAM TO ALL FOAM CAPABLE DISCHARGES, HOWEVER, THE DISCHARGE(S) ARE NOT CLOSED AND CONTINUE TO FLOW WATER ONLY.

IMPORTANT ▲ NOTICE

AHJ MUST INSURE PROPER TRAINING IS IN PLACE FOR ALL OPERATORS. THIS QUICK START GUIDE DOES NOT REPLACE OR SUPERSEDE THE OPERATION INSTALLATION MAINTENANCE MANUAL OR PROPER TRAINING.

IMPORTANT ▲ NOTICE

ALTHOUGH SMARTFOAM AND SMARTCAFS BOTH UTILIZE THE FOAM LABEL, A FOAM LABELED DISCHARGE BUBBLE DOES NOT OPERATE THE SAME WAY ON SAM FOR BOTH SYSTEMS.

IMPORTANT ▲ NOTICE

DO NOT ALTER THE CAN NETWORK COMMUNICATIONS (SAE J1939 CAN BUS) OR CONNECT OTHER DEVICES TO ANY OF THE CAFS, CAPTIUM, FOAM, OR SAM CAN BUS BACKBONE(S).

IMPORTANT ▲ NOTICE

DO NOT RUN THE PRIMER FOR MORE THAN 45 SECONDS. IF PRIME IS NOT ACHIEVED IN 30 - 45 SECONDS, STOP AND LOOK FOR AIR LEAKS OR BLOCKED SUCTION HOSE.



IMPORTANT ▲ NOTICE

FROM THE VALVE X SCREEN (DISCHARGE VALVE CONTROL SCREEN), THE OPERATOR MAY SELECT WATER ONLY, FOAM ONLY, OR CAFS. TO SELECT WATER ONLY, SWIPE THE PSI PRESET (RIGHT-HAND SIDE OF THE WIDGET) TO THE TARGET. TO SELECT FOAM ONLY, SWIPE THE FOAM ONLY PRESET TO THE TARGET. TO SELECT CAFS, SWIPE THE (WET, MED, OR DRY) CAFS PRESET TO THE TARGET.

IMPORTANT ▲ NOTICE

IF THE DISCHARGE DOES NOT ACTIVATE VERIFY THE CAFS SYSTEM PRESETS (PRESET 1 FOR CAFS, PRESET 7 FOR FOAM ONLY ON THE SMARTCAFS DISPLAY) CONFIGURATION MATCHES THE SAM CONFIGURATION. (SAM WILL ONLY ACTIVATE MATCHING CONFIGURATIONS – WET, MED, OR DRY.) IF THE CONFIGURATIONS DO NOT MATCH, OPERATE SAM MANUALLY TO OPEN THE VALVE USING THE SAM CONTROL CENTER. THEN OPERATE THE CAFS SYSTEM FROM THE SMARTCAFS DISPLAY.

IMPORTANT ▲ NOTICE

KEEP ALL I/O PORT COVERS IN PLACE DURING USE TO PREVENT WATER DAMAGE.

IMPORTANT ▲ NOTICE

ONLY TOUCH THE SCREEN IN ONE PLACE AT A TIME. THE TOUCHSCREENS DO NOT SUPPORT MULTI-TOUCH.

IMPORTANT ▲ NOTICE

SOME WATER ONLY OPERATIONS MAY DAMAGE THE CAFS SYSTEM IF THE CLUTCH IS ENGAGED. REFERENCE CAFS QUICKSTART GUIDE, DISENGAGING THE COMPRESSOR CLUTCH (PAGE 10 OF FSG-MNL-00176) TO ENSURE PROPER CAFS TURN OFF WHEN SAM INCLUDES A CAFS SYSTEM.

IMPORTANT ▲ NOTICE

WHILE SAM CAN REDUCE PUMP OPERATOR WORKLOAD, IT DOES NOT TAKE THE PLACE OF THE PUMP OPERATOR. THE PUMP OPERATOR STILL NEEDS TO CALCULATE THE REQUIRED LINE PRESSURE TO SUPPORT THE HOSE LAY AND NOZZLE IN USE. SAM WILL MAINTAIN THE SET PRESSURE IN AUTO MODE.

2. USING SMARTFOAM WITH SAM

SAM interfaces with either a HALE SmartFOAM or a SmartCAFS system. To utilize foam with the SAM system, activate a foam associated Quickset from the Auto Mode Home screen or foam associated preset from the Valve X via the Select Discharge screen. (The discharge valve control screen.)

Once the SmartFoam system is active, the SmartFoam display may be used to control the foam system as if the apparatus did not have SAM. Reference SmartFOAM Electronic Foam Proportioning Systems Models: Class A only – 1.7 AHP, 2.1 A Class A/B – 3.3, 5.0, 6.5 Description, Installation, and Operation Manual (P/N FSG-MNL-00158) for detailed foam system operating instructions. Figure 1 shows the SmartFOAM default display. While FOAM is ON all foam capable discharges flow foam when open. Additionally, all foam compatibility and flushing notes/recommendations apply (see FSG-MNL-00158) when using SmartFOAM with SAM.

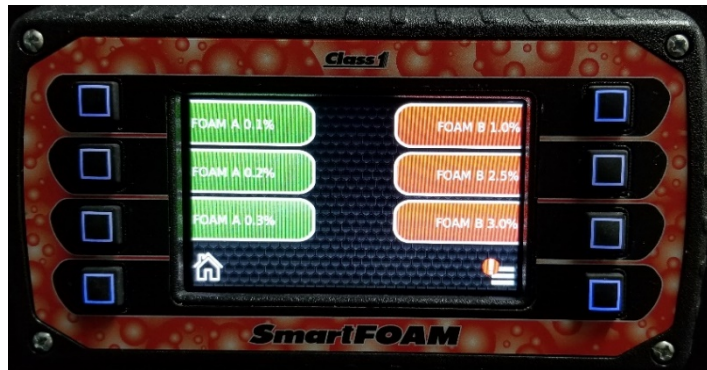


Figure 1. SmartFOAM Display (Default)

2.3 Activating A SAM FOAM Quickset

To use SAM to activate a FOAM Quickset, perform the following.

- A. Touch desired Quickset. (All foam available discharges are labeled with the word FOAM.) See Figure 2.



Figure 2. Activating A Foam Quickset

- B. Drag Quickset to target (PUSH TO PUMP or ADD LINE).
- C. Release Quickset (remove finger from screen).

The SmartFOAM system powers on and activates preset #1. The associated concentration of foam solution is discharged supplying foam to all foam capable discharges. Figure 3 shows the SmartFOAM display with an example preset 1 running and the SAM Control Center Quickset active.



Figure 3. SmartFOAM With SAM Quickset Activated

2.4 Activating A SAM FOAM Preset

To use SAM to activate FOAM on a non-Quickset discharge (a FOAM preset), perform the following.

- A. Touch PUSH TO PUMP (or ADD LINE) target, to display SELECT DISCHARGE screen. See Figure 4.

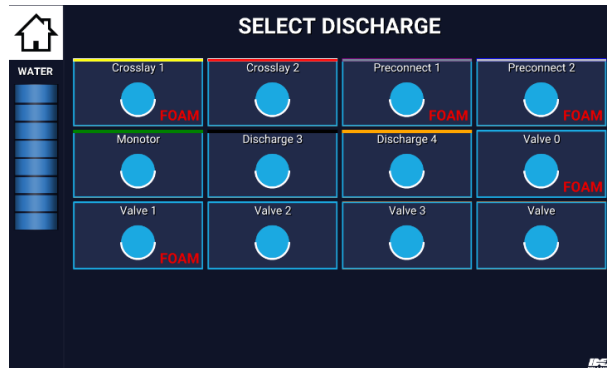


Figure 4. Selecting A Foam Capable Discharge

- B. Touch desired discharge (valve) bubble. (All foam available discharges are labeled with the word FOAM.) Valve X screen displays (discharge valve control screen, see Figure 5).

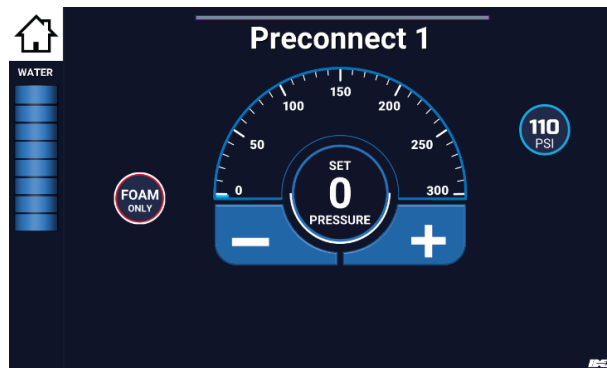


Figure 5. Activating A Foam Preset

- C. Touch desired FOAM preset bubble. (All foam available FOAM presets are labeled with the word FOAM and are located to the left of the widget.) See Figure 5.
- D. Drag bubble to target (SET PRESSURE).
- E. Release bubble (remove finger from screen).

The SmartFOAM system powers on and activates preset #1. The associated concentration of foam solution is discharged. See example, Figure 3.

2.5 Close A Foam Discharge (With SAM)

SAM can control multiple FOAM capable discharges. If ONLY one FOAM discharge is active, and that discharge is closed, FOAM is also turned off when the discharge closes. However, if multiple FOAM discharges are active, FOAM stays on until the last FOAM discharge is closed.

To close a SmartFOAM discharge, perform the following.

- A. On SCC Home screen, touch desired active FOAM discharge. Displays Valve X screen (discharge valve control screen) displays. See left-hand side of Figure 6.
- B. On Valve X screen (discharge valve control screen), swipe CLOSE LINE bubble to target (center of widget). See right-hand side of Figure 6.

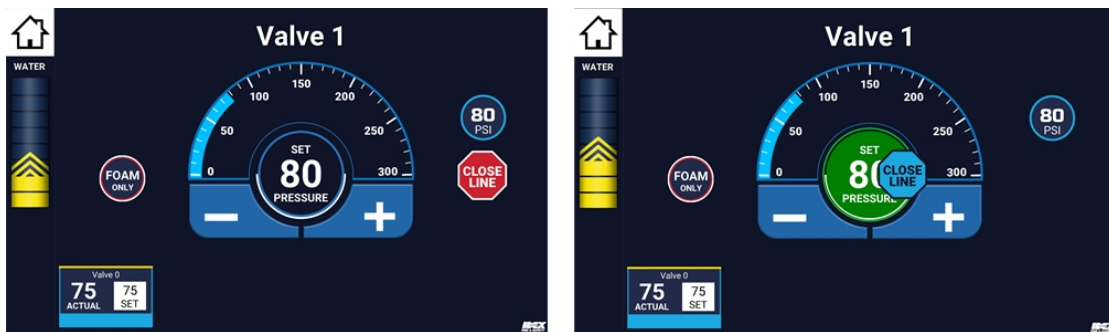


Figure 6. Closing A Foam Discharge Sequence

NOTES

The CLOSE LINE balloon activates automatically (the same as a preset would). No confirmation is required.

If the swipe fails, times out, misses the target, or the operator only touches and releases the balloon; a confirmation popup window appears (Figure 7). Touch the YES bubble to close the line or the NO bubble to make no change.



Figure 7. Close Line Popup Confirmation

Figure 8 shows the SmartFOAM display when FOAM is turned off. However, if additional FOAM discharges are active, FOAM stays on (see Figure 3) until the last FOAM discharge is closed.



Figure 8. SmartFOAM Display With No FOAM Discharges Active

2.6 Turn Off FOAM (With SAM)

As stated above, SAM can control multiple FOAM capable discharges. No matter how many FOAM discharges are active, activating the FOAM OFF bubble turns off FOAM to all FOAM capable discharges and any open discharge continues flowing water ONLY.

To use SAM to turn off FOAM, perform the following.

IMPORTANT ⚠ NOTICE

ACTIVATING A FOAM OFF BALLOON TURNS OFF THE SMARTFOAM SYSTEM, TURNING OFF FOAM TO ALL FOAM CAPABLE DISCHARGES, HOWEVER, THE DISCHARGE(S) REMAIN OPEN AND CONTINUE TO FLOW WATER ONLY.

- A. On SCC Home screen, touch desired active FOAM discharge. Displays Valve X screen (discharge valve control screen) displays.
- B. On Valve X screen (discharge valve control screen), swipe FOAM OFF bubble to target (center of widget).

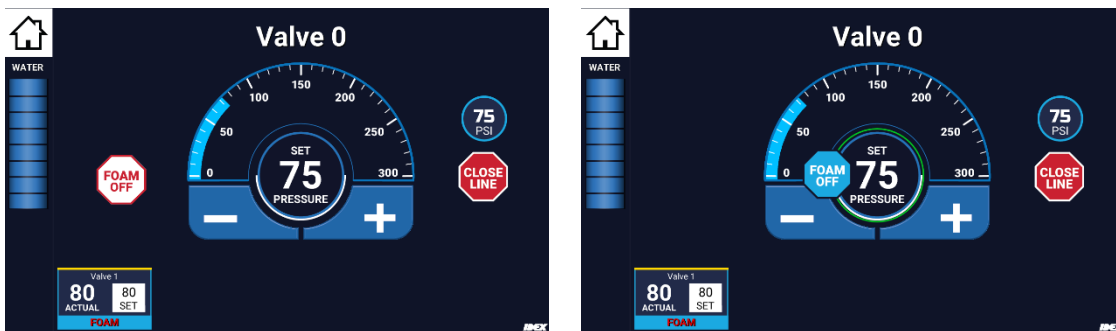


Figure 9. Turning Foam Off

NOTES

The FOAM OFF balloon activates automatically (the same as a preset would). No confirmation is required.

If more than one FOAM discharge is open the confirmation popup window appears. Touch the YES bubble to close the line or the NO bubble to make no change.

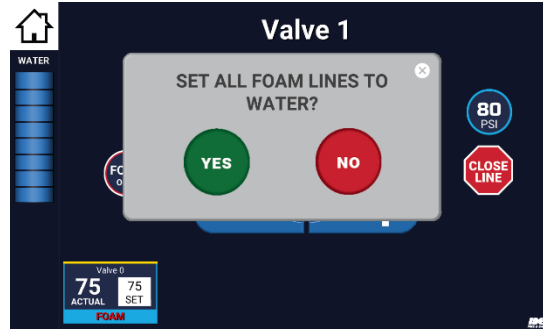


Figure 10. Foam Off Popup Confirmation

After confirmation, all discharges previously providing FOAM continue to provide water ONLY, until closed individually.

3. USING SMARTCAFS WITH SAM

SAM also interfaces with a HALE SmartCAFS system. When SAM initializes, the SmartCAFS air compressor (clutch) is engaged and remains engaged unless manually disengaged from the SmartCAFS display/controller. (Reference FSG-MNL-00157, UV SmartCAFS Installation and Operation Manual.) To utilize CAFS with the SAM system, activate a CAFS associated Quickset from the Auto Mode Home screen or CAFS associated preset from the Valve X via the Select Discharge screen (discharge valve control screen). The CAFS system can also provide traditional FOAM in addition to CAFS.

It is important to note that when operating SAM with SmartCAFS, that a CAFS (wet, med, or dry) preset (or Quickset) activates preset #1 on the CAFS system; and that a foam only (FOAM) preset (or Quickset) activates preset #7 on the CAFS system.

Prior to activating a CAFS associated Quickset or preset, if the apparatus is equipped with an automatic or manual dual tank (ADT or MDT) or manual single tank (MST) selector, place the selector in position to deliver the desired foam concentrate.

Once the SmartCAFS system is active, the SmartCAFS display may be used to control the CAFS system as if the apparatus did not have SAM. Reference FSG-MNL-00157, UV SmartCAFS Installation and Operation Manual. Additionally, all foam compatibility and flushing notes/recommendations apply when using SmartCAFS with SAM (see FSG-MNL-00157).

NOTE

Any discharge plumbed into the CAFS manifold prior to the air injection point will be FOAM ONLY capable. Although this is NOT typical it is supported by SAM via the FOAM label.

IMPORTANT NOTICE

ALTHOUGH SMARTFOAM AND SMARTCAFS BOTH UTILIZE THE LABEL FOAM, ON SAM A FOAM LABELED DISCHARGE BALLOON DOES NOT ENABLE THE SAME PRESET ON THE SMARTFOAM AND SMARTCAFS SYSTEMS.

3.1 Activating A CAFS Quickset

To activate a CAFS ready Quickset, perform the following.

- A. If equipped, set ADT, MDT, or MST Selector to desired foam source.
- B. Touch desired Quickset. (All CAFS available discharges are labeled with one of the following words: DRY, MED, or WET.) See Figure 11.

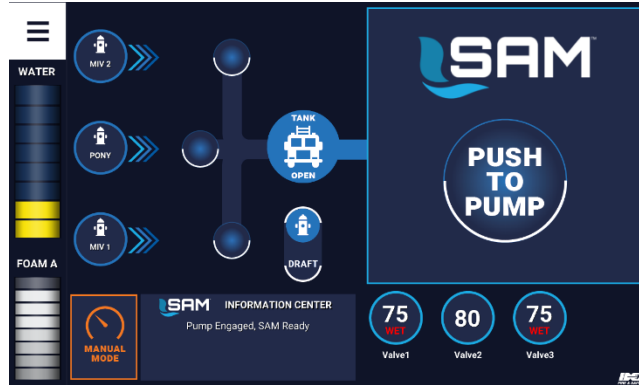


Figure 11. Activating A CAFS Quickset

- C. Drag Quickset to target (PUSH TO PUMP or ADD LINE).
- D. Release Quickset (remove finger from screen).

The SmartCAFS system powers on and opens air valve and activates preset #1. The associated concentration of air and foam solution is discharged.

Any operation of the CAFS system (beyond launching the preset from the SAM Control Center) must be performed from the SmartCAFS Control Display, reference UV SmartCAFS Installation and Operation Manual (P/N FSG-MNL-00157).

3.2 Activating A CAFS Preset

To activate a CAFS ready preset, perform the following.

- A. If equipped, set ADT, MDT, or MST Selector to desired foam source.
- B. Touch PUSH TO PUMP (or ADD LINE) target, to display SELECT DISCHARGE screen. See Figure 12.
- C. Touch desired discharge (valve) bubble. (All CAFS available discharges are labeled with the following words: CAFS FOAM.) Valve X screen (discharge valve control screen) displays. See Figure 13.

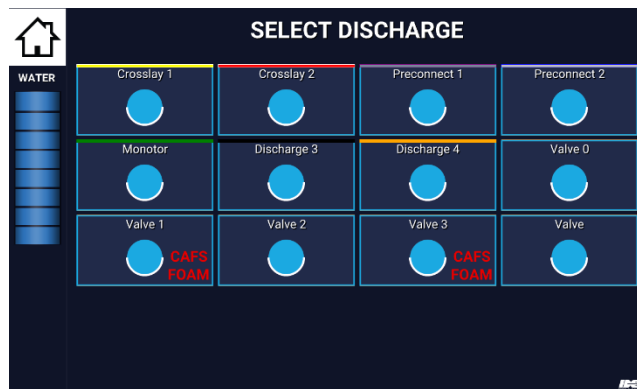


Figure 12. Selecting A CAFS Capable Discharge

- D. Touch desired CAFS preset bubble. (All CAFS available discharges are labeled with one of the following words: DRY, MED, or WET and are located to the left of the widget.) See Figure 13.



Figure 13. Activating A CAFS Preset

IMPORTANT ⚠ NOTICE

FROM THE VALVE X SCREEN (DISCHARGE VALVE CONTROL SCREEN), THE OPERATOR MAY SELECT WATER ONLY, FOAM ONLY, OR CAFS. TO SELECT WATER ONLY, SWIPE THE PSI PRESET BALLOON (RIGHT-HAND SIDE OF THE SCREEN) TO THE TARGET. TO SELECT FOAM ONLY, SWIPE THE FOAM ONLY BALLOON TO THE TARGET. TO SELECT CAFS, SWIPE THE (WET, MED, OR DRY) CAFS BALLOON TO THE TARGET.

- E. Drag bubble to target (SET PRESSURE).
- F. Release bubble (remove finger from screen).

IMPORTANT ⚠ NOTICE

IF THE DISCHARGE DOES NOT ACTIVATE VERIFY THE CAFS SYSTEM PRESETS (PRESET 1 FOR CAFS, PRESET 7 FOR FOAM ONLY ON THE SMARTCAFS DISPLAY) CONFIGURATION MATCHES THE SAM CONFIGURATION. (SAM WILL ONLY ACTIVATE MATCHING CONFIGURATIONS – WET, MED, OR DRY.) IF THE CONFIGURATIONS DO NOT MATCH, OPERATE SAM MANUALLY TO OPEN THE VALVE USING THE SAM CONTROL CENTER. THEN OPERATE THE CAFS SYSTEM FROM THE SMARTCAFS DISPLAY.

The SmartCAFS system powers on and opens the air valve for that discharge and activates preset #1. The associated air and foam solution are discharged.

Operate CAFS from the SmartCAFS Control Display from this point, reference UV SmartCAFS Installation and Operation Manual (P/N FSG-MNL-00157).

3.3 Activating A CAFS FOAM ONLY Quickset

A CAFS FOAM ONLY (see the NOTE in paragraph 3, page 7) Quickset is activated the same way a CAFS ready Quickset (see paragraph 3.1, page 7), however the Quickset/discharge is labeled with the word FOAM (see Figure 14).



Figure 14. Activating A CAFS FOAM ONLY Quickset

3.4 Activating A CAFS FOAM ONLY Preset

A CAFS FOAM ONLY (see the NOTE in paragraph 3, page 7) preset is activated the same way a CAFS ready preset (see paragraph 3.2, page 8), however the preset/discharge is labeled with the word FOAM (see Figure 15).

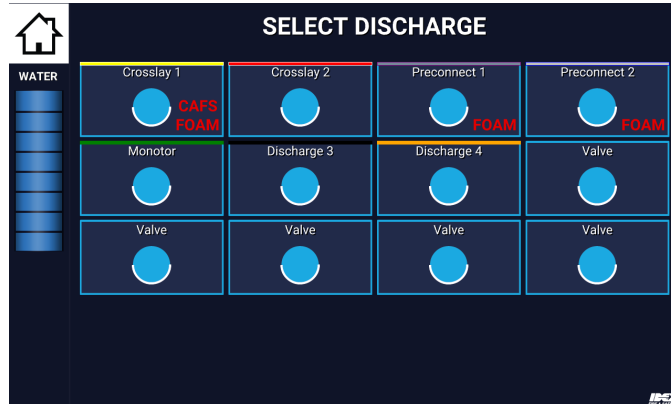


Figure 15. Selecting A CAFS FOAM ONLY Capable Discharge

IMPORTANT ⚠ NOTICE

FROM THE VALVE X SCREEN (DISCHARGE VALVE CONTROL SCREEN), THE OPERATOR MAY SELECT WATER ONLY, FOAM ONLY, OR CAFS. TO SELECT WATER ONLY, SWIPE THE PSI PRESET (RIGHT-HAND SIDE OF THE WIDGET) TO THE TARGET. TO SELECT FOAM ONLY, SWIPE THE FOAM ONLY PRESET TO THE TARGET (LEFT-HAND SIDE OF THE WIDGET), OR TO SELECT CAFS SWIPE THE (WET, MED, OR DRY) CAFS BALLOON TO THE TARGET (LEFT-HAND SIDE OF THE WIDGET).

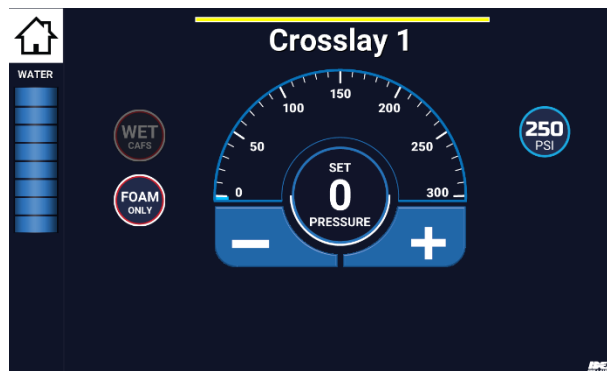


Figure 16. Activating A CAFS FOAM ONLY Preset

3.5 Changing A CAFS Discharge To FOAM ONLY

To change a CAFS discharge to FOAM ONLY, perform the following.

- A. On SCC Home screen, touch desired active CAFS discharge. Valve X screen (discharge valve control screen) displays. See Figure 17.

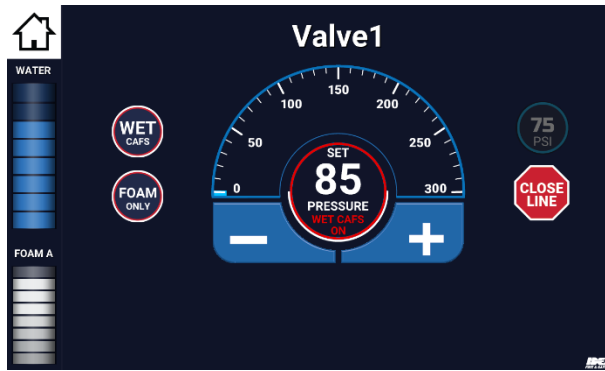


Figure 17. FOAM ONLY Bubble

- B. On Valve X screen (discharge valve control screen), swipe FOAM ONLY bubble to target (center of widget).
See Figure 18.

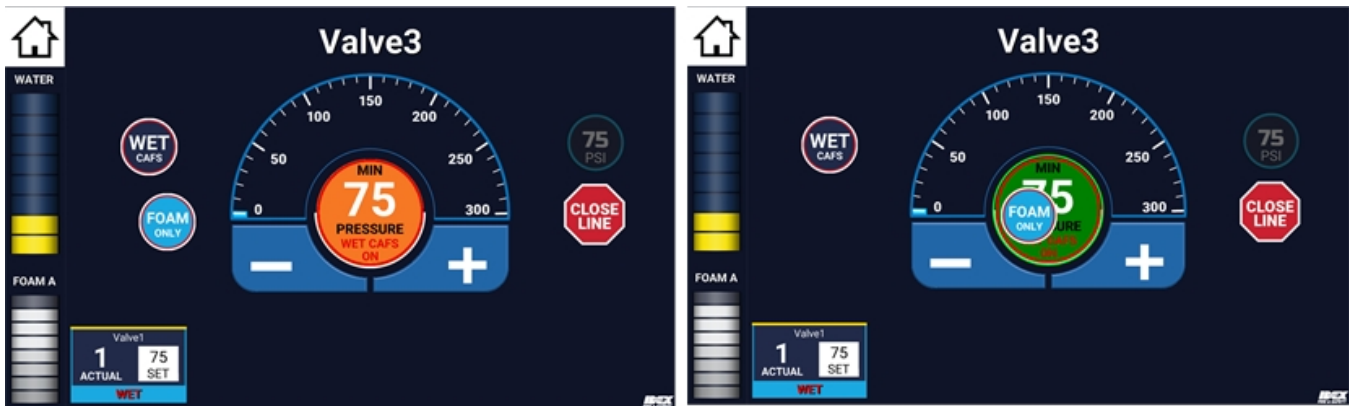


Figure 18. Activate FOAM ONLY Bubble

NOTE

If more than one CAFS FOAM ONLY discharge is open the confirmation popup window appears. See Figure 19. Touch the YES bubble to transition to FOAM ONLY or the NO bubble to make no change.

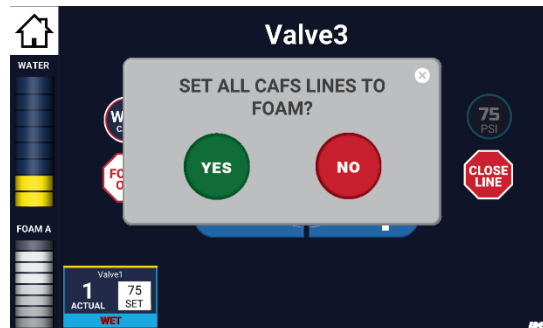


Figure 19. Foam Only Popup Confirmation

After confirmation, all discharges previously providing CAFS transition to provide FOAM ONLY.



Figure 20. SmartCAFS Display With SAM FOAM ONLY Bubble Activated

The SmartCAFS display indicates the compressed air is turned off and FOAM is left on. (See Figure 20.)

NOTE

The next time the Valve X screen (discharge valve control screen) is accessed, a FOAM OFF bubble replaces the FOAM ONLY bubble. See Figure 21. See the following paragraph for instructions to use the new bubble.

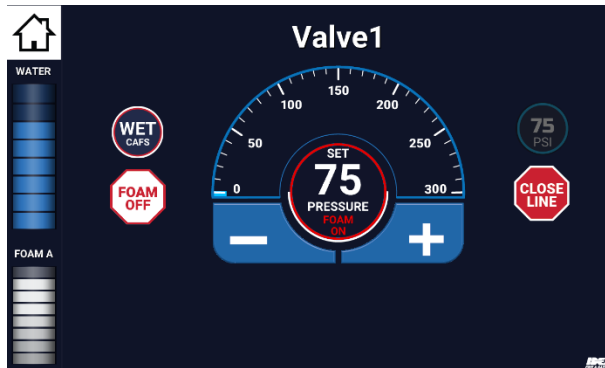


Figure 21. FOAM OFF Bubble Appears When A CAFS Discharge Is Transitioned To Foam Only

3.6 Changing A CAFS FOAM ONLY Discharge To Water

To turn the foam off (pump water) for a CAFS discharge that has previously been transitioned to FOAM ONLY, perform the following.

- A. On SCC Home screen, touch desired active CAFS discharge. (See Figure 14, page 9)
Displays Valve X screen (discharge valve control screen) displays. (See Figure 15.)
- B. On Valve X screen (discharge valve control screen), swipe FOAM OFF bubble to target (center of widget). See Figure 22.

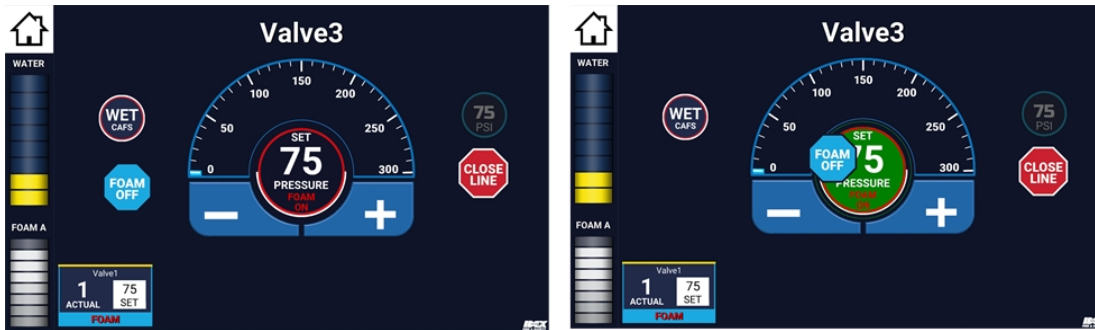


Figure 22. FOAM OFF Bubble Swipe Sequence

3.7 Closing A CAFS Discharge (With SAM)

SAM can control multiple CAFS capable discharges. If ONLY one CAFS discharge is active, and that discharge is closed, CAFS is also turned off when the discharge is closed. However, if multiple CAFS discharges are active, CAFS stays on until the last CAFS discharge is closed.

NOTES

If only one CAFS discharge is open, the CLOSE LINE balloon activates automatically (the same as a preset would). No confirmation is required.

If one or more CAFS discharges are open, and FOAM rather than CAFS is desired, see Changing A CAFS Discharge To FOAM ONLY (paragraph 3.5, page 10). Additionally, if water only is desired, see Turning Off CAFS (paragraph 3.8, page 14).

If a swipe fails, times out, misses the target, or the operator only touches and releases the balloon; the applicable confirmation popup window appears (see FOAM OFF and CLOSE LINE reference from above). Touch the YES bubble to complete the action or the NO bubble to make no change.

To use the SAM Control Center to close a SmartCAFS discharge, perform the following.

- A. On SCC Home screen, touch desired active CAFS discharge. Displays Valve X screen (discharge valve control screen) displays. See left-hand side of Figure 23.
- B. On Valve X screen (discharge valve control screen), swipe CLOSE LINE bubble to target (center of widget). See Figure 23.

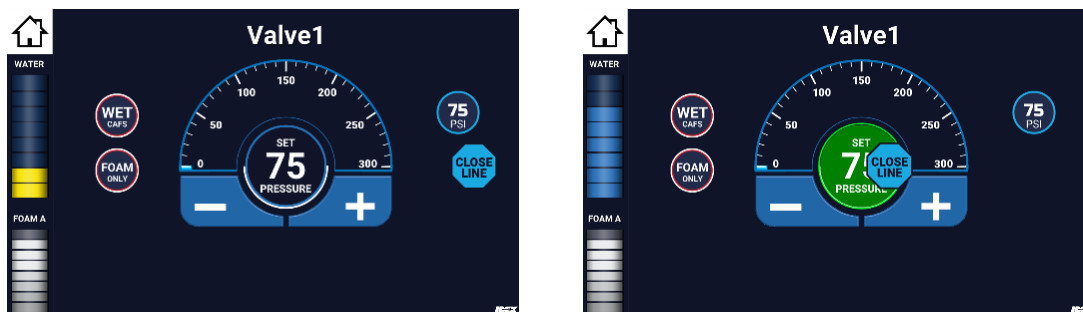


Figure 23. Closing A CAFS Discharge Sequence

On the SmartCAFS display, AIR is turned off when only the icon on the right-hand side of the display is illuminated (see Figure 20, page 12); if FOAM is also turned off the icon on the left-hand side of the display is grayed out (see Figure 24).



Figure 24. SmartCAFS Display

3.8 Turning Off CAFS (Using SAM)

When SAM has been used to activate CAFS and then CAFS is desired to be turned off via SAM the procedure varies depending on either the desired transition (CAFS to FOAM, CAFS to water, or CAFS to pump shutdown) and/or the number of active CAFS discharges.

3.8.1 Turning The CAFS System Off

If only one Quickset (or one preset) is active, simply use the CLOSE LINE balloon to turn off SmartCAFS (see paragraph 3.7, above). This terminates CAFS (and FOAM) operations whether water flow is continued or terminated at the same time.

If more than one Quickset or preset is active, and termination of pumping is desired, close all discharges (CAFS and any other) sequentially and CAFS turns off when the last CAFS discharge is closed.

If more than one Quickset or preset is active and the continued pumping of water via the CAFS discharges is desired, perform the following.

- A. On SCC Home screen, touch any active CAFS discharge. (See Figure 14, page 9.) Displays Valve X screen (discharge valve control screen) displays. (See Figure 15.)
- B. On Valve X screen (discharge valve control screen), swipe FOAM ONLY bubble to target (center of gauge). (See Figure 18, page 11.)
- C. Touch YES on the popup verification. (See Figure 19, page 11.)
- D. On Valve X screen (discharge valve control screen), swipe FOAM OFF bubble to target (center of gauge). (See Figure 25.)

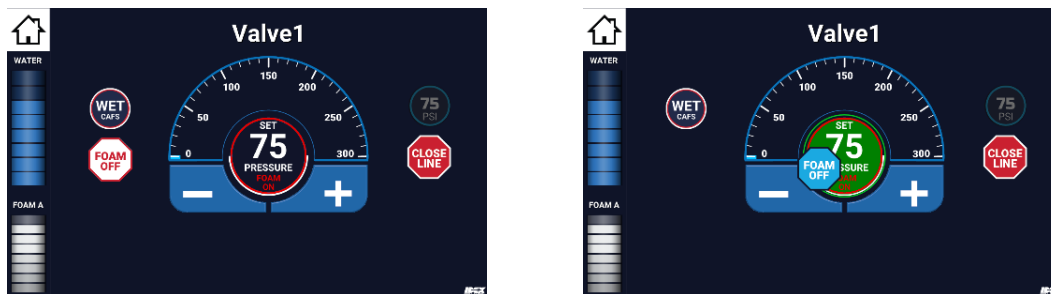


Figure 25. Turning The CAFS System Off

- E. Touch YES on the popup verification. (See Figure 10, page 7.)

The CAFS system is turned off and the discharges (previously flowing CAFS) now flow water only.

IMPORTANT NOTICE

SOME WATER ONLY OPERATIONS MAY DAMAGE THE CAFS SYSTEM IF THE CLUTCH IS ENGAGED. REFERENCE CAFS QUICKSTART GUIDE, DISENGAGING THE COMPRESSOR CLUTCH (PAGE 10 OF FSG-MNL-00176) TO ENSURE PROPER CAFS TURN OFF WHEN SAM INCLUDES A CAFS SYSTEM.