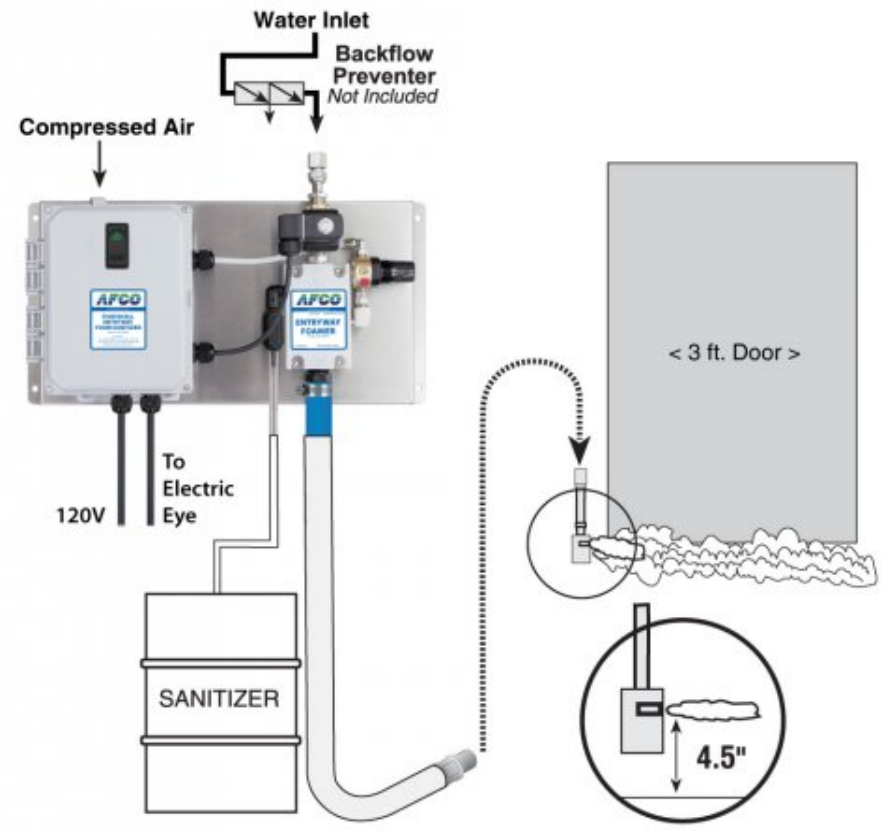
AFCO
Installation & Operation Instructions

Model #AF 976503 •Photocell Entryway Foam Sanitizer



REQUIREMENTS

Chemical Concentrate

Water

Temperature	up to 160°F
Pressure	35 - 125 PSI
Flow	1.34 GPM @ 40 PSI
Supply Line	1/2"
Compressed Air	up to 3 CFM
Hose	3/4" x 25'
Nozzle	Spreader Nozzle
Electric	120V

OPTIONS

Stainless Steel Jug Racks Available

Dual Pick-up Assembly

Entryway Dual Chemical Pick-up Assembly	# 976012

Alternate Check Valve - Viton Standard

Check Valve, Chemical, PP, 1/4" (EPDM)	# 491401

WEIGHT & DIMENSIONS

Shipping Weight: 21 lbs.

Shipping Dimensions: 22" x 19" x 9"

AFCO

http://www.afcocare.com

READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

Overview

The Photocell Entryway Foam Sanitizer is an automated foam applicator for projecting sanitizing chemicals on to floors of 3' wide employee walk doors to prevent cross contamination. When activated, this venturi injection system uses city water pressure (35 - 125 PSI) to draw and blend chemical concentrate into the water stream to create an accurately diluted solution. Rich, clinging foam is created by injecting compressed air into the solution to greatly increase volume and coverage ability. Foam is then projected through the discharge hose and Spreader™ nozzle. Activated by a photocell, this unit will supply foam to the entryway floor, "on-demand", for a set amount of time. The multi-function timer also controls the minimum amount of time between activations, preventing costly over-application when traffic is heavy. Timer settings are field adjustable.

⚠ Safety & Operational Precautions

- **When connecting to a potable water supply follow all local codes for backflow prevention.**
- **Always consider electrical shock hazard when working with and handling electrical equipment. If uncertain, consult an Electrician. Electrical wiring should only be done by a qualified Electrician.**
- For proper performance do NOT modify, substitute nozzle, hose diameter or electrical control box.
- Manufacturer assumes no liability for the use or misuse of this unit.
- Wear protective clothing, gloves and eye wear when working with chemicals.
- Always direct the discharge away from people and electrical devices.
- Follow the chemical manufacturer's safe handling instructions.
- NEVER mix chemicals without first consulting chemical manufacturer.
- Disconnect electrical power to the control box prior to opening it.

TO INSTALL (REFER TO DIAGRAM, NEXT PAGE.)

1. Mount the unit to a suitable surface above chemical supply to prevent siphoning.
2. See Page 1 for proper installation layout.
3. You can use either the supplied section of hose to connect the foamer to 3/4" pipe or use 3/4" ID pipe only. Use as few elbows as possible. Minimum length of the total hose/pipe is 25'.
4. Connect and mount the spreader nozzle slot at around 4-5” off the floor.
5. Connect water and compressed air to the unit.
6. Mount and align the photocell sensor and reflector either side of the entryway. They will need to be mounted far enough in front of the door to allow time for the foam to be dispensed onto the floor, prior to the person or vehicle passing through the entryway. Actual distances will vary, depending upon the plumbing used and the timer setting.

Set the chemical dilution ratio by threading one of the color coded metering tips into each chemical check valve. See chemical labels for dilution ratio recommendation or consult your chemical supplier.

- For the strongest dilution ratio do NOT install a colored metering tip.
- The dilution ratios in the metering tip chart are based on water thin chemicals with a viscosity of 1CPS.
- **Thicker chemicals will require a larger tip than the ratios shown in the chart.**
- Application results will ultimately determine final tip color.
- Select the tip color that is closest to your desired chemical strength and thread it into the tip holder. DO NOT OVER TIGHTEN.
- Push the chemical tube over the check valve barb and place the strainer in the chemical concentrate.

Metering Tip Selection Chart

Metering Tip Color	Oz. per Min.	Example: Dilution Ratio @ 40 PSI
Brown	.56	306:1
Clear	.88	195:1
Bright Purple	1.38	124:1
White	2.15	80:1
Pink	2.93	59:1
Corn Yellow	3.84	45:1
Dark Green	4.88	35:1
Orange	5.77	30:1
Gray	6.01	29:1
Light Green	7.01	24:1
Med. Green	8.06	21:1
Clear Pink	9.43	18:1
Yellow Green	11.50	15:1
Burgundy	11.93	14:1
Pale Pink	13.87	12:1
Light Blue	15.14	11:1
Dark Purple	17.88	10:1
Navy Blue	25.36	7:1
Clear Aqua	28.60	—
Black	50.00	—
No Tip Ratio	up to 6.0:1	

The dilution ratios above are approximate values. Due to chemical viscosity, actual dilution ratios may vary.

Metering Tip Selection Formula

(GPM x 128) / Dilution Ratio = Oz. per Min

Flow Rate Chart

Pressure PSI	Flow Rate GPM
40	1.34
50	1.50
60	1.64
70	1.77
80	1.90
90	2.01
100	2.12
110	2.22
120	2.32

TO OPERATE

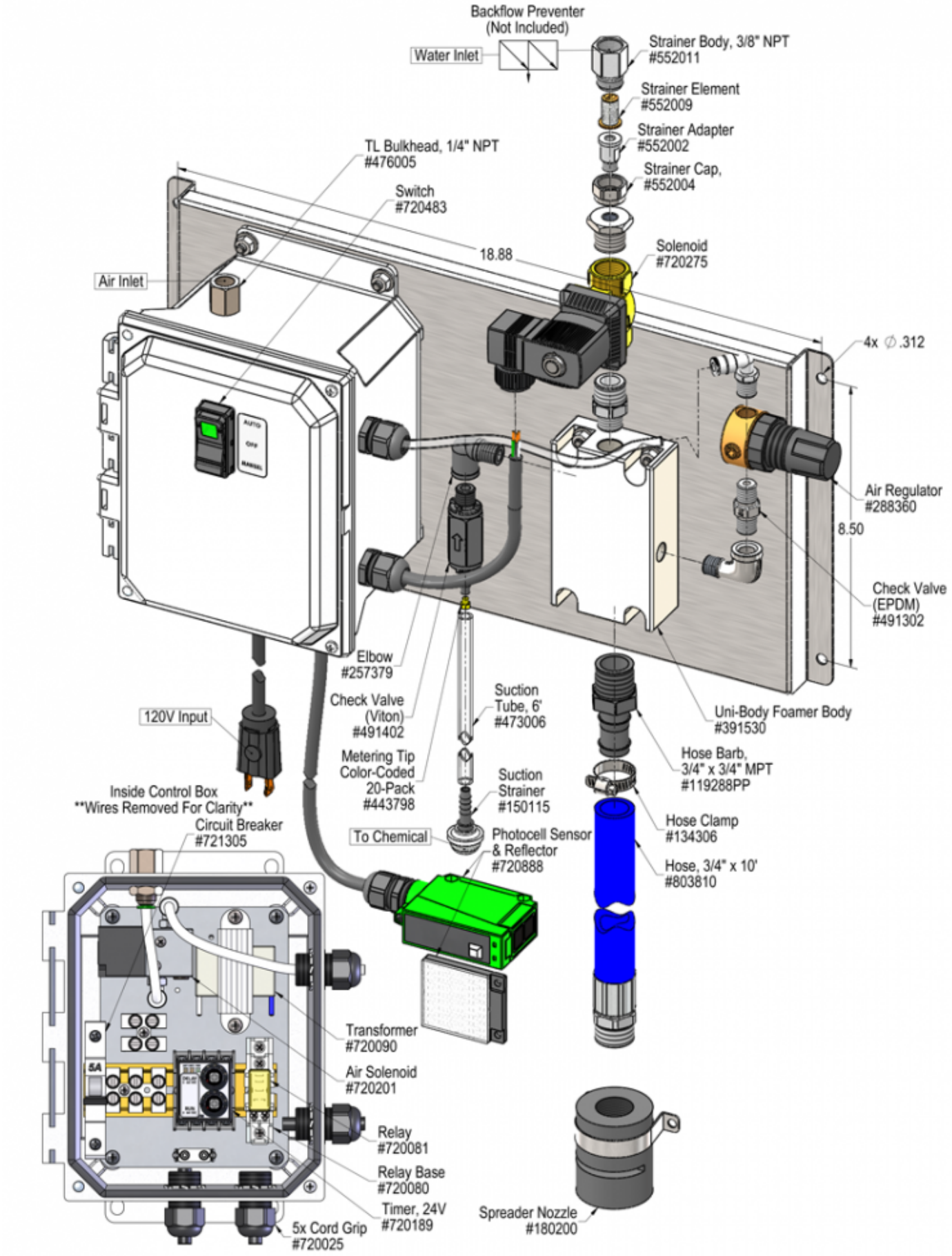
1. Connect the Control Box to a 120V electrical outlet
2. Open your water supply valve and your air supply valve, and then turn on the power switch. Push and hold down the switch on the box that is labeled "Manual".
3. The unit will activate and you will now know how long it will take to apply sufficient foam to the entryway through your plumbing. Final adjustments can now be made to the positioning of the photocell sensor and reflector.
4. Final chemical dilution and air adjustments will now have to be made.
5. Wait a few seconds and observe foam consistency.
    - Use the least amount of air needed to achieve good foam quality to prevent water pressure fluctuations from affecting performance. Air pressure must be kept lower than water pressure.
    - To adjust foam consistency pull out on the air regulator knob, turn slightly clockwise for dryer foam and counterclockwise for wetter foam. Wait a few seconds to see each adjustment.
    - You may also have to try different sized metering tips and air settings until foam consistency is acceptable. Once this is set and desired foam consistency is achieved push lock the knob. You are ready to start.

TIMER ADJUSTMENT

1. Make sure the system is not plugged in to a power source. Remove control box cover. The box contains one timer with "Run & Delay" adjustment knobs.
   Run: This mode allows you to set the length of time you want the unit to run each time the photocell beam is broken. Set the timer by turning the knob to the amount of run time that you require. (0-60 Seconds) Generally 8-10 seconds will provide sufficient foam.
   Delay: This mode allows you to set the length of time you want the unit to to be inactive for after each application. Set the timer by turning the knob to the amount of delay time that you require. (0-60 Minutes) Generally the foam will be good for 10-15 minutes.
2. Replace the control box cover and connect the unit to a 120 volt power source.
3. The unit is ready for operation. The run mode will activate the unit for the preset time and then time out. It will not reactivate until the time runs out on the delay mode. Note: The unit will run 24 hours a day unless the power switch is manually turned off.
   For extra foam at any time, press and hold the lower end (Manual) of the door switch. (See Switch Settings, below.)

SWITCH SETTINGS (on front of Control Box)

- Automatic control – Top of switch is depressed. Green light glows.
- OFF – Switch is in middle position; green light is off
- Manual – Press bottom of switch to activate timer for a single cycle


Backflow Preventer
(Not Included)
Water Inlet
Strainer Body, 3/8" NPT
#552011
Strainer Element
#552009
Strainer Adapter
#552002
Strainer Cap,
#552004
TL Bulkhead, 1/4" NPT
#476005
Switch
#720483
18.88
Solenoid
#720275
Air Inlet
4x ∅.312
Air Regulator
#288360
8.50
Check Valve
(EPDM)
#491302
Elbow
#257379
Check Valve
(Viton)
#491402
Suction
Tube, 6'
#473006
Uni-Body Foamer Body
#391530
120V Input
Metering Tip
Color-Coded
20-Pack
#443798
Hose Barb,
3/4" x 3/4" MPT
#119288PP
Inside Control Box
Wires Removed For Clarity
Suction
Strainer
#150115
Circuit Breaker
#721305
To Chemical
Photocell Sensor
& Reflector
#720888
Hose Clamp
#134306
Hose, 3/4" x 10'
#803810
Transformer
#720090
Air Solenoid
#720201
Relay
#720081
Relay Base
#720080
Timer, 24V
#720189
5x Cord Grip
#720025
Spreader Nozzle
#180200

Troubleshooting Guide

AF 976503 ● Photocell Entryway Foam Sanitizer

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Foamer will not draw chemical.	1, 7, 8, 9, 10	14, 15, 16, 17, 18, 20, 21
B) Foam surges.	1, 2, 3, 4, 6, 7, 8, 9, 10	14, 15, 16, 17, 18, 20, 21
C) Foam output too wet.	2, 3, 4, 6, 7, 8, 9, 10	14, 15, 16, 17, 18, 19, 20, 21
D) Foam output too dry.	1, 5	18
E) Doesn't come on when switch is turned on.	11, 12, 13	
F) Comes on and runs continuously.	11	
G) Comes on but no water through solenoid.	10	20
H) Air or solution backing up into water line.		22

Possible Cause / Solution

Startup

1. **Air pressure too high**
   - Adjust air regulator slowly counterclockwise until output stabilizes.
2. **Air adjustment too low**
   - Adjust air regulator very slowly clockwise.
3. **Use of an oiler in the airline will cause poor foam quality**
   - Use only clean, dry air.
4. **Not enough chemical - metering tip too small**
   - Install larger metering tip.
5. **No metering tip installed or metering tip too large**
   - Install smaller metering tip.
6. **Improper chemical**
   - Ensure product is recommended for foaming and/or the application.
7. **Chemical tube not immersed in chemical or chemical depleted**
   - Immerse tube or replenish
8. **Foam hose kinked or hose/plumbing too short or wrong size**
   - (See REQUIREMENTS on page 1)
9. **Water pressure too low or water volume too low/inlet piping too small**
   - Increase water pressure or water volume. (See REQUIREMENTS on page 1)
10. **No water to the unit**
    - Ensure that the water supply is not shut off to the unit.
11. **Timer failed/Controller not set properly or malfunctioned**
    - Replace timer. See Controller manual.
12. **Photocell sensor and receiver not aligned or malfunctioned**
    - Align sensor and receiver
    - Consult sensor/receiver instruction manual
13. **May have electrical problems**
    - Ensure circuit breaker (5 Amp) has not been tripped.
    - Have a qualified electrician check electrical connections.

Maintenance

14. **Chemical check valve stuck or failed**
    - Clean or replace.
15. **Chemical strainer or metering tip partially blocked**
    - Clean or replace chemical strainer and/or metering tip.
16. **Chemical tube stretched out where tube slides over check valve or pin hole/cut in chemical tube (sucking air in)**
    - Cut off end of tube or replace tube.
17. **Vacuum leak in chemical pick-up connections**
    - Tighten the connections.
18. **Air regulator failed allowing too much air or not enough air**
    - Clean or replace.
19. **Air check valve or air solenoid clogged or failed**
    - Clean or replace.
20. **Water solenoid clogged or failed**
    - Clean or replace the water solenoid.
21. **Chemical build-up may have formed in the body, causing poor or no chemical pick-up**
    - Follow PREVENTIVE MAINTENANCE instructions below, using hot water or descaling acid. When there is no draw at all, carefully remove fittings and soak entire body in descaling acid.
22. **No backflow preventer installed**
    - Install appropriate backflow preventer into water line.

PREVENTIVE MAINTENANCE: When the unit will be out of service for extended periods, place chemical tube(s) in water and flush the chemical out of the unit to help prevent chemical from drying out and causing build-up. Periodically check and clean chemical strainer and replace if missing.