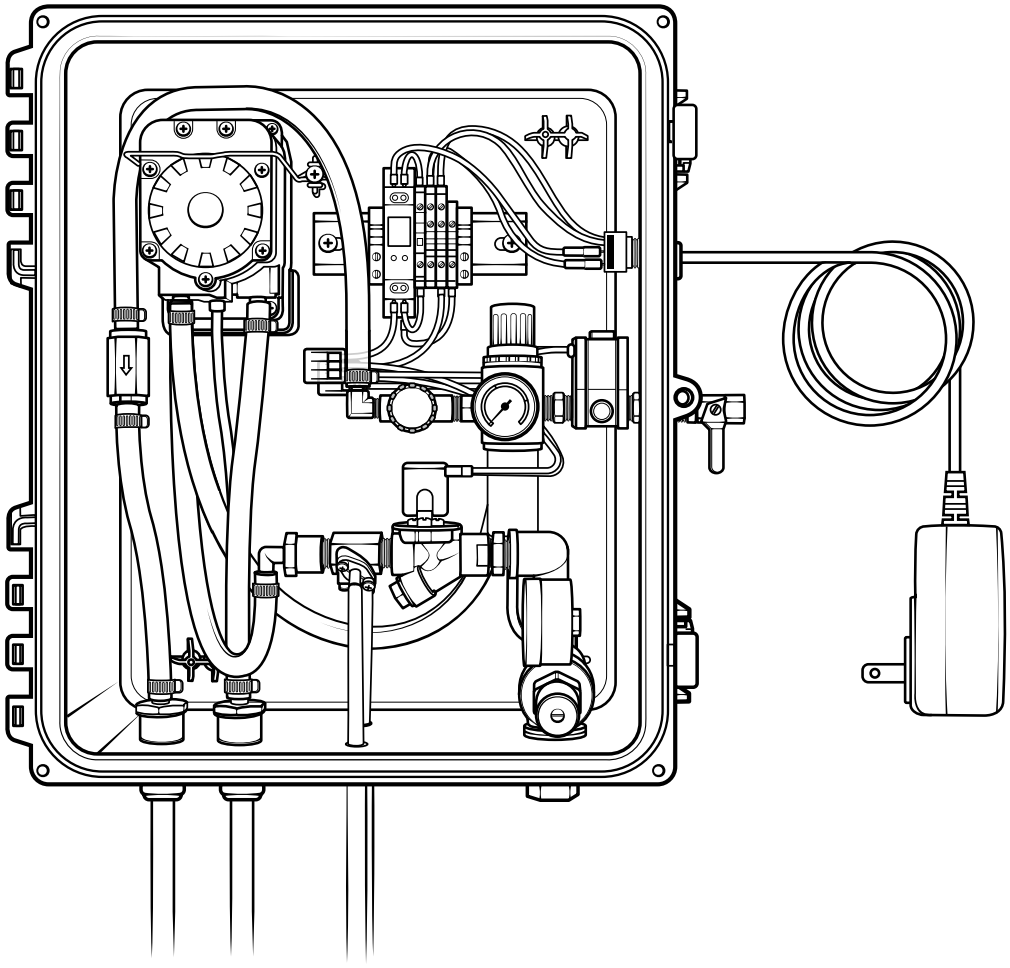
Twin-Line Concentrate Doorway Foam Unit for 2-Part Products

Operation Manual

DS-WC-2P-TL



READ ALL INSTRUCTIONS BEFORE USING OR SERVICING THIS UNIT. KEEP THIS MANUAL IN A LOCATION THAT IS READILY AVAILABLE TO USERS AND SERVICE TECHNICIANS.

English (Original Instructions)

Scan this code for operation manual

Safety

⚠ WARNING

PEOPLE OR OBJECTS CAN BE HURT OR DAMAGED IF THIS UNIT IS NOT USED CORRECTLY!

Failure to read all the instructions before operating the unit may result in personal injury or death from the improper use or the chemical solution. Anyone handling, operating or using the unit must read, and understand, the instructions in the manual. The buyer assumes all responsibility for safety and proper use in accordance with the instructions.

Using, or servicing, the unit without proper protective clothing, gloves, and eye wear may result in serious injury such as burns, rashes, eye, throat or lung damage and death. Always wear protective clothing, gloves, and eye wear when using, or servicing, the unit. Protect eyes, skin, and lungs against drifting spray.

Chemical solutions may pose a health risk and death if they contact the skin or eyes, are inhaled or swallowed. Always read, and follow, all chemical safety precautions and handling instructions provided by the chemical manufacturer and the Safety Data Sheet (SDS) associated with the chemical solution being used before using the unit.

Pressure within the equipment may cause an unexpected release of the chemical solution and cause serious injury such as burns, rashes, eye damage, throat or lung damage and death. Always depressurize and clean the unit after each use. Never leave the unit unattended while pressurized.

Using the unit with fluid temperatures above 100°F (37.8°C) may result in scalding, burns, serious injury or death. DO NOT use a solution with a temperature above 100°F (37.8°C).

Operating the unit when damaged or leaking may result in exposure to chemical solutions, serious injury or death. Never use the unit if it is damaged or leaking.

Using incoming air pressure exceeding 100 psi (6.9 bar) may result in pressure buildup, explosion, serious injury or death. DO NOT exceed 100 psi (6.9 bar) incoming air pressure when operating unit.

Use of hydrocarbons and flammable products may result in explosions, fire and serious injury or death. Never use hydrocarbons or flammable products with the unit.

Performing any maintenance with the unit turned ON, plugged into an electrical power source or connected to the air and water supply may serious injury or death. Always ensure that the unit has been turned OFF, unplugged from the electrical power source, and disconnected from the air/water supply before conducting any maintenance.

Mixing an alkaline with an acid may result in a chemical reaction. Overheating of the mixture may cause it to splatter caustic compounds or release hazardous fumes, gas and vapors. Always flush the unit with fresh water thoroughly when switching from an alkaline to an acid or an acid to an alkaline.

NOTICE

Servicing, or modification, of this unit with parts not listed in this manual may cause the unit to operate improperly. Do not use unauthorized parts when servicing the unit.

Use of an air lubricator before the unit may result in diminished performance and damage to the unit. Do not use an air lubricator before the unit.

Moisture in the air lines will damage the pump and diminish the pumps life. The air must be filtered, clean, dry and free of moisture. If needed, install an air dryer before the unit.

PROTECT THE ENVIRONMENT

Please dispose of packaging materials, old machine components, and hazardous fluids in an environmentally safe way according to local waste disposal regulations

Product Overview

System Overview

This series of Twin-Line Concentrate Doorway Foam Units has multiple configurations. One control box can support up to three nozzle assemblies. **Note:** The combined distance between the control box and the nozzle(s) must equal 100 ft. (30.5 m) or less. The following tables provide information regarding model configuration, model hardware, system requirements and specifications.

Item number builder

Default options shown in italics. Other options require addition of option codes, as shown.

Item no.	Pump seal material	—	2-Part Products	—	Twin-Line	—	Number of nozzles
DS-WC	*Santoprene*		*2P*		*TL*		*One (Standard)*
	Viton (V)		2P		TL		Two (2)
	Kalrez (K)		2P		TL		Three (3)

Model configurations are denoted by the model (i.e.: DS-WC), pump seal material (i.e.: Viton) and the number of nozzles (i.e.: 3). The option codes denote the pump seal material and number of nozzles. For example:

- Model DS-WC-2P-TL: is a standard 2-part product unit with Santoprene pump seals and one nozzle.
- Model DS-WC-2P-TL-2: is a 2-part product unit with Santoprene pump seals and two nozzles
- Model DS-WCV-2P-TL-2: is a 2-part product unit with Viton pump seals and two nozzles

Model hardware

Items included	DS-WC-2P-TL	DS-WC-2P-TL-2	DS-WC-2P-TL-3
Number of nozzle assemblies	Control box and one nozzle assembly	Control box and two nozzle assemblies	Control box and three nozzle assemblies
Spray tip	ST80200SS	ST80100SS	ST8060-12SS
Length of tubing ½ in. OD tubing	50 ft. (15.2 m)	100 ft. (30.4 m)	150 ft. (45.7 m)
½ in. union tee fittings	0	2	4

Requirements

Compressed air requirements	40-80 psi (2.8-5.5 bar) with 5-10 cfm (141.6-283.2 l/min)
Water requirements	30-100 psi (2.1-6.9 bar) Backflow prevention is required. Consult local plumbing ordinances for more information.
Liquid temperature range	40-100˚F (4.4-37.8˚C)
Electrical requirements	100-240VAC, 50-60Hz, 1A (GFCI protected outlet)
Operating voltage	24 VDC
Chemical compatibility	Chemical products used with this equipment must be formulated for this type of application and compatible with unit materials and pump seals. For more information on chemical compatibility, consult the manufacturer or SDS for your product or contact our customer service department.

Specifications

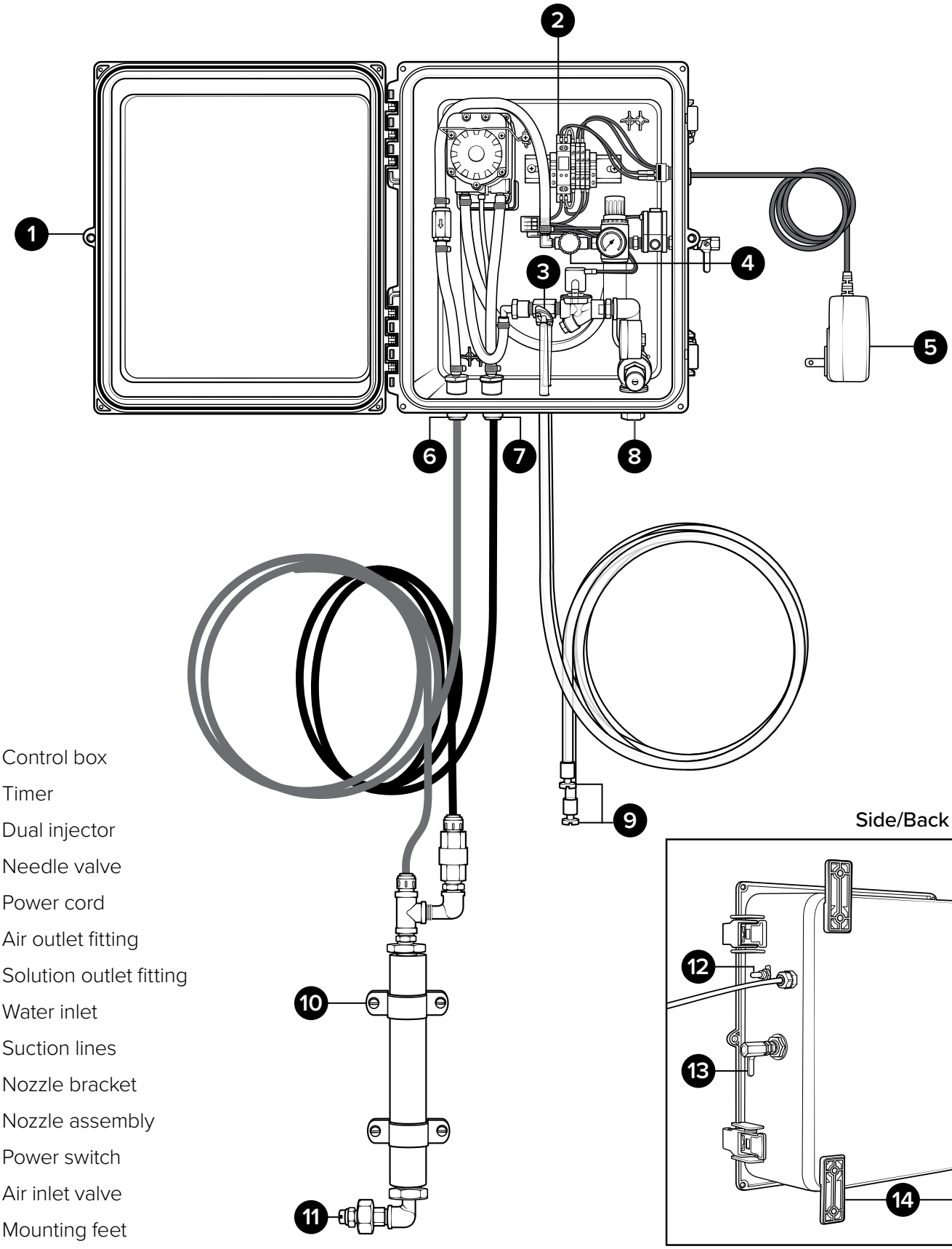
Power type	Compressed air, electricity
Chemical pickup type	Draws from concentrated product
Dilution ratio range (water:chemical)*	7:1 to 125:1 **Note:** Dilution rate can be set independently for each product
Number of products unit can draw from	Two products, simultaneously
Suction line length/diameter	Two 8 ft. (2.4 m) clear hose with 1/4 in. (6.4 mm) inside diameter
Flow rate*	2 gal/min (7.6 l/min)
Pump seals	Santoprene, Viton, or Kalrez
Timer operation type	Repeat cycle
Coverage area	• One nozzle: up to 9x5 ft. (2.7x1.5 m) • Two nozzles: up to 8x4 ft. (2.4x1.2 m) at each nozzle • Three nozzles: up to 6x3 ft. (1.8x0.9 m) at each nozzle
Fan tip	• One nozzle: ST80200SS • Two nozzles: ST80100SS • Three nozzles: ST8060-12SS
Nozzle type	Twin-line stainless steel nozzle assembly
Number of nozzles	One control box can support up to three nozzle assemblies
Distance from nozzles to control box	The combined distance between the control box and the nozzle(s) must equal 100 ft. (30.5 m) or less
Tubing/fitting sizes	Designed for use with 1/2 in. (12.7 mm) outside diameter tubing between control box and nozzle(s)

* Dilution rates and flow rates given are based on chemical with viscosity of water and factory air pressure settings.

** Area covered and run time may vary based on humidity, air flow, and product used.

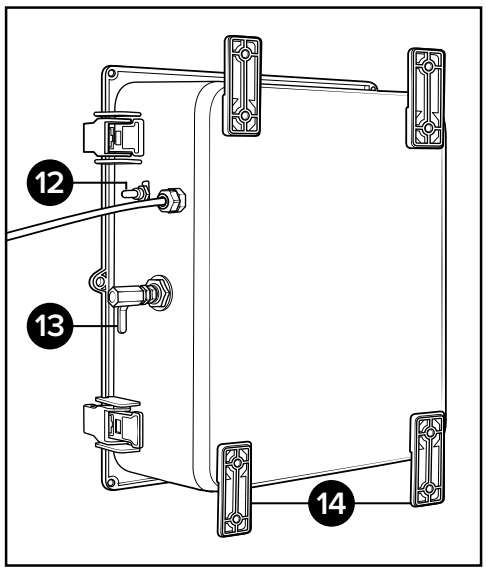
Product Components

Before you begin get to know the components that you will need to use, adjust or assemble.



1. Control box
2. Timer
3. Dual injector
4. Needle valve
5. Power cord
6. Air outlet fitting
7. Solution outlet fitting
8. Water inlet
9. Suction lines
10. Nozzle bracket
11. Nozzle assembly
12. Power switch
13. Air inlet valve
14. Mounting feet

Side/Back View



Installation

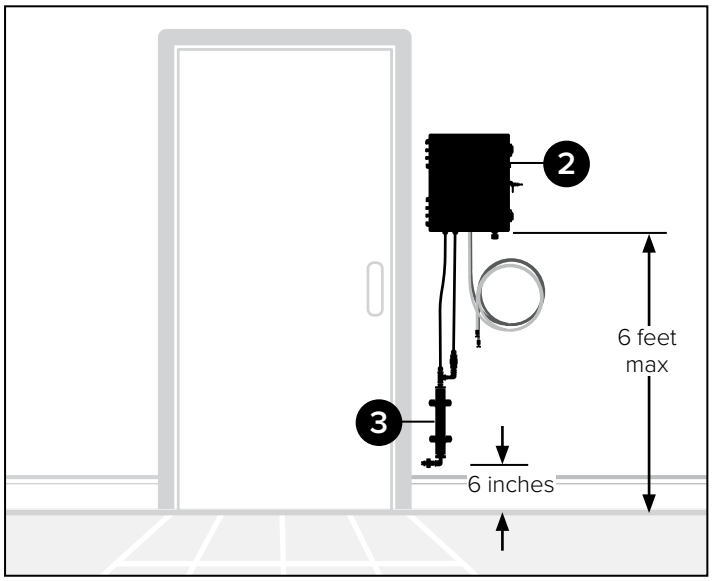
Preparation

1. Remove all components from packaging.
2. Select an area to mount the control box.

   Note: The control box should be mounted to a vertical wall. We recommend mounting the control box at a height of **6 feet or less.**

   The chemical suction line must reach the bottom of the chemical container. The bottom of the chemical container should not be positioned higher than the bottom of the control box.
3. Select the area where the stainless steel nozzle assembly will be mounted.

   Note: Consider the foam pattern when selecting the number of nozzles and location. The foam pattern dimensions provided in this manual were measured with nozzle assemblies mounted 6 inches (15 cm) above the floor.



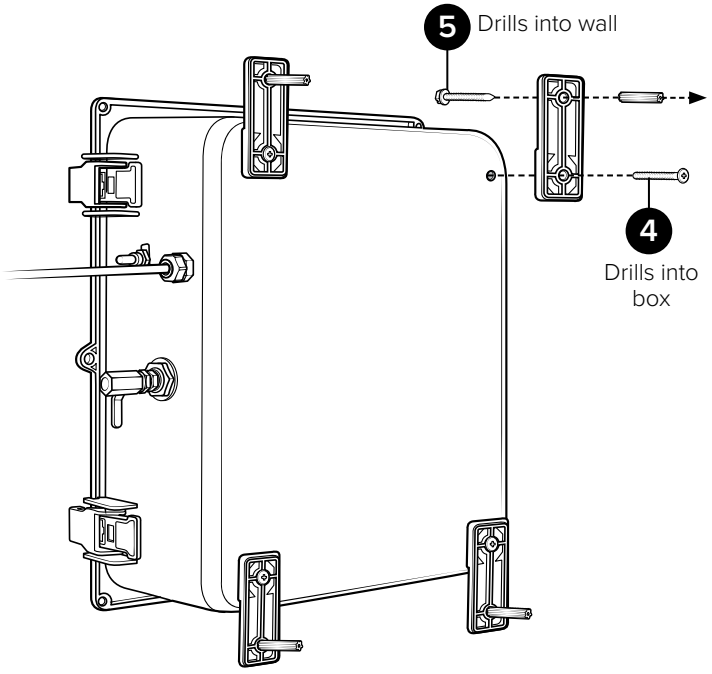
Assembly

4. Attach the control box mounting feet to the back of the control box, using the four screws provided in the parts package.
5. Mount the control box to the wall using four of the screws and plastic anchors provided in the parts package.

   Note: Use a 5⁄16 inch drill bit to drill holes for the plastic anchors.

Area of coverage

DS-WC-2P-TL	DS-WC-2P-TL-2	DS-WC-2P-TL-3
Up to 9 x 5 ft. (2.7 x 1.5 m)	Up to 8 x 4 ft. (2.4 x 1.2 m) at each nozzle	Up to 6 x 3 ft. (1.8 x 0.9 m) at each nozzle



6. Mount the stainless steel nozzle assembly in the desired location.

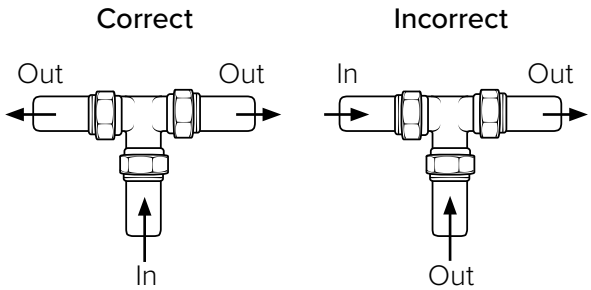
   Fasten the two stainless steel brackets using the screws and plastic anchors provided in the parts package. Repeat this step if multiple nozzles are needed.

7. Connect the tubing from the solution outlet fitting on the control box to the solution inlet fitting on the nozzle assembly.

8. Connect the tubing from the air outlet fitting on the control box to air inlet fitting on nozzle assembly.

   Note: For multiple nozzles, run the tubing from the control box into a tee fitting, as shown in the Tee Fitting diagram below. Then, run tubing from the tee fitting to the nozzle assemblies. For systems with three nozzles, use a second tee fitting to split the line again.

½ in. union tee fitting diagram



Connecting the inlet to the stem of the tee creates even discharge from each side.

Connecting the inlet to the side of the tee creates uneven discharge.

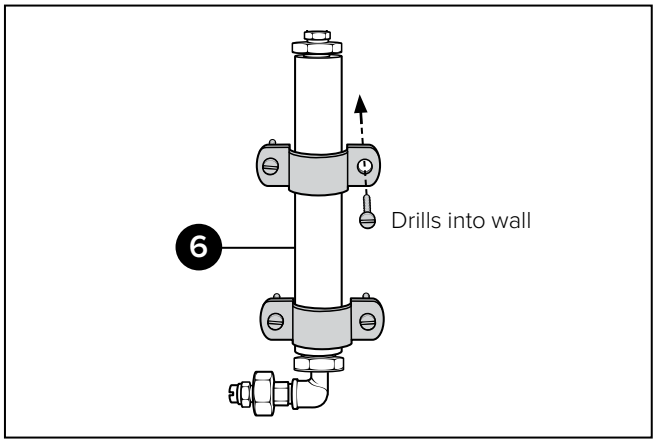
Important! The air and solution lines must be routed to the appropriate fittings or the foam quality of the unit will be negatively impacted. Make sure to insert the tubing all the way into the fittings to ensure proper connection.

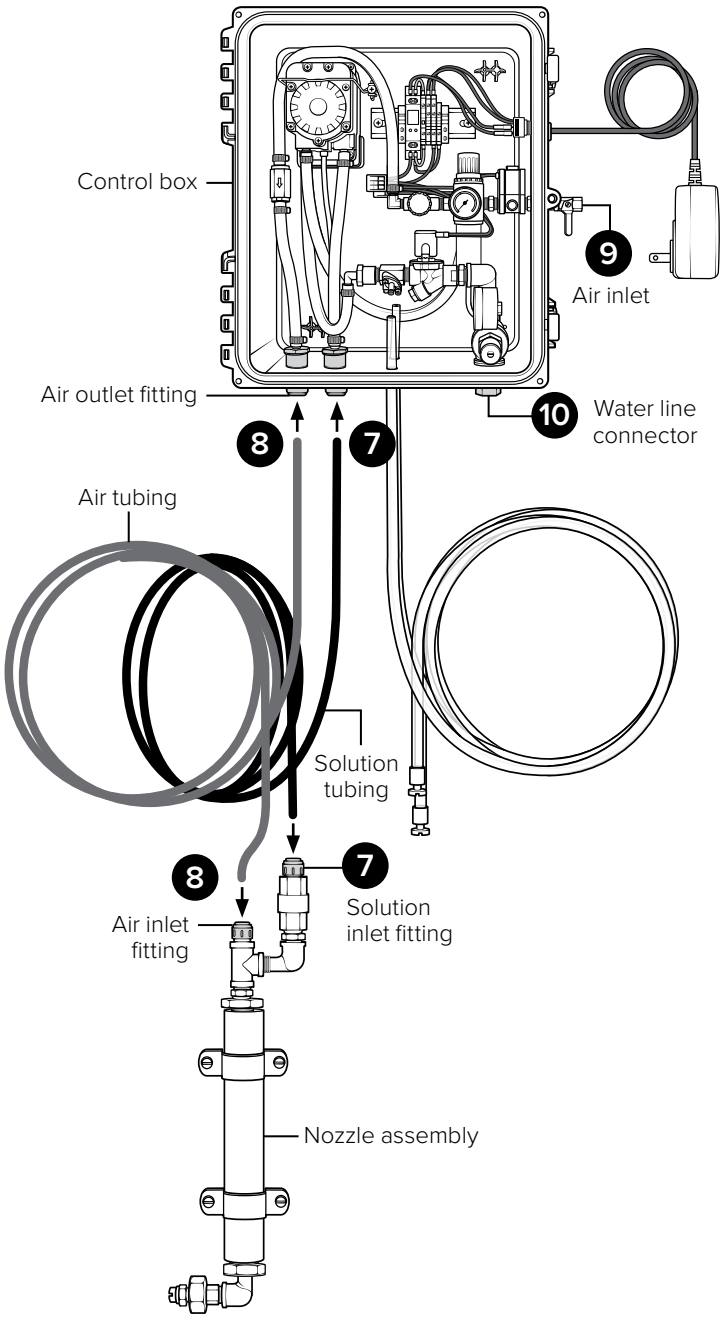
9. Connect the air inlet hose barb provided in the parts package to the air inlet valve located on the side of the control box.

   Then attach a ⅜ inch I.D. air line from your air compressor to the air inlet hose barb, and secure it with the smaller hose clamp provided in the parts package.

10. Connect a water line to the unit. The control box has a ½ inch FPT fitting.

    Important! A back-flow preventer must be installed in the water line. Check your local plumbing codes to ensure proper installation.





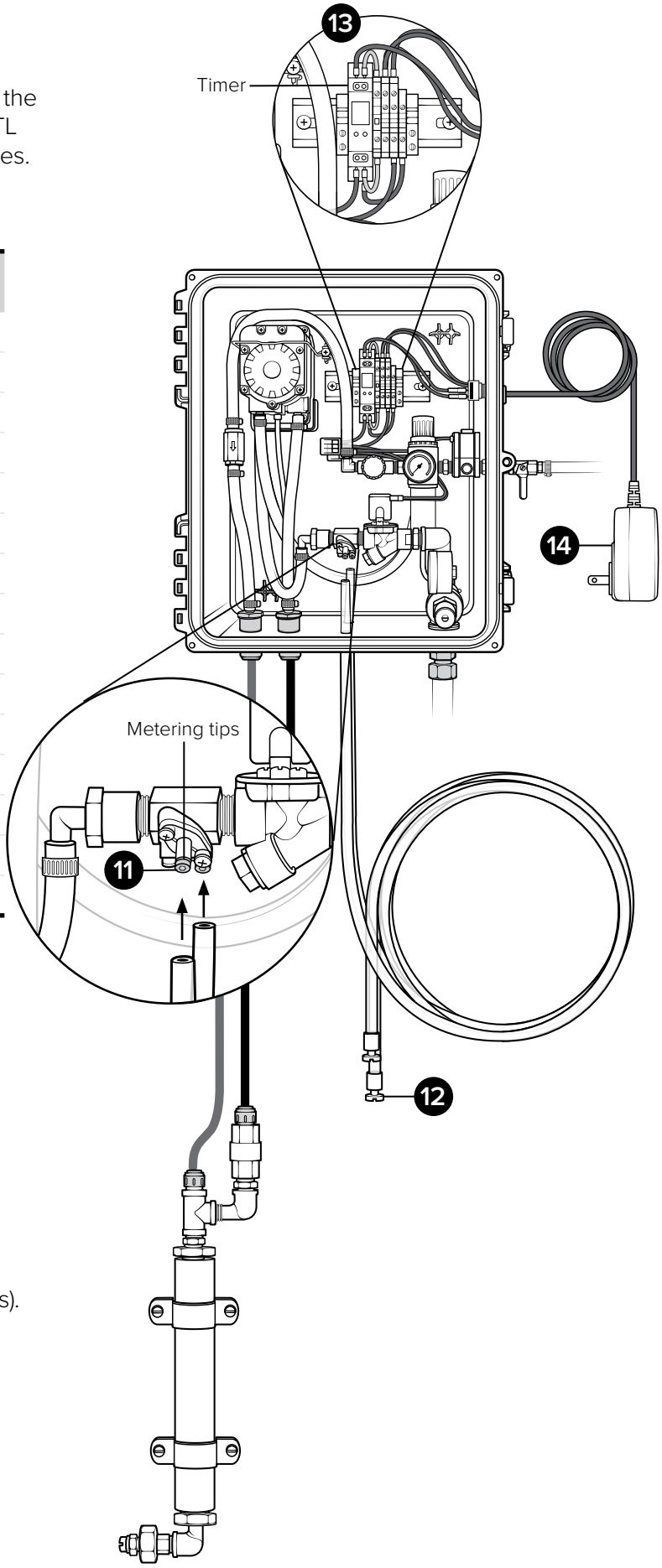
11. Insert the proper metering tips and connect the chemical intake lines to the injector inlet barb.

Note: Use the metering tip color chart (below) to determine the appropriate metering tip based on the product and dilution rate. The model DS-WC-2P-TL has two metering tips and two chemical intake lines.

Metering tip color chart

Metering tip color	Oz. / Gal.	Ratio*
Tan	1.03	125:1
Orange	1.2	108:1
Turquoise	1.4	90:1
Pink	1.8	70:1
Light Blue	2.3	54:1
Brown	2.5	50:1
Red	3.2	40:1
White	3.5	37:1
Green	3.8	34:1
Blue	4.6	28:1
Yellow	6.6	19:1
Black	8.3	15:1
Purple	14	9:1
Gray	16.5	8:1
None	18.9	7:1

* Injection rates will vary based on chemical viscosity, air pressure, and many other factors. We recommend testing unit output to verify injection rate prior to use.



12. Place the other end of the chemical intake line into a chemical container.

Note: The chemical suction line must reach the bottom of the chemical container. A strainer must be used on the chemical intake line.

13. Set the Timer for the desired ON and OFF time (see **Using your unit - Timer Setup** for instructions).

14. With the power switch in the OFF position, plug the unit into a power outlet.

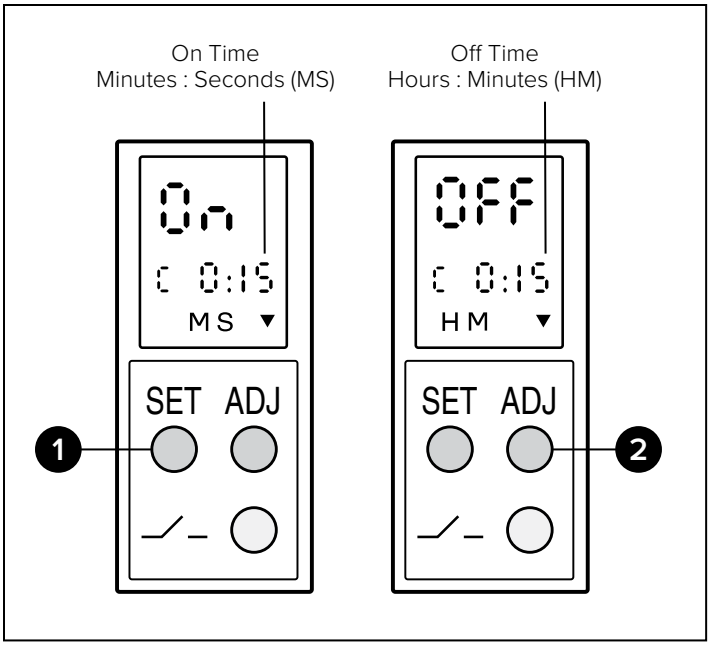
Using your unit

Timer Setup

The timer is an adjustable repeat cycle timer with the ON time operating first. The timer will begin cycling when the unit is powered on.

To set the timer:

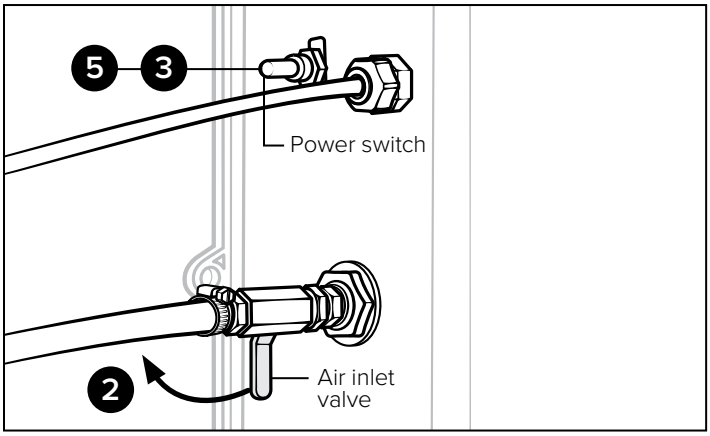
1. Press SET to enter time adjustment mode. Press SET again to highlight the next value.
2. Use ADJ to adjust the highlighted value. The time format is M:SS for ON time, and H:MM for OFF time.
3. The timer will begin cycling with the new settings once all values have been set. The timer on screen will count down.
4. Hold SET to restart the timer's cycle.

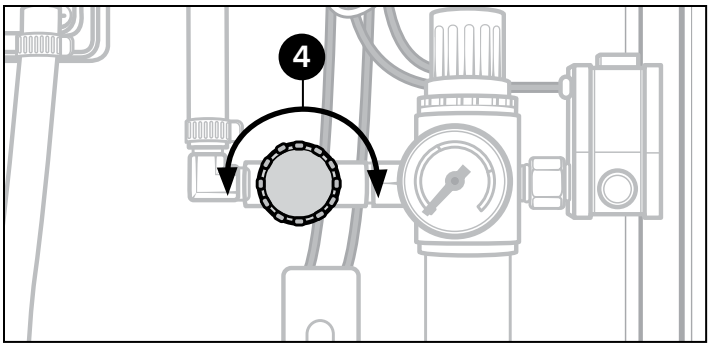


Operating Instructions

1. Verify the unit is connected to compressed air, water, power, and chemical.
2. Open the air inlet valve.
3. To activate the unit, turn the power switch ON.

   The unit will begin cycling through the ON time and OFF time intervals set on the timer, beginning with the ON time.
4. While the unit is running and discharging product, adjust the needle valve, as needed to regulate the wetness or dryness of the foam following the steps below:
   a. Close the needle valve completely in clockwise direction.
   b. Open the needle valve in counter-clockwise direction three (3) complete turns.
   c. Continue to open needle valve in ¼ turn increments, allowing 30 seconds between adjustments, until desired consistency of foam is achieved.
5. To deactivate the unit, turn the power switch OFF.





Maintenance

⚠ WARNING

Performing any maintenance with the unit turned ON, plugged into an electrical power source and connected to the air and water supply may serious injury or death. Always ensure that the unit has been turned OFF, unplugged from the electrical power source, and disconnected from the air/water supply before conducting any maintenance.

Servicing, or modification, of this unit with parts not listed in this manual may cause the unit to operate improperly. Do not use unauthorized parts when servicing the unit.

Maintaining Your Unit

To keep your unit operating properly, periodically perform the following maintenance procedures:

- Inspect the pump for wear and leaks.
- Inspect all hoses for leaks or excessive wear. Ensure all hose clamps are in good condition and properly secured.
- Replace the filter located within the air regulator as needed. Clean by unthreading the air regulator bowl from the air regulator.
- Check the chemical metering tip, suction line and strainer for debris and clean as needed.
- Drain your air compressor tank on a regular basis to help extend pump life. An air source with a high moisture content will accelerate pump wear.

Note: If your air source has a high moisture content, install a water separator (sold separately) before the unit.

Servicing Your Unit

To service your unit, refer to the service manual which includes:

- Troubleshooting procedures.
- Detailed parts breakdowns and illustrations.
- Part numbers of serviceable components and assemblies.

Scan this code for service manual