

DEMA Model 294D Spray Foam

INSTALLATION INSTRUCTIONS

1. PARTS

- A. Foamer Assembly
- B. Plastic chemical supply tubing w/ foot valve and ceramic weight
- C. Metering tip kit
- D. Outlet hose 25' long (optional accessory)
- E. Shut-off valve (optional accessory)

2. INSTALLATION

- A. Water inlet is 3/4" garden hose swivel. It may be removed to connect to 1/2" pipe.
- B. Air inlet is 1/4" NPT. **CAUTION: When tightening air supply fittings into the ball valve (not included), be sure to secure the ball valve with a wrench or other similar tool. Avoid rotating ball valve when tightening air supply fittings.**
- C. Foam outlet is 3/4" garden hose. Attach shut-off valve to end of hose. See Table 1 for hose limitations.
- D. Detergent can be drawn directly from any chemical container, which may be set on the floor. The unit should be mounted no more than 6' above the chemical container; greater lifts reduce injection capacity.

Table 1

HOSE SIZE AND LENGTH	MIN. PRESSURES		MAX. PRESSURE	
	Water	Air	Water	Air
25' of 3/4" ID	40 psi	40 psi	125 psi	125 psi
50' of 3/4" ID	50 psi	40 psi		
25' of 1/2" ID	60 psi	40 psi		

Maximum Temperature – 150°F (65.5°C)

3. CHEMICAL ADJUSTMENT

Caution: Use care when handling hazardous chemicals.

Chemical dilution rates are set with a tip screwed into the inlet barb on the metering block. Select the proper tip using Table 3 as a guide. Cut the inlet tubing to a convenient length so that it reaches from the bottom of the chemical container to the chemical inlet. Slip the ceramic weight over the tubing and insert the end with the foot valve into the chemical. Attach the other end of the tubing to the barb of the chemical inlet.

4. OPERATION

Open the shutoff valve at the end of the hose. Turn on air supply and set at 40 psi. Turn on water supply. See Table 2 for water and air flow.

Table 2

	Pressure (PSI)			
	40	50	60	80
WATER FLOW (GPM)	1.4	1.6	1.7	2.1
AIR FLOW (SCFM)	3.5	4.2	4.8	6.1

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TABLE 3

Metering Tip Color	Induction Rates for Viscosities Shown							
	1 cps		75 cps		200 cps		500 cps	
	Oz/Gal	Ratio	Oz/Gal	Ratio	Oz/Gal	Ratio	Oz/Gal	Ratio
Clear	0.84	152-1	0.65	197-1	0.45	284-1	0.30	427-1
Purple	1.35	95-1	1.10	116-1	0.90	142-1	0.60	213-1
Yellow	2.40	53-1	2.00	64-1	1.50	85-1	1.10	116-1
Green	4.20	30-1	3.40	38-1	2.65	48-1	2.10	61-1
Pink	5.25	24-1	4.50	28-1	3.45	37-1	2.60	49-1
Turquoise	9.40	14-1	7.25	18-1	5.45	23-1	3.70	35-1
Black	11.75	11-1	8.80	15-1	6.35	20-1	4.20	30-1
Gray	14.50	9-1	10.80	12-1	7.75	17-1	4.75	27-1
Red	18.00	7-1	13.20	10-1	8.30	15-1	5.00	26-1
Blue	20.60	6-1	14.70	9-1	8.65	14.8-1	5.20	25-1
Brown	24.10	5-1	16.15	8-1	9.30	14-1	5.50	23-1
White	27.50	4.7-1	17.80	7-1	9.70	13-1	5.70	22-1
Orange	30.00	4.3-1	18.50	6.9-1	10.10	12.7-1	5.85	21.9-1
Lt. Blue*	32.00	4-1	18.90	6.8-1	10.20	12.5-1	6.00	21-1
Tan*	32.50	3.9-1	19.25	6.6-1	10.40	12.3-1	6.25	20.5-1
None	34.25	3.7-1	20.45	6-1	10.60	12-1	6.50	20-1

All induction rates are based on 40 psi water pressure and 40 psi air pressure.

***These tips are not included in the standard tip pack.**

1 cps (centipoise) is equal to the viscosity of water
75 cps is approximately equal to the viscosity of 10 weight motor oil
200 cps is approximately equal to the viscosity of most dishwashing detergents

Injection rate can be doubled with no tip by using 1/2in I.D. inlet tubing. Use a short piece of 3/8 in. I.D. typing on proportioner and foot valve barb for bushing.

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5. SERVICING

Caution: When servicing, be sure that replacement parts have been install according to drawing. Be certain that check valve parts are in place.

<u>Problem</u>	<u>See situation:</u>
Unit will not draw or stops drawing chemical	1, 2, 3, 5, 6, 10, 11, 12, 13, 15, 16
Poor foam quality	1, 2, 3, 5, 6, 10, 11, 12, 13, 15, 16
Foam surges	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 15, 16
Foam output is too wet	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 16
Foam output is too dry	2
Water is flowing into chemical container	12
Foam does not clean adequately	4, 8, 11, 14

POSSIBLE SITUATIONS

SITUATION	CAUSE	SOLUTION
1	Chemical tube not immersed in chemical or chemical depleted.	Immerse tube in chemical or replace.
2	Air pressure is too high for water.	Adjust air regulator down.
3	Water pressure is too low.	At least 30 psi is required. Increase if possible, or decrease air pressure.
4	Chemical to water ratio is too low.	Change metering tip to one that is larger.
5	Foam hose is kinked.	Straighten hose.
6	Foam hose is too long or wrong size.	See table 1.
7	Air supply is inadequate.	Increase air pressure by regulating up.
8	Detergent is wrong.	Use a more effective detergent, and be sure that product is recommended for foaming.
9	Using oil on the airline may deteriorate the quality of the foam.	Use only clean, dry air.
10	Holes or cuts are in chemical inlet tube.	Replace the tube.
11	Strainer and/or metering tip is blocked.	Remove, clean or replace.
12	Solution check valve is not working.	Remove, clean or replace.
13	Air regulator is not working.	Remove, clean or replace.
14	Soil has hardened on surface.	Reapplication may be necessary. Be sure to rinse foam off before it dries.
15	Rust or build-up is clogging the foamer aspirator.	Disconnect water from unit and visually inspect. Remove blockage.
16	Water scale or chemical build-up may have formed in the water jets.	Place the chemical tube in descaling acid and completely open the shut-off valve. Let unit run until the chemical tube is fill with acid, then close the shut-off valve and water supply. Elevate the chemical tubing and outlet hose until acid has had enough time to descale. Repeat if necessary. For severe cases, disassemble unit and soak foamer body in descaling acid.

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Return Policy

No merchandise may be returned for credit without DEMA Engineering Company's written permission. Return Merchandise Authorization (RMA) number required in advance of return.

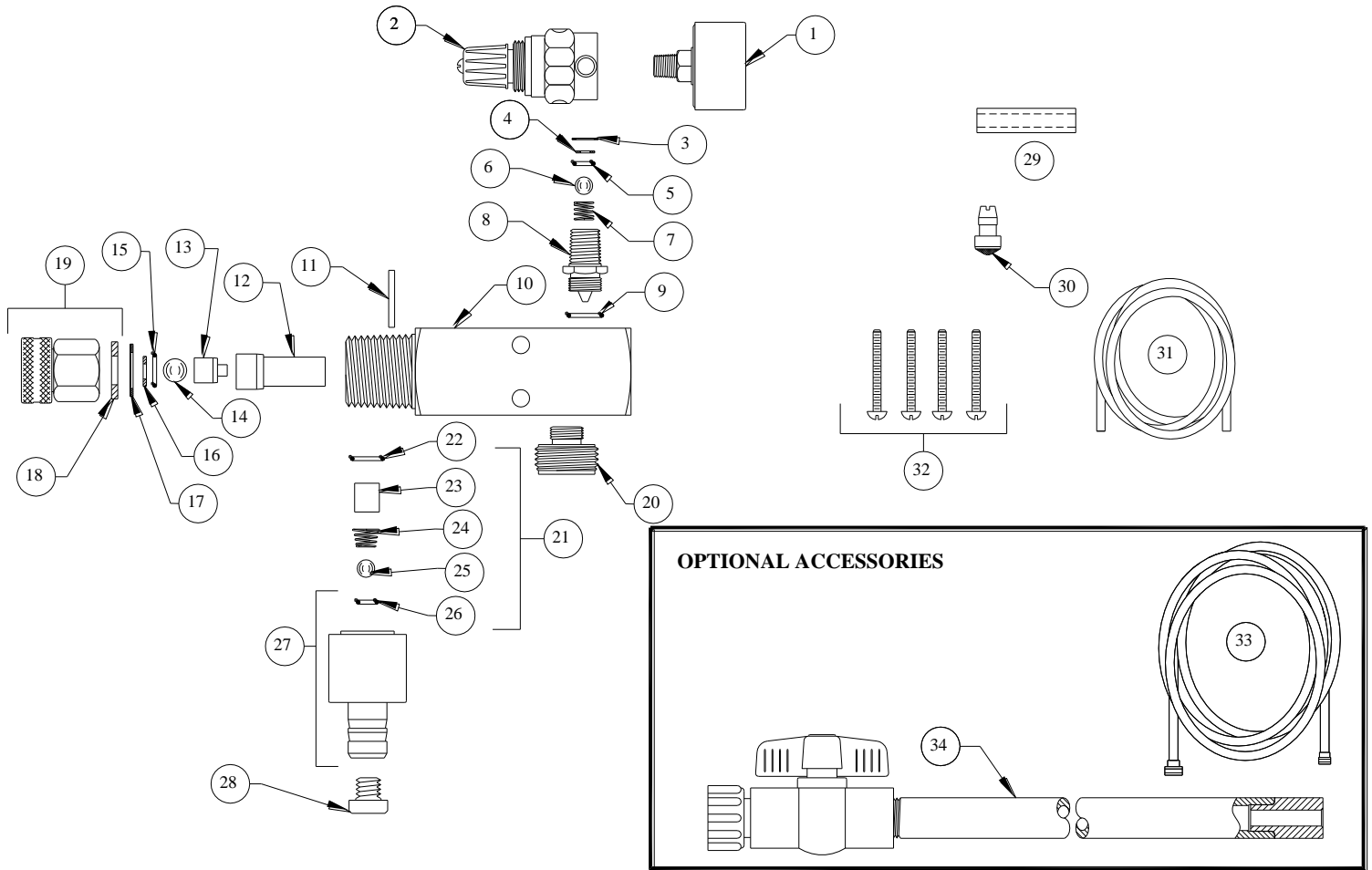
Warranty

DEMA products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products which have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, improper voltage supply, physical abuse or misapplication. Rubber and synthetic rubber parts such as "O"-rings, diaphragms, squeeze tubing and gaskets are considered expendable and are not covered under warranty. This warranty is extended only to the original buyer of DEMA products. If products are altered or repaired without prior approval of DEMA, this warranty will be void.

Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge. F.O.B. factory DEMA assumes no liability for damages. Return merchandise authorization number to return units for repair or replacement must be granted in advance of return.

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NO.	PART NO.	DESCRIPTION
1	93-2	Pressure Gauge
2	93-1	Pressure Regulator
3	29-18-2	5/16 Snap Ring
4	2917-3	Stainless Steel Washer
5	90-34V	Air Check Valve O-Ring (Viton)
6	26-49P	Ball 3/16" Dia. (Teflon)
7	93-6-2	Air Check Valve Spring
8	29-14	Air Nozzle Adapter
9	30-5V-14	O-Ring (Viton)
10	41-059-1	Foamer Body
11	29-15	Pin
12	29-11	Diffuser
13	29-16	Water Nozzle
14	100-24	Ball 11/32" Dia. (Teflon)
15	29-7	O-Ring (Viton)
16	29-17-2	Stainless Steel Washer
17	29-18-4	7/16" Snap Ring
18	150-6	Rubber Washer
19	93-19	Inlet Hose Adapter
20	29-8	Outlet

NO.	PART NO.	DESCRIPTION
21	29-12	Check Valve Repair Kit
22	25-29V	Metering Knob O-Ring (Viton)
23	23-34-3	Check Valve Core
24	23-9-2	Check Valve Spring
25	23-10	Check Valve Ball (9/32" Dia. Stainless Steel)
26	23-11V	Check Valve O-Rng (Viton)
27	24-59-5	Metering Knob
28	61-9 61-9K	Metering Tip (Specify Color) or Metering Tip Kit
29	61-107	Ceramic Weight
30	24-11L	Foot Strainer
31	100-12L	1/2" OD Vinyl Tubing x 8' Lg.
32	29-10	HI-LO Screw (4 Req'd)

ACCESSORIES		
NO.	PART NO.	DESCRIPTION
33	93-14	3/4" ID 25' Lg. Outlet Hose
34	93-18	Plastic Foam Wand