DEMA ENGINEERING
Installation & Operation Instructions

Model # 290 · Hose-End Foamer

REQUIREMENTS

Chemical Concentrate

Water

Temperature	up to 160°F up to 70°C
Pressure	20 to 100 PSI 1.4 to 7.0 bar
Flow	0.90 GPM @ 40 PSI 3.41 LPM @ 2.8 bar
Supply Line	1/2 in 12.7 mm

OPTIONS

Unit Storage Rack

Hose-End Foamer Rack, Stainless Steel	# 28.224301

WEIGHT & DIMENSIONS

Single Package

Shipping Weight	3 lbs.
Shipping Dimensions	15" x 8" x 5"

DEMA®

demaeng.com

WARNING! READ ALL INSTRUCTIONS BEFORE USING EQUIPMENT!

OVERVIEW

The 290 Hose-End Foamer is a unique hose-end foam gun for diluting and applying foaming chemicals to any surface. This unit uses standard city water pressure to draw chemical concentrate from the attached bottle and blend it into the water stream. The accurately diluted solution flows through the foam wand to create a clinging, wet foam at distances up to 7 feet (2.1 meters).

SAFETY & OPERATIONAL PRECAUTIONS

- **When connecting to a potable water supply follow all local codes for backflow prevention.**
- For proper performance do NOT modify, substitute nozzle, hose diameter or length.
- 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.

TO INSTALL (REFER TO DIAGRAM ON NEXT PAGE)

If you are connecting to a potable water supply follow all local codes for backflow prevention.

1. Connect garden hose gun to a standard garden hose.
2. Select and install metering tip.
3. Fill or partially fill bottle with chemical concentrate and attach bottle to foamer. Do NOT over tighten.

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 suction tube in the chemical concentrate.

TO OPERATE

1. Unscrew the bottle lid, install the selected colored metering tip, add chemical concentrate to the bottle and re-attach. Do not over tighten.
2. Connect to a standard garden hose.
3. Hold the garden hose gun and direct the discharge in a safe direction. Pull the trigger to begin application.
4. Make final metering tip adjustments based on application results. Try the next larger sized metering tip until the results are acceptable. In some cases when the chemical is very thick you may have to dilute it slightly.
5. When application is complete, release the trigger.
6. To rinse, quick disconnect the bottle from the gun and rinse before the chemical dries.

NOTE: Do not over-tighten the quick connect socket to the trigger sprayer. Over-tightening will make it difficult to insert the quick connect plug end of the foamer and could damage the trigger sprayer.

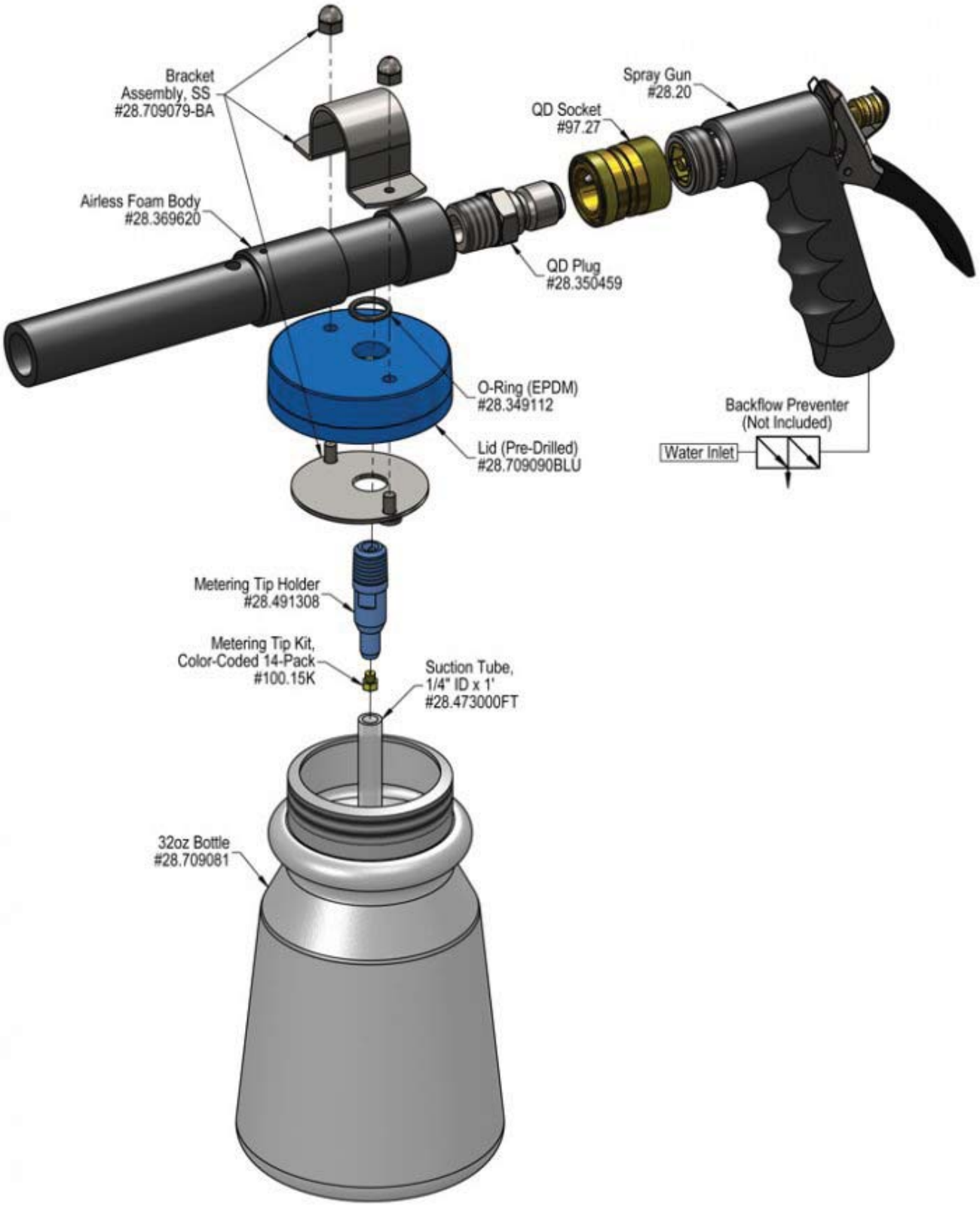
METERING TIP SELECTION CHART

Metering Tip Color	Ratio @ 40 PSI	oz / Gallon	mL / Litre
Tan	95:1	1.25	7.8
Orange	70:1	1.70	10.5
Turquoise	55:1	2.15	13.3
Pink	40:1	3.00	18.6
Light Blue	31:1	3.90	24.2
Brown	26:1	4.55	28.2
Red	21:1	5.80	36.0
White	17:1	7.00	43.4
Green	15:1	7.90	49.0
Blue	12:1	9.80	60.8
Yellow	8:1	14.80	91.8
Black	6:1	20.15	124.9
None	6:1	21.00	130.2

FLOW RATES

Water Pressure		Flow Rate	
PSI	BAR	GPM	LPM
20	1.4	0.64	2.42
30	2.1	0.78	2.95
40	2.8	0.90	3.41
50	3.4	1.01	3.82
60	4.1	1.10	4.16
70	4.8	1.19	4.50
80	5.5	1.27	4.81
90	6.2	1.35	5.11
100	7.0	1.42	5.38

Dilution ratios are approximate values. Chemical induction rates are based on water thin products (1 CPS). Field tests are recommended.


Bracket
Assembly, SS
#28.709079-BA
Spray Gun
#28.20
QD Socket
#97.27
Airless Foam Body
#28.369620
QD Plug
#28.350459
O-Ring (EPDM)
#28.349112
Backflow Preventer
(Not Included)
Water Inlet
Lid (Pre-Drilled)
#28.709090BLU
Metering Tip Holder
#28.491308
Metering Tip Kit,
Color-Coded 14-Pack
#100.15K
Suction Tube,
1/4" ID x 1'
#28.473000FT
32oz Bottle
#28.709081

Problem	Possible Cause / Solution	
	Startup	Maintenance
A) Unit will not draw chemical	1, 5, 6, 7	9, 10, 11, 12, 13, 14
B) Foam does not clean or project foam properly	2, 4, 5, 7, 8	9, 10, 11, 12, 13, 14
C) Using too much chemical	3	

Possible Cause / Solution

Startup

1. **Chemical tube is not installed**
   - Ensure chemical tube is on.
2. **Not enough chemical - metering tip too small**
   - Install larger metering tip.
3. **No metering tip installed or metering tip too large**
   - Install smaller metering tip.
4. **Improper chemical**
   - Ensure product is recommended for foaming and the application.
5. **Chemical tube not immersed in chemical or chemical depleted**
   - Immerse tube or replenish.
6. **Discharge hose kinked**
   - Straighten the hose.
7. **Water pressure or water volume too low causing poor chemical pick up**
   - Increase water pressure or water volume
8. **Soil has hardened on surface; always rinse before it dries**
   - Reapplication may be necessary.

Maintenance

9. **Metering tip partially blocked**
   - Clean or replace metering tip.
10. **Chemical tube stretched out or chemical tube is not on**
    - Cut off end of tube or replace tube.
11. **Vacuum leak in chemical pick-up connections**
    - Tighten the connection.
12. **Water strainer clogged or missing/injector inlet orifice clogged**
    - Clean or replace strainer; check/clean inlet orifice for obstructions. DO NOT DRILL OUT.
13. **Hard water scale or chemical build-up may have formed in the body causing poor or no chemical pick-up**
    - Follow Preventive Maintenance instructions below, using hot water and/or de-scaling acid. When there is no draw at all, carefully remove fittings and soak entire body in de-scaling acid.