

Nutrient Injection Technical Guidelines

House & Garden, Inc.



House & Garden Nutrient Injection Technical Guidelines

This technical report is designed to help our gardeners maximize their greenhouse and irrigation infrastructure. The following recipes and guidance allow our gardeners to add multiple products into a single stock tank in a concentrated form. By combining multiple House & Garden products in a single stock tank, less injectors are needed in a given irrigation system.

This document is intended for use with the House & Garden Eight and Ten Week Feed Charts and includes Dosatron injector models required for use with the House & Garden product line, recipes for mixing multiple products into a single stock tank, and dilution instructions, as needed.

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List of Dosatron Models for Use with the House & Garden Product Line Up

14 Gallon per Minute (GPM) System Requirements

Required Models: If Using Aqua Flakes, Cocos, or Hydro:

- 4, Dosatron D14MZ3000VFBPHY
- 1, Dosatron D14MZ2VFBPHY
- 1, Etatron Microdoser

Use: **D14MZ3000VFBPHY (1.25-11 mL/gallon)**

- 1) Base Nutrient A
- 2) Base Nutrient B
- 3) Multi Zen / Bud-XL
- 4) Nitrogen Boost / Late Flowering Algen Extract

D14MZ2VFBPHY (7.5 – 75 mL/gallon)

- 5) Organic Mixture Recipe / Top Booster-Shooter Dilutions

Etatron Microdoser

- 6) Drip Clean

Required Models: If Using Soil A&B, 1-Component Soil, and Bio 1-Component Soil

- 2, Dosatron D14MZ3000VFBPHY
- 3, Dosatron D14MZ2VFBPHY*
- 1, Etatron Microdoser

Use: **D14MZ3000VFBPHY (1.25-11 mL/gallon)**

- 1) Multi Zen – Bud-XL
- 2) Nitrogen Boost / Late Flowering Algen Extract

D14MZ2VFBPHY (7.5 – 75 mL/gallon)

- 3) Soil A
- 4) Soil B
- 5) Organics Mixture Recipe / Top Booster-Shooter Dilutions

* If using a 1-Component base nutrient, only 2 D14MZ2VFBPHY (7.5 – 75 mL/gallon) injectors are required.

Etatron Microdoser

- 6) Drip Clean

* These guidelines are for the House & Garden nutrient program only. It is advisable to also add injectors for pH adjustment and any other specialty nutrients used in your program.

40 Gallon per Minute (GPM) System Requirements

Needed: 3, Dosatron D8RE2VFBPHY
 2, Dosatron D8RE3000VFBPHY
 1, Etatron Microdoser

Use: **D8RE2VFBPHY (7.5 – 75 mL/gallon)**
 1) Base Nutrient A
 2) Base Nutrient B
 3) Organic Mixture Recipe / Top Booster-Shooter Dilutions
 D8RE3000VFBPHY (1.25 – 4.85 mL/gallon)
 4) Multi Zen / Bud-XL
 5) Nitrogen Boost / Algen Extract
 Etatron Microdoser
 6) Drip Clean

* These guidelines are for the House & Garden nutrient program only. It is advisable to include injectors for pH adjustment and any other specialty nutrients used in your program.

If you have questions or issues regarding Dosatron products, call Dosatron Technical Support at 1-800-523-8499

Or Chat with a Dosatron Technical Rep at www.dosatronusa.com

Vegetative Growth Week 1

Vegetative Growth Week 1: Roots Excelurator Gold or Silver, Amino Treatment, and Algen Extract.

For Dosatron Models D14MZ2VFBPHY and D8RE2VFBPHY

Set your Dosatron injector to: 8 mL/gallon or 0.21% or 1:475

In Your Stock Tank: For every gallon in the stock tank, add 473 mL Roots Excelurator, 379 mL Amino Treatment, and 237 to 473 mL Algen Extract.
Or, for every liter in the stock tank, add 125 mL Roots Excelurator, 100 mL Amino Treatment, and 63 to 125 mL Algen Extract.

Mixing Directions: Fill stock tank with total volume of water called for in a given recipe. Stir the stock tank solution while adding nutrients.

Run a test batch in a small container if using untreated water.

Continuous agitation is required to prevent settling in the stock tank.

Vegetative Growth Week 2

Vegetative Growth Week 2: Roots Excelurator Gold or Silver, Amino Treatment, and Algen Extract.

For Dosatron Models D14MZ2VFBPHY and D8RE2VFBPHY

Set your Dosatron injector to: 8 mL/gallon or 0.21% or 1:475

In Your Stock Tank: For every gallon in the stock tank, add 473 mL Roots Excelurator, 710 mL Amino Treatment, and 473 mL Algen Extract.
Or, for every liter in the stock tank, add 125 mL Roots Excelurator, 188 mL Amino Treatment, and 125 mL Algen Extract.

Mixing Directions: Fill stock tank with total volume of water called for in a given recipe. Stir the stock tank solution while adding nutrients. Calculate total water:

For Gallons: $3785 \text{ mL/gal} - (473 \text{ mL} + 710 \text{ mL} + 473 \text{ mL}) = 2,129 \text{ mL}$
water per gallon of stock tank volume.

Or for Liters: $1000 \text{ mL} / \text{L} - (125 \text{ mL} + 188 \text{ mL} + 125 \text{ mL}) = 562 \text{ mL}$
water per liter of total stock tank volume

Run a test batch in a small container if using untreated water.

Continuous agitation is required to prevent settling in the stock tank.

Flowering Growth Weeks 1 – 3/4*

Flowering Growth Week 1: Roots Excelurator Gold or Silver, Amino Treatment, and Algen Extract.

For Dosatron Models D14MZ2VFBPHY and D8RE2VFBPHY

Set your Dosatron injector to: 8 mL/gallon or 0.21% or 1:475

In Your Stock Tank: For every gallon in the stock tank, add 473 mL Roots Excelurator, 1,183 mL Amino Treatment, and 473 mL Algen Extract.
Or, for every liter in the stock tank, add 125 mL Roots Excelurator, 312 mL Amino Treatment, and 125 to 250 mL Algen Extract.

Mixing Directions: Fill stock tank with total volume of water called for in a given recipe. Stir the stock tank solution while adding nutrients.

Run a test batch in a small container if using untreated water.

Continuous agitation is required to prevent settling in the stock tank.

*If using the 8-Week Feed Chart, this recipe is used for Flowering Weeks 1 through 3.

*If using the 10-Week Feed Chart, this recipe is used for Flowering Weeks 1 through 4.

Dilution Instructions for Base Nutrients in the 40 GPM System

Base Nutrients are suited for the 40 GPM, 7.5 to 75 mL/gal Dosatron injector Model D8RE2VFBPHY 85% of the time. However, rates below 7.5 mL/gal are necessary during the earliest weeks of the growth cycle. Diluting the base nutrients during the first three weeks allows base nutrients to be fed from the same Dosatron injector throughout the entire growth cycle. Dilution is required for Aqua Flakes, Cocos, and Hydro A&B products only.

For Dosatron Model D8RE2VFBPHY

Set your Dosatron injector to: 8 mL/gallon or 0.21% or 1:475

Dilution is required for Aqua Flakes, Cocos, and Hydro A&B products. A and B Bases should remain in separate stock tanks.

Vegetative Growth Week 1: 1.9 – 2.6 Liters of base nutrient per gallon total volume
500 – 690 mL of base nutrient per liter total volume

Vegetative Growth Week 2: 2.85 liters of base nutrient per gallon total volume
750 mL of base nutrient per liter total volume

Flowering Growth Week 1: 3.08 L of base nutrient per gallon total volume
815 mL of base nutrient per liter total volume

Dilution Instructions for Top Booster and Top Shooter in 14 and 40 GPM Systems

For Dosatron Models D14MZ2VFBPHY and D8RE2VFBPHY

Set your Dosatron injector to: 8 mL/gallon or 0.21% or 1:475

Eight Week Feed Chart

Flower Week 5: 1.9 – 2.6 liters of [Top Booster](#) per gallon total volume
500 – 690 mL of [Top Booster](#) per liter total volume

Flower Week 6: 1.3 liters of [Top Shooter](#) per gallon total volume
350 mL of [Top Shooter](#) per liter total volume

Flower Week 7 & 8: 2.7 liters of [Top Shooter](#) per gallon total volume
715 mL of [Top Shooter](#) per liter total volume

Ten Week Feed Chart

Flower Week 6: 1.9 – 2.6 liters of [Top Booster](#) per gallon total volume
500 – 690 mL of [Top Booster](#) per liter total volume

Flower Weeks 7 & 8: 1.3 liters of [Top Shooter](#) per gallon total volume
350 mL of [Top Shooter](#) per liter total volume

Flower Weeks 9 & 10: 2.7 liters of [Top Shooter](#) per gallon total volume
715 mL of [Top Shooter](#) per liter total volume

Dilution Instructions for Nitrogen Boost and Late Flowering Algen **Extract in 14 and 40 GPM Systems**

For Dosatron Models D14MZ3000VFBPHY and D8RE3000VFBPHY

Set your Dosatron injector to 2 mL/gallon or 0.05% or 1:2000

If feeding 0.5 mL/gallon, mix 950 mL nutrient per gallon OR 250 mL per Liter.

If feeding 1.0 mL/gallon, mix 1892 mL per gallon OR 500 mL per liter.

If feeding 2.0 mL/gallon, draw directly from the undiluted nutrient solution.

Instructions for Using Dilution Systems of Different Brands

If you are using a different brand of dilution hardware, you can set up your system based on the settings outlined in each recipe, basing your decisions on the dilution rate recommendations, which look like this: “Set your Dosatron Injector to: 8 mL/gallon or 0.21% or 1:475”

If your model of dilution hardware does not have the capability to match these same rates of dilution, recipes can be diluted. For example: the above 8 mL/gallon or 0.21% or 1:475 can be changed to:

“Set your Dosatron Injector to: 16 mL/gallon or 0.43% or 1:234”

While the nutrients in the stock tank mix would be cut in half, for example:

From: Original Mix (For 8 mL/gallon):

In Your Stock tank: For every gallon in the stock tank, add 473 mL Roots Excelurator, 379 mL Amino Treatment, and 237 to 473 mL Algen Extract.
Or, for every liter in the stock tank, add 125 mL Roots Excelurator, 100 mL Amino Treatment, and 63 to 125 mL Algen Extract.

To: Diluted Mix (For 16 mL/gallon):

In Your Stock tank: For every gallon in the stock tank, add 236 mL Roots Excelurator, 190 mL Amino Treatment, and 119 to 236 mL Algen Extract.
Or, for every liter in the stock tank, add 63 mL Roots Excelurator, 50 mL Amino Treatment, and 32 to 63 mL Algen Extract.

Calculate Your Own Dilution Rates

1) Select a dilution rate based on the capacities of your injector and the nutrient dose rates. This can be an arbitrary starting point. In this example, we'll begin with a dilution ratio of 1:10.

2) Then, complete the calculation below:

$$\frac{A}{B} = C$$

A: The Dilution Ratio (in this example, we are using 1:10, so will insert 10 in place of A).

B: mL/gal feeding rate recommended on the product label (in this example we will use 4 mL per gallon, so will insert 4 in place of B).

C: Dilution Ratio

$$\text{Example: } \frac{10}{4} = 2.5$$

3) Then, insert the value of C into the equation below:

$$\frac{\text{mL per Gallon (3785) or mL per Liter (1000)}}{C} = D$$

C: Dilution

D: mL of nutrient to add per Gallon or Liter of stock tank volume. Whether your answer is suitable for Gallons or Liters depends on which value you inserted into the numerator position (3785 = Gallon, 1000 = Liter).

***Pro Tip:** Insert the volume of your stock tank (in mL) into the numerator position in order to calculate the total volume of nutrient to add to your stock tank.

Examples:

$$\frac{3785 \text{ mL per Gallon}}{2.5} = 1514 \text{ mL nutrient per Gallon in reservoir}$$

$$\frac{1000 \text{ mL per Liter}}{2.5} = 400 \text{ mL nutrient per Liter in reservoir}$$

$$\frac{100,000 \text{ mL in reservoir (100 L)}}{2.5} = 40,000 \text{ mL (40L) nutrient in 100L reservoir}$$

Dosatron Nutrient Delivery System - Dilution Conversion Chart

Desired Dosage Concentration			Doser Setting	
mL/gallon (milliliters)	tsp/gallon (teaspoons)	oz/gallon (ounces)	Set % to:	Set ratio to:
1	0.2	0.033	0.026	3875
1.25	0.25	0.042	0.03	3000
2	0.4	0.067	0.05	2000
3	0.6	0.100	0.08	1250
3.5	0.7	0.117	0.10	1000
4	0.8	0.133	0.11	950
5	1	0.167	0.13	750
6	1.2	0.20	0.16	625
7	1.4	0.23	0.18	540
7.5	1.5	0.25	0.20	500
8	1.6	0.27	0.21	475
9	1.8	0.30	0.24	425
10	2	0.33	0.26	375
11	2.2	0.37	0.29	350
12.5	2.5	0.42	0.33	300
15	3	0.50	0.40	250
17.5	3.5	0.58	0.46	220
20	4	0.67	0.53	190
25	5	0.83	0.66	150
30	6	1.0	0.79	128
34	6.8	1.1	0.9	112
37.5	7.5	1.3	1.0	100
50	10	1.7	1.3	75
75	15	2.5	2.0	50
190	38	6.3	5.0	20
375	75	12.5	10.0	10
750	150	25.0	20.0	5

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