HOBBY CULTIVATOR

DOSATRON

USER GUIDE

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Congratulations on purchasing your new Hobby Cultivator System by Dosatron!

For questions or troubleshooting, please call us at 1-800-523-8499 or visit our website at www.dosatron.com.

NOTICE

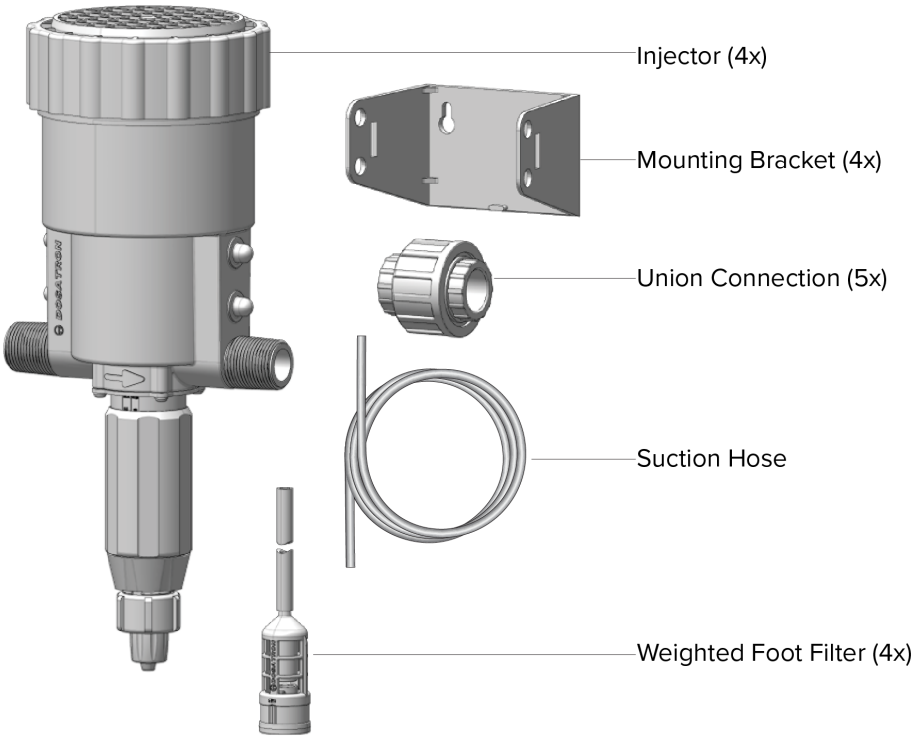
The following basic installation instructions for plumbing systems are intended as general guidance only. Plumbing work may involve complex systems and local building codes. Therefore, it is crucial to consult a qualified professional plumber or contractor before proceeding with any installation if uncertain of requirements.

These instructions do not cover all potential scenarios or variations in plumbing systems, which can vary significantly based on building type, location, and specific requirements. Any deviation from local building codes or improper installation may result in damage, leaks, or other hazards.

By using these instructions, you acknowledge that you are doing so at your own risk. We disclaim any liability for damages or injuries resulting from the use or misuse of this information.

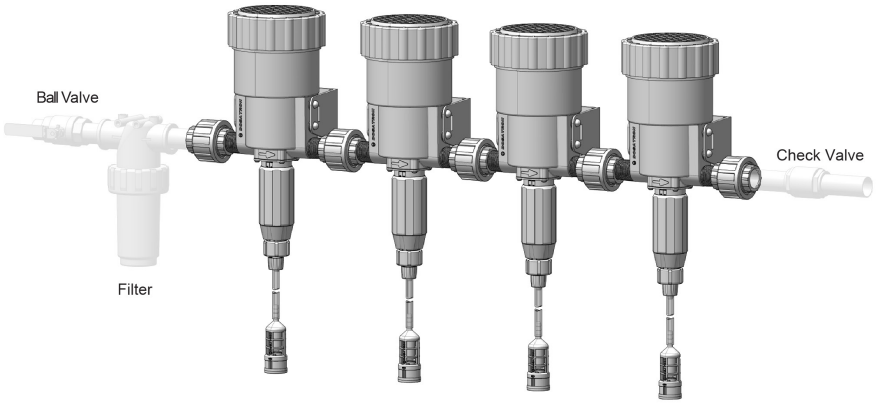
Always prioritize safety and compliance with local regulations when working on plumbing systems. If you are not fully confident in your ability to install plumbing systems safely and correctly, please seek professional assistance.

INCLUDED ACCESSORIES (SYSD15RE05)



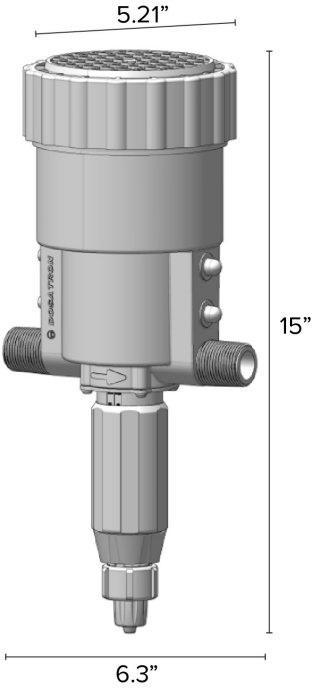
TOOLS NEEDED & RECOMMENDED ACCESSORIES

HELPFUL SETUP ITEMS	RECOMMENDED ACCESSORIES
• Thread Tape • Tape Measure • Phillips-Head Screwdriver • Tongue and Groove Pliers • 8x - Screws - (Type and size will vary depending on mounting method) • 8x - Flat Washers for use with screws when mounting brackets	• ¾” Ball Valve • ¾” Check Valve • ¾” Filter (200 Mesh/80 Micron) • Booster Pump • Pressure Gauge • Stock Tank(s) (Large Bins or Buckets)

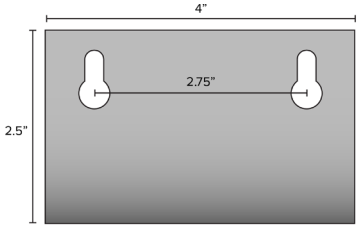


SPECIFICATIONS

Operating Flow Rate	0.5 - 5 GPM
Injection Rate	1.875 - 18.75 mL/G
Injection Rate (Metric)	0.5 - 5 mL/L
Injection Flow	0.015 - 1.5 GPH
Operating Pressure	35 - 87 PSI
Max. Temperature	104°F
Height	15 inches
Width	6.3 inches
Depth	5.21 inches
Weight	2.7 lbs



MOUNTING BRACKET DIMENSIONS



SYSTEM CONFIGURATIONS

Systems can be placed in a straight horizontal line, a U-shape, or serpentine configuration. (See general examples below for reference.)

For all system configurations, the water direction can change, but the ***flow of water*** must remain consistent for all units, and follow the flow arrow indicated on the front of the units.

See “Figure 1 - Water Flow Arrow” for location of flow arrow on unit.

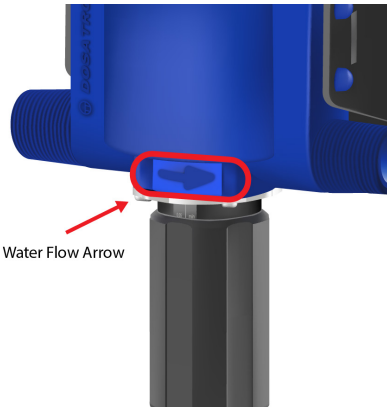


Figure 1 - Water Flow Arrow

Figure 2 - Horizontal Inline Configuration

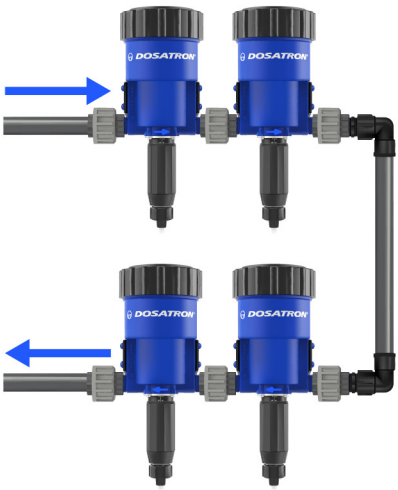


Figure 3 - U-Shape Configuration

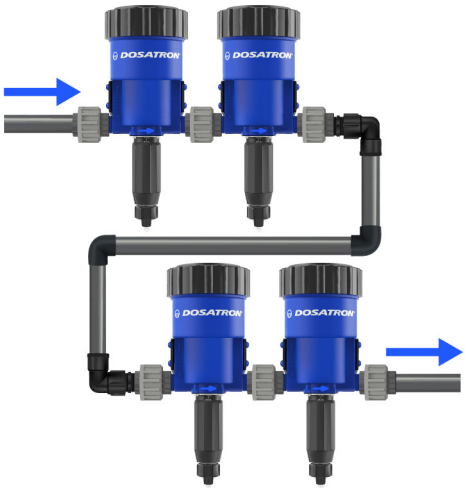
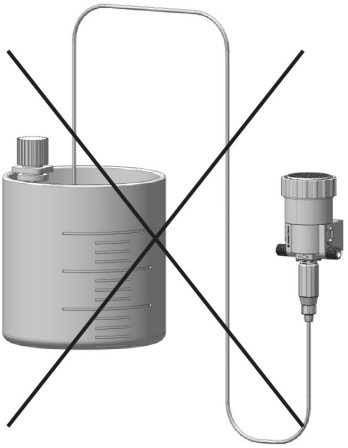


Figure 4 - Serpentine Configuration

To prevent siphoning the Dosatron units and/or Dosatron systems must be placed ABOVE stock solution containers and not below.

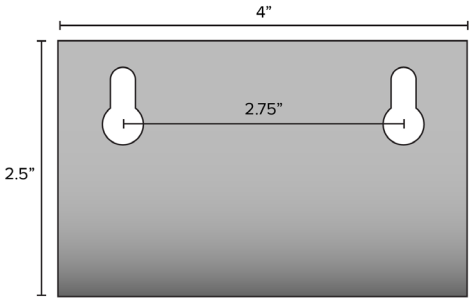


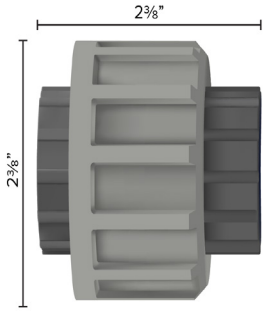
MOUNTING THE SYSTEM

- Always use studs, suitable anchors, or unistrut for a secure mounting surface
- *Mounting Brackets should be spaced ***approximately*** 7.125 inches apart.
- Use the bracket as a guide to mark the positions of the holes for each unit
- *Remember to factor in the space between units for the connection unions.*

**Measurements may vary slightly - always measure twice before drilling holes.*

MOUNTING BRACKET & UNION CONNECTION DIMENSIONS





DETERMINE YOUR DELIVERY METHOD

DIRECT INJECTION METHOD

Direct Injection refers to a Fertigation system that injects individual nutrient parts at set ratios into the water flowing through it and sends it directly to the plants.

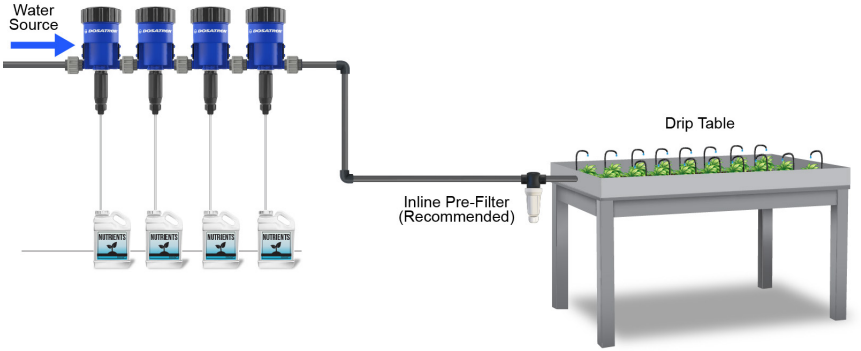


Figure 5 - Direct Inject Illustration

BATCH TANK METHOD

Batch tanks typically refer to holding tanks that store a premixed nutrient solution and deliver it directly to your plants whenever valves are opened with the assistance of an on-demand pressure pump.

The Batch Tank Method ensures your water and nutrients are pre-mixed in a holding tank before being delivered to your plants. This fertigation dosing system allows for a more homogeneous solution, and therefore, a more consistent distribution of nutrients and pH levels. This method is popular when using pulse or micro-irrigation techniques and short-burst durations (irrigation times).

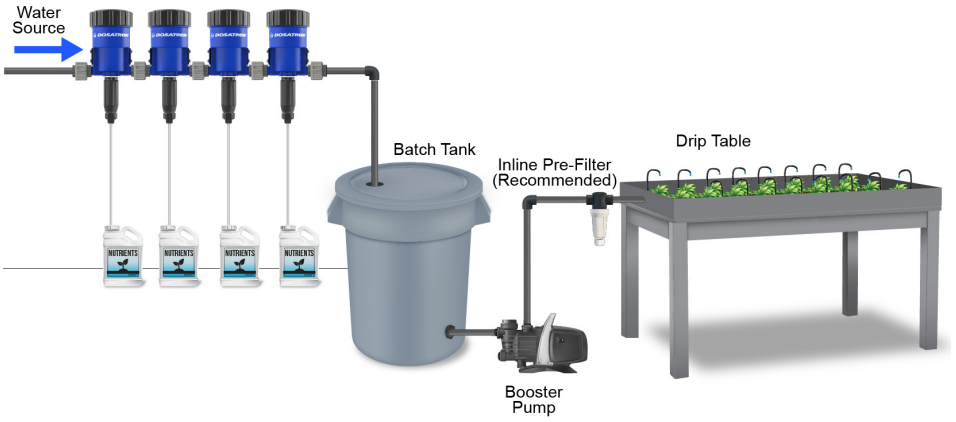


Figure 6 - Batch Tank Illustration

IDENTIFYING THE WATER SOURCE

Locate the incoming water source for THE HOBBY CULTIVATOR SYSTEM. Examples of an incoming water source include:

- Reverse Osmosis (RO) Tank
- City Water
- Fresh Water Holding Tank

When using a RO Tank or Fresh Water Holding Tank as your incoming water source, a Booster Pump is necessary. The Booster Pump is required to push the water from the source, through the HOBBY CULTIVATOR SYSTEM, on to the destination (either the Batch Tank Reservoir or directly into the Irrigation Lines.)

When using a Booster Pump to provide adequate pressure and flow to the Dosatron System(s), always place the booster pump on the INLET side of the first Dosatron Unit.

In order to prevent siphoning and/or overdosing, NEVER connect a Booster Pump to the outlet side of a Dosatron system.

If pressure boosting is required after the Dosatron System, then the Batch Tank Method is the preferred method of delivery - as shown in "Figure 6 - Batch Tank Illustration" on the previous page.

NOTICE

When using the Direct Injection Method, be aware of Irrigation Flow Rates when using the HOBBY CULTIVATOR SYSTEM.

CALCULATING FLOW RATES

(FOR EXISTING IRRIGATION)

STEP 1 - FIND THE TOTAL GPH OF THE ZONE

(# of Emitters on a Zone) x (Rate/Each Emitter in GPH) = **TOTAL GPH OF THE ZONE**

STEP 2 - CONVERT THE GPH TO GPM OF THE ZONE

(TOTAL GPH OF THE ZONE) */ (60 Minutes) =* **TOTAL GPM OF THE ZONE**

EXAMPLE

You have 300 emitters each with a flow rate of 0.5 GPH, and you want to find your total flow rate for the zone:

STEP 1

(300 Emitters) x (0.5 GPH) = **150 GPH FLOW RATE OF THE ZONE**

STEP 2

(150 GPH) */ (60 Minutes) =* **2.5 GPM OF THE ZONE**

CALCULATING MINIMUM FLOW RATES
(FOR NON-EXISTING IRRIGATION)

STEP 1 - FIND THE TOTAL MINIMUM FLOW RATE (GPH) OF THE ZONE

(MIN Flow Rate of System) x (60 Minutes) = **TOTAL MINIMUM GPH OF THE ZONE**

STEP 2 - FIND THE TOTAL MINIMUM FLOW RATE (GPH) OF EACH PLANT

(MIN FLOW RATE OF ZONE) */ (# of plants in the Zone)* = **TOTAL MIN FLOW RATE/PLANT**

EXAMPLE
Using the **HOBBY CULTIVATOR SYSTEM (0.5 GPM MIN FLOW RATE)**
You have 100 plants on the zone and you want to find your Minimum Flow Rate:

STEP 1
(0.5 GPM) x (60 Minutes) = **30 GPH MINIMUM FLOW RATE OF THE ZONE**

STEP 2
(30 GPH) */ (100 Plants)* = **0.3 GPH PER PLANT MINIMUM**

CALCULATING MAXIMUM FLOW RATES
(FOR NON-EXISTING IRRIGATION)

STEP 1 - FIND THE TOTAL MAXIMUM FLOW RATE (GPH) OF THE ZONE

(MAX Flow Rate of System) x (60 Minutes) = **TOTAL MAXIMUM GPH OF THE ZONE**

STEP 2 - FIND THE TOTAL MAXIMUM FLOW RATE (GPH) OF EACH PLANT

(MAX FLOW RATE OF ZONE) */ (# of plants in the Zone)* = **TOTAL MAX FLOW RATE/PLANT**

EXAMPLE
Using the **HOBBY CULTIVATOR SYSTEM (5 GPM MAX FLOW RATE)**
You have 100 plants on the zone, you want to find your Maximum Flow Rate:

STEP 1
(5 GPM) x (60 minutes) = **300 GPH MAXIMUM FLOW RATE OF THE ZONE**

STEP 2
(300 GPH) */ (100 plants)* = **3 GPH PER PLANT MAXIMUM**

PREPARING THE INJECTORS

- Gather units and apply thread tape to ALL MPT (male thread) connection points. Use a minimum of 5 wraps on each MPT (male thread) connection.
- Install unions to all thread taped MPT (male thread) connections – this will require unscrewing the union and placing one side of the union on the connections, between units.
- There are two ways to tighten a fitting with threads. You can tighten by hand, tighten by using a wrench, or a combination of the two.
- To ensure you're tightening a fitting properly, start by hand tightening the fitting as tight as you can and then add a one-half to one-full turn with a wrench.
- By tightening the fitting with your hand, you can ensure that the threads are lined up correctly. If threads crossover, not only does it make it harder to tighten, you also risk stripping the threads.

ALL UNIONS SHOULD BE ORIENTED IN THE SAME DIRECTION.

Figure 7 - Union Orientation

CONNECTING THE SUCTION HOSE

- Unscrew the Suction Hose Nut from the tip of the injector
- Insert Suction Hose Tubing through Suction Hose Nut
- Slide Suction Hose Tubing over the Hose Barb
- Screw the Suction Hose Nut back onto the injector
- Attach the foot filter to the other end of the Suction Hose Tubing
- Refer to “Figure 8 - Suction Hose Connection” for reference

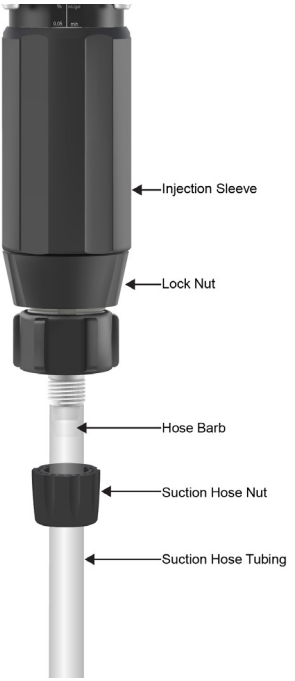


Figure 8 - Suction Hose Connection

PRIMING THE INJECTORS

- To “Quick-Prime” the units, ensure that weighted Foot Filters are placed in liquid stock solutions.
- Next, set the injection rate to the maximum value and run the system until the solution is drawn into the injection stem of the Dosatron units.
- Once injectors are primed, turn off the water source and reset each Dosatron’s injection stem to the proper injection rate for the desired feed or recipe.

ADJUSTING THE DOSING RATE

- To adjust the dosing rate, start by turning the lock nut to the left
- Next, turn the injection sleeve either clockwise or counter-clockwise to your desired rate.
- Re-tighten the lock nut by turning it to the right.
- Begin at the first unit and adjust to the desired rate for the input.
- Adjust each input until all units are set to the correct injection rate per gallon.
- Recommended rates are provided by nutrient companies and can sometimes be min to max depending on the growth cycle of the plant.
- Some nutrient solutions will require the use of (2) Dosatron units to achieve the target injection rates. To do this, begin by placing both weighted foot filters and suction hose tubings into the same stock concentrate solution. Then, set each Dosatron unit to 50% of targeted injection rate.

  EXAMPLE: To achieve a dosing rate of 32mL/gal, you would need to use two Dosatrons, both pulling from the same stock solution. To determine the injection rate to set for each Dosatron, simply multiply 32mL/gal x 50%. Both Dosatron units should be set to 16mL/gal.

- Once the system is primed, take a sample, or if monitoring kit was purchased, validate that EC and pH are within an acceptable range. If needed, take multiple tests and make minor adjustments to system until correct.
- The system is now ready for use to fill Batch Tank or Run Direct Irrigation to plants.
- Be aware that adjustments to input amounts will require retesting and validation.

Figure 9 - Close-up of Injection Scale

ADDITIONAL ACCESSORIES

Expansion Doser
D15RE05VF

Start Kit
HYKSTART-STD

Monitor Kit
HYKMON

Mixing Chamber Kit
HYKMC34

Sunshade
MC34-SHADE

Water Hammer Arrestor Kit
WHA34-SS-KIT

Maintenance Kit
PJDI905

Scan here to check out the additional accessories for your Hobby Cultivator!

LIT-HOBBY-UG
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