

Nutrient Delivery System

LO-FLO SERIES 3/4" Kits Assembly Instructions

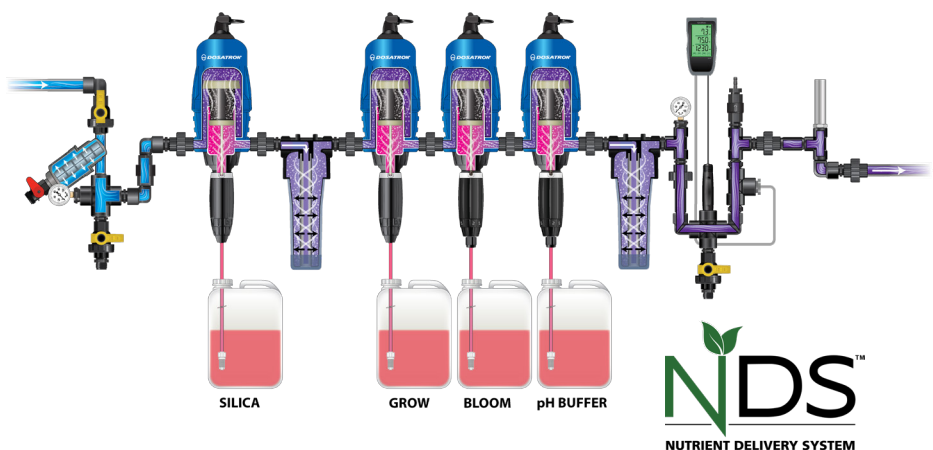


**Need Help?
Call 1-800-451-6628**

NDS Quick Start-Up Guide

Congratulations on your Dilution Solutions Nutrient Delivery System

The Nutrient Delivery System (NDS) is a simplistic system made up of four main panel sections which can be arranged to accommodate a wide variety of fertigation programs. With total control in mind, customizing the entire panel is easy based on your personal nutrient program. It provides increased quality, along with making the process of blending and dispensing nutrients easier and more accurate!



NOTE: Installation illustrations are to be used as a reference guide only.

Tools required for installation of Kit or Pre-Plumbed Assembled System:

- Drill
- Mounting fasteners (panels)
- Screwdrivers
- Level
- Pipe hangers (kits)
- Plumbing wrench

Need help? Call 1-800-451-6628

NDS Quick Start-Up Guide

Installation Tips



- ✓ The Pre-Plumbed System or Kit **must** be mounted securely to a wall that can hold up to 100 pounds.
- ✓ If your setup has a nutrient monitor component, a power outlet must be nearby. Remember that water and power don't mix well; be sure the outlet will not get wet. Mount the outlet above doser panel.
- ✓ Choose appropriate mounting fasteners and pipe hangers based on the wall material and follow the manufacturer's instructions for use.
- ✓ It will take two people to hold, level the Panels or Kits, and mount them to the wall.
- ✓ Prior to mounting the Panels or Kits, lay them out in your desired order (example):

Panels or Kits Order	Part Number
Booster Pump Starter Kit	HYKSTART-DAB
Unit Expansion Kit (Dosatron)	Varies depending on dilution rates
Mixing Chamber Kit	HYKMC34
Unit Expansion Kit (Dosatron)	Varies depending on dilution rates
Nutrient Monitor with Mixing Chamber Kit	HYKMON
Water Hammer Arrestor Kit	WHA34-SS-KIT

- ✓ Mount the Panels or Kits 4 to 5 feet above the floor.
- ✓ Never mount Dosatron's inlet and outlet below the top of the concentrate barrel.
- ✓ If you have a pre-plumbed system, you will have to unwrap the units and snap the Dosatron Dosers into the brackets on the panel.
- ✓ Connect the Dosatron Dosers and unions to each other.
- ✓ Place the concentrate containers directly below the panels.
- ✓ Each Dosatron Doser includes a 6' suction tube, but you can special order up to 13' per Doser if necessary.

NDS Quick Start-Up Guide

Assembly is required for Nutrient Delivery System Kits:

Refer to assembly instructions starting on page 6.

- **DAB Starter Kit** (page 6)
- **Standard Starter Kit** (page 9)
- **Mixing Chamber Kit** (page 12)
- **Monitor Kit** (page 13)
- **Water Hammer Arrestor Kit** (page 17)

Connection Start-Up & Tips



- ✓ If you have a monitor, make sure you calibrate the pH probe before you install into the line (refer to the manual for calibration of the monitor).
- ✓ Connect the water supply to the system's inlet and connect the system's discharge to your irrigation system. Make sure to use **Teflon® tape** on the threads to prevent leaks. **DO NOT USE PIPE DOPE.**
- ✓ Connect the suction tubes to each Dosatron Doser.
- ✓ Slide the strainer on each tube and drop into the concentrate containers.
- ✓ Prior to turning the water on, double check that all of the gray unions are tight and the clear water and flush port ball valves are closed.
- ✓ Slowly turn on the water — **DO NOT** turn valve on quickly.
- ✓ The Dosatron dosers will begin to make a clicking sound. This is normal while the system is filling with water.
- ✓ The Dosatron dosers will click-clack when the system is in use.
- ✓ The nutrient monitor may take a little time to stabilize. There will be odd readings on the EC until the system is primed.
- ✓ Use the last "test port" on the system for measuring the final solution or as you fill the system and prime the dosers.
- ✓ By using a hose or bucket under the port, you can keep the area dry and it is a good way of capturing the product as you prime.
- ✓ When priming the system, set the Dosatrons to the highest dilution to speed up the process. Then utilize the bypass switches to turn off each unit when the concentrate reaches the injection stem in order to minimize waste.

NDS Quick Start-Up Guide

- ✓ Turn the system off, then go back to each Dosatron and set the injection stem to the proper amount to be dispensed.
- ✓ After all Dosatrons are set and primed, turn on the bypass switch to each unit and let the system run. Within a short period of time, the final solution will be ready to use and the monitor will display the desired output.

Usage Tips

- ✓ Use the conversion chart (located on **page 21**) and dial in each Dosatron to the desired injection rate.
- ✓ Using % is the most effective way to convert mL/tsp to % or ratio.
- ✓ The bypass switch on the top of each Dosatron Doser allows you to turn the injection on and off for each unit.
- ✓ The test port after the monitor allows you to take a sample and manually check your EC/pH, to make sure your monitor is properly functioning, to perform volumetric tests, flush the system out, etc. (Find links in Resources **page 21**.)
- ✓ Do not leave probes dry for long periods of time. Store in KCL Solution if the system goes out of commission.



Maintenance Tips

- ✓ Dosatron's are designed to dose accurately with repeatable results, like most mechanical devices they need regular maintenance.
- ✓ If you notice a lag in performance, it is as simple as replacing a few wear parts.
- ✓ Over a period of time and use, the dynamic seals will wear, causing low injection.
- ✓ Typical wear pattern is 6 to 12 months of continual use, maintenance is suggested on a yearly schedule or when the product is not functioning properly.
(Please see references on **page 20**, for further details.)

Nutrient Delivery System

Option A

1

Booster Pump Starter Kit

Part #:
HYKSTART-DAB

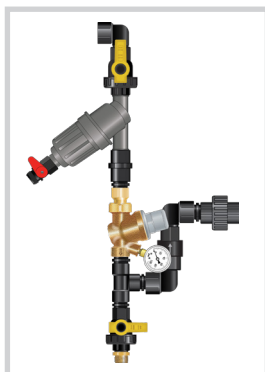


Option B

1

Standard Starter Kit

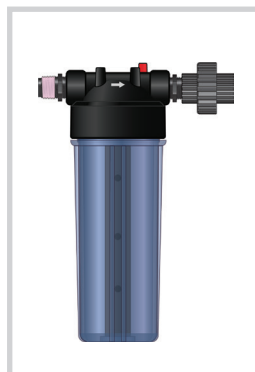
Part #:
HYKSTART



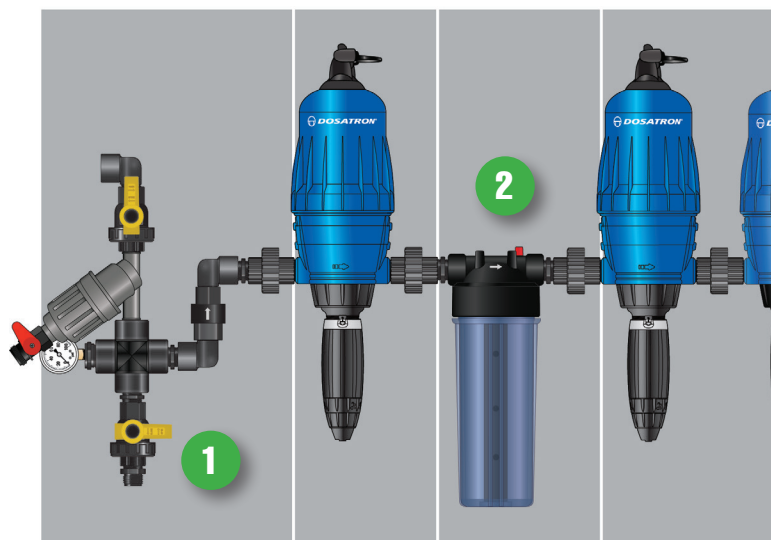
2

Mixing Chamber Kit

Part #:
HYKMC34



NOTE:
Installation
illustrations are
to be used
as a reference
guide only.



LO-FLO Series - 3/4" Kits

3

Monitor Kit

*Multiple monitor options available.

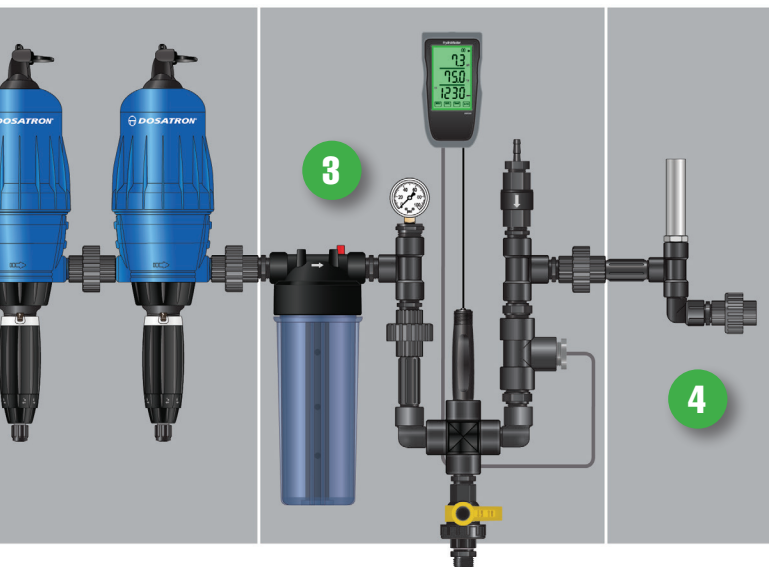
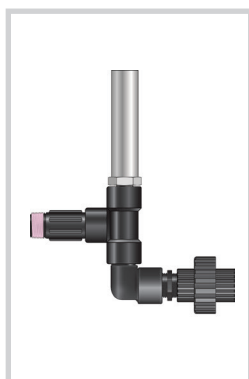
Part #:
HYKMON



4

Water Hammer Arrestor Kit

Part #:
WHA34-SS-KIT



3/4" Booster Pump Starter Kit

Step-by-Step Assembly Instructions

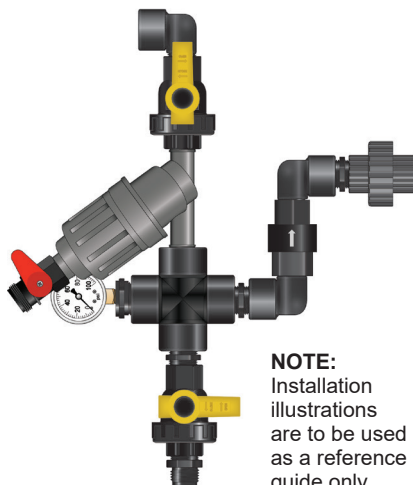


1 Option A

3/4" Booster Pump Starter Kit

Part #: HYKSTART-DAB

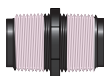
(Does not include the
Pressure Boosting Pump)



NOTE:
Installation
illustrations
are to be used
as a reference
guide only.

HYKSTART-DAB Kit is to be used with any **Booster Pump** that regulates the pressure (not to exceed 85 psi). If the pump being installed does not regulate the pressure to the system specifications, a regulator is necessary.

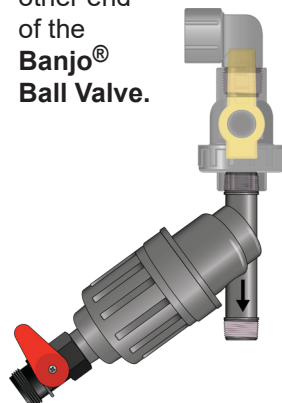
- 1** Wrap 5 to 6 turns of **Teflon® tape** on all threads, except on the **Pressure Gauge** (2-3 turns only). Make sure to wrap tape clockwise to prevent from unravelling.



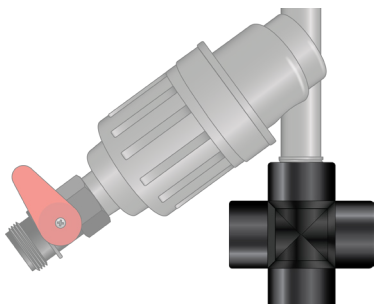
- 2** Attach an **Elbow** to one of the **Banjo® Ball Valves**.



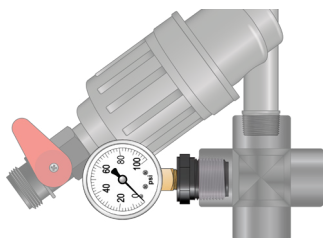
- 3** With the arrow pointing down, attach the **Y Filter** to the other end of the **Banjo® Ball Valve**.



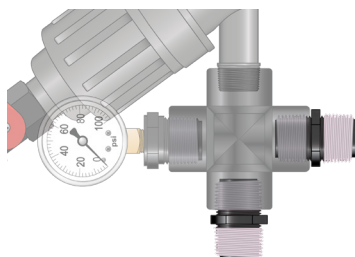
- 4 Connect the **Cross** to the other end of the **Filter**.



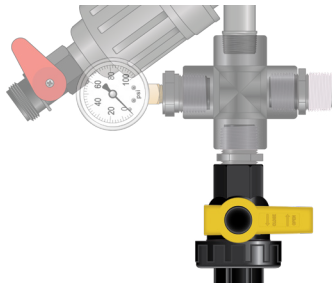
- 5 Insert the **3/4" to 1/4" Reducer Nipple** and the **Pressure Gauge** to the opening on the left of the **Cross**.



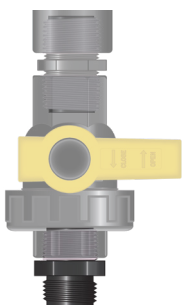
- 6 Attach one **Nipple** on each of the openings left on the **Cross**.



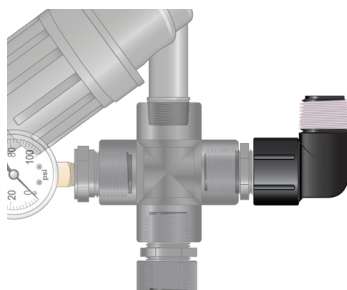
- 7 Connect the remaining **Banjo® Ball Valve** to the **Nipple** at the bottom of the **Cross**.



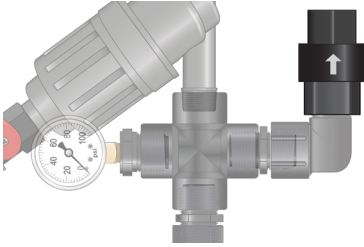
- 8 Attach the **Hose Adapter** to the **Banjo® Ball Valve**.



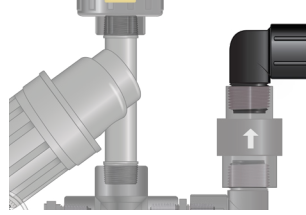
- 9 Connect a second **Elbow** to the **Nipple** on the right of the **Cross**.



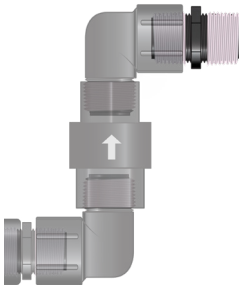
- 10** Attach the **Check Valve** to the **Elbow**, make sure the arrow points up.



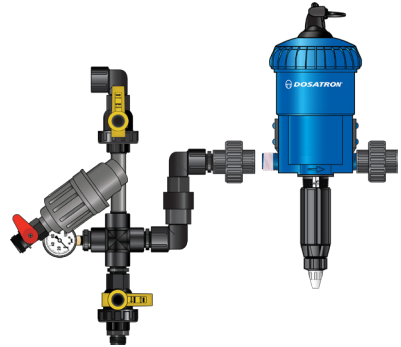
- 11** Connect the third **Elbow** to the **Check Valve**.



- 12** Attach the last **Nipple** to the **Elbow**.



- 13** Attach the **Union** to the **Nipple**. This completes the **HYKSTART-DAB Kit**.



Don't forget to wrap the connectors on the Dosatron with **Teflon® tape**.

HYKSTART-DAB Kit Includes:

Part Number	Qty	Part Number	Qty
HS34SE-FPXMP	3	NIP075-2	3
BV34-SCH80	2	E34-BR	1
AKF5AP11-A	1	CV34-PH	1
CRO75	1	BK034-U	1
RB75-25T	1	TEF12	1
PG100	1		

Pressure Booster Starter Kit includes parts listed. Dosatron doser and pressure boosting pump sold separately.

3/4" Standard Starter Kit

Step-by-Step Assembly Instructions



1 Option B

3/4" Standard Starter Kit

Part #: HYKSTART

(Includes Pressure Regulating Valve)

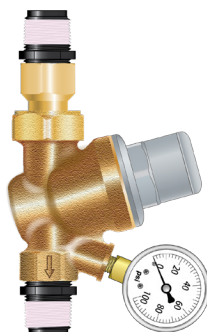


NOTE: Installation illustrations are to be used as a reference guide only.

- 1** Wrap 5 to 6 turns of **Teflon®** tape on all threads. Make sure to wrap tape clockwise to prevent from unravelling.



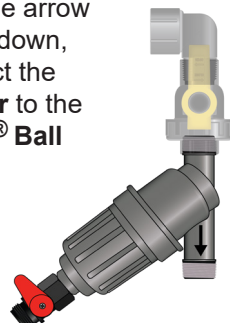
- 2** Connect a **Nipple** to each side of the **Pressure Regulator** and set aside.



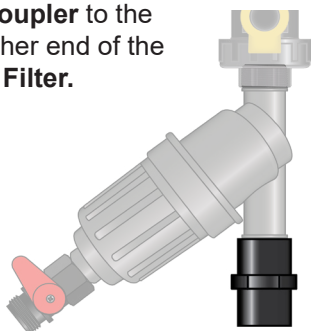
- 3** Pick up one of the **Elbows** and connect it to a **Banjo® Ball Valve**.



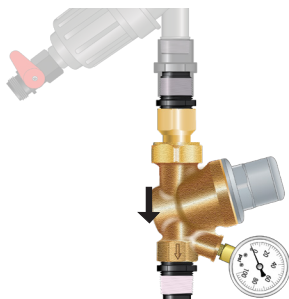
- 4** With the arrow facing down, connect the **Y Filter** to the **Banjo® Ball Valve**.



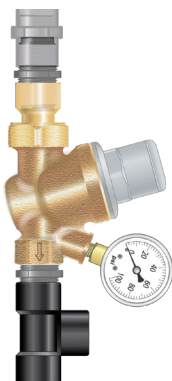
- 5 Add the **Female Coupler** to the other end of the **Y Filter**.



- 6 Attach the **Pressure Regulator** assembly to the **Female Coupler**, make sure the arrow faces down.



- 7 Connect the **Tee** to the other end of the **Pressure Regulator** assembly.



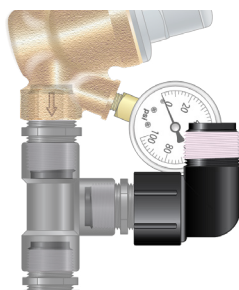
- 8 Insert a **Nipple** on each of the two openings left on the **Tee**.



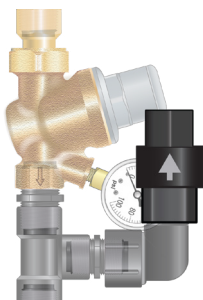
- 9 Attach the **Banjo® Ball Valve** to the bottom **Nipple** and connect the **Hose Adapter** to the **Banjo® Ball Valve**.



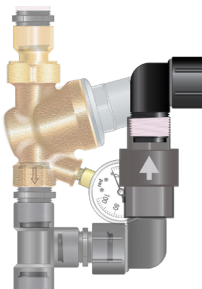
- 10 Attach an **Elbow** to the **Nipple** in the center of the **Tee**.



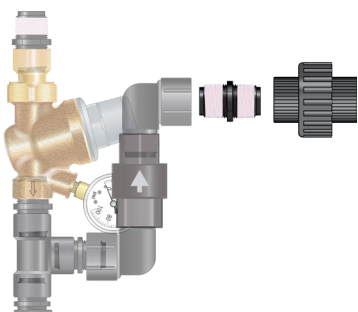
- 11** With the arrow facing up, connect the **Check Valve** to the **Elbow**.



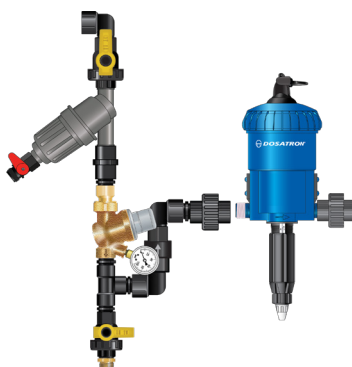
- 12** Attach the last **Elbow** to the top of the **Check Valve**.



- 13** Insert a **Nipple** into the **Elbow** and attach the **Union** to the **Nipple**.



- 14** Now attach your Dosatron Doser to the **Union**.



Don't forget to wrap the connectors on the Dosatron with **Teflon®** tape.

HYKSTART Kit Includes:

Part Number	Qty	Part Number	Qty
HS34SE-FPXMP	3	TT34	1
BV34-SCH80	2	E34-BR	1
AKF5AP11-A	1	CV34-PH	1
FC34	1	BK034-U	1
NIP075-2	5	TEF12	1
PR34-NPT	1		

Standard Starter Kit includes parts listed. Dosatron doser sold separately.

3/4" Mixing Chamber Kit

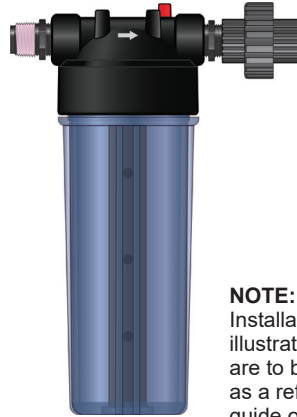
Step-by-Step Assembly Instructions



2

3/4" Mixing Chamber Kit

Part #: HYKMC34

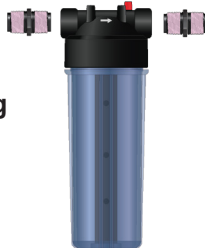


NOTE:
Installation
illustrations
are to be used
as a reference
guide only.

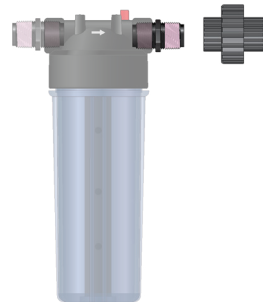
- 1** Wrap 5 to 6 turns of **Teflon® tape** on all threads. Make sure to wrap tape clockwise to prevent from unravelling.



- 2** Insert one **Nipple** on each side of the **Mixing Chamber**.



- 3** With the arrow on the **Mixing Chamber** pointing in the direction of the water flow, install the **Union** onto the **Nipple** in the outlet.



HYKMC34 Kit Includes:

Part Number	Qty
NIP075-2	2
MC34	1
BK034-U	1
TEF12	1

Mixing Chamber Kit
includes parts listed.
Dosatron doser
sold separately.

3/4" Monitor Kit

Step-by-Step Assembly Instructions



3

3/4"

Monitor Kit

Part #: HYKMON

NOTE: Installation illustrations are to be used as a reference guide only.

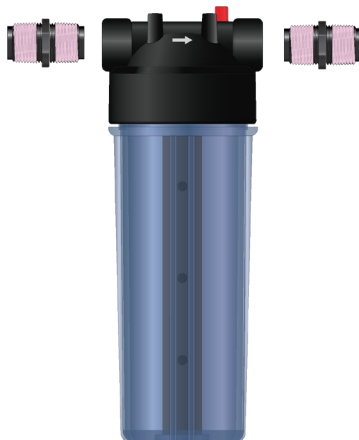


*Multiple monitor options available.

- 1 Wrap 5 to 6 turns of **Teflon® tape** on all threads, except on the **Pressure Gauge** (2-3 turns only). Make sure to wrap tape clockwise to prevent from unravelling.



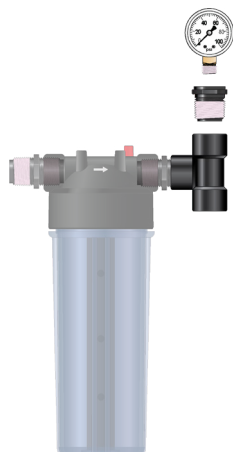
- 2 Attach a **Close Nipple** to each side of the **Mixing Chamber**.



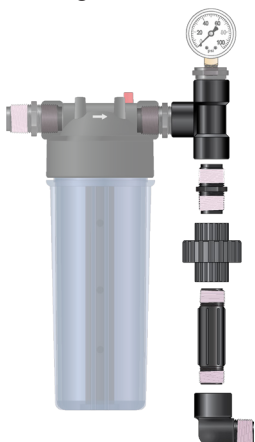
- 3** Attach a **3/4" Tee** to the **Close Nipple** on the outlet (right) of the **Mixing Chamber**. Make sure the arrow on the **Mixing Chamber** is pointing in the direction of the flow.



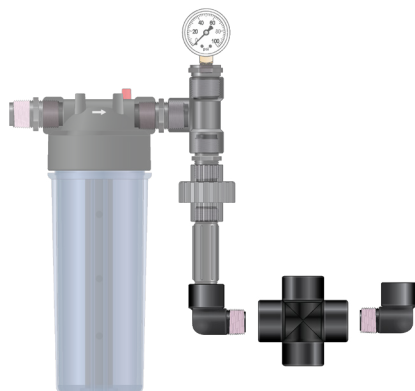
- 4** Insert a **3/4" to 1/4" Reducer Bushing** and the **Pressure Gauge** on the top opening of the **Tee**.



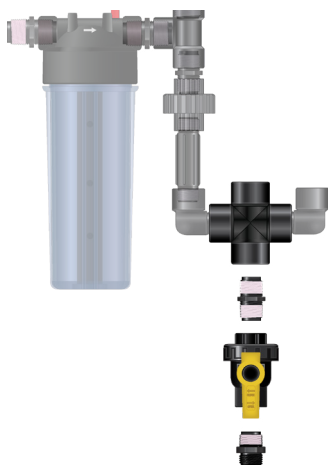
- 5** To the bottom opening of the **3/4" Tee**, connect a **Close Nipple**, a **Union**, the **4" Nipple** and an **Elbow**. Make sure the **Elbow** threads point to the right.



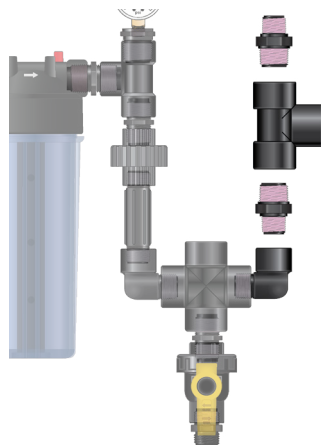
- 6** Now attach the **Cross** to the **Elbow**, and insert the other **Elbow** in the right opening of the **Cross**. See illustration.



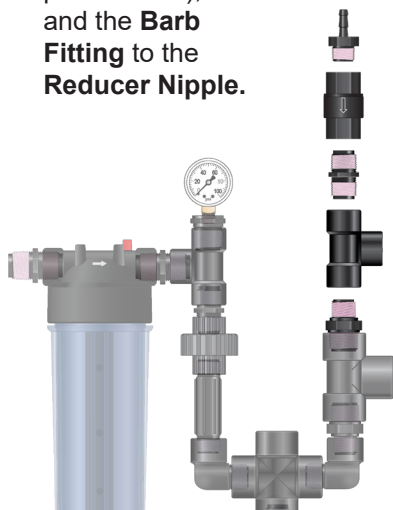
- 7** To the bottom of the **Cross**, attach a **Close Nipple**, the **Banjo® Ball Valve**, and the **Hose Adapter**.



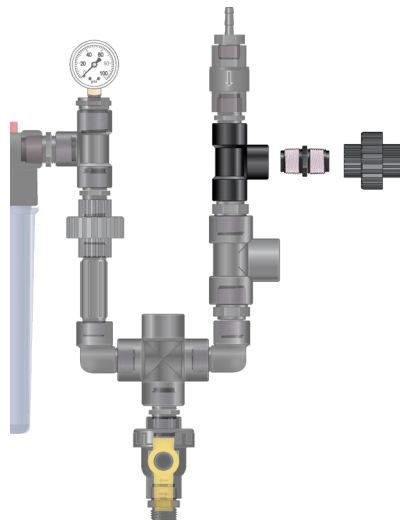
- 8** To the **Elbow** on the right, attach a **Reducer Nipple**, the **1" Tee**, and the other **Reducer Nipple**, in that particular order.



- 9** Connect the **3/4" Tee**, a **Close Nipple**, the **Check Valve** (make sure arrow points down), and the **Barb Fitting** to the **Reducer Nipple**.



- 10** Attach the last **Close Nipple** and the **Union** to the middle opening of the **3/4" Tee**.



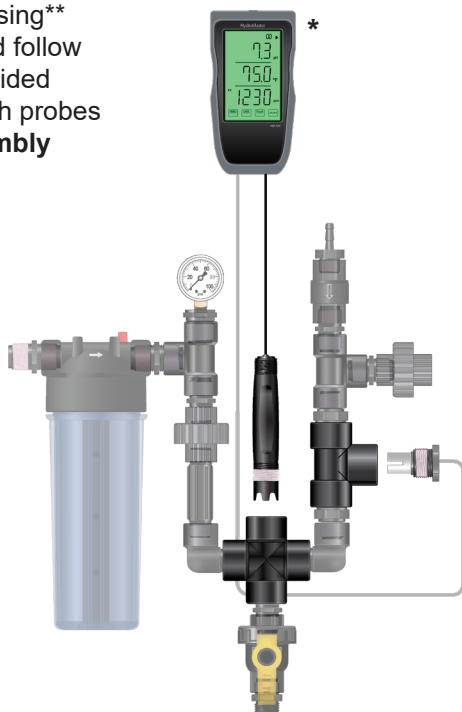
- 11** Now, remove the plastic casing** from **Monitor pH** probe and follow calibration instructions provided with the monitor. Attach both probes to the **Probe Holder Assembly** as shown.

For more details see the Monitor instructions.

*Multiple monitor options available.

NOTE: Regular cleaning and calibration, of the probes, is recommended to obtain accurate readings. Probes are maintenance items and would require replacing from time to time.

**Casing keeps probe wet, maintaining calibration until installation.



HYKMON Kit Includes:

Part Number	Qty	Part Number	Qty
MC34	1	CV34-PH	1
BV34-SCH80	1	BARB037-075MP	1
HS34SE-FPXMP	2	BK034-U	2
X500-105	1	CR075	1
NIP075-2	6	TEF12	1
PG100	1	E34-BR	1
TT34	2	RN100-75	2
NIP75-4	1	TT100	1
RB75-25T	1		

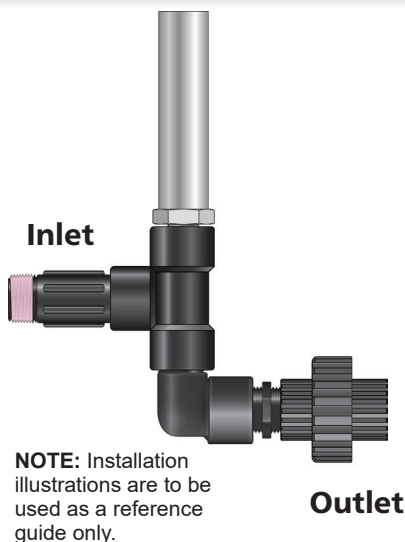
Monitor Kit includes parts listed. Dosatron doser sold separately.

3/4" Water Hammer Arrestor Kit Step-by-Step Assembly Instructions

4

3/4" Water Hammer Arrestor Kit

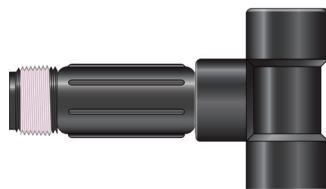
Part #: WHA34-SS-KIT



- 1 Wrap 5 to 6 turns of **Teflon® tape** on all threads. Make sure to wrap tape clockwise to prevent from unravelling.



- 2 Attach the **4" Nipple** to center opening of the **Tee**.



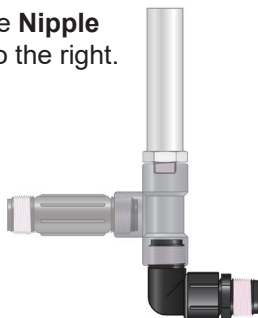
- 3 Install the **Water Hammer Arrestor** on the top opening of the **Tee**.



- 4 Attach the **Close Nipple** to the **Elbow**.



- 5** Install the **Elbow-Nipple Assembly** at the bottom of the **Tee**. Make sure the **Nipple** faces to the right.



- 6** Attach the **Union** to the **Close Nipple**. The Water Hammer Arrestor Kit is now complete.



WHA34-SS-Kit Includes:

Part Number	Qty	Part Number	Qty
WHA34-SS	1	HS34SE-FPXMP	1
TT34	1	BK034-U	1
NIP075-4	1	TEF12	1
NIP075-2	1		

Water Hammer Arrestor Kit includes parts listed. Dosatron doser sold separately.



Remember!

Water hammer is a pressure surge or wave caused when a fluid in motion is forced to stop suddenly, due to shock.

The gas filled cylinder adjusts to absorb the shock, limiting any damage to the system caused by back pressure.

Proper installation is Key!

Recommended Dosatron Dosers For the 3/4" NDS Kits

Nutrient Delivery System 3/4" Kits Dosatron Dosers

D14MZ2VFBPHY	D14MZ3000VFBPHY (*D14MZ3000VFBPHY-M)
  <p>14 GPM 1:500 - 1:50</p>	  <p>14 GPM 1:3000 - 1:333</p>
D14MZ10VFBPHY	D25RE09VFBPHY (*D25RE09VFBPHY-M)
  <p>14 GPM 1:100 - 1:10</p>	  <p>11 GPM 1:1000 - 1:112</p>

*Units available with metric system scale.

NOTE: Each unit comes with a single union to connect to the next unit or kit. Dosatron dosers sold separately.

DIY - Do-It-Yourself Maintenance Kits

We make it easy to keep your Dosatron running smoothly year after year with our Seal Kits and Mini Maintenance Kits. Recommended maintenance parts are included in the Kits, along with easy-to-follow instructions. To order call **1-800-523-8499**.

**DOSATRON®**
WATER POWERED DOSING TECHNOLOGY

**Part PJ127MINI-H:
D25RE09 - 11 GPM
Mini Maintenance Kit**

This kit contains:



(1) JDI106	Dosing seal
(1) PJD1063	Upper check valve assembly
(1) DOSA-LUBE	Silicone
(1) CLEANSER ALL	Dosa-Klean

**GENUINE
DOSATRON
PARTS**

**2090 Sunnydale Blvd.
Clearwater, FL 33765
1-800-523-8499
1-727-443-5404
www.dosatronusa.com**

1

Mini Maintenance Kits -

A simple and cost effective way to keep your Dosatrons running smooth and accurately.

DESCRIPTION	PART #
D25RE09 - 11 GPM	PJ127MINI-H
D14MZ2 - 14 GPM	PJDI116MINI-H
D14MZ10 - 14 GPM	PJDI122MINI-H
D14MZ3000 - 14 GPM	PJDI139MINI
D8RE3000 - 40 GPM	PJDI139MINI
D8RE2 - 40 GPM	PJDI120VMINI-H

2

Seal Kits -

If your Dosatron hasn't been serviced in a few years, or it is leaking, it's time for a full seal kit maintenance.

DESCRIPTION	PART #
D25RE09 - 11 GPM	PJ127
D14MZ2 - 14 GPM	PJDI116
D14MZ10 - 14 GPM	PJDI122
D14MZ3000 - 14 GPM	PJDI139
D8RE2 - 40 GPM	PJDI120
D8RE5 - 40 GPM	PJDI122V
D8RE3000 - 40 GPM	8PJ075

**DOSATRON®**
WATER POWERED DOSING TECHNOLOGY

**Part PJDI116:
D14MZ2 - 14 GPM
Injection Seal Kit**

This kit contains:



(1) J009	Plunger seal
(1) JDI120	Injection stem o-ring
(1) JDI100	Injection sleeve o-ring
(1) PJD115	Check valve assembly

**GENUINE
DOSATRON
PARTS**

**2090 Sunnydale Blvd.
Clearwater, FL 33765
1-800-523-8499
1-727-443-5404
www.dosatronusa.com**

Resources

MILLILITERS (mL) CONVERSION CHART				
Milliliters (mL)	Teaspoons (tsp)	Ounces (oz)	Percentage (%)	Ratio (1:)
34	7	1.1	0.9	112
30	6	1.0	0.79	128
25	5	0.83	0.66	150
20	4	0.67	0.53	190
15	3	0.50	0.40	250
10	2	0.33	0.26	375
5	1	0.17	0.13	750
4	0.8	0.133	0.11	950
3	0.6	0.100	0.08	1250
2.5	0.5	0.09	0.07	1500
2	0.4	0.067	0.05	2000
1.5	0.3	0.05	0.04	2500
1.25	0.25	0.042	0.03	3000
1	0.2	0.033	0.026	3875

Questions?

1. Call **1-800-523-8499**
2. Chat with a customer service representative @ www.dosatronusa.com
3. Looking for technical help, click charts, volumetric tests, seal kits, unit schematics, or warranty information? www.dosatronusa.com/technical
4. Need more resources? www.dosatronusa.com/nds
5. For all videos, from troubleshooting to installing a seal kit, check out our YouTube channel: www.youtube.com/users/DosatronIntl

Do you want an easy Preventive Maintenance Reminder?

- Sign up for free at: www.dosatronusa.com/technical



2090 Sunnydale Blvd. • Clearwater, FL 33765
1-800-451-6628
www.dilutionsolutions.com



LIT-EN-NDS.75KITS

Need help? Call 1-800-451-6628