

Nutrient Delivery System

HI-FLO SERIES

1 1/2" Kits

Assembly Instructions

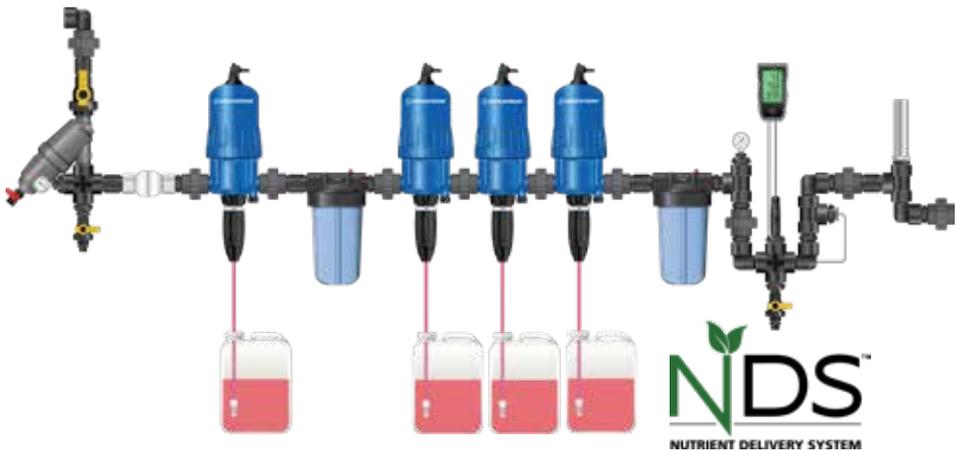


**Need Help?
Call 1-800-451-6628**

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
- Level
- Mounting fasteners (panels)
- Pipe hangers (kits)
- Screwdrivers
- 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 |
|--|------------------------------------|
| Standard Starter Kit | HYKSTART150 |
| Unit Expansion Kit (Dosatron) | Varies depending on dilution rates |
| Mixing Chamber Kit | HYKMC150 |
| Unit Expansion Kit (Dosatron) | Varies depending on dilution rates |
| Nutrient Monitor with Mixing Chamber Kit | HYKMON150 |
| Water Hammer Arrestor Kit | WHA150-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.

Quick Start-Up Guide

Assembly is required for Nutrient Delivery System Kits:

Refer to assembly instructions starting on page 6.

- 1 1/2" Starter Kit (page 6)
- 1 1/2" Mixing Chamber Kit (page 8)
- 1 1/2" Monitor Kit (page 9)
- 1 1/2" Water Hammer Arrestor Kit (page 13)

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.

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 17**) 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 17**.)
- ✓ 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 16**, for further details.)

Nutrient Delivery System

1

Starter Kit
Part #:
HYKSTART150

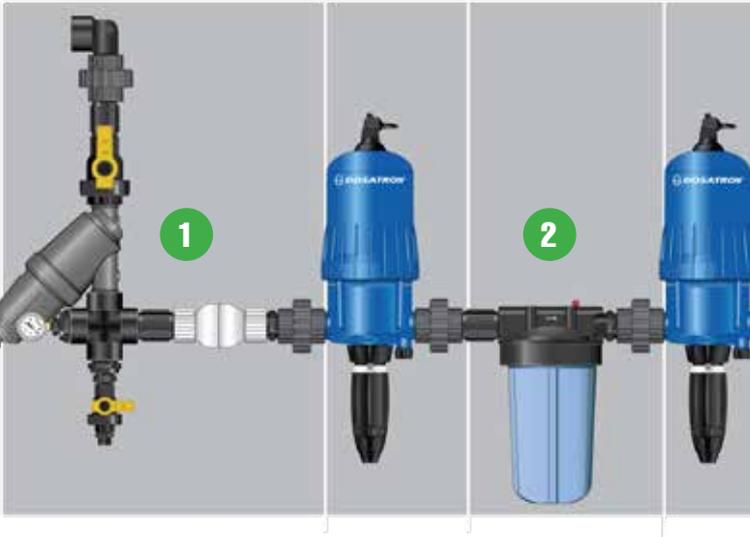


2

Mixing Chamber Kit
Part #:
HYKMC150



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



HI-FLO Series - 1 1/2" Kits

3

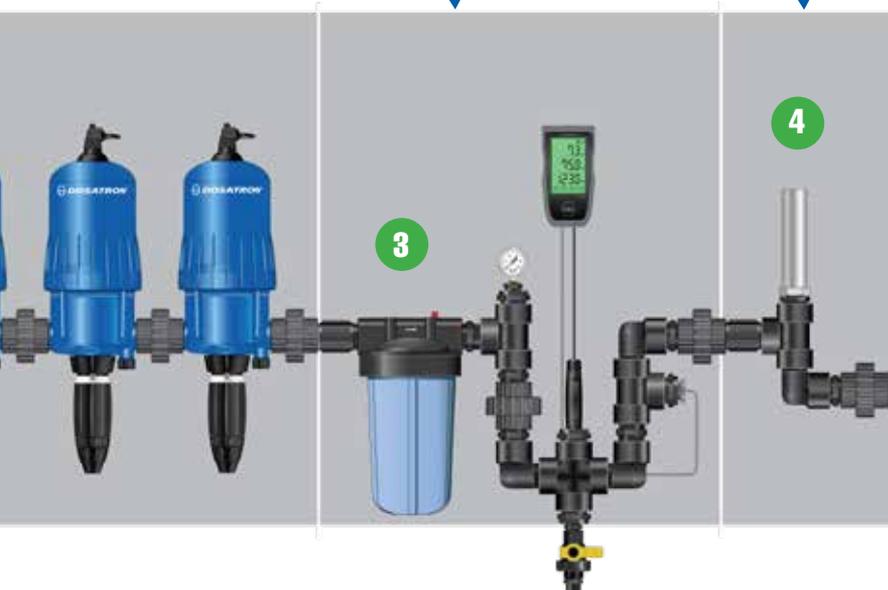
Monitor Kit
Part #:
HYKMON150

*Multiple monitor options available.



4

Water Hammer
Arrestor Kit
Part #:
WHA150-SS-KIT



1 1/2" Starter Kit

Step-by-Step Assembly Instructions



1

1 1/2" Starter Kit

Part #: HYKSTART150



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.



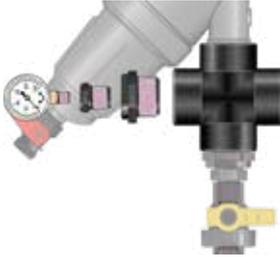
- 2** Connect the **Cross** to the outlet side of the **Filter**. Make sure the valve of the **Filter** is pointing towards you, so it does not interfere with the **Pressure Gauge** once installed.



- 3** On the opposite side of the **Cross**, install the four pieces that form the **Fresh Water Port Assy (Reducer Bushing, 3/4" Nipple, 3/4" Ball Valve, and 3/4" Hose Adaptor)**. Make sure the **Ball Valve** handle is facing towards you.



- 4** To the left of the **Cross**, install the three pieces that form the **Pressure Gauge Assy (1" to 3/4" Reducer Bushing, 3/4" to 1/4" Reducer Bushing, and Gauge)**.



- 5** To the right of the **Cross** install the four pieces that form the **Check Valve Assy (4" Nipple, Check Valve, Close Nipple, and Union)**.



- 6** Attach the rest of the fittings to the inlet side of the **Filter (Elbow, Union, 4" Nipple, and Ball Valve)**. Make sure the **Ball Valve** handle faces towards you and the **Elbow** inlet faces to the left.



HYKSTART150 Kit Includes:

| Part Number | Qty | Part Number | Qty |
|---------------|-----|-------------|-----|
| HS150SE-FPXMP | 1 | PG100 | 1 |
| BV34-SCH80 | 1 | NIP150-1 | 1 |
| BV150-SCH80 | 1 | NIP075-2 | 1 |
| AKF5AP40-A | 1 | NIP150-4 | 2 |
| BK150-U | 2 | CV112 | 1 |
| CR150 | 1 | E34 | 1 |
| RB150-75 | 2 | TEF12 | 2 |
| RB75-25T | 1 | | |

Starter Kit includes parts listed. Dosatron Doser sold separately.

1 1/2" Mixing Chamber Kit

Step-by-Step Assembly Instructions



2

1 1/2" Mixing Chamber Kit

Part #: HYKMC150



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** Install the **4" Nipple** to the inlet side of the **Mixing Chamber**. Please note flow direction indicated by the arrow on the **Mixing Chamber**.



- 3** Install the **Close Nipple** to the outlet of the **Mixing Chamber**, and add the **Union** to the other side of the **Close Nipple**.



HYKMC150 Kit Includes:

| Part Number | Qty | Part Number | Qty |
|-------------|-----|-------------|-----|
| NIP150-4 | 1 | BK150-U | 1 |
| MC150 | 1 | TEF12 | 1 |
| NIP150-1 | 1 | | |

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

1 1/2" Monitor Kit Step-by-Step Assembly Instructions



3

1 1/2" Monitor Kit

Part #: HYKMON150

*Multiple monitor options available.



Installation instructions are to be referenced by.

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



- 2 Install the **4" Nipple** in the inlet side of the **Mixing Chamber** and a **1 1/2" Close Nipple** in the outlet side. Please note flow direction indicated by the arrow on the **Mixing Chamber**.



- 3 Attach a **Tee** to the **1 1/2" Close Nipple** in the outlet side of the **Mixing Chamber**.



- 4** Attach a **1 1/2" to 3/4" Reducer Bushing**, a **3/4" to 1/4" Reducer Bushing**, and the **Pressure Gauge**, to the top opening of the **Tee**.



- 5** To the bottom opening of the **Tee**, attach a **1 1/2" Close Nipple**, a **Union**, another **1 1/2" Close Nipple**, and an **Elbow** (with the threads facing to the right), in that particular order.



- 6** Attach the **Cross** to the **Elbow**, and insert another **Elbow** in the right opening of the **Cross**, as indicated in the illustration.



- 7** In the top opening of the **Cross**, insert a **1 1/2" to 3/4" Reducer Bushing**.

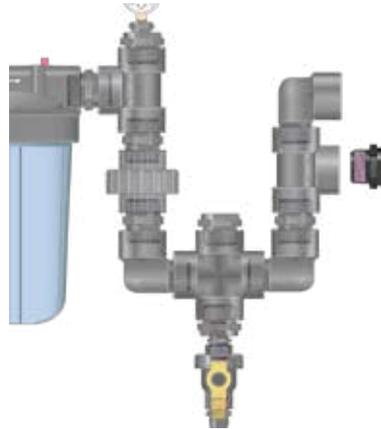
In the bottom opening of the **Cross** insert another **1 1/2" to 3/4" Reducer Bushing**, a **3/4" Close Nipple**, the **Banjo® Ball Valve**, and the **Hose Adapter**.



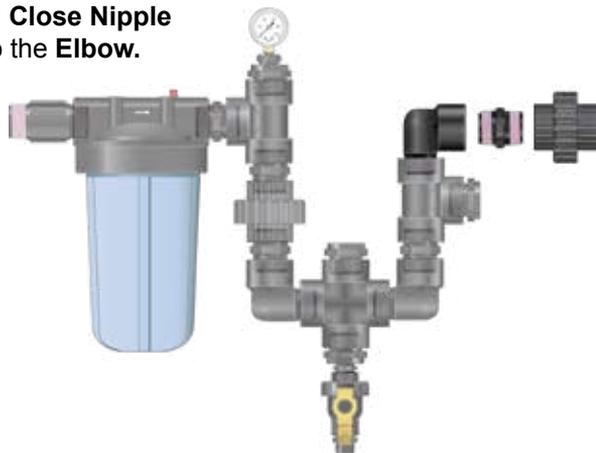
- 8 To the **Elbow** on the right, attach a **1 1/2" Close Nipple**, the **Tee**, and the last **Elbow**.



- 9 Insert the **1 1/2" to 1" Reducer Bushing** in the middle opening of the **Tee**.



- 10 Attach the **1 1/2" Close Nipple** and the **Union** to the **Elbow**.



11

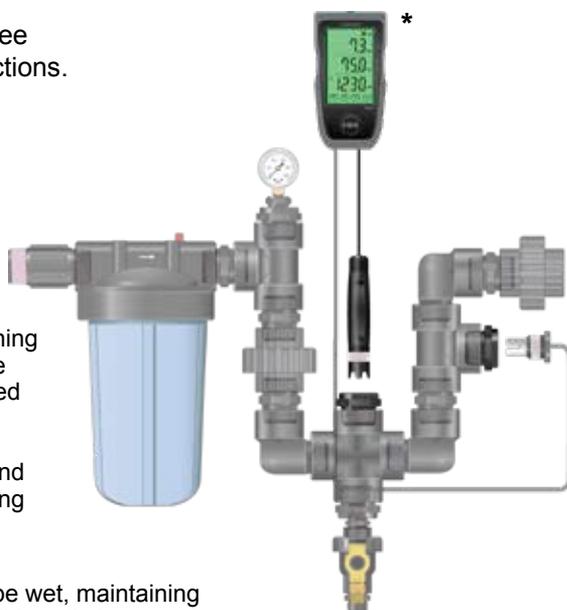
Remove the plastic casing** from the **Monitor pH probe** and follow calibration instructions provided by BlueLab. Attach both **Probes** to the **Probe Holder Assembly** as shown.

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.



HYKMC150 Kit Includes:

| Part Number | Qty | Part Number | Qty |
|-------------|-----|---------------|-----|
| NIP150-4 | 1 | CR150 | 1 |
| MC150 | 1 | E34 | 1 |
| NIP150-2 | 5 | PG100 | 1 |
| BK150-U | 2 | NIP075-2 | 1 |
| TT112 | 2 | BV34-SCH80 | 1 |
| X500-105 | 1 | HS150SE-FPXMP | 3 |
| RB150-75 | 3 | TEF12 | 2 |
| RB75-25T | 1 | RB150-100 | 1 |

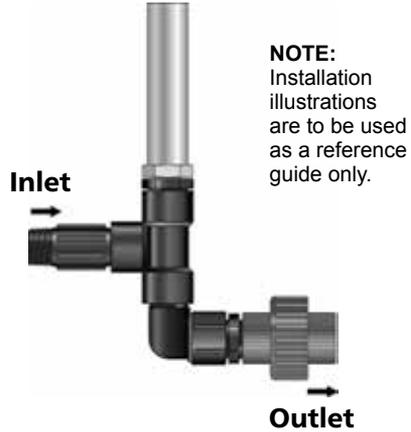
Monitor Kit includes parts listed. Dosatron dosers sold separately.

1 1/2" Water Hammer Arrestor Kit Step-by-Step Assembly Instructions

4

1 1/2" Water Hammer Arrestor Kit

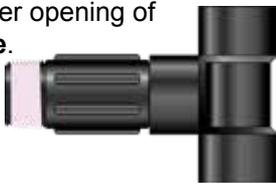
Part #: WHA150-SS-KIT



- 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** Holding the **Tee** so that the **4" Nipple** faces to the left, install the **1 1/2" to 3/4" Reducer Bushing** on the top opening of the **Tee**.



- 4** Install the **Water Hammer Arrestor** on the top of the **1 1/2" to 3/4" Reducer Bushing**.



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



6 Install the **Elbow** assembly at the bottom opening of the **Tee**. Make sure the **Nipple** faces to the right.



7 Attach the **Union** to the **Close Nipple**.



WHA150-SS-Kit Includes:

| Part Number | Qty | Part Number | Qty |
|-------------|-----|----------------|-----|
| WHA150-SS | 1 | HS150-SE-FPXMP | 1 |
| RB150-100 | 1 | NIP150-1 | 1 |
| TT112 | 1 | BK034-U | 1 |
| NIP150-4 | 1 | TEF12 | 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 1 1/2" NDS Kits

Nutrient Delivery System 1 1/2" Kits Dosatron Dosers

D8RE2VFBPHY



D8RE5VFBPHY



D8RE3000VFBPHY



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
World's Powermost Dosing Technology

**Part 8PJ075:
D8RE3000 - 40 GPM
Mini Maintenance Kit**

This kit contains:

| | |
|-------------|------------------------------------|
| (1) PJD1140 | Check valve assembly |
| (1) JDI100 | Injection sleeve o-ring |
| (1) 8PJ074 | Plunger with seal |
| (1) 20J006 | Upper injection stem insert o-ring |
| (1) JDI120 | Injection stem o-ring |

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 # |
|-------------------|----------------|
| 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 # |
|-------------------|----------|
| D8RE2 - 40 GPM | PJDI120 |
| D8RE5 - 40 GPM | PJDI122V |
| D8RE3000 - 40 GPM | 8PJ075 |



DOSATRON
World's Powermost Dosing Technology

**Part PJD1120:
D8RE2 - 40 GPM
Injection Seal Kit**

This kit contains:

| | |
|-------------|-----------------------|
| (1) JDI121 | Plunger seal |
| (1) JDI122 | Injection stem o-ring |
| (1) JDI100 | Sleeve o-ring |
| (1) PJD1118 | Check valve assembly |

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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

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



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LIT-EN-NDS1.5KITS

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