Siphoning Systems

Keep this manual handy for future reference

Owner's Manual

INSTALLATION • OPERATION • PARTS LIST • DOSAGE

Caution:

Read all instructions carefully before beginning the installation

Our Siphoning Systems are made for applying American Hydro Rust Stain Preventers and Liquid Fertilizer products:

RID O'RUST®

GrassSoGreen®

Questions? Need parts or supplies?

Call us at
1-800-347-7487

or e-mail us at
info@americanhydro.com

or visit our web site
www.americanhydro.com
www.ridorust.com

American Hydro Systems inc.

American Hydro Systems

American Hydro Systems

We are dedicated to helping you solve problems that come with using well water to irrigate. Our knowledge of chemistry, irrigation systems and metering pumps will give you the expertise to remove and prevent well water stains and deposits. We want to help you reach your goal of a clean and green landscape. Put our "know-how" to work for you – we are at your service, just a phone call or a mouse click away.

To find out more about our easy to use products and systems, visit our web site:

www.americanhydro.com
www.ridorust.com

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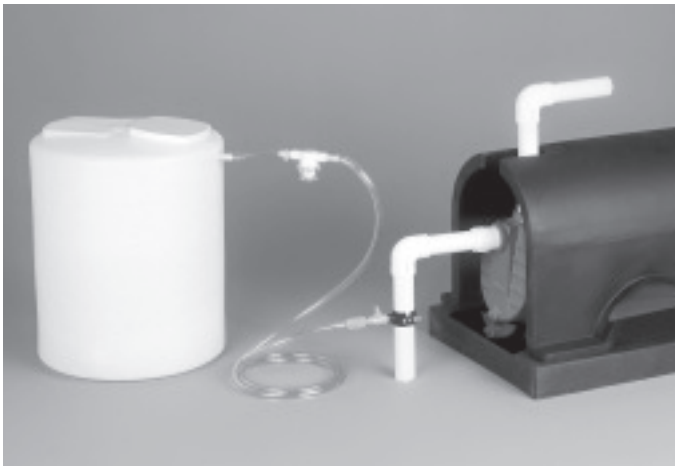
Rid O' Rust Siphoning System Owner's Manual

General Comments on Siphoning Systems



Rid O' Rust feeder systems feed solution containing rust stain prevention formulas into the irrigation line. We have two types of feeder systems: siphoning feeder systems and injection feeder systems.

Siphoning systems are very simple; they have no moving parts. They are installed on the intake side of a well pump. When the pump turns on, the solution of Rid O' Rust Formula and water is automatically drawn from the feeder tank.

Because they only work properly when installed on the intake side of a well pump, siphoning feeder systems can only be used with above ground well pumps.

Siphoning System, 30 Gallon

- Feeds at the rate of approximately one gallon per hour
- Must be refilled after 30 hours of operation
- Easy to install and service, no moving parts
- Removable flip off lid
- UV resistant
- Measures 32" high by 18" in diameter
- Weighs 14 lbs
- Comes with all necessary plumbing, including 6 feet of discharge tubing

Part No.	Description
2650	Siphoning System, 30 gallon

Siphoning System, 15 Gallon

Differs from #2650 in the following:

- Must be refilled after 15 hours of operation
- Snap lid for refilling and servicing
- Measures 20" high by 16" in diameter
- Weighs 10 lbs

Part No.	Description
2660	Siphoning System, 15 gallon

Location & System Installation

LOCATION

We recommend that your siphoning system be placed in a well-ventilated location within 6 feet of the pump. You may hide the tank behind a wall, fence, or shrubs. Set the tank on a smooth, level surface such as a patio block or concrete slab. We advise against burying the tank; you will not be able to see the water level in the tank and will likely find servicing difficult.

INSTALLATION

3 Easy Ways to Install your Siphoning System

Remember that the siphoning system can only be installed on the intake (suction) side of an above ground centrifugal pump. If you install it on the discharge side, you will only create a big leak in your irrigation system.

Diagram Key

Key No.	Description
A	Tank Top
B	Tank
C	Metering Jet
D	Food Valve Sleeve
E	Foot Valve
F	6' Tubing
G	Check Valve
H	Saddle Clamp
I	Threaded Nylon Fitting
J	6" Tubing
K	In-line Filter

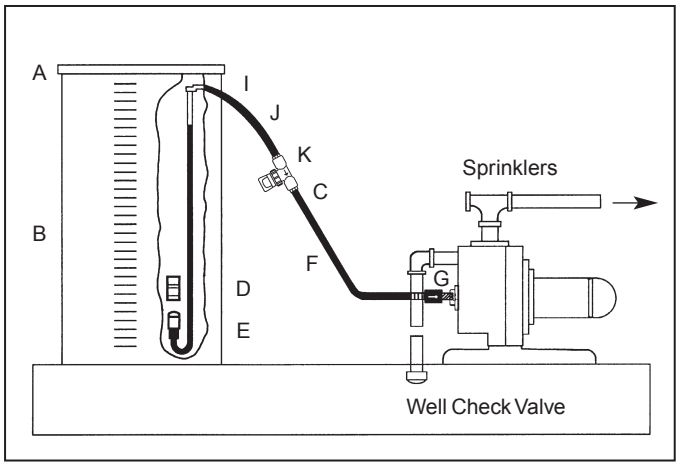
☞ *Before you install, shut off the electricity to the well pump* ***and read the instructions!***

#1 The Easiest Way Possible

Tools needed: Wrench or pliers and plumber's tape

Steps

1. Unscrew the drain plug from the bottom portion of your well pump head.
2. Screw the grey check valve (G) into the drain plug hole. (Note: Before installing check valve, ensure that the threads of the plug are the same size as the check valve.) Add some plumber's tape to the check valve thread, to ensure a proper seal.
3. Go to "Start Up" after reading comment below.



☞ ***Very Important Comment That You Must Read:***

In order to operate properly, the siphoning system must be installed on the suction side (intake side) of your pump. Sometimes the drain plug hole will not create suction. If this is the case, solution will not be drawn out of the tank when you turn on the pump. If so, turn off the pump, unscrew the check valve, replace the drain plug and go to installation #2.

Bad Luck!

System Installation

#2 The Second Easiest Way Possible

Tools needed: drill with 1/4" bit, phillips head screw driver, plumbers tape and saddle clamp.

NOTE: Saddle clamp will only work with 1 1/4" pipe.

Steps

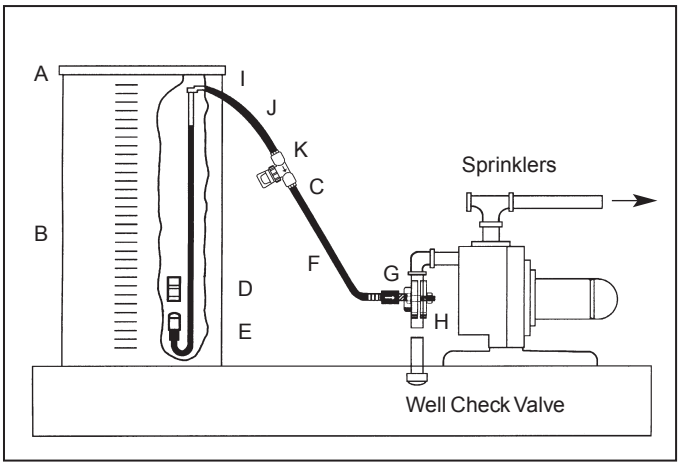
1. Using a phillips head screwdriver, attach the saddle clamp (H) to the suction line of the well pump. The saddle clamp should be placed between the check valve for the well (Note: This may be underground) and the intake side of the well pump.
2. Drill a 1/4" inch hole into the center of the threaded opening of the installed saddle clamp. (Note: If your pump has a pressure tank, turn power off to pump and open up any water valve to relieve pressure from your water line before drilling into pipe).
3. Screw the grey check valve (G) into the saddle clamp. (Note: You may want to add some plumber's tape to the threads to ensure a proper seal).
4. Go to "Start Up."

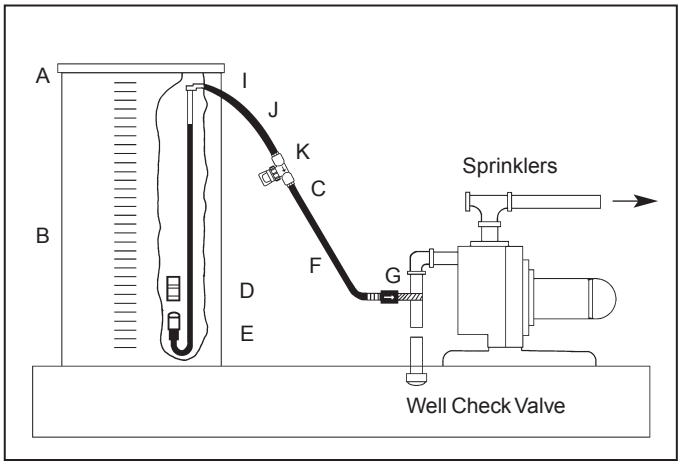
#2 The Third Easiest Way Possible

Tools needed: 7/16" drill bit, 1/4" pipe tap, and plumber's tape.

Steps

1. Drill a 7/16" hole into the suction line of pump. The hole should be drilled as close to ground level as possible between the check valve for the well (Note: This may be underground) and the intake side of the well pump. If your pump has a pressure tank, turn the power off to the pump and open any water valve to relieve pressure from your water line before drilling into pipe.
2. Thread the hole with a 1/4" NPT pipe tap.
3. Screw the grey check valve (G) into the hole that you have just drilled and tapped. (Note: You may want to add some plumber's tape to the threads, to ensure a proper seal).
4. Go to "Start-Up."





Start-up, Final Check-out & Operation

START UP

1. Attach the free end of the 6" of clear vinyl tubing (J) to the barbed end of the threaded nylon fitting (I) on the side of the tank and attach the free end of the 6' of tubing (F) to the barbed end of the check valve (G).
2. Fill the tank 1/2 full of water. It is preferable to use municipal or soft water when available.
3. Turn on the sprinkler pump. Watch the clear vinyl tubing (F) and the clear housing of the in-line filter (K). Water should appear in about 30 seconds to a minute as a thin continuous stream from the metering jet (C) that is attached to the in-line filter. If it does, great, your system is ready to run.
4. If it does not , the foot valve(E) in the tank is likely not operating correctly. Shut off the pump. Shake the foot valve vigorously, whacking it against the side of the tank. This will purge trapped air from the foot valve and free up the float ball that is enclosed in the foot valve housing.
5. SEE #3 above.
6. Add chemical according to dosage recommendations on page (9) and fill the tank up to the 30 gallon mark. Note: Make sure that you have your well water tested to ensure you have the correct Rid O'Rust Formula for your type of water.
7. When the tank is filled up, add 2 cups of house hold bleach to prevent algae growth in the tank.

FINAL CHECK OUT AND OPERATION

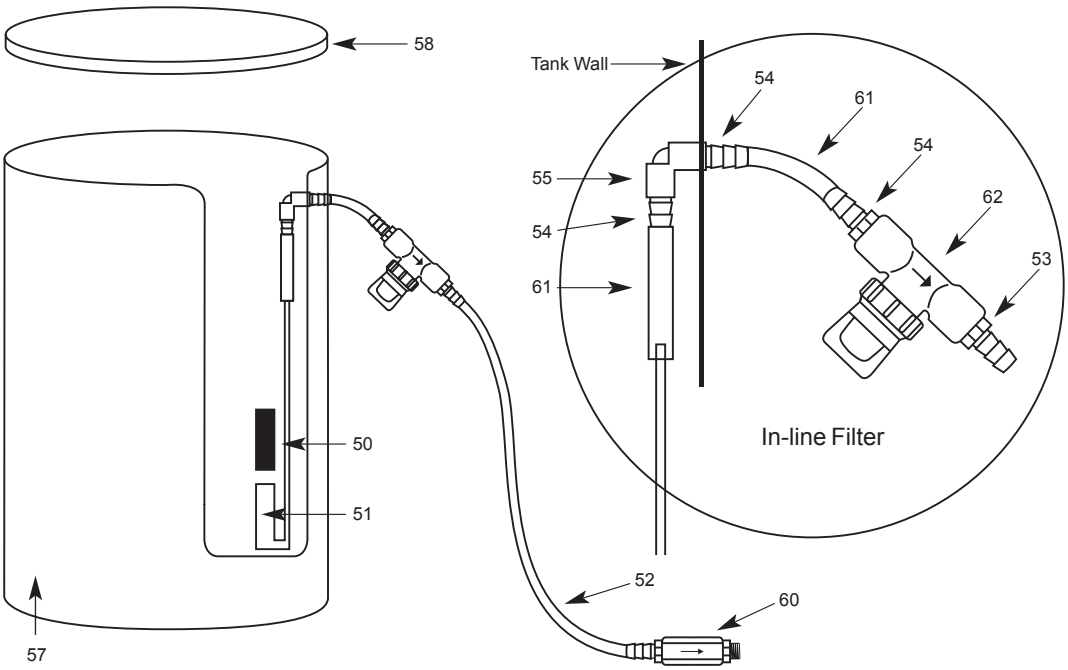
1. Turn on the sprinkler system. Watch for a thin stream of solution flowing from the metering jet (C) in to the clear tubing (F) by letting your sprinkler system run for several minutes. Turn off the pump to see if the liquid level in the clear tubing holds. If the well pump's check valve and the siphoning system check valve (G) are installed properly, the solution in the clear tubing will not continue to siphon out.
2. Generally, the liquid level in the tank will drop one gallon per hour of operation (based on a 1 horse power pump). As a rule, it is wise to refill the tank before it drops below the top portion of the foot valve (E) in the bottom of your tank.

CAUTION:

GrassSoGreen fertilizer is formulated to be mixed in the same tank with the Rid O' Rust formula. However, the nitrogen in the fertilizer will react with bleach if mixed together at the same time. Allow the fertilizer to mix thoroughly with water before slowly and carefully adding bleach. Again, the feeder tank should be located in a well-ventilated place.

The use of any other chemicals such as pesticides or herbicides is discouraged. These can be harmful to plants and animals and will likely damage the system. Use of these chemicals or any other chemicals not manufactured by American Hydro Systems will void the warranty.

Siphoning Feeder System Parts Diagram



Key No.	Part No.	Description
50	265050	Foot valve sleeve
51	265051	Foot valve
52	265052	3/8" I.D. tubing – 6 feet
53	265053	1/4" Metering jet
54	265054	1/4" Nylon fitting
55	265055	1/4" 90° PVC elbow
57	265057	30 Gallon tank & top
58	265058	Replacement top
60	265060	1/4" Check valve
61	265061	3/8" I.D. tubing – 6 inches
62	265062	In-line Filter
X	265064	15 Gallon tank & top
X	265066	Saddle clamp
X	265070	All inside parts/siphoning system
X	265071	All outside parts/siphoning system
X	265072	"The Works" — all parts/siphoning system

X = Not Illustrated

In Line Filter

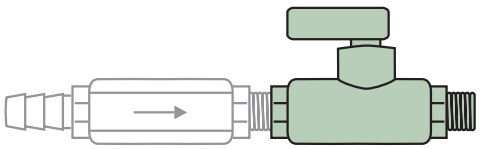
The In-line Filter assembly, with metering jet positioned after the filter, prevents the metering jet from being blocked up by well water sediment.

Cut-off Valve

(optional)

The Cut-off Valve is installed after the check valve and enables the user to disengage the siphoning system entirely. This is particularly useful when a feeder system is being used to fertilize only.

Part No.	Description
265065	Cut-off valve



Maintenance & Troubleshooting

MAINTENANCE

(Refer to Parts List Diagram on page 7)

1. The holding tank should be cleaned out on a regular basis with soapy water and bleach to achieve maximum performance from your system.
2. Add 2 cups of household bleach each time the tank is filled, or at least a cup every 2 weeks to prevent algae from forming inside the tank.
3. Remove clear filter housing from in line filter (62) and wash out filter screen with soapy water and bleach on a regular basis to ensure the metering jet (53) stays free of dirt and algae.

TROUBLE SHOOTING

(Refer to Parts List Diagram on page 7)

1. No Chemical Flow from Tank:

- Foot valve closed (51): Shake foot valve or tap it against the inside wall of tank to purge trapped air or remove clear tubing (61) from outside of tank and blow through opening to free ball in foot valve housing.
- Metering jet clogged (53): Remove and clean the opening with a thin wire.

  Note: Do not enlarge jet opening. Replace if needed.
- Clogged filter (62): Remove clear filter housing and wash out filter.
- Check valve closed (60): Remove clear hose (52) from metering jet (53).

  Put thumb over hose opening and turn on well pump to see if you have suction.

  If there is suction, there is no problem with the check valve. If there if no suction, remove the check valve, wash it out and screw it back in. Perform steps again to confirm that you now have suction.

  Note: On a regular basis all items should be washed and rinsed in a bleach solution to achieve maximum performance from your feeder system.

2. Solution in Tank Drops To a Certain Level and Stops:

- Check fittings to see if they are secure. There may be a possibility that the fittings are too loose, permitting air to be sucked into the line from the ends of the tubing so that the vacuum is lost. Secure fittings with nylon ties or hose clamps.

3. Tank Empties Too Fast:

- Enlarged Metering Jet (53): Remove and replace with new metering jet.
- Well pump check valve malfunctioning. If the well pump has not been able to hold prime prior to the time the feeder system was installed, there is a strong possibility that the check valve in the pump suction line is old and needs to be replaced. In any event, check valves in older pumps can fail and cause solution to be siphoned out of the tank after the well pump stops pumping.

Technical Help

- If none of the above trouble-shooting steps produce results, please call your local installer or American Hydro Systems at 1-800-347-7487.

Which Rid O' Rust Formula and Dosage Should I Use?

How do you determine which Rid O' Rust Formula to use?

Step One:
Test the well water for three things:

pH:
The measurement of well water's relative acidity or alkalinity is termed "pH." Neutral pH is 7.0. A reading lower than 7.0 is to the acidic side, a reading higher than 7.0 to the alkaline side.

Hardness:
Hardness is measured in grains per gallon (gpg). We consider well water measuring 15 gpg or more to be relatively "hard."

Iron:
Iron content is measured in parts per million (ppm). One part per million (1 ppm) will produce a noticeable rust stain in a month or so.

Step Two:
Choose the proper formula:

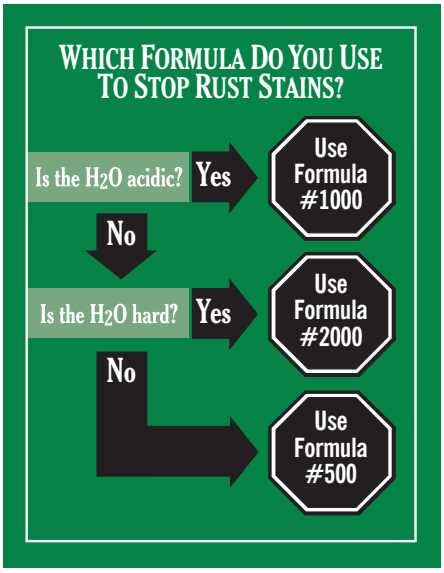
For **"acidic"** well water measured at a pH of 6.0 or lower, you MUST use Formula #1000.

For **"hard"** well water measuring in the 15-20 gpg range or higher, we recommend Formula #2000. It is the most cost efficient product for these conditions.

For most applications, Formula #500 will do the job.

Note:
We recommend that well water be tested at least annually and preferably every six months.

Call us if you need your water tested:
1-800-347-7487



What are the recommended dosage amounts for a Siphoning Feeder System?

Stain Preventer Formula: Dosage Amounts for a 30 Gallon Tank		
	Amount of Formula to Add at Each Filling	
Parts per Million of Iron	**Formula 500** Quarts	**Formulas 1000, 2000** Gallons
1	1/2	1/2
2	3/4	3/4
3	1	1
4	1 1/2	1 1/2
5	2	2
6	2 1/2	2 1/2
7	3	3

Notes:

- The remainder of the tank is to be filled with water. Bleach may be added for algae prevention only after the mixture is fully diluted. Adding bleach directly to the Formula will cause a gas release.
- A 25 gallon per minute maximum flow rate is assumed for the irrigation system. Dosage should be increased proportionately, if the flow rate is higher.
- At a one gallon per hour feed rate, the system should provide about 30 hours of watering before the tank must be refilled.

Please retain the following information for your records:

Date Siphoning System installed:

_____

System purchased from:

_____

Installer's name:

_____

Telephone number:

_____

Well Pump HP:

_____

Results of well water test:

Iron in PPM _____

Hardness in GPG _____

pH _____