

American Hydro Systems inc.

PRODUCT CATALOG



Specialized products for a
**Clean and Green
Landscape**

American Hydro Systems Products Catalog

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 and reach your goal of a clean and green landscape.

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Sprinkler Water Stains and Deposits



Many well-based irrigation systems produce stains and deposits on walls, driveways, sidewalks and even on plants, shrubs and trees. A number of different materials present in well water can cause stains and deposits. Generally the color of the stain indicates what is causing the problem.

The following table contains the most common stains and their sources.

What Causes Irrigation Stains Anyway?

COLOR OF STAIN	STAIN SOURCE
LIGHT YELLOW	TANNIN
RED/ORANGE	IRON
WHITE	CALCIUM

How are stains removed and/or prevented?

1. Tannin:

Organic matter in the well water such as decomposed plant material, etc., causes this stain. We find that stains can appear with tannin in excess of 3 ppm.

These stains are best removed by diluted household bleach. If bleach does not remove the stain, the stain may be caused by iron oxide, or rust!

2. Iron:

Ferrous iron in the well water combines with oxygen at the sprinkler head to form iron oxide (rust).

This is the rust stain seen on surfaces hit by the sprinkler water. As an inorganic stain, iron oxide is best removed by our Rust Stain Removers.

Our rust stain removers are an excellent - biodegradable, grass- and plant-friendly rust stain remover.

Rust stains are best *prevented* with American Hydro Systems Formula products.

3. Calcium (Hard Water):

Crystals of calcium carbonate deposited by the well water leave a white scale on leaves and other surfaces.

To prevent hard water residue, use Calcium Cracker. Hard water residue can be cleaned off most surfaces with Rusty.

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Products for Removing Rust Stains



Our chemicals enable you to remove rust stains by simply spraying them on the stained surface with a trigger sprayer — no scrubbing or high pressure spraying is required. You may want to use a pump-up type sprayer for easy application.

- They are safe for application on most man-made surfaces, except for those materials containing iron oxide such as manufactured colored pavers, certain stones, colored stuccos and the like.
- They are biodegradable and non-carcinogenic.
- With normal application, they will not harm grass or shrubs with over-spray.

Rid O' Rust Liquid Rust Stain Remover

Ready to spray on, one gallon will cover approximately 400 square feet. More concentrated stains may require additional applications.

Part No.	Description	Unit
2662	Liquid Stain Remover	One Gallon
2662-PA	Liquid Stain Remover	5 Gallon Pail
2662*DR	Liquid Stain Remover	55 Gallon Drum

Rusty Powder Rust Stain Remover

Must be thoroughly mixed with warm water. 12 ounces will provide one gallon of finished solution which will cover approximately 400 square feet. More concentrated stains may require additional applications.

Part No.	Description	Unit
2653	Powder Stain Remover	12 oz. Bottle
2653-45	Powder Stain Remover	45 Pound Pail

Cautions:

Cautions: Our Rust Stain Remover removes rust stains caused by irrigation from most inorganic surfaces including metal siding, concrete, stucco, grout and the like.

Rust Stain Remover may leave a white residue on dark surfaces such as asphalt and red brick unless it is rinsed off promptly after application.

Do not apply to materials that contain iron oxide either in the surface pigment or as a constituent element of the material as Rust Stain Remover may take the color out of the material.

Important: Always test a small area first, apply and then wait for the surface to dry thoroughly before continuing.

Remember, these products will remove stains, but will not prevent them from coming back! For rust stain prevention, please see page 2.



RID O' RUST®

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Stain Prevention Formulas



It is one thing to remove existing rust stains; it is another to keep them from coming back. Preventing stains requires installing a system that feeds a special chemical into the irrigation line. We call these chemicals our Rid O' Rust rust stain prevention Formulas. Sold as concentrates, the Formulas are mixed with water in a feeder tank and then fed into the irrigation line.

How do Rid O' Rust Formula Products work?

Rid O' Rust Formula products "chelate" or "sequester" the ferrous iron (as well as other minerals in well water), preventing the ferrous iron from combining with oxygen to form ferric oxide — RUST.

Rid O' Rust Formula products do not actually remove the iron, they neutralize the iron so that it won't react with air. The Formulas are introduced into a well water line via a feeder system — either a siphoning system or an injection system. The amount of Formula to be mixed in the feed tank with water is determined by analysis of the well water and a determination of the irrigation system's maximum flow rate.



RID O' RUST®

Formula 500

Original Formula

One quart of Rid O' Rust Formula 500 will treat 125,000 gallons of well water with 1 ppm (part per million) iron. It is most effective when the pH of the water is 6.0 or higher and hardness measures 15 gpg (grains per gallon) or less. It is made for irrigation applications only.

Part No.	Description	Unit
2656	Formula 500	1 Quart
2656-GL	Formula 500	1 Gallon
2656-PA	Formula 500	5 Gallon Pail
2656-DR	Formula 500	30 Gallon Drum

Formula 1000

Acidic Well Water Formula

One gallon of Rid O' Rust Formula 1000 will treat 125,000 gallons of well water with 1 ppm iron and a pH of 6.0 or less. It is made for use with acidic (low pH) well water and for irrigation applications only.

Part No.	Description	Unit
2665	Formula 1000	1 Gallon
2665-PA	Formula 1000	5 Gallon Pail
2665*DR	Formula 1000	55 Gallon Drum

Formula 2000

Hard Well Water Formula

One gallon of Rid O' Rust Formula 2000 will treat 125,000 gallons of well water with 1 ppm iron and hardness of 15 gpg or more. It is made for use with hard well water and for irrigation applications only.

Part No.	Description	Unit
2666	Formula 2000	1 Gallon
2666-PA	Formula 2000	5 Gallon Pail
2666*DR	Formula 2000	55 Gallon Drum

Formula 3000

Extreme Well Water Formula

One gallon of Rid O' Rust Formula 3000 will treat 125,000 gallons of well water with 1 ppm iron. It is made for use with well water that has fluctuating pH and hardness and for irrigation applications only.

Part No.	Description	Unit
2667	Formula 3000	1 Gallon
2667-PA	Formula 3000	5 Gallon Pail
2667*DR	Formula 3000	55 Gallon Drum

Rid O' Rust Formulas will not be effective under certain circumstances. Please refer to warranty information for further explanation.

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Choosing the Formula to Use

Follow these very important steps:

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 considered acidic, a reading higher than 7.0 is considered alkaline.

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 gpg range or higher, we recommend Formula #**2000**. It is the most cost efficient product for these conditions.

For moderate pH and moderate hardness, American Hydro Systems Formula #**500** will do the job.

For "extreme" well water with fluctuating pH and hardness we recommend Formula # **3000**.

Note:

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

WHICH FORMULA DO YOU USE TO STOP RUST STAINS?

Is the H₂O acidic?

Yes

Use
Formula
#1000

No

Is the H₂O hard?

Yes

Use
Formula
#2000

No

Use
Formula
#500



This is Very Important Information!

Use this chart to determine which American Hydro Systems Formula you need to use.

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How much Formula do you put in the tank?

Important:

In order to use this chart you **MUST** know the feed rate of the feeder system you are using. The charts are based on **(A)** a 30 gallon feed tank, and **(B)** a 25 gallon per minute flow rate for the irrigation system. If your particular application has a different tank size or flow rate, the dosage figure must be adjusted. Please note that Formula 500 is presented in **quart units**. All other Formulas are presented in gallon units. To see how long a tank-full of solution will last, refer to page 10. Fill up the tank the rest of the way with water and Grass So Green after you pour in the proper amount of preventative.

Gallons of Formula 1000, 2000 and 3000 and Quarts of Formula 500 to Add to Feed Tank				
Parts Per Million of Iron	Feed Rate of Feeder System			
	5 gallons per day (.21 gallons per hour)	10 gallons per day (.42 gallons per hour)	22 gallons per day (.92 gallons per hour)	24 gallons per day (Siphoning System)
1	2.15	1.07	0.49	0.45
2	4.30	2.14	0.98	0.90
3	6.45	3.21	1.47	1.35
4	8.60	4.28	1.96	1.80
5	10.75	5.35	2.45	2.25
6	12.90	6.42	2.94	2.70
7	15.05	7.49	3.43	3.15
8	17.20	8.56	3.92	3.60
9	19.35	9.63	4.41	4.05
10	21.50	10.70	4.90	4.50

Note: You must increase the dosage **proportionately** if:

- (a) Your application involves a feed tank larger than 30 gallons and/or
- (b) Your application involves a flow rate in excess of 25 gallons per minute.

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GrassSoGreen Fertilizer



Fertilize by adding our environmentally friendly liquid fertilizer in your feeder system.

- A nitrogen-rich solution that enhances grass greening
- Designed to be fed through the irrigation system and provide a steady stream of a small quantity of nutrient
- Will not burn your grass like granular fertilizer
- Phosphate free! Meets state regulations for no phosphates!

GrassSoGreen Fertilizer is the ONLY fertilizer specifically formulated to be mixed in the same feeder system with Rid O'Rust Stain Prevention Formulas.

Part No.	Description	Unit
2655	GrassSoGreen	One Gallon

Guaranteed Analysis:	
Total nitrogen	19%
Available phosphate	0%
Soluble potassium	0%



GrassSoGreen Fertilizer Dosage Chart

Siphoning Feeder System and Injection Feeder System (30 Gallon Tank)

Gallons of GrassSoGreen To Put In Feeder Tank				
Number of times you refill the feeder tank:	Approximate area to be covered			
	1000 sq ft	2,500 sq ft	5,000 sq ft	10,000 sq ft
Monthly	0.25 gal	0.75 gal	1.50 gal	3.00 gal
Every 2 months	0.50 gal	1.50 gal	3.00 gal	6.00 gal
Every 3 months	0.75 gal	2.25 gal	4.50 gal	9.00 gal

Notes:

- The remainder of the tank should be filled with water. One cup of Bleach may be added for algae prevention only after the mixture is fully diluted. Adding bleach directly to the fertilizer will cause a gas release.
- GrassSoGreen may be combined in the tank with both Rid O'Rust Stain Preventer and Calcium Cracker Formulas.
- The amounts shown are based on minimum requirements — the grass will only get greener if you add more!

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Feeder Systems - Siphoning System



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

Note: 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 sprinkler 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 8 feet of discharge tubing

Part No.	Description
2650	Siphoning System, 30 gallon

the
PUMP
HAUS™

Protects
Pump Motors
from
Rusting out



This sturdy pump cover protects all types of above-ground pumps.

Features

- Rugged one piece construction
- Non-rusting
- UV-resistant
- Fits most pumps
(22" long x 15.5" high x 18.5" wide; weighs 6.8 lbs)
- Allows for air circulation
- Easy to install
- Cut-out template for discharge line
- Feet can be secured to a base
- Lifetime warranty

Part No.	Description
265075	PumpHaus-Pump Cover (Minimum order = 2)



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Feeder Systems - Injection System Pumps



Injection System, 30 Gallon

- Prevents ugly rust stained scale caused by well water
- Easy installation with new and existing irrigation systems
- Automatically operates every time your irrigation system runs
- Friendly to plants and animals

Injection System Includes

- Heavy duty 30 gallon tank and lid
- 5 GPD Indoor Pump with all valves and connectors
- 20' - 1/4" vinyl tubing
- 120 volt Pump Start Relay in enclosure
- Water test kit
- Instructions and owners manual

Injection feeder systems consist of a small metering pump with all necessary tubing and valves and a feeder tank. An injection feeder system can be used on any type of sprinkler pump — above ground or submerged, as well as a city water system. It can be used to inject Formula and/or fertilizer into irrigation lines. The metering pump is installed so that it pumps solution from the feeder tank into the irrigation line when the irrigation system is turned on.

An injection system can be installed either outside, exposed to the elements, or inside, in a garage or basement. It must be close to a power source as well as the irrigation system's controls to which it will be connected. The actual injection point into the irrigation line can be as far away from the metering pump body as 75 feet.

It is wise to use a metering pump with an adjustable stroke rather than a fixed rate feed metering pump. This will give you greater flexibility in application.



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Feeder Systems - Injection System Pumps

Peristaltic Metering Pumps for Indoor Installations

Characteristics:

- 100 psi maximum operating pressure
- Self priming
- Requires housing if used outdoors
- Maximum lift on intake side, approximately 20 feet; maximum discharge length, 75 feet.
- Quiet operation

Models available:

Part No.	Description
#2678 Stenner 85MHP5	Fixed feed rate, 5 gpd
#2688 Stenner 45MHP10	Adjustable feed rate up to 10 gpd
#2692 Stenner 45MHP22	Adjustable feed rate up to 22 gpd

Note: The voltage must be specified when ordering Stenner pumps.

Diaphragm Metering Pumps For Outdoor Installations

Characteristics:

- 110 psi maximum operating pressure
- Self-priming
- "Weatherable," requires no housing to protect it from rain or snow
- Maximum lift on intake side approximately 10 feet; maximum discharge length 75 feet
- Noticeable "thump" when operating

Models available:

Part No.	Description
#2701 Neptune PZ-31 VFC	Adjustable feed rate up to 11 gpd
#2702 Neptune PZ-61	Adjustable feed rate up to 22 gpd

Note: The Neptune pump can go either 110 or 220 volt. Voltage need not be specified.



Component Parts

Application	Metering Pump	Feeder Tank
Injection Systems: Above ground centrifugal well pumps and submersible well pumps Maximum flow rates under 40 gpm	#2678 (5 gpd fixed rate peristaltic pump) #2688 (10 gpd adjustable peristaltic pump) #2701 (11 gpd adjustable diaphragm pump)	#265057-1 (30 gallon) Larger tanks may be used for extended operating periods
Maximum flow rates 40 gpm to 100 gpm	#2692 (22 gpd adjustable peristaltic pump) #2702 (22 gpd adjustable diaphragm pump)	Larger tanks for extended operating periods: #265059-65 (65 gallon) #265959-100 (100 gallon)
Maximum flow rates over 100 gpm	Use two injection pumps (#2692 or #2702) and two feeder tanks	Larger tanks for extended operating periods.

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Feeder Systems - Injection Systems Feed Tanks

Our Irrigation Feeder Systems include the tank as part of the system. We offer several different size tanks and various pumps to custom fit any job.



Tank Size	Part No.	Dimensions (Diameter x height)
15 Gallon (not shown)	265064	14" x 24"
30 Gallon, Siphoning system	265057-S	18" x 32"
30 Gallon, Injection system	265057-I	18" x 36"
65 Gallon	265059-65	23" x 47"
100 Gallon	265059-100	31" x 43"
200 Gallon (not shown)	265053-200	47" x 31"

How Long Will a Tank-full Last?

Hours of Operation Until Refill

Pump Feed Rate Per Hour	Pump at % Setting	#265057-I 30 Gallon	#2650-59 65 Gallon	#265059-100 100 Gallon
0.21	#2678 Fixed Rate	143	309	476
	#2688 @50%	143	309	476
	#2701 @50% (approx.)	143	309	476
0.31	#2688 @75%	94	203	313
	#2701 @75% (approx.)	94	203	313
0.42	#2688 @100%	71	155	238
	#2701 @100% (approx.)	71	155	238

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Water Testing Materials



It is **very important** that well water be tested before installing a feeder system to prevent rust stains. The **particular** Rid O'Rust Formula you use and the **amount** you put in the feeder tank depend on the test results. We offer several types of test kits:

Part No.	Description
2401	Field Analysis Kit (Iron, Hardness, pH) - 50 Tests each
Test-8	"Do-It-Yourself" test kit, 2 each iron, hardness, pH

Replacement Parts for Field Analysis Kit

3493599	Hardness Test Measuring Tube
3493399	Hardness Test Bottle, Square
2025	Hardness #1 1oz.
2027	Hardness #2 1 oz.
2029	Hardness #3 1 oz.
2105	Iron Reagent Foil Pack, 5 ml
2031	pH Indicator, Wide Range, 1 oz.
3493699	Dual Test Stand, pH & Iron



HOW DO YOU GET THE WELL WATER TESTED?

1. If you want us to test the well water for free, let the sprinkler run for 4 to 5 minutes before taking the sample. Mail us 4 to 6 oz. of water with the container top securely taped.

If you want us to recommend dosage for the Rid O'Rust system, you must send us the information requested on page 18 as well as the water sample.

OR

2. Take a 6 oz. sample of the well water to your Rid O'Rust distributor.

OR

3. Take a 6 oz. sample to a water testing laboratory.

OR

4. Test it yourself with the "Do-It-Yourself" kit that comes with every system.

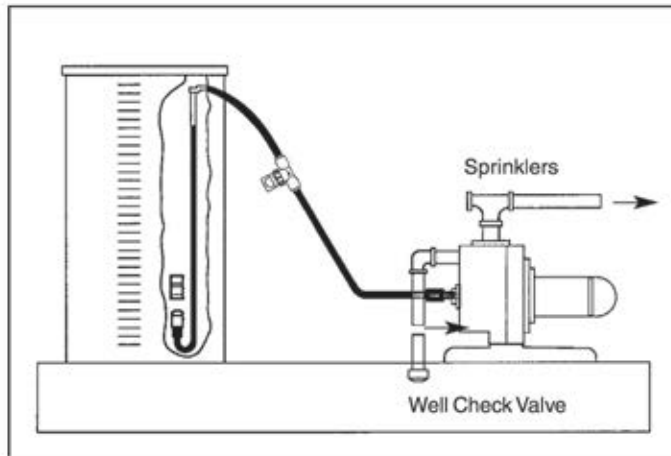
OR

5. Test it yourself with your own testing equipment.

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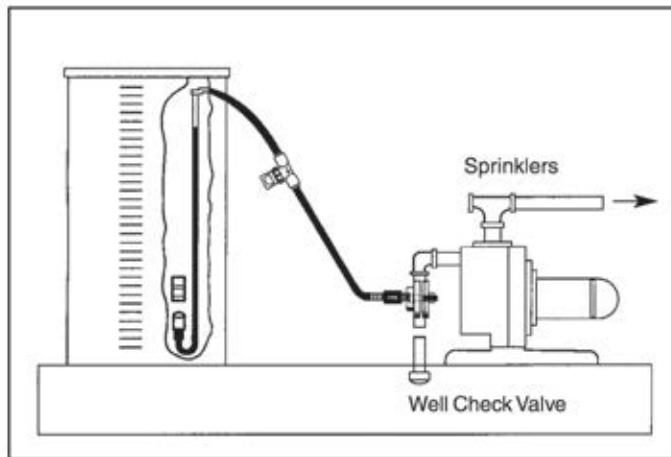
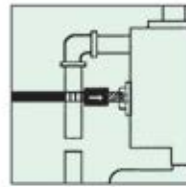
Siphoning System - Installation

Three easy ways to install



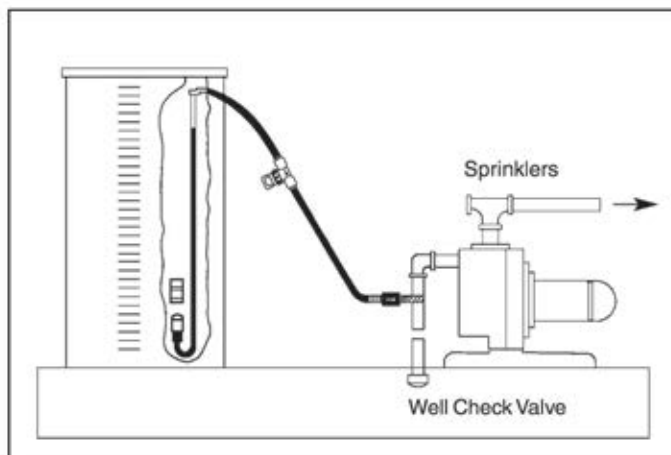
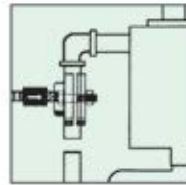
1.

The easiest way is to remove the well pump's drain plug and screw in the Rid O' Rust check valve.



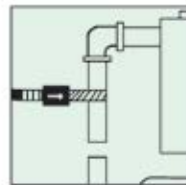
2.

The second easiest way is to use the saddle clamp provided (if the pipe is the proper diameter).



3.

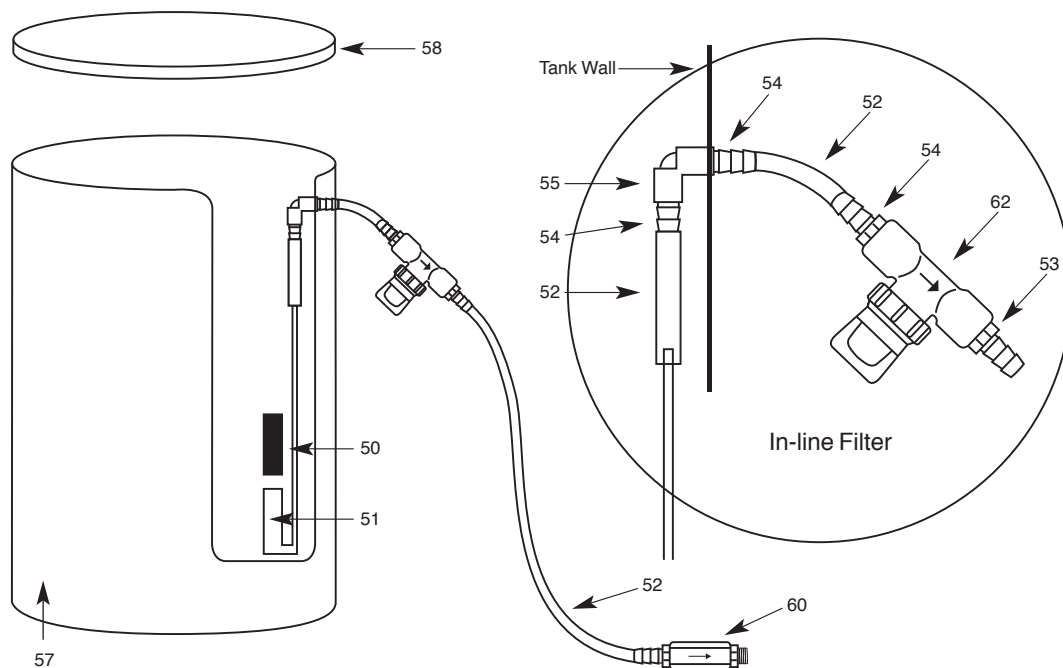
The third easiest way is to drill, tap, and then screw the check valve into the hole you have made.



Finally... You can simply put a "T" in the line. Please refer to the Siphoning System Manual that comes with the system for specific instructions.

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Siphoning System - Parts



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-S	30 Gallon tank & top
58	265058-S	Replacement top
60	265060	1/4" Check valve
62	265062	In-line Filter
☒	265064	15 Gallon tank & top
☒	265065	Cut-off Valve
☒	265066	Saddle clamp
☒	265070	All inside parts/siphoning system
☒	265071	All outside parts/siphoning system
☒	265072	"The Works" — all parts/siphoning system
☒	2650-Kit	2 Metering jets, 2 foot valve sleeves, 2 ties

☒ = Not Illustrated

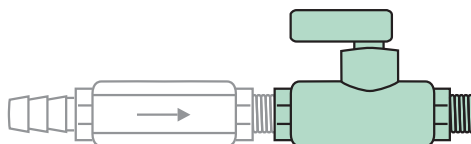
In Line Filter

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



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Injection System - Installation

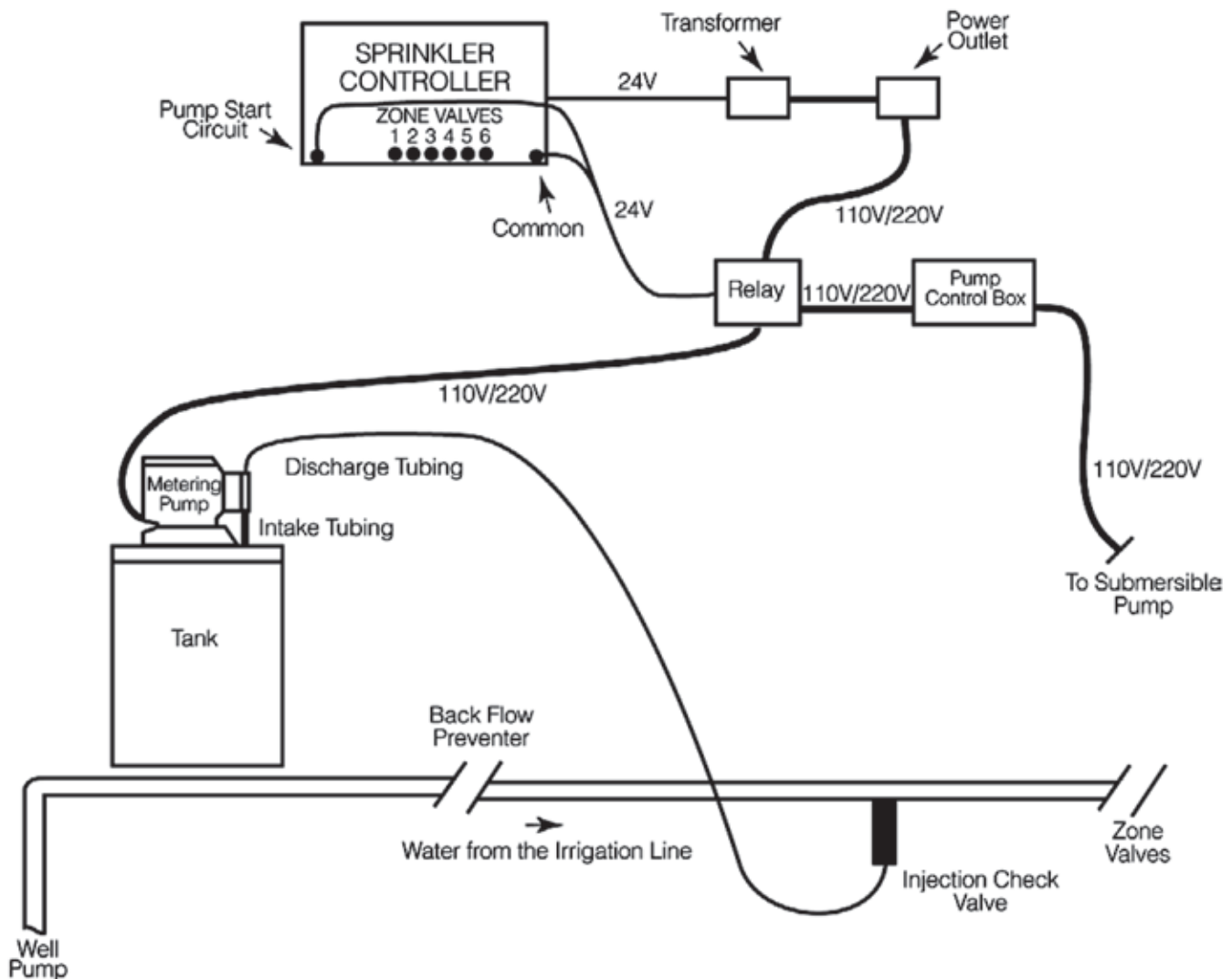
Case 1:

Well used for irrigation only, no pressure tank:

1. If there is no pressure tank, the metering pump may be connected to the pump start relay for the well pump so that the well pump and the metering pump turn on simultaneously.
2. Plumbing code typically requires a back flow preventer in the irrigation system. Consult your local code to determine the type of back flow preventer required with a American Hydro Systems injection system.

The metering pump injection point should be downstream of the back flow preventer and upstream of the first zone (between the backflow preventer and the first zone).

3. The “pig tail” on the power cord of the metering pump, doing so will void the warranty. Use our pump start relay.



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Injection System - Installation

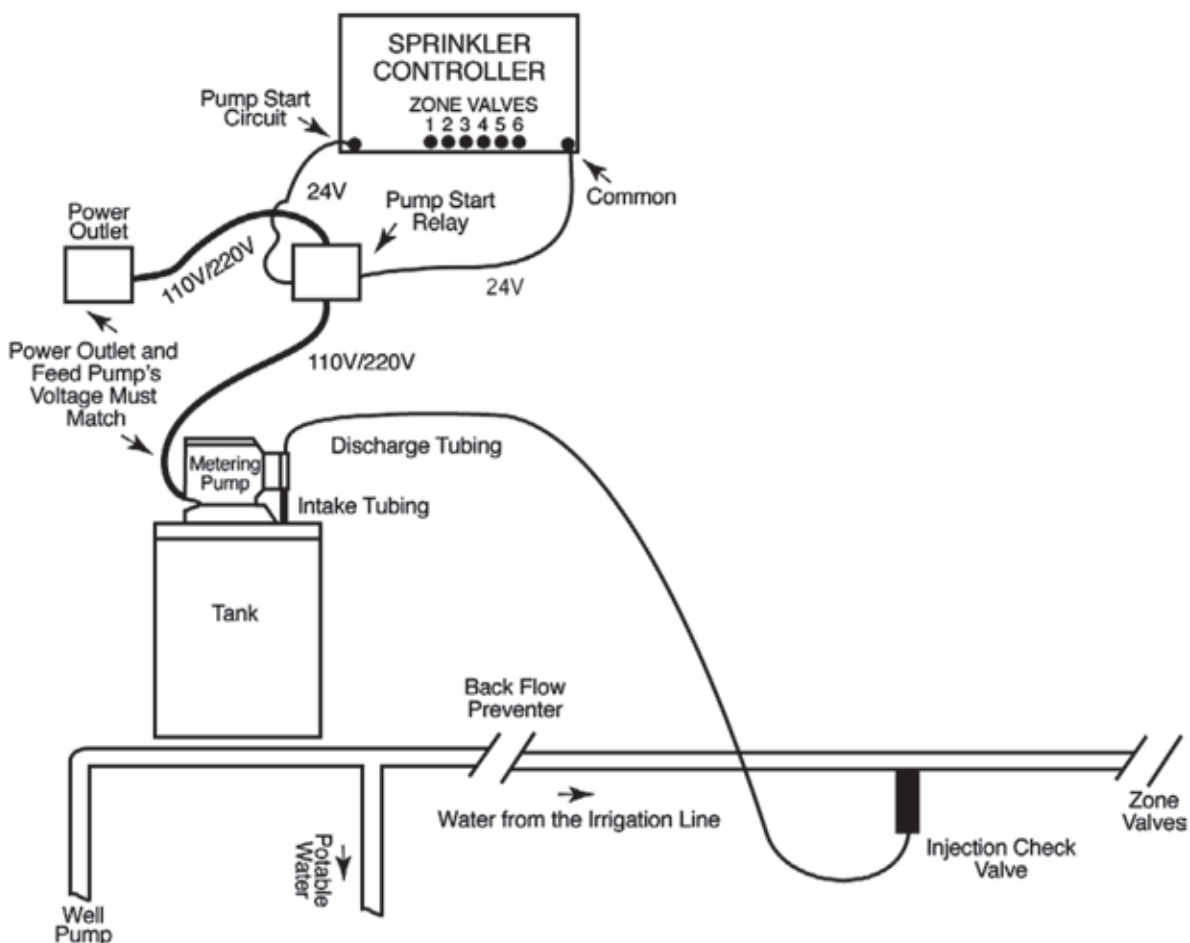
Case 2:

Well used for drinking water and irrigation or irrigation system has a pressure tank:

1. The metering pump must be connected to the controller unit for the irrigation system. This can be done by using the pump start circuit in the controller unit or by installing a separate pump start relay and connecting that relay to the controller unit.
2. Plumbing code typically requires a backflow preventer. Consult your local code to determine the type of back flow preventer required with a American

Hydro Systems injection system. The metering pump injection point should be downstream of the pressure tank, the "T" for the drinking water line and between the backflow preventer and the first zone.

3. The "pig tail" on the power cord of the metering pump is generally cut off so the power cord can be spliced to the relay or the controller unit (whichever is used).



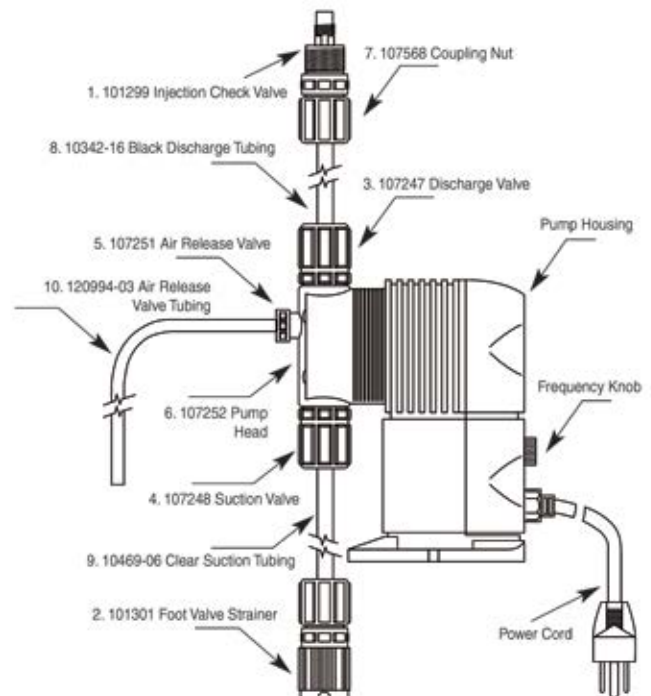
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Injection System - Parts

Neptune Diaphragm PZ31 pump: Part #'s 2701, 2702

Key No.	Part No.	Description
1	PZ-101299	Anti-siphon check valve
2	PZ-101301	Foot valve assembly
3	PZ-107247	Discharge valve assembly
4	PZ-107248	Suction valve assembly
5	PZ-107251	Air release valve assembly
6	PZ-107252	Pump head
<input checked="" type="checkbox"/>	PZ-107258	Diaphragm set
<input checked="" type="checkbox"/>	PZ-107262	Valve seat sets (pkg. of 2)
<input checked="" type="checkbox"/>	PZ-107567	Retaining ring
7	PZ-107568	Coupling hose nut
<input checked="" type="checkbox"/>	PZ-107976	Complete repair kit
8	PZ-10342-16	Discharge tubing, black, .375 OD (16ft.)
9	PZ-10469-06	Suction tubing, clear, .375 OD (6ft.)
10	PZ-120994	Air release valve tubing .2500

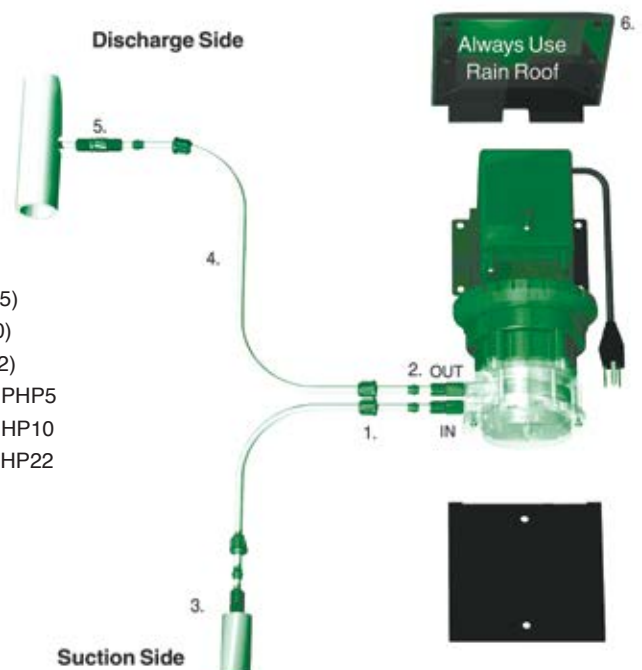
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Stenner Peristaltic pump: Part #'s 2678, 2688, 2692

Key No.	Part No.	Description
1	S-UCAK100	Connecting nut 1/4" (pkg of 10)
2	S-UCAK200	Ferrule 1/4" (pkg of 10)
3	S-ST114	Suction line strainer 1/4"
4	S-AK4002B	Discharge/suction tube 1/4"
<input checked="" type="checkbox"/>	S-AK4010B	Discharge/suction tube 1/4"
5	S-UCDBINJ	Injection check valve 1/4"
<input checked="" type="checkbox"/>	S-UCCVDBO	Check valve (duck bill type) (pkg of 2)
<input checked="" type="checkbox"/>	S-UCCP201	# 1 Tube assembly with ends (pkg of 2)(85MHP5)
<input checked="" type="checkbox"/>	S-UCCP202	#2 Tube assembly with ends (pkg of 2)(45MHP10)
<input checked="" type="checkbox"/>	S-UCCP207	# 7 Tube assembly with ends (pkg of 2)(45MHP22)
<input checked="" type="checkbox"/>	S-HPACK-1B	1/4" Accessory kit with #1 tube assembly for 85MHP5
<input checked="" type="checkbox"/>	S-HPACK-2B	1/4" Accessory kit with #2 tube assembly for 45MHP10
<input checked="" type="checkbox"/>	S-HPACK-7B	1/4" Accessory kit with #7 tube assembly for 45MHP22
6	S-MP1000	Rain Roof
<input checked="" type="checkbox"/>	S-UCTHC1D	#1 Tube head assembly
<input checked="" type="checkbox"/>	S-UCTHC2D	#2 Tube head assembly
<input checked="" type="checkbox"/>	S-FC504OD	Feed rate controller

= Not Illustrated



AMERICAN HYDRO SYSTEMS

Problem Applications

Certain conditions can indicate problem applications

Condition

The iron content is greater than 5 ppm

The water sample is red/orange when it is taken

The water sample is yellow/brown when it is taken

The water source is a lake or stream

Potential Problem and Recommended Action

Treatment could be more expensive than the customer anticipated. You should review the numbers and test results with the American Hydro support staff.

There could be ferric iron in the water because oxygen is getting into the system. Is the well head sucking air? Do sprinkler heads sputter all during the irrigation cycle? Is there a leak in a pressure tank? Is there metal piping that is corroding? Any of these conditions must be eliminated in order for the Rid O'Rust system to work.

There could be ferric iron in the water because of iron bacteria. Is there a coating of slime on the inside of the piping? Do gelatinous coatings clog filters periodically? Place the water sample in a dark environment for several days; does a scum appear on the water surface or do dark clumps appear in the sample? If so, have the water tested for iron bacteria and if it is present, treat it before installing a Rid O'Rust system. Even after you treat for iron bacteria, you will need to install a Rid O'Rust system to prevent iron staining because there will still be iron in the well water!

Tannin in the well water can be the source of the staining. Is the stain removed by bleach? If so, tannin is a major contributor to the stain. If bleach doesn't affect the stain, the culprit is iron, so go ahead and treat it with a Rid O'Rust system. When in doubt, send a sample to American Hydro for testing.

Dissolved oxygen in the water is going to prevent the Rid O'Rust Formula from neutralizing all the iron. Do not expect optimum results.

Note:

Any sample with a reasonable amount of iron is eventually going to show clumps of ferric iron. In the conditions presented here, we are referring to the sample taken immediately from the well.

AMERICAN HYDRO SYSTEMS

RID O' RUST®
 IRRIGATION CHEMICALS

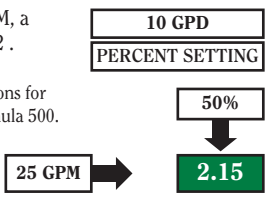
DOSAGE CHART FOR INJECTION SYSTEMS

1. Estimate the maximum flow rate of the irrigation system. If in doubt, multiply the number of heads on the largest zone by 3 gallons per minute.
2. Find that flow rate in the left hand column of the chart just below.
3. Find the metering pump you are using on the heading of the chart, using the maximum feed rate. If you don't know this, you can find it on the data plate of the pump, in GPH (gallons per hour) or GPD (gallons per day).
4. Determine the feed rate setting (%) you want to use. The slower the feed rate, the longer a tank-full of Rid O'Rust solution will last before you need to refill it. Check the chart at the bottom of the page for refill information.
5. Match up the column for the feed rate with the row for the maximum flow rate to find your multiplier number.
6. Multiply this multiplier by the PPM of iron in the well water and you have your estimated dosage of Rid O'Rust preventer. Pour this amount of Rid O'Rust Preventer in the tank and fill up the rest of the tank with water.

MULTIPLIER NUMBERS								
*Based on usage of 30 gal tank	PUMPS, BY MAXIMUM FEED RATE							
	5 GPD (.21 GPH)	10 GPD (.42 GPH) or 11 GPD (.46 GPH)			22 GPD (.92 GPH)			SIPHONING SYSTEM
	Irrigation system maximum flow rate in Gallons Per Minute (GPM)	PERCENT SETTING			PERCENT SETTING			24 GPD
FIXED		50%	75%	100%	50%	75%	100%	1 gal per hr
10 GPM	0.85	0.85	0.56	0.43	0.39	0.26	0.20	0.18
15 GPM	1.29	1.29	0.84	0.64	0.59	0.39	0.29	0.27
20 GPM	1.71	1.71	1.13	0.86	0.78	0.52	0.39	0.36
25 GPM	2.15	2.15	1.41	1.07	0.98	0.65	0.49	0.45
30 GPM	2.57	2.57	1.69	1.29	1.17	0.78	0.59	0.54
40 GPM	NOT RECOMMENDED				1.56	1.04	0.78	0.72
50 GPM					1.95	1.31	0.98	0.90
60 GPM					2.34	1.57	1.19	1.08
70 GPM					2.74	1.83	1.37	1.26
80 GPM					3.13	2.09	1.57	1.44
90 GPM					3.52	2.35	1.76	1.62
100 GPM					3.91	2.60	1.96	1.80

Example: Assume a maximum flow rate of 25 GPM, a 10 GPD pump set at 50%, and an iron content of 2.

* Please note: The amount of Rid O'Rust is dosed in gallons for Formulas 300, 1000, 2000 and 3000; and quarts for Formula 500.



CALCULATION CHART

2.15 x 2 = 4.30
MULTIPLIER X IRON
 = Amount of RidO'Rust to add to the tank*

MULTIPLIER NUMBERS								
Hours of operation before refill	5 GPD (.21 GPH)	10 GPD (.42 GPH)			22 GPD (.92 GPH)			SIPHONING SYSTEM
	FIXED	PERCENT SETTING			PERCENT SETTING			24 GPD
TANK SIZE	100%	50%	75%	100%	50%	75%	100%	1 gal per hr
30 GALLON	143 HOURS	143 HOURS	94 HOURS	71 HOURS	65 HOURS	43 HOURS	33 HOURS	30 HOURS
65 GALLON *2.25 X THE AMOUNT OF RID O' RUST	309 HOURS	309 HOURS	203 HOURS	155 HOURS	141 HOURS	94 HOURS	71 HOURS	65 HOURS
100 GALLON *3.33 x the AMOUNT OF RID O' RUST	476 HOURS	476 HOURS	313 HOURS	238 HOURS	216 HOURS	145 HOURS	109 HOURS	100 HOURS

Indoor Pumps: Add "-1" for 110 or "-2" for 220 voltage after the part #
 #2678 = 5GPD Fixed Rate #2688 = 10 GPD Adjustable Rate #2692 = 22 GPD Adjustable Rate

Outdoor Pumps: for use with either 110 or 220 voltage
 #2701 = 11GPD Adjustable Rate #2702 = 22 GPD Adjustable Rate