MixRite
1400 Series User Guide

MixRite pumps from DEMA Engineering Company are water-driven proportional dosing pumps engineered for precise additive injection directly into water or fluid lines. These units are versatile, operating within a specified range of flow rates, and are available in models that offer either fixed or variable injection rates. Constructed from durable engineered composite materials, MixRite pumps are designed to withstand harsh environmental conditions and are resistant to chemicals and acids, ensuring long-lasting performance.

Models	Dosage Rate %	Models	Dosage Rate %
1400	0.03-0.2%	1405	0.5-5%
1401	0.1-0.9%	1410	1-10%
1402	0.3-2%		

TECHNICAL DATA

MixRite Operational Conditions	
Minimum Flow Rate	0.8 GPM (3 LPM)
Maximum Flow Rate	146 GPM (53 LPM)
Minimum Temperature	39°F (4°C)
Maximum Temperature	104°F (40°C)
Operation Pressure Range	2.9 to 120 PSI (0.2 Bar to 8 Bar)

MixRite Parts Book

I-1462 Rev-A ECO 49808

11.12.2024

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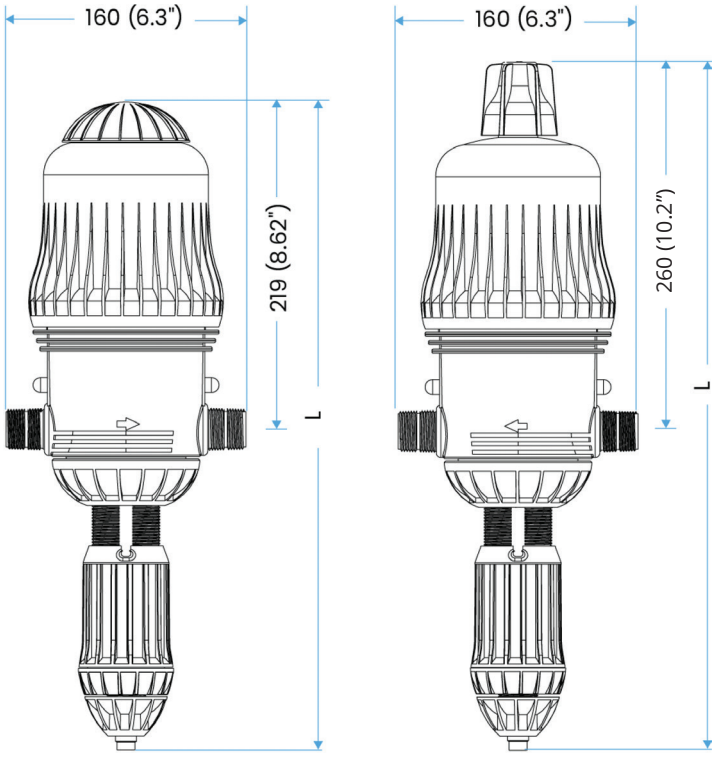
Tech Support
314.966.3533
techsupport@demaeng.com

SAFETY WARNING

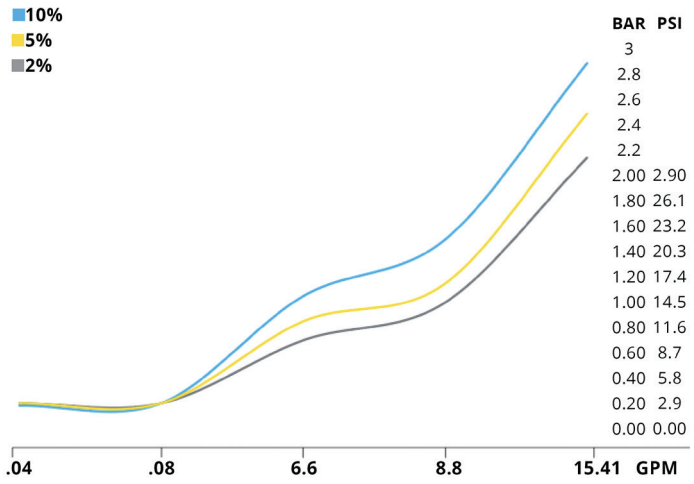
- Take additional safety measures appropriate to the liquid being pumped and the temperature of the water.
- The operator must wear appropriate personal protection equipment during any maintenance of the MixRite pump.
- An air leak, impurity, or chemical damage to a seal can interrupt the dosing function. It is recommended to periodically check that the solution is correctly drawn into the MixRite.



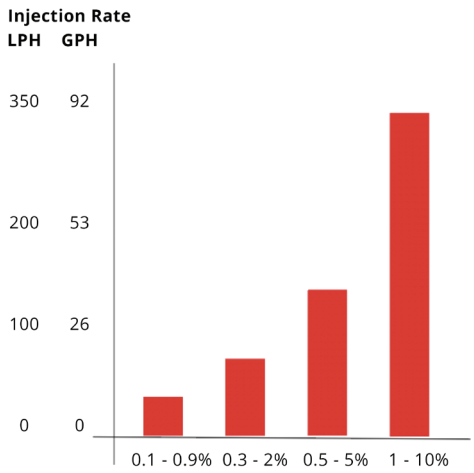
	L (Height)	
	Air Release	**On/Off**
Max	19.5" (486mm)	21.7" (551mm)
Min	17.6" (447mm)	18.5" (471mm)

SPECIFICATIONS

Pressure Loss



Max Injection Rate



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MIXRITE INSTALLATION

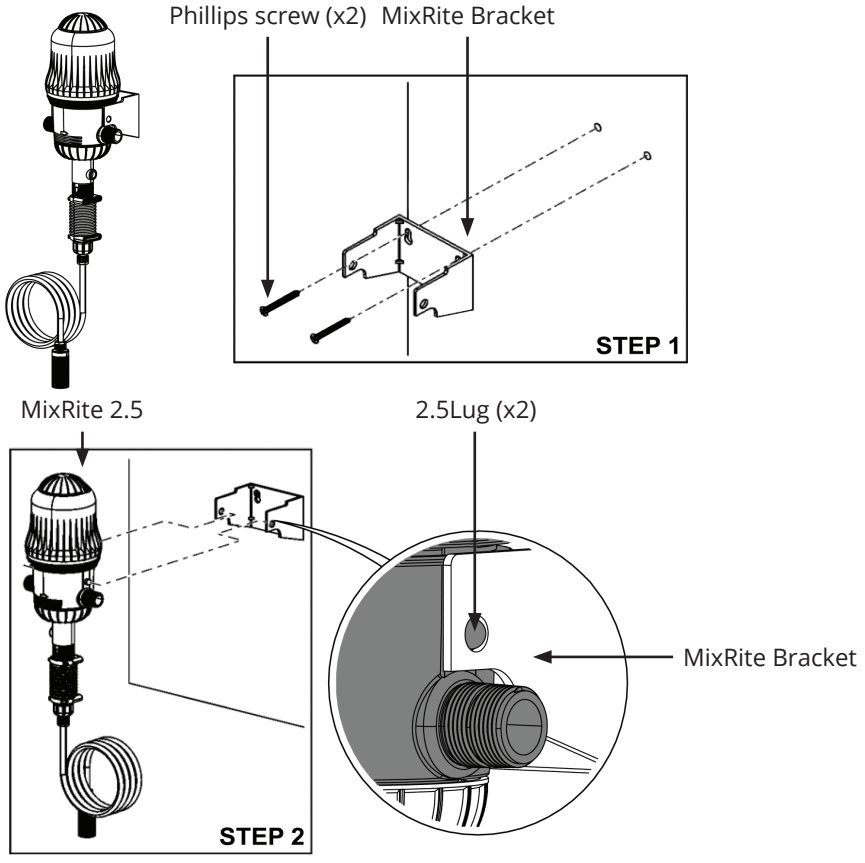
- When connecting a MixRite either to a public water supply or to its own water source, you must follow local plumbing and backflow regulations.
- Always use 120 mesh – 130 micron filter before the inlet of the unit.
- Ensure the water is flowing in accordance with the arrow molded into the body of the unit. If the water line is higher than the MixRite itself, there is a possible risk of water and additive flowing back through the MixRite. In such a case, installing a check valve (***part# 57.20.8***) near the MixRite is recomended.
- It is recommended to place an anti-siphon valve (***part# 36073008002***) on the downstream side of the dosing pump in installations in which there is a risk of siphoning.
- The additive strainer should be suspended at least 10 cm (4”) above the bottom of the additive tank to avoid sucking up the insoluble particles that may damage the pump assembly.

Water hammer/excessive flow :

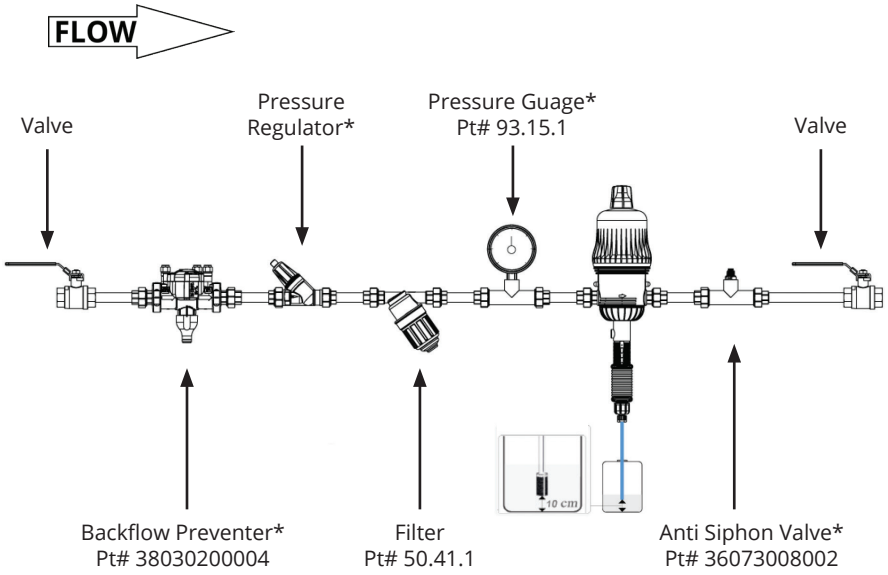
- For installations subject to water hammer, a protection device such as a water hammer arrestor is recommended.
- For automated installations, slow opening and closing solenoid valves are preferable.
- Flow rates exceding 14 GPM will result in MixRite failure

Mounting the MixRite

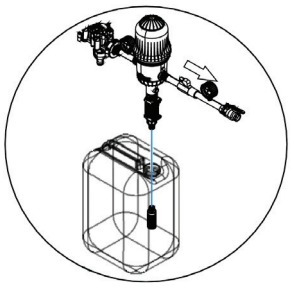
The MixRite must be positioned above the liquid additive container.



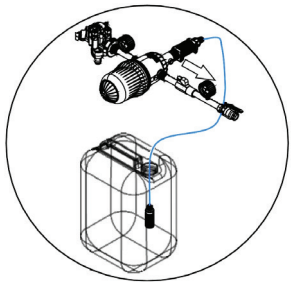
INSTALLING THE MIXRITE ON A DIRECT LINE (IN LINE)



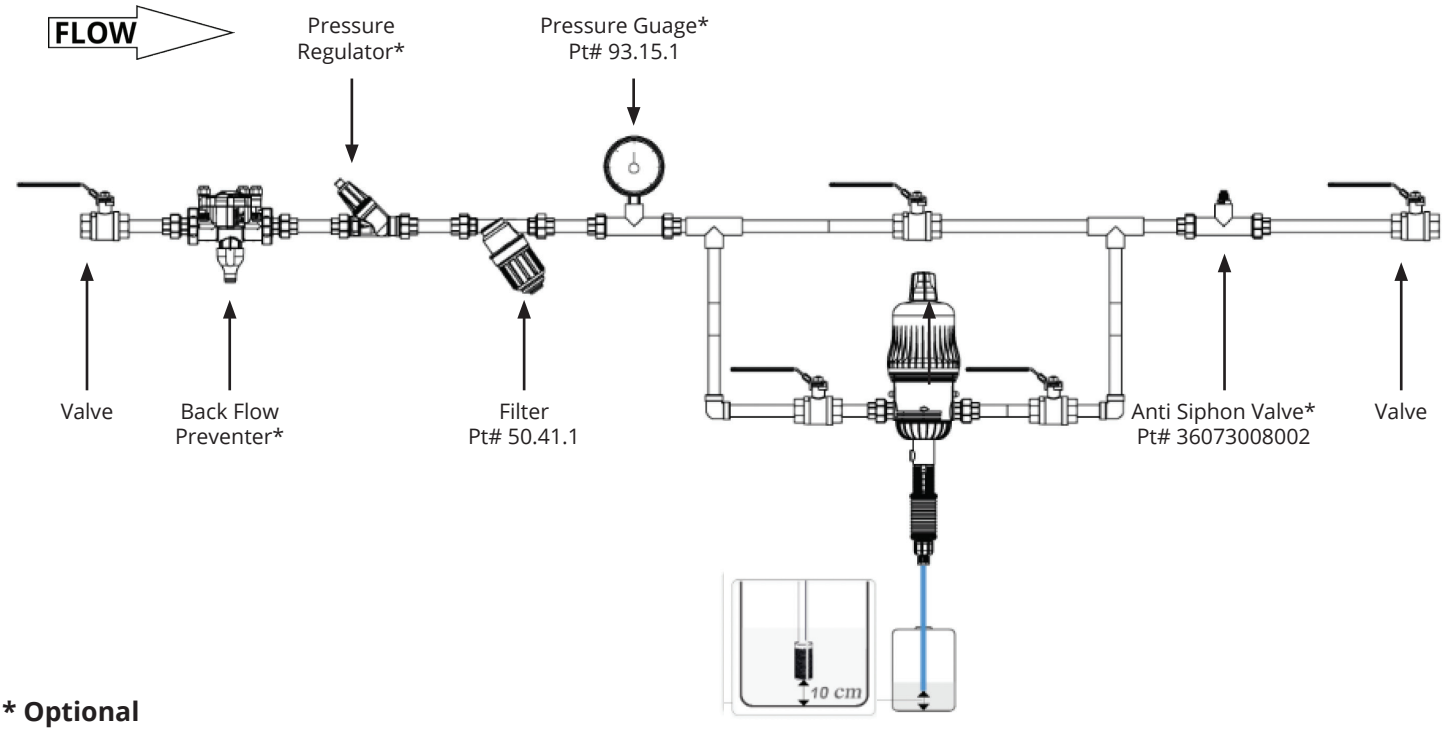
Correct Installation



Incorrect Installation



INSTALLING THE MIXRITE ON A BYPASS LINE (OFFLINE)



*** Optional**

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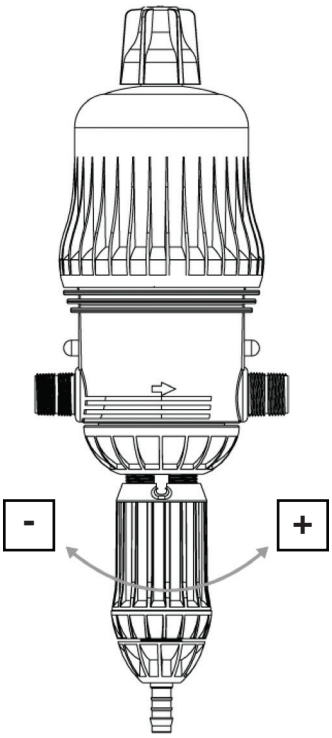
OPERATION

Adjusting the MixRite

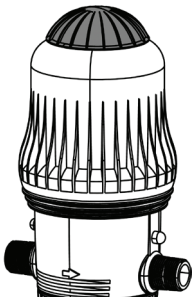
- The owner/operator is responsible for determining the correct amount of solution and corresponding injection ratio to obtain the desired result.
- Adjustment should be made when there is no water pressure in the MixRite. Turn off the water supply and allow the pressure to drop to zero.
- Every stroke of the MixRite moves a predetermined volume of water with a predetermined volume of liquid additive. Adjust the volume of liquid additive as follows:



Air-Release Valve

After initial operation of the MixRite, press the cap (air release valve) for several seconds to open valve that allows trapped air to escape. This air release is complete when the air no longer escapes and is replaced with water. Release the cap to allow the valve to close.

Air release valve



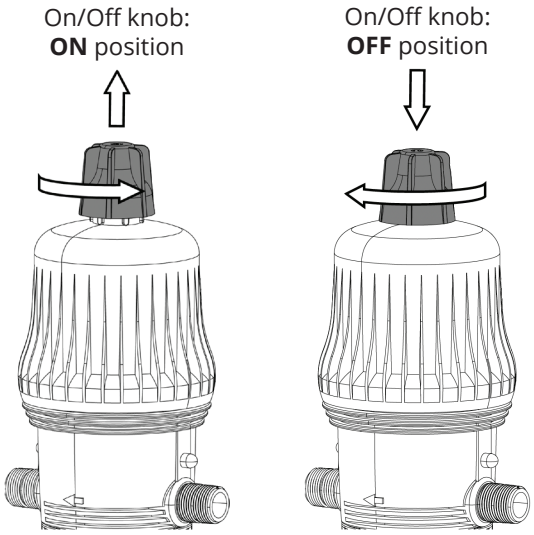
OPERATION

On/Off System

Models with the on/off knob do not have an air release. It is recommended to use the on/off when the additive container is empty as running the unit without additive can cause premature wear.

ON position - The knob should be in its high position; the pump is working and pumping. To turn on, push and turn CCW.

OFF position - The knob should be in its low position; the water flow continues without the pumping action. To turn off, push and turn CW.



MAINTENANCE

- Regular maintenance will help extend the lifespan of your MixRite dosing pump. Lip Seals should be replaced periodically. Lip Seals are a normal wear item.
- Regularly clean the suction screen filter.
- If the pump is planned to be out of use for a long period of time, operate the pump for a few minutes with the suction tube immersed in a tank with clean water to remove fertilizer / chemical residues from the pump, preventing them from solidifying in the pump.
- If temperature falls below 39ºF (4°C), empty the water from the pump.

MAINTENANCE

Rinsing and Cleaning the Unit

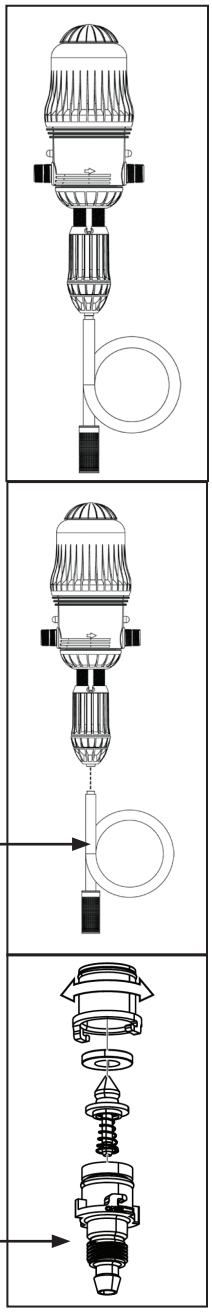
Rinsing of the MixRite is required when changing chemicals and before handling the MixRite.

Rinse the MixRite as follows:

1. Rinse the unit by pumping clean water from the additive container.
2. Wash the external surface of the unit with clean water.

Cleaning and Refitting the Suction Check Valve

1. Before removing Suction Check Valve, turn off the water supply and allow the pressure to drop to zero.
2. First remove the suction tubing, then remove the large black nut. The check valve should be able to be removed.
3. Rinse parts of Suction Check Valve with clean water, re-assemble them in the order shown and ensure that the spring is in good working condition.
4. Lubricate the rubber washer and O rings.
5. Re-assemble Suction Check Valve in the reverse order.
6. Replace the black nut.
7. Connect the suction tubing.



TROUBLESHOOTING

Subject	Check	Solution
The pump does not work.	Direction of arrows on the pump is the same as water flow.	Install the pump so that the arrows point in direction of water flow.
	Inlet and outlet valves are open.	Open the valve.
	Inlet filter is not clogged.	Clean the filter.
	Line's water pressure.	Make sure there is water pressure in the line – check the system input filter and make sure it is clean.
	Springs are not broken.	Change the engine.
	Cylinder is not scratched.	Change cylinder.
	Piston seals are not damaged.	Change the seals.
The pump has stopped working.	The water is not flowing at the appropriate pressure. Open the main valve. Open the nut locking the motor cover, remove the motor cover, and remove the mechanism. Check if the engine seals are defective.	Replace the engine seals.
	Check if the springs are broken.	Replace the engine.
	Check if one of the parts of the mechanism is broken.	Replace the engine.
MixRite does not draw additive.	The suction filter is blocked.	Clean the filter.
	Dismantle the pump unit and check if the suction seal is defective.	Replace the suction seal.
	The check valve is defective.	Replace the check valve.
MixRite makes scratching noises.	Check if there is liquid in the additive container.	Add liquid to the container.
	Check if the suction tube is immersed and not folded.	Straighten or change the tube.
	Check suction filter to see if it is blocked and if it is immersed in the additive tank.	Clean and rinse suction filter. Fill liquid into tank to cover filter.
Water flowing back into additive container.	Check valve.	Clean or replace the check valve.

WARRANTY

DEMA products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products which have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, improper voltage supply, physical abuse or misapplication. Rubber and synthetic rubber parts such as "O" rings, diaphragms, squeeze tubing and gaskets are considered expendable and are not covered under warranty. This warranty is extended only to the original buyer of DEMA products. If products are altered or repaired without prior approval of DEMA, this warranty will be void. Defective units or parts should be returned to theMixRite dealer from which they were purchased with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge, F.O.B. factory. DEMA assumes no liability for damages. RMA number is required to return units for repair or replacement must be granted in advance of return.

RETURNS:
NO MERCHANDISE MAY BE RETURNED FOR CREDIT WITHOUT OUR WRITTEN PERMISSION.
RETURN MERCHANDISE AUTHORIZATION NUMBER REQUIRED IN ADVANCE OF RETURN.

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