



# MixRite<sup>®</sup> 2.5

Proportional Pump



User Manual



Nahsholim 30815 Israel, Tel 972-4-6395554, Fax 972-4-639-0813  
[www.tefentech.com](http://www.tefentech.com) E-mail: [info@tefentech.com](mailto:info@tefentech.com)

Tefen is pleased to welcome you as a new client. We highly appreciate your choice of our quality MixRite series product. Our MixRite proportional dosing pumps were designed to provide precision, efficiency and easy operation. We wish you an excellent user experience with our product.

Please read this manual carefully before using the product and follow the safety guidelines.

For support, please contact our service department.



### YOUR MixRite

Please record your MixRite serial number. This information will come in handy when you call your distributor for information, parts, and service.

**Model**

**S/N**

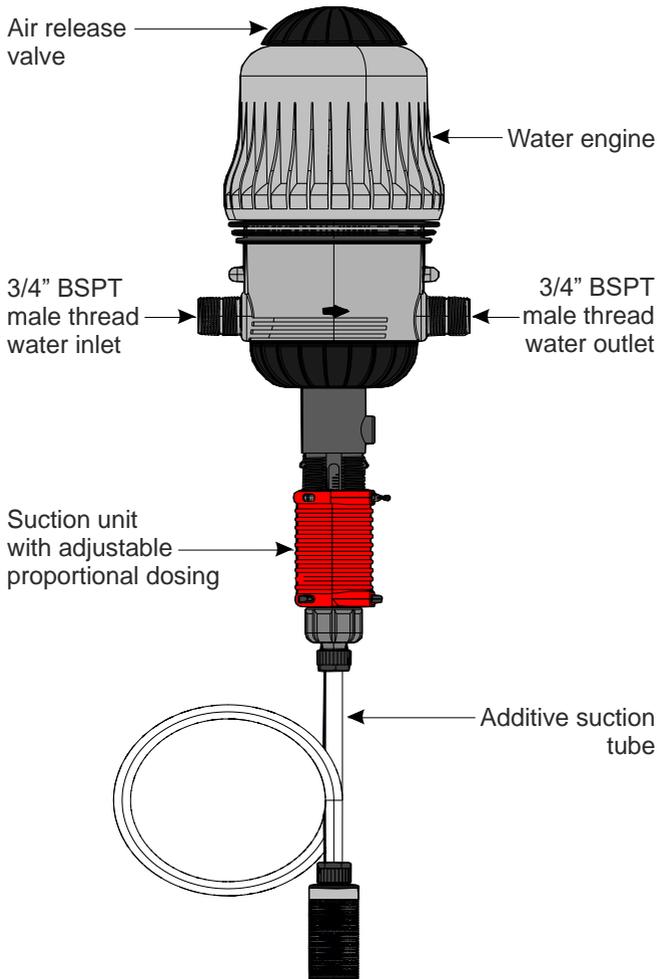
**Purchase Date**

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Tefen's MixRite line of water-driven proportional dosing pumps are used to ensure precise additive injection directly into the water or fluid line, with various flow rates, feed ratios and pressure ranges. These pumps are extremely durable, manufactured from engineered composite materials to withstand the rigors of the elements, as well as chemicals and acids for injection.

The Tefen MixRite water powered dosing pump is a simple, user friendly and ingenious system that has demonstrated its value over 90 countries.

Tefen is ISO 9001 2015 certified.



**3 TEFEN Flow & Dosing Technologies LTD.**

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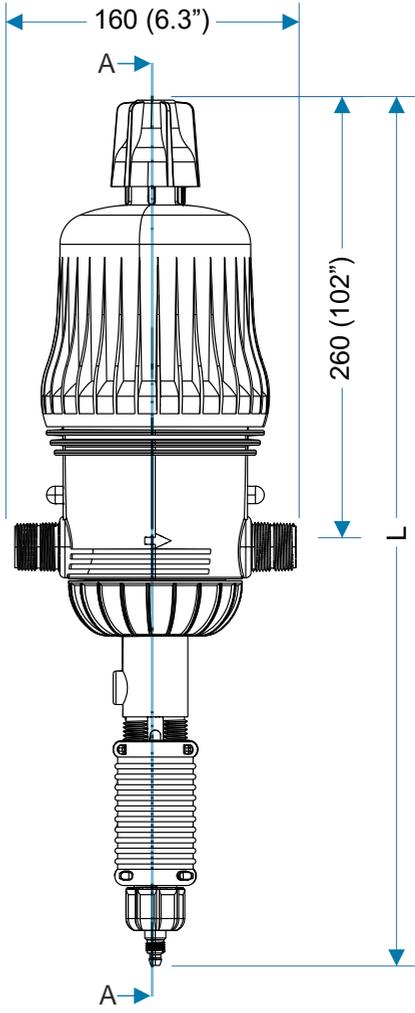
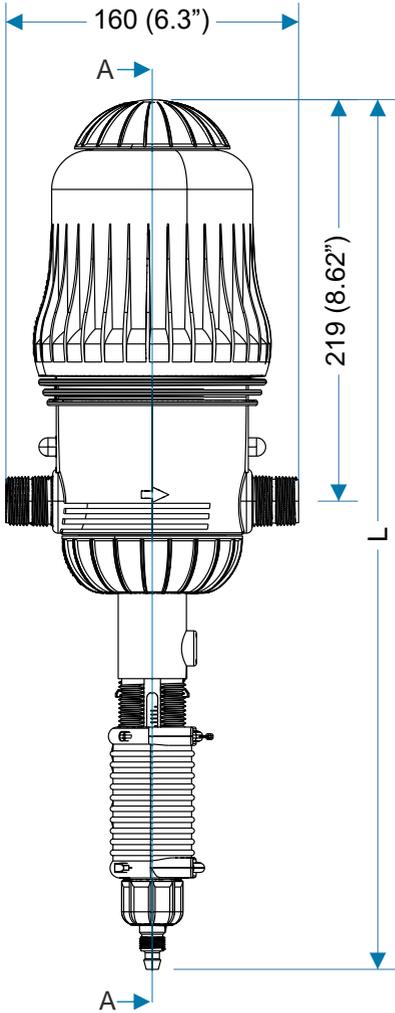
## 1. SAFETY AND RESPONSIBILITY

- Follow the instructions in this manual when installing, operating, and maintaining the MixRite pump and take additional safety measures appropriate to the liquid being pumped and the temperature of the water.
- During any action, the operator must stay in front of the MixRite and wear protective eyewear, clothing and gloves and use proper tools. **DO NOT USE METALLIC TOOLS.**
- It is the responsibility of the owner/operator to make sure water flow and pressure do not exceed the MixRite specifications.
- An air inlet, impurity or chemical damage to a seal can interrupt the dosing function. It is recommended to periodically check that the solution is being correctly drawn up into the MixRite.
- Be extremely careful in the presence of hazardous substances (e.g. corrosives, toxins, solvents, acids, caustic, flammables, etc.).
- Before applying any aggressive chemicals, please consult your distributor to confirm compatibility with the dosing pump.
- The user must respect the recommendations given by the manufacturer of the chemical product.
- Change the suction tube as soon as it seems damaged by the chemical.
- It is advised to relieve the pressure after use.

## 2. TECHNICAL DATA

<b>2.1. MixRite Operational Conditions</b>	
Minimum Flow Rate	10 L/H (2.64 Gal/H)*
Maximum Flow Rate	2,500 L/H (660 Gal/H)
Minimum Temperature	4°C (39°F)
Maximum Temperature	40°C (104°F)
Operation Pressure Range	0.2 Bar to 8 Bar (2.9 to 120 PSI)

\*7 L/H (1.85 Gal/H) in P0 model only.



L (Height)		
	Air Release	On/Off
Max.	496 (19.5")	528 (20.7")
Min.	457 (17.9")	497 (19.5")

### 3. CONFIGURATION

2802020P001	28	XX	XX	0 or 1	XX	00 or 01
fixed prefix						
pump model + connector thread (BSP/NPT/Compression)	02=MixRite 2.5, 3/4"BSPT					
dosage %	01=0.1%-0.9% 02=0.3%-2% 04=0.4%-4% 05=0.5%-5% 22=0.2% Fix 28=0.8% Fix					
cover option	0=air release 1=ON/OFF					
application	00=Standard P0=Poultry CL=Chlorine CW=Car wash C0=Industry IV=PVDF I0=Internal By Pass B0=External By Pass					
additional information						

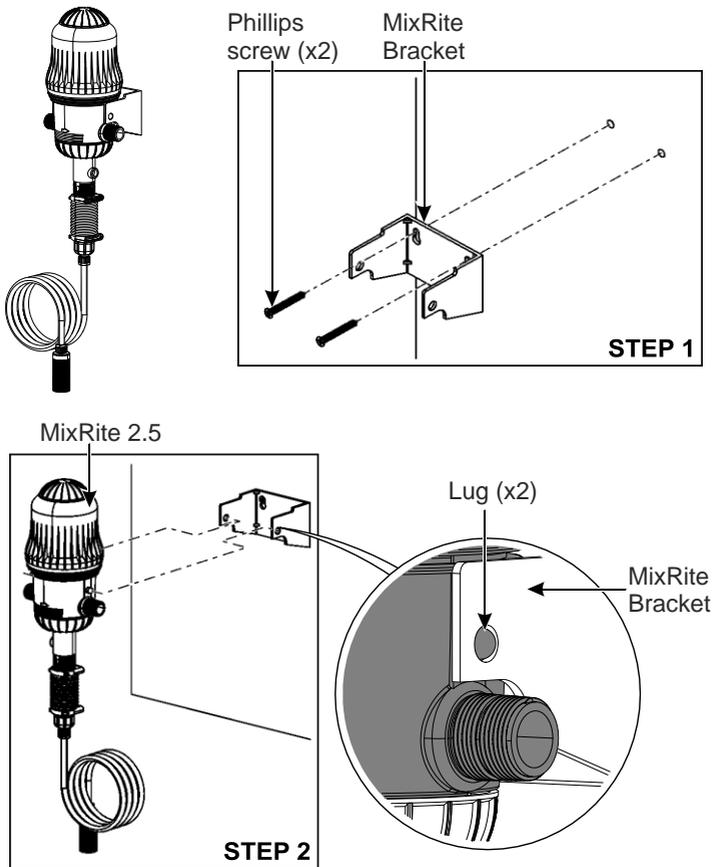
## 4. INSTALLATION

### 4.1. Mounting the MixRite

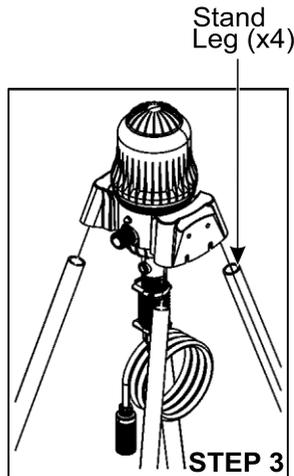
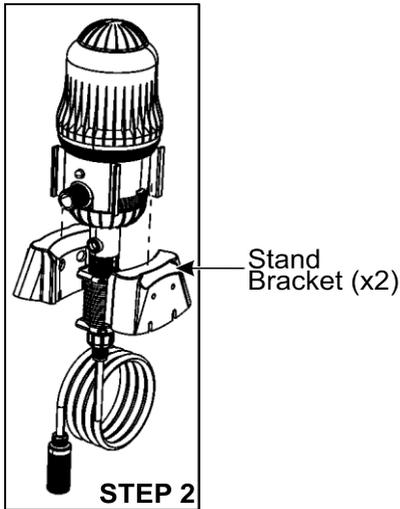
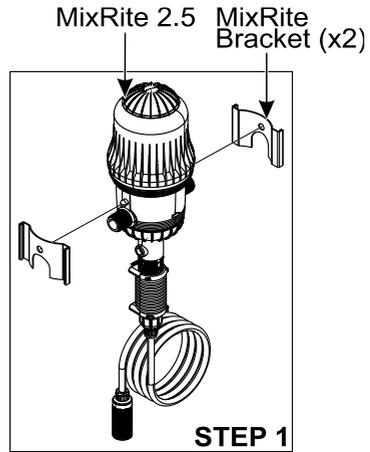
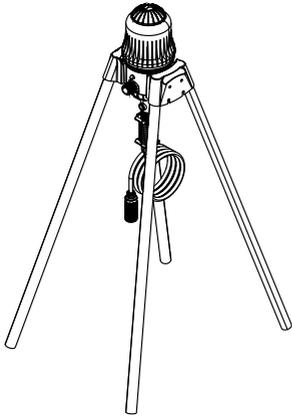
#### *Important!*

- The MixRite inlet and outlet must reach the inlet and outlet pipes.
- The MixRite must be positioned above the liquid additive container.
- Do not install the MixRite above an acid container, (fumes may damage the MixRite) and protect it from possible contact with corrosive products.
- The MixRite must be protected from frost and excessive heat.

#### 4.1.1. Mounting on Wall



### 4.1.2. Mounting on Stand\*



\* Stand delivered upon request.

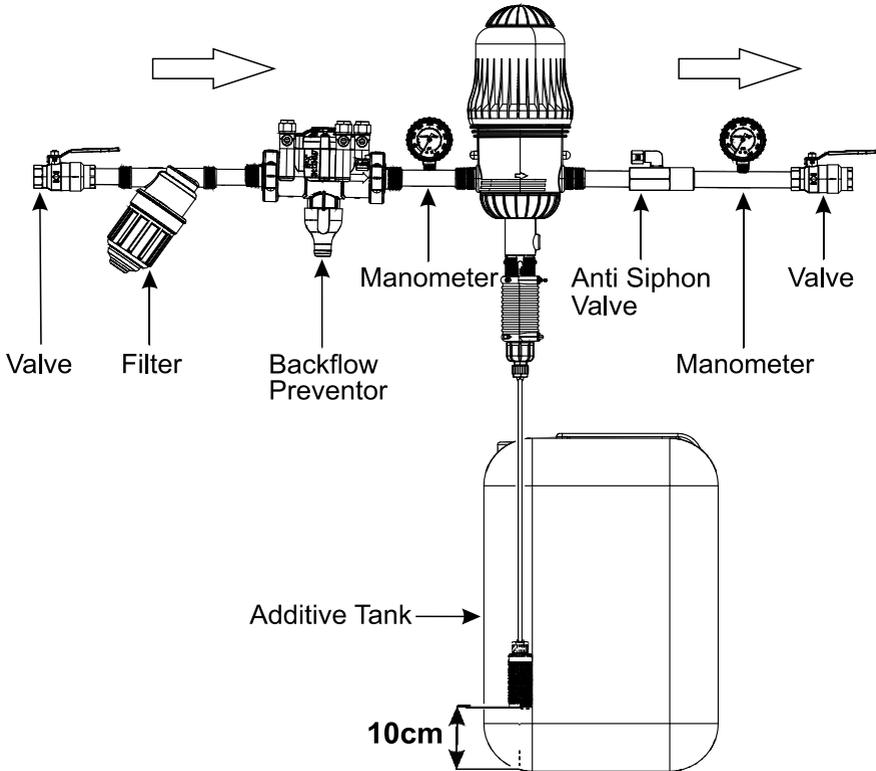
## 4.2. MixRite Installation

### *Important!*

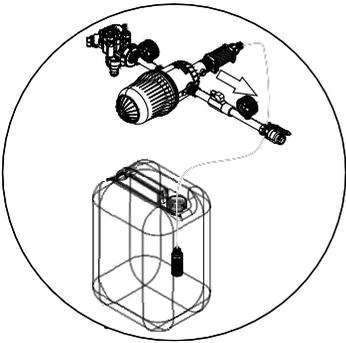
- When connecting a MixRite either to the public water supply or to its own water source, you must respect the regulations in force concerning protection of the source i.e. backflow prevention, etc.
  - Use 120 mesh – 130 micron filter.
  - For water with high particle content, use 250 mesh – 60 micron filter depending on your water quality.
  - Use plastic record.
  - Ensure water flow is according to the arrows on 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 non-return valve downstream is necessary.
  - It is recommended to place an anti-siphon valve on the downstream side of the dosing pump in installations in which there is a risk of siphoning.
  - The strainer must 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. Do not put the strainer on the ground.
  - **Water hammer/excessive flow:**
    - For installations subject to water hammer, a protection device such as a check valve or union ball check must be fitted (pressure/flow control system).
    - For automatic installations, slow opening and closing solenoid valves are preferable.
    - In an installation where the MixRite serves several sectors, the closing of one sector and the opening of another sector must be done at the same time (simultaneous operation of the solenoid valves).
- \* *Where water is supplied at a higher flow rate than the working flow rate of the pump, or where the pump is not needed for continuous operation, the MixRite must be installed on bypass line (see page 12).*

## 4.2.1. Installing the MixRite on a Direct Line (in line)

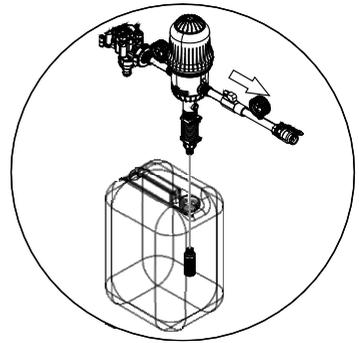
Typical installation - for illustration only



**Incorrect Installation**

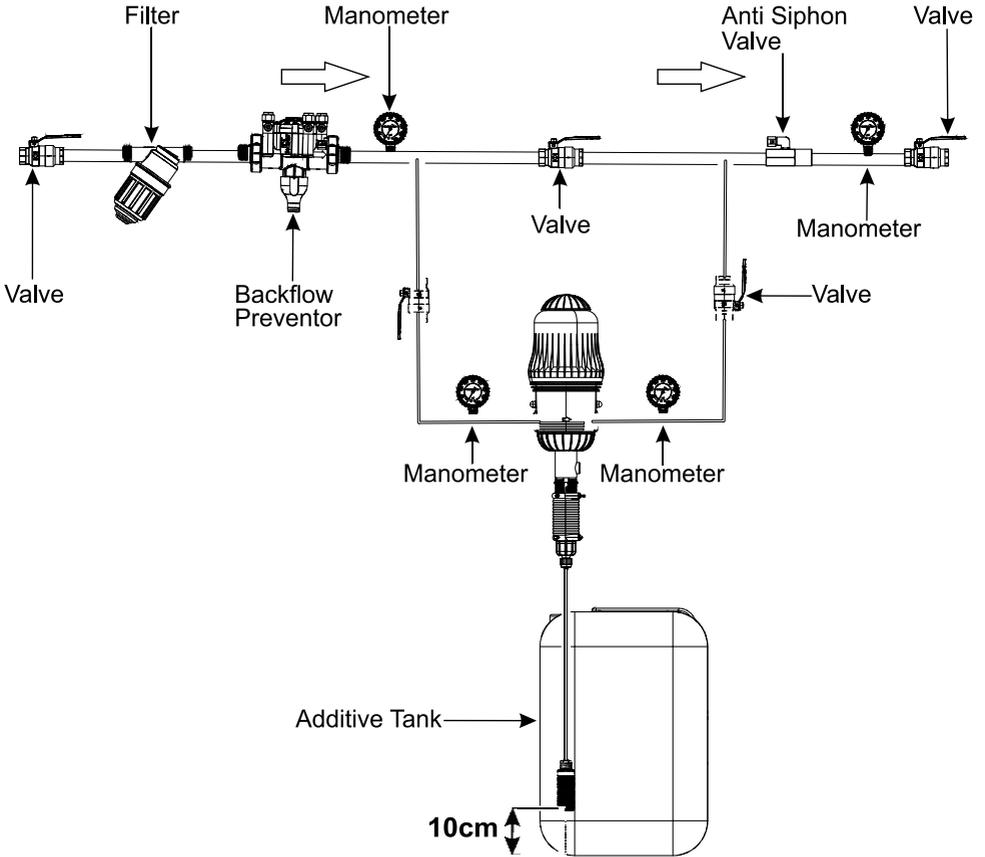


**Correct Installation**



## 4.2.2. Installing the MixRite on a Bypass Line (offline)

Typical installation - for illustration only



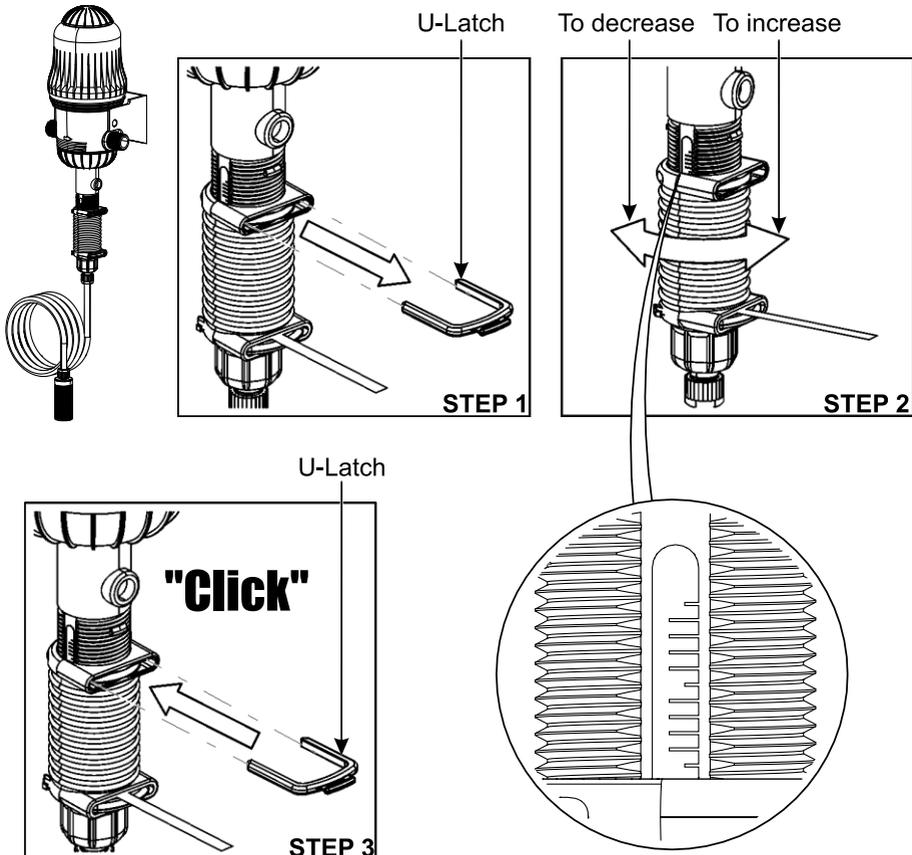
## 5. OPERATION

### 5.1. Adjusting the MixRite

*Important!*

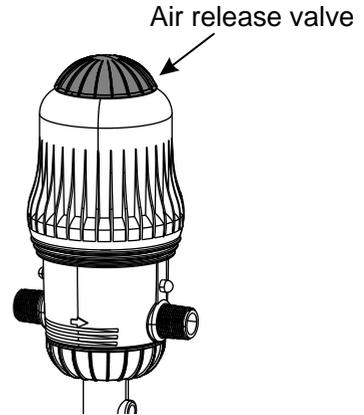
- It is the responsibility of the owner/operator of the MixRite, to determine the correct amount of solution and injection ratio to obtain the desired result
- Adjustment must be made when there is no pressure in the MixRite. Turn off the water supply and allow the pressure to drop to zero.
- *Do not remove the lower U-Latch (For maintenance purpose only)!*

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:



## 5.2. 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 accompanied by a slight loss of water. Release the cap to close the valve.



## 5.3. On/Off System

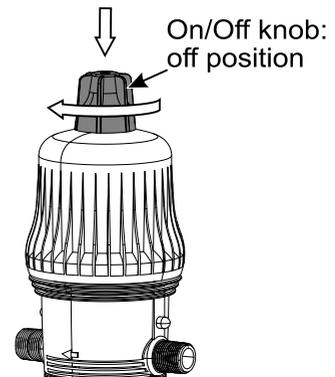
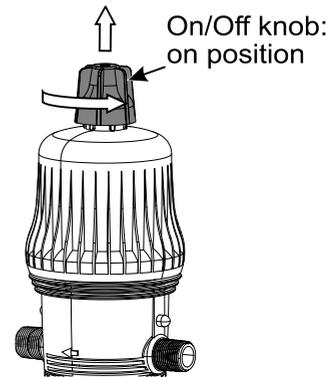
### *Important!*

On pumps with On/Off knob there is no air-release valve.

It is highly recommended to use the On/Off knob when the additive container is empty, or if there is a need for the water flow to continue without the additive.

**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.



## 6. MAINTENANCE

### *Important!*

- To maintain the dosing pump in good condition, it is advisable to operate the pump with suction of clean water after each use.
- Regular yearly maintenance will help extend the lifespan of your MixRite dosing pump. In addition, kit seals need to be replaced every year.
- Regularly clean the water filter at the pump inlet and the fertilizer suction 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 residues from the pump, preventing them solidifying in the pump.
- If there is a fear of frost, and the temperature falling below 4°C (39°F), empty the water from the pump. To do this, close the entry and exit valves securely. Open and dismantle record nut that connects the suction pipe. Press the backflow prevention valve using a finger or a thin rod, allowing all the water that has collected in the pump to drain out while pressing the air-release valve at the top of the pump.
- It is advisable to carry out the maintenance of the pump body whenever soluble products are used. To carry out the maintenance, remove the pump body and wash it thoroughly with plenty of clean water. When finished and before reassembly onto the motor body, lubricate the seal with silicone.

ACTION	FREQUENCY
Cleaning cycle	After each use
General check	Yearly
Replace seals	Yearly
Replace other components	As needed

## 6.1. Rinsing and Cleaning the Unit

Rinsing of the MixRite is required when changing chemicals and before handling the MixRite, to avoid any contact with the chemical.

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.

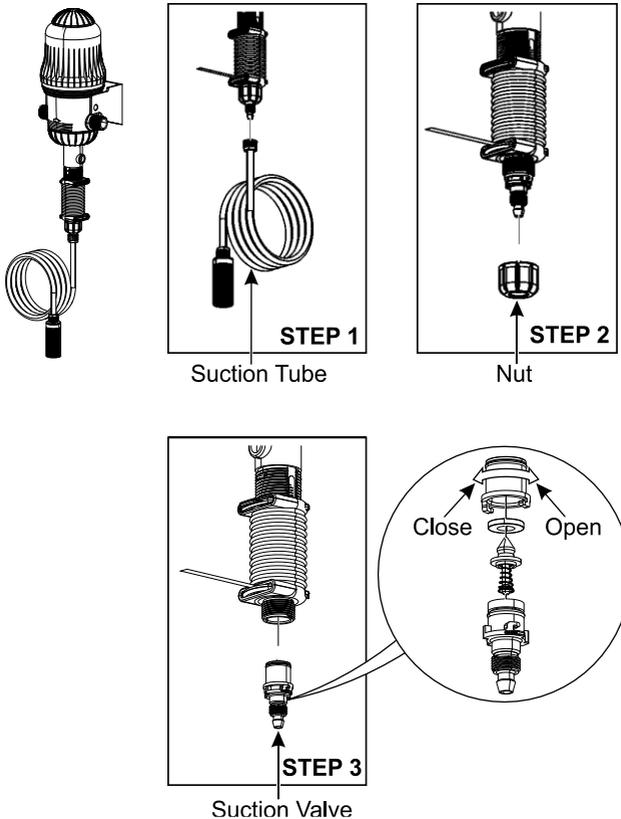
## 6.2. Cleaning and Refitting the Suction Check Valve

Before removing Suction Check Valve, turn off the water supply and allow the pressure to drop to zero.

Remove Suction Check Valve according to the steps shown.

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.

Re-assemble Suction Check Valve in the reverse order.



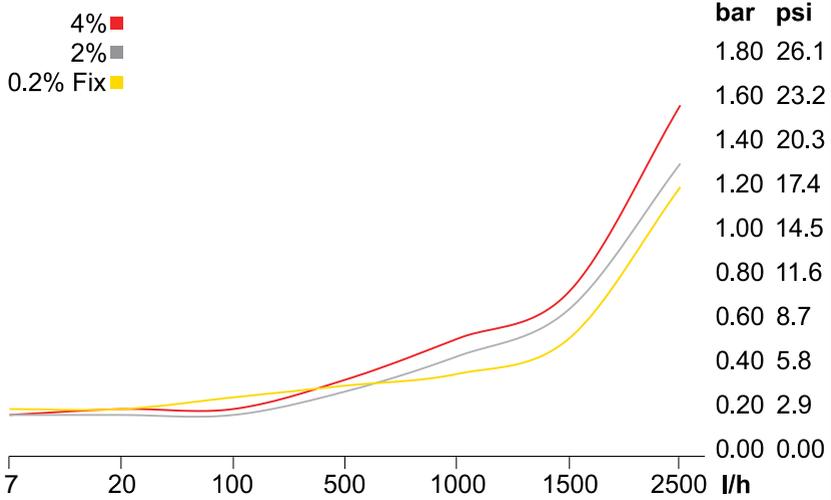
## 7. TROUBLESHOOTING

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 motor.
	Cylinder is not scratched.	Change cylinder.
	Piston seals are not damaged.	Change the seals.
	Bypass installation* pump test at low pressure.	Disconnect the water outlet hose from the outlet, by installing a bypass make sure there is no water returning to the pump. If the pump is working check the $\Delta P$ – as described in the item below.
The pump has stopped working.	Bypass installation* make sure the pressure difference.	The water pressure at the outlet of the pump is equal to or greater than the water pressure at the main line.
	There is no water flow 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 motor seals are defective.	Replace the motor seals.
	Check if the springs are broken.	Replace the motor.
	Check if one of the parts of the mechanism is broken.	Replace the motor.

Subject	Check	Solution
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 non-return valve is defective.	Replace the non-return valve.
MixRite makes scratching noises.	Check if there is liquid in the additive container.	Add liquid to the container.
	Check if the suction pipe is immersed and not folded.	Straighten or change the pipe.
	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.

## 8. SPECIFICATIONS

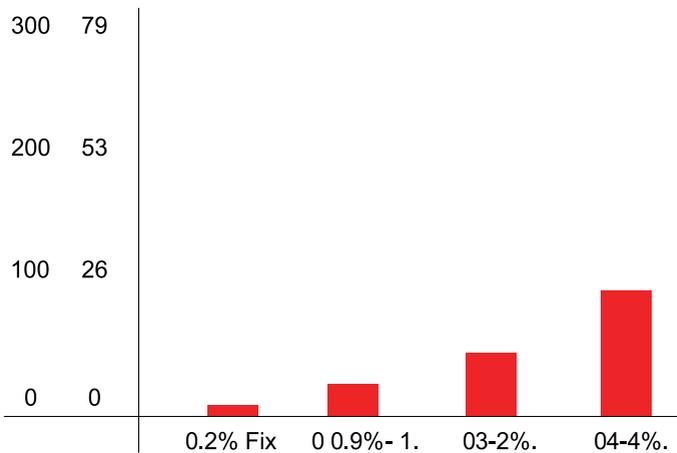
### Pressure Loss



### Max. injection rate/h

#### Injection Rate

L/h    gph



## 9. LIMITED WARRANTY

Tefen Flow and Dosing Technologies Ltd. (“Tefen”) will replace all parts shown to be defective in material or workmanship during a period of twelve months from the date of purchase by the original purchaser (“Warranty Period”). Warranty shall be limited to Warranty Period and shall not be extended in any event.

To obtain warranty replacement of a part, the MixRite must be returned with original proof of purchase receipt to Tefen or authorized distributor and thereafter recognized as defective after examination by the technical services of the manufacturer or distributor.

The MixRite must be flushed of any chemical and sent to the manufacturer or distributor prepaid but will be returned free of charge once repairs are made if found to be covered by the warranty.

This warranty only covers circumstances where the part has failed due to defects caused by the manufacturing process. This warranty is invalid if the defects are found to be due to the product’s misuse, inappropriate use of tools, negligence, changes and/or alterations made in the Product not by Tefen, combination and/or use with other products not manufactured by Tefen, lack of maintenance and/or defective installation or environmental accidents or corrosion by foreign bodies and liquids found within or in proximity to the MixRite.

The seals and “O” rings are not covered under warranty, nor is damage to the MixRite caused by water impurities such as sand. A filter (200 Mesh) must be used in front of the unit for this warranty to be valid.

Tefen declines any responsibility if the MixRite is not used in compliance with the operating instructions and tolerances as indicated herein.

There are no warranties, express or implied, which will extend beyond those described above.

**TEFEN OR AUTHORIZED DISTRIBUTOR SHALL NOT BE LIABLE FOR ANY LOSS OF USE, SALES OR PROFIT OR FOR ANY INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES CAUSED BY OR SUFFERED AS A RESULT OF THE SALE OR USE OF THE PRODUCT AND SHALL BE LIMITED TO THE CONSIDERATION ACTUALLY PAID BY YOU FOR THE PRODUCT.**

This warranty is personal, and you may not assign, transfer, sell, indorse, pledge its rights under this warranty to any third party without Tefen’s prior written consent.

Any dispute arising in connection with this warranty shall be referred to the competent court in Tel Aviv Israel, which shall have exclusive jurisdiction in relation to all matters which may arise out of or in connection with this warranty. The provisions of the substantive law prevailing in Israel shall govern this warranty.

### **20 TEFEN Flow & Dosing Technologies LTD.**