	On/Off Models	Air Release Models
0.03 - 0.2 % 0.1 - 0.9 % 0.3 - 2 %		
0.5 - 5 %		
1 - 10 %		

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FLOW & DOSING TECHNOLOGIES

Proportional Injector

MixRite 3.5

User Manual

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MixRite 3

Tefen Proportional Dosing Injector

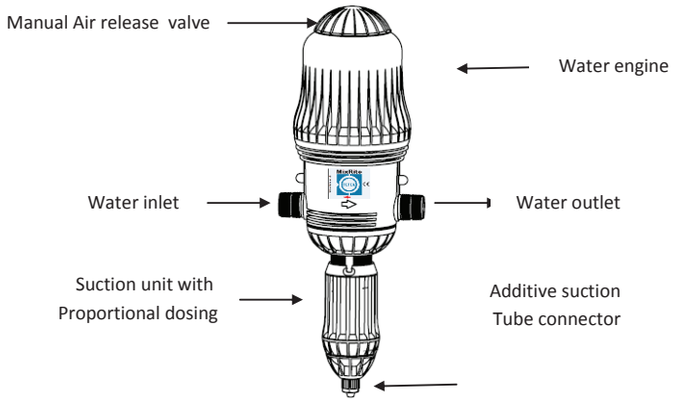
Congratulations on your purchase of a Tefen quality product.
To obtain the maximum benefit from the dosing injector it is important to spend a few minutes reading carefully the explanations and recommendations In this user manual.

Injector operation

The dosing injector is installed directly in the water supply line.
The water flow passing through the injector drives it, drawing in the liquid Additive in proportion to the water flow in the line.

The water engine action with the following models:

0.03-0.2% ,0.1-0.9%, *0.3-2%, 0.5-5%, 1-10%
The suction and proportioning unit is built from a piston connected to the water engine, from which it derives its movement. The piston moves within a cylinder with a non-return valve. The movement of the piston within the cylinder causes the water to be injected and the required liquid additive to be drawn through a pipe inserted into a container. It is possible to regulate the supply ratio between the additive and the water passing through the injector.



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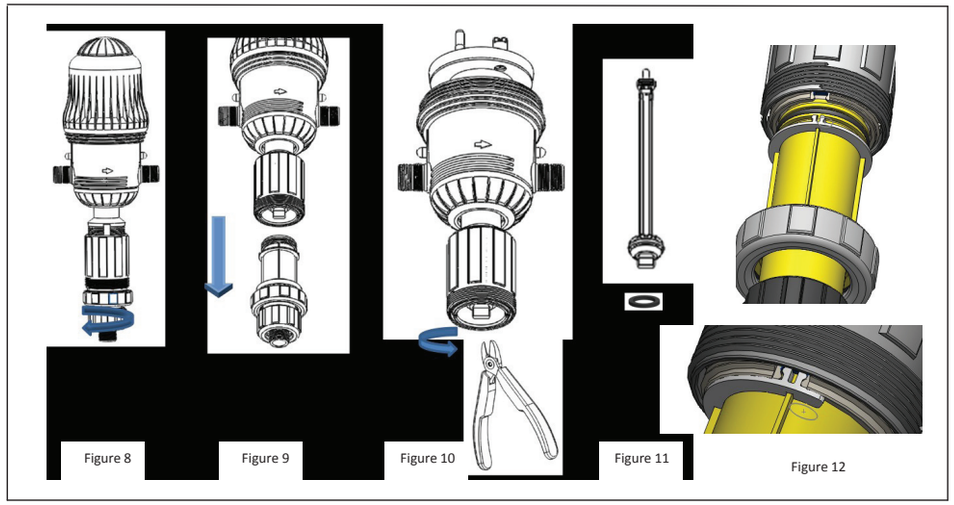
Replacement of suction seal -10% MixRite

- Open the lock nut and adjustment nut (figure 8).
- Turn the adjustment nut all the way and pull out the suction unit (figure 9).
- Open the engine hood.
- Hold the engine carefully and turn the piston rod by about 1/4 turn counterclockwise and pull it out from the engine recess (figure 10).
- Remove the suction seal with a flat screwdriver and replace with a new one. (found on the seals kit attached to the pump) (figure 11).
- Put the piston rod back in the engine recess and turn about 1/4 turn to the right to lock.
- Put back the suction unit. Push the cylinder guide ring close to the o-ring on the suction cylinder into the recesses found beneath the o-ring. Adjust the snaps to the recesses on the cylinder connector and snap in place by pushing firmly (figure 12).
- Open the adjustment nut up to the 10% graduation on the scale and tighten the lock nut.



For consultation, technical assistance and spare parts, ask the authorized sales person in your area.

Replacement of seals

- Replace the engine seals once a year or when worn.
- Close the inlet and outlet valves and depressurize.
- Open the engine hood.
- Pull out the engine with the suction rod (in the 10% model, first disconnect the piston rod, see figure 10).
- Replace the engine seals. Follow the replacement instructions on the kit of seals.
- Reassemble in reverse order and close the engine hood.

Replacement of suction seal

- Close the inlet and outlet valves and depressurize.
- Disconnect the suction tube (figure 5).
- In models of up to 5% - open the engine hood and pull out the engine with the connected piston rod (figure 6). For replacement instructions for the 10% model see the next section.
- Remove the suction seal using a flat screwdriver and replace with a new one (found on the seals kit attached to the pump (figure 7)).
- Reassemble in reverse order.

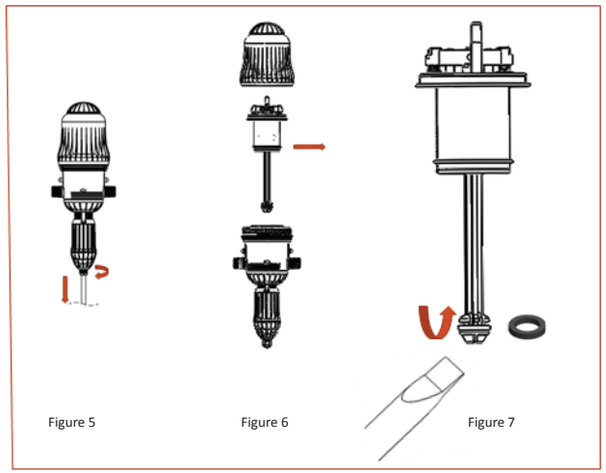


Figure 5 Figure 6 Figure 7

Technical Data

MODEL	0.03-0.2	0.1-0.9	0.3-2	0.5-5	1-10
FLOW RANGE :	10-3500 L/H				50-3500 L/H
water pressure :					
Bar	0.2-8	0.2-8	0.2-8	0.2-8	0.2-8
Injection rate					
%	0.03-0.2	0.1-0.9	0.3-2	0.5-5	1-10
Additive injection					
Min. L/H	0.003	0.01	0.03	0.05	0.5
Max. L/H	7	31.5	70	175	350
Connections	The MixRite inlet and outlet are ¾" BSPT male thread				
Operating Temp.	Temperature not lower than 4°C (39°F) and not higher than 40°C (104°F)				
Unit size	Total height : 51 cm Diameter : 13 cm Width : 16 cm Weight : 1.360 kg				56 cm 1.430 kg

Water pressure loss:

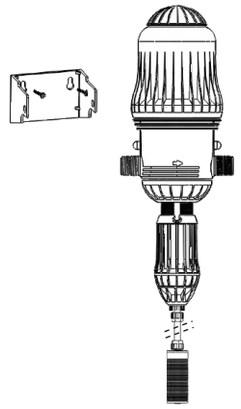
- Models with 0.03%-0.2%: from 0.1 Bar up to 2.5 Bar in proportion to the water flow.
- Models with 0.1%-0.9%: from 0.1 Bar up to 2.6 Bar in proportion to the water flow.
- Models with 0. 3%-2%: from 0.1 Bar up to 2.7 Bar in proportion to the water flow.
- Models with 0.5%-5%: from 0.2 Bar up to 3.2 Bar in proportion to the water flow.
- Models with 1%-10% : from 0.5 Bar up to 3.8 Bar in proportion to the water flow

Mounting the MixRite

1. Preparing the MixRite site.

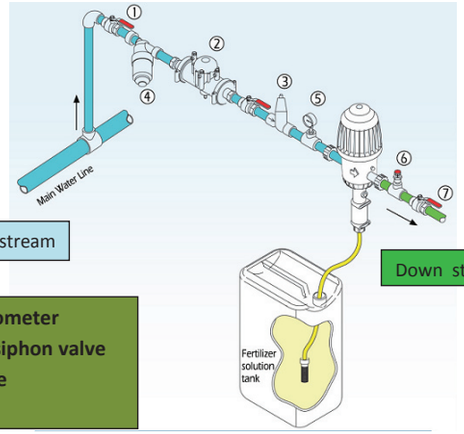
   - To connect the MixRite inlet and Outlet must reach the inlet and outlet pipes.
   - The MixRite must be positioned above the Liquid additives container.

2. Screw the MixRite bracket onto a wall or any stable vertical base.
3. Press the MixRite onto the bracket. The nipples on the MixRite must click into the holes in the side of the bracket.



Installation of the MixRite

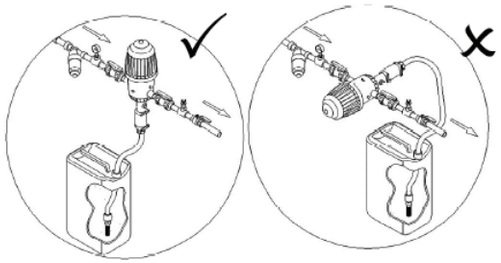
Installing the MixRite on a direct Line (in line)



1. Main valve	5. Manometer
2.Back flow preventer	6. Anti siphon valve
3. Pressure reducing valve	7. Valve
4. Filter	

1. Install onto the water line using swivel connectors and ensure that the water flows into the MixRite in the direction indicated by the arrows printed on the MixRite.
2. Install a 120 mesh (130 micron) filter between the valve and the injector inlet.
3. Valves have to be installed at the water line entry and exit .
   In order to stop the pump's action – you should close the valve at the entry point.
4. position the drawing pipe into the additive container. Ensure that the suction Pipe filter is set to 1/2" above the container's bottom. Check to ensure that the Suction pipe is not bent or folded.

Correct Installation **Incorrect Installation**



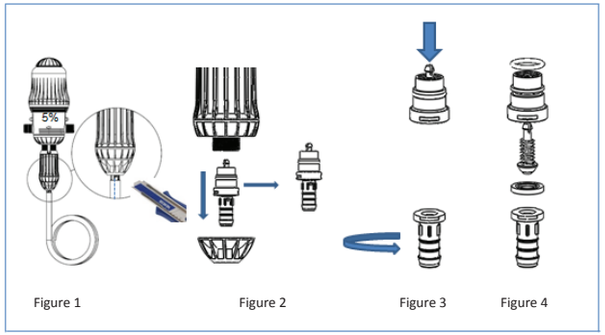
Maintenance

Recommendations

- Before any maintenance operation, flow tap water through the pump for a few minutes.
- When using soluble materials that become solution, it is recommended to dismantle the suction unit once every 3 months and wash it thoroughly in clean water.
- If MixRite is put back into service after a long period of being idle, it is recommended to remove the engine unit and soak it in lukewarm water for the night. This will help remove deposits from the engine.

Dismantling and assembly of check valve

- Close the inlet and outlet valves and depressurize.
- Disconnect the tube – for models of up to 2%, by releasing the T-nut and gently pulling the tube.
- In models of 5% cut the tube and pull it out. Pull the tube carefully from the tooth connector.
- Release the 3/4" nut and pull the check valve unit out (figure 2).
- Wash the check valve in tap water.
- Release the tube connection by turning 1/4 turn and pull down (figure 2).
- Push the valve piston by pressing against a surface. The suction seal and valve piston and spring will go out (figure 4).
- Wash the parts thoroughly and remove deposits or soil. Check the correct order of the following parts, and check that the flat and round seals are in good order and that the spring is not broken. If necessary, replace the valve assembly.
- Reassemble in reverse order. Make sure that the notch on the flat seal faces the valve piston (figure 4).



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Troubleshooting

Problem	Check	Solution
MixRite does not operate	Check that the inlet and outlet valves are open	Open the valve
	Check that the water filter isn't clogged.	Clean the filter
	Check that water is flowing in the line.	Open main and Outlet valve.
	Check that springs are not broken Open pump lid & remove piston	Change the broken spring
	Check that cylinder is not scratched	Change cylinder
	Check that piston seals are not damaged.	Change the seals
MixRite does not draw	Dismantle the suction pump and check the suction seal for damage.	Change the suction seal.
	Check suction filter to see if is blocked and if is immersed in the additive tank	Clean and rinse suction filter ,fill liquid into tank to cover filter
Water flowing back into additive tank	Check the check valve if not clogged	Clean or replace.
The MixRite makes scratching noises	Check if there is liquid in the additive container	Add liquid to the container
	Check if suction pipe is immersed in the additive tank	Straighter or change the pipe
	Check suction filter to see if is blocked and if is immersed in the additive tank	Clean and rinse suction filter ,fill liquid into tank to cover filter

Correct installation will prevent damages and malfunctions of the MixRite

It is strongly recommended to install a back flow preventer before the injector on the main water line.
A vacuum release unit should be installed at the outlet of the MixRite in order to prevent undesired suction of additive when the water line is draining.

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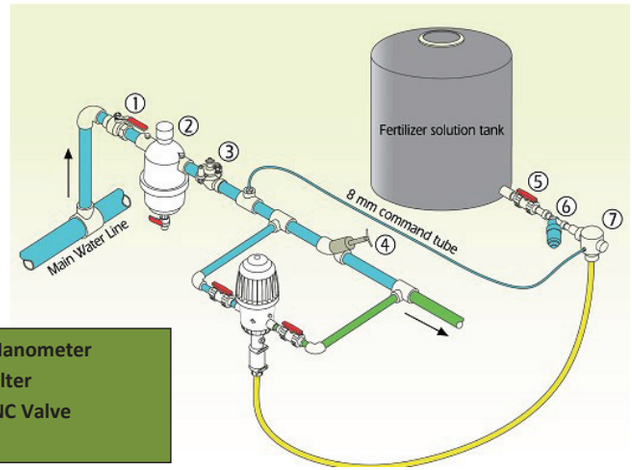
Installing the MixRite on a ByPass line (off line)



1. Main valve
2. Filter
3. Pressure reducing valve
4. Choking valve
5. Manometer
6. Filter
7. NC Valve

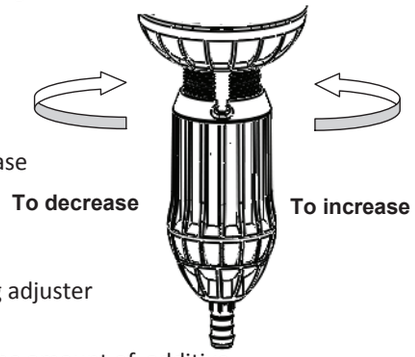
4. where water is supplied at a higher flow rate than the working flow rate of the injector
5. or where the injector isn't needed for continuous operation , the MixRite should be
6. installed on a bypass line.
7. The bypass provides the possibility to close the operation of the injector while water continues to flow through the line.
8. Install onto the bypass water line using swivel connectors and ensure that the water flows into the MixRite in the direction indicated by the arrows printed on the MixRite.
9. Install a 120 mesh (130 micron) filter between the valve and the injector intake.
10. Valves have to be installed at the bypass entry and exit and on the main water line.
11. Position the liquid additive container beneath the injector. Check to ensure that the suction pipe is not bent or folded. Position the drawing pipe into the additive container. Ensure that the suction pipe filter is set 1/2" above the container's bottom.

Adjusting the MixRite

Every stroke of the MixRite moves a predetermined volume of water with a predetermined volume of liquid additive.
To adjust the volume of the liquid additive in models
0.03%-0.2%, 0.1%-0.9%, 0.3%-2% , 0.5%-5%,1%-10% :

1. Preset the amount of additives according to the percentage or water scale that is found on the proportioner.

- Turn the proportioning adjuster up to increase The amount of additives.
- Turn the proportioning adjuster down to decrease The amount of additives.



* Adjusting model 0.03-0.2% - Turn the proportioning adjuster Down to increase the amount of additive.
Turning the proportioning adjuster up will decrease the amount of additive.
The marking on the scale indicates the percentage of the Additive out of the total water flowing through the injector.
2. Ensure to lock the latch nut after adjusting.

Recommendations -

After pumping it is recommended to fill the additive container with clean water and keep pumping for few minutes.
Monthly rinse the unit's parts and external surface with clean water.

Warning : During pumping , ensure that the additive container is not completely empty.

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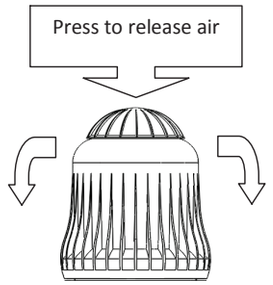
Air-release Valve

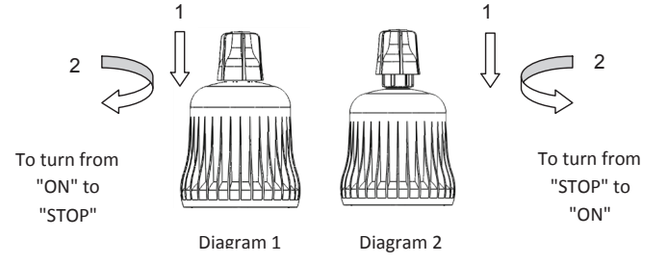
In models supplied with Air-release valve.
After initial operation of the MixRite, apply pressure to the cap (the air release valve) for several seconds to open the valve. This allows trapped air to escape.
This air release is accompanied by a slight loss of water.
Release the pressure on the cap to close the valve



Air is released with a small amount of water

On/Off System

In models supplied with On/Off System:
ON position – the Knob should be in its high position,
The injector is working & drawing additive.
OFF position – The knob is pushed down and turned.
The water flow to the injector continues without the pumping action.
To turn the dosage unit **Off** and allow the free flow of water through the MixRite:
Push the handle (1), Rotate clockwise a quarter turn (2) and release. (Diagram 1)
The handle is in the close position. The MixRite will stop pumping.
To turn the dosage unit **On** and allow the pumping action MixRite:
Press slightly on the handle (1), Rotate Counter-clockwise (2) and release.(Diagram 2).
The handle is in the opened position. The MixRite will be in pumping action.



In injectors 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 there is no need at all to inject the additive but the water flow should continue.