MixRite Water Driven Injectors Training
MixRite Installation
Jordan Valley, Israel
MixRite
Water Driven Injectors

- Operate without electricity using water pressure as the power source.
- Inject a proportional amount of fertilizer or additive into the water line regardless of pressure variations.
- Maximum dilution variance is less than 10%.
- Extremely low pressure loss compared to other systems:
  - 2.5 / 500 Series, maximum loss 15 PSI
  - TF5, 10 and 25 – maximum loss 11.5 PSI
- 10 to 25% more flow than competitive models.
MixRite 500 Series

Standard models create a homogenized solution of chemical and water during normal operation.

- Air vent
- Replaceable lip seals
- Mixed solution outlet
- Water inlet
- Viton Extreme seal and O-ring
- Chemical pick-up tubing
MixRite 500 Series Internal Bypass

Used for the most aggressive chemicals that attack springs, screws, o-rings and other vulnerable materials.

Chemical injection point
Water and chemical are not a homogenized solution at this point.
Additional Benefits & Selling Features

- Manual or electric ON/OFF available on all systems
- Internal bypass on the engine system
- PulseRite cycle counter
- Units manufactured and designed with components for high chemical resistance
  - PVDF models for sulfuric acid and other very aggressive chemicals
  - Purple sleeve models for chlorine and mild acids
  - Bypass units minimize chemical contact with pump components
Additional Benefits & Selling Features

- Durable body and cover made from Nylon12 reinforced with 30% Fiberglass
- Suction seal made from Viton Extreme rubber
- Engine lip seals made from Nylon12 + Teflon
- Hastelloy springs in suction check valve for special models
- Suction cylinder made from HDPE
- Built-in ribs in the suction cylinder avoids over-dosing damage
- Suction filter made from chemical resistant Polypropylene
- Bigger additive openings in the suction check valve
Lip Seal Kit

All units ship with a free lip seal kit and chemical piston seal.
All you need to do to select a MixRite is answer three questions

1. What is the water flow and pressure through the system?

2. What percentage of chemical do you want?

3. Is the chemical corrosive?
<table>
<thead>
<tr>
<th>Model</th>
<th>Chemical Injection Rate</th>
<th>Water Pressure</th>
<th>Water Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5 / 500 Series &amp; TF3</td>
<td>0.1 – 10%</td>
<td>3 – 120 PSI</td>
<td>0.08 – 14 GPM</td>
</tr>
<tr>
<td>TF5</td>
<td>0.1 – 5%</td>
<td>15 – 120 PSI</td>
<td>0.9 – 22 GPM</td>
</tr>
<tr>
<td>TF10</td>
<td>0.1 – 5%</td>
<td>15 – 120 PSI</td>
<td>2.2 – 44 GPM</td>
</tr>
<tr>
<td>TF25</td>
<td>0.1 – 5%</td>
<td>15 – 120 PSI</td>
<td>2.2 – 44 GPM</td>
</tr>
</tbody>
</table>
Choosing the Rite MixRite

WATER FLOW

1 10 20 40 50 110

500 Series
0.08 – 11 GPM

TF 3
0.08 – 14 GPM

TF 5
10 – 20 GPM

TF 10
18 – 40 GPM

TF 25
40 – 110 GPM

KEY TAKEAWAY
All pumps have a mid-range where they operate most effectively
MixRite 500 CW Series

- Delivers 2.5 cubic meters per hour or approx. 11 GPM
- Operates most efficiently at 1 to 10 GPM
- Has ¾” thread connections
- Chemical injection rates
  - .1% to 1%, .3% to 2%, .4% to 4% and 3% to 10%
- Special models for harsh chemicals
MixRite 500 CL Series

- CL models identified by purple sleeve
- Designed to withstand chlorine and mild acids
- All upper seals made from Viton Extreme
- Check Valve seals made from Aflas
- All Hastelloy Springs
MixRite 500 PVDF Series PVDF

- PVDF models have white body
- Designed to eliminate potential chemical attack of body from sulfuric acid
- All upper seals made from Viton Extreme
- Check Valve seals made from Aflas
- All Hastelloy Springs and PVDF components
MixRite 3 14 Series Units

- Capacity up to 16 GPM, ¾” thread connections
- Increased Chemical Compatibility
  - Aflas O-rings through unit
  - Hastalloy and plastic engine springs for improved chemical compatibility
- Easy to read chemical adjustment sleeve
- Models:
  - 14.CW.05 – 1-5% injection
  - 1410A/M – 1-10% injection
  - 1402A/M - .2-2% injection (available 2014)
MixRite TF3

- New product introduced at Irrigation Association Show Dec, 2009
- Developed from customer request for the greenhouse market
  - Used extensively in landscaping
- Identical to 2.5 models except with 1” pipe threads
  - Most greenhouses have 1” piping and want added water flow
MixRite TF 5

- Delivers 5 cubic meters per hour or approx. 22 GPM
- Operates most efficiently at 10 to 20 GPM
- Has 1” thread connections
- Chemical injection rates
  - .1% to 1%, .2% to 2%, and 1% to 5%

TF 1% units available with updated seals for use with harsher chemicals
MixRite TF 10

- Delivers 10 cubic meters per hour or approx. 45 GPM
- Operates most efficiently at 18 to 40 GPM
- Has 1.5” thread connections
- Chemical injection rates
  - .1% to 1%, .2% to 2%, and 1% to 5%

TF 1% units available with updated seals for use with harsher chemicals
MixRite TF 25

- Delivers 25 cubic meters per hour or approx. 110 GPM
- Operates most efficiently at 40 to 110 GPM
- Has 2” thread connections
- Chemical injection rates
  - .1% to 1%, .3% to 2.5%, and 1% to 5.5%

TF 1% units available with updated seals for use with harsher chemicals
MixRite AgroRite

- Water treatment unit designed for aggressive additives
  - For acid or chlorine or hydrogen peroxide
- Delivers 25 cubic meters per hour or approx. 110 GPM
- Operates with minimum flow of 23 GPM and maximum 110 GPM
- Has 2” thread connections
- Chemical injection rates
  - .1% to 1%, .3% to 2%, .4% to 4%, and 3% to 10%
Injection % Across Varying Water Flow

570 / 571 Injection Rates

- Red: 2%
- Blue: 1.5%
- Green: 0.5%

Gallons per Min.
<table>
<thead>
<tr>
<th></th>
<th>Electric Req.</th>
<th>Price</th>
<th>Operation</th>
<th>Accuracy</th>
<th>Installation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MixRite</td>
<td>No</td>
<td>Moderate</td>
<td>Simple</td>
<td>Good</td>
<td>Simple</td>
<td>Proportional</td>
</tr>
<tr>
<td>Non-proportional</td>
<td>No</td>
<td>Moderate</td>
<td>Simple</td>
<td>Poor</td>
<td>Medium</td>
<td>Water is wasted</td>
</tr>
<tr>
<td>Hydraulic Injectors</td>
<td>No</td>
<td>Moderate</td>
<td>Simple</td>
<td>Poor</td>
<td>Simple</td>
<td>High pressure loss</td>
</tr>
<tr>
<td>Venturi</td>
<td>No</td>
<td>Low</td>
<td>Simple</td>
<td>Poor</td>
<td>Simple</td>
<td></td>
</tr>
<tr>
<td>Venturi + Electronic</td>
<td>Yes</td>
<td>High</td>
<td>Difficult to operate</td>
<td>Good</td>
<td>Difficult</td>
<td>Expensive</td>
</tr>
</tbody>
</table>

**MixRite**

- No Electric Requirement
- Moderate Price
- Simple Operation
- Good Accuracy
- Simple Installation
- Proportional

**Non-proportional Hydraulic Injectors**

- No Electric Requirement
- Moderate Price
- Simple Operation
- Poor Accuracy
- Medium Installation
- Water is wasted

**Venturi**

- No Electric Requirement
- Low Price
- Simple Operation
- Poor Accuracy
- Simple Installation
- High pressure loss

**Venturi + Electronic Controller**

- Yes Electric Requirement
- High Price
- Difficult to operate Operation
- Good Accuracy
- Difficult Installation
- Expensive
Competitive Review

Compared to Dosatron and Dosamatic, MixRite’s are

• Easier to maintain & operate
• Better chemical resistance
• Better U.V resistance
• Better value for the price
• Lower spare parts pricing
Installations

What does an installation look like and what’s important to understand.
Typical In-line Installation

How many of these items do you sell?
Bypass Loop

Bypass installation for 4 irrigated plots

1. Main Valve
2. Filter -130 micron minimum
3. Pressure reducing valve
4. Chocking Valve
5. Operate valve
6. Anti siphon valve
Bypass Loop

Typical installation when using large fertilizer tanks:

1. Main Valve
2. Filter - 130 micron minimum
3. Pressure reducing valve
4. Chocking Valve
5. PVC fertilizer valve
6. Fertilizer filter
7. Normally close hydraulic fertilizer valve
Bypass Loop

Controlled bypass installation & PulseRite

1. Main valve
2. Filter - 130 micron minimum
3. Pressure reducing valve
4. Irrigation controller
5. PulseRite communication box
6. Command solenoid valve
7. Water meter + electric pulse
8. Fertilizer level float
9. Normally close hydraulic valve
10. 3/4" fertilizer proof PVC valve
11. 3/4" fertilizer proof filter
12. 3/4" fertilizer proof
13. Chocking valve
14. PulseRite system
Bypass Calculation
How to Calculate Volume per Click for % of Chemical

\[
\text{GPM of Flow} \times \% \text{ of MixRite} \times \frac{100}{\text{Total Flow through System}} = \% \text{ of Chemical in Total Flow}
\]

\[
\frac{110 \text{ GPM} \times .05}{1200 \text{ GPM}} \times 100 = .0045\%
\]

(Percent maximum Injection rate)
High Volume Feritgation

Accessories
1. Main valve
2. Water meter
3. Filter
4. Chocking valve
5. Mixer tank
6. Sensors EC, PH
7. Mixrite
8. FlowGuard
9. Solenoid valve
MixRite Water Driven Injectors Training