

# FLUSHING



**Flushing the main, sub-main and distribution lines will considerably reduce the accumulation of organic and mineral materials in the system. This will help prevent those materials from reaching the drippers and eventually clogging them.**

The main, sub-main and distribution lines in the system should be flushed in sequence. Each one of them should be flushed until the flushed water runs clear. Flushing is effective only when the flow rate within the main, sub-main or distribution line is sufficient to allow for proper flushing velocities in the system.

Manual flushing of main, sub-main and distribution lines should be carried out in order of first flushing the main line, sub-main lines, and then distribution lines. Open the flushing valves of each one of them in turn while under pressure.

The process of flushing the main, sub-main and distribution lines consists of two waves for each:

- The first wave removes contaminants collected at the end of the pipe.
- The second wave removes contaminants from the pipe and the color of the water is not as dark as the first, but the process takes more time.
- Flushing must be continued until the water is visually clean.

*You must obtain the velocity of the water flowing in the pipes through each phase for success.*

Flushing is important to maintain irrigation uniformity. Flushing should be performed as often as needed to keep the dripperlines clean; this depends on seasonal water quality and the effectiveness of the system filter. All the dripperlines in a plot should be flushed in sequence in a single

flushing event. Dripperlines should be flushed until the flushed water runs clear. The length of dripperlines affects the required flushing duration. Longer dripperlines need longer flushing durations.

### **The dripperline flushing process:**

Flushing is more effective when the flow rate within the dripperlines is increased and al-

lows flushing contaminants from the dripperlines' internal walls. The pressure should not exceed the value indicated by to the dripperline's wall thickness.

Dripperline flushing is valid when flushing sometimes as little as 2 minutes and a maximum of half an hour consecutively, with the end of as little as 5 and a maximum of 15 dripperlines kept open. To avoid exceeding the allowable pressure in the system, a minimum of 5 dripperlines, but no more than 15 should be open at any time during flushing. During dripperline flushing, carefully monitor the water flowing out of the flushing valve. Do not close the flushing valve before the water is satisfactorily clean.

## Velocity

The velocity of the water in a pipe depends on the flow rate and the internal diameter of the pipe.

The recommended flushing velocity is 1.5 m/sec (5 ft/sec).

The allowed velocity range for flushing is 1.0-2.0 m/sec (3.3-6.6 ft/sec).

**Consult with a Meras Representative on Irrigation, Reservoir and Crop Challenges.**

	<b>CHALLENGE</b>	<b>LOCATION</b>	<b>RECOMMENDATIONS/SOLUTION</b>
<b>IRRIGATION</b>	<b>Plugging</b>	Irrigation Lines & Emitters	Micro Phuric, Micro Irrigation Line Kleener, Chlorine Dioxide, EnviroChlor, Drytech
	<b>Slime</b>	Irrigation Lines, Emitters	Micro Blast, OxyGreen 5, Chlorine Dioxide, HydraKleen, Drytech, EnviroChlor
	<b>Iron (elemental)</b>	Irrigation Lines, Emitters	Micro Flow, Micro Flow 15X
	<b>Scale</b>	Well, Irrigation Lines, Emitters	Well Blast, Well Flow 15X, Micro Flow 300
	<b>High Mineral</b>	Irrigation Lines, Emitters	Dioxi Kleen 15 & Activator, PAA 15%, PAA 5.6%, EnviroChlor, Drytech
	<b>Bacteria Pathogens</b>	Irrigation Lines	Dioxi Kleen 15 & Activator, PAA 15%, PAA 5.6%, EnviroChlor, Drytech
	<b>Iron Reducing Baceteria</b>	Reservoir, Irrigation Lines, Emitters	OxyDrop Fe Micro Phuric, Chlorine Dioxide, Micro Blast, EnviroChlor, (depends on filtration and if reservoir is present)
<b>RESERVOIR</b>	<b>Magnesium</b>	Reservoir	Micro Flow 300, Micro Flow 15X
	<b>Algae</b>	Pond	Hydra Kleen, DryTec
<b>CROP</b>	<b>Powdery Mildew</b>	Leaf Blight, Bacteria, Vineyard, Orchard, Row Crop	OxyLeaf