

RAIN BIRD ESP-LXMEF Tee Flow Sensor



RAIN BIRD ESP-LXMEF Tee Flow Sensor User Guide

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RAIN BIRD ESP-LXMEF Tee Flow Sensor



Product Information

Specifications:

- Product Name: Tee Flow Sensor
- Model: ESP-LXMEF, ESP-LXD
- Cable Compatibility: PE-39
- Maximum Wire Length: 3000' for AWG wire, 2000' for PE-39 #19 AWG wire
- Components: Flow Sensor, Sensor Decoder, Splice Kit, Ground Rod
- Usage: 2-wire path system

Product Usage Instructions

Installation Steps:

1. Choose a suitable location for installation.
2. Remove the sensor from the Tee.
3. Install the Tee into the pipe ensuring proper orientation.

Location Selection:

Ensure a clear, unobstructed distance of at least 10 times the pipe's diameter upstream and 5 times downstream of the sensor. The sensor can be installed in horizontal or vertical pipes.

Orientation:

Make sure the arrow on the Tee points in the direction of water flow. If installed horizontally, ensure the Tee points straight up.

Preparation:

1. Remove all burrs from pipe ends and Tee sockets.
2. Use wire strippers and cutters as needed.
3. Clean surfaces with primer before applying PVC cement.

Tools Required:

- Wire strippers
- Wire cutters
- Screwdriver
- Pipe wrench

Warnings:

- Use Pulse decoder for 2-wire systems only. Do not use with certain satellite systems.
- Rain Bird FSSURGEKIT installation is recommended for surge protection.

Frequently Asked Questions

Q: Can I use the Tee Flow Sensor with any type of pipe material?

A: The Tee Flow Sensor can be installed in both PVC and brass pipes.

Q: What is the maximum wire length supported by the product?

A: You can run up to 3000' of AWG wire and up to 2000' of PE-39 #19 AWG wire.

Tee Flow Sensor Installation

Select the connection diagram that matches your system

Diagram A: ESP-LXMEF

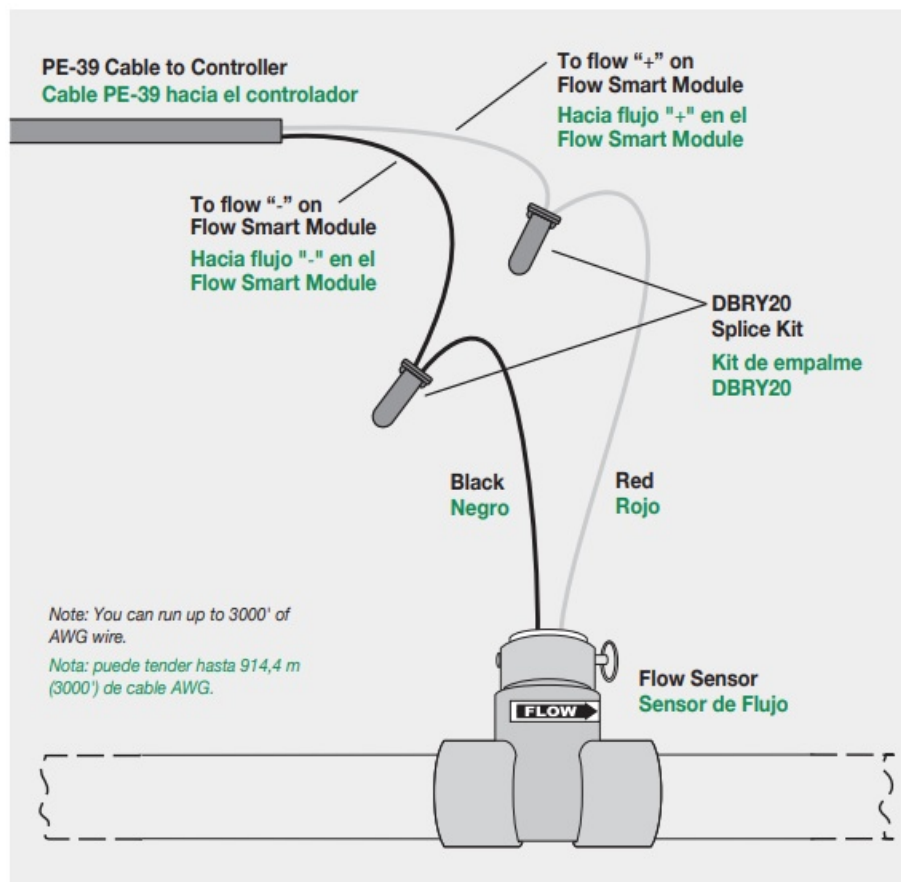


Diagram B: ESP-LXD with Flow Sensor and Sensor Decoder.

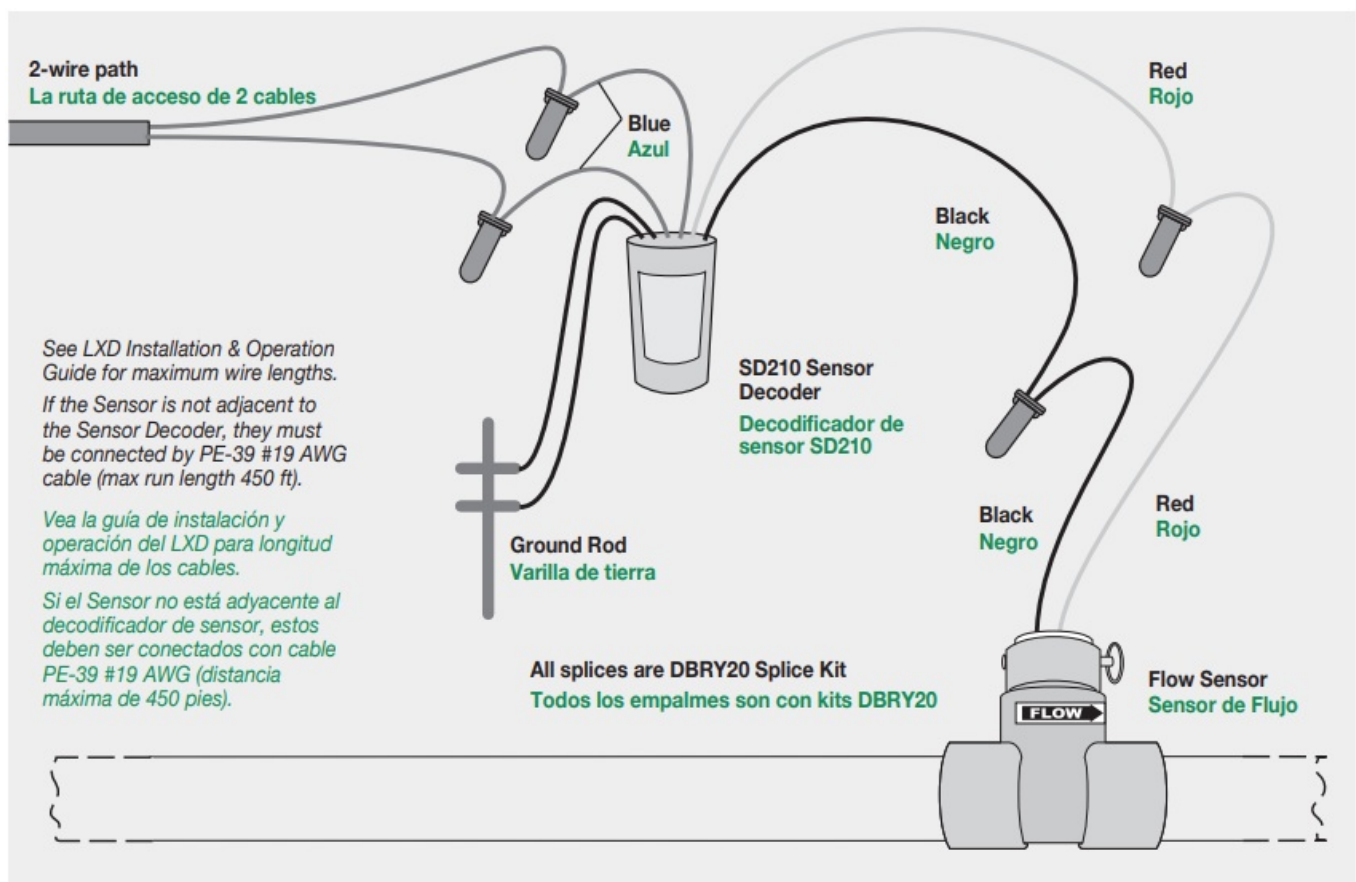
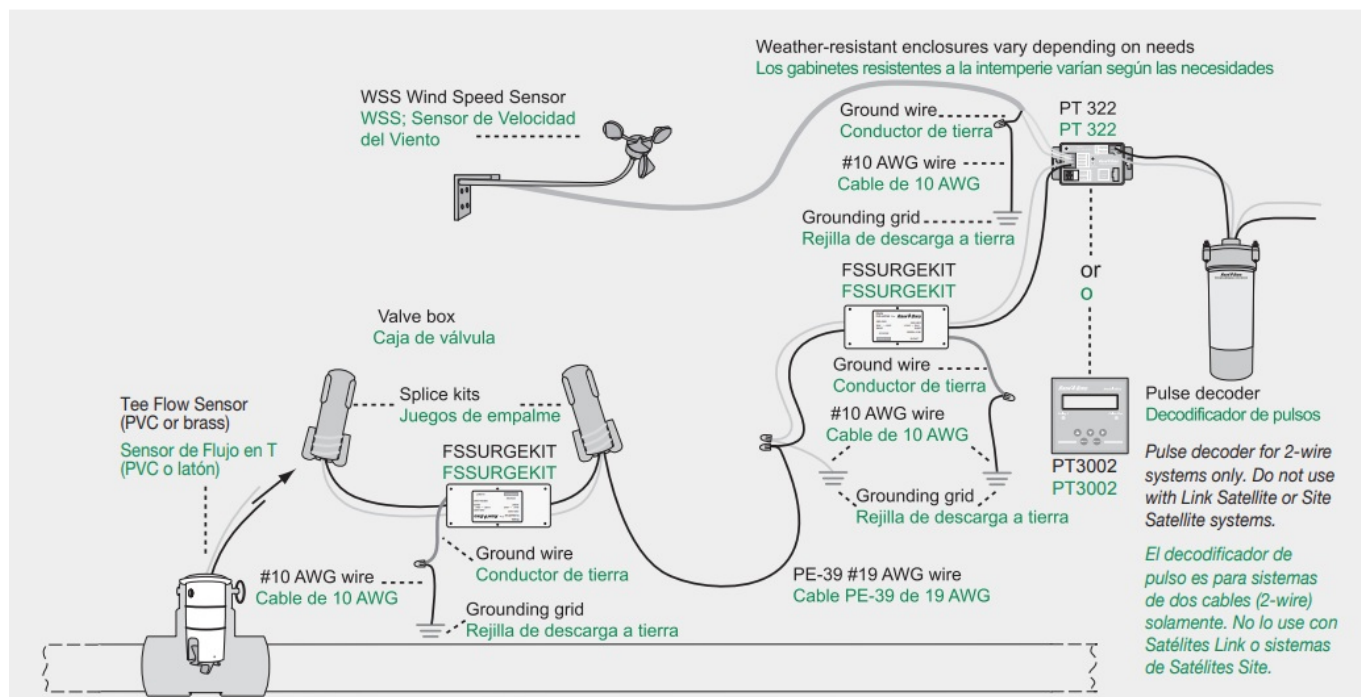


Diagram C: Maxicom2



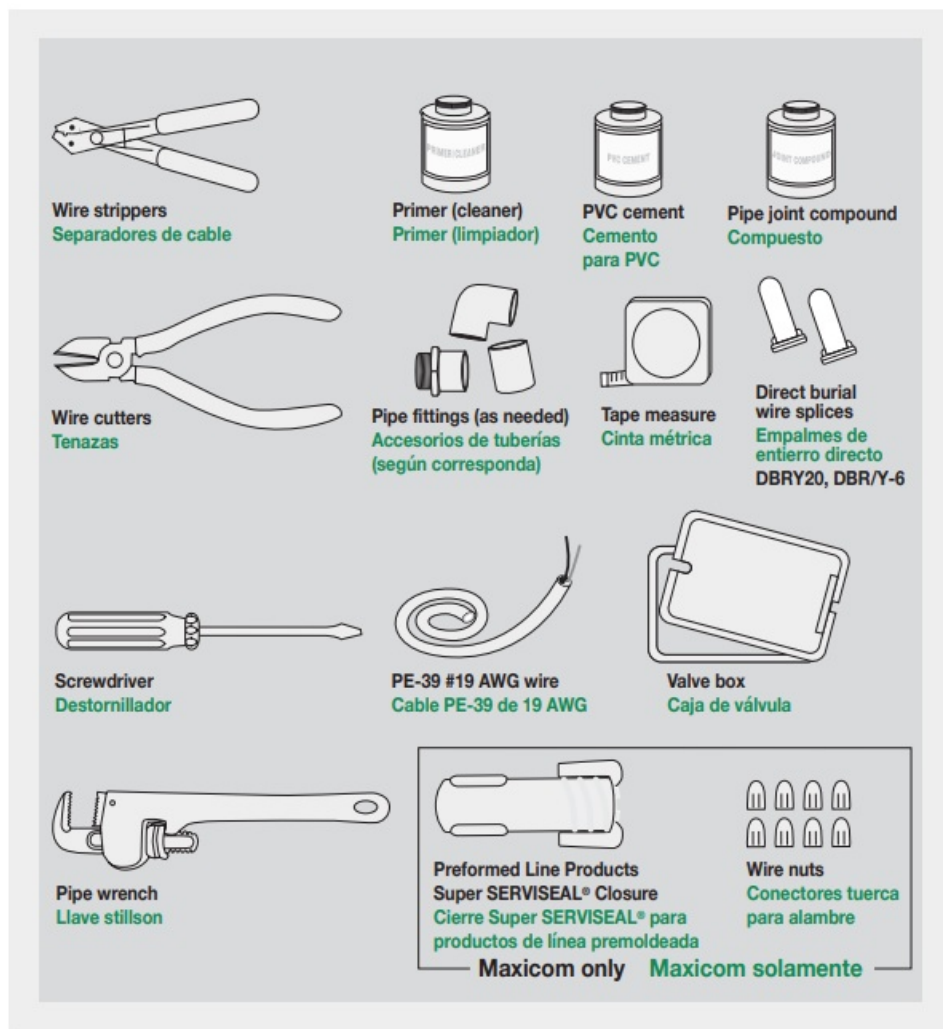
Warning for Maxicom only

- Rain Bird Corporation highly recommends using the Rain Bird FSSURGEKIT® to safeguard your flow sensing equipment from lightning or surge damage.
- To install the Rain Bird FSSURGEKIT, please go directly to the Rain Bird FSSURGEKIT installation instructions to continue wiring your system.
- **WARNING:** The following wiring configuration (steps 1-3) will NOT protect 100% your flow sensing equipment from lightning or surge damage.

Note: You can run up to 2000' of PE-39 #19 AWG wire.

Note: To continue wiring, please see the Pulse Transmitter or Flow Monitor installation instructions.

Gather installation materials

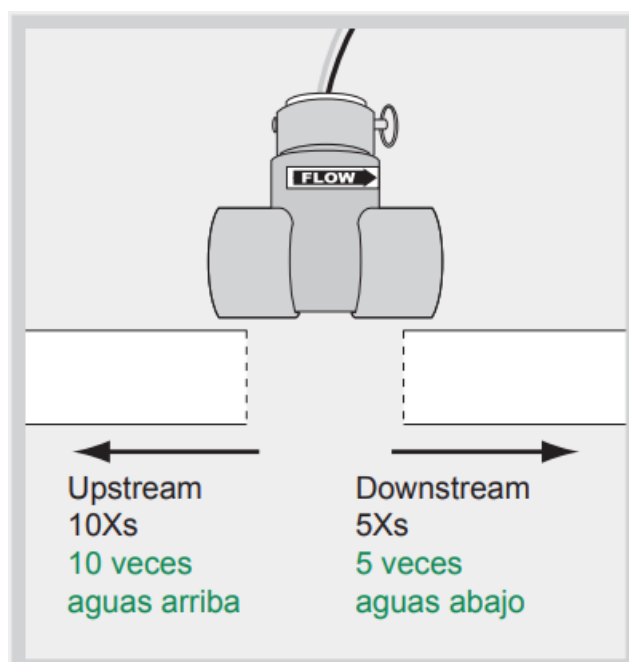


Choose a location

Note: The sensor can be installed in a horizontal or vertical pipe.

Provide a clear, unobstructed distance of at least 10Xs the pipe's diameter upstream of the sensor and at least 5Xs the pipe's diameter downstream of the sensor.

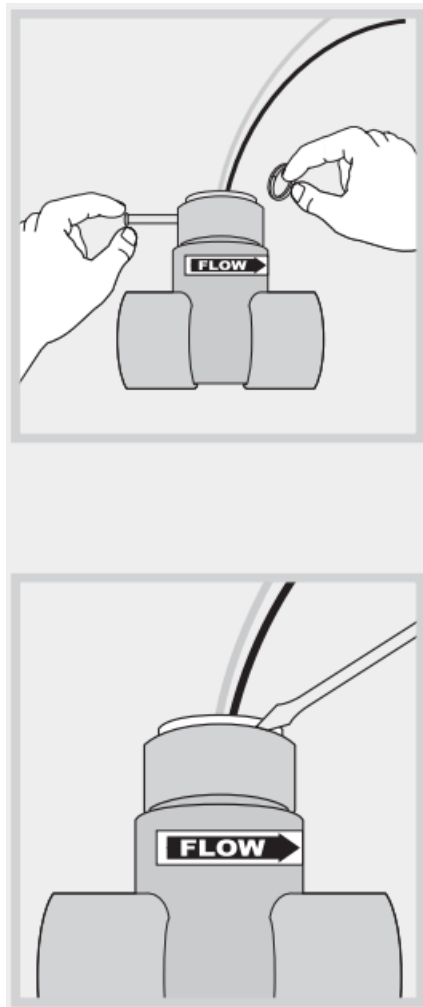
Example: For a 2" pipe, you will need at least 20" of straight, unobstructed pipe upstream of the sensor and at least 10" of straight, unobstructed pipe downstream from the sensor.



Remove the sensor from the Tee

1. Remove the split ring and take out the retainer pin.
2. Use a screwdriver to pry up the white plastic rim and gently remove the sensor.

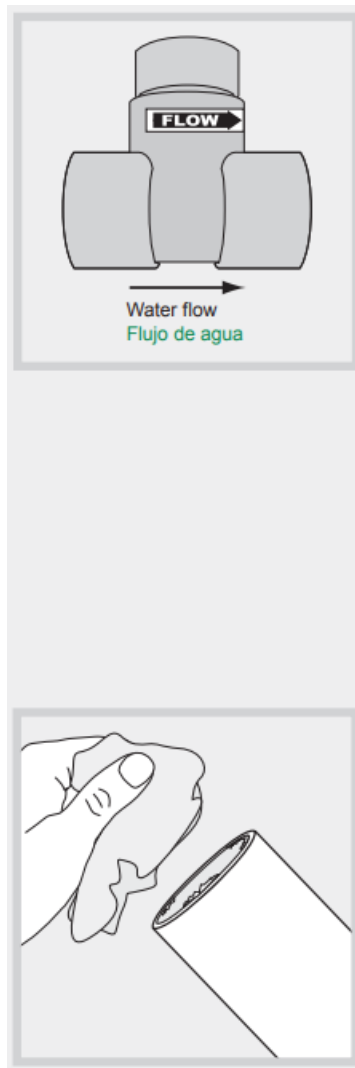
Note: Place the sensor on a clean dry surface.



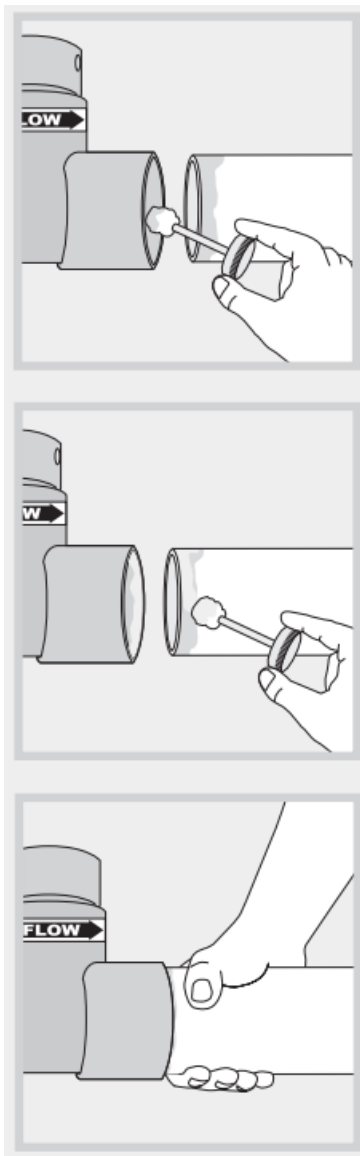
Install the Tee into the pipe

PVC (plastic) Tees

1. Make sure that the arrow on the Tee is pointing in the direction of the water flow.
WARNING: If the Tee is installed in a horizontal pipe, be sure that the Tee is pointing straight up, NOT at an angle.
2. Remove all burrs from the pipe ends and Tee sockets.

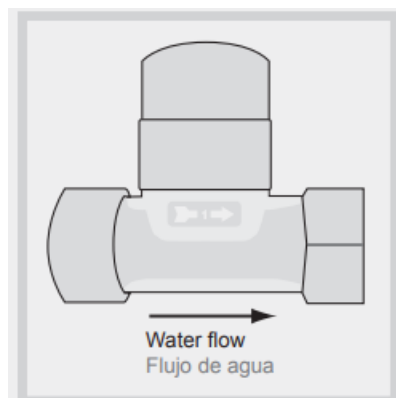


3. Clean the pipe ends and Tee sockets with primer (cleaner).
4. Apply PVC cement and quickly assemble the parts. The cement must be fluid.
5. Hold together the pipe and Tee socket for at least 30 seconds.



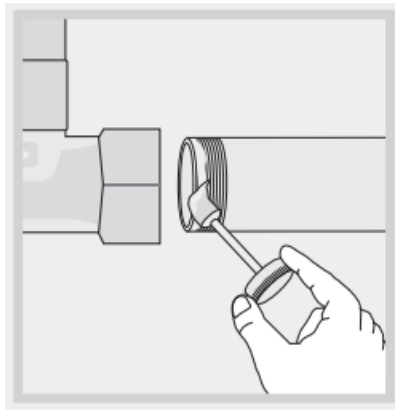
Install the Tee into the pipe

1. Make sure that the arrow on the Tee is pointing in the direction of the water flow.



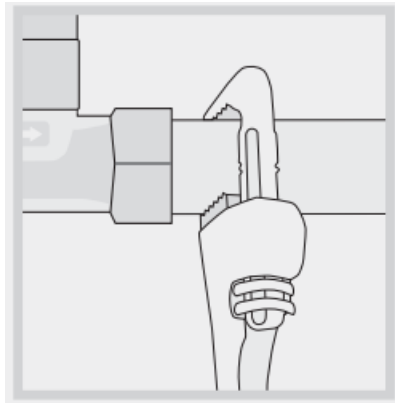
2. Apply pipe joint compound over the first few threads of the mating pipe. Hand thread the pipe into the Tee until tight.

WARNING: If the Tee is installed in a horizontal pipe, be sure that the Tee is pointing straight up, NOT at an angle.



3. Tighten an additional 1 1/2 turns with a pipe wrench.

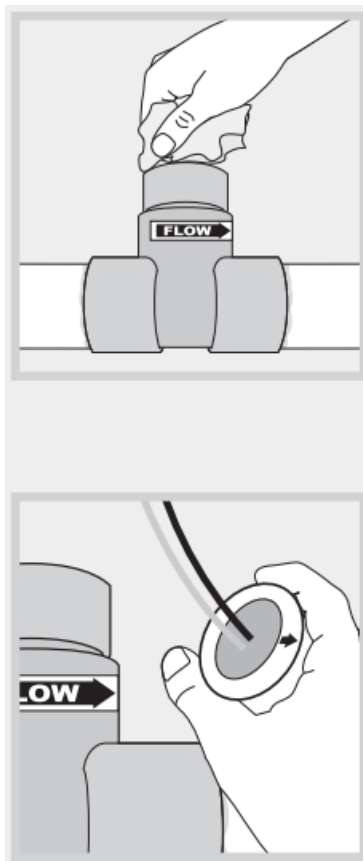
4.



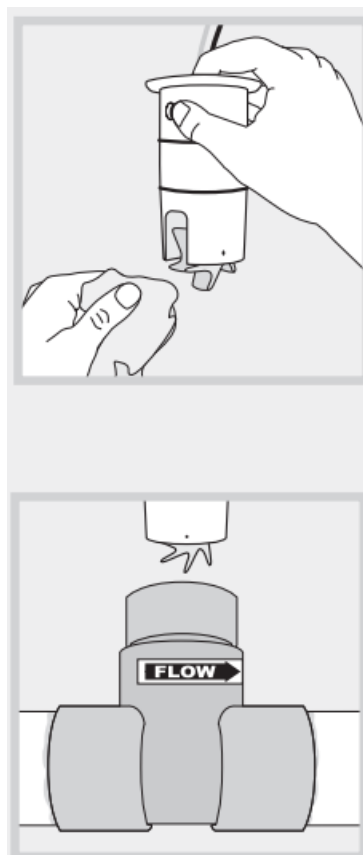
Replace the sensor

1. Clear any debris away from the opening on the Tee for the sensor.
2. Line up the sensor so that the arrow on top of the sensor is pointing in the direction of the water flow.

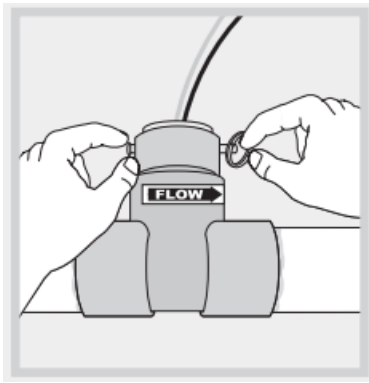
WARNING: Make sure that the black O-rings on the sensor are fully lubricated.



3. Remove any grease or dirt from the impeller blade.
4. The impeller blade should appear as shown. Put the sensor back into the Tee.



5. Replace the retainer pin and split ring.

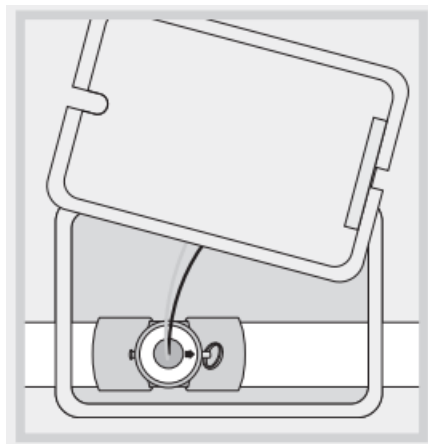


For below ground installation

Install a valve box around the sensor. Depending on the depth, use valve box extensions as needed.

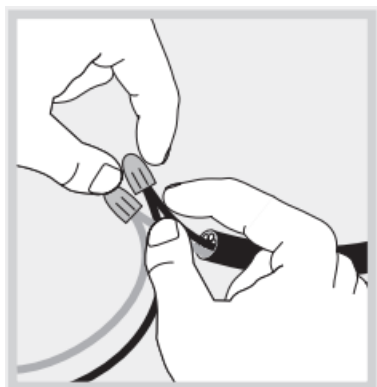
Note: Rain Bird® Corporation recommends a minimum of a 14" x 9" valve box.

Note: a minimum of 10" of gravel should be installed immediately below the sensor and valve box.



Connect all wires

Connect wiring with wire nuts. All wiring connections must be made with waterproof splice kits. Rain Bird DBRY20 (or 3M DBR/Y-6) is recommended for ESP-LXME and ESP-LXD controllers. Serviseal® is recommended for Maxicom2®. For PE-39 cable, cut the unused wires so that they are even with the black sheath of the cable. Note: for PE-39 connections, you will need to remember the color of the twisted pair of wires you use so that you can make an identical connection with the same wires later.



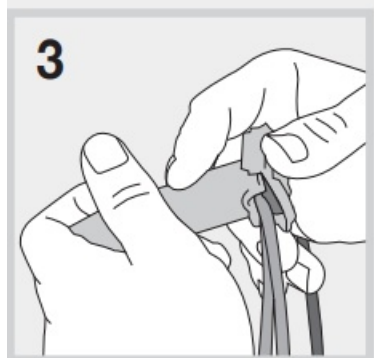
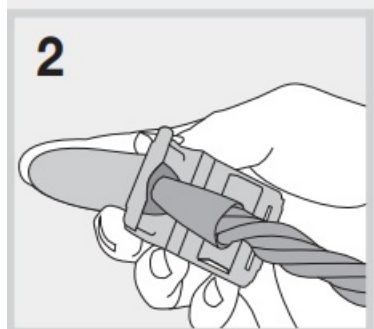
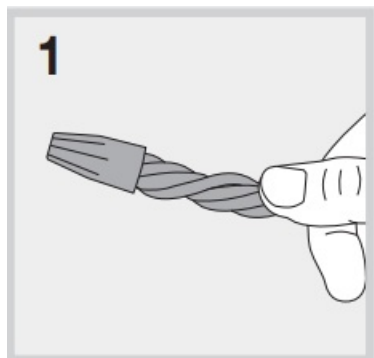
SERVISEAL

Protect the splice with the grease-filled enclosures per the manufacturer's instructions.



DBRY20

For DBRY20 and DBR/Y-6 splice kits, it may be necessary to twist the jacketed wires around each other so that they are stiff enough to push all the way to the bottom of the grease tubes.



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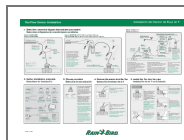
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ESP-LXMEF Tee Flow Sensor, ESP-LXMEF, Tee Flow Sensor, Flow Sensor, Sensor

References

- [✈ Rain Bird | A Global Irrigation Company](#)
- [User Manual](#)

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