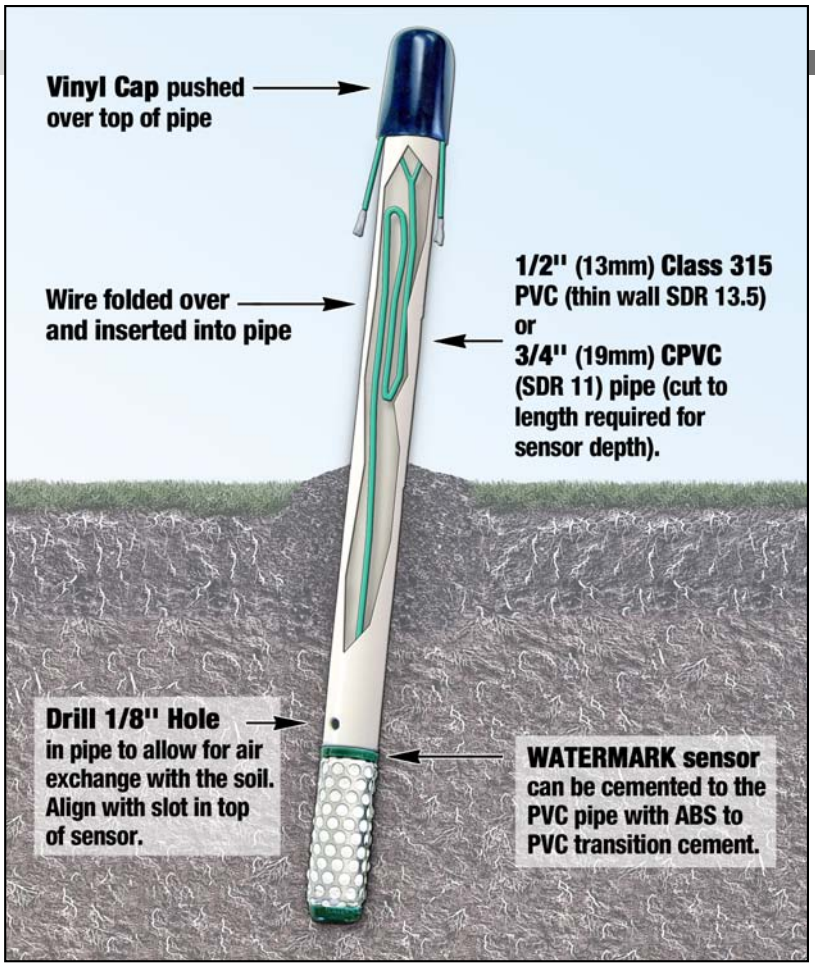
IRROMETER®

WATERMARK on Pipe Assembly Instructions



WATERMARK Sensors can be easily mounted individually or in multiples on PVC pipe to make a rigid assembly for ease of insertion and removal. Follow the recommended procedures below and on page two to ensure a good assembly is created. Refer to the pictures.

1. Cut 1/2" class 315 PVC (thin wall SDR 13.5) (or 3/4" CPVC, SDR 11) pipe to the desired length. Remember that the pipe should be longer than the desired depth of sensor placement to allow for some exposed pipe above ground for easy access to connect the meter. Precut pipes are available from IRROMETER.

2. Drill a small hole (1/8"), or saw a slot in the side of the pipe near the bottom so that it will align with the slot in the top portion of the sensor housing that gets inserted inside the pipe. This allows for any water that gets trapped in the pipe to drain away and provides a vent to allow the sensor to exchange air with the soil. (Precut pipes from IRROMETER come pre-drilled.)

3. Use solvent cement (PVC pipe glue) that is approved for ABS to PVC transition connections and carry the ASTM designation D3138, such as IPS Weld-On 793, 794 & 796 or Oatey 30900.

4. When cementing the sensor onto the pipe, be sure that excess cement does not plug the vent hole nor puddle in the top cavity of the sensor. When you insert the sensor into the pipe:

   a. Align the vent slot in the top of the sensor with the hole or slot in the pipe to create the vent/drain access.

   b. Allow the assembly to dry upside down so that any excess cement runs into the pipe.

5. Fold over any excess wire and insert it down into the pipe, leaving a few inches protruding for access to connect the meter.

6. Bend the protruding wires down alongside the outside of the pipe and slip a black vinyl cap over the top of the pipe to hold the wires in place. The cap not only holds the wire in place, but keeps water from entering the pipe and artificially influencing the sensor. If the exposed wire becomes damaged, remove the cap and pull out some additional wire, then make a new end connection suitable for connecting the meter clips.

If the sensors are not removed seasonally, they can be checked for accuracy while buried on pipe in this fashion. If you remove the vinyl cap and pour some water down the pipe, it will drain out the hole and saturate the sensor area within several minutes. A reading can then be taken to see if the sensor still reads close to zero. Be aware that it takes some time for this water to drain away; until then a representative sensor reading cannot be obtained. Wait until the sensor and surrounding soil have come back into equilibrium to take readings. It is best to check sensors between seasons.

Cut pipes and vinyl caps can be ordered from IRROMETER using the following part numbers:

PVC Cut Pipe — ____* inches.
*(*specify length = sensor depth + above ground).*

VTC — Vinyl Tubing Caps, come in bags of 100.

See Profile Probe Assembly instructions on back.

WATERMARK Sensor Multi-Depth Profile Probe Assembly Instructions

Multiple WATERMARK sensors can be installed as a single pole assembly to make field installation easier. Several WATERMARKS can be installed between sections of 1/2" Class 315 (SDR 13.5) PVC pipe to make a single stick assembly, as pictured, by following the solvent cementing procedures on the previous page. Use a standard WATERMARK at the bottom of the assembly and pipe spigot ended WATERMARKS (ex: 200SS-5-S) above. The wires from the lower sensors must be routed out a hole below the upper sensors and then routed back into the pipe through a hole above the sensor to keep all the wires contained inside the pipe sections where possible.

Care should be taken to keep the assembly straight during assembly, installation and removal. Any leverage on the spigot end of the WATERMARK could break it loose from the PVC. Removal will require very moist soil conditions as the exposed wires create more potential root and soil contact area.

Be sure to label each of the wire pairs with the depth of each WATERMARK for proper readings.

Upper Sensors
200SS-5-S

Bottom Sensor
200SS-5

IRROMETER®
THE IRROMETER COMPANY, INC.
1425 Palmyrita Ave., Riverside, CA 92507
(951) 682-9505 PHONE
(951) 682-9501 FAX
www.IRROMETER.com
sales@IRROMETER.com

Irrigation Association™
Bronze Member