

# IRROMETER®

## Model "RA"

**For Automating your Irrigation System  
Drip . . . Subsurface . . . Sprinkler**



### RESERVOIR

- Large Cap
- Easy to Fill
- Leakproof Seal
- Easy to Seal
- Plenty of Reserve Water

**ALL SOLVENT  
WELDED JOINTS ARE  
PERMANENTLY  
LEAK-PROOF**

### CERAMIC TIP

Has many times the strength of conventional tips. It is more porous to give quick response to variations in soil moisture.

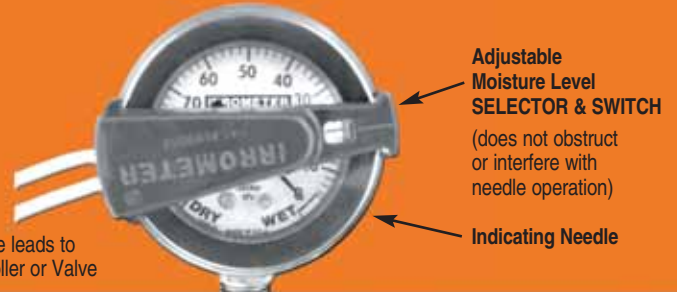
### HERMETICALLY SEALED GAUGE

- Accurate
- Long Lasting
- Air Free
- Rust Free
- Dust Proof
- Water Proof
- Temperature Compensating

### The IRROMETER BODY

Is constructed of tough durable plastic impervious to attack by soil chemicals or electrolysis.

The IRROMETER is available in standard lengths of 6, 12, 18, 24, and 36. Other lengths available on request.



Wire leads to  
Controller or Valve

Adjustable  
Moisture Level  
SELECTOR & SWITCH

(does not obstruct  
or interfere with  
needle operation)

Indicating Needle

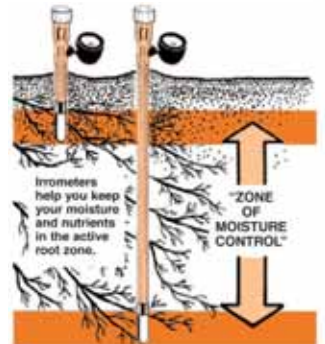
## How the IRROMETER . . . Adjustable SELECTOR and Automatic Switch Operates

The IRROMETER registers available soil moisture *directly, accurately, continuously*. The instrument is in effect a "dummy root" registering how hard roots are working to extract moisture from the soil. The patented Adjustable Moisture Level SELECTOR mounts on top of the IRROMETER Gauge and may be turned clockwise or counterclockwise to the optimum soil moisture reading. As soil moisture is depleted a vacuum is created which is registered by the Indicating Needle on the gauge. On the photo above the SELECTOR has been set at 20 centibars. When the Indicating Needle reads 20 or above, the Automatic Switch is closed and allows the Controller to operate as programmed. The Controller continues as programmed until the Indicating Needle falls below the setting on the Automatic Switch. The Adjustable

Moisture Level SELECTOR can be compared to a thermostat, automatically placing the Controller (or Solenoid Valve) into operation whenever a water application is desirable, or keeps it out of operation when there is no need for additional water application.

In some drip and subsurface irrigation systems, the IRROMETER SYSTEM can be used to directly switch the solenoid valve thereby eliminating the need for a controller. The SELECTOR Switch will both open and close the valve at the optimum moisture level set on the gauge.

The IRROMETER AUTOMATIC SYSTEM is designed to operate with any standard electric controller, time clock or solenoid valve when programming is desired.



The IRROMETER, first introduced in 1952, has continuously been the leader with every exclusive feature symbolic of the finest. . . . No other tensiometer offers the RUGGED DEPENDABILITY, LONG LIFE and RELIABILITY of the IRROMETER.

### MODEL "SRA"

Has threaded connection for easy tip replacement. Uses o-ring seal.



**IRROMETER®**  
REG US PAT OFF  
**MOISTURE INDICATOR**

*Finest  
Tensiometer*

**To automate your turf irrigation,  
use IRROMETER Model TGA.**

# IRROMETER Model "RA" Can Automate Your Irrigation System

## Automation with a controller

When one solenoid valve is controlling 2, 20, or 200 acres, the IRROMETER AUTOMATIC CONTROL SYSTEM is basically the same. As indicated in Figure 1, IRROMETER CONTROL STATIONS are installed in two representative locations to monitor and control the irrigation for the surrounding area. These sites must be carefully chosen so as to be representative of the soil types, topography, and sun exposure of the area being controlled. Where acreage is large, soil variations prevalent and topography a factor, the use of additional IRROMETER STATIONS is advisable to monitor these additional variables and to compare readings to the two wired IRROMETER CONTROL STATIONS.

Where more than one valve is used, it is advisable to control each valve separately, since each valve irrigates an independent irrigation "block." IRROMETER CONTROL STATIONS are located in representative sites within each "block" and instruments are wired in *parallel* to override the individual valve for that "block" (Figure 2). Parallel wiring of the instruments assures that each depth of instrument can call independently for water, thus providing water to the exact depth required. Normally 2-3 depths of instruments are installed at each IRROMETER CONTROL STATION with any drip, trickle or other low volume system (Figure 2).

## Automation without a controller

If no controller is used, the IRROMETER CONTROL STATION wires are connected to the 24 volt AC power source and solenoid valve (Figure 3).

When a Controller is used it should be programmed to water daily and as frequently as possible. For most drip installations 2 hours on and one hour off, for 24 hours a day is favored. This allows complete water penetration before recycling. Remember, the system will *only* operate when the IRROMETER Control Stations "tell" it to. Any Control IRROMETER can activate and turn on the irrigation system — all Control IRROMETERS must be wet for the system to turn off.

**NOTE:** IRROMETER CONTROL STATIONS can be overridden to "irrigate-in" fertilizer, or when other manual operations are desired. The Adjustable Moisture Level SELECTOR and Switch can be easily removed. When the Switch is removed from the IRROMETER, it remains closed and allows the controller to operate as programmed.

**NOTE:** Whenever DC power (battery) is used, special switches are required. Consult with the IRROMETER Company for correct specifications on all battery systems.

**NOTE:** Special "Reverse" gauges are available on request. With this specification, the switch is "closed" when the indicator needle is below the switch set point. The switch "opens" when the indicator needle reaches the switch set point.

*Finest Tensiometer*

FIGURE 1

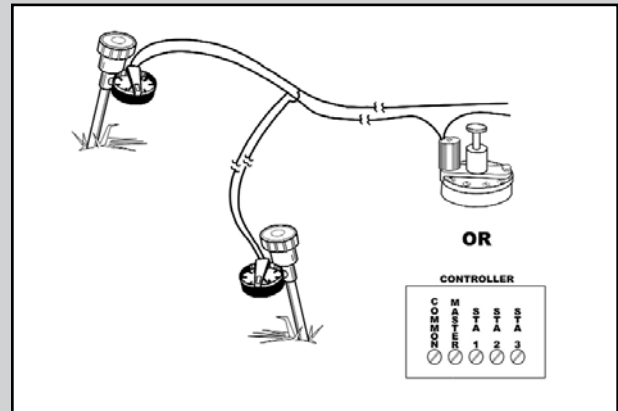


FIGURE 2

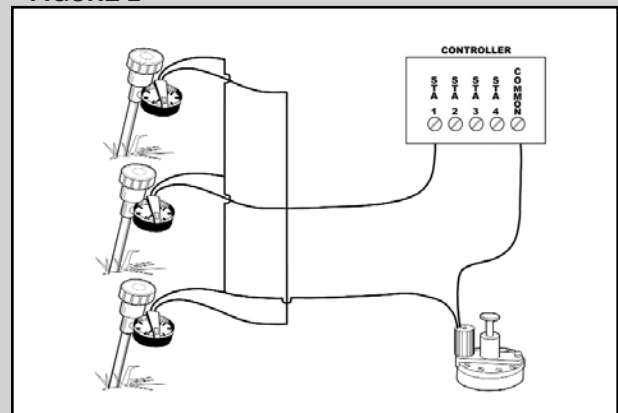
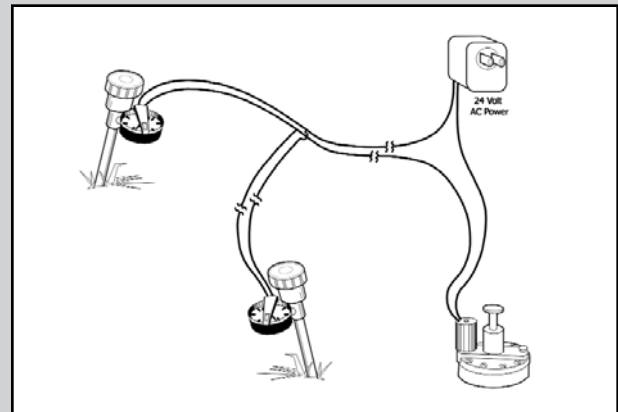


FIGURE 3



CAUTION — Do not exceed a maximum load of 30 volts at the IRROMETER. Maximum switching capacity — 4 amps.

Use #14 AWG insulated valve wire, or larger, for field wiring.

Manufactured By

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