

IRROMETER®

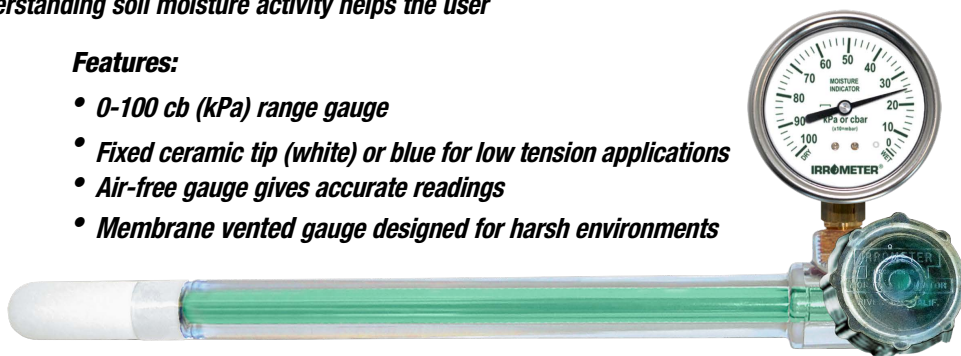
The IRROMETER was first developed in 1951 to help growers improve irrigation efficiency. It provides the user with accurate information on soil moisture status regardless of soil type. The instrument measures in centibars (cb) or kilopascals (kPa) of soil water tension. This value represents the energy a plant's root system uses to draw water from the soil. Understanding soil moisture activity helps the user

make informed irrigation scheduling decisions resulting in improved yield and quality while reducing water, fertilizer, labor and energy costs.

The IRROMETER Model TG is best suited for turf and shallow rooting areas such as turf grass or seed beds or anywhere installation requires horizontal placement.

Features:

- 0-100 cb (kPa) range gauge
- Fixed ceramic tip (white) or blue for low tension applications
- Air-free gauge gives accurate readings
- Membrane vented gauge designed for harsh environments



IRROMETER — Model TG

Specifications –

INSTRUMENT BODY:

MATERIALS: Butyrate body, ceramic tip, Neoprene stopper

CAP SECTION DIMENSIONS:

HEIGHT: 2 in. (51 mm) including cap

DIAMETER: 2 in. (51 mm) including cap

BODY TUBE SECTION DIMENSIONS

LENGTH: Ranges from 6 in. to 24 in. (15 cm to 60 cm)
(special lengths available)

DIAMETER: .875 in. (22 mm)

INSTRUMENT WEIGHT: 12 in. (30 cm) is .968 lb. (.439 kg) with
increases of .252 lb. (.114 kg) per foot

CERAMIC TIP: White tip – used for most soil types,
also available in low tension (TG-LT – blue tip)

WARRANTY: One year

1008 – Standard Vacuum Gauge

Specifications-

DIAL SIZE: 2.5 in. (63 mm)

CASE: AISI 304 Stainless steel membrane vented case with IP 67
protection degree

WINDOW: Polycarbonate with EPDM gasket seal

DIAL: Scale of 0-100 cb (kPa), white with contrasting green markings
0-40 cb (kPa), white with contrasting blue markings for TG-LT

ACCURACY: $\pm 3-2-3\%$ of span ASME B40.1 Grade B

MECHANISM: Bronze Bourdon Tube with brass and stainless steel
internals

CONNECTION: Standard 1/4 in. NPT– Brass Bottom Mount

OPERATING TEMPERATURE: -40° to 150° F (-40° to 65° C),
 32° to 150° F (0° to 65° C) for water service

WARRANTY: One year

OPERATING PRINCIPLE: The IRROMETER operates on the tensiometer principle, which is entirely different from other systems which measure percent of moisture. The IRROMETER consists of a sealed water filled tube equipped with a special vacuum gauge and a porous tip that is installed in the ground at desired root zone depths. In dry soil, water is drawn out of the instrument, reducing the water volume in the instrument, thus creating a partial vacuum which is registered on the gauge. The drier the soil, the higher the reading.

A rainfall event or irrigation application reverses this action. The vacuum created by dry soil draws water back into the instrument from the soil, which in turn results in a lower gauge reading. The instrument is in effect a “dummy root” equipped with a gauge that continuously registers “how hard the roots are working”. A gauge reading of 50 indicates that the roots are extracting the same amount of moisture whether the crop is planted in sandy soil or clay soil. Due to the IRROMETER's unique principle of operation, no calibrations are necessary, under normal operating conditions, for different soil types.

SPECIFICATION INFORMATION: The irrigation system shall incorporate soil moisture indicators to aid in making irrigation scheduling decisions. The soil moisture indicator shall operate on the tensiometer principle and display soil water tension in units of centibars or kilopascals. It shall have a membrane vented gauge. Tube shall be constructed of durable plastic, that is impervious to attack by soil chemicals, with a ceramic sensing tip. It shall be designed for near horizontal installation to adequately represent soil moisture for very shallow rooted plant material. All ceramic to plastic connections shall be guaranteed leak proof. The soil moisture indicator shall be an Irrometer Model TG as manufactured by the IRROMETER Company, Inc. of Riverside, California.

ORDERING INFORMATION:

Catalog #3 * - ** (**Leave blank for standard TG or add LT for low tension)

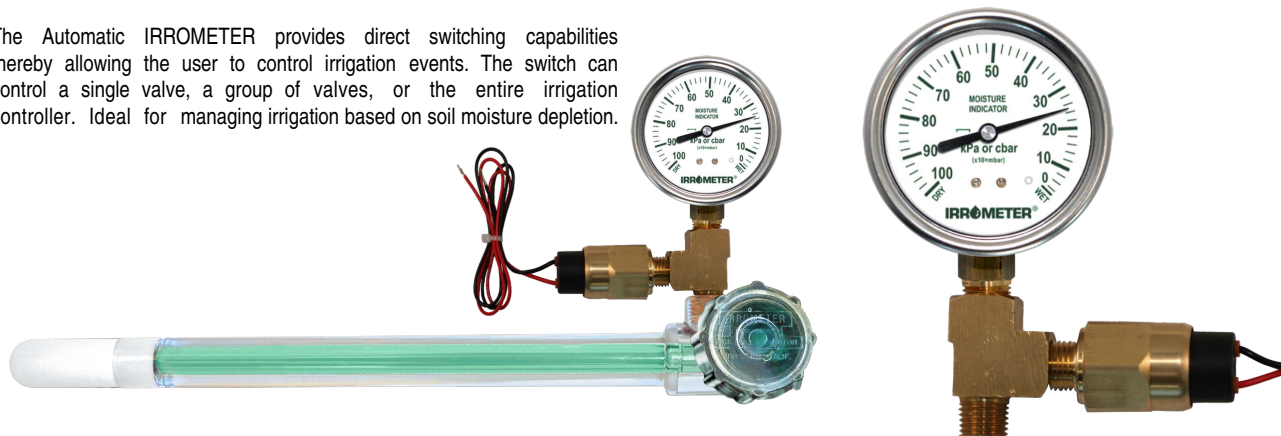
IRROMETER Model TG or TG-LT

* 06 = 6" (15 cm)	includes cap section, body tube and tip and membrane vented IRROMETER vacuum gauge with dual scale of centibars (cb) and kilopascals (kPa) [0-100 cb (kPa) or 0-40 cb (kPa) for LT].
12 = 12" (30 cm)	
18 = 18" (45 cm)	
24 = 24" (60 cm)	

MODEL TG-AVS

IRROMETER — Automatic Model TG

The Automatic IRROMETER provides direct switching capabilities thereby allowing the user to control irrigation events. The switch can control a single valve, a group of valves, or the entire irrigation controller. Ideal for managing irrigation based on soil moisture depletion.



Switch Specifications:

Brass switch housing with adjustment screw and 18 inch flying lead wires

WEIGHT: 0.15 lbs (0.07 kg)

RANGE: 10 to 95 centibar (kPa) with less than 10% of actuation point differential

OPERATING TEMPERATURE: 32° to 150° F (0° to 66° C)

MECHANISM: SPST Creep action switch with Buna-N diaphragm, closed at and drier than set point, rated for 1,000,000 cycles

CONNECTION: 1/4 inch brass male NPT with tee and gauge, for Models R, S, SR, LT, MLT, TG

SWITCH RATING: 24 VAC 4 amp maximum. Includes 18 inch (45 cm) AWG 18 wire leads (2)

DIMENSIONS: 1.64 inch (41.6 mm) body
0.94 inch (23.8 mm) hex

REPEATABILITY CATEGORY: ± 3% of full set point range at 70°F (21°C)
Ambient Temperature

PROTECTION CATEGORY: IP 67, CE marked, RoHS compliant

Compatible with any 24 volt AC valve system and DC controllers with a sensor circuit

Gauge Specifications: see page 1

ORDERING INFORMATION:

Catalog #3 * - AVS - * * - LT (only add LT for Low Tension)

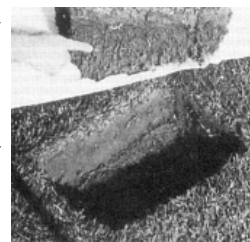
* 06 = 6" (15 cm)
12 = 12" (30 cm)
18 = 18" (45 cm)
24 = 24" (60 cm)

** To complete catalog number, add desired centibar value for preset switch position. If not specified, AVS will have a default setting of 30 centibars.

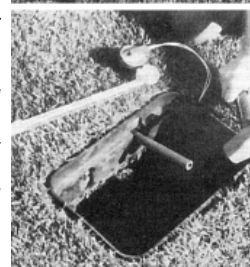
IRROMETER Model TG-AVS

includes cap section, body tube and tip, membrane vented IRROMETER vacuum gauge with dual scale of centibars (cb) and kilopascals (kPa) [0-100 cb (kPa) range] or [0-40 cb (kPa) range] (-LT), brass tee and Automatic Vacuum Switch.

Turf is removed by using box as a pattern. Examine root system of the removed sod to determine most desirable depths.



Holes for IRROMETERS are prepared by driving a 7/8" O.D. rod (1/2" galvanized pipe) into the ground at a slight angle so the tip, when inserted, will be located at the exact depth desired.



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