

# IRROMETER®

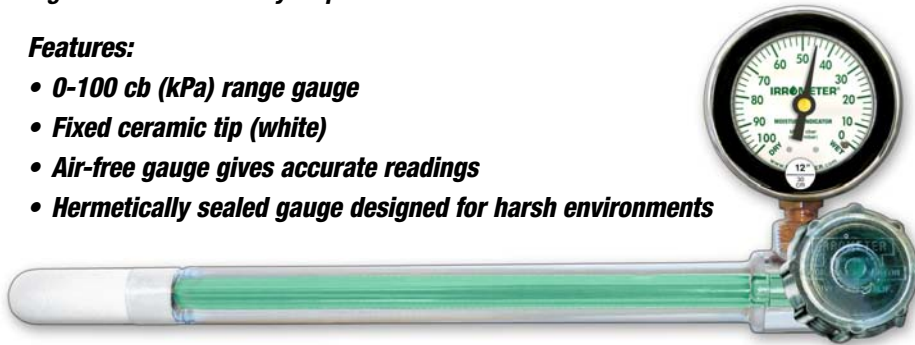
The IRROMETER was first developed in 1951 to help growers improve irrigation efficiency. It provides the user with accurate information on soil moisture status regardless of soil type. The instrument measures in centibars (cb) or kilopascals (kPa) of soil water tension. This value represents the energy 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)
- Air-free gauge gives accurate readings
- Hermetically sealed 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 in. (51 mm)

CASE: Hermetically Sealed Thermo Plastic Rubber

WINDOW: Inner – Polycarbonate, Outer – Butyrate

DIAL: Scale of 0-100 cb (kPa), white with  
contrasting green markings

ACCURACY: ± 3-2-3% of span ASME B40.1 Grade B

MECHANISM: Bronze Bourdon Tube

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 hermetically sealed 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 Irometer Model TG as manufactured by the IRROMETER Company, Inc. of Riverside, California.

**ORDERING**

INFORMATION: **Catalog #3 \* — IRROMETER Model TG**

**IRROMETER Model TG** includes cap section, body tube and tip and hermetically sealed IRROMETER vacuum gauge with dual scale of centibars (cb) and kilopascals (kPa) [0-100 cb (kPa) range].

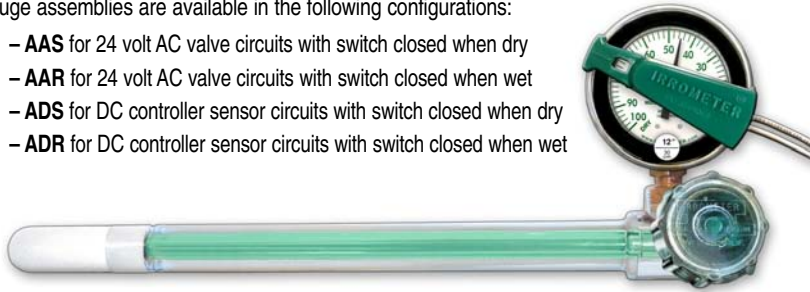
* 06 = 6"	(15 cm)
12 = 12"	(30 cm)
18 = 18"	(45 cm)
24 = 24"	(60 cm)

**IRROMETER — Model TG Automatic Switching Gauge**

**Specifications –**

The Model TG Automatic Switching Gauge option is compatible with AC or DC irrigation control systems, when combined with the proper selection of automatic gauge assembly. Automatic gauge assemblies are available in the following configurations:

- **AAS** for 24 volt AC valve circuits with switch closed when dry
- **AAR** for 24 volt AC valve circuits with switch closed when wet
- **ADS** for DC controller sensor circuits with switch closed when dry
- **ADR** for DC controller sensor circuits with switch closed when wet



**Automatic Gauge**

OPTION A is a pressure gauge with direct switching capabilities. Adjustable pressure selector switch may be set to any desired pressure. The switch will be closed past the setting to actuate connected device. Switch available for AC or DC power and also in Reverse switch action (open past the setting).

**Specifications –**

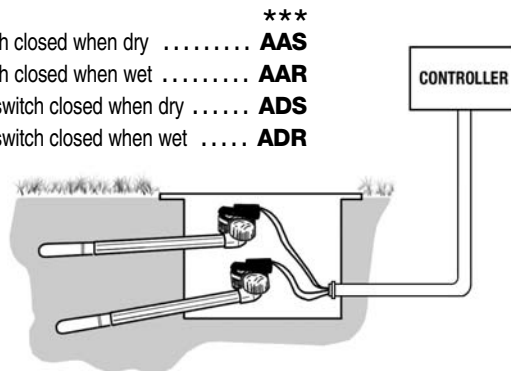
- DIAL SIZE: 2" (51 mm) gauges only
- CASE: Hermetically Sealed Thermo Plastic Rubber
- WINDOW: Inner – Polycarbonate, Outer – Butyrate
- DIAL: kPa scale, white with contrasting green markings
- ACCURACY: ± 3-2-3% of span ASME B40.1 Grade B
- MECHANISM: Bronze Bourdon Tube
- CONNECTION: Standard 1/4 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.
- ELECTRONIC CHARACTERISTICS: Maximum 30 Volts, .1 amp DC, .4 amp AC
- WARRANTY: One year

**ORDERING**

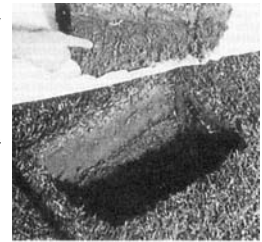
INFORMATION: **Catalog 3 \* - \* \* \***

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

- 24 volt AC valve circuits with switch closed when dry ..... **AAS**
- 24 volt AC valve circuits with switch closed when wet ..... **AAR**
- DC controller sensor circuits with switch closed when dry ..... **ADS**
- DC controller sensor circuits with switch closed when wet ..... **ADR**



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



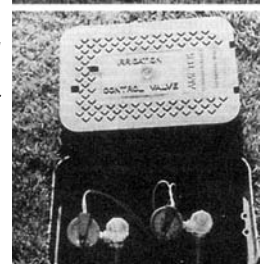
*Holes for IRROMETERS are prepared by driving a 7/8" O.D. rod (1/2" galvanized pipe) into the ground at a slight angle so the tip, when inserted, will be located at the exact depth desired.*



*The depth of the tip is measured by probing with a screwdriver.*



*After installation, the cover provides full protection and allows easy access for readings.*



**IRROMETER®**

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