IRROMETER®

The IRROMETER Model MLT (Miniature Low Tension) was designed for use in small containers commonly used in greenhouses and nurseries. Its compact design and short insertion depth of 4.75 inches (12 cm) allows the MLT to be installed in smaller growing vessels. With a range of 0-40 centibars (cb) or kilopascals (kPa), this instrument is for use in situations where tensions above 30 cb (kPa) are rarely expected. Gauge increments of 1 cb (kPa) provide a benefit where finer resolution near saturation is needed. This model instrument is also well suited for conditions where rapidly changing soil moisture conditions need to be observed. The "Quick-Flo" ceramic tip is colored blue for easy identification.

Features –

- ***Gauge with a full range of 0-40 cb (kPa)***
- ***"Quick-Flo" ceramic tip (blue)***
- ***Body-tip assembly can be easily replaced in the field***
- ***Compact size is designed for small containers***
- ***Hermetically Sealed Gauge***

IRROMETER — Model MLT

Specifications –

INSTRUMENT BODY:

MATERIALS: Butyrate body, ceramic tip

RESERVOIR SECTION DIMENSIONS:

HEIGHT: 2 in. (51 mm) – 2.250 in. (57 mm) including cap

DIAMETER: .875 in. (22 mm) – 1 in. (25 mm) including cap

BODY TUBE SECTION DIMENSIONS:

LENGTH: 4.750 in. (12 cm)

DIAMETER: .500 in. (13 mm)

INSTRUMENT WEIGHT: .17 lb. (.077 kg)

CERAMIC TIP: Blue tip – used for very coarse soils and non-soil growing media

CAP: Engineered Plastic

WARRANTY: One year

1008 MLT – Miniature Low Tension Vacuum Gauge

Specifications –

DIAL SIZE: 1.5 in. (38 mm)

CASE: Hermetically Sealed Thermo Plastic Rubber

WINDOW: Inner – Polycarbonate, Outer – Butyrate

DIAL: Scale of 0-40 cb (kPa), white with contrasting blue markings

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

MECHANISM: Bronze Bourdon Tube

CONNECTION: Standard 1/8 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

ORDERING INFORMATION:

Catalog #MLT — IRROMETER Model MLT includes reservoir, vacuum gauge that reads in centibars (cb) and kilopascals (kPa) [0-40 cb (kPa) range], and body / tip assembly.

Catalog #1007 — MLT Service Unit includes syringe style Vacuum Pump, one bottle of IRROMETER Fluid, 25 Monthly Chart Forms, and a Reference Book.

OPERATING PRINCIPLE: The IRROMETER operates on the tensiometer principle, which measures soil water tension. Soil water tension is the energy (vacuum) applied to the soil by the plant as it draws in water for nutrition. This force is measured in centibars (cb) or kilopascals (kPa) of tension with a high reading indicating the dry end of the scale and a low reading indicating the wet end of the scale. The IRROMETER instrument consists of a sealed, fluid filled tube that is equipped with a porous ceramic tip and a special vacuum gauge. They are installed in the soil or growing media with the tips placed at desired root zone depths. As the soil dries (increasing tension), fluid is drawn out of the instrument. This reduces the fluid volume in the IRROMETER, thus creating a partial vacuum which is registered on the gauge. The drier the soil, the higher the gauge reading. An irrigation application or rainfall event reverses this action. As water flows back into the soil (and the IRROMETER), tension is relieved in the soil and the instrument, resulting in a lower gauge reading (lower tension). In effect, the instrument is indicating how hard the roots are working. Due to the IRROMETER's unique principle of operation, no calibrations are necessary under normal operating conditions for different soil types. A gauge reading of 15 cb (kPa) indicates that the roots are extracting the same amount of moisture whether the crop is planted in sandy soil or non-soil growing media.

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 indicate soil water tension, displaying in units of centibars (cb) or kilopascals (kPa). It shall have a hermetically sealed gauge and a tube constructed of durable plastic that is impervious to attack by soil chemicals, with a ceramic sensing tip. It shall be designed for maximum accuracy in low tension applications. All ceramic to plastic connections shall be guaranteed leak proof. The soil moisture indicator shall be an IRROMETER Model MLT as manufactured by the IRROMETER Company, Inc. of Riverside, California.

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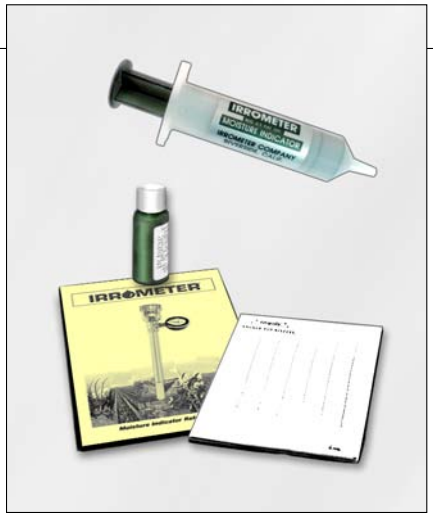
MINIATURE LOW TENSION — MODEL MLT

1007 – Service Unit



Hermetically Sealed Gauge — Accuracy and long life are ensured by a hermetically sealed cover with a molded-in diaphragm which keeps dirt and moisture out and compensates for variations in temperature and barometric pressure.

The IRROMETER Body — is constructed of tough durable plastic impervious to attack by soil chemicals or electrolysis.

The MLT — is compact for small containers.

Ceramic to Plastic — connections are permanently leak proof.

"Quick-Flo" Ceramic Tip — is designed for low tension applications where quick response to soil moisture variations in very coarse soils or non-soil growing media is needed.

IRROMETER®
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Irrigation ASSOCIATION™
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