

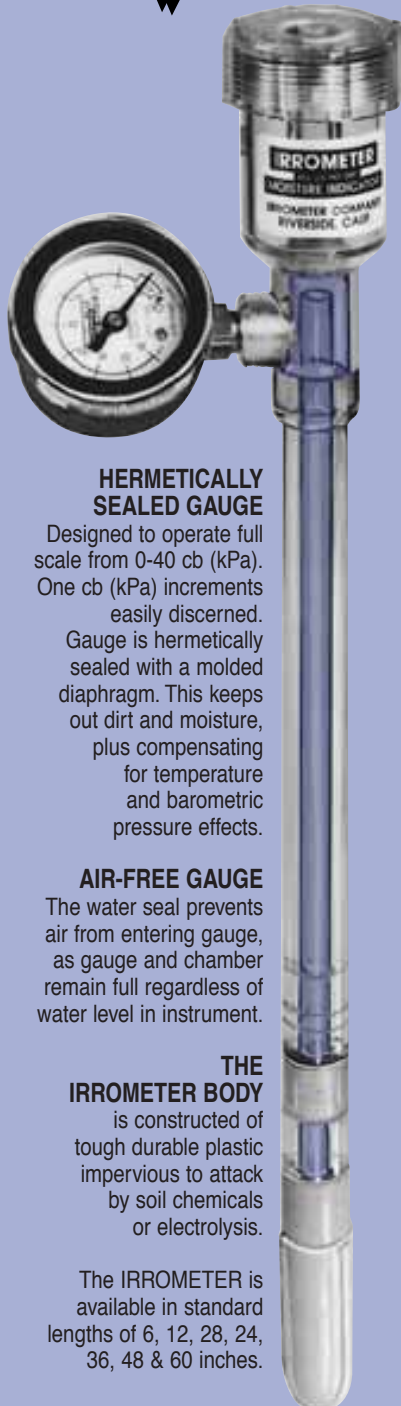
IRROMETER®

For Nurseries
and
Greenhouses

Model "LT" - Low Tension

Designed to Operate in
Coarse Sandy Soils and in
Non-Soil Planting Mixes

*your window to soil moisture
at a glance*



HERMETICALLY SEALED GAUGE

Designed to operate full scale from 0-40 cb (kPa). One cb (kPa) increments easily discerned. Gauge is hermetically sealed with a molded diaphragm. This keeps out dirt and moisture, plus compensating for temperature and barometric pressure effects.

AIR-FREE GAUGE

The water seal prevents air from entering gauge, as gauge and chamber remain full regardless of water level in instrument.

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, 28, 24, 36, 48 & 60 inches.

CLOSURE

Large cap for easy operation and better control. Cap removed when filling reservoir. Submerged valve gives a positive leakproof seal. Servicing is instantaneous—a twist of the wrist.

RESERVOIR

Holds a reserve supply of fluid sufficient for several irrigation cycles under average operating conditions. Unscrewing cap part way releases air and fills tube. (This is to replace fluid lost by action of drying soil.) (Pat. 2878671)

ALL SOLVENT WELDED JOINTS ARE PERMANENTLY LEAKPROOF

CERAMIC TIP

The special ceramic tip is designed for "Quick-Flo" and fast response. It has a low bubbling pressure and much higher flow rate compared to conventional ceramic tips.

MODEL "LT"

Threaded tip connection makes tip replacement easy. Uses o-ring seal.

The IRROMETER "Low Tension" instrument (tensiometer) is designed for use in situations where tensions above 30 centibars (kPa) are rarely expected, and where finer resolution near saturation is needed. This instrument is also suited for conditions where rapidly changing moisture tensions need to be observed.

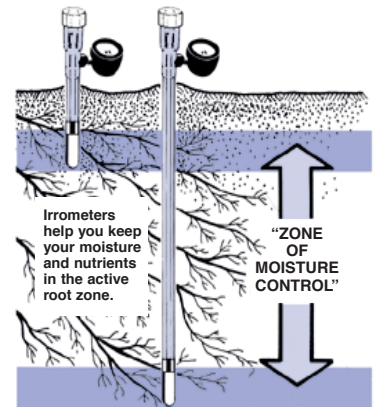
Examples are:

- Container-media consisting mostly of materials such as peat, bark, sand, perlite and vermiculite combined to form a mix which holds a large percentage of water and is relatively dry at 8-10 cb (kPa).
- Soils consisting primarily of larger sand particles (i.e. Florida "coral sand," Washington "blow sand").

Special features, unlike standard tensiometers, are:

- Sealed gauge with full scale of 0-40 cb (kPa) in 1 cb (kPa) increments.
- "Quick-Flo" Tip with 50 cb (kPa) minimum bubbling pressure and flow rate 300% of conventional tips.

Tested at the University of Florida (Bradenton) and University of California (Davis).



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.

IRROMETER
REG. U.S. PAT. OFF.
MOISTURE INDICATOR

Model "LT" IRROMETER®

The Model "LT" IRROMETER was designed to effectively measure the very "wet end" of the soil water range—under 30 centibars (cb) or kilopascals (kPa). When needing to accurately measure below 30 cb (kPa), standard tensiometers have not provided the needed sensitivity and accuracy in this narrow range. The Model "LT", because of its sensitivity and resolution, is the answer to these "low tension" environments. Especially important to nurseries and greenhouses.

Low Tension Irrigation Scheduling

With non-soil container media (peat, bark, perlite, vermiculite), and very coarse sandy soils (Florida coral sands), "available" soil water can be significantly depleted (50% or more) at tensions in the 8-15 cb (kPa) range. Gravimetric sampling, indirect methods of soil water measurement and mathematical "models" of soil water status are very ineffective in the "wet end." and yet these growing environments are very unforgiving when irrigation is even slightly delayed. Thus, "Low Tension Irrigation Scheduling," without an adequate measurement method, has been very difficult. The result—in almost every instance—has been overirrigation. With good irrigation scheduling, you can enhance production and quality. But, you also save water and energy which is wasted with overirrigation. Finally, because you are not leaching out mobile plant nutrients, such as nitrogen, you save fertilizer dollars and drastically reduce polluting run-off and deep percolation of nitrates into the groundwater. Good Measurements = No Guesswork and a safer environment.

Technical Notes



"LT" Gauge

GAUGES

- Handle instruments with care.
- Protect against freezing.
- When deairing instruments—release vacuum slowly.
- Accuracy is +/- 1.2 cb (kPa) in 0-10 and 30-40 range; +/- 0.8 cb (kPa) in 10-30 range (checked twice at factory).
- To compensate for the effect on the observed reading caused by instrument length, subtract 3 cb (kPa) for each 12" (30 cm) of instrument length.

ALWAYS REFER TO REFERENCE BOOK

TIPS

- Do not let tips air dry without flushing.
- Flush tips with distilled water after use. See "Dry Storage" in Reference Book.
- When installing or removing instruments, twist only in clockwise direction. This prevents unscrewing threaded tip.

Automation

The Model "LT" is also available in a switching instrument configuration—similar to the IRROMETER Model "RA", which has been used to "control" irrigation based on a soil moisture reading, since 1970. A Model "LTA" (low tension automatic) has an adjustable switch mounted on a specially built low tension gauge, which is wired into a valve solenoid. Pre-programmed irrigations are prevented until the indicator needle on the gauge reaches the switch set point. In a true "low tension" environment, with rapid changes in soil water status being normal, these "automatic" systems require careful monitoring.

NOTE: Effective operating range for Model "LTA" is 5-20 kPa. Do not set switch below 5 or above 20.

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