

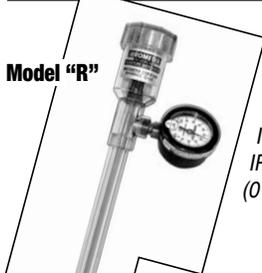
IRROMETER® Soil Moisture Indicators



IRROMETER

EFFECTIVE JANUARY 1, 2017 — All Products Made in U.S.A., except where indicated.†
 Supersedes all previous price lists. All product labeling and instructions printed in English except where indicated.

CATALOG



Model "R"

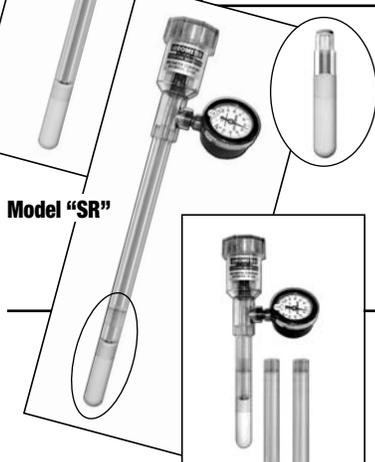
IRROMETER Model "R" — our standard model, for general use with row, tree, and field crops. *

Includes reservoir, air free gauge chamber and hermetically sealed IRROMETER Vacuum Gauge with 0 to 100 scale of centibars or kilopascals (0-100 cb [kPa] range).

Model "R" (Agriculture)

CAT. NO.	LENGTH
106	6" (15 cm)
112	12" (30 cm)
118	18" (45 cm)
124	24" (60 cm)
136	36" (90 cm)
148	48" (120 cm)

(Longer lengths available)



Model "SR"

IRROMETER Model "SR" — has threaded replaceable tip, for general use with row, tree and field crops. *

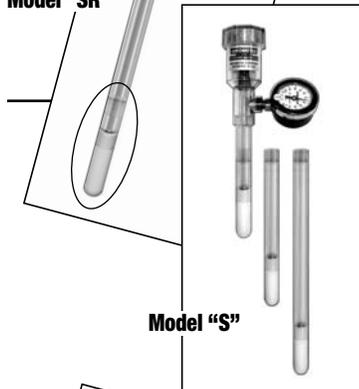
Includes reservoir, air free gauge chamber and hermetically sealed IRROMETER Vacuum Gauge with 0 to 100 scale of centibars or kilopascals (0-100 cb [kPa] range).

Model "SR" (Replaceable Tip)

CAT. NO.	LENGTH
206	6" complete (15 cm)
212	12" complete (30 cm)
218	18" complete (45 cm)
224	24" complete (60 cm)
236	36" complete (90 cm)
248	48" complete (120 cm)

(Longer lengths available)

SRT Replacement Tips



Model "S"

IRROMETER Model "S" — has a threaded connection at the top of the tube. Designed for research work where change in instrument length is required for different experiments, and for general use with row, tree, and field crops. When ordering, select Extension Tip(s) in combination with the Reservoir Section. *

Includes reservoir, air free gauge chamber and hermetically sealed IRROMETER Vacuum Gauge with 0 to 100 scale of centibars or kilopascals (0-100 cb [kPa] range).

Model "S" (Research)

CAT. NO.	LENGTH
200	Reservoir Section only
EXTENSION TIPS:	
E6	6" (15 cm)
E12	12" (30 cm)
E18	18" (45 cm)
E24	24" (60 cm)
E36	36" (90 cm)
E48	48" (120 cm)



Model "LT"

IRROMETER Model "LT" (Low Tension) — is designed for situations where tensions above 30 cb (kPa) are rarely expected. Ideal for very coarse soils and non-soil container-media or where rapidly changing soil water status needs to be observed. Incorporates a replaceable "Quick-Flo" Tip (blue color), and low tension vacuum gauge. *

Includes reservoir, air free gauge chamber and hermetically sealed IRROMETER Vacuum Gauge with 0 to 40 scale of centibars or kilopascals (0-40 cb [kPa] range).

Model "LT" (Low Tension)

CAT. NO.	LENGTH
506	6" (15 cm)
512	12" (30 cm)
518	18" (45 cm)
524	24" (60 cm)
536	36" (90 cm)

(Longer lengths available)

QFSRT Replacement Tips



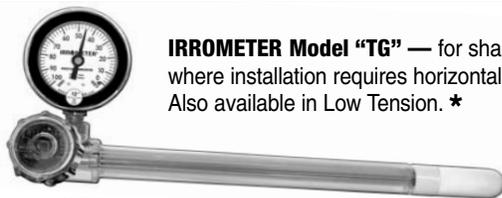
Model "MLT"

IRROMETER Model "MLT" (Miniature Low Tension) — designed for applications similar to the Model "LT" above. Ideal for use with very coarse soils and non-soil container-media. Its compact size and replaceable "Quick-Flo" Tip make it the best choice for small container applications. *

Includes hermetically sealed IRROMETER Vacuum Gauge with 0 to 40 scale of centibars or kilopascals (0-40 cb [kPa] range).

Model "MLT" (Miniature Low Tension)

CAT. NO.	LENGTH
MLT	6" (15 cm)
1007	MLT Service Unit
MLT-TIP	Replacement Tips



Model "TG"

IRROMETER Model "TG" — for shallow rooted applications or where installation requires horizontal placement of the sensing tip. Also available in Low Tension. *

Includes hermetically sealed IRROMETER Vacuum Gauge with 0 to 100 scale of centibars or kilopascals (0-100 cb [kPa] range).

Model "TG" (Turi)

CAT. NO.	LENGTH
312	12" (30 cm)
318	18" (45 cm)
312-LT	12" (30 cm)
318-LT	18" (45 cm)

*** IMPORTANT NOTICE** — Service Unit should be purchased with initial order (see page 2). Only one Service Unit is necessary to service all of your IRROMETERS. Please order by Catalog Number.

— Options and Accessories on Page 2 —

951/682-9505



www.IRROMETER.com

IRROMETER Service Units

A Service Unit is necessary for proper operation of the IRROMETER instrument and should be included on initial orders. One unit will service all of your IRROMETERS.

The **Standard Service Unit** is used during initial installation and then periodically for removal of air from instrument to ensure maximum sensitivity and accuracy. The **Test Pump Service Unit** serves the dual purpose of removing air and testing the gauge in one operation.

Standard Service Unit

CAT. NO. 1001

Includes:

- 1 Hand Vacuum Pump
 - 1 Bottle IRROMETER Fluid
 - 25 Monthly Chart Forms
 - 1 Reference Book
- (Available in Spanish, specify #1001-SP)



Test Pump Service Unit

CAT. NO. 1002

Includes:

Same items as #1001, except Hand Vacuum Pump is equipped with test gauge.



MLT Service Unit – CAT. NO. 1007 — Includes: Same items as #1001, except Vacuum Pump is syringe style.

IRROMETER Automation and Output Options

-A — Automatic Gauge

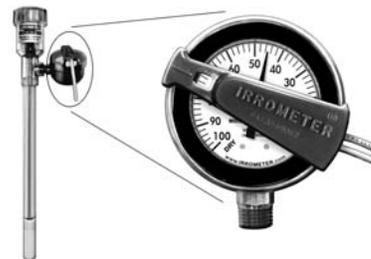
SUFFIX For Models R, S, SR, TG, LT

- AAS** w/AC switch closed past setting
- AAR** w/AC switch open past setting 5
- ADS** w/DC switch closed past setting
- ADR** w/DC switch open past setting
- A__** for Model MLT

This suffix must be added to the catalog number and price must be added to your choice of IRROMETER when ordering to receive a complete instrument.

These options provide automation for irrigation valves and electronic output for use with automatic data collection systems. They can be added at the factory when purchased (as shown here) or added to your existing instruments in the field (as accessory items, see below).

Option “A” – Automatic Gauge – provides direct switching capabilities in addition to indicating available soil moisture. Soil water tension readings above the moisture setting can activate an irrigation valve solenoid, time clock or warning device. A switch mechanism (AC or DC) is mounted on the gauge and rotated to desired setting. The gauge reads in centibars (cb) and kilopascals (kPa) of soil water tension.



-RSU-C – Remote Sensing Unit - Current

SUFFIX FOR MODELSN

- RSU-C-93** (0-93 kPa) R, S, SR, TG
- RSU-C-34** (0-34 kPa) LT
- RSU-C-34** (0-34 kPa) MLT

-RSU-V – Remote Sensing Unit - Voltage

SUFFIX FOR MODELS

- RSU-V** R, S, SR, TG
- RSU-V** LT
- RSU-V** MLT

This suffix must be added to the catalog number and price must be added to your choice of IRROMETER when ordering to receive a complete instrument.

Option “RSU-C” and “RSU-V” – Remote Sensing Units are designed to show soil moisture levels by converting the reading to either a 4-20 mA loop current signal or a .5 - 4.5 voltage signal. In both options, the built-in pressure transducer is temperature compensated to improve accuracy and is liquid compatible. All electronics are sealed in a potted, waterproof housing with external vent. The signal can be read by a data-logging device or an A/D card designed to read voltage. (Current output option requires 12-24 VDC excitation current and Voltage output option requires 5 VDC excitation current.)



IRROMETER Accessory Items

CAT. NO.

- 1003 Test Pump Adapter
- 1004 IRROMETER Fluid (1 oz. concentrate)
- 1004-L IRROMETER Fluid (6 oz. concentrate)
- 1005 Chart Forms (MONTHLY)
- P-2001 Model “P” Portable IRROMETER 12” with handle for easy removal (other lengths available)

IRROMETER Vacuum Gauges

- 1008 Replacement Gauge (0-100 cb[kPa])
- 1008-A * * Automatic Gauge (0-100 cb[kPa]) with switching capabilities (specify as listed above)
- 1008-LT Replacement Gauge (0-40 cb[kPa]) for Model LT
- 1008-LT-A * * Automatic Gauge (0-40 cb[kPa]) for Model LT – with switching capabilities (specify as listed above)

CAT. NO.

- 1008-MLT Replacement Gauge (0-40 cb[kPa]) for Model MLT
- 1009-__ Replacement Solid State Switch only for Automatic Gauges (A for AC or D for DC)
- 1010-S Replacement Auto Gauge Standard action without switch
- 1010-R Replacement Auto Gauge Reverse action without switch
- “RSU” Remote Sensing Units** (C & V)
- RSU-C-34-1/8 0-34 cb (kPa) for use with Model MLT (1/8 NPT)
- RSU-C-34-1/4 0-34 cb (kPa) for use with Model LT (1/4 NPT)
- RSU-C-93-1/4 0-93 cb (kPa) for use with Model R, S, SR, TG (1/4 NPT)

CAT. NO.

- RSU-V-1/8 Voltage Option for MLT
- RSU-V-1/4 Voltage Option for R, S, SR, TG, LT
- Replacement Tips & Other Items**
- SRT “SR” Replacement Tip (threaded bushing)
- RTWOT Replacement Tip (without threads)
- QFSRT “LT” Replacement Tip
- MLT-TIP “MLT” Replacement Tip
- CAP IRROMETER Cap and Stopper Assembly
- STOP Stoppers
- SR-O O-Ring (Model SR/LT)

*** Refer to Automation and Output Options (above) for appropriate suffix.**

Note: Contact factory for switch calibration information.



Model SSAT (Complete) — For easy extraction of soil solution samples when testing salinity levels or plant nutrients in soil water, now with two models to choose from. **Series A** has vinyl suction line with rubber stopper seal and pinch clamp closure.



Model SSAT (Complete)

CAT. NO.	LENGTH
A6C	6" (15 cm)
A12C	12" (30 cm)
A18C	18" (45 cm)
A24C	24" (60 cm)
A36C	36" (90 cm)
A48C	48" (120 cm)
A60C	60" (150 cm)
A72C	72" (180 cm)

For lengths longer than 72" (180 cm) – contact factory (Series A Only)

Series A – OPTIONS

- SUFFIX**
- LT** "Quick-Flo" Tips
 - DBL** Double Suction Line for long tubes
- Tube only** Drop "C" from part number

IRROMETER Soil Solution Access Tube

Series B has polyethylene/neoprene suction line with threaded compression seal and ball valve closure. Both series A and B require vacuum source. (see options below)



Model SSAT (Complete)

CAT. NO.	LENGTH
B6C	6" (15 cm)
B12C	12" (30 cm)
B18C	18" (45 cm)
B24C	24" (60 cm)
B36C	36" (90 cm)
B48C	48" (120 cm)
B60C	60" (150 cm)
B72C	72" (180 cm)

Series B – OPTIONS

- SUFFIX**
- LT** "Quick-Flo" Tips

The DS-50CC Extraction Syringe is used primarily to extract soil solution from SSAT Tube and can also be used to create a partial vacuum on shorter tubes [12 in. (30 cm) or less]. For SSAT Tubes longer than 12 in. (30 cm), the SSAT Vacuum Pump (CAT. NO. 1002-SSAT) is required to create a sufficient vacuum. Spanish instructions available specify 1002-SSAT-SP.



1002-SSAT	SSAT Vacuum Pump
DS-50CC	Extraction Syringe

Analysis kits and meters are available from Spectrum Technologies, Plainfield, IL 800-248-8873 / 815-436-4440 or Hach Company, Loveland, CO 800-227-4224, Int'l: 970-669-3050.

IRROMETER Accessories for Model SSAT

CAT. NO. – Series A

- SLA Suction Line Assembly (to 24") (Longer lengths available)
- SLT-A Bulk Vinyl Suction Line Tubing
- FC Finger Clamp
- SGL-STOP Single Hole Stopper
- DBL-STOP Double Hole Stopper

CAT. NO. – Series B

- SLT-B Bulk Polyethylene Suction Line Tubing
- DLT-B Bulk Neoprene Discharge Line Tubing
- BV Ball Valve
- CS Compression Seal

IRROMETER Pressure Gauges

Hermetically Sealed – (7 Series)

Hermetically sealed **pressure gauges** are water tight, dust proof, shock resistant, have a 2 in. (51 mm) shatterproof face, and are bottom connected with 1/4 in. brass standard pipe thread stem (NPT). Dual scale of P.S.I. and kPa.

OUTPUT OPTIONS:

Switching Gauge – is a **pressure gauge** with direct switching capabilities. Adjustable pressure selector 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). Switching position selected should fall in the center 1/3 of the gauge range.

Liquid Filled – (7LF Series)

Glycerin filled **pressure gauges**, for severe service conditions with pulsation and vibration, feature stainless steel case with a durable polycarbonate 2-1/2 in. (63 mm) face, and are bottom connected with 1/4 in. brass standard pipe thread stem (NPT). Dual scale of P.S.I. and kPa. 7LF Series gauges now have integral Snubbers.

Gauge part numbering nomenclature for ordering:

7 -100 -ADS -S
(7 Series only)

7 or 7LF Series Gauge

Pressure Range:

- 15 psi – 100 kPa (available in 7 Series only)
- 30 psi – 200 kPa (available in 7 Series only)
- 60 psi – 400 kPa
- 100 psi – 700 kPa
- 200 psi – 1400 kPa
- 400 psi – 2800 kPa

OPTIONS (choose one – used with 7 Series only)

- w/AC switch closed past setting = **AAS**
- w/AC switch open past setting = **AAR**
- w/DC switch closed past setting = **ADS**
- w/DC switch open past setting = **ADR**

Snubber

w/Snubber = **S** (for 7 Series only)

For example a 100 psi automatic gauge with a Snubber is 7-100-ADS-S.

Snubber – Factory installed Snubber improves gauge life by absorbing surges. Snubber is threaded for removal and cleaning if gauge becomes plugged with debris.

New Lower Price



WATERMARK Soil Moisture Sensor

CAT. NO.	LENGTH
200SS-5	5' (1.5 m)
200SS-15	15' (4.5 m)
200SS-X	6" (15 cm)

(Longer lengths available)

-S Pipe spigot end added to WATERMARK to make your own multiple depth profile probes.

-PKG Retail Packaging 5' (1.5 m)

200SS-VA Voltage Adapter

200SS-V-6 6 Channel Galvanic Isolator

Standard WATERMARK Soil Moisture Sensor*. For use with all crops. To be used with WATERMARK Meter, Monitor, Voltage Adapter or a compatible device. Reads electrical resistance in 0-200 centibar (cb) and kilopascal (kPa) range. Comes standard with half inch stripped and tinned ends. Available with ring terminals as a special order.

*Shipped in bulk unless specified to be in retail packaging, 5' (1.5 m) only – (add -PKG)

Galvanic isolation may be required for some reading devices. See 200SS-V-6.

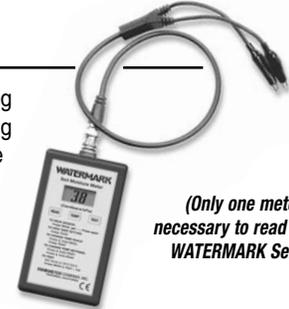


NEW

WATERMARK Meter

CAT. NO.	
30-KTCD-NL	WATERMARK Meter
30-KTCD-NL-SP	WATERMARK Meter with Spanish label and instructions
30-KTCD-Cable	Replacement Cable

Solid state, digital hand-held, alternating current resistance bridge meter for reading standard WATERMARK Sensors. Adjustable for soil temperature variations. Touch pad operating panel with LCD display. Includes durable case, 9 volt battery and field replaceable cable assembly.



(Only one meter is necessary to read multiple WATERMARK Sensors)

WATERMARK Monitor

WaterGraph software for downloading data and graphic functions is available free from our website with any monitor purchase.



Battery operated data-logger that automatically reads up to eight sensors. User can view readings on the screen, download data to a computer, or use our Data Shuttle to transport the information to a computer. When combined with the Cellular Gateway option data can be viewed on the Web from a remote location. Monitor accepts WATERMARK Soil Moisture, soil temperature, air temperature and switch closure sensors, Rain Gauge, Voltage Transducer and IRROMETER RSU. See Monitor Packages for sensor combination options.

Data Access Option for the 900 Monitor improves productivity by bringing important soil moisture information to you. Remote areas and multiple crop locations can be monitored from a central location. Accessory hardware can be combined to suit your application. A Cellular Gateway with battery pack provides world-wide coverage via the Internet.

COMPONENTS:

900M-O Monitor Only (without sensors)

POPULAR MONITOR PACKAGES:

CAT. NO.

900M — WATERMARK Monitor*

with seven WATERMARK Sensors and one Temperature Sensor, each with 15' (4.5 m) wire leads.

900M-8 — WATERMARK Monitor*

with eight WATERMARK Sensors, each with 15' (4.5 m) wire leads.

900M-1-6-PSI 60 — WATERMARK Monitor*

with six WATERMARK Sensors, one Temperature Sensor, each with 15' (4.5 m) wire leads and one 60 psi switching pressure gauge (for recording irrigation events).

*No cable or CD included with these packages.

ACCESSORIES:

200SS-15 WATERMARK Sensor with 15' (4.5 m) wire lead

200TS Temperature Sensor with 15' (4.5 m) wire lead

900M-CG-BP Cellular Gateway & 5W Battery Pack (includes solar panel)

900AC AC Transformer

900DS Shuttle, cable, multimedia card

900RG Rain Gauge

900M-RSU-C "RSU" Current Wiring Board (One board per four "RSUs")

900M-RSU-V "RSU" Voltage Wiring Board (One board per eight "RSUs")

Rain Gauge — includes bird spikes and integral mounting base.



Data Shuttle —

is used to collect data from the 900M Monitor. Stores data on a multi media card which is then transferred to the user's computer using the included card reader. Includes Data Shuttle with battery, cable, storage pouch, instructions, multi media card, card reader and software.

"RSU" Wiring Adapter — (not shown)

for reading IRROMETER Option "RSU" transducers. One adapter required per four "RSUs" to convert the sensor wiring. (includes batteries).

Telemetry Services

Cellular Data Service (CDS-GPRS only) — provides automatic collection and viewing of data from one Model 900 Monitor via IRROMETER supplied cellular Internet connection. Works well in applications that have a good network of cellular radio towers. (WEB BASED SERVICES ARE BILLED ANNUALLY.)

Let IRROMETER collect the data for you!!

	CAT. NO.	
USA & EU*	CDS-2	Cellular Data Service (2 mb per mo.).
INTL*	CDS-2-INTL	Cellular Data Service (2 mb per mo.)

*Contact IRROMETER for specific country coverage and availability.





IRROmesh is a Wireless Sensor Network whose data can be directed to the web for the Internet of Things environment. It provides real time data for Precision Agriculture applications. This solar powered wireless data-logging system automatically reads up to 20 sensing locations with no batteries required. Radio line of sight maximum 1000' (305m) between nodes. Nodes automatically establish a mesh network that is self-initializing, self-routing, and self-healing. Data from each node relays along multiple paths to the base.



Data transmits to your computer or the WEB. A complete stand-alone system includes a Base, a Data Collection Device, the desired number of Nodes and their Sensors. For real-time WEB access use the Cellular Gateway with Battery Pack or PC Link.



975 Components

CAT. NO.

975B – Base

Standard Mesh System Base Node, allows multiple 'hops' for greater system range, uses combination of Relay and End Nodes.

Nodes –

975NR – Relay Node

capacity for 3 WATERMARK Sensors, 1 Temperature Sensor, 1 Switching Gauge and 1 Rain Gauge. Node has 25' (7.6 m) Cable

975NE – End Node

capacity for 3 WATERMARK Sensors, 1 Temperature Sensor, 1 Switching Gauge and 1 Rain Gauge. Node has 25' (7.6 m) Cable

**Also available as a non-meshing, point to point monitoring system using all End Nodes.
Call IRROMETER
to ask about the Star System.**

***WEB Based Data Service –**

(required for PC Link and Cell Gateways and optional for Logger). Manages and displays data online in real time. Payable by credit card online at WEB portal.

Data Collection Devices –

CAT. NO.

975L – Logger & 5W Battery Pack

used to collect data from the Base for manual retrieval and display on a laptop computer. (Includes Solar Panel)

975P – PC Link

desktop link to continuously stream data to the WEB portal through your computer.* (One PC Link is required for each direct to computer connection.)

975G-BP – Cellular Gateway & 5W Battery Pack

data transfer to Internet via Cellular Modem.* (Includes Solar Panel)

975G-V-BP – Verizon Cell Gateway & 5W Battery Pack

data transfer to Internet via Verizon Cellular Modem.* (Includes Solar Panel)

Accessories –

200SS-15 – WATERMARK Sensor

15' (4.5 m) lead wire (3 per Node max.)

200TS – Temperature Sensor

15' (4.5 m) lead wire (1 per Node max.)

7- _____ -ADS – Switching Gauge

(PSI Range choices: 15, 30, 60, 100, 200, 400)

900RG – Rain Gauge

-BC – Bird Cover

Factory mounted upon order or available as a retro-fit cap.



To confirm current web-service pricing and pricing of new features as they arise, log in to <http://sensmitwebdiv.com/sensmitwebpricing2017/> using the password: **irromesh2017**.

IRROMESH System Requirements				
Select from the components and accessories below:				
BASE	DATA COLLECTION DEVICE	NODES	ACCESSORIES	
975B Standard Base requires at least one Relay Node	975L Logger – OR – 975P PC Link – OR – 975G-BP or 965-V-BP Cellular Gateway with Battery Pack	975NR Relay Nodes – AND/OR – 975NE End Nodes	200SS-15 WATERMARK Sensors for each station (up to 3 each Node) – AND – 200TS Temperature Sensor (up to 1 each Node)	900RG Rain Gauge – AND/OR – 7- _____ -ADS Switching Gauge – AND/OR – -BC** Bird Deterrent Cover

**** Nodes can be ordered from the factory with Bird Deterrent Covers or retro-fit with an in-field install cap.**



WATERMARK

LANDSCAPE AUTOMATION PRODUCTS

For Residential Systems –



WATER SWITCH

CAT. NO.
WS1 (includes 1 sensor)

Overrides entire irrigation controller operation when soil becomes wetter than the moisture setting. Wires to the sensor input connections of an AC irrigation controller.

WS-1 Module takes hourly readings from a single sensor, which is buried in the root zone of turf grass. Select from four moisture levels or the bypass position for sensor control override. Includes WS-1 control module, one WATERMARK #200SS-X Sensor, and 2 direct burial wire nuts. Weather resistant solid state electronics. *Packaged for display.*

For Battery Controllers –



WATERMARK

CAT. NO.
WEM-B (includes 2 sensors)

Battery powered version of the WATERMARK Electronic Module (WEM) for use with battery powered (DC) irrigation controllers that have sensor input connections. Every five minutes module reads two sensors, which are in the soil at different depths of the irrigated area. Overrides controller operation when soil is wetter than the setting. Select from nine moisture levels or bypass position for sensor control override. Includes WEM-B control module, two #200SS-5 Sensors and 9-volt battery. Weather resistant solid state electronics.

For Valve Control –

WATERMARK

CAT. NO.
WEM (includes 2 sensors)



Overrides valve operation when soil becomes wetter than the moisture setting. Allows any 24 VAC solenoid valve to be controlled individually by two moisture sensors located in the soil at different depths of the irrigated area. Takes a reading each time the valve is programmed to operate. Also used to interrupt

For Controller Sensor Circuits –

WATERMARK

CAT. NO.
WEM-DC-T ... (includes 2 sensors)

Dry contact switch version with integral timer for use with the sensor connection on a controller.



controller master valve circuit or common, to override entire irrigation controller. Select from 11 moisture levels or bypass position for sensor control override. Includes WEM control module and two WATERMARK #200SS-5 Sensors. Weather resistant solid state electronics. *Packaged for display.*

WATERMARK Soil Moisture Manager

FEATURES –

- **Easy to Install — New or Retrofit**
- **Individual Area Moisture Control Reads, Reports, Adjusts**
- **Override for Manual Operation**
- **No Maintenance**

BENEFITS –

- **Saves Money, Water and Energy**
- **Automatically Reports Watering History and Irrigation Water Savings**
- **Data can be Downloaded for Analysis**
- **Grows Healthier Turf and Plants**
- **Reduces Runoff**

This system allows independent moisture control of valve groups when all valves share a common ground. The MHS (Multiple Hydrozone System) interfaces with any 24 VAC irrigation controller for soil moisture automation. Valves are grouped into hydrozones based on that location's specific irrigation needs. As many as eight independent moisture sensing locations can be managed. Each hydrozone will interrupt the irrigation cycle based on plant's demand for that location and can be independently programmed for the desired moisture level. Components are factory wired and mounted in a stainless steel enclosure (9 x 12 x 5" [23 x 30 x 12.7 cm]).

This system logs data then reports moisture values and saved irrigations to the user.

MHS — Wired

- CAT. NO.
- MHS Multiple Hydrozone System (wired base unit)
 - 200SS-5PR Pair of WATERMARK Sensors (with 5' [1.5 m] leads)
 - MHS-XB Expansion Board (additional 16 station capacity)
 - MHS-TD Time Delay Kit (for Pump Start Relay systems. Required for irrigation control systems using a pump start relay to activate pumps.)

W-MHS — Wireless

- **Wireless**
 - **Solar Powered Radio Transmitter with 1500' (457 m) Line of Sight Range**
 - **No Batteries Required**
 - **Saves Installation Labor – particularly useful in retrofit applications**
- W-MHS Wireless Multiple Hydrozone System (includes base receiver & 15' [4.58 m] connection cable)
 - MHS-T Wireless Transmitter (serves 2 hydrozones & comes with 4 WATERMARK Sensors, each with 5' [1.5 m] lead)
 - MHS-XB Expansion Board (additional 16 station capacity)
 - MHS-C Base Receiver Connection Cable (50' [15.58 m])
 - MHS-TD Time Delay Kit (for Pump Start Relay systems. Required for irrigation control systems using a pump start relay to activate pumps.)

Nomenclature for ordering:

MHS – 4 – 1

Number of **Sensor pairs**
Number of **Expansion Boards** if needed (1 or 2)

Base unit handles up to 16 stations/valves. Add 1 or 2 Expansion Boards for each additional 16 valves (48 max).

For example:
MHS with 4 Sensor pairs and 1 Expansion Board is MHS-4-1.



Nomenclature for ordering:

W-MHS – 4 – 1

Number of **Hydrozones**
(2, 4, 6 or 8)
Number of **Expansion Boards** if needed
(1 or 2)

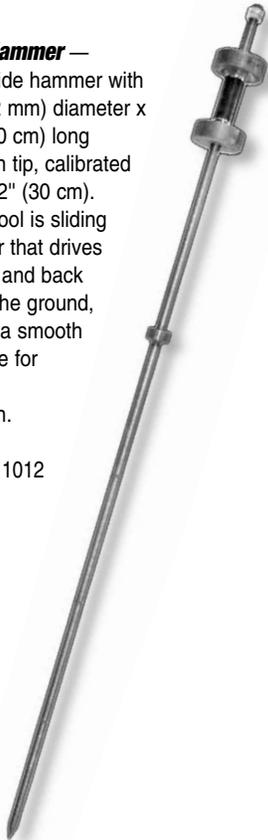
For example: *W-MHS with 4 Hydrozones (2 Transmitters) and 1 Expansion Board is W-MHS-4-1.*

IRROMETER, SSAT or WATERMARK Installation Tools

Slide Hammer —

Steel slide hammer with 7/8" (22 mm) diameter x 48" (120 cm) long insertion tip, calibrated every 12" (30 cm). Top of tool is sliding hammer that drives tip into, and back out of, the ground, leaving a smooth borehole for sensor insertion.

CAT. NO. 1012



Coring Tool Kit — Nickel plated 7/8" (22 mm) soil coring tool. Comes as a kit in fabric storage pouch with two 12" (30 cm) extensions and handle for making up to a 36" (90 cm) access hole. Can also be used for soil sampling.

CAT. NO. 1013



Auger Tool Kit — Nickel plated 1" (25 mm) soil auger. Makes oversize hole for grout style sensor installation in hard or rocky soils. Comes as a kit in fabric storage pouch with two 12" (30 cm) extensions and handle for making up to a 36" (90 cm) access hole.

CAT. NO. 1014

Specialty accessories available for deep installations, consult factory for pricing and availability.



Extension Rod — 12" (30 cm) extension rod for #1013 or #1014 (above) for making deeper access holes.

CAT. NO. 1015



Turf Coring Tool — Turf style installation tool for shallow sensor installation depths, to 12" (30 cm). Nickel plated 7/8" (22 mm) soil coring tool with integral handle. Can also be used for soil sampling.

CAT. NO. 1016



WATERMARK Insertion Tool — WATERMARK Sensor insertion tool. Tee handle style tool for inserting the WATERMARK Sensor up to 30" (76 cm) into the borehole created by one of the tools shown here. Has internal ejection rod inside tube to push sensor off of tool once fully inserted into borehole.

CAT. NO. 1017

Repair Prices

● IN NORTH AMERICA ONLY ●

CAT. NO.

- R1 Recondition **IRROMETER – R, SR or TG**
(includes new tip, stopper, complete cleaning and gauge check)
- R1-LT Recondition **IRROMETER – LT or MLT**
(includes new tip, stopper, complete cleaning and gauge check)
- R2 Repair Gauge – R, SR or TG
- R2-LT Repair Gauge – LT or MLT
- R3 Re-Tip **IRROMETER** only
- 1008 New Gauge

CAT. NO.

- 1008-LT New LT Gauge
- 1008-MLT New MLT Gauge
New Body (less gauge)
- EXTEND Extend **IRROMETER**
- RHVP Recondition Hand Vacuum Pump (plus parts)
- TRADE-IN Trade-In Plan (exchange old for new)
- CONVERT Convert Model "R" to "SR" (replaceable tip)
(add to recondition or re-tip cost above)

Call IRROMETER for a Returned Goods Authorization (RGA) number then ship via **UPS** or **U.S. Postal Service** prepaid to: 1425 Palmyrita Ave., Riverside, CA 92507

951/682-9505



www.IRROMETER.com

7

IRROMETER

SSAT

WATERMARK

Weight and Measurement Information

IRROMETER Net Weights

LENGTHS	6 in. (15 cm)	12 in. (30 cm)	18 in. (45 cm)	24 in. (60 cm)	36 in. (90 cm)	48 in. (120 cm)	60 in. (150 cm)
	.383 kg	.439 kg	.496 kg	.553 kg	.666 kg	.780 kg	.893 kg
	.844 lb.	.968 lb.	1.09 lb.	1.22 lb.	1.47 lb.	1.72 lb.	1.97 lb.
SSAT Tubes	.080 kg	.115 kg	.150 kg	.185 kg	.255 kg	.325 kg	.395 kg
	.176 lb.	.254 lb.	.331 lb.	.408 lb.	.562 lb.	.717 lb.	.871 lb.

200SS	WATERMARK Sensor .....	.071 kg	.....	.157 lb.
30-KTCD-NL	WATERMARK Meter .....	.341 kg	.....	.752 lb.
WEM, WS1 or WEM-B	WATERMARK Modules .....	.23 kg	.....	.5 lb.
900M	WATERMARK Monitor	2.27 kg	.....	5.00 lb.
975NR or 975NE	IRROmesh Node (Relay or End) .....	.69 kg	.....	1.53 lb.
975B	IRROmesh Base .....	.70 kg	.....	1.54 lb.
975L	IRROmesh Logger .....	.97 kg	.....	2.14 lb.
975P	IRROmesh PC Link .....	.272 kg	.....	9.6 oz.
975G-BP	IRROmesh Cellular Gateway/ Battery Pack	4.98 kg	.....	11.0 lb.

Accessory Net Weights

		KG.	LB.
1001	Service Unit .....	.484	..... 1.07
1002	Test Pump Service Unit .....	.654	..... 1.44
1004	IRROMETER Fluid .....	.085	..... .187
1005	Monthly Chart (100) .....	.128	..... .28
1012	Slide Hammer	14.97	..... 33.00
1013	Coring Tool Kit	1.36	..... 3.00
1014	Auger Tool Kit	1.36	..... 3.00
1017	WATERMARK Insertion Tool	1.36	..... 3.00
7 Series	Gauge .....	.170	..... .375

★ MINIMUM ORDER CHARGE ★

If net invoice value of order is under \$50.00 (not including shipping and handling), there will be an additional \$7.50 small order charge added to the invoice.

All prices F.O.B. Riverside, California, and apply to North America. (U.S. Dollars)

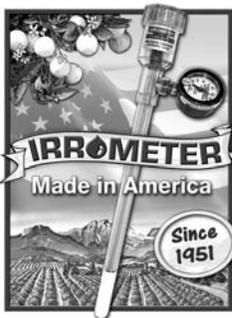
Terms — Cash, VISA, MasterCard with order or C.O.D.
Net 30 days with previously established credit

Prices and specifications subject to change without notice.

Show catalog number on purchase order.



Available upon request



Warranty: The IRROMETER COMPANY warrants its products against defective workmanship or materials under normal use for one year from the date of purchase. Defective parts will be replaced at no charge for either labor or parts if returned to the manufacturer during the warranty period. The seller's or manufacturer's only obligation shall be to replace the defective part and neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or inability to use the product. This warranty does not protect against abuse, shipping damage, neglect, tampering or vandalism, freezing or other damage whether intentional or inadvertent.

Optimizing Irrigation... Maximizing Conservation... Worldwide... Since 1951

IRROMETER COMPANY, INC.

Shipping and Mailing Address:
1425 Palmyrita Avenue
Riverside, California 92507-1600

Phone: **951/682-9505**
Fax: **951/682-9501**
Email: **sales@IRROMETER.com**

