



# ROORKEE INDUSTRIES

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Solutions in....*

Hydrological Instruments  
Meteorological Instruments  
Agri-Research Instruments  
Survey Instruments



Soil Properties  
Water Quality Instruments  
Laboratory Instruments  
Scientific Instruments



Weather Station  
Geological Equipment  
Global Positioning System  
Drawing Instruments



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An ISO 9001-2000 Certified Company

General Catalogue

# HYDROLOGICAL INSTRUMENTS

## Automatic Digital Water Level Stage Recorder

This is a Micro controller based Automatic Water Level Recorder reflect state of the art in micro controller based instrumentation design. The Water Level sensor can be attached with this data logger for the collection of real time data automatically. The micro controller has its internal memory along with an additional 128K EEPROM, a real time clock with an LCD (16 X 2) to display the instrument status. Digital Water Level Recorder consist of a weatherproof enclosure which contains the data logger, level sensor and power supply, and comes complete with a solar panel and data shuttle. This system comes with three different sensor input combinations as per user requirement . Shaft Encoder type Level Sensor / Pressure type Level Sensor / Ultrasonic level Sensor.



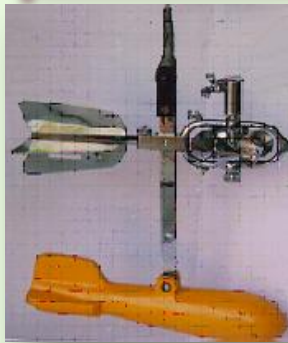
## Pygmy Water Current Meter (Cup or Propeller type)

Pygmy water Current Meter is used for Stream-flow measurements in shallow streams, flumes and small channels, where the velocity of water does not exceed 1m/sec. The principle of operation is based on the proportionality between the velocity of water and the resulting angular velocity of the meter rotor. By placing a current meter at a point in a stream by Wadding rod and counting the number of revolutions of the rotor during a measured interval of time, the velocity of water at that point is determined from the rating chart.



## Water Current Meter (Cup or Propeller type)

Cup or propeller type current meters are used for Stream-flow measurements in deep streams, and channels, where the velocity of water is more than 1m/sec. The principle of operation is based on the proportionality between the velocity of water and the resulting angular velocity of the meter rotor. By placing a current meter along with fish weight at a point in a stream by suspension cable and counting the number of revolutions of the rotor during a measured interval of time, the velocity of water at that point is determined from the rating chart.



## Counter For Water Current Meter

The counter is used with water current meters to measure the revolutions per time or vice versa, and the velocity will be read from the rating chart. Now the microcontroller based Direct velocity indicator is also available to measure the velocity directly without the need of rating chart in field.



## Sounding Reel or Winch

The Sounding/gauging reel or Winch is used to lower the current meters with fish weight up to the desired depth in the water for water current measurements. It has heavy-duty reel and cable, with a mechanical counter indicator.

It is well suited for mounting a current meter to use in larger streams. It can be either with bridge outfit or boat outfit.



## Direct Velocity Indicator

This Micro-controller based Direct Velocity Indicator has been designed to measure the Velocity of water in a flowing stream. It uses the latest Microchip's Micro-controller and can be used with any calibrated Water Current Meter. The velocity of water is calculated as per the calibration equation provided with the Sensor and displayed on the 16x2 LCD display. The Velocity Indicator consists of 4x1 membrane key pad mounted on the front panel. You can save up to 56 readings . Operates on 2 AA Size batteries.





## Water Level Indicator (Sounder)

The water level Indicator (Sounder) has been designed for water level measurements in streams, wells and up to 180 meters deep bore wells. It has a brass/steel probe connected with the shielded wire having markings at every meter. The dimension of the probe is such that it can easily be inserted in a gap of 2 centimeters. The wire is wound on a reel/spool, made of aluminum having a handle to fasten the wire. The probe is lowered into the stream or well or bore well, as the tip of the probe touches the surface of the water, an in-built electronic circuit indicates contact with water by sounding a beep. Water acts as an electrolyte to complete the circuit. Depth is read from the attached cable and a measuring tape provided.



## Suspended Solids/Silt Analyser

The suspended solids indicator is a state of the art, easy to use meter that provides many benefits to the plant operations staff. It is a unique system that combines advanced electronic with a solid-state, optical sensor. It is a multi-range indicator designed for the measurement of suspended solids in aqueous solutions. The microprocessor-based electronics of the indicator provide a high degree of flexibility and ease of use. Data logging and the ability to download the data directly to a computer are optional features. The indicator uses the model V5 sensor, which operates on the principal of single gap light absorption as the means of determining the concentrations typically found in aeration basins (1000 mg/L to 5000 mg/L) and RAS streams (7000 mg/L to 20,000 mg/L) of wastewater treatment plants. There are independent calibration point for each. Furthermore, a 15L low range sensor (0-1000 mg/L) is also available.

The model V5 sensor was designed to measure very low solids concentrations typically found in secondary clarifier and plant effluents. The sensor utilizes an infrared emitter to minimize color effects and compensates for emitter variations due to temperature by measuring source brightness



## Digital Water Level Logger Pressure Transducer

The Levellogger Junior provides an inexpensive alternative for measuring groundwater and surface water levels. It combines a data logger, temperature sensor, pressure transducer, and 5-year battery, in a small, maintenance free, waterproof stainless steel housing. The Levellogger Junior features a non-volatile memory, with a capacity of 32,000 sets of temperature and water level data points. Readings are linear at a user-defined interval between 0.5 seconds to 99 hours. Accuracy is 0.1% FS, with a lifetime factory calibration.

### Applications

- Pump and slug tests
- Reservoir and storm water runoff management
- Watershed and drainage basin monitoring
- Stream gauging, lake and wetland monitoring
- Tank level measurement
- Monitoring water levels in wells and surface water



## Suspended Sediment Sampler (USDH-48 or 59)

This depth integrating type suspended sediment sampler is used to collect the sediment samples. The sampler consists of a streamlined metal body provided with tail fins to permit alignment in the flow direction. The container for sediment-water mixture is usually a bottle housed in the metal body capping after the sample has been obtained seals the bottle. This sampler is used in shallow streams when the product of the depth (in feet) and velocity (in feet/sec) does not exceed approx. 10. This sampler is used with wadding rod suspension



## Bed Material Sampler

This sampler is used to collect the sample from the bed of the river/lake/canal. The sampler with the mouth of the scoop in open position, is lowered to the bed of the stream with the help of suspension cable and allowed to rest on the bed. The messenger is used to close the sampler at the bed for scooping. The material from the bed of the stream.



# METEOROLOGICAL INSTRUMENTS

## Meteorological Stevenson Screen

These Screens are manufactured from best quality Indian seasoned wood and accurately assembled with louvered sides, double roof and slotted bottom as per IS: 5948:1970 and are suitable for housing Thermograph, Hydrograph, Dry Bulb, Wet Bulb, Maximum Temperature Thermometer and Minimum Temperature Thermometer. It is generally available in two sizes: Small Size and Large Size



## Sun – Shine Recorder

This Sun – Shine Recorder is manufactured as per IS: 7243: 1974, and is used for accurate measurement of the duration of Bright Sunshine. Basic main components are Bowls that are precisely manufactured from Bronze as per IS : 306 : 1968. The Base is of White Marble. The Sphere Bowl is made from uniformed and well-annealed air bubbles free Glass having good surface finish. This instrument is supplied with recording graphs for one year, and standard stenciled curve for comparison.



## OPEN EVAPORATION PAN

The Evaporation Pan is used to determine the evaporation rate of open water. The Pan is manufactured from pure copper, duly tinned and epoxy pointed as per IS: 5973: 1970, and tested for no water leakage. The Stilling well and thermometer clamps are manufactured from Brass. This is supported on wooden platform and covered with reinforced chicken-mesh. It is supplied with a Measuring jar made of copper or brass.

The Evaporation Pan with measuring jar made of Galvanized iron sheet is also available.

**Data logger based digital evaporation recorder is also available.**



## Digital Temperature-RH Logger

Battery operated digital temperature & RH logger records the values at users selectable time interval in its non-volatile EEPROM which retains data even if battery fails. Data can be easily downloaded to PC for further analysis..



## Anemometer Cup Counter

Anemometer Cup Counter is used primarily for measuring the run of the wind over a period of hours or a whole day rather than over the shorter period required for observation purposes. This instrument is manufactured as per IS: 5912: 1970 and have three aluminum cups attached to a central spindle which is connected by worm gearing to a mechanical revolution counter. The gear ratio is so selected that the counter indicates directly the total run of wind passing at the point of observation up to the range 0 to 9999.9 km.

**Digital hand-held anemometers are also available.**



## Ordinary or Non-Recording Rain Gauge

non Recording Rain Gauge is manufactured from non-corrosive fiberglass reinforced plastic as per IS: 5225: 1969 and is meant for collection of the total quantity of rainfall over a specified period of time. It consists of collector assembled with Gunmetal Ring, Funnel, Locking Rings and Base. Rain Gauges are available in two different capacities 100 sq. cm collected area and 200 sq. cm collected area. The collector of the rain gauge is exposed above ground level while the receiver is fixed partially below ground level



## Automatic Digital Rain Gauge

Rain gauge with event logger is designed to record detailed rainfall history including quantity, time, date, duration and intensity. The event logger is user programmable to match the bucket's tip size and features a minimum recording interval of 0.5 seconds. With a 0.25 / 0.20 mm bucket, 8,000-events capacity will store up to 1.6 meters of rainfall data. The data is stored in the units nonvolatile EEPROM memory, which retains collected data even if the battery fails. The unit can be launched and data read easily in tabular form or exported to spreadsheets such as excel for windows, Power: user replaceable, 3V lithium battery with an expected life of one year of continuous use. Comes with COM 232 and USB port options.





## Automatic Weather Station

2900ET Automatic Weather Station features a built-in data logger that stores your measurements in a fail-safe, non-volatile memory at user-defined intervals - until you transfer the data to your PC. Select measurement intervals of 1, 10, 15, 30, or 60 minutes. A 30-minute interval will record for 183 days before the station's memory is full.

An LCD screen displays current and high/low readings. Add up to 5 plug-in sensors and customize your station to your measurement needs. A 12-month battery power source (4 AA batteries) means no solar panels to purchase or maintain. Preassembled sensor array with mounting hardware makes setup quick and easy. Add-on sensors plug directly into the station - no complex wiring or calibration required. U.S. or metric units of measure. Mounts to post, tripod, or 1 1/4 pole.

The Weather Station helps you optimize your irrigation and IPM programs. The comprehensive water management system enables you to assign discrete K-factors to each crop/field you track for evapotranspiration and irrigation amounts.

**The 2900ET Automatic weather Station measures, calculates, and logs:**

- Evapotranspiration
- Air temperature
- Rainfall
- Wind chill
- Solar radiation
- Relative humidity
- Wind speed and direction
- Dew point

### Specifications

Wind Direction: 2° increments

Wind Speed: 0 to 150 mph, 0 to 241 km/h

Temperature: -32° to 100°C

Humidity: 10% to 100% @ 5° to 50°C

Dew Point : -73° to 60°C

Rainfall : 0.01" (0.25mm)

### Accuracy

±7°

±5%

±0.6°C

±3%

±2°C

±2%

**Optional Sensors** – Barometric Pressure, Leaf Wetness, Pressure Transducer, Soil Moisture, Soil Temperature, CO<sub>2</sub>, PAR and Quantum Light sensor.

**Software** - Spectrum's AE award winning software, **Spec 8 Pro** delivers crucial information to growers and researchers in an easy-to-use interface. Plot graphs on-the-fly with a simplified interface. Set sensor alarms to call your phone or pager for frost, rainfall, or other conditions. Import data files from more applications. Customize and save your important reports. Spec 8 Pro is a powerful tool for growers, researchers, or other users that need the best data at the right time.

**Communication options** - Suit your specific needs by choosing from direct connection, wireless, cellular or other data transfer options

**Data Shuttle** - Transport your weather data to your host PC. Memory holds data from up to 8 full 2000 Series Mini Stations or 5 full Weather Stations.



## Quantum Light Meter

- Accurately measures radiation for plant growth
- Can be used with 3 sensor bar for averaged PAR reading
- PAR (Photo synthetically Active Radiation) refers to the quantity of light reaching a given plant through out the day.



## Field Scout® External Light Sensor Meter

This light meter can read any of Spectrum's light sensors, which come with 6ft/2m cables. Just plug in a sensor, choose it on the LCD display, and start measuring UV, Quantum Light, or Solar Radiation. Sensors can also be used with Weather Stations and Data Loggers. 9 volt battery included.



R O O R K E E I N D U S T R I E S

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E-Mail to: roorkeeindustries@gmail.com, roorkeeindustries@yahoo.com, log on to: www.roorkeeindustries.com, www.roorkeeindustries.in

# AGRI-RESEARCH INSTRUMENTS

## TDR Soil Moisture Meter

Portable TDR 300 accurately measures soil moisture across the full range of soil moisture conditions. Select from the 12cm or 20cm (4.8in or 8 in) probe rods to suit your measurement depth. Install PVC access tubes and take moisture deeper in the soil profile. The LCD interface provides two modes: volumetric water content and relative water content (irrigation management) mode.

- Eliminates guesswork before irrigation

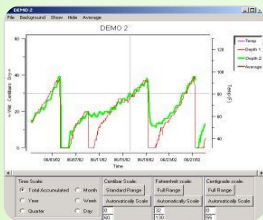
- Perfect for all types of soil
- Unit: % of the volumetric water content
- Resolution: 1.0%; accuracy:  $\pm 3\%$
- Data logger
- Power: 4 AAA cells
- Supplied with 12 or 20 cm probe
- Can be connected to a GPS/DGPS system



## Watermark Soil Moisture Data Recorder

The Watermark Monitor is a Data-Logger which automatically takes soil moisture readings. This reading history provides you with a vivid picture of the soil moisture profile your irrigation practices have created. This data can be evaluated to determine ways to improve the irrigation scheduling for optimum result

- Automatically Reads Sensors
- 8 Sensor Capacity
- Programmable Reading Frequency
- Water graph Software included
- In-Field display of current reading
- Download history to a computer
- 9 Volt battery included

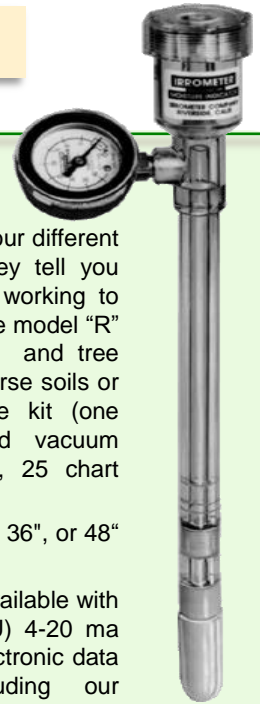


## Irrrometer Tensiometers

Irrrometer Tensiometers are excellent indicators for irrigation scheduling. With four different depths to choose from, they tell you how hard plant roots are working to draw water from the soil. Use model "R" for general use with field and tree crops or model "LT" for coarse soils or greenhouse media. Service kit (one required) includes handheld vacuum pump, fluid concentrate, 25 chart forms and reference book.

Available in 6", 12", 18", 24", 36", or 48" lengths.

Irrrometer models are also available with Remote Sensing Unit (RSU) 4-20 ma transducers for use with electronic data logging equipment, including our Watermark Monitor.



## Watermark Soil Moisture Meter

Place a Watermark Sensor in the root zone of your crop or turf and use the handheld digital meter to get an instant reading of moisture tension from 0 (saturated) to 200 (dry) centibar. Use in conjunction with evapotranspiration estimates to fine-tune irrigation scheduling. One digital meter reads all your sensors. Each sensor includes a 5ft/1.5m extendable cable. With the Watermark Adaptor, you can also use a Watermark sensor with our Watch Dog systems.





## Soil Compaction Meter

Soil Compaction is the number one cause of yield loss and impacts turf quality. Different equipments and tools are accessible with varying features. Data logger based Soil Compaction Meter with Geo referenced mapping facility is also available.



## pH-EC Meters

A fast, easy way to measure pH and EC in soil. The pH meter can be used for good resting, soil testing, industrial applications that comes along with Stainless Steel Probe. Hassle free EC meter measures salinity in soil or water.



## Soil Testing Kit

The soil testing kits are based mainly on the findings of IARI. The tests can be carried out by just following the simple instructions given in the Hand book. The handbook gives useful information regarding major nutrients requirement of any soil. Each kit is a mini laboratory, ready to use and capable to perform the following tests: pH, Phosphorous, Potassium, Nitrogen (Nitrate and Ammonical) and Organic Carbon.



## Crop TRAK Mini IR Thermometer

Measures temperature from  $-58^{\circ}$  to  $1,000^{\circ}\text{F}$  /  $-50^{\circ}$  to  $538^{\circ}\text{C}$  with  $0.1^{\circ}$  resolution up to  $199.9^{\circ}$ . Use the built-in laser pointer to identify your target area. Backlit LCD display. Features also include over range indicator and Automatic Data Hold when trigger released. 8:1 distance to target ratio. Accuracy:  $\pm 2\%$  of reading or  $4^{\circ}\text{F}/2^{\circ}\text{C}$  whichever is greater, from  $64^{\circ}$  to  $82^{\circ}\text{F}$  /  $18^{\circ}$  to  $28^{\circ}\text{C}$ . Comes with a 3 year warranty. Battery included.



## IPM Scope

The IPM Scope combines a digital camera, precision optics, and LED lighting into a powerful handheld microscope and imaging software package. Zoom in with its versatile 40 or 140X magnification on fine details of plant disease symptoms, insects, or anything else too small to see with the naked eye. Instead of straining to look into a tiny eyepiece, place the IPM Scope over the leaf and view the magnified image right on your computer screen. Capture still images, easily add descriptive labels, make measurements, or even draw right on the image!



## SPAD 502 Chlorophyll Meter

The SPAD 502 Chlorophyll Meter instantly measures chlorophyll content or "greenness" of your plants to reduce the risk of yield-limiting deficiencies or costly over fertilizing. The SPAD 502 quantifies subtle changes or trends in plant health long before they're visible to the human eye. Non-invasive measurement; simply clamp the meter over leafy tissue, and receive an indexed chlorophyll content reading (0-99.9) in less than 2 seconds. Assess nitrogen needs by comparing in-field SPAD readings to university guidelines or adequately fertilized check or reference strips. Research shows a strong correlation between SPAD measurements and leaf N content.



## Guelph Permeameter

The Guelph Permeameter is used to obtain accurate measurements of hydraulic conductivity, soil sorptivity and soil matrix flux potential. These three factors govern how liquid move through an unsaturated soil profile.

The Guelph Permeameter is a complete kit consisting of the permeameter, field tripod, well auger, well preparation and cleanup tools, collapsible water container, and vacuum test hand pump, all packaged in a durable carrying case.



## Munsell Soil Colour Charts

Washable new edition features handy tabs for flipping to needed charts without getting pages dirty. Approximately 322 color chips are permanently mounted on 9 charts for basic collection of 7 hues

(10R-5Y) and 2 gley charts with apertures between chips to make comparisons easier. Also with supplemental 5R Chart for Australia, Southeast Asia, etc. furnished with color-name diagram.



## Hydrometer kit

To obtain an accurate determination of the particle size distribution of the smallest fractions it is possible to apply the hydrometer method. Hydrometer readings are taken after regular intervals. Sedimentation time and hydrometer readings are used to determine the grain sizes according to the Stoke's Law. The hydrometer kit, among other items, contains: a number of hydrometers, sedimentation cylinders, a thermometer, a glass container, a heating element with thermostat and stirrer, a soil stirrer and various accessories.



## Pressure Plate Apparatus

The equipment is suitable for determination of pF-curves in the range pF 2.0 - 4.2 (0.1 - 15 bar of suction). Furthermore the sets are suitable for the calibration of soil moisture blocks or soil moisture measurement equipment. The standard set contains amongst others: two extractors with ceramic plates (0.1 MPa, 0.3 MPa and 1.5 MPa, resp. 1, 3 and 15 bar) and accessories, soil sample rings, a pressure control panel and a compressor. Several ceramic plates with soil samples can be placed in the extractor at the same time.

The pressure control panel is standard equipped with two manometers 0 - 2 MPa and 0- 0.4 MPa (resp. 0 - 20 bar and 0 - 4 bar). The included compressor (220V - 50 Hz) is specifically designed for this purpose: maximum pressure 2.0 MPa (20 bar), built-in safety precautions, completely guarded and quiet.



## Prospecting kit for geotechnical survey

### Benefits

- ❖ Range of auger bodies copes with most soils
- ❖ Minimum set that will serve many purposes

### Remarks

- ❖ 5 Meters as maximum depth of the sets (extra rods are possible)
- ❖ Bag can be used as backpack



## Wet Sieving Apparatus

The wet sieving apparatus is used to determine the aggregate stability. The standard set includes a shaking machine for wet sieving method (incl. 100-240 VAc adapter), suitable for 8 sieves, aluminium cans Ø 62.5x44 mm, sieve cans Ø 39x39 mm with sieve opening 0.250 mm and sieve surface of 10.2 cm<sup>2</sup>. The wet aggregate stability is determined on the principle that unstable aggregates will break down more easily than stable aggregates when immersed into water.





### Brass Sieve Set For Sand 8 inch Diameter

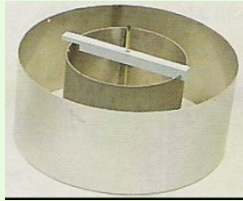
Test your own sand with a complete set of brass sand sieves! Excellent for new construction, testing topdressing sand and bunker sands as well as helpful in testing existing soil profiles. This set will give you a full USGA particle breakdown including 2.0 MM, 1.0 MM, 0.5 MM, .25 MM, .15 MM and .05 MM sizes. Top and bottom pans are also included. Set is 8 inches in diameter, solid brass with bronze screens.



### Double-Ring Infiltrrometer

This instrument is used to determine the rate of infiltration of water into the soil. The rate of infiltration is determined as the amount of water per surface area and time unit that penetrates the soil. The rate can be calculated on the basis of the measuring results and the Law of Darcy. The complete instrument consists of two rings of different diameters (30-cm & 45-cm), driving plate with hammer, and water level gauge.

**Data logger based Automatic Infiltrrometer is also available.**



### Acrylic Sieve Set

The Acrylic Sieve Set has 5 clear acrylic cylinders, 2 inches in diameter with 4 stainless steel mesh sieves. The sieve analysis is 1.0 MM, .25 MM, .15 MM and .05 MM, with a cover and bottom, along with a frame calibrated into percentages. 2.0 & .50 MM mesh also included.



### Tubular Soil Sampler 21 Inches Tall

This Tubular Soil Sampler extracts a core sample 15 inches deep by 3/4 inch wide. All welded-steel design. The unit is chrome-plated for long life, and the Tubular Soil Sampler also has a replaceable cutting tip.



### Turf-Tec Infiltrrometer

The Turf-Tec Infiltrrometer is ideal for determining water infiltration rates easily right on the turfgrass area in a matter of minutes.

Use it to determine how long to irrigate, when to aerify and also where diseases will become prevalent.

Turfgrass areas can be monitored periodically to determine whether infiltration is staying constant or decreasing.

This tool is the most useful instrument in determining soil health and overall grass performance. By using infiltration rates, you can determine the amount of pore space in the soil.



### Mariotte Tubes for Infiltrrometer

These tubes are a companion tool for use with the 12 and 24 inch Infiltration Rings. The Mariotte tubes insure that a constant head pressure of water is delivered into the Infiltration rings.

The Mariotte Tubes are constructed of durable heavy wall PVC tubing with solid brass and stainless steel hardware for many years of service.



### Pocket Digital Thermometer (C)

Easy to carry and also tells the soil temperature within 10 seconds.

Temperature range is -40 C to 150 C and unit is durable with a four-inch-long probe.



### ET Gauge

To monitor the crop and soil water loss through evapotranspiration, ET gauge is the perfect measurement device for plant, crop and turf manage.



### Soil Samplers

Soil samplers allows you to collect a uniform soil sample for use with your own on-site tests or to send to a lab

# SURVEY INSTRUMENTS

## Auto Level

Automatic builder's levels. Designed to work hard on the job site. They are quick to set up, simple to use and very reliable. The automatic compensator and the quality optics speed up Measurements on site and increase accuracy. Available in various magnification, models and make.



## Laser Distance Meter

The laser distance meter is meant for both indoor and outdoor measuring. It is the first hand laser distance measurement device which has an integrated digital viewfinder (3fold zoom). With this invention measurements can be made in difficult lighting conditions and even if the laser dot is not visible. Additionally the device has an integrated tilt sensor which opens a much wider variety of indirect measurements. For simple inclination measurements the housing simply has to be held at the object.



## Concrete Test Hammer/Rebound hammer

For the non-destructive testing of the surface of hardened concrete in order to evaluate the strength in various parts of a structure. The concrete hammer is supplied complete with plastic carrying case, grinding stone and instruction manual.



## Geological Hammer

Estwing Leather Grip Rock Pick. Forged, one-piece solid steel with a Polished and formed leather grip.



## Silva® Ranger with Built-In Clinometers

Black rotating compass dial with white graduations every 2°. Swedish steel needle pivots on a liquid damped, sapphire jeweled bearing. Built-in magnetic declination adjustment screw. Sighting mirror with luminous points. Needle orienting arrow and lines. Clear protractor base plate has inch scale edge (graduated in 20ths), millimeter scale edge and Rometer Scales of 1:24,000, 1:25,000, and 1:50,000. Clinometers reads to  $\pm 90^\circ$ . 2-1/4" x 4" closed. Lanyard and instructions included.



## Brunton® Eclipse Pro

The "circle over circle" alignment system of this compass assures an accurate reading every time! In addition, a round bubble level allows for more accurate strike and dip measurements. The compass features three inclinometer systems: card inclinometer ( $\pm 5^\circ$  accuracy with  $5^\circ$  resolution), hinge inclinometer ( $\pm 5^\circ$  accuracy with  $5^\circ$  resolution), and graduated dial inclinometer ( $\pm 1^\circ$  accuracy with  $1^\circ$  resolution). The revolutionary body design is lightweight and rugged. The compass also features adjustable declination; professional field reference cards; magnified read out; a map magnifier; and USGS 1:24,000 feet, mile, UTM, and meter scales. Lanyard included. Accuracy:  $\pm 1^\circ$ . Resolution:  $1^\circ$ . Dimensions: 4.1" x 2.5" x 1".



## Silva® Ranger with Built-In Clinometers

Precision, hand-held sighting clinometers, for measuring vertical angles, slopes, bedding dips and heights of distant objects. Case is machined out of solid aluminum. Scale rides on a sapphire jeweled bearing and are liquid damped. Scales are graduated in degrees from 0 to +90 and from 0% to +150% slope. Values can be read directly to one degree or one percent and estimated to 10 min. of arc or one-fifth of one percent with readings near zero level. Absolute accuracy is about one third of a degree





## Rangefinder/Hypsometer

Compact and lightweight, the TruPulse<sup>a</sup> 200 features "through-the-lens" viewing so you know the laser energy is traveling directly along your line of sight. Because measurements are shown in the display, you never have to take your eyes off the target! Take distance measurements up to 3,280' (1,000m) away without a reflective target. Results are displayed in feet, yards, or meters.

### Specifications:

**Range: 0 to 1000 meter  
maximum 2000 meter  
to reflective target**  
**Resolution: 0.1 meter;**  
**Accuracy: +/- 0.3 meter**



## Handheld Mapping GPS

If you're a devoted mariner or serious outdoor enthusiast, our new GPSMAP 76S is the GPS/mapping unit for you. The "S" in the product name stands for "sensors", because the GPSMAP 76S incorporates a GPS receiver, barometric altimeter, and an electronic compass that deliver precise location, elevation, and bearing information to take adventurers as high or as far as they want to go. The unit also contains a base map of North and South America, including major highways, thoroughfares, rivers, lakes, and borders, with plenty of memory (24 MB) for downloading Map Source<sup>®</sup> data. It's also waterproof and floats in water—and its larger screen, increased readability, bigger buttons, and rugged design make this unit at home in even the harshest conditions.



## Tangent Height Gauge

This mirror sighting height gauge is great for teaching students how to quickly determine tree heights! Easy to follow instructions are embossed onto its rugged plastic shell, detailing the gauge's short four step measuring method and height-finding formulas.



## Digital Pedometer

This versatile digital pedometer offers a wealth of data at your fingertips for all of your walks. Offering detailed information, this pedometer measures steps, distance walked, time elapsed and calories burned. Counts up to 99,999 steps, Belt clip offers trouble-free placement



## Digital Altimeter / Compass

This is a very high quality precision product and should not be confused with cheaper alternatives. The unit will come complete with guarantee, a comprehensive instruction and complete details of its capabilities.

- Absolute and relative sea level pressure
- Weather forecast symbols
- Temperature in Celsius or Fahrenheit
- Altitude -700 to 9000 meters / -2300 to +29500 feet
- Compass displayed by an arrow and in degrees
- Clock with date and 12/24 time
- Back light, lanyard and metal presentation box



## Digital Planimeter

KP90N Digital Planimeter is used for area measurements from maps and other sources with an accuracy of +/- 0.2%. Clear LCD screens display readings up to 8-digits. 6-Digit pulse count allows user to measure an area 100 times larger than with an ordinary planimeter- up to 10 square meters. It features a hold memory function that holds a value in memory. For even more precise measurements, a mean value can be calculated from several measurements. The computing function model has a built-in computer for instant conversion of measured areas into a unit and scale value of choice.



## Mirror Stereoscope

An economical unit for lab or field use. This portable mirror stereoscope is for use with 9" x 9" stereo photographs. It features a 1.3x magnifying unit, and the rugged plastic frame folds to compact size of 2" x 6-1/2" x 14". Also available is an optional eyepiece with a 3x magnification and a 55-75 mm inter-pupillary adjustment. The field of view is 12° and it has a close-up focus of 150 mm. Constructed of durable plastic to fit precisely on your geoscope.



## Also deals in:

### SURVEY INSTRUMENTS:

Transit Vernier Theodolites  
Optical Theodolite (Indian & Imported)  
Total Stations  
Automatic Level  
Engineers "U" type Level  
Tilting Level  
Quick Setting Dumpy Level  
Abney Level & Hand Level  
Leveling Staff (Aluminum & Wooden)  
Telescopic Alidade/ Alidades  
Surveyor Compass  
Prismatic Compass  
Magnetic Compass  
Brunton Compass  
Tangent Clinometers  
Altimeters and Pedometers  
Haga Altimeter (for Tree Height)  
Adjustable Cross Staff  
Sight Vanes & Sextant  
Plane Table with accessories  
Ceylon Ghat Tracer  
Planimeter (Indian & Imported)  
Ranging Rods & Measuring Tapes  
Measuring Chains/ Steel Bends  
Survey Umbrella/ Garden Umbrella  
Mirror & Pocket Stereoscopes  
Aerial Photographs

### DRAWING OFFICE INSTRUMENTS:

Station Pointer  
Vertical Drafting Machine  
Horizontal Drafting Machine  
Draftsman Chair  
Ammonia Printing Machine  
Ferro Printing Frame with Glass plate  
Tracing Table  
Edge Binding Machine  
Drawing Boards  
Drawing Board Trestles  
Mini Drafters  
Drawing Instrument Box  
Stencil Sets/ French Curves

### WATER QUALITY:

Microprocessor based pH Meter  
Microprocessor Conductivity Meter  
Digital pH Meter  
Digital Conductivity Meter  
Digital DO Meter  
Digital Turbidity Meter  
Flame Photometer  
UV/VIS Spectrophotometer  
Water Analysis Kit  
Analytical Balance  
Digital Temperature Meter  
Digital Temperature Recorder  
Magnetic Stirrer  
Hot Plate/ Heating Mantle  
Water Bath  
Universal Oven  
Incubators/ BOD Incubators  
Distillation Apparatus  
Colony Counter  
Depth Water Sampler  
Dissolved Oxygen Bottle Sampler  
Laboratory Glassware  
Laboratory Plastic wares

### SEDIMENT ANALYSIS:

Silt/ Sediment Sampler  
Punjab Bottle Sampler  
USDH-48 Suspended Sediment Sampler  
Depth Integrating Sediment Sampler (USDH 49, 59 USP 61 etc.)  
Point Integrating sediment Samplers  
Bed Load Sampler  
Bed Material Sampler  
Bed Sediment Corer  
Automatic Silt Sediment Recorder  
Automatic Silt Sediment Indicator  
Puris Siltometer  
Soil Hydrometers  
Digital Turbidity Meter  
Digital Echo Sounder  
Digital Bottom Profiler

### SOIL PROPERTIES:

Motorised Soundless Sieve Shaker  
Motorised Rotap Sieve Shaker  
Motorised Gyrotary Sieve Shaker  
Wet Sieve Shaker  
Hand operated Sieve Shaker  
Weighing Balance  
Test Sieves Set (Brass/G.I./S.S)  
Soil Resistivity Meter  
Soil Moisture Meter  
Infiltration Rings (Single & Double)  
Augers/ Auger Drill  
Soil Core Sampler  
Split Spoon Sampler with liner  
Soil Thermometer  
Stirrer & Bottle Shakers  
Hot Air Oven  
Soil Permeability Operators  
Pocket Penetrometer  
Infra-red Moisture Balance  
Rapid Moisture Meter  
Soil Density Test Apparatus  
Soil Hydrometers  
Soil pH Meter

### SOIL & CEMENT TESTING:

Compression Testing Machines  
Soil Density Test Apparatus  
Rapid Moisture Meter  
Aggregate Impact Tester  
Slump Cone/ Slump Test Apparatus  
Core Cutter with Dolly & Rammer  
Liquid Limit Device  
Shrinkage limit Apparatus  
Vicat Needle Apparatus  
Hot Air Oven  
Cube Moulds/ Beam Moulds  
Beam Testing Machine  
Grain size Analysis Apparatus  
Marshall Hammer  
Concrete Test Hammer  
Torsion Testing Machine  
Vane Shear Test Apparatus

## Authorised Representative

**IRR**METER CO.

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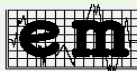
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## Registration Details

U.P.T.T./ TIN No.	05004118936, Dated 01/10/2005
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NSIC Registration No.	SIC/GP/RS/R-8/Roorkee/UP/86
Also registered with	CPO I.I.T. Roorkee
Our bankers	State Bank of India

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