LAKSHMI ENGINEERING WORKS

MANUFACTURERS OF : Soil, Cement and Concrete Testing Equipments, Survey, Drawing, Hydrological, Metrological, Geological, & Scientific Instruments.

Product Catalogue








172 (NEW329), Maktoolpuri, Roorkee- 247667 Distt.-Haridwar (Uttarakhand) INDIA
Mobile: 09759467802 | E-mail: lakshmiengworks.in@gmail.com

About US

M/S. LAKSHMI ENGINEERING WORKS have the pleasure to introduce ourselves as one of the leading manufacturing and supplier of the mentioned instruments.

We have supplied these instruments to various government of semi government. Dep. Technical institution and public sectors also, which are functioning properly in their department without any complain.

We have also a separate repairing wing for repair of these instruments at our workshop our instruments at our workshop our are being manufactured under the guidance of expert engineers having durability reliability stability and accuracy.

We request good self to be very kindly favor us with your esteemed enquiries we shall be grateful to you, if yo could kindly give us a chance to show you and supply you the good quality material on reasonable rate within the stipulated period. We shall be pleased to submit our most competitive offers on hearing from you.

Yours sincerely,
Praveen Dhiman
Proprietor

E-mail: lakshmiengworks.in@gmail.com

INDEX

HYDROLOGICAL

DIGITAL WATER LEVEL RECORDER

- Based on Float Counter Weight Type Sensor
- Automatically records data in attached Data Logger
- User Programmable logging rate
- Solar Panel to Charge t he batteries for Unattended Continuous logging
- Can record upto 16500 data sets
- Data Shuttle or GSM Transmission to transport data from Logger to PC
- Upgradable to add sensors like water Temp, Air Temp & more as required Application
- Stream, lake river reservoir (low silt Content)
- Ground water level measurement
- Irrigation Canals
- Tanks Level
- Tide gauging

DIGITAL WATER LEVEL RECORDER (TELEMETRY)

This is a Micro controller based Digital Water Level Recorder (Pressure type) 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. Piezoresistive silicon strain gauge, bounded to 316 SS diaphragm and integral cable contain a vent tube for Barometric pressure compensation. Comes with different ranges 10, 35, 100, 200, 300 meters. Data file is saved in Microsoft's Excel. This instruments is used for ground / wells water level.

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HYDROLOGICAL

RADAR TYPE WATER LEVEL RECORDER

- Non-Contact Type Water Level Measurement
- Suitable for long term unattended Installations where Boulders or High Silts are pre sent in water Stream.
- Automatically records data in attached Data Logger
- User Programmable logging rate
- Solar Panel o charge the batteries for unattended continuous logging, can record upto 16500 data sets
- Data Shuttle to transport data from Logger to Computer
- Upgradable to GSM Transmission
- Application
- Lake / Pond Level Analysis
- Irrigation Canal
- Stream & River having high silt / boulders
- Flood Level Recorder where lot of mud / silt is present
- Non-contact type measurement reduces civil/mechanical work.

BUBBLER TYPE WATER LEVEL RECORDER

- Based on Bubble Principle similar to Pressure sensor
- Air is pumped by means of air probe dipped in wate the equivalent water head
- Automatically records data in attached Data Logger
- User Programmable logging rate
- Solar Panel to charge the butteries for Unattended Continuous logging, can record upto 16500 data setsData shuttle to transport data from Logger to Computer
- Upgradable to GSM Transmission.
- Application
- Flood warning systems
- River and Irrigation channel levels
- Ground water level and landfill monitoring
- Dam water monitoring
- Waste water monitoring
- Irrigation canal

HYDROLOGICAL

GROUND WATER LEVEL RECORDER

- Based on vented cable pressure sensor
- Unattended Recording of data
- User Programmable logging interval through Computer Software
- Inbuilt SD-MMC card to store over 1 million Data sets.
- Continuous Logging over 1 year in 4 XD type cells which is commonly available even in villages.
- Ability to send Data over GSM also.

APPLICATION

- Ground water Monitoring
- Stream & River Gauging
- Lake / Pond Level Analysis
- Flood Level Recording
- Irrigation Canal

GROUND WATER QUALITY INSTRUMENT

Automatic groundwater measuring instrument (probe) measures water level (depth), EC, water temperature at once to check change of water quality state. This instrument is applied by patent technology to improve accuracy and reliability of measured data and easy to maintain system. So, this instrument is suitable for long-term water quality remote monitoring system.

GROUND WATER SAMPLER

The liquid sampler KLL-S has technically been designed for the application in connection with the electric contact meter KLL. With this combination-design, it is possible to obtain liquid samples from any desired depth. Basically, the liquid sampler consists of three parts-piston, tube and releasing weight.

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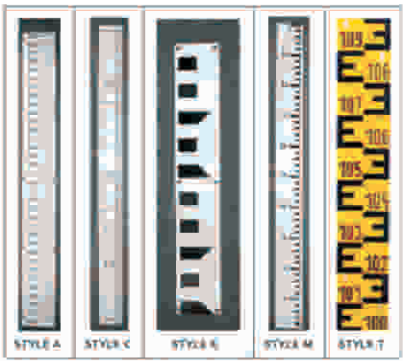
HYDROLOGICAL

WATER LEVEL INDICATOR

This is a reliable instrument for measuring the water level and total depth in boreholes, wells reservoirs etc. For the measurement the bob is lowered to the water level. When touching the level, a sensor effects the illumination of a signal lamp. On request, an additional acoustic signal will be released by a buzzer. When the probe is touching the water-level there is a conductive connection between the tip of the probe and the sensor- body. Thereby a circuit of the lamp and the buzzer will be closed.

Response is seen on LED plus an audible tone is heard. Features include: standard cable length : 50, 100 meter, with marking on ever 1 meter. 1 meter length flexible measurement scale will be provided with this system for fine resolution (1 cm), Reel type spool for lowering cable and electrode assembly. Reel is mounted on a stand. Self contained 9 V battery power supply – no danger of shock from an outside power supply. Standard brass electrode. Reel handles are shaped to fit your hands. Accurate of reading. Each Water Level Indicator is supplied with a battery

RIVER STAFF GAUGE



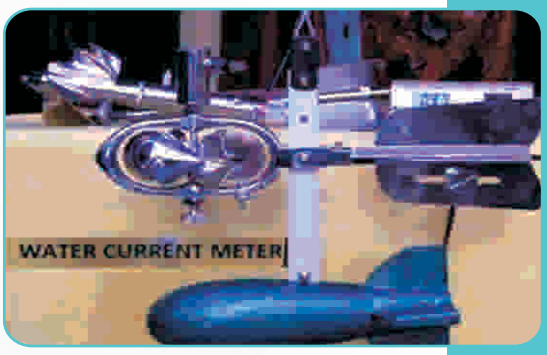
River staff Gauges are useful for the m annual measurement of River / Canal / Lake water level. Different sizes and types for River Staff Gauges are available with us

GAUGE KEEPER OPTICAL WATER LEVEL MEASUREMENT

Many hydrologists have been waiting for a technology to see, measure and verify their water level data with just one system and to alert them when something goes wrong. Using an images sensor for measuring water level is a new approach. The SEBA Gauge Keeper was developed in order to collect redundant water level data from remote sites – using image processing and data transmission

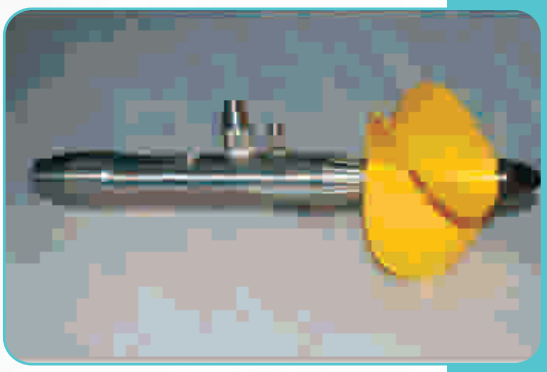
HYDROLOGICAL

CUP TYPE WATER CURRENT METER



You can use cup type current meter using a cable with sinking weight or wading rod and will accurately measure stream flow velocities from 0.3 to 3.5 meters per second with cups. (Also available in measuring range up to 6 meter per second). The cup type current 1 meter manufactured as per IS 3910 – 1966. You can connect this current meter to an automatic counter/water velocity indicator (sold separately). The calibration chart provided with the meter gives the velocity in m/sec.

UNIVERSAL WATER CURRENT METER



Universal Water Current Meter is a world recognized instrument. This current meter is suspended in the water using a cable with sinking weight or wading rod and will accurately measure stream flow velocities

0.04 m/s upto 6 meters per second with multiple propellers. Magnetic the free ends of the proximity switch cable are connected to a Water Velocity Indicator. The calibration chart provided with the instruments. Universal Water Current Meter serves for determination of current velocities in water courses, canals, rivers and the sea. The Instrument case will be robust version made of Aluminum with locking arrangements. Velocity measuring Range

0.04 ~ 6 m/s, Meter Body : Material high quality non-corrosive Brass

WATER VELOCITY INDICATOR

This is small electronic hand-held device that can be used to measure flow velocity from mechanically rotating current meter. A superior feature of the DVI-K13 is its ability to store up-to five current meters data at a time and interface directly to a Laptop, Pocket PC, or other computing device and provide data in MS-Excel file format that can be used externally to compute discharge

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HYDROLOGICAL

PORTABLE PULSE DOPPLER SYSTEM (Q-EYE M-II)

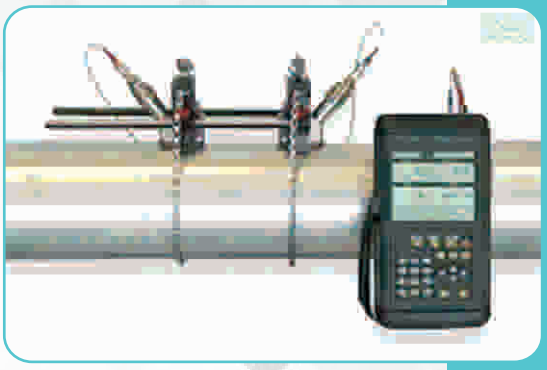
Q-Eye M-II shows its advantages in mobile applications. The long lifetime of approx. 90 days with a measuring interval of 5 minutes, as well as the small and tobust housing make it the perfect tool for temporary operations.

In addition to water level and flow, the signal quality, batter y voltage and the calculated flow arte also stored inside the data logger. A pulse output provides the necessary signal to a sampler. With the optional connectable pressure sensor, the water level can be collected redundantly and the measuring range can be extended up to 3, 5 m. Standardized spring rings make mounting at site easy.

DIGITAL TRANSIT TIME FLOW METER (DUCTUS COI)

A flow meter using clamp on transducers makes measuring discharge non-intrusive and easy from the outside of the pipe. The transducers are installed with little technical effort and without process interruption on the pipeline. Benefits include easy installation, minimal maintenance, small size and weight. No moving parts to foul or wear, bi-directional flow operation, no pressure drop or energy loss, wide range of pipe sizes.

CLAMP ON PORTABLE ULTRASONIC FLOW METER



Many hydrologists have been waiting for a technology to see, measure and verify their water level data with just one system and to alert them when something goes wrong. Using an images sensor for measuring water level is a new approach. The SEBA Gauge Keeper was developed in order to collect redundant water level data from remote sites – using image processing and data transmission

HYDROLOGICAL

MULTI PARAMETER WATER QUALITY INSTRUMENT

Measure pH, Iron concentration, Salinity, Total Dissolve Solids (TDS) Dissolve Oxygen (DO), water Temperature, Auto-Calibration; Data logging options with time/date indexed (500 data sets); GLP compliance; Simultaneous Display and measurement of parameters; Cal-due alarm; pH slope / offset Display and Self diagnostic

SUSPENDED SOLIDS INDICATOR

The suspended solids indicator is state of the art, easy to use meter that provides many benefits to the plant operations staff. It is unique system that combines advanced electronics with a solid-state, optical sensor. It is a multi-range indicator designed for the measurement of suspended solids in aqucous 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

SEDIMENT SILT SAMPLER (PUNJAB TYPE)

This is the most common type of suspended sediment sampler it consists of a metallic one litre capacity bottle held vertically in the metallic frame at one of a adequate length of pipe with level attached to the lower end and a flexible wire running with the help of onespring and lever for opening and closing the mouth of bottle fitted with rubber cock during sampling. The sampler has advantages, of low cost, simplicity in design and operation.

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HYDROLOGICAL

ECHO SOUNDER

Multi functions in small body and reasonable cost makes small professional fish boats as well as pleasure craft affording, High resolution colour LCD offer you clear viewing. Hardness of bottom indicated by digit and graph helps you finding fish efficiently. As it is operated by internal batteries, you can install and use at any place, and you can carry it freely as it is folded in brack Depth range : 0-3, 0-5, 0-8, 0-10, 0-15,

0-20, 0-30, 0-40, 0-50, 0-60, 0-70, 0-80, 0-

90, 0-100, 0-125, 0-150, 0-200. Display : 4.3

"TFT colour LCD.

MEASURING CRAIN (BRIDGE OUTFIT)

This equipment is useful for lowering and lifting heavy instruments like current meter with fish weight for measuring stream velocity and obtaining sediment studies from the road bridge sites or from boat amid the rivers. This is made from sturdy angle iron sections and very portable for moving from one place to another. The rear assembly is adjustable in a vertical direction so that the platform surface will remain parallel with the road surface when operated on curbs or side walks. The handle is collapsible, folding up underneath the truck for ease of transportation and storage.

SOIL AND PLANT SCIENCES

ESTWING CHIPPING GEOLOGICAL HAMMER

Forged, one-piece solid steel, fully polished finish, Nylon-vinyl grip. Head length – 7- 1/8" Overall length – 11-1/4"

ESTWING CHISEL EDGE ROCK PICKS GEOLOGICAL HAMMER

Forged, one piece solid steel. Nylon-vinyl grip, Estwing Chisel-Edge Rock Pick, 6", 12 oz Head

ESTWING POINTED TIP ROCK PICKS GEOLOGICAL HAMMER

Forged one piece solid steel, Nylon-vinyl grip, Estwing Pointed-tip rock Pick, 6", 14 oz Head

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SOIL AND PLANT SCIENCES

SOIL THERMOMETER

It is used for measuring temperature of inner layer of soil. Provided with brass body with cone having natural brass finish available with cone size of 75 mm, 150 mm and 300 mm. fitted with yellow back mercury / Alcohol filled thermometer temperature. Range – 10 to 50oC. Thermometer fitted with wooden case

GLOBAL POSITIONING SYSTEM (GPS)

The Global Positioning System (GPS) is a satellite based navigation system. Different Models and Makes are available with us

PLANT CANOPY ANALYZER

This system offers convenient and flexible tools for measuring and analyzing incident and transmitted photo synthetically Active Radiation (PAR) in Crop and Forest canopies. It provides vital information about the penetration of PAR into crops and forest, and is essential in work such as comparative crop studies, for separating out the effects of cultivars and treatment. It is particularly well suited to flow regular canopies (as found in many agricultural crops). It can be used in most light conditions. Generation of PAR into crops and forest, and is essential in work such as comparative crop studies, for separating out the effects of cultivars and treatment. It is particularly well suited to low regular canopies (as found in many agricultural crops). It can be used in most light conditions. The sensor probe has an array of 10 PAR sensors embedded in a 1 m long probe handheld data logger. One PAR sensor is also connected with data logger for reference incoming radiation. When a reading is taken, all sensors are scanned and the measurements transmitted to the data logger. The average light level along the probe is calculated. Further you can download data from data logger to a computer (USB port) with the help of “Lakshmi Engineering Works” preface software).

SOIL AND PLANT SCIENCES

RECORDER WITH TELEMETRY

"Lakshmi Engineering Works" make Digital Rainfall recorder is a self contained fully automatic rainfall data recorder fitted with Solar Panel & SLA battery based power system, High accuracy V-Log Data Logger, GSM/GPRS based telemetric Modem and Power management system contained in a single IP65 waterproof enclosure

RAINFALL EVENT LOGGER

"Lakshmi Engineering Works" make Rainfall Event Logger is a low cost and reliable to system to measure rainfall using a standard tipping bucket rain gauge.

Key Features:

- Extreme low power design and runs on single CR2032 button cell for 1 year typical use.
- Easy PC connectivity for Configuration and Data download via standard USB 2.0 cable.
- Accurate Real Time clock and calendar for time stamping of rainfall event values.
- Event lockout features to eliminate erratic readings.
- Huge memory size to support 8000 event records.

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SOIL AND PLANT SCIENCES

RAINFALL EVENT LOGGER

Oregon Scientific make digital wireless rain gauge is a low cost solution for measuring rainfall and viewing the readings wirelessly up to 300 foots away.

Key Features:

- Cable free runs on AA size batteries
- Wireless LCD display to show hourly / daily total rain along with door temperature.
- Nine day total rain record memory

ORDINARY RAIN GAUGE

"Lakshmi Engineering Works" make Ordinary Rain Gauge is built in accordance to IS:5225:1969 from non- corrosive fiber glass reinforced plastic.

Key Features:

- 200 sq. cm collector wit h brass ring and funnel
- 2 or 4 liter bottle for rain water collection included
- Measuring cylinder with 0.2 mm graduation

DIGITAL EVAPORATION RECORDER

x"Lakshmi Engineering Works" make digital evaporation recorder is self contained fully automatic evaporation data recorder fitted with Solar Panel and SLA battery based power system, High accuracy V-Log Data Logger and Power management system contained in a single IP65 waterproof enclosure.

Key Features

- Corrosion Resistant Galvanised and Painted Evaporation Pan and Wooden Base
- High Accurate Ceramic Pressure Sensor with 4-20 mA output
- Fully compatible to "Lakshmi Engineering Works" Telemetry Modem for GSM / GPRS up gradation.

METEOROLOGY

OPEN PAN EVAPOROMETER

"Lakshmi Engineering Works" make evaporometer pan is manufactured as per IS:5973:1970.

Key Features:

- Corrosion Resistant Galvanized and Painted Evaporation Pan with Wooden Base
- Pointer gauge with calibrated refill jug for correct evaporation readings

NOTE: Also available in copper instead of GI.

PYRGEOMETER SENSOR

This is a 4-component net-radiation sensor that is used for scientific-grade energy balance studies. The instrument has separate measurements of solar (short Wave or SW) and Far Infra-Red (Long Wave or LW) radiation. Major improvements relative to comparable instruments include weight (reduced), solar offsets in the LW signal (reduced), ease of leveling (high because leveling assembly is included).

SOLAR TRACKER / PYRHELIOMETER

Solar Tracker "Lakshmi Engineering Works" make solar tracker is state of art microprocessor controlled pan & tiltassembly which could be used with DNI and other solar sensors.

Features:

- 0.1 deg pointing accuracy
- Fully gear driven
- Load capacity 30 NM
- Stepper Servo motors used for precise position control
- Internal GPS for Time and position to calculate sun position with bets possible accuracy.
- Power efficient as compared to competitive products.
- Power efficient as compared to competitive products.
- LAN/W-LAN connectivity for configuration and status monitoring

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METEOROLOGY

SUNSHINE RECORDER

This sun-shine Recorder basic Main Components are bowls which are manufactured from Bronze and are precisely machined and assembled. The sphere bowls is made uniformed and well annealed and air bubble free glass having good surface finish. The Instrument is always supplied with one year recording graph, and standard stenciled curve for comparison.

AUTOMATIC WIND MONITOR

This is a Micro controller based Automatic Wind Monitor reflect state of the art in micro controller based instrumentation design. Both wind speed and direction sensors can be attached with this data logger for the collection of real time data automatically.

HANDHELD DIGITAL ANEMOMETER

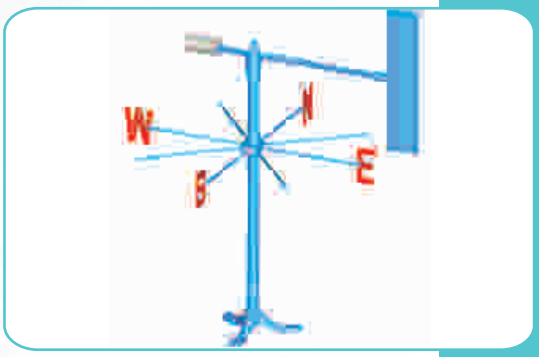
This instrument comes with dual digital display measures speeds from 5 mph to over 125 mph. the unique tilting head folds flat for storage. Water resistant display can be used in heavy rain. Multi-function display, in mph or km/h. Display current speed average or Max speed at the same time. Comfortable Vinyl handle. 3-cup rotor does not care which way the unit is pointed (unlike those little ones that must be pointed into the wind!)

METEOROLOGY

CUP COUNTER ANEMOMETER

Cup Counter Anemometer is manufactured as per IS:5912:1970 for measuring wind velocity / Wind Run. This instrument measures total run of wind passing at the point of observation through Mechanical Counter of the range 0 to 9999.9km.

WIND VANE



Wind direction will be measure with a wind vane (see diagram), wind direction is the compass point from which the wind is coming south, southwest, west etc. The unit of measurement for wind direction is therefore compass direction. User plot the wind direction for each day of the month on a special graph called a wind rose i.e. Wind Vane is manufactured as per IS:5799:1970 which indicates the direction of wind at the point of observation.

TEMPERATURE HUMIDITY LOGGER

This instruments measures air temperature and relative humidity. The internal temperature sensor is mounted on the circuit board inside enclosure of the data logger case. Typically this sensor is left inside the case and measures ambient air temperature Measurement range : Temperature:-400 to

123.80 C, RH : 0% to 100% RH Accuracy Temperature : better than +/- 0.50 from 00 to 400C.

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METEOROLOGY

TEMPERATURE HUMIDITY LONGGER WITH LCD

USB interface for easy setup and data download, selectable data sampling rate : I second to 24 hours, User-programmable alarm thresholds for RH and temperature LCD displays current readings, Min./Max, and alarm status complete with 3.6V Lithium battery, mounting bracket with combination lock, includes windows@2000, XP, and Vista compatible analysis software.

BAROMETRIC PRESSURE LOGGER

Barometric pressure – Barometric pressure is most commonly monitored as part of a weather station, but is also used for stand alone readings of barometric pressure changes. “Lakshmi Engineering Works” data loggers for barometric pressure applications include weather station and a stand-alone Barometric Pressure logger with a built-in-barometric pressure Sensor, The “Lakshmi Engineering Works” make Barometric pressure logger is an economical choice for indoor /outdoor Barometric Pressure monitoring. Its small size and large memory capacity make it a great multi- purpose logger.

STEVENSON SCREEN

There screens are manufactured as per IS:5948:1970 and are suitable for housing thermograph, hydrograph, dry and wet bulb, Thermometer and Maximum-Minimum Thermometer. Basically, these are manufactured from best quality Indian wood and accurately assembled with side louvers and supplied available in two sizes : Small size and Large size

METEOROLOGY

THERMOMETERS

- Maximum Thermometer
- Minimum Thermometer
- Wet bulb Thermometer
- Dry bulb Thermometer
- Assaman psychrometer
- Sling Psychrometer

LEAF WETNESS, AIR TEMPERATURE AND RH RECORDER

The system consists of a weatherproof enclosure which contains the data logger and power supply, and comes complete with a solar panel, tripod stand and Leaf Wetness, Air Temperature and Humidity sensors (one each). For the most accurate disease prediction the leaf wetness sensor, designed to mimic the surface area of a leaf, use electrical resistance to measure the level of surface moisture on foliage, whether caused by rainfall, dew, or spray. The leaf wetness sensor enables the data logger to detect the presence of surface moisture on foliage and calculate the duration of wetness. When moisture is present, the sensor detects an electrical resistance change between the gold plated elements of the grid. This is displayed and record by the data logger as a value between 0% to 100% moisture on foliage and calculate the duration of wetness. When moisture is present, the sensor detects an electrical resistance change between the gold plated elements of the grid.

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METEOROLOGY

CHLOGROPHY II CONCENTRATION METER

Chloropjyll concentration meter is a hand held, battery operated instrument designed for the rapid, nondestructive, determination of chlorophyll content in intact leaf samples. Chlogrophyll content is a direct indication of plant health and condition. Obtaining chlorophyll content via non-destructive analysis gives researchers, agronomists and growers valuable diagnostic information. This data can then be applied to multitude of crop production and research initiatives such as : nutrient and irrigation management, pest control, environmental stress evaluation and crop breeding.

SOIL MOISTURE TENSION METER

The “Lakshmi Engineering Works” make Digital Soil Moisture Tension Meter, used with the soil Moisture (watermark) Sensors and soil Temperature sensor (Optional), make up a valuable system to monitor the soil moisture, Tension and temperature (Optional) available in your soil. You can use as many sensors as you like at representative sites. Then, using the Digital Soil Moisture Meter you can read each sensor individually as necessary. The importance of water to plant growth is well known. Also, effective irrigation should be properly controlled in quantity and timing.

SOIL MOISTURE AND TEMPERATURE RECORDER

Automatic soil moisture suction and soil temperature recorder is a complete system for monitoring, logging and graphing 7 point Soil moisture and 1 point Soil temperature readings. Automatically reads the sensors, 12v battery powered monitor, battery changing through solar panels, reading frequency from every day and adjustable to suit you, 8 sensor capacity, includes temperature probe, in-field display of current reading, download the history to a computer through pockable data shuttle, Monitor current values, Data is saved in Excel format and can be exported.

METEOROLOGY

SOIL TENSION METER (GAUGE TYPE)

Tensio meter provide a direct measure of the tension at which water is held soil and therefore the suction plant roots need to exert in order to extract water. This instrumentcomprises a water filled tube which is sealed at one end, with a porous ceramic filterat the order end. The specifications of this filter are such that when buried in soil, it will allow water to flow freely through it, but not air. Tension meter is available in standard lengths of 15, 30, 45, 60, 90, 120 cm. General use with row, tree, and field crops. Includes reservoir, air free gauge chamber, and hermetically sealed dial type vacuum gauge with dual scale of millibars (-1000 to 0) and mm Hg (-760 to 0) range.

DOUBLE RING SOIL INFILTROMETER

The double infilltrometer is a simple instrument which is used to determine the infiltration rate of water into the soil. The infiltration rate is determinate as the amount of water per surface area and time unit, which penetrates the soils. This rate can be calculated on the basis of the measurements and the DARCY's law. Several measurements can be executed simultaneously, yielding a very reliable and accurate mean result. As vertically infiltrated water runs away to the side. The outer ring of the Infiltrometer serves as a separation. The measurement exclusively takes place in the inner ring through which the water runs virtually

vertically. The instrument consists of two rings, driving plate, for inner and outer rings. The two rings are driven into the ground and partially filled with water. The double ring design helps prevdent divergent flow in layered soils. The outer ring acts as a barrier to encourage only vertical flow from the inner ring. The standard set of the double ring Infiltrometer consist of 2 steel rings with different diameters, a hammer, floats, a stainless steel hammering cross and a stop watch.

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METEOROLOGY

SOIL MOISTURE AND PH METER

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TREE HEIGHT GAUGE

The “Lakshmi Engineering Works” make Digital Soil Moisture Tension Meter, used with the soil Moisture (watermark) Sensors and soil Temperature sensor (Optional), make up a valuable system to monitor the soil moisture, Tension and temperature (Optional) available in your soil. You can use as many sensors as you like at representative sites. Then, using the Digital Soil Moisture Meter you can read each sensor individually as necessary. The importance of water to plant growth is well known. Also, effective irrigation should be properly controlled in quantity and timing.

ELECTRONIC CLINOMETER

These electronic clinometers provide accurate height and ale measurements quickly and easily, Height measurements can be taken from any distance or position because no fixed distance to the object being measured is required. Function selection is simple. Use a single key to choose from these functions. DIST (Distance setup and height measuring), HGT (Height measuring), and DEG (Angle measuring). Results are displayed once measurement is complete, and no manual counting is required. Lightweight yet rugged, the clinometers can withstand the toughest use in the field . These highly efficient instruments offer extremely low battery consumption and feature a low battery indictor.

METEOROLOGY

SPHERICAL CROWN DENSIOMETER

Accurate, one person measurement of tree canopies, Measure forest overstory density from unobstructed sighting positions. The instrument uses a spherical-shaped reflector mirror engraved with a cross shaped grid of 24 quarter inch squares. To take readings, hold the instrument level, 12" to 18" in front of body and at elbow height, Assume four equi-spaced dots in each square of the grid and systematically count the dots equivalent to quarter-square openings. Multiply the total count by 1.04 to obtain percent of overhead area not occupied by canopy. The difference between this and 100 is an estimation of over story density in Percent. Units are housed in a 2" x 3" x 1" thick walnut case with operating instructions permanently affixed to lid.

A leveling bubble is also included for accurate positioning during estimations

ELECTRONIC ALTIMETER / BAROMETER

The altimeter displays the current altitude in feet or meters, the difference between current and reference altitude, and graphic altitude history for the past 12 hours. Retains memory of maximum / minimum height reached and of the cumulative vertical ascent / decent. User-programmeable alarm. The barometer displays current barometric pressure in mb/hPa or in. Hg and graphical history for the past 12 hours. A storm alarm alerts user when a storm condition is approaching. oC or oF selectable. Clock features a user- selectable 12- or 24- hour format, month, date, alarm and a stopwatch on an easy to read LCD display includes wall mount and lanyard. Altimeter Specification : Range :-1,640 to

+ 22,965 (-500 m to + 7,000 m).

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METEOROLOGY

BRUNTON R ECLIPSE PRO COMPASS

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 (+ 5o accuracy with 50 resolution), hinge inclinometer (+ 50 accuracy with 50 resolution), and graduated dial inclinometer (+10 accuracy with 10 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 : + 10 , Dimensions : 4.1” x 2.5” x 1”.

BRUNTON R GEO™ INTERNATIONAL GEOLOGICAL STRUCTURAL TRANSIT

This transit's single NdFeB magnet resists demagnetization better than other types of magnets for increased reliability. The induction damped needle provides quick, accurate readings while the sapphire jewel bearing allows for smooth needle movement. Two long-level bubbles on the aluminum housing permit no-guess leveling from the sides or the bottom. O-rings make the transit waterproof. Other features include adjustable needle locking mechanism with two positions, hinge inclinometer with 20 increments for 10 readable dip measurements, and “Buck Horn” style sights for increased accuracy when sighting azimuth or vertical angles. Leather case included. Lifetime warranty from Brunton. Horizontal angles : 0-3600 (Azimuth) or 0-90-00 (Quadrant), 10 graduations. Vertical angles : +900, vernier reading to 10 minutes, + 100% grade, 5% divisions

BRUNTON R ORIGINAL 15 COMPASS

This mirror-sighting compass has graduations every 20, a clinometers, adjustable declination, and luminous points. The Azimuth model features 1:24000 and 1:50,000 scales, and the Quadrant model features 1:24,000, 1:24,000, and 1:50,000 scales/ Lanyard and declination tool included. 3.9” x 2.5” x .75”.

METEOROLOGY

SENSORS

- Air temperature and Relative Humidity Sensor
- Wind Speed Sensor
- Wind Direction Sensor
- Rain Fall Sensor
- Water Temperature Sensor
- Soil Temperature Sensor
- Air pressure sensor (Barometer)
- Water Level (shaft Encoder Type) Sensor

SNOW WATER EQUIVALENT RECORDER

"Lakshmi Engineering Works" make Snow Water Equivalent recorder is a self contained fully automatic SWE data recorder fitted with Solar Panel and SLA battery based power system, High accuracy V-Log Data Logger and Power management system contained in a single IP65 waterproof enclosure.

Key Features:

- Corrosion Resistant Galvanised & painted Evaporation Pan & Wooden Base
- Tipping bucket sensor with heating arrangement.
- Fully compatible to Virtual telemetry Modem for GSM /GPRS up gradation

E-mail: lakshmiengworks.in@gmail.com

METEOROLOGY

SNOW GAUGE (MECHANICAL TYPE)

There are several types of snow gauges, the simplest of which is simply a measuring stick secured inside a metal container and anchored to the ground. This works well for the measurement of Snow Water Equivalent. Meteorologists and hydrologists are more likely to use container attached to a funnel gauge. When the basin is full or the snow fall has ended. The snow fall is then arrived at by multiply the water equivalent times 10.

HANDHELD TERMINAL

"Lakshmi Engineering Works" make hand held terminal is a micro processor based low power portable data-logger and could collect data from various type of Analog and Digital sensors.

KEY FEATURES :

- Backlit 16 x 2 LCD display with 8 keys for efficient view of sensors data and configuration.
- USB 2.0 Connectivity for configuration and data download.
- Powered by 2 XAA user replaceable alkaline battery.
- Data storage of 8000 or mare records.
- Could be used with Solar, Wind Temperature Humidity and Soil Moisture and many others. Sensors Compatible with Handheld Terminal
- 0 to 2.5 V analog o/p based sensors
- Wind Speed, Wind direction Sensor
- Pyranometer sensors
- Temperature Hudity Sensor
- Net Radiation Sensor, Albedo Measurement
- Soil Moisture Sensors
- Ultraviolet, Infrared, Quantum Sensor
- Plant Canopy Analyzers

METEOROLOGY

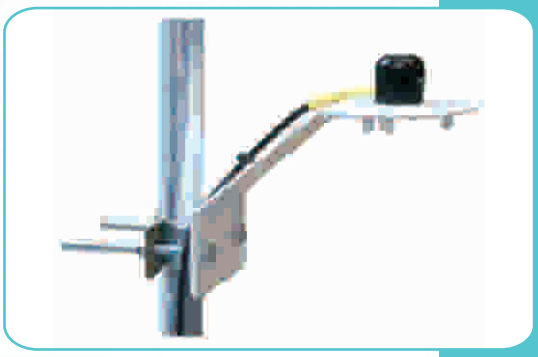
4-COMPONENT NET RADIATION SENSOR

This is a 4 component net-radiation sensor that is used for scientific grade energy balance studies. The instrument has separate measurements of solar (Short Wave or SW) and Far Infra-Red (Long Wave or LW) radiation. Major improvements relative to comparable instruments include weight (reduced), solar offsets in the LW signal (reduced), ease of leveling.

DIGITAL SOLAR RADIATION RECORDER (PYRANOMETER FOR GLOBAL RADIATION)

"Lakshmi Engineering Works" make Digital Solar Radiation recorder is a self contained fully automatic Solar data recorder fitted with Solar Panel and SLA battery based power system. High accuracy V-Log Data Loggre and power management system contained in a single IP65 waterproof enclosure.

- Global Solar Radiation Sensor with spectra l rnage 305 to 2800 mm.
- Temperature Dependence < 0.1% with WRR traceable Calibration.
- Fully compatible to Virtual Telemetry Modem for GSM / GPRS up gradation.



Other sensors which could be added to this system are :

- 4 Component Net Radiation Sensor
- Measures Shortwave and Longwave radiations separately for incoming and outgoing.
- Pygeometer Sensor Measures Longwave or Infrared component of solar radiation.
- Pyrheliometer Sensor Measures Direct Solar Irradiance. Suitable to be used with a Solar tracker.
- First Class compliant as per WMO standards.

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METEOROLOGY

AUTOMATIC WEATHER STATION

"LAKSHMI ENGINEERING WORKS" make Automatic weather Station is a self contained fully automatic weather data recorder fitted with Solar Pael & SLA battery based power system, Multi-Channel High accuracy Data Logger with Power management system contained in a single IP 65 water proof enclosure.

Key Features of
"LAKSHMI ENGINEERING WORKS" data-Logger V-Log:

- Accurate Real time clock.
- High Memory capacity to record continuously for months to years.
- Internal Signal conditioner for various sensors
- Alphanumeric Display with Tactile keypad for viewing sensors data and system setup.
- Data-shuttle for easy data transport in field.
- User friendly GUI based software for data download in ASCII / MS-Excel format.
- Robust stainless-Steel Tripod Mast for Sensor and Data-logger Mounting.
- Fully compliant Various Telemetry Options.

OTHER DATA RETRIEVAL OPTIONS :

- USB Through Data Shuttle
- GSM/GPRS
- Ethernet / Lan
- RS 485 – MODBUS RTU

AVAILABLE SENSOR OPTIONS:

- Air Temperature & Relative Humidity Sensor
- Wind Direction Sensor
- Water Temperature Sensor
- Air pressure Sensor (Barometer)
- Water Level (Radar Type) Sensor
- Hydrostatic Submersible Level Sensor
- Snow Gauge (snow Water Equivalent) Sensor
- Leaf Wetness Sensor
- Electronic Tensiometer
- Solar Radiation Sensor (Silicon Pyranometer)
- Quantum Sensor
- Line Quantum Sensor
- Fog / Visibility Sensor
- Canopy Temperature Sensor.
- Wind Speed Sensor
- Rain Fall Sensor
- Soil Temperature Sensor
- Water Level (Shaft Encoder Type) Sensor
- Water Level (Bubbler Type) Sensor
- Evaporation Sensor
- Ultrasonic Snow Depth Sensor
- Soil Moisture Sensor
- Solar Radiation Sensor (Pyranometer)
- Ultra Violet Sensor
- IR Radiation Sensor
- Passive Cloud Cover Sensor
- Infrared remote TemperatureSensor (for Road, Soil, snow, Panel Surface Temperature)

METEOROLOGY

SEDIMENT SAMPLER

Sediment Sample is a depth integrated sampler collect representative sample from specific depth. Simply lower this at sampling depth, on reaching the spot, pull trip line, sample bottle will begin filling. During filling, decreasing pressure will prevent exchange of air and water with sample. We also provide mechanical lowering device equipped with cable reel, stand and extended arm for cantilever type uses. Easy

POCKET WEATHER STATION

Measure every major environmental condition with this powerful hand-held instrument-barometeric pressure, altitude, density altitude, temperature, humidity, wind chill, dew point, wet bulb, and heat index. Using its chart mode, it can recall and graph up to 250 measurements, alongwith storage times and dates. Measurements are stored manually at the touch of a button. Measurements can also be automatically stored when the unit is turned off. You can even customize careens so that only selected measurements are displayed. Wind speed can be displayed in knots, meters per second, kilometers per hour, and heat index are shown in either oC or oF, Relative humidity is displayed as a percentage, and barometric pressure can be viewed in hector Pascal (mb) or inches mercury. Altitude and density altitude are displayed in meters or feet. A durable hard cover protects he impeller while allowing other functions to be used. This versatile, waterproof instrument floats, features an easy-to-read backlit display and has an auto shutdown feature, which activates after 15 minutes without a button press (feature can be disabled), Neck and wrist lanyards, protective pouch, and 2 AAA batteries included.

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METEOROLOGY

PYRNOMETER

We explore an innovative perspective in the field of manufacturing and exporting an accurately designed variety of Digital Solar Radiation Recorder. With the

support of multi disciplinary industrial skills and meticulousness quality, Widely used for measuring shortwave. Radiation, offered Digital Solar Radiation Recorder is mostly suitable for passive solar system analysis, irrigation scheduling as well as meteorological, hydrologic and other environmental studies.

Features :

- Weatherproof
- Fast operation
- Wide usage

CABLE WAY SYATEM

The cable way installation is provided for determination of current velocities in water courses, canal and rivers. Depending on the kind of water and maximum possible current velocities suspended current meter equipment with snikers of 25,50and 100kg and more can be used .By means of double drum winch, the meter body can be moved horizontally and vertically. The corresponding position of meter body can be determined with the help of the two counters. So a determination of current velocities from river bank is possible. Due to the solid execution of stationary cable way installation is a safe operation is possible in extreme conditions(Flood,extensivespan etc).

ADVANCED EVAPORATION RECORDER

The technologically advanced **Evaporation Recorder** offered by us is an ideal device to measure and monitor the level of water evaporation. Equipped with wear resistant spares and components, this Evaporation Recorder System offers clear, accurate and flawless measurement.

- Equipped with wear resistant spares and components.
- Offers clear, accurate and flawless measurement
- Maintenance free
- Solar panel to recharge batteries
- Equipped with
- Weather proof enclosure
- Data logger power supply
- Sensors
- Solar panel & pan
- By two rechargeable sealed maintenance free batteries with integral

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Technical Details

Sensor	Optical Encoder with Float
Sensing	Through Opt coupler
Range	30 mm to 300 mm
Resolution	0.25 mm
Material Used	Non corrosive

Water Temperature Sensor

Type	Digital Sensor
Range	40 to 124°C
Accuracy	Â± 0.5°C @ 25 °C
Resolution	0.01°C Typical

Wind Speed Sensor (Optional At Extra Cost)

Sensor	3 Cup Anemometer
Sensing	upto coupler
Accuracy	Better than 0.5 m / s
Material Used	Non corrosive.

Open Pan

Pan Size	1220 cm
Material	GI Painted
Mounting	Timber Frame
Pan bird gauge	Square Steel mesh

OUR OTHER PRODUCTS


LEW101

LEW102


LEW103


LEW104


LEW105


LEW106


LEW107

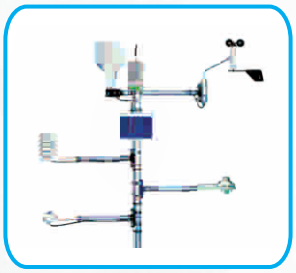

LEW108


LEW109


LEW110


LEW111


LEW112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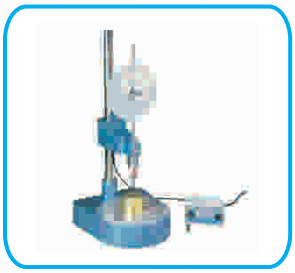
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OUR OTHER PRODUCTS


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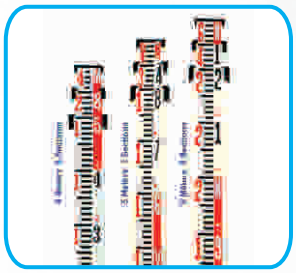
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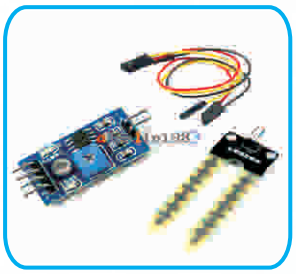
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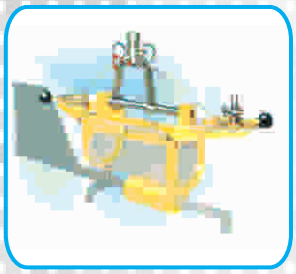
OUR OTHER PRODUCTS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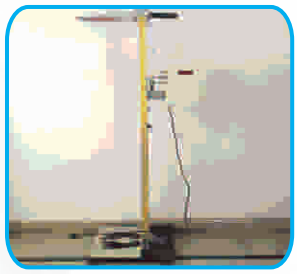
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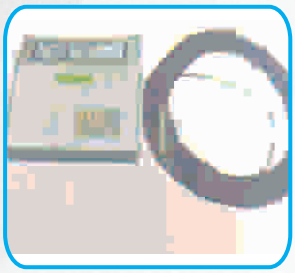
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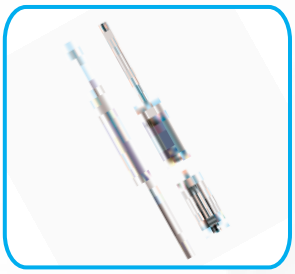
OUR OTHER PRODUCTS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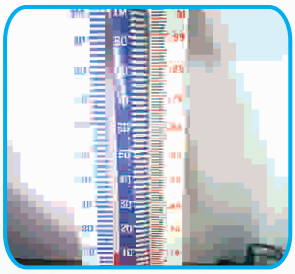
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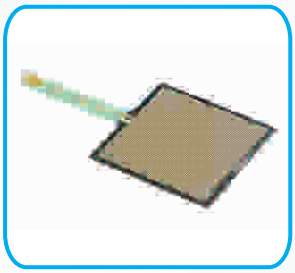
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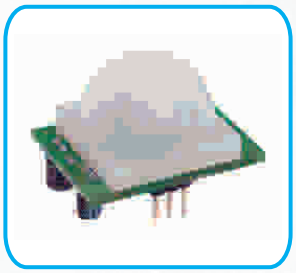
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OUR OTHER PRODUCTS


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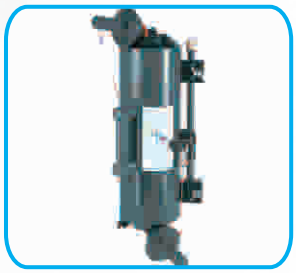
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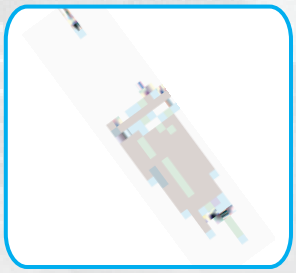
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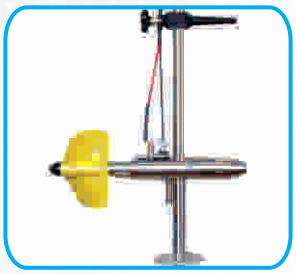
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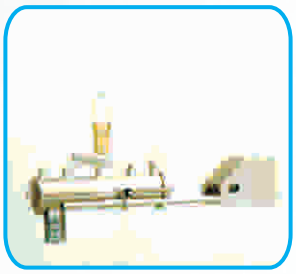
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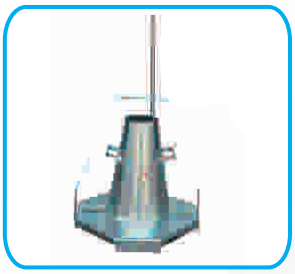
OUR OTHER PRODUCTS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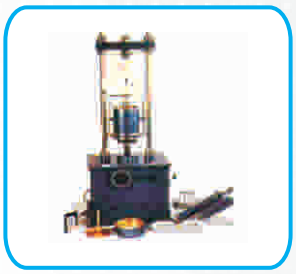
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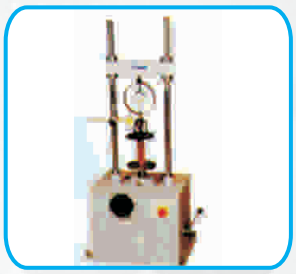
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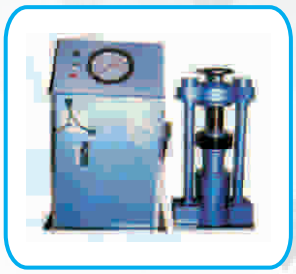
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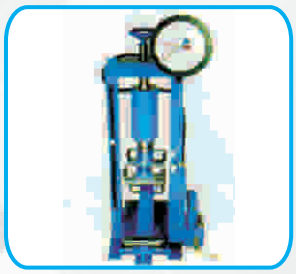
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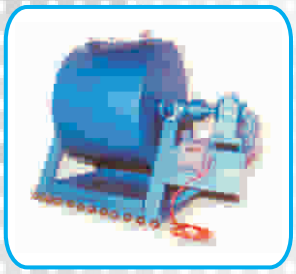
OUR OTHER PRODUCTS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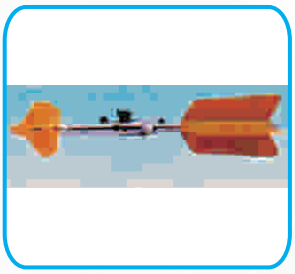
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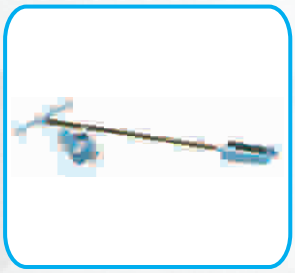
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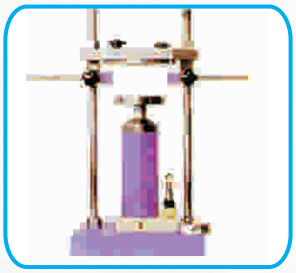
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E-mail: lakshmiengworks.in@gmail.com

NOTES

Contact us :

Lakshmi Engineering Works

172 (NEW329), Maktoolpuri,
Roorkee- 247667 Distt.-Haridwar
(Uttarakhand) INDIA
Mobile: 09759467802
E-mail: lakshmiengworks.in@gmail.com

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ISO 9001 : 2008

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