



Rock

Testing Equipment



Instrumentation & Technologies



Sample Preparation

Core Drilling Machine

AIM 201-2

- Heavy duty, pillar type frame with 1500W.
- Cutting feeds provided with water-fed swivel head which can be connected to suitable water supply.
- Provision at base for water collection / drainage.
- Core preparation from regular and irregular samples Core size : EX to 100 mm.
- Clamping arrangement to hold specimens with regular/ irregular shapes to the base of machine.
- Water tank 5ltr. is Standard outfit.

Suitable for operation on 220 V, Single Phase, AC supply.

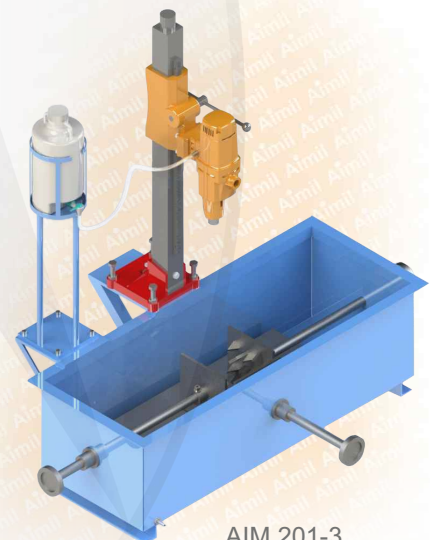


AIM 201-2

Core Drilling Machine with movable clamping screw

AIM 201-3

Specifications are similar to the AIM-201-2 but it offer a movable clamping position instead of fixed clamping position. The movable clamping screw can accommodate different sample sizes, making it easy to adjust the sample as per your requirements. It offers to fix the wide range of irregular samples using a hand clamping screw. This movable base attachment is very easy to use and provides flexibility for various sample sizes.



AIM 201-3

Ordering Information :

AIM 201-2	Core Drilling Machine
AIM 201-3	Core Drilling Machine with movable clamping screw

Optional Accessories :

AIM 20101	Core Drilling Bit 21.46 mm dia (EX size)
AIM 20102	Core Drilling Bit 30.10 mm dia (AX size)
AIM 20103	Core Drilling Bit 35 mm dia
AIM 20104	Core Drilling Bit 42.04 mm dia (BX size)
AIM 20105	Core Drilling Bit 54.74 mm dia (NX size)
AIM 20106	Core Drilling Bit 50 mm dia

Note: HILTI BITS available on request including BITS for 75 & 100 mm dia



Rock Testing

Core Cutting & Grinding Machine

AIM 202, AIM 202-2, AIM 202-100 & AIM 202-150

Salient Features :

- Stable Construction
- Feed arrangement for cutting & Polishing
- Cooling water arrangement.
- Two models available
 - Floor mounted
 - Table mounted

This unit is designed for cutting and grinding cylindrical rock specimens upto 150mm size. The outfit includes diamond impregnated cutter (size as per model), a fine diamond impregnated grinding wheel and sample holder.

For floor mounted models, water pipe with necessary valve is provided for connecting to a source of water. For table mounted model, a water tank along with coolant pump, pipe & necessary valves is provided.

A V-Vice, to hold the sample to be cut parallel and square to the longitudinal axis is provided. To set correct length of sample, it is to be reversed and held in the same vice. A hand feed arrangement is provided to facilitate the specimen with a uniform and smooth feeding motion in floor mounted model. In table top model, provision is made for both manual & automatic feed.

Suitable for operation on 415 V, three phase, AC supply.

Ordering Information :

AIM 202	Core Cutting & Grinding Machine, 35 to 75 mm dia
AIM 202-2	Core Cutting & Grinding Machine, Table Top Model 35 mm to 150 mm dia
AIM 202-100	Core Cutting & Grinding Machine, 50 to 100 mm dia
AIM 202-150	Core Cutting & Grinding Machine, 75 to 150 mm dia



Cut off Saw for Cylindrical Rock Specimens

AIM 202-3

This unit is designed for cutting cylindrical rock specimens up to 100 mm in size. It is an electrically operated and manually feed controlled machine. The outfit includes a diamond-impregnated cutter (size as per model), a fine diamond-impregnated grinding wheel, and a sample holder. This saw cutting machine combines efficiency, durability, and safety, making it an ideal choice for cutting cores.

Features:

High-Speed Motor: The electric cutter features a motor that drives the blade at high speeds, ensuring efficient cutting.

Durable Cutting Head: The cutting head is made from high-quality carbide tool steel or tungsten carbide, providing durability and long-lasting performance. The blades are sharpened on both sides, allowing them to be used on either side without frequent blade changes.



AIM 202-3



Rotating Blade Mechanism: The cutter operates with a rotating blade that moves across the material, slicing through it precisely. The blade is mounted inside a circular housing that rotates around the material, cutting it into smaller pieces or specific shapes.

Water Arrangements: A water pipe with a necessary valve is provided for connecting to a water source, enabling wet cutting, which is 30% faster than dry cutting and reduces dust significantly.

Safety Features: The inverted blade rotation guides the tool away from the operator's body, making the cutting process safer and easier.

Suitable for operation on 220 V, 50 Hz, Single Phase, AC supply.

Ordering Information :

AIM 202-3 Cut off Saw for Cylindrical Rock Specimens up to 100mm dia

Polishing & Lapping Machine

AIM 203

Salient Features :

- Compact table model.
- 20 cm dia top and adapter to hold polishing cloth or paste.
- Sample Holders to accommodate upto NX size Cores.
- Continuous water feed arrangement during operation.

This unit is provided with a 1/4 HP, single phase, AC motor. This bench mounted, single spindle lapping machine is ideally suited for the final polishing of mounted rock or concrete specimens. This is a motor driven unit with 450/500 rpm. A swing-in tap, for continuous water supply during operation, is also provided.

Suitable for operation on 220 V, 50 Hz, Single Phase, AC supply.

The equipment consist of the following replaceable parts:

AIM 20302 Sample Holder for Ax size 2 Nos.
AIM 20303 Sample Holder for 38 mm size 2 Nos.
AIM 20304 Sample Holder for Bx size 2 Nos.
AIM 20305 Sample Holder for Nx size 2 Nos.



AIM 203

Ordering Information :

AIM 203 Polishing & Lapping Machine

Optional Accessories :

AIM 20301 Sample Holder for Ex size
AIM 20306 Abrasive Powder, coarse type
AIM 20307 Abrasive Powder, fine type
AIM 20308 Abrasive Powder, medium type

Note: Sample holders of other sizes can also be provided on request.



Rock Permeability

Miniature High Pressure Permeameter

AIM 205

This equipment is used for determining the permeability characteristics of solidified soils and rock cores.

The equipment consist of the following replaceable parts :

AIM 20501	Mould 50 mm dia x 100 mm high, with Collar	1 No.
AIM 20502	Top Plate	1 No.
AIM 20503	Base Plate with recess for Porous Stone	1 No.
AIM 20504	Pipette 6 mm x 300 mm long	1 No.
AIM 20505	Reservoir Tank. fitted with 7 kg/cm ² Gauge, Valves, Flow Control Regulator & Foot pump	1 No.
AIM 20506	Porous Stone to fit into Base Plate	1 No.

Ordering Information :

AIM 205 Miniature High Pressure Permeameter

Optional Accessories :

AIM 38106 Compressor 7 kg/cm² (Working Pressure)



AIM 205

Permeability Test

Rock Permeability Apparatus

AIM 205-1

Ref. Standard - IS 4348

High Pressure Permeability Test can be conducted on different size specimens using different cells. Each cell is made of steel and provided with a top plate and funnel at the bottom having gasket seals held in position through bolts and nuts. The concrete specimens are sealed in the cells to prevent any leakage along the side walls. The permeated water is collected in glass bottles attached at the bottom.

Each test has its own control valves. The control valves are mounted on a sturdy welded structural stand. Each unit is provided with chamber pressure gauges of 0-10 kg/cm² and test pressure gauge of 0-7 kg/cm².

Pressures are applied using any available pressure line at the site from a compressor.



AIM 205-1

Ordering Information :

AIM 205-1 Rock Permeability Apparatus, 3 cell model for 100 mm cylinder, testing pressure 7 kg/cm²

Optional Accessories

AIM 38106 Compressor 7 kg/cm² (working pressure)

Note: • The Compressor is not supplied as a part of the outfit.



Strength Index

Point Load Index Tester

AIM 206-DG-2 & AIM 206-DG-3

Ref. Standard - IS:8764

Point Load Index Tester, is used for determining the Diametral Point Load Strength Index of rock cores and irregular lumps which can be tested without any treatment. The Point Load Test is primarily an Index Test for strength classification of rock materials. This instrument is mainly intended for field measurements on rock specimen but it can also be used in the laboratory. The results of the test may also be used to predict the uniaxial compressive strength of rock from correlations. The apparatus is light and portable. It can be used in the laboratory as well as in the field.

Salient Features :

- Rock core specimens can be tested without any preparation.
- The results of the test may also be used to predict the uniaxial compressive strength of rock.
- With this instrument, a wide range of core sizes can be tested.
- The loading frame 100kN has adequate adjustments to align perfectly the loading axis passing through the centre of the bearing plates and Conical loading platens at position of the ram of the hydraulic jack.

Load Measurement Facility:

Point Load Index Tester, 2-Pillar Type, Digital, Hand Operated:

The applied load is measured and displayed by a pressure cell and digital indicator with a range of 0-100kN and a resolution of 0.01kN.

Point Load Index Tester with Inbuilt Digital Load Cell:

The applied load is measured by a high-precision electric load cell with a digital display unit with a range of 0-100kN and a resolution of 0.01kN.



AIM 206-DG-2

AIM 206-DG-3

Ordering Information :

AIM 206-DG-2 Point Load Index Tester 2 pillar type, Digital, Hand Operated, Capacity 100kN

AIM 206-DG-3 Point Load Index Tester with Inbuilt Digital Load Cell, Capacity 100kN

Brazilian Test Apparatus

AIM 207, AIM 207-DG, AIM 207E-DG, AIM 207E-MU & AIM 207E-FA

Ref. Standard – IS: 10082

The instruments is designed to test specimen of various dia having thickness equal to half of the diameter for determination of indirect tensile strength. A pair of loading jaws, designed so as to contact a disc shaped sample a diametrically opposed surface over an arc of contact of about 10 degree a failure, is supplied. The set of jaws is supplied with equipment is designed for 50 mm dia specimen and therefore it is essential to order jaws for required sizes, if the sample of other diameters are to be tested. The design emphasizes simplicity both of construction and operation and makes the machine easy to use and maintain.



AIM 207

AIM 207-DG



Rock Testing

Brazilian Test Apparatus Classification:

- Analogue model, Hand operated
- Digital Model, Hand operated
- Digital model with pace rate indicator, Electrically Operated
- Micro controller based model with automatic pace rate controller
- Fully Automatic window based model

Cat. No.	Capacity	Type of Pumping	Least Count	Piston Diameter	Piston Stroke	Horizontal Clearance	Max. Vertical Clearance
AIM 207	200 kN	Manual	1 kN	111.2	50 mm	180 mm	450 mm
AIM 207-DG	200 kN	Manual	0.1 kN	111.2	50 mm	180 mm	450 mm
AIM 207E-DG	500 kN	Electrical	0.02kN	111.2	50 mm	250 mm	435 mm
AIM 207E-MU	500 kN	Electrical	0.02 kN	111.2	50 mm	250 mm	435 mm
AIM 207E-FA	500 kN	Electrical	0.02 kN	111.2	50 mm	250 mm	435 mm

Analogue Brazilian Test Apparatus, Hand Operated Capacity 200kN

AIM 207

An integral double acting manually operated pumping unit fitted to the base of the machine and a calibrated Load Gauge fitted on the top. It has a detachable Handle. The hydraulic cylinder is placed on the base of two pillar type Loading Unit. The loads are measured on Bourdon tube type load gauges which are calibrated against certified proving rings. The load gauges are fitted with a maximum load pointer.

Digital Brazilian Test Apparatus, Hand Operated Capacity 200kN

AIM 207-DG

The apparatus is similar to AIM-207 but it is supplied with Digital Indicator (battery operated) in place of Load Gauge.

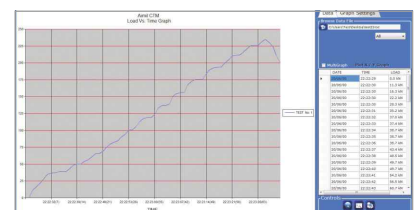
Technical specifications of digital unit:

(Data acquisition cum data logging system)

- Least count 0.1kN
- System having analog 16-bit resolution and inbuilt LCD display
- Inbuilt Real Time Clock for real time operation & display in stand - alone mode
- Windows Based Software for unloading data and generating reports
- Data download through RS232 in text, excel & csv format.
- Online & offline graphs.
- Date and time setting facility
- Clear memory facility
- Operating Power supply –12V DC
- Input Voltage Range: 0 -5 V
- Accuracy: 0.1% of full scale
- Internal storage capacity of 2MB
- RS 232 communication
- Display peak load and instantaneous load value
- Converter RS232 to USB



Digital Indicator



Offline Graph



Digital Brazilian Test Apparatus, Electrically operated, Capacity 500kN

AIM 207E-DG

The unit is compact, making it useful for site applications. The digital machines are provided with a pace rate indicator to indicate pace rate on a Bar Graph. With a little experience, the pace rate can be controlled manually while the test is in progress.

System Description

The loading frame has a fully welded construction with a top crosshead, base and solid side walls. The precision ground hydraulic piston is fixed to the base and the machine's platens are hardened, ground, and polished. Suitably sized spacers are provided as standard to accommodate a variety of different sizes of specimens. The two-speed pump allows the fast approach of the platens for daylight closure, and also allows precise control over the load application using a control lever and valve. A pace rate bar on the display gives operator feedback on the loading rate.

The controller incorporates a digital display, with values of force and stress in English/Imperial, metric, or SI units and features the integral load pacing bar display in kN/sec or lbf/sec. Maximum load is held and retained for approximately 15 minutes, unless cancelled, using the panel mounted reset switch. Results from approx. 2000 complete runs/tests can be stored in the memory and logged data can be printed directly via the built-in parallel port. The calibrated operating range of the machines is between 10% to 100% of the machine capacity, over which range the accuracy is $\pm 1\%$ of the applied load.

Enhanced Digital Indicator (EDI)

- Configurable Engineering Unit for machine selection.
- Flexible Calibration Points. Calibration can be done on 5 to 10 points.
- Peak Load, Peak Stress, Unique Record No. is displayed.
- In addition to compression, EDI has provision to configure more than one mode such as Flexure, Prism testing & Tensile Splitting strength. Each mode will have independent calibration points & calibration points are also flexible.
- Mode-4 runs with Mode-1 calibration.
- Menu Driven sample details.
- Data storage approx. 2000 records.
- Data Download through USB in ASCII format.
- User can set break point.
- Store records can be viewed & print.
- Peak stress calculation based on sample type and shape.
- Easy to operate.
- Password protection for system & calibration setup.
- 2% overload facility to calibrate the machine upto full capacity.
- Start, Stop, Pause & Reset.
- Multifunction Keyboard.
- Automatic Pace rate control to set value
- Auto close / release of Dump Valve.
- Communication with Aimil Horizon thru USB
- Machine can be operated with software through computer
- In-built SMPS to ensure constant voltage to digital indicator.



AIM 207E-DG

Mu Brazilian Test Apparatus, Capacity 500kN

AIM 207E-MU

Operation of a Micro Controller based Brazilian Test Apparatus is controlled by an intelligent Pace Rate Controller. This facilitates Automatic Pace Rate Control, Data Logging, Data Printing, Load Hold etc. It has a full 3 term PID feedback control which uses a high torque Stepper Motor.

It consists of a Loading Unit, an Electrically Operated Hydraulic Pump & an Intelligent Pace Rate Controller.

Micro Controller based Brazilian Test Apparatus is available in 500kN capacity. In addition to all the features of Brazilian Test Apparatus with digital display, this machine has automatic pace rate control with the facility of data logging, storage & printing for analysis. The operation of the machine is detailed in the operating manual supplied with the machine. The operation is user friendly with a menu driven interface and prompts for an operator.



Rock Testing

System Description

The loading frame has a fully welded construction with a top crosshead, base, and solid side walls with the precision ground hydraulic piston fixed to the base. The machine's platens are hardened, ground, and polished, suitably sized spacers to accommodate a variety of different sizes of specimen. The two speed pump allows the fast approach of the platens, for daylight closure, and also allows the automatic, precise control over the load application; a pace rate bar on the display gives operator feedback on the loading rate.

The controller incorporates a four line digital display and features the integral load pacing bar display, maximum load and stress result display, parallel port output, and USB output. Results from approximately 2000 completed tests can be stored in the memory and these results can be in Imperial/English, Metric, or SI units. The calibrated operating range of the machines is from 10% to 100% of the machine capacity, over which range the accuracy is +/- 1% of the applied load.

Enhanced Digital Indicator (EDI)

- Configurable Engineering Unit for machine selection.
- Flexible Calibration Points. Calibration can be done on 5 to 10 points.
- Peak Load, Peak Stress, Unique Record No. is displayed.

- In addition to compression, EDI has provision to configure more than one mode such as Flexure, Prism testing & Tensile Splitting strength. Each mode will have independent calibration points & calibration points are also flexible.
- Mode-4 runs with Mode-1 calibration.
- Menu Driven sample details.
- Data storage approx. 2000 records.
- Data Download through USB in ASCII format.
- User can set break point.
- Store records can be viewed & print.
- Peak stress calculation based on sample type and shape.
- Easy to operate.
- Password protection for system & calibration setup.
- 2% overload facility to calibrate the machine upto full capacity.
- Start, Stop, Pause & Reset.
- Multifunction Keyboard.
- Automatic Pace rate control to set value
- Auto close / release of Dump Valve.
- Communication with Aimil Horizon thru USB
- Machine can be operated with software through computer
- In-built SMPS to ensure constant voltage to digital indicator.

Fully Automatic Brazilian Test Apparatus

AIM 207E-FA

Aimil Brazilian Test Apparatus is a fully automated version of the manual/ semiautomatic Brazilian Test Apparatus. The Machine is available in 500kN capacity. Machine can be operated as a standalone with EDI as well as with Aimil Brazilian software installed in a Desktop PC or Laptop. When Machine is operated with software then all operation relating to machine control and functioning is done thru software only. It has provision for automatically turning the pump on and off, controlling the set pace rate and switching the machine off under predetermined conditions. The Control releases the pressure at the end of every run and reinitializes the machine at the end of every test. The pace rate is maintained by means of PID control using high torque stepper motors and driver sets. EDI controls the machine and gives the appropriate command based on requirements.

Loading Unit: The Loading unit is of fully welded construction having a cross head, base and solid side plates. A hydraulic jack is fixed to the base. The platens of the machine are hardened, ground and polished. To facilitate testing of various size specimens, suitable size spacers are provided.

Pumping Unit: This has a 0.5 hp, 1 Ph., 220V AC motor driven two-speed hydraulic pump and a bonded strain gauge based Pressure transducer.

Enhanced Digital Indicator (EDI)

- Configurable Engineering Unit for machine selection.
- Flexible Calibration Points. Calibration can be done on 5 to 10 points.
- Peak Load, Peak Stress, Unique Record No. is displayed.
- In addition to compression, EDI has provision to configure more than one mode such as Flexure, Prism testing & Tensile Splitting strength. Each mode will have independent calibration points & calibration points are also flexible.
- Mode-4 runs with Mode-1 calibration.
- Menu Driven sample details.
- Data storage approx. 2000 records.
- Data Download through USB in ASCII format.
- User can set break point.
- Store records can be viewed & print.
- Peak stress calculation based on sample type and shape.
- Easy to operate.
- Password protection for system & calibration setup.
- 2% overload facility to calibrate the machine upto full capacity.
- Start, Stop, Pause & Reset.
- Multifunction Keyboard.
- Automatic Pace rate control to set value
- Auto close / release of Dump Valve.



- Communication with Aimil Horizon thru USB
- Machine can be operated with software through computer
- In-built SMPS to ensure constant voltage to digital indicator.

Electronic Hardware

- The compression testing machine is fully controlled by IBM or IBM compatible personal computer running under Microsoft Windows operating System
- The Pump control is facilitated thru PID controlled EDI. EDI is connected to PC thru USB
- Displacement Measuring device interface is available for Strain measurements (Optional)
- Machine hardware is easily configurable through software, making the field upgradation easy i.e., a Standard Compression machine can easily be upgraded to Compression plus flexure or Compression plus Flexure plus Split Tensile or for that matter two Compression frames of different Capacities
- An intuitive and easy to use Graphical User Interface
- Login and Access control
- Online help file
- Multiple calibration files for different machine configuration
- Least count of 0.002kN – 0.2kN based on machine capacities

The software also provides below Functions to the Operator

Software:

Aimil recognize that the most efficient way to testing way of testing is with the help of software and the ease of its operation. The Aimil Test Software has been ergonomically designed to suit the various needs of the customers as per their requirements and operation of the software is extremely user friendly and the features are self-explanatory

Features:

- Load vs Time graph
- Data backup and restored facilities are available
- The default report is generated automatically, in crystal reports and can be printed directly. The report can be exported to Excel and PDF format
- It provides the data acquisition in real time throughout the test execution up to the specimen failure

Test Screen:

The enhanced display of the test screen displays the value of the Load, Peak Load, Stress, and the online graph as it is generated during tests. The selection of the scale on graph enables you to view the graph more prominently on the screen. The test screen incorporates the results of the normal Load Vs Time, Stress Vs Time, Axial strain vs Lateral expansion (configurable) online graphical view simultaneously, a unique facility on its own.

Computer System (optional)

Minimum Recommended Computer Hardware

- 2 GHz Pentium Dual Core or equivalent
- 4 GB RAM, although using multiple testing machines may require addition memory or/and a faster processor
- 32- or 64-bit operating system type.
- 500 GB HD Drive
- Mouse or pointing device and keyboard supported by windows
- Monitor that support at least 1024 x 768 resolution.
- Min. 2 USB Serial Port
- Window compatible printer recommended for reporting capabilities

Ordering Information :

AIM 207	Brazilian Test Apparatus, Capacity 200kN Hand Operated
AIM 207-DG	Digital Brazilian Test Apparatus, Capacity 200kN Hand Operated
AIM 207E-DG	Digital Brazilian Test Apparatus, Capacity 500kN Electrically Operated
AIM 207E-MU	Mu Brazilian Test Apparatus with Automatic Pace Rate Controller, Capacity 500kN
AIM 207E-FA	Fully Automatic Brazilian Test Apparatus Windows Based, Capacity 500kN

Optional Accessories :

AIM 20704	Pair of Jaws for 60mm dia samples
AIM 20704	Pair of Jaws for 70mm dia samples
AIM 20704	Pair of Jaws for 80mm dia samples
AIM 20704	Pair of Jaws for 90mm dia samples
AIM 20704	Pair of Jaws for 100mm dia samples



Slake Durability Apparatus

AIM 208



AIM 208

Ref. Standard : IS : 10050

- For determination of resistance offered by rock to weathering and disintegration when subjected to immersion in water.
- Facility to test upto four sets of samples.
- Quick couplings for assembly and removal of drums.

The apparatus consists of a motor on base board capable of driving two or more drums at a speed of 20 rpm. A suitable number of plastic water troughs, each designed to contain a test drum with quick release drive assemblies, permit 1 to 4 drums to be driven at one time. The test drums are supported on water lubricated bearings allowing 40 mm unobstructed clearance below the drum and a trough water level 20 mm below the axis of the drum. Drums are made of brass and comprise 2 mm wire mesh cylinders of 140 mm dia and 100mm length.

Suitable for operation on 220 V, 50 Hz, Single Phase, AC supply.

The equipment consist of the following replaceable parts :

Base Board with Motor Drive assembly with two/four drum and tank assemblies.

Ordering Information :

AIM 208 Slake Durability Apparatus with 2 drum & tank assemblies

AIM 208-1 Slake Durability Apparatus with 4 drum & tank assemblies

AIM 208-2 Slake Durability Apparatus with 2 drum & tank assemblies with Digital Timer

AIM 208-3 Slake Durability Apparatus with 4 drum & tank assemblies with Digital Timer

Optional Accessories :

AIM 20801 Pair of Drums & Tank Assemblies including coupling to enable upto 4 test drums to be driven at a time

AIM 20802 Digital Timer, 0-30 Minute

Cerchar Rock Abrasiveness Test Apparatus

AIM 209

Rock Abrasiveness Test Apparatus:

Ref. Standard - IS 8764 & ASTM D7625-10

Measurement apparatus for determination of rock abrasiveness as specified by the Cerchar test and as per ASTM D7625-10.

- Accurate scratch distance control ≥ 10 mm with 0.01 mm precision
- Smooth and easy application of required 70 N normal force on indenter as per Cerchar test specifications
- Specimens with maximum width/diameter of 76 mm and 150 mm height can be fixed
- Specimens of irregular dimensions can also be fixed
- Rock holding vice with jaws for firm no-slip grip during the test. The instrument consists of double walled armored heating & corrosion resistance, Temperature Regulator, Glass container, Safety Controller & Carriage Electric Motor

Specification:

Indenters for Rock abrasiveness test apparatus – sharp steel indenters with hardness of 55HRC & 90 deg. cone angle



Ordering Information :

AIM 209 Cerchar Rock Abrasiveness Test Apparatus

Note: Microscope for Rock Abrasiveness Test can be supplied on request



Load Frame, Motorised, 12 Speeds, 200kN

AIM 065

Salient Features :

- Two pillar type
- Enclosed motor and Gear System
- Operational ease
- Jewel lamps indicating direction of motion

The Load Frame is extremely versatile and designed to conduct triaxial shear test on soil and rock specimens.

The instrument consists of a cabinet which houses the gear system and motor with sturdy angle iron frame. The loading is done through the bottom loading platen, which is carried on a lead screw which advances upwards. The top load bracket, which slides over two upright pillars, can be positioned at any desired height and locked. It carries a screw adaptor for standard Proving Rings or Load Cells.

The loading part of the unit is detachable from the main unit for ease of transport and to avoid damage to the tension rods.

Rates of Strain: 12 fixed speeds between 1.25 and 0.0064 mm/min.

Suitable for operation on 415 V, 50 Hz, 3 phase, AC supply.



AIM 065

Load Frame, Motorised, 12 Speeds, 500kN

AIM 066

Salient Features :

- Two pillar type
- Operational ease
- Enclosed motor and Gear System
- Jewel lamps indicating direction of motion

The Load Frame is designed for conducting triaxial shear tests on rock specimens, but its use can be extended to any field where there is a requirement of the rates of strain of this load frame to be applied. This load frame gives a choice of twelve rates of strain from a maximum of 5 mm/min to 0.000125 mm/min.

It consists of a cabinet housing the electric motor, reduction gear and the turret gear box. Two pillars are fitted on the base over the cabinet. The load is applied by advancement of a lead screw. A suitable adapter is provided for fixing a 500 kN capacity proving ring which is supplied at extra cost. This load frame has a platen of about 25 cm dia to house the high pressure Triaxial Cell for testing rock specimens.

Suitable for operation on 415 V, 50 Hz, 3 Phase, AC supply.

Cat. No.	AIM 065	AIM 066
Capacity	200 kN	500 kN
Types of Operation	Electrical-cum manual	Electrical-cum manual
Rates of Strain mm/min	Twelve Rates 0.0064 to 1.25mm/min	Twelve Rates 0.0001 to 5mm/min
Horizontal Clearance	300 mm	545 mm
Vertical clearance	750 mm	1200 mm
Maximum Platen dia	198 mm	250 mm
Maximum Platen Travel	100 mm	160 mm
Specimen dia	38 to 100 mm	
Application	Triaxial Test on Unconfined rocks, Unconfined Compression Test	Routine tests on Rocks medium Unconfined on & coarse grained stabilized soil

Ordering Information :

AIM 065 Load Frame, Motorised, 12 speeds, 200 kN

AIM 066 Load Frame, Motorised, 12 speeds, 500 kN



AIM 066



Rock Testing

Triaxial Cells

AIM 211 & AIM 212

Ref. Standard: IS 13047-1991

These cells are designed to withstand a lateral pressure of 150 bar (150 kg/cm²). Four no-volume change valves are fitted to the base for measurement of pore pressure, top drainage, bottom drainage and for entry/exit of cell pressure. The cell is nickel plated and completely rust-proof, hardened and ground pedestals and top loading pads with suitable centering arrangements for different sample sizes are provided. The lower pedestals are provided with radial grooves. The top loading pad is provided with spherical seating.



AIM 211

Ordering Information :

AIM 211 Triaxial Cell For testing of samples of BX & NX

AIM 212 Triaxial Cell For testing samples of 75mm dia & 150mm H, 100mm dia & 200mm H, 150mm dia & 150mm H

Hoek Cell

AIM 211 (EX, AX, BX, NX, 38, BQ, NQ & HQ)



AIM 211-AX

Hoek Cells are designed for Testing Triaxial strengths of Rock or Concrete samples upto a Pressure of 70MPa. These are designed to accept sample of various sizes of rocks.

Tests carried out on a series of samples under different confining pressures allow the user to determine:

- Strength & Elastic properties
- Shear strength at different confining pressures
- Angle of Shearing Resistance & Cohesion
- Modulus of Elasticity & Poisson's Ratio

Testing of Samples with Hoek Cells is much simpler & convenient as compared to conventional Cells. Cell comprises a Steel body having top & bottom caps screwed on to the main body. A urethane rubber sleeve incorporating U-shaped seals to form a pressurization chamber for the hydraulic fluid is mounted within the cell.

Plunger & Spherical seat - duly hardened & ground are provided for self alignment & application of axial load

Features:

- Suitable for Triaxial Testing of Rock & Concrete
- Pressure upto 70MPa
- Simple to use as compared to conventional Cells

Model No.	Nominal Conventional Size	Specimen dia	Wt
AIM 211-EX	EX	22mm	9 kg
AIM 211-AX	AX	30mm	9 kg
AIM 211-BX	BX	42mm	12 kg
AIM 211-NX	NX	55mm	15 kg
AIM 211-38	-	38mm	12 kg
AIM 211 – BQ	BQ	36.5mm	9 Kg
AIM 211 – NQ	NQ	47.6mm	14 Kg
AIM 211 – HQ	HQ	63.5mm	19 Kg



Ordering Information :

AIM 211 - EX	Hoek Cell for Triaxial Testing of Rock Samples EX size
AIM 211 - AX	Hoek Cell for Triaxial Testing of Rock Samples AX size
AIM 211 - BX	Hoek Cell for Triaxial Testing of Rock Samples BX size
AIM 211 - NX	Hoek Cell for Triaxial Testing of Rock Samples NX size
AIM 211 - 38	Hoek Cell for Triaxial Testing of Rock Samples dia 38 mm
AIM-211-BQ	Hoek Cell for Triaxial Testing of Rock Samples BQ size
AIM-211-NQ	Hoek Cell for Triaxial Testing of Rock Samples NQ size
AIM-211-HQ	Hoek Cell for Triaxial Testing of Rock Samples HQ size

Constant Pressure System for Rocks

AIM 213 & AIM 213-1

The apparatus is designed to provide confining pressure upto 160 Bar to triaxial cells.

The system consists of an oil pump, continuously driven by an electric motor during the entire period of operation to maintain the desired pressure.

The unit provides continuous variable pressure upto 160 Bar, which can be increased or decreased, simply by turning a control knob.

Supplied complete with pressure gauge, flow valves and connecting pressure hose.

Range	: 0-160 kg/cm ² .
Steps of Pressure	: 1 kg/cm ² .
Accuracy	: $\pm 1\%$ of Indicated Load.

Suitable for operation on 220 V, 50 Hz, single phase, AC supply.



AIM 213

Ordering Information :

AIM 213	Analogue Constant Pressure System for Rocks - 160 kg/cm ²
AIM 213-1	Analogue Constant Pressure System for Rocks - 400 kg/cm ²

Digital Constant Pressure System 700kg/cm²

AIM 213-DG-2

- Max oil delivery: 3.5 lpm.
- Oil tank capacity: more than 50 liters.
- Hydraulic ports for connection of test frames
- Oil flow control via servo-controlled proportional valve
- Operating temperature range for servo valve: -20°C to 50°C
- Burst pressure: 150 % max supply pressure
- External leakage : Zero
- Hysteresis should not be more than 3.0%
- Threshold should not be less than 0.5%
- Supply Pressure: Constant
- Working Pressure : 700 Bar
- Suitable for operation on 220 V, 50 HZ Single phase, AC supply.

Ordering Information :

AIM 213-DG-2	Digital Constant Pressure System 700kg/cm ²
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AIM 213-DG-2



Rock Testing

Electronic Kit for Rock Triaxial Test

AIM 214

This double channel electronic outfit is designed for direct reading of load and pore pressure in rock samples.

This plug-in transducer module system facilitates easy installation and quick observation of readings.

The equipment consist of the following replaceable parts :

AIM 21401 Load Cell

Capacity : 500 kN
Resolution : 0.1 kN
Load Cell Excitation : 7.5 V DC
Sensing Element : Strain gauges in full bridge configuration

AIM 21402 Pore Pressure Transducer

Capacity : 200 bar
Resolution : 0.1 bar
Pressure Cell Excitation : 7.5 V DC
Sensing Element : Strain gauges in full bridge configuration

AIM 21403 Digital Indicator

Mode of Display : Micro controller multi line alpha numeric VFD display for all simultaneous channel (No need for channel selection)

No. of Channels : Two

Suitable for operation on 220 V, 50 Hz, single phase, AC supply.



AIM 214

Ordering Information :

AIM 214 Electronic Kit for Rock Triaxial Test

Rock Triaxial Test System

Ref: Standard IS : 13047-1991

The strength, of most rocks, increases considerably with increase of confining pressure. The design engineer needs to carry out triaxial tests at a range of confining pressures, in order to determine the strength at the required confining pressure. To suit individual requirements, a wide range of instruments listed below is offered.

The apparatus consists of the following parts :

- Load Frame
- Triaxial Cell
- Constant Pressure System
- Digital Triaxial Kit with or without DAQ controller chip
- Analysis Software





Constituents of Rock Triaxial Test System:

Cat No.	AIM 215	AIM 216	AIM 218
Sample Size	BX & NX	75 dia x 150 (H), 100 dia x 200 (H) & 150 dia x 150 (H)	75 dia x 150 (H), 100 dia x 200 (H) & 150 dia x 150 (H)
Triaxial Cell	AIM 211	AIM 212	AIM 212
Load Frame	AIM 066	AIM 066	AIM 066
Constant Pressure System	AIM 213	AIM 213	AIM 213-1
Triaxial Electronic System	AIM 214	AIM 214	AIM 214

Note: Triaxial Cell for 150φ x 300 (H) Can be Supplied on request.

Ordering Information :

AIM-215	Rock Triaxial Test System for BX & NX samples- 160kg/cm ²
AIM-216	Rock Triaxial Test System for 75, 100 & 150 mm dia samples- 160kg/cm ²
AIM-218	Rock Triaxial Test System for 75, 100 & 150 mm dia samples- 400 kg/cm ² capacity

Micro Controller Based Rock Static Triaxial System

AIM 219Mu-1-NX, AIM 219Mu-2-NX, AIM 219Mu-3-NX & AIM 219Mu-4-NX

Ref. Standard: IS 13047

Aimil Series of Micro Controller based Rock Static Triaxial Cum Unconfined Compressive Strength System are the finest of their types available. Operation of a Micro Controller based Rock Static Triaxial Cum Unconfined Compressive Strength System is controlled by an intelligent Pace Rate Controller. This facilitates Automatic Pace Rate Control, Data Logging, Data Printing, Load Hold etc. It has a full 3 term PID feed back control which uses a high torque Stepper Motor.

It consists of a Loading Unit, an Electrically Operated Hydraulic Pump & an Intelligent Pace Rate Controller.

Micro Controller based Rock Static Triaxial Cum Unconfined Compressive Strength System is available in all models from 500kN to 3000kN capacity. In addition to all the features of Rock Static Triaxial Cum Unconfined with digital display, this machine has automatic pace rate control with the facility of data logging, storage & printing for analysis. The operation of the machine is detailed in the operating manual supplied with the machine. The operation is user friendly with a menu driven interface and prompts for an operator.

Applications

- Tri-axial Strength of Rock Specimens
- Unconfined Compressive Strength of Rock Specimens
- Young's modulus of Rock Specimen
- Poisson's Ratio of Rock Specimens

The system consists of the following:

1) Uniaxial Compression Loading Frame





Rock Testing

Capacity kN	Maximum clearance between plates mm	Maximum distance between side mm	Platen Size plates mm	Piston diameter mm	Piston Stroke mm
500	435	260	140.0 square	111.2	50
1000	390	260	222.2 dia	157.0	50
2000	370	340	222.2 dia	222.2	50
3000	400	400	310.0 dia	272.2	50

- Suitable for sample sizes (Cylinder) EX, AX, BX & NX
- The loading frame is be fully welded construction with a top crosshead, base, and solid side plates
- Precision ground hydraulic piston fixed to the base.
- The machine's platens are hardened, ground, and polished
- The upper platen is with self-aligning action
- Metal door with a Perspex window should be available for Operator's safety, if required
- Spacers for adjustment of the test height of the sample

2. Hydraulic Pumping Unit

The two speed pump allows the fast approach of the platens, for daylight closure, and also allows the automatic, precise control over the load application; a pace rate bar on the display gives operator feedback on the loading rate.

Suitable for operation on 220 V/230 V, Single phase, 50 Hz, AC supply.

3. Digital Hydraulic constant pressure system

- Working Pressure :700 Bar
- Max oil delivery:25 lpm.
- Oil tank capacity: more than 50 liters.
- Oil flow control via servo-controlled proportional valve
- Oil water cooling with forced ventilation
- Operating temperature range for servo valve: -20°C to 50°C
- Burst pressure:250 % max supply pressure
- External leakage: Zero
- Hysteresis not be more than 3.0%
- Threshold not be less than 0.5%
- Supply Pressure: Constant
- 3 HP, 3 Phase 440V AC supply

4. Triaxial Hoek Cell

Hoek Cells are designed for Testing Triaxial strengths of Rock or Concrete samples up to a Pressure of 70MPa.

Available in the following sizes:

- Ex, Ax, Bx & Nx Tests carried out on a series of samples under different confining pressures allow the user to determine:
 - Strength & Elastic properties
 - Shear strength at different confining pressures
 - Angle of Shearing Resistance & Cohesion
 - Modulus of Elasticity & Poisson's Ratio



Testing of Samples with Hoek Cells is much simpler & convenient as compared to conventional Cells. Cell comprises a Steel body having top & bottom caps screwed on to the main body. A urethane rubber sleeve incorporating U-shaped seals to form a pressurization chamber for the hydraulic fluid is mounted within the cell.

Plunger & Spherical seat - duly hardened & ground are provided for self alignment & application of axial load

Features:

- Suitable for Triaxial Testing of Rock & Concrete Core.
- Pressure up to 70 Mpa.
To Measure Angle of Shearing Resistance & Cohesion

Accessories:

- Quick Release Couple (Non – Return Valve) – 2 Nos.
- Hoek Cell Stand – 1 No.
- Setting Tools – 2 Nos.
- Open & Close Handle for Cap – 1 No.

5. Consumables

- Strain Gauges Disposable Type
- Urethane Rubber sleeves

6. Hardware and controlling Unit



- The controller incorporates a four line digital display and features the integral load pacing bar display, maximum load and stress result display, parallel port output, and USB output. Results from approximately 2000 completed tests can be stored in the memory and these results can be in Imperial/English, Metric, or SI units. The calibrated operating range of the machines is from 10% to 100% of the machine capacity, over which range the accuracy is +/- 1% of the applied load.
- Working range of load control as per below table:

Machine Capacity	Maximum Loading Rate	Minimum Loading Rate
500 kN	7 kN/sec	0.3 kN/sec
1000 kN	10 kN/sec	0.5 kN/sec
2000 kN	10 kN/sec	0.8 kN/sec
3000 kN	12 kN/sec	1 kN/sec

- Control Mode: Load Control
- Automatic Pace Rate Control at a preset value.
- Pace deviation bar graph.
- Automatic stress determination and display.
- Overload safety protection.
- Self aligning platen with fast accessory change capability.
- Peak Load, Peak Stress, Unique Record No. is displayed.
- Data storage approx 2000 records.
- In-built SMPS to ensure constant voltage to digital indicator.
- Data Download through USB in ASCII format.
- User can set break point.
- Store records can be viewed & print.
- Peak stress calculation based on sample type and shape.
- Easy to operate.
- Password protection for system & calibration setup.
- 2% overload facility to calibrate the machine upto full capacity.
- Start, Stop, Pause & Reset.
- Multifunction Keyboard
- Over travel safety protection

7. Data Acquisition system (8 Channel)

- Robust, stand alone with 16-bit resolution and inbuilt LCD Display
- 2MB internal storage capacity
- Keypad for datalogger configuration
- Configurable windows-based software
- Capable for displaying different parameters in different channels Simultaneously.
- Power supply 230 V 50 Hz
- RS 232 Communication

Ordering Information :

AIM 219Mu-1-NX	Mu Rock Static Tri-axial System capacity 500kN for NX size sample
AIM 219Mu-2-NX	Mu Rock Static Tri-axial System capacity 1000kN for NX size sample
AIM 219Mu-3-NX	Mu Rock Static Tri-axial System capacity 2000kN for NX size sample
AIM 219Mu-4-NX	Mu Rock Static Tri-axial System capacity 3000kN for NX size sample

Optional Asscessories

AIM-211-38	Hoek Cell for Triaxial Testing of Rock Samples of exact dia 38 mm
AIM 211-EX	Hoek Cell for Triaxial Testing of Rock Samples of exact EX size
AIM-211-AX	Hoek Cell for Triaxial Testing of Rock Samples of exact AX size
AIM-211-BX	Hoek Cell for Triaxial Testing of Rock Samples of exact BX size
AIM-211-NX	Hoek Cell for Triaxial Testing of Rock Samples of exact NX size

Note 1: The Instrument can be customised as per Customer requirement

Note 2: Consumables can be provided on extra cost.



Automatic Rock Static Triaxial System

AIM 223FA-1-NX, AIM 223FA-2-NX, AIM 223FA-3-NX & AIM 223FA-4-NX



Ref. Standard: IS 13047

Aimil Rock Static Triaxial Cum Unconfined Compressive Strength System is automated version. The Machine is available from 500kN to 3000kN range. Machine can be operated as a standalone with EDI as well as with Aimil software installed in a Desktop PC or Laptop. When Machine is operated with software then all operation relating to machine control and functioning is done thru Aimil Software only. It has provision for automatically turning the pump on and off, controlling the set pace rate and switching the machine off under predetermined conditions. The Control releases the pressure at the end of every run and reinitializes the machine at the end of every test. The pace rate is maintained by means of PID control using high torque stepper motors and driver sets. EDI controls the machine and gives the appropriate command based on requirements. The load resolution varies from 0.002kN – 0.2kN based on Machine Capacity.

Applications

- Tri-axial Strength of Rock Specimens
- Unconfined Compressive Strength of Rock Specimens
- Young's modulus of Rock Specimen
- Poisson's Ratio of Rock Specimens

The system consists of the following:

1. Uniaxial Compression Loading Frame

- Suitable for sample sizes (Cylinder) Ex, Ax, Bx & Nx
- The loading frame is be fully welded construction with a top crosshead, base, and solid side plates
- Precision ground hydraulic piston fixed to the base.

Capacity kN	Maximum clearance between plates mm	Maximum distance between side plates mm	Platen Size mm	Piston diameter mm	Piston Stroke mm
500	435	260	140.0 square	111.2	50
1000	390	260	222.2 dia	157.0	50
2000	370	340	222.2 dia	222.2	50
3000	400	400	310.0 dia	272.2	50



- The machine's platens are hardened, ground, and polished
- The upper platen is with self-aligning action
- Metal door with a Perspex window should be available for Operator's safety, if required
- Spacers for adjustment of the test height of the sample

2. Hydraulic Pumping Unit

This has a 0.5 hp, 1 Ph, 220V AC motor driven two-speed hydraulic pump and a bonded strain gauge based Pressure transducer.

Suitable for operation on 220 V/230 V, Single phase, 50 Hz, AC supply.

3. Digital Hydraulic constant pressure system

- It is controlled by digital indicator
- Working Pressure :700 Bar
- Max oil delivery:25 lpm.
- Oil tank capacity: more than 50 liters.
- Oil flow control via servo-controlled proportional valve
- Oil water cooling with forced ventilation
- Operating temperature range for servo valve: -20°C to 50°C
- Burst pressure:250 % max supply pressure
- External leakage: Zero
- Hysteresis not be more than 3.0%
- Threshold not be less than 0.5%
- Supply Pressure: Constant
- 3 HP, 3 Phase 440V AC supply

4. Triaxial Hoek Cell

Hoek Cells are designed for Testing Triaxial strengths of Rock or Concrete samples upto a Pressure of 70MPa.

Available in the following sizes:

- Ex, Ax, Bx & Nx Tests carried out on a series of samples under different confining pressures allow the user to determine:
 - Strength & Elastic properties
 - Shear strength at different confining pressures
 - Angle of Shearing Resistance & Cohesion
 - Modulus of Elasticity & Poisson's Ratio



Testing of Samples with Hoek Cells is much simpler & convenient as compared to conventional Cells. Cell comprises a Steel body having top & bottom caps screwed on to the main body. A urethane rubber sleeve incorporating U-shaped seals to form a pressurization chamber for the hydraulic fluid is mounted within the cell.

Plunger & Spherical seat - duly hardened & ground are provided for self alignment & application of axial load

Features:

- Suitable for Triaxial Testing of Rock & Concrete Core.
- Pressure up to 70 Mpa.
- To Measure Angle of Shearing Resistance & Cohesion

Accessories:

- Quick Release Couple (Non – Return Valve) – 2 Nos.
- Hoek Cell Stand – 1 No.
- Setting Tools – 2 Nos.
- Open & Close Handle for Cap – 1 No.

5. Consumables

- Strain Gauges Disposable Type
- Urethane Rubber sleeves

6. Hardware and controlling Unit

- Working range of load control as per below table:

Machine Capacity	Maximum Loading Rate	Minimum Loading Rate
500 kN	7 kN/sec	0.3 kN/sec
1000 kN	10 kN/sec	0.5 kN/sec
2000 kN	10 kN/sec	0.8 kN/sec
3000 kN	12 kN/sec	1 kN/sec



Rock Testing

- The Pump control is facilitated thru PID controlled EDI
- Machine hardware is easily configurable through software
- An intuitive and easy to use Graphical User Interface
- Login and Access control
- Online help file
- Configurable Engineering Unit for machine selection.
- Predefined Machine capacities for each engineering unit. Specific capacity can be selected from the drop down menu.
- Peak Load, Peak Stress, Unique Record No. is displayed.
- Data storage approx 2000 records.
- Data Download through USB in ASCII format.
- User can set break point.
- Store records can be viewed & print.
- Peak stress calculation based on sample type and shape.
- Easy to operate.
- Password protection for system & calibration setup.
- 2% overload facility to calibrate the machine upto full capacity.
- Start, Stop, Pause & Reset.
- Multifunction Keyboard.
- Automatic Pace rate control to set value
- Auto close / release of Dump Valve.
- Communication with Aimil thru USB
- Machine can be operated with software through computer

7. Data Acquisition system (8 Channel)

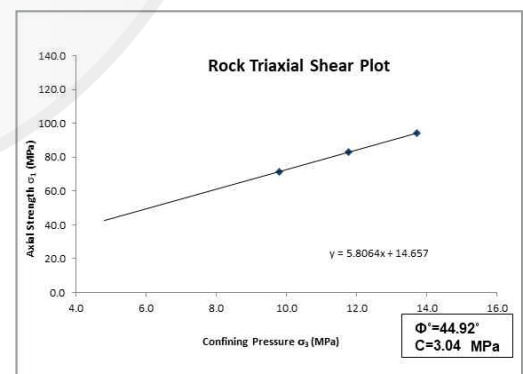
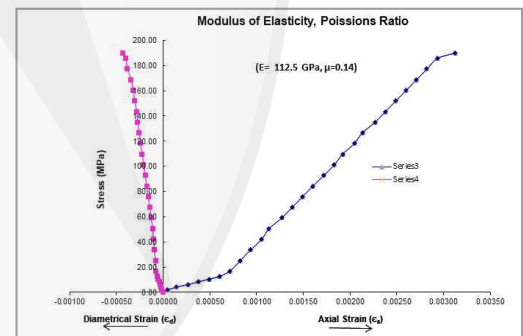
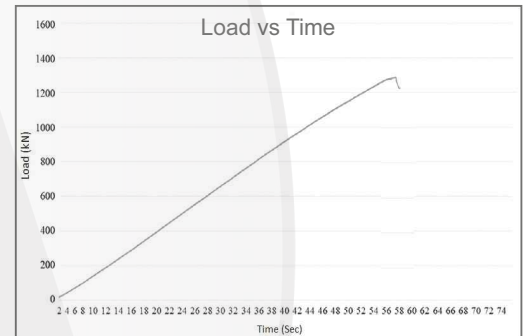
- Robust, stand alone with 16-bit resolution and inbuilt LCD Display
- 2MB internal storage capacity
- Keypad for datalogger configuration
- Configurable windows-based software
- Capable for displaying different parameters in different channels Simultaneously.
- Power supply 230 V 50 Hz
- RS 232 Communication

8. Aimil Control Software

- Software has facility for On-line display of Load v/s Time
- Unconfined Compression Test
- Compression with strain gauges indicator attachment
- Scale setting facility for graph of Load, Stress, Time, Axial expression, Axial strain, Lateral expansion, Lateral strain, Strain.
- Show all graph along with related data.
- Graph available with us: Load Vs Time, Load Vs stress, Stress Vs Time, Axial strain Vs Lateral Strain, Axial expression Vs Lateral Expansion (configurable).
- Has facility to monitor the data of channels
- Programmable Loading parameters – (load) etc
- Facility for programmable Safety limits for each load
- Menu driven s/w for sensor configuration
- Saving and retrieving set ups
- Facility for able to define test sequences
- Labels of channels are configurable
- Feature of setting the limits (both lower & upper) for all the channels
- The setting of limits of channels shall be of user programmable in nature
- Facility to save the data after the test, database backup and restore
- Report in excel & PDF for storing the data.
- Facility for Storing of each channel data by user defined file/directory and opened in Excel and Analysis Software.
- Flexible logging rate and data export scheme
- Capable of displaying the acquired data in the form of graphs as well as digital display
- Generates graphs in effective mode

9. Data Analysis software for Rock Triaxial and Unconfined Compressive strength testing

- User friendly
- Manage project information
- manage sample information
- Manual Data entry





- Saves data in specific project file for future use
- Open project file in application
- Display Value of Unconfined Compressive strength
- Print report
- Automatic calculation
- Automatic draw graph
- Display Value of c & ϕ

10. Minimum Recommended Computer Hardware

- Ethernet based
- 2 GHz Pentium Dual Core or equivalent
- 4 GB RAM, although using multiple testing machines may require addition memory or / and a faster processor
- 32- or 64-bit operating system type.
- 500 GB HD Drive
- Mouse or pointing device and keyboard supported by windows
- Monitor that support at least 1024 x 768 resolution
- Min. 2 USB Serial Port
- Window compatible printer recommended for reporting capabilities

USB Port

- Additional ports required if using RS232/USB adapters to communicate with machines
- Additional ports for required measuring devices, barcode scanners, etc
- Mouse or pointing device and keyboard supported by Windows

Monitor

- 32-bit color
- 1600 x 900 (Widescreen) or higher
- Windows compatible printer (for reporting capabilities)
- Windows compatible sound card and speakers (for audio playback)
- An active Internet connection (for team viewer use and help desk support)

Software Requirements

- The Aimil Software's are designed for 32-bit & 64-bit operating systems running Windows 7, Windows 8 or Windows 10. It does Not support Windows XP and below.
- Internet Explorer 8 or higher

Ordering Information :

AIM 223FA-1-NX	Automatic Rock Static Triaxial System 500kN for NX size sample
AIM 223FA-2-NX	Automatic Rock Static Triaxial System 1000kN for NX size sample
AIM 223FA-3-NX	Automatic Rock Static Triaxial System 2000kN for NX size sample
AIM 223FA-4-NX	Automatic Rock Static Triaxial System 3000kN for NX size sample

Optional Asscessories

AIM-211-38	Hoek Cell for Triaxial Testing of Rock Samples of exact dia 38 mm
AIM 211-EX	Hoek Cell for Triaxial Testing of Rock Samples of exact EX size
AIM-211-AX	Hoek Cell for Triaxial Testing of Rock Samples of exact AX size
AIM-211-BX	Hoek Cell for Triaxial Testing of Rock Samples of exact BX size
AIM-211-NX	Hoek Cell for Triaxial Testing of Rock Samples of exact NX size

Note 1: Computer can be provided on request at extra cost.

Note 2: The Instrument can be customised as per Customer requirement

Note 3: Consumables can be provided on extra cost.



Rock Testing

Servo Control Rock Static Triaxial System (Load Control)

AIM 224FA-1-NX, AIM 224FA-2-NX, AIM 224FA-3-NX & AIM 224FA-4-NX



Ref. Standard: IS 13047

Aimil Series of Servo Motor Based Controlled Rock Static Triaxial Cum Unconfined Compressive Strength System are the finest of their types available. The rugged construction and extreme simplicity make it possible for personnel with minimum Training to operate them with ease and complete dependability. This system is a fully automated version and having provision for stress & strain-controlled loading. This system is available in 500kN to 3000kN ranges. It has provision for automatically turning the pump on and off, controlling the set pace rate/displacement rate and switching the machine off under predetermined conditions. The Control releases the pressure at the end of every run and reinitializes the machine at the beginning of every test. Data acquisition, storage, management, and analysis are all fully automated

Applications

- Tri-axial Strength of Rock Specimens
- Unconfined Compressive Strength of Rock Specimens
- Young's modulus of Rock Specimen
- Poisson's Ratio of Rock Specimens

The system consists of the following:

1) Uniaxial Compression Loading Frame

Capacity kN	Maximum clearance between plates mm	Maximum distance between side plates mm	Platen Size mm	Piston diameter mm	Piston Stroke mm
500	435	260	140.0 square	111.2	50
1000	390	260	222.2 dia	157.0	50
2000	370	340	222.2 dia	222.2	50
3000	400	400	310.0 dia	272.2	50

- Suitable for sample sizes (Cylinder) EX, AX, BX & NX
- The loading frame is be fully welded construction with a top crosshead, base, and solid side plates
- Precision ground hydraulic piston fixed to the base.
- The machine's platens are hardened, ground, and polished
- The upper platen is with self-aligning action
- Metal door with a Perspex window should be available for Operator's safety, if required
- Spacers for adjustment of the test height of the sample



2. Hydraulic Power Pack

- Working pressure : 700 bar
- Hydraulic ports for connection of test frames
- Servo hydraulically controlled
- Forced ventilation for oil cooling
- Operating temperature range: -20°C to 80°C.
- External Leakage: zero
- Fluid cleanliness level per ISO 4406:1999: min. 16/14/12 & recommended 14/12/10
- Supply pressure: constant
- Power supply - Voltage: 220 V, 50 Hz, single-phase AC supply

3. Automatic Hydraulic constant pressure system

- It is controlled by computer
- Working Pressure :700 Bar
- Max oil delivery:25 lpm.
- Oil tank capacity: more than 50 liters.
- Oil flow control via servo-controlled proportional valve
- Oil water cooling with forced ventilation
- Operating temperature range: -20°C to 50°C
- Burst pressure:250 % max supply pressure
- External leakage: Zero
- Hysteresis not be more than 3.0%
- Threshold not be less than 0.5%
- Supply Pressure: Constant
- 3 HP, 3 Phase 440V AC supply

4. Triaxial Hoek Cell

Hoek Cells are designed for Testing Triaxial strengths of Rock or Concrete samples upto a Pressure of 70MPa.

Available in the following sizes:

- Ex, Ax, Bx & Nx Tests carried out on a series of samples under different confining pressures allow the user to determine:
 - Strength & Elastic properties
 - Shear strength at different confining pressures
 - Angle of Shearing Resistance & Cohesion
 - Modulus of Elasticity & Poisson's Ratio



Testing of Samples with Hoek Cells is much simpler & convenient as compared to conventional Cells. Cell comprises a Steel body having top & bottom caps screwed on to the main body. A urethane rubber sleeve incorporating U-shaped seals to form a pressurization chamber for the hydraulic fluid is mounted within the cell.

Plunger & Spherical seat - duly hardened & ground are provided for self alignment & application of axial load

Features:

- Suitable for Triaxial Testing of Rock & Concrete Core.
- Pressure up to 70 Mpa.
- To Measure Angle of Shearing Resistance & Cohesion

Accessories:

- Quick Release Couple (Non – Return Valve) – 2 Nos.
- Hoek Cell Stand – 1 No.
- Setting Tools – 2 Nos.
- Open & Close Handle for Cap – 1 No.

5. Consumables

- Strain Gauges Disposable Type
- Urethane Rubber sleeves

6. Hardware and controlling Unit

- Control Mode: Load Control & Displacement Control.
- Working range of displacement control from (0.05mm/min to 4mm/min)
- Working range of load control as per below table:

Machine Capacity	Maximum Loading Rate	Minimum Loading Rate
500 kN	5 kN/sec	0.1 kN/sec
1000 kN	10 kN/sec	0.2 kN/sec
2000 kN	20 kN/sec	0.5 kN/sec
3000 kN	30 kN/sec	0.8 kN/sec



Rock Testing

- User Programmable Pace Rate.
- Load-hold Facility
- Analog Resolution: 24 bit
- Inbuilt RTC for the real time standalone mode
- Automatic On-line Data Logging
- Logged-Data Printing Facility
- A menu driven interface with prompts for easy operation
- Auto shutdown when the sample breaks
- Auto shutdown when the load exceeds the set maximum load
- Automatic release of oil-pressure as soon as the pump stops.
- Compatibility with Printer
- Standalone & real time data acquisition, Keypad has the capability to configure the system
- LCD display with backlight for display Data
- Working load range of load control 1% of full scale
- Operating temperature must be 0 to 50 degree Celsius
- Operating power supply: 440V, 3Ph, 50Hz
- Inbuilt battery for real time clock
- Accepts input as analog voltage in the range of 0-2.5V
- Calibration within 1% of indicated load with traceability to NABL.
- Easily configurable windows based software to configure the data acquisition through PC
- Plots graph- Displacement Vs Time , Load Vs Time, Load Vs Displacement, Stress Vs Strain

7. Data Acquisition system (8 Channel)

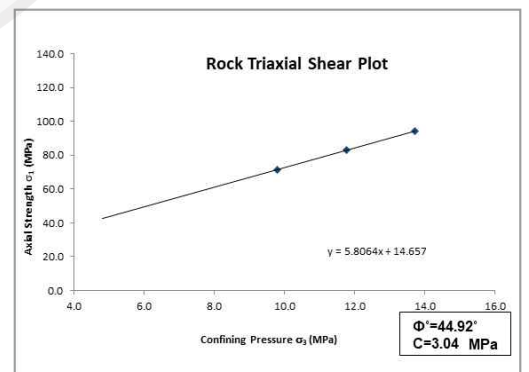
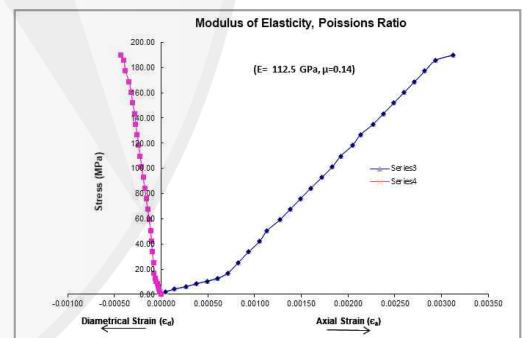
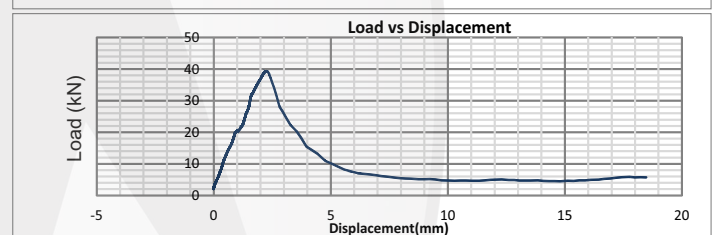
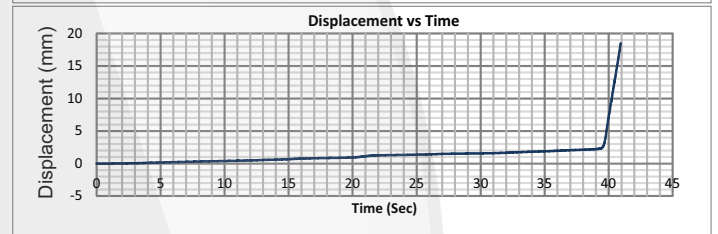
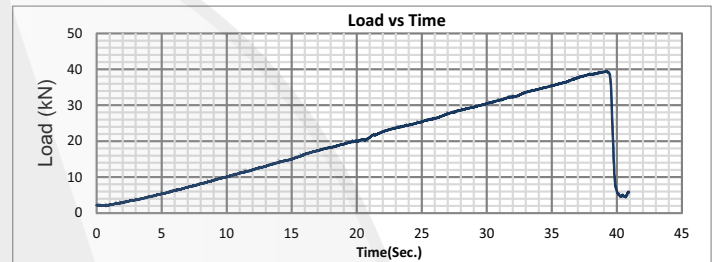
- Robust, stand alone with 16-bit resolution and inbuilt LCD Display
- 2MB internal storage capacity
- Keypad for datalogger configuration
- Configurable windows-based software
- Capable for displaying different parameters in different channels Simultaneously.
- Power supply 230 V 50 Hz
- RS 232 Communication

8. Aimil Control Software

- Software has facility for On-line display of Load v/s Displacement, Load v/s Time, Displacement v/s Time graphs, Load, Displacement, and additional channels readings.
- Has facility to monitor the data of channels
- Programmable Loading parameters – (load and displacement) etc
- Facility for programmable Safety limits for each load & displacement
- Menu driven s/w for sensor configuration
- Saving and retrieving set ups
- Facility for able to define test sequences
- Labels of channels are configurable
- Feature of setting the limits (both lower & upper) for all the channels
- The setting of limits of channels shall be of user programmable in nature
- Facility to save the data after the test, database backup and restore
- Report in excel & PDF for storing the data.
- Facility for Storing of each channel data by user defined file/directory and opened in Excel and Analysis Software.
- Flexible logging rate and data export scheme
- Capable of displaying the acquired data in the form of graphs as well as digital display
- Generates graphs in effective mode

9) Data Analysis software for Rock Triaxial and Unconfined Compressive strength testing

- User friendly
- Manage project information
- manage sample information
- Manual Data entry
- Saves data in specific project file for future use





- Open project file in application
- Display Value of Unconfined Compressive strength
- Print report
- Automatic calculation
- Automatic draw graph
- Display Value of c & ϕ

10) Minimum Recommended Computer Hardware

- Ethernet based
- 2 GHz Pentium Dual Core or equivalent
- 4 GB RAM, although using multiple testing machines may require addition memory or / and a faster processor
- 32- or 64-bit operating system type.
- 500 GB HD Drive
- Mouse or pointing device and keyboard supported by windows
- Monitor that support at least 1024 x 768 resolution
- Min. 2 USB Serial Port
- Window compatible printer recommended for reporting capabilities

USB Port

- Additional ports required if using RS232/USB adapters to communicate with machines
- Additional ports for required measuring devices, barcode scanners, etc
- Mouse or pointing device and keyboard supported by Windows

Monitor

- 32-bit color
- 1600 x 900 (Widescreen) or higher
- Windows compatible printer (for reporting capabilities)
- Windows compatible sound card and speakers (for audio playback)
- An active Internet connection (for team viewer use and help desk support)

Software Requirements

- The Aimil Software's are designed for 32-bit & 64-bit operating systems running Windows 7, Windows 8 or Window 10. It does Not support Windows XP and below.
- Internet Explorer 8 or higher

Ordering Information :

AIM 224FA-1-NX Servo Control Rock Static Triaxial System for NX size sample with load control, capacity 500kN

AIM 224FA-2-NX Servo Control Rock Static Triaxial System for NX size sample with load control, capacity 1000kN

AIM 224FA-3-NX Servo Control Rock Static Triaxial System for NX size sample with load control, capacity 2000kN

AIM 224FA-4-NX Servo Control Rock Static Triaxial System for NX size sample with load control, capacity 3000kN

Optional Asscessories

AIM-211-38	Hoek Cell for Triaxial Testing of Rock Samples of exact dia 38 mm
AIM 211-EX	Hoek Cell for Triaxial Testing of Rock Samples of exact EX size
AIM-211-AX	Hoek Cell for Triaxial Testing of Rock Samples of exact AX size
AIM-211-BX	Hoek Cell for Triaxial Testing of Rock Samples of exact BX size
AIM-211-NX	Hoek Cell for Triaxial Testing of Rock Samples of exact NX size

Note 1: Computer can be provided on request at extra cost.

Note 2: The Instrument can be customised as per Customer requirement

Note 3: Consumables can be provided on extra cost.



Servo Control Rock Static Triaxial System (with Load & Displacement Control)

AIM 225FA-1-NX, AIM 225FA-2-NX, AIM 225FA-3-NX & AIM 225FA-4-NX



Ref. Standard: IS 13047

Aimil Series of Servo Hydraulic Controlled Rock Static Triaxial Cum Unconfined Compressive Strength System are the finest of their types available. The rugged construction and extreme simplicity make it possible for personnel with minimum Training to operate them with ease and complete dependability. This system is a fully automated version and having provision for stress & strain-controlled loading. This system is available in 500kN to 3000kN ranges. It has provision for automatically turning the pump on and off, controlling the set pace rate/displacement rate and switching the machine off under predetermined conditions. The Control releases the pressure at the end of every run and reinitializes the machine at the beginning of every test. Data acquisition, storage, management, and analysis are all fully automated

Applications

- Tri-axial Strength of Rock Specimens
- Unconfined Compressive Strength of Rock Specimens
- Young's modulus of Rock Specimen
- Poisson's Ratio of Rock Specimens
- Secant modulus method

The system consists of the following:

1) Uniaxial Compression Loading Frame

Capacity kN	Maximum clearance between plates mm	Maximum distance between side plates mm	Platen Size mm	Piston diameter mm	Piston Stroke mm
500	435	260	140.0 square	111.2	50
1000	390	260	222.2 dia	157.0	50
2000	370	340	222.2 dia	222.2	50
3000	400	400	310.0 dia	272.2	50

- Suitable for sample sizes (Cylinder) EX, AX, BX & NX
- The loading frame is be fully welded construction with a top crosshead, base, and solid side plates
- Precision ground hydraulic piston fixed to the base.
- The machine's platens are hardened, ground, and polished
- The upper platen is with self-aligning action
- Metal door with a Perspex window should be available for Operator's safety, if required
- Spacers for adjustment of the test height of the sample



2) Hydraulic Power Pack:

- Working Pressure :700 Bar
- Max oil delivery:25 lpm.
- Oil tank capacity: more than 50 liters.
- Hydraulic ports for connection of test frames
- Oil flow control via servo-controlled proportional valve
- Oil water cooling with forced ventilation
- Operating temperature range for servo valve: -20°C to 50°C
- Burst pressure:250 % max supply pressure
- External leakage: Zero
- Hysteresis not be more than 3.0%
- Threshold not be less than 0.5%
- Supply Pressure: Constant
- 3 HP, 3 Phase 440V AC supply

3. Automatic Hydraulic constant pressure system

- It is controlled by computer
- Working Pressure :700 Bar
- Max oil delivery:25 lpm.
- Oil tank capacity: more than 50 liters.
- Oil flow control via servo-controlled proportional valve
- Oil water cooling with forced ventilation
- Operating temperature range for servo valve: -20°C to 50°C
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- External leakage: Zero
- Hysteresis not be more than 3.0%
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- Supply Pressure: Constant
- 3 HP, 3 Phase 440V AC supply

5. Hardware and controlling Unit

- Control Mode: Load Control & Displacement Control.

4. Triaxial Hoek Cell

Hoek Cells are designed for Testing Triaxial strengths of Rock or Concrete samples upto a Pressure of 70MPa.

Available in the following sizes:

- Ex, Ax, Bx & Nx Tests carried out on a series of samples under different confining pressures allow the user to determine:
 - Strength & Elastic properties
 - Shear strength at different confining pressures
 - Angle of Shearing Resistance & Cohesion
 - Modulus of Elasticity & Poisson's Ratio



Testing of Samples with Hoek Cells is much simpler & convenient as compared to conventional Cells. Cell comprises a Steel body having top & bottom caps screwed on to the main body. A urethane rubber sleeve incorporating U-shaped seals to form a pressurization chamber for the hydraulic fluid is mounted within the cell.

Plunger & Spherical seat - duly hardened & ground are provided for self alignment & application of axial load

Features:

- Suitable for Triaxial Testing of Rock & Concrete Core.
- Pressure up to 70 Mpa.
To Measure Angle of Shearing Resistance & Cohesion

Accessories:

- Quick Release Couple (Non – Return Valve) – 2 Nos.
- Hoek Cell Stand – 1 No.
- Setting Tools – 2 Nos.
- Open & Close Handle for Cap – 1 No.

5. Consumables

- Strain Gauges Disposable Type
- Urethane Rubber sleeves
- Working range of displacement control between 1 micron to 1 mm per sec. (optional customised)



Rock Testing

- Working range of load control as per below table:

Machine Capacity	Maximum Loading Rate	Minimum Loading Rate
500 kN	10 kN/sec	0.05 kN/sec
1000 kN	20 kN/sec	0.1 kN/sec
2000 kN	40 kN/sec	0.2 kN/sec
3000 kN	50 kN/sec	0.2 kN/sec

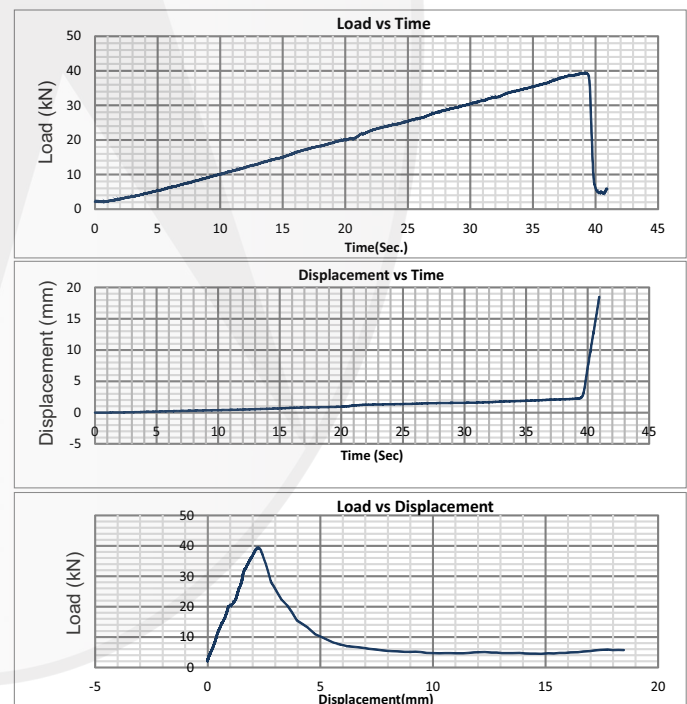
- User Programmable Pace Rate.
- Load-hold Facility
- Analog Resolution: 24 bit
- Inbuilt RTC for the real time standalone mode
- Automatic On-line Data Logging
- Logged-Data Printing Facility
- A menu driven interface with prompts for easy operation
- Auto shutdown when the sample breaks
- Auto shutdown when the load exceeds the set maximum load
- Automatic release of oil-pressure as soon as the pump stops.
- Compatibility with Printer
- Standalone & real time data acquisition, Keypad has the capability to configure the system
- LCD display with backlight for display Data
- Working load range of load control 1% of full scale
- Operating temperature must be 0 to 50 degree Celsius
- Operating power supply: 440V, 3Ph, 50Hz
- Inbuilt battery for real time clock
- Accepts input as analog voltage in the range of 0-2.5V
- Calibration within 1% of indicated load with traceability to NABL.
- Easily configurable windows based software to configure the data acquisition through PC
- Plots graph- Displacement Vs Time, Load Vs Time, Load Vs Displacement, Stress Vs Strain

6. Data Acquisition system (8 Channel)

- Robust, stand alone with 16-bit resolution and inbuilt LCD Display
- 2MB internal storage capacity
- Keypad for datalogger configuration
- Configurable windows-based software
- Capable for displaying different parameters in different channels Simultaneously.
- Power supply 230 V 50 Hz
- RS 232 Communication

7. Aimil Control Software

- Software has facility for On-line display of Load v/s Displacement, Load v/s Time, Displacement v/s Time graphs, Load, Displacement, and additional channels readings.
- Has facility to monitor the data of channels
- Programmable Loading parameters – (load and displacement) etc
- Facility for programmable Safety limits for each load & displacement
- Menu driven s/w for sensor configuration
- Saving and retrieving set ups
- Facility for able to define test sequences
- Labels of channels are configurable
- Feature of setting the limits (both lower & upper) for all the channels
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8) Data Analysis software for Rock Triaxial and Unconfined Compressive strength testing

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- Manage project information
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- Display Value of Unconfined Compressive strength
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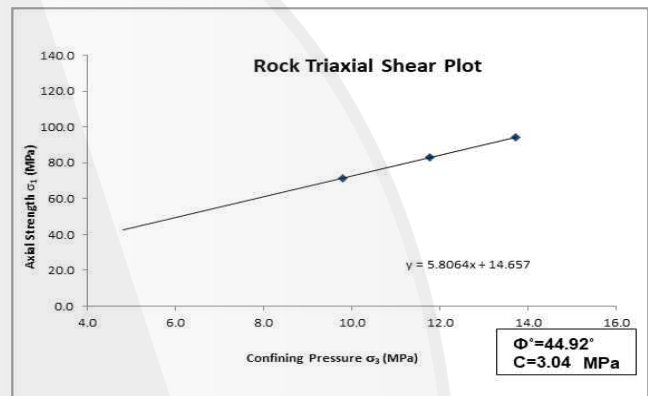
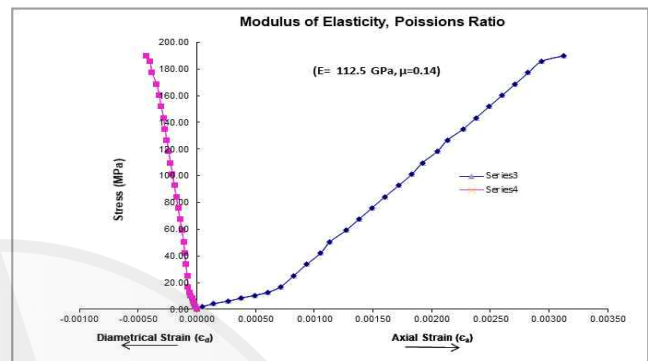
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- Window 10. It does Not support Windows XP & below
- Internet Explorer 8 or higher

Ordering Information :

AIM 225FA-1-NX	Servo Controlled Rock Static Tri-axial System for NX size sample with load & displacement control, capacity 500kN
AIM 225FA-2-NX	Servo Controlled Rock Static Tri-axial System for NX size sample with load & displacement control, capacity 1000kN
AIM 225FA-3-NX	Servo Controlled Rock Static Tri-axial System for NX size sample with load & displacement control, capacity 2000kN
AIM 225FA-4-NX	Servo Controlled Rock Static Tri-axial System for NX size sample with load & displacement control, capacity 3000kN

Optional Asscessories

AIM-211-38	Hoek Cell for Triaxial Testing of Rock Samples of exact dia 38 mm
AIM 211-EX	Hoek Cell for Triaxial Testing of Rock Samples of exact EX size
AIM-211-AX	Hoek Cell for Triaxial Testing of Rock Samples of exact AX size
AIM-211-BX	Hoek Cell for Triaxial Testing of Rock Samples of exact BX size
AIM-211-NX	Hoek Cell for Triaxial Testing of Rock Samples of exact NX size

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Unconfined

Unconfined Compression Tester for Rocks

AIM 217

Ref. Standard : ASTM 2938

This equipment is used for determining unconfined compressive strength of intact rock core specimens. The rock sample is cut to length and the ends are machined flat. The specimen is placed in a loading frame and if required heated to the desired test temperature. Axial load is continuously increased on the specimen until peak load and failure are obtained.

The equipment consist of the following replaceable parts :

AIM065	Load Frame, 200 kN Capacity 12 speed
AIM275	Proving Ring, 100 kN
AIM 072	Dial Gauge 25mm travel, 0.01 mm least count.
AIM-21701	Platen Set as per ASTM 2938 requirements

Ordering Information :

AIM 217 Unconfined Compression Tester for Rocks, Capacity 100kN



AIM 217

Rock Direct Shear

Direct Shear Apparatus, Hand operated for Rocks

AIM 221

Ref. Standard : ASTM D-5607-95, IS 12634

The equipment is used for Direct Shear Laboratory Test in Rock Samples. The test measures peak & residual Direct Shear Strength as a function of stress normal to the sheared plane. The equipment can be used for testing Core, Lump specimens.

The equipment consist of the following replaceable parts :

AIM 22101	Shear Box (300mm x 300mm x 100mm)	1 No.
AIM 22102	Jack Capacity 100kN	3 Nos.
	a) One jack for normal Load	
	b) One jack for Shear Load	
	c) One jack to return the sample to original position	
AIM 072	Dial Gauges, 25mm x 0.01mm	6 Nos.
	a) 2 Nos for measurement of Shear Displacement	
	b) 4 Nos for normal displacement & consolidation of sample	
AIM 475	Hand operated Hydraulic Pump	2 Nos.
AIM 303-LG100H-AN	Load Gauge 0-100kN x 0.5kN	2 Nos.
AIM 47502	Flexible hose pipe 2 meter	3 Nos.
AIM 22103	Moulds for Casting the samples (Wooden)	2 Nos.
AIM 10610	Magnetic Stand	6 Nos.



AIM 221

Ordering Information :

AIM 221 Direct Shear Apparatus, hand operated for Rocks

Note: Electrical Pump's can be supplied at an extra cost.



Advanced Rock Direct Shear Test Equipment for Testing of Rock Joints & Gravelly Soil Samples

AIM 221EM-100 & AIM 221EM-200



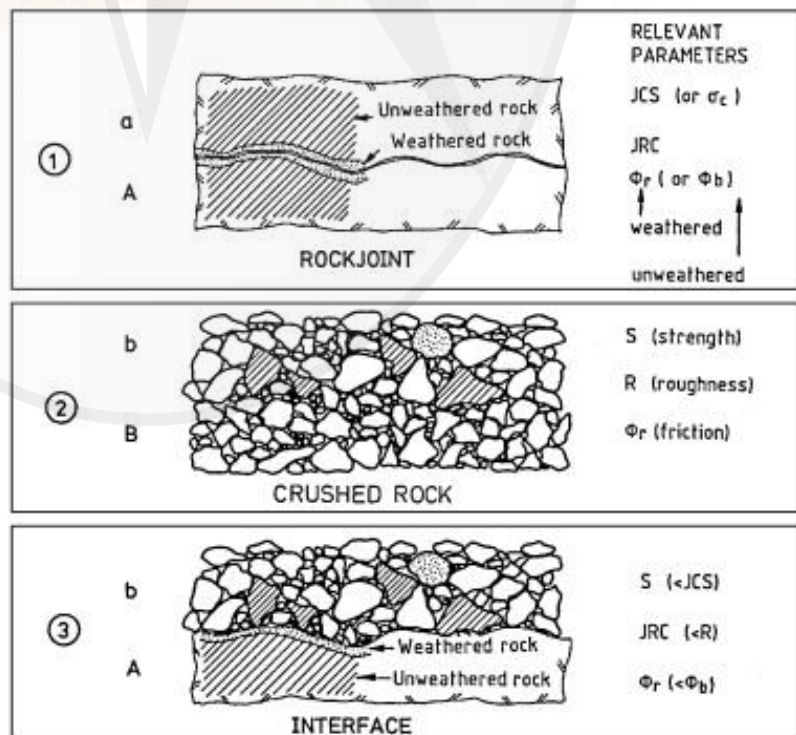
Ref. Standard : ASTM D-5607-95, IS 12634

The Advanced Rock Direct Shear Test Equipment is designed to deliver accurate and reliable shear strength measurements for rock and soil samples under controlled laboratory conditions. This system features a combination of servo motor-based electromechanical systems and motorized hydraulic pumps to apply and control shear and normal loads on the sample. It includes advanced digital measurement tools for precise data acquisition and analysis.

Application

The Advanced Rock Direct Shear Test Equipment is designed to determine the undrained shear strength under constant normal load at high overburden pressures for various geo materials such as:

- Rock Joints or Foliations
- Clay-filled or saw-cut plane joints
- Gravelly Soil
- Aggregates
- Rock-Fill Material with Parallel Gradation



Typical types of Samples can be tested



Rock Testing

This method is critical for:

- Designing stable rock structures and slopes
- Assessing the stability of underground excavations like tunnels and mines
- Planning and designing foundations for structures built on or in rock masses
- Conducting geotechnical and geological investigations for construction projects
- Evaluating the potential for rockslides and other rock mass movements

Features

- Direct Shear Strength Testing: Conducted under constant normal load, suitable for a variety of geo materials.
- Servo Motor and Driver Control: PID control for variable shearing speed.
- Motorized Hydraulic Pumps: Ensure efficient operation and precise load application for static loading
- Shear Box Size: 300mm x 300mm x 200mm (height), accommodating different sample sizes.
- Sample Size Capacity:
 - Rock Joints: Core of dia. 250mm or rock chunks up to 250mm.
 - Gravelly Soil/Rockfill: Max. particle size of 30mm.
- Digital Measurement: Load cells and LVDTs for precise load and displacement readings.
- Microcontroller VFD Display: Multi-line alpha-numeric display for simultaneous viewing of loads and displacements.
- Double Acting Jacks: Provide forward and backward movement of the shear box.
- PC Connectivity: Serial to USB adaptor for data monitoring and acquisition using Windows-based software.
- Heavy-Duty Construction: Steel housing with high-strength posts and roller arrangement for normal load reactions.

Technical Specifications

- Normal & Shear Load Capacity: 100kN and 200kN.
- Shear Strain Rate Control: Automatically controlled within the range of 0.1mm/min to 1.0mm/min.
- Displacement Measurement: LVDTs with 50mm travel for shear and normal displacement, LC: 0.01mm.
- Hydraulic Jacks: Two double-acting jacks with a maximum travel of 100mm.
- Load Measurement: Universal load cells with a least count of 0.1kN.
- Power Supply: Operates on 220V, 50Hz, single-phase AC supply.

Accessories

- Shear Box Assembly:
 - 2 shear box MS moulds (25mm thick).
 - 1 top loading platen.
 - 1 set of 2 plunger platens.
- Flexible Plunger: With SS ball to accommodate eccentricity and non-linearity.
- LVDT Stands and Clamps: For secure placement and accurate measurements.
- High-Pressure Hydraulic Tubing: With manifold for efficient load transfer.
- Adaptor Rod: For shear load transfer with SS ball on reaction side.
- Roller attachment: for axial reaction on normal loading

Ordering Information :

AIM-221EM-100 Advanced Rock Direct Shear Test Equipment, 100kN

AIM-221EM-200 Advanced Rock Direct Shear Test Equipment, 200kN

Hydro Fracture Hydro Frac System

AIM 240

Ref. Standard : IS 13946 (Part 1)

Aimil Hydro Frac System has been developed for application of In-situ stress measurement by Hydro Fracture Test at near surface and underground situations. The compact nature of Hydro Frac tool enables location of the tool in a section of test hole free of incipient weakness in the rock mass and as uniform as possible. This also means that the stress measurements can be made within a volume of rock small enough that stress gradient will not have a significant impact on the measurement.

The equipment is designed for operating upto a depth of 30m approximately consistent with a typical application envisaged and avoiding the need for any sophisticated "down hole" Instrumentation.



AIM 240



The Hydro Frac System consists of two manually operated Hydraulic Pumps, a USB Data Acquisition System, two pressure transducers, two pressure gauges, all of which are enclosed in a dust proof metal enclosure and is called the main unit. The controls of the equipment are located on the main unit in such a way that they are easily accessible to the operator. The main unit is mounted on a metal frame to make it convenient for carrying to the test site manually. The Installation rods are manufactured from stainless steel. The system can deliver dual hydraulic pressure upto 400 kgf/cm². An Impression packer which is a very important part of the system is manufactured for use in diamond drilled Ex size bone base holes.

The equipment consist of the following replaceable parts :

AIM 24001	Hydro Frac Tool (paches)	1 No.
Diameter	: 36 mm	
Overall length	: 620 mm	
Test Section length	: 160mm	
Weight	: 2.4 kg	
Max. packer	: Typically greater than 350 kg/cm ² pressure (Under ideal test conditions)	
AIM 24002	Impression packer	1 No.
Diameter of collars	: 36 mm	
Diameter of packer	: 34 mm	
Diameter when wrapped	: 37 mm	
Overall length	: 620 mm	
Active length	: 500 mm	
Weight	: 2.4 kg	
Max. packer pressure	: 200 kg/cm ² (under ideal test conditions)	
AIM 24003	Pressure Pump, Hydraulic manually operated	2 No.
Fluid	: Water / Soluble Oil	
Max. pressure	: 400 kg/cm ²	
Oil capacity	: 15 litre	
AIM 24004	Pressure Gauge, Panel mounted	2 No.
	0-400kg/cm ²	
AIM 24005	USB data Acquisition system comprising	1 No.
	Data Acquisition hardware Module, USB Cable, Data Acquisition software for acquiring data on PC, Software license key, 24V Rechargeable Battery, Battery charger 24V	
AIM 24006	Pressure Transducer	2 No.

Ordering Information :

AIM 240 Hydro Frac System

Essential Accessories :

AIM 24007	Installation Rod hollow stainless steel tube dual line 36 mm dia, 1500 mm long	20 Nos.
AIM 24008	Fracture Rod	1 No.
AIM 24009	Impression Tool	1 No.
AIM 24010	Impression wrap	2 No.
AIM 24011	Double Hose Pipe with Quick release connector	1 No.
AIM 24012	O-Rings (Pack of 10)	1 No.
AIM 24013	Pens	1 No.
AIM 24014	Flat File (Rough) 10"	1 No.
AIM 24015	Flat File (smooth) 10"	1 No.
AIM 24016	Silicon Grease Tube	1 No.
AIM 24017	Brush "Small"	1 No.
AIM 24018	Sauple paint (set of 4 colour)	1 No.
AIM 24019	Spanner (24 - 27)	2 No.
AIM 24020	Allen Key, M8	1 No.