



LABTEK

MECHANICAL ENGINEERING LAB EQUIPMENTS

STRENGTH OF MATERIAL LAB





Sun LabTek Equipments (I) Pvt. Ltd.
(ISO : 9001 : 2008 Certified Company)



LABTEK COVERS THE FOLLOWING LABORATORY:

- STRENGTH OF MATERIAL LAB
- THERMAL ENGINEERING LAB
- FLUID MECHANICS LAB
- DYNAMICS OF MACHINE LAB
- HEAT TRANSFER LAB
- FLUID MACHINERY LAB
- REFRIGERATION AND AIR-CONDITIONING LAB
- AUTOMOBILE ENGINEERING LAB
- APPLIED MECHANICS LAB
- CAM LAB
- M & I LAB
- DATA ACQUISITION LAB
- MECHATRONICS LAB

The company lays special emphasis on export of its products all over the world, hence has a correct knowhow of resending product and its instruction manual in printed and soft format accepted internationally.

WELCOME TO LABTEK TECHNICAL CATALOG

Established in 1999, LabTek has built a solid reputation for manufacturing and marketing laboratory equipment with strong mechanical base required in universities, engineering colleges, polytechnics, vocational schools etc. LabTek has a selection of more than 500 mechanical engineering and 800 civil engineering equipments and test rigs. With customers spread across the globe, LabTek is regarded as premier supplier of reliable, high quality and competitively priced products. We provide Turnkey solution for establishing mechanical and civil engineering laboratory with state of the art technology and solution.

R & D & QUALITY ASSURANCE:

Our R & D Engineers work in close contacts with clients to produce user friendly products and manuals providing a fulfilling teaching and learning experience. Students can complete their assignments in single laboratory session. LabTek operates a continual product improvement process through ISO procedures and customer feedback to ensure that our product stays ahead of the competition and meets customer needs. Our product specifications are reviewed in line with worldwide curriculum to comply varied syllabus requirements and hence regularly updated and new products developed.

AFTER SALES SERVICE

Company responds to customer needs quickly and considers after sales service equally important to establish a culture of customer confidence, LabTek has established long term relationships with its clients. To expedite your order or to get any particular service, please send us an e-mail or fax with product details and your contact address along with mobile /landline numbers. Our Service Engineers will respond to you quickly through e-mail/phone. We also provide installation, commissioning and training service for any customers who require assistance.

The largest established manufacturing, trading and export house of quality Technical Education Lab Equipments in INDIA



Corporate Office: B-3A, Shiv Shakti Complex, East Vinod Nagar, 1st Floor, New Delhi-110091

Tel: 011-22732108/2109, **Fax:** 01122732109 **Customer Care No.:** +91-99999-84267

Mob: +91-99710-77233, +91-98118-88915

E-mail: labtekindia@gmail.com, **Website:** www.labtekindia.com

Works: 80-A, Rajendra Nagar Industrial Area, Sahibabad, Ghaziabad-210005, Uttar Pradesh (India)



S

T

N



E



T

N

O

C

CERTIFICATE

Nr IN/10/100755

SUN LABTEK EQUIPMENTS INDIA PRIVATE LIMITED

B-3A, Shiv Shakti Complex, East Vinod Nagar, New Delhi-110091 (INDIA)

Scope

Manufacturing & Trading of Scientific Lab Testing Equipments.

EA 23, Code

The Quality Management System is in accordance with

SS-EN ISO 9001:2008

Excluded requirement: None

Under the assumption that the quality system and its function is satisfactory at the surveillance and that A.g.R Certification Ltd.'s "Rules for certification" are upheld.

INDIA, 11/04/2011

Issued Date

A.g.R Certification Ltd.

INDIA, 10/04/2014

Expiry Date



A.g.R Certification Ltd.
17 Hanover Square, Mayfair, London, W1S 1HU



09003, edition 3.4.5.1 Certificate 9001:2008

LAB & EQUIPMENTS NAME

STRENGTH OF MATERIAL LAB

- Universal Testing Machine
- Impact Testing Machine
- Torsion Testing Machine
- Tensile Testing Machine
- Rockwell Hardness Tester
- Fatigue Testing Machine
- Brinell Hardness Tester
- Metallurgical Inverted Microscope
- Muffle Furnace
- Double Disc Polishing Machine
- Belt Grinder
- Specimen Mounting Press



Universal Testing Machine



Universal Testing Machine

UNIVERSAL TESTING MACHINE (MECHANICAL)

SALIENT FEATURE:

- **Loading accuracy:** As high as + 1 %
- **Speeds:** Straining at variable speeds to suit wide range of materials
- **Facilities for tests:** Motor-driven threaded columns for quick and convenient adjustment of lower crosshead to facilitate rapid fixing of test specimen.
- **Autographic recorder:** Simultaneous roll autographic recorder supplied as standard to enable study of the behaviors of materials.
- **Ideal Dia:** High reading accuracy due to large size ideal design of dial.
- **Large columns:** Large effective clearance between columns enables testing of standard specimen as well as structures.
- **Easy changeability:** Easy change from plain to threaded and screwed specimens
- **Simple & Safe:** Simple to operate.
- **Robust construction**
- **Chrome planted metal components**
- **Wide range of standard and special attachments accessories available.**

UNIVERSAL TESTING MACHINE HYDRAULIC COMPUTERIZED VERSION

APPLICATION SYSTEM:

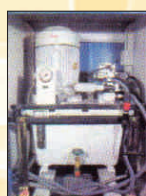
- Peak Load along with on line load
- Maximum elongation with online elongation
- Ultimate Tensile Strength
- Graphical Display of load vs. time
- Graphical Display of elongation vs. time
- Graphic Display of load vs. elongation
- Graphic Display of stress vs. strain
- Complete Statistical Analysis
- Data report management

SAFETY FEATURES:

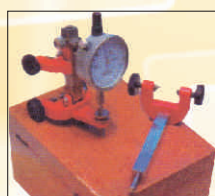
- Machine stops after specimen failure
- Safety against over travel of piston
- Surge protector
- Auto machine diagnosis
- Safety against overload



State of The Art Technology
Electronic Circuit



SC Model Torque
Compensated Power Pack



Lindlay Type Extensometer



Extensometer

TECHNICAL DATA

Model	UNITS	SL-10	SL-10E	SL-20	SL-20E	SL-40	SL-40E	SL-60	SL-60E	SL-100	SL-100E	SL-200	SL-200E
Max. Capacity		100		200		400		600		1000		2000	
1st Measuring Range Resolution	kN	0-100 0.20	0.01kN	0-200 0.40	0.02kN	0-400 0.80	0.05kN	0-600 1.00	0.05kN	0-1000 2.00	0.10 kN	0-2000 4.00	0.20 kN
2nd Measuring Range Resloution	kN	0-50 0.10		0-100 0.20		0-200 0.40		0-300 0.50		0-500 1.00		0-1000 2.00	
3rd Measuring Range Resolution	kN	0-25 0.05		0-50 0.10		0-100 0.20		0-120 0.20		0-250 0.50		0-500 1.00	
4th Measuring Range Resloution	kN	0-10 0.02		0-20 0.04		0-40 0.08		0.60 0.10		0.100 0.20		0-200 0-40	
Max. Clearance for Tensile Test	mm	50-700		50-700		50-700		50-800		50-850		50-900	
Max. Clearance for Compression Test	mm	0-700		0-700		0-700		0-800		0-850		0-900	
Clearance between Columns	mm	500		500		500		600		750		850	
RAM Stroke	mm	150		200		200		250		250		300	
Straining/Piston Speed at no load	mm min	0-300		0-150		0-150		0-100		0-80		0-45	
Electric Supply	kw	1.0		1.0		1.75		1.9		2.6		3.0	

STANDARD ACCESSORIES

FOR TENSION TEST: Clamping Jaws for round Specimen	mm	10-20 20-30	10-20 20-30	10-25 25-40	10-25 25-40 40-55	10-20 25-40 45-70	20-40 40-60 60-80
Clamping Jaws for Flat Specimen	mm	0-10 10-20	0-10 10-20	0-15 15-30	0-15 15-30	0-22 22-44 44-65	0-20 20-45 45-70
Width	mm	50	50	65	70	70	100
For Compression Test: Pair of compression plate of diameter	mm	120	120	120	120	160	220

FOR TRANSVERSE TEST:

Width for rollers	mm	160	160	160	160	160	160
Diameters of rollers	mm	30	30	30	50	50	70
Max. Clearance between support	mm	500	500	500	600	800	900
Radius of punch Top	mm	6,12	6,12	12,16	16,22	16,22	30,40

Technical Specifications for higher capacity machine will be sent on request.
Special accessories: This include load stabilizer, Brinell test attachment, 180° Bend test attachment, Shear test attachment and a wide range of accessories offering on request, at additional cost.
Installation: It is recommended that machine be erected on a foundation.

Due to Constant R & D, specification and features are subject to change without notice



IMPACT TESTING MACHINE

This Pendulum impact Tester is designed for conducting CHARPY, IZOD AND IMPACT Test. The test Method confirm to IS: 1973, and IS 1499-1977, and BS: 131 Part 2 & 3-1972 IS: 1598-1977, BS: 131 Part I- 1972

The impact energy absorbed by the specimen during rupture is measured as the difference between the height of drop before rupture and the height of rise after rupture of the test specimen and is read on the dial scale.

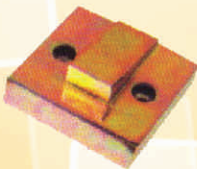
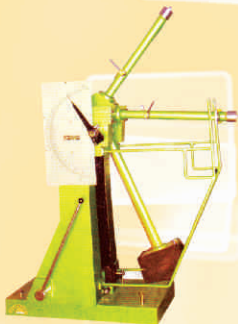


Impact Testing Machine(Izod)

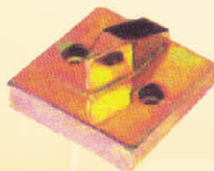
TECHNICAL DATA

	Charpy and Impact Tension Test	Izod Test
Pendulum drop angle	140°	85°21'
Effective weight	20.59 kg.	21.79 kg.
Speed	* 5.3465m/sec	3.857m/sec
Impact energy	30 kgm (300J)	16.4kgm (164J)
Min. graduation	2J	
Distance of axis of hammer rotation and centre of test piece/[pint of test piece hit by hammer	825 mm	825 mm
Max permissible loss by friction	0.5of max. impact energy	

Charpy Test	Izod Test	Impact Tension Test
A) Striking edge	A) Striking edge	A) Striking edge
Angle : 30°± 1°	Angle : 75°	Distance between forks : 36mm
Radius of curvature: 2.25 mm	Radius of curvature: 0.75	Radius of curvature : 1mm
width : 18 mm	Horizontal Relief : 10°	
	Vertical Relief : 5°	
B) Support	B) Support	B) Support
Distance between arm 40 mm	For gripping specimen with	For clamping specimen with
Slopping angle : 0°	dimension of 10 x 10 mm	dimensions of following
Relief angle : 10°		Diameter : 6.4 mm
Radius of curvature: 1.25 mm		Length (Total) : 68 mm
		Length (Measuring) : 25.4 mm
		Thread of supporting M10 x 1.5



Izod Striker



Charpy Striker

Max. CAPACITY available upto 100kgm
also available in Electronic Digital version



LABTEK

Website: www.labtekindia.com

TORISON TESTING MACHINE

- Unique "TALCON-CLAW" Grips for Round and Flat specimens
- Torisonal Speed of 0.1/0.2 RPM
- Torque Compensated Motors
- Maintenance Free Gear Box
- Auto Range Selection with Range Selector Wheel (Optional)
- 3 or 4 Torque Ranges for Higher Accuracy (Optional)
- Load-unload Capability
- Variable Speed Drive (Optional)



Torsion Testing Machine

LabTek Torsion Testing Machine is designed for conducting Torison and Twist Tests on various metal wire, tubes sheet materials. Torque measurement by pendulum Dynamometer System. Torque ranges can be adjusted. Torque can be applied to specimen by geared motor through gear box, Autographic recorder can be provided to know the relation between torque and angle of twist on specific request

TECHNICAL SPECIFICATIONS

Model	SL-3a	SL-3b	SL-3c	SL-3d	SL-3e	SL-3f	SL-3g	SL-3h
Capacity kg-m	6	10	20	50	100	200	300	600
Ranges in kg-m	6 & 3	10, 5 & 2	20, 10 & 5	50, 25 & 10	100, 50 & 20	200, 100 & 30	300,150, 100 & 60	600, 300 & 100
No. of divn. on dial	500	500	500	500	500	500	600	600
Torsion Speed & Direction	Fixed one way	Fixed Reverse	Fixed Reverse	Fixed Reverse	Fixed Reverse	Fixed Reverse	Fixed Reverse	Fixed Reverse
Clearance Between Grips (mm)	0-400	0-420	0-450	0-500	0-500	0-1000	0-1000	0-1500
Grips for round bars (mm)	4-12	4-12	7-20	10-30	10-34	20-50	30-60	40-70
Grips for flat bars (mm)	1-5	2-8	3-10	5-12	5-15	10-20	15-25	25-40
Width (mm)	25	25	30	40	50	60	60	70
Gear motor 3 ph (ph)	0.5	0.5	0.5	0.5	0.5	2.0	3.0	5.0



Universal Spring Testing Machine



Erichen Cupping Testing Machine

TENSILE TESTING MACHINE

- TENSILE TESTERS are electrically operated machines for testing tensile strength and elongation of materials like plywood, wires, cables, conductors, ferrous and non-ferrous materials
- TENSILE TESTERS are manufactured in various capacities and tests can be conducted on these machines by simply incorporating appropriate traverse speeds and using suitable grips in conformity with the adopted BIS, BS, ASTM, DIN & ISO standards.



Tensile Testing Machine

- ◆ TENSILE TESTERS are quite capable of conducting Compression and Bending tests apart from performing Tensile and Elongation tests.
 - ◆ TENSILE TESTERS are manufactured in different capacities upto 10,000Kgf. in our LabTek ensuring + 1% accuracy in the test results.
 - ◆ TENSILE TESTERS are extra elegant, best quality, durable and accurate with matchless perfection.
- ◆ TENSILE TESTERS are also offered on specific requirements with load graduation in kilograms. Newton Electronic up Based & computerized Tensile Testers can also be manufactured on specific requirements Besides a wide range of accessories depending upon the individual requirements, for the tests involved, of the suers and a prompt and reliable after-sales service facilities are also available with LabTek

Technical Data

Model	Unit	SL-2a	SL-2ae	SL-2b	SL-2be	SL-2c	SL-2ce	SL-2d	SL-2de	SL-2e	SL-2ee	SL-2f	SL-2fe						
Cap.	N	2500		5000		10000		25000		50000		100000							
Ranges		0-500N x 0.01			0-1000N x 0.2N			0-25000N x 50N			0-50000N x 50N			100000N x 200N					
		0-1000N x 0.01		5N	0-2500N x 0.2N		5N	0-5000N x 0.01		10N	0-10000N x 2N		20N	0-10000N x 20N		20N	0-50000N x 100N		50N
		0-2500N x 0.01			0-5000N x 10N			0-2500N x 0.01			0-5000N x 1N			0-5000N x 10N			0-2500N x 50N		

Traverse Speed per specification (mm/min) or as	300 and 100	100	100	100	100	25 and 12.5
Grip Separation Minimum Maximum	25mm 1000mm	25mm 1000mm	25mm 750mm	25mm 750mm	25mm 750mm	25mm 600mm
Power Requirement	3 ph 440 V 50 Hz AC	3 ph 440 V 50 Hz AC	3 ph 440 V 50 Hz AC	3 ph 440 V 50 Hz AC	3 ph 440 V 50 Hz AC	3 ph 440 V 50 Hz AC
Over-travel Safety Switches	Included	Included	Included	Included	Included	Included

ROCKWELL HARDNESS TESTER

- SL-5 : Manual weight selection an Manual zero adjustment of Dial gauge
- SL-5A : Manual weight selection with Automatic zero setting dial Gauge
- SL-5B : Automatic weight selection with automatic zero setting dial gauge
- SL-5C: Arrangement similar to SL 5B with one additional weight of 187.5 kg for Brinell tests
- SL- 5D: Arrangement similar to SL 5B with two additional weight of 187.5 kg and 250kg for Brinell tests on this machine small pin having dia 2mm can be tested as plunger is guided with a set of six bearings.
- SL- 5E : Rockwell Superficial Hardness Tester with automatic zero setting dial gauge, manual load selection. The major load are N scale besides all fifteen Rockwell Superficial scales. Can be used with this tester
- SL-5F : This model is double purpose Hardness Tester suitable for Both Rockwell & Rockwell Superficial hardness test. The Major load of 15,30, 45,60, 100 and 150 kg are applied.



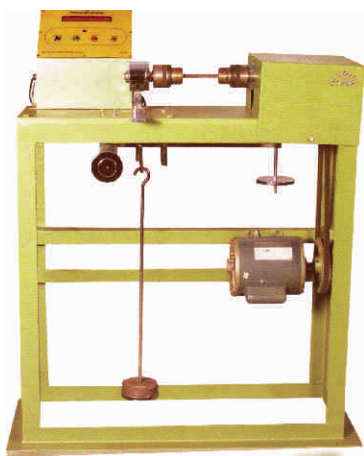
Rockwell Hardness Tester

STANDARD ACCESSORIES

Model	SL5	SL5C	SL5D	SL5E	SL5F
	5A, 5B				
Testing Table 50mm Ø	1 Pc.	1 Pc.	1 Pc.	1 Pc.	1 Pc.
Testing Table 40mm Ø					
with 'V' groove for					
round jobs 6 to 45 mm Ø	1 Pc.	1 Pc.	1 Pc.	1 Pc.	1 Pc.
Diamond indenter 120 ⁰	1 Pc.	1 Pc.	1 Pc.	1 Pc.	1 Pc.
Stell ball indenter 1/16 "	1 Pc.	1 Pc.	1 Pc.	1 Pc.	1 Pc.
Test block Rockwell 'c	1 Pc.	1 Pc.	1 Pc.	Nil	1 Pc
Test block Rockwell 'B'	1 Pc.	1 Pc.	1 Pc.	Nil	1 Pc
Tet block Rockwell Superficial N	Nil	Nil	Nil	1 Pc	1 Pc
Allien Spanners	2Pca	2Pcs	2Pcs	2 Pcs	2 Pcs
Clamping device	1 Pc	1 Pc	1 Pc	1 Pc	1 Pc
Dash pot oil	1 bottle	1 bottle	1 bottle	1 bottle	1 bottle
Instructional Manual	1 book	1 book	1 book	1 book	1 book
Brinell Microscope	Nil	1 Pc	1 Pc	Nil	Nil
Stell Ball Indentor 2.5mm	Nil	1 Pc	1 Pc	Nil	Nil
Stell Ball Indentor 5 mm	Nil	1 Pc	1 Pc	Nil	Nil
Test Block HB-2.5/187.5	Nil	1 Pc	1 Pc	Nil	Nil

TECHNICAL SPECIFICATIONS

Model	SL- 5A, 5B	SL- 5C	SL- 5D	SL- 5E	SL- 5F
Max Load (kgf)	150	187.5	250	45	150
Load range (kgf)	60, 100, 150	60, 100,150, 187.5	60, 100, 150, 187.5, 250	15, 30, 45	15, 30, 45 60, 100, 150
Initial Load range (kgf)	10	10	10	-	3, 10
Max. test height (mm)	216	216	290	-	290
Depth of throat (mm)	133	133	148	148	148
Size of base (mm)	171 x 445	171 x 445	210 x 510	210 x 510	210, 510
Machine height (mm)	635	635	845	845	845
Nett. weight (Approx). kg.	77	77	137	137	137
Test Performed	Rockwell	Rockwell & Brinell	Rockwell & Brinell	Superficial	Rockwell & Superficial



Fatigue Testing Machine

FATIGUE TESTING MACHINE

SPECIFICATIONS:

- ◆ Light weight, compact size, simple design
- ◆ Table model
- ◆ Simple lever system for changing load
- ◆ Accurately calibrated as per ISO75
- ◆ 10 Digit electronic counter instead of mechanical counter can be supplied at additional price and the model is termed as SL-F 10
- ◆ Machine with maximum bending movement upto 400kg/cm can be offered on request

TECHNICAL SPECIFICATIONS

1) Maximum bending moment	kg cm	200
2) Bending movement adjustable	kg cm	0-200
3) Ranges	I-kg cm	30-100
	II-kg cm	100-200
4) Gripping dia of specimen	mm	12
5) Testing dia of specimen	mm	8
6) Rotating Speed	rpm	4200
7) Accuracy of applied bending	moment	$\pm 1\%$
8) Digital counter No. of digits		100.5
9) Power required	HP	220V, 50
10) Main supply	A.C.Ph	Hz



Brinell Hardness Tester

BRINELL HARDNESS TESTER

The machine is designed with a Hydraulic Power pack and control circuit for effortless loading unloading operation. A dial gauge in from measures depth of ball penetration. This facilitates production testing within tolerance limits by comparison method.

STANDARD ACCESSORIES

Model	SL 3000
Testing Table 200 mm Ø	1 pc.
Testing Table 200 mm Ø with 'V' groove for round jobs-10 to 80 mm dia	1 pc.
Ball holder 5 mm	1 pc.
Ball holder 10 mm	1 pc.
Test block HB-5/750	1 pc.
Test block HB 10/3000	1 pc.
Brinell Microscope	1 pc.
Allen Spanner	1 pc.
Telescopic cover for elevating screw protection	1 set
Instruction Manual	1 book

Technical Specification

Model	SI-3000
Max load (kgf)	3000
Load range (kgf)	In stage of 250 kgf
Initial Load range (kgf)	250
Max. test height (mm)	410
Depth of throat (mm)	200
Size of base (mm)	670 x 370
Machine height (mm)	1127 mm
Nett. weight (Approx. Kg.)	450 kg
Test Performed	Brinell

METALLURGICAL INVERTED MICROSCOPE

Magnification Range: 20x to 400 x (Standard)

Observation Head: Binocular 45° with interpupillary and diopter adjustment

Stand: Sturdy and Durable pressure Die cast Aluminium stand.

Mechanical Stage: Co-Axial low drive double plate mechanism system travel on ball bearing guide ways.

Focusing System: Co-axial coarse & fine mechanism system with ball bearing guide ways.

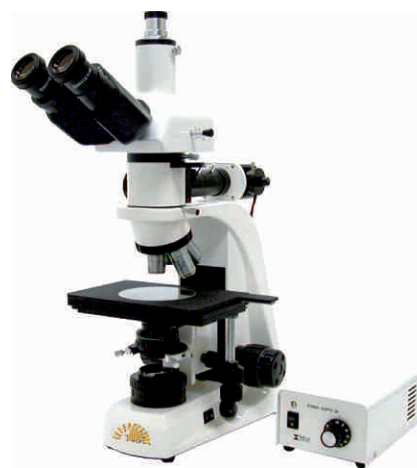
Epi-Illumination: Built in base 12V-50W Halogen lamp with light intensity control system.

Quadruple Nose Piece: A precision mechanism ensures the accuracy and optical alignment of the system.

Filters: Green & Blue.

DIN-LWD Objectives: M4 x M10x, M20x & M40x (SL). Anti Fungal & infinity corrected.

Eye Pieces: 5x & 10x Paired. Extra wide field, Anti fungal & Anti reflected



SL-1008

Binocular Inverted Metalurgical Microscope



SL-1009

Muffle Furnace

MUFFLE FURNACE

LabTek Rectangular Muffle Furnace Maximum Temp. 950 deg. C working Temp. 1200 deg. C

- A. 100 x 100 x 225mm. (4" x 4" x 9")
- B. 150 x 150 x 300mm. (5" x 5" x 10")
- C. 150 x 150 x 300mm (6" x 6" x 12")
- D. 200 x 200 x 300mm (8" x 8" x 12")



SL-1010

Double Disc Polishing Machine

DOUBLE DISC POLISHING MACHINE

This is double disc polishing machine for met allographic samples. Two independent polishing units is mounted on a common MS frame, other specification as per single disc.

This Machine is portable model for polishing of met allographic sample. Disc dia 200 mm made of Aluminum. Speed continuously variable up to 950 RPM. Rating- 0.25 HP single phase 220 Volt A.C. Provided with sink and swing type laboratory water tap. Water proof Formica table top.



SL-1011

Belt Grinder



SL-1012

Specimen Mounting Press

QUALITY POLICY

The Management and the staff of LabTek is committed to provide Educational training equipments and test & measurement products and services on par with international standards with and emphasis on cost effectiveness, customer satisfaction and market coverage. It is our endeavor to create a culture of total quality where continuous improvement of our products by increasing involvement of people through customer oriented, flexible, multiple job functions with emphasis on cost consciousness becomes a way of life.

***The largest established manufacturing, trading and export house of quality
Technical Education Lab Equipments in INDIA***

Sun LabTek Equipments (I) Pvt. Ltd.

Corporate Office:

B-3A, Shiv Shakti Complex, East Vinod Nagar, Ist Floor, New Delhi-110091
Tel: 011-22732108/2109, Fax: 01122732109 Customer Care No.: +91-99999-84267
Mob: +91-99710-77233, +91-98118-88915
E-mail: labtekindia@gmail.com, **Website:** www.labtekindia.com

Works :

80-A, Rajendra Nagar Industrial Area, Sahibabad, Ghaziabad-210005, Uttar Pradesh (India)