CELEBRATING 40+ ACCURATE Metrology & Automation 1984-2025

ACCURATE
Metrology & Automation
Since 1984

Total Measuring Solutions...

- *In-house Manufacturing*
- *Global Technology*
- *Assured Quality*
- *After Sales Services Support*

ACCURATE METROLOGY & AUTOMATION COMPANY was founded by Late **Mr. Vilasrao Salunke** in the **Year 1984** as pioneering company in India in the field of **Precision Measuring Instruments** which were being imported till then.

AMAC today is **Most Trusted Name in the Field of Metrology** in India for **last 40+ years** with an excellent track record for good quality products for the Calibration Laboratory. Our overseas presence is in 40 countries through our distributors !

We believe in keeping the customers happy by providing them with best solution at a very competent prices and service support !

We have acquired **Karl FRANK World-class German Gauge Blocks** manufacturing plant in year 2000.

We have excellent team in application engineering and design with long knowhow and technical expertise to study your requirements and provide **customized solutions in inspection** of parts for automotive and engineering industry.

We also represent and work with overseas companies best known in field of inspection to give complete solutions to our customers !

Our Factory

Design Dept.

Raw Material

CNC Shop

Machine Shop

Gauge Block Lapping Facility

Assembly Area

Software Department

Standard Room

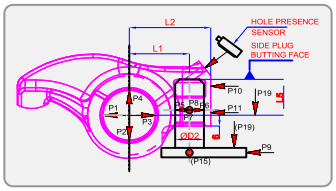
Heat Treatment

Sub Zero Equipment

Hard Chrome-Plating

AUTO GAUGING STATION

PC BASED CONTACT TYPE SEMI AUTO GAUGING WITH EDDY CURRENT & MARKING SYSTEM FOR ROCKER ARM



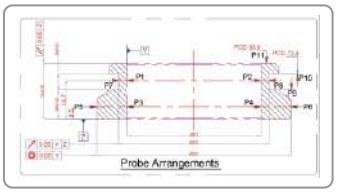
Features :

- PC & PLC Based Semi Auto Gauging System for Rocker arm
- Contact type measurement
- Eddy current system for Hardness
- QR Code Marking by laser interlink with gauging system
- Oil Hole Presence by non contact Sensors
- Rejection Poke-Yoke

Parameters

- Inner Diameter, CD & Depth
- Distance at various position
- Hole Depth & Oil Hole Presence
- Face Perpendicularity w.r.t main bore

PC BASED AUTO GAUGING SYSTEM FOR BEARING SLEEVE



Features :

- PC-PLC based Auto Gauge Station
- Component Pick & Place by Inline integration gantry system
- Pin marking w.r.t. results
- Auto correction facility
- Provision of Poka-yoke & Air Jets for part cleaning
- Provision of safety curtains
- Updated SPC Package Industry 4.0 support

Parameters

- Inner & Outer diameters at two places
- Groove diameter & Total Thickness
- Distance Position & Wall thickness variation
- Flatness

SEMI - AUTOMATIC LASER MARKING STATION FOR CYLINDER HEAD

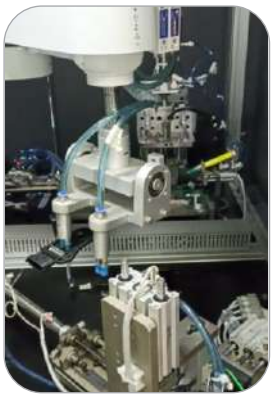
Features :

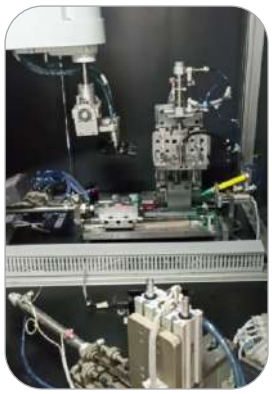
- Auto focus Laser marking for QR code marking
- PCL system with safety interlocks
- DAQ software for data analytics
- Automatic fume extractions facility
- Handshaking with scanner & manufacturing machines
- Pokayoke for wrong loading

SENSOR HOUSING CHECKING MACHINE

Features :

- Vision test-'O'ring presence check by camera
- High voltage test
- Continuity test
- Terminal height check by contact type system
- Robotic Pick and Place
- OK / NOT OK component automatic segregation
- DAQ software
- Cycle time 25 sec.





CAM AND CRANKSHAFT MEASURING MACHINE

- CCMM1000 machine is ideally suitable for inspection of critical parameters of
- Crankshaft
- Camshaft
- Other Cylindrical Input Output Shaft

SPECIFICATION :

- Z-Axis – 1000 mm
- X-Axis – 200 mm
- Load Carrying Capacity – 45/80 Kgs.

FEATURES :

- Complete Automatic Machine
- Compact machine which can be used on in-line and offline
- Use of Made in Germany High Precision Optical Scale-Encoder ensures precise and accurate measurements
- High Precision Air Bearing Spindle for better Runout
- Mechanical Bearing Also Available Optionally
- Adjustable Tail stock to accommodate various components within range

PC BASED SMART WIRELESS INSTRUMENT SYSTEM

FEATURES :

- This is special purpose PC Based Semi Auto Gauge station with interface and follows industries 4.0 standard
- Software base data acquisition and transmission, signal, conditioning, calibration and checking of components
- Customized gauging system for any component measurement with manual loading and unloading to measuring various parameters by attribute gauges, Variable dial type gauges and digital instruments such as Micrometer, Vernier Caliper, and Height Gauges.
- Poka-Yoke for Gauge presence by gauge presence sensors and auto parameters sequence checking purpose
- Manual data entry for observation in software
- Software decided Accept, Reject and Rework with auto summary report transfer in excel sheet format and save proper place in PC system

ROUNDNESS MEASURING MACHINES

PRECIROND 1000

- Compact roundness machine designed to operate on shop floor with granite base and high accuracy air bearing spindle.
- Complete and powerful data analysis with winround software.
- Enhanced functionality.
- Ease of operation.
- Software assisted centering & levelling.
- Manual vertical & horizontal movement under rack & pinion mechanism.

PRECIROND 2000

- Air bearings for high accuracy table rotation and long-lasting precision.
- High precision gauge head to give excellent repeatability & linearity over entire range.
- Software assisted centering & levelling.
- Interrupt profile measurement possible for cylindricity calculation.
- Various component holding fixture can be designed on requirement.
- Optionally Available: Motorized / Semi CNC

Technical Specifications

Model		Precirond 1000	Precirond 2000	Precirond 2000 Plus
Measuring Range (mm)	Diameter	300		
	Height	350	400	
Roundness Error (µm)		0.05 + 0.0005h (h in mm)		
Resolution (µm)		0.01		
Parameters		Roundness, Concentricity, Eccentricity, Run Out, Flatness, Parallelism, Squarness, CO-Axiality.	Precirond 1000 Parameters + Cylindricity , Total Radial Runout, Straightness, Vertical Slope.	Precirond 1000 Parameters + Precirond 2000 Parameters + Straightness (Horizontal), Total Axial Runout, Horizontal Slope & Conicity

TOOL PRESETTER

TOOL SET

Drill Height measurement

Tool Dia. measurement

Drill Dia. measurement

- Tool Set design to keep on shop floor next to machine.
- For giving tool offset on VMC for diameter & height of tools.
- Sylvac electronic display & scale, MIN / MAX function indicator & Output - OPTO RS 232 for both axis optionally.
- Reduction sleeve of various taper can be used.
- Optional Pneumatic Clamping for positive gripping for tool holder.

Technical Specifications

Models	Measurment		
	Max. Dia (mm)	Max. Height (mm)	Resolution
Tool Set 100	300	450	1 µm
Tool Set 200	300	550	

CALIBRATION MASTERS

FLOATING CARRIAGE MICROMETER

- Calibration of Major, Minor & Effective or Pitch Diameters for external threads plug gauge.
- Effective diameter of taps can also be checked.
- All guides ways and wear parts are hardened to prevent wear during prolonged use.
- Vee guides of centers are provided with tungsten carbide strips for longer life.
- Odd Flute attachment for Tap Measurement is supplied.
- Option available: 1.micrometer drum 2.Digital Dial 3.Digital Display System 4.Digital display system SYLVAC /Accretech 5.thread cal. software (optional)

Technical Specifications

Range	MECHANICAL	*Digital Display with Probe	*Digital Dial 12.5/25
(0-100) mm MODEL	Max. DIA 100	Max. DIA 100	Max. DIA 100
(0-175) mm MODEL	Max. DIA 175	Max. DIA 175	Max. DIA 175
Least Count (µm)	0.2	0.1	1
Accuracy (mm)	0.004	0.002	0.003
Repeatability (mm)	0.002	0.0005	0.001
Accessories	Thread Measuring wires, Thread Measuring Prisms, Cylindrical setting masters, NPT & BSPT Centers for Taper thread plug , Mandrel set, and Female centers.		

DIAL CALIBRATION TESTER

MANUAL MODEL

- Calibration of Dial gauges (Plunger & Lever Type) and Bore Gauges.
- Based on Abbe's Principle.
- Replaceable probe - No need of dedicated probe as a master.
- Horizontal orientation arrangement for lever type dials & bore gauge.
- Interface with Computer for DG Cal Software as per IS 2092 : 1983 for plunger type dial & IS 11498 : 1985 for lever type dial.

Technical Specifications

Model	Model DCT 1	Model DCT 2
Measuring System	Digital Display with 25 mm Probe Stroke	Digital Dial
Calibration Range (mm)	0-25	0-25
Repeatability (mm)	0.0003	0.001
Displacement Error (mm) over full range	0.0025	0.005
Resolution (mm)	0.001 / 0.0001	0.001

GAUGE BLOCK COMPARATOR

- Calibration of gauge blocks with central length & parallelism by 5 point calibration method.
- Software as per IS 2984 with capability of maintaining the gauge history.
- Differential probing system from MAHR
- Cast iron frame for high accuracy & stability.
- Carbide measuring slides for high life.

Technical Specifications

Measuring System	Digital
Measuring Range (mm)	0.5 to 100
Repeatability (µm)	0.02
Resolution (mm)	0.001, 0.0001, 0.00001
Display	Gauge Block Tester Software Ver. 1.0.0
Accuracy (µm)	0.03

INTERNAL MICROCHECKER

- Specially designed for the 0 setting of rod type inside micrometers
- Hardened, Ground, Sub-zero treated steel blocks with absolute dimensional stability housed in rigid cast iron housing.

Technical Specifications

Internal Microchecker		
Specification	IMC - 300	& IMC - 600
Range (mm)	25 - 300	& 25 - 600
Accuracy (µm)	± 3	& ± 5
Block Pitch	25 mm	

GAUGE BLOCKS

MATERIAL STEEL & CARBIDE

- FRANK World-class German Gauge blocks now manufactured by **Accurate Metrology and Engineering Company.**
- Manufactured as per DIN EN ISO 3650.
- Manufactured from High Quality Alloy Chromium Steel. Hardened & sub- zero treated for dimensional stability.
- Gauge Blocks available in sets & individual.

Technical Specifications

Slip Gauge	
Specification	Manufactured as per DIN EN ISO 3650
Material	Steel / Carbide
Grade	K, 0 ,1 & 2
System	Metric
Set Sizes	M32, M46, M47, M79, M88, M103, M112 & M122

DEPTH MICROCHECKER

- Calibration and Zero setting of Depth Micrometers.
- Master Gauge Block provided as reference point for the calibration of Depth Micrometers at different heights.

Technical Specifications

Depth Microchecker			
Range	0 - 150/ 6"	&	0 - 300/12"
Accuracy (mm/Inch)	0.003/0.00008"	&	0.003 /0.00012"
Graduation (mm/Inch)	25 / 1"		
Reference Block	25mm / 1" Accuracy +/- 0.5 µm		

CALIPER CHECKER

- Designed for the Calibration of all kinds of Calipers & Height Gauges
- Hardened, ground, Sub-zero treated steel blocks with absolute dimensional stability.

Technical Specifications

Caliper Checker	
Range	Accuracy
300 (mm)	± 0.005
600 (mm)	± 0.005
1000 (mm)	± 0.010
Available in Inch Version on Request	

MICROMETER CHECK SET

- All gauge blocks are made of Alloy steel, hardened and sub-zero treated for dimensional stability
- Provides calibration of external micrometers

Technical Specifications

Micrometer Calibration Set	
System	Metric
Range	0 to 25mm 10 Pieces, 25 to 50mm 11 Pieces, 50 to 75mm 11 Pieces, 75 to 100mm 11 Pieces, 0 to 100mm 13 Pieces,
Accuracy	Grade 0 & 1 Slip Gauges
Optional	Gauge Block Holding Stand

CHECK MASTER

- Linear axis calibration for CMM, VMC & Height Master.
- Hardened, Ground, Sub-zero treated Steel gauge blocks with absolute dimensional stability housed in rigid cast iron housing.
- Optionally available : Swiveling stand for positioning step gauges at different angle.

Technical Specifications

Check Master				
Range	Block Interval	Nominal Dimensions (WxDxH) mm	Max Deviation	Weight
0-450 mm	10 mm	478 x 66 x 86	**± 3.5µm**	12 Kg
0-600 mm	10 mm	628 x 66 x 86	**± 4.5µm**	16 Kg
0-1000 mm	10 mm	1028 x 66 x 86	**± 6.5µm**	23 Kg

RECEIVING & RELATION GAUGES

RELATION GAUGES

- A wide range of highly accurate Relation Gauges are manu-factured using quality tested raw material, heat treated and stabilized in in-house subzero plant for dimensional stability over a period of time
- Customer can avail this range in various standards as well as customized dimensions as per their requirements

Features

- Optimum performance & Durability
- Resistant to abrasion and corrosion
- Controlled Clearance for Pin sliding

Height Checking Indicative Gauge for Connecting Rod

Hole Position Checking Receiving Gauge

Groove Distance Checking Gauge with Analog Dial Indicator

Cylinder Block Depth Checking Indicative Fixture

LINE MEASURE 1000

SCALE & TAPE CALIBRATION UNIT

- This Unit is useful for calibration of steel scales and Measuring tapes.
- The machine base is designed to ensure friction less when tapes are stretched under tension of 50 N & above.
- Higher accuracy & repeatability
- DRO /PC based Software data saving facility for future reference
- High accuracy CCD Camera

Technical Specifications

Range	Line Measure
Ref. Standard	Meets IS 1269 Part 2 requirements
Resolution of DRO (mm)	0.005/0.010
Repeatability (mm)	0.005/0.010
Accuracy (mm)	0.015 / 1000
Magnification	20 X

MEASURING TOOLS

MEASURING PIN SET

- Measuring Pins for checking of bores, center distances, groove dimensions, inspection of micrometers, gear measurements etc.
- Manufactured from high quality alloy steel & are sub-zero treated for dimensional stability.
- Pins with Knobs or Handle & Collets are optional.
- Loose pins or odd sizes available on request.
- Pin size marking : 1. Standard on Diameter 2. Option Available : On Face

Technical Specifications

Ref. Standard	IS 11103 : 1984 / DIN 2269		
Ranges (mm)	0.50 to 25		
Steps (mm)	0.01, 0.02, 0.05 & 0.10		
Accuracy / Grade	Diametrical Tolerance	Surface Finish	Hardness
1	± 0.001 mm	0.1 µm Ra	(60± 2 HRC
2	± 0.002 mm	0.1 µm Ra	(60± 2 HRC

3 WIRE MEASURING SET

- For measurement of the pitch diameter of screw threads using standard micrometer.
- Suitable for micrometer with measuring faces spindle diameter of 6.35,6.50 or 8.00 mm
- Wires are hardened, ground and lapped
- Available in single unit (one unit consists of 3 assorted sizes of wires) or in complete set (one set consists of 18 assorted sizes of wires)

Technical Specifications

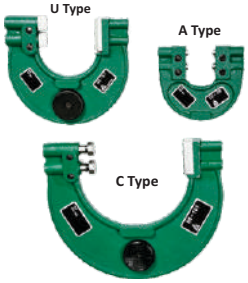
Range	Sizes	Hardness	Accuracy Diametrical Tolerance
0.25 - 5.0mm Pitch Threads (1 unit = 3 wires)	0.170, 0.195, 0.220, 0.250, 0.290, 0.335, 0.390, 0.455, 0.530, 0.620, 0.725, 0.895, 1.100, 1.350,1.650, 2.050, 2.550, 3.200	(60± 2 HRC)	± 0.5 µm

DIAL SNAP GAUGE

- Precise and compact external diameter measurement.
- Carbide Anvils for better wear resistance.
- Special arrangement for anti - rotational measuring anvils.

Technical Specifications

Parallelism	As per IS 14271-1995
Flatness of Anvil (mm)	0.0015
Range (In mm)	0-25, 25-50, 50-75, 75-100, 100-125, 125-150, 150-175, 175-200, 200-225, 225 - 250, 250 - 275, 275-300
Optional	Cylindrical Setting Master available on request



ADJUSTABLE SNAP GAUGE

- For Go/No Go Gauging with Reset facility.
- Hardened, ground and lapped anvils.
- Button Type anvil is standard.
- Optional Available :
- Groove Type & Pin Type.

Technical Specifications

Application	Limit gauges for external diameter checking		
Ref. Standard	Conforms to IS 7606 1982		
Anvil Flatness	1.5 µm		
Types	[C Type]	[A Type]	[U Type]
Range (In mm)	[C Type : 0 - 300]	[A Type : 0 - 305]	[U Type : 0 - 260]

SOLUTION FOR GEAR

OVER BALL DIAMETER (O.B.D.) SNAP GAUGE.

- Versatile instrument used for measuring gear O.B.D.
- Highly versatile, large range and can be quickly and easily set to any size within its range.
- Hardened and ground measuring spindles.
- Lever controlled retraction ensures easy job insertion.
- Dials / Probes of Ø 8mm stem can be mounted in two positions in line and 90° to the spindle / measuring axis.
- Optional setting masters and interchangeable anvils available.

Technical Specifications

INTERCHANGEABLE ANVILS TYPE

Measuring Range mm	Measuring Force N	Anvil Mounting Hole mm
0-40	7.50	3.50
40-80	7.50	3.50
80-130	10.00	3.50
130-180	10.00	3.50
180-230	10.00	3.50

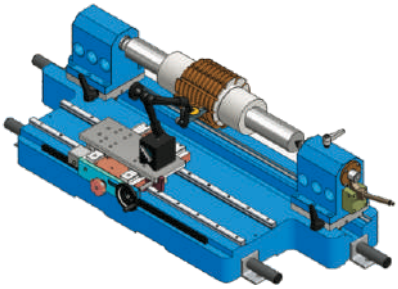
SPAN SNAP GAUGE

- Versatile instrument used for measuring gear span width.
- Lightweight & handy frame.
- Highly versatile, large range and can be quickly and easily set to any size within its range.
- Hardened and ground measuring spindles.

Technical Specifications

Measuring Range mm	Measuring Force N	Measuring Face		
		Size mm	Flatness µm	Parallelism µm
0-40	7.50	12 x 12	0.5	4
40-80	7.50	12 x 12	0.5	5
80-130	10.00	12 x 12	0.5	5
130-180	10.00	12 x 12	0.5	5
180-230	10.00	12 x 12	0.5	6

HOB CHECKING TESTER



- This is a universal machine used for measurement of HOB

Parameter

- Flute Lead error
- Rack error
- Pitch to pitch error (With two dial)
- Hub face & OD run out

Technical Specifications

Centre height : (mm)	150
Distance between centres: (mm)	0-350
Repeatability : (mm)	0.002

GEAR SHAFT MEASURING MACHINE

- This is a universal machine used for measuring gear shaft, runout.
- **Features**
- Sturdy shop floor design
- Cast iron base & center heads are made from closed grounded, seasoned & stress relived iron castings on working face.
- The center stock spindle is ground lapped to ensure accuracy of the spindle height.
- One center is spring loaded for accommodating the different length shafts.

Technical Specifications

Centre height : (mm)	150
Distance between centres: (mm)	0-350
Repeatability : (mm)	0.002

GEAR OBD CHECKING FIXTURE

- **Features**
- **AMAC** supply OBD unit with standard Carbide / harden steel ball anvils
- Can be used with Probe and Digital Display unit or Digital Dial with RS 232 data cable
- Easy loading and unloading
- Data acquisition and SPC analysis (available optional)
- Odd and even numbers of teeth for spur and helical gears

Technical Specifications

Diameter Range : (mm)	0 -100	100-200
OBD Dia. : (mm)	40 - 90	90 - 172
Repeatability : (mm)	0.003	0.003

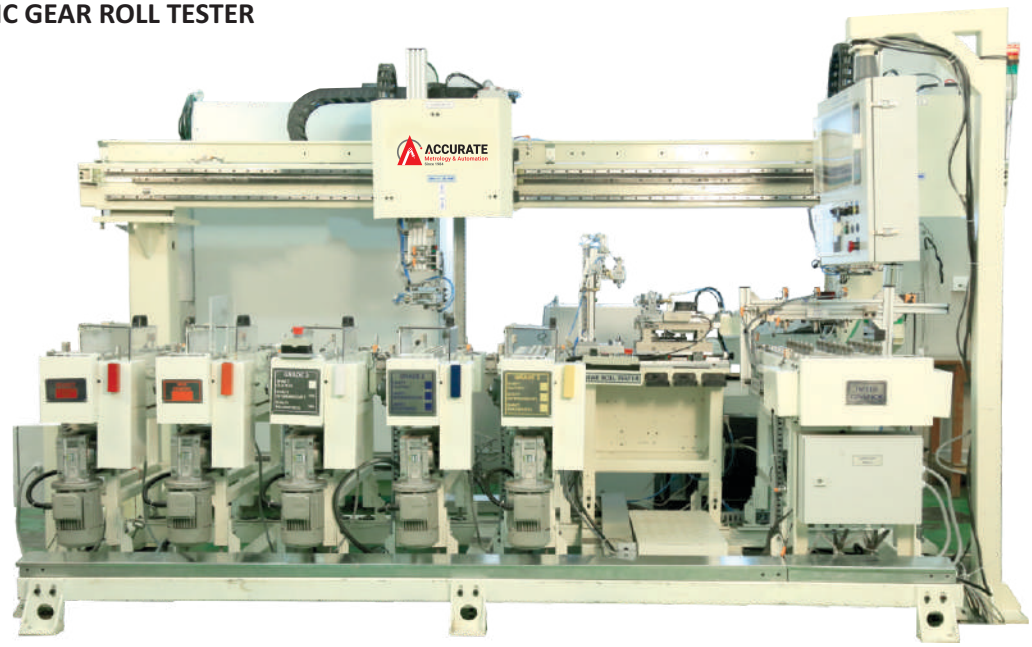
SOLUTION FOR GEAR

UPGRADATION OF GEAR TESTER

- Up-gradation of old CNC gear tester under taken by Accurate Metrology And Automation Company with the following scope :-
- 1. Mechanical restoration and geometrical alignment as required by machine standard.
  2. Replacement of old electronics with new drive & controller.
  3.New Gear Soft 5.0 window based gear software.
  4. Various option are available to suit customer needs like internal / external gear inspection, cutter, gear shifter drums, spline shaft etc.
- 5. All required accessories and fixtures of gear measuring are manufactured in-house at our end.

- **Features**
- Low cost up-gradation of old CNC 3 Axis / 4 Axis Gear Tester with indigenous software and electronics.
- Up-gradation is possible on most of the old CNC gear checking machines like Klingelnberg, Hofler, M & M, Mahr, Osaka, Maag & others.
- Renishaw scanning probe SP600 - 3D Probe
- Use of latest drive & controller from Delta tau.
- Setting of all mechanical parts to achieve required geometrical accuracies up to class 2 of VDI 2612 / 13 standards.

CNC / AUTOMATIC GEAR ROLL TESTER

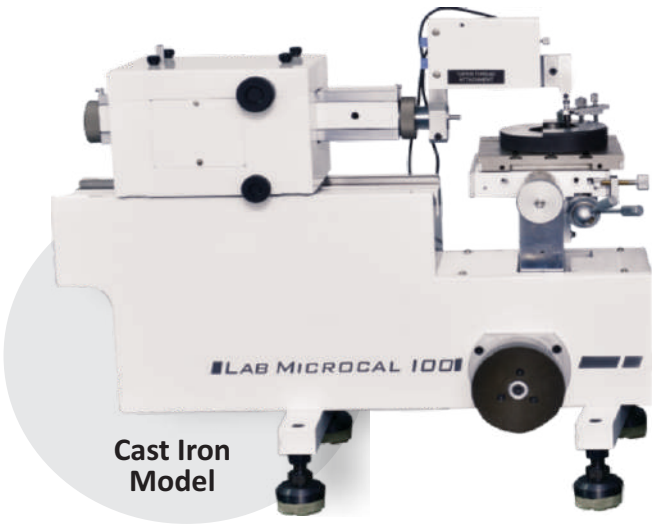


- Unique design for fast measurement of Spur & Helical gears
- Automatic Cycle features
- Manual Loading & Unloading for semi Automatic GRT
- Pick & Place by Gantry / Robot for fully Automatic
- Graphical Presentation of Measured parameters
- Stacker / Conveyer are used for Input & Output System Component depending on No. of Component
- Interfacing with Marking System: Laser Marking / Pin Marking / Paint Marking / Pen Marking

PARAMETER: Tooth to Tooth Error; Total Runout Error; Total Composite Error; Over ball Diameter

	Minimum	Maximum	Unit
Max Dia of measured gear	-	125	mm
Centre Distance	-	80	mm
Max Weight of Gear	-	2	Kg
Max testing moment	Variable		
Accuracy	Within ±2 micron as per specifying standard		

UNIVERSAL LENGTH MEASURING MACHINES



Cast Iron Model

LAB MICROCAL 100

- Follows 100% Abbe's principle for measuring axis.
- Constant measuring force is ensured with dead weight balance for measuring head.
- Vertical table slide is with precise linear bearing for high accuracy & zero backlash.
- Special metallic scale from Germany for high accuracy
- Universal measuring table.
- Suitable for internal diameter & dial measurement only.
- Labmicrocal 100 easily can be upgraded to Labmicrocal 600 by replacing the Cast iron base onsite.
- **Option Available :**
- Vertical table lift : **Manual & Motorized.**

Cast Iron Model

LAB MICROCAL
600 / 1000 / 1500 / 2000 / 3000

- Measuring Spindle cross section of size (60x40 mm) for rigidity & straightness accuracy <1 Micron.
- Measuring head carriage precisely preloaded & aligned with special bearing to ensure the lifetime accuracy.
- Adjustable Anvil design ensures the parallelism of measuring faces of anvil.
- Constant measuring force over entire measuring range.
- Wide range of accessories to achieve the diversified measurements including threads, taper threads, tapers and gears.

Option Available :-

Base : Cast Iron base, Granite & air bearing.
Vertical table lift : Manual & motorized table lift.
Measuring Scale : Metallic scale / Heidenhain glass scale / Laser scale.

Granite Model

Technical Specifications

Model		LMC 100	LMC 600	LMC 1000 / 1500 / 2000 / 3000
		Measuring Range		
External Range	Absolute	—	100	525 /825/1525 mm
	Differential	—	600	800 /1200/2000 mm
Internal Range		3 -100	3 - 450	0.5- 670 / 1100 / 1850
X Axis Resolution		0.1 µm*	0.1 µm*	0.1 µm*
Measurement Uncertainty		0.5 + L /1000 *	0.5 + L /1000 *	⩽ 0.3 + L / 1000 µm*
Measuring Force		0.2N-4.5N,11N (optional)		
Work Table Dimension		160 x 160 mm	160 x 160 mm	160 x 160 mm
Compressed Air		NA	NA	4 Bar

*Special accuracies, measuring ranges are available on request.

Our Global Presence

40+ Countries | **5+** Continents | **25+** Distributors

Asia

- Bangladesh
- China
- Hong kong
- India
- Indonesia
- Malaysia
- Myanmar
- Philipines
- Singapore
- South Korea
- Thailand
- Taiwan
- Vietnam

Europe

- Denmark
- Greece
- Hungary
- Ireland
- Russia
- Sweden
- Switzerland
- Slovenia
- Ukraine
- France
- Germany
- Italy
- Spain
- UK

Middle East

- Bahrain
- Iran
- Kuwait
- Oman
- Qatar
- Saudi Arabia
- Turkey
- UAE
- Israel

Australia

- Australia
- New Zealand

Central America

- Mexico

South America

- Argentina
- Brazil
- Columbia

Africa

- Egypt
- South Africa

Northern America

- Barmuda
- Canada

OUR INDIA PRESENCE

- Pune
- Nashik
- Kolhapur
- Gujarat
- Kolkata
- Delhi
- Bhiwadi
- Bangalore
- Chennai
- Coimbatore

ACCURATE
Metrology & Automation
Since 1984

Accurate Metrology And Automation Company

(Formerly "Aditya Engineering Company")

Head Office : 67, Hadapsar Industrial Estate, Pune-411 013, Maharashtra, India.
+91-20- 6606 9595, +91 86000 23615
Works : A/P - Khalad, Saswad Jejuri Road, Tal. Purandhar, Pune-412 301, India.
+91 99700 02528
+91 86000 21671
amac@accuratemetrology.in
www.accuratemetrology.in
GST : 27AACFA5688G1ZA
PAN : AACFA5688G

Authorised Distributor :

MKT-2025

Sales Branch Offices

Pune	: +91 99700 02573	**Delhi**	: +91 80107 32455
Nashik	: +91 74474 64750	**Bhiwadi**	: +91 95551 81100
Kolhapur	: +91 86000 23613	**Bengaluru**	: +91 95903 25411
Gujarat	: +91 91759 83127	**Chennai**	: +91 90214 12461
Kolkata	: +91 99030 79509	**Punjab**	: +91 95955 74755
Chh.Sambhajinagar	: +91 99700 05605	**Jamshedpur**	: +91 76446 20966

Note : Due to continuous Improvements at our end, Specifications are subject to change without prior notice.