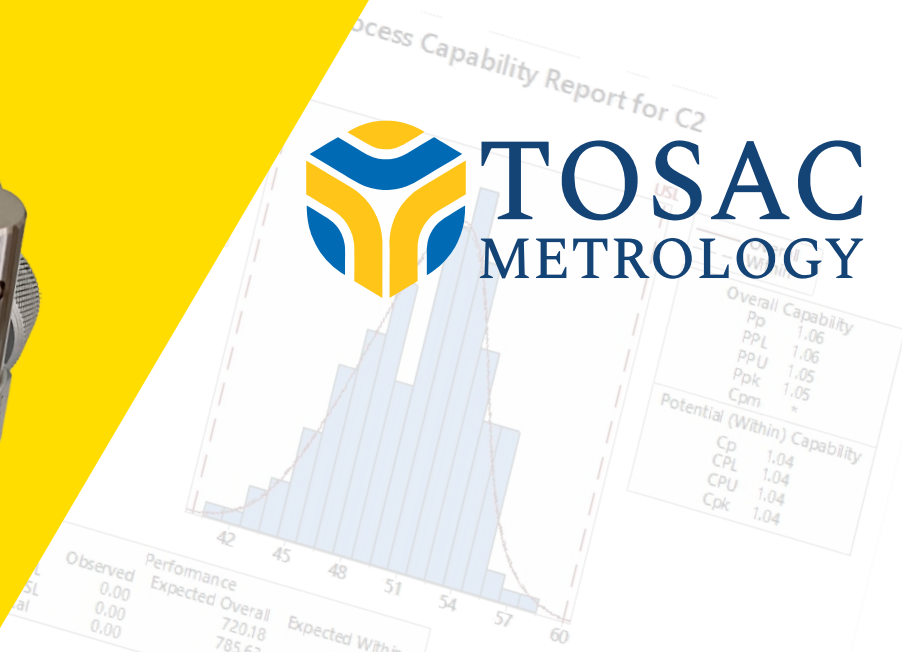




TOSAC
METROLOGY



INTRODUCTION

TOSAC METROLOGY PRIVATE LIMITED is a ISO 9001:2015 Certified company that specializes in the field of Linear Dimensional Metrology. Our company offers a wide range of high-quality measuring instruments and Gauges such as Air Gauges, Electronic Gauges, Multigauge Fixtures, Taper Gauges, Receiving Gauges, Attribute Gauges, Setting Masters, various types of Air and Electronic Display Units, Data Acquisition and SPC Software, Traceability Software, SPC Readout Units, etc. Apart from this, we also provide Calibration, Repairing and AMC Services.

At TOSAC METROLOGY, we understand the importance of quality control in today's competitive market, and that's why we provide customized gauging solutions to check quality parameters. Our team of experts has years of experience in the field of metrology and can help you select the most appropriate instrument for your specific needs.

We are committed to provide our customers with the highest quality products and after sales services. Our state-of-the-art manufacturing facility is equipped with the latest technology and our products are rigorously tested to ensure accuracy and precision. We strive to maintain the highest standards of quality and customer service in all aspects of our business.

At TOSAC METROLOGY, customer satisfaction is our top priority. We are dedicated to provide our customers with the best possible experience and are always available to answer any questions or concerns they may have.

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ANALOGUE TYPE AIR GAUGE UNIT

Features

- Provides most economical solution for precise and accurate inspection on Shop Floor
- Being non-contact gauging and minimal frictional wear, it provides longer gauge life
- Due to High pressure of Air and self cleaning of gauging area, it provides high response rate and most accurate reading of Size, Ovality, Taper
- Calibration with Two Setting Masters ensures perfect linearity and correct magnification of readings
- Supplied along with Twin Filter, Regulator and Monogauge Assembly.
- Available in various Least Count, Range and Graduation combination as per the application
- Minimum Line Pressure required 5.0 bar (72 psi)
- Air Consumption is 46 LPM
- Available in both MM and Inch

ADT Model



ADT1



AUT Model

Specifications

Reading (L.C)	Range	Graduation	Model	Used to Measure \varnothing
0.001 mm	± 0.040 mm	40–0–40	ADT1	6 mm – 200 mm
0.001 mm	± 0.020 mm	20–0–20	ADT3	2 mm – 6 mm
0.0005 mm	± 0.020 mm	20–0–20	ADT2	6 mm – 50 mm
0.002 mm	± 0.080 mm	80–0–80	ADT4	6 mm – 200 mm
0.001 mm	± 0.040 mm	40–0–40	AUT1	2 mm – 200 mm
0.0005 mm	± 0.020 mm	20–0–20	AUT2	2 mm – 50 mm
0.002 mm	± 0.080 mm	80–0–80	AUT3	2 mm – 200 mm

AIR ELECTRONIC CONVERTER



AEC1

- This unit converts air/pneumatic back pressure into electrical signal.
- Offers combined advantage of non-contact air sensing and high precision electronics
- Can be supplied or connected to Digital or Column Readout Unit.
- RS232 data output available for further processing like machine control through relay output, etc.
- Available for diameters 2 mm to 250 mm

MICROPROCESSOR BASED DIGITAL READOUT UNIT

Features

- Tri Color LED Type 6 Digit 7-Segment display for Accept/Reject/Rework
- Available in 1 / 2 / 3 / 4 / 5 / 6 / 7 & 8 Independent Channel Piezo/Probe Interface
- 8X2 LCD display with backlit for easy user interface
- Option to choose Least Count 0.1, 0.5, 1 or 10 Microns
- Option to display readings in MM/Inch
- 6-Keys Soft Touch Keypad
- Multiple Programs can be saved (Max 20)
- Multiple measurement modes – CUR, MIN, MAX, AVG, TIR
- Single/Double Mastering
- Auto Calibration
- High/Low Tolerance Indicator
- Programmable Auto Cycle, Limit & Test Time
- Absolute/Relative Mode for Reading
- RS232 data output
- Can be supplied with Relay Output
- Buzzer On/Off facility
- Auto Air Cut Off feature
- Auto Tool Offset Correction can be provided
- Supplied along with bracket mounted Twin Filter, Regulator and Monogauge Assembly (For Pneumatic Units)

PIEZO BASED ELECTRONIC UNIT



PEU1



PROBE BASED ELECTRONIC UNIT



EDU1

TRI-COLOR LED MICROPROCESSOR BASED COLUMN TYPE DIGITAL DISPLAY GAUGE

Features

- Tri Color Column Type LED Bar Graph display for OK, Reject or Rework
- Single Channel Piezo/Probe Interface
- 8X2 LCD display with backlit for easy user interface
- 6 Digit 7-Segment LED display
- LED Indication for Range (10, 30, 100 Microns)
- Option to choose Least Count 0.1, 0.5, 1 or 10 Microns
- Option to display readings in MM/Inch
- LED Indication for MM/Inch
- 6-Keys Soft Touch Keypad
- Multiple Programs can be saved (Max 10)
- Multiple measurement modes – CUR, MIN, MAX, AVG, TIR
- Single/Double Mastering
- Auto Calibration
- High/Low Tolerance Indicator
- Programmable Auto Cycle, Limit & Test Time
- Absolute/Relative Mode for Reading & Bar Graph
- RS232 data output
- Can be supplied with Relay output
- Buzzer On/Off facility
- Auto Air Cut Off feature
- Auto Tool Offset Correction can be provided
- Supplied along with bracket mounted Twin Filter, Regulator and Monogauge Assembly (For Pneumatic Units)

PIEZO BASED ELECTRONIC UNIT



PCU1

PROBE BASED ELECTRONIC UNIT



ECU1

TRI-COLOR LED MICROPROCESSOR BASED CIRCULAR TYPE DIGITAL DISPLAY GAUGE

Features

- Tri Color Circular Type LED Bar Graph display for OK, Reject or Rework
- Single Channel Piezo/Probe Interface
- 8X2 LCD display with backlit for easy user interface
- 6 Digit 7-Segment LED display
- LED Indication for Range (10, 30, 100 Microns)
- Option to choose Least Count 0.1, 0.5, 1 or 10 Microns
- Option to display readings in MM/Inch
- LED Indication for MM/Inch
- 6-Keys Soft Touch Keypad
- Multiple Programs can be saved (Max 10)
- Multiple measurement modes – CUR, MIN, MAX, AVG, TIR
- Auto Calibration
- Single/Double Mastering
- High/Low Tolerance Indicator
- Programmable Auto Cycle, Limit & Test Time
- Absolute/Relative Mode for Reading & Bar Graph
- RS232 data output
- Buzzer On/Off facility
- Auto Air Cut Off feature
- Auto Tool Offset Correction can be provided
- Supplied along with bracket mounted Twin Filter, Regulator and Monogauge Assembly (For Pneumatic Units)

PIEZO BASED ELECTRONIC UNIT



PCA1



PROBE BASED ELECTRONIC UNIT



ECA1

STATISTICAL PROCESS CONTROL (SPC) UNIT

Features

- 7" Graphic Color LCD Display
- Least Count available in 0.1, 0.5, 1 & 10 Microns (Can be set in Inch also)
- Can display up to 8 results of various combination (Formula Setting for each result)
- Accept/Reject/Rework status of each job is indicated on LCD display
- Can save lakhs of part readings with Serial No./Data with Date and time
- Inbuilt Memory for data storage
- Inbuilt Real Time Clock
- SPC facility to monitor and control a process for confirming product with minimum waste
- Option to set 30 programs with programmable fixture name and result name

PIEZO BASED SPC UNIT



PSPC4



- Can connect external keyboard / USB Flash drive
- Available in 1, 2, 3, 4 & 8 Channel with Piezo Inputs (Air Gauging)
- Available in 4 & 8 Channel with Probe Inputs (Contact Gauging)
- Also available with both Piezo and Probe Inputs (Multi Gauging)
- Job count setting for Master Calibration
- Auto Sense facility
- RESET facility in dynamic mode
- Air Saver facility for optional use
- Auto Tool Offset Correction (Optional)
- RS232 communication
- Buzzer On/Off facility
- Supplied along with bracket mounted Twin Filter, Regulator and Monogauge Assembly (For Pneumatic Units)

Specifications

Specifications	PSPC1	PSPC2	PSPC3	PSPC4	PSPC8	ESPC4	ESPC8
7" Graphic LCD display	✓	✓	✓	✓	✓	✓	✓
No. of Pneumatic Inputs	1	2	3	4	8	-	-
No. of Probe Inputs	-	-	-	-	-	4	8
No. of Results	8	8	8	8	8	8	8
MM / Inch Selection	✓	✓	✓	✓	✓	✓	✓
Least Count (0.1, 0.5, 1 & 10 μ m)	✓	✓	✓	✓	✓	✓	✓
Staic/Dynamic Measurement	✓	✓	✓	✓	✓	✓	✓
Single/Double Mastering	✓	✓	✓	✓	✓	✓	✓
RS232 Data Output	✓	✓	✓	✓	✓	✓	✓
USB Flash Drive Connectivity	✓	✓	✓	✓	✓	✓	✓
Maximum Permissible Error	$\pm 30\mu$ m - 0.5 μ m	$\pm 30\mu$ m - 0.5 μ m	$\pm 30\mu$ m - 0.5 μ m	$\pm 30\mu$ m - 0.5 μ m	$\pm 30\mu$ m - 0.5 μ m	1 μ m	1 μ m
Auto Air Cut-Off	✓	✓	✓	✓	✓	-	-
External Keyboard Connectivity	✓	✓	✓	✓	✓	✓	✓
Logic Output : OK/NotOK, Hi/OK/Low	✓	✓	✓	✓	✓	✓	✓
Auto Tool Offset Correction	Optional	Optional	Optional	Optional	Optional	Optional	Optional

PROBE BASED SPC UNIT



ESPC4

AIR PLUG GAUGES WITH SETTING RINGS

Range : 2 mm – 250 mm

- Available for checking ID (Bore) from \varnothing 2 mm to 250 mm
- Quick, Easy and most accurate way to check bore
- Supplied standard as 2-Jet for checking Size, Ovality and Taper
- Available in 3-Jet also (fitted at 120° each) for checking tri-lobed effect and average diameter
- Can be supplied to check Blind and Through Bores
- Can be supplied suitable to specific readout unit model
- Two Setting Rings – One High & One Low is supplied along with each Air Plug Gauge
- Special design Gauges with Multiple Jets also available as per the application
- Supplied with Hard Chrome Plated for extended life
- Can be supplied with Carbide Sleeve on request



For Special Applications

- To check deeper bores with suitable extension
- Adjustable Depth Collar can be provided to check specific depth and land width available
- Right Angle attachment for checking bores with restricted entry
- Can be supplied as Bracket Mounted to easily check small components
- Can be supplied with Multi Level Jets to check ID at different levels in one go to check taper
- Flat Air Plug Gauge to check any Groove Width like Piston Grooves
- Available as Bench Mounted also to easily check the components



AIR RING GAUGES WITH SETTING PLUGS

Range : 5 mm – 150 mm

- Available for checking Outer Dia. from \varnothing 5 mm to 150 mm
- Quick, Easy and most accurate way to check OD
- Supplied standard as 2-Jet for checking Outer Diameter, Ovality and Taper
- Available in 3-Jet also (For Dia. 6 mm and above) to check tri-lobed effect and average diameter
- Can be supplied to check Shouldered (Offset) Diameters and Central Diameters
- Can be supplied suitable to specific readout unit model
- One Double Ended Setting Plug (High & Low) is supplied along with each Air Ring Gauge
- Special design Gauges with Multiple Jets also available as per the application

For Special Applications

- Can be supplied as Bench Mounted / Pedestal Mounted to easily check components
- Can be supplied with Multi Level Jets to check OD at different levels in one go to check taper
- Can be supplied with Tungsten Carbide Sleeve on request (For Dia. 8 mm and up to 60 mm)



AIR CALIPER GAUGES WITH SETTING DISCS

Range : 8 mm – 225 mm

- Air Caliper Gauges are ideally used to check outer diameters of parts which are held between centres on machine or interrupted shafts like Crank Shafts
- V-Support for stability and perfect centering
- V-Support with Tungsten Carbide pads for diameter above 16 mm
- Carbide provided on measuring faces for diameters up to 16 mm
- Ideal to check Collared Diameters like Crankshaft Pin and Journal
- Can be supplied as bench mounted for ease of checking or against any specific application
- Multi-Jet Air Calipers can be provided for special application like multi point measurement to check crowning of Crank Pins and Journal Diameters
- Two Setting Discs (High & Low) are provided along with each Air Caliper for Calibration and to set Air Caliper on Air Gauge Unit.



PLAIN PLUG GAUGE (GO/NOGO)

Range : 3 mm – 130 mm

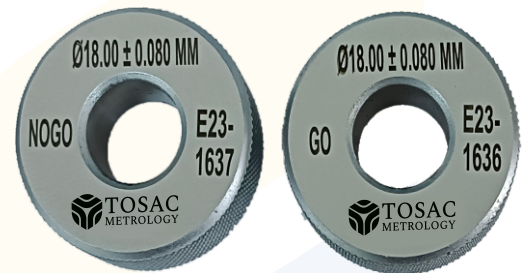
- Made from Oil Hardening Non-Shrinking (OHNS) Gauge Steel Hardened and Tempered to 60-62 HRC
- Sub-Zero treated at -80°C for dimensional stability
- Hardened, Tempered, Ground and Lapped
- Calibrated at 20°C under Standards Room Conditions
- Certificate of Calibration will be provided along with each gauge, traceable to National / International Length Standards
- NABL Certification can also be provided on request at an additional cost (As per ISO 17025)
- Made as per DIN2245
- Can be supplied in Carbide also
- Available in both MM and Inch



PLAIN RING GAUGE (GO/NOGO)

Range : 2 mm – 320 mm

- Made from Oil Hardening Non-Shrinking (OHNS) Gauge Steel Hardened and Tempered to 60-62 HRC
- Sub-Zero treated at -80°C for dimensional stability
- Calibrated at 20°C under Standards Room Conditions
- Certificate of Calibration will be provided along with each gauge, traceable to National / International Length Standards
- NABL Certification can also be provided on request at an additional cost (As per ISO 17025)
- Made as per DIN2250
- Can be supplied in Carbide also
- Available in both MM and Inch



SNAP GAUGES (GO/NOGO)

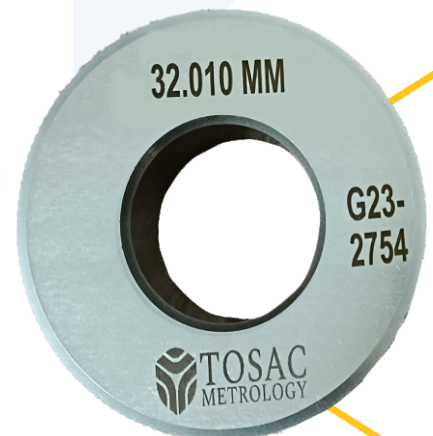
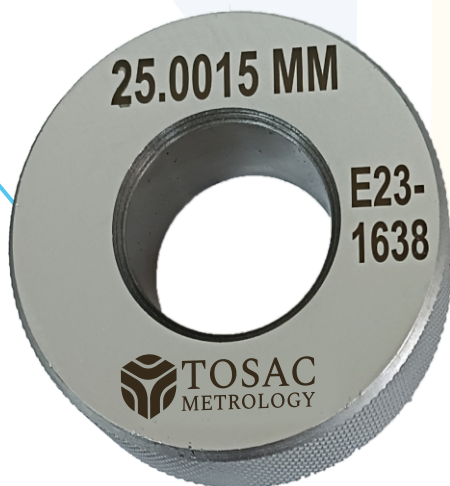
- Made from Oil Hardening Non-Shrinking (OHNS) Gauge Steel Hardened and Tempered to 60-62 HRC
- Sub-Zero treated at -80°C for dimensional stability
- Calibrated at 20°C under Standards Room Conditions
- Certificate of Calibration will be provided along with each gauge, traceable to National / International Length Standards
- NABL Certification can also be provided on request at an additional cost (As per ISO 17025)



MASTER SETTING RINGS

Range : 2 mm – 320 mm

- Made from Oil Hardening Non-Shrinking (OHNS) Gauge Steel Hardened and Tempered to 60-62 HRC
- Sub-Zero treated at -80°C for dimensional stability
- Calibrated at 20°C under Standards Room Conditions
- Actual dimensions duly marked
- Certificate of Calibration will be provided along with each gauge, traceable to National / International Length Standards
- NABL Certification can also be provided on request at an additional cost (As per ISO 17025)
- Made as per DIN2250
- Available in both MM and Inch
- Can be used to set Horizontal Comparators, Length Measuring Machines for ID checking, Bore Gauges
- Also available with Carbide Sleeve press fitted in steel body for high wear resistance



MASTER SETTING DISCS

Range : 3 mm – 200 mm

- Made from Oil Hardening Non-Shrinking (OHNS) Gauge Steel Hardened and Tempered to 60-62 HRC
- Sub-Zero treated at -80°C for dimensional stability
- Calibrated at 20°C under Standards Room Conditions
- Actual dimensions duly marked
- Certificate of Calibration will be provided along with each gauge, traceable to National / International Length Standards
- NABL Certification can also be provided on request at an additional cost (As per ISO 17025)
- Available in both MM and Inch
- Can be used to set Horizontal Comparators, Length Measuring Machines for OD checking, Micrometres



TAPER AIR PLUG GAUGE

- Quick and Easy checking of Taper Angle and Diameter
- Supplied in standard 2-Jet, placed at 2-Level to check Size, Ovality and Taper
- Can be supplied in 3-Jet also to check Average Diameter and Tri-Lobbing effect
- Hard Chrome Plated for minimum wear and extended life
- Available to check various Tapers like – ISO, BT, MT, ER, etc.
- Certificate of Calibration is provided along with each gauge



TAPER AIR RING GAUGE

- Quick and Easy checking of Taper Angle and Diameter
- Supplied in standard 2-Jet, placed at 2-Level to check Size, Ovality and Taper
- Can be supplied in 3-Jet also to check Average Diameter and Tri-Lobbing effect
- Hard Chrome Plated for minimum wear and extended life
- Available to check various Tapers like – ISO, BT, MT, HSK, ER, etc.
- Certificate of Calibration is provided along with each gauge



ELECTRONIC AXIAL PROBE

Electronic Axial Probes are available in various Models and Ranges and can be used as per the application.

It provides a cost effective solution for the range of dimensional precision measurement and positioning applications.

- Available Measuring Range : ± 1 mm, ± 2 mm, ± 5 mm, ± 10 mm
- Linearity : 0.5% of measuring range
- Repeatability : $0.05 \mu\text{m}$
- Spring, Pneumatic, Vacuum actuation
- Measuring Force : 0.7 N
- Hardened & Ground Stainless Steel Body
- IP65 Protection
- Inductive Sensors with excellent side load capacity
- Range of Contact Anvils available



PROBE BOX

- Available for Air Gauges, Electronic Probes, Digital & Serial Output Gauges
- Can be supplied with 4-Channel & 8-Channel
- Recessed Calibration Control per channel
- Maximum Permissible Error (MPE) per channel is $\leq \pm 1\%$ of full scale measuring range
- Display Stability time < 500 ms
- Output Instability < 200 mv
- Power Consumed by Module : 20 VA (max.)
- Voltage Supply to the readout module : 230V AC $\pm 10\%$, 50 Hz
- Operating Temperature : 0 - 45°C
- Humidity should not exceed 60% Rh (non-condensing)



DATA ACQUISITION AND SPC SOFTWARE

With the advancement in technology, the requirement for more control and careful monitoring of process has been increased in the past. Today decision makers need instruments to monitor and control the process behaviour.

Statistical process control (SPC) is a technique for applying statistical analysis to measure, monitor, and control processes.

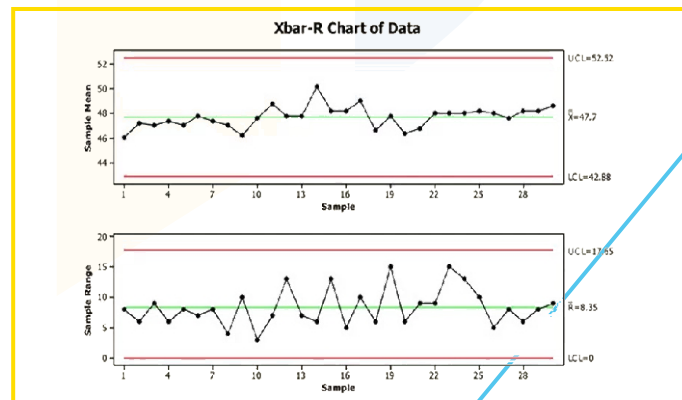
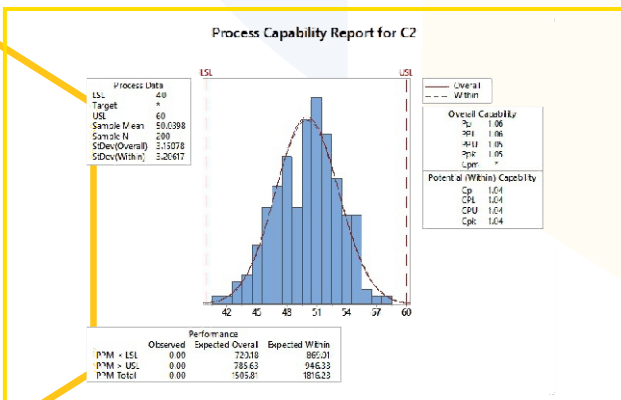
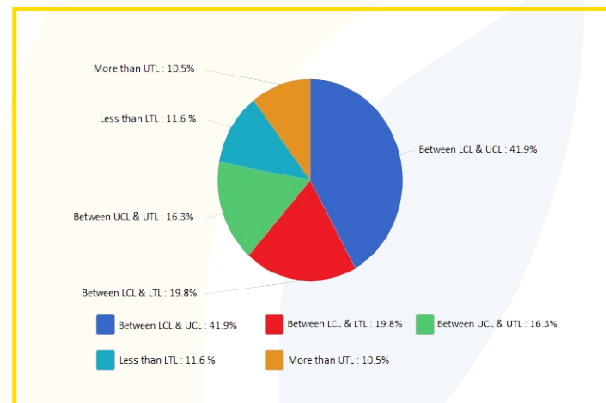
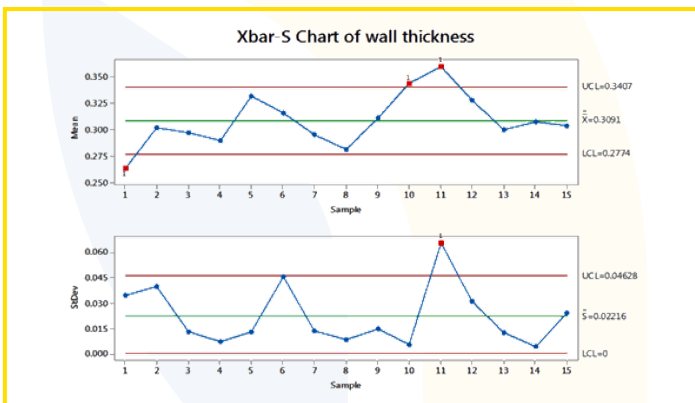
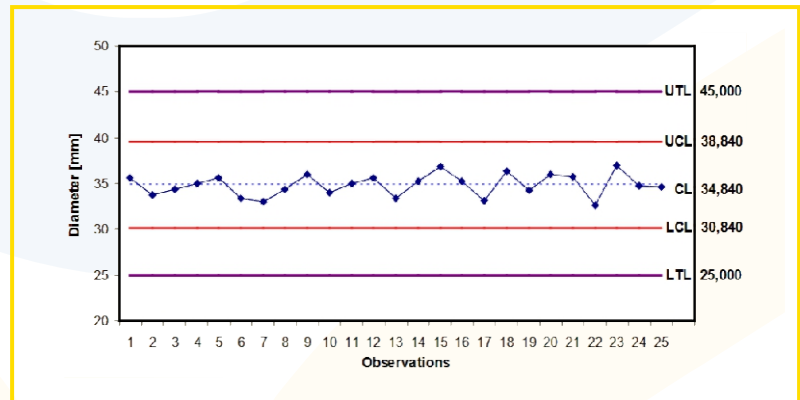
SPC tools and procedures can help you monitor process behavior, discover issues in internal systems, and find solutions for production issues.

We, at TOSAC Metrology provides a complete solution to acquire, store and study the data received from various measuring instruments and gauges. Data can be transferred through a wired connection (LAN, Ethernet, RS232, Proximity Cables, etc.) or can be transferred as Wireless also with the help of Transmitter and Receiver. We use Licence Free Operating Frequency of 2.4 GHz i.e. Industrial Scientific & Medical (ISM) frequency band. Our network is having an in-built security like 128-bit Advance Encryption Standard (AES) and 16-bit customized network ID.



TOSAC Software is SPC ready and capable to display Real Time Process Control. Online information includes Date & Time, Part Name, Parameter Name, Machine Name, Measurement Values and count of individual readings.

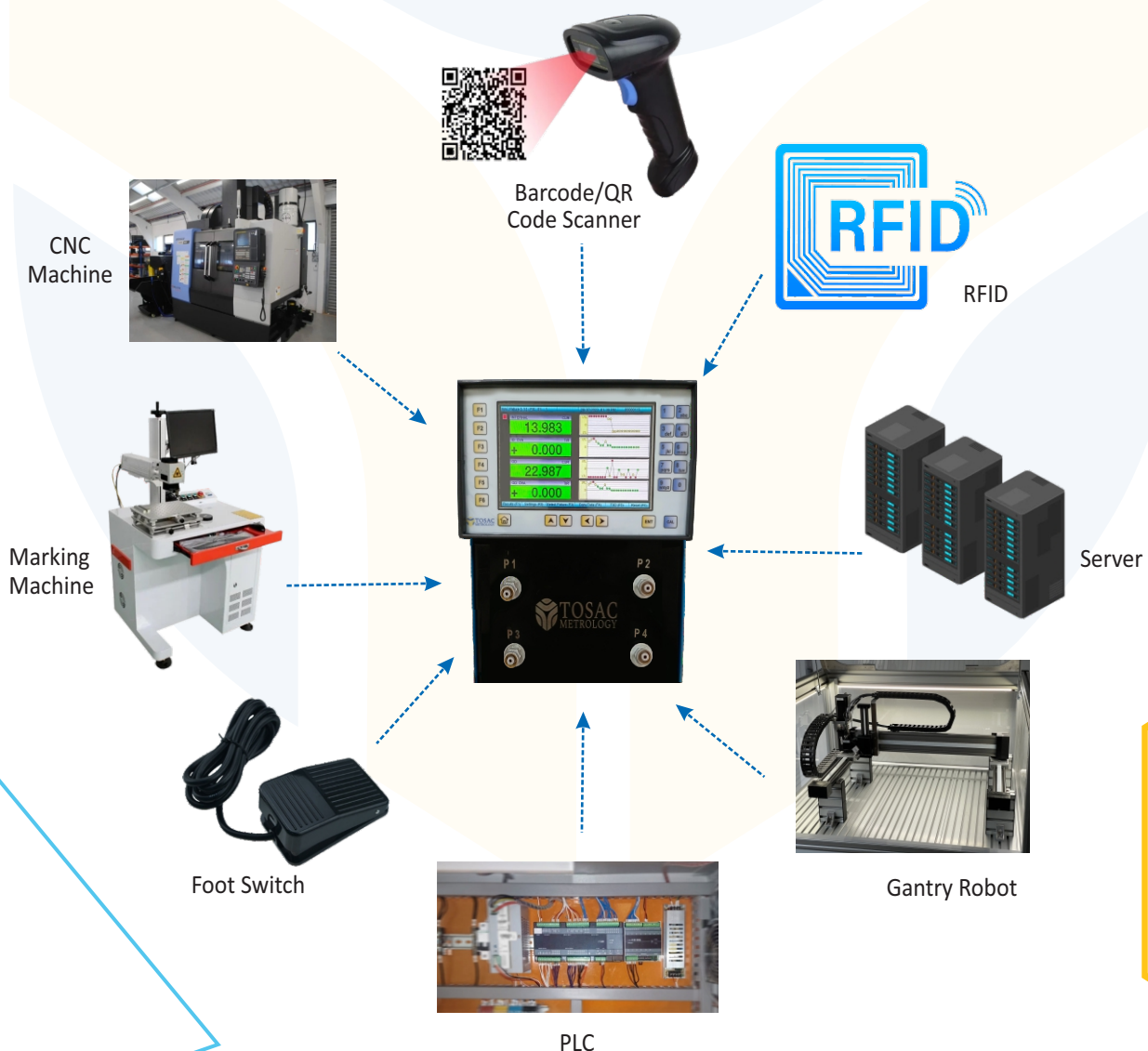
Statistical Data can be displayed as – Cp, Cpk, Pp, Ppk, Run Chart, Control Chart like XBar-R Chart, XBar-S Chart, Histogram, Pie Chart, etc.



TRACEABILITY SOFTWARE

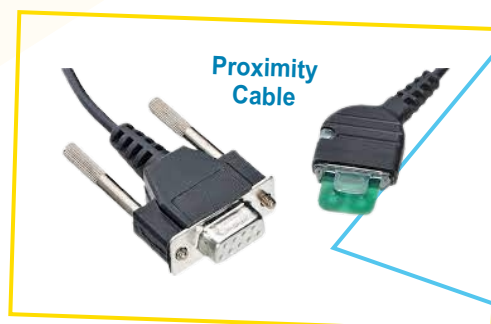
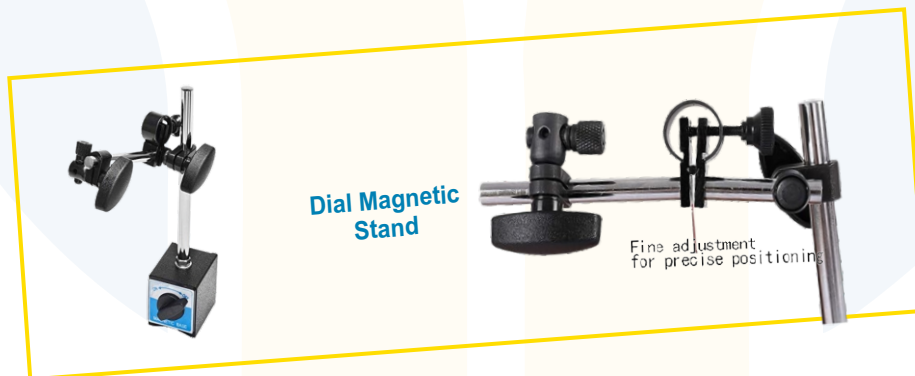
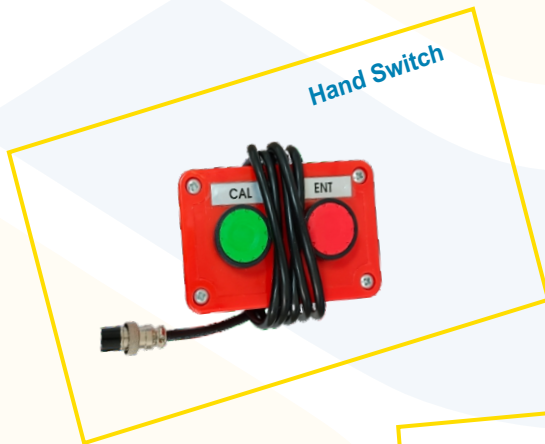
In an era marked by unprecedented connectivity and digital transformation, the metal cutting sector is embracing advanced technologies to enhance efficiency, precision, and sustainability. At the heart of this transformation lies the Traceability Software, a revolutionary solution that seamlessly merges the principles of precision manufacturing with the power of real-time data, ushering in a new era of productivity and quality control.

Our Readout Units are Industry 4.0 ready and can be connected and communicate with Barcode/QR Code Scanner, Gantry Robot, Marking Machine, CNC Machine Auto Tool Offset Correction, RFID, Foot Switch, Server, PLC, etc.



ACCESSORIES

We also have various accessories which are being used in many types of gauges and instruments. Some of them are shown as under –



THREAD GAUGES

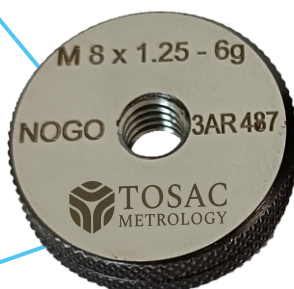
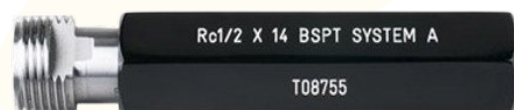
Range :

Thread Plug Gauges : 2 mm – 400 mm

Thread Ring Gauges : 3 mm – 400 mm

We have different type and variety of Thread Plug Gauges and Thread Ring Gauges in various Sizes, Pitch and Class of Fit –

- Metric
- Unified
- BSP
- BSPT
- NPT
- NPTF
- ANPT
- NGT
- Trapezoidal
- ACME
- Stub ACME
- Buttress
- Special Gauges like Hole Concentricity checking, etc.



CUSTOMISED GAUGING SOLUTION

We also offer customised Gauging Solution – Multigauging, Auto-Gauging Fixtures and Systems for various components like –

- Connecting Rod
- Crank Shaft (2-Wheeler & 4-Wheeler)
- Cam Shaft
- Cylinder Head (2-Wheeler & 4-Wheeler)
- Cylinder Block (2-Wheeler & 4-Wheeler)
- Liner
- Case Differential
- Piston
- Gudgeon Pin
- Piston Ring
- Engine Valve
- Break Disc
- Brake Drum
- Bomb Shell
- Shell Bearing (Half & Full Round)
- Special Taper ID & OD Masters
- Taper and Roller Bearings
- Gears (Spur & Helical)
- Transmission Shafts
- Spacer & Shim Selection
- Differential Housing
- Wheel Hub
- Valve Seat
- Flywheel
- Taper Bearing
- Impeller
- Glass Tubes
- Match Gauging
- Grease Seal

AFTER SALES SERVICE AND REPAIR

At TOSAC Metrology, we are committed to providing customers with the highest level of service and support. We have a highly experienced and qualified team for service, repair & calibration of various gauges and instruments. Our state-of-the-art equipment and techniques ensure that your gauges are returned to you in perfect working condition.

We offer a comprehensive after sales service and repairing as mentioned below –

- Online & Offline Customer Support
- Onsite & Offsite Repairing
- Calibration and AMC (Annual Maintenance Contract)
- All Spare Parts and Accessories available
- Training & Documentation



NOTES

The page contains horizontal dashed blue lines for handwriting practice. A large, faint watermark of the TOSAC logo is centered on the page, spanning across the middle section of the lines. The watermark is composed of yellow and light blue shapes.



CERTIFICATE

This Certificate has been awarded to

TOSAC METROLOGY PRIVATE LIMITED

C-339, VIPUL PLAZA, SECTOR-81, FARIDABAD, HARYANA-121002, INDIA

In appreciation of the organization's
Quality Management System which complies with
ISO 9001:2015

The Scope of organization covered by this certificate is defined below
SCOPE

**DESIGN, MANUFACTURING AND SUPPLY OF ALL TYPES OF AIR
GAUGES, ELECTRONIC GAUGES, CUSTOMISED GAUGES,
FIXTURES, SPC, GAUGING & TRACEABILITY SOFTWARES.**

Certificate No. : AMSPL/202402/637648

Initial Registration Date : 29/02/2024

Date of Issue : 29/02/2024

Date of Expiry : 28/02/2027

1st Surv. on or Before: 27/02/2025

2nd Surv. on or Before : 28/02/2026

Director

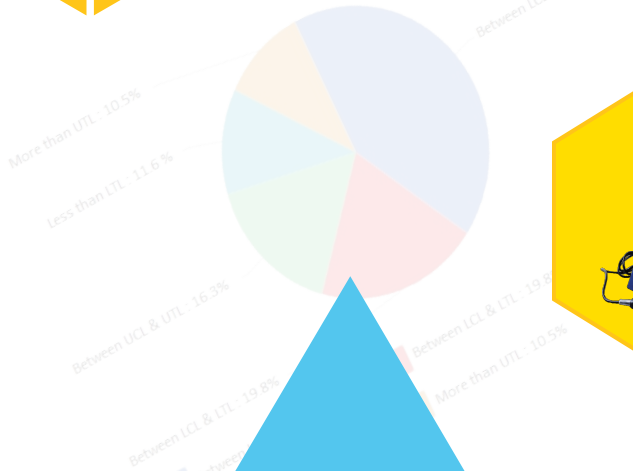


This Certificate remains valid subject to satisfactory surveillance audits. This Certificate is the property of Aaranaya Management Services Pvt. Ltd. and shall be returned immediately when demanded.

You can also verify the validity of certificate on

Website : www.aaranayacertification.com

E-mail : info@aaranyacertification.com



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