

GATC

TEST & VERIFICATION EQUIPMENT SOLUTIONS

Integrated metrology infrastructure for
Government Approved Test Centres,
Legal Metrology laboratories,
calibration laboratories, and
manufacturers.

DESIGNED & MANUFACTURED BY
BHARTI AUTOMATION PRIVATE LIMITED



ACCURATE



RELIABLE



AUTOMATED



FUTURE READY



PRECISION • RELIABILITY • INNOVATION

Empowering approved laboratories and industries
with precision testing and verification solutions.

GET IN TOUCH



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A COMPLETE GATC EQUIPMENT PLATFORM

Modular systems aligned to OIML recommendations and Indian Legal Metrology requirements — configured for approved instrument category, range, accuracy, and throughput.



FLOW SERIES

Water • Liquid Flow • Gas •
Fuel • CNG



MASS & WEIGHING

Load Cells • Weighing Instruments •
Weights • Rail Weighbridges



ELECTRICAL & SPECIALIZED

Energy Meters • Length • Moisture •
Dimension • Breath • Speed



MODULAR

Scalable systems
for every need



PRECISE

High accuracy
& reliability



COMPLIANT

Aligned with OIML
& Legal Metrology



EFFICIENT

Optimized for
throughput



TRUSTED

Engineered by
experts, for experts

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WHAT THE PACKAGE INCLUDES

PARIXAN offers complete test, calibration, and verification infrastructure for laboratories building or expanding GATC capabilities.



01



TEST BENCH

Precision engineered test benches built for accuracy, reliability and repeatability.

02



REFERENCE INTEGRATION

Traceable reference standards and proven integration for highest measurement confidence.

03



PLC / HMI AUTOMATION

Intelligent automation for seamless operation, real-time monitoring and control.

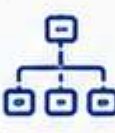
04



DAQ & SENSORS

High accuracy sensors and DAQ systems for dependable data acquisition.

05



AUTOMATIC TEST SEQUENCING

Predefined sequences for faster testing with reduced operator intervention.

06



REPORT SOFTWARE

Advanced reporting with results, analytics, certificate generation and data management.

07



SAFETY & INTERLOCKS

Built-in safety, alarms and interlocks to ensure secure operation and equipment protection.

08



INSTALLATION & COMMISSIONING

Professional installation and commissioning for smooth and on-time deployment.

09



OPERATOR TRAINING

Hands-on training for operators and engineers to ensure optimum performance.

10



SOP & UNCERTAINTY SUPPORT

SOP development and uncertainty evaluation support for compliance and accreditation.

11



AMC / TECHNICAL SUPPORT

Annual maintenance contracts and expert technical support for long-term reliability.



ONE COMPLETE SOLUTION.
RELIABLE TESTING. CERTIFIED RESULTS.

Empowering GATC, Legal Metrology, Calibration Laboratories and Manufactures with world-class test & verification infrastructure.

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PRODUCT FAMILY & OIML MAPPING

PARIXAN equipment enables testing/verification to applicable OIML recommendations and Indian Legal Metrology requirements.



MEASURING INSTRUMENT CATEGORY	OIML RECOMMENDATION
 Water meters	R 49
 Active electrical energy meters	R 46
 Load cells	R 60
 Non-automatic weighing instruments	R 76
 Material measures of length	R 35
 Weights	R 111
 Automatic rail-weighbridges	R 106
 Liquids other than water	R 117
 Gas meters	R 137
 Compressed gaseous fuel systems	R 139
 Moisture meters	R 59
 Traffic speed meters	R 91
 Evidential breath analysers	R 126
 Multi-dimensional measuring instruments	R 129



IMPORTANT: PARIXAN equipment enables testing/verification to applicable recommendations. Equipment should not be described as "OIML approved" unless specific formal certification applies.



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FLOW SERIES: WATER, LIQUID & GAS

High-precision flow test benches engineered to OIML recommendations with advanced automation, traceability, and reliable performance.



01



WATER METER TEST BENCH — OIML R 49

- DN15–DN300 configurations.
- Reference uncertainty ≤ 0.20 – 0.30% .
- Class 1 MPE: $\pm 1\%$ upper zone, $\pm 3\%$ lower zone.
- Master meter and/or gravimetric system with PLC/HMI and automatic reporting.



02



LIQUID FLOW CALIBRATION BENCH — OIML R 117

- DN15–DN300 platform for electromagnetic, turbine, ultrasonic meters.
- Accuracy classes 0.3–1.5.
- Gravimetric or master-meter comparison with automated DAQ.



03



GAS METER TEST BENCH — OIML R 137

- 1/3/6-position configurations.
- Class 0.5 target uncertainty $\approx 0.15\%$.
- Controlled air/gas source with pressure, temperature measurement and environmental compensation.



HIGH ACCURACY
Low uncertainty with traceable standards.



ADVANCED AUTOMATION
PLC/HMI control with automatic reporting.



RELIABLE & SAFE
Built with safety interlocks and quality components.



FLEXIBLE & SCALABLE
Modular designs for various ranges & needs.

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PARIXAN FLOW SERIES

*Precision Flow Testing.
Trusted Results.*

Engineered for accuracy. Built for reliability. Our flow test benches ensure traceable, repeatable and automated verification for water, liquid and gas meters as per international standards.



WHY PARIXAN FLOW TEST BENCHES?



HIGH ACCURACY

Reference systems with low measurement uncertainty.



ADVANCED AUTOMATION

PLC/HMI based control with automatic data acquisition.



RELIABLE & ROBUST

Industrial grade construction for long-term performance.



FLEXIBLE & SCALABLE

Customized configurations for a wide range of flow meters.



SMART REPORTING

Automatic reports with pass/fail results and traceability.

KEY FEATURES



Supports Water, Liquid & Gas Meters Calibration
As per OIML R 49, R 117 & R 137



Wide Flow Range
From low flow to high capacity applications



Integrated Measurement
Flow, Pressure, Temperature & Environmental Compensation



Multiple DUT Positions
Simultaneous testing to save time & improve productivity



Data Integrity & Traceability
Secure data storage with audit trail and user management



Service & Support
Installation, Training, Calibration Support & AMC

APPLICATIONS



WATER UTILITIES



CHEMICAL & PROCESS INDUSTRIES



OIL & GAS INDUSTRIES



ENERGY & POWER PLANTS



RESEARCH & TESTING LABORATORIES



METROLOGY & GOVERNMENT LABS



OIML
R 49

Water Meters



OIML
R 117

Liquid Flow Meters



OIML
R 137

Gas Meters



ISO/IEC
17025

Quality System

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PARIXAN FLOW SERIES

Water Meter Test & Verification Bench



Applicable OIML:
OIML R 49



OIML DUT accuracy / MPE:

R 49:2024 — Class 1: $\pm 1\%$ in upper flow zone Q2–Q4 at 0.1–30°C, $\pm 2\%$ above 30°C; $\pm 3\%$ in lower zone Q1–Q2.

Class 2: $\pm 2\%$ in upper zone at 0.1–30°C, $\pm 3\%$ above 30°C; $\pm 5\%$ in lower zone.



Proposed PARIXAN reference-system target: expanded uncertainty $\leq 0.20\text{--}0.30\%$ for a high-quality GATC bench, subject to final range/method and Indian verification requirements.

PROPOSED EQUIPMENT / SPECIFICATION



- DN15–DN50 compact; DN15–DN100 standard; DN15–DN300 laboratory configurations



- Storage tank and VFD pumping system



- Multiple DUT stations with suitable clamping



- Reference/master meter and/or gravimetric collection system



- Pressure & temperature measurement



- PLC/HMI and automatic reporting

WORKING METHOD



WATER
SUPPLY



DUT
(WATER METER)



REFERENCE
SYSTEM
(MASTER METER OR
GRAVIMETRIC)



DATA ACQUISITION
& SOFTWARE

Water is passed through the DUT at defined flow points. DUT volume/flow is compared with a traceable reference quantity from a master meter or gravimetric/volumetric system. Software calculates error and records pass/fail.



HIGH ACCURACY

Reference uncertainty
 $\leq 0.20\text{--}0.30\%$



RELIABLE & TRACEABLE

Traceable to national /
international standards



AUTOMATED OPERATION

PLC/HMI with automatic
test sequencing



SMART REPORTING

Automatic reports
with pass/fail results

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Liquid Flow Meter Calibration & Verification Bench



Applicable OIML:
OIML R 49 / R 117,
depending on application



OIML DUT accuracy / MPE: application dependent. For water-meter applications use R 49 accuracy classes above. For dynamic measuring systems for liquids other than water under R 117:2019, complete-system accuracy classes are 0.3, 0.5, 1.0 and 1.5, with corresponding MPEs of $\pm 0.3\%$, $\pm 0.5\%$, $\pm 1.0\%$ and $\pm 1.5\%$.



Proposed PARIXAN reference-system target: typically $\leq 1/3$ of the applicable DUT MPE; gravimetric or master-meter system selected accordingly.

PROPOSED EQUIPMENT / SPECIFICATION



- DN15–DN300 standard platform; larger systems customized



- Electromagnetic, turbine, ultrasonic and compatible liquid meters



- Master meter comparison and optional gravimetric system

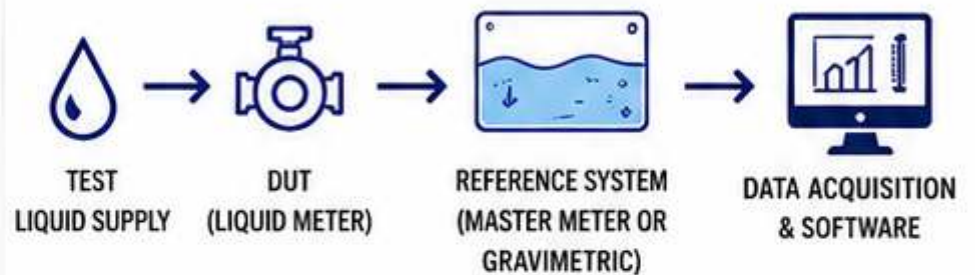


- Flow conditioning, pressure/temperature sensing and control valves



- Automated DAQ and report generation

WORKING METHOD



The DUT is tested at multiple controlled flow points. Its indication is compared with a reference flow/quantity. In gravimetric mode, collected mass and test time establish the reference quantity with required corrections.



HIGH ACCURACY
Reference uncertainty
 $\leq 1/3$ of DUT MPE



FLEXIBLE & VERSATILE
Supports multiple meter types
and flow ranges



AUTOMATED & EFFICIENT
PLC/HMI control with automated
test sequencing



RELIABLE REPORTING
Automatic reports with
traceability & audit trail

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GAS METER TEST & VERIFICATION BENCH



Applicable OIML:
OIML R 137



OIML DUT accuracy / MPE: R 137:2012 — Classes 0.5, 1 and 1.5.

Initial verification MPE: $Q_{\min}-Q_t = \pm 1\%, \pm 2\%, \pm 3\%$;

$Q_t-Q_{\max} = \pm 0.5\%, \pm 1\%, \pm 1.5\%$ respectively.



Proposed PARIXAN reference-system target: expanded uncertainty $\leq 1/3$ of applicable MPE; for Class 0.5 meters, target $\approx 0.15\%$ or better in the upper flow zone.

PROPOSED EQUIPMENT / SPECIFICATION



- 1 / 3 / 6-position configurations



- Controlled air/gas source and reference gas meter



- Pressure, differential pressure and temperature measurement



- DUT manifold and automated valves



- Environmental compensation and test software

WORKING METHOD



CONTROLLED
GAS SOURCE



REFERENCE
SYSTEM



DUT
(GAS METER)



DATA ACQUISITION
& SOFTWARE

A controlled test flow passes through the reference system and DUT. Reference and DUT quantities are compared after applicable pressure/temperature corrections, and error is calculated at selected flow points.



HIGH ACCURACY

Reference uncertainty
 $\leq 1/3$ of applicable MPE



RELIABLE & SAFE

Automated controls
with safety interlocks



WIDE FLOW RANGE

Suitable for various
gas meter sizes
and flow ranges



ENVIRONMENT COMPENSATED

P, T corrections as
per standards



AUTOMATIC REPORTING

Test reports with
pass/fail results
and traceability

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PARIXAN FLOW SERIES

MULTI-PARAMETER FLOW CALIBRATION SOLUTIONS

*One System. Many Measurements.
Complete Confidence.*

Parixan Multi-Parameter Flow Calibration Benches integrate flow, pressure, temperature and other critical parameters into a single platform, ensuring accurate, traceable and efficient calibration for modern industries.



APPLICABLE STANDARDS



OIML R 49 | R 117 | R 137
as applicable to the instrument under test

Compliance with relevant ISO and national standards for flow measurement and calibration.

PARIXAN REFERENCE-SYSTEM TARGET



- Reference-system uncertainty typically $\leq 1/3$ of the applicable DUT MPE.
- Gravimetric or master-meter technology selected based on flow range and application.
- Traceable to national / international standards.

KEY FEATURES



Multi-Parameter Measurement
Simultaneous measurement of flow, pressure, temperature and more.



Wide Meter Compatibility
Suitable for liquid, gas and combined measurement devices.



Automated & Intelligent
PLC/HMI based operation with real-time data monitoring and control.



Comprehensive Reporting
Automatic calculation, data logging and customizable test reports.



High Accuracy & Reliability
Engineered for precision, repeatability and long-term stability.



Easy Operation & Maintenance
User-friendly interface with modular design for quick servicing.

TYPICAL MEASURED PARAMETERS



FLOW RATE



PRESSURE



TEMPERATURE



DIFFERENTIAL
PRESSURE



DENSITY



VISCOSITY
(as required)



Additional parameters can be integrated as per application requirements.

TYPICAL SYSTEM COMPONENTS



Storage Tank



Pump with VFD



Flow Conditioning Section



Reference Meter /
Gravimetric System



Pressure & Temperature
Transmitters



PLC / HMI Based
Control System



Data Acquisition &
Report Generation

SUITABLE FOR



WATER UTILITIES



OIL & GAS



CHEMICAL
INDUSTRIES



PHARMACEUTICAL
INDUSTRIES



FOOD & BEVERAGE
INDUSTRIES



POWER PLANTS

COMPLIANT WITH INTERNATIONAL STANDARDS



OIML R 49:2024
Water Meters



OIML R 117:2019
Liquid Flow
Measurement Systems



OIML R 137:2012
Gas Meters



ISO 17025
Testing & Calibration
Laboratories



BIS & OTHER
APPLICABLE
STANDARDS

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PARIXAN FLOW SERIES

FLOW SENSOR CALIBRATION BENCH

*Precision Calibration.
Trusted Performance.*

Parixan Flow Sensor Calibration Bench is designed to calibrate various flow sensors with high accuracy and repeatability. Advanced reference systems and automation ensure reliable results across a wide range of flow rates.



APPLICABLE STANDARD



OIML R49 / R117

As applicable to the instrument under test

Compliance with ISO and national standards for flow measurement and calibration.

TYPICAL ACCURACY TARGET



Reference-system uncertainty typically $\leq 1/3$ of the applicable DUT MPE.

High precision for reliable and traceable calibration.

MEASURED PARAMETERS



Flow Rate



Differential Pressure



Temperature



Density



Pressure



Viscosity (as required)

KEY FEATURES



High Accuracy & Repeatability
Reference system designed for precise and reliable results.



Automated Operation
PLC/HMI based control with real-time data acquisition and analysis.



Comprehensive Reporting
Automatic calculation, data logging and customizable calibration reports.



Wide Compatibility
Calibrates a wide range of flow sensors for liquids and gases.



Easy Maintenance
Modular design for simple operation and servicing.

PROPOSED EQUIPMENT / SPECIFICATION



Flow Conditioning Section



Reference Meter / Gravimetric System



Pressure & Temperature Measurement



Control Valves & Auto Actuation



PLC / HMI Based Control System



Data Acquisition & Report Generation



Pump with VFD



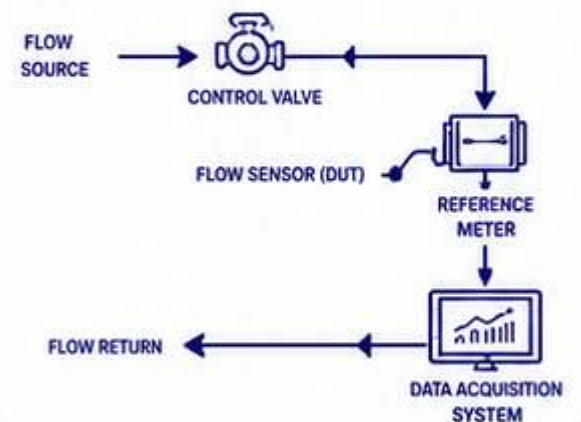
Storage Tank



Filters & Strainers

WORKING METHOD

The flow sensor is installed in the test loop and exposed to multiple controlled flow points. Its output is compared with a high-accuracy reference. System calculates deviation, applies necessary corrections (e.g., pressure, temperature, density) and generates a calibration report.



SUITABLE FOR



WATER & WASTEWATER TREATMENT



CHEMICAL & PETROCHEMICAL



OIL & GAS



MANUFACTURING INDUSTRIES



POWER GENERATION



PHARMACEUTICAL & FOOD INDUSTRIES

COMPLIANT WITH INTERNATIONAL STANDARDS



OIML R 49:2024 Water Meters



OIML R 117:2019 Liquid Flow Measurement Systems



ISO 17025 Testing & Calibration Laboratories



BIS & OTHER APPLICABLE STANDARDS

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PARIXAN FLOW SERIES

FLOW TOTALIZER CALIBRATION & VERIFICATION BENCH

*Accurate Totalization.
Complete Confidence.*

Parixan Flow Totalizer Calibration & Verification Benches ensure accurate calibration of flow totalizers, batch controllers and integrators used with flow meters. Designed for high accuracy, reliability and repeatability.



APPLICABLE STANDARD



OIML R 49 / R 117

As applicable to the instrument under test

Compliance with ISO and national standards for flow measurement and calibration.

TOTALIZER ACCURACY TARGET



Reference-system uncertainty typically $\leq 1/3$ of the applicable DUT MPE.

High accuracy for reliable totalization and batch control.

TOTALIZER TYPES SUPPORTED



Electronic Totalizers



Flow Integrators



Batch Controllers



Data Loggers

KEY FEATURES



High Accuracy & Repeatability
Advanced reference system for precise totalization.



Automated Operation
PLC/HMI based control with real-time data acquisition and analysis.



Comprehensive Reporting
Automatic calculation, data logging and customizable calibration reports.



Wide Compatibility
Supports totalizers, batch controllers and integrators for various meters.



Easy Maintenance
Modular design for quick access and servicing.

PROPOSED EQUIPMENT / SPECIFICATION



Flow Conditioning Section



Reference Meter / Gravimetric System



Pressure & Temperature Measurement



Control Valves & Auto Actuation



PLC / HMI Based Control System



Data Acquisition & Report Generation



Pump with VFD



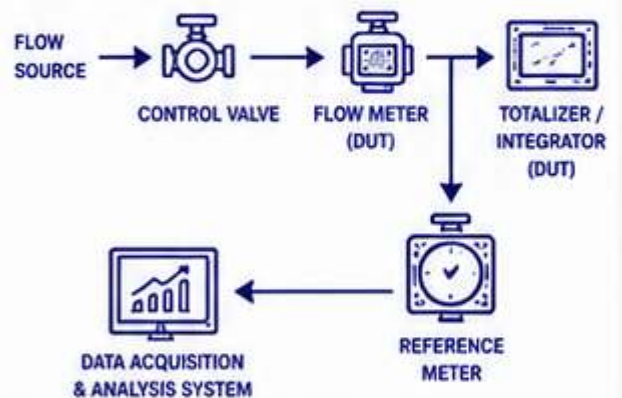
Storage Tank



Filters & Strainers

WORKING METHOD

The flow totalizer/integrator is connected in the test loop and exposed to multiple flow points. Its totalized value is compared with a high-accuracy reference system. System applies necessary corrections (e.g., pressure, temperature, density) and generates a calibration/verification report.



SUITABLE FOR



WATER & WASTEWATER TREATMENT



OIL & GAS



CHEMICAL & PETROCHEMICAL



POWER GENERATION



PHARMACEUTICAL INDUSTRIES



FOOD & BEVERAGE INDUSTRIES



MANUFACTURING INDUSTRIES

COMPLIANT WITH INTERNATIONAL STANDARDS



OIML R 49:2024
Water Meters



OIML R 117:2019
Liquid Flow Measurement Systems



ISO 17025
Testing & Calibration Laboratories



BIS & OTHER APPLICABLE STANDARDS

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PARIXAN FLOW SERIES

FLOW CALIBRATION ACCESSORIES & SUPPORT SYSTEMS

*Precision in Every Connection.
Confidence in Every Result.*

Parixan offers a comprehensive range of accessories and support systems to complement our calibration benches, ensuring reliable operation, accurate measurements and seamless integration.



ENGINEERED FOR ACCURACY



Our accessories are designed to enhance measurement integrity, minimize uncertainty and ensure compliance with international standards.

BUILT FOR RELIABILITY



High quality components ensure long-term stability, safe operation and consistent performance in demanding environments.

SEAMLESS INTEGRATION



Designed to integrate perfectly with Parixan calibration benches and third-party systems.

PRESSURE & TEMPERATURE MEASUREMENT

- High accuracy pressure gauges & transmitters
- Differential pressure transmitters
- RTD / Thermocouple probes
- Temperature & pressure indicators
- Calibration valves & manifolds



FLOW CONDITIONING DEVICES

- Flow straighteners
- Honeycomb flow conditioners
- Diffusers & nozzles
- Swirl generators
- Flow conditioners for laminar flow development



VALVES & PIPING ACCESSORIES

- Control valves (manual / pneumatic / motorized)
- Ball valves, butterfly valves & needle valves
- Non-return valves
- Pipe fittings & adapters
- Flexible hoses & couplings



DATA ACQUISITION & AUTOMATION

- PLC / HMI based control systems
- Data acquisition systems
- Signal conditioners
- Remote monitoring solutions
- Custom software for calibration, reporting & data management



ADDITIONAL SUPPORT EQUIPMENT



Storage Tanks
& Reservoirs



Pumps &
Boosters



Filters &
Strainers



Heat
Exchangers



Air/Gas Dryers
& Regulators



Utility Panels
& Junction Boxes



Installation &
Commissioning Support

COMPLIANT WITH
INTERNATIONAL STANDARDS



OIML R 49
Water Meters



OIML R 117
Liquid Flow
Measurement Systems



OIML R 137
Gas Meters



ISO 17025
BIS & Other
Applicable Standards

GET IN TOUCH >>



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PARIXAN

DISPENSER VERIFICATION SERIES

*Verification You Can Trust,
Accuracy You Can Prove.*

Parixan Dispenser Verification Systems are engineered for precise, reliable and traceable verification of fuel and gas dispensers in laboratory or field environments.



PETROL & DIESEL DISPENSER VERIFICATION SYSTEM



Applicable OIML:
OIML R 117

Complete-system MPE
(Class 0.5): $\pm 0.5\%$

Associated meter MPE: $\pm 0.3\%$

Proposed PARIXAN reference-system target: expanded uncertainty $\leq 0.15-0.17\%$ for a class 0.5 dispenser verification system, subject to the applicable national procedure.

CNG DISPENSER VERIFICATION SYSTEM



Applicable OIML:
OIML R 139

Classes: 1.5 & 2.0

Reference-system target:
expanded uncertainty $\leq 1/3$ of MPE

- ✓ High-pressure rated piping
- ✓ Reference weighing system
- ✓ Safety interlocks
- ✓ Field-ready architecture

SPECIALIZED DISPENSER SOLUTIONS



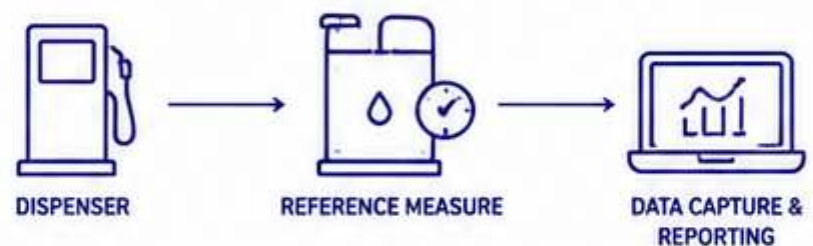
Dedicated systems engineered for LPG, LNG, and hydrogen dispensers.

Custom designs for differing measurement principles and safety requirements.

PROPOSED EQUIPMENT / SPECIFICATION

- Certified prover / reference measure integration
- Fuel-compatible transfer, drain and recovery arrangement
- Temperature measurement and earthing provisions
- Mobile trolley and field-ready accessories
- Tablet / PC based data capture and reporting

WORKING METHOD



A known quantity delivered by the dispenser is collected in a traceable reference measure. Dispenser indication is compared with the reference delivered quantity according to the applicable verification procedure.



HIGH ACCURACY

Designed for accurate verification within prescribed MPE limits.



SAFE & REILABLE

Safety interlocks and earthing for secure operation.



FIELD READY

Mobile, compact and easy to deploy in various locations.



TRACEABLE RESULTS

Digital data logging and professional report generation.



COMPLIANT

Aligned with OIML recommendations and national procedures.

GET IN TOUCH >>



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PARIXAN DISPENSER VERIFICATION SERIES

CNG DISPENSER VERIFICATION SYSTEM

*Verify with Confidence.
Deliver with Accuracy.*

Parixan CNG Dispenser Verification Systems are designed to verify CNG dispensers accurately with high reliability, ensuring compliance with OIML R 139 and national legal metrology requirements.



APPLICABLE OIML



OIML R 139

Compressed gaseous-fuel systems classified by the applicable OIML accuracy class; current OIML certificates include classes 1.5 and 2.0.

Exact MPE depends on the class and test condition.

ACCURACY / MPE (OIML DUT)



OIML R 139:2018 — compressed gaseous-fuel systems are classified by the applicable OIML accuracy class; current OIML certificates include classes 1.5 and 2.0.

Exact MPE depends on the class and test condition.

PARIXAN REFERENCE-SYSTEM TARGET



Proposed PARIXAN reference-system target: expanded uncertainty $\leq 1/3$ of the applicable R 139 / Indian MPE, including reference quantity, pressure, temperature and repeatability contributions.

PROPOSED EQUIPMENT / SPECIFICATION



High-accuracy reference weighing/measurement system



High-pressure rated piping, fittings and connections



Pressure and temperature transmitters



Data acquisition and verification software



Safety interlocks and field-ready architecture

WORKING METHOD



CNG
DISPENSER



REFERENCE
MEASURE



PRESSURE &
TEMPERATURE
MONITORING



DATA CAPTURE &
VERIFICATION

The quantity delivered by the CNG dispenser is compared with a traceable reference quantity while pressure, temperature and delivered quantity are monitored throughout the verification cycle.

SPECIALIZED DISPENSER SOLUTIONS



LPG



LNG



HYDROGEN

Dedicated systems can also be engineered for LPG, LNG and hydrogen dispensers. These are treated as separate designs because measurement principle, pressure/temperature envelope, materials compatibility and safety requirements differ.



HIGH ACCURACY
Meets OIML R 139 requirements.



SAFE & RELIABLE
Engineered for high pressure and field safety.



FIELD READY
Compact, mobile and easy to deploy.



TRACEABLE RESULTS
Digital data logging and professional reports.



COMPLIANT
Aligned with OIML and national procedures.

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PARIXAN DISPENSER VERIFICATION SERIES

PETROL & DIESEL DISPENSER VERIFICATION SYSTEM

*Verify with Confidence.
Deliver with Accuracy.*

Parixan Petrol & Diesel Dispenser Verification Systems are designed for accurate verification of fuel dispensers in laboratory or field environments, ensuring compliance with OIML R 117 and national legal metrology requirements.



APPLICABLE OIML



OIML R 117

R 117:2019 — fuel dispensers are normally complete measuring systems of accuracy class 0.5.



Complete-system MPE
(Class 0.5): $\pm 0.5\%$
Associated meter MPE: $\pm 0.3\%$

OIML DUT ACCURACY / MPE



R 117:2019 — fuel dispensers are normally complete measuring systems of accuracy class 0.5.

- ✓ Complete-system MPE = $\pm 0.5\%$
- ✓ Associated meter MPE = $\pm 0.3\%$

PARIXAN REFERENCE-SYSTEM TARGET



Proposed PARIXAN reference-system target:
expanded uncertainty
 $\leq 0.15\text{--}0.17\%$ for a class 0.5 dispenser verification system, subject to the applicable national procedure.

PROPOSED EQUIPMENT / SPECIFICATION



Certified prover / reference measure integration



Fuel-compatible transfer, drain and recovery arrangement



Temperature measurement and earthing provisions



Mobile trolley and field-ready accessories



Tablet / PC based data capture and reporting

WORKING METHOD



FUEL DISPENSER



REFERENCE MEASURE
(PROVER)



DATA CAPTURE &
REPORTING

A known quantity delivered by the dispenser is collected in a traceable reference measure. Dispenser indication is compared with the reference delivered quantity according to the applicable verification procedure.



HIGH ACCURACY

Designed for precise verification within prescribed MPE limits.



SAFE & RELIABLE

Engineered with safety interlocks and earthing for secure operation.



FIELD READY

Compact, mobile and easy to deploy in various locations.



TRACEABLE RESULTS

Digital data logging and automatic report generation.



COMPLIANT

Aligned with OIML R 117 and national legal metrology requirements.

GET IN TOUCH >>



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PARIXAN DISPENSER VERIFICATION SERIES

CNG DISPENSER VERIFICATION SYSTEM

*Verify with Confidence.
Deliver with Accuracy.*

Parixan CNG Dispenser Verification Systems are engineered to verify CNG dispensers accurately with high reliability, ensuring compliance with OIML R 139 and national legal metrology requirements.



APPLICABLE OIML



OIML R 139

R 139:2018 — compressed gaseous-fuel systems are classified by the applicable OIML accuracy class; current OIML certificates include classes 1.5 and 2.0.

Exact MPE depends on the class and test condition.

OIML DUT ACCURACY / MPE



R 139:2018 — compressed gaseous-fuel systems are classified by the applicable OIML accuracy class; current OIML certificates include classes 1.5 and 2.0.

Exact MPE depends on the class and test condition.

PARIXAN REFERENCE-SYSTEM TARGET



Proposed PARIXAN reference-system target: expanded uncertainty $\leq 1/3$ of the applicable R 139 / Indian MPE, including reference quantity, pressure, temperature and repeatability contributions.

PROPOSED EQUIPMENT / SPECIFICATION



High-accuracy reference weighing/measurement system



High-pressure rated piping, fittings and connections



Pressure and temperature transmitters



Data acquisition and verification software



Safety interlocks and field-ready architecture

WORKING METHOD



CNG DISPENSER



REFERENCE MEASURE
(WEIGHING SYSTEM)



PRESSURE & TEMPERATURE
MONITORING



DATA CAPTURE &
VERIFICATION

The quantity delivered by the CNG dispenser is compared with a traceable reference quantity while pressure, temperature and delivered quantity are monitored throughout the verification cycle.

SPECIALIZED DISPENSER SOLUTIONS



LPG



LNG



HYDROGEN

Dedicated systems can also be engineered for LPG, LNG and hydrogen dispensers. These are treated as separate designs because measurement principle, pressure/temperature envelope, materials compatibility and safety requirements differ.



HIGH ACCURACY
Meets OIML R 139 requirements.



SAFE & RELIABLE
Engineered for high pressure and field safety.



FIELD READY
Compact, mobile and easy to deploy.



TRACEABLE RESULTS
Digital data logging and professional report generation.



COMPLIANT
Aligned with OIML and national legal metrology procedures.

GET IN TOUCH >>



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PARIXAN MASS & WEIGHING SERIES

LOAD CELL TEST & CALIBRATION SYSTEM

*Precise Force. Accurate Results.
Trusted Performance.*

Parixan Load Cell Test & Calibration Systems are designed to meet international standards and deliver traceable, reliable and repeatable calibration for all types of load cells.



APPLICABLE OIML



OIML R 60

Applicable to load cells as per OIML R 60.

OIML DUT ACCURACY / MPE



R 60:2021 — Classes A, B, C and D.
Type-evaluation MPE is $\pm pLC \times 0.5v$, $\pm pLC \times 1.0v$ or $\pm pLC \times 1.5v$ depending on applied load and class; pLC is normally 0.7 unless otherwise declared.

CLASS
A

CLASS
B

CLASS
C

CLASS
D

PARIXAN REFERENCE-SYSTEM TARGET



Proposed PARIXAN reference-force system target: uncertainty $\leq 1/3$ of the applicable load-cell MPE. Capability should be specified in verification intervals (for example C3 = Class C, 3000 intervals), not only as a percentage.

PROPOSED EQUIPMENT / SPECIFICATION



1 t to 200 t standard capacities; higher on request



Precision loading frame with hydraulic/electromechanical loading



Reference force transducer / load cell



Precision mV/V measurement and temperature sensing



Automatic loading controller, DAQ and software

WORKING METHOD



APPLY
REFERENCE FORCE



MEASURE
DUT OUTPUT



COMPARE &
EVALUATE



GENERATE
CALIBRATION REPORT

Known reference forces are applied in controlled loading/unloading sequences. DUT output is recorded against the reference force and required metrological characteristics are evaluated by software.



HIGH ACCURACY
Uncertainty $\leq 1/3$ of applicable MPE



WIDE CAPACITY RANGE
1 t to 200 t standard; higher on request



AUTOMATED OPERATION
Automatic loading, data acquisition and reporting



TRACEABLE RESULTS
Traceable to national / international standards



RELIABLE & REPEATABLE
Consistent performance for laboratory and field verification

GET IN TOUCH >>



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PARIXAN MASS & WEIGHING SERIES

NON-AUTOMATIC WEIGHING INSTRUMENT VERIFICATION SYSTEM



APPLICABLE OIML



OIML R 76

Applicable to non-automatic weighing instruments as per OIML R 76.

OIML DUT ACCURACY / MPE



R 76:2006 — Classes I, II, III and IIII.
Initial-verification MPE is $\pm 0.5e$, $\pm 1.0e$ or $\pm 1.5e$ depending on the applied load expressed in verification scale intervals e.
In-service MPE is twice the initial-verification MPE.

CLASS I

CLASS II

CLASS III

CLASS IIII

PARIXAN REFERENCE STANDARDS



Proposed PARIXAN reference standards: standard-weight error/uncertainty $\leq 1/3$ of the instrument MPE for the applied load, as specified in R 76.

PROPOSED EQUIPMENT / SPECIFICATION



Certified reference weight integration



Weight handling and loading trolley



Fixtures for bench / platform scales



Environmental measurement



Tablet / PC based verification workflow

WORKING METHOD



APPLY REFERENCE LOADS



CHECK INDICATION



RECORD & EVALUATE



GENERATE VERIFICATION REPORT

Known reference loads are applied throughout the weighing range. The system guides and records applicable indication-error, repeatability and eccentric-loading tests.

WEIGHT CALIBRATION & VERIFICATION WORKSTATION



APPLICABLE OIML



OIML R 111

Applicable to weights as per OIML R 111.

OIML DUT ACCURACY / MPE



R 111:2004 — Classes E1, E2, F1, F2, M1, M1-2, M2, M2-3 and M3; MPE is specified by nominal mass and class. Example at 1 kg:

E1	± 0.5 mg
E2	± 1.6 mg
F1	± 5 mg
F2	± 16 mg
M1	± 50 mg
M2	± 160 mg
M3	± 500 mg

PARIXAN REFERENCE STANDARDS



Proposed PARIXAN reference standards: standard-weight error/uncertainty $\leq 1/3$ of the applicable OIML R 111 MPE for the nominal mass and class.



TRACEABLE & COMPLIANT
Aligned with OIML R 76 & R 111 and national legal metrology requirements.



HIGH ACCURACY
Reference uncertainty $\leq 1/3$ of the applicable instrument MPE.



AUTOMATED WORKFLOW
Guided verification, data capture and report generation.



RELIABLE & REPEATABLE
Consistent results with standardized procedures and documentation.



FIELD & LAB READY
Robust design with portable options for laboratory and on-site verification.

GET IN TOUCH >>



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PARIXAN MASS & WEIGHING SERIES

NON-AUTOMATIC WEIGHING INSTRUMENT VERIFICATION SYSTEM

*Precise Weights.
Reliable Results.*

Parixan Non-Automatic Weighing Instrument Verification Systems are designed to verify bench scales, platform scales and other non-automatic weighing instruments in accordance with OIML R 76 requirements.



APPLICABLE OIML



OIML R 76

Applicable to non-automatic weighing instruments as per OIML R 76.

OIML DUT ACCURACY / MPE



R 76:2006 — Classes I, II, III and IIII.
Initial-verification MPE is $\pm 0.5e$, $\pm 1.0e$ or $\pm 1.5e$ depending on the applied load expressed in verification scale intervals e .
In-service MPE is twice the initial-verification MPE.

CLASS
I

CLASS
II

CLASS
III

CLASS
IIII

PARIXAN REFERENCE STANDARDS



Proposed PARIXAN reference standards: standard-weight error/uncertainty $\leq 1/3$ of the instrument MPE for the applied load, as specified in R 76.

PROPOSED EQUIPMENT / SPECIFICATION



Certified reference weight integration



Weight handling and loading trolley



Fixtures for bench / platform scales



Environmental measurement



Tablet / PC based verification workflow

WORKING METHOD



APPLY
REFERENCE LOADS



CHECK
INDICATION



RECORD TESTS
& RESULTS



GENERATE
VERIFICATION REPORT

Known reference loads are applied throughout the weighing range. The system guides and records applicable indication-error, repeatability and eccentric-loading tests.



TRACEABLE & COMPLIANT
Aligned with OIML R 76 and national legal metrology requirements.



HIGH ACCURACY
Use of certified reference weights with uncertainty $\leq 1/3$ of instrument MPE.



EASY OPERATION
Guided verification workflow with automated calculations.



RELIABLE RESULTS
Comprehensive test records and reports for audit and compliance.



RUGGED & PORTABLE
Field-ready accessories for on-site verification and traceability.

GET IN TOUCH >>



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PARIXAN MASS & WEIGHING SERIES

WEIGHT CALIBRATION & VERIFICATION WORKSTATION

**Accurate Mass.
Trusted Results.**

Parixan Weight Calibration & Verification Workstation is designed for precise calibration of standard weights in accordance with OIML R 111, delivering traceability, accuracy and confidence.



APPLICABLE OIML



OIML R 111

Applicable to weights as per OIML R 111.

OIML DUT ACCURACY / MPE



R 111:2004 — Classes E1, E2, F1, F2, M1, M1-2, M2, M2-3 and M3; MPE is specified by nominal mass and class.

Example at 1 kg:

E1	E2	F1	F2	M1	M2	M3
±0.5 mg	±1.6 mg	±5 mg	±16 mg	±50 mg	±160 mg	±500 mg

PARIXAN WORKSTATION TARGET



Proposed PARIXAN workstation target: expanded uncertainty $U (k=2) \leq 1/3$ of the MPE of the weight class being calibrated, consistent with R 111.

PROPOSED EQUIPMENT / SPECIFICATION



Precision mass comparator



Reference mass standards



Anti-vibration table and draft protection



Temperature, humidity and barometric pressure monitoring



Comparison / calculation software

WORKING METHOD



SELECT DUT WEIGHT



COMPARE WITH REFERENCE MASS



CALCULATE RESULTS



GENERATE CALIBRATION REPORT

DUT weights are compared with traceable reference masses using the selected comparison sequence. Environmental conditions and observations are recorded and mass results calculated.



HIGH ACCURACY

$U (k=2) \leq 1/3$ of the MPE as per OIML R 111.



TRACEABLE

Traceable to national / international mass standards.



CONTROLLED ENVIRONMENT

Monitors temperature, humidity and barometric pressure.



AUTOMATED WORKFLOW

Guided calibration with automatic calculations and data capture.



COMPLIANT

Designed in accordance with OIML R 111 requirements.

GET IN TOUCH >>



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PARIXAN ELECTRICAL SERIES

ELECTRICAL ENERGY METER TEST & CALIBRATION SYSTEM

*Measure Accurately.
Verify Confidently.*

Parixan Electrical Series test benches are designed for accurate verification and calibration of single-phase and three-phase electrical energy meters in accordance with OIML R 46 requirements.



APPLICABLE OIML



OIML R 46

Applicable to active electrical energy meters as per OIML R 46.

OIML DUT ACCURACY / MPE



R 46:2012 — Classes A, B, C and D.
At Itr-I_{max} and unity power factor, base MPE is $\pm 2.0\%$, $\pm 1.0\%$, $\pm 0.5\%$ and $\pm 0.2\%$ respectively.
At power factor 0.5 inductive to 0.8 capacitive, corresponding base MPE is $\pm 2.5\%$, $\pm 1.5\%$, $\pm 0.6\%$ and $\pm 0.3\%$.

CLASS A

$\pm 2.0\%$
($\pm 2.5\%$)

CLASS B

$\pm 1.0\%$
($\pm 1.5\%$)

CLASS C

$\pm 0.5\%$
($\pm 0.6\%$)

CLASS D

$\pm 0.2\%$
($\pm 0.3\%$)

(Values in brackets are for pf 0.5 inductive to 0.8 capacitive)

PARIXAN REFERENCE SYSTEM



Proposed PARIXAN reference system:

0.05% Standard Version

0.02% High-Accuracy Version

Provided the complete bench uncertainty maintains the required accuracy ratio for the intended meter class and test point.

PROPOSED EQUIPMENT / SPECIFICATION



EM-10: 10 positions | EM-20: 20 positions | EM-40: 40 positions



Single-phase and three-phase configurations



Programmable precision voltage and current sources



Programmable frequency, phase angle and power factor



High-accuracy reference energy standard



Independent optical pulse scanner for each meter position



Industrial PC/controller, automatic test software and safety interlocks

WORKING METHOD



APPLY
PRECISE SOURCE
CONDITIONS

Voltage, Current,
Frequency, Phase
Angle, Power Factor



COMPARE WITH
REFERENCE ENERGY
STANDARD



OPTICAL SCANNER
CAPTURES
METER PULSES



SOFTWARE
CALCULATES ERROR
& STORES TEST
POINTS



GENERATE
RESULTS
& REPORTS

The precision source applies defined voltage, current, frequency and phase conditions. Each DUT is compared with the reference energy standard. Optical scanners capture meter pulses and software calculates error, stores test points and produces results/reports.



HIGH ACCURACY

Reference system up to 0.02% for high-accuracy verification.



FLEXIBLE CONFIGURATION

10, 20 or 40 positions to suit laboratory throughput.



AUTOMATED OPERATION

Fully automated tests with programmable sequences and safety interlocks.



OPTICAL PULSE SCANNING

Independent pulse capture for every meter position ensures accuracy.



TRACEABLE & COMPLIANT

Built to meet OIML R 46 and national legal metrology requirements.

GET IN TOUCH >>



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PARIXAN ELECTRICAL SERIES

RECOMMENDED GATC CONFIGURATION: EM-10

Optimized. Reliable. Compliant.

The EM-10 configuration is a recommended 10-position energy meter test bench designed for accurate verification and calibration of single-phase and three-phase energy meters.



PARAMETER		PROPOSED CONFIGURATION
	Meter positions	10, independently selectable
	System	Single-phase / three-phase
	Nominal voltage	230 V; 3 x 230/400 V
	Frequency	45-65 Hz programmable
$\cos \varphi$	Power factor	Programmable lead / unity / lag
	Reference standard	Selected to achieve required test uncertainty
	Pulse detection	Optical scanner per position
	Communication	RS-485 / Ethernet; DLMS optional
	Output	Automatic error calculation, pass/fail and report



HIGH ACCURACY
Designed to meet
OIML R 46 accuracy
class requirements.



FLEXIBLE & SCALABLE
Configurable test points
and positions to suit
laboratory needs.



AUTOMATED & EFFICIENT
Automatic testing, data
logging and report
generation.



RELIABLE & COMPLIANT
Built for long-term
performance and
regulatory compliance.

GET IN TOUCH >>



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PARIXAN ELECTRICAL SERIES TAPE / MATERIAL MEASURE VERIFICATION BENCH

*Measure Accurately.
Verify Confidently.*

The Parixan Tape / Material Measure Verification Bench is designed to verify tape measures and material measures in accordance with OIML R 35 requirements, ensuring precision, consistency and compliance.



APPLICABLE OIML



OIML R 35

Applicable to material measures as per OIML R 35.

OIML DUT ACCURACY / MPE



R 35:2007 — accuracy Classes I, II and III; permissible error is length-dependent and includes an additional allowance related to the terminal interval / scale arrangement.

CLASS I
(Highest)

CLASS II
(Medium)

CLASS III
(Basic)

Permissible error depends on length and class.

PARIXAN REFERENCE-SYSTEM TARGET



Proposed PARIXAN reference-system target: expanded uncertainty $\leq 1/3$ of the applicable R 35 MPE, including reference length, tension, temperature and reading contributions.

PROPOSED EQUIPMENT / SPECIFICATION



10 m / 30 m / 50 m / 100 m versions



Precision reference track and length system



Controlled tape tensioning arrangement



Magnification/vision assistance



Temperature measurement and digital recording

WORKING METHOD



POSITION
MEASURE



APPLY SPECIFIED
TENSION



COMPARE WITH
REFERENCE LENGTH
SYSTEM



RECORD &
GENERATE
RESULTS

The material measure is positioned under the specified tension and graduations are compared with the reference length system at selected points.



HIGH ACCURACY

Designed to meet OIML R 35 accuracy requirements.



STABLE & REPEATABLE

Precision track and controlled tension ensure repeatable results.



ENVIRONMENT CONTROL

Temperature measurement compensates for the effect on length.



DIGITAL RECORDING

Automatic data capture and reporting for full traceability.



ROBUST & RELIABLE

Industrial design built for laboratory and on-site verification.

GET IN TOUCH >>



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PARIXAN ELECTRICAL SERIES MULTI-DIMENSIONAL MEASURING INSTRUMENT TEST SYSTEM

*Measure Precisely.
Verify Confidently.*

Parixan Multi-Dimensional Measuring Instrument Test System is designed to verify and calibrate dimensional measuring instruments in accordance with OIML R 129 requirements.



APPLICABLE OIML



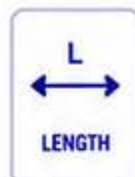
OIML R 129

Applicable to multi-dimensional measuring instruments as per OIML R 129.

OIML DUT ACCURACY / MPE



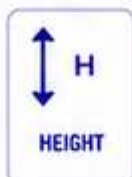
R 129:2020 — maximum permissible errors depend on the measured dimension, scale interval and instrument configuration; there is no single universal percentage value.



LENGTH



WIDTH



HEIGHT



DERIVED DIMENSIONS

MPE varies with dimension, range and instrument type.

PARIXAN REFERENCE-SYSTEM TARGET



Proposed PARIXAN reference-system target: expanded uncertainty $\leq 1/3$ of the applicable DUT MPE, including certified artefact, positioning and environmental contributions.

PROPOSED EQUIPMENT / SPECIFICATION



Traceable dimensional reference artefacts



Precision positioning and mounting



Reference length standards



Environmental monitoring



DAQ and automatic report software

WORKING METHOD



PLACE REFERENCE OBJECT



MEASURE WITH DUT



COMPARE WITH CERTIFIED VALUES



GENERATE RESULTS & REPORT

Known reference objects are measured by the DUT. Length, width, height and applicable derived dimensional quantities are compared with certified reference values.



HIGH ACCURACY

Uncertainty $\leq 1/3$ of DUT MPE for reliable verification.



TRACEABLE

Uses traceable artefacts and reference standards.



MULTI-DIMENSIONAL

Verifies linear dimensions and derived geometrical quantities.



AUTOMATED & EFFICIENT

Automated data capture, calculations and report generation.



RELIABLE & COMPLIANT

Designed to meet OIML R 129 and legal metrology needs.

GET IN TOUCH >>



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PARIXAN ELECTRICAL SERIES MOISTURE METER TEST SYSTEM

*Measure Accurately.
Verify Confidently.*

Parixan Moisture Meter Test System is designed to verify and calibrate moisture meters used for grains, oilseeds and other agricultural products in accordance with OIML R 59 requirements.



APPLICABLE OIML



OIML R 59

Applicable to moisture meters as per OIML R 59.

OIML DUT ACCURACY / MPE



R 59:2016 — MPE is defined according to product type, moisture range and reference method; a single universal percentage is not applicable to all grains/oilseeds.

GRAINS

OILSEEDS

PULSES

OTHER
PRODUCTS

MPE varies with product, moisture range and reference method.

PARIXAN REFERENCE-SYSTEM TARGET



Proposed PARIXAN reference system: uncertainty $\leq 1/3$ of the applicable MPE where practicable, with certified/reference sample preparation and environmental control.

PROPOSED EQUIPMENT / SPECIFICATION



Reference sample preparation/determination arrangement



Precision weighing and temperature measurement



Environmental monitoring
(Temperature, Humidity)



Sample handling accessories



Data capture and result software

WORKING METHOD



PREPARE
REFERENCE
SAMPLES



MEASURE WITH
DUT



COMPARE WITH
REFERENCE VALUE



RECORD & GENERATE
RESULTS

Prepared reference samples with established moisture values are measured by the DUT. DUT indication is compared with the assigned reference value.



ACCURATE RESULTS

Uncertainty $\leq 1/3$ of applicable MPE where practicable.



TRACEABLE

Use of certified reference methods and standards.



ENVIRONMENTAL CONTROL

Monitor and record temperature and humidity for reliable verification.



AUTOMATED & EFFICIENT

Digital data capture, calculation and report generation.



RELIABLE & COMPLIANT

Designed to meet OIML R 59 and legal metrology needs.

GET IN TOUCH >>



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PARIXAN ELECTRICAL SERIES

EVIDENTIAL BREATH ANALYSER TEST SYSTEM

*Measure Accurately.
Verify Confidently.*

The Parixan Evidential Breath Analyser Test System is designed to verify and calibrate evidential breath analysers in accordance with OIML R 126 requirements.



APPLICABLE OIML



OIML R 126

Applicable to evidential breath analysers as per OIML R 126.

OIML DUT ACCURACY / MPE



R 126 — MPE is concentration-dependent and varies with the test/verification condition; it is not represented by one fixed percentage for the full range.

LOW
RANGE

MID
RANGE

HIGH
RANGE

SPECIAL
CONDITIONS

MPE varies with concentration and test condition.

PARIXAN REFERENCE-SYSTEM TARGET



Proposed PARIXAN reference-gas/test-system target: uncertainty $\leq 1/3$ of the applicable DUT MPE, including certified reference material and gas-delivery contributions.

PROPOSED EQUIPMENT / SPECIFICATION



Certified reference gas/material integration



Gas delivery and conditioning



Flow, pressure and temperature measurement



Automated sequencing and DUT interface



DAQ and result software

WORKING METHOD



SELECT
REFERENCE
CONCENTRATION



DELIVER GAS UNDER
CONTROLLED
CONDITIONS



MEASURE WITH
DUT



COMPARE &
CALCULATE
RESULTS



GENERATE
REPORT

Known reference concentrations are delivered under controlled conditions and compared with the analyser indication.



TRACEABLE & ACCURATE
Uncertainty $\leq 1/3$ of applicable MPE for reliable verification.



CERTIFIED MATERIALS
Use of certified reference gases traceable to national standards.



ENVIRONMENTAL CONTROL
Monitors and compensates temperature, pressure and flow.



AUTOMATED & EFFICIENT
Automated test sequences and digital data capture for high throughput.



RELIABLE & COMPLIANT
Designed to meet OIML R 126 and legal metrology needs.

GET IN TOUCH >>



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PARIXAN ELECTRICAL SERIES

TRAFFIC SPEED METER TEST SYSTEM

*Measure Accurately.
Verify Confidently.*

The Parixan Traffic Speed Meter Test System is designed to verify and calibrate traffic speed meters in accordance with OIML R 91 requirements.



APPLICABLE OIML



OIML R 91

Applicable to traffic speed meters as per OIML R 91.

OIML DUT ACCURACY / MPE



R 91 — permissible error is defined by the applicable speed-meter class/test condition and is not one constant percentage over all applications.

CLASS 1

CLASS 2

FIELD TEST

MPE varies with instrument class and test condition.

PARIXAN REFERENCE-SPEED TARGET



Proposed PARIXAN reference-speed target: uncertainty $\leq 1/3$ of the applicable DUT MPE, including distance, time and test-arrangement contributions.

PROPOSED EQUIPMENT / SPECIFICATION



Reference speed/distance/time measurement
High-accuracy distance and time measurement with traceable reference.



Controlled target or field test arrangement depending on DUT technology
Suitable for radar, LIDAR and other speed meter technologies.



Data acquisition and test software
Automated data capture, analysis and report generation.

WORKING METHOD



SET UP TEST
ARRANGEMENT



APPLY KNOWN OR
REFERENCE SPEED



MEASURE WITH
DUT



COMPARE &
RECORD RESULTS

A known or independently measured reference speed is compared with the speed indicated by the DUT.



HIGH ACCURACY
Uncertainty $\leq 1/3$ of applicable MPE for reliable verification.



FLEXIBLE SOLUTION
Suitable for different speed meter technologies and test conditions.



AUTOMATED & EFFICIENT
Automated testing, data capture and reporting for high productivity.



RELIABLE & COMPLIANT
Designed to meet OIML R 91 and legal metrology needs.

GET IN TOUCH >>



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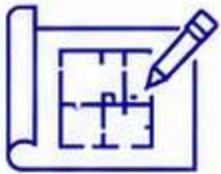
PARIXAN ELECTRICAL SERIES

COMPLETE GATC LABORATORY SETUP PACKAGE

PARIXAN can deliver an integrated GATC laboratory package rather than isolated machines. The solution can be configured around the laboratory's approved scope, instrument range, expected throughput, utilities, automation level and documentation requirements.



1. DESIGN



- Scope study
- Laboratory layout
- Utilities
- Equipment selection

2. EQUIPMENT



- Test benches
- Fixtures
- Reference-standard integration
- Safety systems

3. AUTOMATION



- PLC/HMI
- DAQ
- Automatic sequencing
- Databases
- Reporting

4. COMMISSIONING



- Installation
- Performance checks
- Operator training
- Documentation

5. SUPPORT



- SOP/uncertainty support
- AMC
- Upgrades
- Technical assistance

WHY PARIXAN



Single-source engineering for mechanical, hydraulic, pneumatic, electrical and automation systems



Modular platforms that can be scaled by range, number of stations and automation level



Integration of traceable reference standards from suitable specialist manufacturers



Automatic data capture and report generation to reduce operator dependence



Customized field and laboratory verification solutions



Flow / Water Meter Test Bench



GATC (Electrical Series)



Dimensional Instrument Test System



Moisture Meter Test System



Breath Analyser Test System



Traffic Speed Meter Test System



ACCURACY DESIGN RULE

The catalogue separates DUT accuracy/MPE from proposed PARIXAN reference-system capability. Final equipment uncertainty should be confirmed through the complete uncertainty budget and the latest Indian Legal Metrology procedure for the customer's approved scope.



REGULATORY NOTE

The applicable GATC scope, verification procedure, maximum permissible errors, reference-standard requirements and approval conditions are governed by Indian Legal Metrology requirements. OIML recommendations shown in this brochure identify the relevant international metrology framework for the corresponding instrument category. Final equipment configuration should be frozen against the customer's intended approved scope and the latest applicable rules/standards.



PARIXAN ELECTRICAL SERIES

WHAT INSTRUMENTS CAN A GATC VERIFY?

The First Schedule in your document has been substantially expanded. It now contains 23 categories, including water meters, weighing instruments, load cells, gas meters, energy meters, moisture meters, vehicle speed meters, breath analysers, multidimensional measuring instruments and, importantly, flow meters.

The May 2026 amendment officially substituted this expanded First Schedule.

ACCURACY IS
OUR STANDARD



1 Water Meter



2 Sphygmomanometer



3 Clinical Thermometer



4 Automatic Rail Weighbridges



5 Tape Measures



6 Non-automatic Weighing Instruments Class III up to 150 kg



7 Non-automatic Weighing Instruments Class III



8 Load Cell



9 Beam Scale



10 Counter Machine



11 Weights of All Categories



12 Gas Meters



13 Energy Meters



14 Moisture Meters



15 Speed Meters for Vehicles



16 Breath Analysers



17 Multi-dimensional Measuring Instruments



18 Flow Meters



19 Petrol/Diesel Dispenser



20 CNG Dispenser



21 LPG Dispenser



22 LNG Dispenser



23 Hydrogen Dispenser



PARIXAN GATC SOLUTIONS

Comprehensive test systems • Traceable reference standards
Automation & reporting • Uncertainty support
Compliance with Indian Legal Metrology requirements



Delivered to meet your approved scope and the latest applicable rules.

GET IN TOUCH >>



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PARIXAN ELECTRICAL SERIES

REFERENCE SYSTEM CAPABILITY

Designed to Verify. Built for Accuracy.

 Equipment manufacture	 Most demanding DUT MPE	 Parixan reference-system capability
 Water Meter Bench	$\pm 1\%$	$\leq 0.20-0.30\%$ uncertainty
 Liquid Flow Bench	$\pm 0.3-0.5\%$ depending on application	$\leq 0.10-0.15\%$ for high-end system
 Gas Meter Bench – Class 0.5	$\pm 0.5\%$	$\leq 0.15\%$
 Fuel Dispenser Verification	$\pm 0.5\%$	$\leq 0.15-0.17\%$
 Energy Meter – Class A	$\pm 2\%$	0.05% system easily sufficient
 Energy Meter – Class B	$\pm 1\%$	$\leq 0.20-0.30\%$
 Energy Meter – Class C	$\pm 0.5\%$	$\leq 0.15\%$
 Energy Meter – Class D	$\pm 0.2\%$	$\leq 0.06-0.07\% \rightarrow$ use 0.02/0.05-class reference
 Load Cell	Variable in v	$\leq 1/3$ applicable MPE
 Weighing Instrument	$\pm 0.5e$ minimum band	Standards $\leq 1/3$ MPE
 Weights	Class/mass dependent	$U \leq 1/3$ MPE
 Tape Measure	Length/class dependent	$U \leq 1/3$ MPE
 CNG Dispenser	Class dependent	$U \leq 1/3$ applicable MPE
 Breath Analyser	Concentration dependent	$U \leq 1/3$ applicable MPE
 Multi-dimensional system	Dimension dependent	$U \leq 1/3$ applicable MPE



ACCURACY DESIGN RULE:

The catalogue separates DUT accuracy/MPE from proposed PARIXAN reference-system capability. Final equipment uncertainty should be confirmed through the complete uncertainty budget and the latest Indian Legal Metrology procedure for the customer's approved scope.



REGULATORY NOTE:

Designed to meet Indian Legal Metrology requirements and international standards. Final configuration to be validated against the customer's intended approved scope and the latest applicable rules/standards.

GET IN TOUCH >>



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