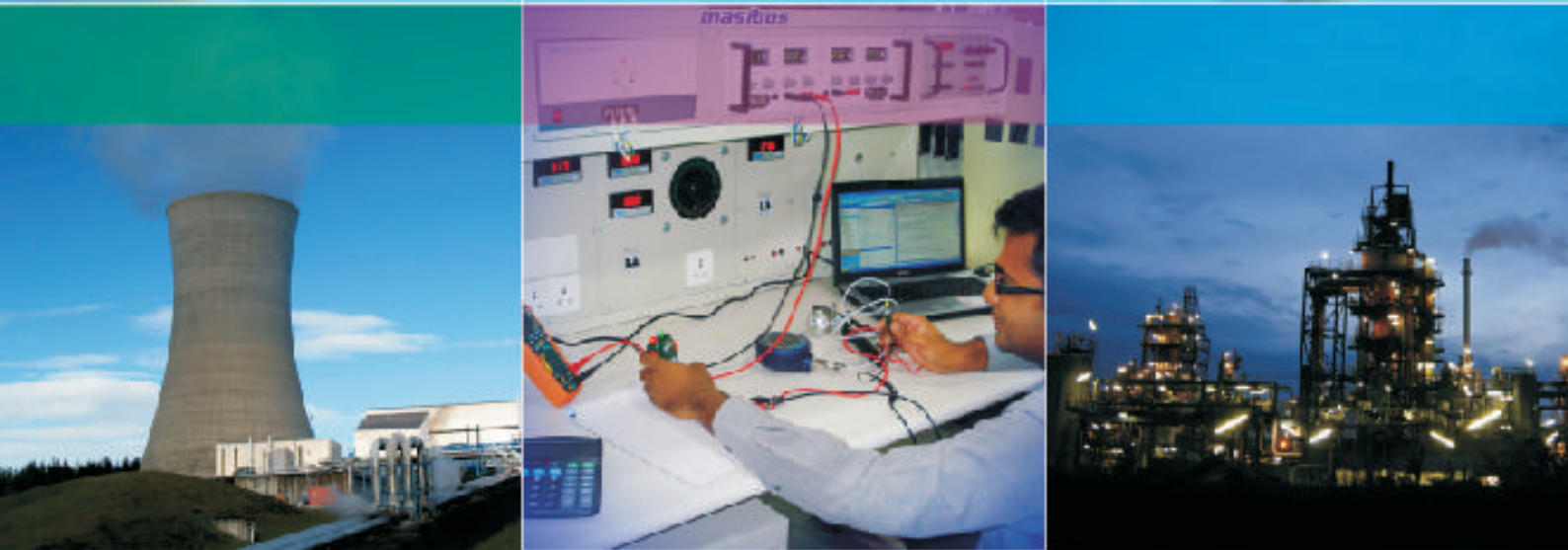


www.masibus.com



Calibration Test Bench Solutions

masibus[®]
Advanced Automation - Sure Solutions

Masibus offers highly accurate, complete & customized calibration solutions to the challenging needs of today's industries.

Why Calibration is important ?

- **Validate Manufacturing**
- **Process Quality Standards**
- **Regulatory Compliance**

Masibus test bench configurations are developed with intelligence of versatile & modular design, keeping in mind the instrument testing & calibration procedures.

The modular concept gives it the ease and makes it possible for a wide range of configurations & performance capabilities. All calibration benches are custom-built and engineered, meeting industry applications & standards of maintenance & calibrations of various devices used in the plant. It helps industry to maintain calibration data & healthiness of all field devices to give optimum performance.








Along with after sales support for the calibration test bench, Masibus offers complete design, development, detailed specifications, documentations, installation & commissioning, training & supply of equipment & accessories traceable to international standards.

The major sectors where Masibus Calibration Test Benches are popular are metal, cement, chemical, power and oil & gas.

Masibus Competence

- 35+ years of expertise in design, engineering & manufacturing in calibration domain
- An in-house calibration lab with national/ international traceability
- Well trained & dedicated team of engineers
- ISO 9001:2008 certified company
- Enhanced company profile through global partnerships with best-in-class companies.

Masibus – Complete Calibration Test Bench Solution Provider

						
01 Design & Development	02 Calibrator Manufacturing	03 Customized Test Bench Solution	04 Installation & Commissioning	05 Training	06 After sales support	07 Calibration Services

01

Design & Development

Test Bench Layout

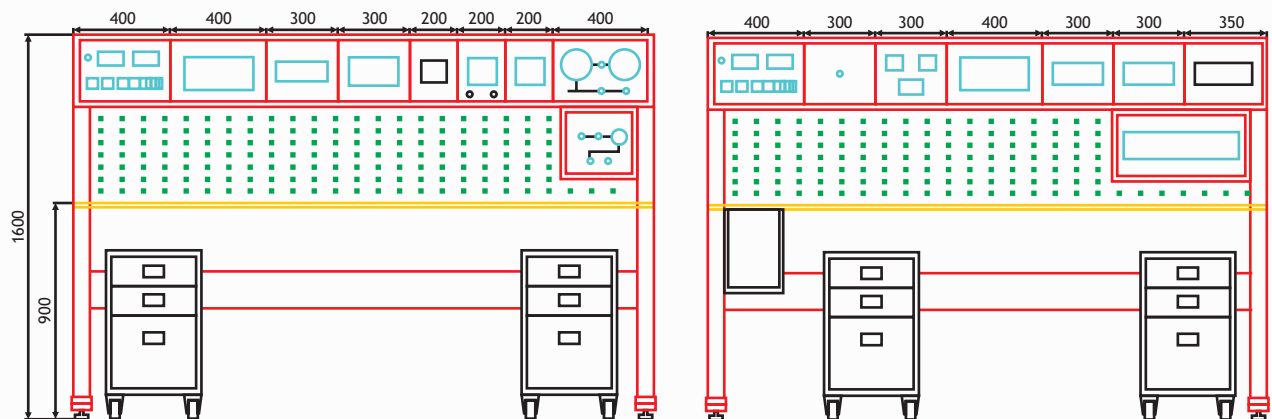
All design & layout diagrams are provided at the time of proposal to visualize the end product. Any modifications can be incorporated at the initial stage in order to minimize project delay.

Specifications & Facility Derivation

Masibus helps to evaluate specifications of test bench according to customer needs & derive the facility which covers the desired specifications.

Equipment Selection

The design comprises of analyzing the functionality required from the test bench & complying with the function selections of equipments that plays major role in work scope. Each equipment is selected on the basis of accuracy, flexibility & versatility, ease of use, productivity, certification & traceability. A package of hardware & software gets selected in order to retain a database for maintenance, planning & process management with field hardware for optimizing performance of the process instrument.



Pneumatic TB Layout

Electronic TB Layout

02

Calibrator Manufacturing

Calibrators

Features

- Range - Loop calibrator, Thermocouple calibrator, Temperature simulator
- User friendly operation
- Auto/Manual CJ compensation
- Handy & Portable
- Mains/Rechargeable battery operated



UNICAL 3001M

Features

- Micro-controller based multi function calibrator
- Unique 'Auto Cal' & 'Auto Zero' function
- 5 digit, 0.56" RED LED display
- 16 calibration functions
- User friendly operation using dedicated switches
- Special calibration function for Cu-53, 2 custom T/C & resistance simulation
- Mains-Cum-Rechargeable battery operated
- Rack/ tabletop mount options available



03

Customized Test Bench Solution

Masibus Test Bench MTB4000 series - quick & easy start-up, safe work space environment, easy maintenance

- Made of heavy grade, high quality steel fabrications
- Accurately fabricated, welded & powder coated structure
- Fabricated of high quality acrylic solid surface from HI-MAC
- Smooth surface & ultra simple to clean
- HI-MACS can be milled to any shape as well as fabricated without joints through thermoforming
- Superior quality & sleek look
- Looks new even after 20 years
- Various colour shades & textures are available

Pressure Test Bench

Features

- Highly accurate pressure calibration for ranges from vacuum to high pressure
- Manual / automatic pressure calibration choice
- Pneumatic or hydraulic versions
- Calibration equipment within hand's reach
- Flexible maintenance – device modules structure
- Documenting version available with PC connectivity

Equipments

- Pressure/Indicator/Controller/Gauges/Regulator /Test ports
- Dead weight testers, Hand Pumps
- Pressure mimic panels
- AC/DC Power Supply (Fixed/Variable)
- Various pressure hose pipe, adapters (NPT/BSP)

Applications

- Periodic calibration of Pressure sensors, switches, transmitters, gauges, indicator, controllers & recorder
- Differential pressure transmitter/gauges/switches I/P converter

Temperature Test Bench

Features

- Versatile calibration facility for temperature & electrical instruments
- Fully automatic temperature calibration
- Flexible maintenance – device modules structure
- Manual/ automatic calibration reports
- Documenting version available with PC connectivity

Equipments

- Temperature Calibrator
- Dry block/Black body source
- Master/ test RTD & Thermocouples mA/mV source
- AC/DC Power Supply (Fixed/Variable)

Applications

- Periodic calibration of:
Thermocouple & RTDs
Temperature gauges, switches, indicators, controllers & recorders



Calibration process assures that the measurements are accurate & within the specified limits of the process instrument.

Benefits

- **Equipment within a hand's reach**
- **Flexible maintenance**
- **Easy start-up**
- **Trouble free calibration process**

Multifunction Test Bench

Features

- Flexible calibration facility for pressure, temperature & electrical instruments
- Flexible maintenance – device modules structure
- Documenting version available with PC connectivity

Equipments

- Pressure/indicator/Controller/Gauges/Regulator/ Test ports
- Temperature Calibrator, Dry block/Black body source
- AC/DC Power Supply (Fixed/Variable)
- Tool kit

Applications

- Periodic calibration of Temperature & pressure sensors, transmitters, switches & recorder
Thermocouple & RTDs

Electrical & Electronics Test Bench

Features

- ESD protection enables safe handling of delicate components
- Isolation transformers, fault current & overload protections & emergency stop switch
- Documenting version available with PC connectivity

Equipments

- PCB Tester/Online circuit tester
- AC/DC Power Supply (Fixed/Variable)
- Function Generator/Digital Oscilloscope/ logic analyzers
- Multimeter/ insulation tester/ clamp meters/
- Soldering- De-soldering stations
- IC Tester/EEPROM eraser
- Tool kit, Desoldering Pump etc .

Applications

- Testing & maintenance of electrical & electronics devices
- Soldering & desoldering of SMD & through hole electronic components



Equipments Selection

- Pressure Indicator/Controller (Rack mount) – with ranges from vacuum to 2750 bar, with highest accuracy of 0.005% Rdg.
- Pressure Calibrator (Portable) – Ranges from vacuum to 1000 bar
- Dead Weight Testers - Pneumatic & hydraulic operated (Gauge pressure up to 5000 bar), Comparison test pumps with accuracy of 0.05% Rdg to 0.0015% Rdg.
- Temperature Source
 - Dry Blocks Source – from -45° C to 1700 ° C
 - Black Body Source - from -40° C to 3000 ° C
- Temperature Calibrator (Portable) – Loop Calibrator, RTD Calibrator, Thermocouple Calibrator
- Portable Documenting Calibrators – Multifunction Calibrator
- Vibration Calibration – 10 to 2000 Hz adjustable in 1000 steps & fixed 5kHz
- Related Products: Hand Pump, Loop Calibrator, Portable Pressure Calibrators, Test Gauge, Test T/Cs & RTDs.
- Various Supporting Tools: Soldering-Desoldering station, Multimeter (Portable/Bench Top Type), Oscilloscope, Function Generator, Logic Analyzer, AC/DC power supply(Fixed/Variable), Tool Kits

Calibration Management Software

Platform developed to maintain & control a calibration environment of the highest standards of metrology.

- Windows®-based software
- Compatible with digital pressure controllers & portable field calibrators
- Maintenance scheduling utility
- Stores instrument details, procedures & results



Lab Accessories

Masibus provides various accessories in order to facilitate the test bench assembly. They are laminated tabletops, Mats, Grounding kits, Wrist wraps, Lab Carts, ESD hand tools.

The selection of various accessories involves the basic understanding of workshop layout & customer's need. Some of the accessories used for remote calibration operations are movable tool cupboards, trolleys etc.



04

Installation & Commissioning

Installation & Commissioning

Masibus will provide satisfactory installation, testing, commissioning, start-up & performance tests of the individual testing & calibrating instrument/devices.

All installation accessories & consumables required for successful installation of the system will also be supplied.

Acceptance Tests & Inspection

Masibus will provide test plans that are prepared to cover a variety of tests such as visual, functionality, user interface, error handling & performance that will form test cases for the project. Successful run of all test cases that are in the test design document will form basis for acceptance.

05

Training

At User Premises

Training is also conducted at user's location. The training period will vary from 1 to 5 days, depending on the size of the project.

Expert Guidance

The training is provided by calibration & service specialists, who will supervise the training throughout the session.

Hands on Training

Practical, hands-on training improves the confidence level of the user, since queries can be resolved on line.

Training Material

All the required training material is provided for future references.

06

After Sales Support

Spare Parts

Masibus supports all the requirement for spare parts, component repair & exchange of inventory.

Masibus Cal lab

Masibus Cal lab provides efficient & satisfactory calibration services. It is equipped with the state of art technology, along with world class instruments traceable to International / National standards.

Technical Assistance

Masibus has its own Service Centres in four locations in the country. All service centres are managed by trained & experienced engineers who offer prompt services.

Local Support

Masibus offers a wide network of support through its 12 nation-wide branch offices & 2 International offices.



Calibration Services

Cal Lab Calibrates
Temperature
Pressure
Electrical
Energy
Vibration

To offer excellent service & support, Masibus has its own Service Centres in four locations in the country. All service centres are managed by trained & experienced engineers & offer prompt & fast services.

Features

- Registered by UL for ISO 9001:2008
- Reports are acceptable by all the Auditors of BVQI, STQC, TUV, DNV, BIS, KPMG, UL, SGS etc... ISO registration authorities
- Specify Accuracy Ratio in the Calibration Report

Services Offered

- Technical support & training
- Annual Maintenance Contract
- Servicing
- Up gradation
- Consulting Services



Workshop on Calibration

The workshop provides the skills & fundamentals required for any calibration process & covers specifications of laboratory reference equipment, testing & calibration techniques including documentation, traceability, & uncertainty evaluation as required by ISO/IEC guidelines.



masibus[®]
Advanced Automation - Sure Solutions

With a relentless pursuit for excellence since its inception in 1975, Masibus has evolved into a high technology organization with core competencies in process control instrumentation, automation, systems integration,

condition monitoring & asset management.

A dedicated in house Calibration Lab having Testing & Measurement equipments traceable to National/International Standards, helps Masibus focus on accuracy, cost effectiveness & dependability of its calibration services.

With the launch of its Calibration Test Benches, Masibus is now a complete solution provider to meet the challenging calibration demands of the various process industries.

masibus[®]
Advanced Automation - Sure Solutions

MASIBUS AUTOMATION AND INSTRUMENTATION PVT. LTD.

B-30, G.I. D.C. Electronics Estate, Sector-25, Gandhinagar - 382 044, Gujarat, INDIA.
Tel. : +91 79 23287275 - 79 Fax : +91 79 23287281 - 82
E-mail : sales@masibus.com • Web: www.masibus.com

For Sales & Service, Call TOLL FREE (India only)

1-800-233-2273
1-800-ADD-CARE

INTERNATIONAL OFFICES

SHARJAH
Cell: +971 502803380
e-mail: masibus@aim.ae

SINGAPORE
Cell: +65 96925144
e-mail: singapore@masibus.com

NATIONAL OFFICES

AHMEDABAD
Cell: +91 9898586391
e-mail: ahmedabad@masibus.com

BENGALURU
Cell: +91 9844023160
e-mail: blr@masibus.com

BHOPAL
Cell: +91 9752549924
e-mail: mp@masibus.com

CHENNAI
Cell: +91 9840483388
e-mail: chennai@masibus.com

GOA
Cell: +91 9822135796
e-mail: goa@masibus.com

HYDERABAD
Cell: +91 9441400344
e-mail: hyd@masibus.com

KOLKATA
Cell: +91 9433073470
e-mail: kolkata@masibus.com

MUMBAI
Cell: +91 9892263577
e-mail: mumbai@masibus.com

PUNE
Cell: +91 9689937234
e-mail: pune@masibus.com

SURAT
Cell: +91 9898587968
e-mail: surat@masibus.com

VADODARA
Cell: +91 9898586390
e-mail: baroda@masibus.com