

Test, Measurement & Calibration Instruments

Air Data Test Systems / Ground Support Equipment	Multifunction, Process / Documenting Calibrators - Standard / IS (ATEX) Version	Humidity Calibrators	Test & Measuring Instruments	Multifunction Calibrator - Standard / IS Version (ATEX) Hart Communicator
				
D. Marchiori S.R.L. Italy	AOIP SAS, France	Green Energy Optimizers Calibration Instruments, U.S.A.	Extech Instruments Corporation (FLIR Group), U.S.A.	Meriam Process Technologies, U.S.A.



Light Weight Handheld Process / Multifunction Calibrator	Digital Handheld Manometers - Standard / EX Version	Micro-Manometers	High Precision Reference RTD	Precision Glass Thermometers
				
Practical Instrument Electronics, Inc., U.S.A.	Huber Instruments AG, Switzerland	Acin Instruments B.V., The Netherlands	ASP Sensors, U.S.A.	Amarell GmbH & Co., Germany

Global Standards thro' Local Experts

www.nagman.com

About us

Nagman Instruments & Electronics Pvt. Ltd., is an ISO 9001:2008 Certified Company, established in 1972, Manufacturing & Marketing Calibration Standards / Systems for Temperature, Pressure, Electrical & Flow Parameters.

Nagman's past association includes several reputed World Leaders in the field of Instrumentation & Calibration such as M/s. Ametek Jofra (Denmark); Pressuremets/S.I. Pressure Instruments, England; AOIP, France (Eurotron); Revue Thommen, Switzerland; Tradinco, The Netherlands - the list continues. Nagman is extending & expanding their business activities by signing up with several Principals across the Globe for Marketing their products in India.

Nagman have manufactured & supplied over 30,000 Calibrators, 500 Dead Weight Testers & 600 Calibration Test Benches / Workstations & Software to industry leaders in India & have also exported scores of their products to 83 countries. Nagman's selected product range have been evaluated & certified by DNV.

Nagman's "Centre for Calibration" has been accredited as per ISO 17025:2005 - for offering Calibration Services - in Thermal, Mechanical (Mass & Pressure), Electro-Technical & Flow Parameters - by NABL (equivalent to UKAS, NIST) in their Chennai & Mumbai Labs.

Nagman, with the above Expertise / Experience & Infrastructure - offer you Qualified Consultancy - in selection of the right Instrument / Equipment from their Range for your Applications & to Support the supplies after Sales. When you buy a 'Product' from Nagman, you buy a 'Qualified Service'.

Nagman have Regional Marketing Offices / Support Executives at major Metros / Cities of India including Delhi, Mumbai, Vadodara, Kota, Kolkatta, Hyderabad & Bangalore.

As you turn the pages, you will come across Products of tomorrow in related fields of Test, Measurement & Calibration to suit every industry need.

Service / Recalibration facility at Chennai & Mumbai.

Huber Instruments AG. (Revue Thommen), Switzerland



– Manufacturer of Digital handheld Manometers / Gauges / Altimeters / Absolute Pressure Barometers

Precision Handheld Digital Manometer / Gauges (Several Models)

- For measurement of Gauges vacuum / pressure,
- Differential & Absolute Pressure
- Ranges 0 to 20 mBar up to 90 Bar;
- Accuracies from 0.2% upto 0.05%
- Multiple Engineering pressure units
- **IS/Ex Version available**
- Data logging / Memory



Digital Handheld Pressure Calibrator

- Range from 0 to 25 mBar upto 70 Bar
- Accuracies 0.05% / 0.1%, selectable pressure units
- Measures and generates mV / V, Data logging

Compact Electronic Meteo Station

- Compact multifunction Measuring Instrument for climatic data
- Pressure, Humidity, temperature & Altitude for onsite use
- Measuring Ranges :
 - Barometric Pressure :
225 .. 1125 hPa abs; Error Limit : ± 1 hPa
 - Humidity : 0 ... 100% rH;
Error limit : 1,5% rH
 - Temperature : 0,2% / 0,1%



Absolute Pressure Barometers

- Ranges 0 to 1100 mBar / 2000 mBar absolute, Accuracy 0.1% F.S

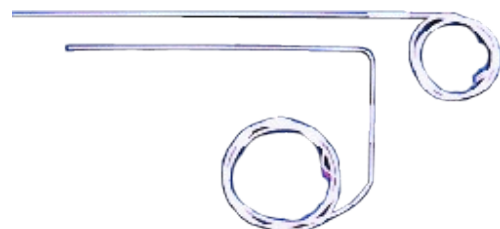
ASP Sensors, U.S.A.



ASP SENSORS
ADVANCED SENSING PRODUCTS

High Precision Reference RTD

Resistance at 0°C	25.5 / 100 Ω or custom design
Temperature range	-200 to 660°C (upto 1100°C available)
Temperature coefficient	0.003850 $\Omega/^{\circ}\text{C}$ or 0.003925 $\Omega/^{\circ}\text{C}$
Stability	R0 typical drift < 0.002°C after / < 0.001°C 1,000 hours at 300°C



- Bench-top Calibrators, Field Calibrators, Multifunction Calibrators (IS Version & Non-IS Version), Thermocouple / RTD Calibrators, Process Calibrators, Data Loggers, Flue Gas Analyzers etc.



First Line
Model : Calys 50

- Simultaneous measurement and generation of U, I, temperature (RTD and thermocouple), frequency, ...
- Up to 0,02% of accuracy at 1 year
- Fully protected and "Easy-connect" system for fast wires, plugs and banana connections
- Fully compatible for smart transmitters testing
- Graphic and large display
- Hart compatible / IP54

Fully compatible for smart transmitters testing (Calys 150)



Advanced Line
Models : Calys 75 / Calys 100 / Calys 150

- Simultaneous measurement and generation of U, I, temperature (RTD and thermocouple), frequency, pressure, ...
- Switch tests in temperature and pressure
- Two ranges of accuracies: 0,02%, 0,01% & 0,008 %
- Fully protected and "Easy-connect" system for fast wires, plugs and banana connections
- Fully compatible for smart transmitters testing
- Graphic and large display
- Hart compatibility / IP54
- Optional external digital pressure sensor

Multifunction Documenting Calibrator

Models :
Calys 120 IS
Calys 80 IS
Calys 60 IS



ATEX approval
II 1G EEx ia IIC T4 X
for
Hazardous
&
Non-Hazardous
Areas



CALYS 120 IS - 60 ppm

- IN / OUT or IN / IN for comparison calibration
- 2 internal pressure sensors, either absolute or gauge up to 20 bar; External pressure sensor from 20 bar to 700 bar

CALYS 80 IS - 100 ppm

- IN / OUT;
- 2 internal pressure sensors, either absolute or gauge up to 20 bar; External pressure sensor from 20 bar to 700 bar

CALYS 60 IS - 200 ppm

- IN / OUT
- The three new models are the perfect tools for maintenance process and test bench in all industries.

On-Site Micro-Ohmmeter

OM16

Its large interactive display informs in real time the operator about the type of measurement, range, calculation conditions (resistance calculated according to a reference temperature), thresholds status and values.

Features :

- 4 wires measurement to provide highest accuracy
- EMF parasites are measured before each measurement
- Permanent measurement current for inductive loads (coils transformers, motors, windings)
- Display of temperature compensated resistance value.
- 2 programmable thresholds with LED indication and display on the screen, light or loud beeper.
- Memory : 1,000 measurements
- Powered by NiMH batteries, quick charge.



Unigas 3000+

(upto 4 sensors gas analyzers)

Unigas 3000+ can install a forth electrochemical sensor to monitor pollution. In this way you can measure simultaneously and using a single unit, O/NOx and SO2 gas concentration.

One instrument with many features :

- Upto 4 gas sensors
- Auto zero valve for quick start-up
- CO sensor with automatic protection
- Built-in impact printer
- Water, air and surface temperature measurements
- Detection and location of gas leaks
- Operator safety with ambient CO continuous Monitoring
- Ambient temperature & relative humidity Measurements
- IRDA output for Pocket PC data transfer

Test Bench or Bench Top Application

Models: Calys 1000/ Calys 1200 / Calys 1500

- Calys 1x00 is an high precision calibrator
- It is the perfect tool for advanced process maintenance and used on Test Bench in all industries
- New tactile interface
- Calibration and Hart transmitters verification (Calys 1500)
- Measure of frequency and pulse counting
- Frequency simulation on dry contact
- Voltage simulation, continuous current and frequency
- Resistances simulation, thermistances (Calys 1500), resistive probe and thermocouples simulation
- Calibration coefficient memory
- Screen with dual display to measure and simulate simultaneously
- Dual Input (Calys1500)
- Relatives measure , linear conversion law
- Ramps generation, simple or cyclical steps
- Compatible 21 CFR Part 11 norm



- A Wide range / variety of cost effective Test & Measuring Instruments

Multimeters



Multimeter (MM560A / MM 570A)

- Highest Precision
- Highest Resolution
- PC interface
- Basic accuracy : 0.03% / 0.02%
- Display counts : 50,000 / 500,000



EX500 Series (EX510 / EX520 / EX530)

- Water proof
- Drop Proof to 6 feet
- Large backlit LCD
- Basic accuracy : 0.09% / 0.09% / 0.06%
- Display counts : 6000 / 6000 / 40,000

Clamp Meters



Ex800 Series (EX810 / EX820 / EX830)

- Built-in non-contact infra red thermometer
- Double molded housing
- Capacitance, Temperature, peak hold
- AC Current : 1000A / 1000A / 1000A
- Counts : 4000 / 4000 / 4000
- Basic Accuracy : $\pm 2.8\%$ / $\pm 2.5\%$ / $\pm 2.5\%$

Thermocouples / RTD Thermometers

Type K Single Input Thermometer

- Compact and rugged design with high contrast large LCD display
- Manually store/recall up to 150 readings
- -58 to 1999°F (-50 to 1300°C) temperature range with 0.1°/1° resolution
- Records Max/Min/Avg readings for later recall
- Offset key used for zero function to make relative measurements
- Data Hold, Auto power off

EA11A



pH / Conductivity / TDS - Salinity

Water Proof Conductivity / TDS / Salinity / Temp Meter

EC400

- High accuracy multi range sensor measures four parameters including Conductivity, TDS, Salinity and Temperature
- Conductivity: 0 to 199.9 μ S, 200 to 1999 μ S, 2 to 19.99mS
- TDS/Salinity: 0 to 99.9ppm, 100 to 999ppm, 1 to 9.99ppt
- Basic Accuracy: $\pm 2\%$ FS, $\pm 1^\circ$ C
- Max.resolution: 0.1 μ S, 0.1ppm, 0.1°C



Sound Level Meters

Type 2 Sound Meter with Calibration check

407735 / 407736



- Range : Low 35 to 100 db, High 65 to 130 db
- Accuracy : ± 2 dB / ± 1.5 dB
- Built in calibration clock (64 db)
- Analog AC/DC outputs
- Complete with Microphone wind screen

Sound Level Meter with PC Interface

407750



- With background sound absorber
- Large backlit Display & Analog Bar graph
- High Accuracy meets Type2 Standards
- Range 30 to 130 dB
- Accuracy 1.5 db
- Analog output AC/DC
- RS-232 PC interface & optional software

Air Flow / Velocity - Thermo-Anemometers

Combination Laser Tachometer + IR Thermometer

RPM10



- Photo/Contact Tachometer includes a non-contact IR Thermometer for surface temperature on motors and rotating parts
- Range : rpm: Photo:10 to 99,999 / Contact: 0.5 to 20,000
- Basic Accuracy: $\pm 0.05\%$ rdg
- Max rpm resolution: 0.1 rpm

Hot Wire CFM Anemometer

407119



- High Accuracy measurement (CFM / CMM)
- Air Velocity : 0.2 to 20 m/s
- Flow : 0 to 999,900 CFM / CMM
- Temperature : 0 to 50°C
- Accuracy : $\pm 5\%$ FS

RTD Calibrator - Model 311



- Compatible with newer Instrumentation
- Works with Rosemount & Honeywell Smart Transmitters, PLCs, DLCs, Multichannel Recorders and other pulse excitation devices. Higher Accuracy at low excitation currents.
- More RTD Ranges - Pt1000 curves outputs upto 4000 Ω
- Automatic Stepping
- Larger Display with backlight - Easy viewing in dark locations
- More resistant to accidental damage - Rubber Boot and stronger Switches
- Separate Battery compartment - No more removing housing with screw driver to replace batteries. Calibration seals remain intact.
- Easily change RTD types - Reconfigure without resetting Calibrator
- Verify RTD Temperature & Output - Secondary display of Ohms to check against RTDE tables.

Thermocouple Calibrator - Model 422

- Automatic Stepping & Ramping
- Larger Display with backlight - Easy viewing in dark locations
- More resistant to accidental damage - Rubber Boot and stronger Switches
- Separate Battery compartment - No more removing housing with screw driver to replace batteries. Calibration seals remain intact.
- Easily change Thermocouple types - Reconfigure without resetting Calibrator
- Verify Cold Junction Temperature & Output - Secondary display of compensated mV setting and Cold Junction Temperature



mA Calibrator - Model 434

- Larger Display with backlight - Easy viewing in dark locations
- Easy selection of 250 Hart compatible Resistor - No disassembly to move internal jumper
- Detects Loop Current leakages - Measure ground current leakage from faulty wiring, flooded conduit and corrosion bridges. Leakage appears as a Zero Shift and helps you decide if the Transmitter needs Calibration (or) there is some problem in the loop wiring.
- More resistant to accidental damage - Rubber Boot and stronger Switches
- Less expensive Battery changes - 4 x 6 "AA" Batteries

Dual Range (mA/V) Calibrator - Model 535

- Dual Ranges : 4 - 20 & 10 - 50 mA/Voltage
- Read and Source 0.000 to 50.000 mA
- Bar graph displays % of 4-20mA or 10-50 mA
- Simulate 2-Wire Transmitters
- Read 0.00 to ± 30.00 VDC with 4X over range ability
- Direct Calibration 1.000V to 5.000V
- **True $\pm 0.025\%$ of reading**
- Display current or -25.00 to 125.00% of 4-20mA or 10-50mA
- Read 0.00 to 60.00 volts with 2X over range ability
- Power 2-Wire Transmitters and Read 0.000-50.000mA
- Source 0.000 to 24.000 VDC with up to 20mA output



Multifunction Diagnostic Process Calibrator - Model PIE 820-ELITE - with Pressure Module options.

Technician friendly operation

- ~ Intuitive EZ-DIAL Double Click Menu makes it easier to setup than other multifunction calibrators. Uses the same menu as the single function PIECAL Evolution Calibrators.

Use it as a milliamp and voltage calibrator

- Source 0.000 to 24.000 mA, 0.00 to 10.250 V dc, -20.00 to 99.999 mV and -500.00 to 999.99 mV
- Read to 24.000mA, 60.00V DC ± 99.999 mV and ± 999.99 mV
- Simulate 2-Wire Transmitters
- Power up transmitters & loops with the built-in 24 V power supply
- Simplify HART hookups with built-in 250 Ohm resistor

Troubleshoot loop problems

- Quickly diagnose ground fault and current leakage with patented loop diagnostic technology (US Patent 7,248,058)



Calibrate directly in temperature ($^{\circ}\text{C}$ & $^{\circ}\text{F}$)

- ~ The PIECAL 820 works with the instruments you use. Types J, K, T, E, R, S, B, N, G, C, D, L, (J DIN), U (T DIN) and P (Platinel II)
- ~ Pt 100 Ohm (3850, 3902, 3916, 3926) & 1000 Ohm (3850)
- ~ Copper 10 & 50 Ohm, Nickel 100 and 120 Ohm

Checkout flow and vibration systems

- ~ Source & read frequency to 2000 CPM (Counts-Per-Minute), 999.00 Hz, 9999.9 Hz, 9.9999 kHz & 20.0000 kHz

Measure pressure with optional pressure modules

- ~ Three modules for 30 psi/2 bar gauge, 500 psi/35 bar gauge and 30 psi/2 bar absolute

- General purpose / Industrial Thermometers
 - Standard Thermometers for daily use in Laboratory
 - Cheap but reliable
 - In square plastic case or round metal case

Precision Laboratory Thermometers

- Ranges from -200°C upto +750°C, DIN 12775 & DIN 12778 with mercury filling, blue reflecting, special fillings, enclosed scale with milk glass scale, and solid stem white or yellow backed.

Precision Thermometers

- Enable for measuring of all temperatures, ascertainable by glass thermometers: from -200°C upto +1000°C
- All thermometers suitable for government testing or suitable for official calibration
- Resolution down to 0.1°C



Acin Instrumenten BV, The Netherlands



- Widest range of instruments for measuring & recording Pressure

Betz Type 2500 / 5000

- The Betz Micromanometer is an instrument to measure low air or gas pressures or pressure differences with high accuracy and unparalleled long-term stability.
- Can be used as factory standard for the calibration of pressure measurement instruments
- Standard calibration and scale unit is Pascal (Pa).
- Available in two ranges: 2500 and 5000 Pa. Calibration in mmH₂O or Kgf/m² is possible.

D. Marchiori S.R.L, Italy



The precision and accuracy of DMA Air Data Test Sets and Precision Barometric Indicators is supported by a first class calibration laboratory, enabling stringent accuracy requirements such as RVSM to be achieved. The DMA laboratory is approved to International Standards via the S.I.T Calibration System and is traceable through the accredited National Laboratories.

D.Marchiori (DMA) manufactures various **RVSM Air Data Test Set Modules** for troubleshooting, leak testing and certification of aircraft pitot-static systems. The feature rich MPSXX Air Data Test Set range enable rapid calibration of altimeters, airspeed indicators, mach indicators, vertical speed indicators, Air Data Computers (ADC), testing of Angle of Attack (AoA) system probes and other avionic pitot-static components.

Features

- RVSM compatible
- Digitally controlled
- Controlled from keyboard or computer interface
- Precise pressure sensors used to achieve high accuracy
- 5,000 hour pumps
- Engineered to minimize power consumption
- Battery power
- Simple user interface
- Programmable user test sequence
- Bluetooth remote control
- Automatic calibration software (with PAMBX transfer standard)
- Wide range of options



Specifications

Parameter (Static)	Range (Measure)	Range (Control)
Altitude (ft)	-2,000 to 55,000	-2,000 to 55,000
Vertical Speed (ft/min)	0 to 6,000	0 to 6,000

- Measurement & Calibration Solutions - Multifunction Calibrator / HART Communicator, Temperature, Pressure & Loop Calibrators.

Multifunctional Modular Calibrator / HART® Communicator MFT 4010 Series

- Base unit for modules and full Device Specific HART communications.
- Quick Cal displays HART PV and AO along with MFT's NIST traceable measurements.
- User can identify needed trim(s) and access the trim function(s) from same display.

Supported Calibrations

- Pressure gauges, transmitters, switches
- Temperature gauges, transmitters, switches
- Level (hydrostatic)
- P/I, I/P, P/P converters
- Loop simulations



MFC Hart Communicator

Model : 5150 / 5150X

- The MFC 5150 HART® Communicator is the latest HART communicator from Meriam Process Technologies.
- HART field devices can be configured and trimmed using the MFC.
- The MFC is a full function HART Communicator with time-saving features that optimize commissioning, configuration and maintenance operations.
- MFC 5150 supports all HART devices at the Universal and Common Practice command levels plus a large and growing list of devices at the Device Specific command level.
- MFC 5150 is for general purpose (non-hazardous environments only).
- **MFC 5150X is used in Intrinsically Safe hazardous environments**

Green Energy Optimizers Calibration Instruments, U.S.A.



- Humidity Calibrators & Meteorological Balloons

Humidity Generator Calibrator

Model : 2000 SP / DFB



Features

- Low cost, high accuracy, fast response alternative to RH calibrations that use chilled mirror or 2 pressure systems
- Equilibrium of chamber temperature and RH less than 10 minutes
- Direct control readout of RH and temperature eliminates conversions or calculations
- NIST traceable, Auxiliary power, Humidity & temperature controlled chamber, universal probe calibration, Built in probe verification, Report generation & recording, remote access.

Specifications

- System accuracy at 23°C : <7-80% RH $\pm 1.0\%$ RH; 80-95% RH $\pm 1.25\%$ RH
- Temperature accuracy at 23°C : $\pm 0.1^\circ\text{C}$ or better.

Nagman's own Range of Products & Services

<p>Dry Block Temperature Calibrators</p>	<p>Black Body Calibration Sources</p>	<p>Hand Pumps</p>	<p>Pneumatic & Hydraulic</p> <p>Pressure Calibrators</p>	<p>Dead Weight Testers</p>
<p>Signal Calibrators</p>	<p>Calibration Test Benches</p>	<p>Flow Meters</p>	<p>Level Transmitters</p>	<p>Level, Flow Meter & Water Meter Calibration Systems</p>

<p>Since 1972</p>	<p>IND 13.7059U AN ISO 9001:2008 COMPANY</p>	<p>DNV APPROVED</p>	<p>44th Anniversary</p>	<p>NMI</p>	<p>NAGMAN</p>	<p>C-162, C-163, C-164, C-1212</p>
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To know more about our Products & Services, Latest Innovations, kindly visit www.nagman.com or write to mktgchennai@nagman.com



CENTRE FOR CALIBRATION CHENNAI & MUMBAI

ACCREDITED BY NABL, INDIA
(as per ISO/IEC 17025:2005 Standards)

- Independent Profit Centre - a unit of Nagman Instruments & Electronics (P) Ltd., Chennai
- Now offering NABL Accredited Calibration Services in Chennai and Mumbai (Lab & Site Calibration)
- Parameters covered : Thermal, Mechanical, Electro-Technical, Linear & Fluid Flow etc.
- Highly sophisticated Primary & Secondary / Working / Transfer Standards
- Calibration Accuracies Traceable to National & International Standards
- Computerized Automatic Calibration & Report generation (per International Standards)
- Caters to every type of Industry / Institution / Establishment



Other Services :

- Laboratory Calibration
- Site / Field Calibration
- Annual Maintenance / Calibration Contracts
- Comprehensive Calibration Job Packages
- Calibration Lab Setup Consultancy
- Training Workshop on Calibration Management Techniques
- Calibrator Rentals



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- Comprehensive Calibration Solutions - thro' Standards, Systems, Packages, Software & Services

Nagman Complex, Chennai-Bangalore Highway (NH-4), Nazarethpet (Via.), Chembarambakkam, Chennai - 600 123.

	<u>Phone</u>	<u>E-Mail</u>
Head Office & Factory	044-2681 1700, 2681 1702	support@nagman.com
International Sales	044-26811704, 1708, 1709	exports@nagman.com
Domestic Sales	044-26810280, 1290, 1300, 0600	mktgchennai@nagman.com
Regional Offices/Representatives		
New Delhi	011 - 4557 5988, 08882047373	mktgdelhi@nagman.com
Mumbai	022 - 6565 0569, 09029002244	mktgmumbai@nagman.com
Vadodara	099742 83480	mktggujarat@nagman.com
Kota	093526 07133	gunvantdwivedi@yahoo.com
Kolkata	078941 45138, 094339 45899	mktgkolkata@nagman.com
Hyderabad	09551097428, 09551097429	mktghyd@nagman.com
Bengaluru	096634 35460, 07829367928	mktgbangalore@nagman.com
Centre for Calibration (Chennai)	044-26811776 / 710 / 711	cfcchennai@nagman.com
Calibration Sub-Centre (Mumbai)	022-6513 8885	cfcmbai@nagman.com

**Overseas Office/
Regional Marketing Hub**



**Nagman Instruments &
Calibration Solutions Pte Ltd.**

Singapore.

Email : nics@nagman.com

Site : www.nics-sg.com

Fax : +91-(0)44-26811703

Website : www.nagman.com • www.nagman-calibration.com