



WORLD RECOGNISED
ACCREDITATION

ACCREDITED FOR
COMPLIANCE
WITH ISO/IEC 17025
CALIBRATION
ACCREDITATION
NO. 14184

Acoem Service & Calibration

ACCREDITED CLASS-LEADING
TECHNICAL SERVICES

- Anemometers
- Blast monitors
- Gas & isotope analysers
- Mercury instruments
- Meteorological sensors
- Nephelometers
- Noise & vibration monitors
- Ozone analysers & photometers
- Pyranometers
- Water samplers



acoem
CREATING ENVIRONMENTS OF POSSIBILITY

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[Acoem is] our OEM supplier. You are the best at it – the quality of the work is great, and the calibration and service team are really good to work with. I have been working with you guys for well over a decade and have never been let down.

Senior Advisor at one of the world's largest mining complexes,
based in Australia



NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.



The integral role of service & calibration

PROTECTING YOUR HARDWARE INVESTMENT

Regularly servicing and calibrating your instrumentation optimises their life and ensures they operate with maximum precision and efficiency, whenever you need them.

Nobody knows your instruments better than the technical team that helped to create them.

Not only do our technicians know Acoem equipment inside and out, but they are passionate about what they do and have superior knowledge of sensors, monitors and devices manufactured by Acoem (formerly known as Ecotech), our OEM partners and our competitors, through regular internal and external training programs.

Acoem facilities and services are ISO 17025 accredited¹ and ensures our procedures and methods are reviewed periodically and that we are following best practice as required by the National Association of Testing Authorities (NATA).

NATA is the recognised leading accreditation authority for internationally recognised standards across a broad range of industries from mining and construction to health, environment and agriculture.

We stock a large range of spare parts and provide set turnaround times so your equipment can be returned to you with minimal delay.

Acoem is proud to service customers from a variety of industries across Australia, New Zealand and the Asia-Pacific region, including:



- Aviation
- Construction
- Environmental consultants
- Environmental Protection Authorities (EPA)
- HVAC & air purification
- Military / defence
- Mining
- Oil & gas/petrochemical
- Ports
- Research
- Solar farms
- Water.

¹Comply with the requirements of ISO/IEC 17025:2017 and include testing laboratories, calibration and blast monitoring services.

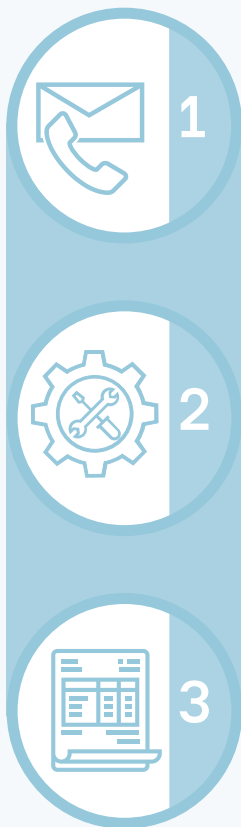
The Acoem process

QUALITY ASSURED SYSTEMS & PROCESSES SET US APART

Our working methodology is based on a strong foundation of process disciplines and a philosophy of continuous improvement, which allows us to deliver service with excellence and uncompromising quality each time.

High standards and exceptional capabilities allow us to respond to customer's needs with promptness and due care.

3 EASY STEPS TO WORKING WITH ACOEM SERVICE & CALIBRATION



Contact us via phone or email

- We provide a quote (estimate) and Service/Calibration Work Request form within 24 hrs

Send us your instrument with completed Service/Calibration Work Request form

- We inspect to perform the requested service and calibration
- We contact you ONLY if any parts outside of general service are required
- We issue a final quote based on inspection

Once final quote is provided to you, send us a revised Purchase Order or written instruction to proceed

- We finalise repairs/calibration
- We provide a Service or Calibration report
- We invoice and provide shipping information

* We are working towards operating in a digitally connected, paperless work environment





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Ozone (O₃) instrument calibration

PRECISION SERVICE MEASURED AGAINST REFERENCE INSTRUMENT

The Acoem Service & Calibration Centre is Australia's only NATA-accredited facility for service and calibration of photometers and all brands of ozone analysers.

No matter the manufacturer, all photometers should be calibrated once a year to guarantee accuracy.

Each calibration involves a pre-check on the equipment where we run a series of seven individual tests to check performance. This ensure that if there was a failure between calibrations, and points have drifted, you can still validate your data by adjusting it based on the level of drift identified. The instrument then receives a full service which includes checking the lamp and all electronics before moving on to the post-check multi-point calibration.

Various levels of ozone are then applied to make sure that they correlate against our standard reference instrument.

Standard ozone & NATA certified ozone tests are very different.

Our NATA-accredited test uses a contaminant-free glass manifold and properly vented purpose-built shelter that houses the equipment. Our reference instrument is sent to the National Institute of Standards and Technology (NIST) in the United States for comparison testing once a year to maintain the highest level of precision. We also perform inter-laboratory comparison checks with the only other ozone reference instrument in Australia, operated by the NSW Environment Protection Authority.

Wind sensor calibrations

**THE ONLY NATA & MEASNET-ACCREDITED
WIND TUNNEL IN THE SOUTHERN
HEMISPHERE**

Regular maintenance and calibration of anemometers and wind sensors is critical to guaranteeing accuracy of measurements and ensuring longevity for the instruments.

Our Service & Calibration Centre wind tunnel is the only facility in the Southern Hemisphere – and one of just a handful of centres around the world – that is accredited by the International Network for Harmonised and Recognised Measurements in Wind Energy (MEASNET), the global authority on wind sensor calibration and wind energy measurement.

Custom-designed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Acoem wind tunnel is the largest of its kind in Australia and is also the country's only NATA/ISO 17025 accredited wind tunnel for the calibration of all types of anemometers.



Backed by a team of engineers and R&D professionals, we specialise in service and calibration for all types of wind speed and wind direction sensors, including conventional vane, hot wire, cup, propeller, ultrasonic and pitot tube anemometers, regardless of manufacturer.

We offer an easy book-in system with fast turn-around times (within 3 working days) and when we return your calibrated anemometer to you, you will receive a detailed written report and certification of the work performed.

We send timely reminders (annual or biennial, depending on the manufacturer's requirements) to take the guess work out of keeping your instruments perfectly maintained.



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Calibration types

WIND SPEED MEASUREMENT CAPABILITY

Calibration Range: 0.30 – 5 m/s
Measurement Uncertainty: ± 0.05 m/s

Calibration Range: 5 – 30 m/s
Measurement Uncertainty: $\pm 1\%$

Confidence level: 95 %
K coverage factor: 2

WIND SPEED CALIBRATION RANGE

Low Speed Test: 0.30 to 15 m/s

High Speed Test: 15 to 30 m/s

WIND DIRECTION TEST

Calibrations performed using a rotary
table at nominal wind speed:
6.0 m/s at each 30 degrees

Measurement uncertainty: ± 2 degrees

Confidence level: 95 %

K coverage factor: 2



I'm very happy with Acoem's calibration service. We receive updates and quick delivery times, if it's urgent they do everything they can to fast track it for us. The reminders are also very handy.

Michael Tyniec. Laboratory Systems Group Pty Ltd

Noise & vibration calibration, service & repair

THE ONLY ACOEM 01dB CALIBRATION, SERVICE & REPAIR CENTRE OUTSIDE FRANCE

As the designer and manufacturer of Acoem (previously known as 01dB) class leading noise and vibration monitoring sensors meters, terminals and devices, our fully trained technicians are experts in servicing, calibrating and repairing them.

Whether your instrument is still in its warranty period, or needs an annual routine service and calibration, we will perform all necessary testing to keep it in field ready condition.

Acoem recommends that all its noise and vibration measurement devices have their batteries replaced every two years to optimise their performance.

Our facility is NATA certified and we are the only laboratory that provides Acoem equipment software and firmware upgrades in Australasia, so all your hardware and software repairs and services can be conducted at one time, in one location.

If you own a Acoem 3G Cube™ noise monitoring terminal or Acoem 3G Fusion™ sound level meter, you can upgrade to 4G communication via a retrofit that includes changing over the motherboard. By doing so, you can future-proof your instrument without needing to purchase new hardware.





Acoem laser shaft alignment service & calibration centre

We are the only authorised service, calibration and repair centre for all Acoem (previously known as Fixturlaser) shaft alignment instruments and geometric tools in Australasia.

As the manufacturer of class-leading laser precision alignment equipment, Acoem recommends that all its products be serviced and calibrated every 12-24 months.

To retain warranty on new instruments and systems, calibration every 24 months is a strict requirement.

OUR PROCESS

Once we receive your equipment, our NATA-certified technicians will:

- Perform a number of calibration & functionality pre-checks
- Give the instrument a complete clean to remove all grease & residue
- Assess whether any parts need replacing
- Provide you with a full quote via email.

Upon acceptance of our quote, we will:

- Completely service & calibrate your instrument against a dedicated calibration rig
- Repair or replace any parts specified in your quote
- Calibrate the laser detector
- Calibrate gyroscopes & inclinometers in the heads at various degree & millimetre marks
- Ensure that sensors/tools are operating within particular deviation/tolerance levels
- Install available software upgrade as a complimentary part of your service
- Provide you with a written calibration certificate
- Complete your service/repair within our standard turnaround time of seven business days.

Mercury (Hg) instrument service & calibration

UV ABSORPTION & GOLD FILM TECHNOLOGY SENSOR METHODS

Regular traceable calibrations are essential to maintaining your test equipment to ISO-accredited standards. Our annual Hg service and calibration includes:

- Thorough ultrasonic cleaning of instrument including glassware
- Deep cleansing of all fittings (replacement if needed)
- Replacement of all tygon tubing
- Installation of new charcoal & chemical scrubbers
- Sample flow, leak, 24-hour battery & complete electronic function checks
- NIST traceable calibration certificates which include records of incoming and final outgoing data.

Acoem's gas dilutors are traceable for flows from 1 to 20 litres per minute and all calibrations are performed using a mercury photometer operating at UV253.7nm. The permeation source is traceable to NIST standards and is housed in a Vici-Metronics permeation oven set to 70.00 ± 0.01 °C with a carrier flow of 100cc/minute.

We service and calibrate Hg monitors from various manufacturers including: Arizona Instruments; Bacharach; Genesis Laboratory Systems; Mercury Instruments; Nippon Instruments; and Ohio Lumex.



Pyranometers

Over time, pyranometers' sensitivity can change & drift, so regular calibration is part of a quality management system to verify that your solar irradiance sensor is stable and operating accurately to an optimal level.

Acoem is Australia's only NATA/ISO 17025 accredited calibration pyranometer facility. The Service & Calibration team has been working with all brands of pyranometers since 2007 and has extensive knowledge of their calibration and field use.

After we calibrate and service your pyranometer, we analyse its data and then send it to Dubbo, NSW for extensive field testing and retesting. Dubbo has the perfect balance between high solar intensity and cloudless days – and for that reason it also has a high concentration of solar farms.

Exposing the instrument to continuous and high levels of sunshine is critical to ensuring that it has been precisely calibrated to the highest standard prior to being returned to you.

In addition to servicing Australian customers, our calibration services are a logical solution for Northern Hemisphere-based solar farms. Having your pyranometers calibrated by Acoem experts during the Northern Hemisphere low season (October to April) minimises downtimes and avoids interruptions during high season.

OUR CALIBRATION METHOD

According to ISO 9847:1992 "Solar energy – Calibration of field pyranometers by comparison to a reference pyranometer" there are two preferred methods for the calibration of field pyranometers:

- **Type I** (ISO 9847:1992, 5.2) 'Outdoor Calibration'
- **Type II** (ISO 9847:1992, 5.3) 'Indoor Calibration'

Acoem performs **Type I** calibrations of which there are three variations: General Outdoor Calibration Types Ia, Ib and Ic (ISO 9847:1992, 5.2.1)

Acoem uses **Type Ia** or 'Horizontal calibrations for meteorological and resource measurements specifically under Stable Cloudless Sky Conditions' (ISO 9847:1992, 5.2.2.1).



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Other services

PRECISION SERVICE MEASURED AGAINST REFERENCE INSTRUMENT

As a full-service centre, we also supply, install, service, calibrate, repair and report on the following:

- Blast monitors
- Emissions systems
- Gas & isotope analysers
- Meteorological sensors
- Nephelometers
- Water samplers.



Accreditation by national & globally recognised standards authorities

YOUR GUARANTEE OF QUALITY & PROFESSIONALISM

- Acoem Service & Calibration Centre's wind tunnel is the only MEASNET accredited tunnel in the Southern Hemisphere
- The Acoem Service & Calibration Centre is assessed and audited by NATA every 18 months, including on-site technical & practical audits. This ongoing verification ensures Acoem staff are technically competent, using validated procedures, and that their references and standards have unbroken traceability chains to International Standards.
- MEASNET & NATA accreditation (anemometers, pyranometers, ozone, temperature, & humidity)
- Only NATA accredited laboratory for pyranometer, anemometer and air hood calibrations in Australia
- ISO/IEC 17025:2017
- ISO 9001:2015
- ISO 45001:2018



Why NATA-traceable is not enough

While other labs may service and calibrate sensors, they do not have the same level of expertise or accreditation.

'Traceable to NATA' is a misleading term. If a company supplies you with a 'Traceable to NATA' calibration certificate, it only implies that your instrument was tested against a calibrated reference. It does not mean that the calibration was performed in a NATA accredited lab, nor does it provide any guarantee of the competency of the technician or the methods used. In fact, there is no indication that the service was conducted according to NATA standards.

A NATA endorsed calibration certificate can only be issued by a NATA-accredited facility like at Acoem. As an accredited NATA organisation, our calibration lab has been evaluated and audited in accordance with ISO 17025 (General requirements for the competence of testing and calibration laboratories). This international standard ensures that:

- All our technicians are certified & trained
- We use validated procedures
- Our references & standards have full traceability
- We implement ISO 9001 quality management policies & procedures.

To safeguard the accuracy of your environmental monitoring equipment and ensure that it is calibrated to the highest possible standards, insist on a NATA endorsed calibration certificate.





NATA/ISO 17025 ACCREDITED CALIBRATIONS

Anemometers

- Conventional vane, hot wire, cup, propeller, ultrasonic and pitot tube anemometer calibration
- All makes and models
- Wind speed calibration range: 0.3 to 30.0 m/s
- Wind direction calibration

Pyranometers

- Solar radiation sensor calibration
- Calibration range: 550 to 1100 W/m²
- Calibration results traceable to the World Radiometric Reference (WRR)

Ozone analysers

- Ultraviolet absorption and chemiluminescence ozone analyser calibration
- Calibration range: 20 to 520 ppb

Temperature sensors

- Calibration range: 0 to 40 °C

Relative humidity sensors

- Calibration range: 20 to 90% RH

NIST TRACEABLE CALIBRATIONS

Mercury analysers

- Service and calibration of gold film and UV absorption mercury analysers
- Standard calibration points: 0 to 50 µg / m³

TRACEABLE CALIBRATIONS

We provide other calibrations which are all traceable to reference equipment calibrated by NATA accredited laboratories.

Flow meters

- Calibration range: 10 ccm to 18 LPM

Barometers

- Calibration range: 950 to 1050 mbars

Manometers

- Calibration range: 950 to 1050 mbars

HiVol Orifice Plates

- Calibration range: 30 to 114 m³ /hr

About Acoem

At Acoem, we **create environments of possibility** – helping organisations find the right balance between progress and preservation – safeguarding businesses and assets, and maximising opportunities while conserving the planet's resources. We deliver unrivalled, interoperable AI-powered sensors and ecosystems that empower our customers to make enlightened decisions based on accurate information.

Together with 150 distributors, our 800+ employees work across 27 offices, 5 manufacturing facilities and 3 R&D centres in 11 countries, to provide trusted, holistic data solutions for customers worldwide.

Acoem links possibilities with protection.

For more information visit acoem.com.au



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