Laboratory Accreditation Programmes

Schedule to

CERTIFICATE OF ACCREDITATION

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Authorised Representative
Mr Daryl Pettit
Laboratory Manager

Programme
Metrology & Calibration Laboratory

Accreditation Number 677 **Initial Accreditation Date** 15 April 1998

Conformance Standard
ISO/IEC 17025:2017
General requirements for the competence of testing and calibration laboratories

Laboratory Services Summary

4.55	Pipes, Hoses, Valves and Fittings
5.41	Barometers
5.42	Differential Pressure Measuring Devices (including Manometers)
5.44	Pressure and Vacuum
5.61	Temperature Measuring Equipment
5.63	Temperature controlled enclosures

Key Technical Personnel

Mr Mike Adamson	5.61, 5.63
Mr Paul Naran	4.55, 5.41, 5.42, 5.44
Mr Ritesh Patel	4.55, 5.41, 5.42, 5.44, 5.61(j)(m)(o)(p), 5.63
Mr Daryl Pettit	4.55, 5.41, 5.42, 5.44, 5.61, 5.63
Mr Ashish Thakkar	4.55, 5.41, 5.42, 5.44

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Calibration and Measurement Capability (CMC) Uncertainties are expressed as an expanded uncertainty with a level of confidence of approximately 95 % (k = 2).[Note1]

Measurement results are traceable to the International System of Units (SI), or other recognised references (such as ITS-90 for temperature), via an unbroken chain of comparisons to the New Zealand National Standards or to the National Standards of other Signatories to the CIPM MRA.

Unless stated elsewhere in this schedule, calibrations are performed at the premises of the accredited laboratory.

4.55 Pipes, Hoses, Valves and Fittings

(e) Other tests

The testing of pressure relief valves and pressure switches up to 2 inch flange diameter in accordance with an in-house method based on comparison with reference equipment in 5.44 below. Testing can be carried out in the laboratory or on site.
Test medium; air ≤ 20 bar < oil or water

5.41 Barometers

(a) Aneroid barometers (including digital barometers) CMC Uncertainty

By comparison with reference barometers, in accordance with MSA Test Method 1-2008 or based on MSL Technical Guide 13 Pressure Gauge Calibration.

800 mbar to 1300 mbar 0.02 %

5.42 Differential Pressure Measuring Devices (including Manometers)

(a) Diaphragm types
(b) Liquid column types, inclined and vertical
(c) Transducers and transmitters
(d) Other types (including digital manometers)

These are calibrated as a pressure gauge with the lower pressure port open to atmosphere. Calibration ranges and measurement uncertainties as per 5.44 below.

5.44 Pressure and Vacuum

(a) Pressure gauges
(b) Vacuum gauges
(c) Pressure transducers
(d) Pressure recorders

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In the laboratory, by comparison with dead-weight testers, reference gauges, or comparators, in accordance with MSA Test Method 1-2008 or based on MSL Technical Guide 13 Pressure Gauge Calibration. Includes calibration of tyre pressure gauges and back flow devices.

Test or industrial gauges of accuracy class 0.05, 0.1, 0.25, 0.6, 1.0, 1.6, 2.5, and 4.0 as defined in BS EN837-1 or 3A, 2A, 1A and below as defined in ASME B40.100 or to manufacturers' specifications.

Gauge Pressure	CMC Uncertainty
-1000 mbar to 160 mbar	0.02 %
-1 bar to 1 bar	0.02 %
0 bar to 4 bar	0.02 %
0 bar to 25 bar	0.01 %
0 bar to 138 bar	0.01 %
0 bar to 80 bar	0.01 %
0 bar to 700 bar	0.01 %
Dead weight tester pressure	
0 kPa to 10000 kPa	0.015 %
Absolute Pressure	
0 kPa to 100 kPa	0.02 %

Note: Maximum vacuum achievable is subject to ambient barometric conditions

Test and industrial gauges of accuracy class 0.25 or greater as defined in AS 1349:1986, BS EN837-1 or equivalent ASME B40.100 classes by comparison with reference gauges either on-site or in the laboratory (on-site calibration limited to 700 bar). All on-site pressure calibrations are conducted following an in-house test method based on EN837-1.

Gauge Pressure	
-1 bar to 0 bar	0.06 %
0 bar to 1.6 bar	0.06 %
0 bar to 1000 bar	0.06 %
1000 bar to 1600 bar	0.1 %

5.61 Temperature Measuring Equipment
(including temperature calibration of electronic and glass thermometers)

(f) Liquid-in-glass thermometers
(g) Clinical thermometers
(j) Radiation thermometers
(k) Vapour pressure thermometers

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(m) Bimetallic systems
(o) Indicators, recorders and controllers
(p) Other direct reading temperature measuring systems, including gas actuated thermometers

Calibrations can be carried out in the laboratory or on site.

Contact thermometers	CMC Uncertainty
-80 °C to -30 °C (stirred/controlled environment)	0.15 °C
-80 °C to -30 °C (self-contained environment)	0.40 °C
-30 °C to 0 °C	0.06 °C
Ice-point	0.02 °C
0 °C to 200 °C	0.06 °C
200 °C to 250 °C	0.8 °C
250 °C to 500 °C	2.2 °C
500 °C to 1000 °C	2.3 °C
Non-contact (infrared) thermometers	
-30 °C to 150 °C	0.21 °C

5.63 Temperature Controlled Enclosures

(a) Ovens and furnaces
(b) Baths
(c) Incubators
(d) Refrigerators and freezers
(e) Conditioning rooms and cabinets
(f) Other enclosures

Temperature	CMC Uncertainty
-80 °C to -30 °C (self-contained environment)	0.40 °C
-30 °C to 200 °C	0.06 °C
200 °C to 250 °C	0.8 °C
250 °C to 500 °C	2.2 °C
500 °C to 1000 °C	2.3 °C

Note 1:
Unless stated otherwise the CMC is based on the performance of the best normally available device and measurement uncertainties achieved for specific calibrations may be greater than the CMC Uncertainty. A laboratory may not report measurement uncertainties lower than its CMC. However, if the device under calibration has a greater accuracy than the device used to calculate the CMC the laboratory may be able to use the calibration data to lower its CMC Uncertainty. Please contact the laboratory to discuss your specific requirements.

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