

CERTIFICATE OF ACCREDITATION



Dalton Electrical Ltd - Instrumentation

Client Number 9752

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Authorised Representative

Jasher Simmons
Instrument & Control Engineer

Programme

Metrology & Calibration Laboratory

Accreditation Number 1425

Initial Accreditation Date 10 March 2023

Conformance Standard

ISO/IEC 17025:2017

General requirements for the competence of testing and calibration laboratories

Laboratory Services Summary

- 5.42 Differential Pressure Measuring Devices (including Manometers)
- 5.44 Pressure and Vacuum
- 5.61 Temperature Measuring Equipment

Key Technical Personnel

Jasher Simmons 5.42, 5.44, 5.61

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Calibration and Measurement Capability (CMC) uncertainties are expressed as an expanded uncertainty corresponding to a level of confidence of 95 % ^{Note1}.

Measurement results are traceable to the International System of Units (SI) via an unbroken chain of comparisons to the New Zealand National Standards or to the National Standards of other Signatories to the CIPM MRA.

Calibrations can be undertaken at the laboratory or at the customer's site.

Measurand/Range	Parameter	CMC Uncertainty
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5.42 Differential Pressure Measuring Devices (including Manometers)

(c) Transducers and transmitters

Differential pressure by comparison with a pressure calibrator (line pressure approximately 100 kPa)

Gauge pressure – gas medium

-2500 Pa to 2500 Pa	0.34 Pa
-98 kPa to 250 kPa	0.023 kPa

5.44 Pressure and Vacuum

- (a) Pressure gauges
- (b) Vacuum gauges
- (c) Pressure transducers

By comparison with reference gauges

Gauge pressure – gas medium

-2500 Pa to 2500 Pa	0.34 Pa
-98 kPa to 250 kPa	0.023 kPa

Gauge pressure – liquid medium

0 kPa to 1000 kPa	0.22 kPa
1000 kPa to 2000 kPa	0.28 kPa
2 MPa to 16 MPa	0.0032 MPa
16 MPa to 60 MPa	0.012 MPa

5.61 Temperature Measuring Equipment

(including temperature calibration of electronic and glass thermometers)

- (m) Bimetallic systems
- (o) Indicators, recorders and controllers

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(p) Other direct reading temperature measuring systems

In accordance with in-house methods based on MSL Technical Guide 1 and/or Euramet Calibration Guide 13 by comparison to reference thermometers using either an ethanol/ice mixture, ice-point, a dry block calibrator, or a stirred liquid bath.

-22.5 °C to 0 °C	0.1 °C
Ice-point	0.01 °C

Example CMCs for the range 33 °C to 500 °C

33 °C	0.040 °C
70 °C	0.048 °C
110 °C	0.064 °C
150 °C	0.088 °C
200 °C	0.10 °C
250 °C	0.13 °C
300 °C	0.18 °C
400 °C	0.29 °C
500 °C	0.40 °C

For temperatures between these points (>33 °C) the uncertainty can be linearly interpolated for an approximation of the uncertainty.

Note 1:

Unless stated otherwise the CMC is based on the performance of the best 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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