



National Research Council
Canada

Measurement Standards
and Science

Conseil national de recherches
Canada

Science des mesures
et étalons



Calibration Laboratory Assessment Service

CLAS Certificate Number 2013-02

Page 1 of 5

Interweigh Systems Inc.
51 Bentley Street
Markham ON
L3R 3L1

5315 Tomken Road, Unit #1
Mississauga, ON
L4W 1P5

Contact:
Ken Walsh

Tel: 416-491-7001
E-mail: walshk@interweigh.ca

Clients Served:

All interested parties. Some calibration services are available on-site. These services are indicated in the "Remarks" column of the following pages.

Field(s) of Calibration:

[Mechanical](#)

SCC Accreditation:
(ISO/IEC 17025: 2005)

Accredited Laboratory No. 782
First issued 2013-10-30

This scope of calibration and measurement capabilities (CMCs) is published by the NRC CLAS of the National Research Council of Canada (NRC) in close co-operation with the Laboratory Accreditation Program of the Standards Council of Canada (SCC), Canada's accreditation body for calibration and testing laboratories. The SCC accredits the capability of the named laboratory to perform the listed calibrations at the given Calibration and Measurement Capabilities (CMCs) (see [Supplementary Notes C and D](#)) with traceability to the International System of Units (SI) or to standards acceptable to NRC CLAS.

Interweigh Systems Inc.

Measured Quantity & Range or Instrument	CMCs expressed as an Uncertainty (\pm) (see Supplementary Notes)	Type	Remarks
MASS		II	Available at Markham Location
30 kg	91 mg		Calibrations are in accordance with ISI SOP: 7.5.1 D procedures
25 kg	90 mg		
22.679618 kg	89 mg		
20 kg	89 mg		
10 kg	87 mg		
5 kg	42 mg		
3 kg	11 mg		
2 kg	10 mg		
1 kg	5 mg		
679.618 g	4.3 mg		
500 g	4.3 mg		
300 g	4.2 mg		
200 g	0.37 mg		
100 g	0.30 mg		
50 g	0.14 mg		
30 g	0.087 mg		
20 g	0.087 mg		
10 g	0.059 mg		
5 g	0.041 mg		
3 g	0.041 mg		
2 g	0.040 mg		
1 g	0.040 mg		
500 mg	0.021 mg		ISI Mass Standards meet ASTM E617 Class 1 tolerances. Calibrations available to meet tolerances up to OIML R 111 Class M1.
300 mg	0.019 mg		
200 mg	0.017 mg		
100 mg	0.018 mg		
50 mg	0.023 mg		
30 mg	0.028 mg		
20 mg	0.020 mg		
10 mg	0.015 mg		
5 mg	0.023 mg		
3 mg	0.020 mg		
2 mg	0.021 mg		
1 mg	0.028 mg		

Interweigh Systems Inc.

Measured Quantity & Range or Instrument	CMCs expressed as an Uncertainty (\pm) (see Supplementary Notes)	Type	Remarks
50 lb 30 lb 25 lb 20 lb 10 lb 5 lb 4 lb 3.5 lb 3 lb 2.5 lb 2 lb 1 lb 0.5 lb 0.4 lb 0.2 lb 0.1 lb	89 mg 87 mg 91 mg 88 mg 30 mg 10 mg 9.1 mg 8.7 mg 9.0 mg 9.0 mg 5.3 mg 4.4 mg 5.1 mg 0.35 mg 0.20 mg 0.12 mg	II	Calibrations are in accordance with ISI SOP: 7.5.1 D procedures. ISI Mass Standards meet ASTM E617 Class 1 tolerances. Calibrations available to meet tolerances up to OIML R 111 Class M1.

Interweigh Systems Inc.

Measured Quantity & Range or Instrument		CMCs expressed as an Uncertainty (\pm) (see Supplementary Notes)	Type	Remarks
Scales and Balances			II	<p>Available On-site and at Mississauga Location</p> <p>ISI Mass Standards meet ASTM E617 Class 1 requirements, suitable for the calibration of Class I & II weighing systems.</p> <p>ISI Mass Standards meet OIML R111 Class M1 requirements and/or meet the tolerances of Measurement Canada local standards, suitable for the calibration of Class III weighing systems.</p> <p>Industrial Scales include Platform Scales, Bench Scales, Baggage Scales, Floor Scales, Dynamic Conveyor Scales, Hopper/Tank/Silo Scales, Tank Mounts, Rail Scales, Truck Scales, Crane Scales, or any scale with a platform base.</p>
Weighing Systems				
(0.01 mg resolution)	0 g to 80 g	0.18 mg		
(0.0001 g resolution)	0 g to 220 g	0.37 mg		
(0.005 g resolution)	0 g to 1 kg	5.0 mg		
(0.01 g resolution)	0 g to 3 kg	11 mg		
(0.05 g resolution)	0 g to 5 kg	42 mg		
(0.1 g resolution)	0 g to 30 kg	91 mg		
Industrial Scales				
(1 g resolution)	0 g to 6 kg	0.9 g		
(2 g resolution)	0 g to 15kg	1.8 g		
(5 g resolution)	0 g to 30 kg	4.3 g		
(10 g resolution)	0 g to 60 kg	8.4 g		
(20 g resolution)	0 g to 150 kg	19 g		
(100 g resolution)	0 g to 500 kg	87 g		
(200 g resolution)	0 g to 1 000 kg	180 g		
(1 kg resolution)	0 kg to 5 000 kg	1 kg		
(2 kg resolution)	0 kg to 10 000 kg	2 kg		
(5 kg resolution)	0 kg to 20 000 kg	5 kg		
(10 kg resolution)	0 kg to 100 000 kg	10 kg		
(20 kg resolution)	0 kg to 120 000 kg	21 kg		
(50 kg resolution)	0 kg to 180 000 kg	51 kg		

Interweigh Systems Inc.

Supplementary Notes

- A. Calibration capabilities are traceable to the national measurement standards of Canada held or accepted by the National Research Council (NRC) or, with the agreement of NRC, to the national measurement standards of other countries and are thus traceable to the internationally accepted representation of the appropriate SI (Système International) unit.
- B. Laboratories are certified by the NRC's Calibration Laboratory Assessment Service (CLAS) for one or more of the following capabilities:
- Type I: A capability of which the primary purpose is the calibration of measurement standards for other calibration laboratories. A laboratory with this type of capability has the appropriate reference standards, working standards, check standards, and calibration systems to be able to assess dynamically and to quantify its measurement uncertainty, and is able to monitor its measurement processes continually. The environmental conditions that affect the laboratory's measurements are closely monitored and controlled. A laboratory with this type of capability usually reports a measurement value accompanied by a comprehensive statement of uncertainty. A laboratory with this type of capability is often referred to as a standards or standards calibration laboratory.
- Type II: A capability of which the main purpose is the calibration and adjustment of test, measurement and diagnostic equipment for use in product testing, manufacturing, servicing, etc. A laboratory with this type of capability has the appropriate working standards and calibration systems to be able to calibrate to a manufacturer's specification and tolerance or calibrate to a written standard, using appropriate test uncertainty ratios (TUR). A laboratory with this type of capability usually reports a measurement value and indicates if the test equipment complies with a specification, tolerance or a written standard. It will, usually, base its capabilities on the specifications and tolerances of the working standards being used. It also has, normally, the means to check its working standards between calibrations and has available the appropriate environment(s). A laboratory with this type of capability is often referred to as a test equipment calibration laboratory.
- Type III: A calibration capability, within a laboratory, mobile or fixed, with the appropriate reference or working standards, of which the main purpose is to provide a reference. A laboratory with this type of capability usually has minimal means to monitor its calibration system. It relies mainly on the values assigned by higher echelon laboratories to its standards and uses these values with few other considerations to assign values or verify the compliance of equipment being calibrated to their specifications and tolerances or to written standards. This could be an on-site service subject to a wide range of environmental factors.
- C. The "calibration measurement capability" includes the uncertainty associated with the calibration of the accredited laboratory's reference or transfer standard by NRC, or by a laboratory acceptable to CLAS, uncertainties caused by the transportation of the calibrated reference standard from NRC (or other laboratories) to the accredited laboratory, uncertainties of the calibration process in the accredited laboratory, and uncertainties due to the behaviour of the highest quality device available for each specific technology device during its calibration. These uncertainties include components which could have been evaluated by statistical methods on a series of repeated measurements and which can be characterised by experimental standard deviations. The other components, which can also be characterized by standard deviations, are evaluated from assumed probability distributions based on experience or other information. These have been combined to form an expanded uncertainty $U = k u_c$ with U determined from a combined standard uncertainty u_c and a coverage factor $k = 2$. Since it can be assumed that the probability distribution characterised by the reported result and u_c is approximately normal, the value of a calibrated device can be asserted to lie in the interval represented by the expanded uncertainty U with a level of confidence of approximately 95 percent. The uncertainties quoted do not include the possible effects on the calibrated device of transportation, long term stability or intended use. For clients requiring a confidence level of 99%, the laboratory is able to adjust the uncertainty accordingly.
- D. The uncertainty of a specific calibration by an accredited laboratory can be greater than the "calibration measurement capability" because it will include uncertainties due to the actual condition and behaviour of the customer's device during its calibration.
- E. SCC accreditation and CLAS certification is the formal recognition of specific calibration capabilities. Neither the NRC nor the SCC guarantees the accuracy of individual calibrations by recognized laboratories.