



## NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Load Cell  
Single-Ended Shear Beam, Compression  
Model: CG-23, CG-23-LP, CG-23-SS, CG-23-SSW, CG-743,  
CG-743-SSW, CG-745, CG-MK15, CG-SB3, CG-SB250, CG-SSB  
 $n_{\max}$ : 5 000, Single/Multiple Cell, Class III  
 $v_{\min}$ : (see page 2)  
Capacity: 100 lb to 20 000 lb

**Submitted By:**

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**Standard Features and Options**

- Alloy Steel or Stainless-Steel Construction
- Method of Sealing: Potted with Metal Cover and/or welded cover
- Number of Wires: 4 wires
- Excitation Voltage: 10 VDC
- Nominal Output: 3.0 mV/V or 2.0 mV/V
- Bridge Resistance Input Nominal: 350 Ohms

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of "NIST Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices." Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages.

Craig VanBuren  
Chairman, NCWM, Inc.

Stephen Benjamin  
Chair, NTEP Committee  
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**Coti Global Sensors Inc.**

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**Application:** The load cells may be used in Class III scales for single/multiple cell applications consistent with the model designations, number of scale divisions, and parameters specified in this Certificate. Load cells of a given accuracy class may be used in applications with lower accuracy class requirements provided the number of scale divisions, the  $v_{min}$  values, and temperature range are suitable for the application. The manufacturer may market the load cell with fewer divisions ( $n_{max}$ ) and with larger  $v_{min}$  values than those listed on the Certificate. However, the load cells must be marked with the appropriate  $n_{max}$  and  $v_{min}$  for which the load cell may be used.

**Identification:** A pressure sensitive, tamper evident, identification badge containing the manufacturer, model designation, and serial number is located on the load cell. All other required information, if not marked on the load cell, must be on an accompanying document including the serial number of the load cell.

Models	Capacity (lb)	$v_{min}$ (lb)	Minimum Dead Load (lb)
CG-23	100*	0.005	0
	250	0.012	0
CG-23-SS	500**	0.025	0
CG-23-LP	1000*	0.050	0
CG-23-SSW	1250	0.063	0
CG-SB3	1500	0.075	0
CG-MK15	2000	0.100	0
CG-SB250	2500	0.125	0
CG-SSB	3000	0.150	0
CG-743	4000	0.200	0
CG-743-SSW	5000**	0.250	0
CG-745	10 000	0.500	0
	15 000	0.750	0
	20 000	1.000	0

\* Load Cells Tested      \*\* Two Cells Tested

**Test Conditions:** This Certificate supersedes Certificate of Conformance number 08-074A2 and is issued to add additional model CG-743-SSW and update  $v_{min}$  chart per NTEP policy and manufactures information. No additional testing was deemed necessary. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 08-074A2:** This Certificate supersedes Certificate of Conformance number 08-074A1 and is issued to add additional capacity. A 100 lb., 1000 lb. and 5 000 lb. load cell were tested at the NMi, the Netherlands. The data were analyzed for single load cell applications. The cell was tested over a temperature range of -10 °C to 40 °C. Tests were run on the cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test to determine sensitivity of the load cell design to changes in barometric pressure was conducted. NCWM Publication 14 selection criteria were used to determine cells tested. The results of the testing permitted the adding of the 100 lb capacity and single cell applications. Previous test conditions are listed below for reference.

**Evaluated Certificate of Conformance Number 08-074A1:** This certificate supersedes Certificate of Conformance Number 08-074 and was issued to recognize a change to the model number designations by removing the SE prefix. No additional testing was deemed necessary. Contact information was also updated. Previous test conditions are listed below for reference.

**Certificate of Conformance Number 08-074:** Two 500 lb. capacity and two 5000 lb. capacity load cells were tested at NIST using dead weights as the reference standard. The data were analyzed for multiple load cell applications. The cells were tested over a temperature range of -10 °C to 40 °C. Three tests were run on each cell at each temperature. The temperature effect on zero was measured and a time dependence (creep) test was performed. The barometric pressure test was waived due to the insensitivity of the load cell design to changes in barometric pressure.



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**Evaluated By:** NIST Force Group, NIST Office of Weights and Measures 08-074; S. J. Koeman (NMI) E. van der Grinten (NMI) 08-074A2; M. Manheim (NCWM) 08-074A3

**Type Evaluation Criteria Used:** *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2019 Edition. *NCWM Publication 14 Measuring Devices*, 2019 Edition.

**Conclusion:** The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

**Information Reviewed By:** S. Patoray, L. Bernetich (NCWM) 04-066; J. Truex (NCWM) 08-074, 08-074A1; D. Flocken (NCWM) 08-074A2, 08-074A3

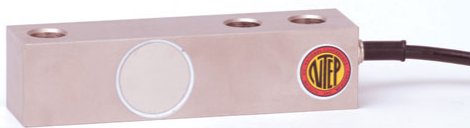
**Example(s) of Device:**



CG-23



CG-23-LP



CG-23-SS



CG-23-SSW-03



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CG-743, CG-743-SSW



CG-745



CG-MK15



CG-SB3



CG-SB250



CG-SSB