



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:
Load Cell
Compression, Digital
Model: DC Series
 n_{max} : 10 000, Multiple Cell
Capacity: 20 000 lb (9 050 kg) to 200 000 lb (90 700 kg)
Accuracy Class: III L

Submitted By:
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Standard Features and Options

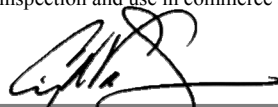
- Column Compression Strain Gauge Load Cell
- Stainless Steel Construction
- Minimum dead load: 0 lb / 0 kg

Model	Capacity (lb)	Capacity (kg)	V _{min} (lb)	V _{min} (kg)
DC-20K	20 000	9 050	1.16	0.53
DC-30K	30 000	13 600	1.75	0.79
DC-40K	40 000	18 100	2.33	1.06
DC-50K*	50 000	22 650	2.91	1.32
DC-60K	60 000	27 200	3.49	1.58
DC-70K	70 000	31 750	4.07	1.85
DC-75K	75 000	34 000	4.37	1.98
DC-80K	80 000	36 250	4.66	2.11
DC-90K	90 000	40 800	5.24	2.38
DC-100K	100 000	45 350	5.82	2.64

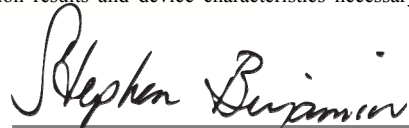
Model	Capacity (lb)	Capacity (kg)	V _{min} (lb)	V _{min} (kg)
DC-110K	110 000	49 850	6.40	2.90
DC-120K	120 000	54 400	6.98	3.17
DC-130K	130 000	58 950	7.57	3.43
DC-140K	140 000	63 500	8.15	3.70
DC-150K	150 000	68 000	8.73	3.96
DC-160K	160 000	72 550	9.31	4.22
DC-170K	170 000	77 100	9.89	4.49
DC-180K	180 000	81 600	10.48	4.75
DC-190K	190 000	86 150	11.06	5.02
DC-200K	200 000	90 700	11.64	5.28

* Load cell evaluated

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
Issued: June 16, 2020

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Cardinal Scale Manufacturing Company

Load Cell / DC Series

Application: The load cells may be used in Class III L scales for 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 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.

Test Conditions: A 50K capacity load cell was tested by an NMO facility. Testing was conducted in accordance with the OIML-CS for OIML R60, signed by the NCWM as a utilizing participant for load cell testing. Testing was conducted using a force standard machine as the reference standard. The load cell was tested over a temperature range of -10 °C to 40 °C with tests 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. The data was analyzed for multiple load cell applications. OIML R60 selection criteria was used to determine cells tested.

Evaluated By: Wei Ji (NMO Certification Body)

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2017 Edition. *NCWM Publication 14 Measuring Devices*, 2017 Edition.

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

Information Reviewed By: D. Flocken (NCWM)

Example(s) of Device:

