



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Hopper Scale
Weighing/Load Receiving Element; Bulk Weighing
Model: CWC Series Capacity:
500 lb to 60 000 lb n_{max} : 2500 to
6000 (See Page 2) e_{min} : 0.2 lb to
20 lb (See Page 2)

Accuracy Class III/IIIL

Submitted By:

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Standard Features and Options

Primary weight indications, motion detection and bulk weighing requirements are provided by the compatible and certified controller.

Controller: CompuWeigh Corporation, Model DWC-300 (Certificate of Conformance Number 00-007)
CompuWeigh Corporation, Model CD-4000 (Certificate of Conformance Number 01-041)

Weighing Element/Hopper Scale: Mild steel construction three load cell design. Capacity and dimensions (see page 2)

Load Cells: Flintec, Inc., Model SLB (Certificate of Conformance Number 97-061A1);
Artech Industries, Model 20210 (Certificate of Conformance Number 87-057A4);
or other NTEP Certified and compatible load cells.

Temperature Range: -10 °C to 40 °C (14 °F to 104 °F)

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.

Ronald Hayes
Chairman, NCWM, Inc.

John Gaccione
Committee Chair, National Type Evaluation Program Committee
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CompuWeigh Corporation
Hopper Scale / CWC Series

Application: General purpose weighing element that may be used for bulk weighing applications, including grain, when interfaced with a compatible and NTEP certified indicator/controller.

Identification: The required information is on a plate riveted to the side of the device.

Sealing: The junction box has no provisions for sealing. The parameters are adjusted and sealed at the indicator.

Model	Capacity (lb)	e _{min}	n _{max}	Working Volume (cu ft)	Width (inches) "S"	Diameter (inches) "R"	Cross Section (sq ft)	Height (inches)	Max Dist between Load Cells (inches)
CWC-10	500	0.2	2500	10.4	30	34	6.3	30	33
CWC-15	750	0.2	3750	15.6	36	41	9	26	40
CWC-20	1000	0.2	5000	20.8	36	41	9	38	40
CWC-30*	1200	0.2	6000	25.0	60	60	22.3	35	59
CWC-40	1500	0.5	3000	31.3	60	60	22.3	39	59
CWC-046	2000	1	2000	42	56	64	22	40	65
CWC-056	3000	1	3000	63	56	64	22	50	65
CWC-076	4000	1	4000	83	56	64	22	61	65
CWC-108*	5000	1	5000	104	80	90	45	49	92
CWC-158	6000	2	3000	125	80	90	45	53	92
CWC-208	10 000	5	2000	210	80	90	45	77	92
CWC-310	15 000	5	3000	315	104	117	75	79	110
CWC-410	20 000	5	4000	420	104	117	75	93	110
CWC-510	25 000	5	5000	520	104	117	75	108	110
CWC-512*	25 000	5	5000	520	128	144	114	88	134
CWC-612	30 000	10	3000	625	128	144	114	97	134
CWC-712	42 000	10	4200	875	128	144	114	118	134
CWC-814*	48 000	10	4800	1000	140	158	136	108	155
CWC-914	54 000	20	2700	1125	140	158	136	119	155
CWC-1014	58 000	20	2900	1200	140	158	136	130	155
CWC-1114	60 000	20	3000	1250	140	158	136	140	155



CompuWeigh Corporation
Hopper Scale / CWC Series

Test Conditions: This certificate supersedes NTEP Certificate of Conformance 02-059A2 and is issued to include additional capacities and other certificate parameters. The Model CWC-814 was submitted and was interfaced with a CompuWeigh Corporation controller, Model CD-4000 (NTEP CC 01-041). The emphasis of the evaluation was on the design and performance of the receiving/weighing element. The CompuWeigh Corporation controller, Model CD-4000 allowed it to function as a bulk weighing system. Several increasing/decreasing load, discrimination, and return to zero tests were conducted using 12 000 lb of known test weights. A build up test was conducted by raising and lowering test weights using the substitution test method to a capacity of 47 700 lb. The weigh hopper can be filled and emptied by opening and closing the upper garner and weigh hopper gates. Weight values can be printed any time during a test. Previous test conditions are below for reference.

Certificate of Conformance 02-059A2: This certificate supersedes NTEP Certificate of Conformance 02-059A1 and is issued to include additional capacities. The Model CWC-108S was submitted and was interfaced with a CompuWeigh Corporation controller, Model DWC-400. The emphasis of the evaluation was on the design and performance of the receiving/weighing element. The CompuWeigh Corporation controller, Model DWC-400 (NTEP CC 02-090A1) allowed it to function as a bulk weighing system. Several increasing/decreasing load, discrimination, and return to zero tests were conducted using 1500 lb of known test weights. A build up test was conducted by raising and lowering test weights. The weigh hopper can be filled and emptied by opening and closing the upper garner and weigh hopper gates. Weight values can be printed any time during a test. The device was used until the minimum number of load requirements were met. A permanence test was conducted consisting of several increasing/decreasing load, discrimination, and return to zero tests

Certificate of Conformance 02-059A1: This certificate supersedes NTEP Certificate of Conformance 02-059 and is issued to include additional capacities. The Model CWC-30S was submitted for evaluation. The emphasis of the evaluation was on device design, marking, and the hopper scale performance and operation including interaction with a bulk weighing system controller. The hopper scale was tested interfaced to a CompuWeigh Corporation, Model DWC-300 controller (Certificate of Conformance Number 00-007) and a GSE-460 indicating element (Certificate of Conformance Number 01-031). Several increasing/decreasing load tests were conducted using 1200 lb of certified weights. Additionally, discrimination and “return to no-load” tests were conducted. The device was retested in the same manner 30 days later after more than 300 weighments.

Certificate of Conformance 02-059: The Model CWC-512R was interfaced with a CompuWeigh Corporation controller, Model CD-4000. The emphasis of the evaluation was on the design and performance of the receiving/weighing element. The GSE indicator (Certificate of Conformance Number 01-031) and the CompuWeigh Corporation controller, Model CD-4000 (Certificate of Conformance Number 01-041) allowed it to function as a bulk weighing system. Several increasing/decreasing load, discrimination, and return to zero tests were conducted using 6600 lb of known test weights. A build up test was conducted by raising and lowering test weights. The weigh hopper can be filled and emptied by opening and closing the upper garner and weigh hopper gates. Weight values can be printed any time during a test. A permanence test was conducted consisting of several increasing/decreasing load, discrimination, and return to zero tests. The results of all tests were within acceptance tolerances.

Evaluated By: Charles Stutsman (KS) 02-059; S. Boyd (CA), 02-059A1; Terry Davis (KS) 02-059A2; Darrell Flocken (NCWM) 02-059A3

Type Evaluation Criteria Used: *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2014 Edition. *NCWM Publication 14 Weighing Devices*, 2014 Edition.

Conclusion: The results of the evaluations and information provided by the manufacturer indicate the devices comply with applicable requirements.

Information Reviewed By: S. Patoray (NCWM), L. Bernetich (NCWM) 02-059, 02-059A1, 02-059A2; J. Truex (NCWM)02-059A3