



NATIONAL TYPE EVALUATION PROGRAM

Certificate of Conformance

for Weighing and Measuring Devices

For:

Weighing/Load Receiving Element
Bench and Counter, Digital Electronic
Model: DS and DM Series (See Below)
 n_{max} : 5000
 e_{min} : 0.02 lb (0.01 kg)
Capacity: 100 to 1000 lb (45 to 450 kg)
Platform: (See Below)
Accuracy Class: III

Submitted by:

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Standard Features and Options

Models: DS or DM3xxxx (18 inch x 18 inch platter), DS or DM4xxxx (18 inch x 24 inch platter), DS or DM5xxxx (24 inch x 24 inch platter) DS indicates a stainless steel base and DM indicates a mild steel base, xxxx indicates capacity in pounds. e.g: DS3100 is 100 lb x 0.02 lb with stainless steel, 18 inch x 18 inch platter. Capacities in table below can be used in any model.

Capacity lb (kg)	e_{min} lb (kg)
100 (45)	0.02 (0.01)
250 (100)	0.05 (0.02)
500 (225)	0.1 (0.05)
1000 (450)	0.2 (0.1)

Other Models: An optional / yyyy may be appended to the end of the model number to indicate the platter size in inches, e.g: DS5250/2020 is 250 lb x 0.05 lb stainless steel, 20 inch x 20 inch platter. Other examples: DS5250/2020, DS5100/1618, DM5250/2022. Platter dimensions (not to exceed 576 square inches and lengths or widths no greater than 125% of 24 in x 24 in).

Load cell used: Tedeo-Huntleigh 1260 Family (NTEP CC 96-064)

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.

John Gaccione
Chairman, NCWM, Inc.

Stephen Benjamin
Committee Chair, National Type Evaluation Program Committee

Issued: November 6, 2013

**Doran Scales, Inc.**

Weighing/Load Receiving Element / DS and DM Series

Application: General purpose weighing when interfaced with a compatible and NTEP approved indicating element.

Identification: The required information is on a self destructive label attached by adhesive or a metal identification badge affixed to the device under the platter.

Sealing: There are no metrological functions on the device so sealing is not needed. The sealing is done through the indicator per the manufactures specifications for the particular indicator used.

Test Conditions: The emphasis of the evaluation was on the device design, marking requirements, performance, and compliance with influence factor requirements. For the purpose of this evaluation there were two models submitted, the DS51000 (1000 lb x 0.2 lb 24 in x 24 in), and DM5100 (100 lb x 0.02 lb 24 in x 24 in) weighing elements, each interfaced to a Doran 2200 (NTEP CC 06-101) indicating element. Several increasing/decreasing load and shift tests were performed on each device. A discrimination test, zone of uncertainty test, and suitability of level indicator test was also performed. The devices were tested over a temperature range of -10 °C to 40 °C (14 °F to 104 °F). A load of half capacity was applied to each base over 100 000 times. The scale was tested periodically during this time. The shift and discrimination zone of uncertainty test were repeated after the permanence test.

Evaluated By: T. Buck (OH)

Type Evaluation Criteria Used: : *NIST Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2013 Edition. *NCWM Publication 14 Weighing Devices*, 2013 Edition.

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

Information Reviewed By: J. Truex (NCWM)

Examples of Device:



DM Mild Steel Series



DS Stainless Steel Series