

***National Type Evaluation Program
Certificate of Conformance
for Weighing and Measuring Devices***

For:

Load Cell
S-Type Bending Beam
Model: SBA Series*
 n_{\max} : Single Cell (Class III): 5000
 n_{\max} : Single Cell (Class III L): 10 000
Capacity: 25 lb to 20 000 lb

Accuracy Class: III/III L

Submitted by:

CAS (USA) Corporation
99 Murray Hill Parkway
East Rutherford, NJ 07073
Tel: (201) 933-9002
Fax: (201) 933-9025
Contact: Paul Lewis

Standard Features and Options

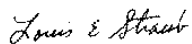
*The specific capacities, v_{\min} values, and minimum dead loads of load cells covered by this Certificate are listed in the table on Page 2.

Material: Tool steel (4340)
Excitation: 10-15 vdc
Nominal output: 3.0 mV/V
4-wire design

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

This device was evaluated under the National Type Evaluation Program (NTEP) and was found to comply with the applicable technical requirements of 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.

Effective Date: June 14, 1999



Louis E. Straub
Chairman, NCWM, Inc.



G. Weston Diggs
Chairman, National Type Evaluation Program Committee

Issue date: September 9, 1999

Note: The National Conference on Weights and Measures does not "approve", "recommend", or "endorse" any proprietary product or material, either as a single item or as a class or group. Results shall not be used in advertising or sales promotion to indicate explicit or implicit endorsement of the product or material by the NCWM.

This is a reissuance by the NCWM of a Certificate of Conformance already issued by the National Institute of Standards and Technology.

CAS (USA) Corporation
S-Type Bending Beam Load Cell
Model: SBA Series

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

Model Designation:

Model	Capacity (lb)	v_{\min} (lb)	Minimum Dead Load (lb)
SBA-25 LB	25	0.0025	0
SBA-50 LB	50	0.005	0
SBA-75 LB	75	0.0075	0
SBA-100 LB*	100	0.010	0
SBA-150 LB	150	0.015	0
SBA-200 LB	200	0.020	0
SBA-250 LB	250	0.025	0
SBA-300 LB	300	0.030	0
SBA-500 LB*	500	0.050	0
SBA-750 LB	750	0.075	0
SBA-1K	1000	0.10	0
SBA-1.5K	1500	0.15	0
SBA-2K	2000	0.20	0
SBA-2.5K	2500	0.25	0
SBA-3K	3000	0.30	0
SBA-5K*	5000	0.50	0
SBA-7.5K	7500	0.75	0
SBA-10K	10 000	1.00	0
SBA-15K	15 000	1.50	0
SBA-20K	20 000	2.00	0

* Load cell capacities submitted for type evaluation.

Note: Load cells may have a nominal capacity different from those listed in the table above if the capacity is between 25 lb and 20 000 lb, they must comply with conditions listed in the "Application" section, and the v_{\min} complies with the following rule: The relationship between the verification scale interval, v_{\min} , and capacity for a load cell on this Certificate is $v_{\min} = \text{capacity} \div 10\,000$ (Class III and III L single cell applications).

Test Conditions: This Certificate supersedes Certificate of Conformance Number 96-073 and is issued to include the 50-lb, 75-lb, 100-lb, 150-lb, 200-lb, 250-lb, 300-lb, 750-lb, 10 000-lb, 15 000-lb, and 20 000-lb capacity load cells and other load cell capacities which fall between 25-lb and 20 000-lb wherever: $v_{\min} = \text{capacity} \div 10\,000$ for Class III and III L single cell applications with an n_{\max} 5000 and 10 000 that satisfy the conditions in the Application section above and to expand the SBA Series for use in 5000 and 10 000 n_{\max} single cell applications.

CAS (USA) Corporation
S-Type Bending Beam Load Cell
Model: SBA Series

Test Conditions: (Continued)

Two 100-lb, two 500-lb and two 5000-lb capacity load cells were tested at NIST using dead weights as the reference standard. The data were analyzed for single 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.

Previous test conditions are listed below for reference.

Certificate of Conformance Number 96-073: Two 50 -lb capacity load cells were tested at NIST using dead weights as the reference standard. The data were analyzed for single 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.

Results of the evaluations indicate the load cells comply with applicable requirements of NIST Handbook 44.

Type Evaluation Criteria Used: NIST Handbook 44, 1999 Edition

Tested By: NIST Force Group, NIST Office of Weights and Measures

Information Reviewed By: D.M. Ripley (NIST) 96-073; J. Williams (NIST) and G. Newrock (NIST) 96-073A1