



REPORT

Test Certificate issued by Notified body No 402

Cardinal Scale Manufacturing Co.
203 East Daugherty St.
Webb City Missouri 64870
U.S.A.

Handläggare, enhet/Handled by, department	Datum/Date	Beteckning/Reference	Sida/Page
Bengt Johansson, Weight and Measures	1996-05-31	0402-MVm010	1 (2)
Tel +46 (0)33 16 54 76		Revision 1	

TEST CERTIFICATE, load cell type SB

Issued by

Sveriges Provnings- och Forskningsinstitut, Box 857, S-501 15 Borås, Sweden.

In accordance with

Paragraph 8.1 of the European Standard on metrological aspects of non-automatic weighing instruments EN 45501:1992 and by application of the OIML International Recommendation R 60 Edition 1991. The applied error fraction p_i meant in paragraph 3.5.4 of the standard is 0,7.

(The error fraction p_i must be regarded as the value which is decisive for the application of the test certificate).

Issued to

Cardinal Scale Manufacturing Co., 203 East Daugherty St., Webb City Missouri 64870, U.S.A.

In respect of

A beam load cell with strain gauges.

Manufacturer Cardinal Scale Manufacturing Co, USA.

Type	SB 20000, SB 10000, SB 5000, SB 2500		
Data	Accuracy class	C3	
	Max capacity, E_{\max}	20000, 10000, 5000, 2500 lb/ 10000, 5000, 2500, 1250 kg	
	Maximum number of intervals	$500 \leq n \leq 3000$	
	Minimum load cell verification interval, v_{\min}	$E_{\max}/13000$	
	Minimum dead load output return, MDLOR	0,37 v	

Tests carried out

The load cell has been tested according to the Notified body's test procedure.

The results from these tests are documented in a report with number 96H40125 dated 1996-04-03. The following tests have been carried out:



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Annex

Descriptive annex belonging to test certificate No 0402-MVm010

1 Type designation

SB 20000, SB 10000, SB 5000, SB 2500.

2 Function of the load cell

The load cell are of the type beam with the load applied downwards.

2.1 Construction of the load cell

The load cell is built of steel and is hermetically sealed.

3 Drawings

Drawing for load cell type SB with number 2910-C019 and sealing drawing with number 2910-B065-0A.

4 Technical data

Accuracy class	C3
Maximum number of intervals	$500 \leq n \leq 3000$
Max capacity, E_{\max}	20000, 10000, 5000, 2500 lb/ 10000, 5000, 2500, 1250 kg
Min capacity, E_{\min}	$E_{\max} / 1000$
Minimum load cell verification interval, v_{\min}	$E_{\max} / 13000$
Temperature range	-10° C till +40° C
Excitation	20 V AC or DC max
Input impedance	380 Ω
Output impedance	350 $\pm 5,0 \Omega$
Sensitivity	2 mV/V $\pm 5 \%$
Safe load limit, Lim	150 % of E_{\max}

The load cell is provided with a 4-wire system, length 6 m, cross section 4 x 0,52 mm².

5 Markings

A serial number shall be marked on a data plate or directly on the load cell.

6 Sealing

The data plate shall be sealed. The connection cable is plugged in outside the load cell and can be sealed at the connection box.

7 Documentation held by SP

All documentation concerning the essential parts of the load cell are held by SP.



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Test	Test performed by	Approved (yes/no)
Temperature test and repeatability (20, 40, -10 and +20 °C)	SP, MMh	Yes
Temperature effect on minimum dead load output (20, 40, -10 and +20 °C)	SP, MMh	Yes
Creep test (20, 40, -10 and +20 °C)	SP, MMh	Yes
Minimum dead load output return (20, 40, -10 and +20° C)	SP, MMh	Yes
Humidity test	SP, MMh	Yes
Barometric pressure effects	SP, MMh	Yes

The load cell fulfils applicable parts of EN45501:1992 and OIML R60 Edition 1991.

Characteristics

In the descriptive annex (1 page) belonging to this certificate further essential characteristics are described.

Sveriges Provnings- och Forskningsinstitut
Section for mass

Håkan Källgren
Technical Manager

Bengt Johansson
Technical Officer