



RAPPORT



utfärdat av ackrediterat laboratorium / IREPORT issued by an Accredited Laboratory
issued by Notified body No 0402

TEST CERTIFICATE No. 0402-MVm024

load cell type DB-50000S

Issued to

Cardinal Scale Mfg. Co., 203 East Daugherty Webb City, Missouri 64870, USA.

In respect of

The model of a **load cell**, tested as a part of a weighing instrument.

Type DB-50000S

Manufacturer Cardinal Scale Mfg. Co., 203 East Daugherty Webb City, Missouri 64870,
USA

Characteristics

Load cell to be used as a part of a non-automatic weighing instrument with the following characteristics:

- Class C
- Maximum capacity (E_{max}) is 22500 kg
- Maximum number of LC verification scale intervals (n_{LC}) is 3000
- Ratio of minimum LC verification interval (Y) is 9100
- Ratio of minimum LC verification interval (Z) is 16000
- Temperature range: -10 °C to +40 °C
- In the annex belonging to this certificate further essential characteristics are described

Description and documentation

The indicating device is described in the annex to this certificate and documented in the documentation folder held by SP, both appertaining to this test certificate.

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.

Borås, 2 January, 1999

SP Sveriges Provnings- och Forskningsinstitut
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Annex

General

All properties of the load cell, whether mentioned or not, may not be in conflict with the legislation and standard mentioned in the document.

Technical data

Table 1. Essential technical data

Type	DB-5000S
Accuracy class	C3
Maximum number of intervals n_{max}	3000
Max capacity, E_{max}	22 500 kg
Safe overload	150 % of E_{max}
Min capacity, E_{min}	1 % of E_{max}
Minimum load cell verification interval, v_{min}	2,475 kg
Minimum dead load output return, DR	16000
Rated output, C	2 mV / V \pm 0,1%
Output Impedance	700 Ω \pm 7 Ω
Input Impedance	790 Ω minimum
Excitation	15 VDC recommended / maximum 20 VAC recommended / maximum

Tests carried out

The load cell is tested in accordance with SP's test procedure MVm 7.5. The results are documented in the test report 01-C99053 dated 1999-02-01.

Table 2. Tests performed with load cell DB-5000S

Test	R60 / R60A no.	Performed by	Result
Temperature test and repeatability (at 20,40,-10 and 20° C)	15.1 & 5.1 & 9 / A1, A2, A3	SP, MK	passed
Temperature effect on minimum load output (at 20,40,-10 and 20° C)	15.1 & 10.1.3 / A1, A4	SP, MK	passed
Creep during 30 minutes (at 20,40,-10 and 20° C)	15.2 & 7.1 / A5	SP, MK	passed
Minimum dead load output return (at 20,40,-10 and 20° C)	15.3 & 7.2 / A5	SP, MK	passed
Barometric pressure effects	15.4 & 10.2 / A6	SP, MK	passed
Humidity test	15.5 & 7.3 / A7	SP, MK	passed

Description of load cell

Function of the load cell

The load cell is designed for the load to be applied to the two ends and mounted at the centre of the supporting structure. It may also be mounted at the two ends and the load applied centred.

Construction of the load cell

The load cell is a stainless steel double-ended shear beam strain gage load cell. It is provided with a 10,6 m, 4 core shielded cable. The shield is not connected to the load cell body. The load cell wiring cavities are sealed with a welded stainless steel plug.

Characteristics of load cell cable

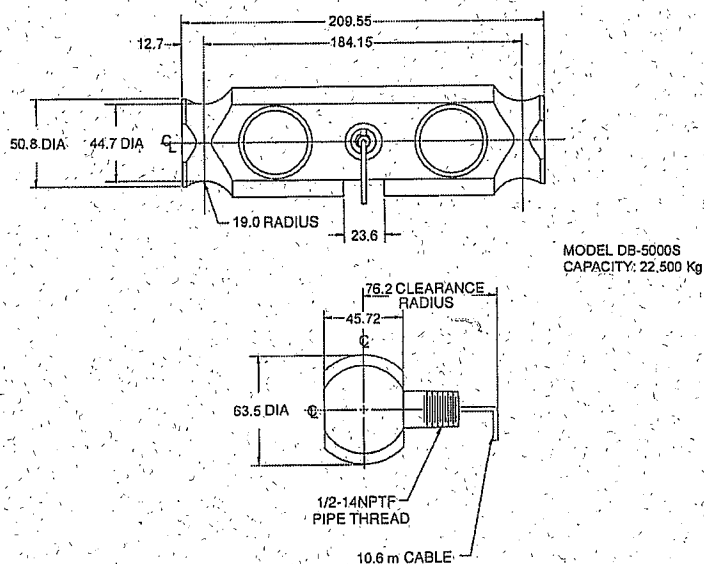
The cable has four wire plus shield. The ground is open at the load cell end with a drain conductor provided at termination end. The cross section of wire is 0,5174 mm², cable length 10,6 m. Electrical connectors; four wire with shield, specification as follows:

RED	+Excitation
BLACK	-Excitation
GREEN	+Signal
WHITE	-Signal
YELLOW	Shield

Markings

The markings of the load cell contain the Cardinal name and trademark, type, serial number with embedded year of production, accuracy class, E_{MAX} and V_{MIN}. Additional information according to R60 point 4.6 along with information showing the direction of loading will be supplied in an accompanying document.

Drawings



Validity of this Test Certificate

Manufacturing process, material and sealings of the produced load cells have to be in accordance with that of the tested pattern; essential changes are only allowed with the permission of the Notified Body.