# Test certificate

Nederlands Meetinstituut

Number TC2097 revision 4
Project number 10092781


Issued by
NMi Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands

Notified Body Number 122

In accordance with
Paragraph 8.1 of the European Standard on Metrological aspects of non-automatic weighing instruments EN 45501:1992/AC:1993 and by application of the OIML International Recommendation R 60 (Edition 1991). The applied error fraction $p_i$, meant in the paragraph 3.5.4. of the standard is 0.7.

Applicant
Flintec GmbH
Bahnhofstraße 52-54
74909 Meckesheim
Germany

In respect of
The model of a compression load cell , with strain gauges, tested as a part of a weighing instrument.
Manufacturer : Flintab or Flintec
Type : RC1

Characteristics

| | | |
|---|---|---|
| Maximum capacity ($E_{max}$) | 250, 400, 600 and 900 kN | |
| Accuracy Class | C | |
| Maximum number of load cell intervals (n) | 1000 | 3000 |
| Ratio of minimum LC Verification Interval $Y = E_{max} / V_{min}$ | 4667 | 10000 |

In the description TC2097 revision 4 further characteristics are described.

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NMI International B.V. (27239176)

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# Description

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## 1 General information about the load cell

All properties of the load cell, whether mentioned or not, may not be in conflict with the standard mentioned in the test certificate.

### 1.1 Essential parts

Table 1

| Description | Drawing number | Rev. | Remarks |
|---|---|---|---|
| Load cell type RC1-xxx kN Outline drawing | 3-20447 | 20 | Mechanical |
| Type RC1 Load Cell | E 13-05/98 | -- | 2 sheets |
| RC1-250/400 kN Circuit Diagram and moisture protection seal | 3-21063 | –0 | Electrical |

The load cell is provided with a 4-wire system.
Because no "remote-sensing" is used the cable length has to be approximately :
- 9.1, 10 or 12 meter for the 250 kN version;
- 10.6, 16 or 18 meter for the 400 kN version
- 18 meter for the 600 and 900 kN version.

The cable should be a shielded cable, the shield is not connected to the load cell.

### 1.2 Essential characteristics

| | |
|---|---|
| Minimum dead load | : 0 kg |
| Safe overload | : 200 % of $E_{max}$ |
| Rated Output | : 2 mV/V |
| Input impedance | : 400 Ω ± 5 Ω |
| Output impedance | : 351 Ω ± 1 Ω |
| Recommended excitation | : 5 ./. 15 V DC/AC |
| Excitation maximum | : 15 V DC/AC |
| Transducer material | : Stainless Steel 17-4PH (1.4548) |
| Atmospheric protection | : Metal bellow welded to the body |

### 1.3 Essential shapes

The load cell is built according to drawing, see table 1.
The data plate is sealed against removal or will be destroyed when removed. The data plate mentions at least the information and markings as described in the OIML R60 document. In the countries where it is mandatory the load cell should bear this test certificate number: TC2097
Securing: The connecting cable of the load cell or the junction box is provided with possibility to seal.

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| | |
|---|---|
| Description and documentation | The load cell is described in the description number TC2097 revision 4 and documented in the documentation folder number TC2097-2, appertaining to this test certificate. |
| Remarks | Summary of the test involved: see Appendix number TC2097 revision 4<br>This revision test certificate replaces the earlier versions, including its documentation folder. |

Dordrecht, 12 August, 1998
NMi Certin B.V.
vo

M. Charité
Director

Nederlands Meetinstituut

# Appendix

Number TC2097 revision 4
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Tests carried out for this test certificate:

| Test | Institute | type, version, remarks |
|---|---|---|
| Temperature test and repeatability (20, 40, -10 and 20 °C) | NMi Certin B.V | RC1 C3 250 kN |
| Temperature effect on minimum dead load output (20, 40, -10 and 20 °C) | NMi Certin B.V | RC1 C3 250 kN |
| Creep test (20, 40 and –10 °C) | NMi Certin B.V | RC1 C3 250 kN |
| Minimum load output return (20, 40 and –10 °C) | NMi Certin B.V | RC1 C3 250 kN |
| Barometric pressure test at room temperature | NMi Certin B.V | RC1 C3 250 kN |
| Humidity test | NMi Certin B.V. | RC1 C3 250 kN |