

Nederlands Meetinstituut

Test certificate

Number **TC2453** revision 4
Project number 10093237
Page 1 of 5

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 Revere Transducers
Ramshoorn 7
4802 HX Breda
The Netherlands

In respect of The model of a shear-beam or bending beam load cell , with strain gauges, tested as a part of a weighing instrument.
Manufacturer : Revere Transducers
Type : HCB

Characteristics

Maximum Capacity (E_{max})	250, 500 , 1000, 2000 and 5000 kg						
Accuracy Class	C1	C2	C3	C3 (MR)	C4	C4 (MR)	C3 (MI6)
Maximum number of LC intervals (n)	1000	2000	3000	3000	4000	4000	3000
Ratio of minimum LC verification interval $Y = E_{max} / V_{min}$	7000	7000	10000	20000*	13500* 12500	20000*	15000*
Ratio of minimum dead load output return $Z = E_{max} / 2 * DR$	--	--	--	--	--	--	6000*
Maximum load of measuring range (Dmax)	E_{max}						$0.7 E_{max}$

* Not applicable for the 5000 kg version.

Nederlands Meetinstituut
Hugo de Grootplein 1
3314 EG Dordrecht
Telephone +31 78 6332332
Telefax +31 78 6332309

NMI B.V. (Chamber of Commerce Haaglanden
No.27228701)

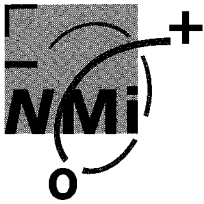
Subsidiary companies:
NMI Certin B.V. (27233418)
NMI Van Swinden Laboratorium B.V. (27228703)
NMI International B.V. (27239176)

This document is issued under the provision that NMI. B.V. nor its subsidiary companies accept any liability.

Reproduction of the complete document is allowed. Parts of the document may only be reproduced after written permission



QUALIFIED
BY STERLAB
Reg. nr. L 029



Nederlands Meetinstituut

Test certificate

Number **TC2453** revision 4
Project number 10093237
Page 2 of 5

The load cells are produced in the following two constructions:
- Bending beam for the capacities: 250, 500, 1000 and 2000 kg;
- Shear beam for the 5000 kg capacity.

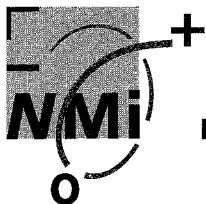
In the description TC2453 revision 4 further characteristics are described.

Description and documentation The load cell is described in the description number TC2453 revision 4 and documented in the documentation folder number TC2453-2, appertaining to this test certificate.

Remarks Summary of the test involved: see Appendix number TC2453 revision 4
This revision test certificate replaces the earlier version(s), including for its documentation folder.

Dordrecht, 9 December, 1998
NMI Certin B.V.
110

M. Charité
Director



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

Description	Drawing number	Rev.	Remarks
Outline dimensions	899177	0	sheet 1 and 2
Finised Produkt All Capacities HCB's	899728	--	sheet 1 and 2
Assembly HCB	899178	0	sheet 1 and 2
HCB-5t	899728	--	sheet 3 and 4

Cable:

The load cell is provided with a 4-wire or a 6-wire system. For the 4 wire system the cable length has to correspond with the length mentioned on the descriptive plate.
 The cable should be a shielded cable.

Nomenclature:

xxx-yyy-Cz-option

x : Model number

y : Standard capacity

z : Accuracy designation

Option: SC : Current calibration

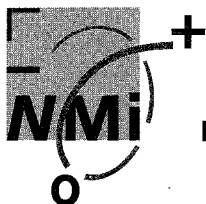
EEx(i) : Intrinsically safe (500 V rms test passed)

4wire : 4-wire cable instead of 6-wire cable

length : Cable length not standard

1.2 Essential characteristics

Minimum dead load	: 0 kg
Safe overload	: 150 % of E_{max}
Rated output	: 2 mV/V \pm 0.002 mV/V (\pm 0.02 mV/V, SC option)
Input impedance	: 1000 Ω \pm 10 Ω
Output impedance	: 1000 Ω \pm 10 Ω
Recommended excitation	: 5 - 12 VDC/AC
Excitation maximum	: 15 VDC/AC
Transducer material	: Stainless Steel 17-4 PH
Atmospheric protection	: Hermetically Essential shapes



Description

Number **TC2453** revision 4
Project number 10093237
Page 4 of 5

1.3 Essential shapes

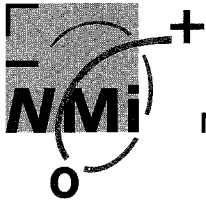
The load cell is built according to drawings:

Description	Drawing number	Rev.	Remarks
Outline dimensions	899177	0	sheet 1 and 2
Finised Produkt All Capacities HCB's	899728	--	sheet 1 and 2
Assembly HCB	899178	0	sheet 1 and 2
HCB-5t	899728	--	sheet 3 and 4

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: TC2453.

Securing:

The connecting cable of the load cell or the junction box is provided with possibility to seal.



Nederlands Meetinstituut

Appendix

Number **TC2453** revision 4
Project number 10093237
Page 5 of 5

Tests carried out for this test certificate on load cell type HCB:

Test	Institute	type, version, remarks
Temperature test and repeatability (20, 40, -10 and 20 °C)	NMi Certin B.V.	250 kg, 500 kg, 5000 kg
Temperature effect on minimum dead load output (20, 40, -10 and 20 °C)	NMi Certin B.V.	250 kg, 500 kg, 5000 kg
Creep test (20, 40 and -10 °C)	NMi Certin B.V.	250 kg, 500 kg, 5000 kg
Minimum load output return (20, 40 and -10 °C)	NMi Certin B.V.	250 kg, 500 kg, 5000 kg and 0.7 * 250 kg
Barometric pressure test at room temperature	NMi Certin B.V.	500 kg
Humidity test	NMi Certin B.V.	250 kg and 500 kg