Australian Government
Department of Industry, Innovation and Science

National Measurement Institute

Supplementary Certificate of Approval

NMI S370

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the instruments herein described.

HBM Model C16AC3/40t Load Cell

submitted by Hottinger Baldwin Messtechnik GmbH
(formerly HBM Wägetechnik GmbH)
Im Tiefen See 45
D-64293 Darmstadt, Hessen
GERMANY

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 60, *Metrological Regulation for Load Cells*, dated July 2004.

This approval becomes subject to review on **1/09/21**, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variant 1 approved – interim certificate issued	26/08/99
1	Pattern & variant 1 approved – certificate issued	8/11/99
2	Pattern & variant 1 reviewed – notification of change issued	1/02/05
3	Pattern & variant 1 reviewed – notification of change issued	27/10/10
4	Pattern & variant 1 reviewed & updated (incl. new images for Figures 1 & 3) – variant 2 approved – certificate issued	9/06/16

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI (or NSC) S370' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI (or NSC) S370' in addition to the approval number of the instrument, and only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

The values of the performance criteria (maximum number of scale intervals etc.) applicable to an instrument incorporating the pattern approved herein shall be within the limits specified herein and in any approval documentation for the other components.

Signed by a person authorised by the Chief Metrologist to exercise their powers under Regulation 60 of the *National Measurement Regulations 1999*.

Dr A Rawlinson

TECHNICAL SCHEDULE No S370

1. Description of Pattern approved on 26/08/99

An HBM model C16AC3/40t load cell of 40 000 kg maximum capacity (Figures 1 & 2, and Table 1) approved for use with up to 3000 verification scale intervals.

Note: The entry of the cable to the load cell may be protected by additional shrinkable tubing.

1.1 Method of Mounting

Mounting is to be in accordance with the manufacturer's instructions and as shown in Figures 1 to 4.

1.2 Markings

Each load cell is marked with the following:

Manufacturer's mark, or name written in full	……
Model number	C16AC3/*t (#)
Serial number	.....
Pattern approval number	NMI (or NSC) No S370
Maximum capacity, E_{max}	..... kg or t

(#) In the model number, '*' represents the maximum capacity in tonnes.

Note: There may be cosmetic differences in the labels from those shown in Figures 1 and 3."

1.3 Table of Specifications

Specifications for the pattern are given in Table 1.

2. Description of Variant 1 approved on 26/08/99

Certain other models and capacities as listed in Tables 1 and 2.

NOTE: The model C16AC3/30t load cell approved herein is physically and electrically interchangeable with the same model load cell described in the documentation of approval NSC No S325.

The model C16AC3/30t load cells approved herein may be used in the same instrument with model C16AC3/30t load cells approved in NSC approval No S325.

In such cases, the load cell parameters to be applied shall be those given in Table 1 of this approval.

3. Description of Variant 2 approved on 9/06/16

Certain other capacities and characteristics of the C16AC3/#t series as listed in Table 3.

TABLE 1 – (pattern and variant 1)

Type: HBM Model C16AC3/*t (#)

Maximum capacity	kg	20 000	30 000	40 000
Accuracy class		C	C	C
Maximum number of verification scale intervals		3000	3000	3000
Minimum value of verification scale interval	kg	2	3	4
Minimum dead load output return value (DR)	kg	3.3	5	6.7
Output rating (nominal)	mV/V	2	2	2
Input impedance (nominal)	Ω	700	700	700
Supply voltage (AC or DC)	V	0.5 - 12	0.5 - 12	0.5 - 12
Cable length (±0.1 m)	m	12, 20 or 40	12, 20 or 40	12, 20 or 40
Number of leads (plus shield)		6	6	6

TABLE 2 – (variant 1)

Type: HBM Model C16AC3/*t (#)

Maximum capacity	kg	60 000	100 000
Accuracy class		C	C
Maximum number of verification scale intervals		3000	3000
Minimum value of verification scale interval	kg	5	16.7
Minimum dead load output return value (DR)	kg	10	16.7
Output rating (nominal)	mV/V	2	2
Input impedance (nominal)	Ω	700	700
Supply voltage (AC or DC)	V	0.5 - 12	0.5 - 12
Cable length (±0.1 m)	m	12, 20 or 40	12, 20 or 40
Number of leads (plus shield)		6	6

(#) In the model number, '*' represents the maximum capacity in tonnes

TABLE 3 – (variant 2)

Type: HBM C16AC3/#t series as listed below, where # in the model number represents the capacity (*Emax)* in tonnes, e.g. the C16AC3/7.5t is of 7.5 t capacity.

Model Number	#=7.5	#=12	#=15
E_{max} (kg)	7 500	12 000	15 000
Class	C	C	C
nLC	3000	3000	3000
V_{min} (kg)	0.75	1.2	1.5
DR (kg)	1.25	2	2.5
mV/V	2		
Input imp (Ω)	700		
Voltage (V)	0.5 - 12		
Cable length (m)	12, 20 or 40		
Number of leads (plus shield)	6		

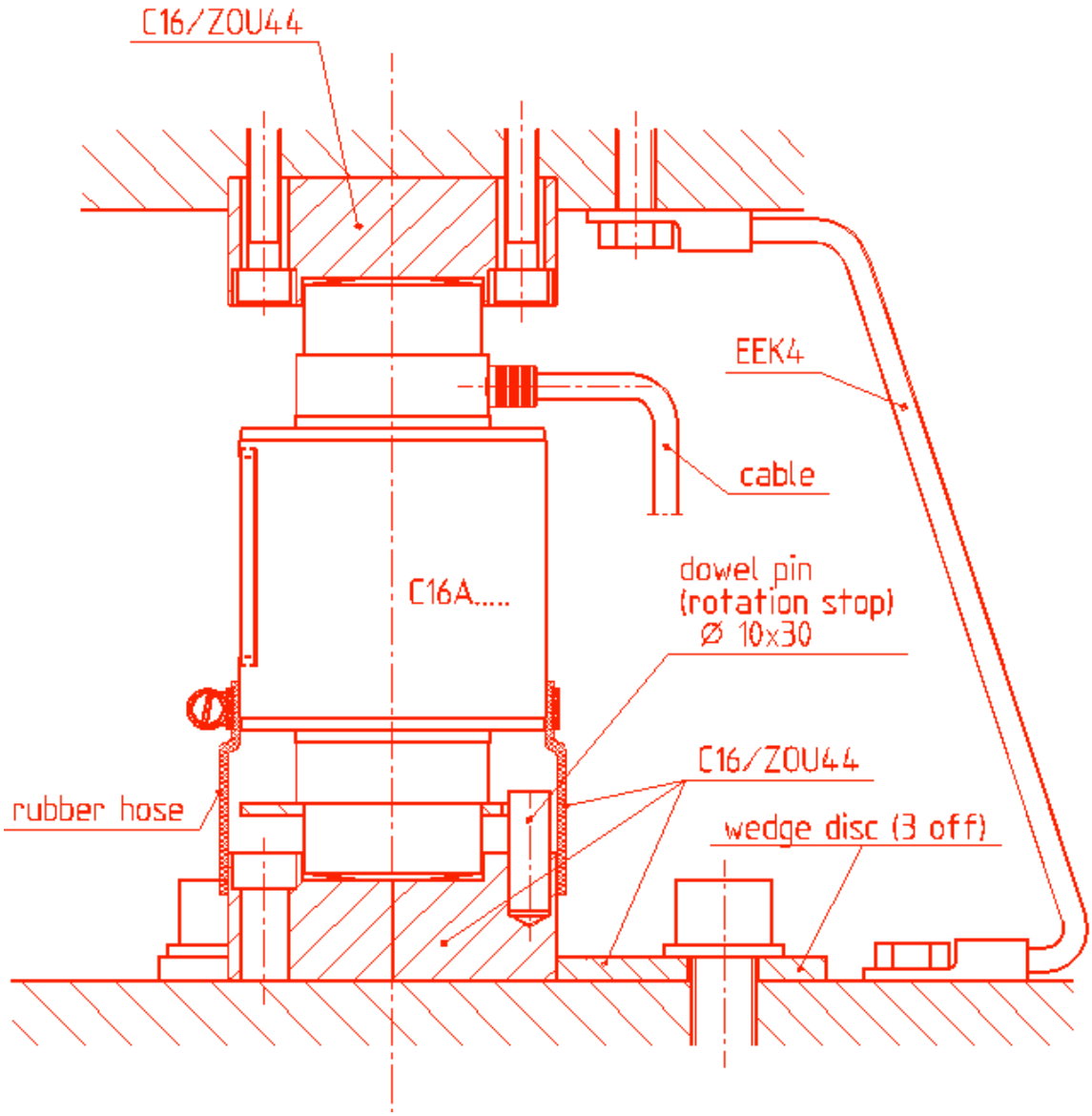
Where:

E_{max}	=	Maximum capacity
E_{min}	=	Minimum dead load
nLC	=	Maximum number of verification intervals
V_{min}	=	Minimum value of verification interval
DR	=	Minimum dead load output return value
mV/V	=	Output rating (nominal)
Input imp.	=	Input impedance (nominal)
Voltage	=	Maximum supply voltage (AC/DC)

FIGURE S370 – 1

HBM Model C16AC3/40t Load Cell (Pattern)

FIGURE S370 – 2

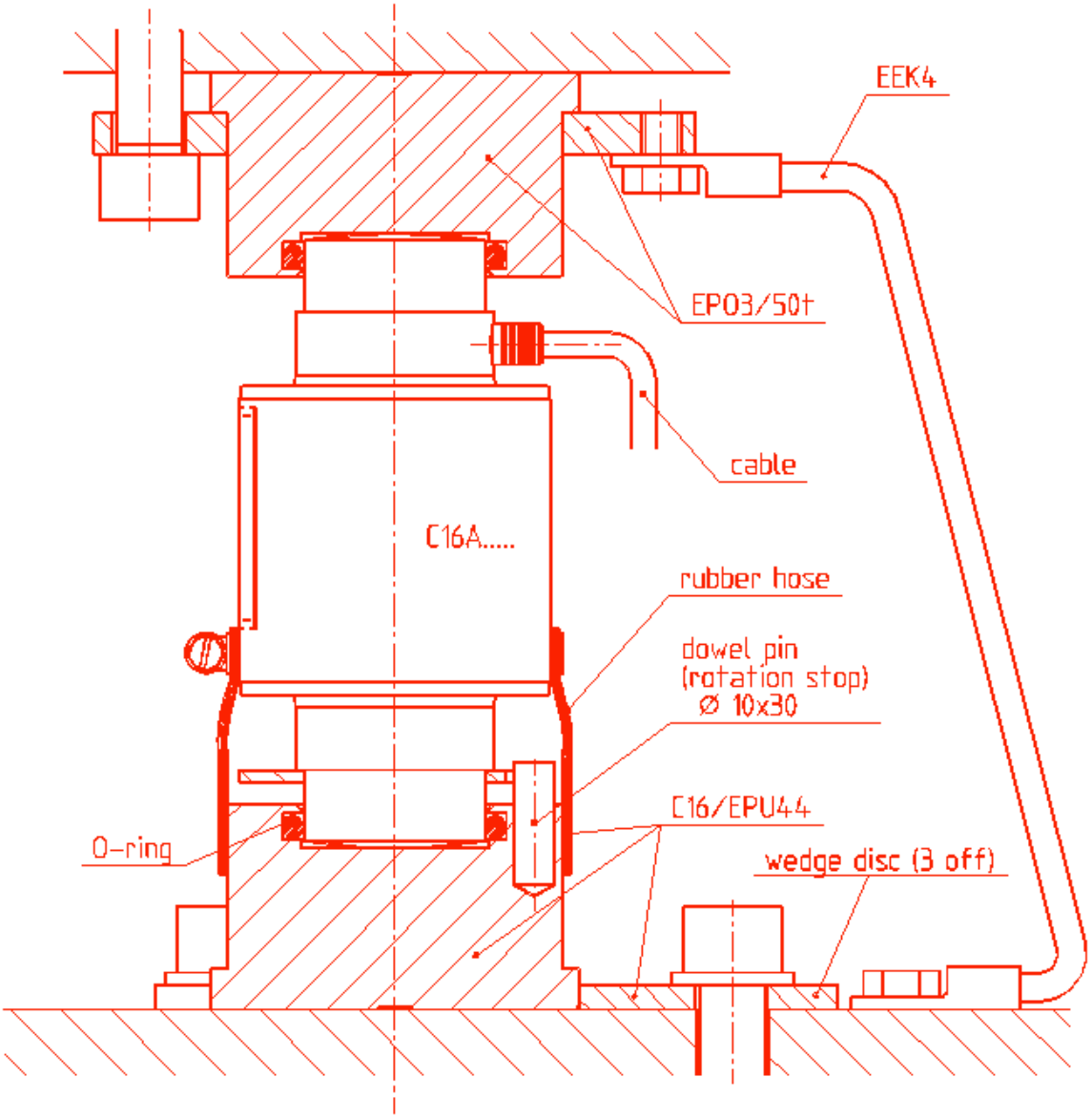


Approved Mounting Method (Pattern & variants)

FIGURE S370 – 3

HBM Model C16AC3/40t Load Cell
With Alternative Mounting (Pattern)

FIGURE S370 – 4



Alternative Mounting Method (Pattern & variants)

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