Australian Government
National Measurement Institute
Bradfield Road, West Lindfield NSW 2070

Supplementary Certificate of Approval

No S498

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 HLCB1C3 550KG Load Cell

submitted by Hottinger Baldwin Messtechnik GmbH
Im Tiefen See 45
D-64293 Darmstadt
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 **1/08/17**, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variant 1 approved – certificate issued	4/07/07
1	Pattern & variant 1 amended, reviewed & updated – certificate issued	16/11/12

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI S498' and only by persons authorised by the submittor.

Instruments incorporating a component purporting to comply with this approval shall be marked 'NMI S498' 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.

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

TECHNICAL SCHEDULE No S498

1. Description of Pattern approved on 4/07/07

An HBM model HLCB1C3 550KG load cell of 550 kg maximum capacity (Figure 1 and Table 1).

1.1 Method of Mounting

Mounting is to be in accordance with the manufacturer's instructions and as shown in Figure 2.

1.2 Markings

Each load cell is marked with the following:

Manufacturer's mark, or name written in full	HBM
Model number	……..
Maximum capacity	…….. kg (or t)
Serial number	……..
Pattern approval mark	S498

1.3 Tables of Specifications

Specifications for the pattern are given below and in Table 1.

2. Description of Variant 1 approved on 16/11/12

Certain other models and with characteristics and specifications as listed below and in Tables 1 to 6.

In all cases	
mV/V	1.94 mV/V except see Note (b) in Tables 2 to 6
Input imp. (ohms)	350
Voltage (V)	15 V max AC/DC
Cable length	3, 6 or 12 m
Number of leads	6 (plus shield)

Where:

Emax	=	Maximum capacity
nLC	=	Maximum number of verification intervals
Vmin	=	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 (DC)

TABLE 1

HBM HLC series load cells of Class C as listed below.

Model	Emax (kg)	Class	n_{LC}	v_{min} (g)	Notes
HLCB1C3 220KG	220	C	3000	22	
HLCA1C3 220KG	220	C	3000	22	
HLCF1C3 220KG	220	C	3000	22	
HLCB1C3 550KG	550	C	3000	49.5	
HLCA1C3 550KG	550	C	3000	49.5	
HLCF1C3 550KG	550	C	3000	49.5	
HLCB1C3 1.1T	1100	C	3000	99	
HLCA1C3 1.1T	1100	C	3000	99	
HLCF1C3 1.1T	1100	C	3000	99	
HLCB1C3 1.76T	1760	C	3000	176	
HLCA1C3 1.76T	1760	C	3000	176	
HLCF1C3 1.76T	1760	C	3000	176	
HLCB1C3 2.2T	2200	C	3000	220	(a)
HLCB1C3 4.4T	4400	C	3000	440	(a)
HLCB1C4 220KG	220	C	4000	22	
HLCF1C4 220KG	220	C	4000	22	
HLCB1C4 550KG	550	C	4000	49.5	
HLCF1C4 550KG	550	C	4000	49.5	
HLCB1C4 1.1T	1100	C	4000	99	
HLCF1C4 1.1T	1100	C	4000	99	
HLCB1C6 220KG	220	C	6000	22	
HLCF1C6 220KG	220	C	6000	22	
HLCB1C6 550KG	550	C	6000	49.5	
HLCF1C6 550KG	550	C	6000	49.5	
HLCB1C6 1.1T	1100	C	6000	99	
HLCF1C6 1.1T	1100	C	6000	99	

Notes:

- (a) For this model cable length is 6 m.
- The models HLCA1, HLCB1 and HLCF1 differ according to the load introduction method (see Figure 1).

  HLCA1 – load introduction through a threaded hole
  HLCB1 – load introduction through a counter bore and thread
  HLCF1 – load introduction through a blind hole

TABLE 2

HBM HLC series load cells of Class D as listed below.

Model	Emax (kg)	Class	n_{LC}	v_{min} (g)	Notes
HLCA1D1 220KG	220	D	1000	62.7	
HLCB1D1 220KG	220	D	1000	62.7	
HLCF1D1 220KG	220	D	1000	62.7	
HLCA1D1 550KG	550	D	1000	156.75	
HLCB1D1 550KG	550	D	1000	156.75	
HLCF1D1 550KG	550	D	1000	156.75	
HLCA1D1 1.1T	1100	D	1000	313.5	
HLCB1D1 1.1T	1100	D	1000	313.5	
HLCF1D1 1.1T	1100	D	1000	313.5	
HLCA1D1 1.76T	1760	D	1000	501.6	
HLCB1D1 1.76T	1760	D	1000	501.6	
HLCF1D1 1.76T	1760	D	1000	501.6	
HLCB1D1 2T	2000	D	1000	570	(b)
HLCB1D1 2.2T	2200	D	1000	627	
HLCB1D1 4.4T	4400	D	1000	1254	
HLCB1D1 10T	10 000	D	1000	2850	(b)

Notes:

- (b) For this model sensitivity is 2 mV/V.
- Class D load cells may only be used in a Class 4 (IIII) weighing instrument.
- The models HLCA1, HLCB1 and HLCF1 differ according to the load introduction method (see Figure 1).

  HLCA1 – load introduction through a threaded hole
  HLCB1 – load introduction through a counter bore and thread
  HLCF1 – load introduction through a blind hole

TABLE 3

HBM HLCx1 series load cells of Class C as listed below.

Model	Emax (kg)	Class	n_{LC}	v_{min} (g)	Notes
HLCA1C3 2T	2000	C	3000	220	(b)
HLCA1C3 2.2T	2200	C	3000	220	
HLCA1C3 4.4T	4400	C	3000	440	
HLCB1C3 2T	2000	C	3000	220	(b)
HLCF1C3 2T	2000	C	3000	220	(b)

Note (b): For this model sensitivity is 2 mV/V

TABLE 4

HBM HLCx1 series load cells of Class D as listed below.

Model	Emax (kg)	Class	n_{LC}	v_{min} (g)	Notes
HLCA1D1 2T	2000	D	1000	570	(b)
HLCA1D1 2.2T	2200	D	1000	630	
HLCA1D1 4.4T	4400	D	1000	1260	

Note: Class D load cells may only be used in a Class 4 () weighing instrument.

TABLE 5

HBM HLCx2 series load cells of Class C as listed below.

Model	Emax (kg)	Class	n_{LC}	v_{min} (g)	Notes
HLCB2C3 220KG	220	C	3000	22	
HLCB2C3 550KG	550	C	3000	49.5	
HLCB2C3 1.1T	1100	C	3000	99	
HLCB2C3 1.76T	1760	C	3000	176	
HLCB2C3 2T	2000	C	3000	220	(b)
HLCB2C3 2.2T	2200	C	3000	220	
HLCB2C3 4.4T	4400	C	3000	440	
HLCF2C3 220KG	220	C	3000	22	
HLCF2C3 550KG	550	C	3000	49.5	
HLCF2C3 1.1T	1100	C	3000	99	
HLCF2C3 1.76T	1760	C	3000	176	
HLCF2C3 2T	2060	C	3000	220	(b)
HLCB2C4 220KG	220	C	4000	22	
HLCB2C4 550KG	550	C	4000	49.5	
HLCB2C4 1.1T	1100	C	4000	99	
HLCF2C4 220KG	220	C	4000	22	
HLCF2C4 550KG	550	C	4000	49.5	
HLCF2C4 1.1T	1100	C	4000	99	
HLCB2C6 220KG	220	C	6000	22	
HLCB2C6 550KG	550	C	6000	49.5	
HLCB2C6 1.1T	1100	C	6000	99	
HLCF2C6 220KG	220	C	6000	22	
HLCF2C6 550KG	550	C	6000	49.5	
HLCF2C6 1.1T	1100	C	6000	99	

Note (b): For this model sensitivity is 2 mV/V

TABLE 6

HBM HLCx2 series load cells of Class D as listed below.

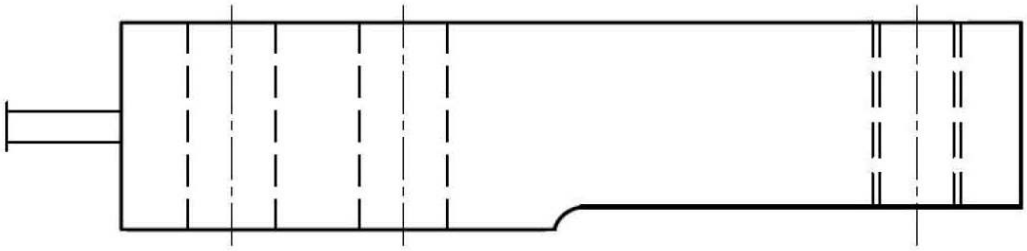
Model	Emax (kg)	Class	n_{LC}	v_{min} (g)	Notes
HLCF2D1 220KG	220	D	1000	62.7	
HLCF2D1 550KG	550	D	1000	156.75	
HLCF2D1 1.1T	1100	D	1000	313.5	
HLCF2D1 1.76T	1760	D	1000	501.6	
HLCB2D1 220KG	220	D	1000	62.7	
HLCB2D1 550KG	550	D	1000	156.75	
HLCB2D1 1.1T	1100	D	1000	313.5	
HLCB2D1 1.76T	1760	D	1000	501.6	
HLCB2D1 2T	2000	D	1000	570	(b)
HLCB2D1 2.2T	2200	D	1000	627	
HLCB2D1 4.4T	4400	D	1000	1254	
HLCB2D1 10T	10 000	D	1000	2850	

Note: Class D load cells may only be used in a Class 4 () weighing instrument.

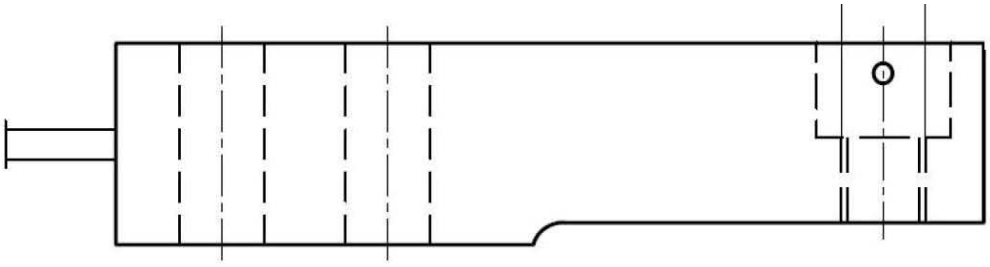
Note (b): For this model sensitivity is 2 mV/V

FIGURE S498 – 1

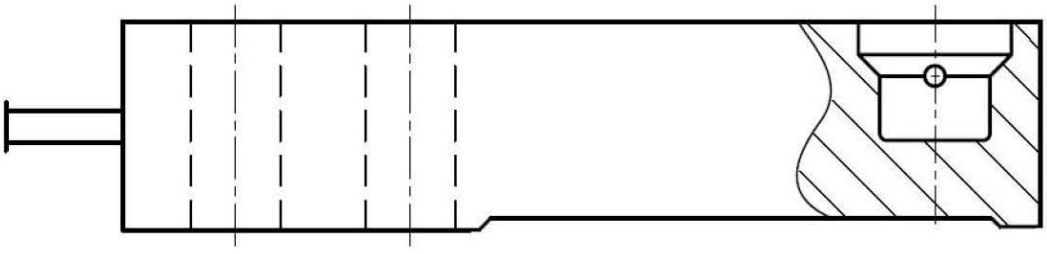
(a) HBM Model HLCB1C3 550KG Load Cell



(b) HBM Model HLCA …



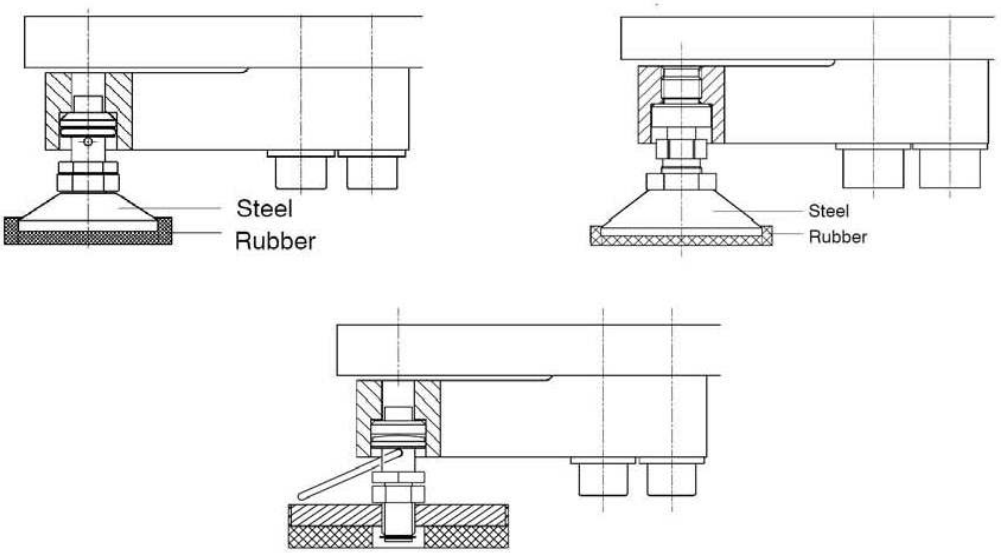
(c) HBM Model HLCB …



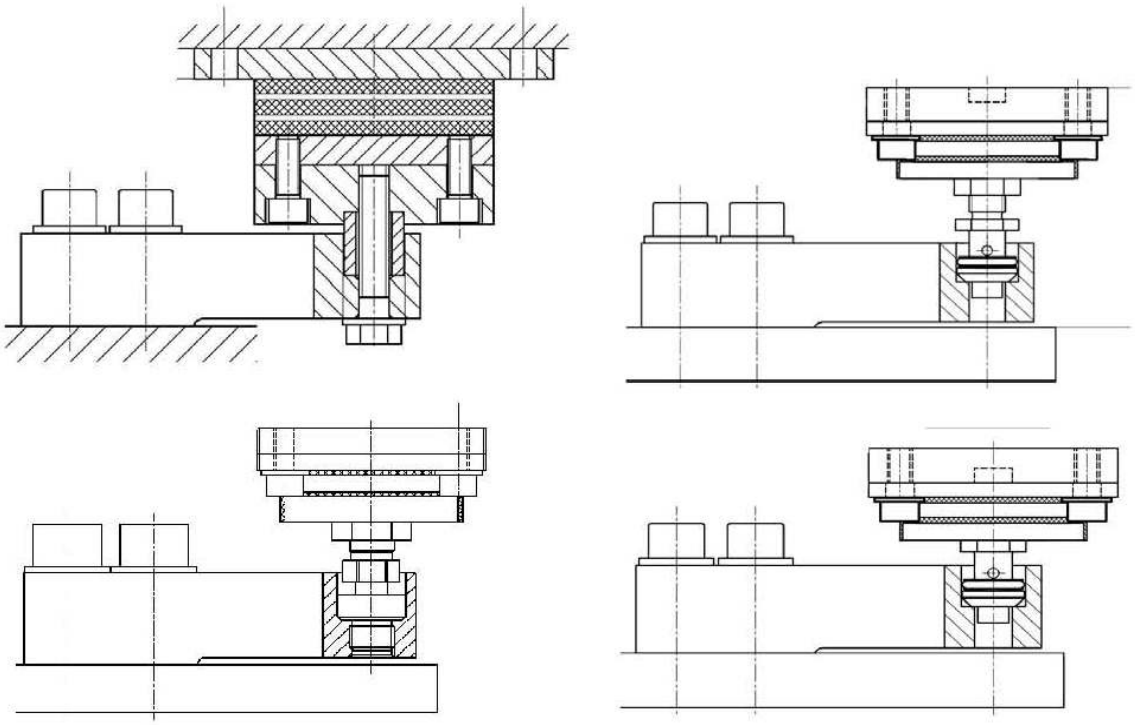
(d) HBM Model HLCF …

HBM Model HLCB1C3 550KG Load Cell and Load Introduction Methods

FIGURE S498 – 2



(a) Loading foot – various



(b) Elastomer bearing – various

Mounting Arrangements

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