



The National Weights and Measures Laboratory

TEST CERTIFICATE NUMBER GB-1046

Issued by: National Weights and Measures Laboratory
Stanton Avenue
Teddington
Middlesex, TW11 0JZ
United Kingdom

Notified Body Number 0126

In accordance with: - Paragraph 8.1 of the European Standard EN45501:1992. The applied error fraction p_{LC} with reference to paragraph 3.5.4 of this standard is 0.7.
- OIML R60, Edition 1991E

Applicant: Tedeo-Huntleigh Europe Limited
37 Portmanmoor Road
Cardiff
CF2 2HB
United Kingdom

In respect of: The model of a 'S' type strain gauged, beam (bending) load cell


Type: Model 620

Manufacturer: Tedeo- Huntleigh Europe Ltd

Characteristics: Accuracy class C3
Further details are provided in the Descriptive Annex

Description and documentation: The load cell is described in the Descriptive Annex. Documents appertaining to this test certificate are held by the National Weights and Measures Laboratory.

Remarks: The load cell has been tested and found to conform with the relevant parts of OIML R60, Edition 1991E and WELMEC Guide 2.4. A summary of the tests carried out in support of this certificate is provided in the Descriptive Annex.

Signature: 
P C KNOWLES
for Director
National Weights and Measures Laboratory

Date: 3 March 1998

Reference: STD 8438

Descriptive Annex

1 TECHNICAL DATA

The technical characteristics which are necessary to use this load cell as a module in a Type Approval Certificate are presented in Table 1.

Table 1 Technical Characteristics

Classification		C3	
Additional marking		-	
Maximum No. of LC verification intervals	n_{LC}	3000	
Maximum capacity in kg	E_{max}	500, 1000, 2000 and 5000	kg
Minimum dead load relative	E_{min}/E_{max}	0	%
Ratio of minimum LC verification interval	$Y=E_{max}/V_{min}$	6250	
Ratio of minimum output deadload return	$Z=E_{max}/(2*DR)$	6820	
Rated output	C	2	mV/V
Maximum excitation voltage		10	V
Input impedance	R_{LC}	400 ± 20	
Temperature rating		-10 / +40	C
Safe overload relative	E_{lim}/E_{max}	150	%

2 TESTS

The tests listed in the Table 2 have been carried out in accordance with OIML R60, Edition 1991E at the National Weights and Measures Laboratories and are documented in Test Report No. TR:00388 (tension) that include 24 pages and TR:00339 (compression) that includes 26 pages.

The tests were performed on the following load cell model 620 in tension and compression:

Serial Number:	10898
Class:	C
E_{MAX} :	500 kg
n_{LC} :	3000
Y:	6250
Z:	6820

Table 2: Tests performed.

Test	R60/R60A No.	Pass/fail
Temperature test and repeatability (at 20, 40, -10 and 20 ° C)	15.1 & 5.1 & 9.0 / A1, A2 , A3	+
Temperature effect on minimum dead load output (at 20, 40, -10 and 20 ° C)	15.1 & 10.1.3 / A1 & A4	+
Creep test (at 20, 40, -10 and 20 ° C)	15.2 & 7.1 / A5	+
Minimum dead load output return (at 20, 40, -10 and 20 ° C)	15.3 77.2 / A5	+
Barometric pressure effects at room temperature*	15.4 & 7.2 / A6	+
Humidity tests*	15.5 & 7.3 / A7	+

* Tested in compression only

+ The load cell has passed the test

- The load cell has failed the test

/ The test is not applicable

3 DESCRIPTION OF THE LOAD CELL

A stain gauged ‘S’ type bending beam load cell constructed from stainless steel. The load cell is welded hermetically sealed against moisture. The load cell has a 6 wire, polyurethane jacket, cable with dual floating screen and a standard length of 5 metres.

A drawing of the Model 620 load cell is presented in figure 1.

4 DOCUMENTATION

The test results and documentation giving a full description of the load cell are kept by National Weights and Measures Laboratories together with the following drawings:

Drawing No.	Description
2BE017	Technical Construction Drawing. Capacities: 500 kg, 1000 kg and 2000 kg.
2BE018	Technical Construction Drawing. Capacity: 5000 kg
2BE007	Specification Sheet. Capacities: 500 kg, 1000 kg and 2000 kg
2BE008	Specification Sheet. Capacity: 5000 kg

5 VALIDITY OF CERTIFICATE

The validity of this certificate assumes that the manufacturing process, materials and sealing of the production load cells are in accordance with that of the tested pattern. Any significant changes are only allowed with the permission of National Weights and Measures Laboratory.

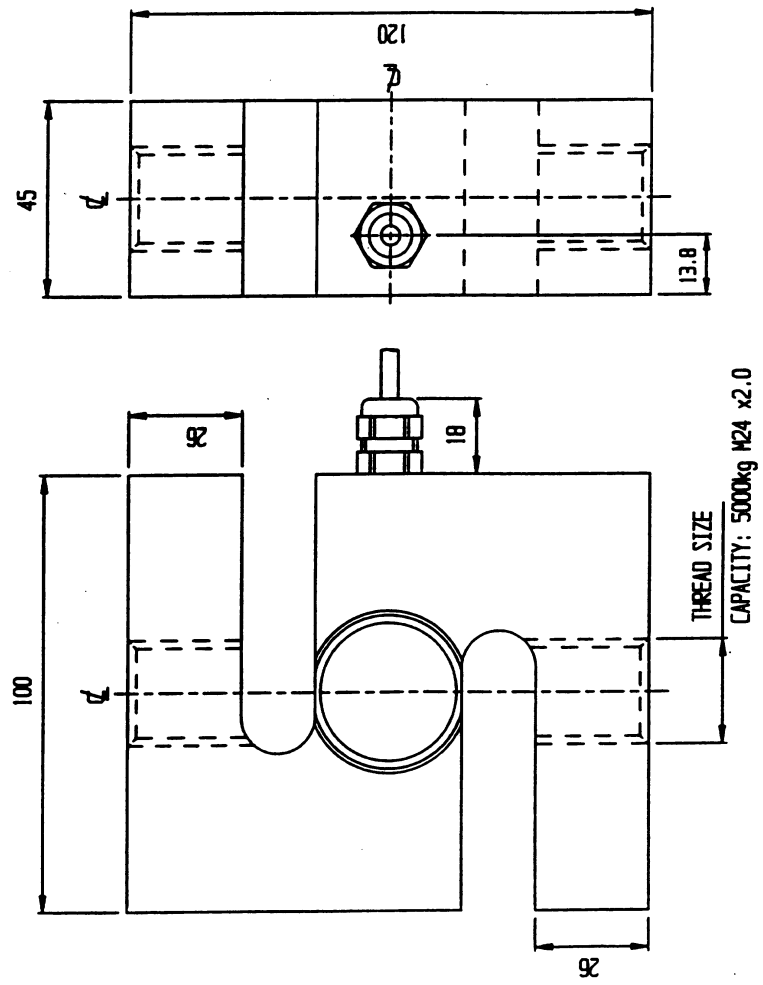
6 ILLUSTRATIONS

Figure 1 Model 620 load cell

7 TEST CERTIFICATE HISTORY

ISSUE No.	DATE	DESCRIPTION
GB-1046	3 March 1998	Test certificate first issued
	-	There have been no revisions

DRG No 2BE008 DO NOT SCALE IF IN DOUBT ASK ALL DIMENSIONS IN mm A3



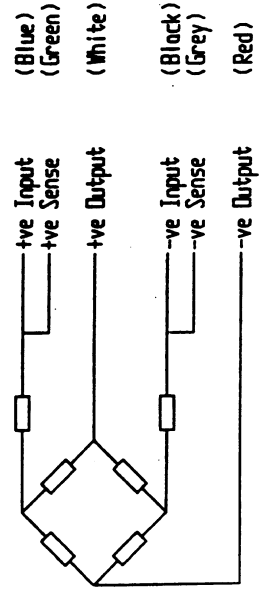
Accuracy Specification	Z	E	F	G	C1	C2	C3
Total Error	0.075	0.05	0.030	0.020	0.050	0.030	0.020
Zero Return (30 mins)	0.065	0.050	0.025	0.017	0.040	0.025	0.017
Temp Effect on Zero / 10°C	0.150	0.070	0.030	0.024	0.040	0.020	0.013
Temp Effect on Output / 10°C	0.070	0.040	0.014	0.012	0.040	0.014	0.012
Output Rated Load m/V	2.2	2.0	2.0	2.0	2.0	2.0	2.0
Tolerance In Rated Load Z	10.0	0.1	0.1	0.1	0.1	0.1	0.1
Zero Balance % D.R.L.	5.0	3.0	2.0	2.0	2.0	2.0	2.0

NOTE: Maximum Errors (+/-) are expressed as a percentage of Rated Load

General Specification

- Recommended Excitation: 10 V d.c / a.c
- Barometric Effect: None
- Input Impedance: 400 ± 20 Ohms
- Output Impedance: 350 ± 3 Ohms
- Compensated Temperature Range: -10°C to +40°C
- Safe Storage Temperature Range: -30°C to +90°C
- Material: Stainless Steel
- Sealing: IP68
- Cable Length: 5 metre (standard) 6 Wire Polyurethane jacket dual Screen (not connected to Load Cell body).

Wiring Schematic Diagram (For Compression Loads)

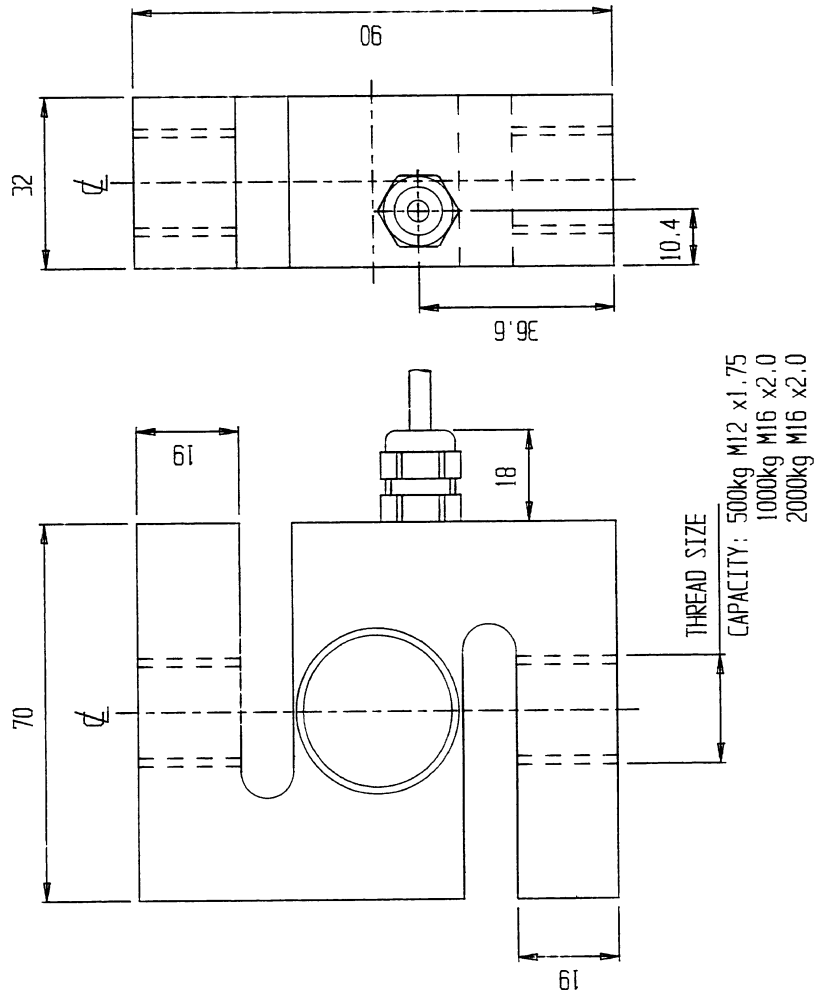


2	6321	19/96	KAM	DRWS
1	5941	15/94	TOP	PHS
ISSUE	E.C.R.	DATE	DRWN	CHKD

TITLE	Model 620 Specification Sheet
DRG No	2BE008
SHEET No	1 of 1
SCALE	NTS

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Figure 1 Model 620 load cell



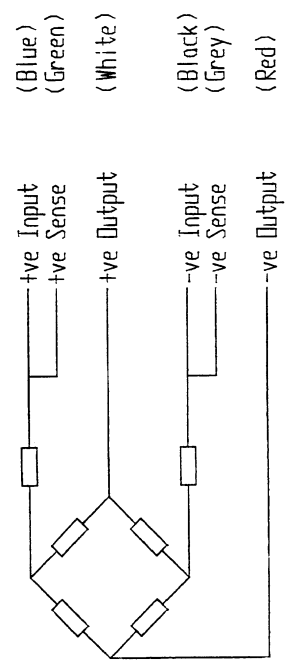
Accuracy Specification	Z	E	F	G	C1	C2	C3
Total Error	0.075	0.05	0.030	0.020	0.050	0.030	0.020
Zero Return (30 mins)	0.065	0.050	0.025	0.017	0.040	0.025	0.017
Temp Effect on Zero / 10°C on Output / 10°C	0.150	0.070	0.030	0.024	0.040	0.020	0.013
Output Rated Load mV/V	0.070	0.040	0.014	0.012	0.040	0.014	0.012
Tolerance On Rated Load %	2.2	2.0	2.0	2.0	2.0	2.0	2.0
Zero Balance % D.R.L.	10.0	0.1	0.1	0.1	0.1	0.1	0.1
	5.0	3.0	2.0	2.0	2.0	2.0	2.0

NOTE: Maximum Errors (+/-) are expressed as a percentage of Rated Load

General Specification

- Recommended Excitation
- Barometric Effect
- Input Impedance
- Output Impedance
- Compensated Temperature Range
- Safe Storage Temperature Range
- Material
- Sealing
- Cable Length

Wiring Schematic Diagram (For Compression Loads)



TITLE Model 620
Specification Sheet

DRG No 2BE007
SHEET No 1 of 1
SCALE 1:1

2	6321	9/96	KAM	ISS.
1	5941	5/94	TDP	PHS
	ISSUE	E.C.R.	DATE	DRWN
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