



**EC Type-Approval Certificate
UK 2939**

Issued by the:

**National Measurement Office
Notified Body Number 0126**

In accordance with the requirements of the Non-Automatic Weighing Instruments Regulations 2000 (SI 2000/3236) which implement, in the United Kingdom, Council Directive 2009/23/EC, this EC Type-Approval Certificate has been issued to:

**A&D Instruments Ltd
24 Blacklands Way
Abingdon Business Park
Abingdon
Oxfordshire OX14 1DY
United Kingdom**

in respect of a Class III or IIII, Non-Automatic Weighing Instrument, designated the A&D SJ-HS series, and having the following characteristics:

Model	Max	Min (20 e)	e
SJ-1000HS	1000 g	20 g	1 g
SJ-2000HS	2000 g	40 g	2 g
SJ-5000HS	5000 g	100 g	5 g
SJ-12KHS	10 / 12 kg	200 g	10 / 20 g
SJ-20KHS	20 kg	400 g	20 g
SJ-30KHS	20 / 30 kg	400 g	20 / 50 g

The necessary data (principal characteristics, alterations, securing, functioning etc) for identification purposes and conditions (when applicable) are set out in the descriptive annex to this certificate.

**Issue Date: 17 January 2013
Valid Until: 16 January 2023
Reference No: TS1201/0053**

**Signatory: P R Dixon
for Chief Executive**



Descriptive Annex

1 INTRODUCTION

The A&D SJ-HS series of instruments are mains or battery powered Class III or IIII, Non-Automatic Weighing Instruments, fitted with a combined semi-automatic zero setting and subtractive tare balancing device, and a semi-automatic calibration and gravity compensation device (see Figure 1).

2 DESCRIPTION

2.1 Construction

2.1.1 Mechanical

Main features:

- 280 mm x 190 mm metal lower-case unit supports the load cell and sensor unit. The unit also houses the main board, which incorporates the seven segment LCD display.
- Keypad consisting of two function keys.
- A CE-marked mains power adapter, providing an 8-9 V DC output to the weighing instrument.
- Load cell

2.1.2 Load Cell

The manufacturer of the load cells is A&D Scales Co.,Ltd, having the following models and capacities:

Model	Maximum Capacity (g)
1LC184-1K	1000
1LC184-2K	2000
1LC185-5K	5000
1LC185-12K	12000
1LC185-20K	20000
1LC185-30K	30000

2.1.3 Keyboard

The keyboard consists of two functional keys:

- ON/OFF - switches the display on and off
- RE-ZERO - sets the display to zero. The re-zero key is a combined semi-automatic zero setting subtractive tare-balancing device.

2.1.4 Display

The LCD display consists of five 2.5 cm high, seven segment fields to display the weight value, and an additional field to display the units.

Up to four enunciators can be displayed, to indicate stable, polarity, net or zero. The STABLE indicator indicates when the reading is stable. The NET indicator indicates when NET weight is displayed when the tare function is used. The ZERO indicator indicates when the scale zero is correct. The polarity indicator indicates that the reading is negative when illuminated and positive when not illuminated.

2.1.5 Circuitry

All signal processing and communications with the load cell are achieved from the control circuitry within the main unit.

2.2 Operation

2.2.1 Switch on

On power up the instrument displays all segments for a few seconds and the 0 will be displayed.

2.2.2 Automatic power-off function

If the unit is left on and the stable indicator is displayed, an automatic power-off function turns the power off after approximately five minutes. To disable this function the ON/OFF key must be pressed at the same time as the RE-ZERO key. P3.X will be displayed. Release both keys and the scale returns to the weighing mode.

2.2.3 Initial zero setting

Initial zero setting is possible between $\pm 10\%$ of max capacity.

2.2.4 Zero tracking

Zero tracking operates between $\pm 2\%$ of maximum capacity. The maximum speed of tracking is 0.5 d per second.

2.2.5 Combined semi-automatic zero-setting and subtractive tare balancing device.

The subtractive tare and the semi-automatic zero devices are operated by the same function key, and are controlled by software.

Subtractive semi-automatic tare balancing facility is provided and there is prevention of use above Max when 'E' is indicated on the display.

The combined zero/tare key (labelled RE-ZERO) if the load is below 2 % of maximum capacity initiates the zero-setting function, if the load is above 2 % of maximum capacity the same key initiates the subtractive tare function.

2.2.6 Semi-automatic calibration and gravity compensation device

In calibration mode the instrument may be calibrated using a weight or by entering a local gravity value.

2.2.7 Over-range

Loads greater than Max + 9 e result in an error code shown as 'E' in the centre of the weight display. The stability enunciator is blanked for unstable loads.

3 TECHNICAL DATA

3.1 The instrument operates on 8-9 V DC, the power is supplied to the instrument by a $230 \pm 10\%$ V AC 50 Hz Power supply unit.

4 PERIPHERAL DEVICES AND INTERFACES

4.1 Interfaces

There are no peripheral devices present.

5 SOFTWARE

The scale configuration and calibration parameters are stored in the EEPROM. The display indicates the software version number by, when power is off, press and hold RE-ZERO key and press POWER key. Release both keys to display software version. The software version will be in the format of "P3.X, where X indicates the non-legally relevant software which may be modified.

6 APPROVAL CONDITIONS

6.1 Legends

6.1.1 The instrument bears the following legends (see Figure 2):

Max
Min
e =

6.1.2 The instrument shall bear the following legends:

CE mark
Verification mark
Green M
Class
Serial number
Manufacturers mark or name
Certificate number

6.1.3 The SJ-HS series of instruments are not to be used for direct sales to the public.

7 LOCATION OF SEALS AND VERIFICATION MARKS

The data plate, green M sticker and the verification mark are mounted on the right hand side of the instrument (see Figure 3).

A wire and lead seal sealing the two entry ports on the bottom of the instrument prevent access to the load cell, main circuit board and calibration lock switch. (see Figure 4).

The wire and lead seal may have the mark of a verification officer, or alternatively, the manufacturers mark.

8 AUTHORIZED ALTERNATIVES

There are no authorised alternatives

9 ILLUSTRATIONS

- Figure 1 SJ-HS NAWI
- Figure 2 Display
- Figure 3 Location of data plate
- Figure 4 Sealing diagram

10 CERTIFICATE HISTORY

Issue No.	Date	Description
UK 2939	17 January 2013	Type approval first issued
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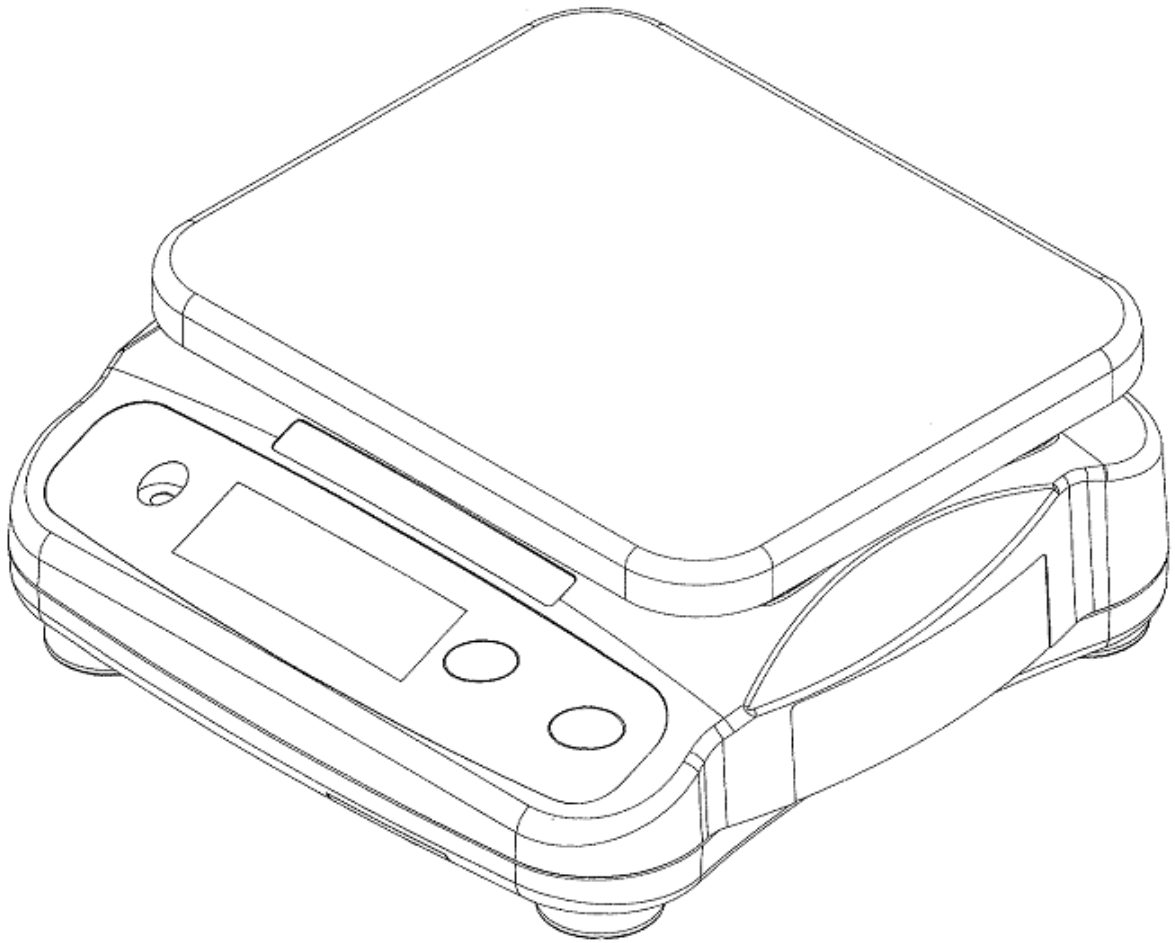


Figure 1 SJ-HS NAWI

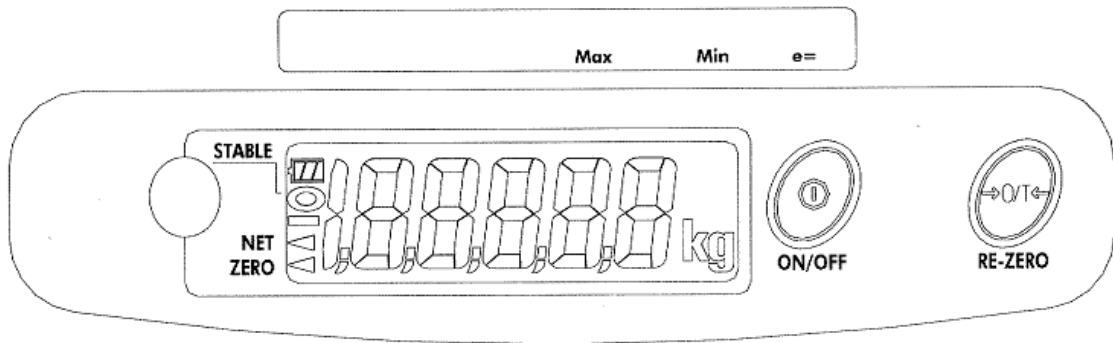


Figure 2 Display

Cert. No.	(III)
	Max Min e = T = -
A&D INSTRUMENTS LTD.	S/N

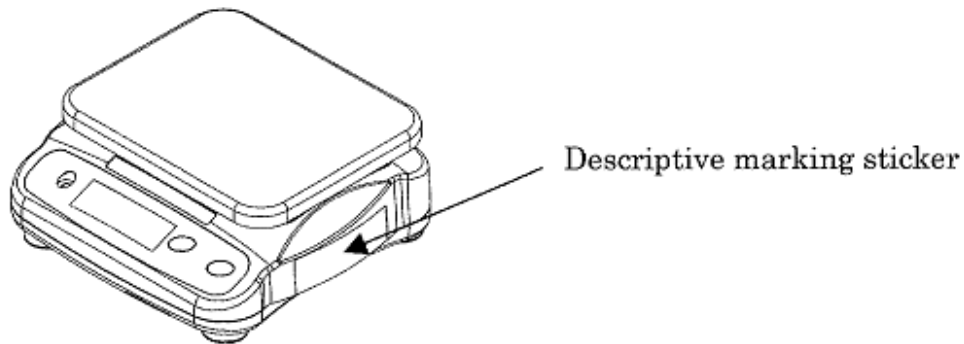


Figure 3 Location of data plate

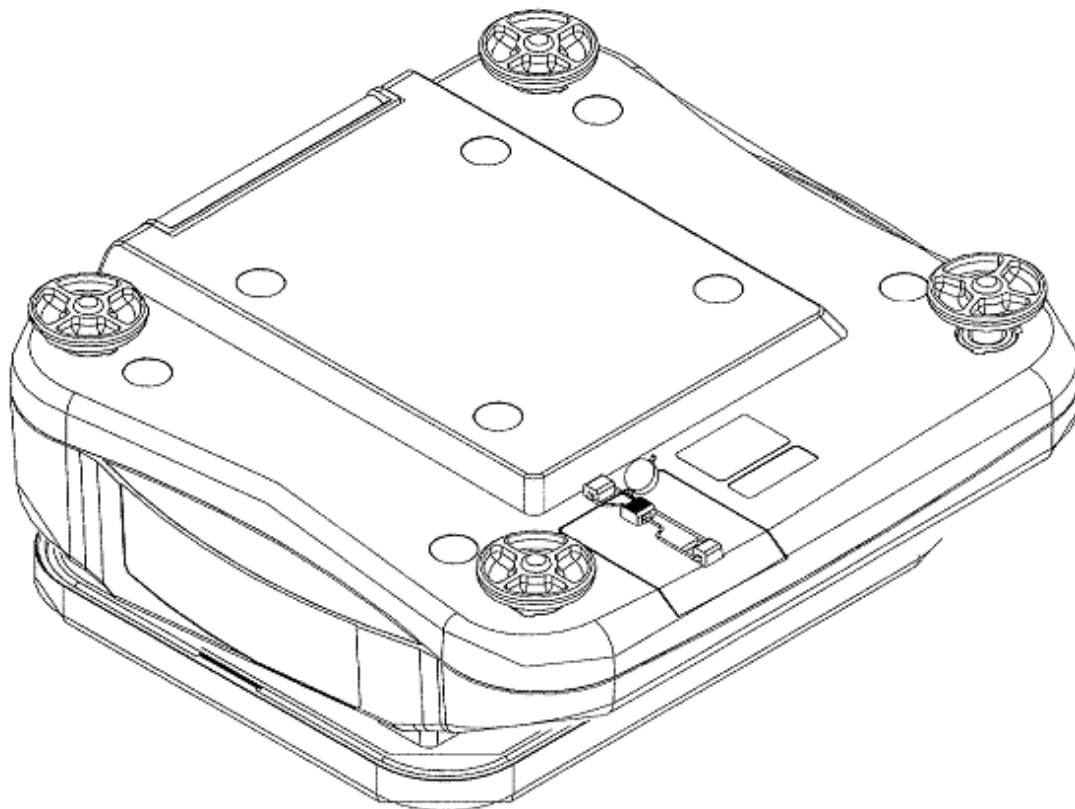


Figure 4 Sealing diagrams