



United Kingdom of Great Britain and Northern Ireland

Certificate of EC type-examination of a measuring instrument

Number: UK/0126/0015

issued by the Secretary of State for Innovation, Universities and Skills
Notified Body Number 0126

In accordance with the requirements of the Measuring Instruments (Automatic Gravimetric Filling Instruments) Regulations 2006 (SI 2006/1258) and the Measuring Instruments (Non-Prescribed Instruments) Regulations 2006 which implement, in the United Kingdom, Council Directive 2004/22/EC, this certificate of EC type-examination has been issued to:

**BTH UK Ltd
Unit 4 Butterly Croft
Business Centre
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Derbyshire
DE5 3QL
United Kingdom**

in respect of an automatic gravimetric filling instrument designated the BTH-MFS Net weigher and having the following characteristics:

<i>Reference accuracy class:</i>	$\geq Ref(0.2)$
<i>Maximum capacity:</i>	$\leq 60000\text{ g}$
<i>Minimum fill:</i>	$\geq 2500\text{ g for accuracy class (0.2)}$ $\geq 1000\text{ g for accuracy class (0.5)}$ $\geq 250\text{ g for accuracy class (1.0)}$
<i>Scale interval (d):</i>	$\geq 10\text{ g}$

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.

A handwritten signature in black ink, appearing to read 'P R Dixon'.

Signatory: P R Dixon
for Chief Executive
National Weights & Measures Laboratory
Department for Innovation, Universities & Skills
Stanton Avenue
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Middlesex TW11 0JZ
United Kingdom

Issue Date: 5 September 2007
Valid Until: 4 September 2017
Reference No: T1105/0019

Descriptive Annex

1 INTRODUCTION

The BTH-MFS (Figure 1) is a stand alone automatic net weighing system. The net weigher can either be used on a simple semi-automatic sack filling spout with manual sack placing or incorporated into a fully automated sack presentation and closing line.

2 FUNCTIONAL DESCRIPTION

2.1 General

For each net weigher in a system (on some fully automated systems for the weigher to match the throughput capacity there may be 2 net weighers installed in a duplex system) there will be an individual controller and weight indicator. Each weight controller indicator will display and record the weight information for its assigned net weighing head. The weight controller indicator will have digital I/O to control the function of the net weigher and can be used to control either a simple semi-automatic bag clamp or communicate with a fully automated system. There is also the option of the weight controller indicator interfacing with other equipment through various digital data interface modes.

The weigh hopper is suspended on 3 load cells which are balanced using trimming resistors located in the load cell junction box located within the net weigher housing. There are inspection hatches (Figure 2) in the weigh hopper for maintenance and calibration purposes and can be used to load test weights onto the hopper.

2.2 Controller and Indicator

2.2.1 The weight controller and indicator are manufactured by Sigmatek. The indicator unit is typically the CET281, as shown in Figure 3; other compatible indicators manufactured by Sigmatek may be used. The weight controller is the CAI 042 plug-in module (Figure 4).

2.3 Load cells

2.3.1 The load cells are manufactured by Tedeo-Huntleigh and are designated Model: 355.

2.4 Devices

2.4.1 The instrument is provided with the following devices:

- Determination of stability of equilibrium
- Zero indication
- Automatic zero setting, after every N weighing cycles where N is a number between 1 and 999
- Semi-automatic zero-setting device
- Initial zero-setting
- Indication of stable equilibrium

- The calibration mode is secured with a password
- Acting upon significant faults
- Indications other than primary indications

3 TECHNICAL DATA

3.1 The instrument has the following weighing parameters:

Reference accuracy class:	≥ Ref (0.2)
Maximum capacity:	≤ 60000 g
Rated minimum fill:	≥ 2500 g for accuracy class (0.2) ≥ 1000 g for accuracy class (0.5) ≥ 250 g for accuracy class (1.0)
Scale interval (d):	≥ 10 g
Environmental classification:	- 10 °C to + 40°C, closed, non-condensing
Electromagnetic classification:	E1

3.2 Documentation and drawings

Description	Reference	Remarks
CAI 042 PCB layout	60202A.pcb	Layout, 2 pages
CAI 042 Parts list	60202A.pcb	5 pages
Operation Manual	August 2007	
Weighing mechanism	UK-10-L-100	

3.3 Software

3.3.1 The metrology software version number is 44BCBBEE. This number is displayed on the Info screen after pressing the key sequence:

- In the opening screen press the fourth button, main (F4), which takes you to the totals screen
- Press the fourth button, Calib (F4), which takes you to the calibration screen, from here you can see the hardware and software version numbers of the weighing module and a counter showing the number of calibrations performed.

4 PERIPHERAL DEVICES AND INTERFACES

4.1 Interfaces

The instrument may have the following interfaces:

- RS232 / RS485
- Ethernet (Sigmatek protocol only)
- USB
- CAN
- DIAS
- Digital I/O

4.2 Peripheral devices

The instrument may be connected to any peripheral device that has been issued with a test certificate by a Notified Body responsible for Annex B (MI-006) under Directive 2004/22/EC in any Member State and bears the CE marking of conformity to the relevant directives; or

A peripheral device without a test certificate may be connected under the following conditions:

- it bears the CE marking for conformity to the EMC Directive 89/336/EEC;
- it is not capable of transmitting any data or instruction into the weighing instrument, other than to release a printout, checking for correct data transmission or validation;
- it prints weighing results and other data as received from the weighing instrument without any modification or further processing; and
- it complies with the applicable requirements of Paragraph 8.1 of Annex I.

5 APPROVAL CONDITIONS

The certificate is issued subject to the following conditions:

5.1 Legends and inscriptions

5.1.1 The specification plate of the instrument is secured to the main body and bears the following legends:

- ‘CE’ marking
- Supplementary metrology marking
- Notified body identification number
- Accuracy class
- Serial number
- Manufacturer’s mark or name
- Certificate number

5.2 The instrument shall be permanently installed.

5.3 The instrument shall be inhibited from operation for a minimum of 15 minutes after switching on.

6 LOCATION OF SEALS AND VERIFICATION MARKS

6.1 Security and sealing

6.1.1 The calibration mode is secured with a password. An event counter number increases each time a parameter is changed or a calibration change is made or saved. After the instrument is calibrated the event counter number is indelibly marked on the event counter plate which is securely mounted on the instrument.

6.1.2 The load cell junction box shall be secured with a tamper evident seal.

7 ALTERNATIVES

There are no alternatives.

8 ILLUSTRATIONS

- Figure 1 BTH-MFS net weigher
- Figure 2 Inspection hatches showing control mechanisms
- Figure 3 Indicator unit, CET281
- Figure 4 DMS module, CAI 042
- Figure 5 Location of the load cell junction box
- Figure 6 Data plate

9 CERTIFICATE HISTORY

ISSUE NO.	DATE	DESCRIPTION
UK/0126/0015	5 September 2007	Type examination certificate first issued.



Figure 1 BTH-MFS net weigher

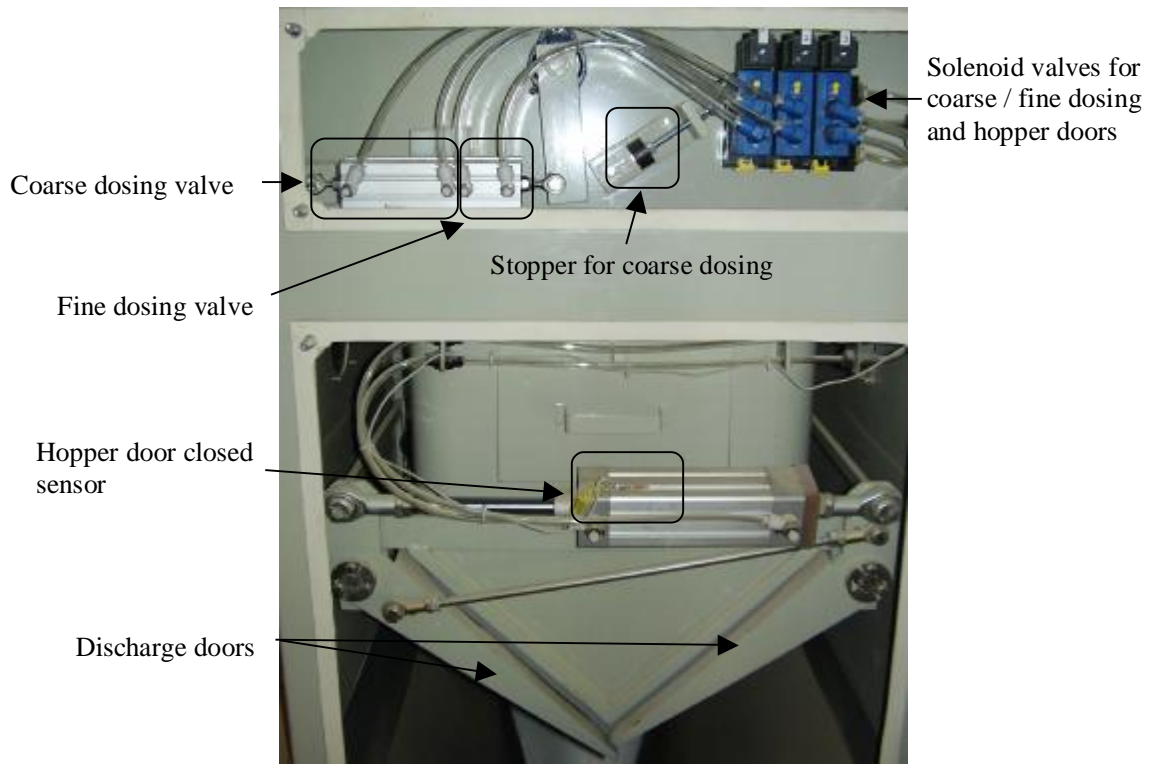


Figure 2 Inspection hatches showing control mechanisms



Figure 3 Indicator unit, CET281



Figure 4 DMS module, CAI 042



Figure 5 Location of the load cell junction box



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Manufacturer's name	BTH (UK) Ltd
Model designation	BTH_MFS net weigher
Serial number	
Product designation	
Temperature range	-10°C to +40°C
Electrical supply voltage	230 / 415V ac
Electrical supply frequency	50 / 60 Hz
Average number of loads per fill	N/A
Rated minimum fill	
Maximum rate of operation	
Type approval number	
Accuracy class	X() 'R61'
Reference accuracy class	Ref (0.2) 'R61'
Scale interval	20g
Maximum capacity	
Minimum capacity	
Calibration counter	

Figure 6 Data plate

Price £10.00 net

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NATIONAL WEIGHTS AND MEASURES LABORATORY

Department of Innovation, Universities and Skills

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