Nederlands Meetinstituut

EC type-approval certificate

Number **T5379** revision 9
Project number 804055

Issued by
NMi Certin B.V.
Hugo de Grootplein 1
3314 EG Dordrecht
The Netherlands

Notified Body Number 0122

In accordance with
The Council Directive 90/384/EEC on non-automatic weighing instruments.

Applicant
Mettler-Toledo GmbH
Im Langacher
8606 Greifensee
Switzerland

In respect of
A class (I), (II) or (III), electronic, single- or multi-interval **non-automatic weighing instrument.**
Manufacturer : Mettler-Toledo
Type : AB-S, AB-L, GB-S, PB-S, PB-L, JB-C, JB-L-C, JB-G and JB-L-G.

Characteristics

	AB-S AB-L	JB-C[1, 2)] JB-L-C[1, 2)]	AB-S	GB-S / PB-S / PB-L JB-G / JB-L-G	JB-C[1, 2)]	PB-S
Class	(I)		(I)	(II)	(II)	(III)
Max	≤ 320 g	≤ 1600 ct	≤ 220 g	≤ 8100g	≤ 2550 ct	≤ 8100 g
e	≥ 1 mg	≥ 5 mct	≥ 1 mg	≥ 10 mg	≥ 0,1 ct	≥ 1 g
d	e = d or e = 10d		e = d, e = 10d or e = 100d	e = d, e = 10d or Delta range		e = d
n	≤ 320000		≤ 220000	≤ 61000		≤ 8100
Temperature range	+12.5 °C / +27.5 °C		+10 °C / +30 °C	+10 °C / +30 °C		+5 °C / +40 °C

[1)] Can have weighing ranges in classes (I) and (II)
[2)] Weight indication in gram and carat as fixed units.
"-L" is without internal adjustment device

In the description number T5379 revision 9 further characteristics are described.

Valid until
30 September 2018

Nederlands Meetinstituut
Hugo de Grootplein 1
3314 EG Dordrecht
Telephone +31 78 6332332
Telefax +31 78 6332309

NMi B.V.
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Nederlands **Meetinstituut**

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Description and documentation	The instrument is described in the description number T5379 revision 9 and documented in the documentation folder T5379-5, appertaining to this EC type-approval certificate.
Remarks	This revision replaces the earlier versions, except for its documentation folder.

Dordrecht, 30 September 2008
NMi Certin B.V.

i/a

Ing. C. Oosterman
Manager Product Certification

1 General information about the non-automatic weighing instrument

All properties of the non-automatic weighing instrument, whether mentioned or not, may not be in conflict with the legislation.

1.1 Essential parts

The electronics;
The mechanical assembly with weighing cell.
EMC protection measures:
- Ferrite bead between the power input and the main board;
- The load receptor and the case of the scale are made of metal;
- The measuring cell is located in a separate metal compartment inside the scale base.

1.2 Essential characteristics

Power supply:
- 12 V AC, 50 Hz or
- 12 V DC.

1.3 Essential shapes

The non-automatic weighing instrument is built according to the drawings:
- AB-S/ AB-L balances, drawing number ME-240863;
- PB-S/ PB-L/ JB-C balances, drawing number ME-240864;
- GB-S/ PB-S/ PB-L/ JB-G balances, drawing number ME-240865.

The data plate is secured against removal by sealing or will be destroyed when removed.
To secure components that may not be dismantled or adjusted by the user, the non-automatic weighing instrument has to be secured in a suitable manner on the locations indicated in the drawing Position of verification- and securing stickers, ME-240868.

The securing component has to bear either:
- A mark of the manufacturer laid down in a notified body approved quality system (Annex II of the directive 90/384/EEC), or
- An official mark of a Member State of the EEC, or another party to the EEA agreement.

Inside the cabinet is a calibration lock, located on the backside of the instrument.

1.4 Conditional parts

The non-automatic weighing instrument may be equipped with peripheral equipment which is used for the applications listed in article 1(2)(a) of the EC Directive (90/384/EEC), if the peripheral equipment is certified to be connected to an EC type-approved non-automatic weighing instrument by a Notified Body appointed to certify non-automatic weighing instruments according to paragraph I of Annex II of the EC directive on Non-Automatic Weighing Instruments.
A level indicator which shows that the maximum permissible tilt is being exceeded.
A battery pack that switches the instrument off when the voltage is too low to guarantee correct functioning of the instrument.

1.5 Non-essential parts

The non-automatic weighing instrument may be connected to non-essential devices, for example but not limited to bar code readers, foot switches, second display's and cash drawers, provided that:
- They do not present primary data used for purposes mentioned in article 1(2)(a) of the EC Directive (90/384/EEC) unless the "preliminary observations" in Annex 1 of this directive is satisfied.
- They do not lead to an instrument having other essential characteristics than those fixed by this type-approval document.

AC/AC-adapter.

2 Information about the main constituent parts of the non-automatic weighing instrument

2.1 The electronics

2.1.1 Essential parts

Description	Drawing number	Rev.	Remarks
Mainboard 68000 Stuecklisten	ME-11103720 11103720	E -	2 pag.(Monoblock) 6 pages
Mainboard 68000 BL Stuecklisten	ME-11103721 11103721	E -	2 pag.(Monoblock) 6 pages
Mainboard 68000 (AB-S) Stueckliste	ME11135172 ME-11135172	A -	(Traditional cell) 5 pages
Zellenprint (AB-S/ AB-L/ JB-C) Stuecklisten	ME-225615 225615	D -	(Monoblock) 2 pages
Transducer board (PB-S/ PB-L/ GB-S/ JB-G) Stuecklisten	ME-11103705 11103705	B -	(Monoblock) 2 pages
Transducer board (AB-S) Stueckliste	ME-238534 ME-238536	F -	(Traditional cell) 2 pages

2.1.2 Essential characteristics

List of devices:
- Initial zero-setting;
- Zero-tracking;
- Combined semi-automatic zero-setting and subtractive tare balancing;
- Indication of unstable equilibrium;
- Determination stability of equilibrium;
- Automatic span adjustment with internal calibration mass; that operates:

  For AB-S/JB-C
  - 1 hour after switch on and
  - 2 hours after switch on and
  - temperature: at least every 2 °C and
  - time: at least every 150 hours.

  For GB-S/PB-S/JB-G
  - After switch on and
  - 2 hours after switch on and
  - temperature: at least every 2 °C and
  - time: at least every 150 hours.
- Semi-automatic span adjustment with internal calibration mass;
- Semi-automatic span adjustment with external calibration mass (only for class (I));
- Auxiliary indicating with differentiated scale interval,
  (for AB-S models having a d<0.1g, the auxiliary indicating is not differentiated);
- Piece counting;
- Percentage mode;
- Weighing unstable samples;
- Weight unit selection (kg/g/ct) or (g/mg/ct) (ct only for class (I) and (II));
- Display indications other than primary indications;
- Acting upon significant faults;
- Checking the display;
- Underhook weighing.

2.1.3 Conditional parts

AC/DC adapter (ME-11106930 or ME-11132070):
- Input 110-240 V AC
- Output 12 V DC
- I_{max} 2.25 A
- P_{max} 27 W.

The interface section is located on the main board. The non-automatic weighing instrument may be equipped with one or more of the following protective interfaces that have not to be secured:
- RS232C;
- LC.

2.1.4 Non-essential parts

Display;
Keyboard.

2.2 The mechanical assembly with weighing cell

2.2.1 Essential parts

Description	Drawing number	Rev.	Remarks
Principle Schematic	SK-1461	14.05.98	(Monoblock)
Principle Schematic	SK-220994	25.10.93	(Traditional cell)
Measuring cell (AB-S/ AB-L)	ME-240866	-	Max = 310 g (Monoblock)
Measuring cell (GB-S /PB-S/ PB-L/ JB-G)	ME-240867	-	Max = 8100 g (Monoblock)
Measuring cell (AB-S/ PB-S/ PB-L/ JB-C)	ME-240866 A	-	Max = 610 g (Monoblock)
Messzelle (AB-S /AG)	ME-11505040 A	-	(Traditional cell) Max = 220 g

2.2.2 Essential shapes

See drawings:
- AB-S/ AB-L Balances, drawing number ME-240866;
- AB-S /AG Analysenwaagen, drawing number ME11505040 A;
- GB-S /PB-S/ PB-L/ JB-G Balances, drawing number ME-240867;
- AB-S/ PB-S/ PB-L/ JB-C Balances, drawing number ME-240866A.

3 Approval conditions

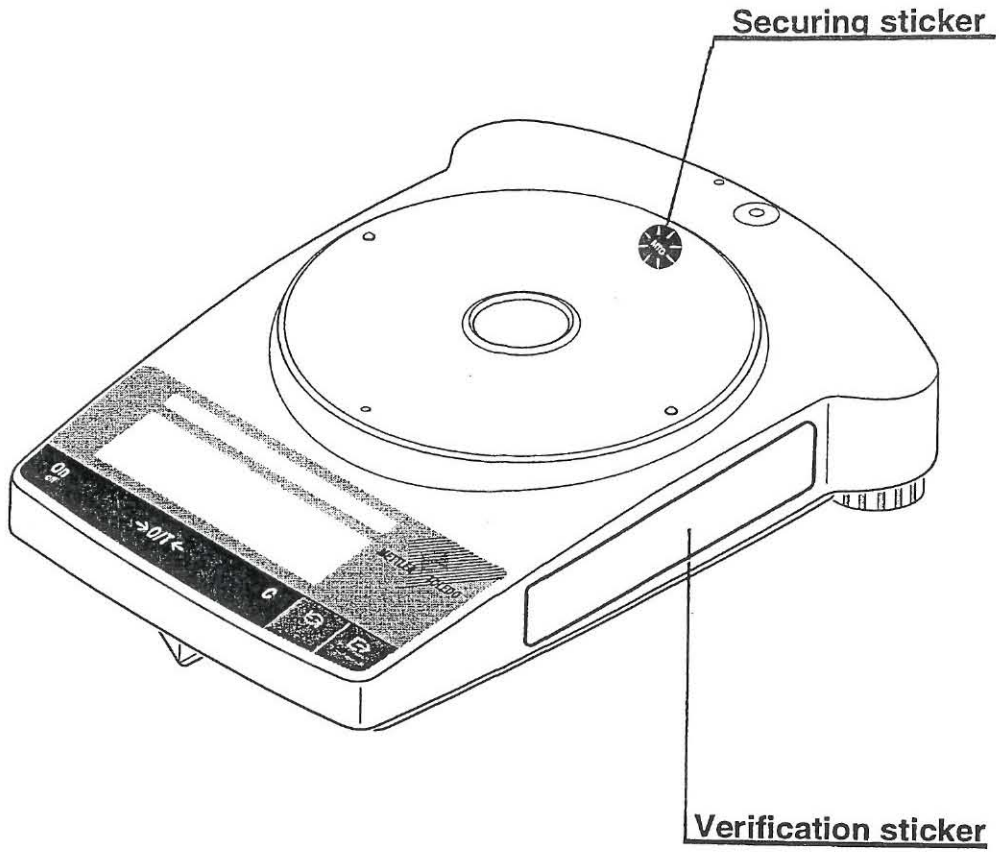
See chapter 1.3, essential shapes.

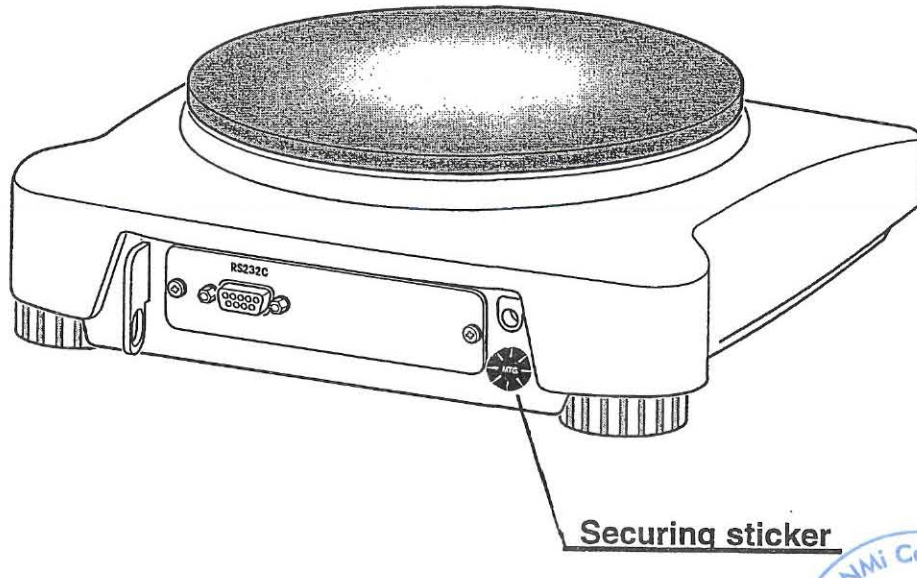
4 Seals and verification marks

See chapter 1.3, essential shapes.

5 CE-mark of conformity and inscriptions

The marks, facilities for the marks and the inscriptions on the non-automatic weighing instrument fulfils the requirements of article 1 of Annex IV.





Erstellt Geändert	20.05.1998 H. Schaffner	Hersteller-Code Teileklasse	MacDraw™Pro Eichwesen

Mettler-Toledo GmbH
PO LabTec
CH-8606 Greifensee

Hinweis **AB-S and PB-S Balances**

Position of verification- and securing stickers

ME-240868

Ersatz für Ø CD	Ersetzt durch	Blatt	METTLER-TOLEDO