

Member State of OIML  
Germany



OIML Certificate N°  
R76/1992-DE1-04.04

## OIML CERTIFICATE OF CONFORMITY

### Issuing Authority

Name: Physikalisch-Technische Bundesanstalt  
Address: Bundesallee 100, 38116 Braunschweig  
Person responsible: Dr. Roman Schwartz

### Applicant

Name: Mettler-Toledo GmbH  
Address: Im Langacher, 8606 Greifensee  
Switzerland

Manufacturer of the certified type is the applicant.

### Identification of the certified type

Type: XP...S

Further characteristics see page 2

This Certificate attests the conformity of the above identified type (represented by the sample or samples identified in the associated Test Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

**R76-1**, edition 1992, including Amendment 1 (1994),  
for accuracy class(es) **I** **II**

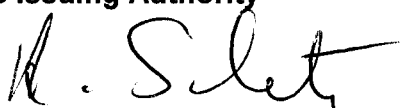
This Certificate relates only to the metrological and technical characteristics of the type of instrument covered by the relevant OIML Recommendation identified above.

This Certificate does not bestow any form of legal international approval.

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R76/1992-DE1-04.04

The conformity was established by the results of tests and examinations provided in the associated Report No. 1.12-4010230 (6 pages) and Test Reports No. 1.12-4010230/1 (43 pages), No. 1.12-4010230/2 (43 pages) and No. 1.12-4010230/3 (47 pages).

**The Issuing Authority**



Dr. Schwartz  
Direktor und Professor

24.06.2004



**The OIML Member**



Prof. Dr. M. Kochsiek  
Vizepräsident

24.06.2004

Identification of the type (continued):

Non-automatic electromechanical weighing instrument comprising the modules load receptor and operating and indicating device, which are built in separate housings. The indicating- and operating device is connected via a short cable, so it is placed directly next to the load receptor.

The weighing ranges comprising Max, verification scale intervals, number of verification scale intervals and scale intervals may be selected considering the limiting values in table 1. This also applies for weighing results indicated in carat.

**Table 1**

accuracy class	I	II
Max	1210 g ... 10100 g	210 g ... 10100 g
verification scale interval e	0,01 g ... 0,1 g	0,01 g ... 1 g
scale interval d	0,001 g ... 0,1 g	0,001 g ... 0,1 g
number of verification scale intervals n	≤ 121000	≤ 81000
tare-balancing range	≤ 100 % of Max	
temperature range	10 °C ... 30 °C	

**Important note:** Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate is issued, partial quotation of the Certificate and of the associated Test Report(s) is not permitted, although either may be reproduced in full.

# **REPORT**

**N° 1.12-4010230**

on the

Type Examination of a

Non-Automatic Weighing Instrument

Model: **XP...S**

Manufacturer: **Mettler-Toledo GmbH  
Im Langacher  
8606 Greifensee  
Switzerland**

The type was tested under the following requirements:

R 76-1, edition 1992, Amendment 1, 1994, \*)

This report belongs to the OIML Certificate N° R76/1992-DE1-04.04 and includes 6 pages.

*\*) This includes the requirements of the European Directive 90/384/EEC and Standard EN 45501*

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GENERAL INFORMATION CONCERNING THE PATTERN.....	4

**Annex 1 TEST REPORT N° 1.12-4010230/1: TYPE XP1203S**  
See separate test report (43 pages)

**Annex 2 TEST REPORT No 1.12-4010230/2: TYPE XP10002S**  
See separate test report (43 pages)

**Annex 3 TEST REPORT No 1.12-4010230/3: TYPE XP10001S**  
See separate test report (47 pages)

## Summary of the examination

Subject of the type examination was the non-automatic weighing instrument type XP...S with the following variants and specifications:

type designations:	XP...S
accuracy class	Ⓘ or Ⓜ
maximum capacities:	210 g ... 10100 g
scale intervals	0,001 g ... 0,1 g
verification scale intervals	0,01 g ... 1 g
temperature range	10 °C ... 30 °C

In addition to the examination of the documents describing all types and variants, tests were performed on instruments of type XP1203S (see test report No 1.12-4010230/1), type XP10002S (see test report No 1.12-4010230/2) and type XP10001S (see test report No 1.12-4010230/3) which were considered to represent the most severe metrological characteristics or the most sensitive parts, respectively.

All metrological tests were performed by the manufacturer. These results have been accepted because the manufacturer disposes of a certified quality management system according to ISO 9001:2000 (Swiss Association for Quality and Management Systems (SQS) certificate, valid until June 3<sup>rd</sup>, 2007), and an approved and regularly supervised quality system for the production process (Certificate of EC-notified body 122, Nederland Meetinstituut (NMI), Netherlands). Furthermore the test laboratory meets the demands of ISO/IEC 17025 (Metrology and Accreditation Switzerland (metas) certificate, valid until May 29<sup>th</sup>, 2005) and the relevant OIML recommendation(s) which is ensured by regular inspection of PTB (last inspection date: March 15<sup>th</sup>, 2002). The checklist was done by PTB.

### Result

On the basis of the performance tests and the examination of the instrument and the documentation, the weighing instruments are permitted to comprise the functions, devices and characteristic features stated in the "general information concerning the pattern"; they fully meet the requirements of R 76-1 (and thus the requirements of the European Standard EN 45501 and the European Directive 90/384/EEC).

Date of report: 2004-06-24

Signature:



(Denzel)

**GENERAL INFORMATION CONCERNING THE PATTERN****1 DESIGNATION AND TYPE OF CONSTRUCTION OF MEASURING INSTRUMENT**

Non-automatic electromechanical weighing instrument, type XP...S.

**2 DESCRIPTION OF TYPE**

The type of construction meets the requirements of OIML R 76.

**2.1 Mechanical construction**

Modular weighing instrument with load receptor and operating and indicating device built in separate housings (see figure 1). The indicating- and operating device is connected via a short cable, so it is placed directly next to the load receptor.

**2.2 Electrical construction**

The weighing instrument is equipped with an electromagnetic force compensation load cell. The A/D-conversion is inherent part of the evaluation electronics which forms a unit with the load cell. The measuring values are sent digitally to the weighing instrument's electronic. The weighing value is then forwarded to the indicating and operating device. The software processing the measurement data is inside the housing of the load receptor and cannot be changed without breaking a seal. Furthermore an application software is running on the instrument which can be changed freely. This does not affect the processing of the measurement data.

**2.3 Permitted functions and equipment (reference to R 76-1 in brackets)**

- Semi-automatic zero-setting device (T.2.7.2.2)
- Initial zero-setting device (T.2.7.2.4)
- Zero tracking device (T.2.7.3)
- Semi-automatic subtractive tare-balancing device (T.2.7.4.1)
- Instruments with a possibility of switching from g to ct are respected as instruments with one weighing range therefore Max, Min, e and d in g is sufficient. (2.1)  
The requirement  $e = 1 \times 10^k$  g (k = positive or negative integer number, see 3.4.2 of OIML R76) only relates to the unit g and not ct. If  $e \neq d$  only the marking of the last digit at switching to ct remains unchanged.
- The weighing instrument is equipped with an incorporated span adjustment device. Release by pressing a key or automatically. Adjustment takes place automatically. (4.1.2.5)
- Display of quantities which are not weight values, identification by symbols, marks or letters (pcs = number of pieces, % = percent values etc.). These values are also identified on the printout. (4.4.4)
- As an option: indicating device with a differentiated scale division marked by lighter indication of the last digit. (T.2.5.4)

### 3 TECHNICAL DATA

#### 3.1 Weighing instrument

The weighing ranges comprising Max, verification scale intervals, number of verification scale intervals and scale intervals may be selected considering the limiting values in table 1. This also applies for weighing results indicated in carat.

Table 1

accuracy class	Ⓘ	Ⓜ
Max	1210 g ... 10100 g	210 g ... 10100 g
verification scale interval e	0,01 g ... 0,1 g	0,01 g ... 1 g
scale interval d	0,001 g ... 0,1 g	0,001 g ... 0,1 g
number of verification scale intervals n	≤ 121000	≤ 81000
tare-balancing range	≤ 100 % of Max	
temperature range	10 °C ... 30 °C	

#### 3.2 Documentation

The documents deposited in PTB are valid for the weighing instrument described here.

### 4. INTERFACES; PERIPHERAL DEVICES

#### 4.1 Interfaces

The following interface may be incorporated:

- Serial data interface RS232 (to connect a printer, an additional indicating device, EDP or the like).

The interface stated is protective within the meaning of OIML R76, No. 5.3.6.1, and needs not be secured.

#### 4.2 Devices which can be connected

For applications subject to mandatory verification:

Simple recipient devices that:

- are not capable of transmitting any data or instructions into the NAWI other than to release a printout or to check for correct data transmission, and
- print or indicate weighing results and other data as received from the NAWI without any modification or further processing
- comply with the applicable requirements of OIML R76-1 ie 4.2, 4.4, 4.5, 4.6 and 4.7

may be connected to a NAWI which transmits data in accordance with 5.3.6.3 of OIML R76-1 without a test certificate or statement in an OIML certificate having been issued.

For applications not subject to mandatory verification, any peripheral devices may be connected.

### 5 CONDITIONS AND INSCRIPTIONS

- The OIML certificate is valid only for non-automatic weighing instruments; for automatic operation with or without additional devices, the national regulations valid at the place of installation are to be observed.
- Description of the warm-up time for instruction of class Ⓘ in the operating instructions.

6 ADDITIONAL INFORMATION FOR INITIAL VERIFICATION

- Documents required: according to national legislation
- The instrument may be verified at the manufacturer's or in another place. The acceleration due to gravity prevailing at the place of use needs not to be taken into account for weighing instruments with incorporated span adjustment device. The weighing instruments must be adjusted at the place of installation before use.
- It is to be checked whether the weighing instrument is in the mode subject to legal control. That is the case when zero-tracking cannot be switched off. The menu-point "AutoZero" is then not present in the menu "Wägeparameter" (see operating manual).

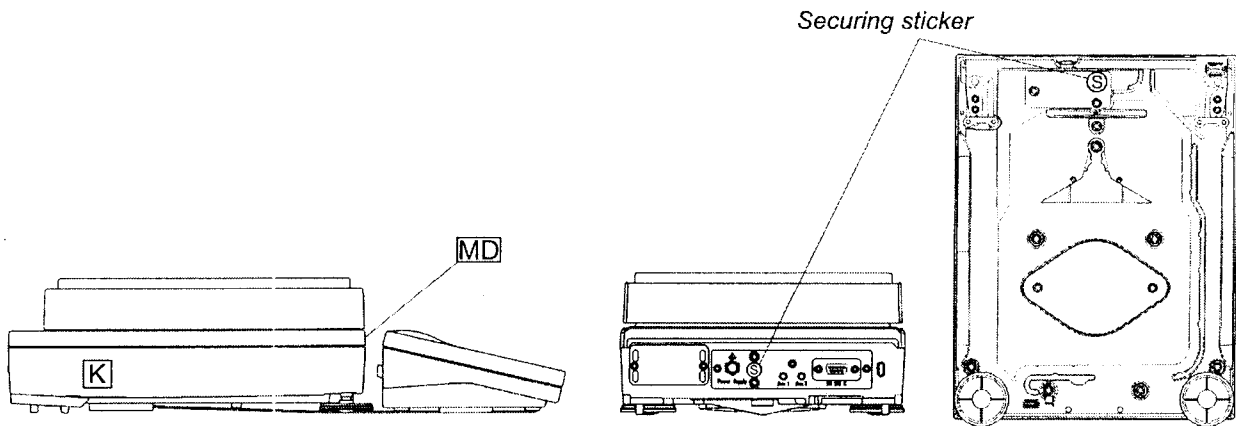
7 STAMPING AND SECURING OF THE INSTRUMENT

Locations for sealing and verification mark as shown in figure 1.

8 DESIGNATION PLATE AND INSCRIPTIONS

The location for the descriptive plate is at the side of the instrument (see figure 1).

**Figure 1**



- S Protective mark
- K Descriptive plate
- MD Metrological data