

# Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

## REPORT

**Nº 1.12-4057916**

on the

Type Examination of a

Non-Automatic Weighing Instrument

Type: CHS01 E – I; M

Manufacturer: seca gmbh & co. kg.  
Hammer Steindamm 9-25  
22089 Hamburg  
Germany

The type was tested under the following requirements:

R 76-1, edition 2006 \*)

This report belongs to the OIML Certificate Nº R76/2006-DE1-13.03 and includes 11 pages.

*\*) This includes the requirements of the European Directive 2009/23/EC.*

**CONTENTS**

page

SUMMARY OF THE EXAMINATION ..... 3  
GENERAL INFORMATION CONCERNING THE PATTERN..... 4

**Annex 1 TEST REPORT No. 1.12-4057916/1: TYPE CHS01 M (RANGE 1; Max 150 kg)**  
See separate test report (51 pages)

**Annex 2 TEST REPORT No. 1.12-4057916/2: TYPE CHS01 M (RANGE 2; Max 250 kg)**  
See separate test report (28 pages)

**Annex 3 TEST REPORT No. 1.12-4057916/3: TYPE CHS01 M (RANGE 3; Max 300 kg)**  
See separate test report (28 pages)

## Summary of the examination

Subject of the type examination was the non-automatic electromechanical weighing instrument of type CHS01 E – I; M with the following specifications:

type designation:	CHS01 E – I; M
maximum capacity:	300 kg
verification scale interval	50 g
number of verification scale intervals	3000 (accuracy class (III))

In addition to the examination of the documents, tests were performed on one weighing instrument, type CHS01 M (see test report No 1.12-4057916/1-3).

The type is constructed for medical applications and electronic weighing of sitting persons.

All metrological tests were performed by the PTB. The checklist has been performed by PTB. The EMC-Test were performed by TÜV Nord CERT GmbH, Abteilung EMV Service, EMC-Laboratory.

### Result

On the basis of the performance tests and the examination of the instrument mentioned above and the documentation, the weighing instrument is 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 Directive 2009/23/EC).

Date of report: 22.07.2013

Signature: \_\_\_\_\_

## GENERAL INFORMATION CONCERNING THE PATTERN

**1 Design of the instrument****1.1 Design**

Non-automatic electromechanical personal scale without lever apparatus for the medical sphere, for use by people in a sitting position, types CHS01 E – I; M (see figure 1 - 4).

**1.2 Measuring sensor****1.2.1 Load receptors and force transmitting devices**

Load receptor and load cell are mounted on a wheeled frame. The force of the load receptor is directly applied to the load cell.

**1.2.2 Load cells**

The scale is fitted with a platform load cell.

The following types of load cells may be used: HBM Hottinger Type PW10AC3/C4 or Vishay Precision Group Type 1242 H2

Manufacturer	Type	Max load	Class
HBM Hottinger	PW10AC3/C4	300 kg	C3 / C4
Vishay Precision Group	1242 H2	300 kg	C4

**1.3 Measurement value processing****1.3.1 Weighing instrument**

PCB consisting of an A/D converter with microcontroller, EEPROM, 5-digit LCD with special display indicators

**1.3.2 Software**

- The following software version is approved:

Software	Software version	Software identification
CHS-Software	01.yy <sup>1)</sup>	CE5C

<sup>1)</sup> The wildcard "y" is for modification of software not subject to legal control.

**1.4 Indication of the measurement results**

See figure 2 and 4

## 1.5 Permitted functions and devices

	Reference to R76-1				
		E	F,G,H	I	M
Initial zero-setting device, 20 % of Max	T.2.7.2.4	●	●	●	●
Zero-tracking device, 4 % of Max	T.2.7.3	●	●	●	●
Semi-automatic tare-balancing device, subtractive	T.2.7.4.1	●	●	●	●
Preset tare device (PT)	T.2.7.5	●	●	●	●
Single range instrument		-	●	-	-
Multiple range instrument, indication of the weighing ranges  1 ,  2  and  3	T.3.2.7	●	-	●	●
Indication of the GAL-value (Gravitational Acceleration Local)		●	●	●	●
Automatic adjustment of GAL value during initial start-up		●	●	●	●
Indication of software version and check digit		●	●	●	●
Device for displaying the "calibration counter" (see 6.2)		●	●	●	●
Display segment test after switch-on	5.3.1	●	●	●	●

- always available
- optionally available
- not available

## 1.6 Technical documents

The documents appendant to this certificate are deposited at the notified body in the set of certification documentation No. ZDS-R76/2006-DE1-13.03. The index of the set of certification documentation has been stamped by the notified body and it has been sent to the owner of the certificate.

## 1.7 Optional devices and functions not subject to legal control

- electronic body length measurement
- Device for indicating the **Body-Mass-Index (BMI)**
- Manual hold and auto hold setting-up
- 2 in 1 function
- Optional automatic indication switch off at inactivity of the scale

## 2 Technical Data

## 2.1 Weighing instruments

Type	CHS01E	CHS01I	CHS01M
	multi range instrument		
Accuracy class	III		
Min (Min <sub>1</sub>   Min <sub>2</sub>   Min <sub>3</sub> )	1 kg   2 kg	1 kg   2 kg	1 kg   2 kg   4 kg
Max (Max <sub>1</sub>   Max <sub>2</sub>   Max <sub>3</sub> )	50 kg   200 kg	150 kg   250 kg	150 kg   250 kg   300 kg
e (e <sub>1</sub>   e <sub>2</sub>   e <sub>3</sub> )	0.05 kg   0.1 kg	0.05 kg   0.1 kg	0.05 kg   0.1 kg   0.2 kg
n (n <sub>1</sub>   n <sub>2</sub>   n <sub>3</sub> )	1000   2000	3000   2500	3000   2500   1500
Tare-balancing range, sub.	Max	Max	Max

Type	CHS01F	CHS01G	CHS01H
	single range instrument		
Accuracy class	III		
Min	2 kg	1 kg	2 kg
Max	300 kg	150 kg	150 kg
e	0.1 kg	0.05 kg	0.1 kg
n	3000	3000	1500
Tare-balancing range, sub.	Max	Max	Max

Environmental conditions and influences:

- Climatic: Temperature range: +10 °C to +40 °C  
Humidity: up to 85 % at 40 °C, not condensing
- Mechanical: not applicable
- Electromagnetic: OIML R76 (2006) except B.3.7

### 3 Interfaces and peripheral devices

#### 3.1 Interfaces

One or several of the following interfaces may be installed:

- Serial ISIS BUS interface für connection of optional modules like calibration und service devices
- UART interface for wireless transmission (SMF) of weight values which are not subject to legal control, optional

#### 3.2 Devices which can be connected

For applications subject to mandatory verification:

- Additional devices, that are mentioned in another OIML-Certificate, as suitable for connection to weighing instruments.
- Simple peripheral devices which only receive data, without reference in another certificate, provided that they
  - comply with IEC 61000-4-1, 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-6, and 61000-4-11,
  - are not capable of transmitting any data or instructions into the weighing instrument other than to release a printout or to check for correct data transmission,
  - print or indicate weighing results and other data as received from the weighing instrument without any modification or further processing and
  - comply with the applicable requirements of R 76:2006, edition 2006, i.e. No. 4.2, 4.4, 4.5, 4.6 and 4.7 may be connected to interfaces that transmit data in accordance with No. 5.3.6.3 of R 76-1, edition 2006.

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

### 4 Approval conditions and inscriptions

The weighing instrument has to be designed according to chapter 1.

### 5 Additional information for verification

#### 5.1 Documents for the examination

- Copy of the OIML / type approval certificate including the Annex
- Operating instructions
- If applicable, copys of test certificate, parts- or evaluation certificate

## 5.2 Identification

- Hardware: See No. 1.1 and figures in No. 8
- Software: See No. 1.3.2

The software version and identification can be checked as follows:

1. Press and hold any button (hold tare, bmi menu or send print) and start the scale with the start button.
2. The display will briefly show the segments, then the content of the calibration counter (i.e. the number of calibrations performed so far) flashes for 24 seconds.
3. During calibration counter display, again press and hold one of the buttons for more than 1.5 seconds (hold tare, bmi menu or send print).
4. After the calibration counter, the software identification and then the checksum are displayed for six seconds each.
5. To display the software identification and the checksum again, please switch off the scale and proceed once more from step 1.

5.3 Peripheral devices according to No. 3.2 have to be checked for their proper functioning.

## 6 Securing measures

### 6.1 Seals

Calibration stickers and seals should be affixed as shown in figures 1 to 4.

### 6.2 "Calibration counter"

Scale parameters (calibration) can be changed using the connected display part. At each calibration, a "calibration counter" implemented in the weighing module is always increased by one (up to max. 65000). Calibration counter status can be shown in the display part and compared with the validated specified value above the identification label. The scale is calibrated only if these values match.

To display the calibration counter contents, start the scale whilst simultaneously pressing another operating key. The display will briefly show the content of the calibration counter (i.e. the number of calibrations performed so far), flashing for 18 seconds.

## 7 Labelling and inscriptions

The positions for the descriptive plate can be found on the rear frame.

8 Figures

Figure 1: CHS01 E-H; M, Quality seals und descriptive plate

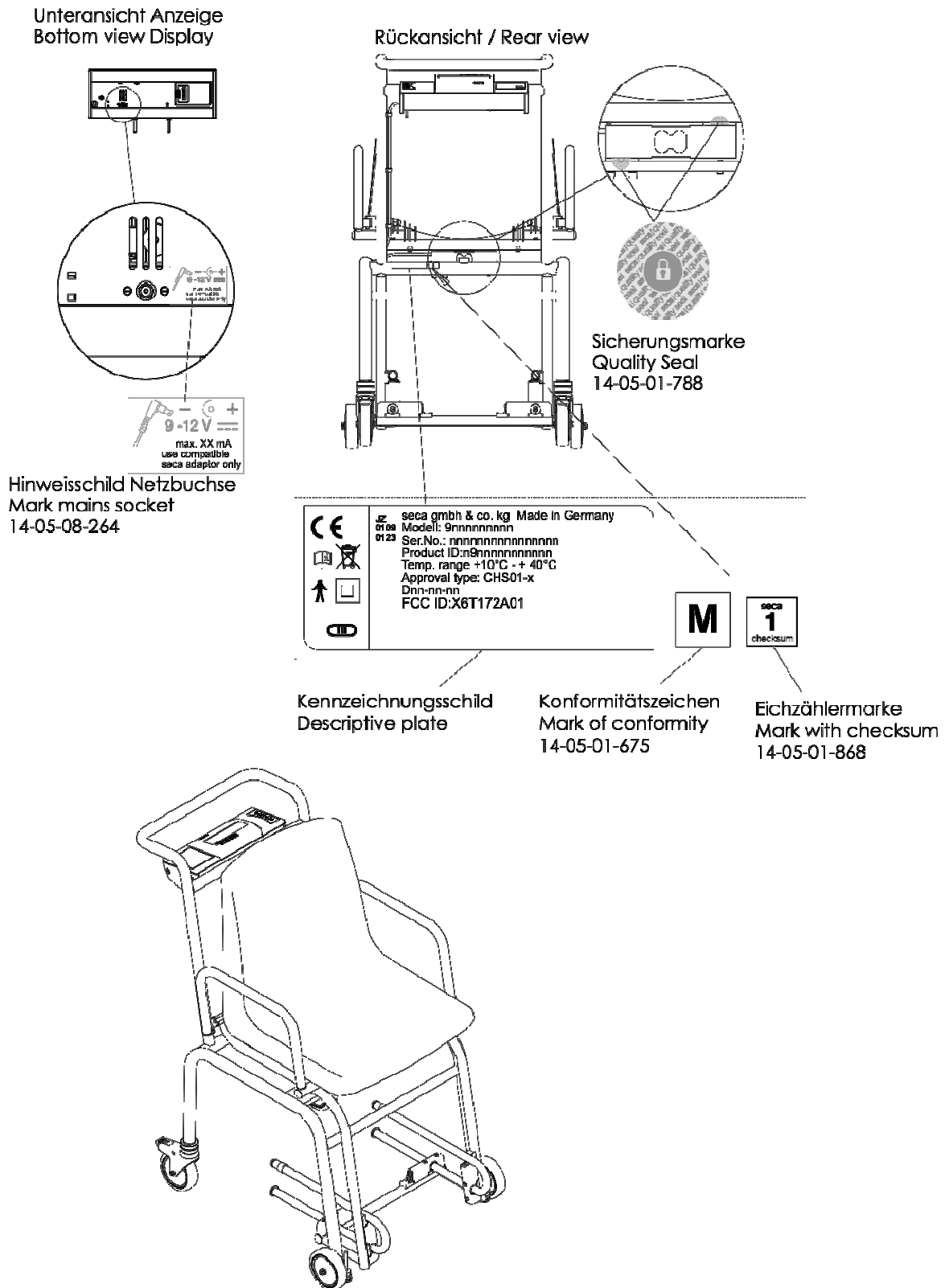
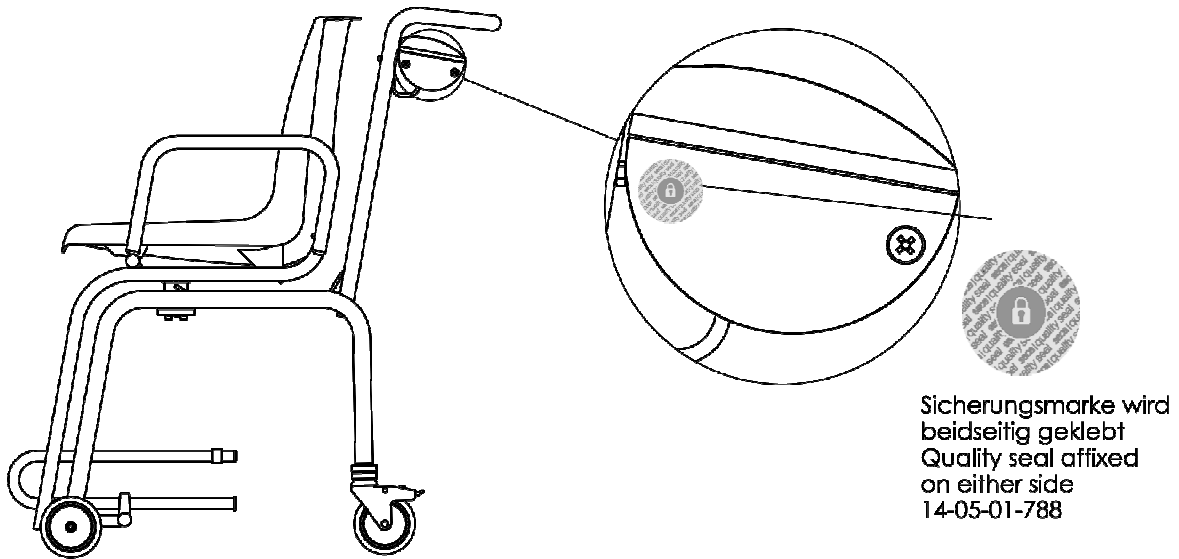




Figure 2: CHS01 E-H; M, Quality seals und descriptive plate, control panel and display

Seitenansicht / Side view



Typbezeichnung / Type designation	Aufdruck wägetechnischer Daten / Imprint weighing- technical data
CHS01E	->1<- Max 50 kg e = 0,05 kg Min 1,0 kg ->2<- Max 200 kg e = 0,10 kg Min 2,0 kg
CHS01F	Max 300 kg e = 0,1 kg Min 2,0 kg
CHS01G	Max 150 kg e = 0,05 kg Min 1,0 kg
CHS01H	Max 150 kg e = 0,1 kg Min 2 kg
CHS01M	-v 1<- Max 150 kg e = 0,05 kg Min 1 kg -v 2<- Max 250 kg e = 0,10 kg Min 2 kg -v 3<- Max 300 kg e = 0,20 kg Min 4 kg

Draufsicht / Top view

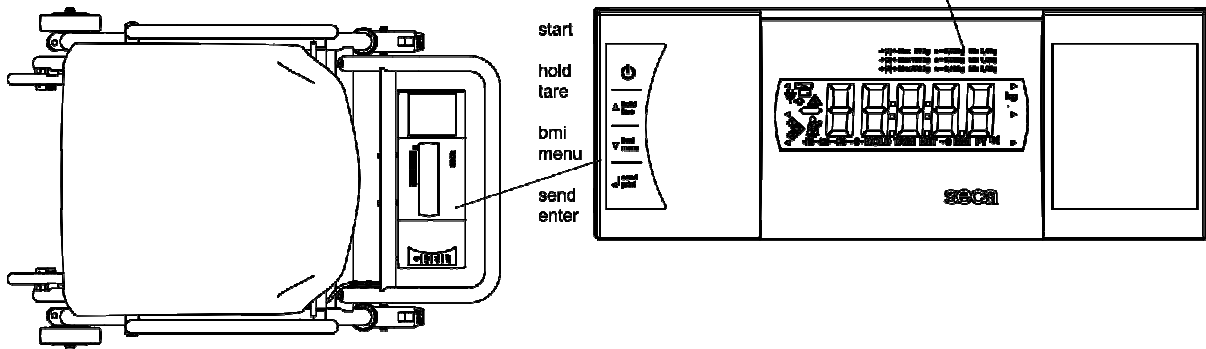
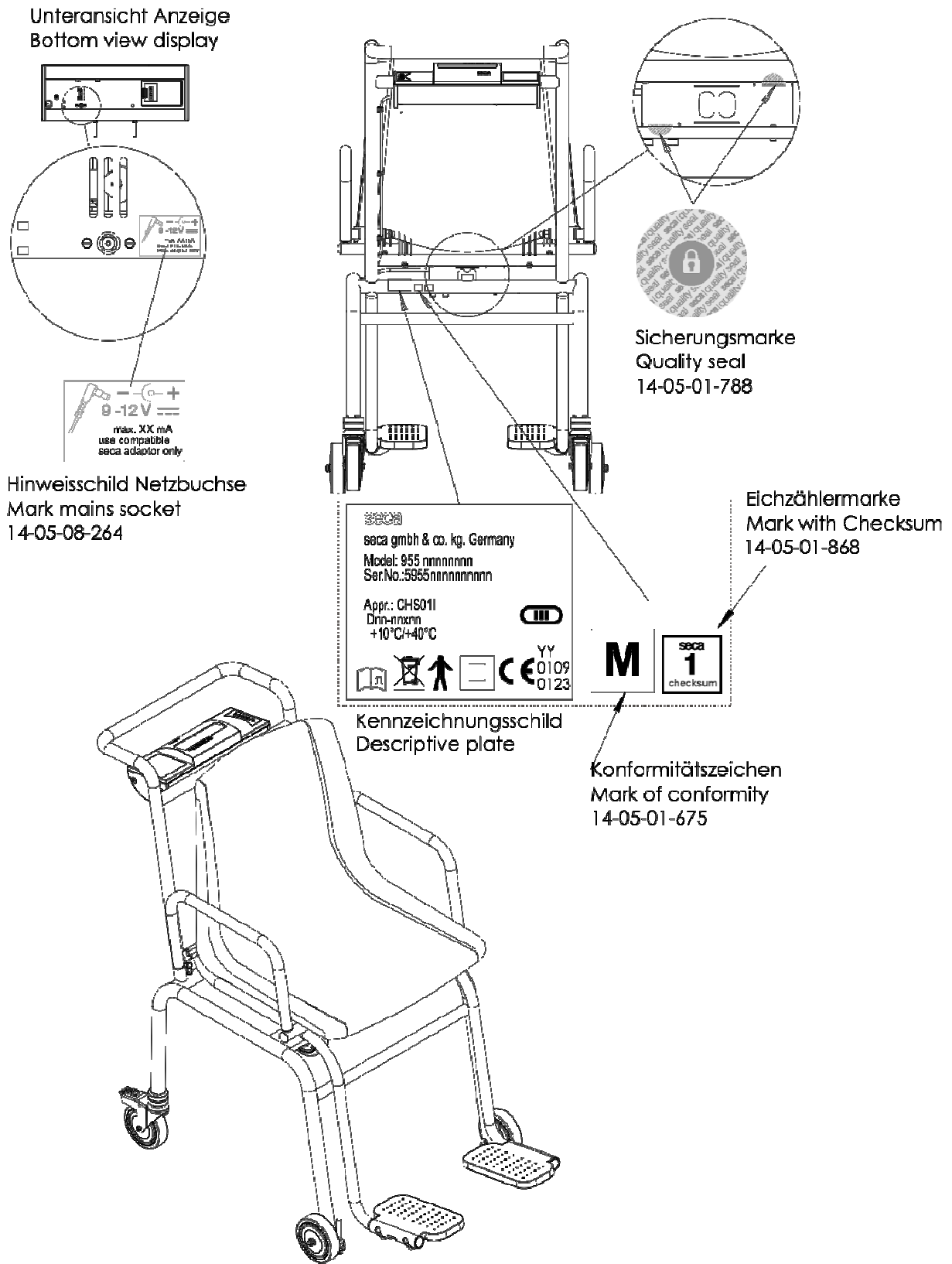


Figure 3: CHS01 I, Quality seals und descriptive plate



Unteransicht Anzeige  
Bottom view display

Hinweisschild Netzbuchse  
Mark mains socket  
14-05-08-264

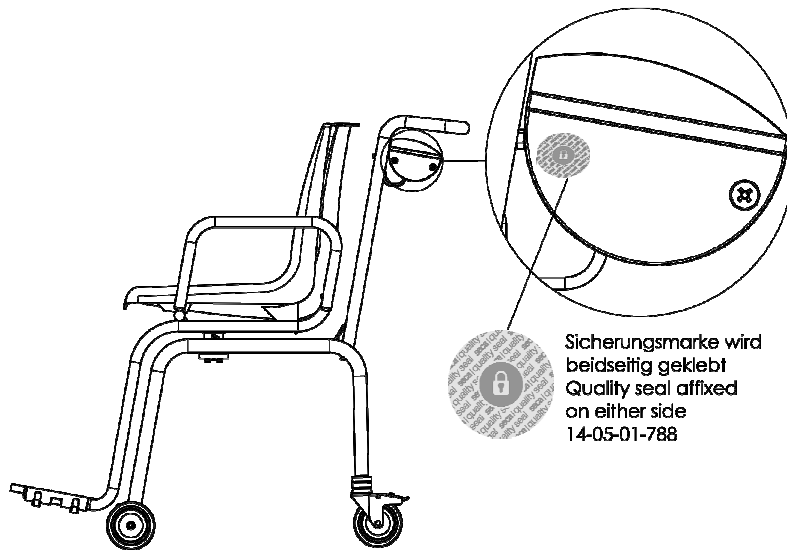
Sicherungsmarke  
Quality seal  
14-05-01-788

Eichzählermarke  
Mark with Checksum  
14-05-01-868

Kennzeichnungsschild  
Descriptive plate

Konformitätszeichen  
Mark of conformity  
14-05-01-675

Figure 4: CHS01 I, Quality seals und descriptive plate, control panel and display



Typbezeichnung Type designation	Aufdruck wägetechnischer Daten / Imprint weighing technical data
CHS01I	->   1   <- Max 150 kg e = 0,05 kg Min 1 kg ->   2   <- Max 250 kg e = 0,10 kg Min 2 kg

