

# Technical Data

## General Data

<b>Sartorius power supply</b>	Model 6971987
Primary	100 – 240 V~, -15%/+10%, 50-60 Hz, 1.0 A
Secondary	15 V, ± 5%, 2.66 A (max.), protected electronically against short circuit
Other data	Protection class II as per EN/IEC 60950-1   up to 3000 m above sea level   IP40 as per EN 60529/IEC 60529

<b>Power supply connection cable</b>	Two-sided plug with a 3-pin country-specific power plug and 3-pin socket (IEC/EN60320-1/C14) for connection to the power supply
Other data	See the power supply label

<b>Balance</b>	
Power supply	Only via Sartorius adaptor 6971987
Input voltage	15 VDC, ± 5%
Power consumption	7 W (max.)
IP protection for models with a readability of ≥ 10 mg	IP54 as per EN 60529/IEC 60529

<b>Ambient Conditions</b>	
Environment	For indoor use only
Storage and shipping temperature	-10 °C to +60 °C
Ambient temperature, operation*	+5 °C to +40 °C
Height	Up to 2000 m above sea level
Maximum relative humidity**	80 % for temperatures up to 31 °C, decreasing linearly up to 50% relative humidity at 40 °C

<b>Safety of Electrical Equipment</b>	According to EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control and laboratory use – Part 1: General requirements
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<b>Electromagnetic Compatibility</b>	as per EN 61326-1:2013 Electrical equipment for measurement, control, and laboratory use EMC requirements – Part 1: General requirements
Interference resistance	Suitable for use in industrial areas
Interference emission	Class B: (Suitable for use in residential areas and areas that are connected to a low voltage network that also supplies residential buildings).

**M** -.CE model balances verified for use in legal metrology comply with the requirements of Council Directive No. 2014/31/EU with EN 45501:2015 and OIML R76:2006.

**M** \* For -.CE model balances verified for use in legal metrology, refer to the information on the balance.  
\*\* For -.CE model balances verified for use in legal metrology, the legal regulations apply.



## Model-specific Data

### Microbalances 0.001mg

Model		MSU6.6S	MSU6.6S-F	MSU3.6P
Readability	mg	0.001	0.001	0.001/0.002/0.005
Weighing capacity	g	6.1	6.1	1.1/2.1/3.1
Tare range (subtractive)	g	-6.1	-6.1	-3.1
Repeatability	≤±mg	0.001	0.001	0.003/0.004/0.005
Linearity	≤±mg	0.004	0.004	0.004
Corner load (test load [g])	mg	4 (2 g)	4 (2 g)*	5 (1 g)
Min. initial weight	mg	2	-	4
Sensitivity drift between +10...+30°C	±ppm/K	1	1	1
Typical stabilization time	s	≤ 5	≤ 5	≤ 5
Typical measurement time	s	≤ 8	≤ 8	≤ 8
External standard calibration value (min. accuracy class)	g	5 (E2)	5 (E2)	3 (E2)
Display result (depending on the set filter level)		0.1 – 0.4	0.1 – 0.4	0.1 – 0.4
Weighing pan size Ø	mm	30	50	30
Weighing chamber height	mm	70	-	70
Protection		Protected against dust and water		

### Ultra-Microbalances 0.0001mg

Model		MSU2.7S	MSU2.7S-F
Readability	mg	0,0001	0,0001
Weighing capacity	g	2.1	2.1
Tare range (subtractive)	g	-2.1	-2.1
Repeatability	≤±mg	0.00025	0.00025
Linearity	≤±mg	0.0009	0.0009
Corner load (test load [g]) <sup>1)</sup>	mg	2.5 (1)	2.5 (1)
Min. initial weight	mg	1	-
Sensitivity drift between zw. +10...+30°C	±ppm/K	1	1
Typical stabilization time	s	≤ 7	
Typical measurement time	s	≤ 10	
External standard calibration value (min. accuracy class)	g	2 (E2)	2 (E2)
Display result (depending on the set filter level)		0.1 – 0.4	0.1 – 0.4
Weighing pan size Ø	mm	20	50
Weighing chamber height	mm	70	15
Protection		Protected against dust and water	

<sup>1)</sup> = Standard pan

<sup>2)</sup> Typical min. initial weighing according to USP (United States Pharmacopeia), USP31-NF26



## Declarations of Conformity

### Weighing instruments for use in legal metrology: Council Directive 2014/31/EU "Non-automatic Weighing Instruments"

This Directive regulates the determination of mass in legal metrology. For the respective Declaration of Conformity for weighing instruments Sartorius has performed the conformity assessment for use as legal measuring instruments and that have an EC Type-Approval Certificate, declaration attached the instrument.

This Directive also regulates conformity assessment by the manufacturer, provided that an EC Type Approval Certificate has been issued and the manufacturer has been accredited by a Body registered at the Commission of the European Community for performing such conformity assessment.

The legal basis for Sartorius to perform the conformity assessment is EC Directive No. 2014/31/EU for non-automatic weighing instruments. The further legal basis is founded on the Sartorius Quality Management System issued by the Metrology Department of the Regional-Administration Office of Lower Saxony, Germany ("Mess- und Eichwesen Niedersachsen").

#### "Installation" Service in Germany

Our "Installation" service package provides a range of important services that guarantee satisfactory work from your balance:

- Setup
- Getting Started
- Inspection
- Training

If the installation of the weighing instrument is to be carried out by Sartorius, please request this service from a customer service employee.

#### Periodic Verification in Germany

Balance verification for legal metrology is valid until the end of the calendar year after next.

If the balance is used for fill level control in accordance with legislation on prepackaging, conformity assessment is valid until the end of the following calendar year. Periodical verification must currently be carried out by a weights and measures official. Periodical verification should be requested in good time from the local Weights and Measures office. As appropriate, please observe all statutory amendments.

#### Periodic Verification within Europe and Outside of Germany

The expiration date of the conformity assessment/verification depends on the national regulations of the country in which the weighing instrument is used. For information on verification and legal regulations currently applicable in your country, and to obtain the names of the persons to contact, please contact your local Sartorius office, dealer, or Service Center.





**sartorius**



Original

**EG-/EU-Konformitätserklärung  
EC / EU Declaration of Conformity**

Hersteller / Manufacturer: Sartorius Lab Instruments GmbH & Co. KG  
37070 Goettingen, Germany

erklärt in alleiniger Verantwortung, dass das Betriebsmittel  
*declares under sole responsibility that the equipment*

Geräteart / Device type: Elektronische Semimikro-, Mikro-, Präzisions- und Analysenwaage  
*Electronic Semi-micro, Micro, Precision and Analytical Balance*

Baureihe / Type series: MSAvw-xy-z, MSAvwxzy, MSEvwxzy, MSEvw-xy-z, MSUvw-xy-z, MSUvwxzy  
v = 2.7, 3.6, 6.6, 36, 66, 116, 124, 125, 224, 225, 324, 323, 524, 623, 1202, 1203, 2202, 2203, 3203,  
4202, 5201, 5202, 5203, 6202, 8201, 8202, 10202, 12201, 14202, 20201, 36200, 36201, 70200, 70201;  
w = S, P; x = 0, 1; y = 00, TR; z = DA, DE, DF, DI, DM, DO, DR, DU

in der von uns in Verkehr gebrachten Ausführung allen einschlägigen Bestimmungen der folgenden Europäischen Richtlinien - einschließlich deren zum Zeitpunkt der Erklärung geltenden Änderungen - entspricht und die anwendbaren Anforderungen folgender harmonisierter Europäischer Normen erfüllt:  
*in the form as delivered fulfils all the relevant provisions of the following European Directives - including any amendments valid at the time this declaration was signed - and meets the applicable requirements of the harmonized European Standards listed below:*

2014/30/EU Elektromagnetische Verträglichkeit  
*Electromagnetic compatibility*  
EN 61326-1:2013

2006/42/EG / 2006/42/EC Maschinen  
*Machines*  
EN ISO 12100:2010, EN 61010-1:2010

2011/65/EU Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten (RoHS)  
*Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)*  
EN 50581:2012

2014/53/EU Nur für Geräte mit Datenausgang Typ YBT03 | *Only for devices with data output interface type YBT03:*  
Funkanlagen und Telekommunikationsendeinrichtungen und die gegenseitige Anerkennung ihrer Konformität  
*Radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity*  
EN 301489-1 V1.9.2:2011

Die Person, die bevollmächtigt ist, die technischen Unterlagen zusammenzustellen:  
*The person authorised to compile the technical file:* Sartorius Lab Instruments GmbH & Co. KG  
International Certification Management  
37070 Goettingen, Germany

Jahreszahl der CE-Kennzeichenvergabe | *Year of the CE mark assignment:* 17

Sartorius Lab Instruments GmbH & Co. KG  
Goettingen, 2017-06-27

*[Signature]*  
Dr. Reinhard Baumfalk  
Vice President R&D

*[Signature]*  
Dr. Dieter Klausgrete  
Head of International Certification Management

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten EG- und EU-Richtlinien, ist jedoch keine Zusicherung von Eigenschaften. Bei einer mit uns nicht abgestimmten Änderung des Produktes verliert diese Erklärung ihre Gültigkeit. Die Sicherheitshinweise der zugehörigen Produktdokumentation sind zu beachten.  
*This declaration certifies conformity with the above mentioned EC and EU Directives, but does not guarantee product attributes. Unauthorised product modifications make this declaration invalid. The safety information in the associated product documentation must be observed.*

Doc: 2009072-03 SLI13CE002-03.de,en 1 / 1 PMF: 2024290 OP-113\_fo1\_2015.10.12



**M** For verified balances, the conformity declaration supplied with the balance is valid for use in the EEA. Please retain this declaration.



Physikalisch-Technische Bundesanstalt  
Nationales Metrologieinstitut

KBS

Konformitätsbewertungsstelle



## EU-Baumusterprüfbescheinigung

EU Type-examination Certificate

Ausgestellt für: <i>Issued to:</i>	Sartorius Lab Instruments GmbH & Co. KG Otto-Brenner-Str. 20 37079 Göttingen	
gemäß: <i>In accordance with:</i>	Anhang II Modul B der Richtlinie 2014/31/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014 zur Angleichung der Rechtsvorschriften der Mitgliedstaaten betreffend die Bereitstellung nichtselbsttätiger Waagen auf dem Markt. <i>Annex II Module B of the Directive 2014/31/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of non-automatic weighing instruments.</i>	
Geräteart: <i>Type of instrument:</i>	Nichtselbsttätige elektromechanische Waage ohne Hebelwerk <i>Non-automatic electromechanical weighing instrument without lever system</i>	
Typbezeichnung: <i>Type designation:</i>	MSY	
Nr. der Bescheinigung: <i>Certificate No.:</i>	DE-17-NAWID-PTB021	
Gültig bis: <i>Valid until:</i>	09.11.2027	
Anzahl der Seiten: <i>Number of pages:</i>	17	
Geschäftszeichen: <i>Reference No.:</i>	PTB-1.12-4086259	
Notifizierte Stelle: <i>Notified Body:</i>	0102	
Zertifizierung: <i>Certification:</i>	Braunschweig, 10.11.2017	Bewertung: <i>Evaluation:</i>
Im Auftrag <i>On behalf of PTB</i>	Siegel <i>Seal</i>	Im Auftrag <i>On behalf of PTB</i>
 Dr. Oliver Mack		 Dipl.-Ing. K. Schulz

R3-000022





**Physikalisch-Technische Bundesanstalt**  
**Braunschweig und Berlin**  
 Nationales Metrologieinstitut



## EG-Bauartzulassungsbescheinigung

*EC Type-approval Certificate*

<b>Ausgestellt für:</b> <i>Issued to:</i>	Sartorius Lab Instruments GmbH & Co. KG Weender Landstr. 94-108 37075 Göttingen
<b>gemäß:</b> <i>In accordance with:</i>	Anhang II Nr. 1. der Richtlinie 2009/23/EG des Europäischen Parlaments und des Rates vom 23. April 2009 über nichtselbsttätige Waagen (ABl. L 122 S. 6) <i>Annex II No 1 of the Directive 2009/23/EC of the European Parliament and of the Council of 23 April 2009 on non-automatic weighing instruments (OJ L 122 p. 6)</i>
<b>Geräteart:</b> <i>Type of instrument:</i>	Nichtselbsttätige elektromechanische Waage mit oder ohne Hebelwerk <i>Non-automatic electromechanical weighing instrument with or without lever system</i>
<b>Typbezeichnung:</b> <i>Type designation:</i>	MSX
<b>Nr. der Bescheinigung:</b> <i>Certificate No.:</i>	D09-09-015, Revision 7
<b>Gültig bis:</b> <i>Valid until:</i>	18.06.2019
<b>Anzahl der Seiten:</b> <i>Number of pages:</i>	26
<b>Geschäftszeichen:</b> <i>Reference No.:</i>	PTB-1.12-4078286
<b>Notifizierte Stelle:</b> <i>Notified Body:</i>	0102
<b>Zertifizierung:</b> <i>Certification:</i>	Braunschweig, 13.01.2016
<b>Im Auftrag</b> <i>On behalf of PTB</i>	<b>Siegel</b> <i>Seal</i>

**Bewertung:**  
*Evaluation:*

**Im Auftrag**  
*On behalf of PTB*

Dr. Oliver Mack



Dipl.-Ing. K. Schulz

