



EA MLA Signatory
Český institut pro akreditaci, o.p.s.
Olšanská 54/3, 130 00 Praha 3

issues

according to section 16 of Act No. 22/1997 Coll., on technical requirements for products, as amended

CERTIFICATE OF ACCREDITATION

No. 448/2022

Státní ústav radiační ochrany, v.v.i.
with registered office Bartoškova 1450/28, 140 00 Praha 4, Company Registration No. 86652052

to the Calibration Laboratory No. **2391**
SÚRO Calibration Laboratory

Scope of accreditation:

Calibration of ionizing radiation meters in photon beams to the extent as specified in the appendix to this Certificate.

This Certificate of Accreditation is a proof of Accreditation issued on the basis of assessment of fulfillment of the accreditation criteria in accordance with

ČSN EN ISO/IEC 17025:2018

In its activities performed within the scope and for the period of validity of this Certificate, the Body is entitled to refer to this Certificate, provided that the accreditation is not suspended and the Body meets the specified accreditation requirements in accordance with the relevant regulations applicable to the activity of an accredited Conformity Assessment Body.

This Certificate of Accreditation replaces, to the full extent, Certificate No.: 15/2020 of 7. 1. 2020, or any administrative acts building upon it.

The Certificate of Accreditation is valid until: **7. 1. 2025**

Prague: 14. 9. 2022



Lukáš Burda
Director of the Department
of Testing and Calibration Laboratories
Czech Accreditation Institute
Public Service Company

Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Státní ústav radiační ochrany, v. v. i.
SÚRO Calibration Laboratory
Bartošková 1450/28, 140 00 Praha 4

CMC for the field of measured quantity: Quantities of atomic and nuclear physics

Ord. number	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work place
		min. unit	max. unit					
1	Air kerma rate in gamma radiation beams / Ionization chambers, dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value	5 · 10 ⁻⁹ Gy/s 1 · 10 ⁻⁸ Gy/s 2 · 10 ⁻⁸ Gy/s	to 1 · 10 ⁻⁸ Gy/s to 2 · 10 ⁻⁸ Gy/s to 2 · 10 ⁻⁴ Gy/s		3.0 % 2.4 % 2.1 %	Meter response comparison with reference meter reading; calculation	SOP 15 (chap. 10.4.1 and 10.4.2)	
2	Air kerma rate in X-ray beams / Ionization chambers, dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value	2 · 10 ⁻⁸ Gy/s 1 · 10 ⁻⁶ Gy/s	to 1 · 10 ⁻⁶ Gy/s to 5 · 10 ⁻³ Gy/s		4.4 % 1.8 %	Meter response comparison with reference meter reading; calculation	SOP 15 (chap. 10.4.1 and 10.4.2)	
3	Air kerma in gamma radiation beams / Ionization chambers, dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value, passive integrating dosimeters	5 · 10 ⁻⁸ Gy 1 · 10 ⁻⁷ Gy 2 · 10 ⁻⁷ Gy	to 1 · 10 ⁻⁷ Gy to 2 · 10 ⁻⁷ Gy to 1 · 10 ⁰ Gy		3.7 % 2.6 % 2.1 %	Meter response comparison with reference meter reading; calculation	SOP 15 (chap. 10.4.1 and 10.4.2)	
4	Air kerma in X-ray beams / Ionization chambers, dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value, passive integrating dosimeters	1 · 10 ⁻⁶ Gy 1 · 10 ⁻⁴ Gy	to 1 · 10 ⁻⁴ Gy to 1 · 10 ⁰ Gy		4.4 % 1.8 %	Meter response comparison with reference meter reading; calculation	SOP 15 (chap. 10.4.1 and 10.4.2)	



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Státní ústav radiační ochrany, v. v. i.
SÚRO Calibration Laboratory
Bartoškova 1450/28, 140 00 Praha 4

Ord. number 1	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work place
		min. unit	max. unit					
5	Personal dose equivalent rate, directional dose equivalent rate or ambient dose equivalent rate in gamma radiation beams / Dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value.	$5 \cdot 10^{-9}$ Sv/s	to $1 \cdot 10^{-8}$ Sv/s	$H_p(0,07)$ $H_p(3)$ $H_p(10)$ $H'(0,07)$ $H'(3)$ $H^*(10)$	5.0 % 4.7 % 4.5 %	Meter response comparison with reference meter reading; calculation; application of conversion coefficients from ISO 4037-3:2019.	SOP 15 (chap. 10.4.1 and 10.4.2)	
6	Personal dose equivalent rate, directional dose equivalent rate or ambient dose equivalent rate in X-ray beams / Dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value.	$2 \cdot 10^{-8}$ Sv/s	to $1 \cdot 10^{-6}$ Sv/s	$H_p(0,07)$ $H_p(3)$ $H_p(10)$ $H'(0,07)$ $H'(3)$ $H^*(10)$	6.0 % 4.4 %	Meter response comparison with reference meter reading; calculation; application of conversion coefficients from ISO 4037-3:2019.	SOP 15 (chap. 10.4.1 and 10.4.2)	
7	Personal dose equivalent, directional dose equivalent or ambient dose equivalent in gamma radiation beams / Dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value, passive integrating dosimeters	$5 \cdot 10^{-8}$ Sv	to $1 \cdot 10^{-7}$ Sv	$H_p(0,07)$ $H_p(3)$ $H_p(10)$ $H'(0,07)$ $H'(3)$ $H^*(10)$	5.4 % 4.8 % 4.5 %	Meter response comparison with reference meter reading; calculation; application of conversion coefficients from ISO 4037-3:2019.	SOP 15 (chap. 10.4.1 and 10.4.2)	



Accredited entity according to ČSN EN ISO/IEC 17025:2018:

Státní ústav radiační ochrany, v. v. i.
SÚRO Calibration Laboratory
Bartošková 1450/28, 140 00 Praha 4

Ord. number	Calibrated quantity / Subject of calibration	Nominal range		Parameter(s) of the meas. quantity	Lowest expanded measurement uncertainty specified ²	Calibration principle	Calibration procedure identification ³	Work place
		min. unit	max. unit					
8	Personal dose equivalent, directional dose equivalent or ambient dose equivalent in X-ray beams / Dosimetry chains with digital display of measured value, compact ionizing radiation meters with digital display of measured value, passive integrating dosimeters	1 · 10 ⁻⁶ Sv 1 · 10 ⁻⁴ Sv	to to	1 · 10 ⁻⁴ Sv 1 · 10 ⁰ Sv	6.0 % 4.4 %	Meter response comparison with reference meter reading; calculation; application of conversion coefficients from ISO 4037-3:2019.	SOP 15 (chap. 10.4.1 and 10.4.2)	

¹ Asterisk at the ordinal number identifies the calibrations, which the Laboratory is qualified to carry out outside the permanent laboratory premises.

² The expanded measurement uncertainty is in accordance with ILAC-P14 and EA-4/02, part of CMC, and it is the lowest value of the respective uncertainty. If not stated otherwise, its coverage probability is approx. 95 %.

³ If not stated otherwise, the uncertainty values stated without a unit are relative to the value measured. If the calibration is carried out outside the laboratory premises, the measurement uncertainty may be affected. If the document identifying the calibration procedure is dated, only these specific procedures are used. If the document identifying the calibration procedure is not dated, the latest edition of the specified procedure is used (including any changes).

