

Sertifikat o etaloniranju Calibration certificate

Br. 393/21-1-1

Naziv merila Object	Temperaturna komora
Proizvođač Manufacturer	BELIMED
Tip merila Type	Digitalni termometar - deo automatskog parnog sterilizatora Belimed 6-6-9 VS1
Serijski br. Serial no. / Identifikacioni br. Ident. no.	12134/2010
Podaci o merilu (merni opseg, rezolucija) Data of the meas.device (meas. range, resolution)	Opseg merenja: od 20 °C do 146 °C, Rezolucija 0.1 °C
Podnosilac zahteva (naziv i adresa) Applicant (name and address)	Instrumenti MB doo, Laboratorija za etaloniranje, Nehruova 51a/81 - Novi Beograd
Korisnik merila (naziv i adresa) Customer (name and address)	ZAVOD ZA JAVNO ZDRAVLJE UŽICE, DR.VESELINA MARINKOVIĆA 5, 31000 UŽICE
Mesto etaloniranja Place of calibration	ZAVOD ZA JAVNO ZDRAVLJE UŽICE, DR.VESELINA MARINKOVIĆA 5, 31000 UŽICE
Datum(i) etaloniranja Date(s) of calibration	27.12.2021.
Datum izdavanja sertifikata Date of issue of the certificate	28.12.2021.

Sa ovim dokumentom potvrđujemo da je merni instrument pomenut na ovoj stranici etaloniran saglasno sistemu kvaliteta prema **SRPS ISO/IEC 17025: 2017 kao akreditovana laboratorija za etaloniranje**. Etaloni koji se koriste u procesu etaloniranja, redovno se etaloniraju i imaju sledivost ka nacionalnim etalonima. Utvrđeni dokumenti za datu proceduru mogu da se uzmu na uvid. Svi neophodni podaci mogu da se pronađu na stranicama ovog sertifikata o etaloniranju.

With this document we confirm that the measuring system mentioned on this page has been calibrated in compliance with a quality assurance system, which has been according to **SRPS ISO/IEC 17025: 2017 as an authorized calibration laboratory**. The measuring devices used for calibration are calibrated on a regular basis and retraceable to the national standards. The documents established for this procedure can be viewed. All the necessary measured data can be found on the following page(s) of this calibration certificate.

Odricanje od odgovornosti Disclaimer

Rezultati se odnose samo na predmete koji su etalonirani. Results relate only to the items calibrated.

Laboratorija ne snosi odgovornost za informacije dobijene od korisnika. Laboratory is not responsible for information provided by the customer.

Zabranjeno je umnožavanje sertifikata o etaloniranju, osim u celosti, bez odobrenja Laboratorije Instrumenti MB doo.

Sertifikat o etaloniranju bez potpisa i pečata nije važeći.

This calibration certificate shall not be reproduced except in full without approval of the Laboratory Instrumenti d.o.o.

Calibration certificates without signature and seal are not valid.

Pečat Seal

Etaloniranje izvršio Person responsible

Sertifikat odobrio Supervisor



Bojan Turundžilović

Marija Trifunović

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Merna oprema/ Metrološka sledivost Measuring equipment / Traceability

Opis Description	Serijski broj Serial. no.	Br. Sertifikata i datum Certificate no./date	Izdat od Authority issued
DIGITALNI TERMOMETAR-INDIKATOR LUTRON	I.456004	/	Instrumenti MB
TERMOPAR TIP K; 9	M-17983	247/20-1-9, 20.12.2020.	Instrumenti MB
TERMOPAR TIP K; 1	M-17972	247/20-1-1, 20.12.2020.	Instrumenti MB
TERMOPAR TIP K; 2	M-17973	247/20-1-2, 20.12.2020.	Instrumenti MB
TERMOPAR TIP K; 3	M 17981	247/20-1-3, 20.12.2020.	Instrumenti MB
TERMOPAR TIP K; 4	M 17975	247/20-1-4, 20.12.2020.	Instrumenti MB
TERMOPAR TIP K; 5	M 17976	247/20-1-5, 20.12.2020.	Instrumenti MB
TERMOPAR TIP K; 6	M 17982	247/20-1-6, 20.12.2020.	Instrumenti MB
TERMOPAR TIP K; 7	M 17978	247/20-1-7, 20.12.2020.	Instrumenti MB
TERMOPAR TIP K; 8	M 17979	247/20-1-8, 20.12.2020.	Instrumenti MB

Rezultati merenja dobijeni etalonom i mernom opremom imaju sledivost do nacionalnog etalona za temperaturu Republike Srbije. The measurement results obtained by the standard and measuring equipment have traceability to the national temperature standard of the Republic of Serbia.

Ambijentalni uslovi Ambient conditions

Temperatura Temperature 19.9 °C Vлага Humidity 43 %RH

Metoda etaloniranja Measuring procedure

Etaloniranje direktnim poređenjem

Calibration of Temperature and/or Humidity Enclosures, EURAMET cg-20, Version 4.0 (02/2015)
Calibration of Climatic Chambers, Guideline, DKD-R 5-7, Edition 07/2004

Rezultati etaloniranja Calibration results

Br. Tačke	Temperatura postavljena na regulatoru temperature (t_{ind})	Temperatura u referentnoj tački (T_s)	Greška* (g_x)	Merna nesigurnost ⁽¹⁾ $U(g_x)$
1	121.0 °C	124.0 °C	-3.0 °C	2.7 °C

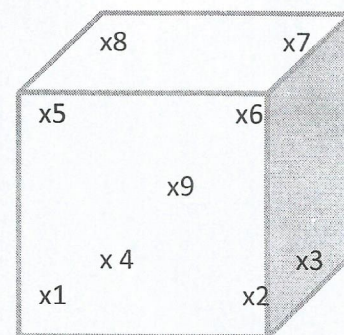
*Greška temperature na regulatoru temperature od temperature u referentnoj tački
Skica rasporeda mernih tačaka u radnom prostoru komore

Referentna tačka:

0 (Težište tela definisanog temenima od 1 do 8)

Br. Tačke	a	Temperature u radnom prostoru, u mernim tačkama									b
		1	2	3	4	5	6	7	8	0	
	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C	°C
1	121.0	121.9	122.9	122.4	124.1	122.0	124.5	122.9	125.1	124.0	0.05

- a Temperatura postavljena na regulatoru temperature
0 Temperatura u referentnoj tački
b Nesigurnost merenja temperature u mernim tačkama



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Br. Tačke	Temperatura postavljena na regulatoru temperature (t_{ind})	Prostorna nehomogenost	Vremenska nestabilnost	Uticaj zračenja
1	121.0 °C	2.1 °C	0.5 °C	0.2 °C

¹⁾ Navedena proširena merna nesigurnost data je kao standardna merna nesigurnost, pomnožena faktorom obuhvata/pokrivanja $k=2$, koji za normalnu raspodelu odgovara verovatnoći pokrivanja približno 95% (EA-4/02M:2013).

¹⁾ The afore mentioned extended measurement uncertainty is given as standard measurement uncertainty, multiplied by the coverage factor $k = 2$, which corresponds to the probability of covering approximately 95% for normal distribution (EA-4/02M:2013).

Dodatna napomena Further remarks

-Kraj sertifikata o etaloniranju-

-End of calibration certificate-