

KALIBREERIMISTUNNISTUS
CALIBRATION CERTIFICATE**ATLT-24/1193A***Kuupäev
Date**01.10.2024**Tellija
Customer**Vintage visual OÜ**Aadress
Address**Vahi, 79661 Purila küla, Rapla vald, Rapla maakond**Mõõtevahend
Measuring instrument**Film processor temperature sensor**Valmistaja
Manufactured by**AGO**Tüüp
Type**-**Number
Serial number**AGO2024-02 (inv No. 2)**Kalibreeritud
Date of calibration**30.09-01.10.2024**
Dokument on kinnitatud elektroonselt Metroserdi digitempliga.Jaana Veltri kinnitas/approved 09.05.2025 14:41.05
Hanna Petrova kinnitas/approved 09.05.2025 14:43.00Leht / Lehti
Page / Number of pages**1(2)**

H. Petrova

Mõõtmiste eest vastutav isik
Person responsible for measurements

J. Veltri

Kalibreeris
Calibrated by

Lisad

Documents attached

*) Calibration certificate reissued on 09.05.2025 (translated to English).

This calibration certificate replaces the calibration certificate ATLT-24/1193.

Akrediteeritud kalibreerimislabor AS Metrosert kalibreerib mõõtevahendeid ja väljastab kalibreerimistunnistusi Eesti Akrediteerimiskeskuse (EAK) akrediteerimisotsuse ulatuses ning sellele vastavates mõõtemääramatuse piirides. Käesolevas kalibreerimistunnistuses antud mõõtetulemused on jälgitavad rahvusvahelise mõõtühikute süsteemi (SI) ühikuteni. EAK on ühinenud Euroopa Akrediteerimisalase Koostööorganisatsiooni (EA) ja Rahvusvahelise Laborite Akrediteerimise Koostööorganisatsiooni (ILAC) vastastikuse tunnustamise lepetega.

The measurements carried out and the Certificates of Calibration issued by an Accredited Laboratory comply with the measurement ranges and uncertainties approved by the Estonian Accreditation Centre (EAK). The measurement results issued by the Laboratory are traceable to the units of International System of Units (SI). EAK is a signatory to the multilateral agreements of the European co-operation for Accreditation (EA) and of the International Laboratory Accreditation Cooperation (ILAC).

Kalibreerimistunnistust võib paljundada tema täies mahus. Kalibreerimistunnistuse osaline paljundamine on lubatud ainult tunnistust väljastava labori kirjalikul loal. Tulemused kehtivad ainult kalibreeritud mõõtevahendi kohta.

This Certificate may only be reproduced in full, except with the prior written permission by the issuing Laboratory.
The results relate only to the calibrated measuring instrument.

Metroserdi dokumentide elektroonilise kinnitamise kohta vaata lisainfot aadressil <https://metrosert.ee/elektrooniline-tempel>.
For additional information about approving digital documents in Metrosert see <https://metrosert.ee/electronic-seal>.

1 Kalibreerimisvahendid. Calibration equipment.

Standard(s): platinum resistance thermometer HS 5615-9 No. 855927
multimeter Fluke 8845A No. 1135003
Additional device(s): water bath MC12 No. 00274477/00273404
termostat TV7000LT No. 10T065

2 Jälgitavus. Traceability.

This calibration certificate documents the traceability of measurement results to national standards, which realize the units of measurement according to the International System of Units (SI).

3 Kalibreerimisjuhend/-metoodika, -meetod; mõõteprotsessi lühikirjeldus.

Calibration instruction or method; short description of the calibration process.

Guidelines for calibration MDK KJ 303.

Thermometer was calibrated by comparison, at temperatures agreed with customer. After temperature stabilization 10 measurements were made. The result of measurement was determined as average of these individual indications. Immersion depth was 2,5 cm. Measurement results are presented in table 1.

4 Määramatus. Uncertainty of measurement.

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k = 2$, which for a normal distribution corresponds to a coverage probability of approximately 95 %. Long-term stability of calibrated measurement equipment has not been considered. The standard uncertainty of measurement has been determined in accordance with EA publication EA-4/02.

5 Keskkonnatingimused. Environmental conditions.

Temperatuur Temperature: (20,9...22,7) °C
Suhteline õhuniiskus Relative humidity: (29...37) %rh

6 Tulemused. Results

Table 1. Measuring results

Temperature, °C	Average indication of measuring instrument, °C	Correction, °C	Expanded uncertainty, °C
14,99	15,06	-0,07	0,16
19,96	19,94	0,02	0,16
25,00	24,94	0,06	0,16
29,99	29,81	0,18	0,16
35,00	34,75	0,25	0,16
40,01	39,73	0,28	0,16
45,01	44,69	0,32	0,16