

# CERTIFICATE OF ACCREDITATION

## Thermo Fisher Scientific Solutions

**Accreditation No. :** KC22-408

**Corporation Registration No. :** 110114-0032794

**Address of Laboratory :** 281, Gwangpyeong-ro, Gangnam-gu, Seoul, Republic of Korea

**Date of Initial Accreditation :** Aug. 24, 2022.

**Validity of Accreditation :** Aug. 24, 2022. ~ Aug. 23, 2026.

**Scope of Accreditation :** Attached Annex

**Date of issue :** Aug. 24, 2022.

**This calibration laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to Joint ISO-ILAC-IAF Communiqué).**



*Sanghoon Lee*

Head

Korea Laboratory Accreditation Scheme

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017 & KS Q ISO/IEC 17025:2017

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CALIBRATION

Valid To : Aug. 23, 2026.

Accreditation No : KC22-408

In recognition of the successful completion of the KOLAS evaluation process,  
 accreditation is granted to this laboratory to perform the following calibrations

Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site	Field Code	Item of Calibration	on-site
206. Volume								
20606	Piston type volume meters	N						
501. Contact thermometry								
50101	Temperature generators; ovens, isothermal liquid baths, ice-point baths, dry-block calibrators	Y						
50102	Temperature indicators /recorders/controllers, temperature calibrators	Y						
50104	Resistance thermometers; IPRT, thermistors, etc.	N						
50107	Temperature transducers	N						

Note

1. This laboratory provides calibration services in permanent standard laboratory and at on-site.
2. Laboratory conducts on-site calibration should meet requirements of KOLAS-SR-007.
3. On-site calibration is allowed to items with marking 'Y', not allowed to items with marking 'N'.
4. Measurement uncertainty normally is quoted as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of  $k=2$ . It expresses the lowest uncertainty of measurement that can be provided by accredited calibration laboratories in normal conditions.
5. Due to the calibration environment such as reference standards or customers' facilities, it is note that uncertainty of measurement on a calibration certificate may be expressed larger than measurement uncertainty on scope of accreditation in general.

206. Volume

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Piston type volume meters	20606	(0 ~ 3) $\mu\text{L}$	15 nL	Balance, Weight Pure water /TFSS-CG-M601
		(3 ~ 10) $\mu\text{L}$	18 nL	
		(10 ~ 20) $\mu\text{L}$	23 nL	
		(20 ~ 50) $\mu\text{L}$	63 nL	
		(50 ~ 100) $\mu\text{L}$	93 nL	
		(0.1 ~ 0.2) mL	0.19 $\mu\text{L}$	
		(0.2 ~ 0.5) mL	0.43 $\mu\text{L}$	
		(0.5 ~ 1) mL	0.82 $\mu\text{L}$	
		(1 ~ 2) mL	1.7 $\mu\text{L}$	
		(2 ~ 5) mL	3.7 $\mu\text{L}$	
		(5 ~ 10) mL	7.3 $\mu\text{L}$	
		(10 ~ 20) mL	15 $\mu\text{L}$	
		(20 ~ 50) mL	45 $\mu\text{L}$	
(50 ~ 100) mL	52 $\mu\text{L}$			

501. Contact thermometry

Measured Quantity Instrument or Gauge	Field Code	Range	Measurement uncertainty (The Confidence Level is about 95 %)	Standard/Method of Measurement etc.
Temperature generators; ovens, ice-point baths, isothermal liquid baths, dry-block calibrators  isothermal liquid baths, ice-point baths, dry-block calibrators  ovens	50101	(-196 ~ 0) $^{\circ}\text{C}$	0.04 $^{\circ}\text{C}$	SPRT /TFSS-CG-M603
		0 $^{\circ}\text{C}$	0.007 $^{\circ}\text{C}$	
		(0 ~ 300) $^{\circ}\text{C}$	0.04 $^{\circ}\text{C}$	
		(-90 ~ 100) $^{\circ}\text{C}$	0.68 $^{\circ}\text{C}$	
(100 ~ 300) $^{\circ}\text{C}$	0.92 $^{\circ}\text{C}$	/TFSS-CG-M604		
Temperature indicators /recorders/controllers  With sensor  Without sensor	50102	(-196 ~ 300) $^{\circ}\text{C}$	0.07 $^{\circ}\text{C}$	SPRT /TFSS-CG-M605 Calibrators /TFSS-CG-M605
		(-196 ~ 300) $^{\circ}\text{C}$	0.024 $^{\circ}\text{C}$	
Resistance thermometers; IPRT, thermistors, etc.  IPRT, Resistance thermometers	50104	(-196 ~ 300) $^{\circ}\text{C}$	0.05 $^{\circ}\text{C}$	SPRT /TFSS-CG-M606
Temperature Transducer	50107	(-196 ~ 300) $^{\circ}\text{C}$	0.23 $^{\circ}\text{C}$	SPRT /TFSS-CG-M607