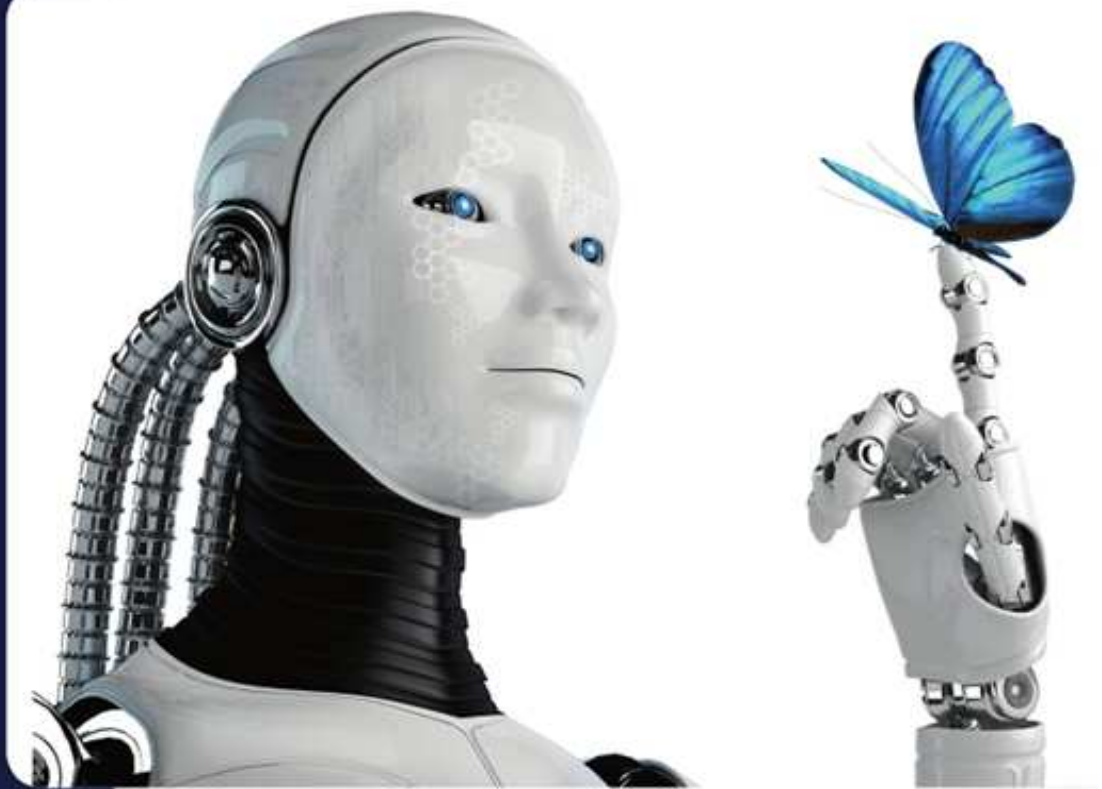


Newsletter

February, 2021



ICR



Address :3611, Hagun-ri, Yangchon-eup, Gimpo-si,
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Hot Issue

1. Extension of KOLAS Scope
2. 2020 Customer Satisfaction Questionnaire Evaluation
3. Large Thermal Shock Tester

4. Voltage and current harmonics distortions IEEE Std. 519



Extension of KOLAS Scope



Korea Laboratory Accreditation Scheme

CERTIFICATE OF ACCREDITATION

ICR Co., Ltd.

Accreditation No. : KT652

Corporation Registration No. : 110111-2431479

Address of (Branch site) 112, Hwanggeun 3-ro 7 beon-gil Yangchon-eup,
Laboratory : Gimpo-si, Gyeonggi-do, Republic of Korea
(Satellite facilities-1) 113, Hwanggeun 3-ro 7 beon-gil Yangchon-
eup, Gimpo-si, Gyeonggi-do, Republic of Korea

Date of Initial Accreditation : January 16, 2015

Validity of Accreditation : January 04, 2019 ~ January 03, 2023

Scope of Accreditation : Attached Annex

Date of issue : January 28, 2021

This testing 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).



LEE Seung Woo

Head
Korea Laboratory Accreditation Scheme

Korea Laboratory Accreditation Scheme(KOLAS) is a signatory to the ILAC Mutual Recognition Arrangement

1/175

ICR has accredited regarding **extension of KOLAS scope** for 03.006 since 28-01-2021.

Extension of KOLAS Scope



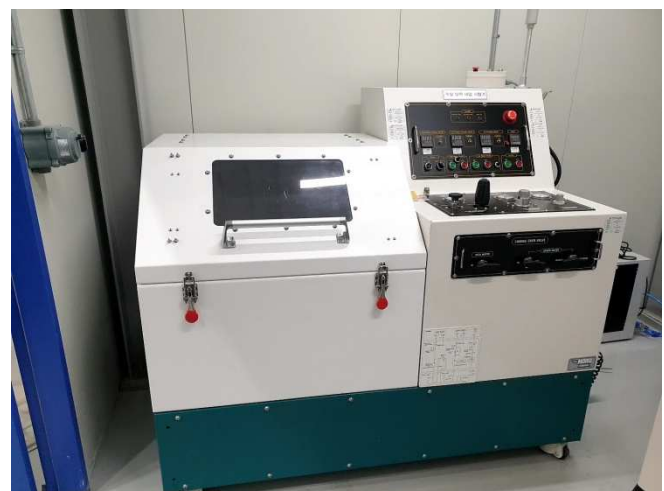
- **Extension scope** of 03.006 industrial electrical equipment
 - IEC 60079-1:2014
 - EN 60079-1:2014

- With the completion of the extension of KOLAS accreditation scope for standards of **flameproof**, ICR is capable to provide **ATEX test services** for various type of protection such as **intrinsic safety, dust ignition protection by enclosure, encapsulation**, etc.

- Applicable equipments **for flameproof**
Motor, actuator, enclosure, luminaire, transmitter, etc.



[Flameproof chamber]



[Overpressure test device]

2020 Customer Satisfaction Questionnaire Evaluation



- Based on the Customer Satisfaction Management Instruction (SI-06), the System Certification Division completed the 2020 **customer satisfaction evaluation** as follows.

- Date : 05 November 2020

- **Purpose of evaluation**
 - Identifying market trends for the improvement of ICR
 - Evaluation for the quality of audit
 - Domestic market research
 - ICR service sector evaluation

- **Evaluation targets and standard**
 - ISO 9001 (Quality Management Systems)
 - ISO 14001 (Environmental Management Systems)
 - ISO 45001 (Occupational health and safety management Systems)
 - ISO 22000 (Food Safety Management System)
 - ISO 13485 (Medical devices Quality Management System)

2020 Customer Satisfaction Questionnaire Evaluation



■ Satisfaction evaluation analysis

Compared to 2019 (93.16%), satisfaction fell to 88.5%.

The reasons for the increase in customer dissatisfaction are judged as follows.

- The application of the revised IAF MD5 adds to the increase in the number of days for environmental management systems.
- Added the number of audit days according to performance of remote audit in a pandemic situation.

■ Improvements

ICR will perform activities to inform customers of the legitimacy of MD calculations for changes in requirements and for increased reasons.

2020 Customer Satisfaction Questionnaire Evaluation



No.	Questionnaire	High (%)	Med (%)	Low (%)	Result
1	Are you guided for the audit procedures and criteria enough?	98.33	1.67	0	98.35
2	Do you think that the audit man-days are calculated appropriately for you?	90.00	9.00	1.00	88.5
3	Do you think that the audit plan and schedule were provided to you at an appropriate time so that you prepare the audit?	99.33	0.67	0	98.74
4	Did the audit team conduct the audit according to the audit plan that was provided you in advance?	100	0	0	99
5	Did the audit team keep the planned audit times?	99.66 67	0.333333	0	98.87
6	When there are your requirements regarding audits, is it processed promptly?	99.33	0.67	0	98.74
7	Dose ICR answers kindly when you make a call?	99.33 33	0.66667	0	98.74
8	Is the auditor's attitude courtesy to you?	97.67	2.33	0	98.09
9	Do you think the audit team is assigned to your departments appropriately?	96.00	4.00	0	97.44
10	Are your opinions and situations reflected appropriately during audit?	94.33	5.67	0	96.79
11	Do you think that auditor's findings are helpful for improving and development your system?	95	5	0	96.92
12	Do you think that the audit is conducted efficiently?	96.00	4.00	0	97.44
13	Do you think that the audit is conducted with meeting your expected effect and improving the values.	95.00	5.00	0	97.05

 **Inquiries**

System Certification Div. / Kim, Chae-Lin
T.02-6351-9001 / kcl@icrqa.com

Large Thermal Shock Tester



■ TRENDS

Test of large scale and high strength of products such as batteries and parts by electric vehicle development
 The test area of the bigger space in the area required by the existing equipment. The performance of possible equipment is required.

■ Large Thermal Shock Tester

In line with these customer needs, **ICR** has introduced a **large thermal shock tester to operate the test service.**

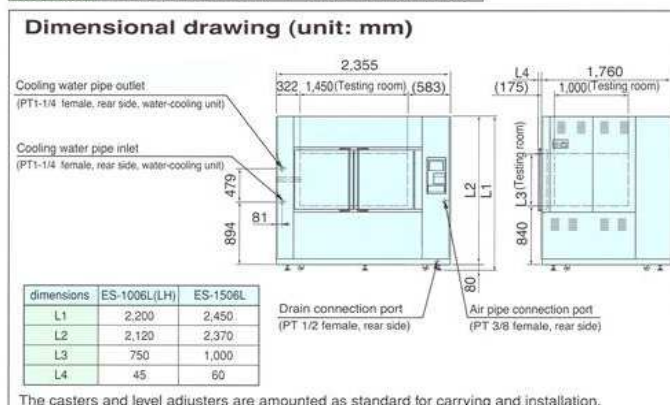
Series					
Series	Freezer method	Test chamber Capacity(L)			
		1,080	1,450	2,448	2,880
High Capacity Series	Water-cooling	ES-1006L, ES-1006LH	ES-1506L	ES-2506L	ES-2906L
Air-cooling Remote Condenser Type	Air-cooling	ES-1006L-R	ES-1506L-R	—	—

ES-1006L(LH), ES-1506L

By expansion of testing room capacity, correspond to large size materials.

testing room	Unit dimension	Testing room
1,080L class	W2,355 × D1,805 × H2,200	W1,450 × D1,000 × H750
1,450L class	W2,355 × D1,820 × H2,450	W1,450 × D1,000 × H1,000

Temperature Range		
	ES-1006L/ES-1506L	ES-1006LH
Low-temp test	-50°C to -10°C	-65°C to -10°C
High-temp test	+60°C to +120°C	+60°C to +200°C



Inquiries

Mobility Center / Lee, Han-Kook
 T.010-5522-1825 / lhk9876@icrqa.com

Voltage and current harmonics distortions

IEEE Std. 519



■ Purpose

This is to prevent malfunction, damage, and overheating, energy loss of devices and to ensure power quality by harmonics that are inevitably issued due to advances in power and electronic technology.

■ Harmonic

- Integer times the default frequency(2,3,4,5,6,.....n) is a voltage and current with a frequency.
- Caused by distortion of voltage/current by non-linear load operation.
- It refers to up to 50 frequency (3 kHz) and more than that is classified as high frequency or noise.

■ Harmonic sources

- Monics by switching power electronic devices in rectifiers, inverters, and converters.
- Harmonic waves caused by current due to the characteristics of the transformer magnetization (hysteresis phenomenon).
- Harmonics caused by resonance of inductive reactance and capacitive reactance.
- harmonic waves caused by transients
- Illumination stabilizer and harmonic wave by SCR AC phase control device.

Voltage and current harmonics distortions

IEEE Std. 519



Harmonic Criteria

<Current Harmonics>

SCR =ISC/IL	Individual Harmonic Order(Odd Harmonics)					TDD
	3 < h < 11	11 < h < 17	17 < h < 23	23 < h < 35	35 < h < 50	
< 20	4.0	2.0	1.5	0.6	0.3	5.0
20-50	7.0	3.5	2.5	1.0	0.5	8.0
50-100	10.0	4.5	4.0	1.5	0.7	12.0
100-1000	12.0	5.5	5.0	2.0	1.0	15.0
> 1000	15.0	7.0	6.0	2.5	1.4	20.0

Note) (1) The management criteria for even harmonics are within 25% of the odd harmonics above.

< Voltage Harmonics >

Bus Voltage at PCC	Individual Voltage Distortion(%)	Total Voltage Distortion(%)
$V \leq 1.0 \text{ kV}$	5.0	8.0
$1.0 \text{ kV} < V \leq 69 \text{ kV}$	3.0	5.0
$69 \text{ kV} < V \leq 161 \text{ kV}$	1.5	2.5
$161 \text{ kV} < V$	1.0	1.5

Inquiries

Industrial Safety Center / Yang Dae-song
T.02-6351-9001 / yds@icrqa.com



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ICRO-31/R20161125 본 문서는 법률 제 14088호 저작권법의 보호대상이며, ICR의 지적 자산으로 불법 편집 및 복사를 금합니다.

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