





TEST REPORT

Report No. : SGS-R18-1658-EN00
Order No. : TON-R18-2475
Applicant : WISE Control Inc.
Address : 2022 Deogyong-dearo, Giheung-gu, Yongin-si,
Gyeonggi-do, Korea (17097)
Product : Sheathed Thermocouple & RTD
Model No. : R Series(R121, R122, R221, R222) - General Head Type
Date of Test : August 22, 2018 ~ August 23, 2018
Standard : IEC 60529: 2013
Degrees of protection provided by enclosures (IP67)
Test Result : Refer to page 10
Use of Report : For Quality Control

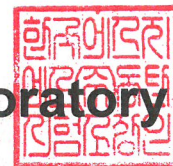
This is certified that the above mentioned products have been tested for the sample provided by client.

Affirmation	Tested by Name : Jeong, Sang-jin 	Technical Manager Name : Kim, Hak-ju 
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August 30, 2018

SGS Korea Co., Ltd. Dongtan Laboratory



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TQF-510-001_ver6





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1. Overview

As requested by the client, this test was conducted on test sample according to the test specification presented by the client.

2. Product

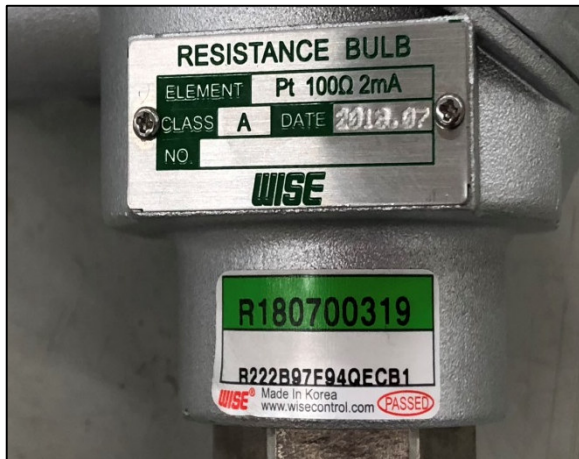
2.1 Description

- | | |
|------------------|--|
| 1) Applicant | : WISE Control Inc. |
| 2) Manufacturer | : WISE Control Inc. |
| 3) Product | : Sheathed Thermocouple & RTD |
| 4) Model | : R Series(R121, R122, R221, R222) - General Head Type |
| 5) S.N | : #1, #2 |
| 6) No. of sample | : 2 EA |

2.2 Photograph



< R Series(R121, R122, R221, R222) - General Head Type #1 >

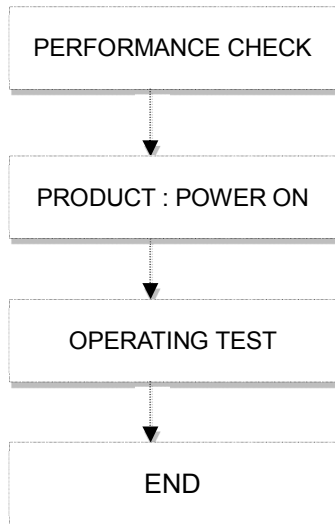


< R Series(R121, R122, R221, R222) - General Head Type #2 >

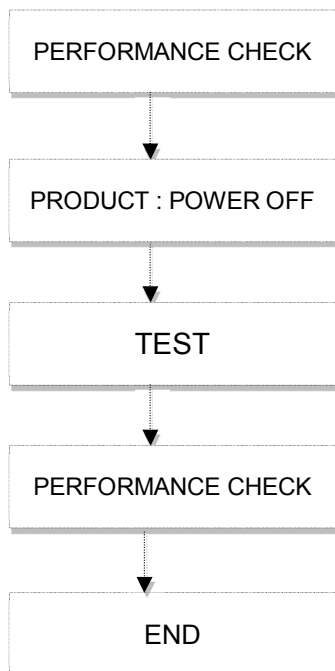


3. Test process

3.1 Operating Test



3.2 Non-operating Test



4. Test condition & Test result



4.1 IPX7

Applicant	WISE Control Inc.	Dept. in charge	Reliability Test Team
Product	Sheathed Thermocouple & RTD	Tester	Jeong, Sang-jin (+82-31-240-6651)
Model	R Series(R121, R122, R221, R222) - General Head Type	Date	Aug 22, 2018.
Serial No.	#1		
Standard	IEC 60529 : 2013 Degrees of protection provided by enclosures	Page	2

(1) Test condition

- 1) IP Code : IPX7
- 2) Immersion depth : 1 m (From water surface to the specimen's lower end)
- 3) Test duration : 30 min
- 4) Status of product : ①Unpacked Product ② Non-operation
- 5) No. of sample : 1 EA

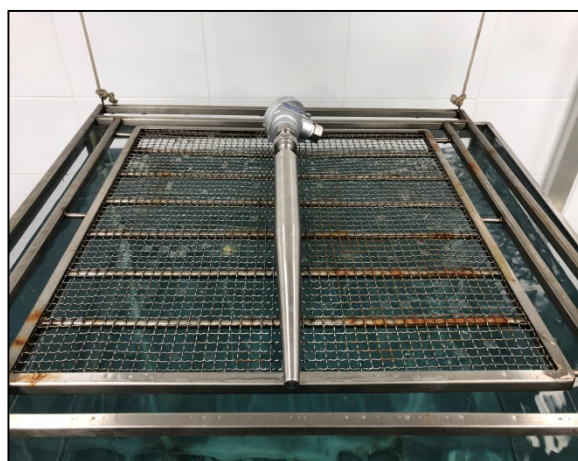
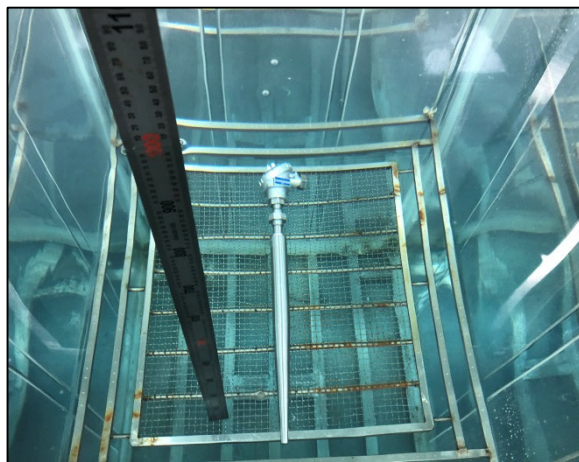
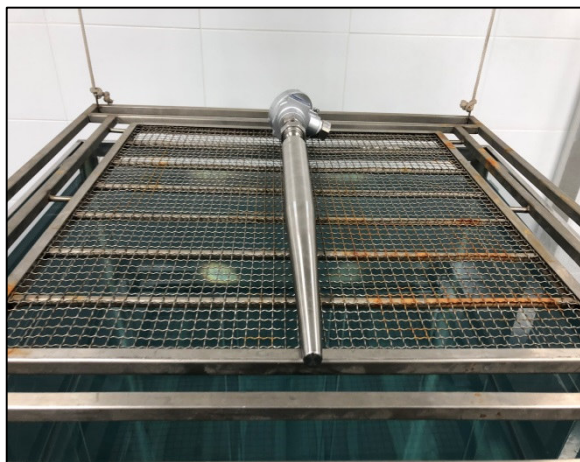
(2) List of used equipment

Description	Manufacturer & Model	Serial Number	The due date of next Calibration	Calibration Laboratory
Immersion apparatus	Sejong FA	-	-	-
straight edge ruler	2 000 mm	12062537-7	Aug 02, 2019	SICT

(3) Test Result

Check item	Test result
- . Confirmation of water resistance	No water penetration was found. (Refer to page 10)

(4) Test photograph





4.2 IP6X

Applicant	WISE Control Inc.	Dept. in charge	Reliability Test Team
Product	Sheathed Thermocouple & RTD	Tester	Jeong, Sang-jin (+82-31-240-6651)
Model	R Series(R121, R122, R221, R222) - General Head Type	Date	Aug 22, 2018.
Serial No.	#2		
Standard	IEC 60529 : 2013 Degrees of protection provided by enclosures	Page	2

(1) Test condition

- 1) IP code : IP6X
- 2) Test time : 8 h
- 3) Decompression : Maximum depression of 2 kPa (20 mbar)
- 4) Status of product : ① Unpacked product ② Non-operation
- 5) Check point : After the test
- 6) Sample quantity : 1 EA

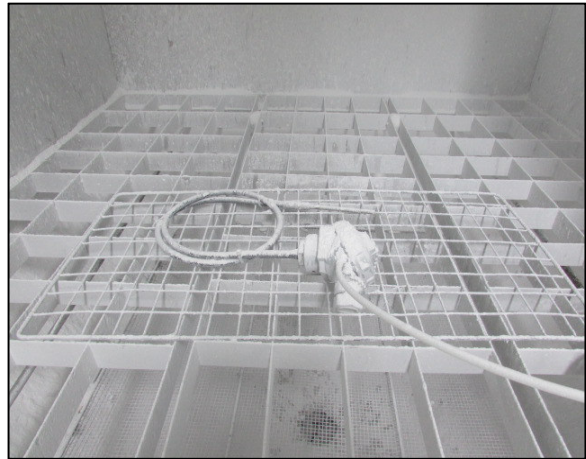
(2) List of used equipment

Description	Manufacturer & Model	Serial Number	The due date of next Calibration	Calibration Laboratory
Dust Chamber	Daekyung Engineering DOC-300DSEM	DOC-11-43-10DSEM	N/A	N/A
Temperature controller	HANYOUNG KX9N-SENA	825110	February 23, 2019	SICT
Pressure Transmitter	SENSORTEC KP-21N	1107048	February 28, 2019	SICT
Mass Flow Meter	XFM47	440070-1	Mach 07, 2019	DDHT

(3) Test result

Check item	Test result
-. Confirmation of dust resistance	No dust penetration was found. (Refer to page 10)

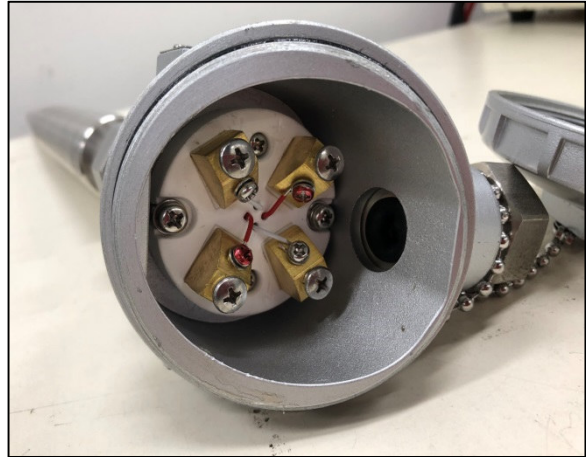
(4) Test photograph





※ Annex 1. Test result photograph

1. IPX7 : No water penetration was found.



2. IP6X : No dust penetration was found.





End.



시험 성적서

발행번호 : SGS-R18-1658-KR00
접수번호 : TON-R18-2475
의뢰기관 : (주)와이즈산전
회사주소 : 경기도 용인시 기흥구 덕영대로 2022 (17097)
제품명 : Sheathed Thermocouple & RTD
모델명 : R Series(R121, R122, R221, R222) - General Head Type
시험일자 : 2018년 08월 22일 ~ 2018년 08월 23일
시험규격/방법 : IEC 60529: 2013
Degrees of protection provided by enclosures (IP67)
시험결과 : Page 10 참조.
용도 : 품질관리용

이 성적서 위의 내용은 시험의뢰인에 의해 제공된 시료에 한하며, 용도 이외의 사용을 금합니다.

확인	작성자	기술책임자
	성명 : 정 상 진 	성명 : 김 학 주 

※ 이 성적서는 서면 승인 없이 일부만 복사하여 사용할 수 없음.

2018. 08. 30.

한국에스지이에스(주) 동탄시험소장



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1. 시험 개요

본 시험은 의뢰자의 요구에 따라서 의뢰자가 제시한 규격과 시험시료로 실시 하였음.

2. 시료

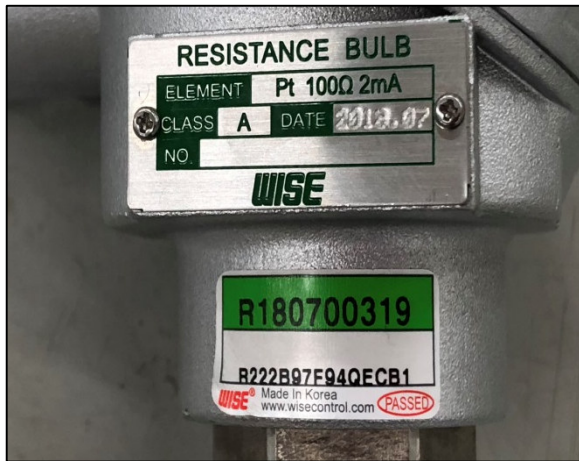
2.1 내용

- 1) 의뢰자 : (주)와이즈산전
- 2) 제조자 : (주)와이즈산전
- 3) 제품명 : Sheathed Thermocouple & RTD
- 4) 모델명 : R Series(R121, R122, R221, R222) - General Head Type
- 5) 제조번호 : #1, #2
- 6) 시료수 : 2 EA

2.2 시료 사진



< R Series(R121, R122, R221, R222) - General Head Type #1 >



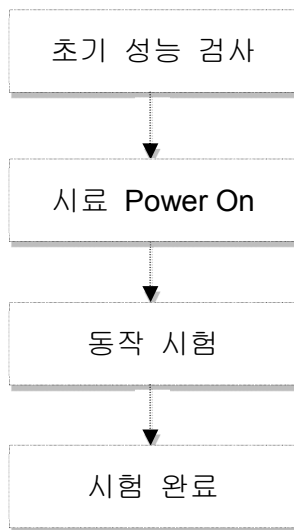
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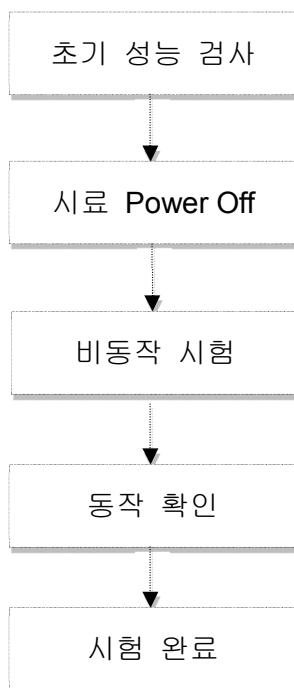
3. 시험 절차

시험 절차는 다음 두 가지 절차 중 택일 진행.

3.1 동작 시험 절차



3.2 비동작 시험 절차



4. 시험 조건 및 시험 결과



4.1 IPX7

의뢰자	(주)와이즈산전	담당부서	신뢰성 시험팀
제품명	Sheathed Thermocouple & RTD	시험요원	정 상 진 (☎ 031-240-6651)
모델명	R Series(R121, R122, R221, R222) - General Head Type	시험일자	2018. 08. 22.
제조번호	#1		
시험규격/ 방법	IEC 60529: 2013 Degrees of protection provided by enclosures	Page	2

(1) 시험 조건

- 1) IP 등급 : IPX7
- 2) 침수깊이 : 1 m (수면으로부터 시료 하단까지의 깊이)
- 3) 시험시간 : 30 min
- 4) 점검시간 : 시험 전, 후 확인
- 5) 시료상태 : ① 비포장 상태 ② 비동작 상태
- 6) 시 료 수 : 1 EA

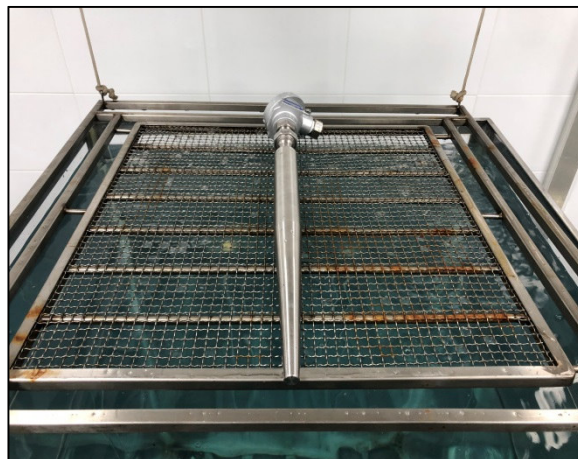
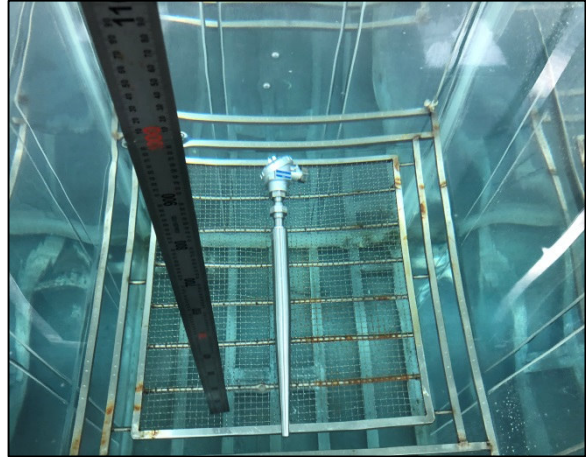
(2) 시험 장비

기 기 명	제조회사 및 형식	기기 번호	차기 교정 예정 일자	교정 기관
침수 시험기	세종 FA -	-	-	-
곧은자	2 000 mm	12062537-7	2019.08.02.	SICT

(3) 시험 결과

점검 항목	시험 결과
- 시료 내부 물 침투 확인.	시료 내부 물 침투 없음. (Page 10 참조.)

(4) 시험사진





4.2 IP6X

의뢰자	(주)와이즈산전	담당부서	신뢰성 시험팀
제품명	Sheathed Thermocouple & RTD	시험요원	정 상 진 (☎ 031-240-6651)
모델명	R Series(R121, R122, R221, R222) - General Head Type	시험일자	2018. 08. 23.
제조번호	#2		
시험규격/ 방법	IEC 60529: 2013 Degrees of protection provided by enclosures	Page	2

(1) 시험 조건

- 1) IP 등급 : IP6X
- 2) 시험시간 : 8 h
- 3) 감 압 : 최대 감압이 2 kpa (20 mbar)
- 4) 시료상태 : ① 비포장 상태 ② 비동작 상태
- 5) 점검시간 : 시험 후 확인
- 6) 시 료 수 : 1 EA

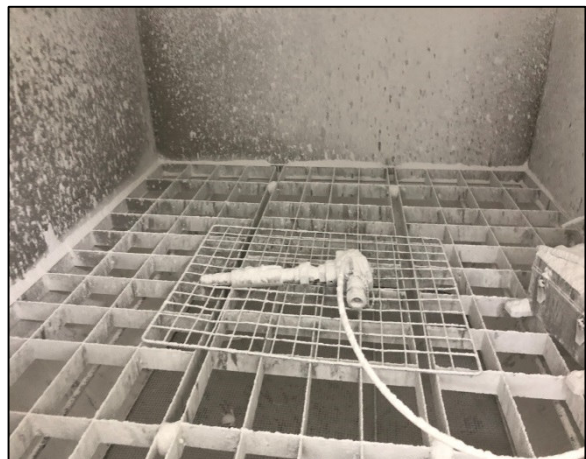
(2) 시험 장비

기 기 명	제조회사 및 형식	기기 번호	차기 교정 예정 일자	교정 기관
Dust 챔버	대경엔지니어링 DOC-300DSEM	DOC-11-43- 10DSEM	N/A	N/A
온도지시계	HANYOUNG KX9N-SENA	825110	2019.02.23.	SICT
압력조절계	SENSORTEC KP-21N	1107048	2019.02.28.	SICT
질량유량계	XFM47	440070-1	2019.03.07.	DDHT

(3) 시험 결과

점검 항목	시험 결과
- 시료 내부 분진 침투 확인.	시료 내부 분진 침투 없음. (Page 10 참조.)

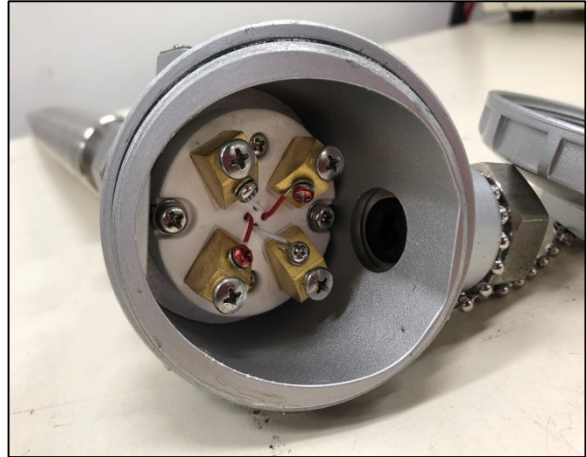
(4) 시험사진





※ 부록1. 시험 결과 사진

1. IPX7 : 시료 내부 물 침투 없음.



2. IP6X : 시료 내부 분진 침투 없음.



끝.