

TEST REPORT



Report No. : 22-028778-02-2

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1. Client

Name : POWER-GENEX

Address : 99 Eunbong-ro, Namdong-gu, Incheon, Republic of Korea

Date of Receipt : 2022. 05. 10

2. Use of Report : To verify IP grade to IEC 60529

3. Test Sample

Description : Smart valve positioner

Manufacturer : POWER-GENEX

Model Name : ASD-5

Serial Number : -

Remark : Please refer to the clause 1.4 regarding the test sample and results.

4. Date of Test : 2022. 05. 18. ~ 2022. 05. 19.

5. Location of Test :

KTL Permanent Test Lab (Address : 87, Digital-ro 26-gil, Guro-gu, Seoul, KOREA)

On Site Testing

6. Test Standard/Method : IEC 60529:1989 +AMD1:1999+AMD2:2013 CSV/COR2:2015

7. Test Results : Pass (IP66)

Note :

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4. The results marked as '※' are out of KOLAS accreditation scope.

Affirmation	Tested by	Technical Manager
	Name : Min Jae Sik (Signature)	Name : Choi Yong-won (Signature)

The above test report is the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

2022. 05. 24

Korea Testing Laboratory

Accredited by KOLAS, Republic of KOREA

87, Digital-ro 26-gil, Guro-gu, Seoul, KOREA Tel.+82-2-860-1514 Fax. +82-2-860-1549

FP104-03-00



※ 위 마크는 추후 전자확인증 대조 프로그램에서 원본대조시 사용되는 2D코드입니다.

Test Results

1. Summary of Test

1.1. Test Standard

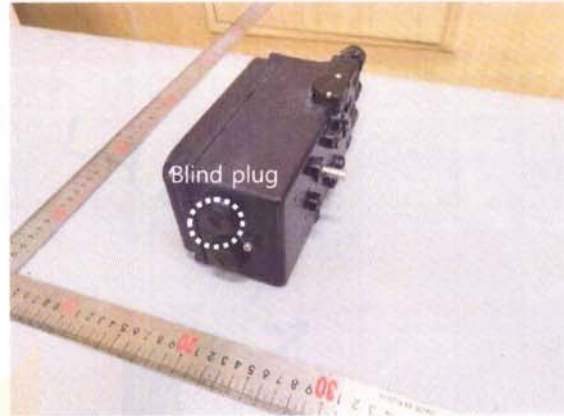
This test was conducted in accordance with "IEC 60529:1989 +AMD1:1999+AMD2:2013 CSV/COR2:2015".

1.2. Test Sample

- Description : Smart valve positioner
- Model Name : ASD-5
- Dimensions : 226 mm × 100 mm × 100 mm



[Fig. 1: Sample]



[Fig. 2: Sample]

1.3. Test Environment

- Temperature : (20.0 ± 2.0) °C
- Humidity : (40 ± 2) % R.H.
- Atmospheric Pressure : (101.3 ± 2.0) kPa

1.4. Remark

The test was conducted with a blind plug applied on the entry of the sample (Refer to Fig.2).



2. Results

Code Letters	IP	Conditions & Results
1st Characteristic numerals Against ingress of solid foreign objects	6	2.1 Dust Test Conditions <ul style="list-style-type: none"> Talcum powder(mesh) wire diameter: 50 μm Talcum powder(mesh) wire width: 75 μm Amount of talcum powder of the test chamber: 2 kg/m^3
		2.2 Dust Test Contents <ul style="list-style-type: none"> Volume of the enclosures: About 600 cm^3 Reduction air pressure: - 2.00 kPa(- 200 mmH_2O) Flow Rate: About 0.01 L/min Extraction rate per hour: About 1 volumes/h Test duration: 8 h
		2.3 Dust Test Result <ul style="list-style-type: none"> Pass
2nd Characteristic numerals Against ingress of water with harmful effects	6	2.4 Water Test Conditions <ul style="list-style-type: none"> Internal diameter of the nozzle: 12.5 mm Delivery rate: (100 \pm 5) L/min Core of the substantial stream: Circle of 120 mm diameter at 2.5 m distance from the nozzle Distance from nozzle to enclosure surface: (2.5 ~ 2.8) m
		2.5 Water Test Contents <ul style="list-style-type: none"> Test duration: 3 min
		2.6 Water Test Result <ul style="list-style-type: none"> Pass

FP104-04-00



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3. List of Testing Equipments

Equipment	Model	Manufacturer	Date of Calibration	Date of next Calibration
Thermo-hygrometer	Testo 622	Testo	2022-04-28	2023-04-28
Timer	HS-30W	CASIO	2021-08-17	2023-08-17
Vernier Calipers	CD-20APX	Mitutoyo Corp.	2021-06-16	2022-06-16
Flowmeter(IP5X,IP6X)	RMA-13-SSV	DWYER	2021-06-07	2022-06-07
Flowmeter(IPX5,X6)	GA-101	KOMETER	2022-04-27	2023-04-27
Pressure Meter	PM-80	Digitron	2021-12-21	2022-12-21
Nozzle	NONE	SCM	2022-01-13	2023-01-13

4. Test Figures



[Fig. 3: IP6X]



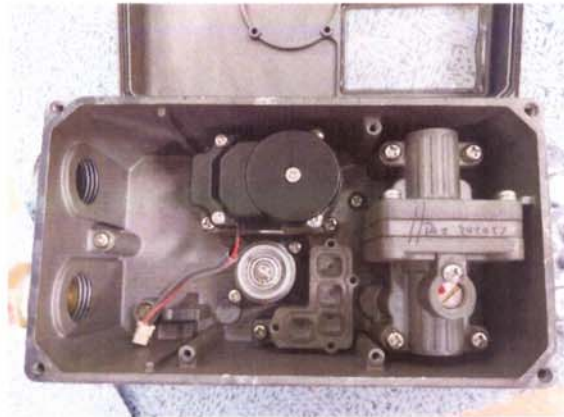
[Fig. 4: IPX6]



5. Dust Test Result Figures



[Fig. 5: IP6X]

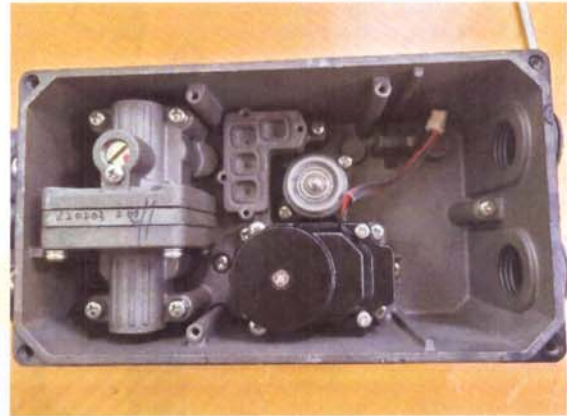


[Fig. 6: IP6X]

6. Water Test Result Figures



[Fig. 7: IPX6]



[Fig. 8: IPX6]

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