



TEST REPORT

Report No...... : WTS18D0199973S
Applicant..... : TOMUU Actuator Technology Co., Ltd.
Address..... : Shengyao Industrial Park, Shipai Town, Dongguan city, Guangdong province, China
Manufacturer..... : TOMUU Actuator Technology Co., Ltd.
Address..... : Shengyao Industrial Park, Shipai Town, Dongguan city, Guangdong province, China
Brand..... : --
Product Name..... : Actuator
Model No...... : U2
Ratings..... : --
Standards..... : IEC60529:1989+A1:1999+A2:2013
Test Category..... : Entrusted Test
Test Item..... : IP66 Test
Date of Receipt sample..... : 2018-01-08
Date of Test..... : 2018-01-10 to 2018-01-11
Date of Issue..... : 2018-01-12
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp for test institute and the signatures of reporter and reviewer.

Prepared By:

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Coonie Chen/Project Engineer

Approved by:



Jackson Zhong

Jackson Zhong/Manager

**List of test items:**

No.	Test Items	Requirement + Test	Result
1	IP66 Test	IEC60529:1989+A1:1999+A2:2013	Pass
<p>Subcontract Whether parts of tests for the product have been subcontracted to other labs: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, list the related test items and lab information: Test items: -- Lab information: --</p>			
<p>Remarks: Requested by client, all test base on the sample in a stationary state (see photo for details).</p>			



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**Test Item:**

Tests for protection against dust-proof:P6X

Test Method:

The tests should be carried out under the standard atmospheric condition.

The atmospheric conditions during tests are as follows:

Temperature range:15 °C to 35°C. Relative humidity: 25% to 75%.

The test is made using a dust chamber incorporating the basic principles shown in figure 2 where by the powder circulation pump may be replaced by other means suitable to maintain the talcum powder in suspension in a closed test chamber. The talcum powder used shall be able to pass through a square-meshed sieve the nominal wire diameter of which is 50µm and the nominal width of gap between wires 75 µm. The amount of talcum powder to be used is 2 kg per cubic meter of the test chamber volume. It shall not have been used for more than 20 tests.

Enclosures are of necessity in one of two categories:

Category 1:Enclosures where the normal working cycle of the equipment causes reductions in air pressure within the enclosure below that of the surrounding air,or example,ue to thermal cycling effects.

The enclosure under test is supported inside the test chamber and the pressure inside the enclosure is maintained below the surrounding atmospheric pressure by a vacuum pump. In no event shall the depression exceed 2 KPa(20mbar) on the manometer shown in figure 2. If an extraction rate of 40 to 60 volumes per hour is obtained the duration of the test is 2h.The extraction rate is less than 40 volumes pre hour, the test is continued until 80 volumes have been drawn through, or a period of 8h has elapsed.

Category 2: Enclosures where no pressure difference relative to the surrounding air is present.

The enclosure under test is supported in its normal operating position inside the test chamber, but is not connected to a vacuum pump. Any drain-hole normally open shall be left open for the duration of the test. The test shall be continued for a period of 8h.

The enclosure shall be deemed category 1, whether reductions in pressure below the atmospheric pressure are present or not.

The test wire of 1.0 mmφ insert into any openings of the enclosure with a force of 1N±10%.

Acceptance Conditions:

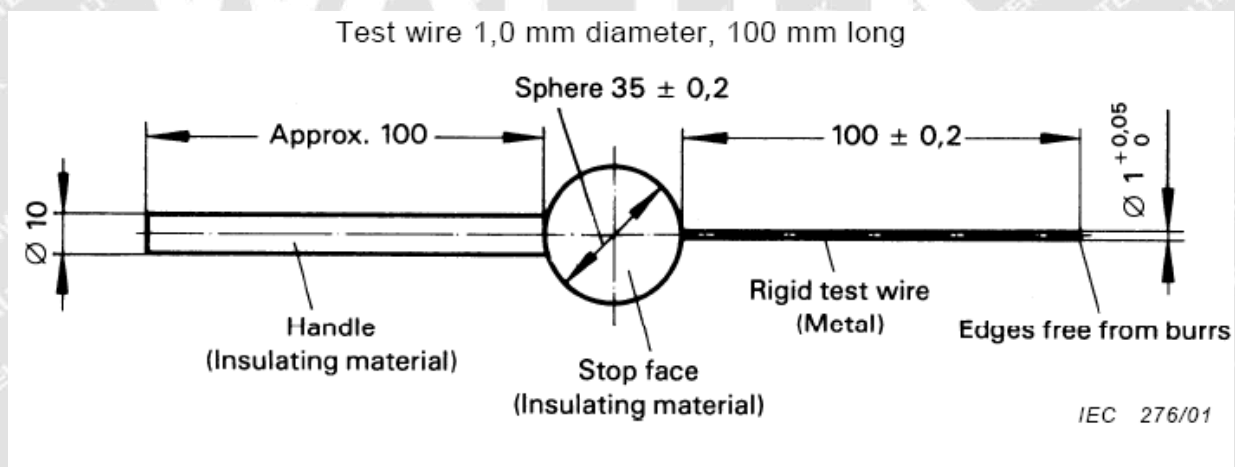
The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.

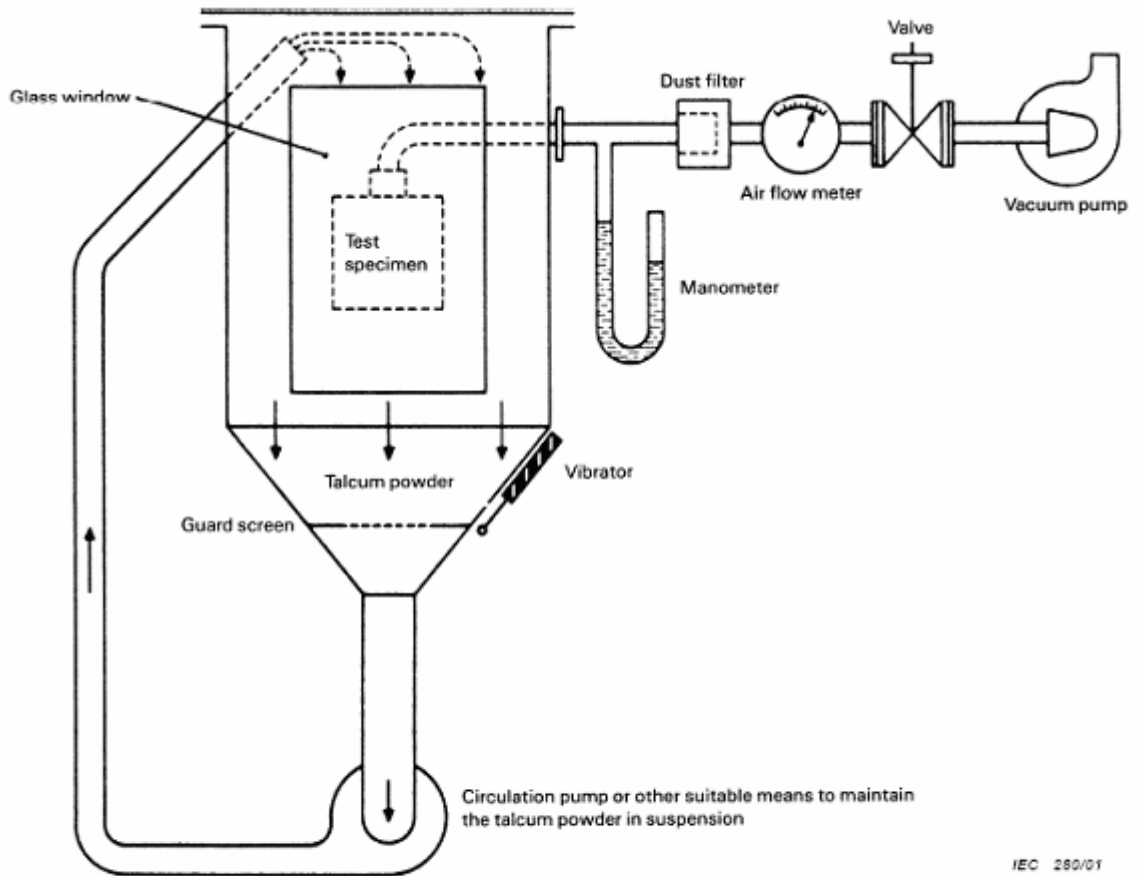
The protection is satisfactory if adequate clearance is kept between the access probe and hazardous parts.

The protection is satisfactory if the access probe 1.0 mm diameter shall not pass through the any opening.

Test Result:

Pass Fail





NOTE See IEC 60068-2-68, figure 2 valid for La2 only.

Figure 2 – Test device to verify protection against dust (dust chamber)

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**Test Item:**

Tests for protection against ingress moisture:PX6

Test Method:

The tests should be carried out under the standard atmospheric condition. The atmospheric conditions during tests are as follows:

Temperature range:15 °C to 35 °C Relative humidity: 25% to 75%.

The tests are conducted with fresh water. The water temperature should not differ by more than 5 k from the temperature of the specimen under test. If the water temperature is more than 5 k below the temperature of the specimen a pressure balance shall be provided for the enclosure.

The test is made by spraying the enclosure from all practicable directions with a stream of water form a standard test nozzle as shown in figure 6.

The conditions to be observed are as follows:

- internal diameter of the nozzle: 12.5 mm;
- delivery rate: 100l/min \pm 5 %;
- water pressure: to be adjusted to achieve the specified delivery rate;
- core of the substantial stream: circle of approximately 120 mm diameter at 2,5 m distance from nozzle;
- test duration per square meter of enclosure surface area likely to be sprayed:1 min;
- minimum test duration:3 min;
- distance from nozzle to enclosure surface: between 2,5 m and 3m.

Acceptance Conditions:

After testing in accordance with the appropriate requirements, the enclosure shall be inspected for ingress of water.

It is the responsibility of the relevant Technical Committee to specify the amount of water which may be allowed to enter the enclosure and the details of a dielectric strength test, if any.

In general, if any water has entered, it shall not:

- be sufficient to interfere with the correct operation of the equipment or impair safety;
- deposit on insulation parts where it could lead to tracking along the creepage distances;
- reach live parts or windings not designed to operate when wet;
- accumulate near the cable end or enter the cable if any.

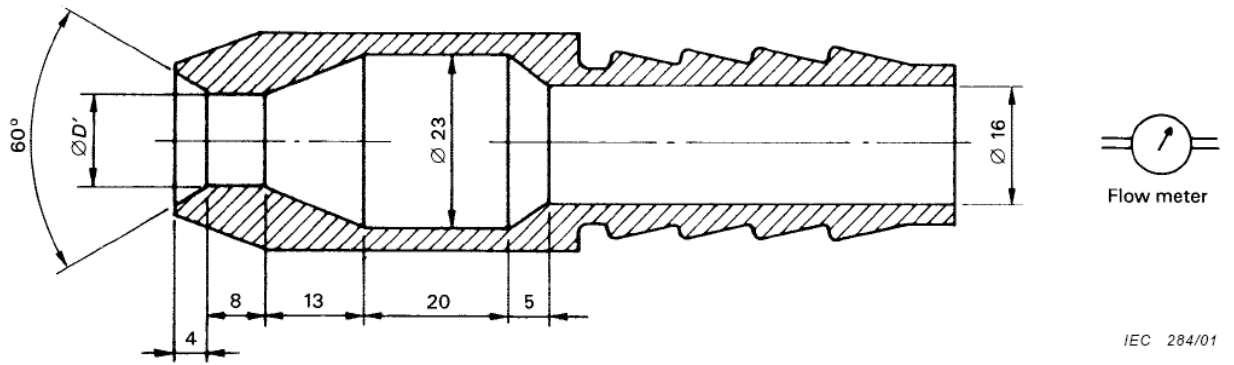
If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment.

For enclosures without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts.

Test Result:

Pass Fail

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IEC 284/01

Dimensions in millimetres

$D' = 6,3$ for the test of 14.2.5 (second characteristic numeral 5)

$D' = 12,5$ for the test of 14.2.6 (second characteristic numeral 6)

Figure 6 – Test device to verify protection against water jets (hose nozzle)

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Photo Documentation:



Photo 1



Photo 2



Photo 3

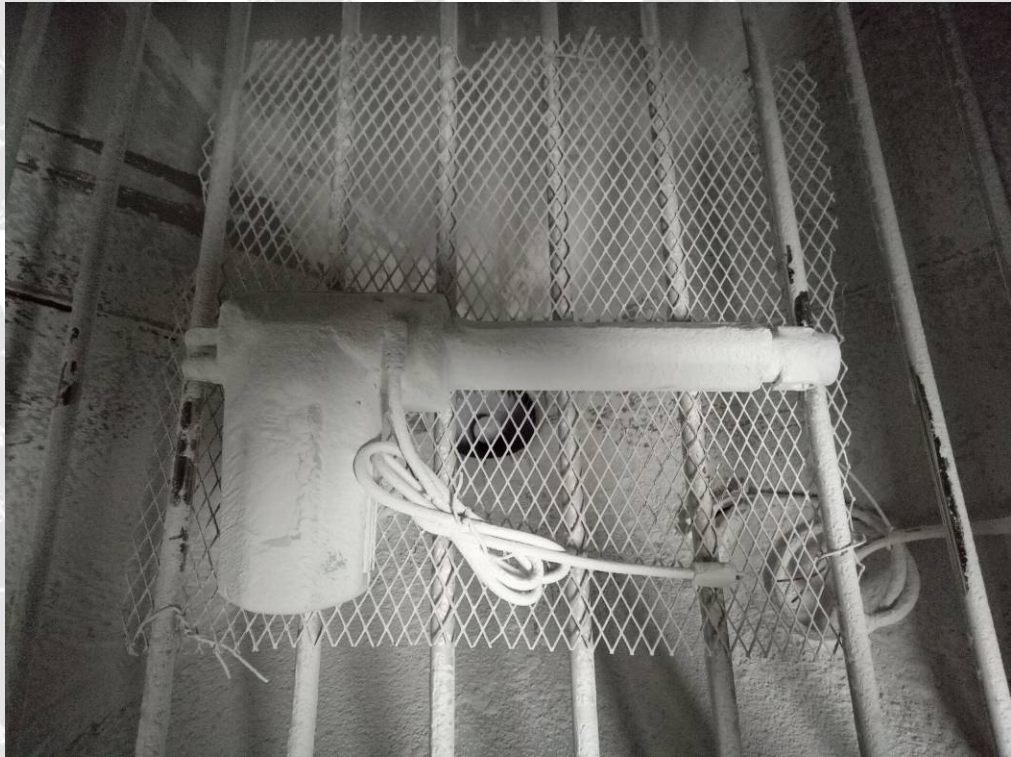


Photo 4



Photo 5

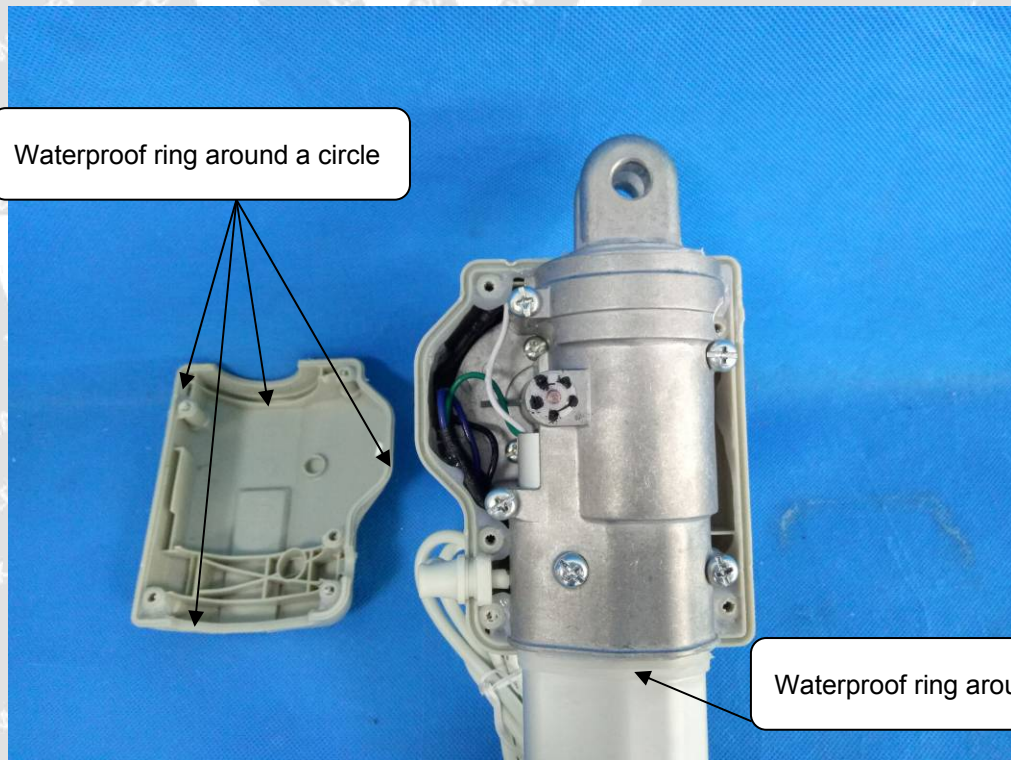


Photo 6



Photo 7

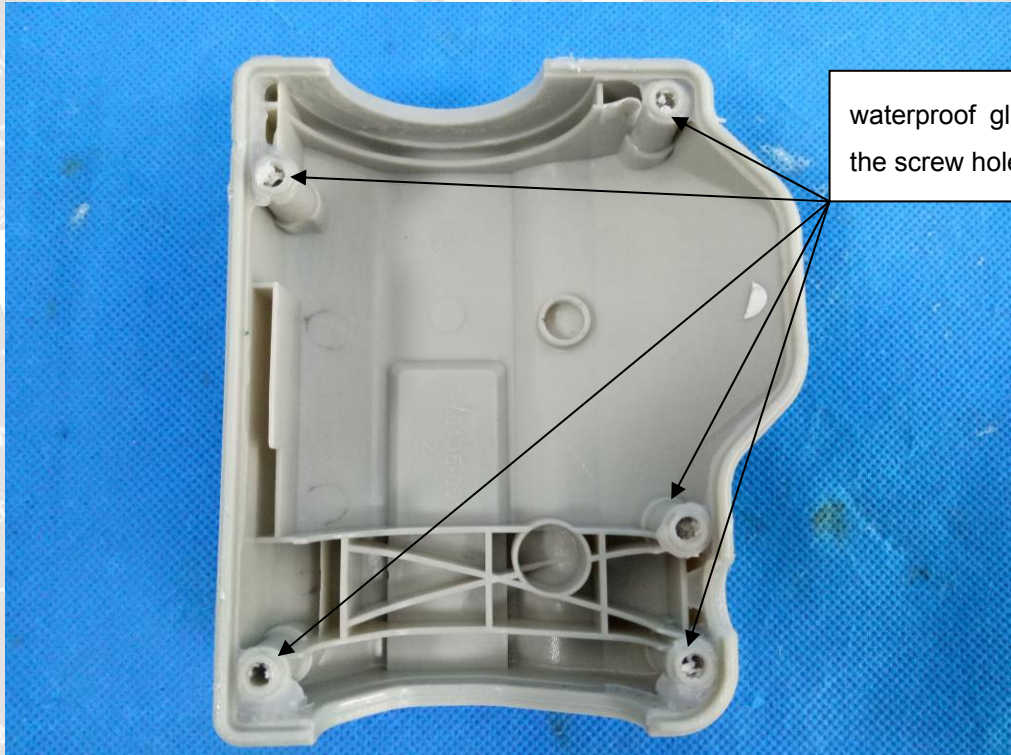


Photo 8

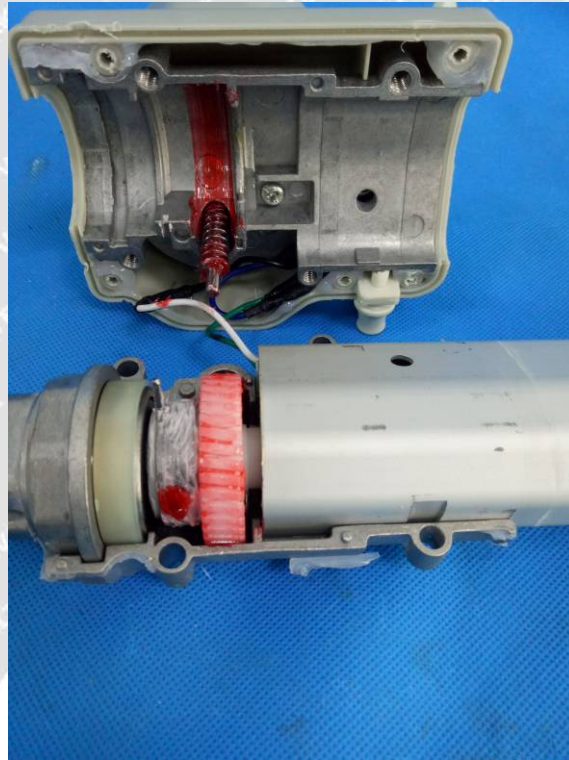


Photo 9

Equipment Used during Test :

Equipment	Model/Type	Cal. Date
Hygrothermograph	RS-232	2018-05-02
Finger	FZ-1107B	2018-11-07
Dustproof chamberm	FZ-9617B	2018-11-15
Degrees of protection provided by waterproof (IP code)	FZ-9610	2018-11-15
Tape Measure	Assist 3m	2018-11-06
Push & Pull Scales	NK-300	2018-11-02

===== End of Report =====