中国认可
国际互认
检测
TESTING
CNAS L6478

TEST REPORT

Reference No.	:	WTF23F12257072J
Applicant	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Manufacturer	:	Mid Ocean Brands B.V.
Address	:	7/F., Kings Tower, 111 King Lam Street, Cheung Sha Wan, Kowloon, Hong Kong
Product Name	:	LED Wireless speaker
Model No	:	MO6662
Test specification	:	IEC 60529:1989+A1:1999+A2:2013
Date of Receipt sample	:	2023-12-11
Date of Test	:	2023-12-13 to 2023-12-15
Date of Issue	:	2023-12-20
Test Report Form No.	:	WST-60529-57C
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 of test institute and the signatures of approver.

Prepared By:
Waltek Testing Group (Foshan) Co., Ltd.
Address: No.13-19, 2/F., 2nd Building, Sunlink International Machinery City,
Chencun, Shunde District, Foshan, Guangdong, China
Tel:+86-757-23811398 Fax:+86-757-23811381 E-mail:info@waltek.com.cn

Tested by: Can Guo

Can Guo

Approved by: Jerry Mu

Jerry Mu

List of test items:

No.	Test Items	Requirement + Test	Result
1	IPX4 Test	IEC 60529:1989+A1:1999+A2:2013	Pass

Subcontract
Whether parts of tests for the product have been subcontracted to other labs:
☐ Yes ☒ No
If Yes, list the related test items and lab information:
Test items: ---
Lab information: --

Use of uncertainty of measurement for decisions on conformity (decision rule) :
No decision rule is specified by the standard, when comparing the measurement result with the applicable limit according to the specification in that standard.
The decisions on conformity are made without applying the measurement uncertainty (“simple acceptance” decision rule, previously known as “accuracy method”).

Remarks:
--

Test Item:

Tests for protection against ingress moisture: IPX4

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 using one of the two test devices described in figure 4 and in figure 5 in accordance with the relevant product standard.

a) Conditions when using the test device as in figure 4 (oscillating tube):
The oscillating tube has spray holes over the whole 180° of the semicircle. The total flow rate is adjusted as specified table 9 and is measured with a flow meter.
The tube is caused to oscillate through an angle of almost 360°, 180° on either side of the vertical, the time for one complete oscillation (2 × 360°) being about 12s.
The duration of the test is 10 min.
If not specified otherwise in the relevant product standard, the support for the enclosure under test is perforated so as to avoid acting as a baffle and the enclosure is sprayed from every direction by oscillating the tube to the limit of its travel in each direction.

b) Conditions when using the test device as in figure 5 (spray nozzle):
The counterbalanced shield is removed from the spray nozzle and the enclosure is sprayed from all practicable directions.
The duration of the test is 5 min.

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.

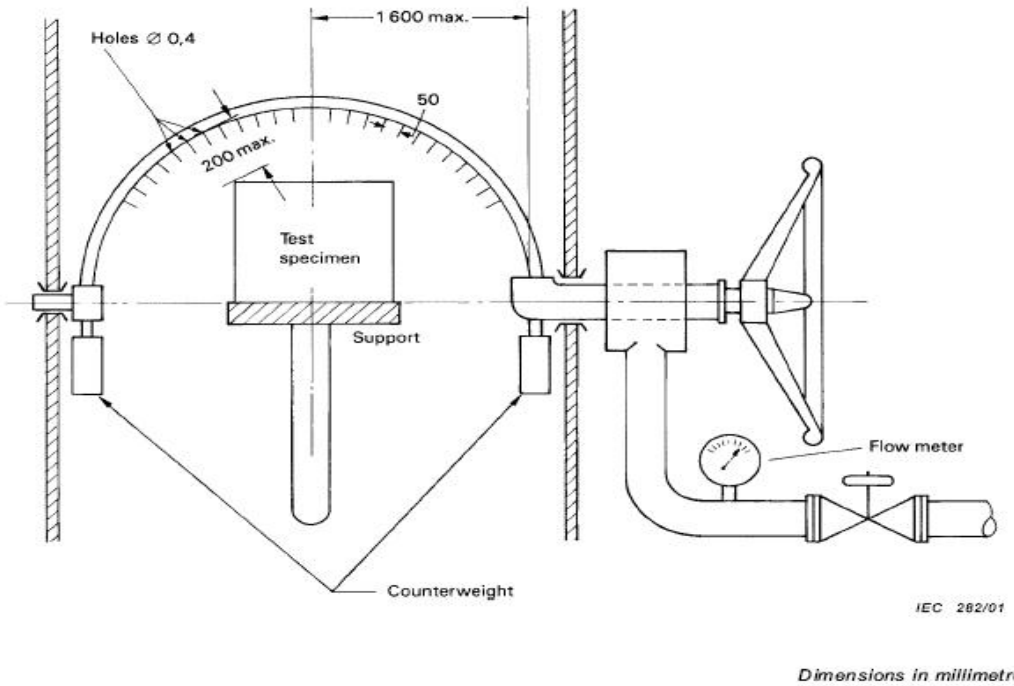
For enclosures without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts.

Test Result:

☒ Pass ☐ Fail

Table 9-Total water flow rate qv under IPX3 and IPX4 test conditions-mean flow rate per hole qvl=0.07 l/min

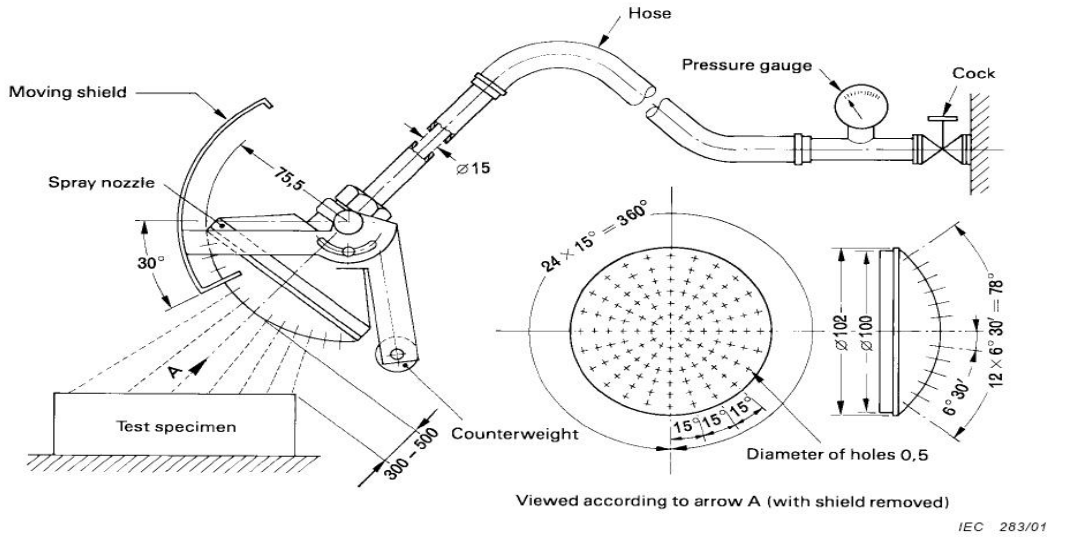
Tube radius R mm	Degree IPx3		Degree IPx4	
	Number of open holes N1)	Total water flow qv l/min	Number of open holes N1)	Total water flow qv l/min
200	8	0.56	12	0.84
400	16	1.1	25	1.8
600	25	1.8	37	2.6
800	33	2.3	50	3.5
1000	41	2.9	62	4.3
1200	50	3.5	75	5.3
1400	58	4.1	87	6.1
1600	67	4.7	100	7.0
1)Depending on the actual arrangement of the hole centres at the specified distance, the number of open holes N may be increased by 1				



Dimensions in millimetres

NOTE The range of holes is shown as for second characteristic numeral 3 (see 14.2.3 a)).

Figure 4 – Test device to verify protection against spraying and splashing water; second characteristic numerals 3 and 4 (oscillating tube)



Dimensions in millimetres

121 holes of ∅ 0,5;
1 hole at the centre
1 inner circles of 12 holes at 30° pitch
4 outer circles of 24 holes at 15° pitch
Moving shield – Aluminium
Spray nozzle – Brass

Figure 5 – Hand-held device to verify protection against spraying and splashing water; second characteristic numerals 3 and 4 (spray nozzle)

Photo Documentation:
Model: MO6662

Photo 1 -- Sample

Photo 2 -- Sample

Photo 3 -- During the test

Photo 4 -- After the test

Photo 5 -- After the test

Photo 6 -- After the test

Equipment Used during Test :

Equipment	Model/Type	Cal. Date
Temperature & Humidity Datalogger	622	2023-07-03
IPX1-8 water-proof UL test equipment	KXT1318	2023-11-13
Measure Tape	3m	2023-02-21
Clock	HS-70W	2023-02-21
Dielectric & Insulation Resistance Tester	9012	2023-02-21

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