BLUEGUIDEEMCLAB

082-TEST

Joseph Cardijnstraat 21
9420 Erpe-Mere
Tel: +32(0)53 43 23 04

Environmental Test Report

EUT:

Renson

421(RC2) – 424(RC2) – 421(RC3)

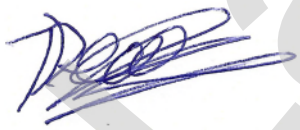
Filename: ENV-21-2026

Release: 01

Date: 04 May 2026

Joseph Cardijnstraat 21
9420 Erpe-Mere
Tel: +32(0)53 43 23 04

Approval Sheet

Function title		Name	Signature	Date
Test Engineer / Technical manager	Author	Christopher Stokoe		04 May 2026
Technical Support Engineer	Reviewer	Jorn Dekyvere		04 May 2026
Managing Director	Approver	Kristof Van Impe		04 May 2026

Distribution List

Function title		Name	Signature	Date

BELAC 082-TEST
ilac-MRA
Joseph Cardijnstraat 21
9420 Erpe-Mere
Tel: +32(0)53 43 23 04

Test Overview and Results

Test	Test Date	Test result
Mechanical Impact (IK10)	02 Apr. 2026	Pass
Protection against water indicated by the second characteristic numeral (IPX3)	02 Apr. 2026	Pass*
Protection against access to hazardous parts Protection of Persons (IP2X)	02 Apr. 2026	Pass
Protection against access to hazardous parts Protection against solid foreign objects (IP2X)	02 Apr. 2026	Pass
Protection against access to hazardous parts Protection of Persons additional letter (IPXXD)	02 Apr. 2026	Pass*
IK10 and IP23D		Pass

* = Passed with remarks. See the associated results sections.
A “safe zone” of 200 mm will be mentioned in the installation instructions.

Proprietary data notice

Release overview

Document	Release	Release date	Author	Description
ENV-021-2026	01	04 May 2026	Christopher Stokoe	Draft release

Referenced data items

The table below lists all data items that are used or referenced to in this report (Categories: Customer info, Standards, Other info)

Document name	Release date	Revision	Category	Accreditation
EN 62262	2002	NA	Standard	Yes
A1	2021	NA	Standard	Yes
EN 60529	1991	NA	Standard	Yes
A1	2000	NA	Standard	Yes
A2	2013	NA	Standard	Yes
AC	2016	NA	Standard	Yes
A2/AC	2019	NA	Standard	Yes

Note: Documents provided by the customer are not verified for compliance and are not under control of the laboratory.

Abbreviations and acronyms

Abbreviation	
EUT	Equipment Under Test
RH	Relative Humidity

Table of Contents

Joseph Cardijnstraat 21
9420 Erpe-Mere
Tel: +32(0)53 43 23 04

1. Test Laboratory

Blue Guide EMC Lab
Joseph Cardijnstraat 21
9420 Erpe-Mere
Belgium
BE 0882 166 104

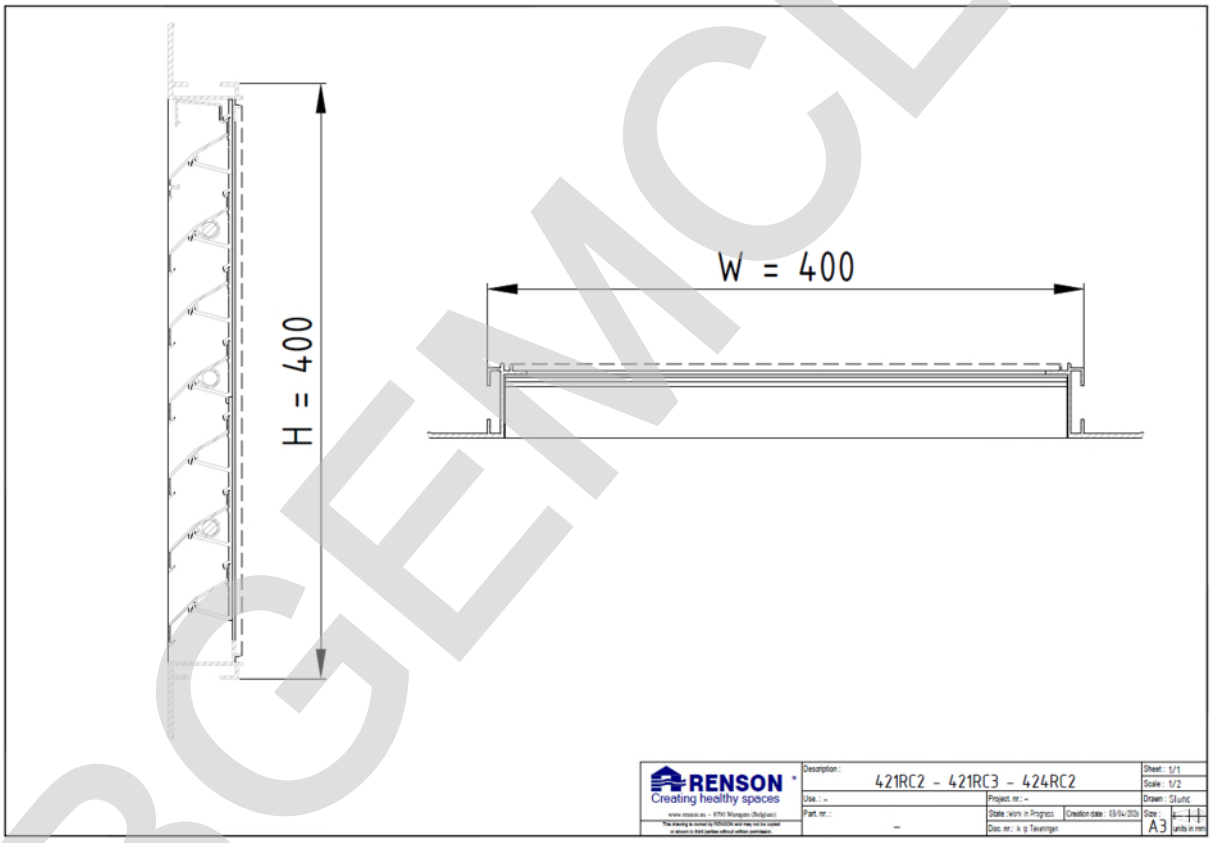
2. Customer Identification

Applicant	:	Renson
Address	:	Industriezone 2, Vijverdam, Maalbeekstraat 10 8790 Waregem Belgium
Contact person	:	Giel Bruyneel
Test witnessed by	:	Giel Bruyneel
Test offer	:	BGEMC-26-127v2

3. EUT

3.1 Identification

Name	:	Renson 421(RC2) – 424(RC2) – 421(RC3)
EUT identification	:	ENV-021-2026
Part Number	:	421RC2
Serial Number	:	N/A
Manufacturing Date	:	-
Firmware release	:	N/A
Manufacturer	:	Renson



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3.2 Description

The EUT is a (Burglar-resistant) built-in wall louvre for ventilation.

This information is under the authority and sole responsibility of the applicant / manufacturer (legally responsible)

4. Performed Tests

4.1 Mechanical Impact

4.1.1 Referenced Specification

Test performed according to EN 62262:2002 + A1:2021, test for Protection provided by enclosures.

4.1.2 Purpose of the test

The object of the Mechanical Impact is limited to the determination of the ability of components, equipment or other articles to withstand mechanical impacts.

4.1.3 Deviations from Test Procedure

None

4.1.4 Test parameters

- Stabilization time at ambient laboratory temperature (23°C): 1 h
- IK code: 10
- Energy level: 20 J

4.1.5 EUT Test Setup

- Specific mounting or positioning: Normal position
- Description of EUT fixation: The EUT was mounted in a concrete plywood box placed in front of a rigid backing support.
- Test equipment: Pendulum

4.1.6 Test Description

Described in Laboratory Work Instruction: WI-0218

- The EUT is not operational during the test
- Impact: 5 impacts are applied on each exposed face the EUT, distributed evenly along the surface
- The impact energy was set to 20 J (equivalent to hammer weight of 5 kg and a fall height of 400 mm.

4.1.7 Pre-Test Control and initial measurements

- Check if the EUT is functioning normally: N/A
- Initial measurements (if any): None
- Specific observations/conditions: None

4.1.8 Pre-conditioning

None

4.1.9 Testing

Atmospheric conditions in test lab:

Ambient Temperature	:	20,2	°C
Ambient Relative Humidity	:	49,6	%RH

BGEMC 01-056K:

- 20,0 J Uncertainty of Measurement: 0,55 %

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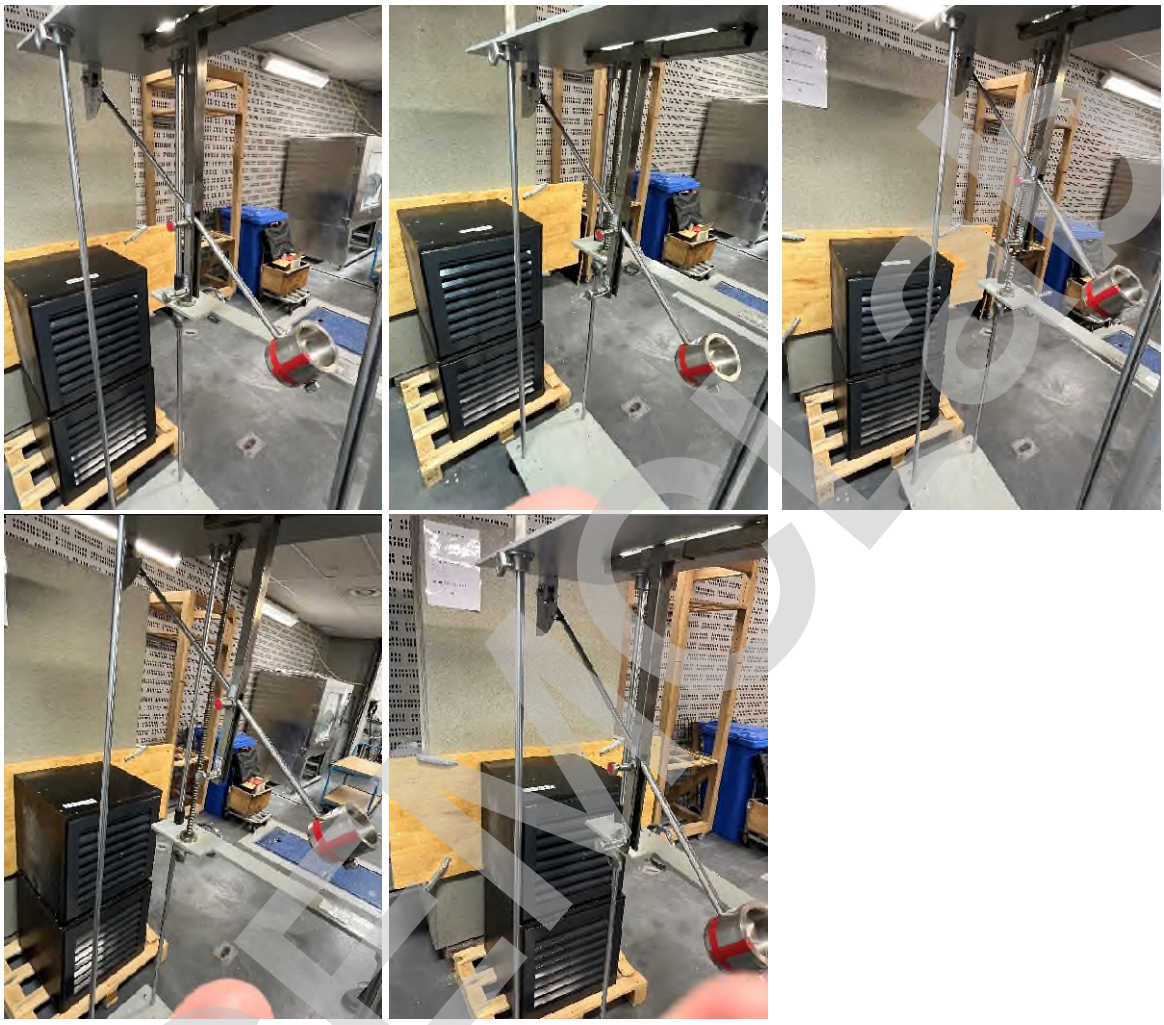

4.1.10 Pass-Fail criteria

The EUT will PASS the test when:

- EUT is functioning normally after testing
- No visual degradation observed
- IP grade not impaired – See sections 4.2 – 4.4

4.1.11 Post-Test Control

- Check if the EUT is functioning normally: OK
- Specific observations/conditions: Some small dents observed after testing.

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4.1.12 Final measurements

None

4.1.13 Test Result

- EUT is functionally ok after testing: OK

  Remarks:
  Some small dents observed after testing which are not expected to affect functionality or safety.
  IP grade is checked see next clauses.

Test Result: PASS

4.2 Degrees of protection against water indicated by the second characteristic numeral (IPX3)

4.2.1 Referenced Specification

Test performed according to EN 60529:1991 + A1:2000 + A2:2013 + AC:2016 + A2/AC:2019.

4.2.2 Purpose of the test

The object of the IP test (second numeral) is to verify the protection of equipment or other articles against access harmful effects due to the ingress of water.

4.2.3 Deviations from Test Procedure

None

4.2.4 Test parameters

- IPX3: Spraying water. Water is sprayed at an angle of 60° on either side
  - Duration: 1 min./m² with at least 5 min.
  - Water flow rate: 10 L/min

4.2.5 EUT Test Setup

- Mounting or positioning: normal position
- IPX3

  Step 1: EUT (not operational) is placed on the turntable
  Step 2: The Spray Nozzle is used with shield
  Step 3: The water flow rate is adjusted for 10 L/min.
  Step 4: Duration of the test: 5 min.

4.2.6 Test Description

Described in Laboratory Work Instruction: WI-0219
Step 1: Measurement of environmental parameters (temperature, humidity)
Step 2: Measure the water temperature
Step 3: The turntable is rotated with 1 rev/min
Step 4: EUT is exposed to the conditions for the specified duration

4.2.7 Pre-Test Control and initial measurements

- Check if the EUT is functioning normally: OK
- Initial measurements (if any): None
- Specific observations/conditions: None

4.2.8 Pre-conditioning

- IK10

4.2.9 Testing

Atmospheric conditions in test lab:

Ambient Temperature	:	20,2	°C
Ambient Relative Humidity	:	49,6	%RH
Water temperature	:	19,4	°C
Water flow rate	:	10,0	L/min
Duration	:	5	min



Uncertainty of measurement: IPX3: ±1,4 %


4.2.10 Pass-Fail criteria

The EUT will PASS the test when:

- 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 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 harm to the equipment.

4.2.11 Post-Test Control

- After testing, the enclosure shall be inspected for ingress of water
- Specific observations/conditions:

  Water drops were found up to 200 mm behind the grid


4.2.12 Test Result

- No visual degradation observed

Minor remarks

Water drops were found up to 200 mm behind the grid.
A “safe zone” will be mentioned in the installation instructions.

Test Result: PASS with remark.

4.3 Degrees of protection against access to hazardous parts (IP2X) Protection of Persons

4.3.1 Referenced Specification

Test performed according to EN 60529:1991 + A1:2000 + A2:2013 + AC:2016 + A2/AC:2019.

4.3.2 Purpose of the test

The object of the IP test (first numeral) is to verify the protection of equipment or other articles against access to hazardous parts.

4.3.3 Deviations from Test Procedure

None

4.3.4Test parameters

- IP2X:
  - The Jointed Test Finger with a diameter of 12 mm is used to push against or inserted through any openings of the enclosure with a force of max. 10 N.

4.3.5 EUT Test Setup

- Specific mounting or positioning: Normal position

4.3.6 Test Description

Described in Laboratory Work Instruction: WI-0219
IP2X:
Step 1: Measurement of environmental parameters (temperature, humidity)
Step 2: The Jointed Test Finger with a diameter of 12 mm is used to push against or inserted through any openings of the enclosure with a force of max. 10 N.

4.3.7 Pre-Test Control and initial measurements

- Initial measurements (if any): None
- Specific observations/conditions: None

4.3.8 Pre-conditioning

- IK10

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4.3.9 Testing

Atmospheric conditions in test lab:

Ambient Temperature	:	20,2	°C
Ambient Relative Humidity	:	49,6	%RH

4.3.10 Acceptance conditions

The EUT will PASS the test when:

- If the test finger entered, it shall not
  - If adequate clearance is kept between the access probe and hazardous parts.
  - For Low-voltage equipment: the access probe shall not touch hazardous live parts.
  - For High-voltage equipment: the equipment shall be capable of withstanding the dielectric tests.
  - For equipment with hazardous mechanical parts: The access probe shall not touch hazardous mechanical parts.

4.3.11 Post-Test Control

- Specific observations/conditions: None

4.3.12 Test Result

- The test finger did not enter the EUT

Test Result: PASS

4.4 Degrees of protection against access to hazardous parts (IP2X) Protection against solid foreign objects

4.4.1 Referenced Specification

Test performed according to EN 60529:1991 + A1:2000 + A2:2013 + AC:2016 + A2/AC:2019.

4.4.2 Purpose of the test

The object of the IP test (first numeral) is to verify the protection of equipment or other articles against ingress of solid foreign objects.

4.4.3 Deviations from Test Procedure

None

4.4.4Test parameters

- None

4.4.5 EUT Test Setup

- Specific mounting or positioning: Normal position

4.4.6 Test Description

Described in Laboratory Work Instruction: WI-0219
IP2X:
Step 1: Measurement of environmental parameters (temperature, humidity)
Step 2: The Rigid Sphere with a diameter of 12,5 mm is used to push against any openings of the enclosure with a force of max. 30 N.

4.4.7 Pre-Test Control and initial measurements

- Initial measurements (if any): None
- Specific observations/conditions: None

4.4.8 Pre-conditioning

- IK10

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4.4.9 Testing

Atmospheric conditions in test lab:

Ambient Temperature	:	20,2	°C
Ambient Relative Humidity	:	49,6	%RH





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4.4.10 Acceptance conditions

The EUT will PASS the test when:

- IP2X: The full diameter of the sphere does not pass through any opening.

4.4.11 Post-Test Control

- Specific observations/conditions: None

4.4.12 Test Result

- The sphere did not enter the EUT

Test Result: PASS

4.5 Degrees of protection against access to hazardous parts with a wire (IPXXD) Protection of Persons

4.5.1 Referenced Specification

Test performed according to EN 60529:1991 + A1:2000 + A2:2013 + AC:2016 + A2/AC:2019.

4.5.2 Purpose of the test

The object of the IP test (additional letter) is to verify the protection of equipment or other articles against access to hazardous parts with a wire.

4.5.3 Deviations from Test Procedure

None

4.5.4Test parameters

- IPXXD:
  - The access probe of 1,0 mm diameter is used to push against or inserted through any openings of the enclosure with a force 1 N.

4.5.5 EUT Test Setup

- Specific mounting or positioning: Normal position

4.5.6 Test Description

Described in Laboratory Work Instruction: WI-0219
IPXXD:
Step 1: Measurement of environmental parameters (temperature, humidity)
Step 2: The access probe of 1,0 mm diameter is used to push against or inserted through any openings of the enclosure with a force 1 N.

4.5.7 Pre-Test Control and initial measurements

- Initial measurements (if any): None
- Specific observations/conditions: None

4.5.8 Pre-conditioning

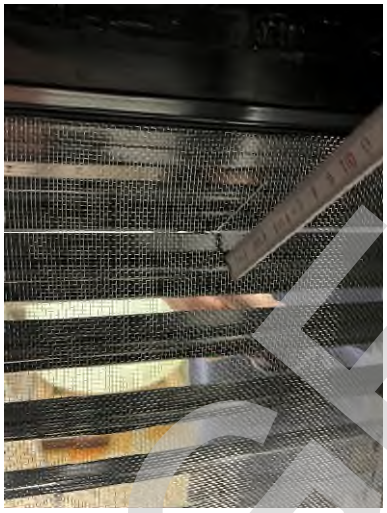
- IK10

4.5.9 Testing

Atmospheric conditions in test lab:

Ambient Temperature	:	20,2	°C
Ambient Relative Humidity	:	49,6	%RH





4.5.10 Acceptance conditions

The EUT will PASS the test when:

- The access probe of 1,0 mm diameter and 100 mm length shall have adequate clearance from hazardous parts.

4.5.11 Post-Test Control

- Specific observations/conditions: None

4.5.12 Test Result

Minor remarks:

The access probe can enter the EUT but with a maximum distance ~ 50 mm (perpendicular to the mesh).
A “safe zone” will be mentioned in the installation instructions.

Test Result: PASS with remark

5. General Conclusion

EUT passed all testing as described in the test overview.

6. Test Equipment

Equipment	Brand	Model	Serial number	Calibration Due
Temperature Meter BGEMC 01-119K	Fluke	51	6150051	01 Aug. 2026
Water spray Nozzle IPX3/4 BGEMC 01-203	Donguan Yaoke Instrument Equipment Ltd	JY-IPX34-SN	None	NA
Flow Meter 5 … 200 L/min BGEMC 01-156K	MAG&VIEW	MVM-200-QA	77185	29 Jul. 2026
Turntable BGEMC 01-151	Shen Autostrong Instrument	None	None	NA
Timer BGEMC 01-117K	Fortex	FX-TMR-01	None	NA
Access Probe 1 mm PEMC 11-005K	PTL	P10.27	5011557	30 Jul. 2027
Sphere 12.5 mm PEMC 11-027K	Shen Autostrong Instrument	AUTO-Q-12.5	None	30 Jul. 2027
Jointed IEC Test finger PEMC 11-003K	PTL	P10.14	5011555	27 Aug. 2026
Temperature/humidity meter BGEMC 01-194K	Testo	608-H1	84702415	26 Mar. 2027
IK Test Apparatus Pendulum BGEMC 01-056K	Shen Autostrong Instrument	AUTO-BC2	None	08 May. 2026