

ENVIRONMENTAL TEST REPORT

CUSTOMER



Satec

UNIT NAME

PM135EH, PM172E

* Same enclosure & construction for the following Instruments:
PM130P, PM130E, PM130EH, PM135P, PM135E, PM135EH, PM172P, PM172E, PM172EH, PM174 & PM175.

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Environmental Tests Ltd.

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DOCUMENT CONTROL

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1 // DOCUMENT HISTORY

The following table records information regarding released editions of this document and briefly describes their purpose and changes made to them.

Edition ID	Release Date	Author	Purpose and Description of Changes
--	August 24, 2015	Chen Zakaim	Purpose: Release

2 // DOCUMENT APPROVALS

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Chen Zakaim, Technical Writer

Approved By *August 24, 2015*



Dov Carmeli, COO

3 // OPEN ISSUES

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1. INTRODUCTION

1.1 // PURPOSE

The purpose of this document is to verify that the PM135EH, PM172E meets all requirements as per the applicable documents.

1.2 // SCOPE

The scope of this Environmental Test Report includes the environmental test results as specified by the customer and by the related resources.

1.3 // GLOSSARY

Term	Description
N.A	Not Applicable
N.C	Not Controlled
PSD	Power Spectral Density
TBD	To Be Defined
RH	Relative Humidity
UUT	Unit Under Test

1.4 // APPLICABLE DOCUMENTS

This section contains a list of resources (e.g., documents, files) referenced by or related to this document. All documents' revisions are the latest known on the date of the contract signing.

Main Document Customer Requirements

// Test-specific sources

Test	Document
Dust IP5X	IEC 60529
Water Splash IPX4	IEC 60529

1.5 // TEST INSTRUMENTATION

Test	Name	S/N	Calibration Due Date
Dust IP5X	Yishai Instruments & Equipments	SSC-010	31 January 2016
Water Splash IPX4	Oscillating Tube Facility	TOP2903	31 October 2015

1.6 // SYSTEM OVERVIEW



Figure 1.1 - System Overview

1.7 // EXECUTIVE SUMMARY

The following table summarizes the tests that have been performed in Carmel Environmental Test Laboratories.

Test Name	Verdict
Dust IP5X	✓Pass
Water Splash IPX4	✓Pass



Statement of Compliance with Test Requirements

We, Carmel Environmental Test Laboratories, declare under our sole responsibility that the PM135EH, PM172E was tested to comply with the requirements of the applicable environmental test specification.

1.8 // LABORATORY ACCREDITATION

Carmel Environmental Test Laboratories Ltd. Is an accredited Laboratory by the American Association for Laboratory Accreditation – A2LA (see accreditation herein).

A2LA logo in the front page is applicable only to the tests under the scope of Carmel Environmental Test Laboratories accreditations.

Carmel Environmental Test Laboratories has A2LA accreditation to ISO/IEC 17025:2005 for test types as listed in the following link:

<http://www.a2la.org/scopepdf/2881-01.pdf>



American Association for Laboratory Accreditation

Accredited Laboratory

A2LA has accredited

CARMEL-ENVIRONMENTAL TESTS LTD.

Petach Tikva,

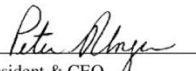
for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Presented this 25th day of March 2014.




President & CEO
For the Accreditation Council
Certificate Number 2881.01
Valid to March 31, 2016

For the types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.

2. DUST IP5X TEST

2.1 // UNIT UNDER TEST OVERVIEW

Test Dates	23/08/2015
Customer	Satec
Customer Rep.	Avi Beim
Unit Name	PM135EH, PM172E Same enclosure & construction for the following Instruments: PM130P, PM130E, PM130EH, PM135P, PM135E, PM135EH, PM172P, PM172E, PM172EH, PM174 & PM175.
P/N	PM172E , PM135EH
S/N	1133212 , 1132673
Item Manufacturer	Satec
Number of Units	1+1

2.2 // TEST DESCRIPTION

2.2.1 // TEST PROCEDURE

 Dust Size	<75µm	 Amount of Dust	2Kg per cubic meter
 Temperature	25°C - 35°C	 Duration	8 hrs.

2.2.2 // EXCLUSIONS FROM THE TEST METHOD

Not Applicable.

2.2.3 // TEST INSPECTION

	Visual Test	Functional Test
Before Test	✓	✓
During Test	✗	✗
After Test	✓	✓

2.3 // TEST RESULTS

In visual inspection at completion of the test, no external damage observed.
operational and visual tests have been conducted at the end of the test.

Test Result: ✓ Pass

2.4 // TEST PICTURES



Figure 2.1– UUT before the Dust Test



Figure 2.2– UUT inside the Dust Chamber



Figure 2.3– UUT after the Dust Test



Figure 2.4– UUT after the Dust Test

3. WATER SPLASH IPX4 TEST

3.1 // UNIT UNDER TEST OVERVIEW

Test Dates	24/08/2015
Customer	Satec
Customer Rep.	Avi Beim
Unit Name	PM135EH, PM172E Same enclosure & construction for the following Instruments: PM130P, PM130E, PM130EH, PM135P, PM135E, PM135EH, PM172P, PM172E, PM172EH, PM174 & PM175.
P/N	PM172E , PM135EH
S/N	1133212 , 1132673
Item Manufacturer	Satec
Number of Units	1+1

3.2 // TEST DESCRIPTION

3.2.1 // TEST PROCEDURE

The oscillating tube consist of spray holes over the whole 180" of the semicircle.

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 x 360") being about **12 s.**

The duration of the test: **10 min.**

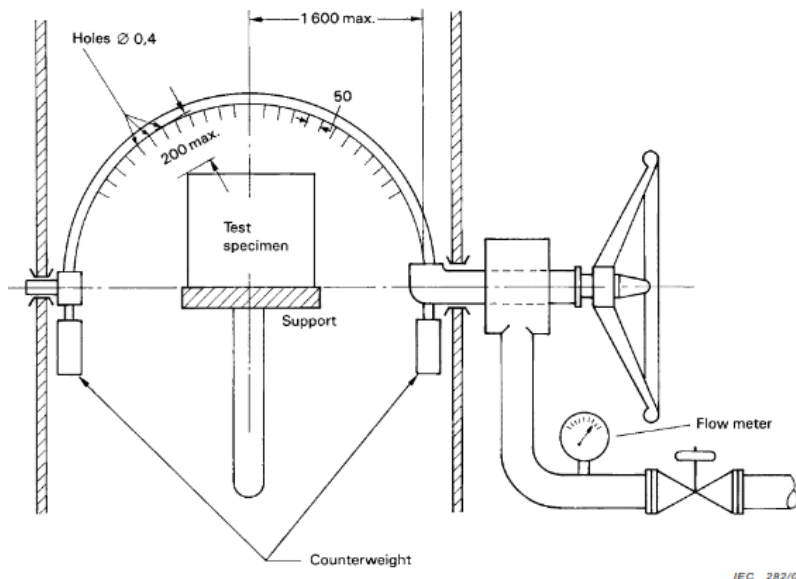


Figure 3.1–Test Device – Oscillating Tube

3.2.2 // EXCLUSIONS FROM THE TEST METHOD

Not Applicable.

3.2.3 // TEST INSPECTION

	<i>Visual Test</i>	<i>Functional Test</i>
Before Test	✓	✓
During Test	✗	✗
After Test	✓	✓

3.3 // TEST RESULTS

In visual inspection at completion of the test, no external damage observed.
operational and visual tests have been conducted at the end of the test.

Test Result: ✓ Pass

3.4 // TEST PICTURES



Figure 3.2–UUT during the WaterTest

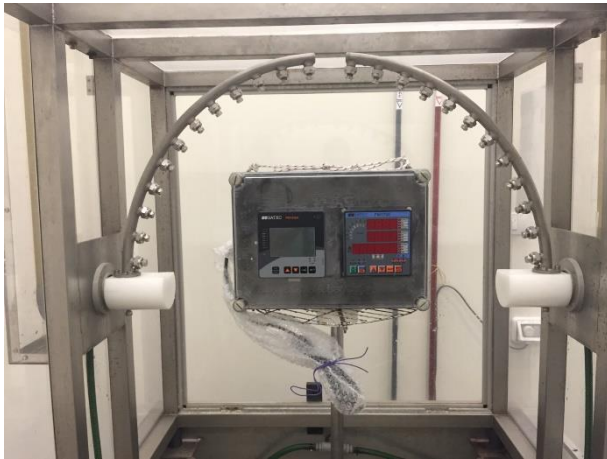


Figure 3.3– UUT during the Water Test

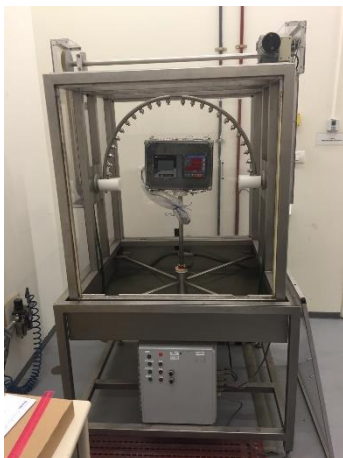


Figure 3.4– UUT during the Water Test



Figure 3.5—UUT after the Water test



Figure 3.6—UUT after the Water test



Figure 3.7–UUT at the End of the Tests



Figure 3.8– UUT at the End of the Tests

End of Report