HI PHYSIX
testing & calibration laboratory
TC-13518

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# TEST REPORT

**TEST REPORT AS PER: IS/IEC 60529:2001** **SRF No.: 24070276**

| | | | |
|---|---|---|---|
| **Name & Contact Information of Customer:**<br><br>**M/s.Duncan Engineering Limited**<br><br>**F33,MIDC, Ranjangaon, Karegaon, Tal-Shirur, Pune-412220, Maharashtra, India.**<br><br>**Contact Person: Mr. Sukdeo Mahajan**<br>**Contact No: 9137248060** | **ULR- TC1351824000000526F**<br>**Discipline: Electrical Testing**<br>**Group: Environmental Test Facility**<br>**Test Report No: HPLI/Test/2407027603**<br>**Date of Issue:09/08/2024**<br>**Test Performed: At Lab** | | |
| | **Customer Ref. & Date: 22/07/2024** | | |
| | **Date of Sample Receipt: 22/07/2024** | **Start of Test Date: 30/07/2024** | **End of Test Date: 30/07/2024** |

## PART A - PARTICULARS OF THE SAMPLE SUBMITTED

| | |
|---|---|
| **Sample description** | **Pneumatic Rotary Actuator** |
| **Grade/ variety/ type/ class/ size etc.** | **Size. : (784X335X364)mm (L x W x H)** |
| **Declared values, if any** | **Nil** |
| **Code no., BIS seal and IO's sign. if any** | **Nil** |
| **Batch no., date of manufacture and Brand name** | **Brand Name: "Duncan"**<br>**Model No. : "DEL-QTM-AT300"** |
| **Quantity** | **01 No.** |
| **Condition of the sample** | **OK** |
| **Reference specification (s)** | **IS/IEC 60529:2001** |
| **Environmental conditions** | **Temperature (25±4) °C & Relative Humidity<70%** |

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|---|---|
| **Statement of Conformity** | **Sample conforms to the requirement of IP 65 tests as per the standard** |
| **Decision Rule** | **Qualitative Test** |

## PART B - SUPPLEMENTARY INFORMATION

a) Deviations from the test methods as per relevant specification/ work instructions, if any: Nil.
b) Details of the drawings, graphs, tables, sketches or Photographs as referred in the test report, if any: Photograph Attached.
c) Testing procedure according to work instructions: HPLI 03/Test-Appl/WI-807.
d)The Management System is maintained in accordance with ISO/IEC 17025:2017 and testing Standards/Instruments are traceable to National/International Standards.

**Notes:** i) This report is not to be reproduced wholly or in part without our special permission in writing.
ii) This report refers only to the particular sample detailed above.
iii) The results reported in this certificate are valid at the time of and under the stipulated conditions of measurement.
iv) Remnants of the sample will be disposed off after 30 days of issue of test report, if no any further information is received.

HI PHYSIX LABORATORY INDIA PVT. LTD.
Ashutosh Pathak

**Tested by** **Checked by** **Approved by** **Issued by**

Format No. HPLI 04 F31-00

**ULR- TC1351824000000526F**
**TEST REPORT NO.: HPLI/Test/2407027603**
**IS/IEC 60529:2001**

**PART C- TEST RESULT**

| S. No. | TESTS WITH CLAUSE REFERENCE | | SPECIFIED REQUIREMENTS | Covered under our NABL Scope (Yes/No) | RESULTS | Verdict |
|---|---|---|---|---|---|---|
| 1. | IP6X Test (As per cl. No. 5 &13.4, 13.6 IS/IEC 60529:2001) | i) | Tests for protection against access to hazardous parts indicated by the first characteristic numeral. (Test for first characteristic numeral 6X):<br>The access probe of 1.0 mm is pushed against or inserted through any openings of the enclosure with the force 1.0N ±10%. The test wire of 1.0mm shall not penetrate and adequate clearance shall be kept between the access probe and hazardous parts.<br>(Cl. 12.2 of IS/IEC 60529:2001)<br>The protection is satisfactory if adequate clearance is kept between the access probe and hazardous parts | Yes | Satisfactory | Pass |
| | | | Tests for protection against solid foreign objects indicated by the first characteristic numeral. (Test for first characteristic numeral 6X Dust-tight):<br>The test is made using a dust chamber incorporating the basic principles. The talcum powder used shall be able to pass through a square-meshed sieve the nominal wire diameter of which is 50 µm and the nominal width of a gap between wires 75 µm. The amount of talcum powder to be used is 2 kg per cubic meter of the test chamber volume.<br>Cl. 13.4 of IS/IEC 60529:2001)<br>The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test. | | Satisfactory (No ingress of dust observed inside the enclosure) | Pass |

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**PART C- TEST RESULT**

| S. No. | TESTS WITH CLAUSE REFERENCE | | SPECIFIED REQUIREMENTS | Covered under our NABL Scope (Yes/No) | RESULTS | Verdict |
|---|---|---|---|---|---|---|
| 2. | IPX5 Test (As per Clause No.6 & Cl.14.2.5 of IS/IEC 60529:2001) | ii) | Test for second characteristic numeral X5:<br><br>The test is made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle.<br>- internal diameter of the nozzle: 6.3 mm.<br>-delivery rate: 12.5 l/min ± 5 %.<br>-water pressure.: to be adjusted to achieve the specified delivery rate.<br>- core of the substantial stream circle of area likely to be sprayed 1 min. approximately 40 mm diameter at 2.5 m distance from nozzle.<br>-Test duration per square metre of enclosure surface area likely to be sprayed: 1 min.<br>-minimum test duration 3 min.<br>-distance from nozzle to enclosure surface between 2.5 m and3 m.<br>(Cl. 14.2.6 of IS/IEC 60529:2001)<br><br>After testing, if any water has entered, it shall not-<br><br>– be sufficient to interfere with the correct operation of the equipment or impair safety.<br>– deposit on insulation parts where it could lead to tracking along the creepage distances.<br>– reach live parts or windings not designed to operate when wet.<br>– accumulate near the cable end or enter the cable if Any. | Yes | Satisfactory (No water observed inside the enclosure.) | Pass |

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**PART C- TEST RESULT**

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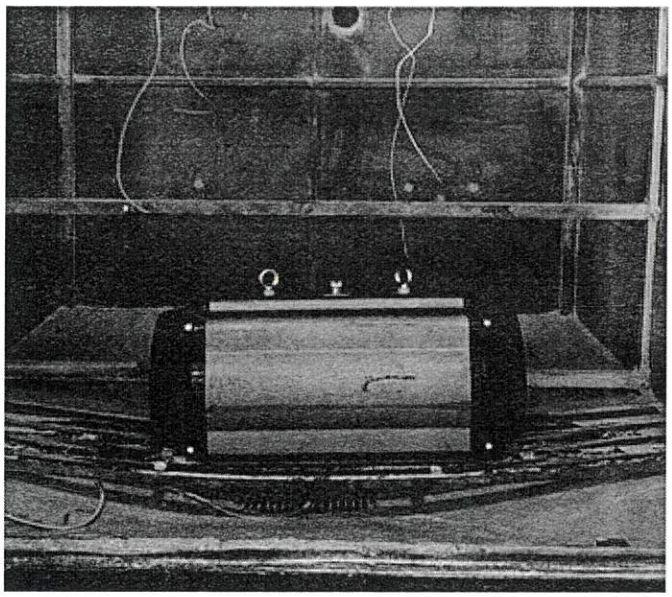
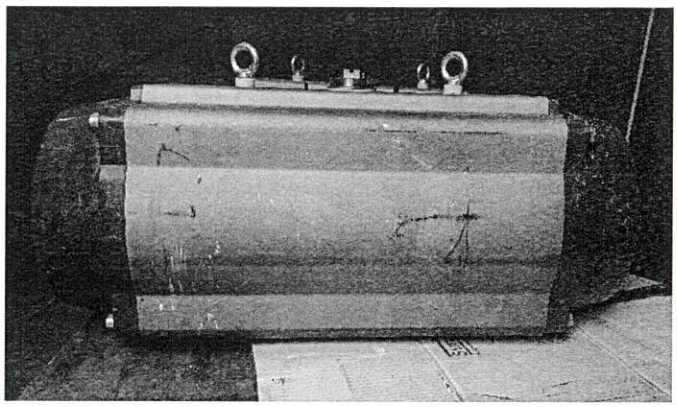
|---|---|
|  |  |
| **SAMPLE UNDER TEST (IP6X)** | **SAMPLE AFTER TEST (IPX5)** |

**PART-D:**

**Remarks:** 1. The Information given in part A of the cover page of the test report are taken from the specification given by the customer.

****** END OF THE TEST REPORT ******

**Tested by** **Checked by** **Approved by** **Issued By**

HI PHYSIX LABORATORY INDIA PVT. LTD.
Ashutosh Pattnaik
(Chief Technical Manager)

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