TC-13518

HI PHYSIX
testing & calibration laboratory

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TEST REPORT

TEST REPORT AS PER: IS/IEC 60529:2001 **SRF No.: 24080314**

Name & Contact Information of Customer:	ULR- TC1351824000000571F Discipline: Electrical Testing Group: Environmental Test Facility Test Report No: HPLI/Test/2408031401 Date of Issue:21/08/2024 Test Performed: At Lab		
M/s. Duncan Engineering Limited F33, MIDC Ranjangaon, karegaon, Tal-Shirur, Pune-412220, Maharashtra, India Contact Person: Mr. Sukdeo Mahajan Contact No: 9167248060	Customer Ref. & Date: 02/08/2024		
	Date of Sample Receipt: 02/08/2024	Start of Test Date: 16/08/2024	End of Test Date: 19/08/2024

PART A - PARTICULARS OF THE SAMPLE SUBMITTED

Sample description	Scotch yoke actuator
Grade/ variety/ type/ class/ size etc.	Nil
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: "Duncan" Model No.: S- series scotch yoke actuator (Frame size: S1 to S5 Cylinder size: 200 to 800 Single acting/Double acting)
Quantity	02 No.
Condition of the sample	OK
Reference specification (s)	IS/IEC 60529:2001
Environmental conditions	Temperature (25±4) °C & Relative Humidity<70%
Statement of Conformity	Sample conforms to the requirement of IP 66 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.
Dr. M. N. Awatade
(General Manager - Electronic Division)

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Format No. HPLI 04 F31-00

ULR- TC1351824000000571F

PART C- TEST RESULT

TEST REPORT NO.: HPLI/Test/2408031401

IS/IEC 60529:2001

S. No.	TESTS WITH CLAUSE REFERENCE		SPECIFIED REQUIREMENTS	Covered under our NABL Scope (Yes/No)	RESULTS	VERDICT
IP66 Test as per IS/IEC 60529:2001						
1.	IP6X Test (As per Clause No.5, Cl.12.2, Cl.13.4 & Cl.13.6 of 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): 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. (Cl.12.2 of IS/IEC 60529:2001) 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): 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. Cl.13.4 of IS/IEC 60529:2001) & Cl.13.6 of IS/IEC 60529:2001) 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)	

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PART C- TEST RESULT

TEST REPORT NO.: HPLI/Test/2408031401

IS/IEC 60529:2001

S. No.	TESTS WITH CLAUSE REFERENCE		SPECIFIED REQUIREMENTS	Covered under our NABL Scope (Yes/No)	RESULTS	VERDICT
	IPX6 Test (As per Clause No.6 & Cl.14.2.6 of IS/IEC 60529:2001)	ii)	Test for second characteristic numeral X6: The test is made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle. - internal diameter of the nozzle: 12.5 mm. -delivery rate: 100 l/min ± 5 %. -water pressure.: to be adjusted to achieve the specified delivery rate. - core of the substantial stream circle of area likely to be sprayed 1 min. 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 3 m. (Cl.14.2.6 of IS/IEC 60529:2001) After testing, 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.	Yes	Satisfactory (No water observed inside the enclosure)	Pass

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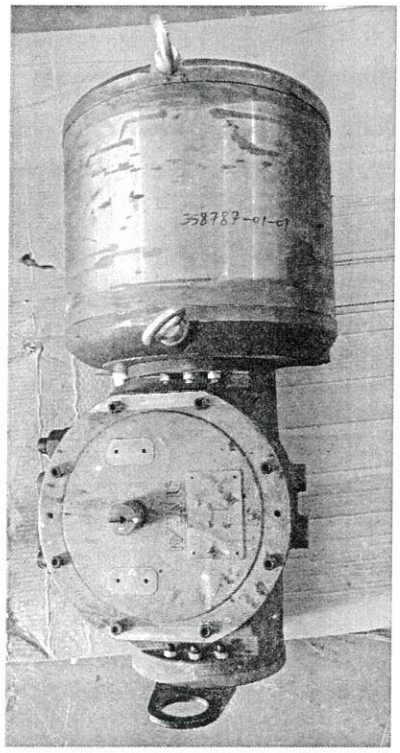
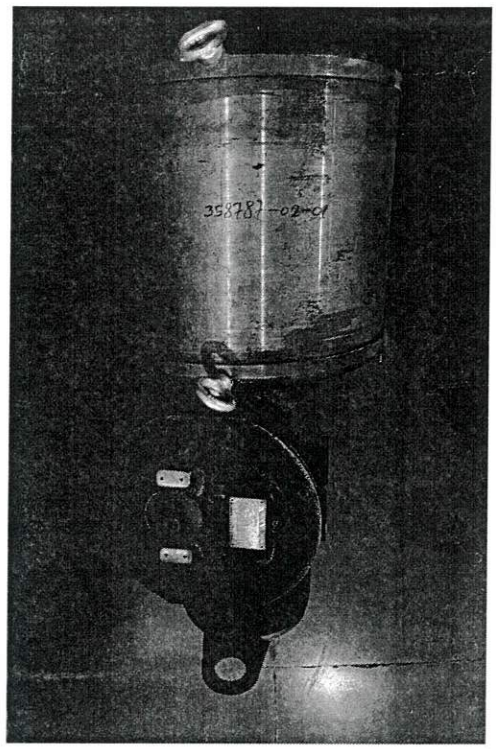
PART C- TEST RESULT

Photograph:

	
SAMPLE AFTER TEST (S1-300)	**SAMPLE AFTER TEST (S3-400)**

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.
2. Test has been carried out on model no. S1-300 & S3-400 only.
3. All the models have same mechanical construction except aesthetic and model name.

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

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