TEST REPORT

IEC 60529

Degrees of protection provided by enclosures(IP code)

Report reference No.....	:	CTB240123013Q
Date of issue.....	:	2024-01-31

Testing laboratory

Name		Shenzhen CTB Testing Technology Co., Ltd.
Address.....	:	1&2/F., Building A, No.26, Xinhe Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China
Testing location.....	:	Same as above

Client

Applicant.....	:	ZHEJIANG LITONG VALVE ACTUATION CO., LTD.
Address.....	:	(INSIDE OF YONGJIA HENGLITONG FOOTWEAR CO., LTD) WUXING INDUSTRIAL PARK, OUBEI STREET, YONGJIA COUNTY,WENZHOU CITY, ZHEJIANG PROVINCE, CHINA

Test specification

Standard.....	:	IEC 60529:1989+A1:1999+A2:2013
Procedure deviation.....	:	N/A
Non-standard test method....	:	N/A

Object under test.....	:	Gearbox
Model/Type reference.....	:	BAseries(BA0)
Others Model.....	:	/
Trade mark.....	:	/
Manufacturer.....	:	ZHEJIANG LITONG VALVE ACTUATION CO., LTD.
Address.....	:	(INSIDE OF YONGJIA HENGLITONG FOOTWEAR CO., LTD) WUXING INDUSTRIAL PARK, OUBEI STREET, YONGJIA COUNTY,WENZHOU CITY, ZHEJIANG PROVINCE, CHINA
IP degrees.....	:	IP65

Possible test case verdicts

- test case does not apply to the test object.....	:	N/A(Not Applicable)
- test object does meet the requirement.....	:	P(Pass)
- test object does not meet the requirement.....	:	F(Fail)
Date of receipt of test item.....	:	2024-01-22
Date(s) of performance of tests.....	:	2024-01-23 to 2024-01-25
Laboratory sample number.....	:	240122020-8,9

General remarks:

-Throughout this report a point is used as the decimal separator.

-The test results presented in this report relate only to the object tested.

-This report shall not be reproduced except in full without the written approval of the testing laboratory.

Comments:

The First characteristic number 6 indicates prevent solid foreign objects test

The conditions:

1.Test duration:8h

2.Equipment pressure:＜2kPa

The second characteristic number 5 indicates the waterproofing test

1. Test duration:3min

2. Water flow:(12.5±0.5)L/min

3. Internal diameter of the nozzle:6.3mm

4.Distance from nozzle to enclosure surface:2.5m

Summary of testing:

The submitted sample were tested and found to compliance with requirements of the standards

IEC 60529:1989+A1:1999+A2:2013

Conclusion:IP65 of the inspected items met the inspection requirements.

Testing procedure and testing location		
Laboratory name……	:	Shenzhen CTB Testing Technology Co., Ltd.
Testing location/address:	:	1&2/F., Building A, No.26, Xinhe Road, Xinqiao, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, China
Tested By (Test Engineer)	:	Kate Mo
Reviewed By (Supervisor)	:	Jerry Qin
Approved By (Chief Engineer)	:	Finerb Bai

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
11	General requirements for tests		P
11.1	Atmospheric conditions for water or dust tests		P
11.2	Test samples		P
11.3	Application of test requirements and interpretation of test results		P
11.4	Combination of test conditions for the first characteristic numeral		P
11.5	Empty enclosures		N/A
12	Test for protection against access to hazardous parts indicated by the fist characteristic numeral		N/A
12.1	Access probes		N/A
12.2	Test conditions		N/A
12.3	Acceptance conditions		N/A
12.3.1	For low-voltage equipment. (Rated voltage not exceeding 1000V a.c. and 1500V d.c.)		N/A
12.3.2	For high-voltage equipment (Rated voltage exceeding 1000V a.c. and 1500V d.c.)		N/A
12.3.3	For equipment with hazardous mechanical parts		N/A
13	Test for protection against solid foreign objects indicated by the first characteristic numeral		P
13.1	Test means		P
	Test means and the main test conditions are given in table 7		P
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.4	Dust test for first characteristic numerals 5 and 6	IP6X	P
13.5	Special conditions for first characteristic numeral 5		N/A
13.5.1	Test conditions for first characteristic numeral 5		N/A
13.5.2	Acceptance conditions for first characteristic numeral 5		N/A
13.6	Special conditions for first characteristic numeral 6		P
13.6.1	Test conditions for first characteristic numeral 6		P

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
13.6.2	Acceptance conditions for first characteristic numeral 6	No ingress of dust	P
14	Test for protection against water indicated by the second characteristic numeral		P
14.1	The test means and the main test conditions are given in table 8	IPX5	P
14.2	Test conditions		P
	Test means and main test conditions are given in table 8		P
	During the tests for IPX1 to IPX6 the water temperature should not differ by more than 5K from the temperature of the specimen under test		P
	For IPX7 details of the water temperature are given in 14.2.7		N/A
	Test for second characteristic numeral 8, the test conditions are subject to agreement between manufacturer and user, but they shall be more severe than those prescribed in 14.2.7 and they shall take account of the condition than the enclosure will be continuously immersed in actual use		N/A
14.2.1	Test for second characteristic numeral 1 with the drip box		N/A
14.2.2	Test for second characteristic numeral 2 with the drip box		N/A
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		N/A
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		N/A
14.2.5	Test for second characteristic numeral 5 with the 6.3mm nozzle		P
14.2.6	Test for second characteristic numeral 6 with the 12.5mm nozzle		N/A
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15m and 1m		N/A
	The test is made by completely immersing the enclosure in water in its service position as specified by the manufacturer so that the following conditions are satisfied		N/A
	a) the lowest point of enclosures with a height less than 850mm is located 1000mm below the surface of the water		N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	b) the highest point of enclosures with a height equal to or greater than 850mm is located 150mm below the surface of the water		N/A
	c) the duration of the test is 30min		N/A
	d)the water temperature does not differ from that of the equipment by more 5K		N/A
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		N/A
14.3	After testing in accordance with the appropriate requirements of 14.2.1 to 14.2.8 the enclosure shall be inspected for ingress of water	No ingress of water	P
	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		N/A
	In general, if any water has entered, it shall not:		N/A
	–be sufficient to interfere with the correct operation of the equipment or impair safety		N/A
	–deposit on insulation parts where it could lead to tracking along the creepage distances		N/A
	–reach live parts or windings not designed to operated when wet		N/A
	–accumulate near the cable end or enter the cable if any		N/A
	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		N/A
	For enclosure without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts		N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
15	Test for protection against access to hazardous parts indicated by the additional letter		N/A
15.1	Access probes	No additional letter	N/A
	The access probe are given in table 6		N/A
15.2	Test conditions		N/A
	The access probe is pushed against any openings of the enclosure with the force specified in table 6		N/A
15.3	Acceptance conditions		N/A
	Test for the additional letter B		N/A
	Test for the additional letter C and D		N/A

APPENDIX
PHOTO DOCUMENT

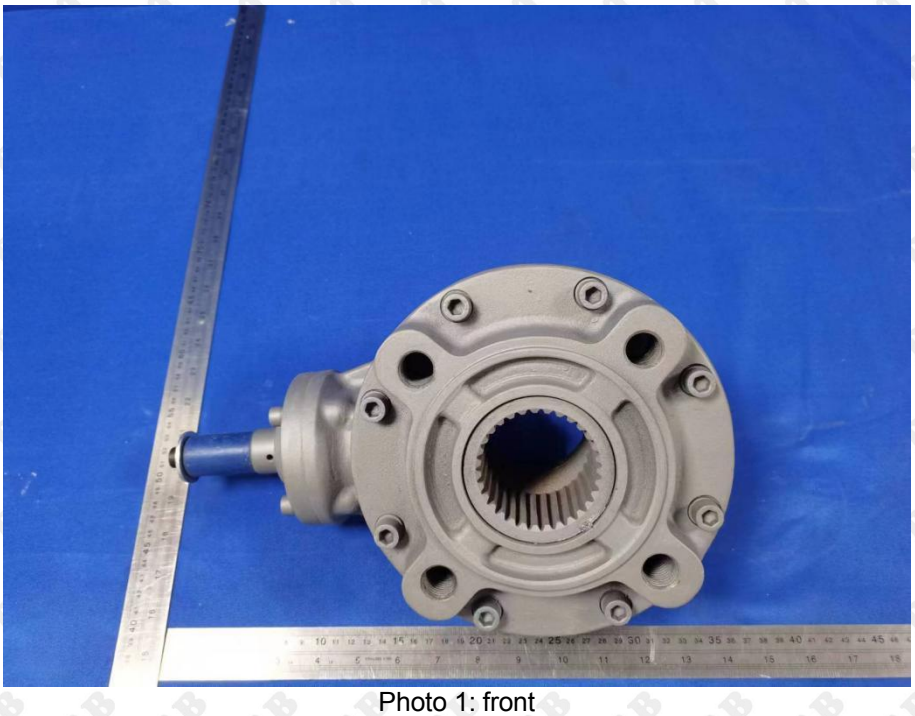

Photo 1: front

Photo 2:Dust test

Photo 3:Waterproof test

Photo 4:After waterproofing test

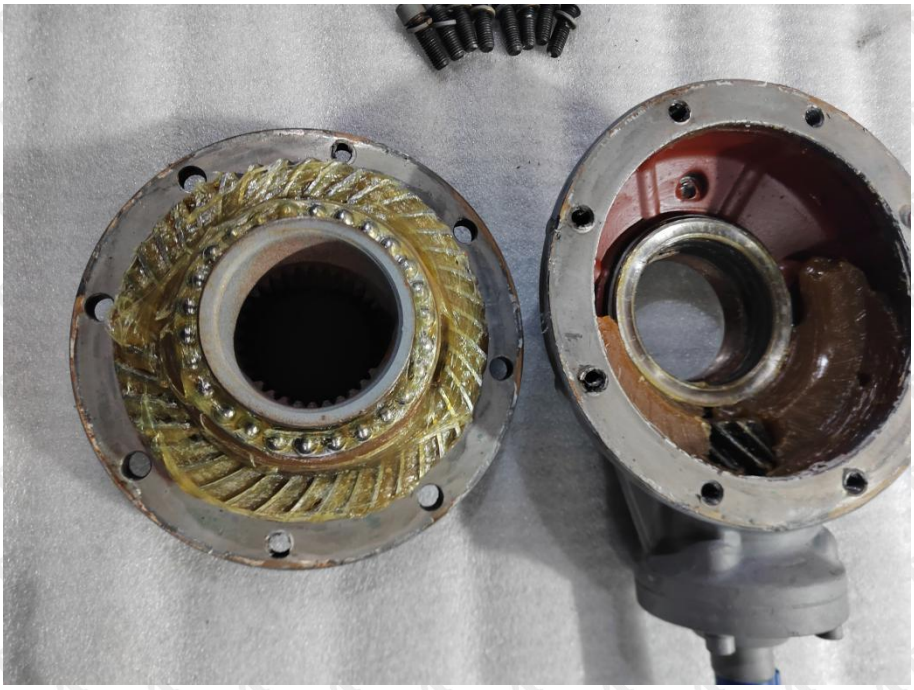

Photo 5:After dust test

******End of this report******