



working for a safer tomorrow

KARANDIKAR LABORATORIES PVT. LTD. BOISAR

Format: F#07 b.1 Rev 10

TYPE TEST REPORT IS/IEC 60529:2001 (RA 2019)

Degrees of Protection Provided by Enclosures (IP Code)

Report No. : KLPL/BTG/22/09-89
ULR No. : TC631122000000467F
Discipline : Electrical Discipline
Group/Category : Environmental Test Facility
Sub-category : Ingress protection test



Date of issue..... : 29.09.2022
No. of pages : 06 PAGES + Annexure
Compiled by (+ signature)..... : Rohit Patil
Designation: Testing Engineer

Approved by (+ signature)..... : Javed Shaikh
Designation: Dy.Laboratory Manager

Item Received On : 24.09.2022 in Good Condition

Test Completion Date : 28.09.2022

Client

Name : M/s. Katwe Industries
: Plot NO. 36 & 36/A, Machhe Industrial Area, Machhe ,
Belgaum, 590014

Test Specification

Standard : IS/IEC 60529:2001 (RA 2019)
Specified IP-Code : IP67

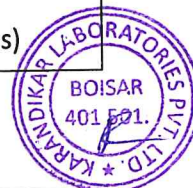
Equipment Under Test

Type of Test Object : Quarter Turn Warm Gear Box
Model No. : QT-150
Sr. No..... : QT150-101
Manufacturer : M/s. Katwe Industries

Annexure :

Drawing No..... : KI-150QTGB2021-SP01, Rev.No,00, Dated:10.07.2021, (02 Pages)

NOTE : 1) This refers only to the particular item(s) submitted for testing.
2) If necessary, this report shall be reproduced ONLY in full.



Head Office: B-101, Ansa Industrial Estate, Saki Vihar Road, Saki Naka, Andheri (E) Mumbai-400072 INDIA Ph: (022) 28471395
Laboratory: Gat#142, Betegaon, Boisar Chilhar Road, Opp. Union Park, Boisar (E) Tal-Palghar, Dist-Palghar-401501, INDIA
Phone (02525) 284881/931

Email: sales@karandikarlab.com

Website: www.karandikarlab.com

Possible test case verdicts:

Test case does not apply to the test object : N (Not Applicable)

Test object does meet the requirement..... : P (Pass)

Test item does not meet the requirement : F (Fail)

Test case has not been checked : _____

General remarks:

"(See remark #)" refers to a remark appended to the report.

"(See appended table)" refers to a table appended to the report.

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 test report shall not be reproduced except in full without the written approval of the testing Laboratory.

IP6X test conducted at Laboratory (Boisar).

IPX7 test conducted at Laboratory (Boisar).

Note: - MAJOR EQUIPMENTS USED

Tests	Required Instruments	Id. No.	Cal Due Date	Used Y/N
5X / 6X	Vacuum Meter	K&A 1108/1-17	04.02.2023	Y
	Rotameter	K&A 426	02.01.2023	Y
	DTC with sensor	K&A 047/1	05.01.2023	Y
	Timer	K&A 047/2	26.01.2023	Y
X7 /X8	Scale	K&A 107	29.09.2022	Y
	Stop watch	K&A 1171-18	28.09.2022	Y





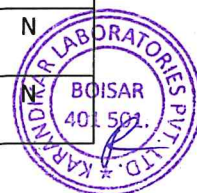
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Date: 29.09.2022

IS/IEC 60529:2001 (RA 2019)					
Clause	Requirement - Test			Result- Remark	Verdict
10	Marking.			--	N
11	General requirement for tests.				
11.1	Tests should be carried out under the standard atmospheric conditions described in IEC 60068-1			Followed	P
11.2	Test samples shall be in a clean and new condition.			Sample found clean	P
	The relevant product standard shall specify details such as: The number of samples to be tested;			One	P
	-conditions for mounting, assembling and positioning of the samples;			Horizontal	P
	-the pre-conditioning, if any, which is to be used;			--	N
	-whether to be tested energized or not;			--	N
	-whether to be tested with its parts in motion or not;			Non-Operational	P
11.5	Empty enclosures				
	If the enclosure is tested without equipment inside, the manufacturer shall ensure that after the electrical equipment is enclosed the enclosure meets the declared degree of Protection of the final product.			--	N
12	Tests for protection against access to hazardous parts indicated by the first characteristic numeral.				
First, characteristic Numeral.	Test means (Access probes)	Test force	Test Conditions Refer IS/IEC 60529:2001 (RA 2019)	--	N
0	No test required	-	-	--	N
1	The access probe, sphere of 50 mm Ø shall not fully penetrate and adequate clearance shall be kept.	50N ±10%	Cl.12.2	--	N
2	The jointed test finger may penetrate up to 80 mm length but adequate clearance shall be kept.	30N ±10%	Cl.12.2	--	N
3	The access probe, sphere of 2.5 mm Ø shall not penetrate and adequate clearance shall be kept.	3N± 10%	Cl.12.2	--	N
4	The access probe of 1,0 mm Ø shall not penetrate and adequate clearance shall be kept.	1N± 10%	Cl.12.2	--	N
5	Test conditions for IP 5X: Same As Above	1N± 10%	Cl.12.2	--	N
6	Test conditions for IP 6X: Same As Above	1N± 10%	Cl.12.2	--	N



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IS/IEC 60529:2001 (RA 2019)					
Clause	Requirement – Test			Result-Remark	Verdict
13	Tests for protection against solid foreign objects indicated by the First characteristic numeral.				
First, characteristic Numeral.	Test means (object probes and dust chamber)	Test force	Test Conditions Refer IS/IEC 60529:2001 (RA 2019)	--	
0	No test required	-	-	--	N
1	Rigid sphere without handle or guard 50 mm diameter.	50N ±10%	Cl.13.2	--	N
2	Rigid sphere without or guard 12, 5 mm diameter.	30N ±10%	Cl.13.2	--	N
3	Rigid steel rod 2,5mm diameter with edges free from burrs	3N± 10%	Cl.13.2	--	N
4	Rigid steel wire 1, mm diameter with edges free from burrs.	1N± 10%	Cl.13.2	--	N
5	Dust chamber, with under pressure	NA	Cl.13.4+13.5	--	N
6	Dust chamber, with under pressure	NA	Cl.13.4+13.6	For 8 hrs. as extraction rate is less than 40 Volumes per hour and max depression of 20mbar.	P
13.6.2	Acceptance conditions for the first characteristic numeral 6X. The protection is satisfactory if no hazardous deposit of dust is observable inside the UUT at the end of test.			No ingress of Powder found inside the UUT.	P

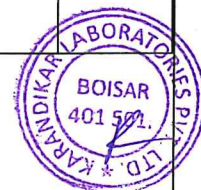


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IS/IEC 60529:2001 (RA 2019)				
Clause	Requirement – Test		Result-Remark	Verdict
14	Tests for protection against water indicated by the second characteristic numeral.			
Second, characteristic Numeral.	Test means	Test Conditions Refer IS/IEC 60529:2001 (RA 2019)	--	
0	No test required	Cl.14.2.0	--	N
1	Drip box, Enclosure on turntable	Cl.14.2.1	--	N
2	Drip box, Enclosure in 4 fixed positions of 15 ° tilt	Cl.14.2.2	--	N
3	oscillating tube or spray nozzle, 60° from vertical	Cl.14.2.3	--	N
4	oscillating tube or spray nozzle, 180° from vertical	Cl.14.2.4	--	N
5	6.3-mm nozzle, tested with a spraying nozzle, distance 2.5 m to 3 m, water flow rate 12.5 l/min	Cl.14.2.5	--	N
6	12.5-mm nozzle, tested with a spraying nozzle, distance 2.5 m to 3 m, water flow rate 100 l/min	Cl.14.2.6	--	N
7	Immersion tank, Temporary immersion in water in service position, Water temperature does not differ from that of equipment by more than 5K. Test Duration: 30 minutes	Cl.14.2.7	The lowest point of UUT with height less than 850mm is located 1000mm below surface of UUT.	P
8	Immersion tank, Continuous immersion subject to agreement.	Cl.14.2.8	--	N
-	Acceptance conditions for IPX7: The protection is satisfactory if no water has accumulated near the insulation, cable end or entered cables or interferes with the correct operation of the equipment.	Cl.14.3	No ingress of water observed inside the UUT.	P
-	Tests for protection against access to hazardous parts indicated by the additional letter.	Cl.15	--	N
SUMMARY OF INGRESS PROTECTION TESTS ACCORDING TO IS/IEC 60529:2001 (RA 2019) Conclusion of the IP67 test: PASS. The results of the tests were in compliance with the requirements in the standard IS/IEC 60529:2001 (RA 2019) UUT=Unit Under Test				



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Picture1: Quarter Turn Warm Gear Box

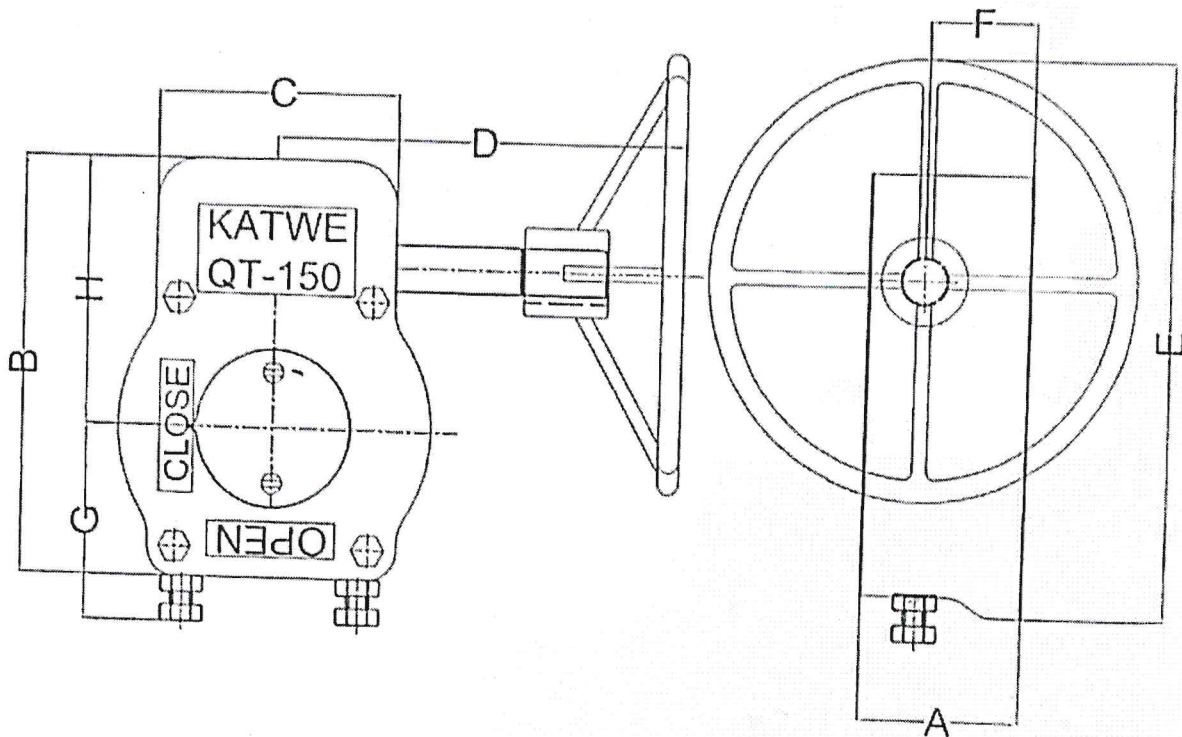


Picture2: No ingress of powder & water observed

END OF REPORT



FORMAT NO. TP/PRODB1 REV. 00



KATWE MODEL	TORQUE (D-Posix) NM	RATIO	MA $\pm 10\%$	MAX DRIVE BORE	MAX SIZE OF SQ DRIVE	HAND WHEEL		UNIT WEIGHT	A	B	C	D	E	F	G	H
KT QT-150	1500 Nm	40:1	11	45mm	36mm	DIA	PIPE DIA	12.50 Kg	76	186	104	282	354	42	92	110

SL NO	PART	MATERIAL
01	G.B. HOUSING	C.I.
02	G.B. TOP COVER	C.I.
03	WORM WHEEL	S.G.IRON.
04	WORM	ALLOY STEEL.
05	INPUT SHAFT	EN - 8
06	INDICATOR	ALLOY STEEL.
07	LOCK NUT	8.8 Gr.
08	STOPPER BOLT	8.8 Gr.
09	LOCK WASHER	ALLOY STEEL.
10	COVER BOLT	8.8 Gr.
11	GRUB SCREW/PIN	STD.
12	GREASE	LITHON 2.
13	HAND WHEEL	CAST FABRICATED

KATWE MODEL	MOUNTING FLANGE AS PER ISO 5211
KT QT-150	F34-140mm / 116-165mm

MASTER COPY

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Report No-KYLB/G/22/09-89

ALL DIMENSIONS ARE AS PER SITE CONDITION

THIS DRAWING IS THE PROPERTY OF KATWE INDUSTRIES BELGAIAM AND MUST BE RETURN ON DEMAND AND UPON THE EXPRESSED CONDITION THAT IT WILL BE USED IN ANY WAY DETRIMENTAL TO THE KATWE INDUSTRIES BELGAIAM.

ALL DIMENSIONS ARE IN mm UNLESS OTHER WISE SPECIFIED

DRAWN BY	R.B.K	10/7/21	21
CHECKED & APPROVED BY	A.H.K	10/7/21	21
	S.H.K	10/7/21	21
	NAME	DATE	SIGN

M/S.KATWE INDUSTRIES			
PLOT NO.36, 35/A MACHINE INDUSTRY MACHINE BELGAIAM			
TITLE	DESCRIPTION	SIZE	CLASS
GEAR BOX	ASSEMBLY	QT-150	
DWG NO.	KI-150QTCB2021-SP01		REV 00
SCALE : NTS	WT : 12.5 KG	QTY : 1NO	SHEET 01



M/S. KATWE INDUSTRIES

ENGINEERS, MANUFACTURERS OF QUARTER TURN WORM GEAR BOX,
VALVES & VALVE COMPONENTS, C. N. C. MACHINING & FABRICATORS.

Plot No. 36 & 36/A, Machhe Industrial Area, Machhe, Belgaum - 590 014

Fact : (0831) 2411244, (0831) 2951141, Email : katweindustries@yahoo.com



Reg. No. 9910000197
An ISO 9001-2015
Certified Company

GSTIN : 29AACFK8749C1Z4

PAN No. : AACFK8749C

E-Mail : katweindustries@yahoo.com

Ref. No.

Date :

Dear Sir,

Katwe make QT - series Gearboxes are having Gasket as mentioned below.

- 1) Katwe QT - 70 : 1.5 mm thk Rubberized cork sheet Make - RC-70
- 2) Katwe QT - 150 : 1.5 mm thk Rubberized cork sheet Make - RC-70



Report NO-KIPL/BEC/22/09-89



Thank you & Best Regards
Katwe Industries