

# The Automotive Research Association of India

(Research Institute of the Automotive Industry with Ministry of Heavy Industries, Govt. of India)

### Non-Transferable

		-	TEST REPORT		
SHL	. No.	SHL/16/2022-2023/3000026184/RT/3	3926 Date: 22.11.2022		
1.0	NAME AND ADDRESS OF THE CUSTOMER		M-torQ Controls India B-3,10,19 (E) General Block, Near Pateja Forging, MIDC Bhosari, Pune-411026		
	Na	me of Contact Person	Bhimrao B Kadam		
	Tel	ephone No.	020-27400988		
	Email ID		bkadam@asia-mbm.com		
2.0	CU	STOMERS LETTER REF.	E-mail Dated: 09.09.2022		
2.1		P Receipt Date	<b>Date</b> 01.11.2022		
3.0	DESCRIPTION OF TEST COMPONENT:				
	a.	Name of The Component	Manual Operated Gear Box		
	b.	Name of The Manufacturer	M-torQ Controls India B-3,10,19 (E) General Block, Near Pateja Forging, MIDC Bhosari, Pune-411026		
	C.	Model No.	MTGAT series		
	d.	Drawings No. with Rev. No.	MTG-HW-IP67-MTGAT-F10-GA-BSQ22; REVISION NO 0		
	e.	Photograph of the Component			

#### 4.0 **TEST OBJECTIVE, REQUIREMENTS:**

To carry out the IP- 67 protection test as per IS/IEC 60529:2001.

#### **Dust Test for First Numeral '6':** 4.1

On inspection after the test as per Clause 13.6 of IS/IEC 60529:2001, there should be no deposit of dust inside the enclosure.

#### 4.2 Water Test for Second Numeral '7':

On inspection after the test in accordance with the requirements as per Clause 14.2.7 and 14.3 of IEC 60529, water entered inside the equipment shall not:

- > Be sufficient to interfere with satisfactory operation of the equipment.
- > Reach live parts or windings not designed to operate when wet.
- > Accumulate near the conduit hole (cable entry) or enter the cable.

PREPARED BY:	VERIFIED BY:	AUTHORISED BY:
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S. N. LONDHE DEPUTY MANAGER	A.D. DEKATE GENERAL MANAGER	DR. B. V. SHAMSUNDARA DEPUTY DIRECTOR In-charge-Safety and Homologation Laboratory

An ISO 9001, ISO 14001, ISO 45001 and ISO/IEC 27001 Certified Organization



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# 5.0 TEST PROCEDURE:

## 5.1 Dust Test for First Numeral '6' (as per Clause 13.6 of IS/IEC 60529:2001):

- > The equipment under test was supported inside the test chamber and the pressure inside the equipment was maintained below atmospheric pressure by a vacuum pump.
- ➤ During the test, a minimum 80 times the volume of air was drawn into the enclosure, without exceeding an extraction rate of 60 volumes per hour or a depression of more than 200 mm of water on the manometer. The test was carried out by using apparatus incorporating the principle shown in Figure 2 of IS/IEC 60529:2001. The test was stopped after 2 h.

# 5.2 Water Test for Second Numeral '7' (as per Clause 14.2.7of of IEC 60529):

The test was carried out by completely immersing the enclosure in the water for 30 minutes at a depth of 1 meter from the surface of the water.

### 6.0 TEST RESULTS:

### 6.1 Dust Test for First Numeral '6':

No Dust ingress was observed inside the "Manual Operated Gear Box."

6.2 Water Test for Second Numeral '7'.

No Water ingress was observed inside the "Manual Operated Gear Box."

6.3 Test Duration Start Date: - 04.11.2022 End Date: - 07.11.2022

### 7.0 CONCLUSION:

"Manual Operated Gear Box", details are mentioned above sr. no. 3 in this report, meets the test requirement of IP 67 Protection Test as per of IEC 60529

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Place of Issue:- Kothrud, Pune					



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