PRODUCT MANUAL FOR
Propeller Type a.c. Ventilating Fans
ACCORDING TO IS 2312:1967

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.

1.	**Product**	:	IS 2312:1967
	Title	:	Propeller Type a.c. Ventilating Fans
	No. of Amendments	:	8
2.	**Sampling Guidelines:**		
a)	**Raw material**	:	Stampings - IS 648, IS 649, IS 3024 Capacitor - IS 1709
b)	**Grouping guidelines**	:	Please refer ANNEX- A
c)	**Sample Size**	:	Fan - 3 nos.
3.	**List of Test Equipment**	:	Please refer ANNEX – B.
4.	**Scheme of Inspection and Testing**	:	Please refer ANNEX – C.
5.	**Possible tests in a day :**		
	(i) Starting (ii) Air Delivery (iii) Mechanical Endurance Test (for Regulator) (iv) Power Factor Test (v) a.c. Leakage Test (vi) Earthing Continuity Test (vii) Electrical Input Test (viii) Measurement of Fan Speed (ix) Flash Test		
6.	**Scope of the Licence :**		
	Licence is granted to use Standard Mark as per IS 2312:1967 with the following scope:		
	"Propeller Type a.c. Ventilating Fans – for fan size(s) ……mm, …..V, 1 Phase/3 Phase, …..Hz, …….Poles, Insulation Class A/B/E, with/without regulator"		

ANNEX A

1. IS 2312:1967 covers ac single or three phase propeller type ventilating fans and their associated speed regulators, if any.

2. For considering GoL/CSoL, sample of propeller type ac ventilating fans of the highest fan size and maximum number of poles intended to be covered in the licence shall be drawn for testing to cover all the lower fan sizes and poles.

3. In case propeller type ac ventilating fans of Class B insulation is tested, fans with Class A and Class E insulation may also be covered. Similarly, if propeller type ac ventilating fans of Class E insulation is tested, fans with Class A insulation may also be covered.

4. In case propeller type ac ventilating fans for any rated voltage is tested, propeller type ac ventilating fans made for other lower rated voltages shall also be covered. When three phase propeller type ac ventilating fan is tested, similar varieties of single phase propeller type ac ventilating fan may also be covered.

5. The Firm shall declare the varieties of various propeller type ac ventilating fans they intend to cover in the Licence. The Scope of Licence may be restricted based on the Manufacturing capability and Testing facilities of the Manufacturer.

6. During the operation of the Licence, BO shall ensure that all the Varieties covered in the Licence are tested in rotation to the extent possible.

ANNEX B

List Of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl. No	Test Equipment	Tests Used in with Clause reference
1	Measuring Tape	Cl. 3
2	Testing Panel Voltmeter, Ammeter, Wattmeter	Cl. 10.1
3	Anemometer, Stand for anemometer, Air Delivery Duct (Square/ Round)	Cl. 14.2
4	Temp. Controller, Thermometer	Cl. 14.3
5	Humidity chamber with digital temp. indicator, Hour meter, Hygrometer	Cl. 14.4
6	Counter Meter	Cl. 14.5
7	PF Meter	Cl. 14.6
8	Testing Panel consisting of ammeter, IR Meter, Voltmeter, Wattmeter	Cl. 14.7, Cl. 14.9, Cl. 14.10, Cl. 14.11
9	Tachometer	Cl. 14.12
10	HV Tester	Cl. 14.8, Cl. 14.13

The above list is indicative only and may not be treated as exhaustive.

ANNEX C

Scheme Of Inspection And Testing

1. LABORATORY - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipment.

2. TEST RECORDS – The manufacturer shall maintain test records for the tests carried out to establish conformity.

3. LABELLING AND MARKING – As per the requirements of IS 2312:1967.

4. LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

4.1 All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.

5. CONTROL UNIT– For the purpose of this Scheme, fans of the same size, manufactured in a day shall constitute a control unit.

6. REJECTIONS – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

TABLE 1

(1)				(2)	(3)		
Test Details				**Test equipment requirement**	**Levels of Control**		
Cl.	Requirement	Test Methods		R: required (or) S: Sub-contracting permitted	No. of Sample	Frequency	Remarks
		Clause	Reference				
14.13	Flash Test	14.13	IS 2312	R	Each Fan		---
14.1.1(c)	Simple running Test	14.1.1(c)	IS 2312	R			
10.1	Starting	10.1	IS 2312	R	3	Each control unit	If there is a failure in any one of the tests, the sample size for that test shall be doubled. The original frequency shall be restored only if 4 consecutive samples pass the test. If there is a failure in two or more tests, the sample size shall be doubled for all the tests. The original frequency shall be restored only if 4 consecutive samples pass all the tests.
14.6	Power Factor Test	14.6	IS 2312	R			
14.8	High Voltage Test	14.8	IS 2312	R			
14.9	Insulation –Resistance Test	14.9.1	IS 2312	R			
14.10	Earthing Continuity Test	14.10	IS 2312	R			
14.11	Electrical Input Test	14.11	IS 2312	R			
14.12	Measurement of Fan Speed	14.12	IS 2312	R			
14.2	Air Delivery	14.2	IS 2312	R	3	Once in a week for each size	
14.3	Temperature Rise	14.3	IS 2312	R			
14.7	a.c. Leakage Test	14.7	IS 2312	R			
14.9	Insulation –Resistance Test	14.9.1 (Note)	IS 2312	R			
14.4	Moisture proofness Test	14.4	IS 2312	R	3	Once in a week for same type and design	
14.5	Mechanical Endurance Test	14.5	IS 2312	R			

Note- 1: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.