उत्पाद मैन्युअल
आई एस 17531 : 2021 के अनुसार
पोर्टेबल इलेक्ट्रिक इंडोर एयर प्यूरीफायर — विशिष्टि

PRODUCT MANUAL
ACCORDINGTO IS 17531: 2021
Portable Electric Indoor Air Purifier — Specification

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम, 2018 की योजना- I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

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

Note:
The product 'Portable Electric Indoor Air Purifier' as per IS 302 (Part 1): 2024 is covered under compulsory certification under the Safety of Household, Commercial and Similar Electrical Appliances (Quality Control) Order, 2026. **Therefore, Licence as per IS 302 (Part 1): 2024 for the concerned model numbers is a pre-requisite for getting licence for the product as per IS 17531: 2021.**

1.	**मानक संख्या** **IS No.**	:	IS 17531 : 2021
	शीर्षक **Title**	:	**पोर्टेबल इलेक्ट्रिक इंडोर एयर प्यूरीफायर** Portable Electric Indoor Air Purifier — Specification
	संशोधनों की संख्या **No. of amendments**	:	NIL

2.	**नमूना दिशानिर्देश** **Sampling Guidelines:**		
a)	**कच्चा माल** **Raw material**	:	NIL
b)	**समूहीकरण दिशानिर्देश** **Grouping Guidelines**	:	Please refer ANNEX – A
c)	**नमूने का परिमाण** **Sample Quantity**	:	2 numbers Surveillance samples to be drawn as following: 1. FS and MS each – Once in a year – For all tests except for EMI/EMC 2. MS - Once in 5 years for all tests applicable including EMI/EMC.
d)	**परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर** **Parameters to be Declared in Test Request**		As per Scope of Licence
3.	**परीक्षण उपकरणों की सूची** **List of Test Equipment**	:	Please refer ANNEX – B
4.	**निरीक्षण और परीक्षण की स्कीम** **Scheme of Inspection and Testing**	:	Please refer ANNEX – C
5.	**एक दिन में संभावित परीक्षण** **Possible tests in a day:**	:	1. Marking (Cl. 10); 2. All possible safety test as per Cl. 5.6
6.	**लाइसेंस का दायरा /Scope of the Licence**	:	As per below table
	Licence is granted to use Standard Mark as per IS 17531 : 2021 with the following scope:		
	Name of the Product		Portable Electric Indoor Air Purifier
	Series and Model No.		**....**
	Class of Appliance		Class I/II/III
	Rating		___ W, ___ V, ___ Hz, ____Phase
	Type of Supply		a.c. and/or d.c. and/or battery operated

	Grade based on their energy efficiency	Grade I/ Grade II/ Grade III
	Principle Of Purification	Passive Purification System and/or Active Purification System
	Type of filter (for Passive Purification System)	High Efficiency Particulate Air (HEPA) Filter / Ultra Low Particulate Air (ULPA) Filter / Adsorption
	CADR	
	Grade	Pollution degree: __, Material group: __
	Rating of adaptor (if applicable)	
	Insulation Class (if applicable)	
	Type of Placement	Floor Type / Table Type / Wall Type / Multi-placement Type

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
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Manak Bhawan, 9, Bahadur Shah Zafar Marg
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ANNEX – A

समूहीकरण दिशानिर्देश
Grouping Guidelines

1) Manufacturers shall declare each variety (including model numbers) of the Portable Electric Indoor Air Purifier along with parameters indicated in the scope of licence that they intend to cover in the scope of the licence.

2) The product may be grouped based on the following criteria:

Sl. No.	Criteria	Example
a.	**Nature of supply**: Portable Electric Indoor Air Purifier of different nature of supply shall not be grouped together.	For example, Model(s) operating on Single Phase a.c. supply shall not be placed in the same series/ group with model(s) operating on Three Phase a.c. supply/ model(s) operating on d.c. supply/ battery-operated model(s). Similarly, Model(s) operating on d.c. supply shall not be placed in the same series/ group with Model(s) operating on Single Phase a.c. supply/ Model(s) operating on Three Phase a.c. supply/ appliances/ battery-operated Model(s) and so on.
b.	**Principle Of Purification:** Portable Electric Indoor Air Purifier of different Principle Of Purification shall not be grouped together.	i. Passive Purification System ii. Active Purification System
c.	**Grade based on their energy efficiency**	In case a model with higher energy efficiency is tested, then model with lower energy efficiency in the same series/ group may be covered without additional testing.
d.	**Type of placement**	Any placement type of model may be tested to cover all the types of placement, provided the construction, components, air-flow path and performance characteristics remain the same
e.	**Ingress of protection**	If higher degree of protection is tested on a model, then model(s) with lower degree of

		protection in the series/ group may be considered.
f.	**Insulation class**	If higher insulation class is tested on a model, then model(s) with lower insulation class in the series/ group may be considered.

3) For considering Grant of Licence/ Change in Scope of the Licence, in the series/ group formed as per above criteria:
   a. Models of the highest and the lowest input rating shall be tested with all other parameters being same.
   b. Each class of appliance to be tested separately.

4) Further, the following shall be ensured during testing:
   a. In a series/ group the model with highest CADR shall be tested, even if it is not of the highest/ lowest input rating;
   b. It shall be ensured that atleast one model, preferably having more no. of features, also tested for the requirements of EMI/EMC.

5) Additionally, during Grant of Licence/ Change in Scope of licence, manufacturers shall also submit a declaration with respect to compliance to the Cl. 11 'MANUFACTURER'S GUARANTEE' of the Indian Standard.

6) During the operation of the Licence, BO shall ensure that all the models covered in the scope of the Licence shall be tested in rotation to the extent possible.

ANNEX – B

परीक्षण उपकरणों की सूची

List Of Test Equipment

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Major test equipment required to test as per the Indian Standard

Sl. No.	Test used in with clause reference	Test equipment list
1.	Cl. 10 (Marking)	Petroleum spirit (n-Hexane), Cloth, Stopwatch
2.	Cl. 5 (Performance Requirements), ANNEX B	Formaldehyde, Toluene, Cigarette Smoke/Salt Aerosol, Dust, Pollen, Temperature Sensors, RH Sensors, Stopwatch, Aerosol Generator, Atomizer, Test Chamber with Ceiling Fan, Laser Source Optical Particle Counter, VOC Analyzer, CO2 Detector, Power Measuring Instrument
3.	Cl. 8 (Protection against access to live parts) of IEC 60335-2-65	Test probe B, Test Probe 13, Test probe 41, Test Probe 18, Push- Pull Gauge, Voltmeter
4.	Cl. 13.3 (High Voltage test) of IEC 60335-2-65	High Voltage Tester, Voltmeter, Milliammeter
5.	Cl. 10 (Power input and current), Cl. 13 (Leakage current & Electric strength at operating temperature), Cl. 16 (Leakage current & Electric strength), Cl. 27 (Provision for earthing) of IEC 60335-2-65	Voltmeter, Ammeter, Wattmeter, Micro ammeter, Mega Ohm Meter, Frequency Meter, Test Finger, Milliammeter, Leakage Current Tester
6.	Cl. 11 (Heating) of IEC 60335-2-65	Digital temp data logger, Steel scale, Voltmeter, Wooden test corner, Fine wire thermocouple (wires with a diameter not exceeding 0.3 mm), Stopwatch
7.	Cl. 14 (Transient Overvoltage) of IEC 60335-2-65	Endurance Test Apparatus (Voltmeter, Ammeter, Wattmeter, Energy Meter, Counter Meter, Timer)

8.	Cl. 15 (Moisture Resistance) of IEC 60335-2-65	Humidity Chamber (Temperature Indicator, Temperature Controller, Thermo hygrometer, Hour Meter), Test set up for degree of protection against moisture
9.	Cl. 17 (Overload Protection of Transformers and associated circuits) of IEC 60335-2-65	Variable Power Supply or Transformer Test Setup, Short-Circuit Simulation Setup, Multi-channel temperature data logger, Digital thermometer, Adjustable load bank, Insulation Monitoring Tools, Timer
10.	Cl. 19 (Abnormal operation) of IEC 60335-2-65	Wattmeter, Variable voltage supply, Digital temp data logger, HV tester, Metal Foil, Fine wire thermocouple, Stopwatch, Surge test generator
11.	Cl. 20 (Stability and mechanical Hazards), Cl. 21 (Mechanical Strength) of IEC 60335-2-65	Inclined plane, Angle Finder, Push-pull gauge, Test probe similar to test probe B(as per Cl. 20.2), Steel scale, Spring Impact Hammer, vernier caliper, scratch tester, test fingernail(as per Cl.21.2) , Door Endurance test apparatus, Impact tester, Compression resist tester
12.	CL 22 (Construction) of IEC 60335-2-65	Test probe B, Test probe 13, Test probe 18, Test probe 41, Torque meter, Push-pull Gauge, Hot Air Oven, syringe, colored water, Stopwatch, Voltmeter, Multimeter, Vernier Caliper, Iron bars, electrodes, hydrogenated oil, gravy, salt-free butter, fuchsine, methylated spirit, Door Endurance test apparatus
13.	CL 23 (Internal Wiring) of IEC 60335-2-65	Flexing Test Apparatus, HV tester, Metal Foil, Stopwatch
14.	Cl. 25 (Supply Connection and External Flexible Cables and Cords) of IEC 60335-2-65	Cord Grip Test Apparatus, Measuring Tape, Micro-ohmmeter
15.	Cl. 26 (Terminals for external conductors) of IEC 60335-2-65	Torque Screwdriver
16.	Cl. 27 (Provision for earthing) of IEC 60335-2-65	Earth Contact Resistance Testing Panel (ECR Measurement), Voltmeter, Ammeter
17.	Cl. 28 (Screws and Connections) of IEC 60335-2-65	Torque Wrench
18.	Cl. 29 (Creepage Distances and Clearances) of IEC 60335-2-65	Filler Gauge, Vernier Calliper, Micrometer

19.	General	Air Conditiner, Temperature Indicator

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

ANNEX – C

निरीक्षण और परीक्षण की स्कीम

Scheme Of Inspection And Testing

1. **QUALITY ASSURANCE PLAN:**

1.1 It is expected that during operation of BIS licence, manufacturers will implement a Quality Assurance Plan (QAP) i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan (QAP) defining the control unit (i.e. lot/batch etc.), the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and declare the arrangement for testing i.e. whether in-house or subcontracting/sharing for each applicable test and submit the same to BIS Branch Office for information. The manufacturer shall comply with the QAP and maintain test records in accordance with para 2.1.

1.3 **RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT**:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: **All Portable Electric Indoor Air Purifier of each model number manufactured in a day, shall constitute a control unit.**

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in Table 1. Manufacturer has the discretion of declaring their own levels of control or accept the levels of control given in this document.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan.

2. **ENSURING COMPLIANCE THROUGH TESTING**- Manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard for which they may have in-house test facilities. However, there is no obligation to maintain in-house laboratory. Licensee may use alternative arrangements for tests of the production as per the declared QAP. Various alternatives are available for operation of BIS certification as given below and the relevant guidelines for availing such relaxations by the manufacturers, as amended from time to time, are to be referred:

i) Shared testing resources like common facility,
ii) Cluster based testing facility,
iii) Sub-contracting to outside laboratories which may either be:
   a) BIS recognized/empaneled laboratories, or
   b) Any accredited laboratory as per ISO/IEC 17025.

2.1 **TEST RECORDS**- The manufacturers shall maintain test records for the tests carried out (either in-house or at a sub-contracted or at shared test facility) to establish conformity of the

product to the Standard for operation of licence. For the tests being subcontracted or conducted at a shared test facility, test results issued by the laboratories or test facilities, shall be made available for inspection by BIS.

3. **PACKING and MARKING** - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly each **Portable Electric Indoor Air Purifier** and also on its packaging provided always that the material so marked conforms to each requirement of the specification.

   3.1 Packing and Marking shall be done along with providing the Manufacturer's guarantee as per the provisions of IS 17531: 2021.

   3.2 Wall type air purifier shall include proper wall mounting brackets and instructions to mount the air purifier integrally to the wall.

   3.3 Additional Marking requirements: Additionally, the following shall also be marked on product or package or both:

   a) "For BIS certification details please visit www.bis.gov.in";
   b) Instruction shall be provided with each **Portable Electric Indoor Air Purifier** as per requirement prescribed at Cl. 7.12 of the **IEC 60335-2-65.**

4. **REJECTION** - The production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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
(ONLY FOR GUIDANCE PURPOSE)

(1)				(2)	
Test Details				**Levels of Control**	
Cl.	**Requirement**	**Test Methods**		**No. of Sample**	**Remarks**
		Clause	**Ref-erence**		
9	Packing	9	IS 17531	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained	
10	Marking	10			
5.1	Clean Air Delivery Rate (CADR)	5.1		One	Each model of Portable Electric Indoor Air Purifier manufactured in the period of six months
5.2	Capacity of Air Purifier and Room Size	5.2		One	
5.3	Noise Level (Sound Power Level)	5.3		One	
5.4	Power Consumption	5.4		One	
5.5	Standby Power	5.5		One	
5.6	***Safety Requirements***				
	Components	24	IEC 60335-2-65	Each consignment of components received	Further testing is not required if supplied with BIS Standard Mark or with Test certificate, whichever is applicable
	Earth Continuity Test	A.2		Each Portable Electric Indoor Air Purifier	
	Electric Strength Test	A.3			
	Functional Test	A.4			
	Provision for Earthing	27		One	Each Control Unit
	Protection against access to live parts	8		One	Each model of Portable Electric Indoor Air Purifier manufactured in the period of six months
	Power Input & Current	10		One	
	Heating	11		One	
	Charging of metal-ion batteries	12		One	
	Leakage current & electric strength at operating temperature	13		One	
	Transient Overvoltage	14		One	
	Moisture Resistance	15		One	

	Leakage Current & Electric Strength	16		One	
	Overload Protection of Transformers and associated circuits	17		One	
	Abnormal Operation	19		One	
	Stability & Mechanical Hazards	20		One	
	Mechanical Strength	21		One	
	Construction	22		One	
	Internal Wiring	23		One	
	Supply Connections & external flexiblecords	25		One	
	Terminals for external conductors	26		One	
	Screws & Connections	28		One	
	Clearances, creepage distances & solid insulation	29		One	
	Resistance to heat & fire	30		One	
	Resistance to rusting	31		One	
	Radiation, toxicity and similar hazards	32			

Note: *Where a valid licence under IS 302 (Part 1): 2024 is held for the same model(s) and the relevant safety tests (including those arising from IEC 60335-2-65 as applicable) have already been carried out as per the Scheme of Inspection and Testing of that licence, separate re-testing of the safety requirements under this Product Manual is not required.*