उत्पाद मैन्युअल
आई एस 2082 : 2018 के अनुसार
स्थिर भण्डारण प्रकार बिजली पानी के हीटरों की विशिष्टि (पांचवां पुनरीक्षण)के लिए
दस्तावेज़ संख्या – पीएम/आईएस 2082/5/ जुलाई 2024

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।

PRODUCT MANUAL FOR
STATIONARY STORAGE TYPE ELECTRIC WATER HEATERS - SPECIFICATION (FIFTH REVISION) ACCORDING TO IS 2082 : 2018
Document No - PM/IS 2082/5/July 2024

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 various products. The document may also be used by prospective applicants desirous of obtaining BIS certification.

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उत्पाद मैन्युअल
स्थिर भण्डारण प्रकार बिजली पानी के हीटरों की विशिष्टि (पांचवां पुनरीक्षण)
आई एस 2082 : 2018 के अनुसार

PRODUCT MANUAL
STATIONARY STORAGE TYPE ELECTRIC WATER HEATERS - SPECIFICATION (FIFTH REVISION)
ACCORDINGTO IS 2082 : 2018

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 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.

1.	**मानक संख्या** **IS No.**	:	IS 2082:2018
	शीर्षक **Title**	:	Stationary Storage Type Electric Water Heaters
	संशोधनों की संख्या **No. of amendments**	:	1
2.	**नमूना दिशानिर्देश** **Sampling Guidelines:**		
a)	**कच्चा माल** **Raw material**	:	• Copper as per IS 191 • Stainless steel as per IS 1570 (Part 5) • Vitreous enameled inner tank as per IS 13273 • Components as per Cl. 24 of IS 302-2-21

b)	**समूहीकरण दिशानिर्देश** **Grouping Guidelines**	:	Please refer ANNEX – A
c)	**नमूने का परिमाण** **Sample Quantity**	:	2 numbers
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:**	:	Please refer ANNEX-D
6.	**लाइसेंस का दायरा /Scope of the Licence**	:	As per below table
	Licence is granted to use Standard Mark as per IS 2082 : 2018 with the following scope:		
	Name of the Product	Stationary Storage Type Electric Water Heaters	
	Model No.		
	Class	Class of Appliance I/II/III	
	Type	Closed / Open-Outlet/ Cistern-fed/ Cistern-type/Low-pressure/Heat Exchange	
	Grade	Pollution Degree ____, Material Group_____	
	Material of Inner Tank	Stainless Steel/ Copper Tank/ Vitreous Enamelled Tank	
	Rating	____ W, ____ V, ____ Hz, _____Phase, _____ Pa	
	Capacity	6 L/10 L/ 15 L/ 25 L/ 35 L/ 50 L/ 70 L/ 100 L/ 140 L/ 200 L	
	Degree of protection	_____	

NOTE:

The requirements of 'Stationary Storage Type Electric Water Heaters' as per IS 302-2-21 : 2018 are deemed complied if the product meets to the requirements of IS 2082 : 2018 under BIS certification licence.

ANNEX – A

समूहीकरण दिशानिर्देश
Grouping Guidelines

1) Manufacturer shall declare the rating in wattage, input voltage, type, insulation class, degree of protection of Stationary Storage Type Electric Water Heaters produced by them with a model number.

2) For grant of licnce/ change in scope of licence, each model of Stationary Storage Type Electric Water Heaters to be tested. Change in aesthetics, i.e colour, visual design etc may not be treated as different model.

3) However, following relaxation is testing is given:

    a) If model of higher insulation class is tested, then model(s) of lower insulation class may be covered subject to condition that all other parameters of rating remain same.

    b) If a model with a particular degree of protection is tested, then model(s) with lower degrees of protection may also be covered subject to condition that all other parameters of rating remain same.

NOTE: In addition to the model(s) drawn for independent testing as per the above guidelines, factory test report of all other model(s) intended to the covered in scope of licence as per the grouping guidelines shall also be submitted.

4) The Firm shall declare the varieties of Stationary Storage Type Electric Water Heaters 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.

5) During the operation of the Licence, BO shall ensure that all the models covered in the Licence are 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.	Tests Used in With Clause Reference	Test Equipment/Chemical
1.	Cl. 10, Cl. 13, Cl. 16, Cl. 27	Voltmeter, Ammeter, Wattmeter, Micro ammeter, Mega Ohm Meter, Frequency Meter, Test Finger, Mili Ammeter
2.	Cl. 13.3	High Voltage Tester, Voltmeter, mili Ammeter
3.	Cl. 30	Glow Wire Test Apparatus – Temperature Indicator,Timer
4.	Cl. 14, Cl. 17, Cl. 19	Endurance Test Apparatus (Voltmeter, Ammeter, Wattmeter, Energy Meter, Counter Meter, Timer)
5.	Cl. 11	Temperature Indicator
6.	Cl. 15	Humidity Chamber (Temperature Indicator, Temperature Controller, Thermo hygrometer, Hour Meter), Test set up for degree of protection against moisture
7.	Cl. 23, Cl. 24, Cl. 26, Cl. 28, Cl. 29	Torque Screw Driver, Micrometer, Vernier Caliper,Gauges
8.	Cl. 22.101	Pressure Gauge, Vacuum Gauge
9.	Cl. 30	Hot Air Oven, Ball Pressure Test Apparatus
10.	Cl. 25	Cord Grip Test Apparatus
11.	Cl. 21	Impact Tester

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 manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing theStandard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the differenttests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

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

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: **All stationary storage type electric water heaters of each model number manufactured in a day shall constitute a control unit** . The manufacturer has the choice to define their own control unit/batch/lot and submit the same to the BIS.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

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. Alternatively,the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirementsof the Indian Standard.

2. ENSURING COMPLIANCE THROUGH TESTING- It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In housetesting facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.1 For the guidance of manufacturers, Table 1 giving the recommended levels of control is givenbelow. Column 2 of Table 1 indicates routine tests where test equipment is required in house as “R” or other tests which can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as perIS/ISO/IEC 17025.

2.2 **For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional**.

2.2.1 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilitiesor get testing done

from BIS recognized/empaneled laboratory or any other laboratory having validNABL accreditation as per IS/ISO/IEC 17025.

2.3 **Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as "R" in Column 2 of Table 1)**, where different testsgiven in the specification shall be carried out in accordance with the method given in the specification**.** They shall also implement a calibration plan for the in-house test equipment.

2.3.1 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize theprovisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website www.bis.gov.in. (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

2.4 **TEST RECORDS**- The manufacturers maintaining an in-house laboratory or utilizing commoncluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratoryor any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports issued by the laboratories shall be 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 on **each stationary storage type electric water heaters 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 as per the **IS 2082 : 2018**.

3.2 **Additional Marking requirements**: The material shall also be marked with the following additional requirement on packaging:

a) "For BIS certification details please visit www.bis.gov.in"
b) Each Stationary Storage Type Water Heater shall be provided with the instruction manual for installation, operation and use, routine maintenance and safety precautions.

4. REJECTION - All 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)	(3)		
Test Details				**Test equipment requirement R: required (or) S: Sub-contracting permitted**	**Levels of Control**		
Cl.	**Requirement**	**Test Methods**			**No. of Sample**	**Frequency**	**Remarks**
		Clause	**Reference**				
22.1.3	Earth Continuity Test	A-1	IS 302-1	R	Each water heater		
22.1.3	Electric Strength Test	A-2	IS 302-1	R	Each water heater		
22.1.3	Functional Test	A-3	IS 302-1	R	Each water heater		
14	Capacity	14	IS 2082	R	One	Each Control Unit	
7	Marking and Instruction	7	IS 302-1	R	Firm should exercise adequate control so that whole production should meet the requirements. Records shall be maintained		
21	Finish	21	IS 2082	R			
8	Protection against access to live parts	8	IS 302-2-21	R	One	Once in every three months for each type of Storage Type Electrice Water Heaters	
8	Power Input & Current	10	IS 302-2-21	R	One		
	Leakage current & electric strength at operating temperature	13	IS 302-2-21	R	One		
	Leakage Current & Electric Strength	16	IS 302-2-21	S	One		
	Provision for Earthing	27	IS 302-2-21	R	One		
15	Standing Loss per 24 hours	15	IS 2082	S	One	Once in every six months for each type of Storage Type Electrice Water Heaters	
19	Deviation of dial calibration	19	IS 2082	S	One		
16	Hot Water Output	16	IS 2082	S	One		

17	Reheating Time	17	IS 2082	S	One		
18	Mixing Factor	18	IS 2082	S	One		
20	Cyclic Temperature Variation(differential)	20	IS 2082	S	One		
8	Transient Overvoltage	14	IS 302-2-21	S	One	Once in every six months for each type of Storage Type Electrice Water Heaters	
	Overload Protection of Transformers and associated circuits	17	IS 302-2-21	S	One		
	Abnormal Operation	19	IS 302-2-21	S	One		
	Stability & Mechanical Hazards	20	IS 302-2-21	S	One		
	Mechanical Strength	21	IS 302-2-21	S	One		
	Internal Wiring	23	IS 302-2-21	S	One		
	Components	24	IS 302-2-21	S	One	Same as above	Further testing is not required if supplied with BIS Standard Mark or with Test certificate, which ever applicable.
	Supply Connections & external flexiblecords	25	IS 302-2-21	S	One	Once in every six months for each type of Storage Type Electrice Water Heaters	
	Terminals for external conductors	26	IS 302-2-21	S	One		
	Screws & Connections	28	IS 302-2-21	S	One		
	Clearances, creepage distances & solidinsulation	29	IS 302-2-21	S	One		
	Resistance to heat & fire	30	IS 302-2-21	S	One		
	Resistance to rusting	31	IS 302-2-21	S	One		

ANNEX – D

एक दिन में संभावित परीक्षण
Possible Tests in a day

1. Finish (Cl. 21)
2. Pressure Test (Cl. 22.101 of IS 302-2-21)
3. Protection against access to live parts (Cl. 8 of IS 302-2-21)
4. High Voltage (Cl. 13.2.2 of IS 302-2-21)
5. Earthing Connection (Cl. 27 of IS 302-2-21)
6. Power Input and Current (Cl. 10 of IS 302-2-21)
7. Heating (Cl. 11 of IS 302-2-21)
8. Leakage Current & Electric Strength at operating temperature (Cl. 13 of IS 302-2-21)
9. Leakage Current & Electric Strength (Cl. 16 of IS 302-2-21)
10. Mechanical Strength (Cl. 21 of IS 302-2-21)
11. Internal Wiring (Cl. 23 of IS 302-2-21)
12. Supply connections & external flexible cords (Cl. 25 of IS 302-2-21)
13. Terminals for external conductors (Cl. 26 of IS 302-2-21)
14. Provision for Earthing (Cl. 27 of IS 302-2-21)
15. Screws and Connections (Cl. 28 of IS 302-2-21)
16. Stability and Mechanical Hazards (Cl. 20 of IS 302-2-21)