



उत्पाद मैनुअल
आई एस 17150: 2025 के अनुसार
पाइप नैचुरल गैस (पी एन जी) के प्रयोग हेतु मीनी घरेलु पानी के हीटर के लिए

दस्तावेज संख्या – पी एम/आई एस 17150/4/ अक्टूबर 2025

भारतीय मानक ब्यूरो की स्कीम-I (अनुरूपता मूल्यांकन) विनियम, 2018 के तहत यह उत्पाद मैनुअल प्रमाणीकरण के प्रचालन में रीति और पारिश्रिता की सुसंगतता सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों और लाइसेंसी द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस प्रमाणीकरण लाइसेंस/ प्रमाणपत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज का उपयोग किया जा सकता है।

PRODUCT MANUAL FOR
MINI DOMESTIC WATER HEATER FOR USE WITH
PIPED NATURAL GAS (PNG)
ACCORDING to IS 17150:2025

Document No.- PM/IS 17150/4/ October 2025

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.

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1.	Product	:	IS 17150: 2025
	Title	:	Mini Domestic Water Heater for Use with Piped Natural Gas (PNG)
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	Clause 5 and 6.6 of IS 17150
b)	Grouping guidelines	:	Each type of Mini Domestic Water Heater for use with Piped Natural Gas (PNG) shall be tested for GoL/CSoL
c)	Sample Size	:	One water heater along with spare components as necessary for testing of the water heater
3.	List of Test Equipment	:	Please refer ANNEX – <u>A</u>
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – <u>B</u>
5.	Possible tests in a day:		
	All Tests		
6.	Scope of the Licence	:	Please refer ANNEX – C

ANNEX A**List of Test Equipment***Indicative list of major test equipment required to test as per the Indian Standard*

Sl. No.	Tests used in with Clause Reference	Test Equipment
1.	Mercurous Nitrate Test as per Clause 5.2	a. Mercurous Nitrate, Di-hydrate b. Distilled Water c. Conc. Nitric Acid d. Weighing Balance e. Measuring cylinder f. Magnifying glass
2.	Determination of swelling of Nonmetallic materials (Immersion Test) as per Clause 5.3	a. Pentane or PNG b. Weighing Balance
3.	Gas soundness as per Clause 14	a. Air compressor b. Air pressure gauge c. Leak test apparatus d. Bubble leak Indicator e. Water tank
4.	Water soundness as per Clause 15	a. Hydraulic Pump b. Pressure gauge
5.	Thermal efficiency as per Clause 16 and Time for Temperature rise as per Clause 25	a. Weighing balance and weight box b. Thermometer c. Overhead Water Tank d. Test set up for thermal efficiency e. Measuring jar f. Gas supply source g. Stop Watch
6.	Combustion Test as per Clause 17	a. Digital CO (Carbon monoxide) indicator or apparatus for iodine pentoxide method b. Orsett apparatus c. Pipette d. Chemicals, measuring cylinders, chemical balance, wash bottle e. Gas collecting hood
7.	Gas consumption as per Clause 18	a. Calibration Bottle b. Air Compressor c. Wet Gas Flow meter of capacity and accuracy as per Cl. 18 of IS 17150 d. Thermometer e. Pressure gauge f. Barometer g. Stop Watch

		h. Air testing apparatus with empty air tank
8.	Ignition and flame travel as per Clause 19 and Flame stability as per Clause 20	a. Gas supply source b. Pressure gauge c. Gas flow meter
9.	Flash Back as per Clause 22	a. Gas supply source b. Gas flow meter
10.	Resistance to draught as per Clause 23	a. Rotating Vane Anemometer
11.	Fire hazard and limiting Temperature Test as per Clause 24	a. Fire hazard apparatus as per Annex M of IS 5116
12.	Hot water output Test as per Clause 26	a. Thermometer b. Stopwatch c. Measuring jar
13.	Dimensions	a. Vernier caliper b. Micrometer c. Dial caliper d. Thread gauge e. Scales
14.	To maintain room temperature	a. Air conditioner

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

ANNEX B

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 the Standard 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. Batch and the levels of control (i.e. the frequency and number of samples for conducting the different tests 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 below.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 **Control Unit:** For the guidance of manufacturers, the recommended definition of Control unit is quantity of Water heaters of the same design, material of burners, total gas consumption, Heat input and Hot water output manufactured during a day.

1.3.2 **Levels of Control:** 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 requirements of 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 house testing 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 given below. Column 2 of Table 1 indicates routine tests where test equipment is required in-house as “R” or other tests which can be sub-contracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/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) also is 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 facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL 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 tests given 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 the provisions 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 common cluster 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 laboratory or 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. LABELLING AND MARKING – As per the requirement of IS 17150: 2025.

The Standard Mark, as given in the Schedule of the licence, shall be marked on each Heater provided always that the product thus marked conforms to all the requirement of the specification. In addition, the licence no. CM/L-_____ and details of BIS website shall be marked at an appropriate place on product or package as follows: “For details of BIS certification please visit www.bis.gov.in”.

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub- contracting permitted	Levels of Control		
Cl.	Requirement	Test Method			No. of Sample	Frequency	Remarks
		Clause	Reference				
4	General Requirements	4	IS 5116	R	Manufacturer shall exercise adequate levels of control to ensure that entire production should conform to the Standard. Appropriate records of testing indicating conformity shall be maintained		
		4.1.1 to 4.1.9 4.1.12	IS 17150				
		4.1.10	IS 17150	R	One	Each Control Unit	--
		4.1.11	IS 17150	R	One	Each Control Unit	--
5	Materials	5.1	IS 17150	S	One	Each consignment	No further testing is required if accompanied with Test Certificate or ISI Marked
		5.2	IS 17150 IS 2305	S	Two sets	Each consignment	
		5.3 & Annex A	IS 17150	S			
6	Connections	6.2	IS 17150	S	Two sets	Each consignment	In Case of failure, consignment shall not be used in manufacturing
		6.3	IS 17150	S			
		6.4	IS 17150 IS 554	R	One	Each Control Unit	--
		6.6 , 18	IS 17150 IS 5116	R	One		

7	Flame Visibility	7	IS 17150	R	Each Water Heater		--
8	Gas Taps	8	IS 17150	R			
9	Flame Failure Device	9.1 & 9.2 , Annex E 14.1	IS 17150 IS 5116	R			
10	Ignition Device	10	IS 17150	R			
11	Protection against overheating	11	IS 17150	R			
12	Water rate adjuster	12	IS 17150	R			
14	Protection against overheating	14 16	IS 17150 IS 5116	R			
15	Water soundness	15	IS 17150	R			
19	Ignition & Flame Travel	19	IS 17150	R			
20	Flame Stability	20	IS 17150	R			
21.	Noise Control	21	IS 17150	R			
22	Flashback	22	IS 17150	R	One	Each Control Unit	
TYPE TESTS							
5	Material	5.4	IS 17150	S	One	Once in a month	No further testing is required if accompanied with Test Certificate or ISI Marked

16	Thermal Efficiency	16 & Annex B	IS 17150	S	One	Once in a month	In case of failure, sample from three consecutive control units shall be tested. The original frequency may be restored only if these samples pass.
17	Combustion Efficiency	17 & Annex C	IS 17150	S	One	Once in a month	
18	Gas Consumption	18	IS 17150	R	One	Each Control Unit	In case of failure, six more water heaters shall be drawn and tested. In case of any further failure, all the pieces in the control unit shall be checked and only those found confirming shall be marked.
23	Resistance to draught	23	IS 17150	S	One	Once in a month	In case of failure, sample from three consecutive control units shall be tested. The original frequency may be restored only if these samples pass.
24	Fire Hazard & Limiting Temperature	24 23	IS 17150 IS 5116	S	One	Once in a month	
25	Time for temperature rise	25 & Annex D	IS 17150	S	One	Once in a month	
26	Hot Water Output test	26	IS 17150	S	One	Once in a month	

ANNEX C**Scope of the Licence**

Licence is granted to use Standard Mark as per IS 17150 :2025 with the following scope:	
Name of the Product	Mini Domestic Water Heater for use with Piped Natural Gas (PNG)
Type	a) Total Gas consumption in l/h b) Hot water output in litres/min c) Heat input (kW)