उत्पाद मानुयल

Ultraviolet Based Point of Use Water Disinfection System for Drinking Purposes — Specification

IS 14724 : 2025 के अनुसार

PRODUCT MANUAL

FOR Ultraviolet Based Point of Use Water Disinfection System for Drinking Purposes — Specification

ACCORDING TO IS 14724 : 2025

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.	**उत्पाद** **Product**	:	IS 14724 : 2025
	शीर्षक **Title**	:	Ultraviolet Based Point of Use Water Disinfection System for Drinking Purposes — Specification
	संशोधन संख्या **No. of Amendments**	:	NIL
2.	**नमुनाकरण ददशा दनदेश** **Sampling Guidelines:**		
a)	**कच्चा माल** **Raw material**	:	Materials of Construction shall be in accordance with Clause 4.5 of IS 14724. Note: This section indicates the requirements for raw material(if specified in the IS)for which compliance is to be established during Grant of Licence/Change in Scope of Licence/Factory Surveillance.
b)	**समूदिकरण ददशा दनदेश** **Grouping guidelines**	:	Sample of Ultraviolet Based Point of Use Water Disinfection System of any mounting arrangement having highest UV Rating and highest flow rate to be drawn and tested to cover all the Ultraviolet Based Point of Use Water Disinfection Systems of lower UV Rating and flow rate in the scope of licence.

c)	**नमूने का पररमाण** **Sample Size**	:	04 Unit (for AS & VS) and 02 Unit (for MS & FS). Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (in case of market surveillance, effort may be made to procure the required quantity of product sample, as far as possible since raw material sample may not be available in market)
d)	**परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर** **Parameters to be Declared in Test Request**	:	• Type • Rating of UV Source • Rate of flow Note: Apart from the above, any other requirements/parameters may also be declared as per the standard, as applicable.
3.	**परीक्षण उपकरणो की सूची** **List of Test Equipment**	:	Please refer **ANNEX – A**
4.	**दनरीक्षण व परीक्षण स्कीम** **Scheme of Inspection and Testing**	:	Please refer **ANNEX – B**
5.	**एक ददन में संभादवत परीक्षण** **Possible tests in a day :**		
	All tests are possible to be carried out in a day except the Microbiological requirements. Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies(OSAs) during factory inspection to provide ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.		
6.	**लाइसेन्स का कार्षक्षेत्र /Scope of the Licence :**		
	Licence is granted to use Standard Mark as per IS 14724 : 2025 with the following scope:		
	Name of the product		UltraViolet Water Disinfection system
	Type		Wall Mounted/Tabletop Mounted/ Under The Counter Or Any Other*
	Rating of UV Source*		
	Rate of flow		As declared by the manufacturer on the unit as well as in the instruction manual.

***Manufacturer shall declare**

BUREAU OF INDIAN STANDARDS
Manak Bhawan, 9, Bahadur Shah Zafar Marg,
New Delhi – 110002

ANNEX-A
LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl. No.	Tests used in with Clause Reference	Test Equipment/Chemical
1.	Hydrostatic Test (Clause 5.1)	Hydrostatic Test Arrangement as per Annex-B
2.	Pneumatic Test (Clause 5.2)	Pneumatic Test equipment with pressure gauge
3.	Max. Rate of Flow (Clause 5.3)	Calibrated volumetric measure, Stop watch
4.	Test for Microbiology (Clause 5.4)	Autoclave Incubator Laminar air flow/biosafety cabinet Vortex mixer Vacuum pump pH meter UV-Vis spectrophotometer Centrifuge Refrigerator Water bath Colony counter 0.45 µ membrane filters 0.22 µ sterile polycarbonate membrane filters Sterile filtration apparatus Sterile syringes and forceps Pipettes Petri dishes General Test Water **C-3.1 Viral Challenge for UV Mercury Lamp (Wavelength 254 nm)** a) MS-2 coliphage (ATCC #15597-Bl); and b) Escherichia coli (ATCC #15597 host strain for MS-2). **C-3.2 Viral Challenge for UV LED and Other Than 254 nm Range** a) Q-β coliphage (ATCC # 23631-BI/ DSM # 13768); and b) Escherichia coli (ATCC # 23631/DSM 5210) host strain for Q-beta **REAGENTS AND MEDIA:** Sterile Phosphate buffer saline (pH 7.4 ± 0.2) Tryptic soy broth (TSB), pH 7.3 ± 0.2 Tryptic soy agar (TSA), pH 7.3 ± 0.2 One percent tryptic soy agar medium (soft TSA/overlay agar), pH 7.3 ± 0.2.
5.	Electrical Safety (Clause 5.5)	Selector switches, Ammeter, Voltmeter

ANNEX-B

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 theStandard 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 Ultraviolet Based Point of Use Water Disinfection System of the same capacity & same Mounting method, produced under similar condition of manufacturing in a week.

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 recognised/empanelled 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 on each label fixed on the body of Water disinfection system

at a conspicuous location, 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 Indian Standard.

3.2 **Additional Marking requirements**: Additionally, the following shall also be marked on each label fixed on the body of Water disinfection system:

a) "For BIS certification details please visit www.bis.gov.in"

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
LEVELS OF CONTROL

(Recommended Levels of Control by BIS- For Guidance Only)

(1)				(2)		
Test Details				**Levels of Control**		
Cl.	**Requirement**	**Test Method Cl. Ref.**	**Test Method IS**	**No. of Sample(s)**	**Frequency**	**Remarks**
5.1	Hydrostatic Test	5.1	IS 14724	One	Each Control Unit	
5.2	Pneumatic Test	5.2	IS 14724	-do-	-do-	
5.3	Max. Rate of Flow	5.3	IS 14724	-do-	-do-	
5.4	Test for Microbiology	5.4	IS 14724	-do-	-do-	
5.5	Electrical Safety	5.5	IS 14724 IS 302	-do-	-do-	