



उत्पाद मैनुअल
सिचाई उपस्कर – दानेदार मीडिया फिल्टर
IS 14606:2022 के अनुसार

PRODUCT MANUAL
FOR IRRIGATION EQUIPMENT — GRANULATED MEDIA FILTERS — SPECIFICATION
ACCORDING TO IS 14606:2022

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 14606:2022
	शीर्षक Title	:	IRRIGATION EQUIPMENT — GRANULATED MEDIA FILTERS — SPECIFICATION
	संशोधनों की संख्या No. of amendments	:	1
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	A declaration/undertaking shall be obtained from the manufacturer containing details of materials and components used and that the same conform to the requirements given in Cl. 5.1 of IS 14606:2022. Compliance shall also be checked through visual inspection, to the extent possible. 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)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Each model shall be tested

c)	नमूने का परिमाण Sample Quantity	:	1 Media filter of every model recommended along with adequate quantity of media bed used in media filter. 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)
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to Annex-A
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-B
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	i. Technical characteristics – visual and dimensional checks (Cl. 5) ii. Mechanical tests - Resistance of filter to Internal Hydrostatic Pressure(for Metal Filter Housing (Tank)) (Cl. 6.2) iii. Back flushing hydraulic parameters and tests - Detecting media escape (Cl. 9.2) 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.	लाइसेंस का दायरा /Scope of the Licence:		
	“Licence is granted to use Standard Mark as per IS 14606:2022 with the following scope:		
	Name of the product	IRRIGATION EQUIPMENT — GRANULATED MEDIA FILTERS	
	Varieties (Models)	Model Nos. along with following information for each model i) Flow Direction ii) Type and Number of Different Media Layers iii) Mechanical Structure and Shape iv) Velocity of Filtration (through the Filter) v) Nominal operating pressure vi) Flow capacity vii) Range of flow rate viii) Maximum allowable pressure drop ix) Safe maximum pressure drop x) Back wash flow rate.	

ANNEX – A

LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sr. No.	Tests used in with Clause Reference	Test equipment
1.	Connections CI 5.5	Thread ring guage
2.	Resistance of Filter to Internal Hydrostatic Pressure CI 6.2	Pressure guage (capable of reading upto 1.5 times the declared nominal pressure), stop watch, water cooler, water tank, Slip gauge, End caps (Type A/Type B).
3.	Resistance of Filter to Internal Hydrostatic Pressure at High Temperature CI 6.3	Pressure guage, Hot water bath (capable of operating at $60 \pm 2^{\circ}\text{C}$, Digital thermometer, Stop watch, Slip gauge.
4.	Hydraulic Parameters and Tests CI 8	Pressure drop testing arrangement with pipelines and ball valves, Flow meter/Rotameter, Water tank, thermometer, Weighing balance
5.	Back Flushing Hydraulic Parameters and Test C. 9	Test assembly for flushing mechanism, Collecting vessel, Stop watch
6.	Automatic Back flushing and Controller CI.10	Stop watch, Filter equipped with a protective mechanism and fitted with a device to enable adjustment of the pre-set value of the filter flushing control mechanism

ANNEX C

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. lot/batch etc.) 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.

1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit is: Each lot of 20 filters or part thereof of the same model manufactured under similar conditions, 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**.

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 subcontracted 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) 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 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. PACKING AND MARKING - The Standard Mark as given in the Schedule of the licence shall be incorporated legibly and indelibly on the filter housing (vessel) and on the packaging, if any, provided always that the filters 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: The material shall also be marked with the following additional requirement on the packaging, if any or in the information leaflet supplied with the filter:

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

4. INFORMATION TO BE SUPPLIED BY MANUFACTURER – The manufacturer shall supply the information as per Clauses 11 to 15 of the standard, along with each filter, in the form of a leaflet or other suitable form.

5. 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 Clause Reference			No. of Sample	Frequency	Remarks
5	TECHNICAL CHARACTERISTICS						
5.1	General	5.1	IS 14606	R	Manufacturer shall put in place adequate inspections and in process controls to ensure that the product conforms to the requirements of the specification and maintain records thereof		
5.2	Inlet and Expansion Space Chamber	5.2	IS 14606	R	-do-		
5.3	Media (main filtering) Compartment	5.3	IS 14606	R	-do-		
5.4	Underdrain (Collection) and Back Flush Unit	5.4	IS 14606	R	-do-		
5.5	Connections	IS 554/IS 6418/Table 1 of IS 14606		R	-do-		
6	MECHANICAL TESTS						
6.2	Resistance of Filter to Internal Hydrostatic Pressure	6.2*	IS 14606	R	3	Each control unit	* Filters with plastic filter housing shall be tested either as per the test method given in 6.2.2 or alternatively as per the procedure given in 6.2.3.2 .
6.3	Resistance of Filter to Internal Hydrostatic Pressure at High Temperature	6.3	IS 14606	S	3	Once a year	This test shall be only performed as part of type tests at the time of GoL/ inclusion and then at every one-year frequency.
7	RESISTANCE TO CYCLIC PRESSURE	7	IS 14606	S	3	Once in three years	This test shall be only performed as part of type tests at the time of GoL/ inclusion and then at every three years' frequency.
8.1.1	HYDRAULIC PARAMETERS AND TESTS - <i>Clean</i>	8.1.1	IS 14606	R	1	Each control unit	

	<i>Pressure Drop (Pressure Loss)</i>						
9	BACK FLUSHING HYDRAULIC PARAMETERS AND TESTS						
9.1	Test for Flushing Mechanism	9.1	IS 14606	R	1	Each control unit	
9.2	Detecting Media Escape	9.2	IS 14606	R	3	Each control unit	
10.2	AUTOMATIC BACK FLUSHING AND CONTROLLER - Flushing Control Mechanism Testing	10.2	IS 14606	R	3	Each control unit	