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उत्पाद मैन्युअल

सिंचाई उपस्कर - हाइड्रोसाइक्लोन फ़िल्टर - विशिष्टि

IS 14743:2024 के अनुसार

PRODUCT MANUAL
FOR Irrigation equipment - Hydrocyclone filters – Specification
ACCORDINGTO IS 14743:2024

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।

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 14743:2024
	शीर्षक **Title**	:	Irrigation equipment - Hydrocyclone filters – Specification
	संशोधनों की संख्या **No. of amendments**	:	NIL
2.	**नमूना दिशानिर्देश** **Sampling Guidelines**		
a)	**कच्चा माल** **Raw material**	:	Parts and components used shall conform to the requirements of Cl. 4.1 of IS 14743. The manufacturer shall submit a declaration that the parts and components used are as per the requirements of the standard. 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**	:	Please refer Annex-A
c)	**नमूने का परिमाण** **Sample Quantity**	:	1 filter (with data sheet of Pressure drop v/s Flow Rate) 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-B
4.	**निरीक्षण और परीक्षण की स्कीम** **Scheme of Inspection and Testing**	:	Please refer to Annex-C
5.	**एक दिन में संभावित परीक्षण** **Possible tests in a day**		
	All tests 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 14743:2024 with the following scope:		
	Name of the product		Irrigation equipment - Hydrocyclone filters
	Model		Model identification and catalogue number of the filter along with the following filter data: 1) Material of construction; 2) Nominal size 3) Maximum operating pressure; 4) Recommended range of design flow rates; 5) Dimensions of the filter; 6) Type of connections to the piping network; 7) Length of assembly; 8) Height of assembly; 9) Weight of filter empty and in operating condition; 10) Capacity of underflow chamber;

ANNEX-A

GROUPING GUIDELINES

The manufacturer shall declare the Model identification and catalogue number of each model of filter along with the following filter data of each model:

1) Material of construction;
2) Nominal size (a single number designation is adequate if the inlet and outlet ports are the same size);
3) Maximum operating pressure;
4) Recommended range of design flow rates;
5) Dimensions of the filter;
6) Type of connections to the piping network;
7) Length of assembly;
8) Height of assembly;
9) Weight of filter empty and in operating condition;
10) Capacity of underflow chamber;

Sample of each model of filter shall be tested to cover that model in the scope of licence.

Scope of licence shall be restricted based on the manufacturing and testing facilities available.

During operation of licence, samples of each variety covered in the scope of licence, shall be testedin rotation, to the extent possible

ANNEX – B

LIST OF TEST EQUIPMENTS

(INDICATIVE LIST, FOR GUIDANCE ONLY)

Sl. No.	**Tests Used In With Clause Reference**	**Test Equipment/Chemical**
1	Resistance to Internal Hydrostatic Pressure Cl. 5.1	Hydrostatic pressure tester Machine (with end plugs & Pressure Gauge), stop watch
2	Resistance to Internal Hydrostatic Pressure at elevated Temperature Cl.5.2	Hydrostatic pressure tester Machine (with end plugs, Pressure Gauge), Hot water Bath with thermometer (60±2ºC), stop watch
3	Resistance to Internal Hydrostatic Pressure & Clean Pressure drop Cl. 5.1 & 5.3	Air Conditioner (27±3ºC) - To maintain 27±3ºC temperature, Digital Watch, Hydrostatic pressure tester Machine (with end plugs, Pressure Gauge).
4	Pressure Drop Versus Flow, (Clean pressure drop) Cl 5.3	Arrangement for pressure drop test with Filter and associated pipelines & ball valves, Digital flow meter, Pressure gauge, Water Tank with pump and micron screen 75 micron
5	Cyclic Pressure Test , Cl. 5.4	Test rig as shown in Fig 1 of IS 14743 equipped with arrangement to apply a cyclic pressure at both the inlet and the outlet of the filter, increasing gradually from 1.00 kg/cm2 to the maximum operating pressure (pmo) and then decreasing gradually back to 1.00 kg/cm2
6	Nominal Size Cl 3.12	Vernier Calliper.

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 : All hydrocyclone filters of the same model manufactured under similar conditions 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**.

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 each filter 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**: The material shall also be marked with the following additional requirement on each filter:

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

4. INFORMATION TO BE SUPPLIED BY MANUFACTURER– Information as prescribed in the Indian Standard shall be supplied with each filter.

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**
4.1	Material		IS 14743	S	Manufacturer shall put in place adequate inspections and in-process controls to ensure that material used is as per the standard specifications		
4.2	Construction		IS 14743	R	Manufacturer shall put in place adequate inspections and in-process controls to ensure that construction of filter is as per the standard		
4.3	Cyclonic Vessel		IS 14743	R	Manufacturer shall put in place adequate inspections and in-process controls to ensure that cyclonic vessels, length of inlet and outlet pipes, capacity of underflow chamber is as per the standard		
4.4	Connection		IS 14743	R	Manufacturer shall put in place adequate inspections and in-process controls to ensure that connections are as per the standard		
5.1	Resistance of filter to internal hydraulic pressure		IS 14743	R	One	Each control unit	
5.2	Resistance to Internal Hydrostatic Pressure at Elevated Temperatures		IS 14743	R	One	Once in a year per model or whenever there is any change in material or	

						design	
5.3	Pressure Drop Versus Flow (Clean pressure drop)		IS 14743	R	One	Each control unit	
5.4	Cyclic Pressure Test		IS 14743	R	One	Once in a year per model or whenever there is any change in material or design	