



**PRODUCT MANUAL**  
**FOR IRRIGATION EQUIPMENT-HYDROCYCLONE FILTERS**  
**ACCORDING TO IS 14743 : 1999**

**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.**

1.	<b>Product</b>	:	IS 14743 : 1999
	<b>Title</b>	:	Irrigation Equipment-Hydrocyclone Filters
	<b>No. of Amendments</b>	:	01
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	No specific requirement
b)	<b>Grouping guidelines</b>	:	NA
c)	<b>Sample Size</b>	:	1 filter (with data sheet of Pressure drop v/s Flow Rate). Scale of sampling and criteria for acceptance for Type test shall be as per clause 6.1 and Table 1 of IS 14743.
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX – <a href="#">A</a>
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX – <a href="#">B</a>
5.	<b>Possible tests in a day :</b>		
	i. Resistance to Internal Hydrostatic Pressure. ii. Resistance to Internal Hydrostatic Pressure at High iii. Clean Pressure drop		
6.	<b>Scope of the Licence :</b>		
	“Licence is granted to use Standard Mark as per IS 14743 : 1999 with the following scope:		
	Name of the product	Irrigation Equipment- Hydrocyclone Filters	
	Any other aspect required as per the standard	i. Plastic Body or Metal Body, ii. Threaded connection or Flange connection, iii. Nominal Size iv. Maximum operating pressure v. Recommended flow rate vi. Safe Maximum pressure drop	

**ANNEX A**  
**TO PRODUCT MANUAL**  
**FOR IRRIGATION EQUIPMENT-HYDROCYCLONE FILTERS**  
**ACCORDING TO IS 14743 : 1999**  
**LIST OF TEST EQUIPMENTS**

Major test equipment required to test as per requirements of Indian Standard

<b>Sl. No.</b>	<b>Test s used in with clause reference</b>	<b>Test Equipment</b>
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 ( $60\pm 2^{\circ}\text{C}$ ), stop watch.
3.	Resistance to Internal Hydrostatic Pressure & Clean Pressure drop Cl. 5.1 & 5.3 (To maintain $27\pm 3^{\circ}\text{C}$ temperature)	Air Conditioner ( $27\pm 3^{\circ}\text{C}$ ), Digital Watch, Hydrostatic pressure tester Machine (with end plugs, Pressure Gauge).
4.	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.	Nominal Size Cl 3.12	Vernier Calliper.

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

## ANNEX - B

### SCHEME OF TESTING AND INSPECTION FOR IRRIGATION EQUIPMENT-HYDROCYCLONE FILTERS ACCORDING TO IS 14743 : 1999

**1 LABORATORY-** A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

1.1 The manufacturer shall prepare a calibration plan for the test equipments.

**2 TEST RECORDS-** The manufacturer shall maintain test records for the tests carried out to establish conformity.

**3. LABELLING AND MARKING** – The standard mark as given in the schedule of the licence shall be clearly and indelibly marked on the Hydrocyclone filter, provided always that the Hydrocyclone filter so marked confirms to all the requirements of specifications.

**3.1 Marking** – Each filter shall be marked with the following particulars on the filter :

- a) Name of manufacturer and/or his trade-mark,
- b) Model identification,
- c) Nominal size,
- d) Maximum operating pressure,
- e) Arrow indication for inlet and outlet,
- f) Recommended range of flow rate; and
- g) Safety instructions for opening the cover of underflow chamber.

In addition, the following details shall be mentioned on each filter legibly and indelibly:

- a) BIS Licence No. CM/L\_\_\_\_\_.
- b) BIS website details i.e – “For details of BIS Certification please visit [www.bis.gov.in](http://www.bis.gov.in)”

3.2 The manufacturer shall supply the information as according to clause 7 of IS 14743 with each piece of Hydrocyclone filter

**4. CONTROL UNIT-** For the purpose of this scheme, Hydrocyclone filters of the same size manufactured/ assembled in one shift shall constitute a control unit.

**5. LEVELS OF CONTROL** - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

5.1 All the production which conforms to the Indian Standards and covered by the licence should be marked with Standard Mark.

5.2 On the basis of test and inspection results, a decision regarding conformity or otherwise of control unit with the requirements of the specification shall be taken.

5.2.1 A sample shall be taken from each control unit and tested for all requirements of the specification. In case sample(s) fail in one or more requirement(s) of the specification, the control unit represented by the sample(s) shall not be marked. The control unit may be suitably reprocessed and defect(s) rectified. Two samples drawn from such reprocessed control unit shall be tested for conformity to all the requirement of the specification.

5.2.2 The parts/components which do not conform to the specification shall not be used.

**6. RAW MATERIAL** – The material for the construction of different components of the Hydrocyclone filter shall conform to the requirements stipulated in the Indian Standard.

6.1 The material used for different components shall be declared by the manufacturer in the parts catalogue.

**7. REJECTIONS** – 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**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods Cl. Ref.	Test Method IS		No. of Sample	Frequency	Remarks
4.1	Material	4.1.1 4.1.2	IS 14743 -do-	R R	One -do-	Each consignment -do-	See clause 6 of SIT
4.2	Construction	4.2.1 4.2.2	IS 14743 -do-	R R	One One	Each filter -do-	See clause 5.2.1 of SIT
4.3	Cyclonic vessel	4.3.1 4.3.2 4.3.3 4.3.4 4.3.5	IS 14743 -do- -do- -do- -do -	R R R R R	One -do- -do- -do- -do-	Each filter -do- -do- -do- -do-	
4.4	Connection (as applicable) Thread ends flanged	4.4.1 4.4.2 4.4.3	IS 554 and IS 2643 IS 6392 IS 14743	R R R	One -do- -do-	Each control unit -do- -do-	
5.0	a) Resistance to Internal Hydrostatic Pressure. b) Resistance to Internal Hydrostatic Pressure at elevated Temperature.	5.1 5.2	IS 14743 IS 14743	R R	One One	Each control unit Each control unit	

	c) Pressure drop vs Flow	5.3	IS 14743	R	One	Each control unit	
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Note-1: Whether test equipment is required or sub-contracting is permitted in column 2 shall be decided by the Bureau and shall be mandatory. Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.