



उत्पाद मैनुअल

आई एस 9079: 2018 के अनुसार

कृषि और पानी की आपूर्ति के उद्देश्य के लिए साफ, शीतल जल के लिए मोनोसेट पंप के लिए

दस्तावेज संख्या – पी एम/आई एस 9079/3/ जुलाई 2024

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
MONOSET PUMPS FOR CLEAR, COLD WATER FOR AGRICULTURAL
AND WATER SUPPLY PURPOSES
ACCORDING to IS 9079:2018**

Document No.- PM/IS 9079/3/July 2024

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.

भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

मानक भवन, ९, बहादुर शाह ज़फ़र मार्ग

Manak Bhawan, 9, Bahadur Shah Zafar Marg

नई दिल्ली- ११०००२

New Delhi – 110002



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1.	Product	:	IS 9079:2018
	Title	:	Monoset Pumps for Clear, Cold water for agricultural and water supply purposes
	No. of Amendments	:	Nil
2.	Sampling Guidelines:		
a)	Raw material	:	Materials for Components – Clause. 7.1 of IS 9079 Gaskets, Seals and Packings – Clause. 5.2 of IS 5120
b)	Grouping guidelines	:	Each Type of Monoset Pumps shall be tested for GoL/CSoL. However, models with only aesthetic changes need not be tested separately if the design technical parameters remain same.
c)	Sample Size	:	One Monoset Pump
3.	List of Test Equipment	:	Please refer ANNEX – A
4.	Scheme of Inspection and Testing	:	Please refer ANNEX – B
5.	Possible tests in a day	:	All tests
6.	Scope of the Licence	:	Please refer ANNEX – C

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ANNEX - A**List of Test Equipments*****Guidance list of major test equipment required to test as per the Indian Standard***

Sl. No.	Test Equipment	Test used in with clause Reference
1.	High Voltage Tester	Clause 11.3
2.	Insulation Tester	Clause 11.2
3.	Digital Volt Meter	Clause 11.7(c), 11.4
4.	Digital Ammeter	Clause 11.7(c), 11.4
5.	Digital Watt Meter	Clause 11.7(c), 11.4
6.	Frequency Meter	Clause 11.7(c), 11.4
7.	Current Transformer	Clause 11.7(c), 11.4
8.	Tacho Meter	Clause 11.7(c), 11.4
9.	Auto Transformer	Clause 11.7(c), 11.4
10.	Milli Ohm Meter	Clause 11.4
11.	Thermo meter	Clause 11.4
12.	Hydraulic Pressure Tester with Pressure Gauge	Clause 12.6
13.	Dynamic Balancing Machine	Clause 10.4
15.	Pressure Gauge	Clause 12, 11.4, 12.2
16.	Vaccum Gauge	Clause 12, 11.4
17.	Digital Flow Meter/ Volumetric Tank	Clause 12, 11.4
18.	Sump	Clause 12, 11.4
19.	Pipe Setup	Clause 12, 11.4
20.	Stop Watch	Clause 11.3
21.	Locked Rotor Test setup	Clause 11.5

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 Levels of Control: For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.2 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 9079:2018. The Standard Mark, as given in the Schedule of the licence, shall be marked on each Monoset Pump 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”.

4. REJECTION - All the production which conforms to the Indian Standard and covered under scope of the licence shall be marked with 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

TABLE 1

(1)				(2)	(3)		
Test Details				Test equipment requirement	Levels of Control		
Cl.	Requirement	Test Methods		R: required (or) S: Sub-contracting permitted	No. of Sample	Frequency	Remarks
		Clause	Reference				
7	Material of Construction	7.1	IS 9079	S	One	Each consignment	Conformity to the relevant Indian Standard may be established.
	Gaskets, Seals and Packings	7.2	IS 9079				
10	GENERAL REQUIREMENTS						
10	General Requirements	17	IS 5120	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		
10.1	Casing	12.6	IS 9079	R	Every Pump Casing		
10.4	Balancing	10.4	IS 9079	R	Every impeller and rotor		

10.5	Provision for Earthing	10.5	IS 9079	R	Every motor	
10.6	Terminal Marking and Direction of Rotation	10.6	IS 9079	R	Every pumpset	
11	TEST FOR ELECTRICAL PERFORMANCE ON MOTOR FOR MONOSET					
11.7	ROUTINE TEST					
	High Voltage Test	11.7 (a) 11.3	IS 9079 IS 7538 IS 14582	R	Every Motor	No further testing is required, if motor is ISI marked
	Insulation resistance Test	11.7 (b) 11.2	IS 9079 IS 7538 IS 14582			
	Test for no load current and power input at rated voltage and supply frequency	11.7 (c)	IS 9079			

	Locked rotor test for locked rotor current, power input at suitable voltage and supply frequency	11.7 (d) 11.5	IS 9079	R	Every Motor	No further testing is required, if motor is ISI marked.
	Reduced voltage running up test	11.7(e)	IS 9079			
11.8	TYPE TEST					
	Measurement of stator winding resistance	11.8.1(a)	IS 9079	S	Once in a month for each type and design	
	High Voltage Test	11.8.1(b) 11.3	IS 9079	S		
	Insulation resistance Test	11.8.1(c) 11.2	IS 9079	S		
	Test for no load current and power input at rated voltage and supply frequency	11.8.1(d)	IS 9079	S		
	Locked rotor test for locked rotor current, power input at suitable voltage and supply frequency	11.8.1(e)	IS 9079	S		

	Breakaway (starting) torque	11.8.1(f)	IS 9079	S	Once in a month for each type and design		
	Reduced voltage running test	11.8.1(g)	IS 9079	S			
	Temperature rise test at rated voltage	11.4.1.1	IS 9079	S			
	Temperature rise test at reduced voltage	11.4.1.2	IS 9079	S			
9	Design Features	9	IS 9079	S	Once in a month for each type and design		
11.1	General	11.1.1	IS 9079 IS 7538 IS 14582	S	One sample of each type and design of motor	Once in every 5 years or whenever there is a new type/ design of motor used, whichever is earlier	If test reports for degree of protection test are available with the manufacturer, which are less than five years old and conforming to the relevant Indian Standard, the test for degree of protection may not be repeated.
12	Testing for Hydraulic Performance on Pump for Monoset	12.2 to 12.5	IS 9079	S	Once in a month for each type and design		

13	Guarantee and Tolerance on Pumpset Performance	13	IS 9079	S	Once in a month for each type and design
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ANNEX-C**SCOPE OF LICENCE**

Name of the product : Monoset Pumps for Clear, Cold water for agricultural and water supply purposes													
Model	Size (mm)	Guaranteed Duty Point			Motor Rating (kW)	Rated Voltage (V)	Rated Frequency (Hz)	No. of poles	No. of Phases	Type of Duty	Class of Insulation	Max. Current (A)	Winding Connection
		Total Head (m)	Discharge (lps)	Overall Efficiency (%)									