



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

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.	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 Pump shall be tested for GoL/CSoL
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**

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. 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 equipment.

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

3. LABELLING AND MARKING – As per the requirements of IS 9079: 2018.

4. 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.

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

5. 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, 20016.

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	No further testing is required, if accompanied with test certificate or ISI marked
	Gaskets, Seals and Packings	7.2	IS 9079				
10	GENERAL REQUIREMENTS						
10	General Requirements	17	IS 5120	R	Every Pumpset		
	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	11.3	IS 9079	R	Every Motor	No further testing is required, if motor is ISI marked.
	Insulation resistance Test	11.2	IS 9079			
	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	11.5	IS 9079			
	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	R	One sample of each identical type and design (Out of every 100 Pumpsets or every month whichever is earlier)	
	High Voltage Test	11.3	IS 9079	R		
	Insulation resistance Test	11.2	IS 9079	R		
	Breakaway (starting) torque	11.5	IS 9079	R		
	Temperature rise test at rated voltage	11.4.1.1	IS 9079	R		
	Temperature rise test at reduced voltage	11.4.1.2	IS 9079	R		
9	Design Features	9	IS 9079	R		
12	Testing for Hydraulic Performance on Pump for Monoset	12.2 to 12.5	IS 9079	R	(Out of every 100 Pumpsets or every month whichever is earlier)	

13	Guarantee and Tolerance on Pumpset Performance	13	IS 9079	R	One sample of each identical type and design (Out of every 100 Pumpsets or every month whichever is earlier)	
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NOTE-1: 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.

ANNEX-C

SCOPE OF LICENCE

Name of the product : Monoset Pumps													
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 (%)									