



उत्पाद मानुयल
हाइड्रोलिक पावर स्प्रेयर IS 11313 : 2007 के अनुसार

**PRODUCT MANUAL
FOR HYDRAULIC POWER SPRAYER
ACCORDING TO IS 11313 : 2007**

भारतीय मानक ब्यूरो (अनुरूपता मूल्यांकन) विनियम की स्कीम-1 के तहत यह उत्पाद मानुयल प्रमाणीकरण के प्रचलन में रीति और पारदर्शिता के सुसंगत सुनिश्चित करने के लिए सभी क्षेत्रीय/शाखा कार्यालयों एवं लाइसेंस धारियों द्वारा संदर्भ सामग्री के रूप में उपयोग किया जाएगा। बीआईएस लाइसेंस/प्रमाण पत्र प्राप्त करने के इच्छुक भावी आवेदकों द्वारा भी इस दस्तावेज़ का उपयोग किया जा सकता है।

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.	उत्पाद Product	:	IS 11313 : 2007
	शीर्षक Title	:	हाइड्रोलिक पावर स्प्रेयर Hydraulic Power Sprayer
	संशोधन संख्या No. of Amendments	:	Nil
2.	नमुनाकरण दिशा निर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Material used for the construction of the various components shall be as per clause 4.1, 4.2, 4.3 and Table 1 of IS 11313. The material used for different components shall be declared by the manufacturer in the manual.
b)	समूहिकरण दिशा निर्देश Grouping Guidelines	:	Each Type of Hydraulic Power Sprayer shall be tested for grant of licence and inclusion of additional varieties in scope of licence.
c)	नमूने का परिमाण Sample Size	:	One Hydraulic Power Sprayer
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	कृपया Annex-A देखें Please refer ANNEX – <u>A</u>
4.	निरीक्षण व परीक्षण स्कीम Scheme of Inspection and Testing	:	कृपया Annex-B देखें Please refer ANNEX – <u>B</u>

5.	एक दिन में संभावित परीक्षण Possible tests in a day:	
	Discharge Rate/ Suction capacity cl. 6.1 Volumetric Efficiency cl. 6.2 Power Requirement cl. 6.3 Maximum Achievable Pressure cl. 6.4 Endurance Test cl. 6.5	
6.	लाइसेन्स का कार्यक्षेत्र /Scope of the Licence :	
	IS 11313 : 2007 के अनुसार मानक मुहर का उपयोग करने के लिए लाइसेन्स निम्नलिखित कार्यक्षेत्र के लिए प्रदान किया जाता है “Licence is granted to use Standard Mark as per IS 11313 : 2007 with the following scope:	
	उत्पाद का नाम Name of the product	हाइड्रोलिक पावर स्प्रेयर Hydraulic Power Sprayer
	Type	Piston and /Plunger and/ Roller Vane Type Pump
	Variety	Single/Double Acting With or Without power source, With or Without accessories (Nozzle etc).
	Other relevant information	Discharge Rate In LPM Rated speed in RMP Operating pressure and maximum pressure in kPa Power requirement in kW

ANNEX A

**TO PRODUCT MANUAL
FOR HYDRAULIC POWER SPRAYER ACCORDING TO IS 11313 : 2007**

List of Test Equipment

Major test equipment required to test as per the Indian Standard

Sl. No.	Tests used in with Clause Reference	Test Equipment
1	Discharge Rate/ Suction capacity Cl. 6.1	Measuring Jars / Flowmeter Stop watch Pressure Gauge
2	Volumetric Efficiency Cl. 6.2	Tachometer Dial Vernier Caliper Thermo-hygrometer
3	Power Requirement Cl. 6.3	Dynamometer/ Energy Meter Tachometer Pressure Gauge Stopwatch
4	Maximum Achievable Pressure Cl. 6.4	Pressure Gauge Tachometer Stop watch
5	Endurance Test Cl. 6.5	Pressure Gauge Stopwatch Measuring Jars / Flowmeter

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

ANNEX B

**SCHEME OF INSPECTION AND TESTING
FOR HYDRAULIC POWER SPRAYER ACCORDING TO IS 11313 : 2007**

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. PACKING AND MARKING – The Standard Mark, as given in the Schedule of the licence shall be stencilled on each sprayer and/or printed on the label applied to the sprayer, provided always that the said Hydraulic Power Sprayer to which the mark is thus applied conforms to every requirement of the specification. In addition, the following information shall be legibly and indelibly marked on each sprayer or on the label applied to it:

- a) Name of the manufacturer and recognized trade mark, if any;
- b) Tank capacity;
- c) Type of pump;
- d) Discharge rate;
- e) Batch Number;
- f) 'Made in India' if required;
- g) Month and year of manufacture;
- h) Licence No. (CM/L-----)
- i) BIS website details i.e. – “For details of BIS certification please visit www.bis.gov.in”.

3.1 PACKING - Each sprayer shall be packed as per clause 10.3 of IS 11313.

4. CONTROL UNIT – For the purpose of this scheme, the Hydraulic power sprayer of a particular type/grade of setting produced in a 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 Standard and is covered by the licence should be marked with Standard Mark.

5.2 The control unit shall be considered fit for the purpose of marking if sample taken from control unit and tested as in Table 1 of this SIT is found to conform to the relevant requirements of the specification.

5.3 In case the sample fails to conform to any of the requirements as laid down in the specification, the entire material in the control unit shall be considered unfit for the application of Standard Mark.

6. RAW MATERIAL - The recommended material used for construction of various components is given in Table 1 of IS 11313. Brass Casting Components shall conform to Chemical Composition of IS 292 (Grade to be declared by the manufacturer). Some of the relevant Indian Standards are given by Annex A of IS 11313 for guidance. The components may be tested as per Table 1 of the specification or test certificate may be received from the supplier and appropriate records maintained. In respect of all other clauses for the specification, the factory will maintain appropriate controls and checks to ensure that their finished product conforms to the specification.

6.1 The material used for different components shall be declared by the manufacturer in the manual all the components mentioned in Table 1 of IS 11313 may not be present in a particular sprayer

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 Method Cl. Ref.	Test Method IS		No. of Sample	Frequency	Remarks
6.1 & 6.1.1	Discharge rate	8.3	IS 11313	R	One	Each Control Unit	Applicable for Piston/Plunger Type pump
6.2	Volumetric Efficiency	8.4.1	IS 11313	R	One	-do-	Applicable for Piston/Plunger Type pump
6.3	Power Requirement	8.5	IS 11313	R	One	-do-	
6.4	Maximum Achievable Pressure	8.7	IS 11313	R	One	-do-	
6.5	Endurance Test	8.8	IS 11313	R	One	Every 10 th control unit	In case of failure the control unit be rejected further three consecutive control units should be tested for endurance test and on satisfactory passing of samples in 3 consecutive control unit, original frequency may be restored.
5	Construction Requirements	5.1	IS 11313	R	Each Sprayer		
5.2	Filling hole	5.2, 5.2.1 & 5.2.2	IS 11313	R	-do-		If tank is provided

5.3	Lubrication	5.3.1 & 5.3.2	-do-	R	-do-	
5.4	Spreader	5.4	-do-	R	-do-	If provided
5.5	Driving shaft	5.5	-do-	R	-do-	
5.6	Suction spout	5.6	-do-	R	-do-	
5.7	Delivery spout	5.7	-do-	R	-do-	
5.8	Over flow pipe	5.8	-do-	R	-do-	
5.9	Pump inlet/outlet port	5.9	-do-	R	-do-	Applicable for roller vane type pump
5.10	Pressure regulator cum relief valve	5.10	-do-	R	-do-	
5.11	Pressure gauge	5.11	-do-	R	-do-	
5.12	Pressure damper	5.12	-do-	R	One	Each consignment*
5.13	Gaskets	7.4	IS 10134	S	One	Each Consignment*
5.14.1 & 5.14.2	Hose connections	5.14.1 & 5.14.2	IS 11313	R	Each sprayer	
5.14.3	Hose & Hose Connections	7.2	IS 10134	R	One	One Control Unit
5.15	Nozzles	Annex F	IS 3652	S	One	Each Consignment*
5.16, 5.17, 5.18	Engine & Electric Motor	- -	For engine IS 7347 & for electric motor IS 325	S	One	Each Consignment*

7.0	Other Requirements					
7.1	Catalogue & manual	7.1	IS 11313	R	Each sprayer	
7.2	Strainer	7.2	IS 11313	R	Each sprayer	
7.3	Optional Accessories	7.3	IS 11313	R	Each sprayer	

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.

Note-3: *Applicable If provided. Test certificate from the supplier/Test report from third party laboratory/ in-house testing to be done and appropriate records maintained