

व्यावसायिक परीक्षण रिपोर्ट  
COMMERCIAL TEST REPORT

संख्या/ No.: PS-544/3113/2023  
माह/Month: December, 2023

**THIS TEST REPORT VALID UP TO : 31<sup>st</sup> December, 2028**



**PADGILWAR, PAI-4M  
BATTERY OPERATED KNAPSACK SPRAYER**



भारत सरकार

**Government of India**

कृषि एवं किसान कल्याण मंत्रालय

**Ministry of Agriculture and Farmers Welfare**

कृषि एवं किसान कल्याण विभाग

**Department of Agriculture and Farmers Welfare**

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

**Northern Region Farm Machinery Training and Testing Institute**

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**[ISO 9001:2015 CERTIFIED]**

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## 17. CRITICAL TECHNICAL SPECIFICATIONS

[Vide Ministry's letter no. 13-9/2019 M&T (I&P) – part dated 26.04.2019 and F. No. 9-1/2019 M&T (I&P) dated 20.08.2019]

Sr. No.	Parameters	Specification	Observation	Remarks
1.	Tank Capacity, l	10, 13 or 16 with tolerance of $\pm 0.5$ litre.	Tank capacity is 22 litres.	Conforms
2.	Straps, mm	Strap length 800 (Min) & width 38 (Min)	Two straps are provided having 1035 mm length and 45 mm width.	Conforms
3.	Pump discharge, ml/mm	>500 at 300 kPa pressure	1585.0 ml/min	Conforms
4.	Tank filling hole dia, mm	90 (min)	Circular filling hole of 120 mm diameter is provided.	Conforms
5.	Tank material	Brass, Plastic or stainless steel	Plastic	Conforms
6.	Lid or cap material	Brass, Plastic, Stainless steel	Plastic	Conforms
7.	Strainer at filling hole & at cut-off device	Must be provided	Filling hole - Provided Cut-off device - <b>Not Provided</b>	<b>Partially conform</b>
8.	Empty mass of sprayer, kg	8.0 (Max.)	6.460 kg	Conforms
9.	Delivery hose length, cm	110 (Preferably)	A delivery hose of 120.0 cm length is provided.	Conforms
10.	Cushion on strap, mm	Thickness 20 (Min) and width 40 (Min)	Provided	<b>Partially conform</b>
11.	Back rest cushion	Must be provided.	Provided	Conforms
12.	Spray lance marking	Manufacturer name or recognized trade mark, nominal length & batch or code number	Marked	Conforms
13.	Safety accessories	Mask, apron, hand gloves, gum boots and safety goggles must be provided.	Provided	Conforms
14.	Making of nozzle	Manufacture Name/Trade name, Batch or Code number, Nozzle designation must be provided. As per BIS	Provided	Conforms
15.	Spray lance construction	Should be seamless	Seamless lance is provided	Conforms



16.	Making/labelling of sprayer	The labelling plate should be provided on the body of sprayer having name & address of manufacturer, month & year of manufacture, rated pressure, discharge rate, country of origin.	A metallic labelling plate is provided on the sprayer with following information Make: Padgilwar Model: PAI-4M Machine Serial no. 4M-003 Mfg: Padgilwar Agro Industries, Opp. Agyaram Devi Mandir, Bus stand road, Ganeshpeth, Nagpur-440018, Maharashtra	Conforms
17.	Literature	Operator manual, service manual & parts catalogue should be provided.	Provided	Conforms

### 18. CONFORMITY TO INDIAN STANDARDS

- i) IS: 11313-2007 Hydraulic power sprayers- : **Partially conform**  
specification
- ii) IS: 10134-1994-Method of test for manually : **Partially conform**  
operated sprayer
- iii) Spray nozzle and spray gun as per IS:3652-1995 : **Partially conform**  
(Reaffirmed 2011)

### 19. COMMENTS & RECOMMENDATIONS

- 19.1 The discharge rate of nozzle at a pressure of 300 kPa for jet spray pattern does not conform to the requirement of IS: 3652-1995. It **MUST** be looked into.
- 19.2 During the strap drop test, the buckle/bracket of strap assembly failed to hold the strap in its position. It should be improved as per relevant standard.
- 19.3 The discharge outlet nipple length does not meet the requirement of Indian Standard. It **MUST** be looked into.
- 19.4 The type of cut off device is not marked. It **MUST** be looked into.





**20. TECHNICAL LITERATURE**

The following literatures were provided with sprayer for guidance to the user.

- i. Operator manual
- ii. Service manual
- iii. Parts catalogue

However, the manuals of sprayer should be updated as per IS:8132-1999

**TESTING AUTHORITY**

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 01.12.2023

The test report is compiled by Sh. Vikram, Sr. Tech.

**21. APPLICANT'S COMMENTS**

We will take necessary corrective action for meeting the specification for the next future production.

