

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

**INITIAL COMMERCIAL TEST REPORT**

संख्या/No. CSIR/CMERI/FMTTC/2024/022

माह/Month: June, 2024

THIS TEST REPORT VALID UP TO

:

31<sup>ST</sup> MAY, 2031



**AL-BURHAN INTERNATIONAL  
BATTERY OPERATED KNAPSACK SPRAYER  
(12AH ECONOMY)**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र  
**Farm Machinery Training and Testing Centre**  
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान  
**CSIR - Central Mechanical Engineering Research Institute**

महात्मा गांधी एवेन्यू, दुर्गापुर  
**Mahatma Gandhi Avenue, Durgapur**

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**Name & Address of Applicant** : Al Burhan International  
16 B. R. B. Basu Road  
1<sup>st</sup> Floor, Kolkata - 700001

**Name & Address of Manufacturer** : Al Burhan International  
16 B. R. B. Basu Road  
1<sup>st</sup> Floor, Kolkata - 700001

**Type** : Knapsack Sprayer (Battery Operated)

**Make** : RAJA

**Model** : 12 AH Economy

**Test Conducted at** : Farm Machinery Training and Testing Centre  
CSIR- Central Mechanical Engineering Research  
Institute, M G Avenue, Durgapur, Pin – 713209,  
West Bengal.

**THIS TEST REPORT IS VALID UP TO: 31<sup>st</sup> MAY, 2031**  
[vide DAC&FW OM No. 13-22/2020- M&T (I&P) dated 12.12.2023]



Government Of India



Report No.: CSIR/CMERI/FMTTC/2024/022

Month: June

Year: 2024

**CSIR - Central Mechanical Engineering Research Institute,  
Durgapur - 713209  
(W.B.), INDIA**

Report prepared by

Report verified by

Manufacturer : Al Burhan International  
 16 B R B Basu Road  
 1<sup>st</sup> Floor, Kolkata - 700001  
 Test requested by : Applicant  
 Selected for test by : CSIR-CMERI  
 Method of selection :

The test sample was randomly selected by Video call. The applicant arranged 10 samples of RAJA 12AH Economy Battery Operated Knapsack Sprayer with same specifications. The sprayers with following serial number were considered for random selection.

Sample No.	Sprayer Serial No.
1	001
2	002
3	003 (Selected for Test)
4	004
5	005
6	006
7	007
8	008
9	009
10	010

Table 1. Samples for Random Selection

## 1. SPECIFICATIONS

### 1.1 General

Type : Battery Sprayer  
 Make : RAJA  
 Model : 12 AH Economy  
 Serial No. :  
 Name of manufacturer : Al Burhan International  
 16 B R B Basu Road  
 1<sup>st</sup> Floor, Kolkata - 700001  
 Year of manufacture : 2024  
 Capacity of sprayer, l : 16  
 Working pressure, kg/cm<sup>2</sup> : 1 to 7

### 1.2 Motor (As per Sticker)

Type : D C Motor  
 No. of Motor : 01  
 Make : RAJA  
 Serial number : C23/09D  
 Motor operating voltage : 12 V, DC  
 Motor power : 48 Watt  
 Max. Current : 4 A  
 Rated speed, rpm : 3100

Report verified by  
Subrata Kr Mondal

Report prepared by

*[Signature]*



**17. COMMENTS & RECOMMENDATIONS**

- 17.1 The model & country of origin of pump is not specified. It should be specified.
- 17.2 The model & country of origin of battery charger is not specified. It should be specified.
- 17.3 The material used for pump inlet port end fitting does not meet the requirements of Indian standard. It must be looked into.
- 17.4 The spray lance is not marked and designated. It must be marked and designated as per standard.
- 17.5 The length of the telescopic lance from sealing face to sealing face does not meet the requirement of Indian standard. It must be looked into.
- 17.6 The material used for end fittings of the spray lance does not meet the requirements of Indian standard. It must be looked into.
- 17.7 The nozzle is not marked and designated. It should be marked and designated as per standard.
- 17.8 The cut off device is not marked and designated. It should be marked and designated as Per standard.
- 17.9 During the pump chamber hydraulic test, the motor stopped beyond  $6.20 \text{ kg/cm}^2$  pressure against the pressure requirement of  $7.5 \text{ kg/cm}^2$ . Thus the sprayer does not meet the requirement of Indian Standard.
- 17.10 The length of the nipple of discharge outlet of the pump does not meet the requirement of Indian standard. It must be looked into.
- 17.11 The size of the strap cushion does not meet the requirements of Indian standard. It must be looked into.
- 17.12 The average size of apertures of the strainer in cut off device does not meet the requirements of Indian standard. It must be looked into.
- 17.13 Time required to full charge the battery with AC charger is observed as 6 hrs. to 6 hrs. 10 mins.
- 17.14 The spraying operation time after fully charging the battery was observed as 4 hrs. 15 min. to 4 hrs. 25 min.

**Report prepared by**
**Report verified by**

**18. TECHNICAL LITERATURE**

The operator, maintenance & parts manual of sprayer was provided during the test which found adequate, however, the manual should be updated as per IS: 8132:1999, with the inclusion of safety instructions regarding handling poisonous agrochemical and first aid.

**TESTING AUTHORITY**

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	<i>Jhel</i> 20/06/2024
Report Verified & Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	<i>Sudip Samanta</i> 20/06/2024
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	<i>Sudip Samanta</i> 20/06/24

**19. APPLICANT'S COMMENTS**

Para No.	Our Reference	Applicant's Comments
19	17.1 to 17.14	From our side we have already told our manufacturing division to take immediate action to comply with all the suggested technical requirements.

