

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

संख्या/No. CSIR/CMERI/FMTTC/2024/028

INITIAL COMMERCIAL TEST REPORT

माह/Month: June, 2024

THIS TEST REPORT VALID UP TO

: 31ST MAY, 2031



**AL-BURHAN INTERNATIONAL
BATTERY CUM MANUAL OPERATED
KNAPSACK SPRAYER (8AH 2 IN 1)**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र

Farm Machinery Training and Testing Centre

सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान

CSIR - Central Mechanical Engineering Research Institute

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Manufacturer : AL BURHAN INTERNATIONAL
16, B. R. B. Basu Road, First Floor
Kolkata : 700001

Test requested by : Manufacturer

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 8 AH 2 IN 1 Battery cum Manual Operated Knapsack Sprayer with same specifications. The sprayers with following serial number were considered for random selection.

Sample No.	Sprayer Serial No.
1	1
2	2
3	3
4	4 (Selected for Test)
5	5
6	6
7	7
8	8
9	9
10	10



Fig 1. Random Selection of 8 AH 2 IN 1 Battery cum Manual Operated Knapsack Sprayer

Report verified by
Subrata Kumar Mandal

Report prepared by

[Signature]

11. ENDURANCE TEST OF SPRAYER
(Vide clause 8.8 of IS-11313:2007)

1. Date of test: 06.05.2024 to 14.05.2024
2. Total running time (h) - 50
3. Quantity of liquid collected during endurance: -
Avg. discharge (ml/min)
 - a) First Collection - 1830
 - b) Second Collection - 1820
 - c) Third Collection - 1840
 - d) Fourth collection - 1820
 - e) Fifth Collection - 1830
 - f) Sixth Collection - 1840
 - g) Seventh Collection - 1820
4. Percentage variation of discharge from first to last collection, 0.55 %

12. TEST FOR PUMP CHAMBER
(Vide Clause 7.1 of IS 10134-1994)

Date of test : 15.05.2024

Sr. No.	Details	Condition
1	Test Condition	Outlet end closed
2	Pressure applied -Hydraulic pressure -Pneumatic pressure	Motor stopped beyond 6.0 kg/cm ² pressure against the pressure requirement of 7.5 kg/cm ² . 4.5 kg/cm ²
3	Duration	1 minutes each
4	Result	No leakage, crack deformation or breakage observed in pump chamber during the test.

Remarks : Tendency of stalling of motor was observed beyond 6.0 kg/cm² hydraulic pressure and therefore sprayer does not confirm to the requirement laid down in clause 7.1 of IS: 10134:1994.

13. TEST FOR HOSE AND HOSE CONNECTION
(Vide Clause 5.14.3 of IS 11313:2007 & Clause 7.2 of IS 10134-1994)

Date of test : 15.05.2024

Sr. No.	Details	Condition
1	Test condition	Outlet end closed
2	Hydraulic pressure applied	1.5 MPa
3	Duration	1 minutes
4	Result	No leakage, crack or breakage observed in hose and hose connection during the test.

22. COMMENTS & RECOMMENDATIONS

- 22.1 The serial number & power of motor is not specified. It should be specified.
- 22.2 The country of origin of battery is not specified. It should be specified.
- 22.3 The model & country of origin of battery charger is not specified. It should be specified.
- 22.4 The model, serial number & country of origin of pump is not specified. It should be specified.
- 22.5 The material used for pump inlet port end fitting does not meet the requirements of Indian standard. It must be looked into.
- 22.6 The material for nozzle disc, tip does not meet the requirements of Indian standard. It must be looked into.
- 22.7 The spray lance is not marked and designated. It must be marked and designated as per standard.
- 22.8 The nozzle is not marked and designated. It should be marked and designated as per standard.
- 22.9 The cut off device is not marked and designated. It should be marked and designated as Per standard.
- 22.10 During the pump chamber hydraulic test, the motor stopped beyond 6.0 kg/cm² pressure against the pressure requirement of 7.5 kg/cm². Thus the sprayer does not meet the requirement of Indian Standard.
- 22.11 The tank is provided with a stand which is projected 1.5 mm beyond the lowest portion of the bottom of the tank, the projection length does not meet the requirements of Indian standard. It must be looked into.
- 22.12 The size of the strap cushion does not meet the requirements of Indian standard. It must be looked into.
- 22.13 The gap between connecting lever and handle near pivot and near knapsack body does not meet the requirements of Indian standard. It must be looked into.
- 22.14 The material used for spray lance does not meet the requirements of Indian standard. It must be looked into.
- 22.15 The average size of the strainer in cut off device does not meet the requirements of Indian standard. It must be looked into.

Report prepared by**Report verified by**

CSIR/CMERI/FMTTC/2024/028	AL-BURHAN INTERNATIONAL BATTERY CUM MANUAL OPERATED KNAPSACK SPRAYER (8AH 2 IN 1) (INITIAL COMMERCIAL TEST)
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23. 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>[Signature]</i> 26/06/2024
Report Verified & Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	<i>[Signature]</i> 26/06/2024
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	<i>[Signature]</i> 26/6/24

24. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
24	22.1 – 22.15	Please be informed that from our side we have already told our manufacturing division to take immediate necessary action to comply with all the suggested parameters as per your comments and recommendations.

