

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट
INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2025/008
माह/Month: February, 2025

THIS TEST REPORT VALID UP TO : 31st JANUARY, 2032



**BALWAAN BS-16M
MANUALLY OPERATED KNAPSACK SPRAYER**



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 : Modish Tractor Aurkisan Pvt. Ltd.
C-17 Sharma Colony Ext. 22 Godam, Jaipur,
(Rajasthan)

Name & Address of Manufacturer : Modish Tractor Aurkisan Pvt. Ltd.
C-17 Sharma Colony Ext. 22 Godam, Jaipur,
(Rajasthan)

Type : Knapsack Sprayer (Manually Operated)

Make : Balwaan Krishi

Model : BS-16M

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: 31st JANUARY, 2032

[vide DAC&FW OM No. 13-22/2020- M&T (I&P) dated 12.12.2023]



Report No.: CSIR/CMERI/FMTTC/2025/008

Month: February

Year: 2025

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

Report prepared by

Report verified by

2. SPECIFICATIONS

1.1 General

Type	: Manual Operated Knapsack Sprayer
Make	: Balwaan Krishi
Model	: BS-16M
Brand	: Balwaan Krishi
Name of manufacturer	: Modish Tractor Aurkisan Pvt. Ltd. C-17 Sharma Colony Ext. 22 Godam, Jaipur, (Rajasthan)
Year of manufacture	: 2024-01
Capacity of sprayer, (l)	: 16
Working pressure, kg/cm ² *	: 1 to 3.5

1.2 Chemical Tank

Material of construction	: Plastic
Size (mm)	: 390 x 310 x 125
Capacity (l)	: 16

1.3 Agitating Device

: N. A

1.4 Nozzle

Type of nozzle	: "Y" Type Double Nozzle, "Y" Type Single Nozzle, 5 Holes Flower & 4 Holes Hollow Cone type
Nozzle designation	: Not specified
Number of nozzle	: Four types

1.5 Accessories (for operator's safety against pesticides)

: Mask, hand gloves and goggles provided.

1.6 Overall Dimensions, mm

Height	: 585
Width	: 195
Length	: 475

1.6.1 Mass with all accessories and chemical tank, kg

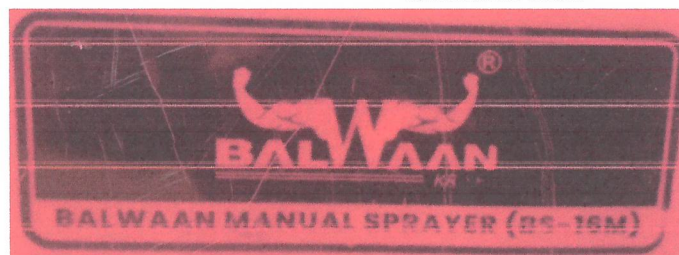
: 2.04

1.6.2 Mass with accessories and chemical tank full, kg

: 18.09

1.7 Identification/Labelling plate

: The following is printed on the body of the chemical tank



One sticker is also pasted on the body of the Chemical Tank:



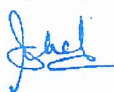
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16 COMMENTS & RECOMMENDATIONS

- 16.1 The spray lance is not marked and designated. It must be marked and designated as per standard.
- 16.2 The nozzle is not marked and designated. It should be marked and designated as per standard.
- 16.3 The cut off device is not marked and designated. It should be marked and designated as Per standard.
- 16.4 The size of the strap cushion does not meet the requirements of Indian standard. It must be looked into.
- 16.5 The material used for spray lance does not meet the requirements of Indian standard. It must be looked into.
- 16.6 The average size of the strainer in cut off device does not meet the requirements of Indian standard. It must be looked into.
- 16.7 The minimum discharge rate of the pump does not meet the requirements of Indian standard. It must be looked into.
- 16.8 The height of the straight portion of the piston does not meet the requirements of Indian standard. It must be looked into.
- 16.9 User manual is not provided. It should be provided.

Report prepared by



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Subrata Kr Mandal

17 TECHNICAL LITERATURE

The operator, maintenance & parts manual of sprayer was not 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> 10/02/2025
Report Verified & Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	<i>[Signature]</i> 10/2/2025
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	<i>[Signature]</i> 12/2/25

18 APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
18	16.1 to 16.9	It's ok corrective action will be taken.

