

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट  
**INITIAL COMMERCIAL TEST REPORT**

संख्या/No. **CSIR/CMERI/FMTTC/2022/006**

माह/Month: July, 2022

**THIS TEST REPORT VALID UP TO : 31st JULY, 2027**



**ASPEE BLUE MAGIC (ABM16)  
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**  
पश्चिम बंगाल - **713209**  
**West Bengal - 713209**  
**Website: <https://cmeri.res.in>**

**E-mail:** [sub\\_mandal@cmeri.res.in](mailto:sub_mandal@cmeri.res.in)

Telephone: +91-343-2546749; 9434921623

Fax: +91-343-2546745

Manufacturer : ASPEE Agro Equipment Pvt. Ltd.  
Opp. Gram Panchayat Office, Chikhali Road,  
Antalia, Village, Bilimora- 396321,  
Ta – Gandevi, Dis- Navsari, GUJARAT

Test requested by : Manufacturer  
Selected for test by : The applicant  
Method of selection : The sprayer is directly submitted by the  
applicant for the test. Hence, method of selection is  
not known.

## 1. SPECIFICATIONS

### 1.1 General

Type : Manual Operated Knapsack Sprayer  
Make : ASPEE  
Model : ABM16 – ASPEE BLUE MAGIC  
Brand : ASPEE  
Batch No. : ZA  
Name of manufacturer : ASPEE Agro Equipment Pvt. Ltd.  
Opp. Gram Panchayat Office, Chikhali Road,  
Antalia, Village, Bilimora- 396321,  
Ta – Gandevi, Dis- Navsari, GUJARAT

Year of manufacture : January-2022  
Capacity of sprayer, (l) : 16  
Working pressure, kg/cm<sup>2</sup> \* : 1 to 6

### 1.2 Chemical Tank

Material of construction : Plastic  
Size (mm) : 510 x 358 x 145  
Capacity (l) : 16  
Location : NA

### 1.3 Agitating Device : Not provided.

### 1.4 Nozzle

Type of nozzle : i) Hollow Cone – Double Nozzle  
ii) Flat Fan  
iii) Broad Cone with 3 holes  
iv) Broad Cone with 4 holes

Nozzle designation : 100 900 (For Flat Fan)  
Batch or Code No. : XLC/N (For Hollow Cone), XLB/N (For Flat Fan)  
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 : 510  
Width : 145  
Length : 358

\*As per data provided by applicant

**8.1 MARKING ON SPRAY LANCE**

Manufacturer's name or recognized trade mark : **ASPEE**  
 Batch or code number : **Batch – ZA, Code – TSL/SS/PC**  
 Type : **Gooseneck**  
 Nominal length, mm : **600mm to 940mm – adjustable telescopic lance**

**9. TEST FOR CUT-OFF DEVICE  
(Vide Annex C Clause C-8.3 of IS: 3652: 1995)**

Date : 09.06.2022  
 Type : Trigger type (Type – A)

**9.1 MAXIMUM TRIGGER ACTUATION TORQUE**

Maximum torque : 35 kgf-cm  
 Measured torque : 27.5 kgf-cm

**9.2 STRENGTH TEST FOR CUT-OFF DEVICE**

Sr. No.	Details	Condition
1	Condition of outlet	Closed
2	Hydraulic pressure	750 kPa
3	Duration of pressure retained	5 Minute
4	Observation	No leakage, crack or burst of cutoff device was observed during test

**9.3 LEAKAGE AND RELIABILITY TEST FOR CUT-OFF DEVICE**

Sr. No.	Details	Condition
1	Test Condition	Mounted on test setup
2	Hydraulic pressure retained	300 kPa
3	Operating cycles	5000 cycles at pressure 300 kPa and repeated for 500 cycles at a pressure of 600 kPa @ approx. 15 cycles per minutes
4	Observation	Slight leakage in cut off device through valve was observed during test

**9.4 MARKING ON CUT-OFF DEVICE**

- a) Manufacturer's name or recognized trade mark : **ASPEE**  
 b) Batch or code number : **TCP/BN**  
 c) Type of cut-off device : **Trigger Type**

### 15. COMMENTS & RECOMMENDATIONS

- 15.1 The year of manufacturing of sprayer is not marked. It should be provided.
- 15.2 The operating handle of sprayer found distorted during test. It should be modified.
- 15.3 The type of cut off device is not marked. It must be marked.
- 15.4 Leakage in cut off device through valve was observed during test. It should be improved.
- 15.5 The discharge rate of supplied nozzles at a pressure of 300 kPa does not conform to the requirement of IS:3652-1995. It should match the requirement as per IS:3652-1995.
- 15.6 The spray angle of Flat Fan Nozzle at a pressure 300 kPa does not conform as per IS:3652-1995.
- 15.7 The aperture size of the strainer provided for filling the Tank is not matching the requirement as per IS:3906-1995. It should match the requirement.
- 15.8 User manual is not provide. It should be provided.
- 15.9 The gap between the connecting lever and handle near pivot and near knapsack body should be minimum 25mm.
- 15.10 Agitator is not provided. It may be provided.
- 15.11 Stainless steel tube with brass at end fitting outlet are used. It does not meet the requirement as per IS: 3652-1995 in toto. Either Brass or Plastic tube should be used.
- 15.12 The back rest cushion is not provided. It may be provided.
- 15.13 The batch or code number of Broad Cone nozzle (with 3 holes & 4 holes) are not marked. It should be marked.
- 15.14 A suitable labelling plate, not sticker needs to be provided with, following information; -
  - i. Manufacturer's name
  - ii. Make
  - iii. Model
  - iv. Month & year of manufacture
  - v. Discharge rate
  - vi. Country of origin

**16. TECHNICAL LITERATURE**

The operator, maintenance & parts manual are not provided. It should be provided as per IS: 8132:1999, with the inclusion of safety instructions regarding handling poisonous agrochemical and first aid.

**TESTING AUTHORITY**

Dr. ANJALI CHATTERJEE Chief Scientist	<i>Anjali</i> 05/07/2022
Dr. SUBRATA KUMAR MANDAL Senior Principal Scientist	<i>Subrata k. Mandal</i> 05/07/2022
Md. IMRAN SHEKH Senior Scientist	<i>Imran</i> 05/07/22

**17. APPLICANT'S COMMENTS**

Para No.	Our Reference	Applicant's Comments
17	15.1 to 15.14	Noted the same and will take the necessary corrective action.

