

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

INITIAL COMMERCIAL TEST REPORT

संख्या/No. CSIR/CMERI/FMTTC/2022/012

माह/Month: OCTOBER, 2022

THIS TEST REPORT VALID UP TO

:

31st October, 2027



**ASPEE TurrBo-XL(DTXM001/14AHBR)
BATTERY OPERATED KNAPSACK SPRAYER**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र

Farm Machinery Training and Testing Centre

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Manufacturer	: ASPEE Agro Equipment Pvt. Ltd. Off. Chikhli Road, Antalia Village, Taluka - Gandevi, Dist. - Navsari, Bilimora (Gujarat) - 396321
Test requested by	: Manufacturer
Selected for test by	: The applicant
Method of selection	: The sprayer is selected as per direction laid down in the Ministry's order no. 13-1/2021 - M&T(I&P), dated 3 rd Feb 2022.

1. SPECIFICATIONS

1.1 General

Type	: Battery Operated Knapsack Sprayer
Make*	: ASPEE
Model*	: DTXM001/14AHBR
Serial No./	: Not Specified
Name of manufacturer	: Snowball Group Co. Ltd. Room 2105, Trend Centre, 29-31 Cheung Lee Street, Chai Wan, Hongkong, China
Year of manufacture	: November-2023
Capacity of sprayer, l	: 20
Working pressure, kg/cm ²	: Not specified

1.2 Motor (As per Sticker)

Type	: D.C Motor
No. of Motor	: 02
Make	: ASPEE
Serial number	: Not specified
Motor operating voltage	: 12 V, DC
Motor power	: Not Specified
Max. Current*	: 3.0 A
Rated speed*, rpm	: Not specified

1.3 Battery (As per Sticker)

Type	: Sealed, Lead-Acid Battery
Make	: Jiangsu Jinhua Energy and Technology Co. Ltd.
Model	: 6-DFM-14.0
Serial number	: Not specified
Capacity & rating*	: 12V, 14 AH/20 HR
Country of origin	: Not Specified
Location	: Below the chemical tank.

1.4 Battery Charger from AC Supply

Make	: ASPEE
Model	: Not specified
Input voltage*	: AC 110 - 240V
Output voltage *	: DC 12 V
Output current*	: 1.2 A
Country of origin	: Not specified



10. ENDURANCE TEST OF SPRAYER

(Vide clause 8.8 of IS-11313:2007)

1. Date of test: 18.08.2022 to 26.08.2022
 2. Total running time (h)-50
 3. Quantity of liquid collected during endurance:-
 Avg. discharge (ml/min)
- | | | | |
|----|--------------------|---|------|
| a) | First Collection | - | 4570 |
| b) | Second Collection | - | 4500 |
| c) | Third Collection | - | 4620 |
| d) | Fourth collection | - | 4550 |
| e) | Fifth Collection | - | 4320 |
| f) | Sixth Collection | - | 4475 |
| g) | Seventh Collection | - | 4650 |
4. Percentage variation of discharge from first to last collection, 1.75%

11. TEST FOR PUMP CHAMBER

(Vide Clause 7.1 of IS 10134-1994)

Date of test : 29.08.2022

Sr. No.	Details	Condition
1	Test Condition	Outlet end closed
2	Pressure applied -Hydraulic pressure -Pneumatic pressure	Motor stopped beyond 6.00 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 6.00 kg/cm² hydraulic pressure and therefore sprayer **does not conform** to the requirement laid down in clause 7.1 of IS: 10134:1994.

12. 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 : 18.08.2022

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.



16. COMMENTS & RECOMMENDATIONS

- 16.1 The sprayer year of manufacture is not marked. It should be marked.
- 16.2 The serial number, motor power and rated speed of motor is not specified. It should be specified.
- 16.3 The serial number and country of origin of battery is not specified. It should be specified.
- 16.4 The model and country of origin of battery charger is not specified. It should be specified.
- 16.5 The model, serial number, working pressure, rated speed and country of origin of pump is not specified. It should be specified.
- 16.6 The material used for pump inlet port end fitting does not meet the requirements of Indian standard. It must be looked into.
- 16.7 The nozzle is not designated. It should be designated.
- 16.8 During the pump chamber hydraulic test, the motor stopped beyond 6.00 kg/cm² pressure against the pressure requirement of 7.5 kg/cm². Thus the sprayer does not meet the requirement of Indian Standard.
- 16.9 The length of discharge outlet does not meet the requirements of Indian standard. It must be looked into.
- 16.10 The manual does not match with the requirement given in 7.1 of IS 3652:1995. It must be looked into.
- 16.11 Time required to full charge battery with AC charger is observed as 9 to 10 hours.
- 16.12 The spraying operation time after fully charging the battery was observed as 2 to 2.3 hours.
- 16.13 The spray angle and discharge rate of the nozzle does not meet with the declared value of the manufacturer. It must be looked into.
- 16.14 The current drawn by motor at no load and on load was observed 0.67 Amp and 1.55 Amp respectively which does not conform to requirement of IS: 14459: 1997.
- 16.15 A suitable labelling plate (not sticker) needs to be provided with, inter alia, following information: -
- Manufacturer's name
 - Make
 - Model
 - Month & year of manufacture
 - Rated speed
 - Rated pressure
 - Discharge rate
 - Power rating
 - Country of origin



TESTING AUTHORITY

Dr. ANJALI CHATTERJEE Chief Scientist	<i>Anjali</i>
Dr. SUBRATA KUMAR MANDAL Senior Principal Scientist	<i>Subrata Kr Mandal</i>
Mr. IMRAN SHEKH Senior Scientist	<i>Imran</i>

18. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
16	16.1	Noted. We will mark.
	16.2, 16.3, 16.4, 16.5	Noted. We will specify.
	16.6	Noted.
	16.7	Noted, we will do needful.
	16.8	Noted.
	16.9, 16.10	Noted, we will do needful.
	16.11, 16.12	Noted.
	16.13	Noted. Will check & do the needful.
	16.14	Noted.
	16.15	Noted, we will provide.

