

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

संख्या/No. CSIR/CMERI/FMTTC/2022/013  
माह/Month: NOVEMBER, 2022

**THIS TEST REPORT VALID UP TO : 30<sup>th</sup> November, 2029**



**ASPEE PSB22A1N/SBDGS**  
**ENGINE OPERATED POWER 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  
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Manufacturer : ASPEE Agro Equipment Pvt. Ltd.  
Opp. Gram Panchayat office, Chikhli Road,  
Antalia Village, Bilimora-396321, Ta-Gandevi,  
Dist-Navsari, GUJARAT

Test requested by : The applicant  
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

Name of Machine : ASPEE Bili HTP Power sprayer

Type : HTP Hydraulic Power sprayer pump

Make : ASPEE

Model : PSB22A1N/SBDGS

Brand : ASPEE

Serial No. : 22244

Output capacity li/min : 20 lit./min

Name of manufacturer : ASPEE Agro Equipment Pvt. Ltd.  
Opp. Gram Panchayat office, Chikhli Road,  
Antalia Village, Bilimora-396321, Ta-Gandevi,  
Dist-Navsari, GUJARAT

Year of manufacture : December-2021

Working pressure, kg/cm<sup>2</sup> : 14 (200psi)

**1.2 Recommended Source of Power** : Engine

### 1.3 Prime Mover

Type : Single Cylinder, 4 Stroke, Air cooled Petrol  
Engine

Make : Honda

Model : GX-80

Power rating, kW\* : 1.2 kW @ 3600 RPM

Max. torque, Nm\* : 4.5 Nm @ 2500 RPM

Engine Sr. No. : GX80-1078548

Country of origin : India

**10.4 NOZZLE DESIGNATION**

**: 55 3000 5000JET 300 KPA  
65 4500 6500JET 600 KPA**

Provision of strainer in nozzle

: Not Available

**10.5 MARKING**

Manufacturer's name or recognized trade mark

**: ASPEE**

Batch or code number

: CODE:- SPGS; BATCH:- YL

**11. AIR PRESSURE CHAMBER TEST**

| Date of Test - |                      |   |
|----------------|----------------------|---|
| Sl. No.        | Details              | Condition   |
| 1              | Hydraulic Pressure   | 35 kg/cm <sup>2</sup>   |
| 2              | Duration of Pressure | 45 second   |
| 3              | Result               | No leakage or deformation of pressure chamber was found during the test |

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

1. Date of Test : 21.09.2022 to 30.09.2022
2. Total running hours : 50
3. Quantity of liquid collected during endurance: -

| SL No | Collection Time    | Avg Discharge, ml/min |
|-------|--------------------|-----------------------|
| 1     | First Collection   | 15700                 |
| 2     | Second Collection  | 15600                 |
| 3     | Third Collection   | 15350                 |
| 4     | Fourth Collection  | 15920                 |
| 5     | Fifth Collection   | 16420                 |
| 6     | Sixth collection   | 16020                 |
| 7     | Seventh Collection | 16100                 |

4. **Percentage variation of discharge from first to last collection, was observed to be 2.55% which is within limit of  $\pm 5\%$  as per relevant standard.**

### 17. CONFORMITY TO INDIAN STANDARDS

- |   |   |                          |
|---|---|--------------------------|
| i) IS:11313-2007 (Reaffirmed 2012) - Hydraulic power sprayers- specification  | : | Does not conform in toto |
| ii) Hose and hose connection as per IS:10134-1994   | : | Does not conform in toto |
| iii) Spray nozzle and spray gun as per IS:3652- 1995 (Reaffirmed 2011)  | : | Conforms                 |
| iv) IS:7347-1974 (Reaffirmed 2006) - Specification for performance of small size spark ignition engines for agricultural water pumps, sprayers, tillers, reapers and other similar applications | : | Could not be ascertained |
| v) IS: 2643-2005 - Pipe threads where pressure - tight joints are not made on the threads- dimensions, tolerance and designation  | - | Could not be ascertained |

### 18. COMMENTS AND RECOMMENDATIONS




- 18.1 A pressure gauge up to 120 bar is provided. The indicator full scale reading exceeds 2.5 times of rated pressure i.e., 35 kg/cm<sup>2</sup> which does not conform IS: 11313-2007. It MUST be looked into.
- 18.2 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.
- 18.3 The suction strainer aperture size is 525 µm which should be less than 425 µm. It MUST be looked into.
- 18.4 Country of origin of pump is not specified. It should be specified.

|                           |  |
|---------------------------|--|
| CSIR/CMERI/FMTTC/2022/013 | ASPEE PSB22A1N/SBDGS<br>ENGINE OPERATED POWER SPRAYER<br>(INITIAL COMMERCIAL TEST) |
|---------------------------|--|

## 19. 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

|  |  |
|--|--|
| Dr. ANJALI CHATTERJEE<br>Chief Scientist               |   |
| Dr. SUBRATA KUMAR MANDAL<br>Senior Principal Scientist |  |
| Md. IMRAN SHEKH<br>Senior Scientist                    |  |

## 20. APPLICANT'S COMMENTS

| Para No. | Our Reference | Applicant's Comments  |
|----------|---------------|---|
| 18       | 18.1          | Noted, we are supplying the Pressure gauge as per customer requirement. |
|          | 18.2, 18.3    | Noted, we will update.  |
|          | 18.4          | Noted, we will specify.   |



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| Farm Machinery Training and Testing Centre<br>CSIR-Central Mechanical Engineering Research Institute, Durgapur - 713209<br><b>THIS REPORT IS VALID UPTO: 30<sup>th</sup> November 2029</b> | 25 of 25 |
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