ENGINE OPERATED SPRAYER
ASPEE, HTP PS-16

Government of India
Ministry of Agriculture and Farmers Welfare
Department of Agriculture, Cooperation and Farmers Welfare
Northern Region Farm Machinery Training and Testing Institute

Tractor Nagar, Sirsa Road, HISAR (Haryana)-125 001

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E-mail: fmti-nr@nic.in
Tele./FAX: 01662-276984
3. TEST FOR DISCHARGE RATE OF PUMP
[vide Clause 8.3 of IS- 11313: 2007]

1. Date of test : 17.11.2017
2. Atmospheric conditions :
   a) Temperature : 24° C
   b) Relative humidity : 31 %
   c) Pressure : 100 kPa
3. Data recorded

<table>
<thead>
<tr>
<th>Specified speed of pump (rpm)</th>
<th>pressure (kg/cm²)</th>
<th>Test No.</th>
<th>Delivery from the discharge line (ml/min)</th>
<th>Overflow</th>
<th>Average discharge from the discharge line (ml/min)</th>
<th>Discharge rate of pump (ml/min)</th>
<th>Power requirement (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>977</td>
<td>7.0</td>
<td>1</td>
<td>18650</td>
<td>22082.5</td>
<td>18600.0</td>
<td>40682.5</td>
<td>0.5</td>
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<td>21420.0</td>
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<td>950</td>
<td>14</td>
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<td>27200</td>
<td>12075.0</td>
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</tbody>
</table>

Minimum discharge rate = 39350.0 ml/min at 14 kg/cm²
Maximum discharge rate = 40682.5 ml/min at 7.0 kg/cm²
Discharge at rated pressure = 39350.0 ml/min at 14 kg/cm²

4. TEST FOR VOLUMETRIC EFFICIENCY OF PUMP
[Vide clause 8.4 of IS 11313:2007]

Rated pressure, kg/cm² : 14
Rated speed of pump, rpm : 950
Theoretical volume, ml : 43.17
Actual volume at rated rpm & rated pressure, ml : 41.47
Volumetric efficiency, % : 96
ENGINE OPERATED SPRAYER
ASPEE, HTP PS-16 (COMMERCIAL)

Cl.10.

MARKING AND PACKING
(Cl.10 IS:11313-2007)

Cl.10.1

Marking

Each sprayer shall be marked with the following particulars :

- Manufacturer’s name & his registered trade mark, Sl. No. and batch or code No.

Sticker is provided with the following information

<table>
<thead>
<tr>
<th>Pump revolution</th>
<th>Delivery output</th>
<th>Maximum pressure</th>
<th>HP Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>950 RPM</td>
<td>36 LTPM</td>
<td>28 kg/ cm² (400PSI)</td>
<td>3 HP</td>
</tr>
</tbody>
</table>

Does not conform in spirit and also in toto

ASPEE GROUP OF COMPANIES
PO BOX No 7602, Malad, Mumbai-400064
ASPEE-HTP PS-16, Ser No 161589 BATCH UGI
ASPEE AGRO EQUIPMENT, PVT.LTD.
AN ISO 9001-2008 Certified Company

15. CONFORMITY TO INDIAN STANDARDS

i) IS:11313-2007 (Reaffirmed 2012)-Hydraulic power sprayer-specification

Does not conform in toto

ii) Spray nozzle and spray gun as per IS:3652-1995 (Reaffirmed 2011)

Does not conform in toto

iii) Hose and hose connection as per IS:10134-1994

Conforms

iv) IS: 2643-2005-Pipe threads where pressure-tight joint are not made on the threads-dimensions, tolerance and designation

Conforms

v) 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

Conforms

16. COMMENTS AND RECOMMENDATIONS

16.1 The year of manufacture of sprayer is not specified. It MUST be specified.

16.2 Suitable pressure regulator must be provided on sprayer as per the requirement of Indian Standard.

16.3 The material used for different components are not declared. It MUST be provided.

16.4 The pressure gauge marking exceeds 2.5 times the declared value of pressure. Suitable pressure gauge MUST be provided to ensure the compliance of the relevant Indian Standard.
16.5 Manufacturing year of pump are not provided. This MUST be provided for guidance of user.

16.6 The engaged threaded length of pump suction port exceeds the limit specified by Indian Standard. It MUST be looked into.

16.7 The spray gun provided with sprayer is not designated and marked by its identification mark. The identification mark as specified by relevant Indian Standard, MUST be provided.

16.8 The spray nozzle is not designated and marked by its identification mark. The identification mark as specified by relevant Indian Standard, MUST be provided.

16.9 The discharge rate for fine cone spray pattern of spray gun at the pressure of 600 ± 60 kPa does not conform to the requirement of Indian Standard. It MUST be improved.

16.10 This spray angle of the gun at the pressure of 600 kPa pressure does not conforms to the requirement of Indian standard it must be improved.

16.11 The discharge rate for fine cone spray & jet spray pattern at a pressure of 300 kPa does not declared by the applicant.

16.12 The spray angle of nozzle at a pressure 300 KPa was not declared by the applicant. It MUST be declared

16.13 Labeling plate : No labeling plate (only sticker) is provided, that too without mentioning all the information, thus it defeats the purpose hence to a suitable labeling plate (not sticker) needs to be provided with, inter alia, following information:-

i. Manufacturer's name
ii. Make
iii. Model
iv. Month & year of manufacture
v. Rated speed
vi. Rated pressure
vii. Discharge rate
viii. Power rating of engine
ix. SFC of engine

16.14 Safety provision/safety wear
i) Safety instruction regarding handling poisonous agro-chemical & first aid MUST be added in operator’s manual.

ii) Safety precautions before, during and after spraying operation MUST be added in operator’s manual.