TRACTOR OPERATED POWER SPRAYER
"SANDHU"

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
(DEPARTMENT OF AGRICULTURE & COOPERATION)

NORTHERN REGION FARM MACHINERY TRAINING AND TESTING INSTITUTE TRACTOR NAGAR,
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### Cl.5.16
The engine and electric motor shall conform to the requirements as given in IS 7347 and IS 325 respectively.

Not applicable as tractor powered

### Cl.5.16.1
The exhaust outlet of the engine shall be so positioned that the smoke does not directly affect the operator or crop. A guard shall be provided on or near the exhaust pipe for the protection of the operator.

Not applicable as it is tractor powered sprayer.

### Cl.5.17
The fuel and chemical discharge controls shall be in easy access of the operator.

Not applicable as it is tractor powered sprayer.

### Cl.5.18
Air pressure chamber shall with stand the test prescribed in 8.7 without any deformation or damage.

No damage found in air pressure chamber

### Cl.6. IS 11313:2007 PERFORMANCE REQUIREMENTS

<table>
<thead>
<tr>
<th>Cl.6.1 Discharge rate/Suction capacity</th>
<th>When tested in accordance with the method given in 8.3, the pump shall be capable of discharging/sucking a minimum of 8000 ml. water per minute at its rated speed and rated pressure.</th>
<th>The pump is capable to discharge 45886 ml/min without gun at 903 rpm of pump speed and 15.0 kg/cm² pressure</th>
<th>Conforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cl.6.1.1 The discharge rate/suction capacity shall be declared by the manufacturer</td>
<td>Declared as on ID plate of pump 39 – 50 l/min</td>
<td>Conforms</td>
<td></td>
</tr>
<tr>
<td>Cl.6.2 Volumetric Efficiency Cl.6.2.1 When determined in accordance with 8.4.1, the volumetric efficiency of the piston/plunger type pump shall minimum 80 percent.</td>
<td>The volumetric efficiency is 90.65% with in specified limit</td>
<td>Conforms</td>
<td></td>
</tr>
<tr>
<td>Cl.6.2.2 The volumetric efficiency requirement for roller vane type pump shall be minimum 80%</td>
<td>Not applicable</td>
<td></td>
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<tr>
<td>Cl.6.3 Power requirement</td>
<td>When tested in accordance with the method given in 8.5, pump shaft power requirement shall not be more than that of the value declared by the manufacturer.</td>
<td>Max pump shaft power requirement is 1.65 kW against the declared value of 2.20-3.68 kW by the manufacturer. (See annexure 2 for more details)</td>
<td>Conforms</td>
</tr>
<tr>
<td>Cl.6.4 Maximum achievable pressure</td>
<td>When tested in accordance with the method given in 8.7, maximum achievable pressure shall not be less than that of the value declared by the manufacturer.</td>
<td>Maximum achievable pressure is more than the declared value of 15-35 kg/cm².</td>
<td>Conforms</td>
</tr>
</tbody>
</table>
### Tractor Operated Power Sprayer

**Marking and Packing**

<table>
<thead>
<tr>
<th>Cl. 10.1</th>
<th>IS:11313- Dec. 2007 Marking and Packing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each sprayer shall be marked with the following particulars:</td>
<td></td>
</tr>
<tr>
<td>a) Manufacturer’s name &amp; his registered trade mark</td>
<td>Marked</td>
</tr>
<tr>
<td>b) Sl. No. and batch or code No.</td>
<td>Not Marked</td>
</tr>
</tbody>
</table>

### Comments:

Tractor operated hydraulic power sprayer ‘Sandhu’ conforms all the clauses of IS: 11313-2004 except requirement specified in the following clause. These should be rectified and incorporated at manufacturing level:

- IS:4468(part-1)-2001 - (a) Lower hitch point span, (b) Diameter for linch pin for upper hitch pin & (c) Diameter for linch pin for lower hitch pins (please refer para 4.8 of the test report for more details)
- Cl. 5.5.2 IS:11313-Dec. 2007 Drain plug
- Cl. E.6 IS: 3652: 1995 – Batch or code no. of spray gun.
- Cl. 4.3 IS: 11313-2007- Declaration of material for different components.

### Testing Authority

<table>
<thead>
<tr>
<th>(R. M. Tiwari) AGRICULTURAL ENGINEER</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P. K. Chopra) SENIOR AGRICULTURAL ENGINEER</td>
</tr>
<tr>
<td>(Himat Singh) -DIRECTOR-</td>
</tr>
</tbody>
</table>

Test report compiled by Sh. Maan Singh, Technical Assistant

### Applicant’s Comments

No comments received