COMMERCIAL TEST REPORT

TRACTOR OPERATED POWER SPRAYER
"JANGIR"

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.5.16.1
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 withstand the test prescribed in 8.7 without any deformation or damage.

No deformation and damage was found in air pressure chamber.

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

#### Cl.6.1 Discharge rate/Suction capacity
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.

The pump is capable to discharge 46879 ml/min without gun at 940-945rpm of pump speed & 40.79 kg/cm² pressure.

Conforms

#### Cl.6.1.1
The discharge rate/suction capacity shall be declared by the manufacturer

Declared as on ID plate of pump 50 l/min

Conforms

#### Cl.6.2 Volumetric Efficiency
When determined in accordance with 8.4.1, the volumetric efficiency of the piston/plunger type pump shall minimum 80 percent.

The volumetric efficiency is 86.20%

Conforms

#### Cl.6.2.1
The volumetric efficiency requirement for roller vane type pump shall be minimum 80%

Not applicable

#### Cl.6.3 Power requirement
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.

Max pump shaft power requirement is 4.68 kW against the declared value of 3.68 kW by the manufacturer. (See annexure 2 for more details)

Conforms

#### Cl.6.4 Maximum achievable pressure
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.

Maximum achievable pressure is more than the declared value of 40.79 kg/cm².

Conforms

#### Cl.6.5 Endurance test
Sprayer shall withstand the test endurance test specified in 8.8

Endurance test of 50 hrs. Completed without any

Conforms
<table>
<thead>
<tr>
<th>Cl. 7</th>
<th>IS 11313:2007 OTHER REQUIREMENTS</th>
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<tbody>
<tr>
<td>Cl. 7.1</td>
<td>Each sprayer shall be provided with parts catalogue and manual giving detailed information about sprayer, engine, its rated speed along with operational and maintenance instructions and safety precautions.</td>
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<tr>
<td>Cl. 7.2</td>
<td>Each sprayer shall be provided with a set of necessary tools, suction strainer having aperture size of 300μm to 425μm and a measuring jar for lubricating oil.</td>
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<td>Cl. 7.3</td>
<td>On the option of the purchaser, the following accessories shall be supplied</td>
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<td>a)</td>
<td>A set of spray nozzles (conforming to annexure E of IS 3652) for different discharge rates, and</td>
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<td>b)</td>
<td>Spray gun conforming to Annexure – E of IS 3652</td>
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<td>Cl. E1</td>
<td>The spray guns shall be of the following two types:</td>
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<td>a)</td>
<td>Screw type gun provided</td>
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<tr>
<td>b)</td>
<td>Provided</td>
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<tr>
<td>Cl. E2</td>
<td>The thickness of the wall of the barrel shall be minimum of 0.63 mm</td>
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<td>Cl. E2.2</td>
<td>The diameter of the connecting rod shall be minimum of 5 mm</td>
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<tr>
<td>Cl. E2.3</td>
<td>The annular clearance between the barrel and the connecting rod shaft be not less than 2.5 mm</td>
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</table>

NORTHERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE-HISAR
TRACTOR OPERATED POWER SPRAYER

COMMERCIAL

a) Manufacturer’s name & his registered trade mark
   Marked

b) Sl. No. and batch or code No.
   Not Marked

Does not conform

6. COMMENTS:
   Tractor operated hydraulic power sprayer ‘JANGIR’ conforms all the clauses of IS: 11313-2004 except requirement specified in the following clause. These should be rectified and incorporated at manufacturing level:
   i) 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)
   ii) Cl. 5.5.2 IS:11313-Dec. 2007 Drain plug
   iii) Cl. E.6 IS: 3652: 1995 – Batch or code no. of spray gun.
   v) Cl. 7.1 IS: 11313:2007 – Part catalogue & manual

TESTING AUTHORITY

(R. M. TIWARI)
AGRICULTURAL ENGINEER

(P. K. CHOPRA)
SENIOR AGRICULTURAL ENGINEER

(HIMAT SINGH)
-DIRECTOR-

Test report complied by Maan Singh, Technical Assistant

APPLICANT’S COMMENTS

No comments received