COMMERCIAL TEST REPORT

ICS FT-30
ENGINE OPERATED SPRAYER

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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3. TEST FOR DISCHARGE RATE OF PUMP
[vide Clause 8.3 of IS: 11313: 2007]

1. Date of test: 22.01.2017
2. Atmospheric conditions:
   a) Temperature: 22°C
   b) Relative humidity: 40%
   c) Pressure: 99 kPa
3. Data recorded

<table>
<thead>
<tr>
<th>Specified speed of pump (rpm)</th>
<th>Working pressure (kg/cm²)</th>
<th>Test No.</th>
<th>Delivery from the discharge line (ml/min)</th>
<th>Overflow (ml/min)</th>
<th>Average discharge from the discharge line (ml/min)</th>
<th>Discharge rate of pump (ml/min)</th>
<th>Power consumed by pump (kW)</th>
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</thead>
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</table>

Minimum discharge rate = 32467.5 ml/min at 25 kg/cm²
Maximum discharge rate = 33995 ml/min at 15 kg/cm²
Discharge rate at rated pressure = 33995 ml/min at 15 kg/cm²

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

Rated pressure, kg/cm² : 15
Rated rpm of pump : 850
Theoretical volume, ml : 42.21
Actual volume at rated rpm and rated pressure, ml : 39.90
Volumetric efficiency, % : 94.5
15. COMMENTS AND RECOMMENDATIONS

15.1 Serial number of machine, manufacturing year of pump & country of origin are not provided. This MUST be provided for guidance of user.

15.2 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.

15.3 Through pressure regulator cum relief valve it was possible to increase pressure up to 38 kg/cm², which is more than 25% of the maximum pressure declared by applicant. It MUST be looked into.

15.4 The thickness of the wall of the barrel is less than the value specified in the relevant Indian Standard. It MUST be improved.

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

15.6 The discharge rate for fine cone spray & jet 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.

15.7 The discharge rate for jet spray pattern at a pressure of 300 kPa does not conform to the requirement of Indian Standard. It MUST be improved.

15.8 The spray angle for fine cone spray pattern at a pressure of 300 kPa does not conform to the requirement of Indian Standard. It MUST be improved.

15.9 Labeling plate : Provided (Sticker)
There is a labeling sticker but without mentioning even manufacturer’s name 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