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| Cl.5.18 | Air pressure chamber shall withstand the test prescribed in 8.7 without any deformation or damage. | No damage found in air pressure chamber | Conforms |
| 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 45712 ml/min without gun at 1003 rpm of pump speed and 9.0 kg/cm² pressure (Ref Annexure -1) | Conforms |
| Cl.6.1.1 | The discharge rate/suction capacity shall be declared by the manufacturer | Declared as on ID plate of pump 60 l/min | Conforms |
| 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. | The volumetric efficiency is 81.10% which is within specified limit | Conforms |
| Cl.6.2.2 | 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 observed is 1.58 kW against the declared value of 5.0 kW by the manufacturer. (See Annexure II 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 observed with gun 26 kg/cm² against declaration as 44.87 kg/cm². | Conforms |
| Cl.6.5 Endurance test | Sprayer shall withstand the test endurance test specified in 8.8 and the variation in Discharge rate between first and last observation shall not be more than ± 5 Percent. | Endurance test of 50 hrs. Completed without any variation in pressure. Percentage variation in discharge is 1.02% with in specified limit (see annexure IV for more details) | Conforms |
| Cl.7 | **IS 11313:2007 OTHER REQUIREMENTS** | | |
| Cl.7.1 | 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. | Manual and parts catalogue is not provided by the manufacturer. | Does not conform |
| Cl. 8.6  |
|-----------------|---------------------|----------------------|
| IS:11313:2007  |
| Agitation       |
| Performance     |
| The agitation performance is checked | Agitation performance found satisfactory. | - |

| Cl. 9.1 |
|-----------------|---------------------|----------------------|
| IS:11313-2007  |
| WORKMANSHIP     |
| AND FINISH      |
| All the components of the sprayer shall be free from burrs, pits and other visual defects which may be detrimental for their use. | Finishing and workmanship is good. | - |

| Cl. 9.2 |
|-----------------|---------------------|----------------------|
| IS:11313:2007  |
| MARKING AND PACKING|
| The exposed metallic parts shall have a protective coating to prevent surface deterioration. | Exposed metallic parts have the protective coating. | - |

| Cl. 10.1 |
|-----------------|---------------------|----------------------|
| IS:11313:2007  |
| MARKING        |
| Each sprayer shall be marked with the following particulars:- | | |
| a) Manufacturer’s name & his registered trade mark | Marked | Conforms |
| b) Sl. No. and batch or code No. | Not marked | Does not conform |

6. COMMENTS AND RECOMMENDATION:-

6.1 Tractor operated hydraulic power sprayer ‘Gahir, G-580’ conforms all the requirements of IS 11313:2007 except requirement specified in the following clause. These should be rectified and incorporated at manufacturing level:-

i) Hub dimension of propeller shaft does not conforms to IS:4931:1995.

ii) Three point linkage mounting dimensions (a) Diameter of lower hitch pin (b) Lower hitch point span (c) Diameter for linch pin for upper and lower hitch pins (please refer para 4.8 of the test report for more details) does not conforms to IS:4468 (Part-1):1997.

iii) The material used for different components require to be declared by the manufacturer as per clause 4.3 of IS 11313:2007 which is not declared.

iv) Cl. 5.2.2 IS 11313:2007 Drain plug for chemical tank is not provided, it should be provided.

v) The designation and marking on the spray gun is not provided. It should be provided.

6.2 Accessories for operator’s safety against pesticides are not provided. It should be provided.
6.3 The machine model is not specified in the application as well as on the machine. The serial No. of the machine is not provided. It is recommended to provide the metallic plate riveted on the machine with following details:-
(a) Make  
(b) Model  
(c) Capacity of sprayer  
(d) Minimum tractor power require  
(e) Serial No./batch No.  
(f) Manufacturer  

6.4 The safety guard for the belt drive, pulley & propeller shaft are not provided. It should be provided for the safety of the users.

6.5 Safety signs and hazard pictorials are not provided on the machine. It should be provided on the machine to alert person to an existing or potential hazard, identify the hazard, describe the nature of the hazard, explain the consequences of potential injury from the hazard and instruct the persons about how to avoid the hazard.

6.6 The operating manual, part catalogue is not provided for reference during test. The operator’s manual, service & spare parts catalogue/manual of this model should be brought as per IS: 8132-1999, in Hindi & other regional language for guidance of users.

**TESTING AUTHORITY**

<table>
<thead>
<tr>
<th>G.R. AMBALKAR</th>
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<tr>
<td>Agricultural Engineer</td>
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<th>R.K. NEMA</th>
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<td>Senior Agricultural Engineer</td>
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<th>HIMAT SINGH</th>
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Test report compiled by: Sh. Maan Singh, Sr. Tech. Assistant

### 7. APPLICANT’S COMMENTS

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<tr>
<th>Para No.</th>
<th>Our Reference</th>
<th>Applicant’s Comments</th>
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<tbody>
<tr>
<td>7.1</td>
<td>6.1, 6.2, 6.3, 6.4, 6.5 &amp; 6.6</td>
<td>We gone through the draft test report and have no comments for the same.</td>
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