ENGINE OPERATED KNAPSACK MIST BLOWER CUM DUSTER
XTRA POWER, XPS-600

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE & FARMERS WELFARE
DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS WELFARE

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<tr>
<th>Clause No.</th>
<th>Specified requirements as per Indian Standard</th>
<th>Observations</th>
<th>Remarks</th>
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<tr>
<td>Cl. 3.2 of IS:7593 (Part-I)- 1986</td>
<td>All the metallic parts coming in contact with the pesticides should preferably be of the same material to minimize electrolytic potential deterioration.</td>
<td>All the metallic parts coming in contact with pesticide are made of stainless steel and plastic.</td>
<td>Conforms</td>
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<td>Cl. 3.3 of IS:7593 (Part-I) 1986</td>
<td>The material used for different components of the sprayer cum duster unit except prime mover shall be indicated by the manufactured in the parts catalogue.</td>
<td>Not declare in the technical literature as submitted by the manufacturer.</td>
<td>Does not conform</td>
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**PERFORMANCE REQUIREMENTS Cl. 4 of IS:7593 (Part-I)-1986**

Cl. 4.1 of IS:7593 (Part-I)-1986

Air output

Air output when tested in accordance with the method given in 5.1 of IS: 12482-1988 at its rated speed, the fan shall be capable of delivering a minimum of 6 m³ of air per minute and the air velocity shall be not less than 60 m/s.

At max. 6654 engine rpm, fan is capable to deliver 6 m³ air/ min.

Air velocity rate at maximum engine rpm 6654 is observed as 64.50 m/sec. (Ref Annexure-II)

Conforms
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<td><strong>Cl. 4.2 of IS:7593 (Part-I)-1986</strong></td>
<td><strong>Liquid discharge rate</strong></td>
<td><strong>When tested in accordance with the method in B-I, the sprayer shall be capable of discharging from 0.3 to 2 litres of liquid per minute with an adjustable nozzle or a set of nozzles not exceeding 4. The discharge rate shall not differ by more than 15% of declared rate of the nozzle or setting of the nozzle.</strong></td>
<td><strong>The spray with 6 setting in a single nozzle is capable to discharging 2.080 l/min of liquid. The variation in discharges is within 15% of the declared discharge of 2.91 l/m.</strong></td>
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<td><strong>Cl.4.3 of IS:7593 (Part-I)-1986</strong></td>
<td><strong>Variation in discharge</strong></td>
<td><strong>When tested in accordance with the method given in B-2, the variation in discharge due to tank filling at one ¼, ½ and ¾ of total capacity shall not exceed 15% of the discharge at total capacity of the tank as obtained in B-1.</strong></td>
<td><strong>The variation in discharge rate due to tank filling is 2.98 to 14.42 % which is within the specified limit of 15%. (Ref Annexure-III)</strong></td>
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<td><strong>Cl.4.4 of IS:7593 (Part-I)-1986</strong></td>
<td><strong>Dust Discharge Rate</strong></td>
<td><strong>When tested in accordance with the method given in B-3, the duster shall be capable of discharging a minimum of 0.5 kg dusting powder per minute. The provision for graduations showing ¼, ½, ¾ and full opening provision shall be made.</strong></td>
<td><strong>Duster is capable of discharged average 3.703 kg dusting powder per minute and provision of ¼, ½, ¾ and full opening provision is provided. (Ref Annexure-IV).</strong></td>
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<td><strong>OTHER REQUIREMENTS (Cl. 5 of IS: 7593 (Part-I)-1986)</strong></td>
<td><strong>Tank</strong></td>
<td><strong>A tank for holding the liquid shall be provided with the provision of easy conversion in to a dust tank. A filling hole of 90 mm minimum diameter if circular or in minor axis if oval, shall be provided on the top of the tank. The hole shall be covered with a cap or lid so that no leakage of the liquid or dusting powder takes place during the mounting of the sprayer cum duster and during its operation.</strong></td>
<td><strong>Provision for easy conversion of liquid to dust. Tank is provided by the manufacturer. Circular filling hole is provided with 212.0 mm dia. A threaded cap with tight fitting is provided on the tank.</strong></td>
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5. COMMENTS & RECOMMENDATIONS

5.1 Conformity to Indian Standard

The engine operated mist blower cum duster ‘Xtra Power XPS-600’ conforms all the clauses of IS:7593 (Part-I) 1986 except requirement specified in the following clause. These should be rectified and incorporated at manufacturing level.

i) Cl. 3.1 IS: 7593 (Part-I):1986 (iii) frame

ii) Liquid or dust regulating device.

iii) Cl. 3.3 IS:7593 (Part I)-1986-Material of different components on declared.

iv) Cl. 4.2 IS:7593 (Part I)-1986-Liquid discharge rate is not as per IS.

v) Cl. 5.5 IS:7593 (Part I)-1986-Air pressure regulating device is not provided.

vi) Cl. 5.8 IS:7593 (Part I)-1986-Width of strap and cushion does not conform.

vii) Cl. 6.1 IS:7593 (Part I)-1986-Operation and maintenance manual not provided.

viii) Cl. 6.2 IS:7593 (Part I):1986-Spare parts not provided with machine.

ix) Cl. 8.1 IS:7593 (Part I):1986 (c) Marking

5.2 The details of manufacturer and country of origin is not provided on product, packing as well as in manual. It should be provided.

5.3 Safety provisions/safety wear

i) Safety signs and hazard pictorials are not provided on the machine. It must be provided on the machine for safety of user.

ii) 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.

iii) The safety instructions regarding handling of poisonous chemicals & first aid should be provided in operator’s manual.

6. TECHNICAL LITERATURE

No literatures are provided by applicant during test. The literature conforming to Cl. 6.1 of IS:7593 (Part I)-1986 and with inclusion of material of construction of different parts, calibration procedure should be brought out as per IS: 8132-1999.

TESTING AUTHORITY

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<tr>
<th>R. K. NEMA</th>
<th>SENIOR AGRICULTURAL ENGINEER</th>
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<th>P. K. PANDEY</th>
<th>DIRECTOR</th>
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7. APPLICANT’S COMMENTS

Applicant’s comment is “Draft Test Report is ok”.

NORTHERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE-HISAR