ENGINE OPERATED POWER KNAPSACK SPRAYER
‘AGRIMATE, K26708’

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

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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. | The engine and exhaust is opposite to the operator and not harmful exhaust pipe is covered with guard. | Conforms |
| Cl. 5.17 | The fuel and chemical discharge controls shall be in easy access of the operator. | Easy accessible to the operator | Conforms |
| Cl. 5.18 | Air pressure chamber shall with stand the test prescribed in 8.7 with out any deformation or damage. | Test found satisfactory | Conforms |

**PERFORMANCE REQUIREMENTS**

*(Cl. 6. IS 11313:2007)*

| 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 7167 ml/min without gun at 8185 to 8480 rpm of prime mover speed and 5.0 kg/cm² pressure | Does not conform |
| Cl. 6.1.1 | The discharge rate/suction capacity shall be declared by the manufacturer | 7.2 l/min declared in the manual of submitted by the manufacturer | 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 92.72% 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. | Not applicable | - |
| 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 less than the declared value of 35 kg/cm² without gun. | Does not conform |
| 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 breakdown & the variation in pressure. Percentage variation | Conforms |
6. COMMENTS & RECOMMENDATION

Engine operated power sprayer ‘AGRIMATE (K-26708) conforms all the clauses of IS: 11313-2007 except requirement specified in the following clause. These should be rectified and incorporated at manufacturing level:

i) Cl 4.3 IS:11313-2007-Declaration of material for different component.


v) The prime mover fitted in the sprayer manufactured by M/s. Yung chi y.c. Industrial co. Taiwan (ROC) is ZENOAH air cooled 2 stroke gasoline engine manufactured by M/s. KOMATSU ZENOAH CO. 1-9 Minamidai, Kawagoe, Saitama, 350-1192, Japan. model-G26LS of 0.81 kW at rated speed of 7500 rpm, In pursuance of ministry’s order no. 7-23/2011-M&T (I&P) dated 20.04.2011 the engine performance test as per IS:7347/1974 has not been conducted and the performance parameters as specified by the applicant have been presumed taking into consideration that the sprayer manufacturing company is ISO-9001:2008 certified company as is evident from the certificate registration no. UQ111576R0 issue dated 28.11.2011 and expiration dated 27.11.2014 and engine manufacturer is part of the ISO 9001:2008 certified group as is evident from the certificate of registration No JSAQ 138 and JSAQ 138-14 issued on dated 12.09.2011.

vi) The applicant has requested to add Honda GX-25 engine as an optional prime mover, manufactured by Thai Honda manufacturing Co. Ltd., Bangkok, Thailand, which is ISO:14001-2004 certified company. The prime mover is 25 c.c. petrol, develops 0.72 kW power at 7000 rpm having max torque 1.0 Nm at 5000 rpm as per specifications submitted by the applicant. The testing authority has not conducted any test with the optional engine prime mover specified by the applicant.

vii) The spray gun dimension, designation, make model/batch as per IS:3652-1995 should be provided.

viii) Cl 10.1 IS:11313-2007-Sr. No. batch/ code no./Sr. no. of sprayer is not provided, it should be provided on each sprayer for proper identification with make, model, serial. no sprayer engine & power rating etc.

ix) The accessories for operator’s safety against pesticides has not provided. It may be provided for operator’s safety point of view.

x) Operator’s instruction book and spare part catalogue has been supplied with the sprayer. The literature supplied was found adequate. However, the literature should also be brought out in Hindi as well as other regional languages for the guidance of users and service personal.