व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या / **No. : PS-101/1540**
माह / **Month: September, 2013**

TRACTOR OPERATED POWER SPRAYER "SHANKER"

सत्यमेव जयते

भारत सरकार
कृषि मंत्रालय
(कृषि एवं सहकारिता विभाग)

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

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Cl.5.13 **Gaskets**	The gaskets, wherever provided shall withstand the test prescribed in 7.4 of IS 10134.	Not applicable as PVC gaskets are provided.	Conforms
Cl.5.14 **Delivery hose**	If provided with couplings shall have suitable diameter and length as agreed to between the purchaser and the supplier.	Delivery hose provided of Dia 10 mm and Length 50 metre	Conforms
Cl.5.14.1 Hose Connections	The hose connections for threaded type and nipple type connections shall be nut-nipple and clamp type respectively.	Hose connections are nut nipple type.	Conforms
Cl.5.14.2	The metallic nut if provided shall have the internal thread size, minimum of designation G¼B (see IS2643 Part I). The clamp shall consist of ferrule or clip. Other thread sizes if used shall be of standard pipe threads (see IS 2643).	Metallic nut of internal thread size 14 G ½ is provided	conforms
Cl.5.14.3	The hose and hose connection shall with stand the test prescribed in 7.2 of IS 10134. A minimum hydrostatic pressure of 1.5 MPa, using water as a liquid, shall be developed in the Hose assembly and the pressure shall be retained for a period of 5 minutes.	There was no leakage, crack and breakage in hose where hose connection was tested as prescribed in 6.2 of IS: 10134-1999.	Conforms
Cl. 5.15 **Nozzle**	Unless otherwise specified by the pursuer, the nozzle shall conform to the requirement of Annexure F of IS 3652.	Not applicable for spray gun	-
Cl.5.16	The engine and electric motor shall conform to the requirements as given in IS 7347 and IS 325 respectively.	No applicable as tractor powered	-
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. Aguard 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 with stand 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 45450 ml/min without gun at 895 rpm of pump speed and 27.0 kg/cm^2 pressure	Conforms
Cl.6.1.1	The discharge rate/suction capacity shall be declared by the manufacturer	Declared as on ID plate of pump 39 – 50 l/min	Conforms
Cl.6.2 **Volumetric Efficiency** Cl6.2.1	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 91.56%	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 requirement is 3.07kW against the declared value of 2.20-3.68 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 15-35 kg/cm^2.	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 breakdown & the variation in pressure. Percentage variation in discharge is 2.06% with in specified limit (see annexure 4 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	Manual and parts catalogue is provided only pump unit by the	**Does not Conform**

6. **COMMENTS:-**

Tractor operated hydraulic power sprayer 'Shanker' 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.
iv) C1.E.5 IS:3652:1995- Designation of spray gun.
v) C1.7.1 IS:11313:2007- Part catalogue &manual.

TESTING AUTHORITY

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Test report complied by Maan Singh, Technical Assistant.

APPLICANT'S COMMENTS

No comments received