

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: PS-471/2659/2021
माह/Month : January, 2021

THIS TEST REPORT VALID UP TO : 31st January, 2028



**RALLI- MONO, ENGINE OPERATED PNEUMATIC
SPRAYER CUM DUSTER**



भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि, सहकारिता एवं किसान कल्याण विभाग

Department of Agriculture, Cooperation and Farmers Welfare

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

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[ISO 9001:2015 CERTIFIED]

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PS-471/2659/2021	RALLI, MONO ENGINE OPERATED PNEUMATIC SPRAYER CUM DUSTER (COMMERCIAL)
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One-half 5.750 lit	Full	5620	5600	1.	1580	1605.0	6.82	NIL
		5600		2.	1600			
		5580		3.	1630			
		5600		4.	1610			
Three-fourth 8.625 lit	Full	5610	5605	1.	1660	1650.0	4.21	-0.089
		5590		2.	1640			
		5600		3.	1680			
		5620		4.	1620			

7. TEST FOR DUST DISCHARGE RATE

1. Date of test : 22.01.2021
2. Atmospheric conditions
 - a) Temperature, °C : 18.7
 - b) Relative humidity, % : 63.4
 - c) Pressure, Kpa : 98.3
3. Data recorded :

Test No.	Mass of duster before test, kg	Mass of duster after test, kg	Mass of dust discharged, kg	Time for tank emptying, min	Dust discharge rate kg/min	Avg. Dust discharge rate, kg/min
1	16.660	11.900	4.760	7.50	0.635	0.634
2	16.660	11.920	4.740	7.56	0.627	
3	16.660	11.940	4.720	7.40	0.638	
4	16.660	11.880	4.780	7.52	0.636	

8. TEST FOR AIR VELOCITY AND AIR OUTPUT

1. Date of test : 20.01.2021
2. Atmospheric conditions
 - a) Temperature, °C : 16.4 °C
 - b) Relative humidity, % : 63.6 %
 - c) Pressure, Kpa : 98.0 Kpa
3. Data recorded :

Engine speed, rpm	Dia. of outlet, mm	Air velocity of fan, m/s	Air output m ³ /min
5520	60	63.26	8.58

9. ENGINE PERFORMANCE TEST

In pursuance of Ministry's order No. 7-23/2011-M&T (I&P) dated 20.04.2011 the engine performance test has not been conducted and the specifications/performance as specified by the applicant/ declared in the manual have been endorsed.

S.No.	Parameter	Declaration
i	Engine Type	: Single cylinder, 2 stroke, air cooled, Petrol engine.
ii	Bore,(mm)	: 35
iii	Stroke (mm)	: 36
iv	Displacement,(cc)	: 35
v	Net power out put	: 0.82 kW @ 5600 rpm
vi	Max Torque	: 1.40 Nm @ 5000 rpm
Vii	Compression ratio	: 8.2:1

10. ENDURANCE TEST OF SPRAYER CUM DUSTER

1. Date(s) of Test: 12.01.2021 to 16.01.2021
2. Total running hours: - 48
3. Quantity of liquid Collected (ml/min):-
 - a) First Collection - 1740.0
 - b) Second Collection - 1710.0
 - c) Third Collection - 1745.0
 - d) Fourth Collection - 1715.0
 - e) Fifth Collection - 1727.5
 - f) Sixth Collection - 1690.0
 - g) Seventh Collection - 1720.5
 - h) Eighth Collection - 1715.0
4. Percentage variation of discharge rate from first to last collection was observed to be 1.44 %.

11. TEST FOR STRAP AND ITS ASSEMBLY

(vide clause 7.3 of IS 10134-1994)

Date of Test: 23.01.2021

The mist blower was filled with clean water to its specified capacity. The blower was hung from a solid support by its straps simulating its carriage on the shoulder of an operator. The tank was vertically raised to height of 300 mm and was allowed to drop freely and hung by straps.

Observation:- No break of strap and bracket was found during the test.

13. COMMENTS & RECOMMENDATIONS

- 13.1** The magneto contact braker point gap and ignition timing of engine is not speeded. It **MUST** be looked into.
- 13.2** The strap width does not meet the requirement of Indian standard. It **MUST** be looked into.
- 13.3** The separately packed spare parts for each sprayer cum duster is not completely provided. It **MUST** be looked into.
- 13.4** Necessary tools are not provided with mist blower. It **MUST** be provided.
- 13.5** The optional items such as a set of spray nozzles for different discharge rate and flame gun are not provided. It **MUST** be looked into.
- 13.6** The Make, Model and Serial Number of blower assembly is not specified. It **MUST** be looked into.
- 13.7** A suitable labeling plate (not sticker) needs to be provided with "inter alia" following information. .
- i) Manufacturer name
 - ii) Make
 - iii) Model
 - iv) Month & year of manufacturer.
 - v) Rated speed.
 - vi) Discharge rate of liquid and dusting powder
 - vii) Air output and air velocity
 - viii) Power rating
 - ix) Country of Origin
- 13.8 Safety provision/Safety wear**
The safety instructions regarding handling poisonous agro chemical before, during and after spraying operation should be provided on Instruction Manual.



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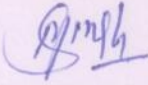
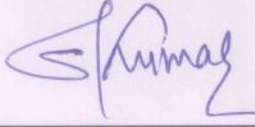
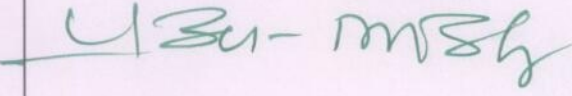
14. TECHNICAL LITERATURE

The following literature are provided with Sprayer cum duster for guidance to the uses.

- i) Instruction manual

However, manual of sprayer need to be updated as per IS: 8132-1999.

TESTING AUTHORITY

MAAN SINGH SENIOR TECHNICAL ASSISTANT	
SANJAY KUMAR AGRICULTURAL ENGINEER	
P. K. PANDEY DIRECTOR	

15. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
15.1	13.1, & 13.2	Corrective action will be taken by our manufacturing unit.
15.2	13.3	We will review and provide necessary spare parts.
15.3	13.4	We will review and provide necessary tools
15.4	13.5	Will be looked into.
15.5	13.6	We will put identification on it.
15.6	13.7	We will find other space to fix metallic plate.
15.7	14	Manual will be updated as suggested.

