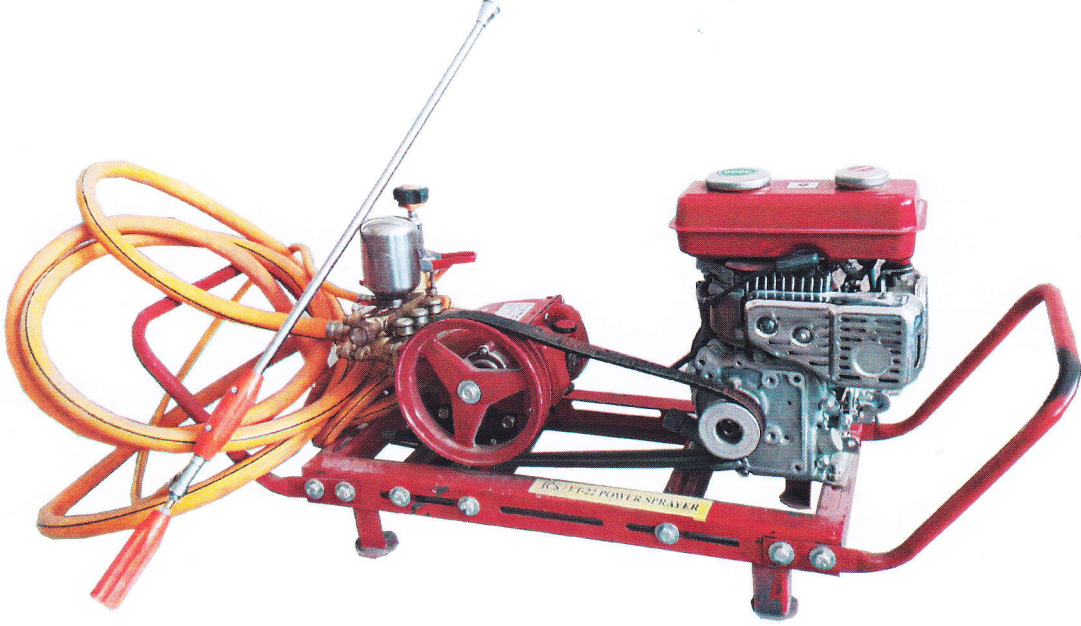


व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: PS-277/2001/2017
माह/Month : May, 2017



**ICS MERCHANDISE PVT. LTD., FT-22
ENGINE OPERATED SPRAYER**



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

Northern Region Farm Machinery Training and Testing Institute

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3. TEST FOR DISCHARGE RATE OF PUMP

[vide Clause 8.3 of IS- 11313: 2007]

1. Date of test : 19.01.2017
2. Atmospheric conditions :
 - a) Temperature : 21° C
 - b) Relative humidity : 69.8 %
 - c) Pressure : 98.5 kPa

3. Data recorded

Specified speed of pump (rpm)	Working pressure (kg/cm ²)	Test No.	Delivery from the discharge line (ml/min)	Overflow (ml/min)	Average discharge from the discharge line (ml/min)	Discharge rate of pump (ml/min)	Power consumed by pump (kW)
851	15.0	1	12300	2145.0	12212.5	14357.5	0.35
		2	12360				
		3	12950				
		4	12240				
845	17.5	1	13350	13605.0	410.0	14015.0	0.40
		2	13650				
		3	13740				
		4	13680				
812	20.0	1	13650	13645.0	Nil	13645.0	0.45
		2	13750				
		3	13560				
		4	13620				
779	22.0	1	13130	13202.5	Nil	13202.5	0.47
		2	13200				
		3	13230				
		4	13250				

Minimum discharge rate = 13202.5 ml/min at 22 kg/cm²
Maximum discharge rate = 14357.5 ml/min at 15 kg/cm²
Discharge at rated pressure = 14357.5 ml/min at 15 kg/cm²

4. TEST FOR VOLUMETRIC EFFICIENCY OF PUMP

(Vide clause 8.4 of IS 11313:2007)

Rated pressure, kg/cm² : 15
 Rated speed of pump, mm : 850
 Theoretical volume, ml : 18.08
 Actual volume at rated rpm & rated pressure, ml : 17.05
 Volumetric efficiency, % : 94.3

- iv) IS: 2643-2005-Pipe threads where pressure-tight joint are not made on the threads-dimensions, tolerance and designation : Conforms
- v) IS: 7347-1974 (Reaffirmed 2006)-Specification for performance of small size spark ignition engines for agricultural water pumps, sprayers, tillers, reapers and other similar applications : Conforms

15. COMMENTS AND RECOMMENDATIONS

- 15.1 The pressure gauge marking exceeds 2.5 times the declared value of pressure. Suitable pressure gauge **MUST** be provided to ensure the compliance of the relevant Indian Standard.
- 15.2 Serial number of machine, manufacturing year of pump & country of origin are not provided. This **MUST** be provided for guidance of user.
- 15.3 The thickness of the wall of the barrel is less than the value specified in the relevant Indian Standard. It **MUST** be improved.
- 15.4 The spray gun provided with sprayer is not designated and marked by its identification mark. The identification mark as specified by relevant Indian Standard, **MUST** be provided.
- 15.5 The spray nozzle is not designated and marked by its identification mark. The identification mark as specified by relevant Indian Standard, **MUST** be provided.
- 15.6 The discharge rate for jet spray pattern of spray gun at the pressure of 600 ± 60 kPa does not conform to the requirement of Indian Standard. It **MUST** be improved.
- 15.7 The discharge rate for fine cone spray & jet spray pattern at a pressure of 300 kPa does not conform to the requirement of Indian Standard. It **MUST** be improved.
- 15.8 The spraying pressure is specified as 15 to 25 kg/cm² on labeling sticker, whereas in the specification sheet it is specified as 15 to 22 kg/cm². It should be corrected on labeling sticker.
- 15.9 **Labeling plate** : Provided (Sticker)
There is a labeling sticker but without mentioning even manufacturer's name thus it defeats the purpose hence to. A suitable labeling plate (not sticker) needs to be provided with, inter alia, following information;-
- i. Manufacturer's name
 - ii. Make
 - iii. Model
 - iv. Month & year of manufacture
 - v. Rated speed
 - vi. Rated pressure
 - vii. Discharge rate
 - viii. Power rating of engine
 - ix. SFC of engine