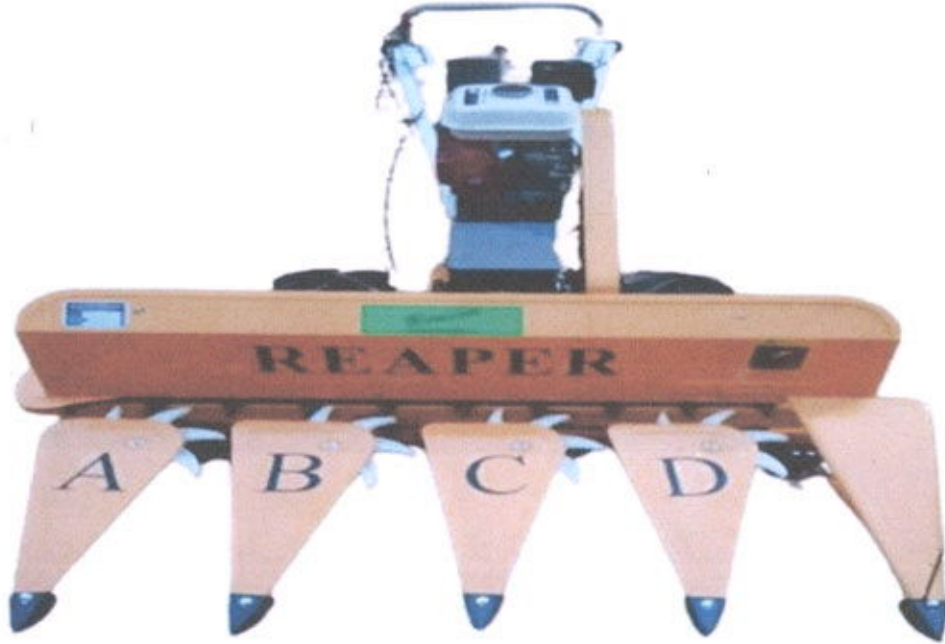


THIS REPORT IS VALID UPTO 30.04.2031



BENSON, 4GL-120 SELF PROPELLED REAPER



भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि एवं किसान कल्याण विभाग

Department of Agriculture and Farmers Welfare

दक्षिणी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Southern Region Farm Machinery Training and Testing Institute

ट्रैक्टर नगर, गार्लदिन्ने-515 731, जिला: अनंतपुर (आं. प्र.)

Tractor Nagar, Garladinne-515 731, District: Anantapur (A.P.)

[An ISO 9001:2015 CERTIFIED INSTITUTE]

Website: <http://srfmtti.dacnet.nic.in/>

Machine- 563/1614	BENSON, 4GL-120 SELF PROPELLED PADDY REAPER	COMMERCIAL (ICT)
	THIS TEST REPORT IS VALID UPTO 30.04.2031	



Manufacturer : Yanchang Xinmingyue Machinery Manufacture Co., Ltd
No.11, Xinyang Road, Tinghu District, Yanchang City,
Jiangsu Province, **China.**

Applicant : Benson Agro engineering,
C-8/2, NICE Area 'A' Road,
MIDC Satpur, Nashik, Maharashtra-422007

BENSON, 4GL-120 SELF PROPELLED REAPER

Report No.: Machine-563/1614

Month: May

Year: 2024



सत्यमेव जयते

Government of India
Ministry of Agriculture and Farmers Welfare
Department of Agriculture and Farmers Welfare
Southern Region Farm Machinery Training and Testing Institute
Tractor Nagar, Garladinne-515 731, District: Anantapur (A.P.)
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E-mail: fmti-sr@nic.in

Machine-
563/1614

**BENSON, 4GL-120 SELF PROPPLED
PADDY REAPER**

**COMMERCIAL
(ICT)**

THIS TEST REPORT IS VALID UPTO 30.04.2031

Type of test : Commercial (ICT)
Period of test : December, 2023 to April, 2024
Test Report No. : **Machine-563/1614**
Month / Year of release : May, 2024

- i) The results reported in this report are observed values and no corrections have been applied for atmospheric and site conditions.
- ii) The test sample was selected randomly through virtual mode by the Institute.
- iii) The results presented in this report do not in any way attribute to the durability of the machine.
- iv) This report should not be reproduced in part or full without prior permission of the Director, Southern Region Farm Machinery Training and Testing Institute, Garladinne, Anantapur (A.P.).
- V) This is a report on Commercial Test of power reaper named "**BENSON, 4GL120 SELF PROPPLED PADDY REAPER**". This report is valid up to **30.04.2031**, Vide Ministry's O.M. No. 13-22/2020-M&T (I&P) dated **12.12.2023**




SELECTED CONVERSIONS

S. No	Units	Conversion Factor
1	Force	
	1 kgf	9.80665 N
		2.20462 lbf
2	Power	
	1 hp	1.01387 metric hp (Ps)
		745.7 W
	1 Ps	735.5 W
3	Pressure	
	1 psi	6.895 kPa
	1 kgf/cm ²	98.067 kPa = 735.56 mm of Hg
	1 bar	100 kPa = 10 N/cm ²
	1 mm of Hg	1.3332 m-bar

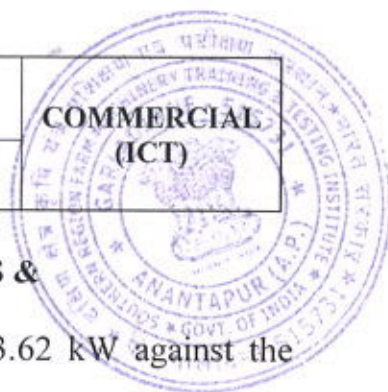
Type of test : Commercial (ICT)

Machine- 563/1614	BENSON, 4GL-120 SELF PROPLLED PADDY REAPER		COMMERCIAL (ICT)
	THIS TEST REPORT IS VALID UPTO 30.04.2031		
1	2	3	4
19.	Slip clutch/ safety pins at cutter bar drive	Must be provided	Provided
20.	Slip clutch / safety pins at conveyor drive	Must be provided	Provided
21.	Provision of row marker / crop guide	Must be provided	Provided
22	Marking /labeling of machine	The labeling plate should be riveted on the body of machine having Name And Address Of Manufactures & Applicant, Country of Origin, Make, Model, Year of Manufacturer, Serial Number, Engine Number, Engine HP, Rated Rpm & SFC	Country of origin, Make and Specific fuel consumption (g/kWh) not provided
23	Literature	Operator manual, service manual and parts catalogue should be provided	Provided

TESTING AUTHORITY

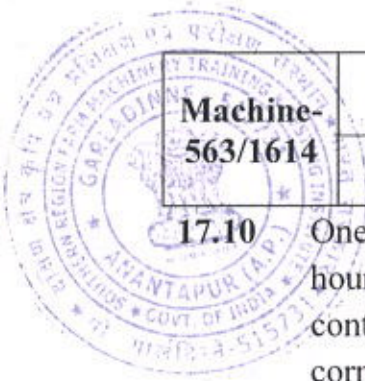
Er. PRAMOD YADAV AGRICULTURAL ENGINEER	
Dr. B.M. NANDEDE DIRECTOR	 

Machine-563/1614	BENSON, 4GL-120 SELF PROPLLED PADDY REAPER	COMMERCIAL (ICT)
	THIS TEST REPORT IS VALID UPTO 30.04.2031	



17. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

- 17.1 Engine maximum and rated power were observed as 3.62 kW against the declared values of 3.8 kW.
- 17.2 Max. Torque was observed as 11.25 Nm against declaration value of 11.0 Nm
- 17.3 Specific fuel consumption of engine corresponding to maximum power was recorded as 367 g/kWh against the declaration value of 385 g/kWh
- 17.4 Back up torque of engine was observed as 4.36 % only. This should be looked into for corrective action.
- 17.5 Max. Noise at operator's ear level was observed as 95dB (A).
- 17.6 The amplitude of mechanical vibration on various assemblies of the Power Reaper was observed to the extent of 2081 microns, which is on higher side. Therefore, necessary action to reduce the vibration should be taken in future.
- 17.7 The dimension of knife does not conform, in full, to IS: 6025-1982. This should be looked into for necessary corrective action.
- 17.8 **Field performance Test:**
- 17.8.1 Rate of work and fuel consumption:
 - The speed of harvesting ranged between 2.98 to 3.03 kmph for paddy crops respectively.
 - The area harvested by the machine was recorded as 0.266 to 0.275 ha/h.
 - The average hourly fuel consumption varied from 1.12 to 1.19 l/h for paddy crop respectively.
 - The fuel consumption per unit area harvested varied from 4.16 to 4.43 l/ha for paddy crop respectively.
- 17.8.2 **Quality of Work:**
 - i) The post-harvest loss was observed as 0.06 to 0.20 % for Paddy and respectively.
 - ii) The stubble height was recorded as 45.5 to 50.4 mm for Paddy respectively.
 - iii) Machine leaves the harvested crop in windrows.
- 17.9 The labeling plate does not reveal all the required information. It is therefore recommended that a suitable labeling plate covering all essential components, inter alia, the following must be provided:
 - i) Country of origin
 - ii) Make
 - iii) Specific fuel consumption (g/kWh)



Machine-
563/1614

**BENSON, 4GL-120 SELF PROPPLED
PADDY REAPER**

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17.10 One skilled operator can operate the machine continuously for about two hours only. Hence two skilled operators are required to operate the machine continuously and two unskilled labour for cutting of the crop on side and corners of the field to be harvested.

17.11 Wear of critical components:

- i) The wear rate of cutter bar on mass basis was recorded as 0.04 % per hour.
- ii) The chemical composition of cutting (movable) blade and stationary knife are not conforming to the requirement of relevant IS (IS 6025:1982 (Reaffirmed: 1999)). Therefore, this should be taken care for corrective action.

17.12 Provision for safety:

A safety pin at driven sprocket of conveyor chain is provided to take case of overloading of cutter bar.

17.13 Technical literature:

The operator manual cum parts catalogue of reaper and engine in single booklet was supplied with the reaper for reference during the test. The manuals are no adequate. The most of initial setting and discard limit of critical components may be added in manuals and leaflets etc. It is however, recommended that same may be revised and brought out in Hindi & other regional languages as per IS 8132: 1999 (Reaffirmed: 2019) for the sake of user & technical personnel