

व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक)
COMMERCIAL TEST REPORT
(INITIAL)

संख्या/No: Machine-412/1244
माह/Month: January, 2021
Validity: 31.12.2025



e-AgroCare 4S-120 POWER REAPER



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
दक्षिणी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान
Southern Region Farm Machinery Training and Testing Institute
ट्रेक्टर नगर, गार्लदिन्ने-515 731, जिला: अनंतपुर (आं. प्र.)
Tractor Nagar, Garladinne-515 731, District: Anantapur (A.P.)
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Machine-412/1244	e-AgroCare 4S-120 POWER REAPER	COMMERCIAL (ICT)
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Manufacturer (apa) : M/s. e-AgroCare Machineries & Equipments Pvt. Ltd., D-45, Shendra MIDC, Aurangabad-431 154, Maharashtra, **India.**

Applicant : The Manufacturer

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17. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

- 17.1.1** Engine maximum and rated power were observed as 3.6 & 2.9 kW against the declared values of 4.85 kW respectively.
- 17.1.2** Back up torque of engine was observed as 1.69 %.
- 17.1.3** Specific fuel consumption of engine corresponding to maximum & rated power was recorded as 298 & 305 g/kWh against the declared value of 290 g/kWh respectively.
- 17.1.4** Max. torque was observed as 24.0 Nm against the declared value of 15.0 Nm in natural ambient condition.
- 17.2** Max. Noise at operator's ear level was observed as 99 dB (A), which is on higher side. Therefore this should be looked into for corrective action.
- 17.3** The amplitude of mechanical vibration on various assemblies of the Power Reaper was observed to the extent of 725 micron, which is on higher side. Therefore necessary action to reduce vibration should be taken.
- 17.4** **Knife:** The dimension of Knife does not conform, in full, to IS: 6025-1982.
- 17.5** The labeling plate is not provided in the machine whereas it is essential to be provided as per the requirement of IS.
- 17.6** **Field Performance Test:**
- 17.6.1** **Rate of work:**
- i) The average area covered and time required for harvesting one hectare was recorded as 0.190 to 0.213 ha/h and 4.69 to 5.26 hours respectively.
 - ii) The average hourly fuel consumption varies from 0.55 to 0.72 l/h & the fuel requires for harvesting one hectare area was recorded as 2.68 to 3.79 l/ha.
 - iii) The average mass of straw with grain harvested was recorded as 29749 to 30472 kg/ha.
 - iv) The average mass of grains recovered was recorded as 5414 to 6230 kg/ha.
- 17.6.2** **Quality of work:**
- i) The average post harvest loss was recorded as 0.03%.
 - ii) The average stubble height was recorded as 56.5 to 61.5 mm.
 - iii) The crop harvested by the machine is left in windrows, which minimizes the time required for the collection and transportation of the crop.
- 17.7** Two skilled operators are required for operating the machine continuously.
- 17.8** **Wear of critical components:**
- i) The wear rate of cutter bar on mass basis was recorded as 0.02 % per hour.

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ii) Hardness of movable & stationary blade do not conform to the requirement as per IS 6025:1982 (Reaffirmed 1999). Therefore, this should be taken care for necessary action.

iii) The chemical composition of cutting (movable) blade and stationary blades are not conforming to the requirement of relevant code. Therefore, this should be taken care for corrective action.

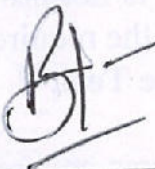
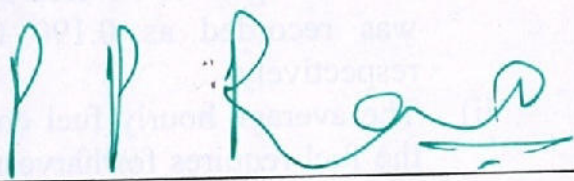
17.9 Provision for safety:

A safety pin on the conveyor chain is not provided to take care of overloading of cutter bar. It needs to be provided at suitable place.

17.10 Technical literature:

The user & service manual and parts catalogue of reaper and engine in single booklet was supplied with the reaper for reference during the test. It is however, recommended that same may be revised and bought out in Hindi & other regional languages as per IS 8132 :1999 (Reaffirmed 2004) for the sake of user & technical personnel.

TESTING AUTHORITY:

B.N. DIXIT AGRICULTURAL ENGINEER	
Dr. P.P. RAO DIRECTOR	

18. APPLICANT COMMENTS

Para No.	Our reference	Applicant's comments
18.1	17.1.1, 17.1.2 & 17.1.3	We will put up the issue with engine manufacturer
18.2	17.2	We will work on it to reduce the noise level of machine in future production
18.3	17.3	We will work on it to reduce the vibration of machine in future production
18.4	17.5	The labelling plate is provided in every machine, but has fallen off during transit
18.5	17.8 (ii), (iii)	We will ensure that the material conforms to said IS standards during future production
18.6	17.9	We will ensure that safety device will be provided during future production