

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

INITIAL COMMERCIAL TEST REPORT

THIS TEST REPORT VALID UP TO

:

संख्या/No. CSIR/CMERI/FMTTC/2024/046

माह/Month: September, 2024

31st AUGUST, 2031



**RYTHU SHAKTI
POWER WEEDER (MODEL: RS DK 50)**



कृषि मशीनरी प्रशिक्षण और परीक्षण केंद्र
Farm Machinery Training and Testing Centre
सीएसआईआर- केन्द्रीय यांत्रिक अभियांत्रिकी अनुसंधान संस्थान
CSIR - Central Mechanical Engineering Research Institute.

महात्मा गांधी एवेन्यू, दुर्गापुर
Mahatma Gandhi Avenue, Durgapur

पश्चिम बंगाल - 713209

West Bengal - 713209

Website: <https://cmeri.res.in>

E-mail: fmttc.cmeri@gmail.com

Telephone: 9434592007 / 7001361295

Fax: +91-343-2546745

Period of Test : June, 2024 – August, 2024

Test Report No. : CSIR/CMERI/FMTTC/2024/046

Month and Year : September, 2024

- i. The results reported in this report are observed values and no corrections have been applied for atmospheric and site conditions.
- ii. The data given in this report pertains to the particular machine submitted by the applicant for test.
- iii. The results presented in this report do not in any way attribute to durability of the machine.
- iv. The report should not be reproduced in part or full without prior permission of the Director, CSIR- Central Mechanical Engineering Research Institute, M G Avenue, Durgapur -713209 (West Bengal)
- v. This test report is not covered under BIS certification. Therefore, the manufacturers cannot market the machine with ISI mark, only on the strength of this report.
- vi. This report cannot be used for legal purposes.

SELECTED CONVERSIONS

1. Force

$$1 \text{ kgf} = 9.80665 \text{ N}$$

$$= 2.20462 \text{ lbf}$$

2. Power

$$1 \text{ HP} = 1.01387 \text{ Metric HP (Ps)}$$

$$= 745.7 \text{ W}$$

$$1 \text{ Ps} = 735.5 \text{ W}$$

3. Pressure

$$1 \text{ psi} = 6.895 \text{ kPa}$$

$$1 \text{ kgf/sq.cm} = 98.067 \text{ kPa}$$

$$= 735.56 \text{ mm of Hg}$$

$$1 \text{ bar} = 100 \text{ kPa}$$

$$= 10 \text{ N/sq.cm.}$$

$$1 \text{ mm of Hg} = 1.3333 \text{ m-bar}$$

4. Area

$$1 \text{ ha} = 10000 \text{ m}^2$$

$$= 2.471 \text{ Acres}$$

Report prepared by



Report verified by



3 METHOD OF SELECTION

The test sample was randomly selected by Video call. The applicant arranged 5 samples of RS DK 50 samples of power weeder with same specifications. The weeders with following serial number were considered for random selection.

Sample No	Weeder Chasis Serial Number
1	0301514
2	0301532
3	0301494 (Selected for Test)
4	0301499
5	0301543

Table 1. Samples for random selection

4 SPECIFICATIONS

4.1 General

Type of machine	: Self-propelled , Walk-behind Type
Make	: RYTHU SHAKTI
Model	: RS DK 50
Serial No.	: 0301494
Name and address of manufacturer	: AGRITOUGH MACHINERIES 9-2-1, Ring Road, Railway Station Road, Anakapalle, Andhra Pradesh, Pin –531001
Year of manufacture	: 2023
Country of origin	: India

4.2 Details of prime mover

Name and address of manufacturer	: AGRITOUGH MACHINERIES 9-2-1, Ring Road, Railway Station Road, Anakapalle, Andhra Pradesh, Pin –531001
Type	: Single Cylinder, Air Cooled, 4 Stroke, Compression Ignition Engine
Make	: KAMA
Model	: 173F
Sr. No.	: KM173F9K210501365
Country of origin	: China
Year of manufacture	: 2023
Engine speed (Manufacturer's	:

Report verified by
Subrata Kumar Mandal

Report prepared by

Subrata Kumar Mandal

CSIR/CMERI/FMTTC/2024/046	RYTHU SHAKTI POWER WEEDER MODEL NO. – RS DK 50 (INITIAL COMMERCIAL TEST)
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25.	Provision for cover on Exhaust	Must be provided	Provided	Conforms
26.	Direction of exhaust emission away from Operator	Must be provided	Provided	Conforms
27.	Marking/labeling machine	The labeling plate should be riveted on the body of machine having Name and address of manufacturer & Applicant, Country of origin, Make, Model, Year of manufacturer, Serial number, Engine number, Engine HP, rated rpm & SFC.	Provided	Conforms
28.	Literature	Operator manual, service manual and Parts catalogue should be provided.	Provided	Conforms

16 COMMENTS & RECOMMENDATION

- 16.1** The amplitude of mechanical vibrations indicated (*) in section 7 is excessively high. This not only impacts the health, safety, and comfort of the operator but also negatively affects the lifespan of the components. Immediate corrective action is required to address this issue.
- 16.2** The chemical composition of the rotor blade does not conform to the requirements outlined in IS: 6690-1981. This issue should be thoroughly examined and rectified.
- 16.3** The material of the rotor shaft does not meet the requirements specified by BIS standards. This issue requires prompt investigation and correction.
- 16.4** The material used for the blade does not comply with the IS Standard. This issue requires immediate attention and corrective measures.
- 16.5** The Part's catalogue and service manuals have not been provided. It must be provided.

Report prepared by



Report verified by
Subrata Kr Mandal

Farm Machinery Training and Testing Centre, CSIR-Central Mechanical Engineering Research Institute, Durgapur THIS REPORT IS VALID UPTO: 31st AUGUST, 2031	22 of 24
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17 TECHNICAL LITERATURE

The following literatures are provided by the applicant during the test along with the application form.

- a) User's manual book

The following literatures are not provided by the applicant during the test along with the application form

- a) Parts' catalogue

- b) Service manual

These manuals need to be provided as per IS: 8132-1999.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	<i>[Signature]</i> 12/09/2024
Report Verified & Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	<i>[Signature]</i> 12/09/2024
Report Approved for release by	Head, Business Development Unit, CSIR-CMERI, Durgapur	<i>[Signature]</i> 12/09/2024

18 APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
18	16.1	We will inform our R&D Team to look into this
	16.2	We will inform our R&D Team to rectify it
	16.3	We will inform our R&D Team to maintain BIS Standards
	16.4	We will inform our R&D Team to maintain IS Standards
	16.5	We will provide

