



**CHAKRADHAR CHEMICALS PVT. LTD. SAARTHII
ICE 300D POWER WEEDER**



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

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

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

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Machine-353/1172	CHAKRADHAR CHEMICALS PVT. LTD. SAARTHI ICE 300D POWER WEEDER	COMMERCIAL (ICT)
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Manufacturer : M/s. Zhejiang Yongli Machinery Co. Ltd., Dongfang Avenue, Luqiao District, Taizhou, Zhejiang, **China.**

Applicant : M/s. Chakradhar Chemicals Pvt. Ltd., BNG # 53, 2nd Floor, Infantry Road, Behind Mallya Audikesh Diagnostics, Bangalore-560001, Karnataka, **India.**

Chakradhar Chemicals Pvt. Ltd. Saarthi ICE 300D Power Weeder

Report No. : Machine-353/1172 Month: June

Year: 2020



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SOUTHERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE, ANANTAPUR, (A.P.)	Page 2 of 32
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Machine- 353/1172	CHAKRADHAR CHEMICALS PVT. LTD. SAARTHI ICE 300D POWER WEEDER	COMMERCIAL (ICT)
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17. COMMENTS & RECOMMENDATIONS

17.1 Engine Performance:



- 17.1.1 The maximum power and rated power were observed as 5.2 & 5.1 kW respectively under natural ambient condition against the declared value of 4.0 kW respectively.
- 17.1.2 Specific fuel consumption of engine corresponding to maximum power was recorded as 281 g/kWh against the declared value of 330 g/kWh.
- 17.1.3 Max. Torque was observed as 16.41 Nm against the declared value of 15.0 Nm.
- 17.1.4 Back up torque of engine was observed as 2.95 %, against the declared value of 10 %. This should be looked into for corrective action.
- 17.1.5 **During varying speed test of engine at both natural & high ambient conditions after attaining max. torque at 16.41 Nm & 15.70 Nm respectively, while further loading, sudden drop of engine speed and thick black smoke was noticed.**
- 17.2 Max. Noise at operator's ear level was observed as 96 dB (A), which is higher than the limit specified by the ILO. Therefore, this should be looked into for corrective action
- 17.3 The amplitude of mechanical vibration on most of the assemblies of the Power Weeder was observed up to the maximum extent of 407 microns, Which is directly concerned with Operator's Health, Safety and Comfort. Besides, it also adversely affect the useful life of the components. In view of the above, this should be taken care for corrective action.
- 17.4 The hardness of rotary blades conforms to the requirement of IS 6690:1981 (Reaffirmed 2012).
- 17.5 Only carbon content of the chemical composition of rotary blade is not as per the requirement of IS 6690:1981. This should be looked into for corrective action.
- 17.6 The provided labeling plate should be as per the requirement IS.

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17.7 Technical literature:

The user manual and parts catalogue of power weeder and owner's manual & parts catalogue of engine in separate booklets were supplied with the test sample 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'S COMMENTS

Para No.	Our reference	Applicant's comments
18.1	17.1.5	We will inform to our manufacturer for taking care on it for further improvement
18.2	17.2	We will search for possibilities to reduce the noise level of machine
18.3	17.3	We will put some vibration dampeners for reducing the vibration of the machine
18.4	17.5	We will improve blade chemical composition
18.5	17.6	Point is noted. We will try to make as per your suggestion
18.6	17.7	We will search for possibilities to develop the manuals in other languages also