

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

INITIAL COMMERCIAL TEST REPORT

THIS TEST REPORT VALID UP TO

संख्या/No. CSIR/CMERI/FMTTC/2023/020

माह/Month: August, 2023

: 31st AUGUST, 2030



**BIRSA AGRO MACHINERY
MANUAL CHAFF CUTTER
(MODEL – STRAW KING)**



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

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Name of Machine	: Manual Chaff Cutter
Type	: Manual
Make	: Birsa Agro Machinery
Model	: STRAW KING
Name and address of Manufacturer	: M/s. Birsa Agro Machinery Dumka Road, Maheshpur, Pakur, Jharkhand - 816106
Name and address of Applicant	: M/s. Birsa Agro Machinery Dumka Road, Maheshpur, Pakur, Jharkhand - 816106
Test Conducted at	: Farm Machinery Training and Testing Centre CSIR- Central Mechanical Engineering Research Institute, M G Avenue, Durgapur, Pin - 713209, West Bengal.

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[vide DAC&FW OM No. 13-24/2018- M&T (I&P) dated 19.09.2018]

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**CSIR - Central Mechanical Engineering Research Institute,
Durgapur - 713209
(W.B.), INDIA**



**Farm Machinery Training and Testing Centre,
CSIR-Central Mechanical Engineering Research Institute, Durgapur
THIS REPORT IS VALID UPTO: 31ST AUGUST 2030**

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4. SPECIFICATIONS

4.1. General

Type of machine	: Manual Chaff Cutter
Make	: Birsa Agro Machinery
Model	: Straw King
Serial No.	: 042
Name and address of manufacturer	: M/s. Birsa Agro Machinery Dumka Road, Maheshpur, Dist. – Pakur, Jharkhand - 816106
Year of manufacture	: 2023
Country of origin	: India



KEYWORDS:

- | | |
|---------------|----------------|
| 1. Flywheel | 2. Blade |
| 3. Feed Chute | 4. Feed Roller |
| 5. Stand | 6. Handle |

4.2. Construction details

4.2.1. Stand

Size of Platform, mm	: 445 x 26 x 45
Height of Platform from GL, mm	: 745

4.2.2. Chaff cutter assembly

4.2.2.1. Flywheel

Number	: 01
Material	: Cast Iron



Diameter of flywheel, mm	: 790
Thickness of flywheel, mm	: 5057
Size of 'S' shape for mounting blade, mm	: 840 x 62 x 8.5
Number and Size of Holes on 'S' for mounting blades	: 3 on each blade, Ø 10
Number of size of holes on 'S' shape for adjusting blade clearance, mm	: 6 on each blade, M10
Mass of flywheel, kg	: 14.1

4.2.2.2. Blades:

Type	: Non – serrated blade
Number of blades	: 2
Dimension of blades	: 395 x 135 x 2.08
Material of Blades	: High Carbon Steel
Method of mounting	: Bolted

4.2.2.3. Shear Plate (Fixed Edge):

Number	: 01
Material	: Cast Iron
Size, mm	: 205 x 85 x 24.3
Method of mounting	: Bolted to the side cover of feed assembly by 4 nut and bolt
Recommended clearance between fixed and rotating blades, mm	: 0.5 to 2
Method of clearance adjustment	: By loosening or tightening the bolts provided blade for clearance.

4.2.3. Feeding Assembly**4.2.3.1. Main shaft**

Material	: Mild Steel
Dimension, mm	: 32.57
Number of types of bearing	: Not Provided
Method of mounting	: Front end of the shaft threaded and driven pulley locked to it by one hexagonal nut size 25 mm. One nut is provided on the central bush which loads the flywheel firmly on the main shaft.
Method of Lubrication	: Greasing can be done by opening the gear box.



5.4	Stand/Wheels: Stand or wheels shall be provided. The minimum diameter of the wheel shall be 350 mm and its minimum width shall be 60 mm.	Stand Provided	Conforms
5.5	Blower: -Blower if provided shall be centrifugal type with the suitable arrangement for controlling air blast.	N.A.	N.A.
5.6	Transmission system: -The gears shall be properly meshed and shall be suitably covered.	Provided	Conforms
	Provision shall be made for lubrication.	Provided	Conforms
	A suitable arrangement shall be provided for clutching or declutching of drive.	N. A	N. A
6.	Other Requirements		
6.1	Provision shall be made to change the inclination of the plane of the cutting knives to the plane of rotation of fly wheel to avoid feed interference. (If applicable)	N.A.	N.A.
6.2	Provision for adjustment of the following shall be made		
	a. Feed rate	Provided	Conforms
	b. Length of cut	Not Provided	Does not Confirm
	c. Feed roll clearance	Provided	Conforms
	d. Space between fixed and rotating blades	Not Provided	Does not Confirm
	e. Air displacement (if applicable)	N.A.	N.A.
	f. Direction of rotation of feed rolls	NA	Does not Confirm
6.3	If the cutter head is open, arrangement shall be made for locking it with the stand and the cutting edge of the blade shall be covered.	Cutter Head is enclosed in metal frame	Conforms
6.4	Various controls shall be easily accessible and capable of being locked in a chosen position.	Provided	Conforms
6.5	Suitable guards shall be provided on the transmission system of the chaff cutter	N. A	N. A
6.6	The chaff cutter shall be provided with operator's manual	Not Provided	Does not Confirm

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7	Workmanship and Finish		
7.1	Welding used for joining different components shall not be porous, it shall be smooth.	Provided	Conforms
7.2	All sharp corners and protruding fasteners shall be avoided.	Provided	Conforms
7.3	The chaff cutter shall be suitably painted.	Provided	Conforms
8	Marking and Packing		
8.1	Each chaff cutter shall be marked with the following particulars:		
	a. Manufacturers name & recognized trade mark	Provided	Conforms
	b. Model number	Provided	Conforms
	c. Type	Provided	Conforms
	d. Batch, code or serial number	Provided	Conforms
	e. Power rating (kW)	N. A	N. A.
	f. Rated input capacity	Not Provided	Does Not Confirm
	g. Recommended rpm of the fly wheel or cylinder	Not Provided	Does Not Confirm
8.1.1	A minimum cautionary notice worded as follows shall be written in vernacular language legibly and permanently on the main body of the chaff cutter: -		
	a. DO NOT WEAR LOOSE DRESS, BANGLES, WATCH ETC., WHILE WORKING;	Not Provided	Does not Confirm
	b. DO NOT WORK UNDER THE INFLUENCE OF INTOXICANTS LIKE LIQUOR, OPIUM ETC.		
	c. CHILDREN AND AGED PERSONS SHOULD BE DISCOURAGED FOR WORKING ON CHAFF CUTTER		
	d. DO NOT CROSS OVER MOVING BELTS;		
	e. DO NOT OPERATE CHAFF CUTTER WITHOUT GUARDS AND SAFETY PROVISIONS		
	f. DO NOT PUSH SMALL FODDER BY HAND, USE PUSHING DEVICE;		
	g. DO NOT MAKE ADJUSTMENTS WHILE THE MACHINE IS RUNNING;		
	h. NEVER BRING HAND NEAR FEED ROLLS AND OPEN CUTTER HEAD		
	i. PUT THE COVER ON BLADE AND LOCK THE FLY WHEEL AFTER THE WORK; AND		
	j. DO NOT PUT OR TAKE OFF BELT WHILE PULLEY IS RUNNING		



Farm Machinery Training and Testing Centre, CSIR-Central Mechanical Engineering Research Institute, Durgapur THIS REPORT IS VALID UPTO: 31 ST AUGUST 2030	15 of 19
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10. TECHNICAL LITERATURE

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

- Users' manual book
- Parts' catalogue
- Service manual

These manuals need to be provided as per IS: 8132.1999.

11. TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	
Report Verified by	Scientist, CSIR-CMERI Farm Machinery Testing Centre	
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	
Report Approved for release by	Head, Business Development Group, CSIR-CMERI, Durgapur	

12. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's Comments
12	9.1 – 9.7	Noted, corrective actions will be taken against the given comments & Recommendations from 9.1 to 9.7

