

(यह परीक्षण रिपोर्ट 31/01/2026 तक वैध है। / THIS TEST REPORT IS VALID UP TO : 31/01/2026)



**DEUTZ FAHR, AGROMAXX 60 4WD TRACTOR**



सत्यमेव जयते

भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय  
कृषि, सहकारिता, एवं किसान कल्याण विभाग  
मशीनीकरण एवं प्रौद्योगिकी प्रभाग

GOVERNMENT OF INDIA

MINISTRY OF AGRICULTURE AND FARMERS WELFARE

(Department of Agriculture, Cooperation & Farmers Welfare, Mechanization & Technology Division)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान  
ट्रैक्टर नगर, बुदनी (म.प्र.) ४६६ ४४५

**CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE**  
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**Duration of said running-in (h):**

- Engine & Transmission : 25

**Method of Selection** : The test sample was selected randomly out of five tractors from the production line by the representative of testing authority.

**Tractors chassis serial number made available for random selection:**

- i) M1TAF 22RDME000005 (Selected)
- ii) M1TAF 22RDME000006
- iii) M1TAF 22RDME000004
- iv) M1TAF 22RDME000007
- v) M1TAF 22RDME000003

## 1. SPECIFICATION

**1.1 Tractor:**

Make : DEUTZ-FAHR  
 Model : AGROMAXX 60 (4WD)  
 Type : Four wheeled, 4WD, General purpose, Unit construction, Agricultural tractor.  
 Variant:, if any : Yes

Sr. no.	Variant model	Variant features
1.	AGROMAXX 60	2WD

Year of manufacture : 12 | 19

Chassis number : M1TAF 22RDME000005

Country of origin : India

**1.2 Engine:**

Make : Same Deutz-Fahr India (P) Ltd  
 Model : 1000.3WT-55 CV (apa).  
 Type : Four stroke, liquid cooled, turbo charged, direct injection, diesel engine.

Serial number : 3M53090M19

**Engine speed (Manufacturer's recommended production setting), (rpm) :**

- Maximum speed at no load : 2470 to 2570

- Low idle speed : 600 to 900

- Speed at maximum torque : 1150 to 1400

**Rated speed, (rpm):**

- For PTO use : 2350

- For drawbar use : 2350

**1.3 Cylinder & Cylinder Head:**

Number : Three

Disposition : Vertical, inline

Bore/stroke, (mm) : 105 / 115.5

Capacity as specified by the applicant, (cc) : 3000

Compression ratio, (apa) : 16 ± 0.3: 1

Type of cylinder head : Individual

Type of cylinder liners : Wet, replaceable

Type of combustion chamber : Open cavity on piston crown

Arrangement of valves : Overhead

**Valve clearance (cold):**

- Inlet valve, (mm) : 0.25

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#### 14. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

**14.1** On the basis of test conducted the performance results have been summarized as evaluative (mandatory) / Non-evaluative (Non-mandatory) parameters applicable for qualifying Minimum Performance criteria as per Clause-4 (Table-1) of IS: 12207-2019 for acceptance of the tractor for the purpose of subsidies/NABARD financing are summarized as under:

Sl. No.	Characteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	Values declared by the applicant/ (D) Requirement (R)	As observed	Whether meets the requirements (Yes/No)
1	2	3	4	5	6	7
<b>14.1.1</b>	<b>PTO Performance :</b>					
<b>a)</b>	Maximum power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of: $\pm 5\%$ for PTO power and or engine power $> 26$ kW. $\pm 10\%$ for PTO power and or engine $\leq 26$ kW.	37.5 (D)	37.7	Yes
<b>b)</b>	Power at rated engine speed, (kW)	Non Evaluative	-do-	37.5 (D)	37.7	Yes
<b>c)</b>	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	+ 10% max.	298 (D)	311	Yes
<b>d)</b>	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	$\pm 8\%$	149 (D)	210.3	Yes
<b>e)</b>	Back-up torque, percent	Evaluative	12 percent	12% (D) 12% (R) Minimum	37.4	Yes
<b>f)</b>	Maximum operating temperature, ( $^{\circ}\text{C}$ )					
	1) Engine oil	Evaluative	The declared value should not exceed the max. value specified by the oil company and the observed value under high ambient condition should not exceed the declaration.	150 (D)	121	Yes
	2) Coolant	Evaluative	The declared value should not exceed the boiling temperature of coolant under the pressurized or otherwise and the observed value under high ambient condition should not exceed the declaration.	120 (D)	103	Yes
<b>g)</b>	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at max. power under High ambient conditions.	1% of SFC 3.11 (R)	0.23	Yes
<b>h)</b>	Smoke level, $\text{m}^{-1}$	Evaluative	Maximum light absorption coefficient of 3.25 per meter or equivalent BOSCH No. 5.2 or 75 Hatridge value ( <b>As per CMVR</b> ).	3.25 per meter Maximum (R)	2.81 per meter	Yes

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1	2	3	4	5	6	7	
<b>14.1.2</b>	<b>Drawbar performance :</b>						
a)	Max. drawbar pull with ballasted corresponding to 15 percent wheel slip, (kN)	Non Evaluative	Minimum 70% of static mass of tractor with ballast.	23.82 (D) 24.09 (R) Minimum	31.33	Yes	
b)	Max. drawbar pull without ballasted as the case may be corresponding to 15 percent wheel slip, (kN)	Evaluative	Minimum 70% of static mass of tractor without ballast or with standard ballast, as the case may be.	15.31 (D) 15.45 (R) Minimum	21.92	Yes	
c)	Maximum drawbar power without ballast, (kW).	Evaluative	Minimum 80 % of PTO power as referred in SI No. i) a) of PTO performance in case of tractors having total static mass > 1500 kg Minimum 75 % of PTO power as referred in SI No. i) a) of PTO performance in case of light weight tractors having ≤1500 kg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft.	30.0 (D) 30.2 (R) Minimum	32.2	Yes	
d)	Maximum transmission oil temperature (°C)	Evaluative	The declared value should not exceed the maximum value specified by oil company	120 (D)	103	Yes	
<b>14.1.3</b>	<b>Power lift and hydraulic pump performance :</b>						
a)	Maximum lifting capacity throughout the range of lift, (kN):						
	1)	At hitch points	Evaluative	Tolerance of ± 10%	16.5 (D)	14.92	Yes
	2)	With the standard frame	Evaluative	The lift capacity should at least be 24 kg/PTO kW. and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft.	9.50 (D) 8.87 (R) Minimum	14.46	Yes
b)	Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm)	Non Evaluative	The observed value should not exceed 50 mm	50 (D) Maximum	05	Yes	
1	2	3	4	5	6	7	
<b>14.1.4</b>	<b>Brake performance at 25 kmph:</b>						
a)	Maximum stopping distance at a force, equal to or less than 600 N on brake pedal with unballast, (m):						
	1)	Cold brake	Evaluative	10	10 (R)	5.81	Yes
	2)	Hot brake	Evaluative	10	10 (R)	5.82	Yes

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b)	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s <sup>2</sup> (N)	Evaluative	600	600 (R) Maximum	284 to 360	Yes
c)	Whether parking brake is effective at a force of 600 N at foot pedal (s) or 400 N at hand lever, N	Evaluative	Yes / No	Yes	Yes	Yes
<b>14.1.5</b>	<b>Noise measurement:</b>					
a)	Maximum ambient noise emitted by the tractor dB(A)	Evaluative	As per CMVR	88 (R)	82	Yes
b)	Maximum noise at operator's ear level dB(A)	Evaluative	As per CMVR	96 (R)	94	Yes
<b>14.1.6</b>	<b>Amplitude of mechanical vibrations at:</b>					
	1) Left foot rest	Non Evaluative	100 microns (max)	100(R)	153	<b>No</b>
	2) Right foot rest				123	<b>No</b>
	3) Seat (with driver seated)				68	Yes
	4) Steering wheel				161	<b>No</b>
<b>14.1.7</b>	<b>Air cleaner Oil Pull-Over: (*)</b>					
	Maximum air cleaner oil pull over, (%)	Evaluative	0.25% (Maximum)	NA	Dry type air cleaner fitted	Not applic able
<b>14.1.8</b>	<b>Haulage requirements:</b>					
a)	Gross mass of the trailers, (tones):					
	Two wheel	Non- Evaluative	--	5.0 (D)	5.0	Yes
	Four wheel		--	6.0 (D)	6.0	Yes
b)	Distance travelled / liter of fuel consumption, (km/l):					
	Two wheel	Non- Evaluative	--	4.25 to 6.50 (D)	3.61 to 3.73	Yes
	Four wheel		--	4.25 to 6.50 (D)	3.66 to 3.76	Yes
c)	Fuel consumption (ml/km/tonne):					
	Two wheel	Non- Evaluative	--	30 to 50 (D)	53.68 to 55.42	Yes
	Four wheel		--	30 to 50 (D)	44.33 to 45.54	Yes
<b>4.1.9</b>	<b>Wetland cultivation (Puddling Operation): (*)</b>					
	Sealing for the following assemblies:	Evaluative	The identified assemblies should essentially meet the requirement of IS: 11082. No water ingress in the identified assembly given in column-2. If tractor does not meet the requirements of wetland cultivation, it may be recommended for dry land operation only.	There should be no ingress of water and/or mud (R)	No ingress of water and / or mud was observed during ICT test vide test report no. T-866/1377 /2013 (March, 2013)	Yes
	1) Clutch assembly	-do-				
	2) Brake housings	-do-				
	3) Front axle hubs	-do-				
	4) Engine oil	-do-				
	5) Transmission oil	-do-				

1	2	3	4	5	6	7
<b>14.1.10</b>	<b>Safety features:</b>					
a)	Guards against moving and hot parts	Evaluative	Belt drives, pulleys, silencer, hydraulic pipes (As per IS 12239 (Part2))		Meets the requirement	Yes
b)	Lighting arrangement	Evaluative	As per CMVR		Meets the requirement	Yes
c)	Seating requirements (Tractors having more than 1150 mm rear track width)	Non Evaluative	Should meet the requirements of IS: 12343 (As amended from time to time)		<b>Does not Meets the requirement</b>	<b>No</b>
d)	Technical requirements	Evaluative	Should meet the requirements of		Meets the	

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	for PTO shaft		IS: 4931 (As amended from time to time)	requirement	Yes			
e)	Dimensions of three point linkage	Non Evaluative	Should meet the requirements of IS: 4468 (Part-I) (As amended from time to time)	Meets the requirement	Yes			
f)	Specifications of linkage	Evaluative	Should meet the requirements of IS: 12953 (As amended from time to time)	Meets the requirement	Yes			
g)	Swinging drawbar (wherever fitted)	Evaluative	Should meet the requirement of IS: 12362 (Part 3) (As amended from time to time)	Not provided	Not applicable			
h)	1) Maximum travelling speed at rated engine speed in reverse gears, Kmph	Evaluative	Should not exceed 20 Kmph	14.82 kmph Meets the requirement	Yes			
	2) Audible warning signal on tractor	Evaluative	As soon as the travelling speed in reverse gear reaches to 20 kmph, an audible warning signal on tractor shall be activated. The safety aspects about the operation of shuttle technology shall be brought in operation and manufacturer /dealer shall ensure the training on this aspect to operator before the delivery of tractor.	Not provided	Not applicable			
<b>14.1.11</b>	<b>Labelling of tractors (Provision of labelling plate):</b>							
	1) Make	Evaluative	Should conform to the requirements of CMVR along with maximum PTO Power in kW and year of manufacture in numerical form. <table border="1" style="margin: 5px auto; width: 100px; height: 20px;"><tr><td>MM</td><td>YY</td></tr></table> Digit 01 – 12 in box No.1 for MM will represent the months and next two digits in box No.2 for YY will represent the year of Manufacturing.	MM	YY	DEUTZ-FAHR		Yes
MM	YY							
	2) Model	Evaluative		AGROMAXX 60 (4WD)		Yes		
	3) Month & Year of manufacture	Evaluative		12	19	Yes		
	4) Engine number	Evaluative		3M53090M19		Yes		
	5) Chassis number	Evaluative		M1TAF22RDME000005		Yes		
	6) Maximum PTO power, (kW)	Evaluative		37.5		Yes		
	7) Specific fuel consumption, (g/kWh)	Evaluative	298		Yes			
<b>14.1.12</b>	<b>Discard limit for:</b>							
(a)	Cylinder bore diameter, (mm)	Evaluative	To be specified by the manufacturer and supported by the printed literature	105.1(D)	105.000 to 105.010	Yes		
(b)	Clearance between piston & cylinder liner at skirt, (mm)	Non-Evaluative		0.42 (D)	0.117 to 0.122	Yes		
(c)	Piston diameter at skirt, mm	Non-Evaluative		104.68	104.886 to 104.893	Yes		

1	2	3	4	5	6	7
(d)	<b>Ring end gap (mm):</b>					
	- Top comp. ring.	Evaluative	-do-	1.5 (D)	0.45 to 0.50	Yes
	- 2 <sup>nd</sup> comp. ring.		-do-	1.5 (D)	0.55 to 0.60	Yes
- Oil ring.	-do-		1.5 (D)	0.50 to 0.60	Yes	
(e)	<b>Ring groove clearance (mm):</b>					
	- Top comp. ring.	Evaluative	-do-	0.25 (D)	Tapered	Yes
	- 2 <sup>nd</sup> comp. ring.		-do-	0.25 (D)	0.052 to 0.055	Yes
- Oil ring.	-do-		0.15 (D)	0.032 to 0.040	Yes	
(f)	<b>Clearance of main bearings (mm):</b>					

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	-	Diametrical clearance	Evaluative	-do-	0.40 (D)	0.085 to 0.094	Yes
	-	Crankshaft end float	Evaluative		0.50 (D)	0.18	Yes
<b>(g)</b>	<b>Clearance of big end bearings, (mm):</b>						
	-	Diametrical	Evaluative	-do-	0.40 (D)	0.061 to 0.070	Yes
	-	Axial	Evaluative	-do-	0.80 (D)	0.20	Yes
<b>(h)</b>	Clearance between king pin and bush, (mm)		Non-Evaluative	-do-	0.85 (D)	0.010 to 0.022	Yes
<b>(i)</b>	Clearance between centre pin and bush, (mm)		Non-Evaluative	-do-	0.85 (D)	0.101 to 0.158	Yes
<b>14.1.13</b>	<b>Literature (Submission to test agency)</b>						
<b>(a)</b>	Operator manual		Evaluative	Provided / Not Provided	Provided	Provided	Yes
<b>(b)</b>	Parts Catalogue		Evaluative		Provided	Provided	Yes
<b>(c)</b>	Workshop/Service manual		Evaluative		Provided	Provided	Yes
<b>14.1.14</b>	<b>Fitment of Roll Over Protective Structures (ROPS):</b>						
	For tractor having more than 1150 mm rear track width		Evaluative	ROPS should meet the requirement of IS:1182 or OECD code or equivalent International Standard		Not fitted	Not applicable
<b>14.1.15</b>	Standard Accessories		Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor		Provided	Yes
<b>14.1.16</b>	Accessories (optional)		Non-Evaluative	Ballast weight, if fitted, should meet the requirement of CMVR		Provided	Yes

<b>14.2</b>	<b>CATEGORY OF BREAKDOWNS / DEFECTS (As per clause 5.0 of IS:12207-2019):</b>				
Sl. No.	Category of breakdowns	Category (Evaluative / Non-Evaluative)	Requirements as per IS: 12207-2019	As observed	Whether meets the Requirements (Yes/No.)
1.	Critical	Evaluative	No critical breakdown	None	Yes
2.	Major	Evaluative	Not more than one and neither of them should be repetitive in nature	None	Yes
3.	Minor	Evaluative	Not more than three and frequency of each should not be more than two.	None	Yes
4.	Total breakdowns	Evaluative	In no case, the total number of breakdowns should exceed four, that is, (1 major + 3 minor) or 4 minor breakdowns.	None	Yes

### 14.3 Salient Observations:

#### 14.3.1 Laboratory tests:

##### 14.3.1.1 PTO Performance Test:

- i) The maximum power in case of previous & present sample were observed as **39.7 & 37.7 kW** respectively, against the declaration of **37.5 kW**, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.
- ii) The specific fuel consumption corresponding to maximum power in case of previous & present sample was recorded as **295 & 311 g/kWh** against respectively the declaration of **298 g/kWh**, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.

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- iii) The maximum equivalent crankshaft torque in case of previous & present sample were recorded as **220.9 & 210.3 Nm** against the declaration of **175 Nm**, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.
- iv) The backup torque was observed as **37.4%** and meets the evaluative requirement of IS: 12207-2019.

**14.3.1.2 Drawbar performance test:**

- i) Maximum drawbar pull in case of previous & present sample with unballast corresponding to 15 percent wheel slip, (kN) was recorded as **20.92 kN & 21.92 kN** respectively against the minimum requirement of **15.31 kN**, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.
- ii) Maximum drawbar power in case of previous & present sample under unballasted condition was recorded as **33.6 kW & 32.2 kW** respectively against the minimum requirement of **30.0 kW** in case of present sample which meets the minimum requirement of IS: 12207-2019.
- iii) During ten hours drawbar performance test under ballasted condition, creeping of LHS & RHS rear tyre over the rim were observed as **20 mm & 65 mm**. This should be looked into for necessary corrective action.

**14.3.1.3 Hydraulic performance test:**

- i) Maximum lifting capacity throughout the range of lift at hitch point and standard frame was recorded as **14.92 kN & 14.46 kN** respectively against the declaration of **16.5 kN & 9.5 kN** respectively, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.

**14.4 Maintenance / Service Problems:**

No noticeable maintenance or service problem was observed during the test.

**14.5 Recommendation with regard to safety on tractor:**

The following requirements, inter alia, may be considered for incorporation on the tractor:

- i) Longitudinal distance from SIP to center line of steering control wheel as per IS:12343-1998.
- ii) Vertical retainness in both side of clutch pedal has not been provided as IS :12239 (Part-I).
- iii) Fuel shut-off lever does not remain in stop position as per IS:8133.

**14.6 Adequacy of Literature supplied with machine:**

**14.6.1** The supplied literature was found adequate

- a) Use and Maintenance manual in respect of Agromaxx 40, Agromaxx 45 Agromaxx 50, Agromaxx 55 and Agromaxx 60 tractor models.
- b) Workshop service manual for Agromaxx series tractors.
- c) Spare Parts Catalogue for Agromaxx series tractors.

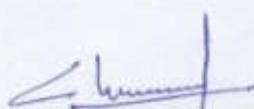


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15. Citizen charter

Test duration under citizen charter	Duration of Test	Whether the report released within time frame given in the citizen charter	Remark
10 Months	08 Months (May, 2020 to December, 2020)	Yes	None

TESTING AUTHORITY:

  
C.S. RAGHUWANSHI  
AGRICULTURAL ENGINEER

  
C.V. CHIMOTE  
TEST ENGINEER

  
J.J.R. NARWARE  
DIRECTOR

The report compiled by: Sh. Shivkumar Sharma, Senior Technical Assistant.

16. APPLICANT'S COMMENTS

Para no.	Our reference	Applicant comments
16.1	14.5	Recommendations would be reviewed.

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**ANNEXURE- I**

**TRACTOR RUN HOURS DURING TEST**

<b>A.</b>	<b>LABORATORY AND TRACK TESTS:</b>	<b>HOURS</b>
1.	Running-in	25.0
2.	PTO performance test	13.1
3.	Drawbar performance test	19.7
4.	Power lift and hydraulic pump performance test	1.5
5.	Brake test	2.5
6.	Noise measurement	2.0
7.	Mechanical vibration test	0.9
8.	Theoretical speed test	3.1
<b>B.</b>	Haulage Test	4.9
<b>C.</b>	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	4.8
	<b>TOTAL:</b>	<b>77.5</b>