

अपूर्ण प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

संख्या/No. : T- 1874/2405/2024

INCOMPLETE -INITIAL COMMERCIAL TEST
REPORT

माह/Month : July, 2024

Application Reference No. 28/2023-24/26



Make of Agricultural Tractor : INDO FARM
Model : 3055 DI HT C-MESH
Manufactured by : M/s. Indo Farm Equipment Ltd.
Export Promotion Industrial Park,
Phase-II, Baddi – 173 205, Distt. Solan
Himachal Pradesh, India



भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय
(कृषि एवं किसान कल्याण विभाग)

GOVERNMENT OF INDIA

MINISTRY OF AGRICULTURE AND FARMERS WELFARE

(DEPARTMENT OF AGRICULTURE & FARMERS WELFARE)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

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CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE

TRACTOR NAGAR, BUDNI (M.P.) 466 445

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Tractor manufacturer's name and address : **M/s. Indo Farm Equipment Ltd.**
Export Promotion Industrial Park,
Phase-II, Baddi – 173 205, Distt. Solan
Himachal Pradesh, India

Month: July	Test Report No.: T-1874/2405/2024	Year: 2024
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Remark: Maximum PTO power was recorded as 29.2 kW against the declaration of 32.0 kW (with a tolerance of 30.4 kW to 35.2 kW), which does not meet the evaluative requirement of IS: 12207-2022. Ultimately, the applicant has requested to withdraw of this tractor from the testing vide their email dated 14.06.2024. The same was approved by the competent authority. Hence, the incomplete test report has been released as such.

[C]	Tractor manufacturer's name and address	:	M/s. Indo Farm Equipment Ltd. Export Promotion Industrial Park, Phase-II, Baddi-173205, District-Solan, Himachal Pradesh, India.
[C]	Submitted for test by (Applicant)	:	The Manufacturer
[C]	Selected for test by	:	The Ministry vide OM No. 13-14/2020 - M&T (I&P) (82979) dated 28.08.2023 has allowed the applicant to submit the test sample directly to the Institute without requiring any random selection for Initial Commercial Testing. Thus, the applicant directly submitted the test sample to the Institute for test
[D]	Place of running-in	:	At manufacturer's works
[D]	Duration of running-in, (h):	:	
	-Engine	:	05
	-Transmission	:	10
[C]	Location of test	:	Government of India, Central Farm Machinery Training and Testing Institute, P.O. - Tractor Nagar, BUDNI - 466445 (M.P.), INDIA

1. SPECIFICATIONS OF TRACTOR

1.1 Identification:

1.1.1 Denomination

[C]	Make of tractor	:	Indo Farm
[C]	Model	:	3055 DI HT C-MESH
[C]	Type	:	Rear wheel driven, Standard Agricultural tractor
[C]	Month & year of manufacture	:	03/23
[D]	Country of origin	:	India

1.1.2 Numbers:

[D]	1 st Serial No. or prototype	:	APP55HT2WD00001CM
[C]	Serial No.	:	CPR55HT2WD00130CM

1.2 Engine:

[D]	Manufacturer's address	:	M/s. Indo Farm Equipment Ltd. Export Promotion Industrial Park, Phase-II, Baddi-173205, District-Solan, Himachal Pradesh, India.
[C]	Make	:	Indo Farm
[C]	Model	:	3055 DI HT C-MESH
[C]	Type	:	Four stroke, liquid cooled, naturally aspirator, direct injection, diesel engine
[C]	Serial No.	:	IF45005196PR

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1	2	3
2.	<p>Maximum PTO power search test under natural ambient condition was conducted on dated: 28.11.2023. It was observed as 28.4 kW at 2075 engine rpm against the declaration of 32.0 kW (with a tolerance of 30.4 to 35.2 kW), which was 2.0 kW less than the minimum requirement of 30.4 kW. It does not meet the evaluative requirement of IS: 12207-2022.</p> <p>Thereafter on the applicant request vide letter no. IF3055HTCM/ICT/05 dated 01.12.2022, following change / checking / adjustment were carried out:-</p> <p>(i) Fuel filter & transmission oil filter were replaced with new one of same specifications.</p> <p>(ii) Both elements of air cleaner were cleaned.</p> <p>(iii) Maximum high idle engine speed was re-adjusted from 2170 to 2235 rpm.</p> <p>(iv) All sides of radiator were sealed properly.</p>	5.3

6. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

6.1 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: 12207-2022** for acceptance of the tractor for the purpose of subsidies/NABARD financing are summarized as under:

S. No.	Characteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2022	Values declared by the applicant/ (D) Requirement (R)	As observed	Whether meets the require- ments (Yes/No)
1	2	3	4	5	6	7
MANDATORY TESTS: (As per Ministry's Office Memorandum No. 13-14/2020-M&T (I&P) 82979 dated 28th of August, 2023).						
6.1.1	PTO Performance:					
a)	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 ≤ 26 kW.	32.0 (D)	29.2	No
b)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	+ 10% max.	275 (D)	302.0	Yes
6.1.2	Brake performance at 25 kmph:					
a)	Maximum stopping distance at a force, equal to or less than 600 N on brake pedal with road ballast, (m):					
	1)	Cold brake	Evaluative	10	10 (R)	7.83 Yes
	2)	Hot brake	Evaluative	10	10 (R)	8.18 Yes
b)	Whether parking brake is effective at a force of 600 N at foot pedal (s) or 400 N at hand lever	Evaluative	Yes / No	Yes	Yes	Yes
6.1.3	OPTIONAL TESTS: As the applicant has not applied for any optional tests, therefore no optional tests was conducted.					

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1	2	3	4	5	6	7	
6.1.4	Safety features :						
a)	Guards against moving and hot parts	Evaluative	Belt drives, pulleys, silencer, hydraulic pipes [As per IS 12239 (Part 2)]		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)		Does not meet the requirement	No	
d)	Technical requirements for PTO shaft	Non Evaluative	Should meet the requirements of IS: 4931 (As amended from time to time)		Meets the requirement	Yes	
e)	Dimensions of three point linkage	Non Evaluative	Should meet the requirements of IS: 17231-2019 (As amended from time to time)		Does not meet the requirement	No	
f)	Specifications of linkage drawbar	Non Evaluative	Should meet the requirements of IS: 12953 (As amended from time to time)		Does not meet the requirement	No	
g)	Specifications of swinging drawbar (wherever fitted)	Non Evaluative	Should meet the requirement of IS: 12362 (Part 3) (As amended from time to time)		Not provided	Not applicable	
h)	Audible warning signal on tractor	Evaluative	If tractor travel speed in reverse gear exceeds 20 kmph, an audible warning signal on tractor shall get activated. A sticker to the effect that "operating the tractor beyond 20 kmph speed in reverse gear is not safe" should be prominently displayed.		Not fitted	Not applicable	
6.1.5	Labelling of tractors (Provision of labeling plate):						
1)	Make	Evaluative	Should conform to the requirements of CMVR along with maximum PTO Power in kW, specific fuel consumption (SFC) corresponding to maximum power in g/kWh and year of manufacture in numerical form. <table border="1" style="margin: 5px auto; width: 100px; height: 20px;"><tr><td style="width: 50%;">MM</td><td style="width: 50%;">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	INDOFARM	Yes
MM	YY						
2)	Model	Evaluative		3055 DI HT C MESH	Yes		
3)	Month & Year of manufacture	Evaluative		03/23	Yes		
4)	Engine number	Evaluative		IF45005196PR	Yes		
5)	Chassis number	Evaluative		CPR55HT2WD0013 0CM	Yes		
6)	Maximum PTO power, (kW)	Evaluative		32.0	Yes		
7)	Specific fuel consumption, g/kWh	Evaluative	275	Yes			

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1	2	3	4	5	6	7
6.1.6	Literature (Submission to test agency):					
(a)	Operator manual	Evaluative	The printed literature in booklet form should be provided as per IS 8132 and should submit along with the test sample.	Provided		Yes
(b)	Parts Catalogue	Evaluative		Provided		Yes
(c)	Workshop/ Service manual	Evaluative		Provided		Yes
6.1.7	Fitment of Roll Over Protective Structures (ROPS):					
	For tractor having more than 1150 mm rear track width	Evaluative if fitted	ROPS should meet the requirement of IS:1182 or OECD code or equivalent International Standard	Not fitted		Not applicable
6.1.8	Standard Accessories	Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor	Provided		Yes
6.1.9	Accessories (optional)	Non Evaluative	Ballast weight, if fitted, should meet the requirement of CMVR	Not fitted		Not applicable

6.2 CATEGORY OF BREAKDOWNS / DEFECTS (As per clause 5.0 of IS:12207-2022):					
S. No.	Category of break-downs	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2022	As observed	Whether meets the Requirements (Yes/No)
1.	Critical	Evaluative	No critical breakdown.	None	Yes
2.	Major	Evaluative	Not more than two and neither of them should be repetitive in nature.	None	Yes
3.	Minor	Evaluative	Not more than five and neither of them should be repetitive in nature.	None	Yes
4.	Total breakdowns	Evaluative	In no case, the total number of breakdowns should exceed five, that is, (2 major + 3 minor) or (1 major + 4 minor) or 5 minor breakdowns.	None	Yes

6.3 Conformity with following IS:

- i)** Guidelines for declaration of power and specific fuel consumption and labeling of agricultural tractors (First revision) [IS:10273-1987 (Reaffirmed Year 2019)] : **Conforms**
- ii)** Agricultural tractors - Rear mounted power take-off - Types 1, 2 and 3 (third revision) [IS:4931-1995 (Reaffirmed Year 2019)] : **Conforms**
- iii)** Agricultural wheeled tractors – Rear mounted three-point linkage: Part 2 Categories 1, 2, 3 & 4 (fourth revision) [IS:17231-2019] : **Does not conform**
- iv)** Drawbar for agricultural tractors – Link type [IS 12953:1990 (Reaffirmed Year 2022)] : **Does not conform**
- v)** Agricultural tractors- Operator's seat technical requirement [IS12343 - 2021] : **Does not conform**
- vi)** Guide for safety & comfort of operator of agricultural tractors:Part 1 General requirements (first revision):[IS 12239 (Part 1) - 2018] : **Does not conform**
- vii)** Tractors and machinery for agriculture and forestry – Technical means for ensuring safety Part 2: Tractors (first revision) (IS 12239 (Part 2) 1999) (Reaffirmed Year 2019)] : **Does not conform**
- viii)** Guide lines for location and operation of operator controls on agricultural tractors and machinery [IS: 8133 - 2021] : **Does not conform**

- ix) Tractors and machinery for agriculture and forestry, powered lawn and garden equipment - Symbols for operator controls and other displays Part2 Symbols for agricultural tractors and machinery [IS: 6283(Part-1) - 2006 (Reaffirmed Year 2019) and IS: 6283 (Part-2) – 2007 (Reaffirmed Year 2019)] : **Does not conform**
- x) Agricultural Tractors and Machinery-Lighting device for travel on public roads (IS:14683-1999) (Reaffirmed Year 2019)] : **Conforms**

6.4 Salient Observations:

6.4.1 PTO Performance Test:

Maximum PTO power was recorded as 29.2 kW against the declaration of 32.0 kW (with a tolerance of 30.4 to 35.2 kW), and which does not meet the evaluative requirement of IS: 12207-2022. Ultimately, the applicant has requested to withdraw of this tractor from the testing vide their email dated 14.06.2024. The same was approved by the competent authority. Hence, the incomplete test report has been released as such.

6.4.2 Three point linkage:

The following parameters does not meet the requirements of IS: 17231 – 2019.

- i) Diameter of upper and lower hitch point holes have been measured as 25.70 and 28.85 mm against the requirement of 19.30 to 19.50 mm and 22.40 to 22.65 mm respectively.
- ii) Width of ball of upper and lower hitch point holes have been measured as 51.0 and 45.0 mm against the requirement of 43.5 to 44.0 mm and 44.5 to 45.0 mm respectively
- iii) The lateral distance from lower hitch point to centre line of tractor has been measured 362 mm against the requirement of 359 mm.

6.4.3 Operator's seat:

The following parameters do not meet the requirement of IS: 12343-2021.

- i) Provision for adjustment of driver's mass has been specified as 50 to 120 kg against the requirement of 40 to 100 kg.
- ii) Vertical distance of SIP to center of foot rest has been measured as 535 mm against the requirement of 450 to 520 mm.
- iii) Inclination of seat toward rear direction has been measured as 2 degree against the requirement of 3 to 12 degree.
- iv) Inclination of seat toward back rest has been measured as 25 degree against the requirement of 5 to 15 degree.
- v) Height of upper edge of back rest above SRP was measured 235 mm against the minimum requirement of 260 mm.
- vi) Upward position of silencer outlet with respect to SIP was measured 625 mm against the minimum requirement of 800 mm.

6.4.4 Operator's work place:

The following parameters does not meet the requirement of IS: 12239 (Part-I) 2018.

- i) Vertical retainer on inner side of clutch pedal was not provided
- ii) Spark arresting device has not been provided in the exhaust system.

6.4.5 Three point linkage:




The following parameters does not meet the requirements of IS:17231 – 2019.

- i) Width of upper hitch point ball has been measured as 31.9 mm against the requirement of 43.5 to 44.0 mm.
- ii) The lateral distance from lower hitch point to center line of tractor has been measured as 258 mm against the requirement of 218 mm.
- iii) The distance from end of power take-off to center of lower hitch point (lower links in horizontal position) has been measured as 435 mm against the requirement of 300 to 375 mm.
- iv) The power range (without force) has been measured as 585 mm against the minimum requirement of 610 mm.

- 6.4.6 Specification of drawbar linkage**
The dimension of linkage drawbar notation "A" does not meet requirement of IS 12953:1990 (Reaffirmed Year 2022).
- 6.4.7 PTO master shield:**
PTO master shield has not been provided on tractor.
- 6.5 Maintenance / Service Problems:**
No noticeable maintenance or service problem was observed during the test.
- 6.6 Recommendation with regard to safety on tractor:**
- Identification of control levers by colour has not been provided as per the requirement as laid down in Table - 5 of IS: 8133-2021.
 - The distance between engine stop control and start control was measured 390 mm against the maximum requirement of 150 mm.
 - Color code on illuminated display has not been provided as per the requirement as laid down in IS: 6283 (Part 2): 2007.
- 6.7 Adequacy of Literature supplied with machine:**
- 6.7.1** The following literatures were supplied with the test tractor for reference during the test: -
- Operator's Manual for "Indo Farm 3060 DI HT, 3055 DI HT, 3055 NV, 3048 DI, 3040 DI & 3035 DI C-MESH" tractor models.
 - Parts catalogue for "Indo Farm 3035 DI, 3040 DI, 3048 DI, 3055 NV, 3055 DI HT & 3060 DI HT (C-Mesh Series 2WD/4WD)" tractor models.
 - Workshop manual for "Indo Farm 3035 DI, 3040 DI, 3048 DI, 3055 NV, 3055 DI HT & 3060 DI HT C-MESH Series" tractor models.
- 6.7.2** The operator manual may be brought out for the guidance of users and service personnel as per IS: 8132-1999 incorporating, inter alia, the following:
- Engine to PTO speed ratio
 - Brand name of coolant and coolant water ratio

TEST CARRIED OUT AT C.F.M.T. & T.I., BUDNI (M.P.), INDIA

TESTING AUTHORITY

B. N. DIXIT AGRICULTURAL ENGINEER	
R. P. PANDEY SENIOR INSTRUMENTATION ENGINEER (TESTING HEAD)	
Dr. P. P. RAO DIRECTOR	

Draft Test Report compiled by Poonam Khurasia, Senior Technical Assistant

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7. APPLICANT'S COMMENTS

Para no.	Our reference	Applicant comments
7.1	6.3 (iii, iv, vi, vii, viii & ix)	We are looking into these points for future improvements.
7.2	6.4.1 & 6.4.4	We are looking into these points for future improvements.

ANNEXURE-I

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS:	HOURS
1.	Running-in	The applicant has declared that it has already been conducted on their work place.
2.	PTO performance test	5.6
3.	Brake performance test	1.0
4.	Nominal speed test	1.5
B.	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test.	0.5
TOTAL:		8.6