

प्रारंभिक व्यावसायिक परीक्षण रिपोर्ट

INITIAL COMMERCIAL TEST REPORT

THIS TEST REPORT VALID UP TO

संख्या/No. CSIR/CMERI/FMTTC/2023/013

माह/Month: August, 2023

: 31st AUGUST, 2030



**PSD-HT
HYDRAULIC TRACTOR TRAILER**



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 & Address of Applicant : PSD Industries Pvt Limited,
UG-9, Shree Ram Plaza, Station Road,
Patna – 800001 (Bihar)

Test Conducted at : Farm Machinery Training and Testing Centre,
CSIR- Central Mechanical Engineering Research Institute,
M.G. Avenue, Durgapur -713209 West Bengal
Govt. of India

THIS TEST REPORT VALID UP TO: 31st August 2030

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

Report No.: CSIR/CMERI/FMTTC/2023/013

Month: August

Year: 2023



**Farm Machinery Training and Testing Centre
CSIR - Central Mechanical Engineering Research Institute,
Durgapur - 713209, West Bengal, INDIA**

4. SPECIFICATION

4.1 General

Name of manufacturer	: PSD Industries Pvt Limited
Name of applicant	: Rakesh Kumar
Name of Machine	: Hydraulic Tractor Trailer
Type	: Hydraulic Tractor Trailer
Make	: PSD
Model	: PSD-HT
Serial No.	: 003, Chassis no- PSD-011- 2023-24,
Year of manufacture	: 2023
Recommended tractor power (hp)	: 39 & above
Unload mass (ton)	: 1.3
Load recommended (ton)	: 4
Gross mass (ton)	: 5
Height of hitch from ground level, (mm)	: 635
Inner size of platform, (L × W × H), (mm)	: 2970×1745×605
Inner volume of platform, (mm ³)	: 3.13×10 ⁹



Fig. 1 Schematic view of hydraulic tractor trailer

- | | |
|-----------------------|--------------------------|
| 1. Side door | 5. Parking stand |
| 2. Hydraulic oil pipe | 6. Wheel axle |
| 3. Hitch | 7. Transportation wheels |
| 4. Trailer chassis | 8. Hub assembly |

4.2 Prime mover used

Tractor : Sonalika
 Model : DI-745 III POWER PLUS
 Sr. No/Engine No. : 3102IL14B1026973F5
 Month & Year : 2023
 Max. PTO Power, kW : 40.20 hp as per test report No. T-1143/1669/2018,
 1381/1908/2020 AE, August, 2023 issued by
 CFMT&TI, Budni

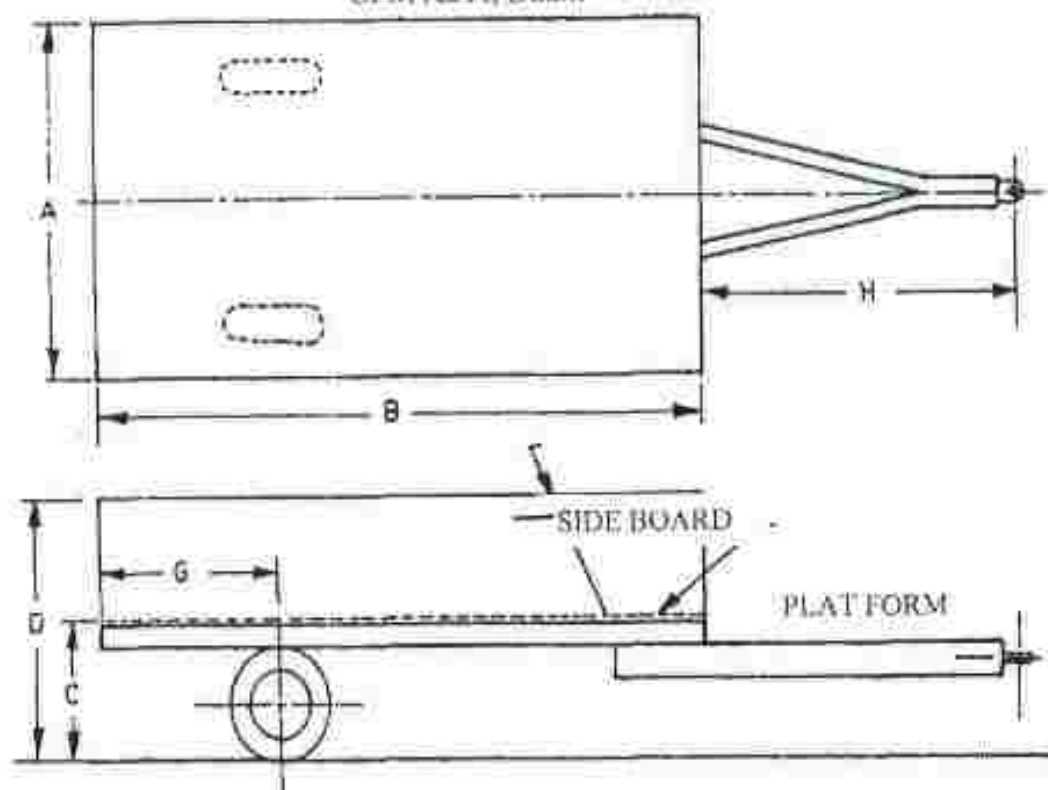


Fig. 2 Tractor Semi-Trailer as per IS: 8213:2000

Sl.No.	Notation	Requirement	Observed	Conformity
1	A	Not exceed 2.5 m	1.83 m	Confirm
2	B	Not exceed 5 meter for trailer up to 5 tones capacity	3.05 m	Confirm
3	C	Not more than 1.5 m	1.015 m	Confirm
4	D	Not more than 2.2 m	1.625 m	Confirm
5	E	NA	--	--
6	F	NA	--	--
7	G	-	1.055 m	Confirm
8	H	-	1.02 m	Confirm
9	Ground clearance	Not be less than 300 mm	478 mm	Confirm



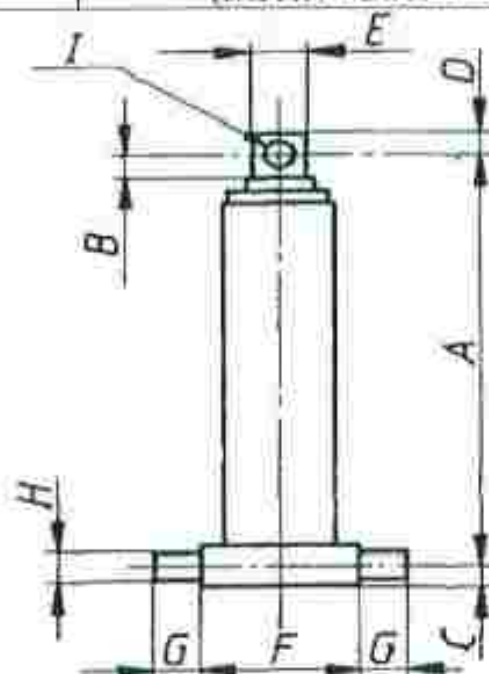


Fig. 3 Dimensions of Cylinder (Type 1) as per IS12371:1988

A = Effective closed length

B = Cylinder head clearance

C = Length beyond mounting center-cylinder casing

D = Length beyond mounting center-piston rod

E = Piston rod diameter, i.e. The effective diameter at the point of attachment of the cylinder assembly to the vehicle

F = Pivot pin separation G = Pivot pin length

H = Pivot pin diameter

I = Diameter of hole in piston rod for attachment of cylinder assembly to vehicle

Sl. No.	Notation	Requirement (mm)	Observed (mm)	Conformity
1	A	875 Max.	755	Confirms
2	B	52 Min.	42.5	Confirms
3	C	30 Max.	30.4	Confirms
4	D	35 Max.	25.5	Confirms
5	E	110 (± 5)	80.64	Confirms
6	F	180(+0, -5)	73.77	Confirms
7	G	50 Min.	75.40	Confirms
8	H ($\phi 10$)	50	40	Confirms
9	I ($\phi 12$)	52	32	Confirms



11. COMMENTS AND RECOMMENDATIONS

- 11.1. The lightening arrangements of trailer is not provided as per IS 8213:2000. This should be looked into for corrective actions.
- 11.2. The provided labeling plate should be as per requirements of IS 8213:2000.
- 11.3. The dimension of hydraulic tipping cylinder does not meet, in full to the requirements of IS 12371:1998. This should be taken care for correctives action.
- 11.5. The specification of trailer does not conform in full, to the IS8213:2000. This should be looked into the corrective action.
- 11.6. The dimension of various components of axle assembly do not conform, in full, the requirements of IS 8213:2000. This should be looked into for corrective action.
- 11.7. The demission of ring does not meet, in full the requirements of IS 11270:1980 (Reaffirmed 1999). This should be taken care or corrective action.
- 11.8. Operation, services, maintenance manual and parts catalogue was not provided.it need to be provided as per IS standard.

TESTING AUTHORITY

Report Prepared by	Sr. Technical Officer, CSIR-CMERI Farm Machinery Testing Centre	<i>Abhilash</i> 10/02/2023
Report Verified by	Scientist, CSIR-CMERI Farm Machinery Testing Centre	<i>Prerna</i> 10/08/2023
Report Approved by	In-Charge, CSIR-CMERI Farm Machinery Testing Centre	<i>Subrata Mandal</i> 10/8/2023
Report Approved for release by	Head, Business Development Group, CSIR-CMERI, Durgapur	<i>Sudip Samanta</i> 10/8/23

12. APPLICATN'S COMMENTS, IF ANY

Para No.	Our Reference	Applicants Comment
12	11.1	Noted and will be rectify as per your recommendations



Farm Machinery Training and Testing Centre,
CSIR-Central Mechanical Engineering Research Institute, Durgapur
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