

Website: <http://srfmtti.dacnet.nic.in/>  
E-mail: [fmti-sr@nic.in](mailto:fmti-sr@nic.in)  
Tele./FAX: 08551-286441



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**

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

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

**[ISO 9001:2008 COMPLIANT INSTITUTION]**

**SELECTED PERFORMANCE CHARACTERISTICS**

**Parameters Applicable for Qualifying Minimum Performance Criteria**

(Table-1 of IS 13539: 2008)

(To be submitted in Triplicate duly signed)

Sl. No.	Characteristic	Category (Evaluative/ Non-evaluative)	Requirement	Tolerance as per IS: 13539-2008
1	2	3	4	5
<b>1</b>	<b>Engine Performance: -</b>			
a)	Maximum Power under 2h test {kW (Ps)}	: Evaluative	To be declared by the manufacturer	Declared value to be achieved with a tolerance of -7.5/+15% of the declared value
b)	Power at rated engine speed {kW (Ps)}	: Non-evaluative	do	± 5 %
c)	Specific fuel consumption corresponding to maximum power, g/kWh (g/bhph)	: Non-evaluative	do	± 5 %
d)	Specific fuel consumption corresponding to rated horse power, {g/kWh (g/bhph)}	: Non-evaluative	do	± 5 %
e)	Maximum equivalent crankshaft torque, (Nm)	: Non-evaluative	do	± 8 %
f)	Maximum operating Temperature, (°C)	:		
	i) Engine oil	: Evaluative	To be declared by the manufacturer under high ambient conditions	Nil
	ii) Coolant	: Evaluative	To be declared by the manufacturer under high ambient conditions	Nil
g)	Lubricating oil consumption, g/kWh (g/bhph)	: Evaluative	Not exceeding 1% of SFC at max. power under high ambient conditions	+10 %
h)	Maximum coolant (water) consumption (% of total)	: Non-evaluative	To be declared by the manufacturer under high ambient conditions	--

Name of the Manufacturer/ Applicant	Document No, if any Revision status	Name of the Test Agency: SRFMTTI, Garladinne
Signature :	Make :	Signature :
Name :	Model :	Name :
Designation :	Sheet No. _____ of _____	Designation :
Date :		Date :

	coolant capacity)				
1	2		3	4	5
i)	Smoke level	:	Evaluative	Maximum light absorption coefficient of 3.25/m or equivalent BOSCH No. 5.2 or 75 hatridge value (as per CMVR)	Nil
j)	Overheating tendency of the engine	:	Evaluative	Satisfactory completion of two hours test under high ambient condition	--
<b>2 Rotary Shaft Performance: -</b>					
a)	Maximum Power under 2 h test {kW (Ps)}	:	Evaluative	Minimum 75% of observed maximum bhp for power tiller above 5 hp and 65% for the power tiller below 5 hp.	--
b)	Power at rated engine speed, {kW (Ps)}	:	Non-evaluative	To be declared by the manufacturer	-10 %
c)	Specific fuel consumption corresponding to power at rated engine speed, {g/kWh (g/bhph)}	:	Non-evaluative	do	+10 %
d)	Maximum equivalent rotary shaft torque, Nm (kgf-m)	:	Non-evaluative	do	± 8 %
e)	Maximum operating temperature of rotary transmission oil, (°C)	:	Non-evaluative	do	--
f)	Rotary shaft power rating, kW (Ps)	:	Non-evaluative	do	--
<b>3 Draw-bar Performance : -</b>					
	a) Earthen Track (with steel wheel)	:	--	--	--
	i) Maximum draw bar pull, kN (kgf)	:	Evaluative	Minimum 60% of static mass with ballast	Nil
	ii) Maximum draw bar power kW (Ps)	:	Non-evaluative	To be declared by the manufacturer	Nil
	b) Concrete Track (with pneumatic wheels)	:			
	i) Maximum drawbar pull corresponding to 15% wheel slip, kN (kgf)	:	Evaluative	Minimum 60% of static mass with ballast	Nil
	ii) Maximum drawbar power Kw (Ps)	:	Non-Evaluative	To be declared by the manufacturer	- 10%
	iii) Maximum transmission oil temperature, (°C)	:	Non-Evaluative	To be declared by the manufacturer	Nil
<b>4 Brake performance:</b>					
<b>a) Service brakes</b>					
	i) Service brakes	:	Evaluative	Should meet the requirements under CMVR	--
	ii) Maximum force exerted to apply the brake (N)	:	Evaluative	As per the requirements under CMVR	--
	iii) Observation on rotation on drive wheels (power tiller) at a slope of 12%, with trailer having gross mass recommended for haulage.	:	Evaluative	As per CMVR	Yes/No

Name of the Manufacturer/ Applicant	Document No, if any Revision status	Name of the Test Agency: SRFMTTI, Garladinne
Signature :	Make :	Signature :
Name :	Model :	Name :
Designation :	Sheet No. _____ of _____	Designation :
Date :		Date :

1	2	3	4	5	
<b>b)</b>	<b>Parking brake performance test</b>				
	Observation on rotation of cranked wheel at a slope of 12% facing up and down	:	Evaluative	No rotation of drive wheels at a slope of 12 % facing up and facing down	Yes/No
<b>5</b>	<b>Air Cleaner Oil Pull Over :</b>				
	Maximum percentage of oil pull over (mass basis)	:	Evaluative	0.25 (Maximum)	--
<b>6</b>	<b>Noise Level:</b>				
a)	Maximum ambient noise emitted by the power tiller, dB(A)	:	Evaluative	As per CMVR	--
b)	Maximum ambient noise at operator's ear level, dB(A)	:	Evaluative	As per CMVR	--
<b>7</b>	<b>Amplitude of mechanical Vibration at:</b>				
a)	Steering handle grips	:	Non-Evaluative	100 m, Max.	--
b)	Gear levers	:	-do-	100 m, Max.	--
c)	Clutch/brake lever (s)	:	-do-	100 m, Max.	--
d)	Rotary shaft speed change lever	:	-do-	100 m, Max.	--
e)	Steering clutch levers	:	-do-	100 m, Max	--
f)	Accelerator lever	:	-do-	100 m, Max.	--
g)	Operators seat (with trailer attached)	:	-do-	100 m, Max.	--
h)	Foot rest (If provided)	:	-do-	100 m, Max.	--
<b>8</b>	<b>Haulage performance: -</b>				
a)	Gross load of Trailer (t)	:	Non-Evaluative	To be declared by the manufacturer	--
b)	Distance travelled per litre of fuel consumption (km)	:	-do-	do	--
c)	Fuel consumption (cc/km/ton)	:	-do-	do	--
<b>9</b>	<b>Suitability for Wetland cultivation</b>	:	Evaluative	Effective sealing to be provided for engine sump, clutch assembly, gear box, chain case and rotary shaft housing	<b>The entry of mud/water should not take place in components/sub-assemblies such as engine, clutch, gear box, chain case and rotary shaft housing</b>
<b>10</b>	<b>Stationary Operations</b>	:	Evaluative	Should have the provision for power outlet for stationary operations or recommended agricultural appliances	--
<b>11</b>	<b>Discard Limits (mm)</b>				
a)	Cylinder bore diameter	:	Evaluative	<b>To be specified by the manufacturer in printed literature</b>	--
b)	Piston clearance at skirt	:	-do-	-do-	--
c)	Piston ring-end gap	:	-do-	-do-	--
	- Compression rings	:			
	- Oil rings	:			
d)	Radial clearance of big-and bearing	:	-do-	-do-	

Name of the Manufacturer/ Applicant	Document No, if any Revision status	Name of the Test Agency: SRFMTTI, Garladinne
Signature :	Make :	Signature :
Name :	Model :	Name :
Designation :	Sheet No. _____ of _____	Designation :
Date :		Date :

1	2		3	4	5
e)	Axial clearance of big-end bearing	:	-do-	-do-	--
f)	Piston ring groove clearance	:	-do-	-do-	--
	- Compression rings	:			
	- Oil rings	:			
g)	Thickness of clutch lining		-do-	-do-	--
h)	Radial clearance of main Bearings	:	-do-	-do-	--
i)	Axial clearance of main bearing		-do-	-do-	
<b>12</b>	<b>Safety Requirements</b>				
a)	Provision of guards on moving parts other than rotavator	:	Evaluative	Yes	--
b)	Location & direction of exhaust emission to be away from the operator & machines for stationary operation	:	-do-	Yes	--
c)	Covers on hot parts	:	-do-	Yes	--
d)	Locking of parking stand lever	:	-do-	Yes	--
e)	Protective shield for rotavator to prevent flying of mud and stones	:	-do-	Yes	--
f)	Accidental engaging of reverse speed gear when rotary is in operation	:	-do-	Yes	--
g)	Provision of head lights	:	-do-	Yes	--

Name of the Manufacturer/ Applicant	Document No, if any Revision status	Name of the Test Agency: SRFMTTI, Garladinne
Signature :	Make :	Signature :
Name :	Model :	Name :
Designation :	Sheet No. _____ of _____	Designation :
Date :		Date :