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TECHNICAL SPECIFICATIONS FOR ROTAVATOR

1.1	**General:**		
	Name and address of manufacturer	**:**	
	Name and address of applicant	**:**	
	Name of the machine	**:**	
	Type	**:**	
	Make	**:**	
	Model	**:**	
	Year of manufacture	**:**	
	Serial No.	**:**	
	Recommended tractor horse power, kW	**:**	
	Type of blade	**:**	
	Size (working width x Dia. of rotor), mm	**:**	
1.2	**Details of prime mover used (as per labeling plate):**		
	Tractor Make & Model	**:**	
	Chassis No. & Engine Sr. No.	**:**	
	Max. PTO Power, kW	**:**	
	Month & Year of manufacture	**:**	
	Specific fuel consumption, g/kWh	**:**	
1.3	**Main frame/Chassis:**	**:**	
	Type	**:**	
	Material & size, mm	**:**	
	Dimensions, mm	**:**	
	Size of supporting flat, mm	**:**	
	Type of mounting of box section	**:**	
1.3.1	**Side Support:**	**:**	
	Type	**:**	
	Material & size, mm	**:**	
	Method of fixing	**:**	
	Size of bolt (mm)	**:**	
1.3.2	**Shield (Cover):**		

	Type	:	
	Material & size, mm	:	
	Dimensions of shield (L × W × T), mm	:	
	Method of mounting	:	
1.4	**Trailing Board:**		
	Type	:	
	Material & size, mm	:	
	Dimensions of board (L × W), mm	:	
	Locking system	:	
	Method of mounting plate sector	:	
	Type of hinge	:	
	No. of hinges	:	
	No. of hinge rod	:	
	Size of hinge rod (L × Dia.)	:	
	No. of bush	:	
	Material of bush	:	
	Size of bush (OD/ID × L)	:	
	Method of fixing	:	
1.5	**Rotor:**		
1.5.1	**Rotor Shaft/axle:**		
	Material	:	
	Type of rotor axle	:	
	Size of shaft (L × W), mm	:	
	No. of flanges	:	
	Type of flange	:	
	Dia. of flange, mm	:	
	Thickness of flange, mm	:	
	No. of blades on each flange	:	
	Method of mounting blades on flanges	:	
	Distance between two flanges, mm	:	
	Total no. of blades	:	
	Dia of rotor with blades, mm	:	
	Method of fixing shaft/axle	:	
1.5.2	**Rotor Blade:**		
	Number	:	
	Type	:	
	Material	:	
	Overall thickness, mm	:	
	Thickness at the beveled edge, mm	:	
	Width of the beveled edge, mm	:	
	Curved length of the beveled edge, mm	:	
	Speed of rotor shaft corresponding to	:	

	540/1000 rpm of PTO shaft, rpm		
	Peripheral speed of rotor blades, m/min	:	
1.6	**Depth control mechanism:**		
1.6.1	**Skid:**		
	Type & Material	:	
	Size (L × W × T), mm	:	
	No. of skids	:	
	Method of fixing	:	
1.6.2	**Adjusting Rack:**		
	Type	:	
	Size, mm	:	
	Range of depth adjustment, mm	:	
	Method of fixing	:	
1.7	**Hitch pyramid:**		
	Constructional details	:	

1.7.1 Dimensions of hitch of implement as per IS 17231:2019 (Table 4) (Ref. Fig. 4):

Dimensions	**Specifications**	**Dimensions in mm**		**Remarks**
		As per IS 17231:2019 (Cat-I/Cat-2)	**As measured**	
Upper hitch point				
D_1	Dia. of hitch pin	25.37 - 25.50		
b_1	Width between inner faces of yoke	52 (Min.)		
Lower hitch attachments				
D_2	Dia. of hitch pin	27.8 - 28.0/ 27.8 - 28.0		
b3	Linch pin hole distance	49 (Min.)		
b5	Clevis width hole	65 - 67		
l	Lower hitch point span	683±1.5/ 825 ± 1.5		
Other Dimensions				
d	Diameter for linch pin hole			
	For Upper hitch pin	12 (Min.)		
	For Lower hitch pin	12 (Min.)		
h	Mast height	460±1.5/ 610 ± 1.5		

1.7.2	**Mast:**		
	Type	:	
	Material & size, mm	:	
	Shape	:	

1.8	**Power transmission system:**		
	Method of transmission	**:**	
1.8.2	**Primary reduction:**		
	Type	**:**	
	No. of teeth on pinion	**:**	
	No. of teeth on bevel gear	**:**	
	Reduction ratio at gear box	**:**	
	Oil capacity, l	**:**	
	Oil change period, h	**:**	
	Recommended grade of oil	**:**	
	Length of power transmission shaft, mm from gear box to secondary reduction unit	**:**	
	Dia. of shaft, mm	**:**	
	Provision of breather	**:**	
	Provision for checking oil level	**:**	
	No. & type of bearings	**:**	
1.8.3	**Secondary reduction:**		
	Type	**:**	
	No. of teeth on drive gear sprocket	**:**	
	Details of idler gear/sprocket	**:**	
	No. of teeth on driven gear/sprocket	**:**	
	Length of chain (if applicable)	**:**	
	Reduction ratio (540/1000 PTO rpm)	**:**	
	Oil capacity, l	**:**	
	Recommended grade of oil	**:**	
	Oil change period, h	**:**	
	Provision for filling & checking of oil level	**:**	
	Provision of breather	**:**	
1.8.4	**Propeller shaft:**		
	Type	**:**	
	Length of shaft, mm:		
	-Minimum	**:**	
	-Maximum	**:**	
	Mass of shaft, kg.	**:**	
	Provision against overload	**:**	
	Provision of guard	**:**	
	Provision for locking	**:**	

1.8.5	**Details of safety clutch/device**	**:**	
1.9	**Details of rotavator Stand**	**:**	
1.10	**Details of furrow wheel**	**:**	
1.11	**Overall Dimensions, mm:**		
	-Length	**:**	
	-Width	**:**	
	-Height	**:**	
1.12	**Mass, kg.**	**:**	
1.13	**Colour**	**:**	
1.14	**Details of Labeling plate:**		

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

SELECTED PERFORMANCE AND OTHER CHARACTERISTICS AS PER IS 17045 - 2018
(TO BE DECLARED BY THE APPLICANT)

S. No	Characteristics		Category (Evaluative/ Non evaluative)	Requirement	Tolerance	Declaration by applicant	Remarks
1	2		3	4	5	6	7
1. Field performance:							
	i)	Suitability for Wet land operation	Evaluative	Should be suitable for Wet Land operation	Nil	(Yes/No)	
	ii)	Depth of cut in dry land operation, (cm)	Evaluative	Minimum 10 cm.	Nil		
	iii)	Depth of puddle in wet land operation, (cm)	Evaluative	Minimum 12 cm.	Nil		
	iv)	Field efficiency, (percent)	Evaluative	Minimum 75 percent	Nil		
	v)	Puddling index, (percent)	Evaluative	Minimum 65 percent	Nil		
2. Safety requirements:							
	i)	Safety considerations	Evaluative	Should meet the requirement of IS 10740 and IS 10318	Nil	(Yes/No)	
	ii)	Safety clutch/ device (Shear bolt) in PTO drive shaft	Evaluative	Should be provided	-	(Yes/No)	
	iii)	Rotavator stand	Evaluative	Should be provided	-	(Yes/No)	
	iv)	Rotavator shield to prevent flying of mud & stone	Evaluative	Should be provided	-	(Yes/No)	
	v)	Guard over propeller shaft	Evaluative	Should be provided	-	(Yes/No)	
3. Effectiveness of sealing (presence of ingress of dust and water/mud in various sub assembles):							
	i)	Primary reduction gear/box	Evaluative	No ingress of mud and water	Nil	(Yes/No)	
	ii)	Secondary reduction gear/box	Evaluative	No ingress of mud and water	Nil	(Yes/No)	
	iii)	Rotary axle bearing cap	Evaluative	No ingress of mud and water	Nil	(Yes/No)	
4. Material of construction:							
	i)	Hardness of blade	Evaluative	High carbon steel, boron steel	Nil		
	ii)	Chemical composition of rotor blade	Evaluative	As per IS 6690	Nil		
5. Dimensional requirements:							
	i)	Dimensions of three point linkage	Non-Evaluative	Should meet IS 4468 (Part 1)	--	(Yes/No)	
	ii)	Dimensions of power input connection (PIC) of Implement	Non-Evaluative	Should meet IS 4931	--	(Yes/No)	
	iii)	Dimensions of power input	Non-	Should meet IS 4931	--	(Yes/No)	

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		connection (PIC) Yoke bore	Evaluative				
6. Literature (Submission to Test Agency):							
	i)	Operator cum service manual and parts catalogue —	Evaluative	Should be provided as per IS 8132	--	(Yes/No)	
7. Labeling of Rotavator (Provision of Labeling Plate) as Per Above and Should be Welded on Rotary Tiller (Rotavator):							
	i)	Name and address of manufacturer	Evaluative	Should be provided on Rotary Tiller (Rotavator)	--		
	ii)	Make	Evaluative	--do--	--		
	iii)	Model	Evaluative	--do--	--		
	iv)	Size (m) [Dia of rotor × width of cut]	Evaluative	--do--	--		
	v)	Country of origin	Evaluative	--do--	--		
	vi)	Year of manufacturer [DD/MM/YYYY]	Evaluative	--do--	--		
	vii)	Chassis Serial Number	Evaluative	--do--	--		
	viii)	Recommended PTO speed of prime-mover, (rpm)	Evaluative	--do--	--		
	ix)	Maximum PTO Power required, kW	Evaluative	--do--	--		
8. Category of Breakdowns/Defects (see 15.1):							
	i)	Critical breakdown	Evaluative	No critical breakdown	--	(Yes/No)	
	ii)	Major breakdowns	Evaluative	Not more than one and neither of them should be repetitive in nature	--	(Yes/No)	
	iii)	Minor breakdowns	Evaluative	Not more than three and frequency of each should not be more than two.	--	(Yes/No)	
	iv)	Total breakdowns	Evaluative	In no case, the total number of breakdowns should exceed four, that is, (1 major + 3 minor) or 4 minor breakdowns	--	(Yes/No)	

Place: _____

Date: _____

Signature: _____

Name of signatory: _____

Designation:_____

Name & address of firm:_____

_____

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