

THIS TEST REPORT VALID UPTO 31/03/2026



**MASCHIO GASPARDO ROTARY TILLER, Model: VIRAT PLUS 165
CENTRALLY MOUNTED, GEAR DRIVE, MULTI SPEED**



भारत सरकार
GOVT OF INDIA

कृषि एवं किसान कल्याण मन्त्रालय

MINISTRY OF AGRICULTURE & FARMERS WELFARE

कृषि, सहकारिता एवं किसान कल्याण विभाग

DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS WELFARE

उत्तर पूर्वी क्षेत्र कृषि यंत्र प्रशिक्षण एवं परीक्षण संस्थान

NORTH EASTERN REGION FARM MACHINERY TRAINING & TESTING INSTITUTE

विश्वनाथ चारिआलि, जिला-विश्वनाथ(असम)

BISWANATH CHARIALI: BISWANATH: ASSAM, PIN - 784 176

[AN ISO 9001:2015 CERTIFIED INSTITUTION]

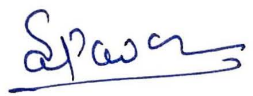
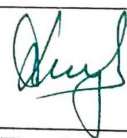
1	2	3	4	5	6	7
v.	Country of origin	--	--	--	India	Yes
vi.	Year of manufacture	--	--	--	2018	Yes
vii.	Chassis, Serial Number	--	--	--	J115V3417	Yes
viii.	Recommended PTO speed of Prime mover(rpm)	--	--	--	Not provided	No
ix.	Maximum PTO power requirement, kw	--	--	--	40-60 hp	No
8.	Category of breakdowns/ defects					
	Category of breakdowns	Category Evaluative/ Non Evaluative	Requirements	As Observed	Whether meets the requirements (Yes/ No)	
i.	Critical breakdowns	Evaluative	No critical breakdown	None	Yes	
ii.	Major breakdown	Evaluative	Not more than one and neither of them should be repetitive in nature.	None	Yes	
iii.	Minor breakdowns	Evaluative	Not more than three and frequency of it's should not be more than two.	None	Yes	
iv.	Total breakdowns	Evaluative	In no case, the total no of breakdown should exceed four, I e (1 major + 3 minor) or 4 minor breakdown	None	Yes	

11. SUMMARY OF OBSERVATIONS, COMMENTS AND RECOMMENDATIONS

- 11.1 The dimension of three point linkage (hitch pyramid) of the rotary tiller does not conform to IS: 4468-1997. This should be looked into for corrective action for standardization.
- 11.2 Dimensions of PIC of implement does not conform to IS: 4931-1995 and therefore, it should be looked into for corrective action.
- 11.3 Chemical composition of rotor blades does not conform to IS: 6690-2002. The percentage of carbon and manganese content in composition of rotary tiller (rotavator) blade material was recorded as 0.253 and 1.204% respectively. The carbon content was on lower side and manganese content was on higher side when compared with the relevant Indian Standard. Moreover, the hardness of edge portion of rotor blades also does not conform to relevant Indian Standard. It is therefore, recommended that the material of rotary tiller (rotavator) blade should be improved and provided as per requirement of Indian Standard.
- 11.4 The rate of work was recorded as 0.338 to 0.392 ha/h and the speed of operation vary from 2.54 to 2.91 kmph.

- 11.5 The Machines size is not specified. It must be specified.
- 11.6 The Recommended PTO speed of Prime mover (rpm) is not specified it. It must be specified
- 11.7 Average Depth of cut and field efficiency in dry land operation was recorded as 10 cm and 85.2 % respectively in sandy loam soil which meet's requirement of Indian Standard and an average depth of puddle and puddling index was recorded as 28.1cm and 91.7 % respectively, which is as per requirement of Indian standards.
- 11.8 The maximum PTO requirement is encrypted on labeling plate in horse power; It should be encrypted in kW.
- 11.9 The hourly rate of wear of blade on mass basis in Wet land & Dry land operations was recorded as 0.04 to 0.09 % and 0.03 to 0.08 % respectively.
- 11.10 The hourly rate of wear of blade on dimensional basis in Wet land & Dry land operations was recorded as 0.00 to 0.02 % and as 0.04 to 0.24 % respectively.
- 11.11 No ingress of mud and/or water was found in primary and secondary reduction boxes after 39.6 hr of field operations and the sealing provided on different subassemblies were found effective.
- 11.12 **Technical literature:**
An Operator cum Service Manual & Parts Catalogue was provided along with the machine during the course of testing. It is further recommended to bring out these manuals in Hindi and other vernacular languages as per IS: 8132-1999.

TESTING AUTHORITY

S. G. PAWAR AGRICULTURAL ENGINEER	
K.K. NAGLE DIRECTOR	

Draft test report compiled by -

Sh. Abhishek Tiwari

12. APPLICANT'S COMMENTS

Para no	Our Reference	Applicant Comments
12.1	11.1 & 11.2	We will make changes in design and implement in mass production.
12.2	11.3	We will look into the process and control / improve wherever necessary.
12.3	11.5	New labeling plate as per BIS standard will be implemented soon in production.
12.4	11.12	We will introduce manuals in vernacular languages as per the requirement.
12.5	In response to draft test report the applicant has change recommended power requirement from 40-60 hp to 50-60 hp.	