

**THIS TEST REPORT VALID UP TO : 31<sup>st</sup> December, 2025**



**MASCHIO GASPARDO W 105 ROTAVATOR  
(TRACTOR MOUNTED)**



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

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

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## 6. LABORATORY TEST

6.1 **Hardness:** - The surface hardness of blade was recorded as under: -

Description	As per IS: 6690:1981 (HRC)	Hardness as observed (HRC)	Remarks
Edge portion	53 to 59	43.6 to 45.4	<b>Does not conform</b>
On shank portion	37 to 45	43.6 to 45.4	Conforms

6.2 **Chemical composition**

The chemical composition of blades is tabulated as under:-

Constituents	As per IS: 6690-1981		Composition as observed (% of weight)	Remarks
	Carbon Steel	Silicon Manganese steel		
Carbon ( C )	0.70 -0.85	0.50-0.60	0.4857	<b>Does not conform</b>
Silicon (Si)	0.10 -0.40	1.50-2.00	1.3699	Conforms
Manganese (Mn)	0.50 -1.0	0.50-1.00	0.9853	Conforms
Sulphur (S)	0.05(max)	0.05(max)	0.0000	Conforms
Phosphorous (P)	0.05(max)	0.05(max)	0.0200	Conforms

## 7. FIELD PERFORMANCE TEST

The field tests of the implement comprising of dry land operation was conducted for 35.00 hours to assess the performance of the implement. The performance of implement is reported in **Annexure-I** dry land operations respectively.

Observations of field performance test are summarized in the ensuing table:

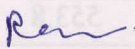
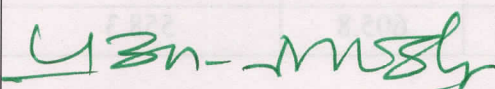
## Summary of Field Performance Test

Sl. No.	Parameters/operations	Dry land operation
I	II	III
1.	Tractor used	VST MT 180
2.	Gear used	L-1
3.	Type of soil (Refer IS:7926-1975)	Sandy loam
4.	Average soil moisture (%)	0.70 to 1.20
5.	Bulk density of soil (g/cc)	0.2 to 9.4
6.	Average speed of operation (kmph)	1.12 to 1.24
7.	Avg. wheel slip (%)	-2.08 to -1.56
8.	Average depth of cut (cm)	5.4 to 6.5
9.	Avg. working width (cm)	91 to 106
10.	Area covered (ha/h)	0.086 to 0.104
11.	Time required for one ha (h)	9.62 to 11.63
12.	Field efficiency (%)	75.0 to 83.2
13.	Fuel consumption	
	l/h	1.54 to 2.00
	l/ha	15.40 to 21.74
14.	Average PTO power utilized (kW)	NR



- 10.2 The specifications of implement hitch, does not conform in toto to the 4468 (Part-1)-1997. Hence, it is recommended that implement should be provided with the hitch conforming to relevant Indian Standards.
- 10.3 Dimensions of PIC of implement do not conform in toto to IS: 4931-1995 and therefore, it should be looked in to for corrective action.
- 10.4 Hardness of the blade does not conform to IS: 6690:1981. This needs to be looked into for corrective action at production level.
- 10.5 The chemical composition blade does not conform to as per IS: 6690-1981. This needs to be looked into for corrective action at production level.
- 10.6 The material of the blade is not specified. It **MUST** be specified.
- 10.7 **Technical literature:-**  
The following literature was supplied with rotavator during test
- Use & maintenance manual
  - Spare parts catalogue
- The use & maintenance manual should be updated as per IS 8132-1999

**TESTING AUTHORITY**

R. K. NEMA SENIOR AGRICULTURAL ENGINEER	
P. K. PANDEY DIRECTOR	

**11. APPLICANT'S COMMENTS**

Para No	Our reference	Applicant's comments
11.1	4.4 Dimension E & M	We will make changes in design and implement in mass production.
11.2	4.5.1 Dimension B $\Phi$ , a, c, x, B and horizontal distance between PTO shaft. & lower hitch point.	We will make changes in design and implement in mass production.
11.3	4.5.4 Dimension d $\Phi$	We will make changes in design and implement in mass production.
11.4	10.1	New labeling plate has been designed and implemented in production.
11.5	10.2,10.3	We will make the required design changes and implement in production.
11.6	10.7	We will make the required changes in literature.