

REPORT NO.  
INDIANIT/11. 06. 2004  
REV. 000000000000

IMPLEMENT: TRACTOR OPERATED HYDRAULIC  
REVERSIBLE 3 BOTTOM MB PLOUGH  
(MODEL:SA3RP)

TYPE: MONTH & YEAR  
COMMERCIAL FEBRUARY & 2012

Test Report Reference: 17/02/2025

Test Report Valid Up To: 20/02/2032

## COMMERCIAL TEST REPORT



**TRACTOR OPERATED HYDRAULIC REVERSIBLE  
3 BOTTOM MB PLOUGH  
(MODEL:SA3RP)**



**FARM MACHINERY TESTING AND TRAINING CENTRE,  
DEPARTMENT OF FARM POWER AND MACHINERY,  
Dr. PANJABRAO DESHMUKH KRISHI VIDYAPEETH,  
AKOLA (M.S.)-444 104**

*E-mail: [fmmt28@gmail.com](mailto:fmmt28@gmail.com)*

*(The Institute is approved Testing Center of Department of Agriculture & Cooperation, Ministry of Agriculture, GOI vide letter No. 8-1/2004-My(I&P) Dated 30<sup>th</sup> March 2012-Addendum)*

Test Report Released: 17/02/2025

Test Report Valid Up To: 29/02/2032

**MANUFACTURER** : M/S. SANDEEP AGRO  
WORKS, NEAR BULDHANA  
URBAN WEAR HOUSE,  
AKOLA ROAD AKOT, DIST.  
AKOLA (M.S.) - 444 101

Inward / Outward  
No. PI/FMTT&PC/1331..... 2025  
Dated... 21/02/2025

**Report No.:** IMP/FMTT&TC, Dr. PDKV, AKOLA/2024-25/20/306      **Month:** February      **Year:** 2025

**FARM MACHINERY TESTING AND TRAINING CENTRE,  
DEPARTMENT OF FARM POWER AND MACHINERY,  
Dr. PANJABRAO DESHMUKH KRISHI VIDYAPEETH,  
AKOLA (M.S.)-444 104**

*(The Institute is approved Testing Center of Department of Agriculture & Cooperation, Ministry of Agriculture, GOI vide letter No. 8-1/2004-My(I&P) Dated 30<sup>th</sup> March 2012-Addendum)*

Type of test : Commercial

Test code referred : 1) IS:6288-1971 (Reaffirmed 2019) - Test code for mould board plough  
2) IS:10691-1983 (Reaffirmed 2021) - Test code for share for tractor operated mould board ploughs

Period of test : May, 2024 to May, 2024

Test Report No. : IMP/FMT&TC, Dr. PDKV, AKOLA/2024-25/20/306

Month & Year : February & 2025

- i) The results reported in this report are observed values and no corrections have been applied for atmospheric and site conditions.
- ii) The data given in this report pertains to the particular machine submitted by the applicant for test.
- iii) The results presented in this report do not in any way attribute to durability of the machine.
- iv) The report should not be produced in part or full without prior permission of the Head, Department of Farm Power and Machinery, Dr. PDKV, Akola (M.S.)- 444 104.

### SELECTED CONVERSIONS

Sr. No.	Units	Conversion Factor
1	<b>Force</b>	
	1 kgf	9.87 N
		2.205 lbf
2	<b>Power</b>	
	1 hp	1.014 metric hp (Ps)
		745.7 W
	1 Ps	735W
	1 kW	1.36 Ps
3	<b>Pressure</b>	
	1 psi	6.895 kPa
	1 kgf/cm <sup>2</sup>	98.067 kPa = 735.56 mm of Hg

CSI Report Released: 17/02/2025

Test Report Valid Up To: 29/02/2032

TYPE OF MACHINE : TRACTOR OPERATED HYDRAULIC  
REVERSIBLE 3 BOTTOM MOULD BOARD  
PLOUGH

MAKE : SARJA™

MODEL : SA3RP

MANUFACTURER BY : M/S. SANDEEP AGRO WORKS, NEAR  
BULDHANA URBAN WEAR HOUSE,  
AKOLA ROAD AKOT, DIST. AKOLA (M.S.)  
- 444 101

TEST REQUESTED BY : M/S. SANDEEP AGRO WORKS, NEAR  
BULDHANA URBAN WEAR HOUSE,  
AKOLA ROAD AKOT, DIST. AKOLA (M.S.)  
- 444 101

TEST CONDUCTED BY : FARM MACHINERY TESTING AND  
TRAINING CENTRE, DEPARTMENT OF  
FARM POWER AND MACHINERY,  
Dr. PANJABRAO DESHMUKH KRISHI  
VIDYAPEETH, AKOLA (M.S.) PIN -444 104

4.1 General

Name of implement	: Tractor Operated Hydraulic Reversible Bottom Mould Board Plough
Name and address of manufacturer	: M/s. Sandeep Agro Works, Near Buldhana Urban Wear House, Akola Road Akot, Dist. Akola (M.S.) - 444 101
Name and address of applicant	: M/s. Sandeep Agro Works, Near Buldhana Urban Wear House, Akola Road Akot, Dist. Akola (M.S.) - 444 101
Type of Implement	: Tractor Operated Hydraulic Reversible Bottom Mould Board Plough
Make	: SARJA™
Model	: SA3RP
Serial No.	: BE-1007
No. of bottoms and size, mm	: 3 x 303
Year of manufacture	: 2024
Power source as recommended	: 26.11 kW (35 hp) and above

**Constructional Details:**

It is fabricated from M.S. flats which serves as standard. Hitch pyramid and reverse mechanism of plough are also fitted on frame.

Particular	Size, mm	Quantity, No.
MS flat (Main frame)	1775 x 90 x 35	1
	495 x 90 x 35	1
	370 x 90 x 35	1
MS flat (for fixing shaft and middle support of frame)	182 x 75 x 20	2
	144 x 75 x 15	2

REPORT NO.  
PDM/14/10/PK/1  
REV. 1.0/2024.25/20/100  
Test Report Released: 17/02/2025

M.S. flat (Side support)	557 x 160 x 20	1
	1560 x 75 x 20	1
	1113 x 75 x 20	1
	275 x 126 x 12	2

4.3

<b>Standard</b>		
a)	Numbers	: 3; each standard has one bottom, out of which one side of the standard is used at a time
b)	Material	: Mild steel
c)	Type	: Curved M.S. flat bolted with the main frame.
d)	Dimensions, mm	
	- Projected length	: 590
	- Curved length	: 510
	- Width	
	-At end	: 55.99
	-At middle	: 94.41
	- Thickness	: 36.10
e)	No., size & spacing of holes for fixing frog, mm	: 3, (16.95 $\phi$ -2 holes & 12.80 $\phi$ - 1 hole)& 90.0, to 180.0
f)	No. & size of holes for fixing the frame, mm	: 2 & 16.95 $\phi$
g)	Method of fixing	: Bolted and welded to M.S. flat with the main frame

4.4

**Plough Bottoms**

a)	Numbers	: Six, out of which only three are engaged the soil at a time.
b)	Type	: Two-way (reversible)
c)	Size of plough, mm	: 3 x 303
d)	Vertical suction, mm	: 18.32
e)	Horizontal suction, mm	: 7.75

Test Report Released: 17/02/2023

Test Report Valid Up To: 23/02/2024

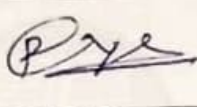
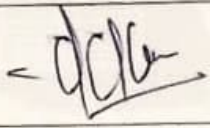
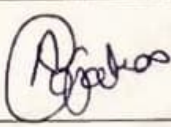
	d) Constructional details	:	It consists of mould board, share, share bar, share chain and landside bolted and welded to frog.
4.4.1	<b>Mould Board</b>		
	a) Numbers	:	Six
	b) Type	:	General-purpose
	c) Material	:	Mild steel
	d) Dimensions, mm:-		
	- Length	:	475
	- Width	:	257
	- Thickness	:	8.24
	e) No. & size of hole on mould board, mm	:	3 & 9.46 $\phi$
	f) Method of fixing mould board	:	It is fixed to frog with four countersunk bolts to share.
4.4.2	<b>Share</b>		
	a) Type	:	Type - 6
	b) Constructional details	:	It is made up of low carbon steel flat bar in trapezoidal shape
	c) Method of fixing share to the bottom	:	Bolted to frog with three countersunk bolts and welded to share bar and mould board.
	d) No. & size of holes on share, mm	:	2 & 9.23 $\phi$
	e) Dimensions		
	(All dimensions in mm)		
	<b>Fig 1 (A) Dimensions of share as observed</b>		





- 11.13 Vide letter No. 13-22/2020-M&T (I&P), dated 12<sup>th</sup> December 2023 Govt. of India, Ministry of Agriculture and Farmer Welfare (Mechanization & Technology Division), the validity of the commercial test report of tractor operated machinery is 7 years.
- 11.14 The applicant/manufacture should follow the guideline issued vide letter No. 13-30/2023-M&T (I&P) (124416), Dated 12<sup>th</sup> September 2023 & letter No. 13-30/2023 M&T (I&P), Dated 27<sup>th</sup> July 2023 Govt. of India, Ministry of Agriculture and Farmer Welfare (Mechanization & Technology Division).
- 11.15 It is the sole responsibility of manufacturer to supply the quality machine same as the test prototype provided for testing including suggested modifications, comments and recommendations. This is a test report not any kind of recommendations of tractor operated hydraulic reversible three bottom mould board plough.

**TESTING AUTHORITY:**

Er. R. R. Gajbhiye Test Engineer	
Dr. A. K. Kamble Asstt. Agril. Engineer	
Dr. A. V. Gajakos PI&Head, Deptt. of FPM	

*This test report compiled by  
Er. R. R. Gajbhiye (Test Engineer), FMT&TC, Deptt. of FPM, CAET, Dr. PDKV, Akola*

**APPLICANT'S COMMENTS**

We will follow the summary of observations comments and recommendations provided clause number 10.1 to 10.15 in a draft test report of tractor-operated hydraulic reversible 3 bottom MB plough (Model: SA3RP) by FMT&TC, Dr. PDKV, Akola, during mass production of this model.