



सत्यमेव जयते

GOVERNMENT OF INDIA  
MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES (MSME)

# TEST REPORT



## MSME - TESTING STATION (NABL ACCREDITED LABORATORY)

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**MSME**  
MICRO SMALL AND MEDIUM ENTERPRISES  
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सूक्ष्म, लघु व मध्यम उद्यम मंत्रालय  
एम एस एम ई परीक्षण केंद्र,  
राजाजी नगर औद्योगिक सम्पदा,  
बेंगलूरु - ५६० ०१०

Government of India  
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Rajajinagar Industrial Estate,  
Bengaluru - 560 010

## TEST REPORT

Report No: MSME-TS/BNG/014/2022-23 | 371

Job No : MSME-TS/BNG/014/22-23

Request Ref: Dt 04/11/22

**Issued To**

M/s ADOR WELDING LIMITED  
EQUIPMENT PLANT  
PB NO9 AKURDI  
CHICHWAD  
PUNE-411019

**Issue Date : 01-12-2022**

**Transaction Ref No.: 0311220029272. Dt. 07-11-22**  
**Date of Test Performed : Dt. 16-11-22 & 17-11-22**

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**Description of the Sample as Stated by the Party: ARC WELDING MACHINE Model Champ-600.**

TESTS CONDUCTED AS PER :

As per IS :4559-1993 & IS:12063-1987 & Customer's Request.

TEST CHARACTERISTIC :

TYPE TESTS.

DESCRIPTION OF SAMPLE ::

01 Number of ARC WELDING MACHINE Model Champ-600.

GENERAL REMARKS :

The sample tested on site as per IS : 4559-1993 & IS:12063-1987 & Customer 's Request. Please see the continuation in sheet No 02 to 07 for detailed test results.

**Note:**

1. This Test Report pertains to the particular sample submitted by the party for the Testing.
2. This Test Report should not be reproduced in-part without written approval of the Director, MSME-TS, Bangalore.

Reviewed By:

(G Nagaraja)

Asst Director

संयुक्त निदेशक/Joint Director

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Approved By:

(K.Socrates)

Joint Director

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Sl. No	Name of the Test.	Specification Requirement.	Actual Sample Results.	Remarks
1.	Insulation Resistance Test.(Cl. 11.2)	Shall not be less than 2meg-ohms Which measured with 500V DC.	850 meg-ohms	Meets the Requirements
2.	Over Voltage Test. (Cl. 11.3)	a) Shall withstand full specified supply Voltage. b) Shall withstand AC supply Voltage of 110% applied instantaneously and maintained for 5 minutes. c) Shall withstand repeated switching-off of the AC supply Voltage of 110% d) Shall withstand repeated switching-off of the ac Supply Voltage of 110% for 50 times.	Withstood Withstood Withstood Withstood	Meets the Requirements Meets the Requirements Meets the Requirements
3	Open- Circuit Voltage Test .(Cl. 11.4	With Input connected to Rated supply Voltage, the open-Circuit Voltage is measured. The Rated the open-Circuit Voltage shall not exceed 100V.	87V	Meets the Requirements
4	Load Characteristic Test.(Cl. 11.5)	With Output connected to Variable load, The welding load voltage. a)Shall be 28V for 200 A Welding current. b) Shall be36V for 400 A Welding current. c)Shall be 44V for 600 A Welding current.	28V 36V 44V	Meets the Requirements

Authorized by :

(B.Narayanaswamy)  
Instructor

Reviewed by:

(G.Nagaraja)  
Asst Director (Mech)

Approved by:

(K.Socrates)  
संयुक्त निदेशक / Joint Director  
Joint Director  
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Sl. No	Name of the Test.	Specification Requirement.	Actual Sample Results.	Remarks
5.	Short-Circuit Test:(Cl. 11.6)	Welding Current shall not be more than 200% when measured at Max setting.	180%	Meets the requirements
		and the Voltage between output terminal shall not exceed 3V	2.3V	Meets the requirements
6.	Temperature-Rise Test:(Cl. 11.7)	The Temperature-Rise measured at rated I/P Voltage with a current equal to max continuous hand welding current at a duty cycle of 60% shall not exceed the following i) Windings: a) by Resistance method: 125 °C b) by Thermometer method: 105 °C ii)Un-Insulated parts : by Thermometer method:	21°C 52°C 28.4°C	Meets the requirements
7.	High Voltage test (Cl. 11.8)	Shall withstand a)2KV rms for Transformer alone b)1.5KV rms for complete unit c)1.0KV rms for auxiliary circuits	Withstood	Meets the Requirements
8.	Insulation Resistance test (after High Voltage test (Sl.no.7) (Cl. 11.2)	Shall not be less than 2meg-ohms measured with 500V DC	500 meg-ohms.	Meets the Requirements

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Sl. No	Name of the Test.	Specification Requirement.	Actual Sample Results.	Remarks
9	Input Voltage .	415V, 3 Phase 50 Hz.	415V 3 Phase 50 Hz.	Meets the Requirements
10	Input Voltage range	415V+15%, Over Volts 477 Volts . 415 Volts , Under Volts 373.5V	415V+15%, -10% H- 477 Volts low- 373.5V	Meets the Requirements
11	Phase	3 Phase,415 Volts. 50Hz,	3 phase, 415 Volts. 50Hz.	Meets the Requirements
12	Frequency	50/60 Hz	50/60 Hz	Meets the Requirements
13	Welding Current Range	10A To 600Amps	10A To 600Amps	Meets the Requirements
14	Input Power @415V AC in MMA Mode @100% Duty Cycle @60% Duty Cycle @ No load	22 KVA (Max) 32 KVA (Max) 0.31 KVA (Max)	22 KVA 32 KVA 0.2 KVA	Meets the Requirements

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Sl. No	Name of the Test.	Specification Requirement.	Actual Sample Results.	Remarks
15	Input Supply Current @415VAC @100% Duty Cycle @60% Duty Cycle @ No load	31Amps 45A 0.43A	31Amps 45A 0.43A	Meets the Requirements
16	Efficiency	>85%	86%	Meets the Requirements
17	Welding Current (at 40°C) @100% Duty Cycle @60% Duty Cycle	465A 600A	465A 600A	Meets the Requirements
18	ARC Force Control	0-80 Amps more current than set current	0-80 Amps more current than set Current	Meets the Requirements
19	Welding Electrode Sizes(Diameter)	1.6. To 6-3mm	1.6mm To 6.3 mm	Meets the Requirements

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Sl. No	Name of the Test.	Specification Requirement.	Actual Sample Results.	Remarks
20	Power Factor	0.93 Max	0.90	Meets the Requirements
21	Remote control (optional)	As optional for current setting	Provided as optional for current setting	Meets the Requirements
22	Build in VRD(Voltage Reducing Device) Unit Optional	OCV reduces to 12V-18V in MMA mode when machine is in no load condition for 3minutes	OCV reduces to 12V-18V in MMA mode when machine is in no load condition for 3minutes	Meets the Requirements
23	Front Panel Function	1)Panel/Remote Mode Selection Switch. 2)MMA/TIG Mode Selection Switch. 3) Current and ARC force adjustment pot. 4)Mains on 'GREEN' Color Indication. 5) Trip RED color LED for indication of machine is under protection mode. 6)DPM for display of set current and actual current.	1)Panel/Remote Mode Selection Switch. 2)MMA/TIG Mode Selection Switch. 3) Current and ARC Force adjustment pot. 4)Mains on 'GREEN' Color Indication'. 5) Trip RED color LED for indication of machine is under protection mode. 6) DPM for display of set current and actual current.	Meets the Requirements

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Sl. No	Name of the Test.	Specification Requirement.	Actual Sample Results.	Remarks
24	Protection(Auto Resettable)	1) Over Voltage, Under Voltage, Single-Phase Protection. 2)Over Temperature Protection 3)Output short circuit protection	1) Over Voltage, Under Voltage, Single-Phase Protection. 2)Over Temperature Protection 3)Output short circuit protection	Meets the Requirements
25	Cooling	Forced Air	Forced Air	Meets the Requirements
26	Insulation	H	H	
27	Degree of Protection ( IP 23S) IS: 12063-1987) (CL 7.2) (CL 8.3)	2X The object probe sphere of 12.mm dia shall not fully penetrate.  X3 Water sprayed at an angle of 60 degree on either side of the Vertical shell have no harmful effects.	There was no passing rigid sphere of 12 mm dia.  No seepage water inside when sprayed with water at an angle of 60 degree to all the sides of the equipment.	Meets the Requirement  Meets the Requirements
28	Dimension (LXWXH)	700 x 460 x 575	700 x 460 x 575	Meets the Requirements
29	Weight(approx)	55 KG	54KG	Meets the requirements

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\*\*\*End Report\*\*\*\*

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