



**Institute of Testing and  
Certification (INDIA)  
Private Limited**

Tel. +91-172-5066372  
Fax: +91-172-5066372  
362, Industrial Area, Phase 2  
Panchkula (Haryana) India  
Web.: www.itcindia.org  
email: info@itcindia.org

**ELECTRICAL LABORATORY- TEST REPORT**  
**Safety of Machinery –Electrical Equipment of The Machines**  
**Part 1: General Requirements**

Test Report N°.....  
Date of issue..... 19-10-2015  
Sample date in..... 24-09-2015  
Date of performance..... 24-09-2015 to 24-09-2015  
Applicant.....  
Customer.....

Sample description..... Control panel For Airjet Cleaning Machine  
Sample Condition..... Ok  
Customer reference..... N/A



Trade mark / Manufacturer..  
Model / Type / Reference..... PAJC-120  
Ratings..... 415 VAC, 3 Phase, 50/60 Hz, 3.7Amp  
Test method(s)..... BS EN 60204-1:2006+A1:2009

Overall verdict      **Pass**        
   **Fail**     

**Page 1 of 42**

**REMARKS:** This report is governed by, and incorporates by reference, the Condition of testing as posted at its date of issuance and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. **This report sets forth solely our findings with respect to the test samples identified herein.** It includes all of the test requested by you and the results thereof based upon the information that you provided us with. You have 10 calendar days from the date of issuance of this report to notify us of any material error or omission; provided, however, that such notice shall be written and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Tests are destructive and non reversible, the submitted samples will not return to their original conditions. The client acknowledges that any remaining part of the sample will be discarded if not retrieved in a period of 30 calendar days from the date of issuance of this report.

# INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.

BS EN 60204-1			
Clauses	Requirement – Test	Results – Remarks	Verdict
5.	<b>INCOMING SUPPLY CONDUCTOR TERMINATIONS AND DEVICES FOR DISCONNECTING AND SWITCHING OFF</b>		
5.1	<b>Incoming supply conductor terminations</b>		
	The electrical equipment of the machine shall have only one incoming supply connection	Single Incoming Supply	P
	Unless a plug is supplied it is recommended that the supply conductors are terminated at the supply disconnecting devices		N/A
	Neutral conductor “N” should be indicated in the technical documentation and label “N” is provided at neutral conductor	Neutral conductor identified as ‘N’	P
	There shall be no connection between neutral conductor and protective bonding circuit or combined PEN-terminals.	The neutral & protective bonding circuit has separate wires	P
	All terminals of incoming supply shall be clearly marked	(Clear indication for supply voltage provided)	P
5.2	<b>Terminal for connection to external protective Earthing system</b>		
	Terminal for connection of external protective conductor provided and marked with “PE” or with graphical symbol  or by use of bicolor combination GREEN/YELLOW	Bolt provided for PE terminal & graphical symbol  applied	P
	Cross section of incoming PE conductor shall be according to table 1	In Compliance	P
5.3	<b>Supply disconnecting device</b>		
5.3.1	A supply disconnecting device shall be provided for each incoming supply to the machine.	Main Isolator selector Switch provided	P
5.3.2	<b>The supply disconnecting device shall be one of the following:</b>		
	a) A switch-disconnector with or without fuses		N/A
	b) A disconnector with or without fuses, which has an auxiliary contact that in all cases causes switching device to break the load circuit.		N/A
	c) circuit breaker suitable for isolation		N/A
	d) any other switching device in accordance with an IEC product standard for that device and which meets the isolation requirements of IEC 60947-1 as well as a utilization category	Main Isolator selector Switch provided	P
	e) Plug/socket combination for flexible cable supply		N/A
5.3.3	<b>When supply disconnecting device is one of type from 5.3.2 a) to d) it shall fulfill all of the following requirements</b>		
	Isolates the electrical equipment from the supply and have one OFF and one ON position only & ‘O’ & ‘I’ marked	In compliance	P


## INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.

	Switch shall have external operating means e.g. handle.		P
	Colour black or gray preferred		N/A
	Position indication which cannot indicates the OFF-position until all contacts are actually open	In OFF position the main supply is disconnected	P
	Locking means provided to lock in OFF-Position		N/A
	<b>For Plug/Socket type</b>		
	Have the sufficient switching capability		N/A
5.3.4	<b>Operating means</b>		
	Operating means shall be located between 0.6m and 1.9m above service level	In compliance	N/A
5.3.5	<b>Following circuits need not disconnected by supply disconnecting device.</b>		
	Lighting circuits during maintenance or repair		N/A
	Plug/socket-outlets exclusively used for maintenance or repair		N/A
	Under voltage protection circuits used for automatic tripping only at power supply failure		N/A
	Control circuits for interlocking purpose		N/A
	<i>It is recommended that such circuits be provided with their own disconnecting devices</i>		N/A
	Where such a circuit is not disconnected by supply disconnecting device		
	<ul style="list-style-type: none"> <li>Permanent warning label shall be appropriately placed</li> </ul>		N/A

# INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.



BS EN 60204-1			
Clauses	Requirement – Test	Results – Remarks	Verdict
5.4	<b>Disconnecting devices to prevent unexpected start-up</b>		
	Means shall be provided to prevent unexpected start up		P
	Suitable placed	In compliance	P
	Readily identifiable	In compliance	P
	<i>Devices used for isolation function can be used for this purpose such as Disconnectors ,withdraw able fuse links</i>		P
	<i>Devices that do not provide the isolation function may also be used where e.g contactor switch</i>		
	<ul style="list-style-type: none"> <li>• There is no hazard from electric shock</li> </ul>		P
	<ul style="list-style-type: none"> <li>• The switching off means remains effective throughout the work</li> </ul>		P
	<ul style="list-style-type: none"> <li>• The work is of minor nature</li> </ul>		N/A
5.5	<b>Devices for disconnecting electrical Equipments</b>		
	Devices shall be provided for disconnecting (isolating) electrical equipment	MCBs provided	P
	Such devices shall be suitably placed	MCB, suitably placed in the electrical panel	P
	Readily identifiable		P
	Provided with adequate means to prevent unauthorized, inadvertent and /or mistaken closing except as allowed in 5.6		P
5.6	<b>Protection against unauthorized, inadvertent and/or mistaken connection</b>		
	The disconnecting devices that are located outside an enclosure shall be provided with locking means		P
	Other means of protection against reconnection (e.g. warning labels) may be used for non-lockable disconnecting devices (e.g. withdraw able fuse-links) may be provided		N/A
	When a plug/socket combination is so positioned that it can be kept under immediate supervision, <i>means for securing need not be provided.</i>		N/A

# INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.

BS EN 60204-1			
Clauses	Requirement – Test	Results – Remarks	Verdict
	additional safety procedures		
17.8	<b>Maintenance manual</b>		N/A
	Technical documentation shall contain a maintenance manual, detailing proper procedures for adjustment, servicing or preventive inspection and repair		N/A
	Recommendations regarding maintenance or service records are part of it.		N/A
	Methods for the verification of proper operation provided.		N/A
17.9	<b>Parts list</b>		N/A
	The parts list shall comprises as a minimum information for ordering of spares or replacement parts		N/A
	The parts list shall show for each item		N/A
	<ul style="list-style-type: none"> <li>• Reference designation used in documentation and type designation</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• supplier and alternative sources where applicable</li> </ul>		N/A
	<ul style="list-style-type: none"> <li>• general characteristics where appropriate</li> </ul>		N/A
<b>18</b>	<b>VERIFICATION</b>		
18.1	Verification, that electrical equipment is in compliance with the technical documentation		P
18.2	<b>Verification of conditions for protection by automatic disconnection of supply</b>		
	Verification of conditions for protection by automatic disconnection of supply shall be verified by tests		
	<ul style="list-style-type: none"> <li>• To be done by the manufacturer of the machine</li> </ul>		P
	<ul style="list-style-type: none"> <li>• To be done on site when the machine is installed</li> </ul>		N/A
	The disconnecting time should be as per Table A.1 of annex A		N/A
	<ul style="list-style-type: none"> <li>• Ground bond test with 10A and 24V and resistance should be less then 0.1Ω</li> </ul>	 <p>Measured Resistance is 38mΩ</p>	P



# INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.

BS EN 60204-1			
Clauses	Requirement – Test	Results – Remarks	Verdict
18.3	<b>Insulation Resistance test</b> Insulation resistance measured with 500V DC between power circuit conductors and PE circuit is to be 1 MΩ. Test made on individual sections of complete electrical installation	 Measured resistance value is 1050 MΩ	P
18.4	<b>Voltage test</b> Electrical equipment should withstands a test voltage applied twice the rated equipment or 1000V whichever is higher for 1 sec.	 No voltage break down and no flashover occur	P
18.5	<b>Protection against residual voltage</b> Tests for protection against residual voltages are performed to ensure compliance with Cl. 6.2.4		N/A
18.6	<b>Functional tests</b> The functions of electrical equipment shall be tested		P

Institute of Testing & Certification  
(India) Pvt. Ltd.

  
 Authorised Signatory

# INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.

BS EN 60204-1			
Clauses	Requirement – Test	Results – Remarks	Verdict

**Test Results:**

Sr. No	TEST CONDUCTED	TEST CONDITIONS	TEST REQUIREMENTS	RESULTS
<b>01</b>	HIGH VOLTAGE TEST	Test voltage: 1KV/50 Hz Test Duration: 1second Test Part: Between conductors of all circuits & protective bonding circuit.	Shall withstand without breakdown	P
<b>02</b>	INSULATION RESISTANCE TEST	Test Voltage: 500V D.C Test part: Between power circuit conductors & protective bonding	Shall not be Less than 1 MOhm	P (Rmeas → 1050 MΩ)
<b>03</b>	EARTH CONTACT RESISTANCE TEST	Test Current: 10A/24V Test Part: Between protective earth terminals and body that is part of the protective bonding circuit.	Calculated Earth Contact Resistance from current & drop in voltage shall not exceed 0.1 ohm	P (Rmeas → 38 mΩ)
		Test Current: 10A/24V Test Part: Between protective earth terminals and door that is part of the protective bonding circuit.		P (Rmeas → 34.3 mΩ)

**REMARKS:**

1. All the tests conducted as per the standard specification.
2. The test results pertain to the sample submitted for testing.
3. Abbreviations used:

Info - Information, Mfr. – Manufacturer, NM – Not Mentioned, IP- Ingress Protection, Cl. – Clause,  
Temp. – Temperature, Ckt. – Circuit, amb. – Ambient, Sr. No. – Serial number, N/A-Not applicable, P-Pass

  
 Authorised Signatory