

<p style="text-align: center;">ELECTRICAL LABORATORY- TEST REPORT Safety of Machinery –Electrical Equipment of The Machines Part 1: General Requirements</p>

Test Report N°.....
Date of issue..... 12-08-2013
Sample date in..... 26-07-2013
Date of performance..... 26-07-2013 to 26-07-2013
Applicant.....
Customer.....

Sample description..... Control panel for automatic rotary dry syrup
powder filling machine

Customer reference..... N/A


Trade mark / Manufacturer..

Model / Type / Reference.... N/A
Ratings..... 3 phase ,415VAC, 50Hz,
Test method(s)..... BS EN 60204-1:2009

Overall verdict **Pass**
 Fail

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BS EN 60204-1			
Clauses	Requirement – Test	Results – Remarks	Verdict
5.	INCOMING SUPPLY CONDUCTOR TERMINATIONS AND DEVICES FOR DISCONNECTING AND SWITCHING OFF		
5.1	Incoming supply conductor terminations		
	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		P
	There shall be no connection between neutral conductor and protective bonding circuit or combined PEN-terminals.		P
	All terminals of incoming supply shall be clearly marked	(Clear Indication for Supply Voltage Provided)	P
5.2	Terminal for connection to external protective Earthing system		
	Terminal for connection of external protective conductor provided and marked with “PE” or with graphical symbol	Provided	P
	 or by use of bicolor combination GREEN/YELLOW		
	Cross section of incoming PE conductor shall be according to table 1	In Compliance	P
5.3	Supply disconnecting device		
5.3.1	A supply disconnecting device shall be provided for each incoming supply to the machine.	MCB provided for incoming supply	P
5.3.2	The supply disconnecting device shall be one of the following:		
	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	MCB provided	P
	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		N/A
	e) Plug/socket combination for flexible cable supply		N/A

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Clauses	Requirement – Test	Results – Remarks	Verdict
	Characteristics relating to the function of control devices and components which are not evident from their symbolic representation, included on the diagrams adjacent to the symbol or referred to a footnote		N/A
17.7	Operating manual		
	Technical documentation containing an operation manual, outlining proper procedures for set-up and use of equipment		N/A
	Particular attention given to safety measures provided and the improper method of operation, that are anticipated		N/A
	Detailed information provided on methods for equipment programming, program verification and additional safety procedures		N/A
17.8	Maintenance manual		
	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	Parts list		
	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"> • Reference designation used in documentation and type designation 		N/A
	<ul style="list-style-type: none"> • supplier and alternative sources where applicable 		N/A
	<ul style="list-style-type: none"> • general characteristics where appropriate 		N/A
18	VERIFICATION		
18.1	Verification, that electrical equipment is in compliance with the technical documentation		N/A
18.2	Verification of conditions for protection by automatic disconnection of supply		
	Verification of conditions for protection by automatic disconnection of supply shall be verified by tests		
	<ul style="list-style-type: none"> • To be done by the manufacturer of the machine 		P
	<ul style="list-style-type: none"> • To be done on site when the machine is installed 		P
	The disconnecting time should be as per Table A.1 of annex A		N/A

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Clauses	Requirement – Test	Results – Remarks	Verdict
	<ul style="list-style-type: none"> Ground bond test with 10A for 10 sec and resistance should be less than 0.1Ω 	 <p>Measured Resistance is 4.6 mΩ</p>	P
18.3	Insulation Resistance test		
	Insulation resistance measured with 500V Body between short circuit it should be not less than 1 MΩ. Test made on individual sections of complete electrical installation	 <p>Measured resistance value is 96MΩ</p>	P
18.4	Voltage test		
	Electrical equipment should withstands a test voltage applied twice the rated equipment or 1000V whichever is higher for 1 sec	 <p>No voltage break down and no flashover occur</p>	P
18.5	Protection against residual voltage		
	Tests for protection against residual voltages are performed to ensure compliance with Cl. 6.2.4		P

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18.6	Functional tests		
	The functions of electrical equipment shall be tested		P

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

Test Results

Sr. No	TEST CONDUCTED	TEST CONDITIONS	TEST REQUIREMENTS	RESULTS
01	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
02	INSULATION RESISTANCE TEST	Test Voltage: 500V D.C Test part: Between power circuit conductors & protective bonding	Shall not be Less than 1 M	P (Rmeas → 96MΩ)
03	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 → 4.6mΩ)

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