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# **UL TEST REPORT AND PROCEDURE**

Standard:	ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10)(Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance)
Certification Type:	Component Recognition
CCN:	QQHM2, QQHM8 (Power Supplies, Medical and Dental)
Product:	Switching Power Supply
Model:	GTM41134-***-** The 1st "*" denote the rated output wattage designation, which can be "01" to "06", with interval
	<ul> <li>of 1.</li> <li>The 2nd "*" denote the standard rated output voltage designation, which can be "03", "04", "06", "12", "15", "18", "24", "36" or "48".</li> <li>The 3nd "*" is optional deviation, subtracted from standard output voltage, which can be "-0.1"</li> <li>to "-11.9" with interval of 0.1, or blank to indicate no voltage different.</li> <li>The 2nd and 3nd "**" together denote the output voltage, with a range of 3.3 - 48 volts.</li> <li>The 4th "*" can be 'F' to denote open frame model with connector which is fixing on the PCB or 'T' to denote open frame model with appliance inlet.</li> <li>When the 4th "*" is 'F', the 5th "*" can be blank representing models with Class I connector or 'W' representing models with Class II connector.</li> <li>When the 4th "*" is 'T', the 5th "*" can be '2' representing models with Class II inlet or '3' and "3A" representing model with two types of Class I inlets.</li> <li>When -** is blank, presents direct plug-in model with interchangeable plug (Class II only)</li> </ul>
Rating:	Input: 100-240 Vac, 50-60 Hz, 0.6 A Output: See Enclosure 7-02
Applicant Name and Address:	GLOBTEK (HONG KONG) LTD UNIT 1402, BENSON TOWER 74 HUNG TO RD KWUN TONG KOWLOON HONG KONG

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared by: Annie Niu

Reviewed by: Sammi Liang

#### Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

- A. Authorization The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions
  - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
  - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
  - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

## **Product Description**

The products covered by this report is medical power supply, intended to provide power to and intended for use with Medical Electrical Equipment.

2 MOPP insulations were provided between primary and secondary.

One construction is direct plug-in power adapter with interchangeable plugs, which is class II.

The other construction is open frame type which provides protective earth bonding terminal on the input of PCB. Appliance inlets or input connectors can be mounted on the PCB, Which can provide earthing connection or not.

### Model Differences

Differences within the Series are limited to minor component changes to determine specific output voltage and current parameters. See enclosure 7-02 for details.

#### **Technical Considerations**

- Classification of installation and use : Portable
- Device type (component/sub-assembly/ equipment/ system) : Component
- Intended use (Including type of patient, application location) : Component to be evaluated in end product
- Mode of operation : Continuous
- Supply connection : Direct plug-in for power adapter model. Appliance coupler for one type of open frame model series. End product determine the final supply connection
- Accessories and detachable parts included : None
- Other options include : None
- The product was investigated to the following additional standards:: ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10) (Medical Electrical Equipment Part 1: General Requirements for Basic Safety and Essential Performance) Edition 1 Revision Date 2012/01/01;, CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment Part 1: General Requirements for Basic Safety and Essential Performance) Edition 2 Revision Date 2011/06/01;

- The product was not investigated to the following standards or clauses:: Electromagnetic Compatibility (IEC 60601-1-2), Clause 14, Programmable Electronic Systems, Biocompatibility (ISO 10993-1)
- The degree of protection against harmful ingress of water is:: IP42 for GTM41134-\*\*\* series (direct plug-in type) only, Ordinary for GTM41134-\*\*\*\_\*\* (open-frame type).
- The mode of operation is:: Continuous
- The product is suitable for use in the presence of a flammable anesthetics mixture with air or oxygen or with nitrous oxide:: No
- The product is Recognized only to the following hazards: Mechanical , Fire, Shock.

## **Engineering Conditions of Acceptability**

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- This power supply has been judged on the basis of the required creepage and clearances in the First Edition of the Standard for Medical Electrical Equipment, ANSI/AAMI ES 60601-1, Sub clause 8.9.
- This power supply has been evaluated as a Class II, continuous operation and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. Additional evaluation shall be made if the power supply is intended for use in other than Class II equipment.
- This power supply was tested on a 20 A branch circuit. If used on a branch circuit greater than this, additional testing may be necessary.
- The power supply was evaluated as 2 MOPP provided between Primary and Secondary; see insulation diagram for details.
- Consideration shall be given to measuring the temperatures on power electronic components and transformer windings when the power supply is installed in/with the end-use equipment. The isolation transformer (T1) complies with Class B (130 deg C) limits.
- The ambient temperature of the product is 40°C.
- This power supply has not been evaluated for patient connected applications.
- Instructions and equipment marking shall be provided in a language, which is acceptable in the country in which the equipment is to be installed.
- The end product should ensure that the requirements related to accompanying documents, clause 7.9, are met.
- The component shall be installed in compliance with the enclosure, mounting, marking, spacing, and separation requirements of the end use application.
- The end-use product shall ensure that the power supply is used within its ratings.
- The following tests shall be performed in the end-product evaluation: Earthing Test, Temperature Test, Dielectric Voltage Withstand Tests, Leakage Test, Interruption of Power Supply.
- Temperature Test was conducted without Test Corner. End product to determine the acceptability of
  risk in conjunction to temperature testing without test corner as part of the power supply.
- This unit is intended to be used at up to 3000m high altitude.
- The suitability of the mounting means shall be determined in the end-product.
- The suitability of input and output power connections shall be determined in the end use product.
- The Class II Direct Plug-in Power Supplies have been investigated using IEC 60601-1-11, the end product which is used for HOME HEALTHCARE ENVIRONMENT should also been certificated as

IEC 60601-1-11 and should fulfill the instruction and marking requirement. For example, the power adaptor should keep away from Children or Patient to prevent strangulation and asphyxiation.

#### Additional Information

Power supply GTM41134-\*\*\* is certified to ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10) and CAN/CSA-C22.2 No. 60601-1 (2008) by NRTL, the report No. is SH12110200-001(Revised 2013-May-16) which issued by Intertek.

This is converting NRTL to UL report with the following changes:

1) Change model name from GTM41134-\*\*\* to GTM41134-\*\*\*-\*\*

2. Add new models of open frame construction with Class I or II inlet/connector (See item 2-a to 3-b in cirtical component list)

3). Add RM evaluation

4). Add IEC60601-1-11 envaluation (In project 4786160712, for class II Direct Plug-in only) Considering all above, evaluation and test data only for these changes are documented in the area of "Clauses" and appended "Test/RM Tables".

The input connector ((type A7920 series and A3960 series from JOINT TECH) was evaluated in E341350-A3, please refer to A3 for the details.

For the label : the class II mark of direct plug in is on the plastic cover which also can be found in mechanical enclosure 4-16.

#### **Additional Standards**

The product fulfills the requirements of: ANSI/AAMI ES60601-1 (2005 + C1:09 + A2:10) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) - Edition 1 - Revision Date 2012/01/01; CAN/CSA-C22.2 No. 60601-1 (2008) (Medical Electrical Equipment - Part 1: General Requirements for Basic Safety and Essential Performance) Edition 2 - Revision Date 2011/06/01; For Class II Direct Plug-in power supply: IEC 60601-1-11 MEDICAL ELECTRICAL EQUIPMENT - PART 1-11: GENERAL REQUIREMENTS FOR BASIC SAFETY AND ESSENTIAL PERFORMANCE - COLLATERAL STANDARD: REQUIREMENTS FOR MEDICAL ELECTRICAL EQUIPMENT AND MEDICAL ELECTRICAL SYSTEMS USED IN THE HOME HEALTHCARE ENVIRONMENT - Edition 1 - Issue Date 2010/04/01

Markings and instruction	ons
Clause Title	Marking or Instruction Details
Company identification	Classified or Recognized company's name, Trade name, Trademark or File
Model	Model number
Supply Connection	Voltage range, ac/dc, phases if more than single phase
Alternating current	$\sim$
Supply Frequency	Rated frequency range in hertz
Class II equipment	

Power Input	mps, VA, or Watts			
Output	ated output voltage, power, frequency.			
IP Rating	P42 for GTM41134-*** series (direct plug-in type) only.			
Special Instructions to UL Representative				

For markings of output: only rated output voltage, current is applicable.

Production-Line Testing Requirements							
Test Exemptions - The fol	lowing models are exempt f	from the indicated test					
Model	Model         Grounding Continuity         Dielectric Voltage         Patient Circuit Dielection           Withstand         Voltage Withstand         Voltage Withstand         Voltage Withstand						
All	Exempt	Necessary	Exempt				
	Comp	tric Voltage Withstand Test: ponent /A					
Sample and Test Specific	Sample and Test Specifics for Follow-Up Tests at UL						
The following tests shall be conducted in accordance with the Generic Inspection Instructions							
Plastic Enclosure or Part	or Part Test Sample(s) Test Specifics						
N/A							

# TABLE: List of Critical Components

Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
1.PCB	Various	Various	Min. V-0, 130 Deg C	ZPMV2	UL
2-a. Appliance Inlet	Zhejiang Leci Electronics Co Ltd	DB-8	Rated 5A, 250Vac, 105 degC	AXUT2/8 (E302229)	UL/cUL
2-b. Appliance Inlet ( Alternate )	Kunshan DLK Electronics Technology Co Ltd	CDJ-2	Rated 2.5A, 250Vac, 125 degC	AXUT2/8 (E317189)	UL/cUL
2-c. Appliance Inlet ( Alternate )	Shenzhen Delikang Electronics Technology Co Ltd	CDJ-2	Rated 2.5A, 250Vac, 125 degC	AXUT2/8 (E217394)	UL/cUL
2-d. Appliance Inlet ( Alternate )	Rich Bay Co Ltd	R-201SN90	Rated 2.5A, 250Vac, 105 degC	AXUT2/8 (E184638)	UL/cUL
2-e. Appliance Inlet ( Alternate )	Sun Fair Electric Wire & Cable (HK) Co Ltd	S-01	Rated 2.5A, 250Vac.	AXUT2/8 (E226643)	UL/cUL
2-f. Appliance Inlet ( Alternate)	Inalways Corp	0721 series	Rated 2.5A, 250Vac, 105 degC	AXUT2/8 (E94191)	UL/cUL
2-g. Appliance Inlet ( Alternate)	Tecx-unions Technology Corp	SO-222 series	Rated 2.5A, 250Vac, 75 degC	AXUT2 (E220004)	UL/cUL
2-h. Appliance Inlet ( Alternate )	Rong Feng Industrial Co., Ltd.	RF-180	Rated 2.5A, 250Vac Mx. 70 Deg C	AXUT2/8 (E102641)	UL/cUL
2-i. Appliance Inlet ( Alternate)	Tecx-Unions Technology Corp	TU-333 series	Rated 2.5A, 250Vac, 105degC,	AXUT2/8 (E220004)	UL/cUL
2-j. Appliance Inlet ( Alternate )	Zhejiang Leci Electronics Co Ltd	DB-6	Rated 5A, 250Vac, 105DegC	AXUT2/8 (E302229)	UL/cUL
2-k. Appliance Inlet ( Alternate )	Rich Bay Co Ltd	R-30790 R-307	Rated 2.5A, 250Vac, 105 degC	AXUT2/8 (E184638)	UL/cUL
2-I. Appliance Inlet ( Alternate )	Sun Fair Electric Wire & Cable (HK) Co Ltd	S-02	Rated 2.5A, 250Vac, Max. 70 Deg C	AXUT2/8 (E226643)	UL/cUL
2-m. Appliance Inlet ( Alternate )	DLK Electronics Technology Co Ltd	CDJ-2 series	Rated 2.5A, 250Vac, 105 degC/125 degC	AXUT2/8 (E317189/E21739 4)	UL/cUL

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Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
2-n. Appliance Inlet ( Alternate)	Inalways Corp.	0724 series	Rated 2.5A, 250Vac, 65 degC	AXUT2/8 (E94191)	UL/cUL
2-o. Appliance Inlet ( Alternate )	Tecx-Unions Technology Corp	TU-301-S TU-301-SP	Rated Min.10A, 250Vac, 70 Deg C	AXUT2/8 (E220004)	UL/cUL
2-p. Appliance Inlet ( Alternate)	Rich Bay Co Ltd	R-301SN	Rated Min.10A, 250Vac, 70 Deg C	AXUT2/8 (E184638)	UL/cUL
2-q. Appliance Inlet ( Alternate)	Sun Fair Electric Wire & Cable (HK) Co Ltd	S-03	Rated Min.10A, 250Vac, 70 Deg C	AXUT2/8 (E226643)	UL/cUL
2-r. Appliance Inlet ( Alternate)	DLK Electronics Technology Co Ltd	CDJ-3 series	Rated Min.10A, 250Vac, 70 Deg C	AXUT2/8 (E317189/E21739 4)	UL/cUL
2-s. Appliance Inlet ( Alternate )	Inalways Corp.	0711 series	Rated Min.10A, 250Vac, 70 Deg C	AXUT2/8 (E94191)	UL/cUL
2-t. Appliance Inlet ( Alternate)	Rong Feng Industrial Co., Ltd.	SS-120	Rated Min.10A, 250Vac, 70 Deg C	AXUT2/8 (E102641)	UL/cUL
3-a. Input connector	ZHEJIANG HONGXING ELECTRICAL CO LTD	HX396XX-YYY series	Min 1.5A Min 250Vac Min V-2	ECBT2/8	UL/cUL E228500
3-b. Input connector (Alternate)	JOINT TECH	A7920 series A3960 series	Min 1.5A Min 250Vac Min V-2	ECBT2/8	UL/cUL E179987
4-a. Fuse (F1,F2)	Conquer	MST	T1AL, 250V, Rated breaking capacity 100A	JDYX2,JDYX8	UL/cUL E82636
4-b. Fuse (F1,F2) (Alt.)	Ever Island & Walter Electronic	2010	T1AL, 250V, Rated breaking capacity 100A	JDYX2,JDYX8	UL/cUL E56092
4-c. Fuse (F1,F2) (Alt.)	Bel Fuse	RST	T1AL, 250V, Rated breaking capacity 100A	JDYX2 JDYX8	UL/cUL E20624
4-d. Fuse (F1,F2) (Alt.)	Bussmann	SS-5	T1AL, 250V, Rated breaking capacity 100A	JDYX2 JDYX8	UL/cUL E19180
4-e. Fuse (F1,F2) (Alt.)	Walter	ICP	T1AL, 250V, Rated breaking capacity 100A	JDYX JDYX7	UL/cUL E56092

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Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
4-e. Fuse (F1,F2) (Alt.)	Das & Sons	385T	T1AL, 250V, Rated breaking capacity 100A	JDYX2 JDYX8	UL/cUL E205718
4-f. Fuse (F1,F2) (Alt.)	Various	Various	T1AL, 250V, Rated breaking capacity 100A	JDYX/JDYX7	UL/cUL
5. Ripple capacitor (C2)	Various	Various	Min. 400 V, 105 Deg C, min. 6.8 F	-	Tested in appliance
6. Transistor (Q1)	Various	Various	Min. 400V, Min.1.5A	-	-
7-a. Y-Capacitor (CY1, CY2) (optional)	TDK	CD	Y1, max. 470 pF, min. 250 V 85Deg C	FOWX2	UL E37861
7-b. Y-Capacitor (CY1, CY2) (optional) (Alt.)	SUCCESS Electronics Co. Ltd.	SE, SB	Y1, max. 470 pF, min. 250 V 85Deg C	FOKY2, FOWX2 FOWX8	UL/cUL E114280
7-c. Y-Capacitor (CY1, CY2) (optional) (Alt.)	Murata	KX	Y1, max. 470 pF, min. 250 V 85Deg C	FOKY2, FOWX2	UL/cUL E37921
7-d. Y-Capacitor (CY1, CY2) (optional) (Alt.)	Walsin Technology Corp.	AH	Y1, max. 470 pF, min. 250 V 85Deg C	FOKY2, FOWX2 FOWX8	UL/cUL E146544
7-e. Y-Capacitor (CY1, CY2) (optional) (Alt.)	JYA-NAY Co., Ltd.	JN	Y1, max. 470 pF, min. 250 V 85Deg C	FOKY2, FOWX2 FOWX8	UL/cUL E201384
7-f. Y-Capacitor (CY1, CY2) (optional) (Alt.)	Haohua Electronic Co.	CT7	Y1, max. 470 pF, min. 250 V 85Deg C	FOKY2, FOWX2 FOWX8	UL/cUL E233106
8-a. Varistor (MOV1) (optional)	Joyin	07N471K 10N471K, 14N471K	300Vac	VZCA2 VZCA8	UL/cUL E325508
8-b. Varistor (MOV1) (optional)(Alt.)	Centra	07D471K 10D471K, 14D471K	300Vac	VZCA2 VZCA8	UL/cUL E316325
8-c. Varistor	Thinking Electronic	TVR07471K	300Vac	VZCA2	UL/cUL

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Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
(MOV1) (optional)(Alt.)		TVR10471K, TVR14471K		VZCA8	E314979
8-d. Varistor (MOV1) (optional)(Alt.)	Success Electronics Co Ltd	SVR-07D471K SVR-10D471K SVR-14D471K	300Vac	VZCA2 VZCA8	UL/cUL E330256
8-e. Varistor (MOV1) (optional)(Alt.)	Ceramate Tecnical	GNR07D471K GNR10D471K, GND14D471K	300Vac	VZCA2 VZCA8	UL/cUL E315429
8-f. Varistor (MOV1) (optional)(Alt.)	Brightking	07D471K 10D471K 14D471K	300Vac	VZCA2 VZCA8	UL/cUL E327997
8-g. Varistor (MOV1) (optional)(Alt.)	Lien Shun	07D471K 10D471K, 14D471K	300Vac	VZCA2 VZCA8	UL/cUL E315524
9. Transformer (T1) (3-48V)	GlobTek/ BOAM/ ZHONGTONG	ENG130-1/GTX- 130-TM/BOAM- 01/ZT-130 (	3V-48V (XF00716I XF00714I XF00717 XF00718 XF00719 XF00841 XF00814)	E308897/ E243347/ E252329/ E315275	Tested in appliance
10-a. Transformer (T1) Secondary wire	GREAT LEOFLON INDUSTRIAL CO LTD	TRW(B)	Min.130 Deg C	OBJT2	UL E211989
10-b. Transformer (T1) Secondary wire (Alt.)	Cosmolink	TIW-M	Min.130 Deg C	OBJT2	UL E213764
10-c. Transformer (T1) Secondary wire (Alt.)	Furukawa	TEX-E	Min.130 Deg C	OBJT2	UL E206440
11-a. Bobbin of T1	Chang Chun	T375J T375HF	V-0, 150 Deg C, thickness 0,45 mm min.	QMFZ2/8	UL/cUL E59481

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Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
11-b. Bobbin of T1(Alt.)	Sumitomo Bakelite	PM-9820	V-0, 150 Deg C, thickness 0,45 mm min.	QMFZ2/8	UL/cUL E41429
11-c. Bobbin of T1(Alt.)	HITACHI CHEMICAL CO LTD	CP-J-8800	V-0, 150 Deg C, thickness 0,45 mm min.	QMFZ2/8	UL/cUL E42956
12-a. Insulating tape of T1	3M Company	1350F-1, 1350T-1	Min. 130 Deg C	OANZ2	UL E17385
12-b. Insulating tape of T1(Alt.)	BONDTEC PACIFIC CO.,LTD	370S	Min. 130 Deg C	OANZ2	UL E175868
12-c. Insulating tape of T1(Alt.)	YAHUA	PZ CT	Min. 130 Deg C	OANZ2	UL E165111
12-d. Insulating tape of T1(Alt.)	JINGJIANG JINGYI	JY25-A	Min. 130 Deg C	OANZ2	UL E246950
13-a. Insulation System	GLOBTEK	GTX-130-TM	Min. 130 Deg C	OBJY2/8	UL/cUL E243347
13-b. Insulation System	BOAM	BOAM-01	Min. 130 Deg C	OBJY2/8	UL/cUL E252329
13-c. Insulation System	ZHONGTONG	ZT-130	Min. 130 Deg C	OBJY2/8	UL/cUL E315275
14-a. Enclosure	SABIC	SE1X	Min. V-1, min. 2,0mm thick, 105 Deg C	QMFZ2/8	UL/cUL E45329
14-b. Enclosure (Alt.)	SABIC	C2950	Min. V-0, at min. 1.5mm thick, 85 Deg C	QMFZ2/8	UL/cUL E45329
14-c. Enclosure (Alt.)	SABIC	CX7211 EXCY0098	Min. 94V-0 at min. 1,5 mm thickness, 90 Deg C	QMFZ2/8	UL/cUL E45329
14-d. Enclosure (Alt.)	Tejin	LN-1250P LN-1250G	Min. 94V-0 at min. 1,5 mm thickness, 125 Deg C	QMFZ2/8	UL/cUL E50075
14-e. Enclosure (Alt.)	CHI MEI Corporation	PA-765A	Min. 94V-1 at min. 1,5 mm thickness, 85 Deg C;	QMFZ2/8	UL/cUL E56070
15-a. Blade holder (For Direct plug in , Class II only)	SABIC	SE1X	Min. V-1, min. 2.0mm thick, 105 Deg C	QMFZ2/8	UL/cUL E45329
15-b. Blade holder	SABIC	C2950	Min. V-1, at min. 2.5mm	QMFZ2/8	UL/cUL

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Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
(Alt.)(For Direct plug in , Class II only)			thick, 75 Deg C		E45329
15-c. Blade holder (Alt.) (For Direct plug in , Class II only)	SABIC	CX7211 EXCY0098	Min. 94V-0 at min. 1,5 mm thickness, 90 Deg C	QMFZ2/8	UL/cUL E45329
15-d. Blade holder (Alt) (For Direct plug in , Class II only)	Tejin	LN-1250P LN-1250G	Min. 94V-0 at min. 1,5 mm thickness, 125 Deg C	QMFZ2/8	UL/cUL E50075
15-e. Blade holder (Alt) (For Direct plug in , Class II only)	CHI MEI Corporation	PA-765A	Min. 94V-1 at min. 1,5 mm thickness, 85 Deg C;	QMFZ2/8	UL/cUL E56070
16. Output cord	Various	Various	Min. 24AWG, min. 300V Min.80 degree	AVLV2 ZJCZ	UL
17-a. Label (Provided if not using engraving or silkscreen) (optional)	Dongguan Xianquan Printing Co Ltd	Type XQ03	Rated min 80 deg C Suitable for use on the plastic enclosure or PCB	PGDQ2	UL MH27594
17-b. Label (Provided if not using engraving or Silkscreen) Alternate (optional)	Fan JA Paper Printing Co Ltd	Type FJ-03-3	Rated min 80 deg C Suitable for use on the plastic enclosure or PCB	PGDQ2/8	UL/cUL MH19546
17-c. Label (Provided if not using engraving or Silkscreen) Alternate (optional)	Fan JA Paper Printing Co Ltd	Type FJ-07	Rated min 80 deg C Suitable for use on the plastic enclosure or PCB	PGDQ2/8	UL/cUL MH19546
17-d. Label (Provided if not using engraving or Silkscreen) Alternate (optional)	Dongguan Xianquan Printing Co Ltd	Type XQ004-B	Rated min 80 deg C Suitable for use on the plastic enclosure or PCB	PGJI2	UL MH47303
17-e. Label (Provided if not using engraving or Silkscreen) Alternate (optional)	E-Lin Adhesive Label Co Ltd	Type EL-15	Rated min 80 deg C Suitable for use on the plastic enclosure or PCB	PGDQ2, PGDQ8	UL/cUL MH45549
17-f. Label (Provided if	CORWZN	CW-01	Rated min 80 deg C Suitable for use on the plastic	PGDQ2/8	UL/cUL

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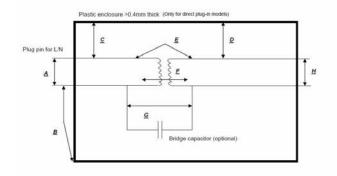
Object/part or Description	Manufacturer/ trademark	type/model	technical data	CCN	Marks of Conformity
not using engraving or Silkscreen) Alternate (optional)			enclosure or PCB		MH47077
17-g. Label (Provided if not using engraving or Silkscreen) Alternate (optional)	COLORFUL PRINTING CO LTD	C-002; C-004	Rated min 80 deg C Suitable for use on the plastic enclosure or PCB	PGDQ2/8	UL/cUL MH17427
17-h. Label (Provided if not using engraving or Silkscreen) Alternate (optional)	SUZHOU HAIRONG PACKING PRODUCTION CO LTD	HR-01 HR-04	Rated min 80 deg C Suitable for use on the plastic enclosure or PCB	PGDQ2/8,	UL/cUL MH48692
17-i. Label (Provided if not using engraving or Silkscreen) Alternate (optional)	COLORFUL PRINTING CO LTD	C-019	Rated min 80 deg C Suitable for use on the plastic enclosure or PCB	PGDQ2/8	UL/cUL MH17427
17-j. Label (Provided if not using engraving or Silkscreen) Alternate (optional)	YUEN CHANG	JL-02 JL-08	Rated min 80 deg C Suitable for use on the plastic enclosure	PGDQ2/8	UL/cUL MH29752
17-k. Label (Provided if not using engraving or Silkscreen) Alternate (optional)			Engraving or Silkscreen		
18.Blade (For Direct plug in , Class II only)			Non-Polarized type, NEMA 1- 15p, Solid copper alloy molded and secured to detachable Input blade module by molding plug located minimum 8.0 mm from enclosure		

# **Enclosures**

<u>Type</u>	Supplement Id	Description
Collateral	11-01	60601-1-11 TRF
Particular		
Photographs	3-01	Top Overview (open frame construction with input connector)
Photographs	3-02	Top Overview (open frame construction with class I AC inlet)
Photographs	3-03	Top View(open frame construction with class II AC inlet)
Photographs	3-04	Bottom Overview (Open frame construction)
Photographs	3-07	External view (Direct plug in)
Photographs	3-08	External view 2 (Direct plug in)
Photographs	3-09	Internal view (Direct plug in)
Photographs	3-10	Internal view 2 (Direct plug in)
Photographs	3-11	Side view (Direct plug in)
Photographs	3-12	PCB side view (Direct plug in)
Diagrams	4-09	Transformer specification XF00714I
Diagrams	4-10	Transformer specification XF00716I
Diagrams	4-11	Transformer specification XF00717
Diagrams	4-12	Transformer specification XF00718
Diagrams	4-13	Transformer specification XF00719
Diagrams	4-14	Transformer specification XF00814
Diagrams	4-15	Plug drawing (for direct plug in power supply only)
Diagrams	4-16	Mechanical drawing for plastic enclosure (Direct plug in , Class II only)
Schematics + PWB	5-01	PWB Layout Drawing
Manuals		
Miscellaneous	7-01	Label
Miscellaneous	7-02	Model List
Miscellaneous	7-04	NRTL Certification
Miscellaneous	7-07	Label for direct plug in models

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## **INSULATION DIAGRAM**



Report Reference #

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Table	e: to insulation d	liagram							
Pollut	tion Degree		Overvoltage Category	Altitude			details on p rts (See cla		
2			II	3000m		None			
Area	Number and type of Means of Protection (MOOP/MOPP)	CTI (IIIb, unless is known)	Working Voltage Vrms	Working Voltage, Vpk	Required Creepage (mm)	Required Clearance (mm)	Measured Creepage (mm)	Measured Clearanc (mm)	
А	BOP	IIIb	240	-	3	1.6	3.4	3.4	L/N
I	1 MOPP	IIIb	240	-	3	1.6	3.7	3.7	L,N/PE (open frame construction with class I connector only)
В	2 MOPP	IIIb	240	-	8	5	10.4	10.4	Mains to enclosure( accessible position during normal use)
С	2 MOPP	IIIb	240	-	-	-	-	-	Mains to external of enclosure (>0.4mm thick plastic enclosure solid insulation)
D	2 MOPP	IIIb	-	Max.48	-	-	-	-	Secondary to external of enclosure (>0.4mm thick plastic enclosure solid insulation)
E	2 MOPP	IIIb	250	-	8	5	8.6	8.6	Mains to secondary on PCB
F	2 MOPP	IIIb	250	-	-	-	-	-	Maina to

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250Vrms.

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									secondary on transformer, approved TIW used
G	2 MOPP	IIIb	250	-	-	-	-	-	Maina to secondary on transformer, approved TIW used
Н	2 MOPP	IIIb	-	Max.48	-	-	-	-	Accessible part per 8.4.2c)

## INSULATION DIAGRAM CONVENTIONS and GUIDANCE:

A measured value must be provided in the value columns for the device under evaluation. The symbol > (greater than sign) must not be used. Switch-mode power supplies must be re-evaluated in the device under evaluation therefore N/A must not be used with a generic statement that the component is certified.

Insulation diagram is a graphical representation of equipment insulation barriers, protective impedance and protective earthing. If feasible, use the following conventions to generate the diagram:

- All isolation barriers are identified by letters between separate parts of diagram, for example separate transformer windings, optocouplers, wire insulation, creepage and clearance distances.

- Parts connected to earth with large dots are protectively earthed. Other connections to earth are functional
- Applied parts are extended beyond the equipment enclosure and terminated with an arrow.

- Parts accessible to the operator only are extended outside of the enclosure, but are not terminated with an arrow.

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4	GENERAL REQUIREMENTS		Pass
4.1	Requirements of this standard applied in NORMAL USE and reasonably foreseeable misuse		N/A
4.2	A RISK MANAGEMENT PROCESS complying with ISO 14971 was performed:	See appended RM table 4.2	Pass
4.3	ESSENTIAL PERFORMANCE functions identified according to MANUFACTURER'S policy for RISK acceptability in RISK MANAGEMENT FILE	Component power supply	N/A
	ESSENTIAL PERFORMANCE functions maintained following particular tests as applicable	Component power supply	N/A
4.4	EXPECTED SERVICE LIFE stated in RISK MANAGEMENT FILE		N/A
4.5	Alternative means of addressing particular RISKS considered acceptable based on MANUFACTURER'S justification that RESIDUAL RISKS resulting from application of alternative means equal to or less than RESIDUAL RISKS resulting from requirements of this standard	No alternative means	N/A
4.6	RISK MANAGEMENT PROCESS identifies parts that can come into contact with PATIENT but not defined as APPLIED PARTS, subjected to the requirements for APPLIED PARTS, except for Clause 7.2.10	No such part	N/A
4.7	ME EQUIPMENT remained SINGLE FAULT SAFE, or the RISK remained acceptable as determined by Clause 4.2	See appended RM table 4.7	Pass
	Failure of any one component at a time that could result in a HAZARDOUS SITUATION, including those in 13.1, simulated physically or theoretically :	See appended RM table 4.7	Pass
	RISK associated with failure of component during EXPECTED SERVICE LIFE of ME EQUIPMENT taken into account to evaluate if a component should be subjected to failure simulation	See appended RM table 4.7	Pass
4.8	All components and wiring whose failure could result in a HAZARDOUS SITUATION used according to their applicable ratings, except as specified, or by RISK MANAGEMENT PROCESS:		N/A
	Reliability of components used as MEANS OF PROTECTION assessed for conditions of use in ME EQUIPMENT, and they complied with one of the following:		N/A
	a) Applicable safety requirements of a relevant IEC or ISO standard		N/A

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	b) Requirements of this standard applied in the absence of a relevant IEC or ISO standard	N/A
4.9	A COMPONENT WITH HIGH-INTEGRITY CHARACTERISTICS provided because a fault in a particular component can generate an unacceptable RISK	N/A
	COMPONENTS WITH HIGH-INTEGRITY CHARACTERISTICS selected and evaluated consistent with their conditions of use and reasonable foreseeable misuse during EXPECTED SERVICE LIFE of ME EQUIPMENT by reviewing RISK MANAGEMENT FILE	N/A
4.10	Power supply	N/A
4.10.1	ME EQUIPMENT is suitable for connection to a SUPPLY MAINS, specified to be connected to a separate power supply, can be powered by an INTERNAL ELECTRICAL POWER SOURCE, or a combination of the three	N/A
4.10.2	Maximum rated voltage for ME EQUIPMENT intended to be connected to SUPPLY MAINS is 250 V for HAND-HELD ME EQUIPMENT (V):	N/A
	- 250 V d.c. or single-phase a.c., or 500 V polyphase a.c. for ME EQUIPMENT and ME SYSTEMS with a RATED input ≤ 4 kVA (V) :	N/A
	- 500 V for all other ME EQUIPMENT and ME SYSTEMS	N/A
4.11	Power input	N/A
	Steady-state measured input of ME EQUIPMENT or ME SYSTEM at RATED voltage and at operating settings indicated in instructions for use did not exceed marked rating by more than 10%:	N/A
	- Measurements on ME EQUIPMENT or a ME SYSTEM marked with one or more RATED voltage ranges made at both upper and lower limits of the range	N/A
	Measurements made at a voltage equal to the mean value of the range when each marking of RATED input was related to the mean value of relevant voltage range	N/A
	Power input, expressed in volt-amperes, measured with a volt-ampere meter or calculated as the product of steady state current (measured as described above) and supply voltage	N/A

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5	5 GENERAL REQUIREMENTS FOR TESTING ME EQUIPMENT		Pass	
5.1	TYPE TESTS determined in consideration of Clause 4, in particular 4.2		N/A	
	Test not performed when analysis indicated condition being tested was adequately evaluated by other tests or methods		N/A	
	Results of RISK ANALYSIS used to determine combination(s) of simultaneous faults to be tested	No need to perform type test in RM	N/A	
5.2	TYPE TESTS conducted on one representative sample under investigation; multiple samples used simultaneously when validity of results was not significantly affected		N/A	
5.3	a) Tests conducted within the environmental conditions specified in technical description		N/A	
	Temperature (°C), Relative Humidity (%):		-	
	Atmospheric Pressure (kPa):		-	
	b) ME EQUIPMENT shielded from other influences that might affect the validity of tests		N/A	
	c) Test conditions modified and results adjusted accordingly when ambient temperature could not be maintained		N/A	
5.4	a) ME EQUIPMENT tested under least favourable working conditions specified in instructions for use and identified during RISK ANALYSIS, except as noted	See appended RM table 5.4 a)	Pass	
	b) ME EQUIPMENT with adjustable or controlled operating values by anyone other than SERVICE PERSONNEL adjusted to values least favourable for the relevant test per instructions for use	No such part	N/A	
	c) When test results influenced by inlet pressure and flow or chemical composition of a cooling liquid, tests performed within the limits in technical description		N/A	
	d) Potable water used for cooling		N/A	
5.5	Supply voltage during tests was the least favourable of the voltages specified in 4.10 or voltages marked on ME EQUIPMENT (V)		N/A	
	ME EQUIPMENT marked with a RATED frequency range tested at the least favourable frequency within the range (Hz)		N/A	
	ME EQUIPMENT with more than one RATED voltage, or both a.c./ d.c. tested in conditions (see		N/A	

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	5.4) related to the least favourable voltage, nature of supply, and type of current		
	ME EQUIPMENT tested with alternative ACCESSORIES and components specified in ACCOMPANYING DOCUMENTS to result in the least favourable conditions		N/A
	ME EQUIPMENT connected to a separate power supply as specified in instructions for use		N/A
5.6	When failure occurred or probability of future failure detected during sequence of tests, per agreement with manufacturer, all tests affecting results conducted on a new sample		N/A
	Alternatively, upon repair and modification of the sample, only the relevant tests conducted		N/A
5.7	ME EQUIPMENT or parts thereof affected by climatic conditions were set up completely, or partially, with covers detached and subjected to a humidity preconditioning prior to tests of Clauses 8.7.4 and 8.8.3		N/A
	Manually detachable parts removed and treated concurrently with major parts and manually removable ACCESS COVERS were opened and detached		N/A
	ME EQUIPMENT heated to a temperature between T and T + 4 °C for at least 4 h and placed in a humidity chamber with a relative humidity of 93 % $\pm$ 3 % and an ambient within 2 °C of T in the range of + 20 °C to + 32 °C for 48 h		N/A
	When RISK MANAGEMENT PROCESS indicated ME EQUIPMENT can be exposed to high humidity for extended periods (i.e., out-door use), test time extended proportionally (h)		N/A
5.8	Unless stated otherwise, tests in this standard sequenced as in Annex B to prevent results of one test on a subsequent test		N/A
5.9	Determination of APPLIED PARTS and ACCESSIBL	E PARTS	N/A
5.9.1		No applied part. To be evaluated in end product.	N/A
5.9.2	ACCESSIBLE PARTS		N/A
5.9.2.1	Accessibility, when necessary, determined using standard test finger of Fig 6 applied in a bent or straight position		N/A
	Openings preventing entry of test finger of Fig. 6		N/A

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	mechanically tested with a straight un-jointed test finger of the same dimensions with a force of 30 N	
	When the straight un-jointed test finger entered, test with the standard test finger (Fig 6) was repeated, if necessary, by pushing the finger through the opening	N/A
5.9.2.2	Test hook of Fig. 7 inserted in all openings of ME EQUIPMENT and pulled with a force of 20 N for 10 s	N/A
	All additional parts that became accessible checked using standard test finger and by inspection	N/A
5.9.2.3	Conductive parts of actuating mechanisms of electrical controls accessible after removal of handles, knobs, levers and the like regarded as ACCESSIBLE PARTS	N/A
	Conductive parts of actuating mechanisms not considered ACCESSIBLE PARTS when removal of handles, knobs, etc. required use of a TOOL, and inspection of RISK MANAGEMENT FILE indicated the relevant part is unlikely to detach unintentionally during EXPECTED SERVICE LIFE of ME EQUIPMENT	N/A

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6	CLASSIFICATION OF ME EQUIPMENT AND ME	SYSTEMS	N/A
6.2	CLASS I ME EQUIPMENT, externally powered		N/A
	CLASS II ME EQUIPMENT, externally powered		N/A
	INTERNALLY POWERED ME EQUIPMENT		N/A
	EQUIPMENT with means of connection to a SUPPLY MAINS complied with CLASS I or CLASS II ME EQUIPMENT requirements when so connected, and when not connected to SUPPLY MAINS with INTERNALLY POWERED ME EQUIPMENT requirements		N/A
	TYPE B APPLIED PART	No applied parts	N/A
	TYPE BF APPLIED PART		N/A
	TYPE CF APPLIED PART		N/A
	DEFIBRILLATION-PROOF APPLIED PARTS	No applied parts	N/A
6.3	ENCLOSURES classified according to degree of protection against ingress of water and particulate matter (IPN1N2) as per IEC 60529	Ordinary.	N/A
6.4	ME EQUIPMENT or its parts intended to be sterilized classified according to method(s) of sterilization in instructions for use		N/A
6.5	ME EQUIPMENT and ME SYSTEMS intended for use in an OXYGEN RICH ENVIRONMENT classified for such use and complied with 11.2.2		N/A
6.6	CONTINUOUS or Non-CONTINUOUS OPERATION	Continuous	N/A

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7	ME EQUIPMENT IDENTIFICATION, MARKING, A	ND DOCUMENTS	Pass
7.1.1	RISK of poor USABILITY associated with the design of ME EQUIPMENT'S identification and marking addressed in a USABILITY ENGINEERING PROCESS		N/A
7.1.2	Legibility of Markings Test for Markings specified in Clause 7.2-7.6		N/A
7.1.3	Required markings can be removed only with a TOOL or by appreciable force, are durable and remain CLEARLY LEGIBLE during EXPECTED SERVICE LIFE of ME EQUIPMENT in NORMAL USE		N/A
	a) After tests, adhesive labels didn't loosen up or curl up at edges and markings complied with requirements in Clause 7.1.2		N/A
	b) Markings required by 7.2-7.6 remained CLEARLY LEGIBLE after marking durability test :		N/A
7.2	Marking on the outside of ME EQUIPMENT or ME E	EQUIPMENT parts	Pass
7.2.1	At least markings in 7.2.2, 7.2.5, 7.2.6 (not for PERMANENTLY INSTALLED ME EQUIPMENT), 7.2.10, and 7.2.13 were applied when size of EQUIPMENT, its part, an ACCESSORY, or ENCLOSURE did not permit application of all required markings		N/A
	Remaining markings fully recorded in ACCOMPANYING DOCUMENTS	To be evaluated in end application.	N/A
	Markings applied to individual packaging when impractical to apply to ME EQUIPMENT		N/A
	A material, component, ACCESSORY, or ME EQUIPMENT intended for a single use, or its packaging marked "Do Not Reuse" or with symbol 28 of Table D.1 (ISO 7000-1051, DB:2004-01):		N/A
7.2.2	MANUFACTURER's name or trademark marked on ME EQUIPMENT and detachable components:	GLOBTEK or E341350	Pass
	Misidentification does not present an unacceptable risk	See appended RM table 7.2.2	Pass
	MODEL OR TYPE REFERENCE also marked, except when misidentification would not present an unacceptable RISK	See Enclosure 7-02	Pass
	Software forming part of a PEMS identified with a unique identifier, such as revision level or date of release/issue, and identification are available to designated persons	To be evaluated in end application	N/A

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7.2.3	Symbol 11 on Table D.1 (ISO 7000-1641, DB: 2004-01) used, optionally, advice to OPERATOR to consult ACCOMPANYING DOCUMENTS	N/A
	Safety sign 10 on Table D.2 (safety sign IEC 60878 Safety 01) used, advising OPERATOR that ACCOMPANYING DOCUMENTS must be consulted	N/A
7.2.4	ACCESSORIES marked with name or trademark of MANUFACTURER or supplier, and with a MODEL or TYPE REFERENCE	N/A
	Markings applied to individual packaging when not practical to apply to ACCESSORIES	N/A
7.2.5	MODEL or TYPE REFERENCE of equipment to be connected to ME EQUIPMENT to provide power, is marked adjacent to the relevant connection point when this connection could result in an unacceptable RISK	N/A
7.2.6	Connection to the Supply Mains	N/A
	Except for PERMANENTLY INSTALLED ME EQUIPMENT, marking appearing on the outside of part containing SUPPLY MAINS connection and, adjacent to connection point	N/A
	For PERMANENTLY INSTALLED ME EQUIPMENT, NOMINAL supply voltage or range marked inside or outside of ME EQUIPMENT, preferably, adjacent to supply connection terminals	N/A
	- RATED supply voltage(s) or RATED voltage range(s) with a hyphen (-) between minimum and maximum voltages (V, V-V)	N/A
	Multiple RATED supply voltages or multiple RATED supply voltage ranges are separated by (V/V):	N/A
	- Nature of supply (e.g., No. of phases, except single-phase) and type of current:	N/A
	Symbols 1-5, Table D.1 (symbols of IEC 60417- 5032, 5032-1, 5032-2, 5031, and 5033, all DB: 2002-10) used, optionally, for same parameters :	N/A
	- RATED supply frequency or RATED frequency range in hertz	N/A
	- Symbol 9 of Table D.1 (symbol IEC 60417-5172, DB: 2003-02) used for CLASS II ME EQUIPMENT:	N/A
7.2.7	RATED input in amps or volt-amps, or in watts when power factor exceeds 0.9 (A, VA, W)	N/A

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	RATED input for one or more RATED voltage ranges provided for upper and lower limits of the range or ranges when the range(s) is/are greater than $\pm$ 10 % of the mean value of specified range (A, VA,W)		N/A
	Input at mean value of range marked when range limits do not differ by more than 10 % from mean value (A, VA, W)		N/A
	Marking includes long-time and most relevant momentary volt-ampere ratings when provided, each plainly identified and indicated in ACCOMPANYING DOCUMENTS (VA)		N/A
	Marked input of ME EQUIPMENT provided with means for connection of supply conductors of other electrical equipment includes RATED and marked output of such means (A, VA, W)		N/A
7.2.8	Output connectors		N/A
7.2.8.1	See 16.9.2.1 b) for MULTIPLE SOCKET-OUTLETS integral with ME EQUIPMENT	No MSO	N/A
7.2.8.2	Output connectors are marked, except for MULTIPLE SOCKET-OUTLETS or connectors intended for specified ACCESSORIES or equipment		N/A
	Rated Voltage (V), Rated Current (A):		-
	Rated Power (W), Output Frequency (Hz):		-
7.2.9	ME EQUIPMENT or its parts marked with the IP environmental Code per IEC 60529 according to classification in 6.3 (Table D.3, Code 2)		N/A
7.2.10	Degrees of protection against electric shock as classified in 6.2 for all APPLIED PARTS marked with relevant symbols as follows (not applied to parts identified according to 4.6):	No applied parts	N/A
	TYPE B APPLIED PARTS with symbol 19 of Table D.1 (IEC 60417-5840, DB: 2002-10), not applied in such a way as to give the impression of being inscribed within a square in order to distinguish it from symbol IEC 60417-5333		N/A
	TYPE BF APPLIED PARTS with symbol 20 of Table D.1 (IEC 60417-5333, DB: 2002-10)		N/A
	TYPE CF APPLIED PARTS with symbol 21 of Table D.1 (IEC 60417-5335, DB: 2002-10)		N/A
	DEFIBRILLATION-PROOF APPLIED PARTS marked with symbols 25-27 of Table D.1 (IEC		N/A

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	60417-5841, IEC 60417-5334, or IEC 60417-5336, all DB: 2002-10)		
	Proper symbol marked adjacent to or on connector for APPLIED PART, except marked on APPLIED PART when there is no connector, or connector used for more than one APPLIED PART and different APPLIED PARTS with different classifications		N/A
	Safety sign 2 of Table D.2 (ISO 7010-W001) placed near relevant outlet when protection against effect of discharge of a cardiac defibrillator is partly in the PATIENT cable		N/A
	An explanation indicating protection of ME EQUIPMENT against effects of discharge of a cardiac defibrillator depends on use of proper cables included in instructions for use		N/A
7.2.11	ME EQUIPMENT not marked to the contrary assumed to be suitable for CONTINUOUS OPERATION		N/A
	DUTY CYCLE for ME EQUIPMENT intended for non-CONTINUOUS OPERATION appropriately marked to provide maximum "on" and "off" time :		N/A
7.2.12	Type and full rating of a fuse marked adjacent to ACCESSIBLE fuse-holder		N/A
	Fuse type:		-
	Voltage (V) and Current (A) rating		-
	Operating speed (s) and Breaking capacity:		-
7.2.13	A safety sign CLEARLY LEGIBLE and visible after INSTALLATION in NORMAL USE applied to a prominent location of EQUIPMENT that produce physiological effects capable of causing HARM to PATIENT or OPERATOR not obvious to OPERATOR	To be evaluated when installed in an end product	N/A
	Nature of HAZARD and precautions for avoiding or minimizing the associated RISK described in instructions for use		N/A
7.2.14	HIGH VOLTAGE TERMINAL DEVICES on the outside of ME EQUIPMENT accessible without the use of a TOOL marked with symbol 24 of Table D.1 (symbol IEC 60417-5036, DB: 2002-10)	No HV	N/A
7.2.15	Requirements for cooling provisions marked (e.g., supply of water or air):	No cooling	N/A
7.2.16	ME EQUIPMENT with limited mechanical stability		N/A

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7.2.17	Packaging marked with special handling instructions for transport and/or storage	To be evaluated in end product	N/A
	Permissible environmental conditions for transport and storage marked on outside of packaging:		N/A
	Packaging marked with a suitable safety sign indicating premature unpacking of ME EQUIPMENT could result in an unacceptable RISK		N/A
	Packaging of sterile ME EQUIPMENT or ACCESSORIES marked sterile		N/A
7.2.18	RATED maximum supply pressure from an external source marked on ME EQUIPMENT adjacent to each input connector	To be evaluated in end product	N/A
7.2.19	Symbol 7 of Table D.1 (IEC 60417-5017, DB:2002- 10) marked on FUNCTIONAL EARTH TERMINAL	No FE	N/A
7.2.20	Protective means, required to be removed to use a particular function of ME EQUIPMENT with alternate applications, marked to indicate the necessity for replacement when the function is no longer needed		N/A
	No marking applied when an interlock provided		N/A
7.3	Marking on the inside of ME EQUIPMENT or ME EQ	QUIPMENT parts	N/A
7.3.1	Maximum power loading of heating elements or lamp-holders designed for use with heating lamps marked near or in the heater (W)	No heating elements	N/A
	A marking referring to ACCOMPANYING DOCUMENTS provided for heating elements or lamp-holders designed for heating lamps that can be changed only by SERVICE PERSONNEL using a TOOL		N/A
7.3.2	Symbol 24 of Table D.1 (symbol IEC 60417-5036, DB: 2002-10), or safety sign 3 of Table D.2 used to mark presence of HIGH VOLTAGE parts		N/A
7.3.3	Type of battery and mode of insertion when applicable is marked	No battery	N/A
	An identifying marking provided referring to instructions in ACCOMPANYING DOCUMENTS for batteries intended to be changed only by SERVICE PERSONNEL using a TOOL		N/A
	A warning provided indicating replacement of lithium batteries or fuel cells when incorrect replacement by inadequately trained personnel would result in an unacceptable RISK (e.g.,		N/A

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	excessive temperatures, fire or explosion):	
	An identifying marking also provided referring to instructions in ACCOMPANYING DOCUMENTS:	N/A
7.3.4	Fuses, replaceable THERMAL CUT-OUTS and OVER-CURRENT RELEASES, accessible by use of a TOOL, marked by type and full rating at the component or by reference to ACCOMPANYING DOCUMENTS	N/A
	Туре	-
	Voltage (V) and Current (A) rating	-
	Operating speed (s) and Breaking capacity	-
7.3.5	PROTECTIVE EARTH TERMINAL marked with symbol 6 of Table D.1 (IEC 60417-5019, DB: 2002- 10), except for the PROTECTIVE EARTH TERMINAL in an APPLIANCE INLET according to IEC 60320-1	N/A
	Markings on or adjacent to PROTECTIVE EARTH TERMINALS not applied to parts requiring removal to make the connection, and remained visible after connection made	N/A
7.3.6	Symbol 7 of Table D.1 (IEC 60417-5017, DB: 2002 -10) marked on FUNCTIONAL EARTH TERMINALS	No FE N/A
7.3.7	Terminals for supply conductors marked adjacent to terminals, except when no HAZARD would result when interchanging connections	N/A
	Terminal markings included in ACCOMPANYING DOCUMENTS when ME EQUIPMENT too small to accommodate markings	N/A
	Terminals exclusively for neutral supply conductor in PERMANENTLY INSTALLED ME EQUIPMENT marked with Code 1 of Table D.3 (Code in IEC 60445)	N/A
	Marking for connection to a 3-phase supply, if necessary, complies with IEC 60445	N/A
	Markings on or adjacent to electrical connection points not applied to parts requiring removal to make connection, and remained visible after connection made	N/A
7.3.8	For supply connections, use wiring materials suitable for at least X °C (where X > than max temperature measured in terminal box or wiring compartment under NORMAL USE), or equivalent,	N/A

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	marked at the point of supply connections	
	Statement not applied to parts requiring removal to make the connection, and CLEARLY LEGIBLE after connections made	N/A
7.4	Marking of controls and instruments	N/A
7.4.1	The "on" & "off" positions of switch to control power to ME EQUIPMENT or its parts, including mains switch, marked with symbols 12 and 13 of Table D.1 (IEC 60417-5007, DB: 2002-10, and IEC 60417-5008, DB: 2002-10), or	N/A
	- indicated by an adjacent indicator light, or	N/A
	- indicated by other unambiguous means	N/A
	The "on/off" positions of push button switch with bi- stable positions marked with symbol 14 of Table D.1 (IEC 60417-5010 DB: 2002-10), and	N/A
	- status indicated by adjacent indicator light	N/A
	- status indicated by other unambiguous means	N/A
	The "on/off" positions of push button switch with momentary on position marked with symbol 15 of Table D.1 (symbol 60417-5011 DB: 2002-10), or	N/A
	- status indicated by adjacent indicator light	N/A
	- status indicated by other unambiguous means	N/A
7.4.2	Different positions of control devices/switches indicated by figures, letters, or other visual means	N/A
	Controls provided with an associated indicating device when change of setting of a control could result in an unacceptable RISK to PATIENT in NORMAL USE, or	N/A
	- an indication of direction in which magnitude of the function changes	N/A
7.4.3	Numeric indications of parameters on ME EQUIPMENT expressed in SI units according to ISO 31 except the base quantities listed in Table 1 expressed in the indicated units	N/A
	ISO 1000 applied for application of SI units, their multiples, and certain other units	N/A
	All Markings in Sub-clause 7.4 complied with tests and criteria of 7.1.2 and 7.1.3	N/A
7.5	Safety signs	N/A
	Markings used to convey a warning, prohibition or mandatory action mitigating a RISK not obvious to	N/A

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	OPERATOR are safety signs from ISO 7010	
	Affirmative statement together with safety sign placed in instructions for use if insufficient space on ME EQUIPMENT	N/A
	Specified colours in ISO 3864-1 used for safety signs	N/A
	Safety notices include appropriate precautions or instructions on how to reduce RISK(S)	N/A
	Safety signs including any supplementary text or symbols described in instructions for use	N/A
7.6	Symbols	N/A
7.6.1	Meanings of symbols used for marking described in To be evaluated in instructions for use	n end product N/A
7.6.2	Symbols required by this standard conform to IEC or ISO publication referenced	N/A
7.6.3	Symbols used for controls and performance conform to the IEC or ISO publication where symbols are defined, as applicable	N/A
7.7	Colours of the insulation of conductors	N/A
7.7.1	PROTECTIVE EARTH CONDUCTOR identified by green and yellow insulation	N/A
7.7.2	Insulation on conductors inside ME EQUIPMENT forming PROTECTIVE EARTH CONNECTIONS identified by green and yellow at least at terminations	N/A
7.7.3	Green and yellow insulation identify only following conductors:	N/A
	- PROTECTIVE EARTH CONDUCTORS	N/A
	- conductors specified in 7.7.2	N/A
	- POTENTIAL EQUALIZATION CONDUCTORS	N/A
	- FUNCTIONAL EARTH CONDUCTORS	N/A
7.7.4	Neutral conductors of POWER SUPPLY CORDS are "light blue" specified in IEC 60227-1 or IEC 60245-1No power supply of provided.	cord N/A
7.7.5	Colours of conductors in POWER SUPPLY CORDS in accordance with IEC 60227-1 or IEC 60245-1	cord N/A
7.8	Indicator lights and controls	N/A
7.8.1	Red indicator lights mean: Warning (i.e., immediate response by OPERATOR required)	n end N/A

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	Yellow indicator lights mean: Caution (i.e., prompt response by OPERATOR required)		N/A
	Green indicator lights mean: Ready for use		N/A
	Other colours, if used: Meaning other than red, yellow, or green (colour, meaning)		N/A
7.8.2	Red used only for emergency control		N/A
7.9	ACCOMPANYING DOCUMENTS		N/A
7.9.1	ME EQUIPMENT accompanied by documents containing at least instructions for use, and a technical description	To be determined in end- product evaluation.	N/A
	ACCOMPANYING DOCUMENTS identify ME EQUIPMENT by the following, as applicable:		N/A
	- Name or trade-Name of MANUFACTURER and an address the RESPONSIBLE ORGANIZATION can be referred to		N/A
	- MODEL or TYPE REFERENCE		N/A
	When ACCOMPANYING DOCUMENTS provided electronically (e.g., on CDROM), RISK MANAGEMENT PROCESS includes instructions as to what is required in hard copy or as markings on ME EQUIPMENT (for emergency operation)		N/A
	ACCOMPANYING DOCUMENTS specify special skills, training, and knowledge required of OPERATOR or RESPONSIBLE ORGANIZATION and environmental restrictions on locations of use		N/A
	ACCOMPANYING DOCUMENTS written at a level consistent with education, training, and other needs of individuals for whom they are intended		N/A
7.9.2	Instructions for use include the required information		N/A
7.9.2.1	- intended use of ME EQUIPMENT,		N/A
	- frequently used functions, and		N/A
	<ul> <li>known contraindication(s) to use of ME EQUIPMENT</li> </ul>		N/A
	Classifications as in Clause 6, all markings per Clause 7.2, and explanation of safety signs and symbols marked on ME EQUIPMENT		N/A
	Instructions for use are in a language acceptable to the intended operator		N/A
7.9.2.2	Instructions for use include all warning and safety notices		N/A
	Warning statement for CLASS I ME EQUIPMENT		N/A

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N/A N/A N/A N/A
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7.9.2.13	Instructions provided on preventive inspection,	N/A
	Components, ACCESSORIES or ME EQUIPMENT marked for single use, except when required by MANUFACTURER to be cleaned, disinfected, or sterilized prior to use	N/A
7.9.2.12	Information provided on cleaning, disinfection, and sterilization methods, and applicable parameters that can be tolerated by ME EQUIPMENT parts or ACCESSORIES specified	N/A
7.9.2.11	Information provided for the OPERATOR to safely terminate operation of ME EQUIPMENT	N/A
7.9.2.10	A list of all system messages, error messages, and fault messages provided with an explanation of messages including important causes and possible action(s) to be taken to resolve the problem indicated by the message	N/A
	Meanings of figures, symbols, warning statements, abbreviations and indicator lights described in instructions for use	N/A
7.9.2.9	Information provided to operate ME EQUIPMENT including explanation of controls, displays and signals, sequence of operation, connection of detachable parts or ACCESSORIES, replacement of material consumed during operation	N/A
7.9.2.8	Necessary information provided for OPERATOR to bring ME EQUIPMENT into operation including initial control settings, and connection to or positioning of PATIENT prior to use of ME EQUIPMENT, its parts, or ACCESSORIES	N/A
7.9.2.7	Instructions provided indicating not to position ME EQUIPMENT to make it difficult to operate the disconnection device when an APPLIANCE COUPLER or separable plug is used as isolation means to meet 8.11.1 a)	N/A
7.9.2.6	Information provided indicating where the installation instructions may be found or information on qualified personnel who can perform the installation	N/A
	APPLIED PARTS specified	N/A
	Restrictions specified on other equipment or NETWORK/DATA COUPLINGS, other than those forming part of an ME SYSTEM, to which a SIGNAL INPUT/OUTPUT PART may be connected	N/A
	exposure can constitute an unacceptable RISK	

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	calibration, maintenance and its frequency	
	Information provided for safe performance of routine maintenance necessary to ensure continued safe use of ME EQUIPMENT	N/A
	Parts requiring preventive inspection and maintenance to be performed by SERVICE PERSONNEL identified including periods of application	N/A
	Instructions provided to ensure adequate maintenance of ME EQUIPMENT containing rechargeable batteries to be maintained by anyone other than SERVICE PERSONNEL	N/A
7.9.2.14	A list of ACCESSORIES, detachable parts, and materials for use with ME EQUIPMENT provided	N/A
	Other equipment providing power to ME SYSTEM sufficiently described (e.g. part number, RATED VOLTAGE, max or min power, protection class, intermittent or continuous service)	N/A
7.9.2.15	RISKS associated with disposal of waste products, residues, etc., and of ME EQUIPMENT and ACCESSORIES at the end of their EXPECTED SERVICE LIFE are identified, and instructions provided on minimizing these RISKS	N/A
7.9.2.16	Instructions for use include information specified in 7.9.3 or identify where it can be found (e.g. in a service manual)	N/A
7.9.3	Technical description	N/A
7.9.3.1	All essential data provided for safe operation, transport, storage, and measures or conditions necessary for installing ME EQUIPMENT, and preparing it for use including the following:	N/A
	- information as in clause 7.2	N/A
	<ul> <li>permissible environmental conditions of use including conditions for transport and storage</li> </ul>	N/A
	- all characteristics of ME EQUIPMENT including range(s), accuracy, and precision of displayed values or where they can be found	N/A
	- special installation requirements such as max. permissible apparent impedance of supply MAINS	N/A
	- permissible range of values of inlet pressure and flow, and chemical composition of cooling liquid used for cooling	N/A

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	- instructions for correct replacement of interchangeable or DETACHABLE parts specified	N/A
	- a statement for ME EQUIPMENT with a non- DETACHABLE POWER SUPPLY CORD if POWER SUPPLY CORD is replaceable by SERVICE PERSONNEL, and if so, instructions for correct connection and anchoring to ensure compliance with 8.11.3	N/A
	-TYPE and full rating of fuses used in supply MAINS external to PERMANENTLY INSTALLED ME EQUIPMENT, when TYPE and rating of fuses are not apparent from information on RATED current and mode of operation of ME EQUIPMENT	N/A
7.9.3.2	The technical description contains the following required information	N/A
	MANUFACTURER'S optional requirements for minimum qualifications of SERVICE PERSONNEL documented in technical description	N/A
	- a brief description of ME EQUIPMENT, how it functions, and its significant physical and performance characteristics	N/A
	- all applicable classifications in Clause 6, warning and safety notices, and explanation of safety signs marked on ME EQUIPMENT	N/A
	- information as in clause 7.2	N/A
	Technical description separable from instructions for use contains required information, as follows	N/A
	WARNING: If this equipment is modified, appropriate inspection and testing must be conducted to ensure continued safe use of equipment	N/A
	WARNING: Do not modify this equipment without authorization of the manufacturer	N/A
	WARNING: No modification of this equipment is allowed	N/A
	- a warning statement addressing HAZARDS that can result from unauthorized modification of ME EQUIPMENT according to following examples	N/A
	- a description of means for checking oil level in partially sealed oil filled ME EQUIPMENT or its parts when applicable	N/A
	- a description of means of isolating ME EQUIPMENT from supply MAINS, when such means not in ME EQUIPMENT	N/A

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	by MANUFACTURER as replaceable by SERVICE PERSONNEL, and	
	- warnings identifying Nature of HAZARD when replacement of a component could result in an unacceptable RISK, and when replaceable by SERVICE PERSONNEL all information necessary to safely replace the component	N/A
7.9.3.3	Technical description indicates, MANUFACTURER will provide circuit diagrams, component part lists, descriptions, calibration instructions to assist to SERVICE PERSONNEL in parts repair	N/A
7.9.3.4	Means used to comply with requirements of 8.11.1 clearly identified in technical description	N/A

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8	PROTECTION AGAINST ELECTRICAL HAZARDS	6 FROM ME EQUIPMENT	Pass
8.1	Limits specified in Clause 8.4 not exceeded for ACCESSIBLE PARTS and APPLIED PARTS in NORMAL or SINGLE FAULT CONDITIONS		N/A
	NORMAL CONDITION considered as simultaneous occurrence of situations identified in 8.1a)		N/A
	SINGLE FAULT CONDITION considered to include the occurrences as specified in Clause 8.1b):	See appended RM table 8.1b (2) and 8.1b (3)	Pass
	ACCESSIBLE PARTS determined according to 5.9	To be evaluated in end product.	N/A
	LEAKAGE CURRENTS measured according to 8.7		N/A
3.2	Requirements related to power sources		N/A
8.2.1	When ME EQUIPMENT specified for connection to a separate power source other than SUPPLY MAINS, separate power source considered as part of ME EQUIPMENT or combination considered as an ME SYSTEM		N/A
	Tests performed with ME EQUIPMENT connected to separate power supply when one specified		N/A
	When a generic separate power supply specified, specification in ACCOMPANYING DOCUMENTS examined		N/A
3.2.2	No HAZARDOUS SITUATION other than absence of ESSENTIAL PERFORMANCE developed when a connection with wrong polarity made for ME EQUIPMENT from an external d.c. source		N/A
	ME EQUIPMENT connected with correct polarity did not present an unacceptable RISK		N/A
	Protective devices that can be reset by anyone without a TOOL restore correct operation on reset		N/A
3.3	Classification of APPLIED PARTS		N/A
	a) APPLIED PART specified in ACCOMPANYING DOCUMENTS as suitable for DIRECT CARDIAC APPLICATION is TYPE CF	No applied part	N/A
	b) An APPLIED PART provided with a PATIENT CONNECTION intended to deliver electrical energy or an electrophysiological signal to or from PATIENT is TYPE BF or CF APPLIED PART		N/A
	c) An APPLIED PART not covered by a) or b) is a TYPE B, BF, or CF		N/A
	d) Requirements of a TYPE B APPLIED PART		N/A

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	applied to a part in 4.6 to be subjected to requirements for an APPLIED PART (except marking)	
	Requirements for a TYPE BF or CF APPLIED PART applied as in RISK MANAGEMENT PROCESS	N/A
8.4	Limitation of voltage, current or energy	N/A
8.4.1	PATIENT CONNECTIONS intended to deliver Current	N/A
	Limits in 8.4.2 not applied to currents intended to flow through body of PATIENT to produce a physiological effect during NORMAL USE	o patient connection N/A
8.4.2	ACCESSIBLE PARTS including APPLIED PARTS	N/A
	a) Currents from, to, or between PATIENT CONNECTIONS did not exceed limits for PATIENT LEAKAGE CURRENT and PATIENT AUXILIARY CURRENT per Tables 3 and 4 when measured according to Clause 8.7.4	N/A
	b) LEAKAGE CURRENTS from, to, or between ACCESSIBLE PARTS did not exceed limits for TOUCH CURRENT in Cl. 8.7.3 c) when measured per Clause 8.7.4 (mA)	N/A
	c) Limits specified in b) not applied to parts when probability of a connection to a PATIENT, directly or through body of OPERATOR, is negligible in NORMAL USE, and the OPERATOR is appropriately instructed	N/A
	- accessible contacts of connectors	N/A
	- contacts of fuseholders accessible during replacement of fuse	N/A
	- contacts of lampholders accessible after removal of lamp	N/A
	- parts inside an ACCESS COVER that can be opened without a TOOL, or where a TOOL is needed but the instructions for use instruct an OPERATOR other than SERVICE PERSONNEL to open the relevant ACCESS COVER	N/A
	Voltage to earth or to other ACCESSIBLE PARTS did not exceed 42.4 V peak a.c. or 60 V d.c. for above parts in NORMAL or single fault condition (V a.c. or d.c.)	N/A
	Limit of 60 V d.c. applied with no more than 10% peak-to-peak ripple, and when ripple larger than specified value, 42.4 V peak limit applied (V d.c.). :	N/A

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	Energy did not exceed 240 VA for longer than 60 s or stored energy available did not exceed 20 J at a potential up to 2 V (VA or J)	N/A
	LEAKAGE CURRENT limits referred to in 8.4.2 b) applied when voltages higher than limits in 8.4.2 c) were present (mA)	N/A
	d) Voltage and energy limits specified in c) above also applied to the following:	N/A
	<ul> <li>- internal parts, other than contacts of plugs, connectors and socket-outlets, touchable by test pin in Fig 8 inserted through an opening in an ENCLOSURE; and</li> </ul>	N/A
	- internal parts touchable by a metal test rod with a diameter of 4 mm and a length of 100 mm, inserted through any opening on top of ENCLOSURE or through any opening provided for adjustment of pre-set controls using a TOOL	N/A
	Test pin or the test rod inserted through relevant openings with minimal force of no more than 1 N	N/A
	Test rod inserted in every possible position through openings provided for adjustment of pre-set controls that can be adjusted in NORMAL USE, with a force of 10 N	N/A
	Test repeated with a TOOL specified in instructions for use	N/A
	Test rod freely and vertically suspended through openings on top of ENCLOSURE	N/A
	e) Devices used to de-energize parts when an ACCESS COVER opened without a TOOL gives access to parts at voltages above levels permitted by this Clause comply with 8.11.1 for mains isolating switches and remain effective in SINGLE FAULT CONDITION	N/A
	A TOOL is required when it is possible to prevent the devices from operating	N/A
3.4.3	Worst case voltage between pins of plug and between either supply pin and ENCLOSURE did not exceed 60 V one s after disconnecting the plug of ME EQUIPMENT or its parts (V)	N/A
	A triggering circuit used to ensure disconnection occurred at peak of supply voltage waveform	N/A
	When voltage exceeded 60 V, calculated or measured stored charge didn't exceed 45 uC:	N/A

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8.4.4	Residual voltage of conductive parts of capacitive circuits, having become accessible after ME EQUIPMENT was de-energized after removal of ACCESS COVERS, didn't exceed 60V or calculated stored charge didn't exceed 45uC :		N/A
	A device manually discharging capacitors used when automatic discharging was not possible and ACCESS COVERS could be removed only with aid of a TOOL		N/A
	Capacitor(s) and connected circuitry marked with symbol 24 of Table D.1 (IEC 60417-5036, DB: 2002-10), and manual discharging device specified in technical description		N/A
8.5	Separation of parts		N/A
8.5.1	MEANS OF PROTECTION (MOP)		N/A
8.5.1.1	Two MEANS of PROTECTION provided for ME EQUIPMENT to prevent APPLIED and other ACCESSIBLE PARTS from exceeding limits in 8.4		N/A
	Each MEANS OF PROTECTION categorized as a MEANS OF PATIENT PROTECTION or a MEANS OF OPERATOR PROTECTION, taking into account Clause 4.6, and flow chart in Fig A.12		N/A
	Varnishing, enameling, oxidation, and similar protective finishes and coatings with sealing compounds replasticizing at temperatures expected during operation and sterilization disregarded as MEANS OF PROTECTION	No such situation.	N/A
	Coatings and other insulation intended as a MEANS OF PROTECTION complying with IEC 60950-1:2001 considered acceptable as a MEANS OF OPERATOR PROTECTION but not automatically as a MEANS OF PATIENT PROTECTION		N/A
	RISK MANAGEMENT PROCESS taken into consideration for MEANS OF PATIENT PROTECTION		N/A
	Components and wiring forming a MEANS OF PROTECTION comply with 8.10		N/A
	Insulation, CREEPAGE, CLEARANCES, components or earth connections not complying with 8.5.1.2 and 8.5.1.3 not considered as MEANS OF PROTECTION, and failure of these parts regarded as NORMAL CONDITION	No such situation	N/A
8.5.1.2	MEANS OF PATIENT PROTECTION (MOPP)		N/A

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	Solid insulation forming a MEANS OF PATIENT PROTECTION complied with dielectric strength test of Clause 8.8 at test voltage of Table 6		N/A
	CREEPAGE and CLEARANCES forming a MEANS OF PATIENT PROTECTION complied with Table 12		N/A
	PROTECTIVE EARTH CONNECTIONS forming a MEANS OF PATIENT PROTECTION complied with Cl. 8.6		N/A
	A Y1 capacitor complying with IEC 60384-14 and having passed dielectric strength test for two MEANS OF PATIENT PROTECTION considered equivalent to one MEANS OF PATIENT PROTECTION		N/A
	Two capacitors used in series, each RATED for total WORKING VOLTAGE across the pair and have the same NOMINAL capacitance		N/A
	Voltage Total Working (V) and C Nominal (uF):		-
3.5.1.3	MEANS OF OPERATOR PROTECTION (MOOP)		N/A
	Solid insulation forming a MEANS OF OPERATOR PROTECTION complied with:		N/A
	- dielectric strength test of 8.8 at test voltage of Table 6; or		N/A
	- requirements of IEC 60950-1 for INSULATION CO-ORDINATION		N/A
	CREEPAGE and CLEARANCES forming a MEANS OF OPERATOR PROTECTION complied with:	See Table to insulation diagram	N/A
	- limits of Tables 13 to 16 (inclusive); or		N/A
	- requirements of IEC 60950-1 for INSULATION CO-ORDINATION		N/A
	PROTECTIVE EARTH CONNECTIONS forming a MEANS OF OPERATOR PROTECTION complied with Cl. 8.6, or	No PE	N/A
	- requirements and tests of IEC 60950-1 for protective earthing		N/A
	A Y2 capacitor complying with IEC 60384-14 and passing dielectric strength test for one MEANS OF OPERATOR PROTECTION considered equivalent to one MEANS OF OPERATOR PROTECTION:		N/A
	A Y1 capacitor complying with IEC 60384-14 and having passed dielectric strength test for two		N/A

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	MEANS OF OPERATOR PROTECTION considered equivalent to two MEANS OF OPERATOR PROTECTION		
	Two capacitors used in series each RATED for total WORKING VOLTAGE across the pair and have the same NOMINAL capacitance	1	N/A
	Voltage Total Working (V) and C Nominal (uF):		-
	Points at which impedances of components, CREEPAGE, CLEARANCES, PROTECTIVE EARTH CONNECTIONS or insulation, prevent ACCESSIBLE PARTS from exceeding limits in 8.4 examined whether a failure at any of these points is to be regarded as a NORMAL or SINGLE FAULT CONDITION		N/A
	A MEANS OF PROTECTION protecting APPLIED PARTS, or parts identified by 4.6 as parts subject to the same requirements, considered MEANS OF PATIENT PROTECTION	1	N/A
	A MEANS OF PROTECTION protecting other parts considered MEANS OF OPERATOR PROTECTION	1	N/A
8.5.2	Separation of PATIENT CONNECTIONS	1	N/A
8.5.2.1	PATIENT CONNECTIONS of F-TYPE APPLIED PART separated from all other parts by equivalent to one MEANS OF PATIENT PROTECTION for a WORKING VOLTAGE equal to maximum MAINS VOLTAGE and complied with limit for PATIENT LEAKAGE CURRENT at 110 % of max. MAINS VOLTAGE	No patient connection	N/A
	Separation requirement not applied between multiple functions of a single F-TYPE APPLIED PART	1	N/A
	PATIENT CONNECTIONS treated as one APPLIED PART in the absence of electrical separation between PATIENT CONNECTIONS of same or another function	٩	N/A
	MANUFACTURER has defined if multiple functions are to be considered as all within one APPLIED PART or as multiple APPLIED PARTS	1	N/A
	Classification as TYPE BF, CF, or DEFIBRILLATION-PROOF applied to one entire APPLIED PART		N/A
			-

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	Dielectric strength test conducted per 8.8.3:	N/A
	CREEPAGE and CLEARANCES measured per 8.9 and Tables 11 to 16 as applicable	N/A
	A protective device connected between PATIENT CONNECTIONS of an F-TYPE APPLIED PART and ENCLOSURE to protect against excessive voltages did not operate below 500 V r.m.s.	N/A
8.5.2.2	PATIENT CONNECTIONS of a TYPE B APPLIED PART not PROTECTIVELY EARTHED are separated by one MEANS OF PATIENT PROTECTION from metal ACCESSIBLE PARTS not PROTECTIVELY EARTHED	N/A
	- except when metal ACCESSIBLE PART is physically close to APPLIED PART and can be regarded as a part of APPLIED PART; and	N/A
	- RISK that metal accessible PART will make contact with a source of voltage or LEAKAGE current above permitted limits is acceptably low	N/A
	LEAKAGE CURRENT tests conducted per 8.7.4:	N/A
	Dielectric strength test conducted per 8.8.3:	N/A
	Relevant CREEPAGE and CLEARANCES measured per 8.9 and Tables 11 to 16 as applicable	N/A
	The RISK MANAGEMENT FILE reviewed	N/A
8.5.2.3	A connector on a PATIENT lead located at the end of the lead remote from PATIENT, with conductive part not separated from all PATIENT CONNECTIONS by one MEANS OF PATIENT PROTECTION for a WORKING VOLTAGE equal to MAXIMUM MAINS VOLTAGE	N/A
	- cannot be connected to EARTH or hazardous No patient connection voltage while the PATIENT CONNECTIONS are in contact with PATIENT	N/A
	- conductive part of connector not separated from all PATIENT CONNECTIONS did not come into contact with a flat conductive plate of not less than 100 mm diameter	N/A
	- CLEARANCE between connector pins and a flat surface is at least 0.5 mm	N/A
	<ul> <li>- conductive part pluggable into a mains socket protected from making contact with parts at MAINS VOLTAGE by insulation with a CREEPAGE DISTANCE of at least 1.0 mm, a 1500 V dielectric strength and complying with 8.8.4.1</li> </ul>	N/A

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	- required test finger did not make electrical contact with conductive part when applied against access openings with a force of 10 N, except when RISK MANAGEMENT PROCESS indicated no unacceptable RISK existed from contact with objects other than a mains	N/A
8.5.3	MAXIMUM MAINS VOLTAGE	N/A
	- MAXIMUM MAINS voltage determined to be the highest RATED supply voltage for single-phase or d.c. supply MAINS powered ME EQUIPMENT, as well as INTERNALLY powered ME EQUIPMENT with a means of connection to a supply MAINS (V)	N/A
	When less than 100 V, MAXIMUM MAINS VOLTAGE was 250 V	N/A
	- MAXIMUM MAINS voltage was the highest RATED phase to neutral supply voltage for poly- phase ME EQUIPMENT (V)	N/A
	- for other INTERNALLY POWERED ME EQUIPMENT, maximum mains voltage was 250 V	N/A
8.5.4	WORKING VOLTAGE	N/A
	- Input supply voltage to ME EQUIPMENT was RATED voltage or voltage within RATED range resulting in highest measured value (V)	N/A
	- WORKING VOLTAGE for d.c. voltages with superimposed ripple was average value when peak-to-peak ripple less than 10% of average value or peak voltage when peak-to-peak ripple exceeding 10% of average value (V)	N/A
	- WORKING voltage for each means of PROTECTION forming DOUBLE insulation was voltage DOUBLE insulation, as a whole, subjected to (V)	N/A
	<ul> <li>Intentional or accidental earthing of PATIENT regarded as a NORMAL CONDITION for WORKING voltage involving a PATIENT connection not connected to EARTH</li> </ul>	N/A
	- WORKING voltage between PATIENT CONNECTIONS of an F-TYPE APPLIED PART and ENCLOSURE was highest voltage appearing across insulation in NORMAL use including earthing of any PART of APPLIED PART (V)	N/A
	- WORKING voltage for DEFIBRILLATION-PROOF APPLIED parts determined disregarding possible presence of DEFIBRILLATION voltages	N/A

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	- WORKING voltage was equal to resonance voltage in case of motors provided with capacitors between the point where a winding and a capacitor are connected together and a terminal for external CONDUCTORS (V)		N/A
8.5.5	DEFIBRILLATION-PROOF APPLIED PARTS	No applied part	N/A
8.5.5.1	Classification "DEFIBRILLATION-PROOF APPLIED PART" applied to one APPLIED PART in its entirety, but not separate functions of same APPLIED PART		N/A
	Possibility of an OPERATOR receiving a shock from such parts taken into consideration in RISK MANAGEMENT PROCESS		N/A
	Isolation of PATIENT CONNECTIONS of a DEFIBRILLATION-PROOF APPLIED PART from other parts of ME EQUIPMENT accomplished as follows:		N/A
	a) No hazardous electrical energies appear during a discharge of cardiac defibrillator		N/A
	b) ME EQUIPMENT complied with relevant requirements of this standard, providing BASIC SAFETY and ESSENTIAL PERFORMANCE following exposure to defibrillation voltage, and recovery time stated in ACCOMPANYING DOCUMENTS		N/A
8.5.5.2	Means provided to limit energy delivered to a 100 Ohm load to at least 90% of energy delivered to this load with ME EQUIPMENT disconnected:		N/A
8.6	Protective and functional earthing and potential equ	alization of ME EQUIPMENT	N/A
8.6.1	Requirements of 8.6.2 to 8.6.8 applied		N/A
	Parts complying with IEC 60950-1 for protective earthing and serving as MEANS OF OPERATOR PROTECTION but not PATIENT PROTECTION exempted from requirements of 8.6.2 to 8.6.8		N/A
8.6.2	PROTECTIVE EARTH TERMINAL is suitable for connection to an external protective earthing system by a PROTECTIVE EARTH CONDUCTOR in a POWER SUPPLY CORD and a suitable plug or by a FIXED PROTECTIVE EARTH CONDUCTOR		N/A
	Clamping means of PROTECTIVE EARTH TERMINAL of ME EQUIPMENT for FIXED supply conductors or POWER SUPPLY CORDS comply with 8.11.4.3, and cannot be loosened without		N/A

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	TOOL		
	Screws for internal PROTECTIVE EARTH CONNECTIONS completely covered or protected against accidental loosening from outside		N/A
	Earth pin of APPLIANCE INLET forming supply connection to ME EQUIPMENT regarded as PROTECTIVE EARTH TERMINAL		N/A
	PROTECTIVE EARTH TERMINAL not used for mechanical connection between different parts of ME EQUIPMENT or securing components not related to protective or functional earthing		N/A
3.6.3	PROTECTIVE EARTH CONNECTION not used for a moving part, except when MANUFACTURER demonstrated in RISK MANAGEMENT FILE connection will remain reliable during EXPECTED SERVICE LIFE		N/A
3.6.4	a) PROTECTIVE EARTH CONNECTIONS carried fault currents reliably and without excessive voltage drop		N/A
	b) Allowable TOUCH CURRENT and PATIENT LEAKAGE CURRENT in SINGLE FAULT CONDITION were not exceeded, when impedance of PROTECTIVE EARTH CONNECTIONS exceeded values in 8.6.4 a) and Table 8.6.4, due to limited current capability of relevant circuits		N/A
3.6.5	Surface coatings		N/A
	Poorly conducting surface coatings on conductive elements removed at the point of contact		N/A
	Coating not removed when requirements for impedance and current-carrying capacity met		N/A
3.6.6	Plugs and sockets		N/A
	PROTECTIVE EARTH CONNECTION where connection between SUPPLY MAINS and ME EQUIPMENT or between separate parts of ME EQUIPMENT made via a plug and socket was made before and interrupted after supply connections		N/A
	- APPLIED also where interchangeable parts are PROTECTIVELY EARTHED		N/A
3.6.7	Terminal for connection of a POTENTIAL EQUALIZ	ATION CONDUCTOR	N/A
	- terminal is accessible to OPERATOR with ME EQUIPMENT in any position of NORMAL use	No such conductor	N/A

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	- RISK of accidental disconnection minimized in NORMAL use		N/A
	- terminal allows conductor to be detached without a TOOL		N/A
	<ul> <li>terminal not used for a PROTECTIVE EARTH connection</li> </ul>		N/A
	- Terminal marked with symbol 8 of Table D.1 (i.e., symbol IEC 60417-5021)		N/A
	<ul> <li>- instructions for use contain information on function and use of POTENTIAL EQUALIZATION conductor together with a REFERENCE to requirements of this standard</li> </ul>		N/A
	POWER SUPPLY CORD does not incorporate a POTENTIAL EQUALIZATION CONDUCTOR		N/A
8.6.8	FUNCTIONAL EARTH TERMINAL not used to provide a PROTECTIVE EARTH CONNECTION		N/A
8.6.9	Class II ME EQUIPMENT		N/A
	Third conductor of POWER SUPPLY CORD connected to protective earth contact of MAINS PLUG provided with CLASS II ME EQUIPMENT with isolated internal screens used as functional earth connection to the screen's FUNCTIONAL EARTH TERMINAL, coloured green and yellow	No FE	N/A
	Two MEANS OF PROTECTION provided by insulation of internal screens and all internal wiring connected to them with a related explanation in technical description		N/A
8.7	LEAKAGE CURRENTS and PATIENT AUXILIARY	CURRENTS	N/A
8.7.1	a) Electrical isolation providing protection against electric shock limits currents to values in 8.7.3:		N/A
	b) Specified values of EARTH LEAKAGE, TOUCH, PATIENT LEAKAGE, and PATIENT AUXILIARY CURRENTS applied in combination of conditions in appended Table 8.7		N/A
8.7.2	Allowable values specified in 8.7.3 applied under SINGLE FAULT CONDITIONS of 8.1 b), except		N/A
	<ul> <li>where insulation used in conjunction with a PROTECTIVE EARTH CONNECTION, insulation short circuited only under conditions in 8.6.4 b)</li> </ul>		N/A
	- the only single FAULT CONDITION for EARTH LEAKAGE current was interruption of one supply conductor at a time		N/A

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	- LEAKAGE CURRENTS and PATIENT AUXILIARY current not measured in single FAULT CONDITION of short circuiting of one constituent PART of DOUBLE insulation	N/A
	SINGLE FAULT CONDITIONS not applied at same time as special test conditions of MAXIMUM MAINS VOLTAGE on APPLIED PARTS and non- PROTECTIVELY EARTHED parts of ENCLOSURE	N/A
8.7.3	Allowable Values	N/A
	a) Allowable values in 8.7.3 b), c), and d) measured based on, and are relative to currents in Fig 12 a), or by a device measuring frequency contents of currents as in Fig 12 b:	N/A
	b) Allowable values of PATIENT LEAKAGE and AUXILIARY CURRENTS are according to Tables 3 & 4, and values of a.c. are relative to currents having a frequency not less than 0.1Hz:	N/A
	c) TOUCH CURRENT did not exceed 100 μA in NORMAL CONDITION and 500 μA in SINGLE FAULT CONDITION (ITNC, ITSFC):	N/A
	d) EARTH LEAKAGE CURRENT did not exceed 5 mA in NORMAL CONDITION and 10 mA in SINGLE FAULT CONDITION (IENC, IESFC)	N/A
	Higher values of EARTH LEAKAGE CURRENT permitted for PERMANENTLY INSTALLED ME EQUIPMENT connected to a supply circuit supplying only this ME EQUIPMENT according to local regulations or IEC 60364-7-710:	N/A
	e) LEAKAGE CURRENTS, regardless of waveform and frequency, did not exceed 10 mA r.m.s. in NORMAL or in SINGLE FAULT CONDITION (measured with a non-frequency-weighted device:	N/A
8.7.4	LEAKAGE and PATIENT AUXILIARY CURRENTS measurements:	N/A
8.8	Insulation	Pass
8.8.1	Insulation relied on as MEANS OF PROTECTION, including REINFORCED INSULATION and insulation between parts of opposite polarity of MAINS PART on SUPPLY MAINS side of mains fuse or OVER-CURRENT RELEASE	N/A
	Insulation exempted from test (complies with clause 4.8)	N/A
	Insulation forming MEANS OF OPERATOR	N/A

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	PROTECTION and complying with IEC 60950-1 for INSULATION CO-ORDINATION not tested as in 8.8		
8.8.2	Distance through solid insulation or use of thin shee	t material	N/A
	Solid insulation forming SUPPLEMENTARY or REINFORCED INSULATION for a PEAK WORKING VOLTAGE greater than 71 V provided with:		N/A
	a) 0.4 mm, min, distance through insulation, or		N/A
	<ul> <li>b) does not form part of an ENCLOSURE and not subject to handling or abrasion during NORMAL USE, and comprised of:</li> </ul>		N/A
	- at least two layers of material, each passed the appropriate dielectric strength test, or		N/A
	- three layers of material, for which all combinations of two layers together passed the appropriate dielectric strength test		N/A
	Dielectric strength test for one or two layers was same as for one MEANS OF PROTECTION for SUPPLEMENTARY INSULATION		N/A
	Dielectric strength test for one or two layers was same as for two MEANS OF PROTECTION for REINFORCED INSULATION		N/A
	BASIC, SUPPLEMENTARY, and REINFORCED INSULATION required between windings of wound components separated by interleaved insulation complying with a) or b), or both, except when	No such wire	N/A
	c) Wire with solid insulation, other than solvent based enamel, complying with a)		N/A
	d) Wire with multi-layer extruded or spirally wrapped insulation complying with b) and complying with Annex L		N/A
	e) Finished wire with spirally wrapped or multi-layer extruded insulation, complying with Annex L		N/A
	- BASIC insulation: minimum two wrapped layers or one extruded layer		N/A
	- SUPPLEMENTARY insulation: minimum two layers, wrapped or extruded		N/A
	- REINFORCED insulation: minimum three layers, wrapped or extruded		N/A
	In d) and e), for spirally wrapped insulation with CREEPAGE DISTANCES between layers less		N/A

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	than in Table 12 or 16 (Pollution Degree 1) depending on type of insulation, path between layers sealed as a cemented joint in 8.9.3.3 and test voltages of TYPE TESTS in L.3 equal 1.6 times of normal values		
	Protection against mechanical stress provided where two insulated wires or one bare and one insulated wire are in contact inside wound component, crossing at an angle between 45° and 90° and subject to winding tension		N/A
	Finished component complied with routine dielectric strength tests of 8.8.3		N/A
	Tests of Annex L not repeated since material data sheets confirm compliance:		N/A
8.8.3	Dielectric Strength		N/A
	Solid insulating materials with a safety function withstood dielectric strength test voltages		N/A
8.8.4	Insulation other than wire insulation		Pass
8.8.4.1	Resistance to heat retained by all insulation and insulating partition walls during EXPECTED SERVICE LIFE of ME EQUIPMENT		Pass
	ME EQUIPMENT and RISK MANAGEMENT FILE examined in conjunction with resistance to moisture, dielectric strength, and mechanical strength tests	See appended RM table 8.8.4.1	Pass
	Satisfactory evidence of compliance provided by manufacturer for resistance to heat		N/A
	Tests conducted in absence of satisfactory evidence for resistance to heat		N/A
	a) ENCLOSURE and other external parts of insulating material, except insulation of flexible cords and parts of ceramic material, subjected to ball-pressure test using apparatus of Fig 21		N/A
	b) Parts of insulating material supporting uninsulated parts of MAINS PART subjected to ball-pressure test in a), except at 125 °C ± 2 °C or ambient indicated in technical description ±2°C plus temperature rise determined during test of 11.1 of relevant part, if higher (°C)	See appended table 8.8.4.1 this test is performed on input connector which only for the open frame construction	Pass
	Test not performed on parts of ceramic material, insulating parts of commutators, brush-caps, and similar, and on coil formers not used as REINFORCED INSULATION		N/A

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8.8.4.2	Resistance to environmental stress		N/A
	Insulating characteristics and mechanical strength of all MEANS OF PROTECTION not likely to be impaired by environmental stresses including deposition of dirt resulting from wear of parts within EQUIPMENT, potentially reducing CREEPAGE and CLEARANCES below 8.9	No rubber	N/A
	Ceramic and similar materials not tightly sintered, and beads alone not used as SUPPLEMENTARY or REINFORCED INSULATION		N/A
	Insulating material with embedded heating conductors considered as one MEANS OF PROTECTION but not two MEANS OF PROTECTION		N/A
	Parts of natural latex rubber aged by suspending samples freely in an oxygen cylinder containing commercial oxygen to a pressure of 2.1 MPa ± 70 kPa, with an effective capacity of at least 10 times volume of samples		N/A
	There were no cracks visible to naked eyes after samples kept in cylinder at 70 $^{\circ}$ C ± 2 $^{\circ}$ C for 96h, and afterwards, left at room temperature for at least 16h		N/A
8.9	CREEPAGE DISTANCES and AIR CLEARANCES		N/A
8.9.1.1	CREEPAGE DISTANCES and AIR CLEARANCES are to values in Tables 11 to 16 (inclusive), except as specified in Clauses 8.9.1.2 to 8.9.1.15		N/A
8.9.1.2	Tables 11 to 16 (inclusive) not applied to CREEPAGE and CLEARANCES forming MEANS OF OPERATOR PROTECTION per IEC 60950-1 for INSULATION CO-ORDINATION and used under conditions compliance was tested		N/A
8.9.1.3	Specified min CLEARANCE applied as min CREEPAGE for CREEPAGE DISTANCES across glass, mica, ceramic and other inorganic insulating materials with similar tracking characteristics		N/A
8.9.1.4	When min CREEPAGE derived from Tables 11 to 16 (inclusive) was less than min applicable CLEARANCE, value of min CLEARANCE applied as min CREEPAGE DISTANCE		N/A
8.9.1.5	ME EQUIPMENT RATED to operate at an altitude of 2000 m		N/A
	ME EQUIPMENT RATED to operate at an altitude specified by MANUFACTURER (m)		N/A

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	Operating altitude corresponding to actual air pressure for ME EQUIPMENT intended for pressurized environments (e.g., aircraft) used to determine multiplication factor from Table 8, and AIR CLEARANCE was multiplied by this factor	N/A
	CREEPAGE DISTANCES not subjected to multiplication factors, but were at least as large as the resulting value for AIR CLEARANCE	N/A
8.9.1.6	When WORKING VOLTAGE was between those in Tables 11 to 16 (inclusive), CREEPAGE and CLEARANCES calculated as follows:	N/A
	- CREEPAGE DISTANCES determined by linear interpolation between the nearest two values, and the calculated spacing rounded off to the next higher 0.1 mm increment (mm)	N/A
	- CLEARANCES for PEAK WORKING VOLTAGES above 2800 V peak or d.c. determined by linear interpolation between the nearest two values, and the calculated spacing rounded off to the next higher 0.1 mm increment (mm)	N/A
	- for AIR CLEARANCES corresponding to PEAK WORKING VOLTAGE up to 2800 V peak or d.c., the higher of the two values applied	N/A
8.9.1.7	Material groups classified in accordance with Table 9 (Material Group)	N/A
	Material group evaluated using 50 drops of solution A based on test data for material according to IEC 60112	N/A
	Material of unknown group considered IIIb	N/A
8.9.1.8	- Pollution degree 1: Micro-environment sealed to exclude dust and moisture	N/A
	- Pollution degree 2: Micro-environment with non- conductive pollution, except occasional conductivity caused by condensation	N/A
	- Pollution degree 3: Micro-environment subject to conductive pollution, or dry non-conductive pollution that could become conductive due to expected condensation	N/A
	- Pollution degree 4: Micro-environment where continuous conductivity occurs due to conductive dust, rain, or other wet conditions	N/A
	Pollution degree 4 not used for insulation providing a MEANS OF PROTECTION	N/A

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	Where insulation between MAINS PART and earth might be compromised, measures such as maintenance ensure that micro-environment is mitigated to a lower pollution degree	N/A
8.9.1.9	Overvoltage category classification; value of MAINS TRANSIENT VOLTAGE determined from overvoltage category per IEC60664-1 and NOMINAL a.c. MAINS VOLTAGE using Table 10	N/A
	V MT Peak (V):	-
	V MN r.m.s. (V)	-
8.9.1.10	AIR CLEARANCE for MAINS PARTS (operating on RATED MAINS VOLTAGES up to 300 V) were values for r.m.s. or d.c. RATED MAINS VOLTAGE in Table 13 plus additional CLEARANCE in Table 14 for PEAK WORKING VOLTAGE	N/A
8.9.1.11	SUPPLY MAINS overvoltage category II applied according to IEC 60664-1	N/A
	For ME EQUIPMENT intended for overvoltage category III, Tables 13 to 15 (inclusive) not used for clearance, instead values in the next MAINS TRANSIENT VOLTAGE column upwards used	N/A
	When PATIENT protection (Table 12) is required for use of ME EQUIPMENT on overvoltage category III SUPPLY MAINS, guidance provided on values required in the rationale for CI. 8.9 used	N/A
8.9.1.12	A SECONDARY CIRCUIT derived from a SUPPLY MAINS, normally, considered to be overvoltage category I according to IEC 60664-1 when the MAINS PART is overvoltage category II (Table 15)	N/A
	Table 15 applied to earthed SECONDARY CIRCUIT or INTERNALLY POWERED ME EQUIPMENT	N/A
	Requirements for primary circuits in Tables 13 and 14 used for an unearthed SECONDARY CIRCUIT derived from a SUPPLY MAINS	N/A
	Table 15 applied when SECONDARY CIRCUIT was separated from MAINS PART by a functionally earthed or PROTECTIVELY EARTHED metal screen or transients in SECONDARY CIRCUIT were below the levels expected for overvoltage category I	N/A
	Table 15 column for circuits not subject to transient overvoltages applied to:	N/A

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	- d.c. SECONDARY CIRCUITS reliably connected to earth and have capacitive filtering limiting peak-to-peak ripple to 10 % of d.c. voltage, and		N/A
	- CIRCUITS in INTERNALLY powered ME EQUIPMENT		N/A
8.9.1.13	For PEAK WORKING VOLTAGES above 1400 V peak or d.c. Table 15 not applied since all the following conditions were met:	Max working voltage less than 1400V	N/A
	- CLEARANCE was at least 5 mm		N/A
	- insulation complied with dielectric strength test of 8.8.3 using an a.c. test voltage with an r.m.s. value equal to 1.06 times PEAK WORKING VOLTAGE, or		N/A
	- a d.c. test voltage equal to peak value of a.c. test voltage with an r.m.s. value equal to 1.06 times PEAK WORKING VOLTAGE, and		N/A
	- CLEARANCE path was partly or entirely through AIR or along the surface of an insulating material of material group I		N/A
	Dielectric strength test conducted only across part(s) of the path that are through air when CLEARANCE path was also partly along surface of a non- group I material		N/A
3.9.1.14	Minimum CREEPAGE DISTANCES for two MEANS OF OPERATOR PROTECTION obtained by doubling values in Table 16 for one MEANS OF OPERATOR PROTECTION		N/A
8.9.1.15	CREEPAGE DISTANCES and AIR CLEARANCES for DEFIBRILLATION-PROOF APPLIED PARTS are 4 mm or more to meet 8.5.5.1		N/A
8.9.2	a) Short circuiting of each single one of CREEPAGE DISTANCES and CLEARANCES in turn did not result in a HAZARDOUS SITUATION for insulation in MAINS PART between parts of opposite polarity, therefore, min CREEPAGE and CLEARANCES not applied	Sufficient BOP spacing provided.	N/A
	b) Contribution to CREEPAGE DISTANCES of grooves or air gaps less than 1 mm wide limited to widths		N/A
	c) Relative positioning of CLEARANCE providing a MEANS OF PROTECTION is such that the relevant parts are rigid and located by molding, or there is no reduction of a distance below specified value by deformation or movement of parts		N/A

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	Normal or likely limited movements of relevant parts taken into consideration when calculating minimum AIR CLEARANCE		N/A
8.9.3	Spaces filled by insulating compound		N/A
8.9.3.1	Only solid insulation requirements applied where distances between conductive parts filled with insulating compound were such that CLEARANCES and CREEPAGE DISTANCES don't exist	No insulating compound provided.	N/A
	Thermal cycling, humidity preconditioning, and dielectric strength tests in 8.9.3.2 and 8.9.3.4 or 8.9.3.3 and 8.9.3.4 conducted		N/A
8.9.3.2	For insulating compound forming solid insulation between conductive parts, a single sample subjected to thermal cycling PROCEDURE of 8.9.3.4 followed by humidity preconditioning per 5.7 (for 48 hours), followed by dielectric strength test (clause 8.8.3), test voltage multiplied by 1.6		N/A
	Cracks or voids in insulating compound affecting homogeneity of material didn't occur		N/A
8.9.3.3	Where insulating compound forms a cemented joint with other insulating parts, three samples tested for reliability of joint		N/A
	A winding of solvent-based enameled wire replaced for the test by a metal foil or by a few turns of bare wire placed close to cemented joint, and three samples tested as follows:		N/A
	- One sample subjected to thermal cycling PROCEDURE of 8.9.3.4, and immediately after the last period at highest temperature during thermal cycling, it was subjected to dielectric strength test of 8.8.3 except at 1.6 times the test voltage:		N/A
	- The other two samples subjected to humidity preconditioning of 5.7, except for 48 hours only followed by a dielectric strength test of 8.8.3 at 1.6 times the test voltage		N/A
8.9.3.4	One sample containing the cemented joint subjected to a sequence of temperature cycling tests for 10 times		N/A
8.10	Components and wiring		Pass
8.10.1	Components of ME EQUIPMENT likely to result in an unacceptable RISK by their movements mounted securely as indicated in RISK MANAGEMENT FILE	See appended RM table 8.10.1	Pass

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8.10.2	Conductors and connectors of ME EQUIPMENT adequately secured or insulated to prevent accidental detachment in a HAZARDOUS SITUATION	See appended RM table 8.10.2	Pass
	Conductors and connectors of ME EQUIPMENT when breaking free at their joint are not capable of touching circuit points resulting in a HAZARDOUS SITUATION as indicated in RISK MANAGEMENT FILE	See appended RM table 8.10.2	Pass
	Breaking free of one means of mechanical restraint considered a SINGLE FAULT CONDITION		N/A
	Stranded conductors are not solder-coated when secured by clamping means to prevent HAZARDOUS SITUATIONS due to poor contact		N/A
8.10.3	Flexible cords detachable without a TOOL used to interconnect different parts of ME EQUIPMENT provided with means for connection to comply with requirements for metal ACCESSIBLE PARTS of 8.4 when a connection is loosened or broken as shown by measurement or using test finger		N/A
8.10.4	Cord-connected HAND-HELD parts and cord-connected foot-operated control devices		N/A
8.10.4.1	Control devices of ME EQUIPMENT and their connection cords contain only conductors and components operating at 42.4 V peak a.c., max, or 60 V d.c. in circuits isolated from MAINS PART by two MEANS OF PROTECTION	No such device	N/A
	d.c. limit of 60 V applied to d.c. with no more than 10 % peak-to-peak ripple		N/A
	42.4 V peak limit applied when ripple exceeded 10 % peak-to-peak limit		N/A
8.10.4.2	Connection and anchorage of a flexible cord to a HAND-HELD or foot-operated control device of ME EQUIPMENT at both ends of cable to control device complied with 8.11.3 when breaking free or shorting between conductors could result in a HAZARDOUS SITUATION		N/A
	This requirement applied to other HAND-HELD parts when disturbance or breaking of one or more of connections could result in a HAZARDOUS SITUATION		N/A
8.10.5	Mechanical protection of wiring		N/A
	a) Internal cables and wiring adequately protected against contact with a moving part or from friction		N/A

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	at sharp corners and edges where damage to insulation could result in a HAZARDOUS SITUATION		
	b) Wiring, cord forms, or components are not likely to be damaged during assembly or during opening or closing of ACCESS COVERS where such damage could result in a HAZARDOUS SITUATION as shown by manual tests and RISK MANAGEMENT FILE	No access cover	N/A
8.10.6	Guiding rollers of insulated conductors prevent bending of movable insulated conductors around a radius of less than five times the outer diameter of the lead concerned in NORMAL USE		N/A
8.10.7	a) Insulating sleeve that can only be removed by breaking or cutting, or secured at both ends, is used on internal wiring of when needed		N/A
	b) Sheath of a flexible cord not used as a MEANS OF PROTECTION inside ME EQUIPMENT when it is subject to mechanical or thermal stresses beyond its RATED characteristics		N/A
	<ul> <li>c) Insulated conductors subject to temperatures &gt; 70 °C in NORMAL USE provided with insulation of heat-resistant material when compliance is likely to be impaired due to deterioration of insulation</li> </ul>		N/A
8.11	MAINS PARTS, components and layout		N/A
8.11.1	a) ME EQUIPMENT provided with means of electrically isolating its circuits from SUPPLY MAINS simultaneously on all poles		N/A
	PERMANENTLY INSTALLED ME EQUIPMENT connected to a poly-phase SUPPLY MAINS equipped with a device not interrupting neutral conductor, provided local installation conditions prevent voltage on neutral conductor from exceeding limits in 8.4.2 c)	Not Permanently installed ME equipment.	N/A
	b) Means of isolation incorporated in ME EQUIPMENT, and external means described in technical description		N/A
	c) A SUPPLY MAINS switch used to comply with 8.11.1 a) complies with CREEPAGE and CLEARANCES in IEC 61058-1 for a MAINS TRANSIENT VOLTAGE of 4 kV		N/A
	d) A SUPPLY MAINS switch not incorporated in a POWER SUPPLY CORD or external flexible lead		N/A
	e) Direction of movement of actuator of a SUPPLY		N/A

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	MAINS switch used to comply with 8.11.1 a) complies with IEC 60447		
	f) A suitable plug device such as an APPLIANCE COUPLER or a flexible cord with a MAINS PLUG used in non-PERMANENTLY INSTALLED ME EQUIPMENT to isolate it from SUPPLY MAINS considered to comply with 8.11.1 a)		N/A
	g) A fuse or a semiconductor device not used as an isolating means		N/A
	h) ME EQUIPMENT not provided with a device causing disconnection of ME EQUIPMENT from SUPPLY MAINS by producing a short circuit resulting in operation of an overcurrent protection device		N/A
	i) Parts within ENCLOSURE of ME EQUIPMENT with a circuit > 42.4 V peak a.c. or 60 V d.c. that cannot be disconnected from its supply by an external switch or a plug device accessible at all times is protected against touch even after opening ENCLOSURE by an additional covering		N/A
	A clear warning notice is marked on outside of ME EQUIPMENT to indicate it exceeds allowable touch voltage (symbol 10 of Table D.1 is insufficient)		N/A
	For a part that could not be disconnected from supply by an external switch or a plug device accessible at all times, the required cover or warning notice complied with this clause		N/A
	Standard test finger of Fig 6 applied		N/A
8.11.2	MULTIPLE SOCKET-OUTLETS integral with ME EQUIPMENT complied with 16.2 d), second dash; and 16.9.2	No MSO	N/A
8.11.3	POWER SUPPLY CORDS		N/A
8.11.3.1	MAINS PLUG not fitted with more than one POWER SUPPLY CORD	No power supply cord. To be evaluated in end product.	N/A
8.11.3.2	POWER SUPPLY CORDS are no less robust than ordinary tough rubber sheathed flexible cord (IEC 60245-1:2003, Annex A, designation 53) or ordinary polyvinyl chloride sheathed flexible cord (IEC 60227-1:1993, Annex A, design. 53)		N/A
	Only polyvinyl chloride insulated POWER SUPPLY CORD with appropriate temperature rating used for ME EQUIPMENT having external metal parts with a temperature > 75 °C touchable by the cord in NORMAL USE		N/A

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8.11.3.3	NOMINAL cross-sectional area of conductors of POWER SUPPLY CORDS of ME EQUIPMENT is not less than in Table 17 (mm2 Cu)	N/A
8.11.3.4	APPLIANCE COUPLERS complying with IEC 60320-1 are considered to comply with 8.11.3.5 and 8.11.3.6	N/A
8.11.3.5	Cord anchorage (for APPLIANCE COUPLERS not complying with IEC 6032	0-1) N/A
	a) Conductors of POWER SUPPLY CORD provided with strain relieve and insulation protected from abrasion at point of entry to ME EQUIPMENT or a MAINS CONNECTOR by a cord anchorage	N/A
	b) Cord anchorage of POWER SUPPLY CORD is made of and arranged as follows when a total insulation failure of POWER SUPPLY CORD caused conductive non-PROTECTIVELY EARTHED ACCESSIBLE PARTS to exceed limits of 8.4:	N/A
	- insulating material, or	N/A
	- metal, insulated from conductive accessible parts non-PROTECTIVELY EARTHED by a means of PROTECTION, or	N/A
	- metal provided with an insulating lining affixed to cord anchorage, except when it is a flexible bushing forming part of the cord guard in 8.11.3.6, and complying with the requirements for one MEANS OF PROTECTION	N/A
	c) Cord anchorage prevents cord from being clamped by a screw bearing directly on cord insulation	N/A
	d) Screws to be operated when replacing POWER SUPPLY CORD do not serve to secure any components other than parts of cord anchorage	N/A
	e) Conductors of POWER SUPPLY CORD arranged to prevent PROTECTIVE EARTH CONDUCTOR against strain as long as phase conductors are in contact with their terminals when cord anchorage fails	N/A
	f) Cord anchorage prevents POWER SUPPLY CORD from being pushed into ME EQUIPMENT or MAINS CONNECTOR	N/A
	Conductors of POWER SUPPLY CORD supplied by MANUFACTURER disconnected from terminals or from MAINS CONNECTOR and cord subjected 25 times to a pull applied with no jerks, each time	N/A

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	for 1 s, on sheath of the value in Table 18	
	Cord subjected to a torque in Table 18 for 1 min immediately after pull tests	N/A
	Cord anchorage did not allow cord sheath to be longitudinally displaced by more than 2 mm or conductor ends to move over a distance of more than 1 mm from their connected position	N/A
	CREEPAGE and CLEARANCES not reduced below limits in 8.9	N/A
	It was not possible to push the cord into ME EQUIPMENT or MAINS CONNECTOR to an extent the cord or internal parts would be damaged	N/A
8.11.3.6	POWER SUPPLY CORDS other than for STATIONARY ME EQUIPMENT protected against excessive bending at inlet opening of equipment or of MAINS CONNECTOR by means of an insulating cord guard or by means of an appropriately shaped opening	N/A
	Cord guard complied with test of IEC 60335- 1:2001, Clause 25.14, or	N/A
	ME EQUIPMENT placed such that axis of cord guard projected at an angle of 45° with cord free from stress, and a mass equal 10 x D2 gram attached to the free end of cord (g)	N/A
	Cord guard of temperature-sensitive material tested at 23 $^{\circ}C \pm 2 ^{\circ}C$ , and flat cords bent in the plane of least resistance	N/A
	Curvature of the cord radius, immediately after mass attached, was not less than 1.5 x D	N/A
3.11.4	MAINS TERMINAL DEVICES	N/A
8.11.4.1	PERMANENTLY INSTALLED and ME EQUIPMENT with non-DETACHABLE POWER SUPPLY CORD replaceable by SERVICE PERSONNEL provided with MAINS TERMINAL DEVICES ensuring reliable connection	N/A
	Terminals alone are not used to keep conductors in position, except when barriers are provided such that CREEPAGE and CLEARANCES cannot be reduced below 8.9 if any conductor breaks away	N/A
	Terminals of components other than terminal blocks complying with requirements of this Clause and marked according to 7.3.7 used as terminals intended for external conductors	N/A

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	Screws and nuts clamping external conductors do not serve to secure any other component, except they also clamp internal conductors when unlikely to be displaced when fitting the supply conductors	N/A
8.11.4.2	Arrangement of MAINS TERMINAL DEVICES	N/A
	a) Terminals provided for connection of external cords or POWER SUPPLY CORDS together with PROTECTIVE EARTH TERMINAL grouped to provide convenient means of connection	N/A
	b) PROTECTIVE EARTH CONDUCTOR connections complied with 8.6	N/A
	c) Marking of MAINS TERMINAL DEVICES complied with 7.3	N/A
	d) MAINS TERMINAL DEVICES not accessible without use of a TOOL	N/A
	e) A MEANS OF PROTECTION are not short circuited when one end of a flexible conductor with NOMINAL cross-sectional area is stripped 8 mm and a single free wire is bent in each possible direction	N/A
8.11.4.3	Internal wiring not subjected to stress and CREEPAGE and CLEARANCES not reduced below 8.9 after fastening and loosening a conductor of largest cross-sectional area 10 times	N/A
8.11.4.4	Terminals with clamping means for a rewirable flexible cord did not require special preparation of conductors and conductors were not damaged and did not slip out when clamping means tightened as verified by test of 8.11.3.4	N/A
8.11.4.5	Adequate space provided inside ME EQUIPMENT designed for FIXED wiring or a re-wirable POWER SUPPLY CORD to allow for connection of conductors, and covers fitted without damage to conductors or their insulation	N/A
	Correct connection and positioning of conductors before ACCESS COVER was fitted verified by an installation test	N/A
8.11.5	Mains fuses and OVER-CURRENT RELEASES	N/A
	A fuse or OVER-CURRENT RELEASE provided in each supply lead for CLASS I and CLASS II ME EQUIPMENT with a functional earth connection per clause 8.6.9, and in at least one supply lead for other single-phase CLASS II ME EQUIPMENT :	N/A

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	- neutral conductor not fused for PERMANENTLY INSTALLED ME EQUIPMENT		N/A
	- fuses or OVER-current RELEASES omitted due to provision of two means of PROTECTION between all parts of opposite polarity within MAINS PART, and between all parts of MAINS PART and EARTH, and such provisions continued within all components		N/A
	Effect of short-circuit fault conditions in other circuits taken into consideration before eliminating fuses or OVER-CURRENT RELEASES		N/A
	Protective devices have adequate breaking capacity to interrupt the maximum fault current including the available short-circuit		N/A
	A fuse or OVER-CURRENT RELEASE not provided in a PROTECTIVE EARTH CONDUCTOR		N/A
	Fuses complying with IEC 60127 have high breaking capacity (1 500 A) and prospective short- circuit current > 35 A or 10 times current rating of the fuse, whichever is greater		N/A
	Justification for omission of fuses or OVER- CURRENT RELEASES is in RISK MANAGEMENT FILE		N/A
8.11.6	Internal wiring of the MAINS PART		N/A
	a) Cross-sectional area of internal wiring in a MAINS PART between MAINS TERMINAL DEVICE and protective devices is not less than minimum required for POWER SUPPLY CORD as in clause 8.11.3.3 (mm2 Cu)	No mains wire	N/A
	b) Cross-sectional area of other wiring in MAINS PART and sizes of tracks on printed wiring circuits sufficient to prevent fire in case of fault currents:		N/A
	When necessary, ME EQUIPMENT connected to a SUPPLY MAINS with max available short-circuit fault, and subsequent simulation of a fault in a single insulation in MAINS PART did not result in any of the HAZARDOUS SITUATIONS in 13.1.2		N/A

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9	PROTECTION AGAINST MECHANICAL HAZARD ME SYSTEMS	S OF ME EQUIPMENT AND	N/A
9.1	ME EQUIPMENT complies with Clause 4 for design and manufacture, and mechanical strength (15.3)		N/A
9.2	HAZARDS associated with moving parts		N/A
9.2.1	When ME EQUIPMENT with moving parts PROPERLY INSTALLED, used per ACCOMPANYING DOCUMENTS or under foreseeable misuse, RISKS associated with moving parts reduced to an acceptable level	No moving part	N/A
	RISK from contact with moving parts reduced to an acceptable level using protective measures, (access, function, shape of parts, energy, speed of motion, and benefits to PATIENT considered)		N/A
	RESIDUAL RISK associated with moving parts considered acceptable when exposure was needed for ME EQUIPMENT to perform its function		N/A
	Warnings marked on ME EQUIPMENT or included in instructions for use when HAZARDS persisted after implementing all reasonable protective measures		N/A
9.2.2	TRAPPING ZONE	·	N/A
9.2.2.1	ME EQUIPMENT with a TRAPPING ZONE complied with one or more of the following as feasible:	No trapping zone	N/A
	- Gaps in Clause 9.2.2.2, or		N/A
	- Safe distances in Clause 9.2.2.3, or		N/A
	- GUARDS and protective measures in 9.2.2.4, or		N/A
	- Continuous activation in Clause 9.2.2.5		N/A
	Control of relevant motion complied with 9.2.2.6 when implementation of above protective measures were inconsistent with INTENDED USE of ME EQUIPMENT or ME SYSTEM		N/A
9.2.2.2	A TRAPPING ZONE considered not to present a MECHANICAL HAZARD when gaps of TRAPPING ZONE complied with dimensions per Table 20 :		N/A
9.2.2.3	A TRAPPING ZONE considered not to present a MECHANICAL HAZARD when distances separating OPERATOR, PATIENT, and others from TRAPPING ZONES exceeded values in ISO 13852		N/A

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	Distances measured from expected positions of OPERATOR, PATIENT, and others near EQUIPMENT in NORMAL USE or under foreseeable misuse	N/A
9.2.2.4	GUARDS and protective measures	N/A
9.2.2.4.1	A TRAPPING ZONE considered not to present a MECHANICAL HAZARD when GUARDS and protective measures were of robust construction, not easy to bypass or render non-operational, and did not introduce additional unacceptable RISK based on results of applicable tests in 15.3 for ENCLOSURES	N/A
9.2.2.4.2	FIXED GUARDS held in place by systems that cannot be dismantled without a TOOL	N/A
9.2.2.4.3	Movable GUARDS that can be opened without a TOOL remained attached when GUARD was open	N/A
	- they are associated with an interlock preventing relevant moving parts from starting to move while TRAPPING ZONE is accessible, and stops movement when the GUARD is opened,	N/A
	- absence or failure of one of their components prevents starting, and stops moving parts	N/A
	Movable GUARDS complied with all applicable tests as confirmed by review of RISK MANAGEMENT FILE	N/A
9.2.2.4.4	Protective measures provided in control system prevented moving parts from starting to move while in reach of persons	N/A
	- PROTECTIVE measures prevented TRAPPING ZONE from reach, or, when it was reached, SYSTEM movement stopped once ME EQUIPMENT started to move, and in the latter case, no HAZARD or damage resulted	N/A
	- when PROTECTIVE measure was in a single FAULT CONDITION, and an unacceptable RISK could arise, one or more emergency stopping device(s) provided	N/A
	RISK MANAGEMENT FILE reviewed and all conditions confirmed	N/A
9.2.2.5	Continuous activation	N/A
	TRAPPING ZONE not considered to present a MECHANICAL HAZARD where impractical to make TRAPPING ZONE inaccessible when:	N/A

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	a) movement was in OPERATOR'S field of view		N/A
	b) movement of ME EQUIPMENT or its parts was possible only by continuous activation of control by OPERATOR as long as OPERATOR response to deactivate device relied upon to prevent HARM		N/A
	Manually operated movements complied with this clause since mass and velocity allowed adequate control of positioning without causing an unacceptable RISK		N/A
	c) when in a SINGLE FAULT CONDITION of continuous activation system an unacceptable RISK could arise, one or more emergency stopping device(s) provided in ME EQUIPMENT		N/A
9.2.2.6	Speed of movement(s) positioning parts of ME EQUIPMENT or PATIENT, when contact with ME EQUIPMENT could result in a HAZARDOUS SITUATION, limited to allow OPERATOR control of positioning without resulting in an unacceptable RISK		N/A
	Over travel (stopping distance) of such movement occurring after operation of a control to stop movement, did not result in an unacceptable RISK		N/A
9.2.3	Other HAZARDS associated with moving parts		N/A
9.2.3.1	Controls positioned, recessed, or protected by other means and could not be accidentally actuated to result in unacceptable RISK, except when ergonomic considerations for a PATIENT with special needs require otherwise	No moving part	N/A
9.2.3.2	RISK due to over travel (past range limits) of ME EQUIPMENT parts reduced to an acceptable level, and stops or other means with mechanical strength to withstand intended loading in NORMAL USE and foreseeable misuse provided limiting measure in NORMAL and SINGLE FAULT CONDITION:		N/A
9.2.4	Emergency stopping devices	·	N/A
	Where necessary to have one or more emergency stopping device(s), emergency stopping device complied with all the following, except for actuating switch capable of interrupting all power	No emergency stop	N/A
	a) Emergency stopping device reduced RISK to an acceptable level		N/A
	b) Proximity and response of OPERATOR to actuate emergency stopping device could be relied upon to prevent HARM		N/A

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	c) Emergency stopping device actuator was readily accessible to OPERATOR	N/A
	d) Emergency stopping device(s) are not part of normal operation of ME EQUIPMENT	N/A
	e) Emergency switching operation or stopping means neither introduced further HAZARD nor interfered with operation necessary to remove original HAZARD	N/A
	<ul> <li>f) Emergency stopping device was able to break</li> <li>full load of relevant circuit, including possible</li> <li>stalled motor currents and the like</li> </ul>	N/A
	g) Means for stopping of movements operate as a result of one single action	N/A
	h) Emergency stopping device provided with an actuator in red and easily distinguishable and identifiable from other controls	N/A
	i) An actuator interrupting/opening mechanical movements marked on or immediately adjacent to face of actuator with symbol 18 of Table D.1 (symbol IEC 60417-5638, DB:2002-10) or "STOP"	N/A
	j) Emergency stopping device, once actuated, maintained ME EQUIPMENT in disabled condition until a deliberate action, different from that used to actuate it, was performed	N/A
	k) Emergency stopping device is suitable for its application	N/A
9.2.5	Means provided to permit quick and safe release of PATIENT in event of breakdown of ME EQUIPMENT or failure of power supply, activation of a protective measure, or emergency stopping, and	neans N/A
	- Uncontrolled or unintended movement of ME EQUIPMENT that could result in an unacceptable RISK prevented	N/A
	- Situations where PATIENT is subjected to unacceptable RISKS due to proximity of moving parts, removal of NORMAL exit routes, or other HAZARDS prevented	N/A
	- measures provided to reduce RISK to an acceptable level when after removal of counterbalanced parts, other parts of ME EQUIPMENT can move in a hazardous way	N/A
9.3	Rough surfaces, sharp corners and edges of ME Recogniz	ed component. To be N/A

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	EQUIPMENT that could result in an unacceptable         consider           RISK avoided or covered         installa	er in end system tion.
9.4	Instability HAZARDS	N/A
9.4.1	ME EQUIPMENT, other than FIXED and hand- held, for placement on a surface did not overbalance (tip over) or move unexpectedly, to the degree that it could present an unacceptable RISK to PATIENT, or OPERATOR as tested in 9.4.2 to 9.4.4	consider in end system N/A tion.
9.4.2	Instability - overbalance	N/A
9.4.2.1	ME EQUIPMENT or its parts did not overbalance when prepared per ACCOMPANYING DOCUMENTS, or when not specified, as in 9.4.2.2, and placed on a 10° inclined plane from horizontal consisting of a hard and flat surface (e.g., concrete floor covered with 2 to 4 mm thick vinyl material) :	considered in end N/A
9.4.2.2	Instability excluding transport	N/A
	ME EQUIPMENT or its parts prepared based on a) to g), inclusive, did not overbalance when placed in different positions of NORMAL USE, except transport positions, on a 5° inclined plane from horizontal (hard and flat surface)	N/A
	A warning provided, stating "Transport only under conditions described in instructions for use or marked on ME EQUIPMENT with an indication of RESIDUAL RISK if ME EQUIPMENT or its parts overbalances" when overbalance occurred during 10° inclined plane test	N/A
9.4.2.3	Instability from horizontal and vertical forces	N/A
	,	nized component - to be N/A ted in the end tion.
	Surfaces of ME EQUIPMENT where a RISK of overbalancing exists from pushing, leaning, resting etc., permanently marked with a CLEARLY LEGIBLE warning of the RISK (e.g., safety sign 5 of Table D.2, safety sign ISO 7010-P017)	N/A
	ME EQUIPMENT did not overbalance when placed on a horizontal plane, and a force of 25% of its weight, but not more than 220 N, applied in different directions, except a direction with an upward component	N/A
	b) ME EQUIPMENT, other than FIXED ME EQUIPMENT, for use on the floor or on a table, did	N/A

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	not overbalance due to sitting or stepping, except when a legible warning of this RISK provided on ME EQUIPMENT (e.g., safety signs 6 and 7 of Table D.2, safety signs ISO 7010-P018, or ISO 7010-P019 as appropriate)		
	ME EQUIPMENT did not overbalance when placed on a horizontal plane, and a constant force of 800 N applied at the point of maximum moment to working surfaces, offering an foothold or sitting surface of a min 20 x 20 cm area, and at a height 1 m from the floor		N/A
9.4.2.4	Castors and wheels		N/A
9.4.2.4.1	Means used for transportation of MOBILE ME EQUIPMENT (e.g., castors or wheels) did not result in an unacceptable RISK when MOBILE ME EQUIPMENT moved or parked in NORMAL USE	No such part	N/A
9.4.2.4.2	Force required to move MOBILE ME EQUIPMENT along a hard and flat horizontal surface did not exceed 200 N applied at a height of 1 m above floor or highest point on ME EQUIPMENT when < 1 m high, except when instructions indicated more than one person needed (N)		N/A
9.4.2.4.3	MOBILE ME EQUIPMENT exceeding 45 kg configured with a SAFE WORKING LOAD, moved 10 times in forward direction over a solid vertical plane obstruction with wheels impacting the obstruction at a speed of 0.4 m/s ± 0.1 m/s for manual or with max speed for motor driven MOBILE ME EQUIPMENT		N/A
	ME EQUIPMENT went up the obstruction without overbalancing or any other unacceptable RISK as determined by examination of RISK MANAGEMENT FILE, ME EQUIPMENT and its parts		N/A
	There was no reduction of CREEPAGE and CLEARANCES below 8.9, no access to parts exceeding limits in 8.4, and no access to moving parts capable of causing HARM, and		N/A
	- Assessment criteria in Clause 9 and 11.6 used		N/A
	- Dielectric strength test of 8.8.3 conducted to evaluate integrity of solid SUPPLEMENTARY or REINFORCED INSULATION		N/A
	- CREEPAGE DISTANCES and AIR CLEARANCES measured compared favourably with min distances in clause 8.9		N/A

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	Small chips not adversely affecting protection against electric shock or moisture, disregarded		N/A
9.4.3	Instability from unwanted lateral movement (includin	ng sliding)	N/A
9.4.3.1	a) Brakes of power-driven MOBILE ME EQUIPMENT normally activated and could only be released by continuous actuation of a control	Recognized component - to be evaluated in the end application.	N/A
	b) MOBILE ME EQUIPMENT provided with locking means to prevent unwanted movements of ME EQUIPMENT or its parts in transport position		N/A
	c) No unacceptable RISK due to unwanted lateral movement resulted when MOBILE ME EQUIPMENT placed in its transport position or worst case NORMAL USE position with SAFE WORKING LOAD, and locking device activated, on a 10° inclined hard flat surface with castors in the worst-case position		N/A
	Following initial elastic movement, creepage, and pivoting of castors, no further movement of MOBILE ME EQUIPMENT > 50 mm (in relation to inclined plane) occurred (mm)		N/A
	RISK due to any initial movement assessed taking into consideration NORMAL USE of ME EQUIPMENT		N/A
9.4.3.2	Instability excluding transport		N/A
	a) Further movement of ME EQUIPMENT (after initial elastic movement) was less than 50 mm when MOBILE ME EQUIPMENT with a SAFE WORKING LOAD positioned on a 5 inclined hard flat surface with wheel locked or braking system activated (mm)		N/A
	RISK due to initial movements assessed taking into consideration NORMAL USE of ME EQUIPMENT		N/A
	b) TRANSPORTABLE or STATIONARY ME EQUIPMENT for use on the floor and with a SAFE WORKING LOAD prepared as in 9.4.2.2 and placed on a horizontal plane with locking device activated and castors, when supplied, in their worst -case position		N/A
	Further movement of ME EQUIPMENT (after initial elastic movement), was no more than 50 mm when a force of 25 % of weight of unit, but less than 220 N, applied in different directions, except a direction with an upwards component, at highest point of ME EQUIPMENT but 1.5 m from floor		N/A

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	RISK due to initial movements assessed taking into		N/A
	consideration NORMAL USE of ME EQUIPMENT		
9.4.4	Grips and other handling devices		N/A
	a) ME EQUIPMENT other than PORTABLE EQUIPMENT or its part with a mass of over 20 kg requiring lifting in NORMAL USE or transport provided with suitable handling means, or ACCOMPANYING DOCUMENTS specify safe lifting method, except when handling is obvious and causing HAZARDS	No grip/handle - to be evaluated in the end application.	N/A
	Handles, when supplied, suitably placed to enable ME EQUIPMENT or its part to be carried by two or more persons and by examination of EQUIPMENT, its part, or ACCOMPANYING DOCUMENTS		N/A
	b) PORTABLE ME EQUIPMENT with a mass > 20 kg provided with one or more carrying-handles suitably placed to enable carrying by two or more persons as confirmed by actual carrying		N/A
	c) Carrying handles and grips and their means of attachment withstood loading test		N/A
9.5	Expelled parts HAZARD		N/A
9.5.1	Suitability of means of protecting against unacceptable RISK of expelled parts determined by assessment and examination of RISK MANAGEMENT FILE	No expelled part - to be evaluated in the end application.	N/A
9.5.2	Cathode ray tube(s) complied with IEC 60065:2001, Clause 18, or IEC 61965		N/A
9.6	Acoustic energy (including infra- and ultrasound) an	d vibration	N/A
9.6.1	Human exposure to acoustic energy and vibration from ME EQUIPMENT doesn't result in unacceptable RISK as confirmed in RISK MANAGEMENT FILE including audibility of auditory alarm signals, PATIENT sensitivity, and tests of 9.6.2 and 9.6.3	No acoustic energy - to be evaluated in the end application.	N/A
9.6.2	Acoustic energy		N/A
9.6.2.1	PATIENT, OPERATOR, and other persons are not exposed to acoustic energy from ME EQUIPMENT in NORMAL USE, except for auditory alarm signals		N/A
	- 80 dBA for a cumulative exposure of 24 h over a 24 h period (dBA)		-
	- 83 dBA (when halving the cumulative exposure time) (dBA)		-

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	- 140 dB un-weighted sound pressure level for impulsive or impact acoustic energy (dB):	-
9.6.2.2	RISK MANAGEMENT FILE examined for RISKS associated with infrasound or ultrasound, when present, addressed in RISK MANAGEMENT PROCESS	N/A
9.6.3	Hand-transmitted vibration	N/A
	Means provided, except for INTENDED USE vibrations, to protect PATIENT and OPERATOR when hand-transmitted frequency-weighted r.m.s. acceleration generated in NORMAL USE exceeds specified values measured at points of hand contact with PATIENT or OPERATOR	N/A
	- 2.5 m/s2 for a cumulative time of 8 h during a 24 h period (m/s2):	N/A
	- Accelerations for different times, inversely proportional to square root of time (m/s2):	N/A
9.7	Pressure vessels and parts subject to pneumatic and hydraulic pressure	N/A
9.7.1	Requirements of this clause applied to vessels and parts of ME EQUIPMENT subject to pressure resulting in rupture and unacceptable RISKNo Pressure vessels and parts subject to pneumatic and hydraulic pressure.	N/A
	Parts of a pneumatic or hydraulic system used as a support system, comply with 9.8	N/A
9.7.2	Pneumatic and hydraulic parts of ME EQUIPMENT or ACCESSORIES met following requirements based on examination of RISK MANAGEMENT FILE	N/A
	- no unacceptable RISK resulted from loss of pressure or loss of vacuum	N/A
	- no unacceptable RISK resulted from a fluid jet caused by LEAKAGE or a component failure	N/A
	- Elements of ME EQUIPMENT or an ACCESSORY, especially pipes and hoses leading to an unacceptable RISK protected against harmful external effects	N/A
	- Reservoirs and similar vessels leading to an unacceptable RISK are automatically depressurized when ME EQUIPMENT is isolated from its POWER supply	N/A
	Means provided for isolation, or local depressurizing reservoirs and similar vessels, and pressure indication when above not possible	N/A

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	- all Elements remaining under pressure after isolation of ME EQUIPMENT or an ACCESSORY from its POWER supply resulting in an unacceptable RISK provided with clearly identified exhaust devices, and a warning to depressurize these Elements before setting or maintenance activity	N/A
9.7.3	Maximum pressure a part of ME EQUIPMENT can be subjected to in NORMAL and SINGLE FAULT CONDITIONS considered to be highest of following:	N/A
	a) RATED maximum supply pressure from an external source	N/A
	<ul> <li>b) Pressure setting of a pressure-relief device provided as part of assembly</li> </ul>	N/A
	c) Max pressure that can develop by a source of pressure that is part of assembly, unless pressure limited by a pressure-relief device	N/A
9.7.4	Max pressure in NORMAL and SINGLE FAULT CONDITIONS did not exceed MAXIMUM PERMISSIBLE WORKING PRESSURE for EQUIPMENT part, except as allowed in 9.7.7, confirmed by examination of ME EQUIPMENT and RISK MANAGEMENT FILE, and by functional tests	N/A
9.7.5	A pressure vessel withstood a HYDRAULIC TEST PRESSURE when pressure was > 50 kPa, and product of pressure and volume was more than 200 kPal	N/A
9.7.6	Pressure-control device regulating pressure in ME EQUIPMENT with pressure-relief device completed 100,000 cycles of operation under RATED load and prevented pressure from exceeding 90 % of setting of pressure-relief device in different conditions of NORMAL USE	N/A
9.7.7	Pressure-relief device(s) used where MAXIMUM PERMISSIBLE WORKING PRESSURE could otherwise be exceeded met the following, as confirmed by MANUFACTURER'S data, ME EQUIPMENT, RISK MANAGEMENT FILE, and functional tests	N/A
	a) Connected as close as possible to pressure vessel or parts of system it is to protect	N/A
	b) Installed to be readily accessible for inspection, maintenance, and repair	N/A

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	c) Could be adjusted or rendered inoperative without a TOOL		N/A
	d) With discharge opening located and directed as to not to release material towards any person		N/A
	e) With discharge opening located and directed as to not to deposit material on parts that could result in an unacceptable RISK		N/A
	f) Adequate discharge capacity provided to ensure that pressure will not exceed MAXIMUM PERMISSIBLE WORKING PRESSURE of system it is connected to by more than 10 % when failure occurs in control of supply pressure		N/A
	g) No shut-off valve provided between a pressure- relief device and parts it is to protect		N/A
	h) Min number of cycles of operation 100 000, except for one-time use devices (bursting disks)		N/A
9.8	HAZARDS associated with support systems		N/A
9.8.1	ME EQUIPMENT parts designed to support loads or provide actuating forces when a mechanical fault could constitute an unacceptable RISK	No support system.	N/A
	- Construction of support, suspension, or actuation system complied with Table 21 and TOTAL LOAD		N/A
	- means of attachment of ACCESSORIES prevent possibility of incorrect attachment that could result in an unacceptable RISK		N/A
	- RISK ANALYSIS of support systems included HAZARDS from static, dynamic, vibration, impact and pressure loading, foundation and other movements, temperature, environmental, manufacture and SERVICE conditions		N/A
	- RISK ANALYSIS included effects of failures such as excessive deflection, plastic deformation, ductile/brittle fracture, fatigue fracture, instability (buckling), stress-assisted corrosion cracking, wear, material creep and deterioration, and residual stresses from manufacturing PROCESSES		N/A
	<ul> <li>- instructions on attachment of structures to a floor, wall, ceiling, included in ACCOMPANYING DOCUMENTS making adequate allowances for quality of materials used to make the connection and list the required materials</li> </ul>		N/A
	Additional instructions provided on checking		N/A

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	adequacy of surface of structure parts will be attached to	
9.8.2	Support systems maintain structural integrity during EXPECTED SERVICE LIFE, and TENSILE SAFETY FACTORS are not less than in Table 21, except when an alternative method used to demonstrate structural integrity throughout EXPECTED SERVICE LIFE, or for a foot rest	N/A
	Compliance with 9.8.1 and 9.8.2 confirmed by examination of ME EQUIPMENT, RISK MANAGEMENT FILE, specifications and material processing	N/A
	When test results were part of information, testing consisted of application of a test load to support assembly equal to TOTAL LOAD times required TENSILE SAFETY FACTOR while support assembly under test was in equilibrium after 1 min, or not resulted in an unacceptable RISK	N/A
9.8.3	Strength of PATIENT or OPERATOR support or sus	spension systems N/A
9.8.3.1	ME EQUIPMENT parts supporting or immobilizing PATIENTS minimize RISK of physical injuries and accidental loosening of secured joints	N/A
	SAFE WORKING LOAD of ME EQUIPMENT or its parts supporting or suspending PATIENTS or OPERATORS is sum of mass of PATIENTS or mass of OPERATORS plus mass of ACCESSORIES supported by ME EQUIPMENT or its parts	N/A
	Supporting and suspending parts for adult human PATIENTS or OPERATORS designed for a PATIENT or OPERATOR with a min mass of 135 kg and ACCESSORIES with a min mass of 15 kg, unless stated by MANUFACTURER	N/A
	Maximum mass of PATIENT included in SAFE WORKING LOAD of ME EQUIPMENT or its parts supporting or suspending PATIENTS adapted when MANUFACTURER specified applications	N/A
	Max allowable PATIENT mass < 135 kg marked on ME EQUIPMENT and stated in ACCOMPANYING DOCUMENTS	N/A
	Max allowable PATIENT mass > 135 kg stated in ACCOMPANYING DOCUMENTS	N/A
	Examination of markings, ACCOMPANYING DOCUMENTS, and RISK MANAGEMENT FILE	N/A

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	confirmed compliance	
9.8.3.2	Part of SAFE WORKING LOAD representing mass of PATIENTS or OPERATORS is distributed on support/suspension surface representing human body as in Fig A.19	N/A
	Part of SAFE WORKING LOAD representing mass of ACCESSORIES deployed as in NORMAL USE and, when not defined, at worst case position permitted by configuration or ACCESSORIES attachment on support/suspension parts	N/A
	a) Entire mass of PATIENT or OPERATOR distributed over an area of 0.1 m2 on a foot rest temporarily supporting a standing PATIENT or OPERATOR:	N/A
	Compliance confirmed by examination of ME EQUIPMENT, RISK MANAGEMENT FILE, specifications of materials and their processing, and tests	N/A
	PATIENT support/suspension system positioned horizontally in most disadvantageous position in NORMAL USE, and a mass 2 x 135 kg or twice intended person's load (the greater used), applied to foot rest over an area of 0.1 m2 for 1 min (Kg):	N/A
	Damage or deflection resulting in an unacceptable RISK did not occur on foot rest and its secured joints	N/A
	b) Deflection of a support surface from PATIENT or OPERATOR loading on an area of support/ suspension where a PATIENT or OPERATOR can sit did not result in an unacceptable RISK	N/A
	Compliance confirmed by examination of ME EQUIPMENT, RISK MANAGEMENT FILE, specifications of materials and their processing, and by a test	N/A
	PATIENT support/suspension system set in most unfavourable NORMAL USE position, and a mass of 60 % of part of SAFE WORKING LOAD simulating PATIENT or OPERATOR, or a min 80 kg, placed on support or suspension system with centre of load 60 mm from outer edge of support or suspension system for at least one minute (Kg):	N/A
	Deflection of support/suspension system resulting in an unacceptable RISK not occur	N/A
9.8.3.3	Dynamic forces that can be exerted on equipment	N/A

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	parts supporting or suspending a PATIENT or OPERATOR in NORMAL USE did not result in an unacceptable RISK as confirmed by following test:		
	PATIENT support/suspension system set in most unfavourable NORMAL USE position, and a mass equal to SAFE WORKING LOAD simulating PATIENT or OPERATOR dropped from 150 mm above seat area on an area of support/ suspension a PATIENT or OPERATOR can sit	N	J/A
9.8.4	Systems with MECHANICAL PROTECTIVE DEVICE	ES N	J/A
9.8.4.1	a) A MECHANICAL PROTECTIVE DEVICE provided when a support system or its parts impaired by wear have a TENSILE SAFETY FACTOR to values in Table 21, rows 5 and 6, but less than 3 and 4	N	I/A
	b) MECHANICAL PROTECTIVE complies with the requirements as follows:	N	I/A
	- Designed based on TOTAL LOAD, and includes effects of Safe WORKING LOAD when applicable	N	I/A
	- Has TENSILE SAFETY FACTORS for all parts not less than Table 21, row 7	Ν	I/A
	- Activated before travel (movement) produced an unacceptable RISK	N	I/A
	- Takes into account Clauses 9.2.5 and 9.8.4.3	N	J/A
	Compliance confirmed by examination of ME EQUIPMENT, RISK MANAGEMENT FILE, specifications of materials and their processing :	N	I/A
9.8.4.2	Activation of MECHANICAL PROTECTIVE DEVICE is made obvious to OPERATOR when ME EQUIPMENT can still be used after failure of suspension or actuation means and activation of a MECHANICAL PROTECTIVE DEVICE (e.g., a secondary cable)	N	I/A
	MECHANICAL PROTECTIVE DEVICE requires use of a TOOL to be reset or replaced	N	J/A
9.8.4.3	MECHANICAL PROTECTIVE DEVICE intended to f	Function once N	J/A
	- Further use of ME EQUIPMENT not possible until replacement of MECHANICAL PROTECTIVE device	N	J/A
	- ACCOMPANYING DOCUMENTS instruct once MECHANICAL PROTECTIVE device is Activated, SERVICE PERSONNEL shall be called, and MECHANICAL PROTECTIVE device must be	N	I/A

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	replaced before ME EQUIPMENT can be used	
	- ME EQUIPMENT permanently marked with safety sign 2 of Table D.2 (i.e., safety sign 7010-W001)	N/A
	- Marking is adjacent to MECHANICAL PROTECTIVE device or its location relative to MECHANICAL PROTECTIVE device is obvious to SERVICE PERSONNEL	N/A
	<ul> <li>compliance confirmed by examination of ME EQUIPMENT, ACCOMPANYING DOCUMENTS, RISK MANAGEMENT FILE, specifications and processing of materials, and following test</li> </ul>	N/A
	A chain, cable, band, spring, belt, jack screw nut, pneumatic or hydraulic hose, structural part or the like, employed to support a load, defeated by a convenient means causing maximum normal load to fall from most adverse position permitted by construction of ME EQUIPMENT	N/A
	Load included SAFE WORKING LOAD in 9.8.3.1 when system was capable of supporting a PATIENT or OPERATOR	N/A
	No evidence of damage to MECHANICAL PROTECTIVE DEVICE affecting its ability to perform its intended function	N/A
9.8.5	Systems without MECHANICAL PROTECTIVE DEV	ICES N/A
	Support system parts have TENSILE SAFETY FACTORS to values in Table 21, rows 1 and 2, and are not impaired by wear:	N/A
	Support system parts impaired by wear, however, they have TENSILE SAFETY FACTORS to values in Table 21, rows 3 and 4	N/A
	Examination of ME EQUIPMENT and RISK MANAGEMENT FILE confirmed compliance	N/A

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10	PROTECTION AGAINST UNWANTED AND EXCESSIVE RADIATION HAZARDS           X-Radiation	
10.1		
10.1.1	X-radiation dose-rate was ≤ 36 pA/kg (5 μSv/h) (0.5 mR/h) 5 cm from surface of ME EQUIPMENT including background radiation for ME EQUIPMENT not producing therapeutic/diagnostic X-radiation but producing ionizing radiation	N/A
	Amount of radiation measured by means of an ionizing chamber radiation monitor with an effective area of 10 cm2 or by other instruments producing equal results	N/A
	ME EQUIPMENT operated as in NORMAL USE at most unfavourable RATED MAINS VOLTAGE and controls adjusted to emit maximum radiation	N/A
	Internal pre-set controls not intended for adjustment during EXPECTED SERVICE LIFE of ME EQUIPMENT not taken into consideration	N/A
10.1.2	RISK from unintended X-radiation from ME EQUIPMENT producing X-radiation for diagnostic and therapeutic purposes addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE (see IEC 60601-1-3 & 1.3) :	N/A
10.2	RISK associated with alpha, beta, gamma, neutron, and other particle radiation, when applicable, addressed in RISK MANAGEMENT PROCESS as shown in RISK MANAGEMENT FILE	N/A
10.3	RISK associated with microwave radiation, when applicable, addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE	N/A
10.4	Relevant requirements of IEC 60825-1:1993 applied to lasers, light emitting diodes (LEDs), and laser light barriers or similar products	N/A
10.5	RISK associated with visible electromagnetic radiation other than emitted by lasers and LEDS, when applicable, addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE	N/A
10.6	RISK associated with infrared radiation other than emitted by lasers and LEDS, as applicable, addressed in RISK MANAGEMENT PROCESS as indicated in RISK MANAGEMENT FILE	N/A
10.7	RISK associated with ultraviolet radiation other than emitted by lasers and LEDS, as applicable,	N/A

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addressed in RISK MANAGEMENT PROCESS as	1
indicated in RISK MANAGEMENT FILE	

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11	PROTECTION AGAINST EXCESSIVE TEMPERAT HAZARDS	URES AND OTHER	Pass
11.1	Excessive temperatures in ME EQUIPMENT		Pass
11.1.1	Temperatures on ME EQUIPMENT parts did not exceed values in Tables 22 and 23 operating in worst-case NORMAL USE at maximum rated ambient operating temperature T	See appended RM table 11.1.1	Pass
	Surfaces of test corner did not exceed 90 °C		N/A
	THERMAL CUT-OUTS did not operate in NORMAL CONDITION	No thermal cut-outs.	N/A
11.1.2	Temperature of APPLIED PARTS		N/A
11.1.2.1	Temperatures, hot or cold surfaces, and when appropriate, clinical effects of APPLIED PARTS supplying heat to a PATIENT determined and documented in RISK MANAGEMENT FILE and instructions for use	No applied parts.	N/A
11.1.2.2	APPLIED PARTS not supplying heat to a PATIENT met Table 24 with max surface temperatures > 41 °C disclosed in instructions for use, and clinical effects regarding maturity of PATIENTS, body surface, surface pressure, medications taken, as shown in RISK MANAGEMENT FILE		N/A
	Surfaces of APPLIED PARTS cooled below ambient temperatures that can also result in HAZARD evaluated as part of RISK MANAGEMENT PROCESS		N/A
11.1.3	Measurements not made when engineering judgment and rationale by MANUFACTURER indicated temperature limits could not exceed, as documented in RISK MANAGEMENT FILE		N/A
	Test corner not used where engineering judgment and rationale by MANUFACTURER indicated test corner will not impact measurements, as documented in RISK MANAGEMENT FILE		N/A
	Probability of occurrence and duration of contact for parts likely to be touched and for APPLIED PARTS documented in RISK MANAGEMENT FILE		N/A
11.1.4	GUARDS preventing contact with hot or cold accessible surfaces removable only with a TOOL	No such guards.	N/A
11.2	Fire prevention		N/A
11.2.1	ENCLOSURE has strength and rigidity necessary to prevent a fire caused by reasonably foreseeable misuse and met mechanical strength tests for		N/A

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	ENCLOSURES in 15.3		
11.2.2	Me equipment and me systems used in conjunction ENVIRONMENTS	with OXYGEN RICH	N/A
11.2.2.1	RISK of fire in an OXYGEN RICH ENVIRONMENT reduced by means limiting spread of fire under NORMAL or SINGLE FAULT CONDITIONS when source of ignition in contact with ignitable material :	To be evaluated in end product.	N/A
	Requirements of 13.1.1 applied to oxygen concentrations up to 25 % at one atmosphere or partial pressures up to 27.5 kPa for higher atmospheric pressures		N/A
	a) No sources of ignition discovered in an OXYGEN RICH ENVIRONMENT in NORMAL and SINGLE FAULT CONDITIONS under any of the following conditions		N/A
	1) when temperature of material raised to its ignition temperature		N/A
	2) when temperatures affected solder or solder joints causing loosening, short circuiting, or other failures causing sparking or increasing material temperature to its ignition temperature		N/A
	<ol> <li>when parts affecting safety cracked or changed outer shape exposing temperatures higher than 300°C or sparks due to overheating</li> </ol>		N/A
	4) when temperatures of parts or components exceeded 300°C, atmosphere was 100 % oxygen, contact material solder, and fuel cotton		N/A
	5) when sparks provided adequate energy for ignition by exceeding limits of Figs 35 to 37 (inclusive), atmosphere was 100 % oxygen, contact material solder, and fuel cotton		N/A
	Deviations from worst case limits in 4) and 5) above based on lower oxygen concentrations or less flammable fuels justified and documented in RISK MANAGEMENT FILE		N/A
	Alternative test in this clause did not identify existence of ignition sources at highest voltage or current, respectively		N/A
	A safe upper limit determined by dividing upper limit of voltage or current, respectively, with safety margin factor of three		N/A
	b) RESIDUAL RISK of fire in an OXYGEN RICH ENVIRONMENT as determined by application of		N/A

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	RISK MANAGEMENT PROCESS is based on following configurations, or in combination:	
	1) Electrical components in an OXYGEN RICH ENVIRONMENT provided with power supplies having limited energy levels lower than those considered sufficient for ignition in 11.2.2.1 a) as determined by examination, measurement or calculation of power, energy, and temperatures in NORMAL and SINGLE FAULT CONDITIONS identified in 11.2.3	N/A
	2) Max oxygen concentration measured until it did not exceed 25 % in ventilated compartments with parts that can be a source of ignition only in SINGLE FAULT CONDITION and can be penetrated by oxygen due to an undetected leak (%)	N/A
	3) A compartment with parts or components that can be a source of ignition only under SINGLE FAULT CONDITION separated from another compartment containing an OXYGEN RICH ENVIRONMENT by sealing all joints and holes for cables, shafts, or other purposes	N/A
	Effect of possible leaks and failures under SINGLE FAULT CONDITION that could cause ignition evaluated using a RISK ASSESSMENT to determine maintenance intervals by examination of documentation and RISK MANAGEMENT FILE:	N/A
	4) Fire initiated in ENCLOSURE of electrical components in a compartment with OXYGEN RICH ENVIRONMENT that can become a source of ignition only under SINGLE FAULT CONDITIONS self-extinguished rapidly and no hazardous amount of toxic gases reached PATIENT as determined by analysis of gases	N/A
11.2.2.2	RISK of ignition under least favourable conditions did not occur and oxygen concentration did not exceed 25% in immediate surroundings due to location of external exhaust outlets of an OXYGEN RICH ENVIRONMENT when electrical components mounted outside of ME EQUIPMENT or ME SYSTEM	N/A
11.2.2.3	Electrical connections within a compartment containing an OXYGEN RICH ENVIRONMENT under NORMAL USE did not produce sparks due to loosening or breaking, except when limited in power and energy to values in 11.2.2.1 a) 5)	N/A

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	- Screw-attachments protected against loosening during use by varnishing, use of spring washers, or adequate torques		N/A
	- Soldered, crimped, and pin-and-socket CONNECTIONS of cables exiting ENCLOSURE include additional MECHANICAL securing means		N/A
11.2.3	SINGLE FAULT CONDITIONS related to OXYGEN EQUIPMENT and ME SYSTEMS considered	RICH ENVIRONMENTS ME	N/A
	- Failure of a ventilation system constructed in accordance with 11.2.2.1 b) 2)	To be evaluated in end product.	N/A
	- Failure of a barrier constructed in accordance with 11.2.2.1 b) 3)		N/A
	- Failure of a component creating a source of ignition (as defined in 11.2.2.1 a)		N/A
	- Failure of solid insulation or creepage and clearances providing equivalent of at least one MEANS OF PATIENT PROTECTION but less than two MEANS OF PATIENT PROTECTION that could create a source of ignition defined in 11.2.2.1 a)		N/A
	- failure of a pneumatic component resulting in LEAKAGE of oxygen-enriched gas		N/A
11.3	Constructional requirements for fire ENCLOSURES	of ME EQUIPMENT	Pass
	ME EQUIPMENT met this clause for alternate means of compliance with selected HAZARDOUS SITUATIONS and fault conditions in 13.1.2	See appended RM table 11.3	N/A
	Constructional requirements were met, or		N/A
	- constructional requirements specifically analysed in RISK MANAGEMENT FILE		N/A
	Justification, when requirement not met:		N/A
	a) Flammability classification of insulated wire within fire ENCLOSURE is FV-1, or better, based on IEC 60695 series as determined by examination of data on materials	To be evaluated in end product.	N/A
	Flammability classification of connectors, printed circuit boards, and insulating material on which components are mounted is FV-2, or better, based on IEC 60695-11-10 as decided by examination of materials data:		N/A
	If no FV Certification, FV tests based on IEC 60695-11-10 conducted on 3 samples of complete parts (or sections of it), including area with min.		N/A

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	thickness, ventilation openings	
	b) Fire ENCLOSURE met following:	N/A
	1) No openings at bottom or, as specified in Fig 39, constructed with baffles as in Fig 38, or made of perforated metal as in Table 25, or a metal screen with a mesh 2 x 2 mm centre to centre and wire diameter of at least 0.45 mm	N/A
	2) No openings on the sides within the area included within the inclined line C in Fig 39	N/A
	3) ENCLOSURE, baffles, and flame barriers have adequate rigidity and made of appropriate metal or of non-metallic materials, except constructions based on Table 25 and a mesh; FV-2 or better for TRANSPORTABLE ME EQUIPMENT, FV-1 or better for fixed EQUIPMENT, or STATIONARY EQUIPMENT per IEC 60695-11-10, determined by ENCLOSURE examination or flammability classification based on 11.3a)	N/A
11.4	ME EQUIPMENT and ME SYSTEMS intended for use with flammable anaesthetics	N/A
	ME EQUIPMENT, ME SYSTEMS and parts described in ACCOMPANYING DOCUMENTS for use with flammable anaesthetics (CATEGORY AP) or anaesthetics with oxidants (CATEGORY APG) comply with Annex G	N/A
11.5	ME EQUIPMENT and ME SYSTEMS intended for use in conjunction with flammable agents	N/A
	MANUFACTURER'S RISK MANAGEMENT PROCESS addresses possibility of fire and associated mitigations as confirmed by examination of RISK MANAGEMENT FILE	N/A
11.6	Overflow, spillage, leakage, ingress of water or particulate matter, cleaning, disinfection, sterilization and compatibility with substances used with the ME EQUIPMENT	Pass
11.6.1	Sufficient degree of protection provided against overflow, spillage, leakage, ingress of water or particulate matter, cleaning, disinfection and sterilization, and compatibility with substances used with ME EQUIPMENT	N/A
11.6.2	Overflow in ME EQUIPMENT         To be evaluated in end product.	N/A
	Liquid reservoir liable to overflow in NORMAL USE completely filled and 15 % of its capacity poured in for over 1 min, and except when restricted, TRANSPORTABLE ME EQUIPMENT tilted through	N/A

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	an angle of 15° in least favourable direction(s), and			
	when necessary refilled starting from position of NORMAL USE			
	ME EQUIPMENT met dielectric strength and LEAKAGE CURRENT tests and uninsulated electrical parts or electrical insulation of parts that could result in a HAZARDOUS SITUATION were not wet		N/A	
11.6. 3	Spillage on ME EQUIPMENT and ME SYSTEM	To be evaluated in end product.	N/A	
	ME EQUIPMENT and ME SYSTEMS handling liquids in NORMAL USE positioned as in 5.4 a) and liquid with composition, volume, duration of spill, point of contact, and test conditions based on RISK MANAGEMENT PROCESS poured steadily on a point on top of ME EQUIPMENT		N/A	
	ME EQUIPMENT met dielectric strength and LEAKAGE CURRENT tests and uninsulated electrical parts or electrical insulation of parts that could result in a HAZARDOUS SITUATION were not wet		N/A	
11.6.4	Leakage	To be evaluated in end product.	N/A	
11.6.5	Ingress of water or particulate matter into ME EQUIF	PMENT and ME SYSTEMS	Pass	
	ME EQUIPMENT with IP Code placed in least favourable position of NORMAL USE and subjected to tests of IEC 60529 (IP Code)	See appended RM table 11.6.5	Pass	
	ME EQUIPMENT met dielectric strength and LEAKAGE CURRENT tests and there were no bridging of insulation or electrical components that could result in a HAZARDOUS SITUATION in NORMAL CONDITION or in a SINGLE FAULT CONDITION		N/A	
11.6.6	Cleaning and disinfection of ME EQUIPMENT and N	ME SYSTEMS	N/A	
	ME EQUIPMENT/ME SYSTEM and their parts and ACCESSORIES cleaned or disinfected once using methods specified in instructions for use including any cooling or drying period	To be evaluated in end product.	N/A	
	ME EQUIPMENT met dielectric strength and LEAKAGE CURRENT tests, with no deterioration resulting in an unacceptable RISK present		N/A	
	Effects of multiple cleanings/disinfections during EXPECTED SERVICE LIFE of EQUIPMENT evaluated by MANUFACTURER and assurance		N/A	

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	that no unacceptable RISK will occur verified by RISK MANAGEMENT FILE review:	
11.6.7	Sterilization of ME EQUIPMENT and ME SYSTEMS	S N/A
	ME EQUIPMENT, ME SYSTEMS and their parts or ACCESSORIES intended to be sterilized assessed and documented according to ISO 11134, ISO 11135, or ISO 11137 as appropriate	N/A
	After the test, ME EQUIPMENT complied with the appropriate dielectric strength and LEAKAGE CURRENT tests and there was no deterioration resulting in an unacceptable RISK	N/A
11.6.8	RISKS associated with compatibility of substances used with ME EQUIPMENT addressed in RISK MANAGEMENT PROCESS as confirmed by examination of RISK MANAGEMENT FILE	N/A
11.7	ME EQUIPMENT, ME SYSTEM, and ACCESSORIES coming into direct or indirect contact with biological tissues, cells, or body fluids assessed and documented per ISO 10993	N/A
11.8	Interruption and restoration of power supply did not result in a HAZARDOUS SITUATION, except interruption of its intended function	N/A

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12	ACCURACY OF CONTROLS AND INSTRUMENTS AND PROTECTION AGAINST HAZARDOUS OUTPUTS	
12.1	RISKS associated with accuracy of controls and instruments stated in RISK MANAGEMENT PROCESS confirmed by RISK MANAGEMENT FILE review	ated in end N/A
12.2	RISK of poor USABILITY, including identification, marking, and documents addressed in a USABILITY ENGINEERING PROCESS as confirmed by review of provided records	N/A
12.3	The need for alarm systems as a means of RISK CONTROL and RISKS associated with operation or failure of alarm system addressed in RISK MANAGEMENT PROCESS	N/A
12.4	Protection against hazardous output	N/A
12.4.1	RISKS associated with hazardous output arising from intentional exceeding of safety limits addressed in RISK MANAGEMENT PROCESS as confirmed in RISK MANAGEMENT FILE	N/A
12.4.2	When applicable, need for indication of parameters associated with hazardous output addressed in RISK MANAGEMENT PROCESS as confirmed in RISK MANAGEMENT FILE	N/A
12.4.3	RISKS associated with accidental selection of excessive output values for ME EQUIPMENT with a multi-purpose unit designed to provide low and high-intensity outputs for different treatments addressed in RISK MANAGEMENT PROCESS, confirmed in RISK MANAGEMENT FILE	N/A
12.4.4	When applicable, RISKS associated with incorrect output addressed in RISK MANAGEMENT PROCESS as confirmed by review of RISK MANAGEMENT FILE	N/A
12.4.5	Diagnostic or therapeutic radiation	N/A
12.4.5.1	Adequate provisions to protect OPERATORS, PATIENTS, other persons and sensitive devices in vicinity of unwanted or excessive radiation emitted by ME EQUIPMENT designed to produce radiation for diagnostic/therapeutic purposes	N/A
	Radiation safety ensured by compliance with requirements of appropriate standards	N/A
12.4.5.2	RISKS associated with diagnostic X-rays addressed in RISK MANAGEMENT PROCESS as confirmed in RISK MANAGEMENT FILE	N/A

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12.4.5.3	RISKS associated with radiotherapy addressed in RISK MANAGEMENT PROCESS as confirmed by review of RISK MANAGEMENT FILE	N/A
12.4.5.4	RISKS associated with ME EQUIPMENT producing diagnostic or therapeutic radiation other than diagnostic X-rays and radiotherapy addressed in RISK MANAGEMENT PROCESS as confirmed by examination of RISK MANAGEMENT FILE	N/A
12.4.6	When applicable, RISKS associated with diagnostic or therapeutic acoustic pressure addressed in RISK MANAGEMENT PROCESS as confirmed in RISK MANAGEMENT FILE	N/A

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13	HAZARDOUS SITUATIONS AND FAULT CONDITIONS	N/A
13.1	Specific HAZARDOUS SITUATIONS	N/A
13.1.1	None of HAZARDOUS SITUATIONS in 13.1.2- 13.1.4, inclusive, occurred when SINGLE FAULT CONDITIONS applied, one at a time, as in 4.7 and 13.2	N/A
13.1.2	Emissions, deformation of ENCLOSURE or exceeding maximum temperature	N/A
	- Emission of flames, molten metal, poisonous or ignitable substance in hazardous quantities did not occur	N/A
	- Deformation of ENCLOSURE impairing compliance with 15.3.1 did not occur	N/A
	- Temperatures of APPLIED PARTS did not exceed allowable values in Table 24 when measured as in 11.1.3	N/A
	- Temperatures of ME EQUIPMENT parts that are not APPLIED PARTS likely to be touched did not exceed values in Table 23 when measured and adjusted as in 11.1.3	N/A
	-Allowable values for "other components and materials" in Table 22 times 1.5 minus 12.5 °C were not exceeded	N/A
	Limits for windings in Tables 26, 27, and 31 not exceeded	N/A
	Table 22 not exceeded in all other cases	N/A
	Temperatures measured according to 11.1.3	N/A
	SINGLE FAULT CONDITIONS in 4.7, 8.1 b), 8.7.2, and 13.2.2 relative to emission of flames, molten metal, or ignitable substances, not applied to parts and components where:	N/A
	- Supply circuit was unable to supply 15 W one minute after 15 W drawn from supply circuit, or	N/A
	- Parts and components completely contained within a fire ENCLOSURE complying with 11.3 as verified by review of design documentation	N/A
	After tests of this Clause, settings of THERMAL CUT-OUTS and OVER-CURRENT RELEASES did not change sufficiently to affect their safety function	N/A
13.1.3	- limits for LEAKAGE CURRENT in SINGLE FAULT CONDITION based on 8.7.3 did not exceed	N/A
	- voltage limits for ACCESSIBLE PARTS including	N/A

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	APPLIED PARTS in 8.4.2 did not exceed		
13.1.4	ME EQUIPMENT complied with the requirements of 9.1 to 9.8 for specific MECHANICAL HAZARDS		N/A
13. 2	SINGLE FAULT CONDITIONS		N/A
13.2.1	During application of SINGLE FAULT CONDITIONS in 13.2.2 -13.2.13, inclusive, NORMAL CONDITIONS in 8.1 a) applied in least favourable combination:		N/A
13.2.2 - 13.2.12	ME EQUIPMENT complied with 13.2.2 -13.2.12:		N/A
13.2.13	ME EQUIPMENT remained safe after tests of 13.2.13.2 to 13.2.13.4 (inclusive), and cooling down to room temperature		N/A
	ME EQUIPMENT examined for compliance or appropriate tests such as dielectric strength of motor insulation according to 8.8.3 conducted		N/A
	For insulation of thermoplastic materials relied upon as a MEANS OF PROTECTION (see 8.8), the ball-pressure test specified in 8.8.4.1 a) performed at a temperature 25 °C higher than temperature of insulation measured during tests of 13.2.13.2 to 13.2.13.4 (inclusive).		N/A
13.2.13.2	ME EQUIPMENT with heating elements		N/A
	a 1) thermostatically controlled ME EQUIPMENT with heating elements for building-in, or for unattended operation, or with a capacitor not protected by a fuse connected in parallel with THERMOSTAT contacts met tests of 13.2.13.2 b) & 13.2.13.2 c)	No heating elements.	N/A
	a 2) ME EQUIPMENT with heating elements RATED for non-CONTINUOUS OPERATION met tests of 13.2.13.2 b) and 13.2.13.2 c)		N/A
	a 3) other ME EQUIPMENT with heating elements met test of 13.2.13.2 b)		N/A
	When more than one test was applicable to same ME EQUIPMENT, tests performed consecutively		N/A
	Heating period stopped when a heating element or an intentionally weak part of a non-SELF- RESETTING THERMAL CUT-OUT ruptured, or current interrupted before THERMAL STABILITY without possibility of automatic restoration		N/A
	Test repeated on a second sample when interruption was due to rupture of a heating		N/A

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	element or an intentionally weak part		
	Both samples met 13.1.2, and open circuiting of a heating element or an intentionally weak part in second sample not considered a failure by itself	N	I/A
	b) ME EQUIPMENT with heating elements tested per 11.1without adequate heat discharge, and supply voltage set at 90 or 110 % of RATED supply voltage, least favourable of the two (V)		I/A
	Operating period stopped when a non-SELF- RESETTING THERMAL CUT-OUT operated, or current interrupted without possibility of automatic restoration before THERMAL STABILITY	N	I/A
	ME EQUIPMENT switched off as soon as THERMAL STABILITY established and allowed to cool to room temperature when current not interrupted	N	I/A
	Test duration was equal to RATED operating time for non-CONTINUOUS OPERATION	N	I/A
	c) Heating parts of ME EQUIPMENT tested with ME EQUIPMENT operated in NORMAL CONDITION at 110 % of RATED supply voltage and as in 11.1, and	N	I/A
	1) Controls limiting temperature in NORMAL CONDITION disabled, except THERMAL CUT- OUTS	N	I/A
	2) When more than one control provided, they were disabled in turn	N	I/A
	3) ME EQUIPMENT operated at RATED DUTY CYCLE until THERMAL STABILITY achieved, regardless of RATED operating time	N	I/A
13.2.13.3	ME EQUIPMENT with motors	N	I/A
	a 1) For the motor part of the ME EQUIPMENT, compliance checked by tests of 13.2.8- 13.2.10, 13.2.13.3 b), 13.2.13.3 c), and 13.2.13.4, as applicable	No Motors. N	I/A
	To determine compliance with 13.2.9 and 13.2.10 motors in circuits running at 42.4 V peak a.c./ 60 V d.c. or less are covered with a single layer of cheesecloth which did not ignite during the test	N	I/A
	a 2) Tests on ME EQUIPMENT containing heating parts conducted at prescribed voltage with motor & heating parts operated simultaneously to produce the least favourable condition	N	I/A

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	a 3) Tests performed consecutively when more tests were applicable to the same ME EQUIPMENT		N/A
	b) Motor met running overload protection test of this clause when:		N/A
	1) it is intended to be remotely or automatically controlled by a single control device with no redundant protection, or		N/A
	2) it is likely to be subjected to CONTINUOUS OPERATION while unattended		N/A
	Motor winding temperature determined during each steady period and maximum value did not exceed Table 27 (Insulation Class, Maximum temperature measured C)		N/A
	Motor removed from ME EQUIPMENT and tested separately when load could not be changed in appropriate steps		N/A
	Running overload test for motors operating at 42.4 V peak a.c./60 V d.c. or less performed only when examination and review of design indicated possibility of an overload		N/A
	Test not conducted where electronic drive circuits maintained a substantially constant drive current		N/A
	Test not conducted based on other justifications (justification)		N/A
	c) ME EQUIPMENT with 3-phase motors operated with normal load, connected to a 3-phase SUPPLY MAINS with one phase disconnected, and periods of operation per 13.2.10		N/A
13.2.13.4	ME EQUIPMENT RATED for NON-CONTINUOUS	OPERATION	N/A
	ME EQUIPMENT (other than HAND-HELD) operated under normal load and at RATED voltage or at upper limit of RATED voltage range until increase in temperature was 5 °C in one hour, or a protective device operated	Continuous	N/A
	When a load-reducing device operated in NORMAL USE, test continued with ME EQUIPMENT running idle		N/A
	Motor winding temperatures did not exceed values in 13.2.10		N/A
	Insulation Class:		-
	Maximum temperature measured ( C)		-

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14	PROGRAMMABLE ELECTRICAL MEDICAL SYSTEMS (PEMS)		N/A
14.1	Requirements of this clause not applied to PESS when it provided no BASIC SAFETY or ESSENTIAL PERFORMANCE, or	No such parts / PESS not relied upon for basic safety or essential performance.	N/A
	- when application of ISO 14971 showed that failure of PESS does not lead to unacceptable RISK		N/A
	Every PROCESS has been followed throughout the PEMS DEVELOPMENT LIFE-CYCLE and a RECORD of PROCESS has been made available as confirmed by RISK MANAGEMENT FILE REVIEW and assessment of PROCESSES cited in this Clause		N/A
	MANUFACTURER considered the need for additional RISK CONTROL measures when unable to follow all PROCESSES identified in Clause 14 for each constituent component of PEMS as confirmed by RISK MANAGEMENT FILE review and assessment of PROCESSES cited in this Clause		N/A
	Assessment of PROCESSES cited in this Clause made by internal audits		N/A
14.2	Documents produced from application of Clause 14 are maintained and form a part of RISK MANAGEMENT FILE in addition to RECORDS and documents required by ISO 14971		N/A
14.3	RISK MANAGEMENT plan required by 3.5 of ISO 14971 includes reference to PEMS VALIDATION plan		N/A
14.4	A PEMS DEVELOPMENT LIFE-CYCLE including a set of defined milestones has been documented		N/A
	At each milestone, activities to be completed, and VERIFICATION methods to be applied to activities have been defined		N/A
	Each activity including its inputs and outputs defined, and each milestone identifies RISK MANAGEMENT activities that must be completed before that milestone		N/A
	PEMS DEVELOPMENT LIFE-CYCLE tailored for a specific development by making plans detailing activities, milestones, and schedules		N/A
	PEMS DEVELOPMENT LIFE-CYCLE includes documentation requirements		N/A

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14.5	A documented system for problem resolution within and between all phases and activities of PEMS DEVELOPMENT LIFE-CYCLE has been developed and maintained where appropriate	N/A
	Problem resolution system meets the prescribed criteria depending on type of product:	N/A
	- it is documented as a PART of PEMS DEVELOPMENT LIFE-CYCLE	N/A
	- it allows reporting of POTENTIAL or existing problems affecting BASIC SAFETY or ESSENTIAL performance	N/A
	- it includes an Assessment of each problem for associated RISKS	N/A
	- it identifies criteria that must be met for the issue to be closed	N/A
	- it identifies the action to be taken to resolve each problem	N/A
14.6	RISK MANAGEMENT PROCESS	N/A
14.6.1	MANUFACTURER considered HAZARDS associated with software and hardware aspects of PEMS including NETWORK/DATA COUPLING, components of third-party origin, legacy subsystems when compiling list of known or foreseeable HAZARDS	N/A
	In addition to the material in ISO 14971, Annex D, list of possible sources for HAZARDS associated with PEMS includes specified causes	N/A
	- failure of NETWORK/DATA COUPLING to provide characteristics necessary for PEMS to achieve its BASIC SAFETY or ESSENTIAL performance	N/A
	- undesired feedback [physical and data] (such as unsolicited/ out of range/ inconsistent input or input from electromagnetic interference)	N/A
	- unavailable DATA	N/A
	- lack of integrity of DATA	N/A
	- incorrect DATA	N/A
	- incorrect timing of DATA	N/A
	- unintended interactions within & among PESS	N/A
	- unknown aspects or quality of third-party software	N/A
	- unknown aspects or quality of third-party PESS	N/A

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	- lack of DATA security, particularly vulnerability to tampering, unintended interaction with other programs and viruses	N/A
14.6.2	Suitably validated tools and PROCEDURES assuring each RISK CONTROL measure reduces identified RISK(S) satisfactorily provided in addition to PEMS requirements in Clause 6.1 of ISO 14971:	
14.7	A documented requirement specification for PEMS and each of its subsystems (e.g. for a PESS) which includes ESSENTIAL PERFORMANCE and RISK CONTROL measures implemented by that system or subsystem	N/A
14.8	An architecture satisfying the requirement is specified for PEMS and each of subsystems:	N/A
	The architecture specification makes use of considers the specified items to reduce RISK to an acceptable level, where appropriate:	N/A
	a) COMPONENTS WITH HIGH-INTEGRITY CHARACTERISTICS	N/A
	b) fail-safe functions	N/A
	c) redundancy	N/A
	d) diversity;	N/A
	e) partitioning of functionality	N/A
	<ul> <li>f) defensive design potentially limiting hazardous effects by restricting available output power or by introducing means to limit travel of actuators</li> </ul>	N/A
	g) allocation of RISK CONTROL measures to subsystems and components of PEMS	N/A
	h) failure modes of components and their effects;	N/A
	i) common cause failures	N/A
	j) systematic failures	N/A
	k) test interval duration and diagnostic coverage	N/A
	I) maintainability	N/A
	m) protection from reasonably foreseeable misuse	N/A
	n) NETWORK/DATA COUPLING specification, when applicable	N/A
14.9	Design is broken up into subsystems, each with a design and test specification where appropriate, and descriptive data on design environment included in RISK MANAGEMENT FILE	N/A

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14.10	A VERIFICATION plan containing the specified information used to verify and document functions implementing BASIC SAFETY, ESSENTIAL PERFORMANCE, or RISK CONTROL measures :	N/A
	- milestone(s) when VERIFICATION is to be performed for each function	N/A
	- selection and documentation of VERIFICATION strategies, activities, techniques, and appropriate level of independence of the PERSONNEL performing the VERIFICATION	N/A
	- selection and utilization of VERIFICATION tools	N/A
	- coverage criteria for VERIFICATION	N/A
14.11	A PEMS VALIDATION plan containing validation of BASIC SAFETY & ESSENTIAL PERFORMANCE and requiring checks for unintended functioning of PEMS to perform and document PEMS VALIDATION	N/A
	The person with overall responsibility for PEMS VALIDATION is independent of design team, and no member of a design team is responsible for PEMS VALIDATION of their own design	N/A
	All professional relationships of members of PEMS VALIDATION team with members of design team documented in RISK MANAGEMENT FILE providing methods & results of PEMS VALIDATION	N/A
14.12	Continued validity of previous design documentation assessed under a documented modification/change PROCEDURE	N/A
14.13	Technical description includes the following information when PEMS is to be connected to other equipment outside control of PEMS MANUFACTURER by NETWORK/DATA COUPLING	N/A
	a) characteristics of NETWORK/DATA COUPLING necessary for PEMS to achieve its INTENDED USE	N/A
	b) list of HAZARDOUS SITUATIONS resulting from a failure of NETWORK/DATA COUPLING to provide the specified characteristics	N/A
	c) instructions to RESPONSIBLE ORGANIZATION containing required information and warnings	N/A
	- connection of PEMS to a NETWORK/DATA COUPLING that includes other EQUIPMENT could	N/A

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result in previously unidentified RISKS and RESPONSIBLE ORGANIZATION shall identify, analyze, and control such RISKS	
<ul> <li>subsequent changes to NETWORK/DATA</li> <li>COUPLING introducing new RISKS and requiring new analysis; and changes to NETWORK/DATA</li> <li>COUPLING include:</li> </ul>	N/A
- NETWORK/DATA COUPLING configuration change	N/A
- connection of additional items to NETWORK/DATA COUPLING	N/A
- disconnecting items from NETWORK/DATA COUPLING	N/A
- update of EQUIPMENT connected to NETWORK/DATA COUPLING	N/A
- upgrade of EQUIPMENT connected to NETWORK/DATA COUPLING	N/A

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15	CONSTRUCTION OF ME EQUIPMENT		Pass
15.1	RISKS associated with arrangement of controls and indicators of ME EQUIPMENT addressed in RISK MANAGEMENT PROCESS, as confirmed by examination of RISK MANAGEMENT FILE	No control	N/A
15.2	Parts of ME EQUIPMENT subject to mechanical wear, electrical, environmental degradation or ageing resulting in unacceptable RISK when unchecked for a long period, are accessible for inspection, replacement, and maintenance		N/A
	Inspection, servicing, replacement, and adjustment of parts of ME EQUIPMENT can easily be done without damage to or interference with adjacent parts or wiring		N/A
15.3	Mechanical strength		N/A
15.3.1	Mold stress relief, push, impact, drop, and rough handling tests did not result in unacceptable RISK and ME EQUIPMENT displayed adequate mechanical strength		N/A
15.3.2	Push test conducted by subjecting external parts of ENCLOSURE to a steady force of 250 N ± 10 N for 5 s applied to a circular (30mm) plane surface, except bottom of ENCLOSURE of an ME EQUIPMENT >18 kg, using a suitable test tool:		N/A
	No damage resulting in an unacceptable RISK sustained as determined by examination of RISK MANAGEMENT FILE		N/A
15.3.3	Impact test conducted by subjecting a complete ENCLOSURE or its largest non-reinforced area, except for HAND-HELD ME EQUIPMENT and parts, to a free falling 500 g ± 25 g solid smooth steel ball, approx. 50 mm in diameter from a height of 1.3 m		N/A
	Test not applied to flat panel displays, platen glass of ME EQUIPMENT, or cathode ray tubes		N/A
	No damage resulting in an unacceptable RISK sustained as shown in RISK MANAGEMENT FILE		N/A
15.3.4	Drop test		N/A
15.3.4.1	Sample of HAND-HELD ME EQUIPMENT and HAND-HELD part with SAFE WORKING LOAD allowed to fall freely once from each of 3 different positions as in NORMAL USE from height specified in ACCOMPANYING DOCUMENTS, or from 1 m onto a 50 mm ± 5 mm thick hardwood board lying		N/A

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	flat on a concrete or rigid base		
	No unacceptable RISK resulted		N/A
15.3.4.2	Sample of PORTABLE ME EQUIPMENT and PORTABLE part with SAFE WORKING LOAD lifted to a height as in Table 29 above a 50 ± 5 mm thick hardwood board lying flat on a concrete floor or rigid base, dropped 3 times from each orientation in NORMAL USE (cm)		N/A
	No damage resulting in an unacceptable RISK sustained as determined by examination of sample and RISK MANAGEMENT FILE		N/A
15.3.5	Each sample of MOBILE ME EQUIPMENT and MOBILE part with SAFE WORKING LOAD and in most adverse condition in NORMAL USE passed Rough Handling tests		N/A
	a) Ascending step shock test conducted on the sample by pushing it 3 times in its normal direction of travel at 0.4 m/s $\pm$ 0.1 m/s against an ascending hardwood step obstruction without the sample going over the obstruction	No mobile part	N/A
	b) Descending step shock test conducted on the sample by pushing it 3 times in its normal direction of travel at 0.4 m/s $\pm$ 0.1 m/s in order to fall over a vertical step affixed flat on a rigid base with direction of movement perpendicular to face of the step until full descent achieved		N/A
	c) Door frame shock test conducted on the sample by moving it 3 times in its normal direction of travel at 0.4 m/s ± 0.1 m/s, or for motor driven EQUIPMENT, at maximum possible speed against a hardwood vertical obstacle higher than EQUIPMENT contact point(s)		N/A
	No damage resulting in an unacceptable RISK sustained as determined by examination of sample and RISK MANAGEMENT FILE		N/A
15.3.6	Examination of ENCLOSURE made from molded or formed thermoplastic material indicated that material distortion due to release of internal stresses by molding or forming operations will not result in an unacceptable RISK		N/A
	Mold-stress relief test conducted by placing one sample of complete ME EQUIPMENT, ENCLOSURE or a portion of larger ENCLOSURE, for 7 hours in a circulating air oven at 10°C over the max temperature measured on ENCLOSURE		N/A

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	in 11.1.3, but no less than 70 °C		
	No damage resulting in an unacceptable RISK		N/A
15.3.7	INTENDED USE, EXPECTED SERVICE LIFE, and conditions for transport and storage were taken into consideration for selection and treatment of materials used in construction of ME EQUIPMENT		N/A
	Based on review of EQUIPMENT, ACCOMPANYING DOCUMENTS, specifications and processing of materials, and MANUFACTURER'S relevant tests or calculations, corrosion, ageing, mechanical wear, degradation of biological materials due to bacteria, plants, animals and the like, will not result in an unacceptable RISK		N/A
15.4	ME EQUIPMENT components and general assemb	ly	Pass
15.4.1	Incorrect connection of accessible connectors, removable without a TOOL, prevented where an unacceptable RISK exists, in particular	To be evaluated in end product.	N/A
	a) Plugs for connection of PATIENT leads cannot be connected to other outlets on same ME EQUIPMENT intended for other functions, except when RISK MANAGEMENT FILE provides proof that no unacceptable RISK could result		N/A
	b) Medical gas connections on ME EQUIPMENT for different gases to be operated in NORMAL USE are not interchangeable as verified by review of RISK MANAGEMENT FILE		N/A
15.4.2	Temperature and overload control devices		Pass
15.4.2.1	a) THERMAL CUT-OUTS and OVER-CURRENT RELEASES with automatic resetting not used in ME EQUIPMENT when their use could result in a HAZARDOUS SITUATION by resetting action as verified by review of RISK MANAGEMENT FILE.:	See appended RM table 15.4.2.1 a	Pass
	b) THERMAL CUT-OUTS with a safety function to be reset by a soldering operation affecting operating value not fitted in ME EQUIPMENT as verified by examination of design and RISK MANAGEMENT FILE		N/A
	c) An independent non-SELF-RESETTING THERMAL CUT-OUT is, additionally, provided where a failure of a THERMOSTAT could constitute a HAZARD as verified by examination of design and RISK MANAGEMENT FILE		N/A
	d) Based on design and RISK MANAGEMENT FILE review, loss of function of ME EQUIPMENT		N/A

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 due to operation of THERMAL CUT-OUT or OVER CURRENT RELEASE doesn't result in a HAZARDOUS SITUATION	
e) Capacitors or other spark-suppression devices not connected between contacts of THERMAL CUT-OUTS	N/A
f) Use of THERMAL CUT-OUTS or OVER- CURRENT RELEASES do not affect safety of ME EQUIPMENT as verified by following tests:	N/A
Positive temperature coefficient devices (PTC's) complied with IEC 60730-1: 1999, clauses 15, 17, J.15, and J.17 as applicable	N/A
ME EQUIPMENT containing THERMAL CUT- OUTS and OVER-CURRENT RELEASES operated under the conditions of Clause 13	N/A
SELF-RESETTING THERMAL CUT-OUTS and OVER-CURRENT RELEASES including circuits performing equivalent functions (other than PTC's) Certified according to appropriate standards	N/A
In the absence of Certification in accordance with IEC standards, SELF-RESETTING THERMAL CUT-OUTS and OVER-CURRENT RELEASES including circuits performing equivalent functions (other than PTC's) operated 200 times	N/A
Manual reset THERMAL CUT-OUTS and OVER- CURRENT RELEASES Certified in accordance with appropriate IEC standards	N/A
When certification based on IEC standards, or data from MANUFACTURER demonstrating reliability of component to perform its safety-related function is not available, manual reset THERMAL CUT-OUTS and OVER-CURRENT RELEASES operated 10 times	N/A
Thermal protective devices tested separately from ME EQUIPMENT when engineering judgment indicated test results would not be impacted	N/A
g) Protective device, provided on ME EQUIPMENT incorporating a fluid filled container with heating means, operated when heater switched on with container empty and prevented an unacceptable RISK due to overheating	N/A
h) ME EQUIPMENT with tubular heating elements provided with protection against overheating in both leads where a conductive connection to earth	N/A

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	could result in overheating as verified by review of design and RISK MANAGEMENT FILE		
15.4.2.2	Temperature settings clearly indicated when means provided to vary setting of THERMOSTATS		N/A
15.4.3	Batteries		N/A
15.4.3.1	Battery housings from which gases can escape during charging or discharging likely to result in a HAZARD ventilated to minimize RISK of accumulation and ignition as verified by review of design and RISK MANAGEMENT FILE	No battery.	N/A
	Battery compartments prevent accidental short circuiting of battery when this could result in a HAZARDOUS SITUATION as verified by examination of design and RISK MANAGEMENT FILE		N/A
15.4.3.2	Means provided to prevent incorrect connection of polarity when a HAZARDOUS SITUATION may develop by incorrect connection or replacement of a battery		N/A
15.4.3.3	Overcharging of battery prevented by virtue of design when it could result in an unacceptable RISK as verified by review of design		N/A
15.4.3.4	Lithium batteries that could become a HAZARD complied with appropriate tests of IEC 60086-4		N/A
	Tests of IEC 60086-4 waived on the lithium battery based on examination of design		N/A
15.4.3.5	A properly RATED protective device provided within INTERNAL ELECTRICAL POWER SOURCE to protect against fire caused by excessive currents when (in case of a short circuit) layout of internal wiring, cross-sectional area, rating of connected components can result in a fire:		N/A
	Protective device has adequate breaking capacity to interrupt the maximum fault current		N/A
	Justification for OVER-CURRENT RELEASES or FUSE exclusion is included in RISK MANAGEMENT FILE		N/A
15.4.4	Indicator lights provided to indicate ME EQUIPMENT is ready for NORMAL USE, except when apparent to OPERATOR from normal operating position, and marking of 7.4.1 are insufficient for this purpose	To be evaluated in end product.	N/A
	An additional indicator light provided on ME		N/A

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	EQUIPMENT with a stand-by state or a warm-up state exceeding 15 s, except when apparent to OPERATOR from normal operating position		
	Indicator lights provided on ME EQUIPMENT incorporating non-luminous heaters to indicate heaters are operational when a HAZARDOUS SITUATION could exist, except when apparent to OPERATOR from normal operating position		N/A
	Requirement not applied to heated stylus-pens for recording purposes		N/A
	Indicator lights provided on ME EQUIPMENT to indicate an output exists where an accidental or prolonged operation of output circuit could constitute a HAZARDOUS SITUATION		N/A
	Colours of indicator lights complied with 7.8.1		N/A
	Charging mode visibly indicated in ME EQUIPMENT incorporating a means for charging an INTERNAL ELECTRICAL POWER SOURCE		N/A
15.4.5	RISKS associated with pre-set controls addressed in RISK MANAGEMENT PROCESS when applicable as verified by review of RISK MANAGEMENT FILE		N/A
15.4.6	Actuating parts of controls of ME EQUIPMENT		N/A
15.4.6.1	a) Actuating parts cannot be pulled off or loosened up during NORMAL USE	No such part.	N/A
	b) Indication of scales (e.g., "on" "off" positions, etc.) always corresponds to position of controls with adjustment that can result in a HAZARDOUS SITUATION for PATIENT or OPERATOR while ME EQUIPMENT is in use		N/A
	c) Incorrect connection of indicating device to relevant component prevented by adequate construction when it could be separated without use of a TOOL		N/A
	When torque values per Table 30 applied between control knob and shaft of rotating controls for not less than 2 s, 10 times in each direction, knobs did not rotate		N/A
	Tests conducted by applying an axial force of 60 N for electrical components and 100 N for other components for 1 min when an axial pull was required in NORMAL USE with no unacceptable RISK		N/A

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15.4.6.2	Stops of adequate mechanical strength provided on rotating/ movable parts of controls of ME EQUIPMENT where necessary to prevent an unexpected change from max to min, or vice-versa, of the controlled parameter when this could cause a HAZARDOUS SITUATION		N/A
	Torque values in Table 30 applied 10 times in each direction to rotating controls for 2 sec		N/A
	Application of an axial force of 60 N for electrical components and 100 N for other components to rotating or movable parts of controls for 1 min when an axial pull was required in NORMAL USE		N/A
15.4.7	Cord-connected HAND-HELD and foot-operated col	ntrol devices	N/A
15.4.7.1	a) HAND-HELD control devices of ME EQUIPMENT complied with 15.3.4.1	No foot-operated device.	N/A
	b) Foot-operated control device supported an actuating force of 1350 N for 1 min applied over an area of 30 mm diameter in its position of NORMAL USE with no damage to device causing an unacceptable RISK		N/A
15.4.7.2	Control device of HAND-HELD and foot-operated control devices turned in all possible abnormal positions and placed on a flat surface		N/A
	No unacceptable RISK caused by changing control setting when accidentally placed in an abnormal position		N/A
15.4.7.3	a) Foot-operated control device is at least IPX1 & complies with tests of IEC 60529 (IP Code)		N/A
	b) ENCLOSURE of foot operated control devices containing electrical circuits is at least IPX6 and complies with IEC 60529 if in NORMAL USE liquids are likely to be found (IP Code)		N/A
	Probability of occurrence estimated as part of RISK MANAGEMENT PROCESS		N/A
15.4.8	Aluminum wires less than 16 mm2 in cross- sectional area are not used	No internal wire	N/A
15.4.9	a) Oil container in PORTABLE ME EQUIPMENT allows for expansion of oil and is adequately sealed to prevent loss of oil in any position	No oil container.	N/A
	b) Oil containers in MOBILE ME EQUIPMENT sealed to prevent loss of oil during transport		N/A
	A pressure-release device operating during NORMAL USE is, optionally, provided		N/A

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	c) Partially sealed oil-filled ME EQUIPMENT and its parts provided with means for checking the oil level to detect leakage	N/A
	ME EQUIPMENT and technical description examined, and manual tests conducted to confirm compliance with above requirements	N/A
15.5	MAINS SUPPLY TRANSFORMERS OF ME EQUIPMENT and transformers providing separation in accordance with 8.5	N/A
15.5.1	Overheating	N/A
15.5.1.1	Transformers of ME EQUIPMENT are protected against overheating in the event of short circuit or overload of output windings and comply with this Clause and tests of 15.5.1.2 - 3	N/A
	During tests, windings did not open, no HAZARDOUS SITUATION occurred, and maximum temperatures of windings did not exceed values in Table 31	N/A
	Dielectric strength test of 8.8.3 conducted on transformer after short circuit and overload tests .:	N/A
15.5.1.2	Transformer output winding short circuited, and test continued until protective device operated or THERMAL STABILITY achieved	N/A
	Short circuit applied directly across output windings for transformers not tested according to 5X frequency and 5X voltage test of 15.5.2	N/A
15.5.1.3	Multiple overload tests conducted on windings with more than one protective device to evaluate worst- case NORMAL USE loading and protection:	N/A
15.5.2	Transformer windings provided with adequate insulation to prevent internal short-circuits that could cause overheating which could result in a HAZARDOUS SITUATION	N/A
	Dielectric strength tests were conducted in accordance with requirements of this clause with no breakdown of insulation system and no detectable deterioration of transformer:	N/A
15.5.3	Transformers forming MEANS OF PROTECTION as required by 8.5 comply with IEC 61558-1:1997, Clause 5.12	N/A

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16	ME SYSTEMS		N/A
16.1	After installation or subsequent modification, ME SYSTEM didn't result in an unacceptable RISK	To be evaluated in end product.	N/A
	Only HAZARDS arising from combining various equipment to form a ME SYSTEM considered		N/A
	- ME SYSTEM provides the level of SAFETY within the PATIENT ENVIRONMENT equivalent to ME EQUIPMENT complying with this standard		N/A
	- ME SYSTEM provides the level of SAFETY outside PATIENT ENVIRONMENT equivalent to EQUIPMENT complying with their respective IEC or ISO SAFETY standards		N/A
	- tests performed in NORMAL CONDITION, except as specified		N/A
	- tests performed under operating conditions specified by MANUFACTURER of ME SYSTEM		N/A
	Safety tests previously conducted on individual equipment of ME SYSTEM according to relevant standards not repeated		N/A
	RISK MANAGEMENT methods, optionally, used by MANUFACTURER of an ME SYSTEM reconfigurable by RESPONSIBLE ORGANIZATION or OPERATOR to determine configurations with highest RISKS and measures to ensure any configuration of ME SYSTEM will not present unacceptable RISKS		N/A
	Non-ME EQUIPMENT used in ME SYSTEM complied with applicable IEC or ISO safety standards		N/A
	Equipment relying only on BASIC INSULATION for protection against electric shock not used in ME SYSTEM		N/A
16.2	ACCOMPANYING DOCUMENTS of an ME SYSTE	M	N/A
	Documents containing all data necessary for ME SYSTEM to be used as intended by MANUFACTURER including a contact address accompany ME SYSTEM or modified ME SYSTEM		N/A
	ACCOMPANYING DOCUMENTS regarded as a part of ME SYSTEM		N/A
	ACCOMPANYING DOCUMENTS are, optionally, provided in electronic format (e.g. electronic file format or CD ROM) and ME SYSTEM is capable of displaying or printing these documents		N/A

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a) ACCOMPANYING DOCUMENTS provided for each item of ME EQUIPMENT supplied by MANUFACTURER	N/A
b) ACCOMPANYING DOCUMENTS provided for each item of non-ME EQUIPMENT supplied by MANUFACTURER	N/A
c) the required information is provided:	N/A
<ul> <li>specifications, instructions for use as intended by MANUFACTURER, and a list of all items forming the ME SYSTEM</li> </ul>	N/A
<ul> <li>instructions for installation, assembly, and modification of ME SYSTEM to ensure continued compliance with this standard</li> </ul>	N/A
- instructions for cleaning and, when applicable, disinfecting and sterilizing each item of EQUIPMENT or EQUIPMENT PART forming PART of the ME SYSTEM	N/A
<ul> <li>additional SAFETY measures to be APPLIED during installation of ME SYSTEM</li> </ul>	N/A
- identification of parts of ME SYSTEM suitable for use within the PATIENT ENVIRONMENT	N/A
<ul> <li>additional measures to be APPLIED during preventive maintenance</li> </ul>	N/A
<ul> <li>- a warning forbidding placement of MULTIPLE socket-OUTLET, when provided and it is a separate item, on the floor</li> </ul>	N/A
<ul> <li>- a warning indicating an additional MULTIPLE socket-OUTLET or extension CORD not to be connected to ME SYSTEM</li> </ul>	N/A
<ul> <li>a warning to connect only items that have been specified as PART of ME SYSTEM or specified as being compatible with ME SYSTEM</li> </ul>	N/A
- MAXIMUM permissible LOAD for any MULTIPLE socket-OUTLET(s) used with ME SYSTEM	N/A
<ul> <li>instructions indicating MULTIPLE socket-outlets provided with the ME SYSTEM to be used only for supplying POWER to EQUIPMENT intended to form PART of ME SYSTEM</li> </ul>	N/A
- an explanation indicating RISKS of connecting non-ME EQUIPMENT supplied as a PART of ME SYSTEM directly to wall OUTLET when non-ME EQUIPMENT is intended to be supplied via a MULTIPLE socket-OUTLET with a separating	N/A

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	transformer	
	<ul> <li>an explanation indicating RISKS of connecting any EQUIPMENT supplied as a PART of ME SYSTEM to MULTIPLE socket-OUTLET</li> </ul>	N/A
	<ul> <li>permissible environmental conditions of use for ME SYSTEM including conditions for transport and storage</li> </ul>	N/A
	<ul> <li>instructions to OPERATOR not to, simultaneously, touch parts referred to in 16.4 and PATIENT</li> </ul>	N/A
	d) the following instructions provided for use by RESPONSIBLE ORGANIZATION:	N/A
	<ul> <li>adjustment, cleaning, sterilization, and disinfection PROCEDURES</li> </ul>	N/A
	- assembly of ME systems and modifications during actual SERVICE LIFE shall be evaluated based on the requirements of this standard	N/A
16.3	Instructions for use of ME EQUIPMENT intended to receive its power from other equipment in an ME SYSTEM, describe the other equipment to ensure compliance with these requirements	N/A
16.4	Parts of non-ME EQUIPMENT in PATIENT ENVIRONMENT subject to contact by OPERATOR during maintenance, calibration, after removal of covers, connectors, etc., without use of a TOOL operated at a voltage ≤ voltage in 8.4.2 c) supplied from a source separated from SUPPLY MAINS by two MEANS OF OPERATOR PROTECTION	N/A
16.5	Safety measures incorporating a SEPARATION DEVICE applied when FUNCTIONAL CONNECTION between ME EQUIPMENT and other items of an ME SYSTEM or other systems can cause allowable values of LEAKAGE CURRENT to exceed	N/A
	SEPARATION DEVICE has dielectric strength, CREEPAGE and CLEARANCES required for one MEANS OF OPERATOR PROTECTION appropriate for highest voltage occurring across SEPARATION DEVICE during a fault condition	N/A
	WORKING VOLTAGE was highest voltage across SEPARATION DEVICE during a fault condition, but not less than MAXIMUM MAINS VOLTAGE (V) :	N/A
16.6	LEAKAGE CURRENTS	N/A

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16.6.1	TOUCH CURRENT in NORMAL CONDITION, from or between parts of ME SYSTEM within the PATIENT ENVIRONMENT, did not exceed 100 uA	N/A
	TOUCH CURRENT did not exceed 500 uA in event of interruption of any non-PERMANENTLY INSTALLED PROTECTIVE EARTH CONDUCTOR, from or between parts of ME SYSTEM within PATIENT ENVIRONMENT	N/A
16.6.2	Current in PROTECTIVE EARTH CONDUCTOR of MULTIPLE SOCKET-OUTLET did not exceed 5 mA	N/A
16.6.3	PATIENT LEAKAGE CURRENT and total PATIENT LEAKAGE CURRENT of ME SYSTEM in NORMAL CONDITION did not exceed values specified for ME EQUIPMENT in Tables 3 and 4 :	N/A
	Measurements made using a device as in clause 8.7.4.4	N/A
16.7	ME SYSTEM complied with applicable requirements of Clause 9 when a MECHANICAL HAZARD existed	N/A
16.8	Interruption and restoration of relevant power connections of ME SYSTEM one at a time and all connections simultaneously did not result in a HAZARDOUS SITUATION other than interruption of its intended function	N/A
16.9	ME SYSTEM connections and wiring	N/A
16.9.1	Incorrect connection of accessible connectors, removable without a TOOL, prevented where a HAZARDOUS SITUATION could otherwise exist.:	N/A
	- Connectors complied with Clause 15.4.1	N/A
	- plugs for connection of PATIENT leads could not be connected to other outlets of the same ME SYSTEM likely to be located in PATIENT ENVIRONMENT, except when examination of connectors and interchanging them proved no hazardous SITUATION could result	N/A
16.9.2	MAINS PARTS, components and layout	N/A
16.9.2.1	a) - MULTIPLE SOCKET-OUTLET only allows connection using a TOOL, or	N/A
	- MULTIPLE SOCKET-OUTLET is of a type that cannot accept MAINS PLUGS of any of the kinds specified in IEC/TR 60083, or	N/A

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- MULTIPLE socket-OUTLET is supplied via a separating transformer	N/A
b) - MULTIPLE SOCKET-OUTLET marked with safety sign 2 of Table D.2 (i.e., safety sign ISO 7010-W001) visible in NORMAL USE, and	N/A
<ul> <li>marked either individually or in combinations, with the MAXIMUM allowed Continuous output in amperes or volt-amperes, or</li> </ul>	N/A
<ul> <li>marked to indicate the EQUIPMENT or EQUIPMENT parts it may safely be attached to</li> </ul>	N/A
- MULTIPLE socket-OUTLET is a separate item or an integral PART of ME EQUIPMENT or non-ME EQUIPMENT	N/A
c) MULTIPLE SOCKET-OUTLET complied with IEC 60884-1 and the following requirements:	N/A
- CREEPAGE and CLEARANCES complied with 8.9	N/A
- it is CLASS I, and PROTECTIVE EARTH conductor is connected to earthing contacts in socket-outlets	N/A
- PROTECTIVE EARTH TERMINALS and PROTECTIVE EARTH CONNECTIONS comply with 8.6, except total impedance for ME SYSTEM was up to 400 m, or higher when conditions of 8.6.4 b) met (m)	N/A
- ENCLOSURE complied with 8.4.2 d)	N/A
- MAINS TERMINAL DEVICES and wiring complied with 8.11.4, when applicable	N/A
- RATINGS of components are not in conflict with conditions of use	N/A
- electrical TERMINALS and connectors of MULTIPLE socket-outlets prevent incorrect connection of accessible connectors removable without a TOOL	N/A
- POWER SUPPLY CORD complied with 8.11.3	N/A
 d) Additional requirements applied when MULTIPLE SOCKET-OUTLET combined with a separating transformer:	N/A
 - Separating transformer complied with IEC 61558- 2-1, except requirements of maximum RATED output power of 1 kVA and degree of protection IPX4 were not applied	N/A

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	- separating transformer is CLASS I	N/A
	- Degree of protection against ingress of water specified as in IEC 60529	N/A
	<ul> <li>Separating transformer assembly marked according to 7.2 and 7.3</li> </ul>	N/A
	- MULTIPLE SOCKET-OUTLET permanently connected to separating transformer, or socket- outlet of separating transformer assembly cannot accept MAINS PLUGS as identified in IEC/TR 60083	N/A
16.9.2.2	Removal of any single item of equipment in ME SYSTEM will not interrupt the protective earthing of any other part without simultaneous disconnection of electrical supply to that part	N/A
	Additional PROTECTIVE EARTH CONDUCTORS can be detachable only by use of a TOOL	N/A
16.9.2.3	Conductors connecting different items within an ME SYSTEM protected against mechanical damage	N/A

17	ELECTROMAGNETIC COMPATIBILITY OF ME EQUIPMENT AND ME SYSTEMS	
	RISKS associated with items addressed in RISK MANAGEMENT PROCESS as confirmed by review	N/A
	- electromagnetic phenomena at locations where ME EQUIPMENT or ME SYSTEM is to be used as stated in ACCOMPANYING DOCUMENTS	N/A
	- introduction of electromagnetic phenomena into ENVIRONMENT by ME EQUIPMENT or ME SYSTEM that might degrade performance of other devices, electrical EQUIPMENT, and systems	N/A

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G	PROTECTION AGAINST HAZARDS OF IGNITION OF FLAMMABLE ANESTHETIC MIXTURES Locations and basic requirements		N/A N/A
G.2			
G.2.1	Parts of CATEGORY APG ME EQUIPMENT in which a FLAMMABLE ANESTHETIC MIXTURE WITH AIR occurs are CATEGORY AP or APG ME EQUIPMENT and complied with G.3, G.4, and G.5	To be evaluated in end product.	N/A
G.2.2	FLAMMABLE AESTHETIC MIXTURE WITH AIR occurring due to a leakage or discharge of a FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN or NITROUS OXIDE from an ENCLOSURE considered 5 to 25 cm from point of occurrence		N/A
G.2.3	A FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN or NITROUS OXIDE contained in a completely / partly enclosed ME EQUIPMENT part and in PATIENT'S respiratory tract 5 cm from an ENCLOSURE part where leakage or discharge occurs		N/A
G.2.4	ME EQUIPMENT or parts thereof specified for use with FLAMMABLE AESTHETIC MIXTURE WITH AIR (in a location as in G.2.2) are CATEGORY AP or APG ME EQUIPMENT and complied with G.4 and G.5		N/A
G.2.5	ME EQUIPMENT or parts thereof for use with FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE (location per G.2.2) are CATEGORY APG ME EQUIPMENT and comply with G.4 and G.6		N/A
	ME EQUIPMENT in G.2.3 to G.2.5 met appropriate tests of G.3-G.5 conducted after tests of 11.6.6 and 11.6.7		N/A
G.3	Marking, ACCOMPANYING DOCUMENTS		N/A
G.3.1	CATEGORY APG ME EQUIPMENT prominently marked. with a green-coloured band 2 cm wide with letters "APG" according to symbol 23 in Table D.1		N/A
	Length of green-coloured band is 4 cm, and size of marking is as large as possible for particular case		N/A
	When above marking not possible, relevant information included in instructions for use:		N/A
	Marking complied with tests and criteria of 7.1.2 and 7.1.3		N/A

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G.3.2	CATEGORY AP ME EQUIPMENT prominently marked, with a green-coloured circle 2 cm in diameter, with characters "AP" according to symbol 22 in Table D.1	N/A
	Marking is as large as possible for the particular case	N/A
	When above marking not possible, the relevant information included in instructions for use	N/A
	Marking complied with tests and criteria of 7.1.2 and 7.1.3	N/A
G.3.3	The marking according to G.3.2 and G.3.3 placed on major part of ME EQUIPMENT for CATEGORY AP or APG parts, and not repeated on detachable parts that can only be used with the marked EQUIPMENT	N/A
G.3.4	ACCOMPANYING DOCUMENTS contain an indication enabling the RESPONSIBLE ORGANIZATION to distinguish between CATEGORY AP and APG parts	N/A
G.3.5	Marking clearly indicates which parts are CATEGORY AP or APG when only certain ME EQUIPMENT parts are CATEGORY AP or APG	N/A
G.4	Common requirements for CATEGORY AP and CATE EQUIPMENT	GORY APG ME N/A
G.4.1	a) CREEPAGE and CLEARANCES between points of POWER SUPPLY CORD connection are according to Table 12 for one MEANS OF PATIENT PROTECTION	N/A
	b) Connections, except those in circuits described in G.5.3 and G.6.3, protected against accidental disconnection in NORMAL USE or connection and disconnection can be performed only with a TOOL	N/A
	c) CATEGORY AP and APG not provided with a DETACHABLE POWER SUPPLY CORD, except when circuit complied with G.5.3 and G.6.3	N/A
G.4.2	Construction details	N/A
	a) Opening of an ENCLOSURE providing protection against penetration of gases or vapours into ME EQUIPMENT or its parts possible only with a TOOL	N/A
	b) ENCLOSURE complies with requirements to minimize arcing and sparking due to penetration of foreign objects	N/A

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	- no openings on top covers of ENCLOSURE, except for openings for controls covered by control knobs	N/A
	- openings in side-covers prevented penetration of a solid cylindrical test rod of 4 mm in diameter applied in all possible directions without appreciable force	N/A
	- openings in base plates prevented penetration of a solid cylindrical test rod of 12 mm in diameter applied in all directions without appreciable force	N/A
	c) Short circuiting conductor(s) to a conductive part without presence of explosive gasses where insulation may contact a part containing a FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN or NITROUS OXIDE, ignitable gases alone, or oxygen, did not result in loss of integrity of the part, an unacceptable temperature, or other HAZARD	N/A
G.4.3	a) Electrostatic charges prevented on CATEGORY AP and APG ME EQUIPMENT by a combination of appropriate measures	N/A
	- Use of antistatic materials with a limited electrical resistance as specified in G.4.3 b)	N/A
	- provision of electrically conductive paths from ME EQUIPMENT or its parts to a conductive floor, PROTECTIVE EARTH or POTENTIAL EQUALIZATION SYSTEM, or via wheels to an antistatic floor of medical room	N/A
	b) Electrical resistance limits of aesthetic tubing, mattresses and pads, castor tires, and other antistatic material complied with ISO 2882 based on measurements according to ISO 1853, ISO 2878 and ISO 23529	N/A
G.4.4	Corona cannot be produced by components or parts of ME EQUIPMENT operating at more than 2000 V a.c. or 2400 V d.c. and not included in ENCLOSURES complying with G.5.4 or G.5.5	N/A
G.5	Requirements and tests for CATEGORY AP ME EQUIPMENT, parts and components	N/A
G.5.1	ME EQUIPMENT, its parts or components do not ignite FLAMMABLE AESTHETIC MIXTURES WITH AIR under NORMAL USE and CONDITIONS based on compliance with G.5.2 to G.5.5 (inclusive)	N/A

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	Alternatively, ME EQUIPMENT, its parts, and components complied with requirements of IEC 60079-0 for pressurized ENCLOSURES (IEC 60079-2); for sand-filled ENCLOSURES, IEC 60079-5; or for oil immersed equipment, IEC 60079-6; and with this standard excluding G.5.2 to G.5.5	N/A
G.5.2	ME EQUIPMENT, its parts, and components in contact with gas mixtures in NORMAL USE and CONDITIONS not producing sparks and not resulting in surface temperatures above 150 °C in case of restricted or 200 °C in case of unrestricted vertical air circulation measured at 25 °C comply with G.5.1	N/A
G.5.3	ME EQUIPMENT, its parts, and components producing sparks in NORMAL USE and CONDITION complied with temperature requirements of G.5.2, and Umax and Imax occurring in their circuits, and complied as follows:	N/A
	Measured Umax ≤ UzR with IzR as in Fig. G.1:	N/A
	Measured Umax $\leq$ Uc with Cmax as in Fig. G.2:	N/A
	Measured Imax $\leq$ IzR with UzR as in Fig G.1:	N/A
	Measured Imax $\leq$ IzL with Lmax and a Umax $\leq$ 24 V as in Fig G.3	N/A
	- Combinations of currents and corresponding voltages within the limitations IzR.UzR $\leq$ 50 W extrapolated from Fig G.1	N/A
	No extrapolation made for voltages above 42 V	N/A
	- Combinations of capacitances and corresponding voltages within limitations of C/2U2 1.2 mJ extrapolated from Fig G.2	N/A
	No extrapolation made for voltages above 242V	N/A
	Umax, additionally, determined using actual resistance R when the equivalent resistance R was less than 8000	N/A
	- Combinations of currents and corresponding inductances within limitations L/2I2 0.3 mJ extrapolated from Fig G.3	N/A
	No extrapolation made for inductances larger than 900 mH	N/A
	- Umax was the highest supply voltage occurring in circuit under investigation with sparking contact open, taking into consideration MAINS VOLTAGE	N/A

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	variations in 4.10	
	- Imax was the highest current flowing in circuit under investigation with sparking contact closed, taking into consideration MAINS VOLTAGE variations required in 4.10	N/A
	- Cmax and Lmax taken as values occurring at the component under investigation producing sparks	N/A
	- peak value considered when a.c. supplied	N/A
	- an equivalent circuit calculated to determine equivalent max capacitance, inductance, and equivalent Umax and Imax, either as d.c. or a.c. peak values in case of a complicated circuit	N/A
	Temperature measurements made according to 11.1, and Umax, Imax, R, Lmax , and Cmax determined with application of Figs G.1-G.3	N/A
	Alternatively, compliance was verified by examination of design data	N/A
G.5.4	External ventilation with internal overpressure	N/A
	ME EQUIPMENT, its parts, and components enclosed in an ENCLOSURE with external ventilation by means of internal overpressure complied with the following requirements:	N/A
	a) FLAMMABLE AESTHETIC MIXTURES WITH AIR that might have penetrated into ENCLOSURE of ME EQUIPMENT or part removed by ventilation before EQUIPMENT energized, and penetration of such mixtures during operation was prevented by maintenance of overpressure by means of air without flammable gases, or by physiologically acceptable inert gas (e.g., nitrogen)	N/A
	b) Overpressure inside ENCLOSURE was 75 Pa, min., in NORMAL CONDITION (Pa)	N/A
	Overpressure maintained at the site of potential ignition even when air or inert gas could escape through openings in ENCLOSURE necessary for normal operation of ME EQUIPMENT or its parts	N/A
	ME EQUIPMENT could be energized only after the required minimum overpressure was present long enough to ventilate the ENCLOSURE so that the displaced volume of air or inert gas was at least five times the volume of ENCLOSURE	N/A
	ME EQUIPMENT energized at will or repeatedly when overpressure was continuously present	N/A

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G.6.1	ME EQUIPMENT, its parts, and components did not ignite FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE under	N/A
G.6	CATEGORY APG ME EQUIPMENT, parts and comp	ponents thereof N/A
	Steady state operating temperature of ENCLOSURE also measured (°C):	N/A
	Operating temperature of external surface of ENCLOSURE was 150 °C in 25 °C (°C)	N/A
	Tests waived when examination of ENCLOSURE indicated it is completely sealed or gas-tight without a doubt (100 % degree of certainty)	N/A
	Overpressure not reduced below 200 Pa	N/A
	After the test in G.5.4 b), an internal overpressure of 400 Pa was created and 30 pulls of the value in Table G.1 applied to each flexible cord in axial direction of cord inlet and in the least favourable direction for 1 s	N/A
	Cords are fitted with adequate anchorages to limit stresses	N/A
	c) Gas-tightness of ENCLOSURE containing inlets for flexible cords maintained when the cords were stressed by bending or pulling	N/A
	b) Gasket or sealing material used to maintain tightness complied with aging test B-b of IEC 60068-2-2, Clause 15, at 70 °C ± 2 °C and 96 h :	N/A
	a) A FLAMMABLE AESTHETIC MIXTURE WITH AIR did not form inside ENCLOSURE with restricted breathing when it was surrounded by a FLAMMABLE AESTHETIC MIXTURE WITH AIR of a high concentration for at least 30 min without any pressure difference inside ENCLOSURE	N/A
	ME EQUIPMENT, its parts, and components enclosed in an ENCLOSURE with restricted breathing complied with the following:	N/A
G.5.5	ENCLOSURES with restricted breathing	N/A
	d) External surface of ENCLOSURE in which internal overpressure was maintained did not exceed 150 °C in 25 °C ambient under NORMAL USE and CONDITION (°C)	N/A
	c) Ignition sources de-energized automatically by means used where G.4 does not apply, or complied with G.5 when during operation overpressure dropped below 50 Pa (Pa)	N/A

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	NORMAL USE and SINGLE FAULT CONDITION	
	ME EQUIPMENT, its parts, and components not complying with G.6.3 subjected to a CONTINUOUS OPERATION test after attaining thermal steady state (max. 3 h) over a period of 10 min in a 12.2 % ± 0.4 ether by volume/oxygen mixture	
G.6.2	Parts and components of CATEGORY APG ME EQUIPMENT operating in a FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE supplied from a source isolated from earth by insulation equal to one MEANS OF PATIENT PROTECTION and from electrical parts by insulation twice the MEANS OF PATIENT PROTECTION	N/A
G.6.3	Test of G.6.1 waived when the following requirements were met in NORMAL USE and under NORMAL and SINGLE FAULT CONDITIONS	N/A
	a) no sparks produced and temperatures did not exceed 90 °C, or	N/A
	b) a temperature limit of 90 °C not exceeded, sparks produced in NORMAL USE, and SINGLE FAULT CONDITIONS, except Umax and Imax occurring in their circuits complied with requirements, taking Cmax and Lmax into consideration:	N/A
	Measured Umax ≤ UzR with IzR as in Fig. G.4:	N/A
	Measured Umax ≤ UzC with Cmax as in Fig. G.5.:	N/A
	Measured Imax ≤ IzR with UzR as in Fig G.4:	N/A
	Measured Imax ≤ IzL with Lmax and a Umax ≤ 24 V as in Fig G.6:	N/A
	- Extrapolation from Figs G.4, G.5, and G.6 was limited to areas indicated	N/A
	- Umax was the highest no-load voltage occurring in the circuit under investigation, taking into consideration mains voltage variations as in 4.10	N/A
	- Imax was the highest current flowing in the circuit under investigation, taking into account MAINS VOLTAGE variations as in 4.10	N/A
	- Cmax and Lmax are values occurring in relevant circuit	N/A
	- Umax additionally determined with actual resistance R when equivalent resistance R in Fig	N/A

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	G.5 was less than 8000	
	<ul> <li>peak value taken into consideration when a.c. supplied</li> </ul>	N/A
	- an equivalent circuit calculated to determine max capacitance, inductance, and Umax and Imax, either as d.c. or a.c. peak values in case of a complicated circuit	N/A
	- when energy produced in an inductance or capacitance in a circuit is limited by voltage or current-limiting devices, two independent components APPLIED, to obtain the required limitation even when a first FAULT (short or open circuit) in one of these components	N/A
	Above requirement not applied to transformers complying with this standard	N/A
	Above requirement not applied to wire-wound current-limiting resistors provided with a protection against unwinding of the wire in case of rupture	N/A
	Compliance verified by examination of CATEGORY APG ME EQUIPMENT, parts, and components , or	N/A
	Temperature measurements made in accordance with 11.1, or	N/A
	Umax, Imax, R, Lmax and Cmax determined together with application of Figs G.4-G.6	N/A
	Alternatively, compliance verified by comparison with design data	N/A
G.6.4	ME EQUIPMENT, its parts, and components heating a FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE provided with a non-SELF-RESETTING THERMAL CUT- OUT and complied with 15.4.2.1	N/A
	Current-carrying part of heating element is not in direct contact with FLAMMABLE AESTHETIC MIXTURE WITH OXYGEN OR NITROUS OXIDE	N/A
G.7	Test apparatus for flammable mixtures	N/A
	Test apparatus used was in accordance with this Clause and Fig G.7	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

L	INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION		N/A
L.1	BASIC, SUPPLEMENTARY, DOUBLE, and REINFORCED INSULATION in wound components without interleaved insulation complied with this Annex covering round winding wires between 0.05 mm and 5.00 mm diameters	No such part	N/A
L.2	Wire construction		N/A
	Overlap of layers when wire is insulated with two or more spirally wrapped layers of tape is adequate to ensure continued overlap during manufacture of wound component		N/A
	Layers of spirally wrapped wire insulation are sufficiently secured to maintain the overlap		N/A
3	Type Test		N/A
	The wire subjected to tests of L.3.1 to L.3.4 at a temperature and a relative humidity specified		N/A
	Temperature (°C)		-
	Humidity (%):		-
3.1	Dielectric strength		N/A
	Dielectric strength test of Clause 8.8.3 for the appropriate type and number of MOP(s) conducted by preparing the sample according to IEC 60851- 5:1996, Clause 4.4.1 for a twisted pair with test voltages at least twice Tables 6 & 7, but not less than below with no breakdown:		N/A
	- 3000 V for BASIC and SUPPLEMENTARY INSULATION (V)		N/A
	- 6000 V for REINFORCED INSULATION (V) :		N/A
3.2	Flexibility and adherence		N/A
	Sample subjected to flexibility and adherence test 8 of IEC 60851-3:1996, clause 5.1.1, using mandrel diameters of Table L.1		N/A
	Sample examined according to IEC 60851-3: 1997, clause 5.1.1.4, followed by dielectric test of clause 8.8.3, except test voltage applied between wire and mandrel with no breakdown		N/A
	Test voltage was at least the voltage in Tables 6 and 7but not less than the following:		N/A
	- 1500 V for BASIC and SUPPLEMENTARY INSULATION (V)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	- 3000 V for REINFORCED INSULATION (V) :	N/A
	Tension applied to wire during winding on mandrel calculated from the wire diameter equivalent to 118 MPa ± 11.8 MPa	N/A
3.3	Heat Shock	N/A
	Sample subjected to heat shock test 9 of IEC 60851-6:1996, followed by dielectric strength test of clause 8.8.3, except test voltage applied between the wire and mandrel	N/A
	Test voltage was at least the voltage in Tables 6 and 7, but not less than the following:	N/A
	- 1500 V for BASIC and SUPPLEMENTARY INSULATION (V)	N/A
	- 3000 V for REINFORCED INSULATION (V) :	N/A
	Oven temperature based on Table L.2 ( C):	-
	Mandrel diameter and tension applied as in clause L.3.2, (MPa; N/mm2)	N/A
	Dielectric strength test conducted at room temperature after removal from the oven	N/A
3.4	Retention of electric strength after bending	N/A
	Five samples prepared as in L.3.2 subjected to dielectric strength and bending tests	N/A
	Test voltage was at least the voltage in Tables 6 and 7, but not less than the following:	N/A
	- 1500 V for BASIC and SUPPLEMENTARY INSULATION (V)	N/A
	- 3000 V for REINFORCED INSULATION (V) :	N/A
	Test voltage applied between the shot and conductor.	N/A
	Mandrel diameter and tension applied as in L.3.2, (MPa; N/mm2):	N/A
4	Tests during manufacture	N/A
L.4.1	Production line dielectric strength tests conducted by the manufacture according to L.4.2 and L.4.3:	N/A
4.2	Test voltage for routine testing (100 % testing) is at least the voltage in Tables 6 and 7 but not less than the following:	N/A
	- 1500 V r.m.s. or 2100 V peak for BASIC and SUPPLEMENTARY INSULATION (V)	N/A
	- 3000 V r.m.s. or 4200 V peak for REINFORCED	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	INSULATION (V)	
L.4.3	Sampling tests conducted using twisted pair samples (IEC 60851-5:1996, clause 4.4.1)	N/A
	Minimum breakdown test voltage at least twice the voltage in Tables 6 and 7 but not less than:	N/A
	- 3000 V r.m.s. or 4200 V peak for BASIC and SUPPLEMENTARY INSULATION	N/A
	- 6000 V r.m.s. or 8400 V peak for REINFORCED INSULATION	N/A

## **Enclosure**

## **National Differences**

Canada USA

	IEC 60601		
SubClause	Difference + Test	Result - Remark	Verdict

Canada - Differences to IEC 60601-1: 2005 + CORR. 1 (2006) + CORR. 2 (2007)			
1	Scope, object and related documents	Noted	Pass
1.1	Scope	Noted	Pass
1.1	This standard applies to the BASIC SAFETY and ESSENTIAL PERFORMANCE of MEDICAL ELECTRICAL EQUIPMENT and MEDICAL ELECTRICAL SYSTEMS designed to be installed in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1; CAN/CSA-C22.2 No. 0; and CAN/CSA-Z32.	Noted	Pass
1.1	NOTE 1A: In the IEC 60601 standards series adopted for use in Canada, the Canadian-particular standards may modify, replace, or delete requirements contained in this standard as appropriate for the particular ME EQUIPMENT and ME SYSTEMS under consideration, and may add other BASIC SAFETY and ESSENTIAL PERFORMANCE requirements.	Noted	Pass
1.3	Collateral standards		N/A
1.3	Applicable Canadian collateral standards become normative at the date of their publication and apply together with this standard.		N/A
1.3	NOTE 1: When evaluating compliance with CAN/CSA-C22.2 No. 60601-1, it is permissible to assess independently compliance with the adopted Canadian collateral standards.		N/A
1.4	Particular standards		N/A
1.4	A requirement of a Canadian-particular safety standard takes precedence over this standard.		N/A
3	Terminology and definitions	Noted	Pass
3.41	HIGH VOLTAGE		N/A
3.41	any voltage above 750 V, 1 050 V peak, as defined in the Canadian Electrical Code (CEC), Part I		N/A
4.8	a) the applicable safety requirements of a relevant CSA, IEC, or ISO standard; or		N/A
4.8	NOTE 1: For the components, it is not necessary to carry out identical or equivalent tests already performed to check compliance with the component standard.		N/A

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SubClause	Difference + Test	Result - Remark	Verdict

4.8	b) where there is no relevant CSA, IEC, or ISO standard, the requirements of this standard have to be applied	N/A
4.8	NOTE 2: If there are neither requirements in this standard nor in a CSA, IEC, or ISO standard, any other applicable source (e.g., standards for other types of devices, national standards) could be used to demonstrate compliance with the RISK MANAGEMENT PROCESS.	N/A
4.10.2	and shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1:	N/A
7.7.1	and shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1	N/A
7.7.1	A PROTECTIVE EARTH CONDUCTOR or a PROTECTIVE EARTH CONNECTION or insulation shall be identified by either green or green and yellow colour. Colours of neutral and POWER SUPPLY CORD conductors shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.2 No. 21, and CSA C22.2 No. 49	N/A
7.7.2	and shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1	N/A
7.7.2	A PROTECTIVE EARTH CONDUCTOR or a PROTECTIVE EARTH CONNECTION or insulation shall be identified by either green or green and yellow colour. Colours of neutral and POWER SUPPLY CORD conductors shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.2 No. 21, and CSA C22.2 No. 49	N/A
7.7.3	and shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1	N/A
7.7.3	A PROTECTIVE EARTH CONDUCTOR or a PROTECTIVE EARTH CONNECTION or insulation shall be identified by either green or green and yellow colour. Colours of neutral and POWER SUPPLY CORD conductors shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.2 No. 21, and CSA C22.2 No. 49	N/A
7.7.4	and shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1	N/A
7.7.4	A PROTECTIVE EARTH CONDUCTOR or a PROTECTIVE EARTH CONNECTION or insulation shall be identified by either green or green and	N/A

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SubClause	Difference + Test		Result - Remark	Verdict

	yellow colour. Colours of neutral and POWER SUPPLY CORD conductors shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.2 No. 21, and CSA C22.2 No. 49	
7.7.5	and shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1	N/A
7.7.5	A PROTECTIVE EARTH CONDUCTOR or a PROTECTIVE EARTH CONNECTION or insulation shall be identified by either green or green and yellow colour. Colours of neutral and POWER SUPPLY CORD conductors shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.2 No. 21, and CSA C22.2 No. 49	N/A
8.7.3	Allowable values shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1.	N/A
8.11.3.2	a) The MAINS PLUG of non-PERMANENTLY INSTALLED EQUIPMENT shall be	N/A
8.11.3.2	i) if molded-on type, hospital grade mains plug complying with CSA C22.2 No. 21;:	N/A
8.11.3.2	ii) hospital grade disassembly attachment plug type complying with CSA C22.2 No. 42; or	N/A
8.11.3.2	<ul> <li>iii) Class II equipment having fuses on the line side/sides and neutral and may use a non-polarized attachment plug or a polarized attachment plug - CSA configuration type 1-15P shall be required and shall meet all applicable requirements in CSA C22.2 No. 21 and CSA C22.2 No. 42. Where a polarized attachment plug is used, the POWER SUPPLY CORD shall be connected to the wiring of the EQUIPMENT on the ungrounded side of the line when any of the following devices are used in the primary circuit:</li></ul>	N/A
8.11.3.2	1- the centre contact of an Edison base lampholder;	N/A
8.11.3.2	2- a single pole switch;	N/A
8.11.3.2	3- an automatic control with a marked off position;	N/A
8.11.3.2	4- a solitary fuse/fuse holder; or	N/A
8.11.3.2	5- any other single pole overcurrent protective	N/A

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SubClause	Difference + Test	Result - Remark	Verdict

	device	
8.11.3.2	b) Detachable POWER SUPPLY CORD for non-PERMANENTLY INSTALLED EQUIPMENT (cord-connected equipment) shall be of a type that	N/A
8.11.3.2	i) can be shown to be unlikely to become detached accidentally, unless it can be shown that detachment will not constitute a safety HAZARD to a PATIENT or OPERATOR;	N/A
8.11.3.2	ii) can be shown that the impedance of the earth (ground) circuit contacts will not constitute a safety HAZARD to a PATIENT or OPERATOR; and	N/A
8.11.3.2	iii) has a terminal configuration or other constructional feature that will minimize the possibility of its replacement by a detachable POWER SUPPLY CORD which could create a HAZARDOUS SITUATION	N/A
8.11.3.2	c) A detachable POWER SUPPLY CORD shall	N/A
8.11.3.2	i) comply with the applicable requirements of CSA C22.2 No. 21; and	N/A
8.11.3.2	ii) not be smaller than No. 18 AWG, and the mechanical serviceability shall be not less than	N/A
8.11.3.2	1) Type SJ or equivalent for mobile or exposed to abuse ME EQUIPMENT; and	N/A
8.11.3.2	2) Type SV or equivalent for ME EQUIPMENT not exposed to abuse (or Type HPN if required because of temperature)	N/A
8.11.3.2	NOTE 1A: See CSA C22.2 No. 49 for requirements on the cord types mentioned in Sub-item 2).	N/A
8.11.3.2	d) Power supply cords shall meet the requirements of the Canadian Electrical Code, Part I, as applicable	N/A
8.11.3.2	Connecting cords between equipment parts shall meet the requirements of the Canadian Electrical Code, Part I, as applicable	N/A
8.11.5	Mains fuses and OVER-CURRENT RELEASES shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1	N/A
9.7.5	Pressure vessels shall comply with the requirements of CSA B51, as applicable	N/A

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SubClause	Difference + Test	Result - Remark	Verdict

9.7.7	A pressure-relief device shall also comply as applicable to the requirements of ASME PTC 25 or equivalent Canadian requirements	N/A
15.4.1	bA) The point of connection of gas cylinders to EQUIPMENT shall be gas specific and clearly identified so that errors are avoided when a replacement is made. Medical gas inlet connectors on EQUIPMENT shall be	N/A
15.4.1	i) gas specific, yoke type, or nut and nipple type valve connections complying with CGA V-1 for pressures over 1 380 kPa (200 psi); or:	N/A
15.4.1	ii) DISS type complying with CGA V-5 for pressures 1 380 kPa (200 psi) or less and configured to permit the supply of medical gases from low-pressure connecting assemblies complying with CAN/CSA-Z5359	N/A
15.4.1	NOTE 1A: Users of this standard should consult the CSA Z305 series of standards, CAN/CSA-Z9170-1, CAN/CSA-Z9170-2, CAN/CSA-Z10524, and CAN/CSA-Z15002 for further information regarding inlet connectors; ISO 407 for requirements addressing yoke-type valve connections; and ISO 32 for colour coding.	N/A
15.4.8	Internal wiring of ME EQUIPMENT shall be in accordance with the Canadian Electrical Code (CEC), Part I, CSA C22.1	N/A
16.1	General requirements for the ME SYSTEMS	N/A
16.1	An ME SYSTEM shall provide	N/A
16.1	- within the PATIENT ENVIRONMENT, the level of safety equivalent to ME EQUIPMENT complying with this standard; and	N/A
16.1	- outside the PATIENT ENVIRONMENT, the level of safety equivalent to equipment complying with their respective CSA, IEC, or ISO safety standards	N/A
16.1	Non-ME EQUIPMENT, when used in an ME SYSTEM, shall comply with CSA, IEC, or ISO safety standards that are relevant to that equipment.	N/A
16.9.2.1	c) The MULTIPLE SOCKET-OUTLET shall	N/A

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SubClause	Difference + Test	Result - Remark	Verdict

	comply with the requirements of CSA C22.2 No. 42, CSA C22.2 No. 49, and the following requirements	
16.9.2.1	- The separating transformer shall comply with the requirements of CAN/CSA-E61558-2-1 with a rated output not exceeding	N/A
16.9.2.1	- 1 kVA for single-phase transformers; and	N/A
16.9.2.1	- 5 kVA for polyphase transformers	N/A
16.9.2.1	The separating transformer shall also have a degree of protection not exceeding IPX4.	N/A

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SubClause	Difference + Test	Result - Remark	Verdict

	Differences to IEC 60601-1: 2005 + CORR. 1	· · · ·	N I / A
4.8	Replacement: where there was no relevant IEC/ISO standard, the relevant US ANSI standard applied		N/A
4.8	- when no relevant US ANSI standard existed, the requirements of this standard applied		N/A
4.10.2	Replacement: Rated voltage not exceeding 250V dc or single phase ac. or 600V poly-phase ac for me equipment and me systems up to 4kVA		N/A
4.10.2	Rated voltage not exceeding 600 V for all other me equipment and me systems		N/A
6.6	Addition: To comply with NFPA 70, X-Ray systems are classified as long time operation (> 5 min) or momentary operation (< 5 sec)	No X-ray	N/A
7.2.11	Addition: To comply with NFPA 70, X-Ray systems are marked as long time operation or momentary operation	No X-ray	N/A
7.2.21	New Sub-clause: Colors of medical gas cylinders		N/A
7.2.21	To comply with NFPA 99: Cylinders containing medical gases and their connection points are colored in accordance with the requirements of NFPA 99		N/A
8.2	Addition: All fixed me equipment & permanently installed me equipment are class I me equipment	To be evaluated in end product	N/A
8.6.1	Addition: To comply with NFPA 99, the enclosure of X-ray ME EQUIPMENT operating over 600 Vac, 850Vdc MAINS VOLTAGE, or containing voltages up to 50 V peak and enclosed in protectively earthed enclosure as well as connections to X-ray tubes and other high voltage components that include high voltage shielded cables are PROTECTIVELY EARTHED		N/A
8.6.1	To comply with NFPA 99, non-current carrying conductive parts of X-Ray ME EQUIPMENT likely to become energized are PROTECTIVELY EARTHED		N/A
8.7.3	Earth leakage current values are not higher than the stated values		N/A
8.7.3	5 mA in normal condition		N/A
8.7.3	10 mA in single fault condition		N/A
8.11	Addition: permanently connected me equipment provided with field wiring provision in accordance	Not Permanently installed ME equipment.	N/A

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SubClause	Difference + Test	Result - Remark	Verdict

	with NEC		
8.11	Addition prior to the first paragraph:a) To comply with the NEC, add the following requirements to this clause:	No power supply cord	N/A
8.11	Addition at the end of the clause:b) For ME EQUIPMENT provided with NEMA configuration non-locking plug types 120 V/15 A, 125 V/20 A, 250 V/15 A, 250 V/20 A "Hospital Grade" mains plug is provided and the POWER SUPPLY CORD is marked		N/A
8.11	Installation of connecting cords between equipment parts comply with NEC		N/A
8.11	Cable used as external interconnection between units		N/A
8.11	1) Exposed to abuse: Type SJT, SJTO, SJO, ST, SO, STO, or equivalent, or similar multiple-conductor appliance-wiring material,		N/A
8.11	<ul><li>2) Not exposed to abuse: The cable was as in item</li><li>1) above, or</li></ul>		N/A
8.11	i) Type SPT-2, SP-2, or SPE-2, or equivalent		N/A
8.11	ii) Type SVr, SVRO, SVE, or equivalent or similar multiple-conductor appliance wiring material,		N/A
8.11	iii) An assembly of insulated wires each with a nominal insulation thickness of 0.8 mm (1/32 inch) or more,		N/A
8.11	<ul> <li>enclosed in acceptable insulating tubing having a nominal wall thickness of 0.8 mm (1/32 inch) or more</li> </ul>		N/A
8.11	Receptacles provided as part of me equipment and me systems for use in the patient care areas of pediatric wards, rooms, or areas are Listed tamper resistant		N/A
8.11	- or employ a Listed tamper resistant cover in accordance with NEC		N/A
8.11.3.2	Addition: The flexible cord is a type acceptable for the particular application,		N/A
8.11.3.2	- and it is acceptable for use at a voltage not less than the rated voltage of the appliance		N/A
8.11.3.2	- and has an ampacity as in NEC, not less than the current rating of the appliance		N/A

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SubClause	Difference + Test	Result - Remark	Verdict
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8.11.3.3	Addition: To comply with NFPA 99, for X-Ray ME	N/A
	EQUIPMENT with an attachment plug, the current	
	rating on a hospital grade plug is 2X the maximum	
	input current of the equipment	

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Clause	Requirement + Test	Result - Remark	Verdict

4.2	RM TABLE: Risk Management	Process for ME Equipment or ME Systems	Pass
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict
3.3 a	GTQPR05000 Risk management procedure Page 3, section 5	Management responsibilities, and policy for determining acceptable risk provided. Relevant standards identified.	Pass
3.5 e	Risk management plan Page 1	Risk management plan and criteria for risk acceptability provided.	Pass
4.1	GTQPR05000 Risk management procedure Page 5, section 6	Risk analysis procedure provided and performed. In addition, identification of MEE, persons responsible, and date of analysis provided.	Pass
4.2	Risk Management Report Page 5, section 6.1	Intended use and reasonably foreseeable misuse identified for the ME Equipment.	Pass
4.3	Risk Management Report Page 7, section 6.2	Known or foreseeable hazards in NC and SFC identified.	Pass
4.4	Risk Management Report Page 12, section 6.4	Severity and Probability of each hazard estimated as per defined quantitative criteria system.	Pass
5	Risk Management Report Page 12, section 7	Estimated risk evaluated for each hazard using defined risk acceptance criteria.	Pass
6.1	Risk Management Report Page 12, section 8	Risk reduction employed for hazards with unacceptable risk.	Pass
6.2	Risk Management Report Page 13, section 8.3	Risk control measure identified, selected, and recorded in RMF.	Pass
6.3	Risk management plan Page 1, Page 2	Risk control measure implemented and evaluated, effectiveness verified, and results provided in RMF.	Pass
6.4	Risk Management Report Page 12, section 8.2	Residual risk analysed using defined criteria. All residual risk judged to be acceptable.	Pass
6.5	N/A	The following text is provided: ???No need to risk/benefit analysis because all residual risk is judged acceptable after risk control.??? Also same in Section 10.	N/A
6.6	Risk Management Report Page 12, section 8.1	Each risk control analysed to determine if any other hazards are introduced.	Pass
6.7	Risk Management Report Page 14, section 10	Currently: "So far, all risks have been found to be acceptable"	Pass
7	Risk Management Report	The following text is provided: ???No need to risk/benefit analysis because all residual risk is judged acceptable after risk control.???	Pass

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Clause	Requirement + Test	Result - Remark	Verdict

4.3 TABLE: Essential	Performance	1	N/A
List of Essential Performance functions	Manufacturer's document number reference or reference from this standard or collateral or particular standard(s)	Remarks	
Supplementary Information: Essential Performance is performance, the absence or degradation of which, would result in an unacceptable risk.			

4.3	RM TABLE: Essential Performance		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

4.5	RM TABLE: Equivalent Safety for ME Equipment of ME System		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

4.6	RM TABLE: ME Equipment or system parts contacting the patient		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

4.7	RM TABLE: Single Fault Condition for ME Equipment		
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

4.8	RM TABLE: Components of ME Equipment		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

4.9	RM TABLE: Use of components with high-integrity characteristics				
Clause of	Document Ref. in RMF Result - Remarks				
ISO 14971	(Document No. and paragraph)				

4.11	TABLE: Power Input					N/A
Operating Conditions / Ratings		Voltage (V)	Frequency	Current (A)	Power (W or	Power factor
			(Hz)		VA)	(cos ??)
Supplem	entary information:					

5.1	RM TABLE: Type Tests		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

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Clause	Requirement + Test	Result - Remark	Verdict

5.4 a)	<b>RM TABLE: Other Conditions</b>		Pass
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict
4.2	Risk Management Report Page 5, section 6.1	Intended use is identified	Pass
4.3	Risk Management Report Page 7, section 6.2	Electrical hazard is identified	Pass
4.4	Risk Management Report Page 12, EL1	The severity of the harm has been estimated as ???5??? The probability of occurrence of the harm has been estimated in ???3???	Pass
5	Risk management report Page 12	The risk is evaluated as ???N/ACC???	Pass
6.2	Risk management report Page 13 EL1	Use engineer and mechanical protection to make the device can compliance with IEC 60601-1 requirements	Pass
6.3	Risk management report Page 13 ???verification???	Engineer test report/ CB report	Pass
6.4	Risk management report Page13 8.2 Residual risk evaluation	The residual risk is evaluated as ???ACC???	Pass

5.7		RM TABLE: Humidity preconditioning treatment		
Claus	se of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 1	14971	(Document No. and paragraph)		

5.9.2	TABLE: Determination of ACCESSIBLE parts			N/A
Location	Location Determination method (NOTE1) Comments			
Supplementary information:				
NOTE 1 - T	he determination	on methods are: visual; rigid test finger	; jointed test finger; test hook.	

5.9.2.3	RM TABLE: Actuating mechanisms		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

7.1.2	TABLE: Legibility of Marking			N/A		
Markings te	sted	Ambient illuminance (lx)	Remarks			
Supplement	Supplementary information:					
	Observer, with a visual acuity of 0 on the log Minimum Angle of Resolution (log MAR) scale or 6/6 (20/20),					
reads marki	reads marking at ambient illuminance least favourable level in the range of 100 lx to 1,500 lx. The ME					
	EQUIPMENT or its part was positioned so that the viewpoint was the intended position of the OPERATOR at					
any point within the base of a cone subtended by an angle of 30?? to the axis normal to the centre of the						
plane of the	marking and at a distance of 1	m.				

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Clause	Requirement + Test	Result - Remark	Verdict

7.1.3 TABLE: Durability of marking tes	st N/A
Characteristics of the Marking Label tested: Remarks	
Material of Marking Label :	
Ink/other printing material or process :	
Material (composition) of Warning Label :	
Ink/other printing material or process :	
Other:	
Supplementary information:	

Marking rubbed by hand, first for 15 s with a cloth rag soaked with distilled water, then for 15 s with a cloth rag soaked with methylated spirit, and then for 15 s with a cloth rag soaked with isopropyl alcohol.

7.2.2	<b>RM TABLE: Identification</b>		Pass
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict
4.2	Risk management report Page 5, 6.1.1	Intended use is identified	Pass
4.3	Risk management report Page 7, 6.2.1	Electrical hazard is identified	Pass
4.4	Risk management report Page12 EL2	The severity of the harm has been estimated as ???1??? The probability of occurrence of the harm has been estimated in ???????	Pass
5	Risk management report Page12	The risk is evaluated as ???ACC???	Pass

7.2.5	RM TABLE: ME EQUIPMENT powered from other equipment		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

7.2.13	RM TABLE: Physiological effects (safety signs and warning)		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

7.2.17	RM TABLE: Protective packaging		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

7.3.3	RM TABLE: Batteries		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

7.3.7	RM TABLE: Supply Terminals		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

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7.4.2	RM TABLE: Control devices		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

## 7.5 RM TABLE: Safety signs

7.9.1	RM TABLE: General accompanying documents (See Table C.4)				
Clause of	Document Ref. in RMF	Result - Remarks	Verdict		
ISO 14971	(Document No. and paragraph)				

7.9.2.4	RM TABLE: Electrical power source		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

7.9.3.2	RM TABLE: Replacement of fuses, power supply cords, other parts				
Clause of	Document Ref. in RMF	Verdict			
ISO 14971	(Document No. and paragraph)				

8.1 b(1)	RM TABLE: Fundamental rule of protection against electric shock -				
	interruption of any one power-carrying conductor				
Clause of	Document Ref. in RMF	Result - Remarks	Verdict		
ISO 14971	(Document No. and paragraph)				

8.1 b(2)	RM TABLE: Fundamental rule of protection against electric shock - unintended movement of a component				
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict		
4.2	Risk management report Page 5, 6.1.1	Intended use is identified	Pass		
4.3	Risk management report Page 7, 6.2.1	Electrical hazard is identified	Pass		
4.4	Risk management report Page 12 EL3	The severity of the harm has been estimated as ??????? The probability of occurrence of the harm has been estimated in ???????	Pass		
5	Risk management report Page 12	The risk is evaluated as ???ACC???	Pass		
6.2	N/A	N/A	N/A		
6.3	N/A	N/A	N/A		
6.4	N/A	N/A	N/A		
6.5	N/A	N/A	N/A		

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8.1 b(3)	RM TABLE: Fundamental rule of protection against electric shock - accidental detachment of conductors and connectors		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

8.2.2	RM TABLE: Connection to an e	external d.c. power sources	Pass
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict
4.2	Risk management report Page 7, 6.1.31	Intended use is identified	Pass
4.3	Risk management report Page 7, 6.2.1	Electrical hazard is identified	Pass
4.4	Risk management report Page 11 6.3	No harm	Pass
5	N/A	N/A	N/A

8.3 d	RM TABLE: Requirements of Type BF or CF Applied Parts		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

8.4.2	TABLE: Working Voltage / Power Measurement					N/A	
Test supply vo	Test supply voltage/frequency (V/Hz) (1) :						
- Measured values					-		
Location	Vrms	Vpk or Vdc	Peak-to-peak	Power	Energy (J)	Remarks	
From/To			ripple (2)	W/VA			
Supplementar	y Information	n:					
1. The	1. The input supply voltage to the ME EQUIPMENT shall be the RATED voltage or the voltage within						
the RATED voltage range which results in the highest measured value. See clause 8.5.4.							
2. If the d.c. pe	eak-to-peak	ripple > 10%	, waveform con	sidered as a	.c. See claus	se 8.4.2.2	

8.4.2 c	RM TABLE: Accessible parts including applied parts		
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

measurement of voltage	TABLE: ME Equipment for connection to a power source by a plug -         measurement of voltage or calculation of stored charge 1 s after         disconnection of plug from mains supply							N/A		
Maximum allowable voltage (V): 60										
Voltage measured (V)										
Voltage Measured Between:	1	2	3	4	5	6	7	8	9	10
Maximum allowable stored charge when	measu	ured vo	ltage e	xceede	ed 60 v	(??c):		45		
Calculated stored charge (??c)	Calculated stored charge (??c)									
Voltage Measured Between:         1         2         3         4         5         6         7         8         9					9	10				
Supplementary information:										

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Clause	Requirement + Test	Result - Remark	Verdict

## TABLE: Internal capacitive circuits - measurement of residual voltage or 8.4.4 N/A calculation of the stored charge in capacitive circuits (i.e., accessible capacitors or circuit parts) after de-energizing ME EQUIPMENT Maximum allowable residual voltage (V): 60 V Maximum allowable stored charge when residual voltage exceeded 60 V: 45 ??C Description of the capacitive circuit (i.e., Measured residual Calculated stored Remarks accessible capacitor or circuit parts) charge (??C) voltage (V) Supplementary information:

8.5.2.2	RM TABLE: Type B applied parts		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

8.5.2.3	RM TABLE: PATIENT Leads		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

	TABLE: Defibrillation-proof applied parts - measurement of hazardous           electrical energies				
Test Condition: Figs. 9 and 10	Measurement made on accessible part	Applied part with test voltage	Test voltage polarity	Measured voltage between Y1 and Y2 (mV)	Remarks
Supplementary information:					

8.5.5.1b	TABLE: Defibri	very time	N/A			
Applied part voltage	with test	Test voltage polarity	Recovery time from documents (s)	Measured recovery time (s)	Remarks	
Supplement	tary information:		•			

8.5.5.2	TABLE: Defibrillation-Proof Applied Parts or Patient Connections ofDefibrillation-Proof Applied Parts - Energy reduction test -measurement ofEnergy delivered to a 100 ohm load					
Test Voltage	e applied to	Measured Energy E1 (mJ)	Measured Energy E2 (mJ)			
E1= Measu	(mJ) (mJ) (mJ) Supplementary information: For compliance: E1 must at least 90% of E2 E1= Measured energy delivered to 100 ohm with ME Equipment connected; E2= Measured energy delivered to 100 ohm without ME equipment connected.					

8.6.3	RM TABLE: Protective earthing of moving parts		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

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8.6.4	TABLE: Impedance and current-carrying capability of PROTECTIVE EARTH           CONNECTIONS				
	EQUIPMENT and measured between parts	Test current (A) /Duration (s)	Voltage drop measured between parts (V)	Maximum calculated impedance (m ohm)	Maximum allowable impedance (m ohm)
Supplement	ary information:				

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8.7 <b>TABLE: Leakage current</b>				N/A
Type of leakage current and test condition (including single faults)	Suppl y voltag e (V)	Supply frequency (Hz)	Measu red max. value (??A)	Remarks
Fig. 13 - Earth Leakage (ER)	-	-	-	Maximum allowed values: 5 mA NC; 10 mA SFC
Fig. 14 - Touch Current (TC)	-	-	-	Maximum allowed values: 100 ??A NC; 500 ??A SFC
Fig. 15 - Patient Leakage Current (P)	-	-	-	Maximum allowed values: Type B or BF AP: 10 ??A NC; 50 ??A SFC (d.c. current); 100 ??A NC; 500 ??A SFC (a.c.) Type CF AP: 10 ??A NC; 50 ??A SFC (d.c. or a.c. current)
Fig. 16 - Patient leakage current with mains on the F-type applied parts (PM)	-	-	-	Maximum allowed values: Type B: N/A Type BF AP: 5000 ??A Type CF AP: 50 ??A
Fig. 17 - Patient leakage current with external voltage on Signal Input/Output part (SIP/SOP)	-	-	-	Maximum allowed values: Type B or BF AP: 10 ??A NC; 50 ??A SFC(d.c. current); 100 ??A NC; 500 ??A SFC (a.c.) ; Type CF AP: 10 ??A NC; 50 ??A SFC (d.c. or a.c. current)
Fig. 18 - Patient leakage current with external voltage on metal Accessible Part that is not Protectively Earthed	-	-	-	Maximum allowed values: Type B or BF AP: 500 ??A Type CF: N/A
Fig. 19 - Patient Auxiliary Current	-	-	-	Maximum allowed values: Type B or BF AP: 10 ??A NC; 50 ??A SFC (d.c. current); 100 ??A NC; 500 ??A SFC (a.c.) ; Type CF AP: 10 ??A NC;50 ??A SFC (d.c. or a.c. current)
Fig. 15 and 20 - Total Patient Leakage Current with all AP of same type connected together	-	-	-	Maximum allowed values: Type B or BF AP: 50 ??A NC; 100??A SFC (d.c. current); 500 ??A NC; 1000 ??A SFC (a.c.); Type CF AP: 50 ??A NC; 100 ??A SFC (d.c. or a.c. current)
Fig. 17 and 20 - Total Patient Leakage Current with all AP of same type connected together with external voltage on SIP/SOP	-	-	-	Maximum allowed values: Type B or BF AP: 50 ??A NC; 100??A SFC (d.c. current); 500 ??A NC;1000 ??A SFC (a.c.); Type CF AP: 50 ??A NC; 100 ??A SFC (d.c. or a.c. current)
Fig. 16 and 20 - Total Patient Leakage Current with all AP of same type connected	-	-	-	Maximum allowed values: Type B: NA Type BF: 5000??A Type CF:

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together with external vo	ltage on F-type A	P			10	0 ??A		
Fig. 18 and 20 - Total Pa	atient Leakage	-	-	-	М	aximum allowed	value	es: Type B
Current with all AP of sa	me type connecte	d			&	BF: 1000 ??A Ty	vpe C	F: N/A
together with external vo	ltage on metal							
Accessible Part not Prot	ectively Earthed							
Supplementary informat	ion:							
Note 1: For EARTH LEA	KAGE CURRENT	see 8.7.3	d) and	8.7.4.5;				
Note 2: For TOUCH CU	RRENT see 8.7.3	c) and 8.7.	.4.6;					
Note 3: For PATIENT LE								
Note 4: Total PATIENT								
PARTS of the same type		The individ	ual APF	PLIED P	PARTS c	complied with the	PAT	IENT
LEAKAGE CURRENT v								
Note 5: In addition to co								
humidity preconditioning								
supply frequency, at 110								
(i.e., overflow, spillage, I	eakage, ingress o	f water and	d particu	ulate ma	atter, cle	aning and disinfe	ection	, and
sterilization).								
ER - Earth leakage curre	ent					umidity condition		
TC - Touch current						humidity condition		
P - Patient leakage curre						closed or set to r		
PA - Patient auxiliary cu						open or set to re	verse	ed polarity
TP - Total Patient currer		n tha annli	od porte	-		nal condition		
	PM - Patient leakage current with mains on the applied parts SFC - Single fault condition							
MD - Measuring device								
				I. C			i	
8.8.3 <b>TABLE:</b> Dielectric strength test of solid insulating materials with safety N/A								
function - MEANS OF OPERATOR PROTECTION (MOOP) / MEANS OF PATIENT PROTECTION (MOPP)								
			r	PEAK		A.C. test	Dic	ectric
(area from insulation			NORKIN		voltages in V	-	akdown	
	(1 or 2 MOOP/MOPP)	VOLTAGE		-	-	r.m.s1		r 1 minute
diagram)		V peak	• •	/OLTAG / d.c.	5E (U)	1.111.51		/No2
		v pear	,	v u.c.			165	

Supplementary information:

1 Alternatively, per the Table (i.e., \_\_dc), a d.c. test voltage equal to the peak value of the a.c. test voltage used.

2 A) Immediately after humidity treatment of 5.7, ME EQUIPMENT de-energized, B) after required sterilization PROCEDURE, ME EQUIPMENT de-energized, C) after reaching steady state operating temperature as during heating test of 11.1.1, and D) after relevant tests of 11.6 (i.e., overflow, spillage, leakage, ingress of water, cleaning, disinfection, and sterilization).

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8.8.4.1	TABLE: Resistance to heat - Ball pressure test of thermoplastic parts				
	Allowed impression diameter (mm) : =<2 mm			-	
	Force (N) :	20			-
Part/materia	al		Test temperature (??C)	Impressi (mm)	ion diameter
	ctor (Type HX396XX-YYY series from ZHEJIANG ELECTRICAL CO LTD)		125	1.36	
Supplementary information:					
-					

8.8.4.1	3.4.1 RM TABLE: Mechanical strength and resistance to heat			
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict	
4.2	Risk management report Page 5, 6.1.1	Intended use is identified	Pass	
4.3	Risk management report Page 7, 6.2.1	Electrical hazard is identified	Pass	
4.4	Risk management report Page 12 EL4	The severity of the harm has been estimated as???4??? The probability of occurrence of the harm has been estimated in ???4???.	Pass	
5	Risk management report Page 12	The risk is evaluated as ???NACC???	Pass	
6.2	Risk management report Page 12 EL4	Material control is identified	Pass	
6.3	Risk management report Page 13 ???verification???	Ball pressure test	Pass	
6.4	Risk management report Page 13 8.2 Residual risk evaluation	The residual risk is evaluated as ???ACC???	Pass	
6.5	N/A	N/A	N/A	

8.9.2	TABLE: Short circuiting of each single one of the CREEPAGE DISTANCES       N         and AIR CLEARANCES for insulation in the MAINS PART between parts of       opposite polarity in lieu of complying with the required measurements in         8.9.4						
	pecific areas of circuits short- rcuited and test conditions Test in lieu of CREEPAGE Observed (i.e., fire hazard, DISTANCE or AIR CLEARANCE1 Yes/No						
Supplementary information:           Note 1:         AC - AIR CLEARANCE         CD - CREEPAGE DISTANCE							

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8.9.3.2	TABLE: Thermal cycling tests on one sample forming solid insulation between conductive	N/A		
Test Sequence No.	Each test duration and temperature	(V = Test voltage in 8.8.3 times 1.6)	after hu precon 5.7 exc	ditioning per Cl. ept for 48 h reakdown:

Supplementary information:

1 T1 = 10 ??C above the maximum temperature of relevant part determined per 11.1.1, or 85 ??C, the higher of the two. 10 ??C not added to T1 when temperature measured by an embedded thermocouple. Used gradual transition from one temperature to another.

Distants's test veltage	
Dielectric test voltage (V = Test voltage in 8.8.3 times 1.6)	Dielectric strength te after humidity preconditioning per ( 5.7 except for 48 h only, Breakdown: Yes/No

1 T1 = 10 ??C above the maximum temperature of relevant part determined per 11.1.1, or 85 ??C, the higher of the two. 10 ??C not added to T1 when temperature measured by an embedded thermocouple. Used gradual transition from one temperature to another.

8.10.1	RM TABLE: Fixing of compone	ents	Pass
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict
4.2	Risk management report Page 5, 6.1.1	Intended use is identified	Pass
4.3	Risk management report Page 7, 6.2.1	Electrical hazard is identified	Pass
4.4	Risk management report Page 12 EL3	The severity of the harm has been estimated as ??????? The probability of occurrence of the harm has been estimated in ???????	Pass
5	Risk management report Page 12	The risk is evaluated as ???ACC???	Pass
6.2	N/A	N/A	N/A
6.3	N/A	N/A	N/A
6.4	N/A	N/A	N/A
6.5	N/A	N/A	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

8.10.2	RM TABLE: Fixing of wiring		Pass
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict
4.3	Risk management report Page 7, 6.2.1	Electrical hazard is identified	Pass
4.4	Risk management report Page 11 EL6	The severity of the harm has been estimated as ???4??? The probability of occurrence of the harm has been estimated in ???2???	Pass
5	Risk management report Page 12	The risk is evaluated as ???N/ACC???	Pass
6.2	Risk management report Page 13 EL6	Material control is identified	Pass
6.3	Risk management report Page 13 ???verification???	CB test	Pass
6.4	Risk management report Page 13 8.2 Residual risk evaluation	The residual risk is evaluated as ???ACC???	Pass
6.5	N/A	N/A	N/A

8.10.5	RM TABLE: Mechanical protection of wiring		
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

8.11.3.5	TABLE: Cord anchorages				N/A
Cord under	test	Mass of equipment (kg)	Pull (N)	Torque (Nm)	Remarks
Supplement	ary information:	-	•	•	

8.11.3.6	TABLE: Cord guard				N/A
Cord under	test	Test mass	Measured curvature	Remarks	
Supplement	ary information:	•			

8.11.5	RM TABLE: Mains fuses and over-current releases		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.2.1	RM TABLE: HAZARDS associated with moving parts - General		
Clause of	Document Ref. in RMF Result - Remarks		
ISO 14971	(Document No. and paragraph)		

9.2.2.2 TABLE: Measurement of gap "a" according to Table 20 (ISO 13852: 1996) N/A					
Part of body Allowable adult Measured adult gap, Allowable children Measured children					
		gap1, mm	mm	gap1, mm	gap, mm
Supplementary information: 1 In general, gaps for adults used, except when the device is specifically					
designed for	designed for use with children, values for children applied.				

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9.2.2.4.3	RM TABLE: Movable guards		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.2.2.4.4	RM TABLE: Protective measures		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

9.2.2.5 c)	RM TABLE: Continuous activation		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

9.2.2.6	RM TABLE: Speed of movement(s)		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

9.2.3.2	RM TABLE: Over travel		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.2.4	RM TABLE: Emergency stopping devices		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

9.2.5	RM TABLE: Release of patient		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.3	RM TABLE: Hazards associated with surfaces, corners and edges		
Clause of	Document Ref. in RMF Result - Remarks		
ISO 14971	(Document No. and paragraph)		

9.4.2.1	TABLE: Instability-overbalance in transport position			N/A
ME EQUIPMENT Test Condition (transport position) Rema		Remarks		
preparation				
Supplement	Supplementary information:			

9.4.2.2	TABLE: Instab	TABLE: Instability-overbalance excluding transport position			
ME EQUIPMENT Test Condition (excluding transport preparation position) Test either 5 ?? incline and verify Warning marking or 10 ?? incline)		Remarks			
Supplement	Supplementary information:				

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Clause	Requirement + Test	Result - Remark	Verdict

9.4.2.3	TABLE: Instability-overbalance from horizontal and vertical forces			N/A	
ME EQUIPMENT Test Condition (force used, direction of force, weight of equipment, location of force		Remarks			
Supplement	Supplementary information:				

9.4.2.4.2	TABLE: Castors and wheels - Force for propulsion			N/A
ME EQUIPM	MENT Test Condition (force location and height) Remarks		Remarks	
preparation				
Supplement	Supplementary information:			

9.4.2.4.3 <b>TABLE: Ca</b>	TABLE: Castors and wheels - Movement over a threshold			
ME EQUIPMENT Test Condition (speed of movement) Remarks				
preparation				
Supplementary informat	Supplementary information:			

9.4.2.4.3	RM TABLE: Movement over a threshold		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

	TABLE: Instability from unwanted lateral movement (including sliding) in           transport position			N/A
ME EQUIPMENT Test Condition (transport position, working Remarks				
preparation	on load, locking device(s), caster position)			
Supplementary information:				

9.4.3.2	TABLE: Instability from unwanted lateral movement (including sliding) excluding transport position			
ME EQUIPM preparation	ME EQUIPMENT Test Condition (working load, locking Remarks			
Supplement	Supplementary information:			

9.4.4 TABLE: Grips	and other handling devices		N/A	
Clause and Name of Test	Test Condition	Remarks		
Supplementary information:				

9.5.1	RM TABLE: Protective means		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.6.1	RM TABLE: Acoustic energy - General		N/A	
Clause of	Document Ref. in RMF Result - Remarks		Verdict	
ISO 14971	(Document No. and paragraph)			

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9.6.2.2	RM TABLE: Infrasound and ultrasound energy		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.7.2	RM TABLE: Pneumatic and hydraulic parts		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.7.4	RM TABLE: Pressure rating of ME equipment parts		
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

9.7.5	TAB	TABLE: Pressure vessels N/A						
Hydraulic, Pneumatic of Suitable Me and Test Pressure		Vessel Burst	Permanent Deformation	Leaks	Vessel fluid substance	Remarks		
Supplement	arv In	Supplementary Information:						

9.7.6	RM TABLE: Pressure-control device		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.7.7	RM TABLE: Pressure-relief device		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.8.1	RM TABLE: Hazards associated with support systems - General			
Clause of	Document Ref. in RMF	Verdict		
ISO 14971	(Document No. and paragraph)			

9.8.2	RM TABLE: Tensile safety factor		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

9.8.3.1	RM TABLE: Strength of patient or operator support or suspension systems - General		N/A
	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

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Clause	Requirement + Test	Result - Remark	Verdict

9.8.3.2	TABLE	TABLE: Patient support/suspension system - Static forces				
ME Equipme	ent part	Position	Load	Area	Remarks	
or area						
Supplement	ary Infor	mation:		·	-	

9.8.3.2a, b	RM TABLE: Static forces due to loading from persons		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

9.8.3.3	TABLE: Support/Suspension System - Dynamic forces due to loading from					
	persons					
ME Equipment part Position			Safe Working Load	Area	Remarks	
or area	or area					
Supplement	Supplementary Information:					

9.8.4.1	RM TABLE: Systems with mechanical protective devices - General N/A			
Clause of	Document Ref. in RMF	Result - Remarks	Verdict	
ISO 14971	(Document No. and paragraph)			

9.8.4.3	RM TABLE: Mechanical protective device for single activation		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

9.8.5	RM TABLE: Systems without mechanical protective devices		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

10.1.1 TABLE: Measurement of X - radiation	N/A
Maximum allowable radiation pA/kg (??Sv/h) (mR/h)	36 (5 ??Sv/h) (0.5 mR/h)
Surface area under test Surface no./ Description1	Measured Remarks Radiation, pA/kg (??Sv/h) (mR/h)
Supplementary information: 1 Magguraments made at a distance	

Supplementary information: 1 Measurements made at a distance of 5 cm from any surface to which OPERATOR (other than SERVICE PERSONNEL) can gain access without a TOOL, is deliberately provided with means of access, or is instructed to enter regardless of whether or not a TOOL is needed to gain access

10.1.2	RM TABLE: ME equipment intended to produce diagnostic or therapeutic X- radiation		
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict

10.2	RM TABLE: Alpha, beta, gamma, neutron & other particle radiation		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

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Clause	Requirement + Test	Result - Remark	Verdict		

10.3	RM TABLE: Microwave radiation		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

10.5	RM TABLE: Other visible electromagnetic radiation			
Clause of	Document Ref. in RMF	Result - Remarks	Verdict	
ISO 14971	(Document No. and paragraph)			

RM TABLE: RISK associated with infrared radiation other than emitted by lasers and LEDs		
	Result - Remarks	Verdict

	RM TABLE: RISK associated with ultraviolet radiation other than emitted by lasers and LEDs			
Clause of	Document Ref. in RMF	Result - Remarks	Verdict	
ISO 14971	(Document No. and paragraph)			

11.1.1 TABLE: Excessive temperatures in ME EQUIPMENT					N/A			
Model No. :								
Test ambie	nt (??C) :							
Test supply	voltage/frequ	uency (V/Hz)(4) :						
Model No.	Thermo - couple No.	Thermocouple locati	ion(3)	Max allowab temperature from Table 2 23 or 24 or I file for AP(5) (??C)	e(1) ter 22, (?' RM	easured rature(2),	Re	marks

Supplementary information:

1 Maximum allowable temperature on surfaces of test corner is 90 ??C

2 Max temperature determined in accordance with 11.1.3e)

3 When thermocouples used to determine temperature of windings, limits of Table 22 reduced by 10 ??C. 4 Supply voltage:

- ME EQUIPMENT with heating elements - 110 % of the maximum RATED voltage;

- Motor operated ME EQUIPMENT - least favourable voltage between 90 % of the minimum RATED and 110 % of

the maximum RATED voltage. ME EQUIPMENT operated under normal load and normal DUTY CYCLE. - Combined heating and motor operated and other ME EQUIPMENT - tested both at 110 % of the

maximum

RATED voltage and at 90 % of the minimum RATED voltage.

5 APPLIED PARTS intended to supply heat to a PATIENT - See RISK MANAGEMENT FILE containing temperatures and clinical effects. Also, see instructions for use.

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Clause	Requirement + Test	Result - Remark	Verdict		

11.1.1	<b>RM TABLE: Maximum tempera</b>	ture during normal use (Table 23 or 24)	Pass
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict
4.2	Risk management report Page 5, 6.1.1	Intended use is identified	Pass
4.3	Risk management report Page 7, 6.2.1,	Heat hazard is identified	Pass
4.4	Risk management report Page 12 H1	The severity of the harm has been estimated as ??????? The probability of occurrence of the harm has been estimated in 2.	Pass
5	Risk management report Page 12	The risk is evaluated as ???ACC???	Pass
6.2	N/A	N/A	N/A
6.3	N/A	N/A	N/A
6.4	N/A	N/A	N/A
6.5	N/A	N/A	N/A

11.1.2.1	RM TABLE: Applied parts intended to supply heat to patient				
Clause of	Document Ref. in RMF	Result - Remarks	Verdict		
ISO 14971	(Document No. and paragraph)				

11.1.2.2	RM TABLE: Applied parts not intended to supply heat to patient				
Clause of	Document Ref. in RMF	Result - Remarks	Verdict		
ISO 14971	(Document No. and paragraph)				

11.1.3	TABLE: Temperature of windings by change-of-resistance method						N	/A
Temperatur	e T of winding:	t1 (??C)	R1 (ohm)	t2 (??C)	R2 (ohm)	T (??C)	Allowed Tmax(?? C)	Insulatio n class

Supplementary information:

Test procedure of 11.2.2.1 a) 5) & Figs 35-37 used for tests. For circuits not in Figs 35-37, test voltage or current set at 3 times the worst case values with other parameters set at worst case values to determine if ignition can occur.

11.1.3	RM TABLE: Measurements		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

11.2.2.1	RM TABLE: Risk of fire in an oxygen rich environment		
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

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Clause	Requirement + Test	Result - Remark	Verdict

## 11.2.2.1 **TABLE: Alternative method to 11.2.2.1 a) 5) to determine existence of an** N/A ignition source

Ignicion source		
Areas where sparking might cause ignition	Remarks	
Materials of the parts between which spar Designation, Manufacturer):	Remarks	
Test parameters selected representing wo	orst case conditions for ME EQUIPMENT:	Remarks
Oxygen concentration (%)		
Fuel		
Current (A)		
Voltage (V)		
Capacitance (uF)		
Inductance or resistance (h or Ohms)		
No. of trials (300 Min)		
Sparks resulted in ignition (Yes/No)		
Supplementary information:		

Test procedure of 11.2.2.1 a) 5) & Figs 35-37 used for tests. For circuits not in Figs 35-37, test voltage or current set at 3 times the worst case values with other parameters set at worst case values to determine if ignition can occur.

11.3	<b>RM TABLE: Constructional rec</b>	uirements for fire enclosures of ME equipment	Pass
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict
4.2	Risk management report Page 5, 6.1.1	Intended use is identified	Pass
4.3	Risk management report Page 7, 6.2.1,	Heat hazard is identified	Pass
4.4	Risk management report Page 12 H2	The severity of the harm has been estimated as ???3??? The probability of occurrence of the harm has been estimated in ???4???	Pass
5	Risk management report Page 12	The risk is evaluated as ???NACC???	Pass
6.2	Risk management report Page 13 H2	Material control is identified	Pass
6.3	Risk management report Page 13 ???verification???	Material specifications	Pass
6.4	Risk management report Page 13 8.2 Residual risk evaluation	The residual risk is evaluated as ???ACC???	Pass
6.5	N/A	N/A	N/A

11.5	RM TABLE: ME equipment and ME systems intended for use in conjunction with flammable agents		
	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict

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Clause	Requirement + Test	Result - Remark	Verdict

	TABLE: overflow, spillage, leakage, ingress of water, cleaning, disinfection,         N/A           sterilization, compatibility with substances         N/A					N/A
Clause / Te	Clause / Test Name Test Condition Part under test Remarks					
Supplement	Supplementary information:					

11.6.2	RM TABLE: Overflow in ME equipment		
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

11.6.3	RM TABLE: Spillage on ME equipment and ME system		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

11.6.5	RM TABLE: Ingress of water of ME SYSTEMS	r particulate matter into ME EQUIPMENT and	Pass
Clause of ISO 14971	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict
4.2	Risk management report Page 7, 6.1.29	Intended use is identified	Pass
4.3	Risk management report Page 6, 6.2.1,	Electrical hazard is identified	Pass
4.4	Risk management report Page 12 EL7	The severity of the harm has been estimated as ???5??? The probability of occurrence of the harm has been estimated in ???4???	Pass
5	Risk management report Page 12	The risk is evaluated as ???NACC???	Pass
6.2	Risk management report Page 13 EL7	ultrasonics construction is identified	Pass
6.3	Risk management report Page 13 ???verification???	IP42 test	Pass
6.4	Risk management report Page 13 8.2 Residual risk evaluation	The residual risk is evaluated as ???ACC???	Pass

11.6.6	RM TABLE: Cleaning and disinfection of ME equipment and ME systems		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

11.6.7	RM TABLE: Sterilization of ME equipment and ME systems		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

11.6.8	RM TABLE: Compatibility with substances used		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

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Clause	Requirement + Test	Result - Remark	Verdict

12.1	RM TABLE: Accuracy of controls and equipment		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

12.3	RM TABLE: Alarm systems		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

12.4.1	RM TABLE: Intentional exceeding of safety limits		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

12.4.2	RM TABLE: Indication of parameters relevant to safety		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

12.4.3	RM TABLE: Accidental selection of excessive output values		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

12.4.4	RM TABLE: Incorrect output		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

12.4.5.2	RM TABLE: Diagnostic X-ray equipment		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

12.4.5.3	RM TABLE: Radiotherapy equipment		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

12.4.5.4	RM TABLE: Other ME equipment producing diagnostic or therapeutic		
	radiation		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

12.4.6	RM TABLE: Diagnostic or therapeutic acoustic pressure		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

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components t	TABLE: measurement of power or energy dissipation in parts &components to waive SINGLE FAULT CONDITIONS in 4.7, 8.1 b), 8.7.2, and13.2.2 relative to emission of flames, molten metal, or ignitable substances				
Power dissipated less than	Power dissipated less than (W) 15				
Energy dissipated less than	(J)		900		
Part or component tested	Measured power	Calcu	lated	SINGLE FAULT	Remarks
dissipated (W) en		energ	у	CONDITIONS waived	
dissi			ated (J)	(Yes/No)	
Supplementary information:	Supplementary information:				

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Clause	Requirement + Test	Result - Remark	Verdict	

13.2	TABLE: Single Fault Conditions in accordance with 13.2.2 to 13.2.13, inclusive		
Clause No.	Description of SINGLE FAULT CONDITION	Results observed	Hazardous Situation (Yes/No)
13.2.2	Electrical SINGLE FAULT CONDITIONS per Clause 8.1:	-	-
13.2.3	Overheating of transformers per Clause 15.5:	-	-
13.2.4	Failure of THERMOSTATS according to 13.2.13 & 15.4.2, overloading - THERMOSTATS short circuited or interrupted, the less favourable of the two:	-	-
13.2.5	Failure of temperature limiting devices according to 13.2.13 & 15.4.2, overloading, THERMOSTATS short circuited or interrupted, the less favourable of the two:	-	-
13.2.6	Leakage of liquid - RISK MANAGEMENT FILE examined to determine the appropriate test conditions (sealed rechargeable batteries exempted)	-	-
13.2.7	Impairment of cooling that could result in a HAZARD using test method of 11.1:	-	-
13.2.8	Locking of moving parts - Only one part locked at a time - Also see 13.2.10 below:	-	-
13.2.9	Interruption and short circuiting of motor capacitors - Motor capacitors short & open circuited 1 - Also see 13.10	-	-
13.2.10	Additional test criteria for motor operated ME EQUIPMENT in 13.2.8 &13.2.9:	-	-
13.2.11	Failures of components in ME EQUIPMENT used in conjunction with OXYGEN RICH ENVIRONMENTS:	-	-
13.2.12	Failure of parts that might result in a MECHANICAL HAZARD (See 9 & 15.3):	-	-

1 Test with short-circuited capacitor not performed when motor provided with a capacitor complying with IEC 60252-1 and the ME EQUIPMENT not intended for unattended use including automatic or remote control. See Attachment # and appended Table 8.10.

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Clause	Requirement + Test	Result - Remark	Verdict	

13.2.6	RM TABLE: Leakage of liquid		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

14.1	RM TABLE: Programmable electrical medical systems - General		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

14.6.1	RM TABLE: Identification of known and foreseeable hazards		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

14.6.2	RM TABLE: Risk control		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

14.7	RM TABLE: Requirement specification		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

14.8	RM TABLE: Architecture		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

14.9	RM TABLE: Design and Implementation		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

14.10	RM TABLE: Verification		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

14.11	RM TABLE: PEMS validation		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

14.13	RM TABLE: Connection of PEMS by NETWORK/DATA COUPLING to other equipment		N/A
	Document Ref. in RMF (Document No. and paragraph)	Result - Remarks	Verdict

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Clause	Requirement + Test	Result - Remark	Verdict

15.1	RM TABLE: Construction of ME equipment - Arrangements of controls and indicators of ME equipment		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.3	TABLE: Mechanical Strength tests 1)		N/A		
Clause	Name of Test Test conditions Observed results/Remarks			rks	
Supplementary information: 1)As applicable, Push, Impact, Drop, Mould Stress Relief and Rough Handling					
Tests (delet	Tests (delete not applicable rows).				

15.3.2	RM TABLE: Push test		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.3.3	RM TABLE: Impact test		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.3.4.2	RM TABLE: Portable ME equipment		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

15.3.5	RM TABLE: Rough handling test		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

15.4.1	RM TABLE: Construction of connectors		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

15.4.2.1 a	RM TABLE: THERMAL CUT-OUTS and OVER-CURRENT RELEASES		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		
4.2	Risk management report Page 6	Intended use is identified	Pass
4.3	Risk management report Page	No hazardous situation	Pass
	12		
4.4	N/A	N/A	N/A
5	N/A	N/A	N/A

15.4.2.1 b	RM TABLE: THERMAL CUT-OUTS with a safety function		N/A
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

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15.4.2.1 c	RM TABLE: Independent non-SELF-RESETTING THERMAL CUT-OUT		
Clause of	Document Ref. in RMF Result - Remarks		
ISO 14971	(Document No. and paragraph)		

15.4.2.1 d	RM TABLE: Loss of function of ME EQUIPMENT		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.4.2.1 h	RM TABLE: ME EQUIPMENT with tubular heating elements		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.4.3.1	RM TABLE: Housing		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.4.3.2	RM TABLE: Connection		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.4.3.3	RM TABLE: Protection against overcharging		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.4.3.4	RM TABLE: Lithium batteries		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.4.3.5	RM TABLE: Excessive current and voltage protection N//		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.4.4	RM TABLE: Indicators		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.4.5	RM TABLE: Pre-set controls		N/A
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

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Clause	Requirement + Test	Result - Remark	Verdict		

15.4.6	TAB tests	LE: actuating parts	of controls of ME	EQUIPMENT - to	rque & axial pull	N/A
Rotating cor under test	ntrol	Gripping diameter "d" of control knob (mm) 1	Torque from Table 30 (Nm)	Axial force applied (N)	Unacceptable RISK occurred Yes/No	Remarks
Supplementary information: 1 Gripping diameter (d) is the maximum width of a control knob regardless of its shape (e.g. control knob with pointer)						

15.4.7.3 b	RM TABLE: Entry of liquids		
Clause of	Document Ref. in RMF	Result - Remarks	Verdict
ISO 14971	(Document No. and paragraph)		

15.5.1.2	TABLE: transformer short circuit test short-circuit applied at end of windings or at the first point that could be short circuited under SINGLE FAULT CONDITION					N/A	
Primary volta	age (most advers	se value from 9	90 % to 110 %	of RATED vol	tage)(V)1		-
RATED inpu	t frequency (Hz)						-
Winding testedClass of insulation (A, B, E, F, or H)Type of protective device (fuse, circuitProtective 					Ambient (??C)		
Supplementa	ary information:						
1 Loads on c	other windings be	etween no loac	and their NC	RMAL USE In:	ad Short-cir	cuit applied at	end of

1 Loads on other windings between no load and their NORMAL USE load. Short-circuit applied at end of windings or at the first point that could be short circuited under SINGLE FAULT CONDITION

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Clause	Requirement + Test	Result - Remark	Verdict

## 15.5.1.3 **TABLE: transformer overload test - conducted only when protective device** N/A under short-circuit test operated

Primary voltage,						
RATED input frequency (Hz)						
Test current just I	below minimum curr	ent that would acti	vate protective dev	/ice & achieve		
THERMAL STAB	ILITY under method	l a) (A)				
Test current base	ed on Table 32 when	protective device	that operated under	er method a) is		
external to transfe	ormer, and it was sh	unted (A)				
Winding tested	Winding tested Class of insulation Type of Maximum Maximum winding Ambient					Ambient
	(A, B, E, F, H) protective allowed temp temp measured (??C)					
device used from Table 31 (??C)						
		(fuse, circuit	(??C)			
		breaker)/Ratings				

Supplementary information:

1 Loads on other windings between no load and their NORMAL USE load.

Time durations: - IEC 60127-1 fuse: 30 min at current from Table 32.

Non IEC 60127-1 fuse: 30 min at the current based on characteristics supplied by fuse manufacturer, specifically, 30 min clearing-time current. When no 30 min clearing-time current data available, test current from Table 32 used until THERMAL STABILITY achieved.

- Other types of protective devices: until THERMAL STABILITY achieved at a current just below minimum current operating the protective device in a). This portion concluded at specified time or when a second protective device opened.

15.5.2 <b>TAB</b>	TABLE: Transformer dielectric strength after humidity preconditioning of 5.7				
Transformer	Test voltage applied between	Test	Test	Breakdow	Deteriorati
Model/Type/ Part		voltage,	frequency	n Yes/No	on Yes/No
No		(V)	(Hz)		
Supplementary information: Tests conducted under the conditions of 11.1, in ME EQUIPMENT or under simulated conditions on the bench. See Clause 15.5.2 for test parameters & other details					

16.1	RM TABLE: General requirements for ME Systems		
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

16.6.1 TABLE: Leakage C	urrents in M	E System _	<b>Touch Current Measure</b>	ments N/A
Specific area where TOUCH	Allowable TOUCH	Measured TOUCH		
CURRENT measured (i.e., from	TOUCH	TOUCH	CURRENT in event of	CURRENT in event of
or between parts of ME	CURRENT	CURRENT	interruption of	interruption of
SYSTEM within PATIENT	in	in	PROTECTIVE EARTH	PROTECTIVE EARTH
ENVIRONMENT)	NORMAL	NORMAL	CONDUCTOR, (??A)	CONDUCTOR, (??A)
	CONDITIO	CONDITIO		
	N (??A)	N (??A)		
Supplementary information:				

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Clause	Requirement + Test	Result - Remark	Verdict

16.9.1	RM TABLE: Connection terminals and connectors		
Clause of	Document Ref. in RMF Result - Remarks		Verdict
ISO 14971	(Document No. and paragraph)		

17	RM TABLE: Electromagnetic compatibility of ME equipment and ME systems				
Clause of	Document Ref. in RMF	Result - Remarks	Verdict		
ISO 14971	(Document No. and paragraph)				

SP	TABLE: Additional or special tests conducted			N/A	
Clause and Test	Name of	Test type and condition	Observed results		
Supplement	Supplementary information:				