



## Conformity Test Report Product Safety

According to IEC/EN 60601-1 2<sup>nd</sup> Edition  
Safety requirements for medical electrical equipment


**Test Report No.:**

**R11CS136S**

Issue Date:

2011 August 30

Equipment Under Test (EUT)	
<b>Model:</b>	64X
<b>Description:</b>	Wheelchair Washer
<b>Applicant:</b>	MEDCO Equipment, Inc.
<b>Address:</b>	30 Hilltop Road Houlton, WI 54082 USA
<b>Evaluated by:</b>	
	Jerry Hulsey

<b>TEST REPORT</b> <b>IEC/EN 60601-1</b> <b>Medical electrical equipment</b> <b>Part 1: General requirements for safety</b>	
Report reference No.....:	R11CS136S
Tested by .....	Jerry Hulsey
Date of issue .....	2011 August 30
Testing laboratory.....:	INTERTest Systems, Inc.
Address .....	4179 Sinton Road, Colorado Springs, CO 80907 USA
Testing location .....	Same
Applicant.....:	MEDCO Equipment, Inc.
Address .....	30 Hilltop Road, Houlton, WI 54082
Standard .....	IEC 601-1:1988 + A1:1991 + A2:1995
Test Report Form No.....:	I601-1_C/97-04
TRF Originator.....:	Underwriters Laboratories Inc.
Master TRF .....	dated 97-04
Copyright blank test report .....	The bodies participating in the Committee of Certification Bodies (CCB). This report is based on a blank test report that was prepared by KEMA using information obtained from the TRF originator.
Test procedure .....	Per Standard
Procedure deviation.....:	None
Non-standard test method.....:	None
Type of test object .....	Wheelchair Washer
Trademark .....	
Model/type reference.....:	64X
Manufacturer .....	MEDCO Equipment, Inc.
Address .....	30 Hilltop Road, Houlton, WI 54082
Rating .....	230V, 50Hz, 4A

GENERAL INFORMATION	
Test item particulars (see also clause 5):	Wheelchair Washer
Classification of installation and use .....	transportable
Supply connection .....	Cord connected, non-detachable cord
Accessories and detachable parts included in the evaluation ..	None
Options included .....	None
Possible test case verdicts:	
- test case does not apply to the test object .....: (N/ A)	N/A
- test object does meet the requirement.....: (Pass)	P
- test object does not meet the requirement.....: (Fail)	F
Abbreviations used in the report:	
- normal condition .....:N.C.	- single fault condition .....:S.F.C.
- operational insulation .....:OP	- basic insulation .....:BI
- basic insulation between parts of opposite polarity .....:BOP	- supplementary insulation .....:SI
- double insulation .....:DI	- reinforced insulation.....:RI
General remarks:	
<p><b>"This report is not valid as a CB Test Report unless appended to a CB Test Certificate issued by a NCB, in accordance with IECEE 02".</b></p> <p>"(See Attachment #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a point is used as the decimal separator.</p> <p>The tests results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced except in full without the written approval of the testing laboratory.</p> <p>List of test equipment shall be part of this document or can be kept on file and available for review.</p> <p>Summary of contents provided in the first pages of this report.</p>	
General product information and considerations:	
<p><b>The Model 64X is a cord connected, Class 1 (Earthed) transportable wheelchair washer. The unit is connected to a potable water source using standard water supply hoses.</b></p>	

<b>3</b>	<b>GENERAL REQUIREMENTS</b>		<b>P</b>
3.1	Equipment when transported, stored, installed, operated in normal use and maintained according to the instructions of the manufacturer, causes no safety hazard which could reasonably be foreseen and which is not connected with its intended application in normal condition (N.C.) and in single fault condition (S.F.C.)		<b>P</b>
3.4	An alternative means of construction is used to that detailed in this standard and it can be demonstrated that an equivalent degree of safety is obtained		<b>N/A</b>

<b>5</b>	<b>CLASSIFICATION</b>		<b>P</b>
5.1	Type of protection against electric shock		
	Class I equipment		<b>P</b>
	Class II equipment		<b>N/A</b>
	Internally powered equipment		<b>N/A</b>
5.2	Degree of protection against electric shock		<b>P</b>
	Type B applied part		<b>N/A</b>
	Type BF applied part		<b>N/A</b>
	Type CF applied part		<b>N/A</b>
	Not classified - no applied parts		<b>P</b>
5.3	Classification according to the degree of protection against ingress of water as detailed in the current edition of IEC 529 (see 6.1.1) .....	<b>IPX0</b>	<b>P</b>
5.4	Methods of sterilization or disinfection		<b>N/A</b>
5.5	Equipment not suitable for use in the presence of flammable mixtures		<b>P</b>
	Category AP equipment		<b>N/A</b>
	Category APG equipment		<b>N/A</b>
5.6	Mode of operation:		<b>P</b>
	-continuous operation		<b>P</b>
	-short-time operation, specified operation; period ....		<b>N/A</b>
	-intermittent operation, specified operation; rest period .....		<b>N/A</b>
	-continuous operation with short-time, stated permissible loading time.....		<b>N/A</b>
	-continuous operation with intermittent, stated permissible loading/rest time.....		<b>N/A</b>

<b>6</b>	<b>IDENTIFICATION, MARKING AND DOCUMENTS</b>		<b>P</b>
6.1	Marking on the outside of equipment or equipment parts		<b>P</b>
	c) Markings of the specific power supply affixed		N/A
	d) If marking is not practicable due to size or nature of enclosure, information is included in accompanying documents		N/A
	e) Name and/or trademark of the manufacturer or supplier .....	Medco	<b>P</b>
	f) Model or type reference .....	64X	<b>P</b>
	g) Rated supply voltages or voltage range(s)	230V	<b>P</b>
	Number of phases.....	1	N/A
	Type of current .....	~	<b>P</b>
	h) Rated frequency or rated frequency range(s) (Hz) .....	50Hz	<b>P</b>
	j) Rated power input (VA, W or A) .....	None	N/A
	k) Power output of auxiliary mains socket-outlets	None	N/A
	l) Class II symbol	Not Class II	N/A
	Symbol for degree of protection against ingress of water provided.....	IPX0	N/A
	Symbol for protection against electric shock .....		N/A
	If equipment has more than one applied part with different degrees of protection, the relevant symbols are clearly marked on such applied parts, or on or near relevant outlets		N/A
	Symbol for protection of defibrillation-proof applied parts	Not defibrillation-proof	N/A
	Symbol 14 from Table DI for defibrillation-proof with protection partly in patient cable		N/A
	m) Mode of operation (if no marking, suitable for continuous operation)	No marking	<b>P</b>
	n) Types and rating of external accessible fuses ....	None	N/A
	p) Ratings of external output .....	None	N/A
	q) Symbol for physiological effect(s):		N/A
	- attention, consult accompanying documents		N/A
	- non-ionizing radiation, or symbols as adopted by ISO or IEC 417		N/A
	r) Anaesthetic-proof symbol: AP or APG .....		N/A
	s) Dangerous voltage symbol		N/A

	t) Special cooling requirements		N/A
	u) Limited mechanical stability		N/A
	v) Protective packing requirement(s)		N/A
	- Marking(s) for unpacking safety hazard(s)		N/A
	- Equipment or accessories supplied sterile, marked as sterile		N/A
	y) Potential equalization terminal		N/A
	- Functional earth terminal		N/A
	z) Removable protective means		N/A
	Durability of marking test	(see appended table 6)	P
6.2	Marking on the inside of equipment or equipment parts		N/A
	a) Nominal voltage of permanently installed equipment		N/A
	b) Maximum power loading for heating elements or holders for heating lamps		N/A
	c) Dangerous voltage symbol		N/A
	d) Type of battery and mode of insertion		N/A
	- Marking referring to accompanying documents used for battery not intended to be changed by the operator		N/A
	e) Fuses accessible with a tool identified either by type and rating or by a reference to diagram		P
	f) Protective earth terminal		P
	g) Functional earth terminal		N/A
	h) Supply neutral conductor in permanently installed equipment (N)	Not permanently installed	N/A
	j) Markings required in 6.2 f), h), k) ,and l) remain visible after connection and are not affixed to parts which have to be removed		N/A
	- Markings comply with IEC 445		N/A
	k) For permanently connected devices the supply connections are clearly marked adjacent to the terminals (or in accompanying documents for small equipment)		N/A
	l) Statement for suitable wiring materials at temperatures over 75 °C		N/A
	n) Capacitors and/or circuit parts marked as required in Sub-clause 15c		N/A
6.3	Marking of controls and instruments		P

	a) Mains switch clearly identified	None	N/A
	- ON and OFF positions marked according to Symbols 15 and 16 of table D1 or indicated by an adjacent indicator light		N/A
	b) Indication of different positions of control devices and switches		N/A
	c) Indication of the direction in which the magnitude of the function changes, or an indicating device		N/A
	f) The functions of operator controls and indicators are identified		N/A
	g) Numeric indications of parameters are in SI units except for units listed in Am. 2		N/A
6.4	Symbols		P
	Used symbols comply with Appendix D or IEC 417 and/or IEC 878 or ISO publications (if applicable)		P
6.5	Colors of the insulation of conductors		P
	a) Protective earth conductor has green/yellow insulation		P
	b) All insulations of internal protective earth conductors are green/yellow at least at their terminations		P
	c) Only protective or functional earthing, or potential equalization conductors are green/yellow		P
	d) Color of neutral conductor .....	Blue	P
	e) Colors of phase conductor(s) .....	Brown	P
	- Compliance with IEC 227 and IEC 245		P
	f) Additional protective earthing in multi-conductor, cords are marked green/yellow at the ends of the additional conductors		N/A
6.6	Medical gas cylinders and connections		N/A
	a) In accordance with ISO ISO/R 32		N/A
	b) Identification of connection point		N/A
6.7	Indicator lights and push-buttons		P
	a) Red indicator lights used exclusively to indicate a warning of danger and/or a need for urgent action	Not used	N/A
	- Yellow used to indicate caution or attention required	Power On	P
	b) Color red used only for push-buttons by which a function is interrupted in case of emergency		P

6.8	ACCOMPANYING DOCUMENTS		P
6.8.1	Equipment accompanied by documents containing at least instructions for use, a technical description and an address to which the user can refer		P
	Classifications specified in Clause 5 included in both the instructions for use and the technical description		P
	Markings specified in Sub-clause 6.1 included in the accompanying documents if they have not been permanently affixed to equipment		P
	Warning statements and the explanation of warning symbols provided in the accompanying documents		P
6.8.2	Instructions for use		P
	a) General information provided in instructions for use		P
	- state the function and intended application of the equipment		P
	- include an explanation of: the function of controls, displays and signals		P
	- the sequence of operation		P
	- the connection and disconnection of detachable parts and accessories		P
	- the replacement of material which is consumed during operation		P
	- information regarding potential electromagnetic or other interference and advice regarding avoidance		P
	- include: indications of recognized accessories, detachable parts and materials, if the use of other parts or materials can degrade minimum safety		P
	- instructions concerning cleaning, preventive inspection and maintenance to be performed including the frequency of such maintenance		P
	General information provided in instructions:		P
	- information for the safe performance or routine maintenance		P
	- parts on which preventive inspection and maintenance shall be performed by other persons including the periods to be applied		P
	- explanation of figures, symbols, warning statements and abbreviations on the equipment		P



	c) Signal output or signal input parts intended only for connection to specified equipment described		N/A
	d) Details about acceptable cleaning, disinfection or sterilization methods included		P
	e) Warning statement for mains operated equipment with additional power source		N/A
	f) A warning to remove primary batteries if equipment is not likely to be used for some time		N/A
	g) Instructions to ensure safe use and adequate maintenance of rechargeable batteries		N/A
	h) Identification of specified external power supplies or battery chargers necessary to ensure compliance with the requirements of IEC 601-1		N/A
	j) Identification of any risks associated with the disposal of waste products, residues, etc.		P
	- Advice in minimizing these risks		P
6.8.3	Technical description		P
	a) All characteristics essential for safe operation provided		P
	b) Required type and rating of fuses utilized in the mains supply circuit external to permanently installed equipment		N/A
	- Instructions for replacement of interchangeable and/or detachable parts which are subject to deterioration during normal use		N/A
	c) Instructions or reference information for repair of equipment parts designated by the manufacturer as repairable provided		N/A
	d) Environmental conditions for transport and storage specified in accompanying documents and marked on packaging		P

<b>7</b>	<b>POWER INPUT</b>		---
	Power Input Measurements	(see appended table 7)	P

<b>10</b>	<b>ENVIRONMENTAL CONDITIONS</b>		<b>P</b>
10.1	Equipment is capable while packed for transport or storage of being exposed to the conditions stated by the manufacturer		<b>P</b>
10.2.2a	Rated voltage not exceeding 250 V for hand-held equipment	Not hand-held	<b>N/A</b>
	Rated voltage not exceeding 250 V d.c. or single-phase a.c. or 500 V polyphase a.c. for equipment up to 4kVA	230V	<b>P</b>
	Rated voltage not exceeding 500 V for all other equipment		<b>N/A</b>
	Rated input frequency not more than 1kHz	50Hz	
10.2.2b	Internal replaceable electrical power source specified	None	<b>N/a</b>

<b>14</b>	<b>REQUIREMENTS RELATED TO CLASSIFICATION</b>		<b>N/A</b>
14.4a	Class I and Class II equipment in addition to basic insulation provided with an additional protection		
14.4b	Equipment supplied from external dc source of reverse polarity results in no safety hazard	Not supplied by dc source	<b>N/A</b>
14.5b	Internally powered equipment complies with requirements for Class I or Class II equipment while connected to supply mains, and with requirements for internally powered equipment when not connected	Not internally powered	<b>N/A</b>
14.6c	Applied parts intended for direct cardiac application are of type CF	No applied part	<b>N/A</b>

<b>15</b>	<b>LIMITATION OF VOLTAGE AND/OR ENERGY</b>		---
15b	Voltage measured one sec after disconnection of the mains plug does not exceed 60V	(see appended table 15b)	P
15c	For live parts accessible after equipment has been de-energized the residual voltage does not exceed 60 V nor residual energy exceed 2 mJ	(see appended table 15c)	N/A
	Marking provided for manual discharging	Not required	N/A

<b>16</b>	<b>ENCLOSURES AND PROTECTIVE COVERS</b>		---
16a	Equipment enclosed to protect against contact with live parts, and with parts which can become live (finger, pin, hook test)		P
	Insertion or removal of lamps - protection against contact with live parts provided		N/A
16b	Opening in a top cover positioned that accessibility of live parts by a test rod is prevented		N/A
16c	Conductive parts accessible after the removal of handles, knobs, levers		N/A
	- have a resistance of not more than 0.2 $\Omega$	(see appended table 18)	N/A
	- separated from live parts by one of the means described in Sub-clause 17g		N/A
16d	Parts with voltage exceeding 25V a.c. or 60V d.c. which cannot be disconnected by external mains switch or plug protected against contact		N/A
16e	Removable enclosures protecting against contact with live parts		N/A
	- Removal possible only with the aid of a tool	Key actuated	N/A
	- Use of automatic device making parts not live when the enclosure is opened or removed		
	- Exception 16e applied to the following parts ..... :		N/A
16f	Openings for the adjustment of controls using a tool. The tool not able to touch basic insulation or any live parts		N/A

<b>17</b>	<b>SEPARATION</b>		<b>P</b>
17a	Separation method of the applied part from live parts:		N/A
	1) basic insulation: applied part earthed	No applied part	N/A
	2) by protectively earthed conductive part (e.g. screen)		N/A
	3) by separate earthed intermediate circuit limiting leakage current to applied part in event of insulation failure		N/A
	4) by double or reinforced insulation		N/A
	5) by protective impedances limiting current to applied part		N/A
	- Additional leakage current test in single fault conditions	(see appended table 19)	N/A
17c	There is no conductive connection between applied parts and accessible conductive parts which are not protectively earthed		N/A
17d	Supplementary insulation between hand-held flexible shafts and motor shafts (Class I)		N/A
17g	Separation method of accessible parts other than applied parts from live parts:		<b>P</b>
	1) basic insulation: accessible part earthed		<b>P</b>
	2) by protectively earthed conductive part (e.g. screen)		N/A
	3) by separate earthed intermediate circuit limiting leakage current to enclosure in event of insulation failure		N/A
	4) by double or reinforced insulation		N/A
	5) by protective impedances limiting current to accessible part		N/A
	- Additional leakage current test in single fault conditions	(see appended table 19)	N/A
17h	Arrangements used to isolate defibrillation-proof applied parts so designed that:		N/A
	- no hazardous electrical energies appear during a discharge of a cardiac defibrillator	(see appended table 17h1)	N/A
	- after exposure to the defibrillation voltage, the equipment continues to perform its intended function	(see appended table 17h2)	N/A

18	<b>PROTECTIVE EARTHING, FUNCTIONAL EARTHING AND POTENTIAL EQUALIZATION</b>		P
18a	Accessible parts of Class I equipment separated from live parts by basic insulation connected to the protective earth terminal		N/A
18b	Protective earth terminals suitable for connection to the protective earth conductor		N/A
18e	Potential equalization conductor		N/A
	- Readily accessible		N/A
	- Accidental disconnection prevented in normal use		N/A
	- Conductor detachable without the use of a tool		N/A
	- Power supply cord does not incorporate a potential equalization conductor		N/A
	- Connection means marked with Symbol 9, Table DI		N/A
18f	For equipment without power supply cord, impedance between protective earth terminal and accessible metal part $\leq 0.1 \Omega$	(see appended table 18)	P
	- For equipment with an appliance inlet, impedance between protective earth contact and any accessible metal part $\leq 0.1 \Omega$	(see appended table 18)	N/A
	- For equipment with a non-detachable power supply cord, impedance between protective earth pin in mains plug and accessible metal part $\leq 0.2 \Omega$	(see appended table 18)	P
18g	If the impedance of protective earth connections other than in Cl. 18 f) exceeds $0.1 \Omega$ , the allowable value of the enclosure leakage current is not exceeded in single fault condition	(see appended table 18 and 19)	N/A
18k	Functional earth terminal not used to provide protective earthing		P
18l	Class II equipment with isolated internal screens		N/A
	- insulation of screens and all internal wiring connected to them is double insulation or reinforced insulation		N/A
	- functional earth terminal clearly marked		N/A
	- explanation of functional earth terminal provided in the accompanying documents		N/A

<b>19</b>	<b>CONTINUOUS LEAKAGE CURRENTS AND PATIENT AUXILIARY CURRENTS</b>		<b>P</b>
19.1b	Leakage currents	(see appended table 19)	<b>P</b>
	- earth leakage current		<b>P</b>
	- enclosure leakage current		<b>P</b>
	- patient leakage current	None	<b>N/A</b>
	- patient auxiliary current	None	<b>N/A</b>

<b>20</b>	<b>DIELECTRIC STRENGTH</b>		<b>P</b>
	Overall compliance with Clause 20	(see appended table 20)	<b>P</b>

<b>21</b>	<b>MECHANICAL STRENGTH</b>		<b>---</b>
21a	Sufficient rigidity of an enclosure tested by: force of 45 N		<b>P</b>
21b	Sufficient strength of an enclosure tested by: impact hammer		<b>P</b>
21c	On portable equipment carrying handles or grips withstand the requirements of the loading test	(see appended table 21)	<b>N/A</b>
21.3	No damage to parts of patient support and/or immobilization system after the loading test	(see appended table 21)	<b>N/A</b>
21.5	Hand held equipment or equipment parts are safe after drop test	(see appended table 21)	<b>N/A</b>
21.6	Portable and mobile equipment is able to withstand rough handling	(see appended table 21)	<b>N/A</b>

<b>22</b>	<b>MOVING PARTS</b>		<b>P</b>
22.2a	Moving parts of a transportable equipment are provided with guards which form an integral part of the equipment		<b>P</b>
22.2b	Moving parts of a stationary equipment are provided with similar guards as above, unless it is evident that equivalent protection is separately provided during installation		<b>N/A</b>
22.3	Cords (ropes), chains and bands are provided with guides to prevent them from running off or from jumping out of their guiding devices	None	<b>N/A</b>
	Guides or other safeguards are removable only with a tool		<b>N/A</b>
22.4	Dangerous movements of equipment parts, which may cause physical injury to the patient, are possible only by the continuous activation by the operator	None	<b>N/A</b>
22.6	Parts of equipment subject to mechanical wear are accessible for inspection		<b>P</b>
22.7	Means provided for emergency switching of an electrically produced mechanical movement which could cause a safety hazard		<b>P</b>
	The means for emergency switching is readily identifiable and accessible and does not introduce a further safety hazard		<b>P</b>
	Devices for emergency stopping able to break the full load current of the relevant circuit, taking into account possible stalled motor currents		<b>P</b>
	Means for stopping of movements operate as a result of one single action		<b>P</b>

<b>23</b>	<b>SURFACES, CORNERS AND EDGES</b>		<b>P</b>
	Rough surfaces, sharp corners and edges which may cause injury or damage avoided or covered		<b>P</b>

<b>24</b>	<b>STABILITY IN NORMAL USE</b> (see appended table 24)		<b>P</b>
24.1	Equipment does not overbalance during normal use when tilted through an angle of 10°		<b>P</b>
24.3	Equipment overbalances when tilted through an angle of 10°		<b>N/A</b>
	- does not overbalance when tilted through an angle of 5° in any position excluding transport		<b>N/A</b>
	- carry a warning notice stating that transport should only be undertaken in a certain position		<b>N/A</b>
	- in the position specified for transport does not overbalance when tilted to an angle of 10°		<b>N/A</b>
24.6a	Equipment or its parts with a mass of more than 20 kg is provided with:		<b>P</b>
	- suitable handling devices (grips etc.), or		<b>N/A</b>
	- instructions for lifting and handling during assembly	No lifting	<b>P</b>
24.6b	b) On portable equipment with a mass of more than 20 kg carrying handle(s) is (are) so situated that equipment may be carried by 2 or more persons	Not portable	<b>N/A</b>

<b>25</b>	<b>EXPELLED PARTS</b>		<b>N/A</b>
25.1	Protective means are provided where expelled parts of the equipment could be a hazard		<b>N/A</b>
25.2	Display vacuum tubes with a face dimension exceeding 16 cm are provided with adequate protection against implosion	None	<b>N/A</b>



<b>28</b>	<b>SUSPENDED MASSES</b>		N/A
28.3	Suspension system with safety device		
	Safety device provided where the integrity of a suspension depends on parts which may have hidden defects, or on parts having safety factors not complying with Sub-clause 28.4		N/A
	Safety device has safety factors complying with Sub-clause 28.4.2		N/A
	Clear indication to the operator that the safety device has been activated after failure of suspension means		N/A
28.4	Suspension systems of metal without safety devices		N/A
	1) Total load does not exceed the safe working load		N/A
	2) Safety factors not less than 4 where it is unlikely that supporting characteristics will be impaired		N/A
	3) Safety factors not less than 8 where impairment is expected		N/A
	4) Safety factors multiplied by 1.5 for metal having an elongation at break of less than 5%		N/A
	5) Sheaves, sprockets, band wheels and guides so constructed that the safety factors maintained till replacement		N/A
<b>29</b>	<b>X-RADIATION</b>		N/A
29.2	EQUIPMENT not intended to produce X-radiation produces an exposure $\leq 130$ nC/kg (0.5 mR)	(see appended table 29)	N/A
<b>36</b>	<b>ELECTROMAGNETIC COMPATIBILITY</b>		P
	Equipment complies with IEC 601-1-2	See separate report	P
<b>37</b>	<b>COMMON REQUIREMENTS FOR CATEGORY AP AND CATEGORY APG EQUIPMENT</b>		N/A
	Requirements for category AP and APG equipment (Cl. 37 - 41)	(see Attachment #)	N/A

<b>42</b>	<b>EXCESSIVE TEMPERATURES</b>		<b>P</b>
42.1	Equipment does not attain temperatures exceeding the values given in Table Xa over the range of ambient temperatures per Clause 10.2.1	(see appended table 42)	<b>P</b>
42.2	Equipment does not attain temperatures exceeding the values given in Table Xb at 25°C ambient		<b>P</b>
42.3	Applied parts not intended to supply heat have surface temperatures not exceeding 41°C	No applied part	<b>N/A</b>
42.5	Guards to prevent contact with hot surfaces removable only with a tool	None	<b>N/A</b>

<b>43</b>	<b>FIRE PREVENTION</b>		<b>P</b>
	Strength and rigidity necessary to avoid a fire hazard		<b>P</b>

<b>44</b>	<b>OVERFLOW, SPILLAGE, LEAKAGE, HUMIDITY, INGRESS OF LIQUIDS, CLEANING, STERILIZATION AND DISINFECTION</b>		<b>P</b>
44.2	Equipment contain a liquid reservoir:		<b>P</b>
	- the equipment is electrically safe after 15% overflow steadily over a period of 1 min	(see appended table 44)	<b>P</b>
	- transportable equipment is electrically safe after additionally having been tilted through an angle of 15° in the least favorable direction(s) (if necessary with refilling)	(see appended table 44)	<b>P</b>
44.3	Electrical properties of the equipment do not change in connection of spillage test (200 ml of water)	(see appended table 44)	<b>P</b>
44.4	Liquid which might escape in a single fault condition does not wet parts which may cause a safety hazard	(see appended table 44)	<b>P</b>
44.5	Equipment sufficiently protected against the effects of humidity	(see appended table 44)	<b>P</b>
44.6	Enclosures designed to give a protection against harmful ingress of water classified according to IEC Publication 529	(see appended table 44)	<b>P</b>
44.7	Equipment capable of withstanding cleaning, sterilization or disinfection without deterioration of safety provisions	(see appended table 44)	<b>P</b>

<b>45</b>	<b>PRESSURE VESSELS AND PARTS SUBJECT TO PRESSURE</b>		<b>P</b>
45.2	Pressure vessel with pressure volume greater than 200 kPa x l and pressure greater than 50 kPa withstand the hydraulic test pressure	(see appended table 45)	N/A
45.3	Maximum pressure does not exceed the maximum permissible working pressure for individual parts		P
45.7	Unless excessive pressure can not occur, pressure-relief device provided		N/A
45.7a	Pressure-relief device connected as close as possible to the pressure vessel		N/A
45.7b	Readily accessible for inspection		N/A
45.7c	Not capable of being adjusted or rendered inoperative without a tool		N/A
45.7d	Discharge opening located that the released material is not directed towards person		N/A
45.7e	Discharge opening located that operation will not deposit material which may cause a safety hazard		N/A
45.7f	Adequate discharge capacity to ensure pressure does not exceed the maximum permissible working pressure		N/A
45.7g	No shut-off valve between a pressure-relief device and the parts intended to be protected		N/A
45.7h	Minimum number of cycles of operation: 100.000	(see appended table 45)	N/A
<b>48</b>	<b>BIOCOMPATIBILITY</b>		<b>N/A</b>
	Parts of equipment and accessories intended to come into contact with biological tissues, cells or body fluids are evaluated in accordance with ISO 10993-1	Not part of this evaluation	N/A

<b>49</b>	<b>INTERRUPTION OF THE POWER SUPPLY</b>		<b>P</b>
49.1	Thermal cut-outs and over-current releases with automatic resetting not used if they may cause a safety hazard		<b>P</b>
49.2	Interruption and restoration of power supply does not result in a safety hazard other than interruption of intended function		<b>P</b>
49.3	Means are provided for removal of mechanical constraints on patient in case of a supply mains failure		<b>N/A</b>
<b>51</b>	<b>PROTECTION AGAINST HAZARDOUS OUTPUT</b>		<b>N/A</b>
51.4	Equipment furnishing both low-intensity and high-intensity outputs provided with means minimizing possibility of a high intensity output being selected accidentally		<b>N/A</b>

<b>52</b>	<b>ABNORMAL OPERATION AND FAULT CONDITIONS</b>		<b>P</b>
52.1	Equipment is so designed and manufactured that even in single fault condition no safety hazard as described under 52.4 exists (see 3.1 and Cl. 13)	(see appended table 52)	<b>P</b>
	The safety of equipment incorporating programmable electronic systems is checked by applying IEC 601-1-4	(see Attachment #)	<b>N/A</b>
52.5.2	Failure of thermostats presents no safety hazards	(see appended table 52)	<b>N/A</b>
52.5.3	Short-circuiting of either part of double insulation presents no safety hazard	(see appended table 19)	<b>N/A</b>
52.5.5	Impairment of cooling: temperatures not exceeding 1.7 times the values of Clause 42 minus 17.5°C	(see appended table 52)	<b>N/A</b>
52.5.6	Locking of moving parts presents no safety hazard	(see appended table 52)	<b>P</b>
52.5.7	Interruption and short-circuiting of motor capacitors presents no safety hazard	(see appended table 52)	<b>N/A</b>
52.5.8	Duration of motors locked rotor test in compliance with Cl. 52.5.8		<b>P</b>
52.5.9	Failure of one component at a time presents no safety hazard	(see appended table 52)	<b>P</b>
52.5.10	Overload of heating elements presents no safety hazard	(see appended table 52)	<b>N/A</b>
	f) Motors intended to be remotely controlled, automatically controlled, or liable to be operated continuously provided with running overload protection		<b>N/A</b>
	h) Equipment with three-phase motors can safely operate with one phase disconnected	(see appended table 52)	<b>N/A</b>

<b>56</b>	<b>COMPONENTS AND GENERAL ASSEMBLY</b>		<b>P</b>
	List of critical components	(see appended table 56)	<b>P</b>
56.1b	Ratings of components not in conflict with the conditions of use in equipment		<b>P</b>
	Ratings of mains components are identified		<b>P</b>
56.1d	Components, movements of which could result in a safety hazard mounted securely		<b>P</b>
56.1f	Conductors and connectors secured and/or insulated to prevent accidental detachment resulting in a safety hazard		<b>P</b>
56.3a	Connectors provide separation required by Sub-clause 17g		<b>P</b>
	Plugs for connection of patient circuit leads can not be connected to other outlets on the same equipment	None	<b>N/A</b>
	Medical gas connections not interchangeable	None	<b>N/A</b>
56.3b	Accessible metal parts can not become live when detachable interconnection cord between different parts of equipment is loosened or broken		<b>N/A</b>
56.3c	Leads with conductive connection to a patient are constructed such that no conductive connection remote from the patient can contact earth or hazardous voltages.		<b>N/A</b>
56.4	Connections of capacitors		<b>N/A</b>
	Not connected between live parts and non-protectively earthed accessible parts		<b>N/A</b>
	If connected between mains part and protectively earthed metal parts comply with: IEC Publication 384-14		<b>N/A</b>
	Enclosure of capacitors connected to mains part and providing only basic insulation, is not secured to non-protectively earthed metal parts		<b>N/A</b>
	Capacitors or other spark-suppression devices are not connected between contacts of thermal cut-outs		<b>N/A</b>
56.5	Protective devices which cause disconnection from the supply mains by producing a short-circuit not provided in equipment	Not provided	<b>P</b>

56.6	Temperature and overload control devices		N/A
	a) Thermal cut-outs which have to be reset by a soldering not fitted in equipment		N/A
	Thermal safety devices provided where necessary to prevent operating temperatures exceeding the limits		N/A
	Independent non-self-resetting thermal cut-out provided where a failure of a thermostat could constitute a safety hazard		N/A
	Audible warning provided where the loss of function caused by operation of a thermal cut-out presents a safety hazard		N/A
	Self-resetting thermal cut-outs and self-resetting over-current releases operated 200 times		N/A
	Non-self resetting over-current releases operated 10 times		N/A
56.6b	Thermostats with varying temperature settings clearly indicated		N/A
	Operating temperature of thermal cut-outs indicated		N/A
56.7	Batteries		N/A
	a) Battery compartments:		N/A
	- adequately ventilated		N/A
	- accidentally short-circuiting is prevented		N/A
	b) Incorrect polarity of connection prevented		N/A
56.8	Indicators - unless indication provided by other means (from the normal operation position), indicator lights are used (color see 6.7):		P
	- to indicate that equipment is energized		P
	- to indicate the operation of non-luminous heaters if a safety hazard could result		N/A
	- to indicate when output exists if a safety hazard could result		N/A
	- charging mode indicator provided		N/A
56.10	Actuating parts of controls	(see appended table 56.10)	P
56.10b	Actuating parts are adequately secured to prevent them from working loose during normal use		P
	Controls are secured to prevent the movement relative to scale marking (safety related only)		N/A
	Detachable indicating devices are prevented from incorrect connection without the use of tool		N/A

56.10c	Stops are provided on rotating controls:		N/A
	- to prevent an unexpected change from maximum to minimum or vice versa where this could produce a safety hazard		N/A
	- to prevent damage to wiring		N/A
56.11	Cord-connected hand-held and foot-operated control devices		N/A
	a) Contain voltages not exceeding 25 V a.c. or 60 V d.c. and isolated from the mains part by Cl. 17g		N/A
	b) Hand-held control devices comply with the requirement and test of Sub-clause 21.5		N/A
	- Foot-operated control devices designed to support the weight of an adult human being	(see appended table 56.11b)	N/A
	c) Devices not change their setting when inadvertently placed		N/A
	d) Foot-operated control devices are at least IPX 1	(see appended table 44)	N/A
	- For surgical use, electrical switching parts are IPX 8		N/A
	e) Adequate strain relief at the cord entry provided	(see appended table 57.4)	N/A



<b>57</b>	<b>MAINS PARTS, COMPONENTS AND LAYOUT</b>		<b>P</b>
57.1	Isolation from supply mains		<b>P</b>
	a) Equipment provides means to isolate its circuits electrically from the supply mains on all poles simultaneously	Cord with plug	<b>P</b>
	Means for isolation incorporated in equipment or, if external, specified in the accompanying documents		<b>P</b>
	d) Switches used to comply with Sub-clause 57.1a comply with the creepage distances and air clearances as specified in IEC Publication 328		<b>P</b>
	f) Mains switches not incorporated in a power supply cord		<b>P</b>
	h) Appliance couplers and flexible cords with mains plugs provide compliance with Sub-clause 57.1a		<b>P</b>
	m) Fuses and semiconductor devices not used as isolating devices		<b>P</b>
57.2	Mains connectors and appliance inlets		<b>N/A</b>
	e) Auxiliary mains socket-outlets on non-permanently installed equipment of a type that cannot accept a mains plug		<b>N/A</b>
	g) Unless functional earth needs to be provided, Class I appliance inlet is not used in Class II equipment		<b>N/A</b>
57.3	Power supply cords		<b>P</b>
	a) Not more than one connection to a particular supply mains		<b>P</b>
	If alternative supply allowed, no safety hazards when more than one connection is made simultaneously		<b>N/A</b>
	The mains plug has only one power supply cord		<b>P</b>
	Non-permanently connected equipment provided with power supply cord or appliance inlet		<b>P</b>
	b) Power supply cords sufficiently robust to comply with the requirements of IEC 227, designation 53 and IEC 245, designation 53		<b>P</b>
	Polyvinyl chloride insulated power supply cords not used for equipment having external metal parts with a temperature exceeding 75°C		<b>N/A</b>
	c) Nominal cross-sectional area of conductors of power supply cords not less than in Table XV		<b>N/A</b>

	d) Stranded conductors not soldered if fixed by any clamping means		P
57.4	Connection of power supply cords		P
57.4a	Cord anchorages		P
	Equipment provided with power supply cords has cord anchorages such that the conductors are relieved from strain, including twisting	(see appended table 57.4)	P
	Tying the cord into a knot or tying the ends with string not used	Not used	P
	Cord anchorages made of insulating material or metal insulated from unearthed accessible metal parts by supplementary insulation	Insulating material	P
	Cord anchorages made of metal provided with an insulating lining		N/A
	Clamping screws do not bear directly on the cord insulation		P
	Screws associated with cable replacement are not used to secure other components		P
	Conductors of the power supply cord arranged that the protective earth conductor is not subject to strain as long as the phase conductors are in contact with their terminals		P
57.4b	Power supply cord protected against excessive bending	(see appended table 57.4b)	N/A
57.4c	Adequate space inside equipment to allow the supply cable conductors to be introduced and connected		P
57.5	Mains terminal devices and wiring of mains part		P
	Mains connected equipment other than those with a detachable supply cord provided with mains terminals, where connections are made with screws, nuts or equally effective methods		P
	If a conductor breaks away, barriers are provided such that creepage distances and air clearances cannot be reduced		P
	Screws and nuts which clamp external conductors not serve to fix any other component		P
	b) Terminals closely grouped with any protective earth terminal		P
	Mains terminal devices accessible only with use of a tool		P

	Mains terminal devices located or shielded that, should a wire of a stranded conductor escape when the conductors are fitted, there is no risk of accidental contact		P
	c) Internal wiring not subjected to stress when the means for clamping the conductors are tightened or loosened		P
	d) Cord terminals not require special preparation of the conductor		P
57.6	Mains fuses and overcurrent releases		N/A
	Fuses or over-current releases provided accordingly for Class I and Class II		N/A
	Current rating of mains fuses and over-current releases such that they reliably carry the normal operating current		N/A
	Protective earth conductor not fused	Not fused	P
	Neutral conductor not fused for permanently installed equipment		N/A
57.8	Wiring of the mains part		P
	a) Individual conductor in the mains part with insulation not at least electrically equivalent to that of the individual conductors of flexible supply cords complying with IEC 227 or 245, treated as bare conductor		P
	b) Cross-sectional area of conductors up to protective device not less than the minimum required for the power supply cord		P
	Cross-sectional area of other wiring and the sizes of tracks on printed wiring circuits sufficient to prevent any fire hazard		P
57.9	Mains supply transformers		P
57.9.1	Overheating		P
	External to the transformer protective devices connected in such a way that failure of any component cannot render the protective devices inoperative		P
57.9.1a	Short-circuit of secondary windings not caused excessive temperature	(see appended table 57.9.1a)	P
57.9.1b	Overload of secondary windings not caused excessive temperature	(see appended table 57.9.1b)	P
57.9.2	The dielectric strength of the electrical insulation of a mains supply transformer such that it passes tests	(see appended table 57.9.2)	P

57.9.4	Construction		P
	a) Separation of primary and secondary windings	Only as part of certified devices	P
	- separate bobbins or formers		-
	- one bobbin with insulating partition		-
	- one bobbin with concentric windings and having copper screen with a thickness of not less than 0.13 mm		-
	- concentrically wound on one bobbin with windings separated by double insulation		-
	c) Means provided to prevent displacement of end turns		-
	d) Insulated overlap of not less than 3 mm if a protective earthed screen has only one turn		-
	e) Insulation between the primary and secondary in transformers with double insulation		
	- 1 insulation layer with thickness of at least 1 mm		-
	- at least 2 insulation layers with a total thickness of at least 0.3 mm		-
	- three layers provided that each combination of two layers can withstand the dielectric strength test for reinforced insulation		-
	g) Exit of the wires of toroidal transformers provided with double sleeving complying with requirements for double insulation and having total thickness at least 0.3 mm extending at least 20 mm outside the winding		-
57.10	Creepage distances and air clearances		P
	a) Values: compliance with at least the values of Table XVI	(see table for insulation diagram)	P
	Creepage distances for slot insulation of motors at least 50% of the specified values		N/A
	b) Minimum creepage distances and air clearances in the mains part between parts of opposite polarity not required if short-circuiting does not produce a safety hazard	(see appended table 52)	N/A
	c) Creepage distances or clearances of at least 4 mm are maintained between defibrillation-proof applied parts and other parts		N/A
<b>58</b>	<b>PROTECTIVE EARTHING - TERMINALS AND CONNECTIONS</b>		<b>P</b>
58.1	Clamping means of the protective earth terminal		P
	Not be able to loosen without the aid of a tool		P

	Screws for internal earth connections are covered or protected against loosening from outside		P
58.7	Earth pin of the appliance inlet regarded as the protective earth terminal		N/A
58.8	The protective earth terminal not used for the mechanical connection or the fixing of any component not related to earthing		P
58.9	Where the protective earth connections are made via a plug or socket device the protective earth connection is made before and interrupted after the supply connections during connection and interrupting		N/A

<b>59</b>	<b>CONSTRUCTION AND LAYOUT</b>		<b>P</b>
59.1	Internal wiring		P
	a) Cables and wiring protected against contact with a moving part		P
	Wiring having basic insulation only protected by additional fixed sleeving		P
	Components are not likely to be damaged in the normal assembly or replacement of covers		P
	b) Movable leads are not bent around a radius of less than five times the outer diameter of the lead		P
	c) Insulating sleeving adequately secured		P
	If the sheath of a flexible cable or cord is used as supplementary insulation it complies with requirements of IEC 227 and IEC 245 and dielectric test	(see appended table 20)	P
	Conductors subjected to temperatures exceeding 70°C have an insulation of heat-resistant material		N/A
	d) Aluminium wires of less than 16 mm <sup>2</sup> cross-section not used		N/A
	f) Connecting cords between equipment parts considered as belonging to the equipment		N/A

59.2	Insulation		P
	b) Mechanical strength and resistance to heat and fires retained by all types of insulation		P
	c) Insulation not likely to be impaired by deposition of dirt or by dust resulting from wear of parts		P
	Parts of rubber resistant to ageing		N/A
59.3	Excessive current and voltage protection		N/A
	Internal electrical power source provided with device for protection against fire hazard		N/A
	Fuse elements replaceable without opening the enclosure fully enclosed in a fuseholder		N/A
	Protective devices between an isolated applied part and the body of the equipment do not operate below 500 V r.m.s.		N/A
59.4	Oil containers		N/A
	Oil containers adequately sealed		N/A
	Container allow for the expansion of the oil		N/A
	Oil containers in mobile equipment sealed to prevent the loss of oil during transport		N/A
	Partially sealed oil-filled equipment or equipment parts provided with means for checking the oil level		N/A

6.1	TABLE: marking durability					P
Marking tested				Remarks		
Serial number label				P		
Supplementary information:						
Ambient Temperature (°C)	22	Relative Humidity (rH%)	45	Atmospheric Pressure (hPA)	1024	
				TEST EQUIPMENT ASSET NUMBER:	E-174	

7	TABLE: power input					P
Operating condition		Voltage	Frequency	Current	Power	Remarks
Normal		207	50	3.20	213	
		230	50	3.91	247	
		253	50	4.96	327	
Supplementary information:						
Ambient Temperature (°C)	22		Relative Humidity (rH%)	45	Atmospheric Pressure (hPa)	1024
					TEST EQUIPMENT ASSET NUMBER:	E-174, E-169

15b	TABLE: residual voltage in attachment plug										P
Voltage measured between:	Measurements [ V ]										Remarks
	1	2	3	4	5	6	7	8	9	10	
supply pins (pin 1 & pin 2)	0	0	0	0	0	0	0	0	0	0	
line pin 1 and enclosure	0	0	0	0	0	0	0	0	0	0	
line pin 2 and enclosure	0	0	0	0	0	0	0	0	0	0	
pin 1 and earth pin	0	0	0	0	0	0	0	0	0	0	
pin 2 and earth pin	0	0	0	0	0	0	0	0	0	0	
Supplementary information:											
Ambient Temperature (°C)	22		Relative Humidity (rH%)		45		Atmospheric Pressure (hPA)		1024		
							TEST EQUIPMENT ASSET NUMBER:		E-174, E-169, E-057		

15c	TABLE: residual voltage or energy in capacitors					N/A
Capacitor and its location		Residual voltage (V)	Time after disconnection (s)	Capacitance value (μF)	Residual energy (mJ)	Remarks
Supplementary information:						
Ambient Temperature (°C)		Relative Humidity (rH%)		Atmospheric Pressure (hPa)		
				TEST EQUIPMENT ASSET NUMBER:		



17h1	TABLE: defibrillation-proof applied parts					N/A
Test Condition: Fig. 50 or 51	Accessible part of measurement:	Applied part with test voltage	Test voltage polarity	Measured voltage between Y1 and Y2 (mV)	Remarks	
Supplementary information:						
Ambient Temperature (°C)		Relative Humidity (rH%)		Atmospheric Pressure (hPa)		
				TEST EQUIPMENT ASSET NUMBER:		

17h2	TABLE: defibrillation-proof recovery time				N/A
Applied part with test voltage	Test voltage polarity	Recovery time from accompanying documents (s)	Measured recovery time (s)	Remarks	
Supplementary information:					
Ambient Temperature (°C)		Relative Humidity (rH%)		Atmospheric Pressure (hPA)	
				TEST EQUIPMENT ASSET NUMBER:	

18	TABLE: protective earthing					P
Test location			Test current (A)	Measured voltage (V)	Resistance (ohms)	Remarks
Electrical Enclosure			40	1.28	0.032	
Electrical Enclosure Door			40	1.56	0.039	
Supplementary information:						
Ambient Temperature (°C)	22	46		Atmospheric Pressure (hPa)	1024	
				TEST EQUIPMENT ASSET NUMBER:	E-137, E-173	

19	TABLE: leakage current					P
Type of leakage current and test condition (including single faults)	Supply voltage	Supply frequency	Measured max. value uA	Remarks		
ER, B, NC	254	50	22.5	Normal Operation		

ER, B, SFC	254	50	0	S1=0, S5=1	
ER, B, SFC	254	50	23.0	S1=1, S5=0	
EN, B, NC	254	50	22.5	Normal Operation	
EN, B, SFC	254	50	0	S1=0, S5=1, S7=1	
EN, B, SFC	254	50	22	S1=1, S5=0, S7=1	
EN, B, SFC	254	50	184	S1=1, S5=1, S7=0	
EN, B, SFC	254	50	184	S1=1, S5=0, S7=0	
(Record at least maximum measured value for each test required by Clause 19 and the specific conditions of the test circuit and equipment).					
<u>Abbreviations used:</u>					
ER - Earth leakage current EN - Enclosure leakage current P - Patient leakage current PM - Patient leakage current with mains on the applied parts PA - Patient auxiliary current Fig. 15 - refers to Fig. 15 in IEC601-1 MD - Measuring device			A - After humidity conditioning B - Before humidity conditioning 1 - Switch closed or set to normal polarity 0 - Switch open or set to reversed polarity NC - Normal condition SFC - Single fault condition		
Ambient Temperature (°C)	22	Relative Humidity (rH%)	46	Atmospheric Pressure (hPa)	1024
				TEST EQUIPMENT ASSET NUMBER:	E-169, E-137
20	TABLE: dielectric strength				P
Insulation under test (area from insulation diagram)	Insulation type: (OP-operational / BI-basic / SI-supplementary / DI-double / RI-reinforced)		Reference voltage (V)	Test voltage (V)	Remarks
Mains to chassis	BI		230	2121	
Supplementary information:					
Ambient Temperature (°C)	22	Relative Humidity (rH%)	46	Atmospheric Pressure (hPa)	1024
				TEST EQUIPMENT ASSET NUMBER:	E-008

21	TABLE: mechanical strength					P
Part under test		Test (impact, drop, force, handle, rough handling, mobile)			Remarks	
Electrical Enclosure		Impact			P	
Unit		Rough handling, mobile			P	
Supplementary information:						
Ambient Temperature (°C)	22	Relative Humidity (rH%)	46	Atmospheric Pressure (hPA)	1024	
				TEST EQUIPMENT ASSET NUMBER:		

24	TABLE: - stability				P
Part under test		Test condition		Remarks	
Unit		Tilt		P	
Supplementary information:					
Ambient Temperature (°C)	22	Relative Humidity (rH%)	46	Atmospheric Pressure (hPA)	1024
				TEST EQUIPMENT ASSET NUMBER:	

29	TABLE: X - radiation				N/A
Part under test		Test condition		Measured radiation (mR)	Remarks
Supplementary information:					
Ambient Temperature (°C)		Relative Humidity (rH%)		Atmospheric Pressure (hPA)	
				TEST EQUIPMENT ASSET NUMBER:	

42	TABLE: normal temperature					P
Supply voltage:		Test Condition: Normal, continuous operation				
Ambient temperature: 22 °C						
Measuring location	Measured temperature [°C]	Compensated Temperature at 40 °C	Remarks			
Power supply cord at strain relief	23	41				
Solenoid	31	49				
Transformer core	41	59				
Power supply case	36	54				
Pump motor case	41	59				
Drain motor case	38	56				
Supplementary information:						
Ambient Temperature (°C)	22	Relative Humidity (rH%)	46	Atmospheric Pressure (hPA)	1024	
				TEST EQUIPMENT ASSET NUMBER:	E-169, E-009, E-174	
44	TABLE: overflow, spillage, leakage, humidity, ingress of liquids, cleaning, sterilization, disinfection					P
Test type and condition		Part under test			Remarks	
Drain pump disabled, unit overfilled		Electrical connections			Water exits washer and does not contact electrical parts.	
Supplementary information:						
Ambient Temperature (°C)	22	Relative Humidity (rH%)	46	Atmospheric Pressure (hPA)	1024	
				TEST EQUIPMENT ASSET NUMBER:	E-174	
45	TABLE: hydrostatic pressure and pressure-relief device cycling test					N/A
Test type and condition		Part under test		Test pressure	Remarks	
Supplementary information:						
Ambient Temperature (°C)		Relative Humidity (rH%)		Atmospheric Pressure (hPA)		
				TEST EQUIPMENT ASSET NUMBER:		

52	TABLE: abnormal operation				P
Test type, condition and clause reference		Observed results			Remarks
Drain pump disabled		Unit can overfill and water exits unit without contacting electrical parts			P
Supplementary information:					
Ambient Temperature (°C)	22	Relative Humidity (rH%)	46	Atmospheric Pressure (hPA)	1024
				TEST EQUIPMENT ASSET NUMBER:	E-174

56.1	Critical Components			
Object	Manufacturer	Type/model	Technical data	Mark(s) of conformity <sup>1)</sup>
Enclosure	Various	Various	Stainless steel, welded construction, front hinged door. Separate rear electrical cabinet with hinged, locked door.	-
Casters	Various	Various	Four provided, each approx. 10cm, swivel locking.	Tested in application
Power Cord	Various	Various	<HAR>, H05VVF, 300V, 1.5 mm <sup>2</sup> conductors	VDE
Strain Relief	Hubbell	Sch1023	Properly sized for cord and opening, prevented from rotating by shape.	UR, CSA
Terminal Block	Phoenix Contact	Various	Rated minimum 300V	UR, CSA
Transformer	Hammond Mfg.	170SE	230V, 50/60Hz, 50VA; Secondary: 115V, 435mA	CSA
Controller	Air-O-Tronics	MC1002495K1H	120V, 60Hz, Output: 10A	UR, cUR
Relay	JOKE (Omron Electronics)	JQX-76F-BLD-2A	Rated 25A, 300VAC	TUV, UR
Rinse Pump Motor	Anko	800	Rated 230V, 50Hz	UL, CSA
Waste Pump Motor	Anko	800	Rated 230V, 50Hz	UL, CSA
Drain Pump	IWAKE	WMD-30RT-220	10G/min, provided with motor below	-
Drain Pump Motor	Fasco	71623755	230V, 50/60Hz, 0.55A, Class B	UR, CSA
Main Pump Motor	Baldor	34F492-4201G1	110/220V, 50Hz, 11.6/5.8A, 2850 RPM, Class F	CSA
Stop Switch	Idec	J2A20A	Red mushroom actuator, rated 120-600V~, 110-600Vdc, 10A	UL, CSA
Drain Switch	McGill	SEL-SWSS232-BK	Rated 120-240V~, 125Vdc	CSA, RU
Water Valve	Asco	80036	Rated 240, 60Hz	UL, CSA
Interlock Switch	GE	115-6Y-06K	Rated 120V	UR, CSA
Indicator	Allen Bradley	800L	Rated 240VAC, Amber	UL

56.10	TABLE: actuating parts and controls				P
Part under test		Torque applied		Remarks	
Supplementary information: All as part of certified components used within specification.					
Ambient Temperature (°C)		Relative Humidity (rH%)		Atmospheric Pressure (hPA)	
				TEST EQUIPMENT ASSET NUMBER:	

56.11b	TABLE: foot operated control devices-loading					N/A
Part under test			Observed results		Remarks	
Supplementary information: None						
Ambient Temperature (°C)			Relative Humidity (rH%)		Atmospheric Pressure (hPA)	
					TEST EQUIPMENT ASSET NUMBER:	

57.9.1a	TABLE: transformer short circuit					N/A
Winding under test	Protection	Measured temperatures (°C)			Test duration	Remarks
		Primary	Secondary	Ambient		
Supplementary information: Only as part of certified device.						
Ambient Temperature (°C)			Relative Humidity (rH%)		Atmospheric Pressure (hPA)	
					TEST EQUIPMENT ASSET NUMBER:	

57.9.1b	TABLE: overload						N/A
Winding under test	Protection	Measured temperatures (°C)			Test duration	Test current or thermal cutout temp.	Remarks
		Primary	Secondary	Ambient			
Supplementary information: Only as part of certified device.							
Ambient Temperature (°C)				Relative Humidity (rH%)		Atmospheric Pressure (hPA)	
						TEST EQUIPMENT ASSET NUMBER:	



57.9.2	TABLE: transformer dielectric strength				N/A
Transformer under test	Test voltage applied to	Test voltage	Test frequency	Remarks	
Supplementary information: Only as part of certified device.					
Ambient Temperature (°C)		Relative Humidity (rH%)		Atmospheric Pressure (hPA)	
				TEST EQUIPMENT ASSET NUMBER:	

	TABLE: additional tests				N/A
Clause	Test type and condition		Remarks and observed results		Remarks
Supplementary information:					
Ambient Temperature (°C)		Relative Humidity (rH%)		Atmospheric Pressure (hPA)	
				TEST EQUIPMENT ASSET NUMBER:	

## TEST EQUIPMENT LIST

Test Equipment	Manufacturer/Model	Asset Number	Calibration date		Comments
			Last <sup>1</sup>	Due	
Power Source/Analyzer	Associated Power Technology, 5020	E-169	2011.05.24	2012.05.24	
Multimeter	Tektronix, TX-3	E-137	2011.05.18	2012.05.18	
Hygrometer/Thermometer	Control Co, 4185	E-174	2011.02.21	2013.02.21	
Oscilloscope	Tektronix, TDS-340A	E-057	2011.05.31	2012.05.31	
Temperature Measuring	Omega, D3 41-TC	E-009	2011.02.24	2012.02.24	
Clamp on Multimeter	Ideal, 61-768	E-173	2011.07.05	2012.07.05	
Hipot	Associated Research, 3565D	E-008	2010.10.13	2011.10.13	
Force Gage	Shimpo, FGE-100	M-002	2011.04.01	2012.04.01	
1) or interval between calibrations.					



Fig. 1, Front



Fig. 2, Rear



Fig. 3 Internal View, Washing Compartment



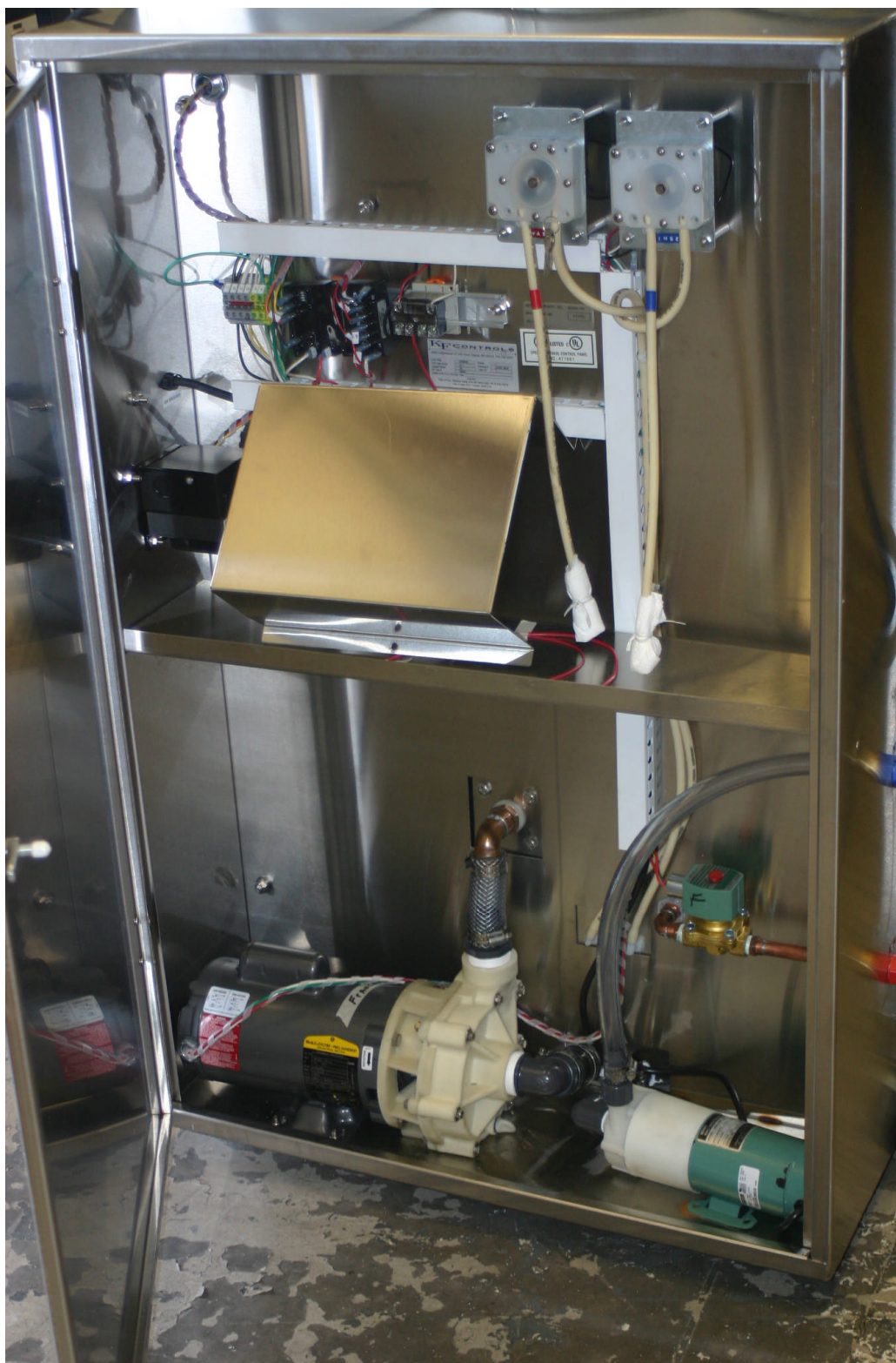


Fig. 4, Internal View, Electrical Compartment

END OF REPORT