⚠ WARNING

Incorrect line fuse, defective device

Risk of electric shock to the patient and medical personnel! Risk of damage to property.

⇨ Blown line fuses may only be replaced by a competent technician. Only replacement fuses that have the same rating as the one specified on the unit's rating plate may be used.

⇨ When a fuse has been changed, the function of the unit must be verified. If the unit does not function properly or if there are any concerns, please contact Erbe.

⚠ WARNING

Damaged device, damaged accessories, modified device, and modified accessories

Risk of burns and injury to the patient and medical personnel! Risk of damage to property.

⇨ Check the device and accessories for damage every time before using them (e.g. footswitch, cords of instruments and the return electrode, equipment cart).

⇨ You must not use damaged equipment or damaged accessories. Replace defective accessories.

⇨ If the equipment or equipment cart is damaged, please contact our customer service.

⇨ For your safety and that of the patient: Never attempt to perform repairs or make modifications yourself. Any modification will invalidate liability on the part of Erbe Elektromedizin GmbH.

⚠ CAUTION

The interconnections of the VIO 3 carry HF voltage when they are activated.

If you touch the interconnections during activation, you can suffer burns.

⇨ You may only remove the cap (1) (fig. below) if you install the VIO 3 on an APC 3.

⇨ Keep the cap in a safe place. If you disconnect the VIO 3 from the APC 3, you must replace the cap on the interconnections.

Fig. 14-1

Access to the power cord

Note: Install the device such that the power cord can be pulled out without problems.

Grounding

Note: If necessary, the equipment can be connected to the external grounding system of the room with the grounding pin on the back of the unit and/or Cart using a connecting cable designed for this purpose. Affects of low frequency leakage currents due to a defective grounding system within the room may be eliminated through external grounding.

Installation of the rear of the VIO 3

Fig. 14-2

Footswitch sockets

You connect a two-pedal and a one-pedal footswitch to these sockets. The combinations of two two-pedal footswitches or two one-pedal footswitches are not possible.

ECB sockets (Erbe Communication Bus)

These sockets serve to connect other units with the VIO 3.

Grounding terminal connection

If necessary, connect the grounding pin of the unit to the grounding system of the operating room using a grounding cable.

Power connection

Connect the unit to a properly installed grounded power outlet. Only use the provided power cord for this purpose. The power cord must bear the national test symbol.

Optionally, you can connect a power cord with V lock. The unit plug locks into the power connection of the VIO 3 and cannot loosen on its own.

Power fuses

The unit is protected with power fuses. If one of these power fuses has blown, the unit may not be used on the patient again until it has been checked by a competent technician. The values of the power fuses are specified on the unit's rating plate. Only spare fuses with these values may be used.

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Installation of the VIO 3 on an overhead suspension arm system

For the installation of the VIO 3 on an overhead suspension arm system, you require fastening set no. 20180-143. Installation instructions are included with the fastening set. Install the VIO 3 according to the installation instructions.

Installation of the VIO 3 on an Erbe equipment cart

Please read the User Manual for the equipment cart concerned. There you will find instructions on how to secure the unit to the equipment cart.

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Chapter 15
Cleaning and Disinfection

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Safety Instructions

⚠ WARNING

Connection of unit / equipment cart and power supply during cleaning and disinfection

Risk of electric shock to the medical personnel!

⇨ Switch off the device. Unplug the power cord of the device/equipment cart.

⚠ WARNING

Flammable detergents and disinfectants, flammable solvents in adhesives used on the patient and on the device / equipment cart

Risk of fire and explosion to the patient and medical personnel! Risk of damage to property.

⇨ Use products that are not flammable.

If the use of flammable products is unavoidable, proceed as follows:

⇨ Allow the products to evaporate completely before switching on the device.

⇨ Check whether flammable liquids have accumulated under the patient, in body recesses such as the navel, or in body cavities such as the vagina. Remove any liquids before performing electrosurgery.

NOTICE

Penetration of liquid into the device

The housing is not absolutely watertight. If liquid penetrates, the device can sustain damage and fail.

⇨ Make sure no liquid can penetrate the device.

⇨ Do not place vessels containing liquids on top of the device.

NOTICE

Alcohol-based spray disinfectant for fast disinfection

In the case of elastic molded parts and paint surfaces, there is a risk of formation of cracks. Propanol and ethanol will attack the surfaces.

⇨ Do not use these substances.

NOTICE

Alternate use of disinfectant solutions based on different active ingredients

A color reaction may occur with plastics.

⇨ Do not use these substances alternately.

Wipe disinfection

For cleaning and disinfecting the surfaces of the unit or of the equipment cart, Erbe recommends a wipe disinfection. Use only disinfectant which complies with the relevant national standards.

Instructions for cleaning and disinfection

Mix the disinfectant in the concentration specified by the manufacturer.

Clean surfaces contaminated with blood before using the disinfectant; otherwise it may be less effective.

Wipe the surfaces. Make sure the surfaces are treated uniformly. Comply with the action time of the disinfectant specified by the manufacturer.

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Chapter 16
Messages

A message consists of a title, a message text and a code. The VIO system displays three different types of messages:

a) Messages that prompt you to inform Technical Service, as the VIO 3 or a VIO module (e.g. APC 3) cannot be used. These messages are not listed individually in the User Manual, because the messages only differ in their code. The title and the message text are all identical: **Note:** The unit cannot be used. Please contact the service department.

b) Status messages.

c) Messages that prompt you to take action.

Messages of categories **b)** and **c)** are found in the following table. The messages are sorted alphabetically by their code.

Code	Title	Message text
G-A-75	**High unit temperature**	The unit has overheated. Activation may only be repeated once the unit has cooled down. Please contact the service department.
I-A-30 to I-A-33	**Faulty instrument**	The instrument is faulty and cannot be used.
I-A-34	**Check connection**	Make sure that the instrument cable is correctly connected to the instrument and to the unit. If the connection is correct, then the instrument is faulty and cannot be used.
I-A-35	**Faulty socket or instrument**	A faulty connector may have been connected at the marked socket. Remove the connector from this socket. If the problem persists, contact the service department.
I-A-36	**Monopolar socket**	A faulty connector may have been connected at the marked socket. Remove the connector from this socket. If the problem persists, contact the service department.
I-A-37	**Bipolar socket**	The marked socket may be faulty. Remove the connector from this socket. If the problem persists, contact the service department.
I-A-40	**Button pressed**	A button was pressed while plugging the instrument. Insert the instrument without pressing a button. If the problem persists, replace the instrument. Otherwise, please contact the service department.

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Code	Title	Message text
IES-A-20	**IES smoke evacuator**	The IES smoke evacuator has overheated. The module cannot be used. Please contact the service department.
IES-A-21	**IES smoke evacuator**	The IES smoke evacuator has not yet acclimatized. The module can not yet be used.
IES-A-23	**Filter cartridge used up**	Replace the filter cartridge of the IES evacuator.
IES-A-24	**High suction resistance**	Make sure that the suction hose is free from blockages. Remove the protective cap or replace the filter.
IES-A-25	**Filter cartridge not detected**	Make sure that the filter cartridge has been correctly inserted.
M-A-1	**No tissue effect**	The hand trigger has been pulled during activation. Release the hand trigger and repeat activation.
M-A-2	**No tissue effect**	Tissue contact is not sufficient for sealing. Ensure that there is sufficient tissue between the jaws of the instrument. Grip the tissue again if required.
M-A-10	**No tissue effect**	Repeat activation and quickly guide the loop towards the tissue.
M-A-11	**No tissue effect**	Ensure that saline solution is used as the irrigation solution. Activate the instrument in the saline solution. Check the cable and the connections.
M-A-20	**Excessive power**	An excessive level of power was output. Guide the instrument quickly to the tissue. If possible, switch off the QuickStart function.
N-A-48	**Return electrode monitoring**	Which return electrode type have you just connected? Split return electrode Non-split return electrode Information on split and non-split return electrodes
N-A-49	**Return electrode monitoring**	Monitoring cannot detect any contact of a return electrode with the skin. If you have connected a return electrode: Check the cable for damage. Make sure that the contact strip is correctly positioned in the connecting terminal. Make sure that the plug of the return electrode cable is correctly inserted in the unit.

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Code	Title	Message text
N-A-50	**Return electrode monitoring**	Which return electrode type have you just connected? Split return electrode Non-split return electrode Information on split and non-split return electrodes
N-A-51	**Return electrode monitoring**	Check return electrode! The skin contact of the return electrode is not sufficient. Make sure that the complete surface of the return electrode is fully attached without any creases. The skin beneath the return electrode must be dry, and free of oil and hair. Check the cable for damage. More information is provided in the User manual.
N-A-52	**Return electrode monitoring**	Check the alignment of the return electrode! The current is not distributed evenly over the surface of the return electrode. Make sure that the long side of the return electrode faces towards the operating field. Make sure that the complete surface of the return electrode is fully attached without any creases. Check whether the return electrode supports NESSY symmetry monitoring.
N-A-53	**Return electrode monitoring**	Check connection! Very low electrical resistance. Check the cable for damage. Make sure that a split return electrode is connected.
N-A-54	**Return electrode monitoring**	The connection between the return electrode and the unit is faulty. Check the cable for damage.
N-A-55	**Return electrode monitoring**	Which return electrode type have you just connected? Split return electrode Non-split return electrode Information on split and non-split return electrodes

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Code	Title	Message text
N-A-190	**Return electrode monitoring**	Check the alignment of the return electrode! The current is not distributed evenly over the surface of the return electrode. Make sure that the long side of the return electrode faces towards the operating field. Make sure that the complete surface of the return electrode is fully attached without any creases. Check whether the return electrode supports NESSY symmetry monitoring.
I-A-191 and I-A-192	**Return electrode monitoring**	A higher temperature is possible under the return electrode! Activate for as brief a period as possible. Reduce the effect setting if the situation permits.
S-A-18	**High power output**	High output power was registered over a long period. Strong heat was applied to internal components. Activation may only be repeated once the unit has cooled down.
S-A-19	**Maximum activation time**	The maximum activation time has been reached. You can adjust the duration in the "Protected Settings".
S-A-21	**High unit temperature**	The unit has overheated. Activation may only be repeated once the unit has cooled down.
S-A-22	**Incompatible module**	An incompatible module was connected to the system. Disconnect this module from the system or contact the service department.
S-A-23	**Incompatible module**	An incompatible module was connected to the system. Disconnect this module from the system or contact the service department.
S-A-24	**Contact detected**	You have assigned AUTO START to an instrument. The unit has already detected contact with this instrument. Do not touch any tissue during assignment. If there is no contact, check the cable and the instrument for damage.
S-A-29 and S-A-30	**Disconnect the footswitch**	You have connected two identical footswitches. It is only possible to connect one two pedal footswitch and one one pedal footswitch in each case. First disconnect both footswitches from the unit.
S-A-31	**Internal module**	A modification to the internal module configuration has been detected. Check whether all configured modules in the system have been correctly detected. Confirm correct configuration at the service level.
S-A-40	**Pedal pressed**	A pedal on the two-pedal footswitch was pressed during startup. Do not press any pedal. If the error persists, replace the footswitch.

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Code	Title	Message text
S-A-41	**Pedal pressed**	A pedal on the one-pedal footswitch was pressed during startup. Do not press any pedal. If the error persists, replace the footswitch.
S-A-129	**High unit temperature**	The unit has heated up considerably. Activate for as brief a period as possible. Reduce the effect setting if the situation permits. If the temperature continues to rise, you may no longer be able to use the unit.
S-A-130	**Incompatible instrument**	An incompatible instrument was connected to the system. Disconnect this instrument from the system or contact the service department.
S-A-149	**Two pedals pressed**	You have pressed both pedals of the two-pedal footswitch at the same time. Release the pedals. If the error persists, replace the footswitch.
S-A-150	**Check date / time**	The date and time may not have been set correctly. Check the settings in the menu.
S-A-154	**Footswitch not assigned**	You have activated a footswitch that is not assigned to an instrument.
S-A-155	**No mode set**	You have attempted to activate an instrument for which no mode has been set. Select a mode and an effect.
S-A-156	**End activation**	Interrupt activation and grip the tissue again.
S-A-157	**Instrument not connected**	You have activated a footswitch that is assigned to an instrument. However, the instrument is not connected to the unit. Connect the instrument to a socket.
S-A-166	**APC 3 argon plasma module**	The argon plasma module APC 3 is not ready for operation. Open the valve of the argon gas bottle. Ensure that the gas hose and the sensor cable of the pressure regulator are connected at the rear of the APC 3 argon plasma module.
S-A-200	**Smoke evacuator detected**	The IES 2 smoke evacuator was detected by the system and can be used.
S-A-201	**Smoke evacuator disconnected**	The IES 2 smoke evacuator was disconnected from the system.
U-A-7	**Line voltage too low**	Please contact the service department if the error continues to occur.
U-A-132	**Program memory full**	The maximum number of programs has been reached. Delete programs that you no longer need in order to save new ones.
U-A-133	**Remote control detected**	VIO 3 is connected with a remote control. Unit settings can be modified using this remote control.
U-A-134	**Remote control disconnected**	VIO 3 was disconnected from the remote control.

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Code	Title	Message text
U-A-135	**Modification not possible**	No other mode can be selected for this instrument.
U-A-136	**Data transfer active**	Data is being transferred to the VIO 3. The unit cannot be used at this time.
U-A-137	**Safety check**	The regular safety check is due. Please contact the service department.
U-A-138	**Assign activation type**	The newly-connected instrument cannot be activated. Assign either the footswitch or AUTO START to the instrument.

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Chapter 17
General Technical Data

Power connection	
Rated supply voltage	100 – 120 VAC (±10%) / 220 – 240 VAC (±10%) /
Rated supply frequency	50 Hz / 60 Hz
Line current (averaged)	max. 6.3 A / 2.5 A
Power input in standby mode	< 30 watts
Power input with max. HF output	550 watts
Max. pulse power consumption	1600 watts
Terminal for grounding (potential equalization)	yes
Power fuses	T 6.3 A H / 250 V

Operating mode	
Intermittent operation	25% activation time (e.g. activated for 10 sec. / deactivated for 30 sec.)

WiFi	
WiFi	yes (deactivated as standard)

Dimensions and weight	
Width x height x depth	415 x 215 x 375 mm
Weight	12 kg
Display size	10.4 inch

Ambient conditions for transport and storage of unit	
Temperature	-30°C to +70°C
Relative humidity	10% – 90%
Air pressure	540 hPa - 1060 hPa

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Ambient conditions for operation of the unit	
Temperature	+10°C to +40°C
Relative humidity	15% - 80%, non-condensing
Air pressure	540 hPa - 1060 hPa

Acclimatizing
If the unit has been stored or transported at temperatures below +10 °C or above +40 °C, the unit will require approx. 3 hours to acclimatize at room temperature.

Standards	
Classification according to EC Directive 93/42/EEC	II b
Protection class as per EN 60 601-1	I
Type as per EN 60 601-1	CF

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Chapter 18
Information on electromagnetic compatibility (EMC)

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Where EMC is concerned, medical electrical equipment is subject to special safety measures and must be installed and commissioned according to the EMC instructions stated herein.

Guidelines for avoiding, recognizing and rectifying unwanted electromagnetic effects on other equipment or systems, which are the result of operating the VIO system.

When VIO electrosurgical units are activated, disturbance of other equipment or systems in the immediate vicinity can occur. This can be recognized as, for example, image artifacts in imaging devices or unusual fluctuations in measured value displays.

Such disturbances from an activated electrosurgical unit can be reduced by placing it further away and/or carrying out suitable shielding measures on the equipment or system experiencing disturbance.

When the VIO electrosurgical unit is in the non-activated state, interference with other equipment in the immediate vicinity does not occur.

NOTICE

Use of non-approved internal cables by Technical Service

This can result in the increased emission of electromagnetic waves or reduce the immunity of the device.

The unit may fail or not perform properly.

⇨ Technical Service may only use the internal cables that are listed in the service manual for the device.

NOTICE

Stacked devices

If you stack the device next to other equipment or with other equipment, the devices can affect each other.

The unit may fail or not perform properly.

⇨ The device may only be stacked next to or with VIO series units.

⇨ If it is necessary to operate the device near other equipment or stacked together with other equipment, check whether the devices are affecting each other: Are the devices behaving unusually? Do errors occur?

Guidance and manufacturer's declaration - electromagnetic emissions

The equipment is intended for use in the electromagnetic environment specified below. The customer or the user of the equipment should ensure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment - guidance
HF emissions CISPR 11	Group 1	The equipment or system uses HF energy only for its internal function. Therefore its HF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
HF emissions CISPR 11	Class A	The unit is suited for use in environments other than domestic areas and in ones directly connected to a public power supply system that also supplies buildings being used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration - electromagnetic immunity

The equipment is intended for use in the electromagnetic environment specified below. The customer or the user of the equipment should ensure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with non-conductive synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 s	<5% U_T (>95% dip in U_T) for 0.5 cycle 40% U_T (60% dip in U_T) for 5 cycles 70% U_T (30% dip in U_T) for 25 cycles <5% U_T (>95% dip in U_T) for 5 s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the equipment requires continued operation during power mains interruptions, it is recommended that the equipment be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

Note: U_T is the a.c. mains voltage prior to application of the test level.

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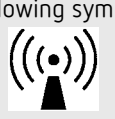
Guidance and manufacturer's declaration - electromagnetic immunity			
The equipment is intended for use in the electromagnetic environment specified below. The customer or the user of the equipment should ensure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
			Portable and mobile HF communications equipment should be used no closer to any part of the equipment, including cables, than the recommended separation distance. The separation distance is calculated from various equations depending on the frequency of the portable and mobile HF communications equipment:
			Recommended separation distance
Conducted HF IEC 61000-4-6	3 V_{rms} 150 kHz to 80 MHz	3 V_{rms}	Equation 1) $d=1.2\ P^{1/2}$
Radiated HF IEC 61000-4-3	3 V/m 80 MHz to 800 MHz	3 V/m	Equation 2) $d=1.2\ P^{1/2}$
	3 V/m 800 MHz to 2.5 GHz	3 V/m	Equation 3) $d=2.3\ P^{1/2}$
			P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. *d* is the recommended separation distance in meters (m). Field strengths from fixed transmitters, as determined by an electromagnetic site survey[a)] should be less than the compliance level in each frequency range[b)]. Interference may occur in the vicinity of equipment marked with the following symbol: 

Guidance and manufacturer's declaration - electromagnetic immunity

Note 1: At 80 MHz equation 2) applies. At 800 MHz equation 3) applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a) Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed HF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the equipment is used exceeds the applicable compliance level above, the equipment should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the equipment.

b) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile HF communications equipment and the equipment

The equipment is intended for use in an electromagnetic environment in which radiated HF disturbances are controlled. The customer or the user of the equipment can help prevent electromagnetic interference. This can be achieved by maintaining the minimum distance recommended below between the communications equipment (transmitters) and the equipment. The minimum distance depends on the maximum output power and the frequency of the communications equipment.

Rated maximum output power of transmitter (W)	**Separation distance according to frequency of transmitter (m)**		
	150 kHz to 80 MHz $d=1.2\ P^{1/2}$	**80 kHz to 800 MHz** $d=1.2\ P^{1/2}$	**800 MHz to 2.5 GHz** $d=2.3\ P^{1/2}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance can be determined using the equation applicable to the frequency of the transmitter. P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note 1: An additional factor of 10/3 is used in calculating the recommended separation distance for transmitters in the frequency bands between 80 MHz and 2.5 GHz to decrease the likelihood that mobile/portable communications equipment could cause interference if it is inadvertently brought into patient areas.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

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Chapter 19
WiFi explanations

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Explanation on compliance with FCC Rules

Applies for the USA and all countries oriented toward FCC certification.

This device is compliant with the RSS radio standard from Industry Canada for license exempt devices, as well as Part 15 FCC Rules. Operation is subject to the following two conditions: (1) The device must not cause any interference and (2) the device must accept all interference, even interference that could cause undesired operation. Changes or modifications not expressly approved by the parties responsible for compliance could void the user's authority to operate the equipment.

FCC:2AGEM-VIO3

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Explanation on compliance with IC Rules

Applies for Canada.

This device is compliant with the CNR regulations from Industry Canada applicable for license exempt devices. Operation is subject to the following two conditions: (1) The device must not cause any interference and (2) the device must accept all radio frequency interference, even interference that could impair operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC:20687-VIO3

Chapter 20
Maintenance, Customer Service, Warranty, Disposal

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Maintenance

Modifications and repairs

Modifications and repairs must not impair the safety of the equipment or equipment cart and accessories for the patient, user and the environment. This condition is met when changes to the structural and functional characteristics are not detrimental to safety.

Authorized persons

Modifications and repairs may only be undertaken by Erbe or by persons expressly authorized by Erbe. Erbe accepts no liability if modifications and repairs to the unit or accessories are made by unauthorized persons. This will also invalidate the warranty.

Technical safety checks

The technical safety checks determine whether the safety and operational readiness of the unit or the equipment cart and accessories conform to a defined technical required status. Technical safety checks must be performed at least once a year.

What technical safety checks must be performed?

For this device the following technical safety checks have been stipulated:

- Checking of labels and User Manual
- Visual inspection of unit and accessories for damage
- Testing the grounded conductor as per EN 62353
- Leakage current testing as per EN 62353
- Measurement of DC resistance
- Functional testing of all the unit's operating and control elements
- Testing footswitch and fingerswitch activation
- Testing instrument and connector detection
- Testing the automatic start mode
- Measurement of the HF peak voltage for sinusoidal and modulated modes
- Measurement of the output power in the CUT and COAG operating modes
- Testing the monitoring circuits (monitoring equipment)

The results of the safety checks must be documented.

If during the safety checks any defects are found which might endanger patients, staff or third parties, the device may not be operated until the defects have been remedied by competent service technicians.

Customer service

If you are interested in a maintenance contract, please contact Erbe Elektromedizin in Germany, or your local contact in other countries. This may be an Erbe subsidiary, an Erbe representative or a distributor.

Warranty

The General Terms and Conditions or the conditions of the purchase contract apply.

Disposal

Your product bears a crossed-out garbage can icon (see image). Meaning: In all EU countries this product must be disposed of separately in accordance with the national laws implementing EU Directive 2002/96/EC of January 27, 2003, WEEE.

In non-EU countries the local regulations must be observed.

If you have any questions about disposal of the product, please contact Erbe Elektromedizin or your local distributor.

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