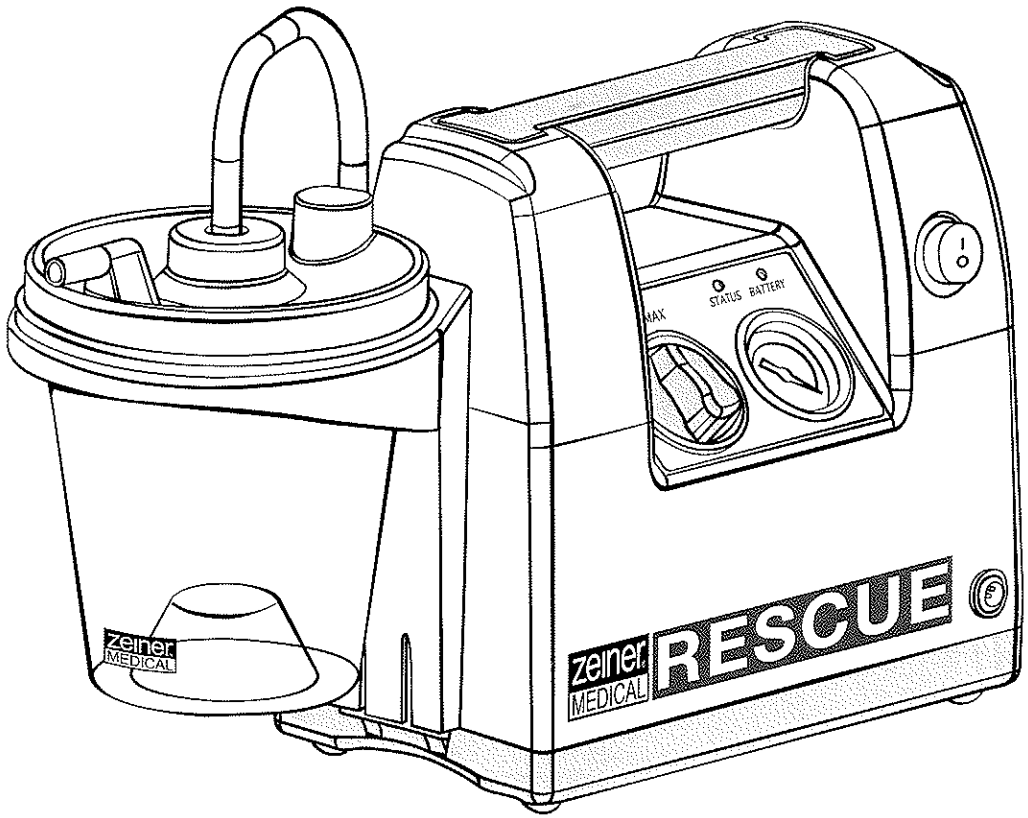
zeiner®
MEDICAL

CON REGOLATORE DI FLUSSO E VACUOMETRO
WITH FLOW REGULATOR AND VACUOMETER

RESCUE

ASPIRATORE MEDICALE PER IL PRIMO SOCCORSO

FIRST AID MEDICAL SUCTION UNIT



ISTRUZIONI PER L'USO / INSTRUCTION MANUAL

INDEX

SYMBOLS

I On

O Spento

DC

~ Alternating current

Type B

Warning

Pump

suction

Class II

Carefully read instructions

Correct disposal of the product (electric and electronic parts)

(Applicable in the countries of the European Union and in countries with differentiated collection systems)

The symbol printed on the product or on the documentation indicates that the product is in compliance with the regulations on electrical and electronic equipment and must not be disposed of with household waste. The user is responsible at the end of the equipment life for taking it to the appropriate collection sites, under penalty of the sanctions provided for by current legislation on waste. For more detailed information relative to the collection systems available please contact the local waste disposal service.

Temperature

RH Humidity air

P Atmospheric Pressure

CE 0123 In conformity with the European Community Directive 93/42/EEC

IMPORTANT WARNINGS

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When using electrical devices, especially around children, it is always necessary to adopt certain basic safety measures. Read all the instructions before use. The important information is emphasized by the following terms:
DANGER - Essential safety information to avoid the risk of serious injuries or death.
ATTENTION - Important safety information to avoid the risk of serious injuries.
WARNING - Information to avoid damaging the product.
NOTE - Information to which particular attention must be paid.
READ ALL THE INSTRUCTIONS BEFORE USE.

KEEP THESE INSTRUCTIONS

⚠ **To avoid risk of electrocution:**

1. Do not use the device in the bathroom.
2. Do not place the device in places where it could fall to the ground or in a sink.
3. Do not allow the device to come into contact with liquids.
4. Do not touch the device if it has come into contact with water. Disconnect immediately from the mains network.
5. Never immerse the device in water.
6. Do not touch the device with wet or damp hands.
7. Do not leave the device exposed to the weather.
8. Do not pull the power cord or the device itself to detach the plug from the power socket.

⚠ **To avoid the risk of burns, electrocution, fire or personal injuries:**

If the device is to be used by disabled persons or adolescents careful supervision is necessary.

2. Use the device only for the purpose provided for in the instructions, described in this manual.
3. Never use the device in the following cases:
   a – the cable or the power socket show signs of damage.
   b – the device does not work properly.
   c – the device shows signs of damage or has been dropped.
   d – the device has come into contact with water.

In this case, take the device to a Zeiner service centre for eventual repair.

4. Keep the power cable away from sources of heat.
5. Before connecting the power plug, make sure that the electrical data, provided on the rating plate on the bottom of the power source, correspond to those of the power mains.
6. If the plug provided with the device is not compatible with the socket of the mains network, apply to qualified personnel for the replacement of the plug with another suitable one. In general, the use of adaptors, simple or multiple, and/or extension cords is not recommended. Should their use be indispensible, it is necessary to use those that comply with safety standards, making sure not to exceed the maximum limits allowed, which are indicated on the adaptors and the extension cords. Do not leave the device plugged in if not necessary: detach the plug from the power network when the device is not in use.
7. Installation must be done in compliance with the instructions of the manufacturer. Incorrect installation can cause harm to persons, animals or things, for which the manufacturer cannot be considered responsible.
8. The power cord of this device must not be replaced by the user. If the cord is damaged, turn to a technical service centre authorized by the manufacturer for its replacement.
9. We recommend unwinding that the whole power cord be unwound, to avoid dangerous overheating.
10. Before any cleaning and/or maintenance operation, turn off the device and unplug it.
11. Some components of the device are very small and could be swallowed by children or disabled individuals; therefore keep the device out of the reach of children and disabled persons.
12. Do not use the device near anaesthetic or inflammable mixtures which, when coming into contact with the air, oxygen or nitrous oxide could be flammable.
13. The operation of the device could be compromised by Electromagnetic inference exceeding the limits set by the European standard EN 60601-1-2. See Appendix A - Manual and statements of the manufacturer.
14. In case of failure and/or poor operation of the device, turn it off; do not tamper with it; never open the compressor housing. Failed compliance with the above can compromise the safety of the device.
15. For repairs please apply exclusively to a technical service centre authorized by the manufacturer and request that original spare parts be used. Failed compliance with the above can compromise the safety of the device.
16. If the device is no longer going to be used, dispose of it in compliance with the current regulations. As for disposal of the contaminated parts, always refer to the local laws, standards and provisions. Never store the contaminated parts together with the new and/or sterile ones.
17. In case of failure or damage of the power supply only replace with original power supply units. The use of a incompatible power supply unit may alter performance and not guarantee the product safety conditions.
18. Do not use the device if drowsy or when sleeping.
19. Never obstruct the air intakes.
20. The use of this device on children and disabled persons always requires careful supervision by an adult with full mental faculties.
21. Only use original accessories and components

NOTE - The Zeiner RESCUE Model Cod. 90818 is equipped with a rechargeable battery and therefore is suitable for all the applications described in this manual.

⚠ **The Zeiner aspirator is a medical device for electrical suction designed exclusively for the collection of non-inflammable fluids during emergency medical service of first aid, home health care and in fixed and/or mobile hospital centres.**
The improper use of the device during the execution of the medical procedures can cause injuries or death. For all medical applications:

1. The suction must be performed in strict compliance with the procedures indicated by the authorized health professional.

2. Some connections or accessories can be unsuitable for the pipes provided. All connections and accessories must be tested before use in order to verify their appropriate coupling.

⚠ **The device must not be used for chest drainage and for pharyngeal suction. Use the device only as described in this manual and following your physician's instructions. Any use other than that for which the device is intended is considered improper and therefore dangerous; the manufacturer cannot be considered responsible for damage caused due to improper, incorrect and/or unreasonable use or if the device is used with electrical systems not in compliance with current safety standards.**

⚠ **The device is not suitable for use in the presence of anaesthetic mixtures inflammable in contact with air, or oxygen or nitrous oxide.**

USE ABROAD

The Zeiner RESCUE model is provided with a switching power supply that Allows the device to be used with a vast range of AC feeder voltages (100 - 240 VACS, 50/60 Hz). However, it is necessary to have the feed cable suitable for the type of electrical socket.
NOTE - Before using, verify the adequacy of the power connection cable.

INTRODUCTION

The Zeiner RESCUE aspirator is a reliable, portable medical suction device.
Thanks to its small size, lower weight and DC supply, the aspirator Zeiner RESCUE is ideal for performing suction operations at home or during transfer by using the optional DC power connection cable or the battery. Two optional collection vials allow the choice of using either the standard 800 ml disposable jar or the reusable 1200 ml jar. The correct application of the use and maintenance procedures provided in this manual will extend to the maximum the life of the device.

BASIC PARTS OF THE ASPIRATOR Zeiner RESCUE (see Fig. A)

Pos	Description	Standard on models:
1	On/Off Switch	All models
2	Vacuum Gauge	All models
3	Flow Regulator	All models
4	Jar holding flange	All models
5	Disposable 800 ml fluid collection jar	All models
6	Suction pump connecting tube	All models
7	Suction probe connecting tube	All models
8	Device Status Indicator	All models
9	Battery Status Indicator	All models
10	Power Socket	All models
11	Hydrophobic Protection Filter	All models
12	Suction Fitting	All models
13	Multiuse 1200 ml jar cover	optional
14	Multiuse 1200 ml jar	optional
15	Suction Pump Fitting	optional
16	Suction Probe Fitting	optional
17	Top Gasket	optional
	Cigarette Lighter Power Adaptor (not shown)	All models
	Ni- MH Batteries (not shown)	All models
	Power Supply Unit (not shown)	All models
	Carrier Bag (not shown)	All models

NOTE – This device complies with the standards of electromagnetic compatibility defined in the attached declaration of compliance.

PREPARATIONS

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1. After having removed the device from the package, check that there are no signs of Visible damage; pay particular attention to cracks in the plastic housing that could leave some electrical components exposed.
2. Verify the integrity of the accessories.
3. Before using the device, clean as described in the Chapter "CLEANING AND DISINFECTION OF THE ACCESSORIES".
4. Place the collection jar (5) in the appropriate Jar Holding Flange (4).
5. Connect one end of the pump connection tube (6) to the hydrophobic filter of protection (11), then connect this to the suction fitting (12); connect the other end of the tube at the legend VACUUM on the cover of the collection jar (5) provided.
6. Connect one end of the probe connection tube (7) to the cover of the collection jar (5) at the legend PATIENT.
7. Before use verify that all the connections are tightened and have no leaks.
8. Before starting the suction operation on the patient verify that the device is adjusted to the appropriate suction level.

The procedure described above must be followed if the standard disposable 800 ml jar Is used; if the 1200 ml reusable jar is going to be used replace points 5 and 6 of this paragraph with the following:

5. Close the cover tightly with connections (13) on the fluid collection jar (14) by turning it clockwise so that it is perfectly sealed.
6. Connect the tubes by following the diagram in Figure B.
   - Suction pump connection tube (6): connect one end to the hydrophobic filter (11), the other end to the connection (15) located on the cover of the jar, indicated with the specific symbol ⟵◯ .
   - Suction probe connecting tube (7): connect one end to the connection on the cover (16) indicated with the specific symbol ◯⟵ ; connect the other end with the white double cone coupler to the suction probe.

USE OF THE ZEINER RESCUE ASPIRATOR

Before connecting the device to the AC adaptor or the optional 12V DC power supply cable verify that the ignition switch located on the front of the unit is in the turned off "**O**" position. Check that the electrical data, given on the rating plate of the original power supply unit of Zeiner Medical RESCUE correspond to those of the mains. Insert the plug of the power supply unit into the appropriate socket located on the front of the device (Figure A). Select the source of power supply desired.

LED Instructions:
The LED located on the panel of the device indicate the battery charge status - LED near the legend BATTERY (9) – and the status of the device – LED near the legend STATUS (8). In detail when:
LED BATTERY is lit fixed orange and LED STATUS is turned off the battery of the device is charging.

LED BATTERY is lit fixed green and LED STATUS is turned off the battery of the device has completed charging.

LED BATTERY is flashing orange and the LED STATUS is lit fixed green the battery of the device is discharging; use another source of power supply and recharge the battery as soon as possible.

LED BATTERY is turned off and LED STATUS is green the device is working properly.

LED BATTERY is turned off and LED STATUS is red the thermal relay of the motor has stopped the device; in this case turn the switch to O and wait 40 minutes before restarting the device.

AC POWER SUPPLY - Connect the original power supply unit of Zeiner Medical RESCUE to the mains socket. Insert the plug of the power supply unit into the appropriate socket located on the front of the device.

NOTE - The power supply unit can be hot to the touch during charging or operation of the unit. This is normal.

12C DC POWER SUPPLY - (for example car cigarette lighter). Insert the small connector of the DC power supply cord to the DC input connector located on the front of the unit. Insert the large connect to the 12V DC power supply socket of the car.

BATTERY POWER SUPPLY - Check that the device is equipped with rechargeable battery inside; the battery is installed standard on the Zeiner RESCUE Model Cod. 90818. To guarantee the correct operation with battery supplied power, completely charge the battery for 5 hours as described in the section 'CHARGING THE BATTERY". To use the device with internal battery supplied power, check that the device is not connected to sources of outside supply through the AC connection located on the unit.

After selecting the source of power supply, start the device with the switch located on the front of the device taking it to the on "**I**" position.

⚠ The device has been designed for an intermittent use **20 minutes on / 40 minutes off.**

⚠ **If the unit does not receive voltage from an outside source or the battery is discharged and the performance of the unit drop rapidly. Immediately use another source of power supply to avoid interrupting the suction procedure.**

Adjust the vacuum level by turning the flow regulator knob (3) located on the front panel of the unit (clockwise to increase the suction level, counterclockwise to reduce it). The desired level of vacuum can be seen on the vacuum gauge located on the front of the device under the handle.

NOTE - The instrument provides a purely indicative measurement. In case of violent blows, the accuracy of the measurement given by the instrument must be checked.

For minor suctions we recommend pouting into the fluid collection jar (5) provided about 400 ml of water before starting suction. This will make the suction faster.

The fluid aspirated is conveyed through the suction probe to the fluid collection jar (5) after a few seconds.

WARNING - If the fluid in the jar exceeds the maximum capacity of the container, the appropriate overflow valve will stop them. suction. Immediately turn off the device by pressing the switch and taking it to the "**O**" position. In case of malfunction of the overflow valve and overflow of fluid, turn off the device by pressing the "**O**" switch and apply to an authorized centre before using again.

WARNING - We recommend removing the device and sending it for maintenance in the event liquids or solids were sucked into the vacuum pump.

NOTE - When transporting the unit, turn the adjustment knob of the vacuum completely clockwise to avoid damaging it in case it is accidentally dropped.

Once the treatment has been completed, set the switch to the "**O**" position and remove the plug from the mains (if the power supply unit is used).

Immediately drain the jar and clean and sanitize the accessories as described in the Chapter "CLEANING AND DISINFECTION OF THE ACCESSORIES".

CLEANING AND DISINFECTION OF THE ACCESSORIES

When finished using the device, turn it off, disconnect the disposable parts (disposable 800 ml jar) and dispose them. Always verify the integrity of the device at the end of each use, check the connection tubes, check the hydrophobic filter and eventual structural abnormalities (broken and/or deformed box, vacuum regulator knob, etc.). Start the cleaning and disinfection of the device, replace and the disposable parts.

NOTE - In order to avoid the risk of cross-contamination PPE (Personal Protection Equipment) must be used during cleaning and disinfection operations.

800 ml disposable jar

1. After turning the device off, wait for the vacuum level to go down.
2. Disconnect the silicone tubes from the cover of the jar.
3. Remove the jar from the support and dispose of it.

NOTE - The 800 ml disposable jar that comes with the device must always be disposed of at the end of every application in compliance with local laws, regulations and dispositions relative to the disposal of the contaminated parts.

NOTE - The 800 ml disposable collection container and relative cover must be used for only one patient.

1200 ml reusable jar (optional)

1. After turning the device off, wait for the vacuum level to go down.

2. Disconnect the silicone tubes from the cover of the jar.
3. Remove the jar from the support.
4. Unscrew the cover (13) from the jar (14).
5. Remove the gasket of the cap (17).
6. Empty and dispose of the contents of the collection jar in accordance with what is provided by the local laws and regulations.
7. Immerse the various parts in cold running water and rinse well.
8. Immerse the same parts in hot water at a temperature not above 60°C containing a gentle detergent without alcohol.
9. Wash thoroughly and if necessary use non abrasive brushes to remove eventual encrustations.
10. Rinse with hot running water (30-40°C) and dry all the parts with a soft absorbent cloth.
11. Sterilize the fluid collection jar (14) and the gasket of the cap (17) by boiling or in autoclave (max. 121°C for the necessary time please refer to the instructions of the autoclave used); the jar must be inserted in the autoclave upside down (with the bottom facing up).
12. Sterilize the cover with connectors (13) with cold disinfectant liquids (specific solutions containing hypochlorite) which can be obtained at the Pharmacy.
13. At the end of the sterilization cycle allow the pieces autoclaved or boiled to cool to room temperature, check their integrity and reassemble the jar.

WARNING - Never use undiluted disinfectants.
WARNING – Never use coloured disinfectants which could corrode the plastic of the jar, reducing the transparency (i.e. Betadine).
WARNING – Never exceed a temperature of 60°C for cleaning and disinfection operations.
WARNING – All disinfection and/or sterilization operations must be performed by qualified personnel.
WARNING – Do not place weight on the parts during the cycle of sterilization.
WARNING – Do not boil or autoclave the cover with connectors (13).

NOTE - At the end of the reassembly operations always make sure that the cover is completely closed to avoid losses of vacuum and fluid overflows.

Tubes

1. After turning the device off, wait for the vacuum level to go down.
2. Disconnect the silicone tubes from the cover of the jar.
3. Thoroughly rinse the tube after every use in hot water and let it air dry.
4. Sterilize the tubes by boiling or in autoclave (max. 121°C for the time necessary refer to the instructions of the autoclave used).

Hydrophobic Filter

1. The hydrophobic filter (11) must be replaced after every 10 hours of operation or in case of saturation and with the original type.
2. Remove the filter by disconnecting it from the suction/cover unit.
3. Replace with a ZEINER non sterile hydrophobic filter and reassemble in the suction unit. Additional filter may be purchased from the Medel authorized dealer.

NOTE - Do not use other materials as replacement of the hydrophobic filter. Otherwise there could be risks of contamination or decline in performance: use only ZEINER filters.
NOTE – Do not boil or autoclave the hydrophobic filter.
NOTE – Replace ALL the accessories, including the silicone tubes (6,7), if being used for

another patient.

Aspirator

1. With the main switch in the off position "**O**", disconnect the ZEINER aspirator from the eventual source of outside power supply.
2. Clean the unit with a clean damp cloth with gentle detergents (like the one used for dishes and delicate clothes).
3. Rinse the parts with a cloth soaked in only cold water and dry them with a dry cloth.

WARNING - Do not immerse the device in water because it could damage the suction pump.

THERMAL RELAY

The motor of the device has a thermal relay that intervenes when it reaches excessive temperatures. If this occurs, turn the device off by turning the switch toward the "**O**" position and allow the motor to cool for at least 40 minutes.

CHARGING THE BATTERY

The Zeiner RESCUE Model Cod. 90818 is equipped standard with a rechargeable inside.
To charge the battery, only use the power supply unit or the car adaptor provided with Zeiner RESCUE. Using power supply units or cables that are not original may cause damage to the battery pack and/or persons.
If the charging operation and/or the start-up of the batteries are not successful, turn the device off. In case problems persist with the charging of the batteries or in the operation of the battery pack, despite the fact that the operating instructions have been carefully followed, contact an authorized service centre.

WARNING - In order to maximize the life of the battery, we recommend conditioning the batteries by discharging them completely before recharging them. After 250 cycles charge/discharge the battery must be replaced by qualified personnel.

NOTE – The internal battery is the Ni-MH type and must be disposed of in accordance with current local regulations.

NOTE - To avoid accidental interruptions of the power supply, never connect the power supply unit to a socket controlled by a switch.

WARNING – Risk of electric shock. Do not disassemble the battery inside the device. Apply to qualified personnel.

When the **LED BATTERY is flashing orange and the LED STATUS is lit green** the device is operating, but the batteries are about to run out, charge the batteries with the specific power supply unit indicated in the paragraph "Charge the Batteries".

WARNING – The batteries can be charged only by using the original power supply unit or the car adaptor provided by Zeiner Rescue.

RECHARGE THE BATTERIES

1. Connect the power supply unit provided with the device in the specific socket and connect the power supply unit to the electrical socket. The LED BATTERY will become orange, indicating that the batteries are charging. We recommend keeping the batteries charging for at least 5 hours. The LED BATTERY light will become green when the batteries are charged.
2. Disconnect the power supply unit from the electric socket.

STORAGE OF THE BATTERIES

1. The batteries must be stored COMPLETELY CHARGED.
2. Every 1-2 months run the batteries through cycles of charging and discharging to retain maximum capacity.
3. If not used for a long period of time, it may be necessary to run the battery through up to 5 cycles of charging/discharging to return it to maximum capacity.

WARNING – Failure to recharge after a long period of lack of use, could cause damage to the battery.

MANUTENZIONE

Verify that the suction tube and the collection container have no leaks, cracks, etc. before every use.

⚠ Danger of electric shock. In case of breakdown, apply to authorized qualified personnel of Medel S.p.A. Do not open under any condition the device. The device has no part inside it that could be repaired by unqualified personnel and does not require internal maintenance and/or lubrication. The device is protected against voltage surges and over currents by a protection fuse: for replacement apply to the technical service centre authorized by the manufacturer.

Do not try to open or remove the module: there are no internal components that can be repaired by the user. If assistance is need, take the unit to a Medel S.p.A. qualified dealer or an authorized service centre. The opening or tampering of the unit causes the forfeiture of the guarantee.

PROBLEMS AND SOLUTIONS

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NOTE - The Zeiner RESCUE aspirator does not contain components that can be repaired by the user.
If it is felt that the unit is not working correctly, BEFORE GIVING IT TO THE DEALER OF MEDICAL EQUIPMENT FROM WHICH IT WAS PURCHASED, verify the cause if the cause of the fault falls among those listed hereinafter:

Problem	Solution
The unit does not turn on.	1. Verify the functionality of the source of power supply and the connection to it. 2. Verify that the current socket is live by connecting a lamp to it. 3. If selecting power supply with internal battery. Verify that the unit has a battery. 4. If the battery is present, verify that it is fully charged.
The pump works but there is no suction.	1. Verify that the tubes are correctly connected. 2. Verify that the connection points of the tubes do not have leaks or cracks. 3. Verify that the collection container has no leaks or cracks.
Low level of suction.	1. Activate the adjustment knob to increase the suction level. 2. Verify that the unit shows no signs of loss.
The battery does not hold a charge. (The indicator light must come on when the battery is charging).	1. Verify that the unit is supplied with internal battery by consulting the dealer. 2. Verify that the indicator light of the charge level of the battery is turned on. 3. Verify the electric connections during the charging phase. 4. Verify that the current socket is live by connecting a lamp to it.

SPECIFICATIONS AND CLASSIFICATIONS

Zeiner RESCUE Model

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Dimensions Series cod. 90818	240x125x216 mm
Weight Series cod. 90818	2.8 Kg (with battery).
Electrical Requirements	See power supply rating plate on the bottom of the device.
Internal rechargeable battery Series cod. 90818	Standard Ni-MH 3,3 A 1 pack of 10 units
Vacuum Levels Series cod. 90818	max -80 kPa (-300 mm Hg a -600 mm Hg)
Air Flow (input pump)	25 Nl/min (free flow).
Capacity collection container Series cod. 90818 & cod. 91392 Series cod. 90818 & cod. 91392	800 ml (cc) disposable 1200 ml (cc) multiuse
Operating Conditions Temperature Relative Humidity Atmospheric Pressure Altitude	From min. -18°C to max 50°C. from min. 10% RH to max 95% RH. from min. 70 kPa to max 106 kPa. 0 to 2000m amsl
Storage and shipping conditions Temperature Relative Humidity Atmospheric Pressure	from min. -40°C to max 70°C. from min. 10% RH to max 95% RH. from min. 70 kPa to max 106 kPa.
Standards applied	Electrical Safety Standard EN60601-1. Electromagnetic compatibility according to EN60601-1-2. Safety requirements for devices of Suction operated electrically UNI EN ISO 10079-1.
Guarantee Series cod. 90818 Internal Battery	

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Class II device with reference to protection against electrical shock.

For the class of protection against electrical shock from the power supply unit see rating plate of the power supply unit.

Equipment part applied type B.

Equipment for intermittent use **20 minutes on / 40 minutes off.**

Equipment not suitable for us near anaesthetic mixtures inflammable to air, oxygen and nitrous oxide.

The Zeiner RESCUE aspirator is a medical device for electrical suction designed exclusively for the collection of non-inflammable fluids during emergency medical service of first aid, home health care and in fixed and/or mobile hospital centres and for use in the field, where the absence of atmosphere containing oxidants or explosive gases.

Device of High Vacuum/High Flow.

Device for use by (or under the supervision) of medical personnel having the required knowledge on the subject of prevention of possible risks connected to the use of the device, especially as regards the risks of biological contamination.

The reusable fluid collection jar, the silicone tubes and the gasket of the cover of the reusable jar are sterilized by boiling or in autoclave (max. 121 °C for the time necessary refer to the instructions of the autoclave used).

Accuracy of the vacuum gauge: ±2.5% compared to the value of full scale.

GUIDELINES AND DECLARATION OF THE MANUFACTURER

Guidelines and declaration of the manufacturer – electromagnetic immunity

The surgery suction unit ZEINER RESCUE is designed to be operated in the electromagnetic environment described below. The client or user of the surgery suction unit ZEINER RESCUE must ensure that the product is used in such environment.

Immunity test	**Test level**	**Conformity level**	**Electromagnetic environment - guidelines**
Electrostatic discharges IEC 61000-4-2	± 6kV in contact ± 8kV in air	± 6kV in contact ± 8kV in air	Floors have to be made in wood, cement, or ceramic. If floors are coated with synthetic materials relative humidity must range at least at 30%.
Transients / Fast electric trains IEC 61000-4-4	± 2kV for power supply lines ±1kV for input/output lines	± 2kV for power supply lines ±1kV for input/ output Lines	The quality of the mains voltage should be that of a typical commercial or hospital environment.
Pulses IEC 61000-4-5	±1kV in differential way ±2kV in common way	±1kV in differential way ±2kV in common way	The quality of the mains voltage should be that of a typical commercial or hospital environment.
Voltage holes, voltage short interruptions and variations on the power supply input lines IEC 61000-4-11	<5% U_T (>95% of hole U_T) for 0,5 cycles 40% U_T (60% hole of U_T) for 5 cycles 70% U_T (30% hole of U_T) for 25 cycles <5% U_T (>95% hole of U_T) for 5 sec	0% U_T per 10ms 40% U_T per 100ms 70% U_T per 500ms 0% U_T per 5s	The quality of the mains voltage should be that of a typical commercial or hospital environment. If the user of the suction unit ZEINER MEDICAL DC 15 requires continuous operations even in case of power supply cutoff, it is recommended to plug the suction unit ZEINER MEDICAL DC 15 to a uninterruptible power supply or batteries.
Mains frequency magnetic field (50/60 Hz) IEC 61000-4-8	3 A/m	Non applicable	Mains frequency magnetic field has to be at a level typical of a commercial or hospital environment.

NOTE: U_T is the a.c. mains voltage before the application of the test level

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Guidelines and declaration of the manufacturer – electromagnetic immunity

The surgery suction unit ZEINER RESCUE is designed to be operated in the electromagnetic environment described below. The client or user of the surgery suction unit ZEINER RESCUE must ensure that the product is used in such environment.

Immunity test	**Test level IEC 60601**	**Conformity level**	**Electromagnetic environment - guidelines**
			RF portable and mobile communication equipment should not be used closer than the separation distance calculated through the equation applicable to the transmitter frequency to any part of the surgery suction unit ZEINER RESCUE, Cables included.
Conducted RF	3Vrms	3Vrms	**Recommended separation distances**
IEC 61000-4-6	da 150kHz a 80MHz	da 150kHz a 80MHz	$d = 1,17\ \sqrt{P}$ da 150kHz a 80MHz $d = 4\sqrt{P}$ da 80MHz to 800MHz $d = 2,33\ \sqrt{P}$ from 800MHz to 2,5GHz
Irradiated RF	3V/m	3V/m	
IEC 61000-4-3	da 80MHz a 2,5GHz	da 80MHz a 2,5GHz	where P is the maximum rated Watt (W) power from the transmitter as declared by the manufacturer while d is the recommended separation distance expressed in metres (m). Field intensity produced by fixed RF transmitters, as set by electromagnetic test on site[a], should be lower than the conformity level of every frequency interval. [b] Interferences nearby the systems signalled by the following symbol could occur:

NOTE 1: For 80MHz and 800MHz, the highest frequency interval is applied.
NOTE 2: These guidelines cannot always be applied. Electromagnetic propagation is altered by absorption and reflection of facilities, objects and people.

a. For field intensity of fixed transmitters, such as the base stations for radiophones (cellular and cordless) and terrestrial radiophones, radio amateur equipment, AM and FM radio and TV transmitters whose presence cannot be foreseen an on-site electromagnetic test should be planned. If field intensity measured where the surgery suction unit ZEINER RESCUE is used exceeds the RF conformity level then the surgery suction unit ZEINER RESCUE has to be kept under control to check for its correct operation. If anomalies are detected, additional measures can be taken such as a re-orienting or re-positioning of the surgery suction unit ZEINER RESCUE.

b. Over the frequency interval of 150kHz - 80MHz, field intensity has to be lower than 3V/m.

Recommended separation distances between portable or mobile radio-communication devices and the surgery suction unit ZEINER RESCUE

The surgery suction unit ZEINER RESCUE is designed to be operated in electromagnetic environments where RF irradiated disturbances are kept under control. The client or user of the surgery suction unit ZEINER RESCUE can favour electromagnetic interferences prevention by keeping a minimum distance between portable or mobile RF communication systems (transmitters) and the surgery suction unit ZEINER RESCUE as recommended, according to the maximum output power of radio-communication devices.

Transmitter maximum rated output power (W)	**Separation distance according to the transmitter frequency (m)**		
	150kHz to 80MHz	**80MHz to 800MHz**	**800MHz to 2,5 GHz**
	$1,17\ \sqrt{P}$	$4\ \sqrt{P}$	$2,33\ \sqrt{P}$
0,01	0,12	0,40	0,23
0,1	0,37	1,26	0,74
1	1,17	4,00	2,33
10	3,70	12,65	7,37
100	11,70	40,00	23,3

For those transmitters whose maximum rated output power is not indicated in the above list, the recommended separation distance in metres (m) can be calculated by the equation applicable to the transmitter frequency, where P is the maximum rated output of the transmitter in Watt (W) as declared by the manufacturer.
NOTE 1: For 80MHz and 800MHz, the highest frequency interval is applied.
NOTE 2: These guidelines cannot always be applied. Electromagnetic propagation is altered by absorption and reflection of facilities, objects and people.

WARRANTY CERTIFICATE

EN

Warranty terms and conditions

- Our device carries a 24 MONTHS warranty from the purchase date on material and manufacturing original defects.
- The warranty includes the free replacement and/or repair in case of original defects of components.
- The warranty does not cover ancillary components and wear and tear parts.
- The device has to be repaired by approved technical service centres.
- The device has to be shipped to the approved technical service centre for repair within 8 days from the defect detection.
- The device transport will be at the user's cost.
- Repairs not covered by warranty are charged to the user.
- The warranty expires in case of device alteration or misuse or in case of damages which cannot be attributed to the manufacturer (accidental fall, inaccurate transport etc).
- The warranty does not provide for compensation for damages – either direct or consequential – of any kind to people or property during the product inefficiency period.
- Warranty is valid from the product purchase date certified by the fiscal receipt or purchase invoice to be compulsorily enclosed to the warranty form.
- No service under warranty is provided in the absence of duly filled out warranty form certified by the purchase receipt.

FORM TO BE RETURNED IN CASE OF REPAIR

WARRANTY IS VALID ONLY IF THE FISCAL TICKET IS ENCLOSED

Device type: _____

Model: _____

Serial N.: _____

Purchase date: _____

PURCHASER'S DATA

Family name and name: _____

Address: _____

Telephone: _____

Defect description: _____

Signature for the acceptance of warranty terms

☐ I hereby authorise the treatment of above data pursuant to the Privacy law 675/96.

ÍNDICE

SÍMBOLOS

I Encendido

O Apagado

DC

~ Corriente alterna

Tipo B

Atención

Bomba/pump

Aspiración/suction

Clase II

Consultar las instrucciones de funcionamiento

Correcta eliminación del producto (desechos eléctricos y electrónicos)

Aplicable en los países de la Unión Europea y en los países con sistemas de recolección diferenciada)

El símbolo mostrado en el producto o en su documentación indica que el producto va de acuerdo con la normativa sobre los aparatos eléctricos y electrónicos y no debe ser eliminado junto con los desechos domésticos. El usuario es responsable de la entrega del aparato al final de su vida útil a las unidades de recolección apropiadas, aplican las sanciones previstas por la legislación vigente sobre los desechos. Para información más detallada relacionada con los sistemas de recolección disponibles dirigirse al servicio local de eliminación de desechos.

Temperatura

RH Humedad del aire

P Presión atmosférica

CE 0123 In conformity with the European Community Directive 93/42/EEC