

The Diagnostic Company

Riester



Gebrauchsanweisung
Operating Instructions
Mode d'emploi
Instrucciones para el uso
Istruzioni per l'uso

ri-charger[®]

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1. Important information - read prior to start-up

You have acquired a valuable RIESTER Ri-Charger charging base manufactured in compliance with Directive 93/42/EEC for medical products and subject to continuous stringent quality control.

Please read these Operating Instructions carefully prior to start-up and keep them in a safe place.




Should you have any queries, please contact the Company or your RIESTER Agent who will be pleased to assist you. For addresses see last page of these Operating Instructions. The address of your authorised RIESTER Agent will be supplied to you on request.

Please note that the RIESTER Ri-Charger charging base is only suitable for charging RIESTER instruments operated with RIESTER rechargeable batteries (Ri-Accus). Do not use for any other equipment.

2. Purpose

The Ri-Charger charging base has been produced for charging RIESTER handles with RIESTER rechargeable batteries (Ri-Accus).

3. Safety and electromagnetic compatibility

	Meaning of symbol on casing. See operating instructions!
	Meaning of symbol on rating plate on bottom of unit: Protection class II unit
	Meaning of symbol on rating plate on bottom of unit: Application part type B

The unit complies with requirements for electromagnetic compatibility. Please note that instruments of interfering field strengths such as mobile telephones or radiological instruments, may affect its function.

Warning!

- There may be a risk of gases igniting when the instrument is used in the presence of flammable drugs and air and/or oxygen or nitrous oxide mixtures!
- The instrument must only be opened by qualified persons due to a possible risk of lethal electrocution.

4. Start-up and operation

The RIESTER Ri-Charger charging base is available as a 220 V or 110 V model and suitable for charging of 2.5 V or 3.5 V handles.

a) Preparation prior to charging

- Ensure that the Ri-Charger charging base is positioned on a level surface. Do not position unit in the direct vicinity of a radiator and protect against direct sunlight.
- Fluids must not penetrate into the interior of the enclosure. Do not use fluids in close proximity of the charging base.
- Connect unit to a mains socket. Ensure that the voltage stated on the rating plate on the bottom of the unit agrees with the mains voltage. After connection of the charging base, a self-test is performed. During the test, the LEDs on the front of the unit will be repeatedly switched on.



- When charging Ri-Star units (19 mm Ø handle), leave plastic reducers in handle recesses. When charging Ri-Scope S units (28 mm Ø handle), remove reducers from handle recesses by simply withdrawing in upward direction.



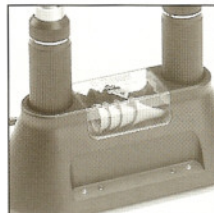
- The RIESTER Ri-Charger charging base may be used for charging 2.5 V and 3.5 V rechargeable batteries respectively. The use of charging chambers for the instrument is unimportant. It goes without saying that a 2.5 V and 3.5 V unit may be charged simultaneously.

b) Charging

- The rechargeable battery is tested when inserted into the charging chamber. At voltages of less than 1.5 V, the rechargeable battery is either fully discharged or faulty. The charging base will try to regenerate the rechargeable battery by applying a pulsating charging current. The yellow charging LED is flashing.
- For rechargeable battery voltages of more than 1.5 V, charging will commence. The yellow charging LED is on.

c) Charging time

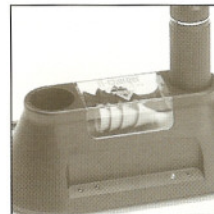
- The end of the charging time is detected by evaluation of the negative voltage differential caused by heating of the rechargeable battery cells when fully charged. The yellow charging LED is switched off and the green "rechargeable battery full" LED is switched on.
- The charging time is limited to max. 4.75 h by the timer.



- When the rechargeable battery is fully charged (green LED on), the unit will switch to maintenance charge.
- The temperature inside the enclosure is monitored. Excessive operating temperatures (i.e. caused by direct sunlight, operation in close proximity to a radiator, etc.) will cause premature actuation of the automatic switch-off mechanism, thus increasing the life of the rechargeable battery.

Warning!

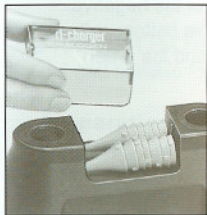
- When the unit is removed from the charging chamber for a few seconds whilst the rechargeable battery is fully charged (green LED on) without switching on, initially the yellow charging LED will be switched on when re-inserting the unused rechargeable battery. However, this is not due to malfunction of the charging base but the described "rechargeable battery full" sensor.



- When the rechargeable battery is full, no negative voltage differential can be recorded. The rechargeable battery must first heat up in order to signal "rechargeable battery fully charged".
- The time prior to the green "rechargeable battery fully charged" LED switching on again may vary considerably (15 minutes or longer). Additional temperature sensing and a timer, however, ensure that the charging process is carefully monitored at any time.

We recommend to position the units into the charging chambers after use to ensure that instruments are always ready.

5. Specula compartment



The specula compartment may be used for spare specula and lamps.

6. Wall mounting



The Ri-Charger charging base may be mounted on the wall. Hold wall rail to the place on the wall scheduled for mounting. Mark holes with a pen and drill holes of 5 mm Ø. Insert the dowels supplied. Position rail holes on the dowels and fix to the wall with the screws supplied. Then slide unit on bracket to allow the wall rail to be introduced into the two guide slots of the Ri-Charger charging base plate. Ensure that the bottom cover tab engages in the recess in the wall rails.

Remove unit by pressing in the bottom tab, allowing the unit to be simply taken from the rail.

7. Cleaning and disinfection

Prior to cleaning or disinfection of the unit disconnect mains cable from socket.

Cleaning and/or disinfection

The Ri-Charger charging base may be cleaned external with a damp cloth. In addition, the following disinfectants may be used for externally disinfection: Aldehyde (formaldehyde, glutaraldehyde, aldehyde derivatives), surfactants or alcohols.

Means for cleaning or disinfection may be a soft, possibly lint-free cloth or Q-tips.

Warning!

Ensure that fluid never penetrates into the unit!

Sterilisation

According to the ruling teaching (Tübingen Medical Products Test Centre), sterilisation is only specified for surgery.

There is no necessity for sterilisation of a charging base.

8. Control during operation

LEDs switching on repeatedly, brief permanent switch-on, followed by off	Mains connection, self-test
Yellow LED on	Charging in progress
Green LED on	Rechargeable battery fully charged, unit changing to maintenance charge
Yellow LED flashing	Rechargeable battery fully discharged or faulty. Unit trying to regenerate rechargeable battery by a pulsating charging current. Should no charging cycle be indicated after approx. 16 h, the rechargeable battery is faulty or must be replaced.

9. Specification

Model:	Ri-Charger rechargeable battery charging base
Display system:	LEDs Connection
Mains connection	(see notes on bottom label)
Outputs:	2.4 V (d.c.)
Charging current:	200 mA
Operating temperature:	0 to +40°C
Storage:	-5°C to 50°C, up to 85% relative humidity, non-condensing
Dimensions:	186 x 87 x 74 mm
Weight:	Approx. 500 g without packing

10. Maintenance

These instruments and their accessories do not require any specific maintenance.

Should an instrument have to be examined for any specific reason whatsoever please return it to the Company or an authorised RIESTER dealer in your area. Addresses to be supplied on request.