



# **ROUND UP**

## **USER MANUAL**

**ROUND UP**

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**fig. 1-1 ROUND UP PHOTO**

# 1 USER INFORMATION

## 1.1 IMPORTANT

Please read these instructions for installation, use and maintenance of the device before turning it on in order to prevent improper use or damage of any kind.

## 1.2 MEANING OF THE PICTOGRAMS



Indicates hazards for the operator and/or patient.



Indicates electrical hazards.



Indicates biological hazards for the operator and/or patient.



Follow the instructions in the manual

## 1.3 WARNINGS

This manual refers to the ROUND UP device.

**SILFRADENT S.r.l. congratulates you and thanks you for choosing this device.**

Below, we give some preliminary help for the initial stages of contact with the product.

It is important that the warranty certification is present in the pack and that it is completed and stamped by the dealer.



**Before removing the equipment from the packaging, check that all the components described in paragraph 2.3 are present.**

After carefully removing the device components from the packaging, place them on a table and check that there are no packaging residues and that there is no damage caused by transportation. If any damage is noted, please contact your dealer immediately. Now follow the instructions in this manual for installation.

**SILFRADENT S.r.l. has created this booklet to support users with the device, helping them set it up and use it.**

**SILFRADENT S.r.l. cannot be held liable for damage to third parties or abnormalities caused by improper use of the device.**

**Each device comes with a copy of this booklet.**

Compliance with the instructions in this technical document is required for proper operation.

It is strictly forbidden to use the device for purposes other than those indicated in the operating instructions and leaflet.

**The failure to follow the instructions in this booklet will lead to the immediate termination of the warranty.**



**For any request, please always indicate:**

**The date of purchase, model and serial number of the device found on the data plate located on the back of the device.**

**Removing the data plate will invalidate the warranty.**

## 1.4 SAFETY

Before use, always check the conditions of the device.

Discontinue use if any parts are not in perfect working order.



**Check that the voltage marked on the data plate behind the machine corresponds to that of the mains.**

## 1.5 SAFETY WARNINGS



### MOBILE PHONES

To ensure the safety of the devices, it is advisable to ban the use of mobile phones in the surgery or clinic.

In any case we suggest you observe the provisions listed in paragraph "6 ELECTROMAGNETIC ENVIRONMENT"



- Never attempt to start up the machine while the lid is open.
  - DO NOT use the machine in a manner other than that specified in these instructions.
  - DO NOT operate the machine without the cups inserted.
  - DO NOT fill the cups while they are in the rotor.
  - NEVER put your hands in the area of the rotor unless the rotor is at a complete standstill.
  - DO NOT move the machine while the rotor is turning.
  - DO NOT use solvents or flammable materials near this or other electrical equipment.
  - Place the machine near an easily accessible electrical outlet.
  - Use only containers provided by Silfradent.
- There must be at least 300 mm of free space around the machine.

## 1.6 PRECAUTIONS

The technical data, information and characteristics of the products described in the instructions for installation and use correspond to the current specifications at the time of publication of this manual.

The product may be modified as a result of technical innovations. This does not entitle users to the corresponding changes on devices that have already been installed.

**SILFRADENT S.r.l. is not liable for damage resulting from:**

- External causes (poor quality of liquids or improper installation)
- Use of the device without compliance with regulations.
- Unsuitable repairs
- Modifications by unauthorised third parties

The repair and maintenance of the device are the responsibility of SILFRADENT S.r.l. technicians or personnel authorised by SILFRADENT S.r.l.

Only original spare parts should be used with and for repairing the ROUND UP device.

## 1.7 ROUND UP CHARACTERISTICS

<b>Operator interface</b>	Three LED digits and four buttons
<b>Power supply</b>	230 Vac +/-10% 100 - 120 Vac +/-10% 50/60 Hz 300 W
<b>External fuses</b>	2x T 3.15 A (230 Vac) 2x T 6.3 A (100 - 120Vac)
<b>Internal fuses</b>	1 x T 400 mA 1 x T 630 mA

<b>Motor</b>	AC 230V 3000 rpm or AC 100-120V 3000 rpm
<b>Weight</b>	18 kg
<b>Dimensions DxLxH</b>	280 x 295 x 320
<b>Environmental conditions</b>	Indoor use Altitude up to 2000 m above sea level Humidity up to 80%

## 1.8 WASTE DISPOSAL



Waste must be taken for recycling or disposed of in order to prevent any risk to humans or the environment, respecting existing national regulations.

For ITALY, it is necessary to respect Ministerial Decree 151/2005 transposing Directives 2002/95/EC, 2002/96/EC and 2003/108/EC

For more information, please contact the nearest SILFRADENT S.r.l. branch.

## 1.9 WARRANTY

SILFRADENT S.r.l. guarantees that it will repair or, at its discretion, replace any part that proves faulty as regards manufacturing or materials, in normal

conditions of use for one year from the date which can be identified in the serial number on the back of the device.



### CAUTION!

The warranty is provided ex SILFRADENT S.r.l. works

**The warranty does not cover defects or damage resulting from:**

- Use **contrary** to the instructions in this manual.
- Improper or inadequate maintenance by the user.
- Unauthorised opening of outer casings.
- Tampering or unauthorised changes.
- Operation outside the environmental specifications set for the product.
- Use of non-original accessories.
- Cleaning with unsuitable products.

**Before packing the device, remember to lock the motor using the relevant knobs.**

If returning the device, pack the product correctly, using the original packaging if possible.

Before packing the device, remember to lock the motor using the relevant knobs.

It is advisable to insure the shipment.

The customer is liable for damage caused by improper packaging.

## 1.10 TRANSPORT AND STORAGE

The device **MUST** be transported and stored in environments where the temperature is between – 40°C and +70°C, the relative humidity is between 10

and 90% and the pressure is between 500 and 1060 HPA.

## 2 DESCRIPTION

### 2.1 SCOPE AND POSSIBILITIES OF USE

The ROUND UP device from Silfradent S.r.l. is designed to obtain fibrin coagulum and extremely pure bioreabsorbable beta-tricalcium phosphate ( $\beta$ -Ca<sub>3</sub>(PO<sub>4</sub>)<sub>2</sub>) homogenous granulate compounds to fill in bone defects.

The particular shape of the inner cup is designed to achieve the best results.

The machine is designed for use in dental practices by trained personnel.

### 2.2 GENERAL DESCRIPTION

The ROUND UP device makes the final compound homogeneous in just a few seconds, thanks to the movement of the cup containing the biological material.

The keypad has four buttons and a LED display that makes it intuitive and easy to use.

The machine is designed to work safely as it only works if the lid is closed and locked.

The working cycle is very short, the maximum time that can be set is 16 seconds.

The ROUND UP device also contains a germicidal lamp that allows a decontamination cycle of the rotor chamber.






It is turned on with the lid closed by pressing two buttons on the front panel at the same time.

### 2.3 EQUIPMENT

<b>1</b>	<b>ROUND UP</b>	
<b>1</b>	<b>Power cable for 100-120V power supply</b>	CVCEEHG
<b>or</b>	<b>Power cable for 200-240V power supply</b>	CVCEE
<b>1</b>	<b>External Teflon cup</b>	RU200CE
<b>1</b>	<b>Internal stainless steel cup</b>	RU200CI
<b>1</b>	<b>Warranty certificate</b>	
<b>1</b>	<b>Declaration of conformity</b>	
<b>1</b>	<b>Operation and maintenance manual</b>	

## 2.4 ROUND UP TYPE-APPROVAL PLATE

The type-approval plate is on the bottom of the device. It contains the following data:

Silfradent s.r.l. via G. di Vittorio 35/37 S.Sofia - Forlì - ITALY	Manufacturer's address	
model: ROUND UP	Model	
serial nr. : 0811-006-001	Serial number	
230Vac 50/60Hz 300 W	Power and rated power:	
100-120 Vac 50/60Hz 300 W	Power and rated power:	
Fuse 2 x T 3,15 A	Type of fuses for 230 Vac power supply	
Fuse 2 x T 6,3 A	Type of fuses for 100/120 Vac power supply	
Made in Italy	Country of manufacture	
Agosto 2009	Month of production (in Italian)	
 <p><b>Data plate for the 230 Vac model</b></p>  <p><b>Data plate for the 100/120 Vac model</b></p>		The device complies with requirements for the CE marking, verified by the 0051 body.
		The symbol requires you to refer to the manual and safety rules.
		Do not dispose of as municipal solid waste but use collection centres.

## 2.5 FUSES

The device has two internal protection fuses that can only be replaced by authorised personnel and two external fuses accessible from the back by removing the power cord from its plug and removing the special lid.

<b>External fuses</b>	<b>2 x 3.15 A</b> for 230V power supply <b>2 x T 6.3 A</b> for 100/115 V power supply
<b>Internal fuses</b>	<b>1x T 400 mA</b> <b>1x T 630 mA</b>



## 3 INSTALLATION AND MAINTENANCE

### 3.1 INSTALLATION AND USE



After removing the ROUND-UP device from its packaging and before connecting it to the mains, remove the knobs locking the motor, located under the device.

Although all precautions to prevent damage have been taken during packing and preparing for shipping, it is important to check that the device is intact after removing it from its packaging. If there is damage to the device or accessories, notify the dealer.

It is a good idea to keep hold of the packaging materials and the knobs for locking the motor during shipping, in case it is necessary to send the device for a check or for servicing.

After removing the ROUND-UP device from its packaging and before connecting it to the mains, remove the knobs locking the motor, located under the device.

Place the machine on a flat surface. Good positioning facilitates smooth operation.

Check that the power switch is turned off (position 0) before connecting the power cable.

Turn on the machine. The lid will open automatically.

Before using the **ROUND UP** device, it is always necessary to clean and sterilise the containers in which the biological material is placed.

Always position the two containers correctly inside the rotor.

Wait for the time set for the cycle and, when the lid opens, collect the homogenised material.

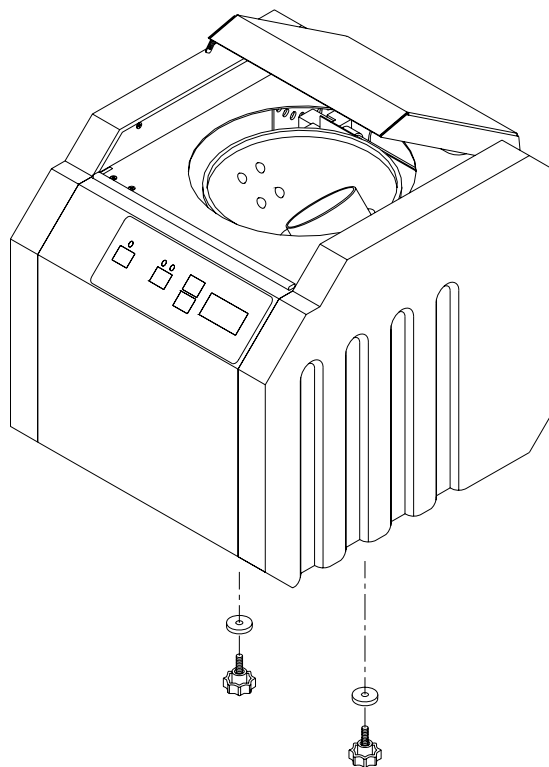


Fig. 3-1 position of the lock knobs for shipping



To be used by medical personnel who know the techniques.

At the end of the cycle, the device opens by itself. Under no circumstances attempt to unlock the lid during operation. This may be dangerous for the operator and bystanders.

As this is a device powered by 230V/100-120V mains voltage, it is necessary to take all the necessary precautions.



Under no circumstances open the machine during the UV cycle. This may harm your eyes.



**The machine must never be started without the cups in place.**

**The machine must never be started unless the lid is closed.**



**IMPORTANT!**

Make sure that the environment of use complies with current regulations relating to electrical installations.



Make sure that the electromagnetic environment complies with the requirements of paragraph 6

## 3.2 CLEANING AND MAINTENANCE

The medication and chemicals used in dental practices can cause damage to surfaces. Since the extent of damage depends directly on the reaction time, you should clean the affected area

immediately, using a soft cloth. Residues of disinfectants on surfaces can be removed using neutral detergents.



**Do not use abrasive detergents.**

The surfaces are made from stainless steel and plastic and abrasive products may damage them.



**When cleaning or disinfecting, make sure that the liquid does not seep into the device.**

**Carry out all maintenance and cleaning only after removing the power cable.  
Make sure that the cleaning products do not drip inside the device.**

### 3.2.1 DISINFECTING THE DEVICE

The rotor chamber can be disinfected using alcohol-based solutions in accordance with the manufacturer's instructions.

The procedure is illustrated in the instructions for each product.

Disinfectants are marketed with different concentrations.

As a guideline, the elements in the preparations are listed below and have been tested. They are considered good and the maximum acceptable values are shown.

Do not use abrasive materials on the inner surface as this may be scratched.



**Be careful not to exceed the levels shown!**

**Ethanol 96%** =max 40 g/100 g disinf.

**Propanol** =max 35 g/100 g disinf.

**Glutaraldehyde 25%** =max 75 mg/100 g disinf.

**Ethylhexanol** =max 10 mg/100 g disinf.

**Formaldehyde solution** =max 10 mg/100 g disinf.

**SILFRADENT S.r.l. is not liable for the use of other preparations or those with a concentration greater than the indications given above.**

### 3.2.2 CLEANING

It is possible to clean the outer surface of the machine using a cloth dampened with water and/or a non-alcohol-based disinfectant.

The casing is not watertight.

Do not use abrasive materials on the outer surface as this may be scratched.

It is made of plastic and stainless steel and can be cleaned following the procedures used in the medical practice.



Be careful not to damage the surface of the protective glass on the lamp. Never use abrasive cloths or products.

### 3.2.3 STERILISATION

The inner and outer cup can be sterilised in an autoclave. They are made of Teflon and stainless steel.

**Steriliser: steam or chemical**

**Sterilisation time:**

**MAXIMUM:** 20 min. at 134°C  
at 2 bar.

**RECOMMENDED:** 40 min. at 121°C

**Cooling time:** 3 h

**Operating temperature:** < 40°C



**Upon delivery to the end user, the containers are not supplied sterile and should be thoroughly cleansed and sterilised before each use.**

### 3.2.4 REPLACING THE LAMP

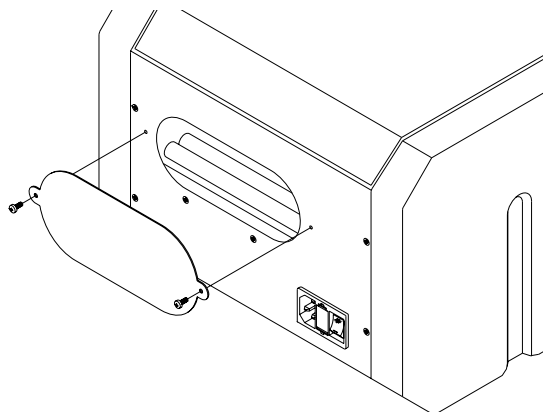


fig. 3-2 disassembling the rear cover

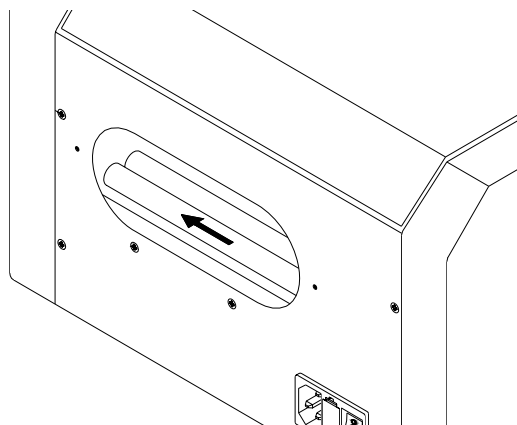


fig. 3-3 removing the lamp

Lamp replacement is carried out following the instructions below:

- ✓ Unscrew the two screws and remove the cover at the back of the ROUND UP device as shown in fig. 3-1.
- ✓ Remove the lamp by pulling in the direction indicated by the arrow in fig. 3-2.
- ✓ Insert the new lamp, taking care not to touch the glass with your fingers.

Use a PHILIPS TUV PL-S 9W/2P 1CT lamp.

## 3.3 TECHNICAL ASSISTANCE SERVICE

SILFRADENT S.r.l. is the primary provider of technical assistance for the [ROUND UP](#) device.

In the event of technical problems, the device must be serviced by SILFRADENT S.r.l. technicians or sent back to the manufacturer.

In requests for assistance, please always specify the exact name of the device and the serial number.

# 4 OPERATION

## 4.1 DESCRIPTION OF THE CONTROL PANEL

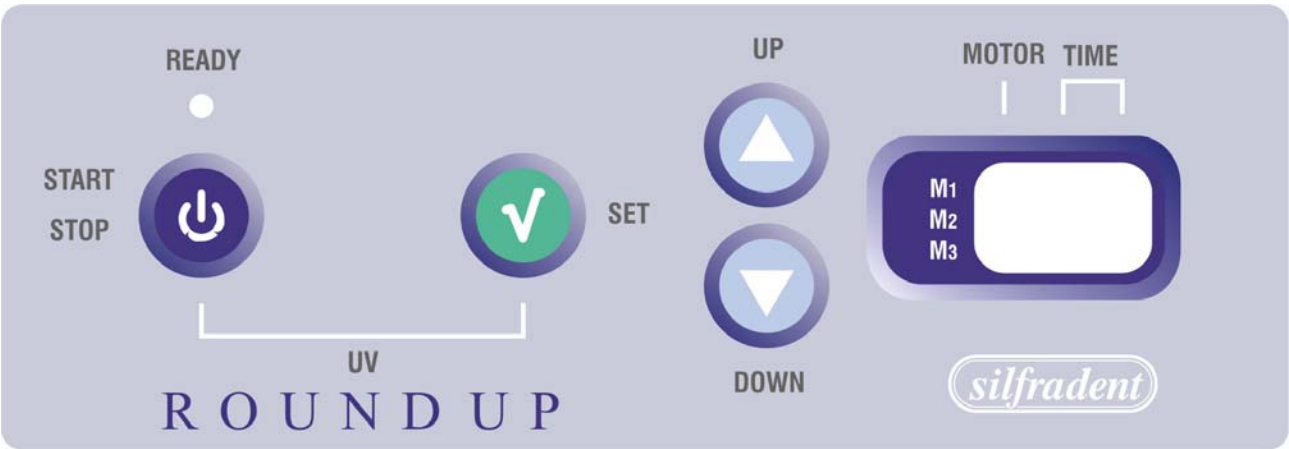


fig. 4-1 ROUND UP KEYPAD

	<b>START /STOP</b>	When the "READY" LED is on, this starts the selected cycle. When pressed for about three seconds at the same time as "SET", this starts the UV cycle.
	<b>SET</b>	Selects the working cycle. When pressed for about three seconds at the same time as "START/STOP", this starts the UV cycle.
	<b>DOWN</b>	When pressed, this decreases the set time.
	<b>UP</b>	When pressed, this increases the set time.

## 4.2 SETTING AND DISPLAYING THE WORKING DATA

### 4.2.1 DESCRIPTION OF OPERATION

When the ROUND UP device is powered, the lid opens automatically and it sets itself to the last cycle used. By pressing the SET button, you can choose one of three pre-set cycles marked with a segment of the left-hand digit on the display.



fig. 4-2 M1



fig. 4-3 M2



fig. 4-4 M3

The cycle is highlighted with a segment on the display next to M1, M2, M3



**Before closing the lid and starting the device, always check that the cups are in position**

Closing the device lid locks the bolt that holds it closed during operation and the "READY" LED lights up.



fig. 4-5 LED showing lid closed



**Do not attempt to force or block operation during rotation of the device, as this could be dangerous to bystanders.**

The machine is now ready to be started by pressing the "START/STOP" button.

The display starts to flash the chosen time that decreases with the first digit on the left (MOTOR) that rotates.

**When it reaches the end of the cycle, the ROUND UP device stops the motor and waits a few seconds (3) during which it activates the brake before opening the lid.**



fig. 4-6 ON

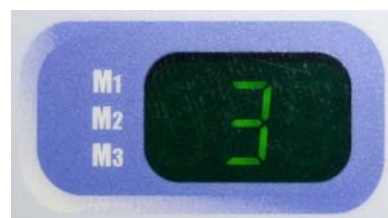


fig. 4-7 STOP

A UVC lamp is inserted in the machine and is used for a decontamination cycle.

To activate this cycle, close the lid and, when the READY light comes on, press both START/STOP and SET for about 3 seconds. The display shows the figure to the side where the first digit indicates the state of rotation of the motor, the second is a U and indicates the UV cycle and the third indicates the remaining



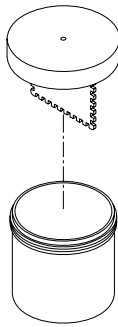
fig. 4-8 UV

time. At the end of every minute, you hear a sound.  
 At the end of the UV cycle, the lid opens by itself.  
 To interrupt the cycle, press the STOP button.  
 The lid will only be opened three seconds after the  
 STOP button is pressed.



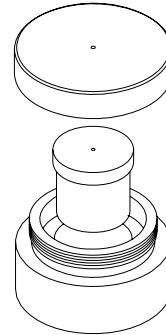
**fig. 4-9**

### **4.3 ASSEMBLING THE CUPS**



**fig. 4-10 internal stainless steel cup**

- ✓ Put the material to be homogenised into the internal sterile cup
- ✓ Tighten the lid using the spatula
- ✓ Place the full cup in its position on the ROUND UP rotor
- ✓ Turn the cup until it fits into the two bushes on the bottom of the cup-holder compartment.



**fig. 4-11 external Teflon cup**

- ✓ Place the stainless steel cup inside the external sterile Teflon cup
- ✓ Tighten the lid

## 5 TROUBLESHOOTING

### 5.1 POSSIBLE PROBLEMS AND SOLUTIONS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Nothing comes on	Mains plug not inserted correctly in the socket.	Check that the plug is inserted.
	Fuses in the plug/filter blown	Replace the fuses with ones of the same type. The correct values are given in paragraph 2.5 of this manual and on the data label located on the back of the device, next to the plug/filter. If, once the fuses have been replaced, they blow again, contact the dealer or the manufacturer.
	Damaged mains cable	Replace the cable
	Internal fuses blown	Contact the dealer or the manufacturer.
	Rear switch off.	Turn the switch on.
	Faulty electronic control board.	Contact the dealer or the manufacturer.
	Faulty switch.	
The motor does not turn.	Faulty components on the board	Contact the dealer or the manufacturer.
The UVC lamp does not come on	Lamp blown.	Replace the UV lamp
	Lamp circuit failure	Contact the dealer or the manufacturer.

### 5.2 SAFETY WARNINGS

- Never attempt to start up the machine while the lid is open.
- DO NOT use the machine in a manner other than that specified in these instructions.
- DO NOT operate the machine without the cups inserted.
- DO NOT fill the cups while they are in the rotor.
- NEVER put your hands in the area of the rotor unless the rotor is at a complete standstill.
- DO NOT move the machine while the rotor is turning.
- DO NOT use solvents or flammable materials near this or other electrical equipment.
- Place the machine near an easily accessible electrical outlet .
- Use only containers provided by Silfradent.
- There must be at least 300 mm of free space around the machine.

## 6 ELECTROMAGNETIC ENVIRONMENT

The tables included below are an extract of EMC tests and provide all information necessary for the environment in which the device is used as required by art. 6 EN60601-1-2.

6.1.1 GUIDA E DICHIARAZIONE DEL COSTRUTTORE- EMISSIONI ELETTROMAGNETICHE MANUFACTURER'S GUIDE AND DECLARATION – ELECTROMAGNETIC EMISSIONS			
IL ROUND UP è previsto per funzionare nell'ambiente elettromagnetico sotto specificato. Il cliente o l'utilizzatore deve assicurarsi che esso venga usato in tale ambiente. <i>The ROUND UP device is intended for use in the electromagnetic environment specified below. The customer or the user of the ROUND UP should assure that it is used in such an environment.</i>			
Prova di emissione <i>Emissions test</i>	Conformità <i>Compliance</i>	Ambiente elettromagnetico <i>Electromagnetic environment</i>	
Emissioni RF condotte ed irradiate <i>Conducted and radiated RF emissions</i> CISPR 11	Classe B <i>Class B</i>	Il ROUND UP è adatto per l'uso nei locali domestici ed in tutti i locali direttamente collegati alla rete di alimentazione pubblica in bassa tensione. <i>The ROUND UP device is suitable for use in domestic establishments and in establishments directly connected to a public low voltage power supply network which supplies buildings used for domestic purposes</i>	
	Gruppo 1 <i>Group 1</i>	Il ROUND UP utilizza energia RF solo per il suo funzionamento interno. Perciò le sue emissioni RF sono molto basse e probabilmente non causano nessuna interferenza negli apparecchi elettronici vicini. <i>The ROUND UP device uses RF energy for internal operation only. As a consequence, RF emissions are very low and not likely to cause any interference in nearby electronic equipment.</i>	
Emissioni armoniche <i>Harmonic emissions</i> IEC 61000-3-2	Conforme <i>Complies</i>	Il ROUND UP è adatto per l'uso in tutti i locali collegati direttamente alla rete di alimentazione pubblica in bassa tensione <i>The ROUND UP device is suitable for use in establishments directly connected to a public low voltage power supply network</i>	
Emissioni di fluttuazioni di tensione/flicker <i>Voltage fluctuation/flicker emissions</i> IEC 61000-3-3	Conforme <i>Complies</i>		
6.1.2 GUIDA E DICHIARAZIONE DEL COSTRUTTORE-IMMUNITA' ELETTROMAGNETICA GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC IMMUNITY			
IL ROUND UP è previsto per funzionare nell'ambiente elettromagnetico specificato. Il cliente o l'utilizzatore deve assicurarsi che venga usato in tale ambiente. <i>The ROUND UP device is intended for use in the electromagnetic environment specified below. The customer or the user of the ROUND UP should assure that it is used in such an environment.</i>			
Prova di immunità <i>Immunity test</i>	Livello di prova EN60601-1-2 <i>EN60601-1-2 test level</i>	Livello di conformità <i>Compliance level</i>	Ambiente elettromagnetico <i>Electromagnetic environment</i>
Scarica elettrostatica <i>Electrostatic discharge (ESD)</i> EN 61000-4-2	6 kV a contatto_ <i>contact</i> 8 kV in aria <i>air</i>	Livello di prova EN60601-1-2 <i>EN60601 test level</i>	residenziale/ospedaliero <i>residential/hospital</i>
Transitori/treni elettrici veloci <i>Electrical fast transient/burst</i> EN 61000-4-4	2 kV per le linee di alimentazione di potenza <i>for power supply lines</i> 1 kV per le linee di ingresso/uscita	Livello di prova EN60601-1-2 <i>EN60601 test level</i>	residenziale/ospedaliero <i>residential/hospital</i>



	<i>for input/output lines</i>		
Sovratensioni <i>Surge</i> EN 61000-4-5	<b>1 kV</b> modo differenziale <i>differential mode</i> <b>2 kV</b> modo comune <i>common mode</i>	Livello di prova EN60601-1-2 <i>EN60601 test level</i>	residenziale/ospedaliero <i>residential/hospital</i>
Buchi di tensione, brevi interruzioni e variazioni di tensione sulle linee di ingresso dell'alimentazione <i>Voltage dips, short interruptions and voltage variations on power supply input lines</i> EN 61000-4-11	0% UN per 0,5 Cicli 40% UN per 5 Cicli 70% UN per 25 Cicli 0% UN per 5 sec. <i>0% UN for 0.5 Cycles 40% UN for 5 Cycles 70% UN for 25 Cycles 0% UN for 5 sec.</i>	Livello di prova EN60601-1-2 <i>EN60601 test level</i>	residenziale/ospedaliero <i>residential/hospital</i>
Campo magnetico a frequenza di rete (50/60 Hz) <i>Power frequency (50/60 Hz) magnetic field</i> EN 61000-4-8	3 A/m	Livello di prova EN60601-1-2 <i>EN60601 test level</i>	residenziale/ospedaliero <i>residential/hospital</i>
RF irradiata <i>Radiated RF</i> IEC 61000-4-3	<u>apparecchio non di sostenta- mento delle funzioni vitali</u> <i>Non-life-supporting equipment</i> <b>3 V/m</b> <b>80MHz to 2.5GHz</b> <u>apparecchio di sostentamento delle funzioni vitali</u> <i>life-supporting equipment</i> <b>10 V/m</b> <b>80MHz to 2.5GHz</b>	Livello di prova EN60601-1-2 <i>EN60601 test level</i>  Livello di prova EN60601-1-2 <i>EN60601 test level</i>	residenziale/ospedaliero <i>residential/hospital</i>
RF condotta <i>Conducted RF</i> IEC 61000-4-6	<u>apparecchio non di sostenta- mento delle funzioni vitali</u> <i>Non-life-supporting equipment</i> <b>3 V</b> <b>150kHz to 80MHz</b> <u>apparecchio di sostentamento delle funzioni vitali</u> <i>life-supporting equipment</i> <b>3 V/m</b> fuori dalla banda ISM <i>outside ISM band</i> <b>10 V/m</b> nella banda ISM <i>Inside ISM band</i>	Livello di prova EN60601-1-2 <i>EN60601 test level</i>	
<b>Nota</b> $U_T$ è la tensione di rete in c.a. prima dell'applicazione del livello di prova <i><math>U_T</math> is the AC mains voltage prior to application of the test level.</i>			

### 6.1.3 DISTANZE DI SEPARAZIONE TRA I DISPOSITIVI DI COMUNICAZIONE MOBILI E TRASPORTABILI E IL ROUND UP

#### RECOMMENDED SEPARATION DISTANCES BETWEEN PORTABLE AND MOBILE RF COMMUNICATIONS EQUIPMENT AND THE ROUND UP DEVICE

Sorgente RF <i>RF SOURCE</i>	POTENZA NOMINALE TIPICA <i>TYPICAL RATED POWER</i> W	DISTANZA <i>DISTANCE</i> m
Telefoni cordless CT1, CT2, CT3 <i>Cordless telephone CT1, CT2, CT3</i>	0.01	0.4
apparecchi per la tecnologia dell'informazione senza fili(modem, LANs), telefoni portatile DECT <i>DECT cellular phone, wireless information technology equipments(modems, LANs)</i>	0.25	2
telefoni cellulari portatili (USA) <i>Cellular phone, hand-held (USA)</i>	0.6	3
telefoni cellulari portatili (es. GSM o NMT in Europa; DECS1800) <i>Cellular phone, hand-held (e.g.GSM and NMT,Europe; DECS1800)</i>	2 8	6 11
Walkie-talkie (polizia, mezzi di soccorso, vigili del fuoco) <i>Walkie-talkie (rescue, police, fire)</i>	5	9
Telefoni cellulari a valigetta <i>Bag phones</i>	16	16
apparecchi radio (polizia, mezzi di soccorso, vigili del fuoco) <i>radio appliances (rescue, police, fire)</i>	100	40
<p>per i trasmettitori che usano frequenze fino a 800MHz la distanza può essere stimata usando l'equazione: <i>for transmitters using frequencies below 800MHz, the distances can be estimated using the equation:</i></p> $d = 4\sqrt{P}$ <p>per i trasmettitori che utilizzano frequenze comprese tra 800MHz e 2.5GHz la distanza può essere stimata usando l'equazione: <i>for transmitters using frequencies between 800MHz and 2.5GHz, the distances can be estimated using the equation:</i></p> $d = 2.3\sqrt{P}$ <p>Dove P è la potenza nominale del trasmettitore in Watt (W) fornita dal costruttore del trasmettitore <i>Where P is the rated power of the transmitter in Watt (W) according to the transmitter manufacturer</i></p>		

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