# Hardware User's Manual

## Air puff control

## Treadmill TS



## **References:**

LE8700TSAP	76-0920	Air-puff accessory for LE8700TS treadmill
LE8708TSAP	76-0921	Air-puff accessory for LE8708 TS treadmill
LE8706TSAP	76-0923	Air-puff accessory for LE8706 TS treadmill
LE8709TSAP	76-0924	Air-puff accessory for LE8709 TS treadmill
LE8710MTSAP	76-0926	Air-puff accessory for LE8710M TS treadmill
LE8710RTSAP	76-0925	Air-puff accessory for LE8710R TS treadmill

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Panlab, s.l.u C/Energía, 112 08940 Cornellà de Ll.(Barcelona) Spain www.panlab.com International Calls: +34 934 750 697 Domestic Call: 934 190 709 Fax: +34 934 750 699 Info@panlab.com Limitation of Liability

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## 1. SYMBOLS TABLE

Recognising the symbols used in the manual will help to understand their meaning:

DESCRIPTION	SYMBOL
Warning about operations that must not be done because they can damage the equipment	
Warning about operations that must be done, otherwise the user can be exposed to a hazard.	$\bigwedge$
Protection terminal ground connection.	Ð
Warning about a hot surface which temperature may exceed 65°C	
Warning about a metal surface that can supply electrical shock when it's touched.	A
Decontamination of equipments prior to disposal at the end of their operative life	
Waste Electrical and Electronic Equipment Directive (WEEE)	

## 2. GOOD LABORATORY PRACTICE

Check all units periodically and after periods of storage to ensure they are still fit for purpose. Investigate all failures which may indicate a need for service or repair.

Good laboratory practice recommends that the unit be periodically serviced to ensure the unit is suitable for purpose. You must follow preventive maintenance instructions. In case equipment has to be serviced you can arrange this through your distributor. Prior to Inspection, Servicing, Repair or Return of Laboratory Equipment the unit must be cleaned and decontaminated.

#### Decontamination prior to equipment disposal



In use this product may have been in contact with bio hazardous materials and might therefore carry infectious material. Before disposal the unit and accessories should all be thoroughly decontaminated according to your local environmental safety laws.



## 3. UNPACKING AND EQUIPMENT INSTALATION



WARNING: Failure to follow the instructions in this section may cause equipment faults or injury to the user.

- A. No special equipment is required for lifting but you should consult your local regulations for safe handling and lifting of the equipment.
- B. Inspect the instrument for any signs of damage caused during transit. If any damage is discovered, do not use the instrument and report the problem to your supplier.
- C. Ensure all transport locks are removed before use. The original packing has been especially designed to protect the instrument during transportation. It is therefore recommended to keep the original carton with its foam parts and accessories box for re-use in case of future shipments. Warranty claims are void if improper packing results in damage during transport.
- D. Place the equipment on a flat surface and leave at least 10 cm of free space between the rear panel of the device and the wall. Never place the equipment in zones with vibration or direct sunlight.
- E. Once the equipment is installed in the final place, the main power switch must be easily accessible.
- F. Only use power cords that have been supplied with the equipment. In case that you have to replace them, the spare ones must have the same specs that the original ones.
- G. Charles A Contage in the electrical network is the same as the voltage selected in the equipment. Never connect the equipment to a power outlet with voltage outside these limits.



For electrical safety reasons you only can connect equipment to power outlets provided with earth connections

This equipment can be used in installations with category II overvoltage according to the General Safety Rules.

The manufacturer accepts no responsibility for improper use of the equipment or the consequences of use other than that for which it has been designed.



#### PC Control

Some of these instruments are designed to be controlled from a PC. To preserve the integrity of the equipment it is essential that the attached PC itself conforms to basic safety and EMC standards and is set up in accordance with the manufacturers' instructions. If in doubt consult the information that came with your PC. In common with all computer operation the following safety precautions are advised.



• To reduce the chance of eye strain, set up the PC display with the correct viewing position, free from glare and with appropriate brightness and contrast settings

• To reduce the chance of physical strain, set up the PC display, keyboard and mouse with correct ergonomic positioning, according to your local safety guidelines.



#### 4. MAINTENANCE



WARNING: Failure to follow the instructions in this section may cause equipment fault.

- PRESS KEYS SOFTLY Lightly pressing the keys is sufficient to activate them.
- Equipments do not require being disinfected, but cleaned for removing urine, faeces and odour. To do so, we recommend using a wet cloth or paper with soap (which has no strong odour). NEVER USE ABRASIVE PRODUCTS OR DISSOLVENTS.
- NEVER pour water or liquids on the equipment.
- Once you have finished using the equipment turn it off with the main switch. Clean and check the equipment so that it is in optimal condition for its next use.
- The user is only authorised to replace fuses with the specified type when necessary.



Figure 1. Power inlet, main switch and fuse holder.

#### FUSE REPLACEMENT

In case of an over-voltage or other incident in the AC net making it impossible to turn on the equipment, check fuses according to the following procedure.

1 Remove power cord from the power inlet.



2 Open fuse-holder by pulling the flange with a regular screwdriver.



Figure 2. Open fuse-holder door.

3 Extract fuse holder using the screwdriver.



Figure 3. Extract fuse-holder.

4 Replace fuses if necessary. Insert fuses in the fuse-holder in the correct position.





INCORRECT

Figure 4. Fuses position.

- 5 Insert again fuse-holder, both possible positions are correct because power supply is universal.
- 6 If the fuses blow again, unplug the equipment and contact technical service.



For electrical safety reasons, never open the equipment. The power supply has dangerous voltage levels.



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## 6. INTRODUCTION

The **Air Puff Control** is a device designed to provide a pressurised air stimulus on rat and mouse **Treadmills TS**. It is an alternative to conventional shock stimulus. A less aggressive stimulus is thus supplied to the animal.

The **Air Puff** always works together with a **Treadmills TS** control unit, either with a one-lane, two-lane or five-lane control unit.



Figure 5. Air Puff Control.

The device detects animal position by means of a metal grid (the system detects resistances below  $6M\Omega$ ) and supplies the air stimulus to each **Treadmill** lane separately.

Animal position detection is performed with an AC voltage of 5V and is not detected by the animal. The animal does not suffer any kind of electrical danger because the current flowing is in the micro-amp order of magnitude.

The system requires an external air supply, either a compressor or a pressurized air installation (this pressurized air system is **not** supplied by default by Panlab). This pressure must be regulated externally to the desired value.



**WARNING:** The pressure in the equipment air inlet must never be higher than 6 bars. Pressures between 3 and 6 bars are recommended for work, depending on the number of animals that will be stimulated.



### 7. EQUIPMENT DESCRIPTION

#### 7.1. FRONT PANEL



- ACTIVATION: There are up to 5 numbers depending on the number of lanes, one for each lane (from 1 to 5). When the channel in the **Air Puff** is active, the number is green lighted, and when the animal is detected in the grid the number is orange lighted. There are 3 models of **Air Puff** taking into account the number of lanes:
  - 1 lane: Only the number 1 will light.
    - 2 lanes: Only the numbers 1 and 2 will light.
    - o 5 lanes: The 5 numbers will light.



#### 7.2. REAR PANEL



Figure 7. Rear panel.

The picture belongs to the 5 lanes model. In the 2 lanes model GRID and AIR OUT from 3 to 5 are missing. In the 1 lane model GRID and AIR OUT from 2 to 5 are missing.

- **GRID:** Five DB15 female connectors, one for each **Treadmill TS** lane. When it is necessary to stimulate the animal with air instead of electrical shock, unplug the shock cables from the **Treadmil TS** control unit and connect them to the **Air Puff**. The equipment detects animal resistance to determine when the animal reaches the grid.
- AUX: DIN 12 pins female connector used to connect the Air Puff control unit and Treadmill TS control unit.
- **POWER:** Power inlet, main switch and fuse holder.
- **AIR IN:** Air inlet, the pressurised air supply must be connected to this inlet. Remember that pressure must never exceed 6 bars.
- **AIR OUT:** Five air outlets, one for each **Treadmill TS** lane. These outlets conduct the air to the collector placed at the end of the lane that stimulates the animal.





#### Figure 8. Collector.

The collector receives the pressurised air coming from the **Air Puff** OUT outlet through the polyurethane tube, and diffuses it through the four diffuser tubes so that the air stimulus reaches the animal. There is a collector for each **Treadmill TS** lane.



## 8. COLLECTOR AND TUBES ASSEMBLING

On the rear face of the transparent Perspex covers that prevent the animal from escaping from the treadmill lane, there are four holes where the collector's diffuser tubes will be inserted. The collector is kept in place by pressure.



Figure 9. Collector placement.

The procedure to insert and extract polyurethane tubes from the pneumatic inlets/outlets is as follows:



Figure 10. Procedure to insert and detach tubes.

- 1) To insert tubes, introduce them firmly as shown in step 1 of Figure 10.
- 2) To detach polyurethane tubes from the inlet/outlet, pull the tube outwards (Figure 10.3) while pressing the external ring (Figure 10.2) inwards.



## 9. EQUIPMENT CONNECTIONS

The Air Puff control unit can work with 1-lane, 2-lane and 5-lane treadmills.

#### 9.1. ELECTRICAL CONNECTIONS 1 LANE

The electrical connections are shown in the following schematic:



Figure 11. Equipment electrical connections for 1 lane.

To facilitate equipment connection, the necessary cables and connections are listed in the following table:

	FROM	то	CABLE
1	AIR PUFF GRID 1	GRID 1	DB15 to DB9 cable
2	TREADMILL TS MOTOR	MOTOR	Motor cable
3	TREADMILL TS USB	PC USB port	USB type A-B cable
4	AIR PUFF AUX	TREADMILLTS AUX	DIN 12 male-male cable



### 9.2. ELECTRICAL CONNECTIONS 2 LANES

The electrical connections are shown in the following schematic:



Figure 12. Equipment electrical connections for 2 lanes.

To facilitate equipment connection, the necessary cables and connections are listed in the following table:

	FROM	ТО	CABLE
1	AIR PUFF GRID 1	GRID 1	DB15 to DB9 cable
2	AIR PUFF GRID 2	GRID 2	DB15 to DB9 cable
3	TREADMILL TS MOTOR	MOTOR	Motor cable
4	TREADMILL TS USB	PC USB port	USB type A-B cable
5	AIR PUFF AUX	TREADMILLTS AUX	DIN 12 male-male cable



#### 9.3. ELECTRICAL CONNECTIONS 5 LANES

The electrical connections are shown in the following schematic:



Figure 13. Equipment electrical connections for 5 lanes.

To facilitate equipment connection, the necessary cables and connections are listed in the following table:

	FROM	ТО	CABLE
1	AIR PUFF GRID 1	GRID 1	DB15 to DB9 cable
2	AIR PUFF GRID 2	GRID 2	DB15 to DB9 cable
3	AIR PUFF GRID 3	GRID 3	DB15 to DB9 cable
4	AIR PUFF GRID 4	GRID 4	DB15 to DB9 cable
5	AIR PUFF GRID 5	GRID 5	DB15 to DB9 cable
6	TREADMILL TS MOTOR	MOTOR	Motor cable
7	TREADMILL TS USB	PC USB port	USB type A-B cable
8	AIR PUFF AUX	TREADMILLTS AUX	DIN 12 male-male cable



#### 9.4. PNEUMATIC CONNECTIONS 1 LANE

The pneumatic connections are shown in the following schematic. This example features a compressed air tank, but an air compressor can be used too. Remember to regulate inlet pressure between 3 and 6 bars.



Figure 14. Pneumatic connections 1 lane.

The following table lists the tubes necessary for the pneumatic connections:

		FROM	то	TUBE
1	1	AIR PUFF OUT 1	COLLECTOR 1	Ø6 mm*Ø4 mm
1	2	AIR SOURCE	AIR PUFF IN	Ø12 mm*Ø8 mm



#### 9.5. PNEUMATIC CONNECTIONS 2 LANES

The pneumatic connections are shown in the following schematic. This example features a compressed air tank, but an air compressor can be used too. Remember to regulate inlet pressure between 3 and 6 bars.



Figure 15. Pneumatic connections 2 lanes.

The following table lists the tubes necessary for the pneumatic connections:

	FROM	то	TUBE
1	AIR PUFF OUT 1	COLLECTOR 1	Ø6 mm*Ø4 mm
2	AIR PUFF OUT 2	COLLECTOR 2	Ø6 mm*Ø4 mm
3	AIR SOURCE	AIR PUFF IN	Ø12 mm*Ø8 mm



#### 9.1. PNEUMATIC CONNECTIONS 5 LANES

The pneumatic connections are shown in the following schematic. This example features a compressed air tank, but an air compressor can be used too. Remember to regulate inlet pressure between 3 and 6 bars.



Figure 16. Pneumatic connections 5 lanes.

The following table lists the tubes necessary for the pneumatic connections:

	FROM	ТО	TUBE
1	AIR PUFF OUT1	COLLECTOR 1	Ø6 mm*Ø4 mm
2	AIR PUFF OUT 2	COLLECTOR 2	Ø6 mm*Ø4 mm
3	AIR PUFF OUT3	COLLECTOR 3	Ø6 mm*Ø4 mm
4	AIR PUFF OUT4	COLLECTOR 4	Ø6 mm*Ø4 mm
5	AIR PUFF OUT5	COLLECTOR 5	Ø6 mm*Ø4 mm
6	AIR SOURCE	AIR PUFF IN	Ø12 mm*Ø8 mm



#### 10. EQUIPMENT START UP

The Air Puff control unit works together with the Treadmill TS control unit.

- Connect the DB15 to DB9 cables between the Treadmill grids and the connectors labelled GRID in the Air Puff Control (see Figure 11, Figure 12 or Figure 13, depending on the number of lanes).
- 2) Assemble the air collectors at the end of each **Treadmill** lane (see chapter 8).
- 3) Connect pneumatic tubes to the collectors and to the respective air outlets in the **Air Puff** (see Figure 14, Figure 15 or Figure 16, depending on the number of lanes).
- 4) Adjust inlet air pressure to the **Air Puff** with a regulator (inlet pressure must be regulated between 3 and 6 bars).
- 5) Connect the pressurised inlet tube to the AIR IN inlet on the **Air Puff** control unit (see Figure 14, Figure 15 or Figure 16, depending on the number of lanes).
- 6) Connect the **Treadmill TS** and **Air Puff** control units with the AUX cable (see Figure 11, Figure 12 or Figure 13, depending on the number of lanes).
- 7) Connect the **Treadmill** motor to the control unit.
- 8) Connect the **Treadmill TS** control unit to the computer with the USB wire.
- 9) Turn on both control units.
- 10) The treadmill will be in STOP mode when turned on, and the belt is stopped



- 11) Press the icon Settings in order to access to Treadmil TS settings.
- Stimulus Mode
   Stimulus

   12) Chose the option
   Image: Stimulus

   13) In the following screen you must select Air Puff.
   Image: Stimulus

   Image: Stimulus
   Image:
- 14) Press twice the icon V in order to accept changes and return to main screen.
- 15) Place rats/mice in the **Treadmill** lanes.



16) Select the desired speed as is explained in **Treadmill TS** user's manual (speed ranges 5cm/s to 150cm/s).



- 17) Press the **button** so that the **Treadmill TS** control unit goes to the RUN mode with the belt running.
- 18) In the **Air Puff** control unit front panel, the numbers of the active lanes will be green lighted (**1 2 3 4 5** example for the 5 lanes unit)
- 19) Each time an animal reaches the grid, the respective number in the front panel of the Air Puff will change from green to orange, (1 2 3 4 5 in this example animal in lane 3 reached to the grid) and an air stimulus will be given through the collector, making the animal run again. At the same time in the Treadmill TS, the counters number of shocks and time of shock will be incremented on this lane.

Stop

20) Once the experiment has ended, press the

button to stop the belt.

- 21) Remove the animals from the **Treadmill**.
- 22) Clean the **Treadmill** as it's explained in its user's manual to left it ready for the next experiment.
- 23) Turn off both control units.



## **11. TROUBLESHOOTING**

The following table features solutions to the most common problems.

PROBLEM	SOLUTION		
Equipment does not turn on.	<ul> <li>Check that power cords are properly connected.</li> <li>Check fuses.</li> </ul>		
Equipment does not detect when animal reaches the grid.	<ul> <li>Ensure that grid cables are connected to their respective GRID connectors in the Air Puff control unit.</li> <li>Check that you have chosen Air Puff in the Treadmill TS settings for stimulus.</li> </ul>		
Equipment detects animal in the grid when it is not in the grid.	<ul> <li>Unplug the cable from the grid         <ul> <li>If detection number changes from orange colour to green colour, this mean that the grid is dirty, you must clean the grid with a soapy solution and then dry it (see Treadmill TS user's manual). Traces of urine can produce false detections.</li> <li>If the detection number remains orange coloured once the cable is disconnected, contact technical service.</li> </ul> </li> </ul>		
Equipment is not giving air stimulus.	<ul> <li>Check that the AUX cable is connected on the rear panel of both control units.</li> <li>Check that the detection number changes from green to orange as soon as the animal reaches to the grid.</li> <li>Check that the <b>Treadmill TS</b> control unit is in RUN mode.</li> <li>Check that compressed air source is connected to the AIR IN pneumatic connector.</li> <li>Check that the COLECTOR is connected to the correct pneumatic outlet labelled AIR OUT in the <b>Air Puff</b> control unit.</li> <li>Check that the compressed air source has enough pressure to supply air stimulus.</li> <li>Check that you have chosen <b>Air Puff</b> in the <b>Treadmill TS</b> settings for <b>stimulus</b>.</li> </ul>		



### **12. PREVENTIVE MAINTENACE**

	EXPERIMENT	MONTHLY
CLEAN THE GRIDS <sup>1</sup>		
CHECH THE PRESSURE OF THE COMPRESSED AIR SOURCE	Ŋ	
CHECH THE PPNEUMATIC CONNECTIONS	V	
CHECK THE COLECTORS PLACEMENT	V	
CHECK THE ELECTRICAL CONNECTIONS		V

<sup>&</sup>lt;sup>1</sup> Read the **Treadmill TS** user's manual.



## **13. TECHNICAL SPECIFICATIONS**

Input voltage	Universal input 100 Vac to 240 Vac
Frequency:	50 /60 Hz
Fuse:	2 fuses 5x20mm 2A 250V Slow
Maximum Power:	soW
Conducted Noise:	EN55022 /CISPR22/CISPR16 class B
GENERAL SPECIFICATIONS	
Warming time	< 2 seconds
DETECTION	
Technology:	Scanner
Number of channels:	1, 2, 5
Detection current:	5.2μA AC
Voltage without load:	5V AC
Internal impedance:	1 Mohm
Detection range:	2 to 10 Mohm
Factory detection settings:	6 Mohm
Technology	Airelectrovalve
In pressure range	2 - 6 bar
Diffuser output pressure	<pre>&lt; o obar @ maximum input pressure</pre>
Minimum air time:	
	0.5.5
ENVIRONMENTAL CONDITIONS	
Operating temperature:	10°C to +40°C
Operating relative humidity:	o% to 85% RH, non-condensing
Storage temperature:	o°C to +50°C, non-condensing
	тті
Pange.	
Input-	RLIN signals (1, 2 or r signals)
Output	Detection channel (1, 2 or c signals)
Connector	Din 12 female
PNEUMATIC TUBES	
Material:	Polyurethane
Maximum pressure:	6 bar
OUT	
External diameter:	6 mm
Internal diameter:	4 mm
IN	
External diameter:	12 mm
Internal diameter:	8 mm
Width y Hoight y Death	227 × 110 × 200 mm
Weight (1 a and 5 langs).	
	4·~~y, 4,35~y, 4,0~y

	DECLA DECLA	RATION OF CONFORMITY RATION DE CONFORMITÉ
Nombre del fabricante: Manufacturer's name: Nom du fabricant:		Panlab s.l.u. www.panlab.com info@panlab.com
Dirección del fabricante Manufacturer's address: Adresse du fabricant:	:	Energía, 112 08940 Cornellà de Llobregat Barcelona SPAIN
Declara bajo su responsa Declares under his respo Déclare sous sa responsa	abilidad que el pro onsibility that the abilité que le proc	oducto: <b>AIR PUFF CONTROL</b>
Marca / Brand / Marque:		PANLAB
Modelo / Model / Modèle:		LE8708TSAP, LE8709TSAP, LE8700TSAP, LE8706TSAP, LE8710MTSAP, LE8710RTSAP
Cumple los requisitos es Fulfils the essential requ Remplit les exigences es	enciales establec irements establis sentielles établie	idos por la Unión Europea en las directivas siguientes: shed by The European Union in the following directives: es pour l'Union Européenne selon les directives suivantes:
2006/95/EC 2004/108/EC 2012/19/EU 2011/65/EU	Directiva de ba Directiva EMC La Directiva d Waste Electric d'équipements Restricción de (ROHS) / Restr electronic eq substances da (ROHS)	aja tensión / Low Voltage / Basse tensión / EMC Directive / Directive CEM le Residuos de Aparatos Eléctricos y Electrónicos (WEEE) / The cal and Electronic Equipment Directive (WEEE) / Les déchets s électriques et électroniques (WEEE) ciertas Sustancias Peligrosas en aparatos eléctricos y electrónicos riction of the use of certain Hazardous Substances in electrical and uipment (ROHS) / Restriction de l'utilisation de certaines angereuses dans les équipements électriques et électroniques
2006/42/EC	Directiva mecá	ánica / Machinery directive / Directive mécanique
Para su evaluación se ha For its evaluation, the fo Pour son évaluation, nou	n aplicado las no Ilowing harmoniz us avons appliqué	rmas armonizadas siguientes: zed standards were applied: é les normes harmonisées suivantes:
Seguridad / Saf EMC: FCC: Safety of mach	ety / Sécurité: inery:	EN61010-1:2011 EN61326-1:2012 Class B FCC47CFR 15B Class B EN ISO 12100:2010
En consecuencia, este p Consequently, this prod En conséquence, ce prod	roducto puede in uct can incorpora duit peut incorpo	corporar el marcado CE y FCC: ate the CE and FCC marking: vrer le marquage CE et FCC:
En representación del fa Manufacturer's represer En représentation du fal Cornellà de Llobregat, S 087/07/2016	bricante: ntative: pricant: pain	Carme Canalís General Manager Panlab s.l.u., a division of Harvard BioScience

**DECLARACIÓN DE CONFORMIDAD** 

Panlab Harvard Apparatus



#### **(GB)** Note on environmental protection:



After the implementation of the European Directive 2002/96/EU in the national legal system, the following applies:

Electrical and electronic devices may not be disposed of with domestic waste Consumers are obliged by law to return electrical and electronic devices at the end of their service lives to the public collecting points set up for this purpose or point of sale. Details to this are defined by the national law of the respective country. This symbol on the product, the instruction manual or the package indicates that a product is subject to these regulations. By recycling, reusing the materials or other forms of utilising old devices, you are making an important contribution to protecting our environment.

#### E) Nota sobre la protección medioambiental:



Después de la puesta en marcha de la directiva Europea 2002/96/EU en el sistema legislativo nacional, Se aplicara lo siguiente:

Los aparatos eléctricos y electrónicos, así como pilas y baterías, no se deben tirar a la basura doméstica. El usuario está legalmente obligado a llevar los aparatos eléctricos y electrónicos, así como pilas y baterías, al final de su vida útil a los puntos de recogida municipales o devolverlos al lugar donde los adquirió. Los detalles quedaran definidos por la ley de cada país. El símbolo en el producto, en las instrucciones de uso o en el embalaje hace referencia a ello. Gracias al reciclaje, a la reutilización de materiales i a otras formas de reciclaje de aparatos usados, usted contribuirá de forma importante a la protección de nuestro medio ambiente.

#### ) Remargues concernant la protection de l'environnement : F



Conformément à la directive européenne 2002/96/CE, et afin d'atteindre un certain nombre d'objectifs en matière de protection de l'environnement, les règles suivantes doivent être appliquées.

Elles concernent les déchets d'équipement électriques et électroniques. Le pictogramme "picto" présent sur le produit, son manuel d'utilisation ou son emballage indique que le produit est soumis à cette réglementation. Le consommateur doit retourner le produit usager aux points de collecte prévus à cet effet. Il peut aussi le remettre à un revendeur. En permettant enfin le recyclage des produits, le consommateur contribuera à la protection de notre environnement. C'est un acte écologique.

## D) Hinweis zum Umweltschutz:



Ab dem Zeitpunkt der Umsetzung der europäischen Richtlinie 2002/96/EU in nationales Recht

gilt folgendes: Elektrische und elektronische Geräte dürfen nicht mit dem Hausmüll entsorgt werden. Der Verbraucher ist gesetzlich verpflichtet, elektrische und elektronische Geräte am Ende ihrer Lebensdauer an den dafür eingerichteten, öffentlichen Sammelstellen oder an die Verkaufstelle zurückzugeben. Einzelheiten dazu regelt das jeweilige Landesrecht. Das Symbol auf dem Produkt, der Gebrauchsanleitung oder der Verpackung weist auf diese Bestimmungen hin. Mit der Wiederverwertung, der stofflichen Verwertung oder anderer Formen der Verwertung von Altgeräten leisten Sie einen wichtigen Beitrag zum Schutz unserer Umwelt.

#### Informazioni per protezione ambientale:



Dopo l'implementazione della Direttiva Europea 2002/96/EU nel sistema legale nazionale, ci sono le sequenti applicazioni:

I dispositivi elettrici ed elettronici non devono essere considerati rifiuti domestici. I consumatori sono obbligati dalla legge a restituire I dispositivi elettrici ed elettronici alla fine della loro vita utile ai punti di raccolta collerici preposti per questo scopo o nei punti vendita. Dettagli di quanto riportato sono definiti dalle leggi nazionali di ogni stato. Questo simbolo sul prodotto, sul manuale d'istruzioni o sull'imballo indicano che questo prodotto è soggetto a queste regole. Dal riciclo, e re-utilizzo del material o altre forme di utilizzo di dispositivi obsoleti, voi renderete un importante contributo alla protezione dell'ambiente.

#### P) Nota em Protecção Ambiental:



Após a implementação da directiva comunitária 2002/96/EU no sistema legal nacional, o seguinte aplica-se:

Todos os aparelhos eléctricos e electrónicos não podem ser despejados juntamente com o lixo doméstico Consumidores estão obrigados por lei a colocar os aparelhos eléctricos e electrónicos sem uso em locais públicos específicos para este efeito ou no ponto de venda. Os detalhes para este processo são definidos por lei pelos respectivos países. Este símbolo no produto, o manual de instruções ou a embalagem indicam que o produto está sujeito a estes regulamentos. Reciclando, reutilizando os materiais dos seus velhos aparelhos, esta a fazer uma enorme contribuição para a protecção do ambiente.