

CARDIOLINE

xr 600 r

User Manual

CE

Rev. 02 – 20.06.2017

CARDIOLINE

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Rev. 02 – 20.06.2017

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Summary

1.	RECAPITULATION OF MACHINE MARKING DATA.....	1
1.1.	SYMBOLS.....	1
1.2.	Other important information.....	2
2.	HOW TO USE AND KEEP THE MANUAL.....	3
2.1.	Conessee.....	3
2.2.	Aim.....	3
2.3.	Using limits.....	3
2.4.	How and where keeping the manual.....	3
2.5.	Updating, integration and substitution.....	3
3.	IMPORTANT SAFETY INSTRUCTIONS.....	4
3.1.	Uncorrect or unforeseen use.....	4
3.2.	Machine handling.....	5
3.3.	Instructions for rae waste.....	5
3.4.	Instructions for handrails assembling.....	5
3.5.	Safety parts.....	7
3.6.	First starting.....	7
3.7.	Electric requirements.....	8
3.8.	Working place.....	8
3.9.	How to stabilize the treadmill.....	8
3.10.	How to centre the running belt.....	8
3.11.	Best running belt tension.....	8
4.	TREADMILL DESCRIPTION.....	10
4.1.	Treadmill description.....	10
4.2.	User description.....	10
4.3.	Treadmill uses.....	10
4.4.	Emergency.....	10
5.	SOFTWARE.....	12
5.1.	Connection to ECG.....	12
5.2.	Setup.....	12
5.3.	Extraordinary lubrication.....	14
5.4.	Oil can substitution.....	14
6.	TECHNICAL DESCRIPTION.....	15
6.1.	Technical specifications.....	15
6.2.	<i>Connecting cable</i>	16

CARDIOLINE

6.3.	Accessories.....	16
7.	MAINTENANCE INSTRUCTIONS.....	17
7.1.	Outer cleaning.....	17
7.2.	Belt.....	17
7.3.	Lubrication	17
7.4.	Oil can substitution	17
7.5.	Belt tension	17
7.6.	Routine service instructions.....	17
7.7.	Danger and emergency.....	18
7.8.	Spare parts manual	18
7.9.	Control register	18
8.	GUARANTEE	19
9.	PROBLEMS AND SOLUTIONS.....	20
9.1.	The running belt stops and restarts	20
9.2.	The running belt doesn't keep center	20
9.3.	Inclination doesn't work	20
9.4.	The general electric power switch doesn't stay on.....	20
9.5.	Noise from motor	20
9.6.	Noise from roller.....	20

WELCOME

This manual refers to the xr600.

Bold type is used to indicate instructions that are particularly important, or to emphasise special operating conditions.

This manual is an integral part of the instrument, and must always be available. It includes the applicable legal declarations and information on the use of medical devices. The correct use of the instrument, and respect of the safety of both patient and operator are only guaranteed if the indications contained in this manual are followed scrupulously.

Further information and clarifications can be requested directly from:

CARDIOLINE® - Supporto Prodotto

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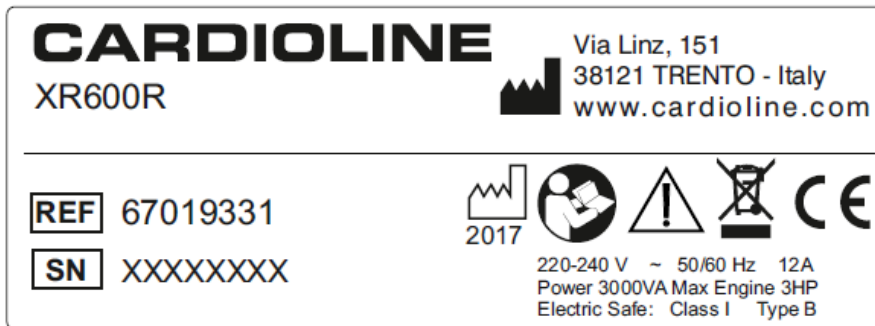
1. RECAPITULATION OF MACHINE MARKING DATA

In case of necessity or following to the instructions of this manual, please contact Cardioline Spa telling always the following data:





Serial number:.....

Year of construction: 20__

Copy of the label on the machine:



1.1. SYMBOLS

Symbol	Description
	Date of production
	Read carefully the manual
	Attention, please read the manual
	RAEE waste



Conformity to European Community Rules

1.2. Other important information

This manual was written with the utmost care. Should you find any details which do not correspond to those contained in this manual, please inform Cardioline SpA who will correct such inconsistencies as soon as possible.

The information contained in this manual is subject to change without notice.
All changes will be in compliance with the regulations governing the manufacturing of medical equipment.

All trademarks mentioned in this document are property of their respective owners. Their protection is guaranteed.

No part of this manual may be reprinted, translated or reproduced without the manufacturer's written authorisation.

The code relating to this manual is listed below.

Language	Code
ENGLISH	36510170_ENG

2. HOW TO USE AND KEEP THE MANUAL

2.1. Consegnee

Keep this manual in safety place near the machine; please read it completely before turning on the machine in order to allow a safety using. It is also a valid instrument for service people because it shows the correct operations to be followed for good maintenance of the medical device.

2.2. Aim

The info written in this manual are for best using of the machine, for knowing its technical characteristics and for giving instruction about transport, moving, installation, mounting, regulation, maintenance, spare parts request and risks. The constructor kindly asks to the user to read this manual completely before any operation.

2.3. Using limits

This manual is projected and made to give to the user instructions, indications and warnings for knowing well the machine, for understanding the using limits and for being informed in the best way for a safety use. It must be considered part of the medical device and it must be kept till the final destruction of the machine.

2.4. How and where keeping the manual

For a correct manual keeping, it must be kept near the machine in safety and dry place sheltered from dust and sun. It must always be ready for consulting under request of anybody.

2.5. Updating, integration and substitution

If the manual is damaged or lost, ask for it to the Constructor referring to the Code written at page 2. The Constructor informs that the manual shows the technical info at the moment of machine sale and it cannot be considered inadequate only for updating made on the basis of new knowledge. The Constructor keeps the right to update the production and the manual, without any obligation to update previous machines or manuals except for safety and health care of users and things. In case of manual updating, the client can make it request to the Constructor as part of the original. In case the client sells the machine, he is invited to inform the Constructor about the name and address of the new owner for keeping the traceability of medical device.

3. IMPORTANT SAFETY INSTRUCTIONS

3.1. Uncorrect or unforeseen use

The treadmill needs to have particular attention to EMC (Electromagnetic Compatibility) and must be installed in conformity to EMC info as follows. Mobile phones can disturb the correct functioning of MD. The treadmill cannot be turned on without or unconnected safety devices (protection covers, emergency stop, etc ...) because of electric risks. The treadmill must be used only in levelled position to avoid crushing or capsizing risks.

Before turning on the Medical Device read entirely the following suggestions checking that being satisfied all following conditions:

- Please read this manual completely before turning on the treadmill in order to allow a safety using.
- The machine must operate in stable or levelled position otherwise the belt could have uncontrolled shifts.
- Neither touch nor put the hands near the moving parts of operating machine.
- Use the side handles only at the beginning or at the end of use or when you push the red Stop button or Stop key.
- Do not turn on the machine near children or pets.
- The machine can be used by one user only at a time.
- Properly dress and suitable shoes are suggested during utilization. Be careful of shoes with strings, scarfs, etc... because they could be dangerous for user.
- Neither tread nor brake with your feet when the machine is functioning but walk or run following the speed of the belt.
- Do not use the machine in the garden or in a damp environment.
- In case of troubles, please contact the authorized dealer or manufacturer. Not authorized repairing attempts make guarantee invalid.
- Take off the plug before starting any maintenance or assembling operation.
- Do not clean the belt under running water.
- In case of vertigo, sick or other abnormal symptoms during the use, stop the training and consult a doctor before continuing.
- At the end of the training let your body rest until heart-beats are normal again. NEVER stop suddenly but gradually slow down.
- The handbook shall always be available near the machine to be consulted by user.
- Make sure there are required spaces to reach and handle the machine, for maintenance and cleaning as well; do not put the motor close to heat sources and let it receive a steady ventilation.

3.2. Machine handling

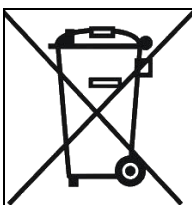
It can be made by authorized people from producer or client, as per sales agreements. Before any handling, the handlers must carefully read the manual following the instructions written on it. The machine is sold by constructor on wooden pallet to be moved with appropriate fork-lift:

gross weight **230 kg** with packing and pallet for model range M.D. XR600;

Do not swing the pallet to avoid the machine fall to the ground or capsize.

3.3. Instructions for rae waste

(Waste of electric and electronic parts)



The crossed-out "wheeled bin" symbol on the medical device indicates that, at the end of its service life, the product must be collected separately from other wastes. Therefore, when disposing of the product at the end of its service life, the user is required to give it to the separate collection centres prepared by local authorities, or to the supplier or the manufacturer by purchasing another equivalent device.

Suitable differentiated collection to allow for the subsequent recycling of the decommissioned device, with environmentally-compatible treatment and disposal, helps to prevent any negative effects on the environment and health and to promote the recycling of the materials from which the device is made.

The illegal disposal of the product by the user entails the application of administrative sanctions envisioned by Italian Legislative Decree no. 22/1997 (Art. 50 and subsequent to the Italian Legislative Decree no. 22/1997).

3.4. Instructions for handrails assembling

The treadmill is sold partially mounted (frame basis + handrails).

Keep free the frame basis from handrails and take off the wood fragments near the wheels.

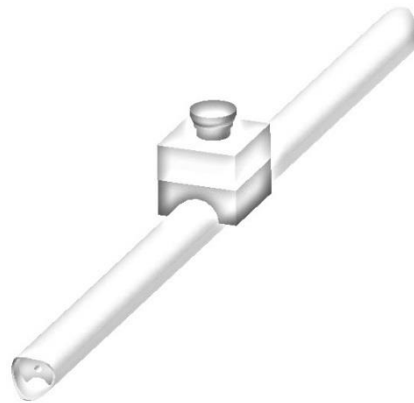
Lift the frame basis from the back side, push it ahead and use the front wheels to go slowly down from pallet. Use the bolts for L+R side handrails assembling with front handrail and fix the handrails to the frame basis.

Join the connector MOD II 4 wires female inside motor box to connector MOD II 4 wires male of wire coming from left handrail as shown in the picture.

Before treadmill's connection to the power supply system:

- lift the treadmill in the back side and use the front wheels to move it;
- check the machine be well steady on the floor regulating the rear feet (see 3.9 how to stabilize the treadmill) to avoid the user's falling and capsizing.

See 3.7 electric requirement for connection to power supply and 3.10 how to centre the running belt for running belt centring if necessary.





The treadmill is equipped with two self-centering for the belt, but if it tends to move to the sides it is necessary to act on the left rear screw (see 3.10 *how to centre the running belt*).

Before connecting the machine to the power supply it must be checked if the power supply characteristics are in accordance with those indicated on the treadmill's label (See 3.7 *electric requirement*).

For the safety of operator against the risk of overturning, falling and crushing, the machine must be placed on a stable surface that supports the weight of the machine without cracking (see 3.9 *how to stabilize the treadmill*).

3.5. Safety parts

Safety parts and devices as:

- Emergency red button
- magnet-thermic switch with filter up to 20A

do not need any intervention by the user for their calibration but he only must check they are installed and complete.

The user must also check, when it is possible, their correct functioning.

3.6. First starting

Everybody can use the machine only after the complete manual reading, following the instructions written on it. In case of any doubt please contact the constructor, whose address is in the section 1 for the manual. The user cannot use the machine under the effect of drugs, alcohol or other foodstuffs that can compromise

the normal level of attention, feeling and reaction. **The machine cannot be used without safety parts and devices well mounted or not efficient** because they could create electric risks.

3.7. Electric requirements

Connect the machine to 220~240 volt electric circuit, frequency 50~60Hz, with plug to hearth of minimum 12 Ampere for range XR600 treadmills.

Range XR600 treadmills at normal functioning absorbs 2000 VA about.

Every machine has its electric wire and plug. The plug must be connected to a socket correctly installed on the basis of local laws.

3.8. Working place

The working place of the machine must have:

Temperature: from + 5 °C to + 30 °C Moisture: from 20 % to 90 %.

If the treadmill is transported or stored with temperature below 0°C and then positioned into the working place with above mentioned temperature, please wait about 1 hour before turning it on in order to avoid the console thermic shock.

The machine cannot be used outdoor and in rooms with fire or explosion risk. The user must be in front of machine console. The ambient conditions cannot create uneasy situations (noise, high beam lights, etc...) or physical and psychical stress to the user. Before installing the machine please calculate the minimum spaces around it necessary for turning around, cleaning, service and out of hot sources.

3.9. How to stabilize the treadmill

Check the treadmill be on stable surface and, if necessary, adjust the rear feet after that block the two M20 bolts until stability is achieved.

3.10. How to centre the running belt

The treadmill has a belt self-centring system. If the belt goes to right or left side, please control that the treadmill is well steady on the floor (see 3.9 how to stabilize the treadmill). To centre the belt, use the left rear screw with moving of half a turn each time. Turning the screw rightwards, the belt will move rightwards while turning the screw leftwards the belt will move leftwards.

3.11. Best running belt tension

To obtain the best belt tension, put the treadmill at 5 km/h speed, hold the side handles and press the belt with feet stopping it with difficulty and feeling the front roller slipping. If the belt is easily stopped, it means

that the belt is too loose and it must be tight; on the contrary if the belt cannot be stopped, it means that the belt is too tight and must be released. For belt tightening or releasing, turn the right and left rear screw with moving of half a turn each time. Keep the belt tight but not in tension.

TOO MUCH TENSION CAN MAKE THE BELT IRREPARABLE !

4. TREADMILL DESCRIPTION

4.1. Treadmill description

The machine is a valid instrument for physical rehabilitation in medical and therapeutic field as well as ergometer for stress test connected with ECG machine, preset for manual/automatic stand alone operation and ECG digital control with RS232 interface.

On the basis of Enclosure 7 of EEC 93/42 Rule, the producer declare that this medical device is in **risk class 1** in accordance to criterion 3 "Active Devices" / 3.3 Rule 12 of Enclosure 9 - EEC 93/42 Rule.

The machine is made with high tech and quality materials allowing high performances in total silence and reliability.

Model:	Speed Km/h (tolerance +/- 5%)	Inclination % (tolerance +/-5%)
serie XR450	0 – 25	0 – 30% optional -2 / +28%

4.2. User description

The user doesn't need to have electronic or mechanic knowledge to use the treadmill.

It's sufficient to read carefully the manual to get all instructions and warnings to know and use the machine in safety. Please read the manual completely page by page to well understand and remember all information and warnings. The user must be in perfect psycho-physical condition to understand and follow the instructions written in this manual. Don't use the machine under the effect of drugs, alcohol or medicine that can reduce the normal level of understanding or reaction.

4.3. Treadmill uses

This Medical Device can be used as follows:

	XR600R	XR450R
Remote use with S232	x	x

4.4. Emergency

In case of emergency the red emergency button cuts electricity for motion and motor machine has a decreasing immediate stop. The treadmill has also a magnetic emergency stop (red magnet with rope and clip). Pushing the red emergency button

Pushing the red emergency button the treadmill makes one beep per second to report the stop.

Rotate clockwise the red stop button / re-install the red magnet in the yellow hole to reset the emergency and unblock the motor

5. SOFTWARE

After turning on, the treadmill automatically resets itself bringing the inclination to end run. During this operation the oil-can under the motor cover sprays a little quantity of oil under the running belt. The belt runs at low speed for about 10 sec. At the end of the self-lubrication operation, the treadmill stops, brings it to inclination default value (see 5.2 Setup) and makes 3 beeps (2 short and 1 long) meaning that it is ready to be connected to ECG.

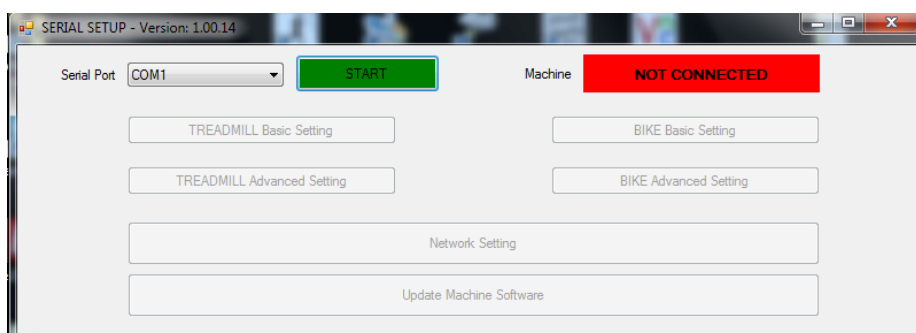
WARNING: switch the machine on and off once a day unless used.

5.1. Connection to ECG

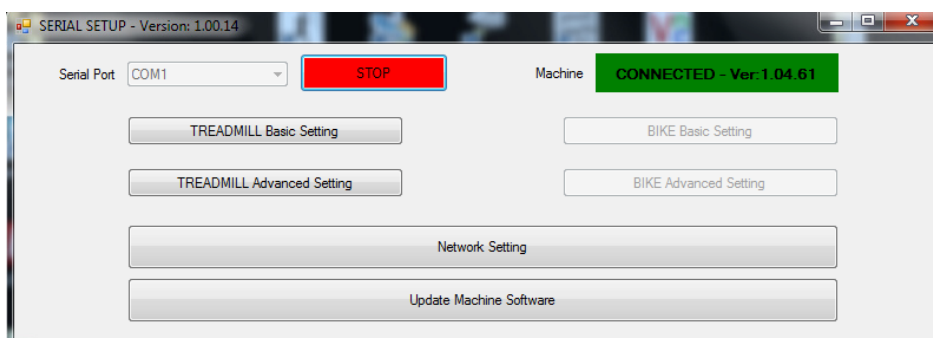
It's possible to manage the treadmill by ECG selecting Trackmaster protocol. Use only the RS232 cable supplied with the machine for connection to ECG. When the treadmill is connected to ECG and the test starts, it performs one short beep sound and one long beep sound when is disconnected.

5.2. Setup

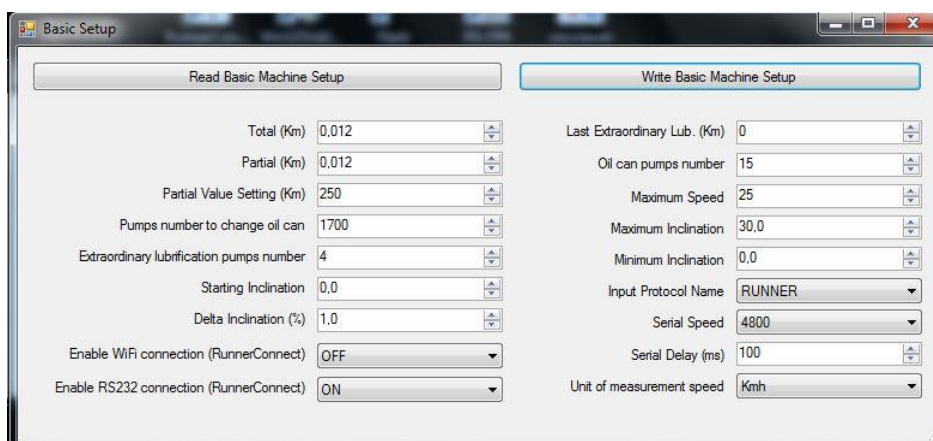
Treadmill's software allows to set up some values/parameters. Connect the treadmill to PC (Windows OS) with RS232 cable and open software "RunnerSetupSeriale".



- 1) Set up COM (on the left top);
- 2) Click on green key **Start**;
- 3) Turn on the treadmill;
- 4) After about 40 sec. the treadmill is connected.



5) Click on “**TREADMILL Basic Setting**” to see and set up the values.

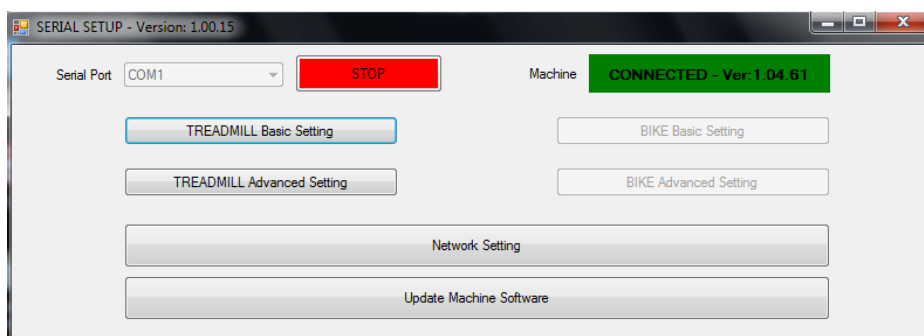


Once values are set up, click on “**Write Basic Machine Setup**” to send to the machine the values just modified.

With this software it's possible to change/set up the following values:

- **Total (km):** see the total km of machine;
- **Partial (km):** see the km made from last extraordinary lubrication;
- **Partial Value Setting (km):** see / set up the km when the treadmill must make the extraordinary lubrication;
- **Pumps number to change oil can:** Pumps number after that the oil can alarm turns on;
- **Extraordinary lubrication pumps number:** Number of oil pumps during the extraordinary lubrication;
- **Starting Inclination:** It's possible to change the starting inclination value;
- **Delta Inclination:** Inclination increment pushing “+ inclination” key;
- **Enable WiFi connection (RunnerConnect):** This feature is not available;
- **Enable RS232 connection (RunnerConnect):** Enable/Un-enable the RS232 connection by cable;
- **Last Extraordinary Lub. (km):** see the km when the treadmill made last extraordinary lubrication;
- **Oil can pumps number:** see / reset the oil can pumps number (one every turning on operation);
- **Maximum Speed:** It's possible to change the machine maximum speed;
- **Maximum Inclination:** It's possible to change the machine maximum inclination;
- **Minimum Inclination:** It's possible to change the machine minimum inclination;
- **Input Protocol Name:** It's possible to set up the machine protocol;
- **Serial Speed:** It's possible to set up the serial communication speed;
- **Serial Delay (ms):** It's possible to set up the serial commands delay;
- **Unit of measurement speed:** It's possible to change the unit of measurement speed (kmh or mph).

Click on **“Update machine software”** if you want to update the machine software.



5.3. Extraordinary lubrication

Every **250 km** (this value can be modified from SetUp, see 5.2), at turning on, the machine will go down 4 times (this value can be modified from SetUp, see 5.2), spraying oil for special belt lubrication. During this operation the treadmill makes 4 beep when inclination reaches the minimum value.5.4.

5.4. Oil can substitution

One time in a year please check if the oil can. If it's empty open the plastic motor cover, unscrew the black cap with oil can image and take off the empty can;

Use the can cap again on new can because it is already connected with lubrication pipe.

6. TECHNICAL DESCRIPTION

6.1. Technical specifications

	<i>XR600R</i>	<i>XR450R</i>
USES:		
Remote use	x	x
SPECIAL CHARACTERISTICS:		
Forward speed 0.1 – 25.0 km/h \pm 5%	x	x
Reverse speed 0.1 – 5.0 km/h \pm 5%	x	x
Speed increment 0.1 km/h	x	x
Inverter	Inverter 2.2 Kw 230V with filter	Inverter 1.5 Kw 230V with filter
Inclination	0 / +30 % (-2 / +28 %)	0 / +22 % (-3 / +19 %)
Inclination increment 0.5 -> 1%	x	x
Damped board	x	x
Self lubricating belt system	x	x
Self centring belt system	x	x
Motor 3HP AC (Max peak 7HP)	x	
Motor 2HP AC (Max peak 5HP)		x
Steel roller	x	x
Steel frame, front wheels and rear feet	x	x
RS232 output optoisolated	x	x
Noise	< 30 dB	< 30 dB
Nominal absorbed power	2500 VA	1500 VA
Absorbed power at max speed	3000 VA	2400 VA
Toroidal transformer	1700 VA	1700 VA
Electric power supply	220/240Vac 50/60Hz 12A	220/240Vac 50/60Hz 10A
Inclination circuit:	18 V a.c.	18 V a.c.
Console circuit:	12 V c.c.	12 V c.c.
Emergency stop	Red stop button with sound signal	Red stop button with sound signal
TECHNICAL SPECIFICATIONS:		
Max user's weight	220 kg	150 kg
Running surface	154,5 x 54 cm	140 x 48
Width, length, height	80x210x150 cm	70x188x142 cm
Weight	180 kg	145 kg
STANDARD ACCESSORIES:		
Long size side handrails	x	x
Front handrail	x	x
OPTIONAL ACCESSORIES:		
Ramp	x	x
CONFORMITY:		
EEC 93/42 (Medical Device)	x	x

6.2. *Connecting cable*

3 mt. length electric power supply earth wire (supplied).

6.3. **Accessories**

Use of accessories not supplied with machine can cause the increase of electromagnetic output and decrease of machine immunity to external electromagnetic sources.

7. MAINTENANCE INSTRUCTIONS

User or person in charge of machine maintenance can only carry out procedures as follows:

7.1. Outer cleaning

Clean the machine and the console only with wet cloth. Do not use solvents. Before cleaning make sure the plug is disconnected.

7.2. Belt

If machine is not utilized for a long time, loose the belt tension with screws on the rear part of the machine (see point 3.11 best running belt tension).

7.3. Lubrication

Control the wooden board below the belt is well lubricated. The machine has a self-lubricating system (see 5.3 extraordinary lubrication) that spray oil to the belt every time the treadmill is powered up (do not turn on it more than 2 times per day). One time per year check oil into the spray can and, if it is necessary, substitute it with a new one. Every 250 km (value modified from SetUp), at turning on, the machine will go down four times spraying oil for special belt lubrication.

Use only vaseline spray oil can.

7.4. Oil can substitution

(See 5.4 oil can substitution).

7.5. Belt tension

(See 3.11 best running belt tension).

7.6. Routine service instructions

People that make routine service to the machine do not need particular skills. They only must read the manual to get all instructions and warnings. Do not repair or change by yourselves damaged or broken parts. Please contact the constructor (See chapter 1 Recapitulation of machine marking data).

7.7. Danger and emergency

ATTENTION! MACHINE UNDER VOLTAGE.

DANGER OF CONTACT WITH PARTS UNDER VOLTAGE, SHORT CIRCUIT, BURN.

Do not put the plug into socket and do not turn on the machine with plastic motor cover open. Before opening it, turn off the general electric switch and take off the electric plug.

ATTENTION! MOVING PARTS.

DANGER OF CONTACT WITH MOVING, CUTTING, ENTANGLING, DRAGGING PARTS.

Turn on the machine always with closed and mounted plastic motor cover for guarding the user from moving parts.

7.8. Spare parts manual

The constructor doesn't give the spare parts manual because it's not allowed to repair or change by itself damaged or broken parts. Please contact the constructor for any request of assistance (*See chapter 1 recapitulation of machine marking data*).

7.9. Control register

N:	Intervento:	Dopo Ore:	Motivo/Note:	Effettuato da:	In data:
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

8. GUARANTEE

The constructor guarantees the machine free from material or working defects. Guarantee is valid for 3 years on mechanic, electric or electronic parts starting from date of purchase stated by consignment document issued by producer or retailer. Guarantee means substitution or repairing free of charge of defective parts not including accessories, plastic bodies, belt and all parts showing defects due to negligence, carelessness, bad or correct use, unfit maintenance, not authorized use, bad assembling or installation or maintenance made by personnel not authorized by the constructor. The constructor declines any responsibility for possible damages to things, persons or animals against conformity of all indications written in this manual.

9. PROBLEMS AND SOLUTIONS

9.1. The running belt stops and restarts

Control the belt tension (*see 3.11 best running belt tension*) because if belt is too loose or too much lubricated it could slip.

9.2. The running belt doesn't keep center

The belt is too tight or user hangs on only one side handrail. (*See 3.10 how to center the running belt*).

9.3. Inclination doesn't work

Check the fuse (8A retard for XR600) inside fuse box near the machine power switch. If it is o.k. contact the constructor (*See chapter 1 recapitulation machine marking data*).

9.4. The general electric power switch doesn't stay on

Problems on inverter or motor in short circuit. Contact the constructor (*See chapter 1 recapitulation machine marking data*).

9.5. Noise from motor

Contact the constructor (*See chapter 1 recapitulation machine marking data*).

9.6. Noise from roller

It is necessary to change the roller because of bearings seat ruined. Contact the constructor (*See chapter 1 recapitulation machine marking data*).

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