HumaRoll

| User Manual

CE

Cat No. 154601

Human

Diagnostics Worldwide

REVISION LIST OF THE MANUAL

Rev. /DATE.	REVISION DESCRIPTION
01/2012-08	First edition
02/2013-08	New Display design
03/2013-11	New Powerline position
04/2014-08	Specification update

SYSTEM VERSION

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SERVICE UND SUPPORT

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1 SAFETY INSTRUCTIONS

1.1 Introduction

This manual is considered as a part of the instrument; it has to be at the operator's hand as well as at the maintenance operator's availability. For accurate installation, use and maintenance, please read the following instructions carefully. In order to avoid instrument damage or personal injury, carefully read the "GENERAL SAFETY WARNINGS", describing the suitable operating procedures. In case of breakdowns or any troubles with the instrument, apply to the local Technical Service.

1.2 User Warranty

HUMAN warrants that instruments sold by one of its authorised representatives shall be free of any defect in material or workmanship, provided that this warranty shall apply only to defects which become apparent within one year from the date of delivery of the new instrument to the purchaser.
The HUMAN representative shall replace or repair any defective item at no charge, except for transportation expenses to the point of repair.

This warranty excludes the HUMAN representative from liability to replace any item considered as expendable in the course of normal usage, e.g.: lamps, valves, syringes, glassware, fuses, diskettes, tubing etc.
The HUMAN representative shall be relieved of any liability under this warranty if the product is not used in accordance with the manufacturer's instructions, altered in any way not specified by HUMAN, not regularly maintained, used with equipment not approved by HUMAN or used for purposes for which it was not designed.

HUMAN shall be relieved of any obligation under this warranty, unless a completed installation / warranty registration form is received by HUMAN within 15 days of installation of this product.
This warranty does not apply to damages incurred in shipment of goods. Any damage so incurred shall be reported to the freight carrier for settlement or claim.

1.3 Intended Use of the Instrument

The instrument is intended for diagnostic application by professional users. It has to be used for the expected purposes and in perfect technical conditions, by qualified personnel, in working conditions and maintenance operations as described in this manual, according to the GENERAL SAFETY WARNINGS. This manual contains instructions for professional qualified operators.

1.4 General Safety Warnings

Use only chemical reagents and accessories specified and supplied by HUMAN and/or mentioned in this manual. Place the product so that it has proper ventilation.

The instrument should be installed on a stationary flat working surface, free from vibrations.

Do not operate in area with excessive dust.

Work at room temperature and humidity, according to the specifications listed in this manual.

Do not operate this instrument with covers and panels removed.

Only use the power cord specified for this product, with the grounding conductor of the power cord connected to earth ground.

Use only the fuse type and rating specified by the manufacturer for this instrument, use of fuses with improper ratings may pose electrical and fire hazards.To avoid fire or shock hazard, observe all ratings and markings on the instrument.

Do not power the instrument in potentially explosive environment or at risk of fire.

Prior to cleaning and/or maintaining the instrument, switch off the instrument and remove the power cord.

For cleaning use only materials specified in this manual, otherwise parts may become damaged. It is recommended always to wear protective apparel and eye protection while using this instrument. Respective warning symbols, if appearing in this manual, should be carefully considered.

1.5 Disposal Management Concept

The currently valid local regulations governing disposal must be observed. It is in the responsibility of the user to arrange proper disposal of the individual components.

All parts which may comprise potentially infectious materials have to be disinfected by suitable validated procedures (autoclaving, chemical treatment)

prior to disposal. Applicable local regulations for disposal have to be carefully observed.
The instruments and electronic accessories (without batteries, power packs etc.) must be disposed off according to the regulations for the disposal of electronic components.
Batteries, power packs and similar power source have to be dismounted from electric/electronic parts and disposed off in accordance with applicable local regulations.

1.6 Biohazard warning

Analytical instruments for diagnostic application involve the handling of human samples and controls which should be considered at least potentially infectious. Therefore every part and accessory of the respective instrument which may have come into contact with such samples must equally be considered as potentially infectious.
For safety reasons, we have labeled instruments with the„BIOHAZARD“ warning label below.

FIGURE 1
Biological Hazard Symbol

1.7 Instrument Disinfection

Before doing any servicing on the instrument it is very important to thoroughly disinfect all possibly contaminated parts. Before the instrument is removed from the laboratory for disposal or servicing, it must be decontaminated. Decontamination should be performed by authorised well-trained personnel only, observing all necessary safety precautions.
Instruments to be returned have to be accompanied by a decontamination certificate completed by the responsible laboratory manager.
If a decontamination certificate is not supplied, the returning laboratory will be responsible for charges resulting from non-acceptance of the instrument by the servicing centre, or from authority's interventions.

2 DESCRIPTION

The HumaRoll is a small bench top tube roller designed to mix liquid for medical, biology, research and quality control. It consists of a brushless electric motor and 6 rolles to hold tubes for processing the mix.

The HumaRoll bench-top tube roller is manufactured in accordance with the following standards:

EN 61010-1, EN 61326-1

2.1 Abbreviations

rpm	revolutions per minute
w	watt
v	volt
Hz	Hertz
kg	kilogram
mm	milimeter
cm	centimeter
g	gram

3 INSTALLATION

3.1 Contents of Package

- HumaRoll
- 1 user manual
- 1 power cable

3.2 Mains Supply

The HumaRoll requires 100-240V 50/60Hz
The HumaRoll should be connected only to a grounded outlet.

3.3 Environmental Conditions

The instrument is designed to operate safely under the following conditions:

- Indoor use only
- Ambient temperature: 5°C - 40°C.
- Maximum relative humidity of 80%.
- Maximum altitude 4000 m.

3.4 Positioning

Place the Tube Roller on a bench-top able to support its weight and vibrations, in clean, non-corrosive environment.

! If there is any apparent damage to the system, please do not connect to the power line.

3.5 Inspection

After unpack the instrument inspect for damage and cleanliness.

4 SPECIFICATIONS

TABLE 1

Technical Specifications	HumaRoll	
Maximum speed	70 rpm	
Amplitude	24 mm	
Maximum capacity	4 kg	
Display	Scale	
Number of Rolls	6	
Roll diameter	30 mm	
Roll length	280 mm	
Speed set range	0-70 rpm	
Operation mode	Continuous Operation	
Acceleration rate	Fix acceleration rate	
Breaking rate	Fix breaking rate	
Motor	DC -Motor	
Supply value	100-240VAC 50/60Hz (IEC-60320C13 connector) + EU Plug	
Power consumption	25w	
Protection class acc EN60529	IP21	
Dimensions	Instrument without any components:	26 x 47 x 12 cm
	Space requirement for routine use:	35 x 55 x 12 cm
	Packaging:	35 x 55 x 25 cm
Weight:	Gross: 6 kg, Net: 4,5 kg	
Enviromental	Operation temperature 5-40 °C Operation Humidity Max 80% Maximum altitude: 4000m	

5 INSTRUCTIONS FOR USE

5.1 Schematic Drawing

FIGURE 2

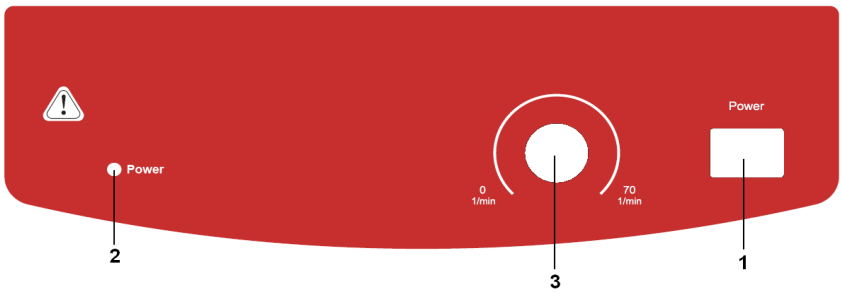
1 Power LED
2 ASpeed control knob
3 Power switch

FIGURE 3

1 Power inlet

5.2 Controls and Indicators

FIGURE 4



1 **Power switch**
2 **Power LED**
3 **Speed control knob**

TABLE 2

1 Program buttton	Switch ON or OFF the instrument
2 Power LED	Green LED shows power on
3 Speed control Knob 	Clockwise rotate to increase the speed, counter clock-wise to reduce the speed

5.3 Normal operation

- Connect the power cable
- Load the to be mixed tubes to the rolls
- Rotate the speed control knob to set target speed
- Switch ON instrument
- The instrument begins running
- Switch OFF the instrument after the mixtime is reached

6 TROUBLESHOOTING

6.1 Possible problems and solutions

Symptom	Causes	Solutions
Instrument don‘t starts after switch on	Power cable not connected	Connect power cable
-	Speed control know is set to 0	Turn speed control knob clockwise to increase the speed

TABLE 3
Possible problems and solutions

7 HAZARDS, PRECAUTIONS AND LIMITATIONS OF USE

7.1 Cautions

The following precautions must be observed:

- Read the operating instructions carefully before use.
- Ensure that only trained staff works with the instrument.
- Ensure the socket must be grounded (protective ground contact) before use.

Special attention to the following is necessary:

- When working wear personal safety guards to avoid the risk of:
  Splashing liquids
  Broken glass containers
- Follow the safety instructions, guidelines and accident prevention regulations.
- Do not touch the running parts, moving instrument care not rolling your fingers.
- Set up the instrument in a spacious area on a stable, clean, non-slip, dry and fireproof surface. Do not operate the instrument in explosive atmospheres, with hazardous substances or under water.
- If the instrument does not run smoothly, please decrease the motor speed.
- Firmly secure the accessories and vessels in place to avoid damage or risk.
- Preparation of samples may lead to dangerous flammable. Only process samples that will not react dangerous.
- Confirm the instrument are intact before switch on each time.
- The voltage stated on the nameplate must correspond to the mains voltage.
- Do not cover the instrument during running. Prevent the collision and extrusion to instrument and accessories.
- Keep away from high magnetic field.
- To avoid electrical shocks, insure hands are dry before handling the power cord or turning on/off the power switch.
- Unauthorized repairs, disassembly, or modifying the centrifuge except by a trained service are strictly prohibited.

7.2 Cleaning

Disconnect the tube roller before cleaning. Ideally, the rolls should be washed after every use but at least weekly in warm water containing a few drops of mild liquid soap (domestic washing liquid is ideal) and any time after spillage has occurred.

! The rolls must be cleaned if any spillage, specially chemicals, occurs.

! If the recommended instructions for cleaning or disinfecting are not followed this may damage the tube roller.

7.3 Contamination Hazards

Our tube roller are used in medical research, where hazardous substances, including radioactive chemicals, are frequently found.

Always use the appropriate decontamination procedures where the rolls are exposed to these chemicals.
Examples of commonly used techniques are outlined below. The information is given as a guide only. It is the responsibility of the owner to use the most suitable procedure.

7.4 Disinfection

Alcohol (70% ethanol or 70% isopropanol) applied for 10 minutes is ideal for destroying bacteria and viruses.

7.5 Electrical

High voltage is present behind the panels of the tube roller.

! Do not open the instrument! There are no user-servicable parts inside. In the case of a malfunction, please contact your local HUMAN representative.

7.6 Improper Use

- see chapter cautions

8 CLEANING AND PREVENTIVE MAINTENANCE

8.1 Daily

No daily cleaning is required, except in the case of accidental glass breakage or a large amount of spillage to the rolls.

8.2 Weekly

Clean the rolls with a cotton wool pad dipped in 70% alcohol solution.

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