



Registered trademark



## OPERATOR'S MANUAL HUBER 360° EVOLUTION

**Please read this entire manual carefully  
before using your device.**

**Keep this manual and the separate installation  
instructions for future reference**

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GU1306 - GB  
Indice C1 of 10/2020

Congratulations on the purchase of your HUBER 360° EVOLUTION device. This model represents many years of research, combining the latest technologies with LPG's expertise. You can fully appreciate the technical perfection and reliability that have made LPG Systems the leader in this field.

With the aim to continuously provide satisfaction, your device is equipped with a specific software devised to ensure connection with the LPG dedicated server. The data collected through this software will allow LPG to improve its support and maintenance services. This operator's manual describes how to operate the device, instructions for periodic maintenance, and safety guidelines.

Your device should be used only by a professional who has completed the manufacturer's training provided by LPG Systems or an approved provider, if you live outside of France, it's not suitable for home use.

If you have any questions about operating or maintaining your device, please contact LPG via the Customer Service Department of your local LPG distributor.

### IV WARNING

To better respond to customer requirements and expectations, LPG Systems is constantly looking for ways to improve the design and quality of its products. For this reason, there may be minor differences between your equipment and the unit described in this manual.

## → CONTENTS

- One HUBER 360° EVOLUTION
- One set of guardrails
- One repositioning block
- One articulated stool
- Two pads
- One heart rate monitor
- One tablet
- One power cable
- One set of quick unpacking and set-up instructions
- One POS display

## → CONTENTS

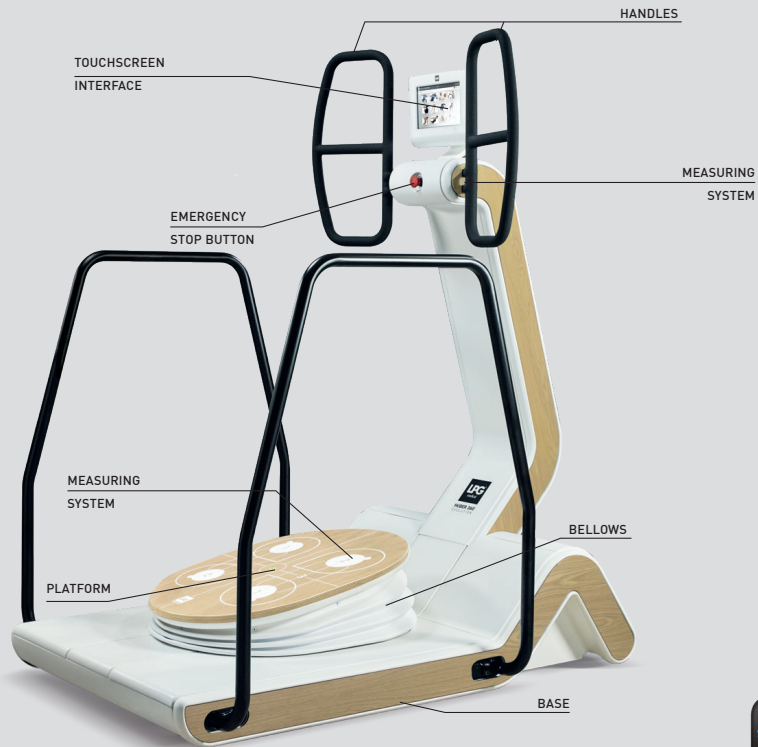
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→ DEVICE DESCRIPTION

HUBER 360® EVOLUTION is intended for therapeutic use. It can be used for:

1. The muscle reinforcement
2. The joint mobility recovery
3. The additional therapy treatment for obesity

The machine can be used in hospitals and rehabilitation clinics by specialists and physiotherapists. It is an independent device that cannot be combined with other machines. It should only be used by professionals who have been specially trained by LPG Systems in its use. It is not meant to be used at home.



→ DEVICE DESCRIPTION

INDICATOR  
POWER ON

CIRCUIT BREAKER  
POWER SWITCH NO. 1  
TURN ON  
FIRST



CIRCUIT BREAKER  
POWER SWITCH NO. 2  
TURN ON  
SECOND

IV WARNING

The unit can only operate if its power cable is connected to the power outlet and if the on/off switch is turned on.

→ CONTROL SCREEN



USB PORT



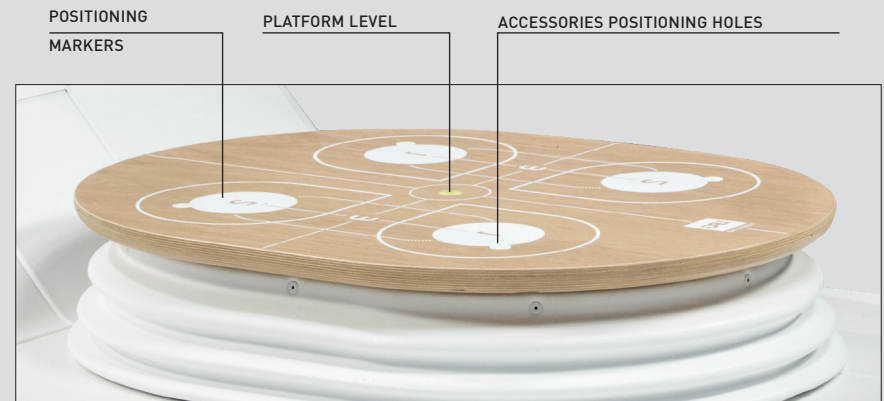
TOUCH SCREEN

POWER INDICATOR

→ HANDLES



→ PLATFORM



POSITIONING MARKERS

PLATFORM LEVEL

ACCESSORIES POSITIONING HOLES

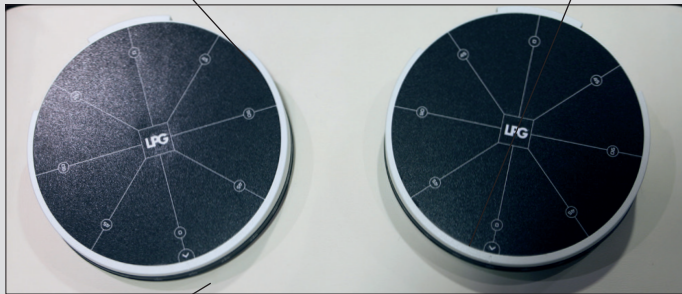
→ PADS

HUBER 360® EVOLUTION comes with two Pads that can be positioned on the platform.

Overview

FOOT ORIENTATION ANGLE MARKER

ORIENTATION MARKER ON THE UPPER MOVABLE SIDE



PAD ROTATION ANGLE MARKER

Underside

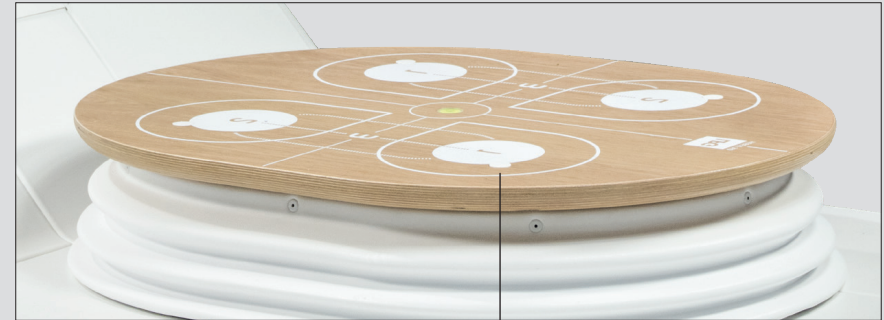
POSITIONING PINS



→ PADS (CONT.)

POSITIONING THE PADS:

The Pads can be positioned on the platform in the positioning holes.



POSITIONING HOLE

To position the Pads on the platform, you will need to align the positioning pins on the Pads with the suitable positioning holes.

IV WARNING

All operations in this section should be performed when the device is powered off.

→ PADS (CONT.)

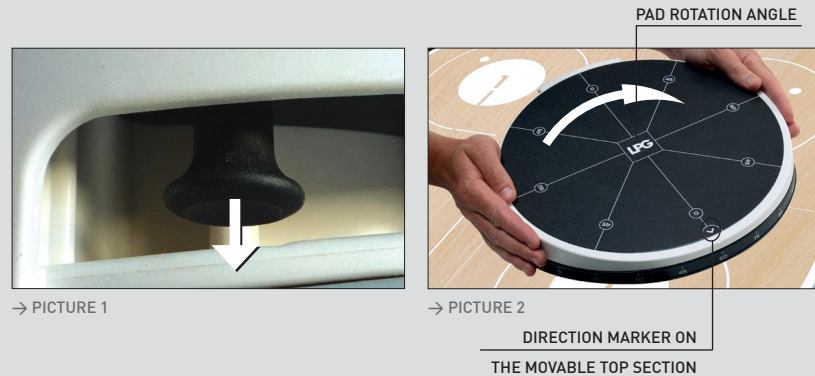
**ORIENTATION OF FOOTINGS ON THE PAD:**

The orientation of the footing can vary 0 to 90° with respect to the inclination of the Pad. To do this, simply position the footing to the desired angle.



**ORIENTATION OF THE PADS:**

The orientation of the Pads with respect to the platform can be adjusted in 15° increments. To adjust the orientation of the Pads, you will need to unlock the locking ring by pushing it downwards (photo 1), and then rotate the upper part of the Pads so that the marker lines up with the proper degree of tilt (photo 2).



→ PICTURE 1

→ PICTURE 2

DIRECTION MARKER ON THE MOVABLE TOP SECTION

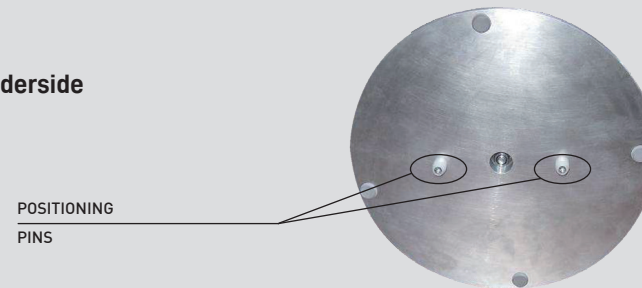
→ ARTICULATED STOOL

Your HUBER 360° EVOLUTION comes with an articulated stool that can be positioned on the platform

**Overview**



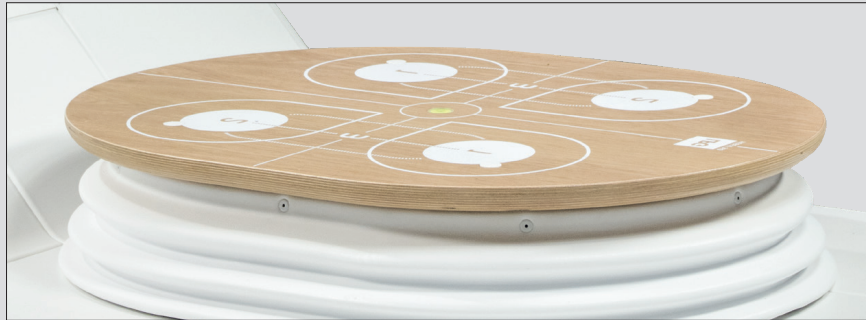
**Underside**



POSITIONING PINS

## → ARTICULATED STOOL (CONT.)

## POSITIONING THE ARTICULATED STOOL



To position the articulated stool on the platform, you will need to align the positioning pins on the articulated stool with the suitable positioning holes.

## → ARTICULATED STOOL (CONT.)

## LOCKING THE ARTICULATED STOOL ONTO THE PLATFORM

Before use, the articulated stool must be locked onto the platform. To do this, press the middle button until the tool is lodged into the holes, as shown in the photos below:



## TILTING THE STOOL

The articulated stool can tilt from 0 to 15°.

To do this, turn the articulated stool's adjustment wheel to set the marker to the desired tilt.



## IV WARNING

Ensure that the articulated stool is properly locked before use.  
All operations in this section should be performed when the device is powered off.

## → HEART RATE MONITOR

Your HUBER 360® EVOLUTION comes with a Heart Rate Monitor that constantly displays your heart rate.

Activate your Heart Rate Monitor by centering it on your chest.

Moisten contact areas with water or gel. Next, follow the instructions on the screen.

Your heart rate will appear at the lower right corner of the screen.



CARDIO BELT TO  
BE POSITIONED  
ON THE CHEST

### Heart Rate

- Display: 30 to 240 bpm
- Limit: 30 to 230 bpm
- Maximum percentage for display: 240 bpm

## → TABLET

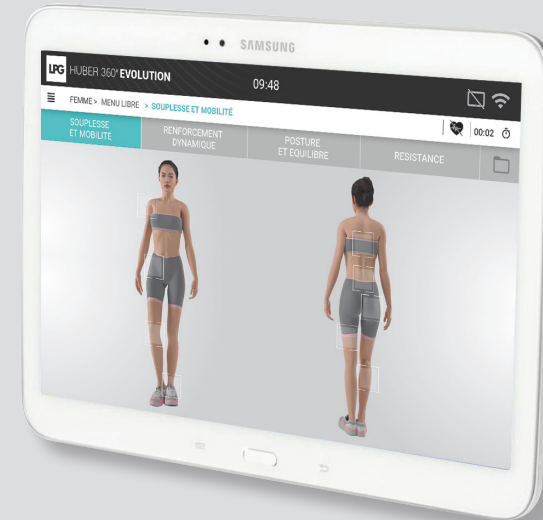
Your HUBER 360® EVOLUTION comes with a tablet that allows you to access the HUBER 360® application.

The HUBER 360® EVOLUTION application is downloadable thanks to the «my LPG» application, available on the Play Store.

This application enables you to:

- carry out a functional assessment
- create customised exercises/programmes
- monitor patient at a distance
- send assessment to patients and prescribers

Details about how to use the application are provided when you open it.



### ATTENTION

The heart rate meter is designed only for casual use. It should not be used for obtaining measurements that require professional or laboratory-quality precision.

The serial number for the heart rate meter can be found on the back of the belt.

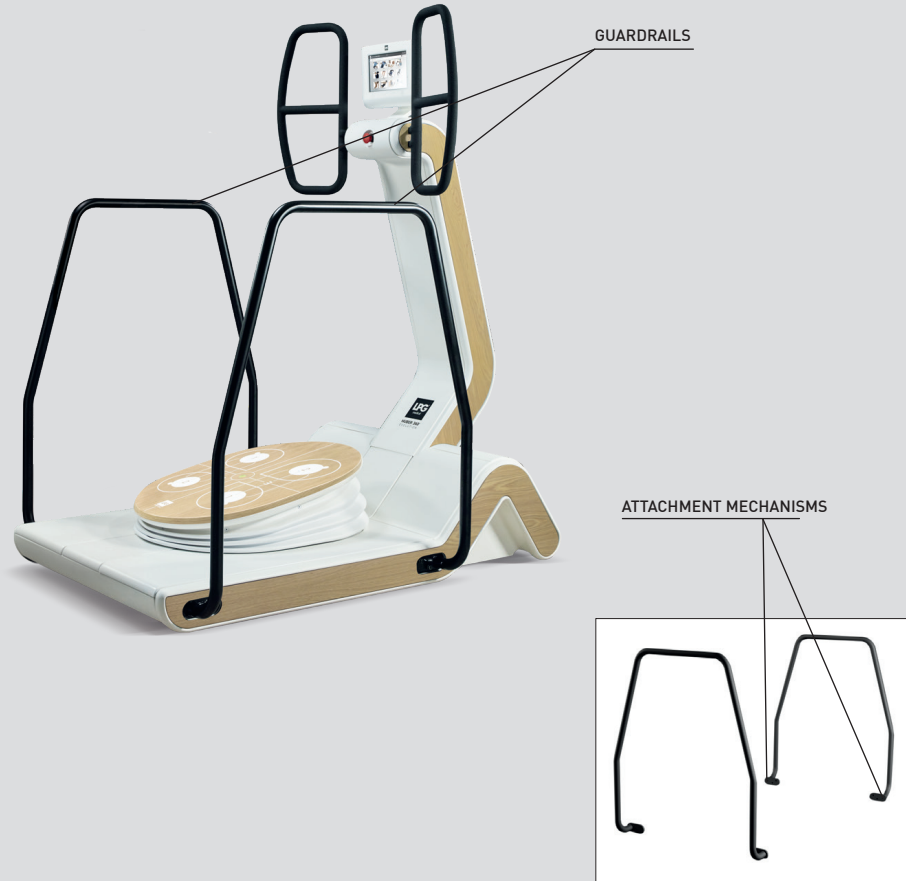
The heart rate monitor contains a battery that cannot be disposed of with household garbage, it requires special recycling. When the battery dies, dispose of it in an authorized location for recycling.



→ GUARDRAILS

HUBER 360® EVOLUTION comes with two guardrails attached to the machine. These guardrails are meant to make the machine easier to use:

Overview



→ REPOSITIONING BLOCK

HUBER 360® EVOLUTION comes with a repositioning block that can be positioned on the platform:

Overview



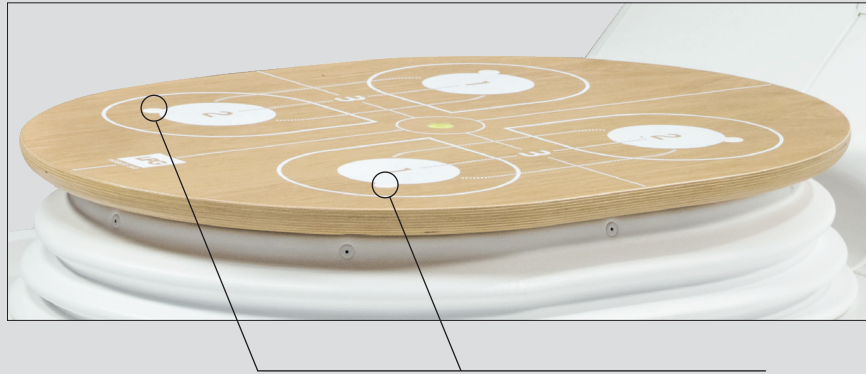
Underside



→ REPOSITIONING BLOCK (CONT.)

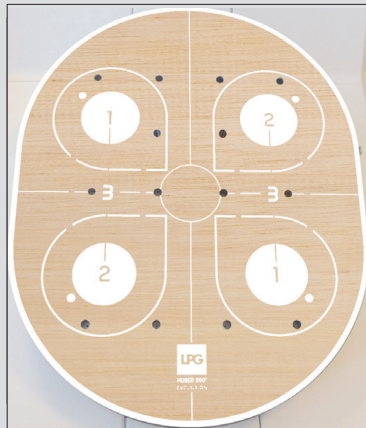
**POSITIONING THE REPOSITIONING BLOCK**

The repositioning block can be positioned on the platform using the positioning holes shown in the photo below:



POSITIONING HOLE

To position the repositioning block, align the positioning pins on the block with the positioning holes in the platform.



→ IMPORTANT SAFETY INFORMATION

The following safety precautions must always be observed when using an electrical device. Read all instructions before using the device.

**DANGER - TO MINIMIZE THE RISK OF ELECTRIC SHOCK:**

- Ensure that the circuit breakers are tripped and make sure the voltage is off after its use and before its cleaning.
- Check that the voltage indicated on the nameplate matches the voltage of the power outlet.
- High leakage current. ground connection is required before connection to the power supply. The device must be connected to power circuits that only power this device. Refer to local regulations.

→ INSTALLATION

**CLEARANCE:** provide a clearance of 1 meter all around the device, keeping the area free of any objects or people.



## → INSTALLATION (CONT.)

The installation of your HUBER 360® EVOLUTION machine must respect the instructions given in the unpacking notice (to be found in the pocket glued to the box). HUBER 360® EVOLUTION is a non-mobile device and must be connected by an approved installation expert in accordance with all local/national regulations.

- Before any electrical installation work is undertaken, the electrical current must be disconnected.
- Ensure that a differential device (detecting the DC and AC components from a frequency inverter) is installed on the circuit upstream from the machine. This must comply strictly with all appropriate safety regulations and restrictions.
- Ensure that the circuit-breaker rating is in correct correspondence to HUBER 360® EVOLUTION (the upstream circuit breaker must be rated higher than the machine). Place the wall connection box (with isolating cover) as close to the main electrical supply as possible for a permanent connection to HUBER 360® EVOLUTION. Do not connect with a standard removable plug and socket.
- Locate the electrical system neutral, ensuring that the voltage on the neutral to ground is close to 0V.
- Ensure the correct wiring of the phase, earth and neutral in HUBER 360® EVOLUTION.
- When the connection is completed, re-connect the electrical current and start HUBER 360® EVOLUTION by activating the on/off circuit breaker.
- Ensure that HUBER 360® EVOLUTION is activated and functioning correctly.
- The unit must be connected to a dedicated single power line.



HUBER 360® EVOLUTION CABLE



FIXED CONNECTION (HUBER 360® EVOLUTION) AND STANDARD CONNECTION (PROHIBITED)



INSTALLATION COMPLETED

## → WARNING

### TO MINIMIZE THE RISK OF BURNS, FIRE, ELECTRIC SHOCK, OR PERSONAL INJURY:


- The device should never be left unattended while plugged in.
- Stop the device when not in use for a long period of time or before installing or removing parts.
- Carefully monitor the device when it is used by, on, or around children or disabled individuals.
- Never use this device if the power cord<sup>1</sup> or outlet is damaged, if it is not working properly, if it has been dropped, or if it has been exposed to excessive humidity.
- Return the device to the LPG Systems service center for examination and repair.
- Never use the device if the vents are blocked. Keep openings free of dust and other contaminants.
- Do not drop or insert any objects into any of the openings. This could damage the machine.
- Do not use the device on a dirty or uneven floor or in a humid or salty environment, and do not expose it to bad weather.
- Do not use the device around aerosol (sprays) or oxygen products.
- Never touch the patient and the unprotected connection cables at the same time.

#### IV WARNING

<sup>1</sup> Provided power cord information:  
 Europe H05VVF3G1,50  
 Japan VCTF3×2,00  
 USA, Canada, Mexico SJT3×14AWG1,5

## → PRECAUTIONS

### WARNING : KEEP THESE INSTRUCTIONS

- As with any physical training, a medical examination should be performed before using the equipment.
- The professional should ensure that the settings (platform oscillation speed, amplitude, activity/rest duration, etc.) are correct for the user's morphology and physical condition.
- The equipment should be used under careful supervision by a trained professional.
- Users should warm up properly before using the equipment for exercise.
- Users should breathe regularly while exercising.
- Using this equipment with maximum effort is not recommended while the platform is moving.
- The user should stop immediately if experiencing any discomfort during exercise.
- Do not operate the unit in unsuitable environmental conditions (see technical specifications).
- When using the articulated stool, the user's feet should rest on the platform, not on the base of the articulated stool.
- As its name implies, the emergency stop button should be used only in emergencies.
- The tablet should only be used by a trained professional near the machine.
- This symbol means "High Voltage": 

## → WARNINGS

- The equipment should not be used by anyone with heart, respiratory, neurological, or rheumatic disease incompatible with physical activity.
- In the case of getting back into shape, maintenance and preventative activity, the patient should be medically certified to undertake physical activity.
- Due to the risk of possible interference, it is important that the professional ensure that the patient is not fitted with a personal medical equipment, such as a pacemaker.
- If this is the case, determine with certainty whether the equipment in question emits a signal that may interfere with the functioning of the unit.
- The unit must not be used by someone with a medical condition unless accompanied at all times by a qualified professional certified to the standards of the country of use.
- In the case of therapy, a diagnostic assessment performed prior to using the unit provides the following indications and contraindications:
  - Joint inflammation
  - Acute rheumatism
  - Recent trauma
  - Musculoskeletal infection
  - Fever
  - Venous thrombosis
  - Acute discopathy
  - Neuropsychological problems that prevent an understanding of the instructions or other serious psychological problems
  - Cardiovascular disease or any progressive or chronic condition that contraindicates exercise
  - Severe anatomical deformities

### IV WARNING

This machine contains programs meant to guide the user in order for them to obtain the best possible results that can be expected in their case. This in no way guarantees that the therapy will be successful. Success varies according to each user's health, morphology and physiology. It is strictly prohibited to modify your unit without the authorization of LPG.

→ ELECTROMAGNETIC COMPATIBILITY

For more information on electromagnetic compatibility, refer to “Electromagnetic Compatibility” in the appendix.

→ CLEANING THE DEVICE

**You should clean your device as often as possible, not only for hygienic purposes and attractiveness, but also because cleaning helps maintaining it in good working order and prolong its life:**

- Use a damp sponge to clean the outside of all covers.
- Use wipes impregnated with a bactericidal and fungicidal solution to clean the handles.
- Use a vacuum cleaner with a narrow attachment to clean the platform and the inside of the positioning holes.
- For technical problems, please refer to Chapter 5 “Troubleshooting”

→ IDENTIFICATION NAMEPLATE

The identification nameplate contains the following information:

<b>LPG SYSTEMS</b> FABRIQUE EN FRANCE MADE IN FRANCE	TECHNOPARC DE LA PLAINE 30 RUE DU DT ABEL CS90035 26902 VALENCE CEDEX 09 FRANCE	200-240V 50-60Hz Long-time VA: 750 Momentary VA: 1800	VOLTAGE AND FREQUENCY
TYPE		HUBER 360 MD	
N° SERIE SERIAL NUMBER		H3MEI0700911	SERIAL NUMBER
FCC-ID: 2AHVJ1020D IC-ID: 22201-TVE10200 This device complies with part 15 of the FCC rules Operation is subject to the following two conditions: (1) This device may not cause harmful interference and (2) This device must accept any interference received, including interference that may cause undesired operation Complies with IMDA Standards DA107248			
CE, 0088, R 204-720439, IP 20 2018, and various safety icons (warning, no open flame, no fire, no hot surfaces, no children, no water, no dust).			

IV WARNING


The identification plate could be modified. The identification plate apposed on your device is the approved identification plate.


### → IDENTIFICATION NAMEPLATE (CONT.)


The identification nameplate is located on the back of your device.


The nameplate indicates the voltage of the device and the serial number to identify your device. When contacting LPG Systems customer service for a technical problem, please provide the serial number of your HUBER 360® EVOLUTION.


This serial number gives you the year and month of manufacture of your device. The letter indicates the year of manufacture: A=2010, B=2011..., E=2014,.... The two digits indicate the production month: 01=January, 02=February, 03=March...


 This symbol means that the unit was sold after August 13, 2006. In conformity with the 2002/96/EC directive, it cannot be thrown away with standard household waste but must be disposed of in an appropriate sorted collection. When your device reaches the end of its useful life, it must be brought to an appropriate recycling center or returned to your dealer. By doing so, you help the environment by contributing to the conservation of natural resources and the protection of human health.


 This symbol means that some specific warnings or precautions associated with this device are not on the label.


 This symbol means carefully read the accompanying document before using the device.


 This symbol means that the maximum allowed weight of the operator of the device is 140 kg.


 This symbol indicates the name and address of the manufacturer.


 This symbol indicates manufacturing year.

 This symbol means that your unit has B parts that come into contact with the patient. They are electrically isolated from all other parts of the unit. These parts are the handlebars, the platform and the touchscreen interface.

 This symbol means store the device somewhere protected from inclement weather.

 This symbol indicates temperature limits.

 This symbol indicates relative humidity limits.

 This symbol means "Danger: High Voltage"

### → POWER CORD

If the power cord of your device is damaged, please contact LPG Systems Customer Service via the Customer Service Department of your local LPG distributor, for a replacement.

### NOTES

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## → TROUBLESHOOTING

**If your unit is not working properly, please run through the following checklist before calling LPG Systems Customer Service:**

- Is the unit properly connected to a power outlet?
- Is the power outlet live?
- Is the power switch in the ON position?
- Is the emergency stop button pressed? If so, turn off the power, release the emergency stop button, and then restart the machine.
- For the symptoms listed below, stop the machine and wait 60 seconds before restarting:
  - Error message displayed on the screen;
  - Screen not working;
  - Excessive weight applied to the platform during exercise;
  - Sensor defect.
- Once these checks have been completed and if the problem persists, please contact LPG Systems Customer Service or the nearest authorized dealer, indicating the model of your unit and its serial number.

**LPG Systems Customer Service**  
**+33 (0)4 75 78 69 89**

## → TECHNICAL SPECIFICATIONS

### • General features

Dimensions l x w x h ..... 180 cm x 105 cm x 210 cm  
(133 cm with the guardrails)  
 Net weight ..... 285 kg  
 Maximum weight allowed on the platform ..... 140 kg

### • Electrical features

Voltage ..... 200 - 240V  
 Rated frequency ..... 50 Hz / 60 Hz  
 Power consumption ..... Long-time : 750VA - Momentary : 1800VA

### • Platform movement

Maximum oscillation frequency ..... 1 tr/sec  
 Maximum amplitude ..... 10°

### • Force measurement

Handle measurement scale ..... 0 to 85 kg

### • Weight measurement

Measurement range ..... 0 to 165 kg

### • User replaceable batteries

Heart rate monitor ..... 1 pile 3V CR2025

### • Surrounding environment restrictions

Operating temperature ..... + 10°C to + 30°C  
 Storage temperature ..... - 20°C to + 70°C

Ambient relative humidity ..... 30 to 75% without condensation  
 Atmospheric pressure ..... no significant influence for operation  
 Max altitude ..... 2500 m

### • Thermal characteristics

Max touch screen temperature ..... 42.7°C

## → TECHNICAL SPECIFICATIONS (CONT.)

Device designed for uninterrupted use.

HUBER 360® EVOLUTION is marked  as a medical device under appendix II of the 93/42/EC directive (consolidated version including the 2007/47/EC Directive).

## → GENERAL WARRANTY CONDITIONS

You have recently acquired an appliance distributed by LPG Systems or an LPG Systems approved distributor. It is the purchaser/user's responsibility to find out from the local authorities the conditions and professional qualifications required before using the appliance.

The purchase of this equipment implies the legal acceptance by the purchaser/professional user of these general warranty conditions. If the appliance was sold to you by an approved LPG Systems distributor, the purchaser/user should refer to the supplier's warranty conditions. These may in no way increase the undertakings made by LPG in these present warranty conditions.

The warranty can only be implemented and is only valid if the warranty slip has been duly filled out and returned to LPG Systems within two weeks of delivery, irrespective of the country. Warranty slips that are only partially completed will be rejected.

The appliance is guaranteed against manufacturing flaws and defects in the raw materials.

The warranty extends for the shorter of the following two periods: two (2) year OR four thousand (4000) hours of use from the invoice date. During this period, LPG Systems undertakes to exchange or repair

free of charge, as quickly as possible, any part that LPG Systems acknowledges as defective, however LPG Systems does not undertake to replace the entire appliance. Traveling and living expenses for our technicians and transportation costs of the appliance or parts to and from the aftersales service workshop are not covered by this warranty.

Replacements and repairs performed within this warranty, with or without immobilization of the equipment, shall not have the effect of extending the warranty period. Replaced parts become the property of LPG Systems or the approved distributor.

No compensation shall be paid for loss of use.

Subject to other conditions hereafter, warranty shall apply if the purchaser/professional user has allowed LPG to proceed to necessary repair works.



**Warranty exclusion:**

- Damage occurring during transportation. Transportation of this equipment and/or spare parts is at the recipient's own risk. Before taking delivery, it is the recipient's responsibility to verify the state of the goods and to make a claim against the transport company in the manner usual in the delivery country.
- Non-observance of the installation and operating instructions, failure to carry out maintenance and/or negligence in maintaining the appliance, connection to a faulty electricity supply or a non-earthed electricity supply or a power supply whose voltage is different to the one indicated on the appliance.
- If an appliance is sold before the end of the warranty period, the warranty is transferred to the purchaser for the remaining warranty period, on the condition that:
  - I The original invoice is provided.
  - II That the initial vendor is informed of the sale.
- Modification, mounting of accessories or dismantling of the equipment.
- Any operation and/or intervention not specified in the LPG Systems Operator's Manual and performed on the equipment by the purchaser/user and/or any party not approved by LPG Systems.
- Use of consumables, spare parts, inappropriate components or parts not supplied by LPG Systems.
- Normal wear and tear of any of the equipment's parts resulting from normal usage.
- Damages or default resulting of accidental events (falls, impacts...)  
Damages or default resulting of natural disasters (lightening, water damages...), fire, negligence or abuses.

→ **GENERAL WARRANTY CONDITIONS**

Failure to comply with the general warranty conditions during the warranty period and after its expiry may constitute an exonerating cause of liability of LPG Systems in case of damage attributable to the delivered products.

The purchaser/user is responsible for the use of the device and will assume full responsibility for any damages, including damages caused to third parties, resulting from the failure to observe the instructions for use of the device and / or resulting from an improper use. Under no circumstances LPG SYSTEMS will be held liable for any intangible or indirect damages, including any commercial or financial loss, loss of profit, loss of earnings, and damage to the brand image.

LPG SYSTEMS' liability, for all causes (with the exception of personal injury) is limited to the amount of the defective device's price.

→ **WARRANTY ACTIVATION**

YOU CAN ACTIVATE YOUR WARRANTY ONLINE AT:

<http://warranty.lpgsystems.com>

→ OR FILL IN THE FORM AND RETURN TO LPG SYSTEMS®

Name: .....

Address: .....

Email: .....

HUBER 360® EVOLUTION serial number: .....

Date: .....

Through the form above, LPG SYSTEMS, which is the data controller, operates a processing of your personal data, based on the sales agreement of your HUBER 360® EVOLUTION device, in order to manage the guarantees that apply to it. LPG SYSTEMS only stores your data for the time required by the operations for which it was collected and in compliance with the regulations in force.

In accordance with the applicable regulations, you have the right to access, rectify and delete your personal data, a right of limitation or opposition to the treatment for legitimate reasons, a right of define general and specific guidelines on how you intend to exercise your rights after your death, the right to portability of your data, and the right to lodge a complaint with a supervisory authority .

You can exercise your rights by email at [dataprivacy@lpgsystems.com](mailto:dataprivacy@lpgsystems.com) or by mail at: LPG SYSTEMS, Customer Service Department, Technoparc de la Plaine, 30 rue Dr Abel, CS 90035 - 26000 VALENCE (FRANCE), with a photocopy of an identity document bearing your signature.

→ APPENDIX: ELECTROMAGNETIC COMPATIBILITY

TABLE 1: DIRECTIVES AND MANUFACTURER DECLARATION - ELECTROMAGNETIC EMISSIONS		
HUBER 360® EVOLUTION is intended for use in the electromagnetic environment specified below. HUBER 360® EVOLUTION customer or patient should ensure that it is used in such an environment.		
Emissions test	Conformity	Electromagnetic Environment - Directives
RF emissions CISPR 11	Group 1	HUBER 360® EVOLUTION uses RF energy only for its internal functions. Therefore, its RF emissions are very low and unlikely to cause interference in nearby electronic devices.
RF emissions CISPR 11	Class B	HUBER 360® EVOLUTION may be used in all establishments, including domestic sites and sites that are directly connected to the low voltage public power grid, which supplies domestic buildings.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations and flicker IEC 61000-3-3	Conforms	

TABLE 2: DIRECTIVES AND MANUFACTURER DECLARATION - ELECTROMAGNETIC IMMUNITY - EMISSIONS TESTS			
HUBER 360® EVOLUTION is intended for use in the electromagnetic environment specified below. HUBER 360® EVOLUTION customer or patient should ensure that it is used in such an environment.			
Emissions test	Conformity	Conformity	Electromagnetic Environment - Directives
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV on contact ± 8 kV in the air	± 6 kV on contact ± 8 kV in the air	Flooring should be made of wood, concrete, or ceramic tile. If the floor is covered with synthetic material, relative humidity should be at least 30%.
Fast transient/burst IEC 61000-4-4	± 2 kV for electrical power lines ± 1 kV for input/output lines	± 2 kV for electrical power lines ± 1 kV for input/output lines	The quality of the electrical power network should be equivalent to that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV between phases ± 2 kV between phase and earth	± 1 kV between phases ± 2 kV between phase and earth	The quality of the electrical power network should be equivalent to that of a typical commercial or hospital environment.
Voltage dips, short interruptions, and voltage variations IEC 61000-4-11	<5% UT (>95% voltage dip) during 0.5 cycle 40% UT (60% UT voltage dip) during 5 cycles 70% UT (30 % UT voltage dip) during 25 cycles <5% UT (>95% voltage dip) during 5s	<5% UT (>95% voltage dip) during 0.5 cycle 40 % UT (60% UT voltage dip) during 5 cycles 70% UT (30 % UT voltage dip) during 25 cycles <5% UT (>95% voltage dip) during 5s	The quality of the electrical power network should be equivalent to that of a typical commercial or hospital environment. If HUBER 360® EVOLUTION patient requires operation to continue during power outages, HUBER 360® EVOLUTION should be powered through an uninterruptible power supply or a battery.
Power frequency magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should have levels that are characteristic of a typical hospital or commercial environment.
NOTE: UT is the AC voltage prior to the application of the test level.			

## → APPENDIX: ELECTROMAGNETIC COMPATIBILITY


TABLE 3: DIRECTIVES AND MANUFACTURER DECLARATION - ELECTROMAGNETIC IMMUNITY - IMMUNITY TESTS			
HUBER 360° EVOLUTION is intended for use in the electromagnetic environment specified below. The HUBER 360° EVOLUTION customer or patient should ensure that it is used in such an environment.			
Immunity Test	Test Level according to IEC 60601	Conformity level	Electromagnetic environment - directives
Conducted RF disturbances IEC 61000-4-6	3 Veff 150 kHz to 80 MHz	3V	Portable and mobile RF communications devices should not be used closer to any part of HUBER 360° EVOLUTION, including its cables, than the recommended separation distance, calculated from the applicable equation on transmitter frequency. Recommended separation distance: d = 1,2√P d = 1,2√P 80 MHz at 800MHz d = 2,3√P 800 MHz at 2,5 GHz where P is the transmitter's maximum power output in watts (W), according to the transmitter's manufacturer, and d is the recommended separation distance in meters (m). The field strength for fixed RF transmitters, as determined by an electromagnetic survey at site <sup>a</sup> , should be less than the conformity level for each range of frequencies <sup>b</sup> . Interference may be produced near the device marked with the following symbol: 
Perturbations RF rayonnées CEI 61000-4-3	3 V/m De 80 MHz to 2,5 GHz	3 V/m	
NOTE 1: At 80 MHz and 800 MHz, the highest frequency range applies. NOTE 2: These directives may not apply in all situations. Electromagnetic propagation is affected by absorption and by reflections of structures, objects, and people.			
<sup>a</sup> The field strength of fixed transmitters, such as radio/telephone (cellular/wireless) base stations and land mobile radios, amateur radios, AM and FM radio broadcasting, and TV broadcasting cannot be theoretically predicted with accuracy. To measure the electromagnetic environment due to fixed RF transmitters, consider performing an electromagnetic survey of the site. If the field strength, measured where HUBER 360° EVOLUTION is used, exceeds the applicable RF conformity level above, watch HUBER 360° EVOLUTION to ensure that it is operating as normal. If there is any abnormal performance, additional measures may be necessary, such as reorienting or repositioning HUBER 360° EVOLUTION.			
<sup>b</sup> For the frequency range of 150 kHz to 80 MHz, field strength should be less than 3 V/m.			

TABLE 4: RECOMMENDED SEPARATION DISTANCES BETWEEN PORTABLE AND MOBILE RF COMMUNICATION DEVICES AND HUBER 360° EVOLUTION			
HUBER 360° EVOLUTION is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The HUBER 360° EVOLUTION patient or customer can prevent electromagnetic interference by maintaining a minimal distance between the portable or mobile RF communications device (transmitter) and HUBER 360° EVOLUTION, as recommended below, based on the maximum transmission power of the communication device.			
Maximum rated output of the transmitter W	Separation distance according to the transmitter frequency m		
	d=1,2√P	d=1,2√P	d = 2,3√P
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23
For transmitters whose maximum rated output is not shown above, the recommended separation distance d in meters (m) can be estimated using the applicable equation for the transmitter frequency, where P is the transmitter's maximum output in watts (W), according to its manufacturer. NOTE 1: At 80 MHz and 800 MHz, the separation distance for the highest frequency range applies. NOTE 2: These directives may not apply in all situations. Electromagnetic propagation is affected by absorption and by reflections of structures, objects, and people.			



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