Technical data of the sana couch 250 L

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Power supply
230-249V 50 Hz and 115V, 60 Hz

Interfaces
RS-232, USB (galvanically isolated)

Dimensions/basis
160 x 60 cm

Weight
90 kg

European safety norms
DIN 13405 and E DIN VDE 0750-238

Braking principle
Computer-controlled eddy current brakes with torque measurement, independent of revolutions per minute.

Load range
20 to 800 Watt

Range of revolutions
30 to 130 n/min

Load precision
3%, not less than 3 Watt

Set load
According to configured internal load program
Settings of external master device via interface; minimum resolution 1 Watt. Manual configuration in 5-Watt and 25-Watt steps.

Load programs
5 freely programmable ergometry programs
1 automatic controlling pulse-steady-state program

Time intervals
1 min to 99 min

Displays
Graphic LCD with 320 x 240 pixels, CCFT backlit for alphanumerical and graphical display of the ergometry parameters, the user instructions as well as programming and service information.

Pulse measurement
Priority principle: 1. ECG, 2. opto
Measuring range 35 to 240 heartbeats

Blood-pressure measurement
Indirect with special modified R-R measurement system. Computer analysis with distortion-free suppression of interferences during ergometry. Automatic pressure release with 3 mmHg/pulse. Quick pressure release at the average of high amplitudes.

Variable couch
Couch size 90 cm x 55 cm for heights from 140 cm to 205 cm; weights up to 160 kg. The seat and the headrest are adjustable to the patient's correct reclining position via remote control. A 50 cm wide paper-roll carrier is situated under the headrest.
The couch can be continuously altered from a slope of about 45° (exercise position) to a flat position. The slope is also adjusted via remote control. The arm rest for blood-pressure measurement and a handle can be flexibly mounted on the guide rails, located on both sides of the couch.

Handle as mounting aid
A stable, adjustable handle serving as a mounting aid is located near the head.

Long-term accuracy
Torque line-up using a weight is possible at any time.

sana couch 250 L

The safe way of cardiac rehabilitation

sana couch 250 L

Stands for a new generation of medical couch ergometers, based on a unique, innovative technology.

Application areas

The sana couch 250 L couch/semi-couch safety ergometer has been developed for use in the cardiology sector. Special safety aspects, e.g. in cases of suspected cardiovascular disorders, stress tests after a cardiac infarction or after bypass operations, and special exercise ergometry applications, such as heart catheter examinations, require the use of a couch/semi-couch safety ergometer. Its use is also recommended for the examination of elderly and disabled patients.

Infinite movability and adjustability via remote control

Thanks to the couch's infinite movability (0-45°), it is possible to find the ideal lying position for every patient and examination method. In case of an incident, the patient can immediately be moved into a suitable treatment position. **The patient's calm position enables high-quality ECG presentation and blood-pressure measurements.**
The height is fixed by means of an adjustable saddle, which also prevents the patient from sliding to the side. The patient's comfort is increased by a headrest. **Both elements as well as the couch's slope can be adjusted via remote control.**

The reclining position at 45° is very comfortable. Medical exercise examinations have proven that the performance in this position corresponds to the performance on a bicycle ergometer. Unlike with previous couch ergometers, the pedalling movement of the legs is now identical to the movement on a bicycle ergometer. This is due to the unique design of the pedal crank shaft.
This feature eliminates all performance-related obstacles in couch-ergometry.

Comfortable load unit

The speed-independent load is granted by a high-end eddy current brake with computer-controlled torque measurement. This control, together with the ideal centrifugal mass dimensioning, results in a very **pleasant pedalling feeling,** allowing the patient to fully exploit his or her reserves. The mechanism, which consists of state-of-the-art components, **runs almost noiseless, even at high speed.**

User-friendly control centre

The computer-controlled electronic high-end control centre is situated in the measuring head of the sana couch 250 L. The measuring head's front features the control elements and a backlit graphic high-resolution LCD display. Its side, containing the display, is usually oriented towards the person operating the device. This is why an LED speed display is mounted on the head's upper side, clearly visible for the patient. **If the device is used in the rehabilitation or training sector, the measuring head can easily be turned around to allow view of the display and control unit.**

Comprehensive ergometry for cardiopulmonary diagnostics

The modern, processor-based electronic control of the sana couch 250 L is designed to allow all common operational modes of the stress test load control. Frequent or regular ergometry measurements can be automated by means of easy programming functions. The user is guided through all operational steps on the display. The sana couch 250 L can also be accessed and controlled from an external PC program or ECG/ergo-spiro unit via the RS-232 or USB interface.

In this case, the couch ergometer does not have to be operated separately, as it is fully controlled by the master device's program. In every mode, the LCD display shows the current load and, if set, the heart rate in an alphanumeric field as well as a graph showing the ergometry status.

The sana couch 250 L is equiped with a precise, interference-free blood-pressure measurement unit. This unit measures the systolic and diastolic blood pressures and the heart rate in user-defined time intervals during exercise. The measurement algorithm is based on the latest trends of blood-pressure measurement technology. Alarm limits can be set for the load, heart rate and blood pressure. If these limits are exceeded, an alarm is issued. For heart-catheter examinations, any required load can be set manually.