



sana sedeo 150

The computer-controlled handcrank ergometer

**INVESTMENT
FOR
LIFE**



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The ideal alternative for the cardiovascular training of disabled persons

The sedeo 150 is especially designed for the training of disabled persons. It closes a gap in our range of high-end bicycle and couch ergometers. This special device is based on the proven functionality of our ergometers.

A pneumatic spring enables the load unit's easy adjustment to the individual height of every patient. A stable base guarantees maximum stability. The ergonomic handcranks enable a good power transmission during the rotation. The especially designed seat is guided on a rail. On this rail, it can be moved very easily to the best exercising position and fixed. The seat's height and the slope of its back can be adjusted infinitely to enable the patient's optimum position for a good power transmission.

The ergometer can in seconds be adapted to wheelchair users. The seat is equipped with a handle, by which it can be lifted out of the guide. It can then be turned by up to 90 degrees to the left or right. Now the wheelchair user can move into the correct position and hold the brakes. The load unit's height is adjusted using the pneumatic spring. This construction saves much time and energy on the device's adaptation.

The measuring head faces the patient and its big display continuously shows all important training data and a graph indicating the current performance and heart rate.

The load unit runs independent of revolutions per minute, in a range of 20 to 800 watts and an accuracy of 3%. The novel, nearly noiseless belt drive gives the patient a smooth spinning sensation.

The ergometer is designed for ergometry recordings. For this purpose, five user-defined ergometry programs are available. A special cardiovascular training program for disabled patients is an option. This is especially significant as only limited means for efficient cardiovascular training are available to disabled persons.



Complies with the directives of the European standards DIN 13405 and E DIN VDE 0750-238.



A "pulse-steady-state" program opens up the possibility of accurate performance control. The heart rate is determined using an integrated receiver and a "Polar belt". (See training using the pulse-steady-state program.)

For special applications, the ergometer can be delivered with blood pressure measuring equipment (sana sedeo 250F). With this equipment, the blood pressure is measured on the leg artery above the ankle.

Special training using the "pulse-steady-state" program

Accurate load application is a prerequisite for an effective training, especially for high-risk patients. It is mainly based on the patient's general condition and training status. Using the "pulse-steady-state" program, the sana sedeo handcrank ergometer perfectly meets all these requirements for a successful training. Starting from an initial load level, the load is increased automatically until the preset training pulse rate is reached. A computer integrated in the measuring head then controls the load to keep the pulse rate constant over the required period of time. The patient wears a pulse monitor (Polar belt), which transmits the pulse rate to the receiver by wireless.

Technical Data

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Handcrank ergometer with or without blood pressure measuring equipment

Braking principle

Computer-controlled brakes with permanent measurement of torque. The braking performance is independent of revolutions per minute.

Load range

20 to 800 watts

Range of revolutions

30 to 130 per min using special handcranks

Load precision

3%, not less than 3 watts

Load parameters

1. In keeping with set internal load program
2. Parameters from external master unit via interface, smallest resolution 1 watt
3. Manual in 5-watt and 25-watt steps

Load software

- 5 freely programmable ergometry programs
- 1 automatically controlled pulse-steady-state program

Time intervals

1 min to 99 min

Display

LCD with graphic capability, 320 x 240 pixels, CCFT background lighting

Blood pressure measurement (option)

Indirect with special modified R-R measurement system, computer evaluation and distortion-free suppression of interferences during ergometry. Automatic pressure release by 3 mmHg/pulse; quick pressure release at the average of high amplitudes. Measuring range 40–300 mmHg. Measurement site with special cuff directly above the ankle. The height difference between the heart and the measurement site must be considered.

Pulse measurement

Using a blood pressure unit or an optional Polar pulse monitoring system; pulse rate 35–240

Seat height adjustor

Infinitely adjustable for heights ranging from 120 cm to 210 cm

Wheelchair docking

The seat can be turned to the side to make the wheelchair holders accessible.

Long-term accuracy

Torque equalisation at any time with weight

Power supply

230 VAC 50–60 Hz, 115 VAC 50–60 Hz

Electric inputs/outputs

RS-232 (galvanically isolated)

Base dimensions

40 x 108 cm

Weight

57 kg

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