

# BRACHUMERA SPORT

**2500**  
watt

**LEM**  
compatible

Unique Sport Medical arm ergometer

Ergonomic coated hand grips

Full portability

For assessment and training of shoulders and arms



*the standard in ergometry*

# BRACHUMERA SPORT

Accurate load application

Ultimate Connectivity

Low maintenance

Ergonomic design

Ever since Mr Fré Lode manufactured the first electro-magnetic cycle ergometer in 1952, accuracy, reliability and durability have been fundamental for further developments.

Over the years Lode BV has become the specialist in the complete spectrum of medical ergometry. Lode is world renowned as a manufacturer of high quality ergometers and the Lode brand stands for accuracy, durability and ergonomic design.

The Lode product range varies from bicycle ergometers and treadmills to recumbent, arm and supine ergometers and ergometry software.

Long-term experience in manufacturing medical equipment and continuous development to meet the changing requirements of the market make Lode a flexible and reliable partner. Together we can transform your specific ideas and wishes into custom made products.

Before leaving the factory all Lode ergometers are dynamically calibrated and, of course, all units are produced under the strictest quality control conditions.

Lode is ISO 9001:2000, ISO 13485:2003 and FDA certified and fulfils the EU Medical Device Directive MDD 93/42/EEC. Over years of use, service costs are almost negligible. In other words:

**Lode, *the* standard in Ergometry.**

The Brachumera Sport is a modern and reliable arm ergometer that can be controlled both manually and by external equipment.

The workload range of this ergometer of 7 to 2500 watt enables use in various settings and applications.

Brachumera Sport is currently used in olympic and professional sports where the muscles in arms and shoulders play a mayor role, e.g. kayaking and swimming.

## **Accuracy**

The workload is controlled electro-magnetically (Lanooy) and is continuously adjustable up to 2500 watt. The high level accuracy is achieved by using microprocessors that check the actual workload five times per second. An ingenious feedback system eliminates the influences of temperature, guaranteeing accuracy.

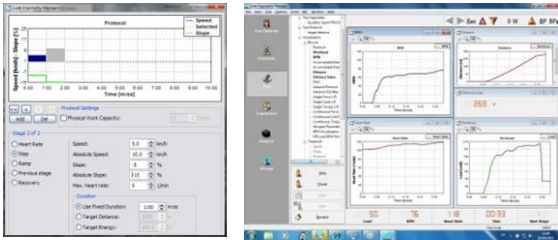
## **Pedal Force Measurement**

This *option* gives the force exerted on the left and/or right crank. The force is measured by strain gauges in the cranks. Transport of all measured data is optically; registration of all separate elements is independent of each other. In this way, an accurate and interference free method of measuring has been established.



## Compatible with Lode Ergometry Manager

Brachumera Sport is fully compatible with LEM version 9.3 and higher. The combination allows full protocol control as well as test subject file management.



*Lode Ergometry Manager (LEM)* is the generic term for various software modules that enable e.g. read-out, printing, monitoring, saving and analysing the measured data of the ergometer. Within the Lode Ergometry Manager it is e.g. also possible to programme protocols, control the ergometer, use special pre-programmed tests and make analyses. LEM is the perfect supplement to a modern ergometry setting.

### Control & Interface

With the LEM software modules the Excalibur Sport can be controlled by a PC. By using either the digital (RS232) or the analog port, it is also possible to control the ergometer by external equipment.

Lode can in many cases fulfill your special requirements .

Please contact Lode or your distributor for a solution if you need a product with customized specifications.

The **Brachumera Sport** can further be extended with the following options:

*Control option* The Brachumera Sport can be completed with an external control unit. During exercise parameters like workload, rpm, time, distance and fixed torque are standard available. You can determine your specific default settings and start-up menu.

On the extra rpm/watt meter the actual rpm is displayed. With the heartrate option the heartrate can also be read out on the standard display of the control unit. With the optional programmable control unit up to 24 protocols can be programmed and extra parameters like target HR (in combination with the heartrate option) and energy can be read out.

*Programmable control unit.* Besides the features of the standard control unit, the programmable control unit has an additional display which can show the energy and target heartrate (in combination with the heartrate option) as well. Up to 24 user-defined protocols can be programmed. Possible programming parameters are: step, ramp, linear, heart rate, torque, repeat and all combinations of these parameters.

*Heart rate option.* This option consists of a Polar belt and receiver and offers the possibility to programme heart rate controlled protocols (in combination with the programmable control unit). The heart rate is displayed on the control unit.

*Anaerobic LEM Wingate plus Software.* With the optional Wingate software package (with correction of the moment of inertia > 2000 watt) it is possible to perform a Wingate sprint test in the "constant torque mode". The Wingate test is a 30 seconds sprint test during which the torque is kept constant at a rate depending on the body weight. With this option on-line information about anaerobic capacity and power is obtained.

*0-watt start up system.* This option offers the opportunity to drive the ergometer without load (0 watt) up to a velocity of 60 rpm. There is no energy-loss due to the start-up phase (to 60 rpm).

# LODE SPORT MEDICAL RANGE

## Brachumera Sport



<p><b>BRAKING SYSTEM, electromagnetic</b> Workload continuous Workload peak (max 6 minutes) Workload increments Workload accuracy</p> <p>RPM independent Calibration</p>	<p><b>eddy current</b> 7-1500 watt 2500 Watt 1 watt P&lt;100 watt: ± 3 watt 100&lt;P&lt;1500 watt: ± 3% P&gt;1500 watt: ± 5% 30-150 RPM Dynamic</p>
<p><b>WORKLOAD CONTROL</b> Hyperbolic Linear Fixed torque Heart rate controlled</p>	<p>yes yes yes yes</p>
<p><b>OPERATION MODUS</b></p>	<p>manual analog terminal Protocols (with external control unit)</p>
<p><b>INTERFACES</b> - analog - RS232 digital</p>	<p>standard standard</p>
<p><b>DIMENSIONS</b> Size (Lx W x H)  Weight</p>	<p>114 x 59 x 51 cm 45*23*20 inch 65 kg / 143 lbs</p>
<p><b>POWER REQUIREMENTS</b></p>	<p>115 / 230 VAC, 50/60 Hz</p>
<p><b>STANDARDS AND SAFETY NORMS</b></p>	<p>ISO 9001 :2008 ISO 13485:2003 IEC 601-1</p>

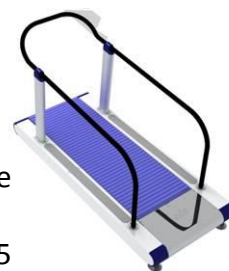
## Excalibur Sport

Bicycle ergometer for sport medical applications with a peak power of 2500 Watt



## Katana Sport

Treadmill for sport medical applications with speeds up to 40 km/h and positive and negative elevation up to 25 %



## Lode Ergometry Manager

PC software for managing Lode ergometry products, data acquisition, protocol generation and test subject file management



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