

Excalibur Sport with Pedal Force Measurement

The standard in Sports Medical testing with Pedal Force Measurement



Highlights

Extreme workload range of 8 - 2500 watt

The extraordinary workload range of 8-2500 watt is unique in the world! It makes this ergometer extremely suitable for sports medicine and testing the strongest athletes in the world on their anaerobic power or isokinetic capacity.

Read out of seating position

The Excalibur Sport has a unique read-out of the seating position on the display of the Control Unit. The display shows saddle height & angle, handlebar position vertical & height.

Heavy Duty Design

The Excalibur Sport is designed for heavy duty sports medicine ergometry, without doing any concession on the esthetic, modern and robust design. In other words: Excalibur Sport: the gold standard in Ergometry!

Reliable and reproducible stress tests

The experience of professionals who calibrate many ergometers showed that the Lode ergometers are the most reliable across the complete workload and rpm range and still within specifications even after many years of intensive use.

Q-factor equal to road-bike

The Q-factor of the ergometer is equal to the Q-factor of road bikes, creating perfect training circumstances.



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With proven accuracy and reliability, the Excalibur Sport is renowned worldwide as “the gold standard in ergometry”. The newly designed and improved Excalibur Sport ergometer meets the latest requirements of modern sports medicine and research. Since athletes are becoming more and more powerful and testing more advanced than ever, this ergometer has been developed for extreme workloads up to 2500 watt! The new design ensures maximum stability at these high workloads. Thanks to the increased adjustability, versatile positioning of the test subject has never been better! This Excalibur Sport has built-in modified strain gauge technology that measures forces exerted on the pedals during exercise and is supplied with angle detection. Independent measurements of forces in both left and right crank are possible. Wireless transmission of the measured forces to the PC by blue tooth. Note: this setting is supplied with LEM and LEM PFM software (various other modules are available), a computer (we recommend to use this PC only for the LEM software) and an interface cable.

Features

**7
watt**

Extreme low start up load

The extreme low start-up load of 7 watts and the adjustability in small steps of 1 watt make this ergometer perfectly suitable for many different applications. The standard control unit shows multiple ergometry parameters and you can determine your specific default setting and start-up menu.



Accurate over a long period of time

The Lode ergometers are supplied with an electro-magnetic braking mechanism of Lanooy (eddy current). The biggest advantage of this braking system compared to a friction braking system is the absolute accuracy and the accuracy over time. Moreover, friction braking systems have more wearing parts.

**1
watt**

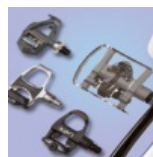
Small adjustment steps

The workload of the Lode ergometers is adjustable in steps of only 1 watt. Depending on your wishes, the test operator or the test subject can adjust the workload. The steps of 1 watt are possible in the manual mode as well as within protocols.



Designed to be sweat-proof

The housing of the ergometer is designed in such way that sweat does not have the chance to drip into the mechanical parts. This ensures a long lifetime and makes the ergometer insensitive for malfunction.



Compatible with click pedals

The bicycle ergometer is compatible with most available clickpedals to allow for maximum user flexibility



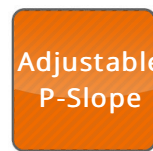
Adjustable handlebar Excalibur Sport

The position of the handlebar of Excalibur Sport is completely adjustable in height and length



Adjustable saddle Excalibur Sport

The position of the saddle of the excalibur sport can be adjusted in height, length and angle to suit all users



Instant maximum load

By selecting P-slope max the ergometer immediately reaches maximum power



Compatible with ECG and pulmonary devices

The Lode ergometers have both analog and digital interfaces and can be controlled easily by all known stress ECG and pulmonary devices available in the world. This is one of the reasons why the Lode ergometers are very popular worldwide.



LEM compatible

This product can be used with Lode Ergometry Manager (LEM) software to manage data and to apply specific protocols when a Communication card or Network card is present



THE STANDARD IN ERGOMETRY

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Lode Ergometry Manager - Pedal Force Measurement software module






Lode ergometers with Pedal Force Measurement come standard with the Lode Ergometry Manager - Pedal Force Measurement software module. The combination of software and ergometer results in a unique application for sport-medical stress testing, rehabilitation and research.

The Pedal Force Measurement module adds the following features to the Lode Ergometry Manager:

- Continuous registration of the forces exerted on the left and right crank;
- Specific Pedal Force Measurement visualisations;
- Specific Pedal Force Measurement reports and analysis: numeric data such as peak values, averages, absolute maximum, angle, total efficiency, rpm and left/right ratio are registered and saved. Export to statistical programs is possible with the optional LEM Expansion Module Export;
- Protocols for pedal force measurement can be programmed based on time intervals (with a maximum of 60 minutes), enabling a continuous registration of the pedal force;
- On-line visualizations of the forces and Torque on the left and/or right crank during the test;

The software offers the possibility to define "area's of interest" (AOI) and to analyze these separately.

The Excalibur Sport with Pedal Force Measurement can a.o be extended with the following options:

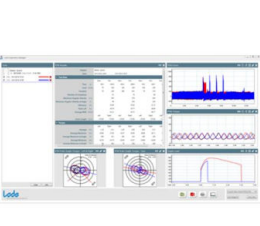

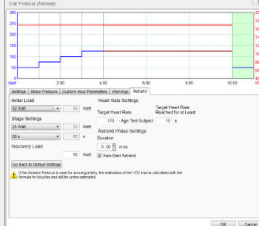
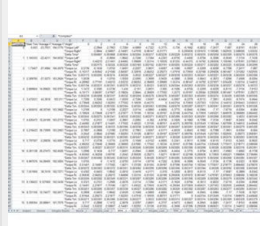

<p>Programmable Control Unit</p> <p>Easier and faster exercise testing by</p>  <p>Partnumber: 928811</p>	<p>Programmable Control Unit with SpO2 & Heart rate</p> <p>Measurement of oxygen saturation</p>  <p>Partnumber: 928841</p>	<p>Blood Pressure Module</p> <p>No trigger needed for accurate blood</p>  <p>Partnumber: 928818</p>	<p>Blood Pressure headphones set</p> <p>Listen to Korotkoff tones during blood</p>  <p>Partnumber: 928819</p>	<p>Heart rate</p> <p>Heart rate controlled cycling</p>  <p>Partnumber: 928826</p>
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Related products

<p>LEM 10 - Module Pedal Force Measurement</p> <p>Make pedal force visual</p>  <p>Partnumber: 955910</p>	<p>LEM 10 - Module Wingate Test plus</p> <p>Easy to operate Sprint test for explosive power assessment</p>  <p>Partnumber: 955915</p>	<p>LEM 10 - Module Åstrand</p> <p>Reproducible test</p>  <p>Partnumber: 955916</p>	<p>LEM 10 - Module Export</p> <p>Export your data to MS Excel</p>  <p>Partnumber: 955920</p>	<p>LEM 10 - Module Architect</p> <p>Creating protocols with customer specific formulas</p>  <p>Partnumber: 955921</p>
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Specifications

Workload

Minimum load	8 W	
Maximum peak load	2500 W	
Isokinetic workload control	yes	
Minimum load increments	1 W	
Maximum continuous load	1500 W	
Hyperbolic workload control	yes	
Linear workload control	yes	
Fixed torque workload control	yes	
Maximum rpm independent constant load	180 rpm	
Minimum rpm independent constant load	25 rpm	
Optional heart rate controlled workload	yes	
Electromagnetic "eddy current" braking system	yes	
Dynamic calibration	yes	

Accuracy

Workload accuracy below 100 W	2 W	
Workload accuracy from 100 to 1500 W	2 %	
Workload accuracy over 1500 W	5 %	

Comfort

Toecups on pedals	yes	
Q-factor	147 mm	
Vertical seat adjustment maximum	938 mm	36.9 inch
Vertical seat adjustment minimum	550 mm	21.7 inch
Horizontal seat adjustment minimum	72 mm	2.8 inch
Horizontal seat adjustment maximum	324 mm	12.8 inch
Seat angle adjustment maximum	10 °	
Allowed user weight	180 kg	396.8 lbs
Horizontal handlebar adjustment minimum	229 mm	9 inch
Horizontal handlebar adjustment maximum	600 mm	23.6 inch
Vertical handlebar adjustment minimum	465 mm	18.3 inch
Vertical handlebar adjustment maximum	855 mm	33.7 inch
Handlebar adjustment angle	360 °	

User Interface

Readout Distance	yes
Readout RPM	yes
Readout Heartrate	yes
Readout target HR	yes
Readout Energy	yes
Readout Torque	yes
Readout Time	yes
Readout Power	yes
Set Display	yes
Set Resistance	yes
Set P-Slope	yes
Set Mode	yes
Manual operation mode	yes
Preset protocol operation mode	yes
Analog operation mode	yes
External control unit	yes
Selfdesigned protocol operation mode	yes

Connectivity

Analog connector	yes
RS232 in connector	yes
RS232 out connector	yes

Dimensions

Product length (cm)	130 cm	51.2 inch
Product width (cm)	70 cm	27.6 inch
Product height	89 cm	35 inch
Product weight	100 kg	220.5 lbs

Power requirements

115 V AC 50/60 Hz (130 VA)	yes
230 V AC 50/60 Hz (130 VA)	yes

Standards & Safety

ISO 13485:2003 compliant	yes
ISO 9001:2008 compliant	yes
IEC 60601-1:2005	yes

Certification

CE class Im according to MDD93/42/EEC	yes
CTüVus according to NRTL	yes
CB according to IECCE CB	yes

Pedal Force Measurement

Rotational measurement resolution	2 °
Pedal Force accuracy	0.5 N

Order info

Partnumber	925909
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*Specifications are subject to change without notice.