

Modern ergometer with multifunctional applications



# Highlights

### High standards

Lode is a socially and environmentally responsible company. All Lode products are RoHS/WEE compliant and Lode is ISO 9001:2015, and ISO 13485:2016 certified. All medical products comply to MDD 93/42/EEC, incl. IEC 60601-1.

#### 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.

#### Various test modes

Besides the hyperbolic (rpm-independent) mode that is used most of the time, the standard control unit offers several other test modes, like the fixed torque mode and the linear mode.These modes can be used in both manual and terminal mode.



### Multifunctional

The ergometer can be used in various ergometry settings, enabling a multifunctional deployment.

#### Easy to clean

The design of the ergometer and the housing material make it very easy to clean.





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In this system, the Angio is supplied with a multifunctional fixation set. With this set, the Angio ergometer is equipped with pedal shoes and can be mounted easily on all Imaging / Physiotherapy / Examination tables that have a standard instrument side rail of 25x10 mm. The adjustability range is 625 - 903 mm (width) and 20-120 mm (height). \*

The Angio rehab is standard supplied with a 7" control unit with touch screen. Thanks to the built-in network module, the ergometer can be connected to the Lode Cardiac Rehab Manager Software, Lode Rehab Manager or the Lode Ergometry Manager.

A USB A-B cable for service purposes only will be standard delivered with the product. To connect LEM or LCRM you need a special interface cable that can be ordered under part number 930930.

Note: always check the width of the examination table on wich the ergometer is going to be installed. There is a fixaton set available for tables that are smaller (#967820)





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# Features



### 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.



### 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.

#### RS232 connectivity

RS232 ports enable connectivity to most ECG and ergospirometry devices as well as PC's.



### 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 is present



# LCRM compatible

This product can be used with Lode Cardiac Rehabilitation Manager software (LCRM)



### Additional features with PCU

Besides the possibility to program 24 protocols easily, this control unit offers the following features:

- better monitoring because of the additional and larger display
- a perfect combination with BPM
- possibility to measure SpO2

### Versatile Interfacing



Various interface protocols guarantee perfect communication with all commonly known stress ECG and spirometry equipment





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# Interconnectivity between Lode products

Connecting Lode products has never been easier! Lode rehab and sports products have a standard Network card:

- To be able to connect the first product to the PC with L(C)RM a Lode proprietary network to PC cable is needed (#930930). This cable is standard included with Lode Rehab Software.

- From the second product onward products can be connected to the previous one, creating a bus network configuration;

- The last product always needs a termination plug to avoid interference and loss of data. Therefore all products with such a network card come with a termination plug.

#### Benefits

- Lossless data connection
- High bandwidth
- No interference of COM ports
- Daisy chain connection
- Full access of all data in the product to LCRM





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Angio rehab - with Fixation Set for Instrument Rail can a.o be extended with the following options:

Pedal shoes (pair)	Pedal shoes pediatric (pair)	SpO2 for control unit with touch panel (extra long cable)	Assistive start up system	Colour Display 3.5" - 2nd screen
Extra stability during cycling	Pedal shoes for childen	Oxygen saturation	Lowest possible startup power	Multifunctionality
			Image: set of the set of t	
Partnumber: 917803	Partnumber: 917833	Partnumber: 945822	Partnumber: 960805	Partnumber: 945819
Network module connection cable Easy connection	SpO2 for control unit with touch panel - ordered afterwards Ordered afterwards	Add program function to 7" touch screen for ergometer Easily prepare and execute tests and	Wheeled frame for Angio Ergometer w. fixation set Easy installation of the Angio ergometer	Small Fixation Set for Instrument Rail For smaller examination tables of
				North North
Partnumber: 930930	Partnumber: P945822	Partnumber: U945835	Partnumber: 967800	Partnumber: 967820
Smart heart rate Heartrate available within an extreme wide	Adjustable cranks Optimal force application	Custom pack Powercable 100 - 127 V for ergometers Easy connection	External Blood Pressure monitor for bicycle ergometer Reliable BPM during exercise stress testing	
Partnumber: 945833	Partnumber: 960804	Partnumber: 945892	Partnumber: 945500	





Modern ergometer with multifunctional applications **Specifications** 

# Workload

Workload		
Workload range fixed torque	0,1 - 70 Nm	
Minimum load	7 W	
Maximum peak load	1000 W	
Minimum load increments	1 W	
Maximum continuous load	750 W	
Hyperbolic workload control	$\checkmark$	
Linear workload control	$\checkmark$	
Fixed torque workload control	$\checkmark$	
Maximum rpm independent constant load	150 rpm	
Minimum rpm independent constant load	30 rpm	
Optional heart rate controlled workload	$\checkmark$	
Electromagnetic "eddy current" braking system	$\checkmark$	
Dynamic calibration	$\checkmark$	
Accuracy		
Workload accuracy from 7 to 100 W	3 W	
Workload accuracy from 100 to 500 W	3 %	
Workload accuracy from 500 to 1000 W	5 %	
Comfort		
Adjustability range height	20 - 120 mm	
Adjustability range width	625 - 903 mm	24.6 kJ
Pedal shoes	$\checkmark$	

User Interface	
English user interface	$\checkmark$
Chinese user interface	$\checkmark$
Croatian user interface	$\checkmark$
Czech user interface	$\checkmark$
Danish user interface	$\checkmark$
Dutch user interface	$\checkmark$
Finnish user interface	$\checkmark$
French user interface	$\checkmark$
German user interface	$\checkmark$
Greek user interface	$\checkmark$
Hungarian user interface	$\checkmark$
Italian user interface	$\checkmark$
Japanese user interface	$\checkmark$
Korean user interface	$\checkmark$
Latvian user interface	$\checkmark$
Lithuanian user interface	$\checkmark$
Norwegian user interface	$\checkmark$
Polish user interface	$\checkmark$
Portugese user interface	$\checkmark$
Romanian user interface	$\checkmark$
Russian user interface	$\checkmark$
Spanish user interface	$\checkmark$
Swedish user interface	$\checkmark$
Turkish user interface	$\checkmark$
Ukrainian user interface	$\checkmark$
Readout Distance	$\checkmark$
Readout RPM	$\checkmark$
Readout Heartrate	$\checkmark$
Readout target HR	$\checkmark$
Readout Energy	$\checkmark$
Readout Torque	$\checkmark$
Readout Time	$\checkmark$
Readout Power	$\checkmark$
Set Display	$\checkmark$
Set Resistance	$\checkmark$
Set P-Slope	$\checkmark$
Set Mode	$\checkmark$
Manual operation mode	~
Preset protocol operation mode	~
Analog operation mode	$\checkmark$
Terminal operation mode	~
External control unit	$\checkmark$
Selfdesigned protocol operation mode	$\checkmark$





### Modern ergometer with multifunctional applications

Dimensions		
Maximum table width	920 mm	36.2 inch
Minimum table width	625 mm	24.6 inch
Product length (cm)	54 cm	21.3 inch
Product width (cm)	68 cm	26.8 inch
Product height	73 cm	28.7 inch
Product weight	40 kg	88.2 lbs
Power requirements		
V AC	100 - 240 V	
Phases	1	
Frequency	50/60 Hz	
Power consumption	160 W	
Power cord IEC 60320 C13 with CEE 7/7 plug	~	
Power cord NEMA	×	
Standards & Safety		
IEC 60601-1:2012	~	
ISO 13485:2016 compliant	~	
ISO 9001:2015 compliant	~	
Certification		
CE class Im according to MDD93/42/EEC	~	
CE class of product with optional SpO2	lla	
CE class of product with optional BPM	lla	
CB according to IECEE CB	~	

#### Order info

Pa	rtnu	mb	er:	

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\*Specifications are subject to change without notice.



Distributed by **Cranlea Human Performance Ltd** Unit 1a, Cyclo Works B30 3DY Birmingham United Kingdom Tel: Lode B.V. Zernikepark 16 9747 AN Groningen The Netherlands Tel: +31 50 5712811 Fax: +31 50 5716746 E-mail: ask@lode.nl Internet: www.lode.nl