

# ARM ERGOMETRY

Accurate ergometer 7 - 1000 watt

Variable ergometry settings

Digital and analog interface

Clear read-out of rpm and workload



**Lode**

the standard in Ergometry

# ARM ERGOMETRY

Sports Medicine

Rehabilitation

Physiotherapy

Research

## • Lode *the standard in Ergometry*

Ever since Mr Fré Lode manufactured the first electro-magnetic cycle ergometer in 1952, accuracy, reliability and durability have been fundamental to further developments. Having started years ago in the small market of cardiology and pulmonary function, Lode BV has become a 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 cycle to arm and supine ergometers.

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 units are dynamically calibrated. Ergometers calibrated with this method are proven to be stable over a longer period of time, more accurate, realistic and reliable in the total workload and rpm range. Of course, all Lode ergometers are produced under the strictest quality control conditions. Lode is ISO 9001, EN 46001 and FDA certified and fulfils the EU medical device directive MDD 93/42/EEC. Over the years, service costs are almost negligible. In other words: Lode *the standard in Ergometry*.

## Angio: *the standard in arm ergometry*

The three Lode fundamentals, 'accuracy, durability and reliability' all apply to our latest Angio ergometer. This ergometer is perfectly suited for arm ergometry applications in Sports Medicine, Rehabilitation, Physiotherapy and Research.

The workload range of this ergometer is 7 to 1000 watt, making it possible to use in various settings and applications. The Angio is equipped with both analog and digital interfaces. The modern and stable design has been implemented in both the ergometer and its accessories.

The basic Angio ergometer can be extended with a programmable control unit for implementing up to 50 protocols. For all Lode ergometers is also a blood pressure module with Dimensional K-sound Analysis available. Please note that during blood pressure monitoring the upper arm needs to be at rest making it only suitable for arm ergometry in specific circumstances.



*Angio single set*

## Angio single set

With this system, the Angio is supplied with mounting bars and standard pedals and together with the optional handgrips, it can be used for arm or leg ergometry. This system is designed for use in customised applications and research laboratories.

## Angio with static wall mounting

With this system, the Angio ergometer is supplied with a wall mounting bracket and handgrips as standard.



*Programmable Control Unit with two displays*



## Angio with adjustable wall mounting

This electrically adjustable system has been developed for the Angio in arm ergometry settings. The wall-mounted system allows the Angio ergometer to move vertically over a range of 70 cm and is adjusted using a remote control. Supplied with handgrips, the Angio can be used in a variety of applications: subjects can be tested in wheelchairs or in an upright position.



*Remote control for height adjustment*

## Angio with automatic stand

The Angio ergometer with the freestanding mount and including handgrips offers optimal flexibility and adjustability. The height of the Angio is electrically adjustable for ease of use, over a range of 140 cm, making it suitable for both arm and leg ergometry and perfect for testing wheelchair subjects. The optional reclining chair with electrically variable positioning and adjustable backrest offers a wide range of ergometry testing.



*Optional rpm/watt meter for read-out of both the actual rpm and workload*



*Reclining chair*





## Arm Ergometry systems

### Angio Single set

### Angio with static wall mounting

### Angio with adjust. wall mounting

### Angio with automatic stand

				
<b>Work Output Range</b> - hyperbolic (W) - linear (W) - increments (W) - peak load (W)	7 - 750 continuous 7 - 750 continuous 1 1000	7 - 750 continuous 7 - 750 continuous 1 1000	7 - 750 continuous 7 - 750 continuous 1 1000	7 - 750 continuous 7 - 750 continuous 1 1000
<b>Braking System</b> - electro - magnetic	eddy current	eddy current	eddy current	eddy current
<b>Constant Load</b> - rpm independent (rpm)	yes 30 - 150	yes 30 - 150	yes 30 - 150	yes 30 - 150
<b>Controller</b> - workload accuracy  - functions  - protocols - display (type) - display settings - workload (W) - rpm  - timer - distance - torque	external WLP 7-100W +/- 3W 100-500W ≤3% 500-1000W ≤5% workload, rpm, distance, time, fixed torque optional: HRC, 50 free LCD 2x16 char. custom selectable 7-1000 0-255 digital 0-180 bargraph yes yes yes	external WLP 7-100W +/- 3W 100-500W ≤3% 500-1000W ≤5% workload, rpm, distance, time, fixed torque optional: HRC, 50 free LCD 2x16 char. custom selectable 7-1000 0-255 digital 0-180 bargraph yes yes yes	external WLP 7-100W +/- 3W 100-500W ≤3% 500-1000W ≤5% workload, rpm, distance, time, fixed torque optional: HRC, 50 free LCD 2x16 char. custom selectable 7-1000 0-255 digital 0-180 bargraph yes yes yes	external WLP 7-100W +/- 3W 100-500W ≤3% 500-1000W ≤5% workload, rpm, distance, time, fixed torque optional: HRC, 50 free LCD 2x16 char. custom selectable 7-1000 0-255 digital 0-180 bargraph yes yes yes
<b>Calibration</b>	dynamic	dynamic	dynamic	dynamic
<b>Interface</b>	analog + digital	analog + digital	analog + digital	analog + digital
<b>L x W x H (cm)</b>	54 x 68 x 73	61 x 42 x 73	68 x 42 x 104	84 x 82 x 223
<b>Weight (kg)</b>	36	37	55	102
<b>Power Requirements</b>	115/230 VAC 50/60 Hz (130 VA)	115/230 VAC 50/60 Hz (130 VA)	115/230 VAC 50/60 Hz (130 VA)	115/230 VAC 50/60 Hz (130 VA)
<b>Environmental Conditions</b> - temperature (°C) - humidity (non-condensing) (%) - air pressure (kPa)  - temperature - humidity (non-condensing) (%) - air pressure (kPa)	<i>Operational</i> 14 - 40 (57 - 104 °F) 30 - 90 70 - 106 <i>Storage</i> -25 - 70 (13 - 167 °F) 10 - 95 50 - 106	<i>Operational</i> 14 - 40 (57 - 104 °F) 30 - 90 70 - 106 <i>Storage</i> -25 - 70 (13 - 167 °F) 10 - 95 50 - 106	<i>Operational</i> 14 - 40 (57 - 104 °F) 30 - 90 70 - 106 <i>Storage</i> -25 - 70 (13 - 167 °F) 10 - 95 50 - 106	<i>Operational</i> 14 - 40 (57 - 104 °F) 30 - 90 70 - 106 <i>Storage</i> -25 - 70 (13 - 167 °F) 10 - 95 50 - 106
<b>Standard &amp; Safety Norms</b>	ISO 9001 / IEC 601-1 DIN 13405	ISO 9001 / IEC 601-1 DIN 13405	ISO 9001 / IEC 601-1 DIN 13405	ISO 9001 / IEC 601-1 DIN 13405
<b>Options</b> - programmable control unit - blood pressure measurement - heart rate - adjustable cranks - rpm/watt meter - pedal shoes - Lode Ergometry Manager (LEM) software modules - adjustable chair - 0-watt start up system - calibrator	yes yes yes, including HRC 80 - 170 mm in incr. of 10 mm yes yes yes yes yes no yes yes	yes yes yes, including HRC 80 - 170 mm in incr. of 10 mm yes yes yes yes yes no yes yes	yes yes yes, including HRC 80 - 170 mm in incr. of 10 mm yes yes yes yes yes no yes yes	yes yes yes, including HRC 80 - 170 mm in incr. of 10 mm yes yes yes yes yes yes yes yes

WLP = Work Load Programmer, rpm = revolutions per minute, HRC = Heart Rate Controlled

changes without prior notice

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