

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



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

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.



Reclining chair

Arm Ergometry systems

Angio Single set

Angio with static wall mounting

Angio with adjust. wall mounting

Angio with automatic stand



Work Output Range

- 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

Braking System

- electro - magnetic

eddy current

eddy current

eddy current

eddy current

Constant Load

- rpm independent (rpm)

yes
30 - 150

yes
30 - 150

yes
30 - 150

yes
30 - 150

Controller

- workload accuracy

external WLP
7-100W +/- 3W
100-500W ≤3%
500-1000W ≤5%

external WLP
7-100W +/- 3W
100-500W ≤3%
500-1000W ≤5%

external WLP
7-100W +/- 3W
100-500W ≤3%
500-1000W ≤5%

external WLP
7-100W +/- 3W
100-500W ≤3%
500-1000W ≤5%

- functions

workload, rpm, distance,
time, fixed torque
optional: HRC, 50 free

workload, rpm, distance,
time, fixed torque
optional: HRC, 50 free

workload, rpm, distance,
time, fixed torque
optional: HRC, 50 free

workload, rpm, distance,
time, fixed torque
optional: HRC, 50 free

- protocols

LCD 2x16 char.

LCD 2x16 char.

LCD 2x16 char.

LCD 2x16 char.

- display (type)

custom selectable

custom selectable

custom selectable

custom selectable

- display settings

7-1000

7-1000

7-1000

7-1000

- workload (W)

0-255 digital

0-255 digital

0-255 digital

0-255 digital

- rpm

0-180 bargraph

0-180 bargraph

0-180 bargraph

0-180 bargraph

- timer

yes

yes

yes

yes

- distance

yes

yes

yes

yes

- torque

yes

yes

yes

yes

Calibration

dynamic

dynamic

dynamic

dynamic

Interface

analog + digital

analog + digital

analog + digital

analog + digital

L x W x H (cm)

54 x 68 x 73

61 x 42 x 73

68 x 42 x 104

84 x 82 x 223

Weight (kg)

36

37

55

102

Power Requirements

- 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)

Environmental Conditions

- temperature (°C)
- humidity (non-condensing) (%)
- air pressure (kPa)

Operational
14 - 40 (57 - 104 °F)
30 - 90
70 - 106

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14 - 40 (57 - 104 °F)
30 - 90
70 - 106

Operational
14 - 40 (57 - 104 °F)
30 - 90
70 - 106

Operational
14 - 40 (57 - 104 °F)
30 - 90
70 - 106

- temperature

Storage
-25 - 70 (13 - 167 °F)

Storage
-25 - 70 (13 - 167 °F)

Storage
-25 - 70 (13 - 167 °F)

Storage
-25 - 70 (13 - 167 °F)

- humidity (non-condensing) (%)

10 - 95

10 - 95

10 - 95

10 - 95

- air pressure (kPa)

50 - 106

50 - 106

50 - 106

50 - 106

Standard & Safety Norms

ISO 9001 / IEC 601-1
DIN 13405

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DIN 13405

Options

- 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
no
yes
yes

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

changes without prior notice

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