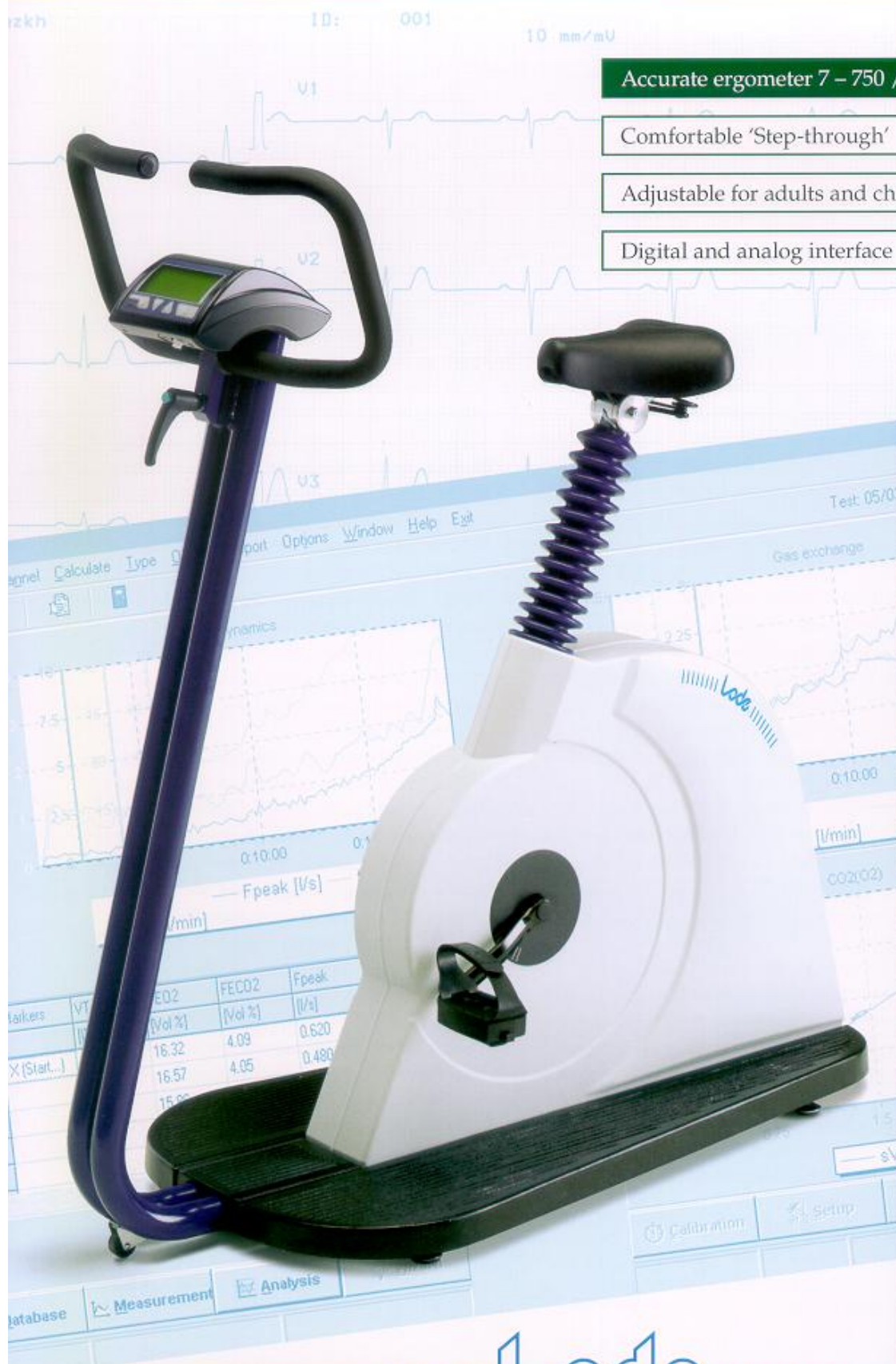


CORIVAL



Accurate ergometer 7 – 750 / 1000 watt

Comfortable 'Step-through'

Adjustable for adults and children

Digital and analog interface



Lode

the standard in Ergometry

CORIVAL

Cardiology

Pulmonary function

Occupational health

Cardiac rehabilitation

Physiotherapy

Lode has been developing and manufacturing cycle ergometers for over 50 years and is continuously improving its products. As a result, the latest Corival is extended with new features, developed in accordance with our three fundamental principles: accuracy, durability and reliability.

• Lode *the standard in Ergometry*

Ever since Mr Fré Lode manufactured the first electro-magnetical cycle ergometer in 1952, accuracy, reliability and durability have been fundamental for further developments. Having started years ago in the small market of cardiology and pulmonary function, the company Lode, nowadays is 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, the ergometers are calibrated dynamically. Ergometers calibrated with this method are stable over long time periods, 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 ISO9001, EN46001 and FDA certified and fulfils the EU medical device directive MDD 93/42/EEC. Over the years, service costs and time are almost negligible. In other words: Lode *the standard in Ergometry*.



Corival with blood pressure module

Special Features

The new Corival is a modern ergometer with an ergonomic, stable design and new operation methods make it even easier to use. Due to a simplified keyboard you can access the full menu function with only 3 buttons. In order to respond to individual requirements, it is possible to freely adjust the different parameters shown in the display and select one of five pre-programmed languages.

The Corival is suitable for all body postures. The comfortable step-through feature enables easy positioning of all test subjects on the ergometer. For children a pediatric option is available. With the unique one-touch stepless saddle adjustment, the saddle height can be adjusted and altered quickly. The extended load range of 7 – 1000 watts makes it possible to use the ergometer for many different applications. Easy transportation of the device is possible by a simple retractable wheel.

Technical improvements

The workload of the Corival is electro-magnetically controlled and continuously adjustable in a range of 7 to 1000 watt. The peak load (1000 watt) can be maintained for a maximum of 6 minutes. The Corival is equipped with both analog and digital interfaces. The availability of the most commonly used RS 232 communication protocols enables easy connection to other equipment.

The technical improvements of the eddy current braking principle reduce the already low noise level to a minimum and increase the workload considerably to a maximum of 1000 watt. Accuracy, one of the most important Lode principles, has been improved to $\leq 3\%$.

Options

The display unit of the standard Corival shows multiple ergometry parameters and you can determine your specific default settings and start-up menu. You can use the display unit in different settings: the display facing the test subject or facing the operator. Positioning of the display unit remotely from the ergometer is optional. The Corival can be extended with the following options:

- *Programmable control unit.* Besides the features of the standard display unit, the programmable control unit has an additional display facing the operator. You have the opportunity to freely programme up to 50 user-defined protocols. Possible programming parameters are: step, ramp, linear, heart rate, torque, repeat and all combinations of these parameters. The programmable control unit can be extended with an infrared port for wireless communication with a PC, laptop or PDA.
- *Blood pressure module.* Using this option you can extend your standard Corival with an accurate stress testing blood pressure monitor with Dimensional K-sound Analysis (DKA), triggered by a TTL pulse from an ECG system or by the optional heart rate receiver. The robust microphone has a double-sided pickup element for increased sensitivity and noise reduction. This module can be controlled by an external device, e.g. ECG system.
- *Extra rpm / watt meter.* With this meter you can obtain an extra read-out of the pedalling speed and the actual workload.
- *Pediatric option.* This option enables you to make your Corival suitable for the youngest children. It provides a small children's seat and adjustable cranks. The minimum leg length is 610 mm with a minimum saddle height of 530 mm. This option can be combined with the shortened saddle shaft.
- *Shortened saddle shaft.* This saddle shaft is adjustable from 438 - 738 mm. The minimum leg length is 528 mm and the minimum saddle height is 448 mm. With this option the Corival is even more suitable for very young or small children.
- *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).
- *Adjustable cranks.* These cranks are adjustable within a range of 80 to 170 mm, with increments of 10mm steps. The minimum leg length is 610 mm and the minimum saddle height is 530 mm.
- *Heart rate option.* It consists of a Polar belt and receiver and offers the possibility to programme heart rate controlled protocols. The heart rate is displayed on the display unit.
- *Lode Ergometry Manager.* This 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 and use special pre-programmed tests. LEM is the perfect supplement to a modern ergometry setting.

Notes:

- Minimum leg length is measured from the middle of the saddle to the centre of the pedal (in the lowest position)
- Minimum saddle height is measured from the middle of the saddle to the middle of the crank axis



Corival with an accurate stress testing blood pressure module



Programmable control unit with two displays for both the operator and the test subject



Comfortable gel seat with a unique one-touch stepless saddle adjustment



Pediatric option consisting of a children's seat and adjustable cranks





Lode Ergometers

Corival

Excalibur Sport

Dynavit

Angio

				
Work Output Range - hyperbolic - linear - increments - peak load	7 - 750 watt continuous 7 - 750 watt continuous 1 watt 1000 watt	10 - 1300 watt 10 - 1300 watt 1 watt 1300 watt	15 - 700 watt 15 - 999 watt 1 watt 999 watt	7 - 750 watt continuous 7 - 750 watt continuous 1 watt 1000 watt
Braking System - electro - magnetic	eddy current	eddy current	eddy current	eddy current
Constant Load - rpm independent	yes 30 - 150 rpm	yes 30 - 180 rpm	yes 25 - 180 rpm	yes 30 - 150 rpm
Controller - workload accuracy - functions - protocols - display (type) - display settings: - workload - rpm - timer - distance - torque	integral WLP 7-100W +/- 3W 100-750W ≤3% workload, rpm, distance, time, fixed torque optional: HRC, 50 free LCD 2x16 char. custom selectable 7-1000 W 0-255 digital 0-180 bargraph yes yes yes	external WLP 10-100W +/- 2W 100-1300W ≤2% workload, rpm, time, Est. VO ₂ , energy Åstrand, 50 free LCD graphic 10 - 1300 W 0-255 digital on WLP 0-180 analog on ergometer yes	integral WLP 15-60W +/- 3W > 60 W ≤2% workload, rpm, heart rate, energy, time HRC, 100 free VFD 2x16 char. 25 - 999 W 0-200 digital yes	external WLP 10-100W +/- 3W 100-750W ≤3% workload, rpm, distance, time, fixed torque optional: HRC, 50 free LCD 2x16 char. custom selectable 7-1000 W 0-255 digital 0-180 bargraph yes yes yes
Calibration	dynamic	dynamic	dynamic	dynamic
Interface	analog + digital	analog + digital	digital	analog + digital
Seat & Handlebars - stepless adjustable seat - adjustable handlebars	520 - 820 mm 360°	490 - 915 mm + 195 mm hor. 310 mm hor. + 200 mm vertical	500 - 750 mm 60°	
Maximum Patient Weight	160 kg	160 kg	135 kg	
Toeclips On Pedals	yes	yes (e.g. click pedals)	optional	yes
L x W x H, cm (inch)	115 x 60 x 114 (45,3 x 23,6 x 45)	125 x 60 x 107 (49,2 x 23,6 x 42,1)	76 x 47 x 107 (30 x 18,5 x 42,2)	73 x 42 x 54 (28,8 x 16,5 x 21,3)
Weight	56 kg	91 kg	53 kg	33 kg
Power Requirements	115/230 VAC 50/60 Hz (130 VA)	100/110/130/220/240 VAC 50/60 Hz (80 VA)	110/230 VAC 50/60 Hz (45 VA)	115/230 VAC 50/60 Hz (130 VA)
Environmental Conditions - temperature - humidity - air pressure - temperature - humidity - air pressure	<i>Operational</i> 14 - 40 °C (57 - 104 °F) 30 - 90% non-condensing 70 - 106 Kpa <i>Storage</i> -25 - 70 °C (13 - 167 °F) 10 - 95% non-condensing 50 - 106 Kpa	<i>Operational</i> 14 - 40 °C (57 - 104 °F) 30 - 90% non-condensing 70 - 106 Kpa <i>Storage</i> -25 - 70 °C (13 - 167 °F) 10 - 95% non-condensing 50 - 106 Kpa	<i>Operational</i> 14 - 40 °C (57 - 104 °F) 30 - 90% non-condensing 70 - 106 Kpa <i>Storage</i> -25 - 70 °C (13 - 167 °F) 10 - 95% non-condensing 50 - 106 Kpa	<i>Operational</i> 14 - 40 °C (57 - 104 °F) 30 - 90% non-condensing 70 - 106 Kpa <i>Storage</i> -25 - 70 °C (13 - 167 °F) 10 - 95% non-condensing 50 - 106 Kpa
Standard & Safety Norms	ISO 9001 / IEC 601-1 FDA 510K / DIN 13405	ISO 9001 / IEC 601-1 FDA 510K	ISO 9001 / IEC 601-1 DIN 13405	ISO 9001 / IEC 601-1 DIN 13405
Stability	0 - 1000 W	0 - 2500 W	0 - 1000 W	0 - 1000 W
Extension Modules - blood pressure measurement - programmable control unit - heart rate - 0-watt start up system - pedal force measurement - modular software - calibrator	yes yes yes, including HRC yes yes yes yes	standard yes yes yes yes	standard standard, including HRC yes	yes yes yes, including HRC yes yes yes

WLP = Work Load Programmer, rpm = revolutions per minute, est. VO₂ = estimated oxygen uptake, HRC = Heart Rate Controlled

changes without prior notice

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