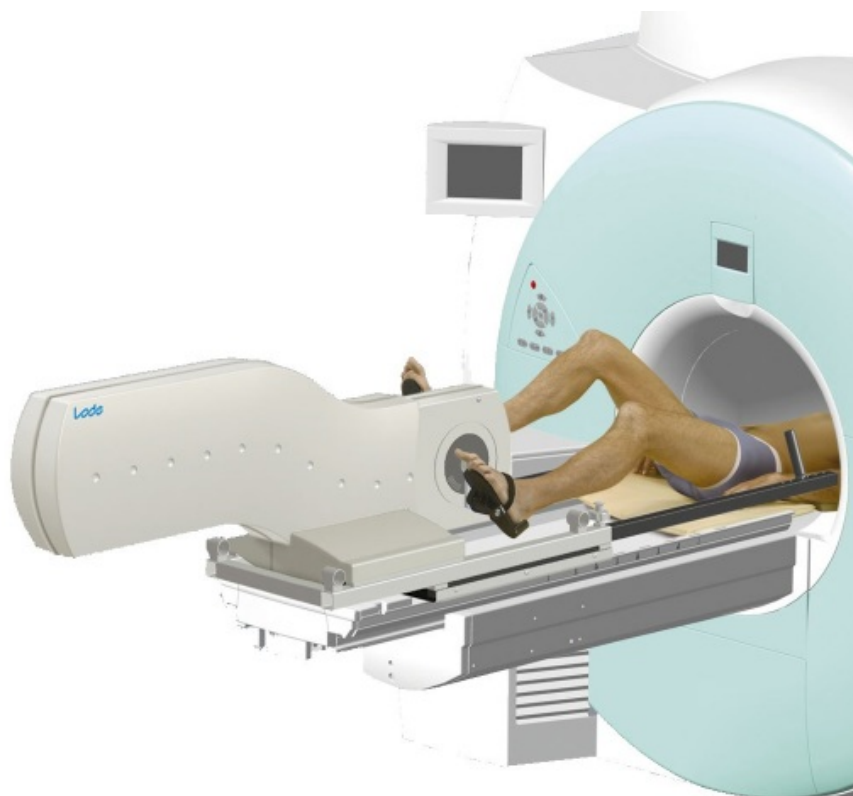# MR Ergometer Pedal

Medication free, load adjusted patient activation during MR scans

Highlights

Unique ergometer for MRI

With this unique ergometer it is possible to perform an exercise test in an MRI. An ergometer on the tabletop of an MRI ensures minimal time stress induction and imaging without coursing artifacts on the imaging.

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.

Compatible with various MRIs at 1.5 and 3 Tesla

Compatible with
- Philips
- Siemens
- GE

Tesla independent

The choice of materials and the special design makes that the Lode MRI ergometer is useable for various Tesla MRIs without giving artifacts on the imaging.

Exercise instead of medicine

When a test subject is able to do exercise, it is always recommended above pharmacologic stress. It allows objective measurement in either level of cardiac conditioning and/or level of cardiac work. It is safe and perfectly reproducible.

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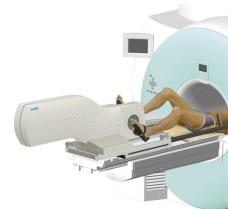
The MR ergometer is an ergometer for use during MR studies. The MR ergometers workload is controlled with an electronic braking principle especially designed for use in a MR environment. The moment of inertia is 8,4 kgm2. The MR ergometer is standard supplied with a control unit and power unit. The standard control unit offers the possibility to read out various parameters like workload, rpm, torque, timer and distance. The power unit is completed with a safety cable for wall fixation. The MR ergometer can be used for MRI scanners up to 3 Tesla.

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.

GE MRI compatible

The Lode MR Ergometer is compatible with GE Signa and Discovery scanners.

Siemens MRI compatibility

The MRI Ergometer can be used in combination with many Siemens Magnetom MRI scanners, like Skyra, Aera, Verio, Essenza, Prisma, Avanto Fit, Vida, Sola, Altea, Lumina and Spectra.

Philips MRI compatible

The ergometer is compatible with various Philips MRI devices like Philips Achieva and Ingenia.

Low noise

Due to accurate manufacturing and the careful choice of materials the product has an extremely low noise level.

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.

Service friendly

Service friendly ergometer

Lode ergometers are very service friendly. In general, total costs for spare parts are so low that they are negligible. Furthermore, most options are so easy to install and firmware is so easy to update that labor costs are minimal. Moreover, the ergometer can be cleaned easily.

3 Tesla

Up till 3 Tesla

Virtually no interferentie up till 3 Tesla through smart constructions and material use

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A unique ergometer

The Lode MRI ergometers are designed to produce physical stress within an MRI device. The MRI ergometer can be used for cardiac examinations, cardiac research, spectroscopy and other examinations and research.
For cardiac MRI examinations, the MRI ergometer can be produced with a pedal (circular) or push/pull exercise movement.
For spectroscopy MR examinations there is an ergometer available with up/down movement for the upper leg and an ankle MRI ergometer for the calf muscles.

The MRI ergometers are compatible for the most types of MRI scanners of Siemens, Philips and GE. The choice of materials and the special design makes that the Lode MRI ergometer can be used for 1,5 and a 3 Tesla MRI without giving artifacts on the imaging.

Our MRI ergometer with its low start-up load enables exercise. When a test subject is able to do exercise, this is always recommended above pharmacologic stress. It allows objective measurement of improvement in either level of cardiac conditioning and/or level of cardiac work. It is safe and what is very important is perfectly reproducible.
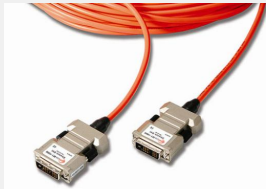
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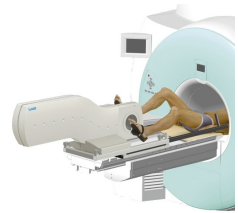
MR Ergometer Pedal can a.o be extended with the following options:

Optical Interface Cable	Adjustable Cranks for MR ergometer
Connection with a PC outside the MRI room	Versatile adjustability
Partnumber: 918825	Partnumber: 918830

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Specifications

Workload

Minimum load	10 W
Maximum peak load	300 W
Minimum load increments	1 W
Hyperbolic workload control	✔
Linear workload control	✔
Fixed torque workload control	✔
Maximum rpm independent constant load	80 rpm
Minimum rpm independent constant load	25 rpm
Electromagnetic "eddy current" braking system	✔
Dynamic calibration	✔

Accuracy

Workload accuracy below 100 W	3 W

User Interface

English user interface	✔
Chinese user interface	✔
Croatian user interface	✔
Czech user interface	✔
Danish user interface	✔
Dutch user interface	✔
Finnish user interface	✔
French user interface	✔
German user interface	✔
Greek user interface	✔
Hungarian user interface	✔
Italian user interface	✔
Japanese user interface	✔
Korean user interface	✔
Latvian user interface	✔
Lithuanian user interface	✔
Norwegian user interface	✔
Polish user interface	✔
Portugese user interface	✔
Romanian user interface	✔
Russian user interface	✔
Spanish user interface	✔
Swedish user interface	✔
Turkish user interface	✔
Ukrainian user interface	✔
Manual operation mode	✔
Preset protocol operation mode	✔
Analog operation mode	✔
Terminal operation mode	✔
External control unit	✔

Connectivity

Analog connector	✔

Dimensions

Product length (cm)	135 cm	53.1 inch
Product width (cm)	50 cm	19.7 inch
Product height	50 cm	19.7 inch
Product weight	47 kg	103.6 lbs

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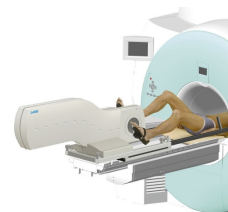
Power requirements

115 V AC 50/60 Hz (130 VA)   ✔

230 V AC 50/60 Hz (130 VA)   ✔

Standards & Safety

IEC 60601-1:2005   ✔

ISO 13485:2016 compliant   ✔

ISO 9001:2015 compliant   ✔

Certification

CE class Im according to MDD93/42/EEC   ✔

CB according to IECEE CB   ✔

Order info

Partnumber:	937901

Specifications are subject to change without notice.

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