



# MONARK EVO



## CHARACTERISTICS

- Monark novo mini system - connection to third party applications
- Compatible with all ANT + and BLE devices with FE-C and FTMS protocols
- Stepless adjustment for the best bikefit
- Electronic shifters and sprint buttons, set according to your own wishes
- Calibrated watt in display
- Pendulum system - Exact calibration
- Unique cycling feel
- Use your own saddle, handlebars and pedals
- Load is controlled with watts (speed independent) or force (in kp, speed dependent)
- Communicates SMART both via ANT + and Bluetooth
- The perfect bike for virtual racing

Max userweight 150 kg

# Specifikation

## MONARK EVO

<b>Certifications</b>	
<b>Frame</b>	
<b>Type</b>	Sport, perfect fit
<b>Handlebar</b>	Racing handlebar with shifters
<b>Stem</b>	adjustable horizontal 60 mm, vertical 500-910 mm
<b>Seatpost</b>	adjustable horizontal 60 mm, vertical 530-940 mm
<b>Saddle</b>	Black, Racing
<b>BB</b>	68/110 mm
<b>Crank</b>	Steel, L:172.5 mm
<b>Pedals</b>	9/16", combipedals basket/ SPD
<b>RESISTANCE</b>	
<b>System</b>	Electronic pendulum system
<b>Flywheel</b>	Cast iron, 20 kg
<b>DISPLAY</b>	
<b>SCREEN</b>	Mono Touch Screen
<b>RPM</b>	YES
<b>HR</b>	ANT+
<b>Time</b>	YES
<b>Speed</b>	YES
<b>Distance</b>	YES
<b>Power/Watt</b>	YES
<b>CONNECTION</b>	
<b>ANT+</b>	YES, FE-C
<b>Bluetooth</b>	YES, FTMS
<b>WEIGHT &amp; MEASUREMENT</b>	
<b>Max userweight</b>	150 kg
<b>recommended userlength</b>	>150cm
<b>Length bike [mm]</b>	1405 mm
<b>Width bike [mm]</b>	640 mm
<b>Height bike [mm]</b>	Max 1240 mm
<b>weight bike [kg]</b>	62 kg
<b>POWER REQUIREMENTS</b>	220V (12V, 5,0 A)
<b>WARRANTY</b>	24 month

**ANT +**

Support for the FE-C protocol (Fitness Equipment Controls), which means communication to third parties.

**BLUETOOTH**

Support for the FTMS protocol (Fitness Machine service), which means communication to third parties.

**HEART RATE**

Equipped to measure heart rate via a heart rate sensor (sensor is an accessory)

Monark Exercise AB is since 1992 ISO 9001 certified.

The bike is:

- Anti-corrosion treated and powder coated
- Made in Vansbro, Sweden

# Description

## MONARK EVO

### MONARK EVO

Monark EVO is Monark's new ergometer that communicates SMART, via BLE or ANT+. Monark's Cycle ergometer are known for their precise measurement, this thanks to the unique pendulum system that makes it possible to calibrate the cycle before each use, this to emit the same accurate measurement. This, combined with the new Novo Mini display, electronic shifters and sprint buttons, makes Monark EVO the perfect bike for virtual racing in e-cycling and controlled training.

### USE

The robust ergometer together with the characteristic flywheel creates a unique and smooth cycle feeling. Novo mini offers wireless connection via BLE and ANT+ (via FTMS and FE-C protocols) and creates new opportunities to connect and communicate with third-party applications.

The electric servo enables third parties to take control of the resistance of your Monark EVO. It is possible for the user to customize the shifters and sprint buttons as desired. With "press and hold", single and double click is the resistance changed, each action could be customized to best suit the rider's demands. Choose how big the steps of each control should be - both for the shifters and the sprint buttons.

Novo mini can also set both the Inertia effect and the cycling constant. The setting of the Inertia effect means that the ergometer takes into account the acceleration of the flywheel and the effect that the resistance generates. This generates a realistic cycling experience at e.g. Zwift. The power output are similar as the once given from power sensor in pedals or cranks (spikey)

The bicycle constant allows Monark to measure the effect either at the flywheel (Monark standard for science) or at the crank section. This to be able to race against other Trainers or smartbikes who measure the effect at the pedals, as well as at races where double power sources are required. Settings of the gear controls and sprint buttons, as well as the Inertia effect and the cycle constant are set via our small PC app that can be downloaded from our website.

### Measurement accuracy

Monark guarantees accurate measurement via its unique pendulum system. During a test run of Monark's pendulum system, Monark showed -0.03% in the source of error when the difference against the crank portion was taken into account with a cycle constant of 1.06. The test run also showed that a higher RPM and higher resistance gives better accuracy

# Description

## MONARK EVO

### CONNECTION

The Novo mini display communicates smart via Bluetooth and ANT+, this via standardized communication protocols Fitness Machine Service and Fitness Equipment Controls (FTMS and FE-C). This means that there is support for applications on Android (Samsung, Sony, Huawei and more), IOS (Apple) and also Windows and Mac.

Monark EVO has four different connection modes (depending on the choice of application).

- Simulation mode

Here, an application sends information about a simulated environment that determines the resistance of the ergometer. The resistance (a certain kilopond) at e.g. Zwift means the slope of the road in combination with “virtual gears”.

- ERG mode

Here, the application sends information about the effect of the ergometer regulate against. This can be called “Workout mode” in some applications.

- Resistance mode

An application sends information about which resistance level the bike should hold. Resistance level is 0-100% where Monark translates it to 0-7 kilopond [kp].

- Manual mode

No application controls the bike, but applications can still listen to the ergometer power and cadence, to e.g. display a certain speed on the screen.

Applications such as Zwift works with both BLE and ANT + in both ERGmode and simulation mode.

### PRODUCED IN SWEDEN

Monark has been producing exercise bikes since 1954 and our philosophy is to deliver world-class bikes. Our bikes are known for their accuracy and are used by a broad audience from Olympic medalists in test and training facilities to rehabilitation centers and in hospitals around the world. Now we want to bring our knowledge, passion and quality into the virtual world.

We have been responsive to the market and developed Monark EVO together with well-known cyclists coaches and scientist to get a product with a perfect cycling feel, that needs to be experienced.

Monark is known for its accuracy and robustness and premium quality, and are today used in both education and scientific tests all over the world, we have long and solid experience of building exercise bikes. We are therefore confident that our smart ergometer will give you the perfect experience.