
# The Ergometer for Pros

PERFORMANCE ANALYSIS AND TRAINING ON YOUR OWN BIKE

CYCLUS 2

# Performance Analysis and Training using your own bike

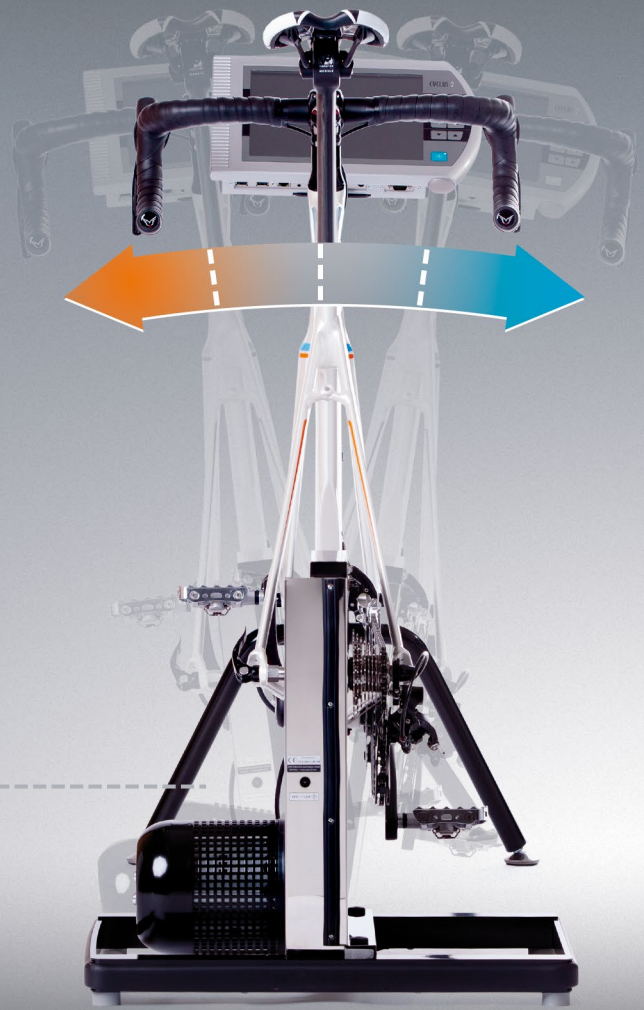
Right from the first moment – feeling like real road riding. One single pedal push will fuel your enthusiasm for this ergometer. Fulfil your dreams about performance analysis and training using your own bike under optimal biomechanical conditions. Profit from the unique elastic fitting which laterally oscillates your bike. This feels just like real world cycling and makes every moment of your hard training even more special.

*The perfect combination between performance analysis and training ergometer*

The development of the high performance Cylus2 technology is the result of our long-standing collaboration with doctors, trainers and cyclists, together with many years of experience in elite sport. The added implementation of scientifically approved principles of cycling ergometry into the Cyclus2 offers you an optimal combination of performance analysis and training.

## REALISTIC LATERAL BIKE OSCILLATION

- Patented viscoelastic bike-ergometer connection
- Protective use of own bike
- High stability



## UP TO 3000 WATTS

- High performance brake unit
- Absolute precision
- Sleep-free resistance transfer

## USE YOUR OWN BIKE

- Racing bike, track bike, mountain bike, time trial bike, handbike

## CONTROL PANEL

- Programmable tests/training
- All conventional tests integrated
- Straightforward operation

## ON THE GO

- Compact ergometer transport case
- Quick and easy to assemble
- Power supply dependent and independent use


# Performance Analysis

*Optimal training design using ongoing performance analysis and adaptation monitoring*

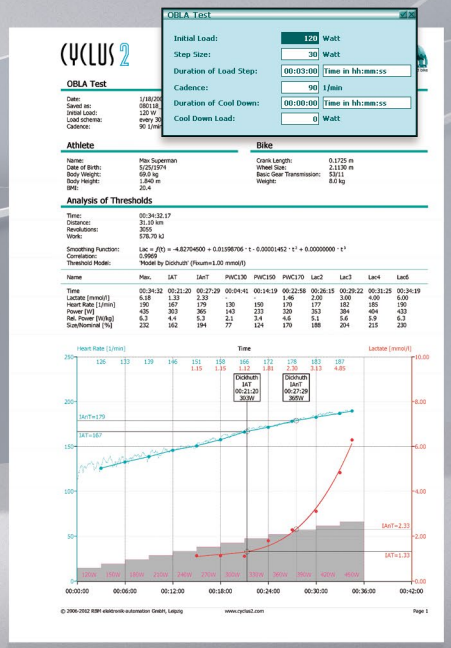
One of the crucial factors for optimal training control and race preparation is a scientifically precise evaluation of individual performance capabilities. The Cyclus2 high performance ergometer is packed with all conventionally performed tests used in elite sport and research. Endurance capacities, power and coordinative requirements can be analysed.

## *Precise determination of Ventilatory and Lactate Thresholds*

Precise test load files together with our sophisticated software analyse metabolic processes and energy expenditure. Results can be demonstrated and illustrated with the Cycus2. Moreover the extraordinary functionality of our high performance ergometer allows synchronisation and analysis of ventilatory responses with pedal cadence as well as heart rate responses. Unique of any existing ergometer, the Cyclus2 directly calculates lactate thresholds without the need of any additional software. Based on respective threshold results, the effectiveness of training cycles can be analysed and new training zones be determined.

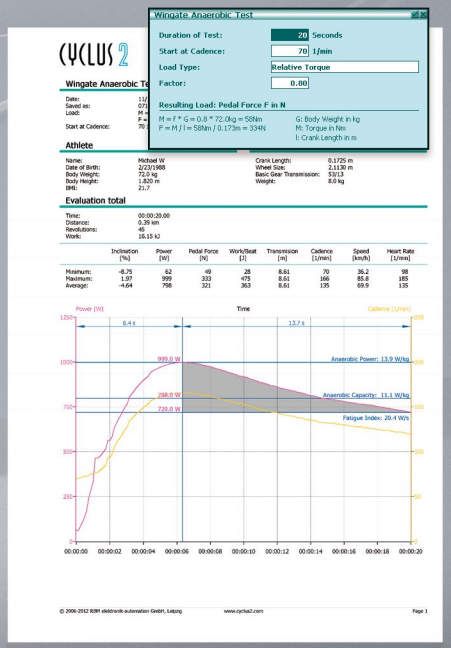
## INCREMENTAL TESTS

The Cyclus2 software performs graded and ramp exercise testing. Durations and increments/ramps (i.e. testing profiles) are easily individually programed and can be saved. This option allows the trainer/athlete to program and to analyse a variety of testing profiles. There is no need for additional hardware as heart rate response and lactate thresholds can be directly analysed using the Cyclus2 software. Results can be exported and illustrated in colour using the printer connection or alternatively be saved in pdf format.



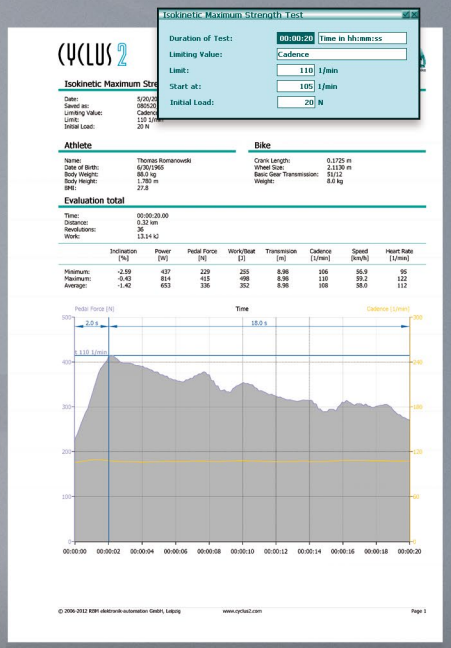

## WINGATE ANAEROBIC TEST

The Wingate Anaerobic Test traditionally requires athletes to perform a cadence dependent maximal effort over 30 seconds. The test determines values such as peak power, mean power or fatigue index. The Cyclus2 allows to manipulate the duration, load or other test parameters. Load for example can either be determined relative to the body weight of the athlete or alternatively be set as a fixed value. Results can be exported and illustrated in colour using the printer connection or alternatively be saved in pdf format.



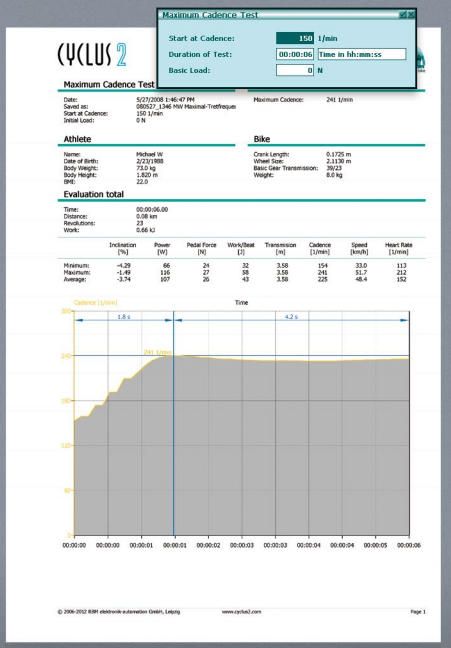

## ISOKINETIC MAXIMAL POWER TEST

Using the isokinetic maximal power test the Cyclus2 determines the maximal performance capacity of an athlete at a set cadence. The isokinetic mode automatically adjusts the resistance in the presence of a difference between the athlete's actual and the set cadence. The test duration and test cadence can be varied, are easily programmable and can be saved. Results can be exported and illustrated in colour using the printer connection or alternatively be saved in pdf format. The isokinetic mode is furthermore optimal for specific cadence training.




## MAXIMAL CADENCE TEST

The Cyclus2 software performs maximal cadence tests which investigate the coordinative abilities of an athlete. The test determines this maximal cadence over a set duration. Conventionally this test is performance unloaded but the Cyclus2 also offers a loaded test option. Starting conditions and test duration can be manipulated, are programmable and can be saved. Results can be exported and illustrated in colour using the printer connection or alternatively be saved in pdf format.



# Ergometer Training

*The uniqueness of an ergometer*

A Cyclus2 ergometer training is an ideal addition and/or replacement to your outdoor cycling. Using your own bike under near real-world cycling conditions you are training under optimal biomechanical conditions. Outstanding unique features of the ergometer such as precise and reliable training loads and a continuous performance monitoring option allow you to increase individual levels of aerobic/anaerobic intensity levels. The high brake power of the Cyclus2 and its direct resistance transfer furthermore sets new distinct muscular and cardio-vascular training stimuli.

*Effective training using systematic loading*

The Cyclus2 provides you with a great and versatile spectrum of training and load profiles, which can be set as fixed time, distance or work trials. Using the program generator you can also choose typical load profiles such as plateau-recovery, full hill-recovery, half-hill-recovery- half-hill or alternatively simply program your own load profile.

# Realistic Road Profile Simulation

*Just like real-world racing*

Cyclus2 offers an ingenious simulation program to train as close as possible to real-world cycling. For an optimal indoor event preparation the file import option can simulate your favourite race and training routes anywhere in the world. Independent of weather and other environmental conditions, the simulation program provides an objective tool for a systematic and reproducible training and race preparation.

Use the Cyclus2 as a performance monitor to determine you training and performance adaptations. Cutting-edge electronic and sensory technology realistically controls the resistance of the ergometer and gives you a close to real-world outdoor cycling feeling.


*Develop your pacing strategy*

To further enhance your real-world cycling experience, the VirtualTraining interface brings the race track as a video into your home or laboratory. Cycle with a view and a synchronised track - ergometer resistance. In other words, enjoy the control of the video speed with your actual cycling speed. The slower you are, the slower the video and vice versa. This VirtualTraining presents an optimal tool to develop your pacing strategy for upcoming races.


*LAN*
100/10 Mbit Ethernet

*WIFI*
802.11 g/2.4/5 GHz

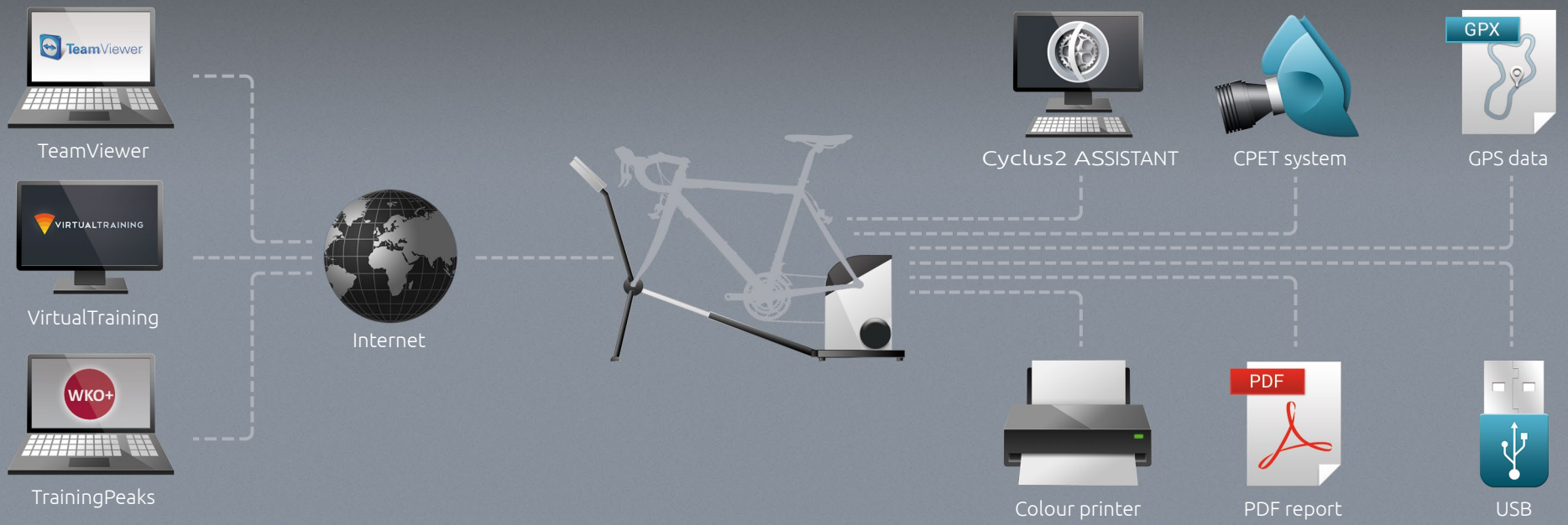
*RS232*
Galvanically isolated CPET/ECG interface

*ANT+ receiver*
Heart rate measurement

*USB*
Colour printer

*USB*
External Keyboard

# A Future-Proof System




## LOAD TYPES

- Power controlled (Watt)
- Torque controlled (Nm)
- Isokinetic (cadence)
- Inclination (simulation of air resistance, downhill force, rolling friction)

## CONTROLS

- Manual
- Program controlled
- Imported profiles (tcx, gpx, srm)
- External systems (CPET, ECG, VirtualTraining)

## ACCURACY, CALIBRATION

- Maximal error: 2% (for power values less than 100 Watt maximally 2 Watt)
- Cadence error: ± 1 RPM
- Dynamic calibration (incl. calibration protocol) recommended on a yearly basis
- Mechanical feedback HBM T5 torque flange (accuracy class 0.1)

# CYCLUS 2

*Essential testing and training ergometer for training and research*

- Allround cycling ergometer with 10-speed cassette
- Optimal for road bikes, time-trial bikes and mountain bikes

# CYCLUS 2 ECCENTRIC

*Outstanding eccentric cycling ergometer for training and research*

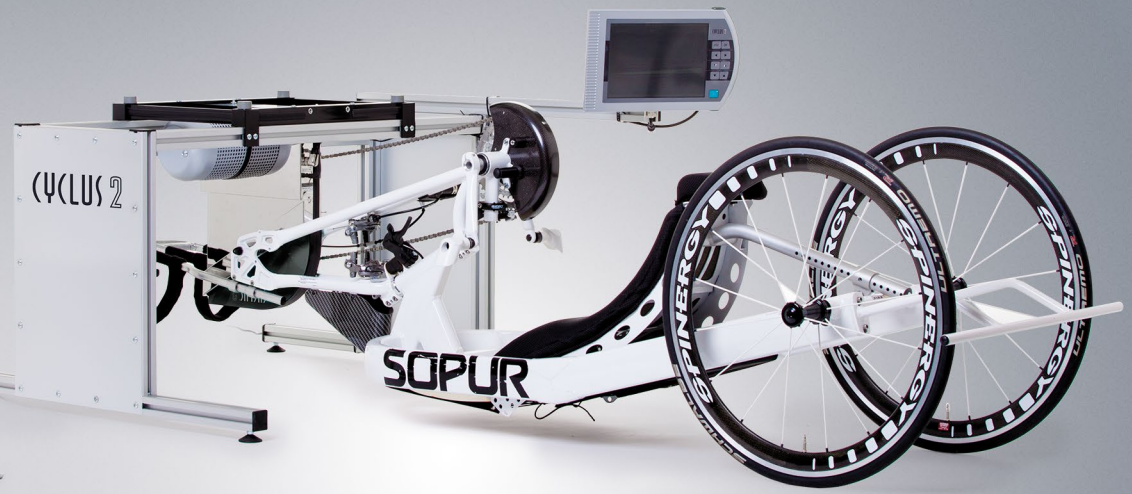
- Motorised backward pedal motion. Athlete eccentrically trains against this motion.
- Exclusively for special track bikes (single speed)
- No freewheeling, 12T sprocket 1/2 x 1/8 inch

# CYCLUS 2 SPRINT


*The ultimate training ergometer for elite track cyclists and coaches*

- Optimised for maximal power training
- Exclusively for track bikes
- No freewheeling, 12T sprocket 1/2 x 1/8 inch

# CYCLUS 2 HANDBIKE




*Exceptional testing and training ergometer for professional para-cyclists*

- Specially designed brake with a 10-speed cassette to accommodate for recumbent bikes and knee-bikes from manufacturers such as SOPUR, Schmicking, Carbonbike and Top End
- Optimised for low brake resistances

CYCLUS 2

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