

Alternative to the Wingate test

The original Wingate test, was developed in Israel Wingate Institute in the 1970s.

It is the most widely used test for determining the performance of the anaerobic efficiency. The Wingate test was developed for mechanically braked ergometer. After a warm-up phase, the subject accelerated maximum without resistance, after 3 sec a predetermined resistance for further test duration on the flywheel is applied. The test ends after 30 seconds, the Wingate test is specifically designed for mechanical ergometer (Fleisch, Monarch) designed to the control of the intensity takes place with this principle on the torque.

This type of control is not possible with the SRM high performance ergometer. Alternatively, we recommend an isokinetic testing protocol for 30 seconds with a fixed cadence of 80 rev. / min.

Warm-up: with 1-2 short (3-4 sec) submaximal workloads least 3-4 min (short-term increase in cadence)
 Recreation: 1-2 min at low power
 Test: 30 sec maximum power on command (counting down the 5 seconds before starting the test)
 Cadence: 80 r/min, isokinetic mode
 End: Cool down

Measurement parameters: Pmax = absolute maximum power [Watt]
 Pmax/kg = relative maximum power [Watt/kg]

Anaerobic fatigue: Ratio of the highest 5 sec average power to lowest 5 sec average power [%]

Anaerobic capacity: Energy used during the test period [Joules]