Product Overview

1080 Sprint

1080 Sprint

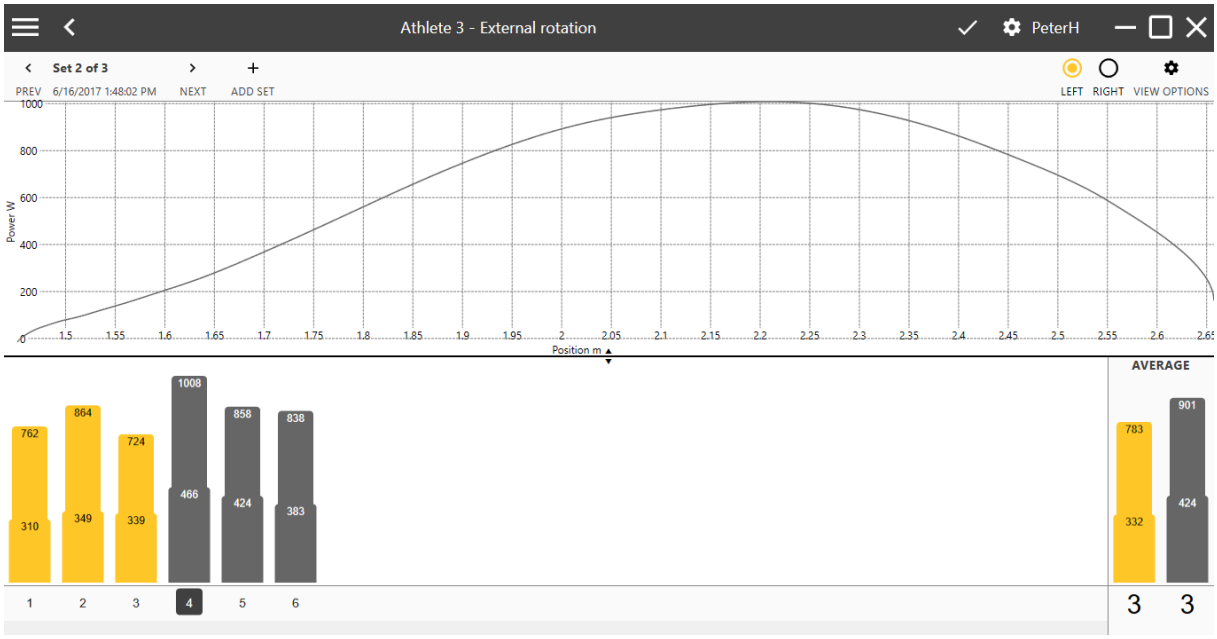
1080 Sprint is a portable multi-use device for on-field resistance testing and training of cyclical movements such as running, swimming and skating. It is also ideal for change-of-direction movements in ball and team sports such football, basketball, volleyball and tennis. The system uses variable intelligent resistance technology to provide a fully controllable resistance in the concentric/resisted and eccentric/assisted phase of the movement. Thus, the system is ideal for resistance training and rehabilitation of linear acceleration (sprinting), change-of-direction drills, assisted/overspeed sprinting, or be used as a general power and speed assessment tool for any type of movement or repetition. It measures power, force and speed with high accuracy for testing, training and coaching/feedback purposes. With a 90-meter pull cord 1080 Sprint is an invaluable tool for advanced training, rehabilitation, testing and research of athletic ability in the horizontal plane.

The system is delivered with the 1080 Sprint user application pre-installed on a tablet PC.

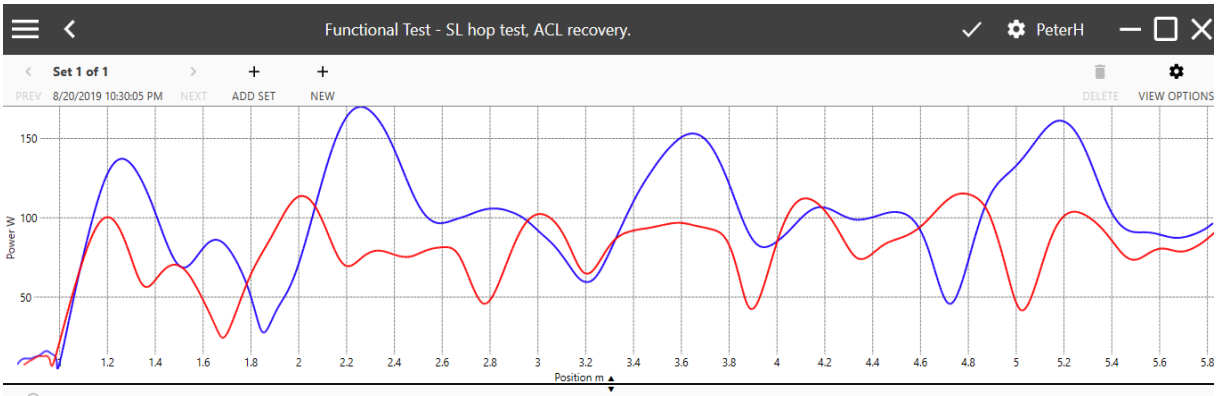
Any test or movement done in 1080 Sprint can be captured as measurements of peak and average force, speed and power produced by the test subject. The resulting, force, speed and power, are presented both graphically and numerically over the measured distance. Test data can also be exported as a CSV file for further analysis or integration with an Athlete Management System.

This visibility into cyclical movements such as sprinting or swimming makes it possible for coaches and researchers to in study how the athletes' unique characteristics of force, speed and power generation translate into movement. Limiting factors such as: right/left asymmetries, low initial rate of acceleration, limited top speed, or low ability to maintain top speed are easily identifiable from the data.

Example of a three sprint curves at three different loads (1, 8, 15 kg) over 20 meters.



Example of a test comparing power in a left- and right-side external rotation. 3 reps each side. Repetition no 4 is shown as a graph. Numbers in bars indicate peak and average values.



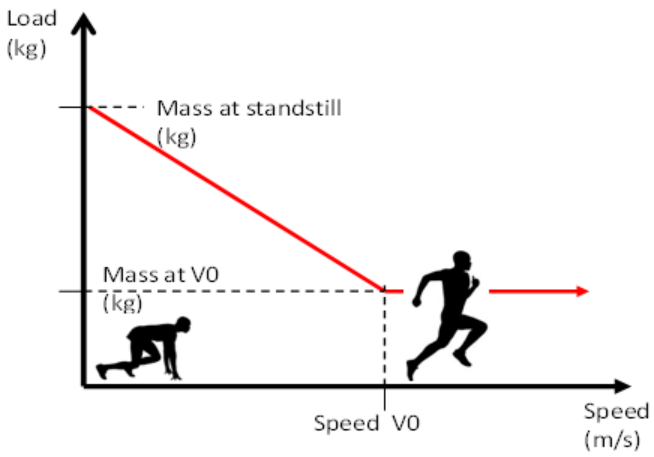
No	Plot	Color	Distance Total Trimmed	Time Total Trimmed	Speed Peak Avg	Force Peak Avg	Power Peak Avg	Trim Type Start/stop position Start/stop time	Resistance Load res/ass Mode/Gear Speed limit res/ass	Comment
1	☑		5 m 5 m	2.62 s 2.62 s	3.18 m/s 1.91 m/s	60 N 39.9 N	170 W 80.4 W	No trim	3 / 3 kg Isotonic / Fir 14 / 1 m/s	Right leg, normal
2	☑		5 m 5 m	2.96 s 2.96 s	2.59 m/s 1.69 m/s	53.7 N 39.2 N	115 W 68.5 W	No trim	3 / 3 kg Isotonic / Fir 14 / 1 m/s	Left leg, involved

Example of a test comparing power and distance of single leg consecutive hops over 5 meters. Left leg (red) in ACL recovery.

Highlighted features

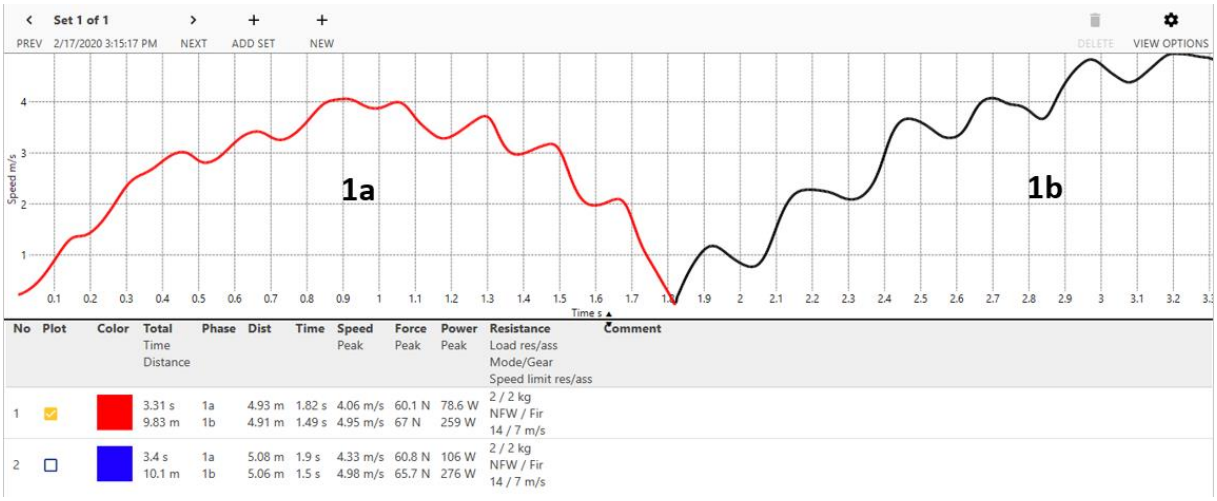
Load and speed – 1080 Sprint offers sports coaches, conditioning specialists, athletic trainers and researchers the opportunity to set both load and speed in the concentric/resisted and eccentric/assisted phase of any given movement pattern. The ability to manipulate these basic factors to performance is at the very foundation of human performance. This offers the possibility to create highly specific testing and training protocols for athletic development purposes or research.

Variable resistance –Variable resistance offers the unique ability to optimize resistance loading in all phases of a sprint from start to finish. In sprinting, more horizontal force is created during acceleration as compared to the constant speed phase. In order to match this requirement for sprinting and to allow for an optimal training load throughout the sprint, a variable resistance is needed. Compared to traditional sled training, this feature is the equivalent of a sled that reduces its weight as the speed increases (see figure). When using this feature the coach is able to set 1) the initial starting load the athlete will feel when he pushes of from standstill 2) the load the athlete will feel once he reaches a set speed V0, and 3) the V0 speed.



Over-speed – The settings enable selection of both the speed and force at which the 1080 Sprint will pull an athlete towards the system. This makes it possible to determine and apply the most optimal level of speed and force for assisted and over-speed sprinting.

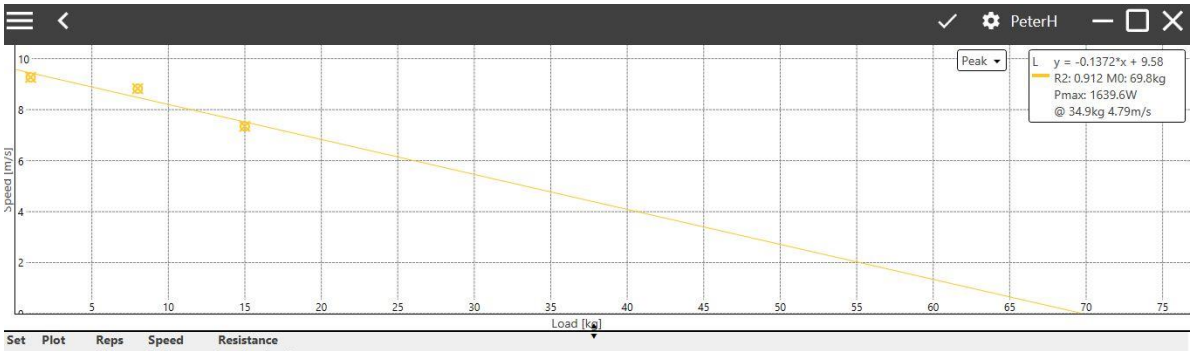
Change-of-Direction – A range of predefined test procedures for quantification of multi-direction speed, force and power qualities. Includes protocols and data visualization of common tests such as the 5-0-5 and 5-10-5.



Example of a 5-0-5 test plotting speed over measured time. Section 1a is the initial segment of the athletes moving from start to the mark. Section 1b shows the return crossing back over the starting point.

Eccentric overloading – Eccentric leg strength dictates the athlete's ability to quickly decelerate. It is therefore an important component in change of direction ability and a key aspect to acceleration, speed and resilience to injury in sports performed in the horizontal plane, such as football and basketball. When performing change of direction training with the 1080 Sprint system, is it possible to overload the eccentric portion of the movement. The eccentric load can be set up to 3 times higher than the concentric load.

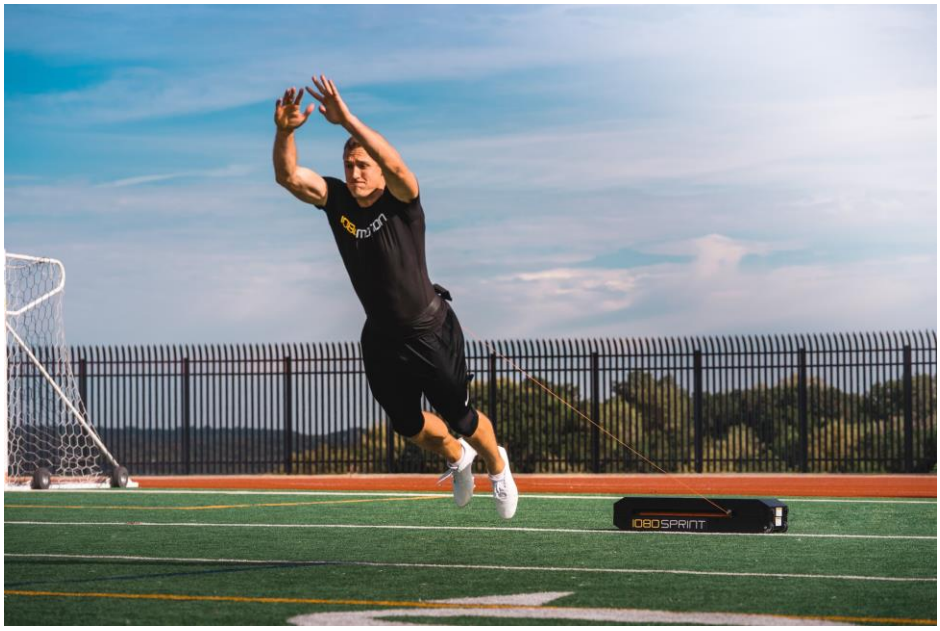
Load - Velocity profiling – Built in function for establishing the athlete's speed response to varying resistance loads.



Set	Plot	Reps Side	Speed Peak Avg	Resistance Load res/ass kg Mode/Gear Speed limit res/ass n
1	☑	1 Left	9.27 6.71	1 / 1 Vibration / First 14 / 3
1	☑	1 Left	8.82 6.15	8 / 8 Vibration / First 14 / 3
1	☑	1 Left	7.35 5.37	15 / 15 Vibration / First 14 / 3

System specification

- Continuous resistance range 0-150N in gear 1 or 150 – 300 N in gear 2. Maximum resistance in both directions: < 300N during maximum 10s and < 450N during 3s
- Maximum speed 14 m/s (46 ft/s) in gear 1.
- Length of line 90m (295ft)
- Recorded frequency of force, speed and power: 333 samples per second
- Dimensions (LxWxH): 39.5x13.0x8.5"
- Weight: 66 lbs. Built in wheels and handles for easy transportation
- Power requirement (US): 110 VAC 10A
- Certified for commercial and outdoor use toward the UL 1647 standard including ability to withstand rain.



1080 MOTION™

1080 Motion

Email: info@1080motion.com
Web: 1080motion.com

Instagram: @1080motion
Twitter: @1080motion
Facebook: @1080motionsports