Overview:
The Retül 3D motion capture hardware is a marker based optical tracking system. It tracks Infrared (IR) light emitted by light-emitting-diodes (LEDs). The 4 glass filters on the front of the unit triangulate the position of the LEDs in 3D space.

Key Technologies:

Synchronization:
The system has full control over all LED flashes and thus discreetly knows which LED is which. This eliminates all post processing work and allows the measurements and reports to be delivered automatically in seconds. This allows the fitter to use the technology as an aid to the fit process and not a distraction.

Stroke Intelligence:
During a Cyclist tracking recording, the software finds all the measurement events, creates a log of all body measurements, and averages all these measurements together for the total number of recorded strokes. This creates a true-to-life measure of the cyclist's movements and reduces the effects of atypical movements.

Cubic Time Interpolation:
Because of the timestamped 3D data that the Retül delivers, certain key motion events such as foot forward position and maximum leg extension can be interpolated to increase measurement accuracy. This allows the system to find these events even if a data capture didn't exactly line up with the event. A higher-order time interpolation algorithm is used to solve for these positions.

Shipping Dimensions:

Vantage System Case = 16.7 kg (37 lbs), 1.02 m (40 in) x 0.48 m (19 in) x 0.18 m (7 in)
Fully Built Rotating Platform = 63.5 kg (140 lbs), 1.88 m (74 in) x 0.97 m (38 in) x 0.23 m (9 in)
Rotating Platform Parts Kit Only:
Box 1 = 3.2 kg (7 lbs), 0.33 m (13 in) x 0.33 m (13 in) x 0.1 m (4 in)
Box 2 = 3.6 kg (8 lbs), 0.99 m (39 in) x 0.1 m (4 in) x 0.1 m (4 in)