



The Prosim Hip Wear Simulator: Machine Specification

The **Prosim Hip Wear Simulator** features six-axis load cells that provide monitoring of all forces and torques applied to the cup or upper vertebral body in the six-station hip and spine simulator.

The Prosim Hip Wear Simulator meets the following apparatus requirements:

- **ISO 14242-1 (2014)** – Implants for surgery – wear of total hip-joint prostheses – Part 1: loading and displacement parameters for wear-testing machines with load control and corresponding environmental conditions for test
- **ISO 14242-4 (2018)** – Implants for surgery – wear of total hip-joint prostheses – Part 4: testing hip prostheses under variations in component positioning which results in direct edge loading

The Prosim Hip Wear Simulator includes numerous features and benefits:

- Up to six hip or spinal implants can be tested simultaneously
- Up to two hip or spinal implants can be load soaked
- Axial Loading of up to 5kN
- Flexion-Extension range of $\pm 60^\circ$
- Abduction-Adduction motion range of $\pm 20^\circ$
- Interior-Exterior Rotation range of $\pm 30^\circ$
- Able to run both force and displacement control
- Microseparation displacement of the acetabular cup up to 5mm (hip)
- Operating frequency of motions programmable up to 2.0Hz
- Each station equipped with a six axis load cell
- Each station fitted with a XY table to allow alignment of the centres of rotation
- A dedicated heater system for each station maintains serum temperature at $37^\circ\text{C} \pm 2^\circ\text{C}$
- Capable of running programmed sequences combining walking, jogging and periods of rest
- Easy to use Windows operator screen
- Real-time logging of position and load allows instant verification of test cycle
- Clinically and physiologically representative testing