

# Genium

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## The Next Generation of Leg Prosthesis Systems

The latest computer, sensor and control technology make the Genium a groundbreaking achievement in lower limb prosthetics for transfemoral amputees.

Thanks to the innovative OPG (Optimised Physiological Gait) concept with numerous functions, the Genium supports a natural movement pattern down to the details. Upon heel strike, the knee joint is flexed slightly so that the prosthetic foot makes full ground contact more quickly (PreFlex function). Subsequent further knee flexion is controlled electronically, depending on the forces acting on the prosthesis (adaptive yielding control).

Both of these factors reduce the ground reaction forces and minimise the risk of subsequent orthopaedic problems. The expenditure of energy and coordination required while walking, especially uphill, downhill or over uneven terrain, is significantly reduced for the user. Dynamic Stability Control (DSC) adapts the system to almost every movement situation. In a patented process, DSC calculates the optimum point in time for switching from the stance phase to the swing phase. This translates into enhanced safety for the user, even when walking backwards or lunging. Adaptive swing phase control precisely regulates the pendulum movement of the lower leg, independent of walking speed, stride length, or various types of clothing and footwear.

The Genium allows the user to climb stairs step-over-step. It therefore offers a solution that appeared impossible for non-motor powered prostheses until now. Curbs or other everyday tripping hazards can also be handled with a much more natural movement pattern and enhanced safety.

The X-Soft adjustment software calculates and creates a visual representation of the forces acting on the prosthesis and offers recommendations for the custom positioning of the prosthesis components. This is a groundbreaking innovation, since the alignment and socket connection have a major impact on the functionality of a prosthesis. The user benefits from additional improvements relevant for daily life, including inductive charging of the prosthesis, an interactive remote control, five



Quality for life

additional adjustable modes and a battery capacity of up to five days.

**For further information:**

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