

# Genium

## Walk naturally

Quality for life





## Intuitive

The new Genium – Bionic Prosthetic System is a step into the future, and not just visually. Extensive research and development, over 15 years of practical experience with the C-Leg and intensive networking with technicians have resulted in a leg prosthesis system that sets high standards in terms of functionality, workmanship and intuitive use. The latest microprocessor, sensor and control technologies are straightforward and incredibly flexible. They also offer movement possibilities that were previously unimaginable such as walking backwards safely, walking up stairs step-over-step, an intuitive standing function even on slopes and much more.

The Genium is the closest a leg prosthesis system has come to recreating a natural physiological human gait pattern – completely redefining mobility and everyday quality of life.





## Why the Genium is unique

The best way to walk is with a natural, physiological gait. It's exactly this gait that the Genium – Bionic Prosthetic System approximates. Phase by phase. The progressive technology supports optimised walking that also helps protect the entire musculoskeletal system, significantly improves comfort and offers astounding accessibility in everyday life.

# Optimised physiological gait (OPG)

## 1 PreFlex

Electronically controlled, physiological 4° preflexion of the knee joint upon heel strike. The result: the prosthetic foot reaches full contact faster.

## 2 Adaptive yielding control

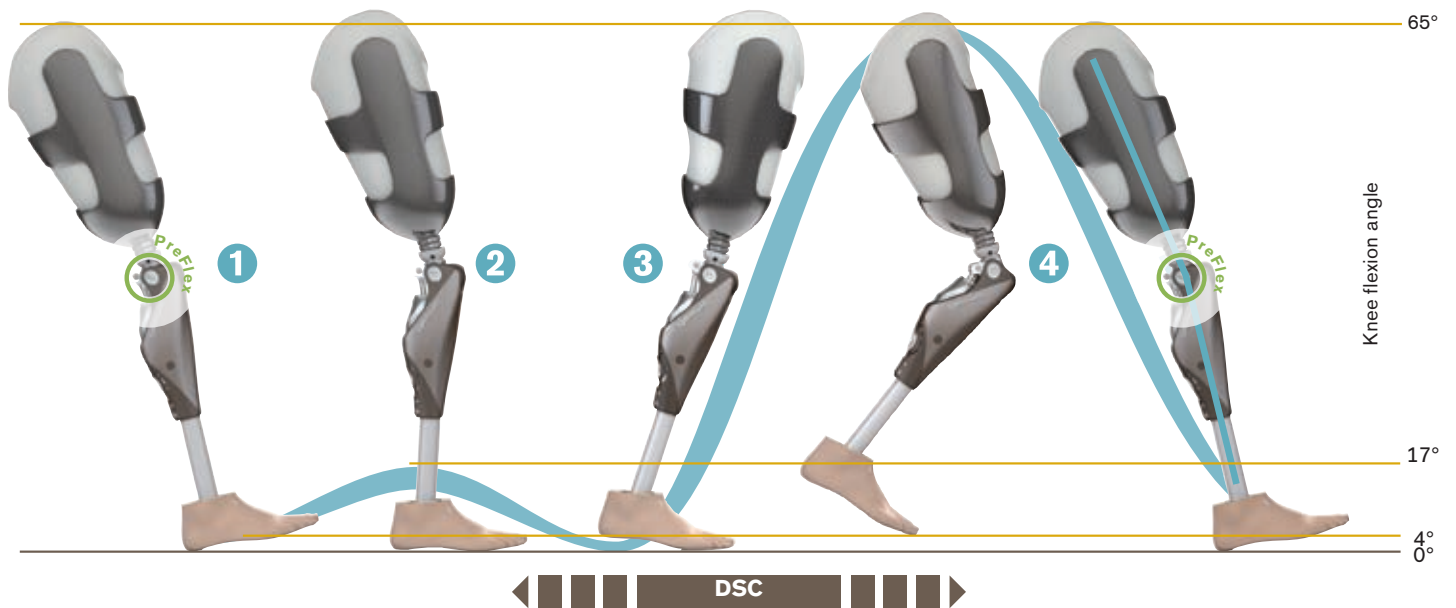
Intelligent knee flexion control (max. 17°), depending on the forces acting on the prosthesis. The amputee has to expend far less effort to control the prosthesis and is able to use it intuitively.

## 3 Dynamic stability control (DSC)

Innovative and patented method to monitor all movement situations. Continuous sampling of six parameters to define the optimal, safest point for switching between the stance and swing phases.

## 4 Adaptive swing phase control

Precise limitation of the lower leg pendulum movement to 65° of flexion – regardless of walking speed. Swing phase control also contributes significantly to preventing falls in critical situations.



### 1 PreFlex

- Reduction of ground reaction forces for improved shock absorption and extended knee flexion that minimises subsequent orthopaedic problems
- Reduced stride initiation effort
- Easier and safer negotiation of slopes, inclines and uneven terrain, as well as reduction of compensating movements

### 2 Adaptive yielding control

### 3 Dynamic stability control (DSC)

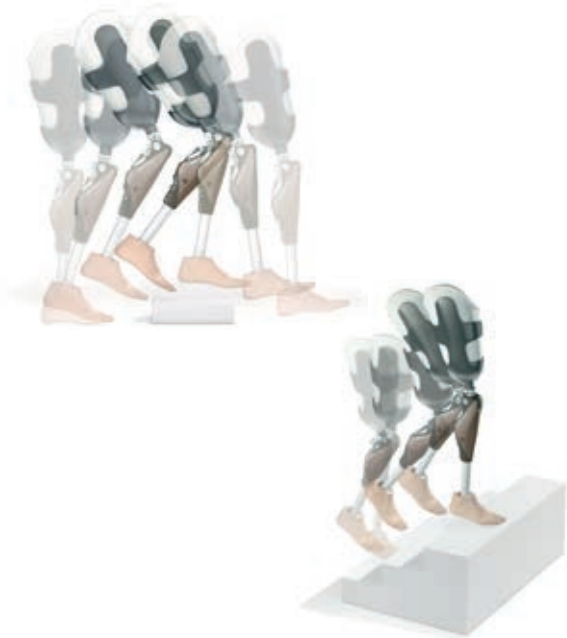
- Considerably increased safety when walking backwards or taking large steps

### 4 Adaptive swing phase control

- Quality of the swing phase is comparable to that of a healthy person
- Increased ground clearance to reduce the risk of stumbling and falling
- No limitation on stride variance (short, long, slow, fast, irregular)
- Automatic adaptation to different shoes and clothing

- Reduction of stride length asymmetry
- Reduced cognitive effort and reduced need to control the prosthesis

## The stairs and obstacles function



The stairs and obstacles function is unique in the field of prosthetics. It allows users of the Genium – Bionic Prosthetic System to negotiate stairs step-over-step – without massive compensating movements, intuitively and engaged while in motion, without any special commands. An innovation that was unthinkable for non-motorised prostheses. Now barriers like kerbs, obstructions around the house and other everyday tripping hazards can be managed naturally with the prosthesis as the leading leg.

- Greater everyday freedom
- Load relief for the sound limb
- Enhanced safety: the flexed prosthesis supports weight without collapsing

## Natural stance

The Genium is intelligent. While limited flexion (e.g. 3R60) and unlimited flexion systems (e.g. C-Leg) already offer advantages for the user in many situations, the Genium is able to differentiate between dynamic and static needs – thereby combining the advantages of both systems. It recognises when flexion is required and when to support weight while at rest. For the user, this permits a natural distribution of body weight and a balanced load – even on inclines or uneven surfaces.

- Considerably more balanced load on the prosthesis: relaxed stance and reduction of postural corrections
- Relief for the prosthesis-side hip joint as well as the contralateral side: reduces strain on the musculoskeletal system and back



# Genium Details

## Gyroscope, acceleration sensor and angle sensor

The gyroscope and the acceleration sensor allow the acceleration and position of the Genium in space to be measured. An angle sensor determines the flexion angle and flexion angle speed of the joint.

## Knee moment sensor

The knee moment sensor supplies data regarding the knee moments and therefore provides important information for precisely determining the forces acting on the prosthesis.

## Carbon fibre frame

In order to withstand the varied demands of everyday life, the frame is made of carbon - an especially strong, high-grade and lightweight material.

## AXON tube adapter

Additional sensors are integrated in the tube adapter. They not only measure the ankle moment but also the vertical force acting on the joint. The sensor data helps make a natural movement pattern possible.



## Pyramid adapter

The pyramid adapter or the threaded connector connects the Genium to the prosthetic socket.

## Hydraulic cylinder

The hydraulic cylinder controls the Genium. It generates movement resistance for the stance and swing phases.

## Bluetooth®

Integrated Bluetooth® technology permits straightforward communication with the joint.

## Battery and electronics

In the Genium, the battery and electronics are enclosed and protected by the frame. The integrated microprocessor coordinates all measurement and control processes.

## Inductive charging

The inductive charger is connected with magnets to the back of the knee joint. This technology permits charging through clothing and cosmetic covers.

## The Genium system: Complex technology for simplified prosthetic alignment



The Genium – Bionic Prosthetic System is just as individual as your customers.

Nevertheless, selecting the right components and performing the alignment are relatively straightforward for you. Computer-assisted alignment (CAA) allows you to fully utilise the functions of the system in the course of prosthesis alignment: a software program (X-Soft) calculates and visualises the forces acting on the prosthesis, offering individual recommendations for the custom positioning of the prosthetic components. This is both practical and useful, as the alignment and socket connection have a major impact on the functionality of a prosthesis. It doesn't get more individual than that.

For maximum reliability in everyday life, the Genium knee joint and AXON tube adapter system are splash water resistant.

### Overview of additional features

- Innovative software for straightforward configuration
- Programming via integrated Bluetooth® interface
- Inductive charging, operating time up to 5 days
- 5 MyModes for individual programming of special movement patterns
- Interactive remote control
- Intelligent sitting function (including standby function)
- Adjustable warning/feedback signals
- Reduced structural height:
  - Fittings for smaller patients
  - Integration of higher prosthetic feet

# Genium Protector

## Attractive protection for the Genium

### Visualised knee rotation point

Orientation aid for prosthetic alignment

### Easy to use closure technology

Allows user to put on and take off the main protector component

### Volumising shape

For a less conspicuous appearance under long clothing

### Opening for inductive charger

Allows for inductive charging even through clothing

### Solid exterior

Specialised protection for the Genium charging unit

### Anatomically-shaped knee section

Facilitates kneeling

### Smooth surface

Makes it easier to dress and undress

### Robust main protector component

Protects the Genium prosthesis system from jolts, the environment and normal wear and tear

### Length adjustment area

Main protector component can be shortened by qualified personnel

### Anti-slip fabric

Helps keep socks from slipping off

### Innovative foot cuff

Hybrid construction of plastic and fabric offers flexibility and maintains shape



In addition to protecting, the Genium Protector also provides good volume compensation under clothing. Its length can be individually shortened according to the user's measurements. A charging opening ensures that the knee joint can still be easily charged, even through clothing.

### Prosthetic foot combination possibilities

Prosthetic foot*		Foot cuff		
Designation	Reference no.	Size S	Size M	Size L
Triton	1C60	24-25	26-28	29-30
Triton Vertical Shock	1C61	24-25	26-28	29-30
Triton Low Profile	1C63	24-25	26-28	29-30
Triton Heavy Duty	1C64	24-25	26-28	29-30
Trias	1C30	24-25	26-28	29-30
C-Walk	1C40	24-25	26-28	29-30
Dynamic Motion	1D35	23-25	26-28	29-30
Adjust	1M10	23-25	26-28	29-30
Axtion	1E65	23-25	26-28	29-31
Lo Rider	1E57	24-25	26-28	29-31

### Technical data

Article number	4X880=*
Material	plastic/fabric
Weight (protector including closures)	450 g
Weight (foot cuff)	~ 60 g
Size (including foot cuff)	S, M, L
Colour	champagne/black

\*The foot cuff is not compatible with slim footshells.

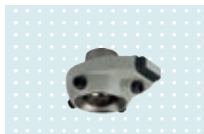
# Components and accessories

All components and accessories for the Genium – Bionic Prosthetic System have been designed to work together. The optimised interplay between the individual components of the Genium – Bionic Prosthetic System is a basic prerequisite to allow your customers to enjoy the maximum benefits of their prosthetic fitting.

## Adapters



4R104=60, 4R104=75



4R57, 4R57=ST



4R41, 4R43, 4R89



4R111=N, 4R111,  
4R116



4R118



4R119



4R40

## Flexion stops



4H99



4H100



4H103

## Genium knee joint



3B1 with pyramid  
adapter



3B1=ST with  
threaded adapter

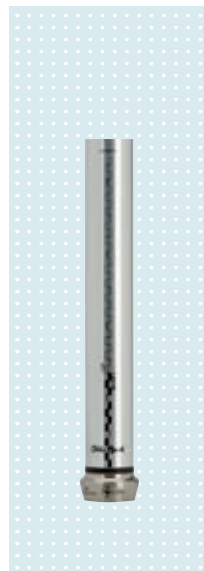


4X880=\*

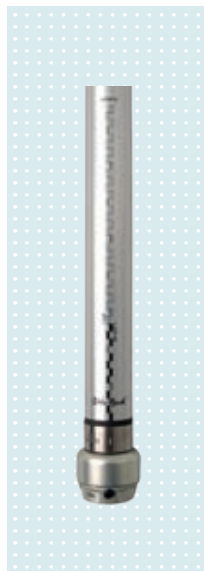


4X889=1  
OttoBock Service Fabrication

## AXON tube adapters



2R20



2R21 with torsion

## Remote control



4X350

## Inductive charger, power supply, tools and installation ring



757L16-3



4E60

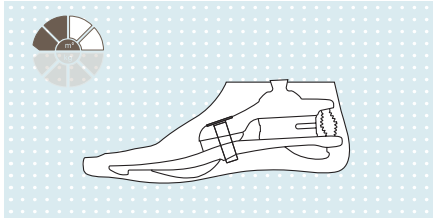


4X258

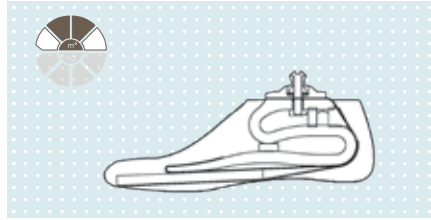


4X259

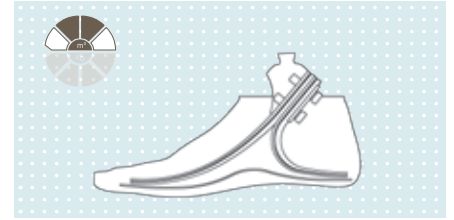
## Prosthetic foot



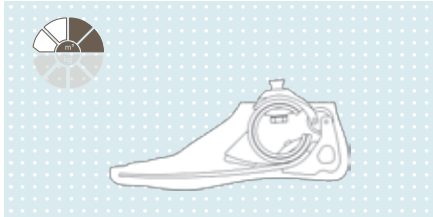
1M10 Adjust



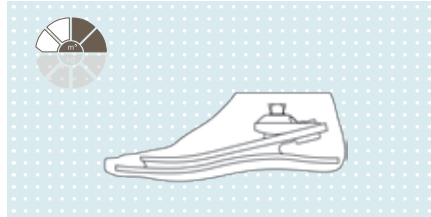
1D35 Dynamic Motion



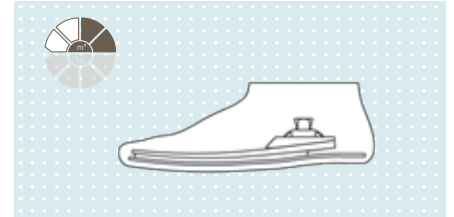
1C30 Trias



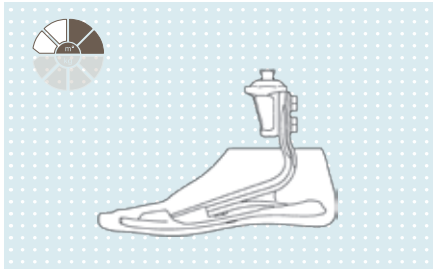
1C40 C-Walk



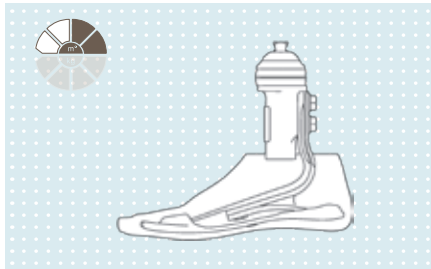
1E56 Axtion



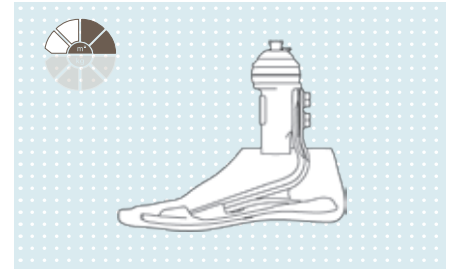
1E57 Lo Rider



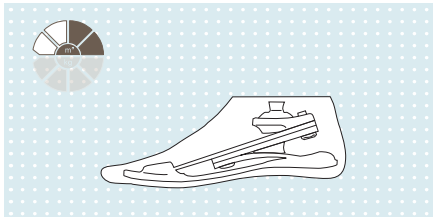
1C60 Triton



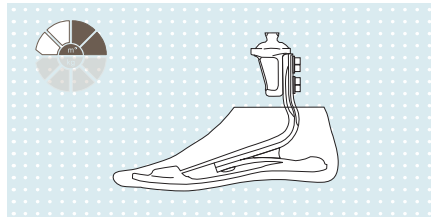
1C61 Triton Vertical Shock



1C62 Triton Harmony



1C63 Triton Low Profile\*



1C64 Triton Heavy Duty

\* Approved for a maximum body weight of 125 kg / 275 lbs in combination with the Genium – Bionic Prosthetic System.

## BionicLink PC/X-Soft




4X1\* X-Soft




60X5 BionicLink PC

## Information

 **647G573**

Instructions for use

 **646D428**

Patient information

# Warranty and service

## The comprehensive Genium warranty package offers your customers guaranteed mobility with no repair costs for 6 years:

- Six-year manufacturer warranty
- Repairs free of charge\*
- Free service inspections in month 24 and 48
- Service unit, free of charge, for use during repairs and service inspections

Ottobock also offers an alternative 3-year warranty package.

The warranty can be extended to 6 years at a later date.

\* Superficial damage and damage resulting from improper use, intent, negligence or force majeure are not covered.



## The warranty applies to the following components of the Genium – Bionic Prosthetic System:

- Genium knee joint
- AXON tube adapter
- Genium remote control
- Genium charger with power supply

### Service inspections

As part of the warranty, Ottobock will ensure that the Genium – Bionic Prosthetic System remains fully functional. All parts subject to the warranty are serviced in conformity with the service directives, and repairs and replacements are included in case of actual or probable functional failure.

The Genium 3-year warranty package includes a free service inspection in month 24. The Genium 6-year warranty package includes a free service inspection in month 24 and 48. These inspections must be carried out to maintain the validity of the warranty.

The dates for the service inspections are based on the date of delivery from the factory. The service inspections may be conducted no earlier than one month before, and no later than two months after, the due date. After the warranty has expired, the service inspections are chargeable and quotations are provided upon request.

### Repairs

Repairs are free of charge during the warranty period. Damages resulting from improper use (i.e., any use that contravenes the provisions contained in the instructions for use), are an exception. Such repairs and any repairs carried out after the warranty has expired will be charged at cost as quoted.

### Service unit

Ottobock will provide a service unit (consisting of knee joint, tube adapter, battery charger, power supply and remote control if required) for the duration of all repair work and service inspections carried out during the warranty period. Ottobock shall bear the costs for shipping the service unit, as well as for shipping the serviced components of the Genium – Bionic Prosthetic System to the medical supply shop. Once your components have been checked by Ottobock and returned to you, please send the service unit back immediately. Failure to do so may incur rental costs in accordance with the terms and conditions of the warranty.

### Warranty extension

If you obtained a 3-year warranty when you bought your Genium, you can purchase a 6-year warranty at a later date. However, the extension must be applied for, at the latest, before the end of the 30th month following the date of delivery. The warranty terms and conditions included with the system also apply.

