

# E-MAG Active

The next generation: for a more active life.



Quality for life

# E-MAG Active 17B203

Mobility with improved Safety

Ever since its launch in 2008, the E-MAG Active has been a groundbreaking innovation in the development of orthotic knee joint systems since. It has defined new standards in dynamics and mobility.

## The concept:

The E-MAG Active is as innovative as it is reliable: an intelligent sensor system measures the position of the leg while walking and controls the orthosis joint accordingly.

## The defining benefit:

The user can benefit from the functionality of the orthosis joint even if they have no function in their ankle: the joint is activated independently of the ankle and the sole of the foot.

The E-MAG Active offers users a significant increase in mobility and safety, facilitates a smoother, more natural gait pattern, thus enhancing their quality of life.

## Suitable for:

Users with greater mobility requirements who up to now have not been able to be satisfactorily fitted with an orthosis, or have for other, anatomical reasons, rejected this particular orthotic solution. Use of the E-MAG Active can prevent contractures and joint damage caused by immobilisation, can reduce muscular atrophy and build up existing muscles. It provides relief for the contralateral side and compensating movements are avoided. Less energy is required for walking and users benefit from increased mobility.

**Doubly safe:** the new E-MAG Active features a PreLock function. This function securely locks the user's knee joint even before full extension is achieved.



1 Unlocked during flexion



2 PreLock function is activated in 15° knee flexion before knee joint extent to full extension during swing phase



3 In 5° physiological knee extension the knee joint is locked before heel strike

## Benefits at a glance

- E-MAG Active is a joint system for custom-made orthoses.
- Free choice of the orthosis design in the lower leg and foot
- Greater safety as a result of the coordination of angle and acceleration sensors
- The system operates autonomously, regardless of different terrain and surroundings
- It works independently of the ankle joint
- No troublesome electronic components in the lower leg and foot area
- Even greater security is provided with the PreLock function that locks the knee joint 10° prior to full extension because the PreLock function is activated in 15° knee flexion before knee joint extends to full extension during swing phase
- The scope of delivery includes two batteries (about 5000 steps each)
- Straightforward calibration due to self-adjusting software
- The first functional test can be made with the E-MAG Active test orthosis
- In addition to the preset 5° flexion angle, a flexion angle of 7.5° is available
- The mechanical (temporary) unlocking function allows additional uses, e.g. cycling
- Being noiseless, the system can be used discreetly

## Indications

The E-MAG Active was developed for patients who, due to a paresis or a complete failure of the knee extensors, are unable to stabilise their knee without compensatory movements.

Safe use of the knee joint system requires certain residual muscle functions or hyperextension of the knee joint. This will ensure safe switching from swing phase to stance phase.

The E-MAG Active is approved for a body weight up to 100 kg / 220 lbs (with 17B206 medial support). Unilateral use of the joint is possible up to 85 kg/187 lbs if there are no non-physiological deviations in the frontal and sagittal planes.

Ankle joint function is not required.

The E-MAG Active can also be used if leg length is reduced or with orthoprostheses.

## Contraindications

- Insufficient residual muscle functions to guarantee safe use, as well as lack of knee joint hyperextension
- Where it is not possible to influence knee joint extension by means of a dorsal stop
- More than 15° flexion contracture in the knee joint
- Cognitive disorders
- Severe spasms that make it impossible to ensure safe functioning
- Tuberosity support

# Scope of delivery

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**The 17B203=R/L E-MAG Active joint system is supplied in a case with all necessary components. The case contains the following:**

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1	Electromagnetic knee joint
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1	Electronic unit with receptacle
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2	Battery units with receptacle
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4	Resin lamination dummies
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1 of each	Electronics and battery cables
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1	Battery charger
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1	Instructions for use
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1	Mounting and service instructions
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1	Quick Start
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In addition, you will need two 17LS3=16(-T) lamination bars. If the orthosis is to be fitted with an ankle joint, we recommend using the 17LA3=16(-T) unilateral or bilateral ankle joint. For each ankle joint, you also need a 17LS3=16(-T) lamination bar and a 17LF3=16 foot stirrup.

Spare parts for the E-MAG Active as well as service sets for maintenance of the joint bearings are available.

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**Note**

Patient fittings with the E-MAG Active may be carried out only by certified orthotists. Ottobock has a planned certification programme. Please contact your Customer Support department/ Regional contact person to find out more.

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