Ottobock KAFO Collection

C-Brace, E-MAG Active, Freewalk, Unilateral Joints, Aqualine Waterproof Joints
The power of orthotics

To support you and your patients, Ottobock brings nearly 100 years of expertise to orthotics. The latest innovations, whether simple or complex, offer breakthroughs for those challenged by muscle weakness and paralysis of all types.

In addition to advanced stance control KAFOs and the unique C-Brace, we’re highlighting our newest knee and ankle joints; the Unilateral Joints and waterproof Aqualine products.

In addition to great products, we offer fabrication, education, reimbursement and consultation services for you. Ask your Sales Rep for more details, or sign up for our newsletter at supportus@ottobock.com.
Comparing KAFOs

You know that not all braces are the same. The nuances can be challenging, especially when combined with the wide range of abilities your patients present. To more easily compare the differences and fitting needs for all types of KAFOs, we’ve created simple charts for your reference.

KAFO device comparison

Locked braces do one thing: lock for ambulation. SCOs do two things: lock or block flexion during stance, and release completely for swing. The C-Brace, on the other hand, is adjustable for every period of gait, provides stumble recovery, and supports advanced ADLs outside of level surface walking.

<table>
<thead>
<tr>
<th>Periods of Gait</th>
<th>Initial Contact</th>
<th>Loading Response</th>
<th>Mid-Stance Phase</th>
<th>Terminal Stance Phase</th>
<th>Pre-Swing Phase</th>
<th>Initial Swing Phase</th>
<th>Mid-Swing Phase</th>
<th>Terminal Swing Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Brace</td>
<td>Microprocessor anticipates load response</td>
<td>Adjustable yielding for load response</td>
<td>Adjustable stance extension resistance</td>
<td>Adjustable toe load for swing release</td>
<td>Control of timing for heel rise resistance</td>
<td>Heel rise resistance is adjustable</td>
<td>Provides stumble recovery</td>
<td>Can influence terminal impact of knee extension</td>
</tr>
<tr>
<td>SCO</td>
<td>Locked or Blocking</td>
<td>Locked or blocking (no load response)</td>
<td>Locked or blocking</td>
<td>In free swing after meeting criteria for release</td>
<td>Free motion</td>
<td>Free motion</td>
<td>Free motion</td>
<td>Re-engage lock/block mechanism for stance</td>
</tr>
<tr>
<td>Locked KAFO</td>
<td>Locked</td>
<td>Locked</td>
<td>Locked</td>
<td>Locked</td>
<td>Locked</td>
<td>Locked</td>
<td>Locked</td>
<td>Locked</td>
</tr>
</tbody>
</table>
Support from Ottobock
The right KAFO for your patient

**KAFO Quick Guide: Matching Product to Clinical Assessment**

<table>
<thead>
<tr>
<th>Product</th>
<th>Page</th>
<th>Weight</th>
<th>Joint Range of Motion</th>
<th>Muscle Strength*</th>
<th>Joint Deviations**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hip</td>
<td>Knee</td>
<td>Ankle</td>
</tr>
<tr>
<td>C-Brace</td>
<td>5</td>
<td>Up to 275 lbs (125 kg)</td>
<td>Accommodates full R.O.M</td>
<td>Up to 10° knee flexion contracture</td>
<td>Accommodates full R.O.M</td>
</tr>
<tr>
<td>E-MAG Active</td>
<td>8</td>
<td>Up to 220 lbs (100 kg)</td>
<td>Accommodates full R.O.M</td>
<td>Up to 10° knee flexion contracture with dorsal stop at ankle</td>
<td>Accommodates full R.O.M</td>
</tr>
<tr>
<td>FreeWalk</td>
<td>10</td>
<td>Up to 265 lbs (120 kg)</td>
<td>Accommodates full R.O.M</td>
<td>Up to 10° knee flexion contracture</td>
<td>Accommodates full R.O.M</td>
</tr>
<tr>
<td>Unilateral Joint</td>
<td>8</td>
<td>Up to 350 lbs (160 kg) (Double up-right configuration) or Up to 220 lbs (110kg) (Single Upright configuration)</td>
<td>Accommodates full R.O.M</td>
<td>Up to 10° knee flexion contracture</td>
<td>Accommodates 25° R.O.M. No minimum patient requirements</td>
</tr>
</tbody>
</table>

*Based on Kendall and Kendall scale presented in *Muscle Testing and Function,* Williams and Wilkins Co., ©1971. Five-point grading system: 5 = Motion against gravity, with full resistance; 4 = Motion against gravity, with some resistance; 3 = Motion against gravity, with no resistance; 2 = Motion, with gravity omitted; 1 = Some muscle contractility with no joint motion; 0 = No muscle contractility.

**Indicates whether the device accommodates the degree of corrected joint deviation, from anatomical neutral position.

***If hip flexor MMT is less than Grade 3, if user demonstrates reciprocal gait, fitting is possible using substitute patterns. Unilateral application only.

**KAFO Clinic Support**
To take your clinic a step further, you can partner with Ottobock for a unique workshop offering hands-on fitting of your patients with the most advanced KAFOs available. With the KAFO Clinic, you can customize the event to fit your practice with patient evaluations or an Open House for the audience of your choice. To learn more, contact your Ottobock Sales Representative.

**Ottobock Academy**

**Online Education: Applying New Technology to Orthotic Patients**
Ottobock’s Professional and Technical Services staff is just a call away – whether you have technical or clinical questions or are completing a course. Now, our education is available at www.ottobockus.com, under the Academy section. In less than one hour, you can be qualified to fit E-MAG Active and CEUs* are available.

We’ve also created 30–45 minute overviews of C-Brace stance control orthoses, advanced outcomes using L.A.S.A.R. posture, conventional locked KAFOs and dynamic response AFOs, and overview of gait. For a quick highlight, take 12 minutes and review range of motion, muscle strength, and orthosis design by deficit.

*If you wish to receive CEUs, we are charging a minimal $15 fee.
The C-Brace® Orthotronic Mobility system

Changing speed and direction is easier when you can put weight on a bent knee. And, the idea of “orthotronics” means you have the combination of electronic and mechanical systems working together to support your every step. The C-Brace orthotronic mobility system is designed to provide the highest level of support for your patient so they can feel confident with every step.

Fabrication support

Ottobock Fabrication Services brings years of fabrication experience to every Orthotics job. We are here to help every step of the way with AFO, KAFO, SCO and C-Brace fabrication. Our team is very experienced in the use of all materials including plastics, laminates and pre-preg and pride ourselves on high customer satisfaction. Our goal is to function as an extension of your practice. Our experienced fabrication coordinators are here to help. Call us at 800 795 8846.
The C-Brace® Orthotronic Mobility system

Features and Benefits

**Stumble Control:** Sensors recognize uncontrolled knee flexion and create immediate stability so the patient can recover — and keep a stumble from turning into a fall.

**Greater Ease and Less Concentration:** The gait cycle is controlled dynamically and in real time — allowing patients to walk with greater ease and less need for compensatory movements.

**Stable and 2nd Mode:** Additional modes support comfortable standing as well as settings that can be used for therapy, etc.

**Stance Extension Damping:** Progressive resistance allows natural movement to occur without uncontrolled and early knee and hip extension at Terminal Stance, resulting in a more natural movement without abrupt changes to the center of gravity, lower back and lower limb joints.

**Stance Flexion Damping:** Controlled, partial knee flexion while weight bearing allows the patient to exhibit knee control when walking down hills and ramps, descending stairs step over step, and while sitting down into a chair.

**Lightweight Carbon Fiber Shells:** Thigh, calf and foot shells made from prepreg carbon fiber to minimize weight and maximize strength.

Cooperative Care

We understand the tough challenges you face in your practice today, and we’re here to help. Ottobock Cooperative Care, our personalized consulting service, provides expert assistance when and where you need it most. With our help, you can confidently work with and fit the types of patients you may not see frequently, as well as providing in depth experience with complex orthotics.

Talk to your Sales Representative to learn more.

Helping to differentiate your clinic

To help make marketing to your patients and referral sources a little easier, we created a free customizeable brochure. Just go to orderprinting.com, and login as 4029obhc with consumer as the password. From there, enter your contact information and you will receive 25 free C-Brace brochures.
Indications

The C-Brace Orthotronic Mobility System can be considered for all neurological indications of the lower limbs. The primary indications include:

- Lower limb involvement with weakness or paresis of the quadriceps muscle or the inability to maintain knee extension during stance phase, e.g. incomplete paraplegia with segmental levels of L1 to L5 or polio, post-polio syndrome.

Contraindications

- Moderate to severe lower limb spasticity
- Hip flexor strength of less than grade 3. However, the ability to advance the limb by compensatory trunk movement is permitted
- Fixed knee valgus greater than 10 degrees beyond anatomic neutral
- Fixed knee varus
- Less than 2 degrees of relative ankle dorsiflexion
- Body weight over 275 lbs / 125 kg

Warranty Duration

The C-Brace has a 36 month Limited Product Warranty and a 60 day fabrication Limited Warranty. Please refer to the Instructions for Use included with the product for complete information.

Ordering information

The C-Brace is fully fabricated by Ottobock’s experienced team of orthotic technicians. The process requires a test fitting and a final version and close cooperation to ensure the appropriate outcome.
E-MAG Active
Stance Control KAFO

The E-MAG Active is a stance control KAFO that is calibrated to the patient’s step length. It is also simple to re-calibrate the E-MAG Active if the patient’s step length changes over time.
The stance control function will remain locked during weight bearing, then unlock for swing phase. It simplifies gait training and allows for varied cadence to help meet your patient’s specific needs.
A gyroscope built into the KAFO monitors your patient’s step length. During the fitting process, the E-MAG Active’s calibrating feature allows it to recognize your patient’s gait pattern.

Features and Benefits
- Stance Control helps users achieve a more natural gait compared to locked KAFOs, thereby reducing compensatory movements that can lead to degenerative conditions, excess energy expenditure, and non-compliance.
- Gyroscope monitors the orientation of the user’s lower limb (whether it is at initial contact or at terminal stance).
- Extraordinarily simple calibration allows the Orthotist to customize the unlocking feature during the fitting process. Varied flexion angled joints can be used to ease locking/unlocking of the orthotic knee joint or accommodate knee contractures.
- Optional manual locking/unlocking function makes it easier to move from standing to sitting and increases security on uneven terrain.
- Does not require minimum ankle range of motion to achieve stance control function.
- Accommodates up to 10° knee flexion contracture in conjunction with dorsal stop at ankle.

Warranty Duration
The E-MAG Active has a 24 month Limited Product Warranty and a 60 day fabrication Limited Warranty. Please refer to the Instructions for Use included with the product for complete information.

Ordering Information
The E-MAG Active Joint System is supplied with the following components:
- E-MAG Active knee joint (select a flexion angle of 5°, 7.5°, or 10° when ordering)
- Battery unit with frame (1)
- Electronic unit with frame (1)
- Battery charger (1)
- Lamination dummies (4)
Medial joint is optional when fitting the E-MAG Active for users under 185 pounds. Order the medial joint, sidebars, ankle joints and foot plate separately.

Indications
- Ideal for patients with paralysis/paresis of the knee extensors
- Hip extensors and flexors muscle strength grade 3 - 5; may be less than grade 3 if patient demonstrates reciprocal gait pattern in unilateral application only
- Accommodates up to 15° genuvarum/valgum
- Weight up to 220 lbs (100 kg)
- Clear understanding and ability to operate the joint

Contraindications
- Spasticity
- Knee flexion contracture greater than 10°
- Hip flexors and extensors strength <3 without the ability to demonstrate reciprocal gait
Ordering Information

Article Number 17B202N
FreeWalk
Stance Control Orthoses

Our innovative design creates a more natural gait cycle by locking during stance phase and unlocking before swing phase. The automatic lock is initiated by knee extension and is only released to swing freely when a knee extension moment and dorsiflexion occur simultaneously in terminal stance. The result is a more secure, efficient gait that also reduces the incidence of typical gait compensations induced by conventional locked knee joint KAFOs.

Features and Benefits

· Stance control technology allows for a more efficient gait by locking when stance stability is required and unlocking for free swing.
· Locking mechanism control cable is contained in the tubular stainless steel sidebar, which is strong, low profile, and light weight.
· Knee joint automatically locks prior to initial contact whenever joint is fully extended.
· Removable knee joint cover protects the joint and patient’s clothing.
· The joint requires simultaneous knee extension moment and 10% dorsiflexion to release.
· Open frame design keeps the FreeWalk cooler than most alternatives.
· Pad and strap system features a quick release hook making it even easier to don and doff.

Ordering Information

The FreeWalk is fully fabricated by Ottobock’s experienced team of orthotic technicians. In order for Ottobock to fabricate your FreeWalk, you need to have a FreeWalk Starter Kit (#170W2). If you do not own a Starter Kit, contact Customer Service at 800 328 4058 to place your order.

Indications

· Isolated quad weakness, polio, post-polio, MS, unilateral paralysis, incomplete spinal cord injury, trauma

Contraindications

· Moderate to severe dropfoot
· Less than grade 4 ankle invertors, evertor, and/or plantarflexors.

Warranty Duration

The FreeWalk has a 12 month Limited Product Warranty and a 60 day fabrication Limited Warranty. Please refer to the Instructions for Use included with the product for complete information.

E-MAG Active, FreeWalk, and C-Brace

E-MAG Active, FreeWalk and C-Brace trial orthoses are available as tools for diagnostic assessment. They can be used to quickly and easily determine if a fitting with a stance control orthosis is suitable for a patient. They are available in left and right and are adjustable for different patient sizes. It is applied over the patient’s clothing and footwear.

Important: Ottobock’s trial orthoses are available on loan. Contact your sales representative to learn more.
Ordering Information

<table>
<thead>
<tr>
<th>Article Number</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>170K1=L/R-80</td>
<td>fits 80 kg or 175 lbs</td>
</tr>
<tr>
<td>170K1=L/R-120</td>
<td>fits 120 kg or 265 lbs</td>
</tr>
</tbody>
</table>
Unilateral Joints
Lightweight, low profile and proven

The Unilateral Knee Joint and Ankle Joints are a joint system that is particularly advantageous due to its lightweight construction. Its weight classification permits unilateral use for a body weight of up to 240 lbs and bilateral use for up to 350 lbs. The system is suitable for prepreg and lamination resin techniques. The scope of delivery includes a temporary switch for releasing the joint, e.g. for training on a therapeutic bike.

Advantages at a glance
- Integrated joint system in 4 sizes, suitable for both children and adults
- Reduced weight due to lightweight construction
- Can be used for prepreg and lamination resin techniques
- Temporary switch for releasing the joint e.g. for training on a therapeutic bike, included in the scope of delivery
- Weight classification for unilateral and bilateral use simplifies the selection of the joint size
- Lamination/prepreg dummy included in the scope of delivery
- Steel versions

Sizes
The Unilateral Joint System is available in four system sizes. It can be used on either the medial or lateral side, or on both the medial and lateral sides of the knee. The choice of system size is based on the patient’s body weight and conditions of use.

Warranty
The Unilateral Joint System offers a 2-year limited warranty.

<table>
<thead>
<tr>
<th>Maximum patient weight (lbs/kg)</th>
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</thead>
<tbody>
<tr>
<td>Single Upright Construction</td>
</tr>
<tr>
<td>(lateral or medial)</td>
</tr>
<tr>
<td>17LK3=12</td>
</tr>
<tr>
<td>17LA3=12</td>
</tr>
<tr>
<td>44 lbs / 20 kg</td>
</tr>
<tr>
<td>110 lbs / 50 kg</td>
</tr>
<tr>
<td>176 lbs / 80 kg</td>
</tr>
<tr>
<td>243 lbs / 110 kg</td>
</tr>
<tr>
<td>Double Upright Construction</td>
</tr>
<tr>
<td>(lateral and medial)</td>
</tr>
<tr>
<td>17LK3=14</td>
</tr>
<tr>
<td>17LA3=14</td>
</tr>
<tr>
<td>187 lbs / 85 kg</td>
</tr>
<tr>
<td>265 lbs / 120 kg</td>
</tr>
<tr>
<td>353 lbs / 160 kg</td>
</tr>
</tbody>
</table>

17LK3 Unilateral Knee Joint

17LA3 Unilateral Ankle Joint
Fabrication Support

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Modular Components
Ottobock offers a full line of modular components. See our current catalog at professionals.ottobockus.com/ or contact your sales representative.
Aqualine Joint System
Experience the water

Dealing with the everyday challenges of water – from an afternoon sprinkle to being stable in the shower – is something you have to frequently discuss. Ottobock has created a new option to bring to the conversation, the Aqualine knee and ankle joints.

These waterproof products are based on a new production technique and are made of a carbon composite material. Similar in endurance to metal joints, they are much lighter and withstand chlorinated or salt water. The weight limit for double-upright use is up to 220lbs / 110kg.

These unique components are available for 20mm system bars, and work with thermoplastic, lamination or prepreg fabrication.

**Water resistance**

The individual orthosis components must be permanently resistant to water and corrosion, and contact with chlorine or soap should not impair their functionality. Contact with salt water, e.g. in the context of brine bath therapy, is also permissable.

**Safety**

The risk of slipping is especially high in wet areas. We recommend the use of a full-surface non-skid sole or bathing shoe, as well as using the knee joint in locked position.
Waterproof Aqualine Knee Joint with Wedge Lock

17PK1-WR

- For waterproof walking aids
- Concealed lock with pull-release cable for a high level of safety
- User-friendly
- Low weight
- Used and supplied in pairs

Waterproof Aqualine Ankle Joint

17PA1-WR

- For waterproof walking aids
- Ankle joint with nine different adjustment and combination possibilities
- Low weight
- Used and supplied in pairs