

Ottobock Advanced Orthotics

Stance Control KAFOs and Unilateral Joints



Quality for life



More than 90 years of dedication

The power of orthotics

Differentiating yourself and your clinic. Staying on the cutting edge. Offering patients innovative solutions. All these goals are within your reach – and we plan to help you grow your orthotic business.

Ottobock invests in product development and education with the Orthotist in mind. As stance-control products become more sophisticated, we've led the way, offering the FreeWalk, E-MAG Active, and Sensor Walk KAFOs, all using advanced technology to provide users with a secure, efficient gait.

Browse this brochure for an overview of convenient education options and advanced KAFO technology, all supported by more than 5,000 employees around the world, and a company that has dedicated more than 90 years to the orthotic and prosthetic industry.

Support from Ottobock

The right KAFO for your patient

KAFO Clinic Support

To take your clinic a step further with stance control, 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.

KAFO Quick Guide: Matching Product to Clinical Assessment

Product	Page	Weight	Joint Range of Motion			Muscle Strength*			Joint Deviations**	
			Hip	Knee	Ankle	Hip	Knee	Ankle	Knee Valgum/Varum	Ankle Valgus/Varus
Sensor Walk	2	Up to 300 lbs (136 kg)	Accommodates full R.O.M.	Up to 15° knee flexion contracture	Accommodates full R.O.M. No minimum patient requirements	Flex 3-5*** Ext 0-5	Flex 0-5 Ext 0-5	Flex 0-5 Ext 0-5	Accommodates up to 10° valgum/varum	No minimum patient requirements
E-MAG Active	4	Up to 220 lbs (100 kg)	Accommodates full R.O.M.	Up to 10° knee flexion contracture with dorsal stop at ankle	Accommodates full R.O.M. No minimum patient requirements	Flex 3-5*** Ext 3-5	Flex 0-5 Ext 0-5	Flex 0-5 Ext 0-5	Accommodates up to 15° valgum/varum. Patient must generate extension moment in terminal stance	No minimum patient requirements
FreeWalk	6	Up to 265 lbs (120 kg)	Accommodates full R.O.M.	Up to 10° knee flexion contracture	Accommodates full R.O.M. Patient needs minimum 10° passive R.O.M.	Flex 3-5 Ext 3-5	Flex 0-5 Ext 0-5	Flex 0-5 Ext 0-5	Accommodates up to 10° valgum. Does not accommodate varum	Accommodates up to 10° valgus/varus
Unilateral Joint	8	Up to 350 lbs (159 kg) (Double up-right configuration) or Up to 220 lbs (100 kg) (Unilateral configuration)	Accommodates full R.O.M.	Up to 10° knee flexion contracture	Accommodates 25° R.O.M. No minimum patient requirements	Flex 0-5 Ext 0-5	Flex 0-5 Ext 0-5	Flex 0-5 Ext 0-5	Accommodates up to 10° valgum/varum	Accommodates up to 10° valgus/varus

*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.

Ottobock Academy

Online Education: Applying New Technology to Orthotic Patients

Ottobock's Professional and Clinical 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 either the E-MAG Active or the Sensor Walk, and CEUs* are available.

We've also created 30–45 minute overviews of 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.



Sensor Walk

Stance Control KAFO

The Sensor Walk KAFO is a truly unique solution for patients up to 300 lbs / 136 kg. Developed by Ottobock in conjunction with the Mayo Clinic, the Sensor Walk delivers superb stance control in a heavy-duty custom KAFO. Accommodating up to a 15° knee flexion contracture, the robust design offers mobility to those with weak quadriceps. Unique sensors in the footplate know when the patient is in late stance phase and trigger the knee joint to unlock. Because an extension moment is not required to unlock the joint, the Sensor Walk helps provide the clinical benefits of a more natural gait.

The Sensor Walk assesses the relative knee angle during swing and/or load on or off the limb to block or allow knee flexion. Powered by a lithium-ion battery that covers 15,000 steps, it offers the equivalent of a full, active day before it requires recharging.

Features and Benefits

If user trips, the knee can be flexed at loading response.

- Functional stance control on uneven terrain.
- The flexion blocking mechanism is activated after midswing, providing stability prior to stance phase.
- 300 lbs (136 kg) weight limit.
- The Sensor Walk can be set to function in three ways: as a locked joint, as a stance control KAFO, and free swing.

Patient Indications

- Ideal for patients with weak or absent quadriceps, or knee instability in the sagittal plane while bearing weight during the stance phase of the gait cycle
- Hip flexor strength of at least Grade 3 or the ability to substitute compensatory motions to advance the limb in swing phase
- Step length over level ground should exceed the length of the opposing foot
- Bilateral users must demonstrate frontal plane pelvic stability without a positive Trendelenberg Sign

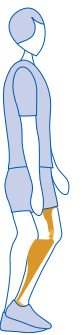
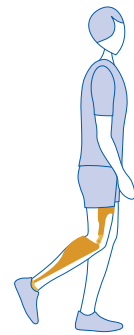
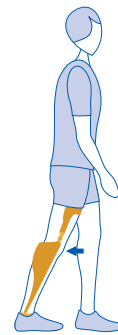
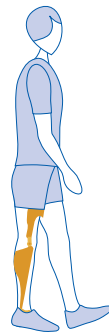
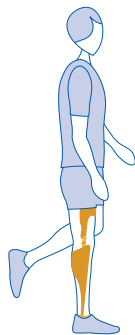
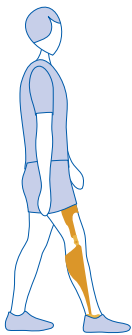
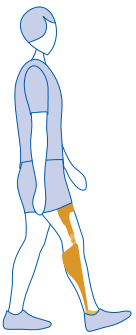
Ordering Information

Clinicians must be trained in order to fit the Sensor Walk. The Sensor Walk is a custom laminated KAFO fabricated by Ottobock's experienced team of orthotic technicians. You can also select either an articulated or fixed ankle joint.

Please call 877 FAB OTTO (877 322 6886) or visit www.ottobockus.com for an order form or for ordering details.

Warranty Duration

The Sensor Walk KAFO 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.



At initial contact the joint will lock upon full extension of the orthotic knee joint.

E-Mag Active remains locked while user bears weight on the brace during the stance phase.

Patient extends hip with knee extension at terminal stance and the joint will unlock for swing phase.

During swing phase, user can easily swing leg through because the knee joint is unlocked.

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, 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 orthosis 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



Ordering Information

Article Number	Size
170K1=L/R-80	fits 80 kg or 175 lbs
170K1=L/R-120	fits 120 kg or 265 lbs

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.
- New 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 3 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.

Trial Orthosis

Sensor Walk, E-MAG Active, FreeWalk

Sensor Walk, E-MAG Active, and FreeWalk 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

Article Number	Size	Weight	Lower leg length (MTP/floor)
17LK1=1	1*	up to 220 lbs / 99 kg	up to 55 cm
17LK1=2	2	up to 165 lbs / 75 kg	up to 45 cm
17LK1=3	3	up to 99 lbs / 45 kg	up to 35 cm

Unique Unilateral Joint System

Designed to Fit Your Patient's Weight

A Unilateral Joint System is a single upright conventional modular knee joint. With the Ottobock Unilateral Joint System you can experience all the benefits of a unilateral system combined with the confidence of selecting the appropriate weight classification.

The unique unilateral design means that you can stock less inventory while still accommodating a wide range of patients. Plus, you avoid the worry of a medial joint and have the option to accommodate a weight or functional need by using the joints in tandem. You'll find that the system's modular knee and ankle joints make it easy to update as your patient's needs change.

The components come in a range of sizes designed to target your patient's needs – accommodating up to 220 lbs / 99 kgs in a single upright configuration and 350 lbs / 159 kgs in a double upright KAFO. In addition, the joints work with a MTP to floor measurement of up to 55 cms.

17LK1 Unilateral Knee Joint

The 17LK1 Unilateral Knee joints are convenient to stock and easy to use. The design allows easy replacement of all moving parts to shorten your bench time. The joints also feature unique plastic bearing bushings that minimize maintenance because they do not require lubrication.

Multiple Lock Options

The product offers many configuration choices to support optimal function: with a lever lock, optional cable release, or a free motion, heavy duty posterior off-set knee joint. The posterior position of the joint axis of rotation eases unlocking through the biomechanical design.

17LA1 Unilateral Ankle Joint

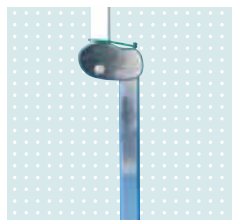
The relatively slim profile of this unique ankle joint is the first of its kind to deliver the convenience of a unilateral design without compromising function. The design of the ankle joint allows for a lower installation height than conventional orthotic ankle joints and the anterior position of the stirrup increases the dorsiflexion lifting force by shortening the lever arm.

Features and Benefits

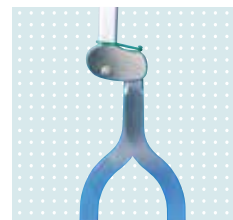
- The Unilateral Joint System is the only joint system with weight recommendations.
- The 17LA1 ankle joint can be used as a left or right joint to reduce inventory.
- The channel attachment system reduces height and delivers a sleek look.
- The dorsiflexion function can be retrofit, and utilizes an o-ring to ensure quiet function and the option to increase lifting force with an additional ring.
- The 17LA10 accommodates street shoes for your patient's convenience.
- Interchangeable stops can be ordered to limit motion to any angle from 0°–15° (0° stop is included).

Warranty

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



· Unilateral ankle joint with foot stirrup



· Unilateral ankle joint split with foot stirrup



· 17LK1=3 Unilateral Knee Joint with knee lever lock

Beyond stance control

Looking for a solution for a patient that goes beyond stance control? Contact your Ottobock sales representative about the remarkable new C-Brace orthotronic mobility system.

