

Press Release

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Streifeneder ortho.production GmbH expands KINEGEN knee joint series KINEGEN.air-active: Precise swing-phase control combined with rugged mechanics

A prosthetic knee joint must ensure maximum security and by its dynamic characteristics, meet the activity demands of the amputee. It must provide natural, energy-efficient walking abilities and simple use at the same time. These requirements are fulfilled by the new prosthetic knee joint KINEGEN.air-active 3A1800, with which Streifeneder ortho.production GmbH has expanded their KINEGEN series by a powerful allrounder.

The polycentric knee joint with pneumatic swing-phase control and integrated extension assist unites precise control with rugged mechanics. The placement of the joint axes ensures that in extended position of stance phase, the instantaneous pivot point is over the joint and behind the load line. This means that the stance phase security is determined exclusively by the prosthesis construction.

The swing phase can be initiated in controlled manner, using little efforts only. In flexion and extension of the knee joint during swing phase, a reduction of the distal prosthesis length is achieved, due to the specific position of the axes. This considerably reduces the risk of stumbling. The flexion characteristics of the multi-joint chain results into a natural gait pattern and provides energy-efficient walking. Furthermore, the polycentric system provides an especially large flexion angle.

The regulation of flexion- and extension resistance during swing phase is effected by a powerful, valve-controlled dual-chamber pneumatic system. An integrated extension assist supports safe flexion at the end of the swing phase. The KINEGEN.air-active 3A1800 is designated for amputees with activity level 2 to 3 and is approved for max. body weight including carried and supported loads of up to 125 kg. The proximal joint connection is effected by an adjustment core; the distal connection by a tube support with tube clamp (Ø 30 mm).

„For the development of the KINEGEN.air-active 3A1800, we have focussed especially on the balance between stability during standing and joint dynamics, as well as on simple use and rugged mechanics“, says the development department of Streifeneder ortho.production GmbH. “The organic design creates trust by its non-technical appearance and guarantees high recognition value”.

With the new KINEGEN.air-active 3A1800, Streifeneder ortho.production GmbH now offers five different prosthetic knee joints of the KINEGEN-series for various needs. For amputees with low activity, the technician prefers the use of prosthetic knee joints with load-dependent brake, sometimes with deactivatable locking mechanism.

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Another prosthetic knee joint featuring both functionalities, suitable for activity levels 1 and 2, is the KINEGEN.guard 3A850. The built-in locking mechanism connects top- and bottom part without clearance, in order to guarantee a stiff joint with maximum security. The approved maximum weight of up to 125 kg enables the technician to cover a wide patient spectrum. For more active users, the lock can be deactivated and the joint can be used as brake knee joint.

The KINEGEN.guard 3A850 is also available without lock as KINEGEN.basic 3A810. In both varieties, the brake force as well as the inner, continuously adjustable extension assist which supports the joint during extension, is individually adjustable to the patient. Due to a load-dependent brake and a back shifted joint axis, high stance stability is guaranteed.

For medium walking speed and prosthesis users with heavy body weight including carried and supported loads of up to 125 kg, we recommend the KINEGEN.air 3A1000. This monocentric knee joint with load-dependent brake is equipped with a knee-extending spring element and a pneumatic swing phase control. The pneumatics of the KINEGEN.air allows besides the independent and continuously adjustable settings of the motion resistances for flexion and extension also a continuous adjustment of the final position damping. Due to this feature, the extension stop is damped comfortably just before full extension of the joint.

For patients with high activity levels, the polycentric knee joint KINEGEN.stream 3A2000 has proven its worth. This prosthetic knee joint is extremely sturdy and has been approved for up to 150 kg weight load. The axis-position allows a high degree of dynamics, whereas a powerful hydraulic unit with precise adjustment options allows an individually optimised customisation of the joint to the prosthesis wearer. The continuously adjustable final position damping adds a plus to the wearing comfort. Furthermore, the KINEGEN.stream features a free-running mechanism which allows the prosthetic wearer on his own to limit the resistance in the joint to a minimum by simply shifting the joint, for example during activities such as riding a bicycle.

Facts about Streifeneder ortho.production GmbH

- Medium-sized employer in Bavaria with 170 employees and presently 12 trainees
- Unlimited commitment to quality „Made in Germany“
- Extensive assortment of approx. 16.000 items; starting from machinery and workshop equipment to raw materials up to orthotics and prosthetic components
- Global Player by exports into more than 100 countries
- Company-owned training centre with gait lab and training workshop