

**ORTHO**  
SYSTEMS

2000  
2026  
Years in motion



# Excellence in Neuro-Orthopedics

Your Patient – Our Contribution

**Catalogue**  
Excerpt

Orthotics 14.0  
Valid from July 2026

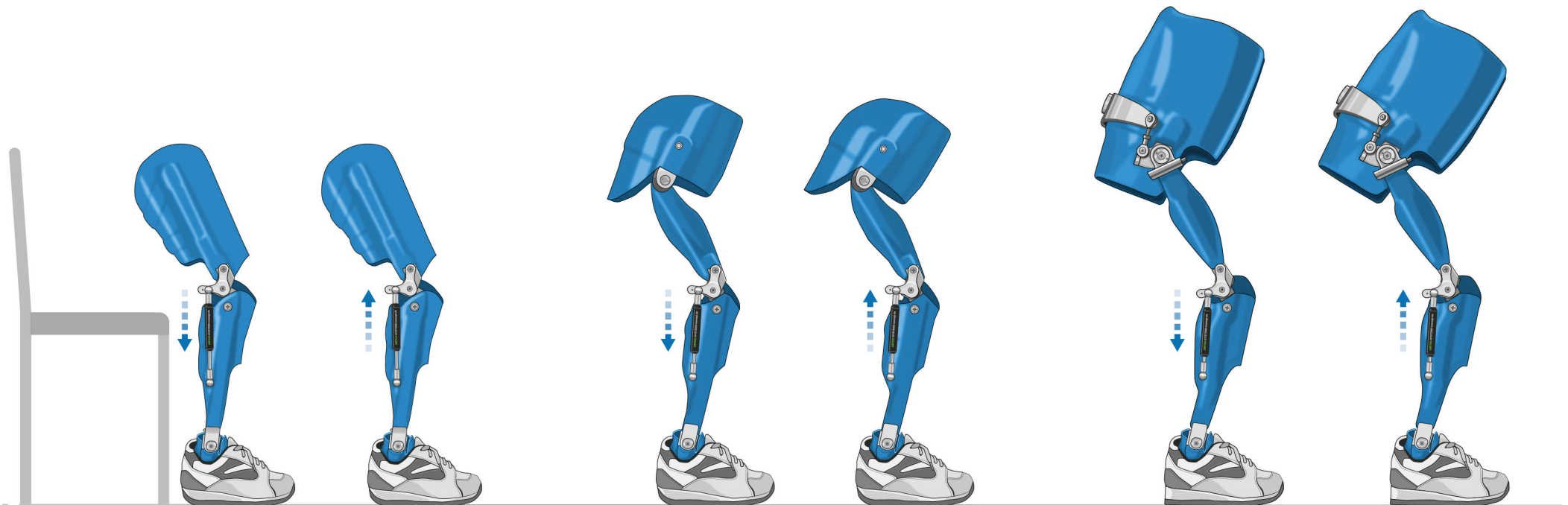
# Extension Assist for Sitting Down and Standing Up



Wearers of orthoses equipped with knee extension assistance benefit from the added force not only during walking, but also when sitting down and standing up.

In **KAFOs or HKAFOs with free-motion knee joints**, the force cylinder slows knee flexion when sitting down, preventing a sudden drop onto a chair. Conversely, when standing up, the same force cylinder helps the user return to an upright position by assisting knee extension.

Users of **KAFOs or HKAFOs with locked knee joints** usually have absent or significantly reduced knee extensor musculature, which can make it difficult to control lowering onto a chair. In this case, the force cylinder slows knee flexion. When standing up, the same force cylinder provides an assisting upward force, increasing control and safety.



Slowed sitting down

Assisted standing up

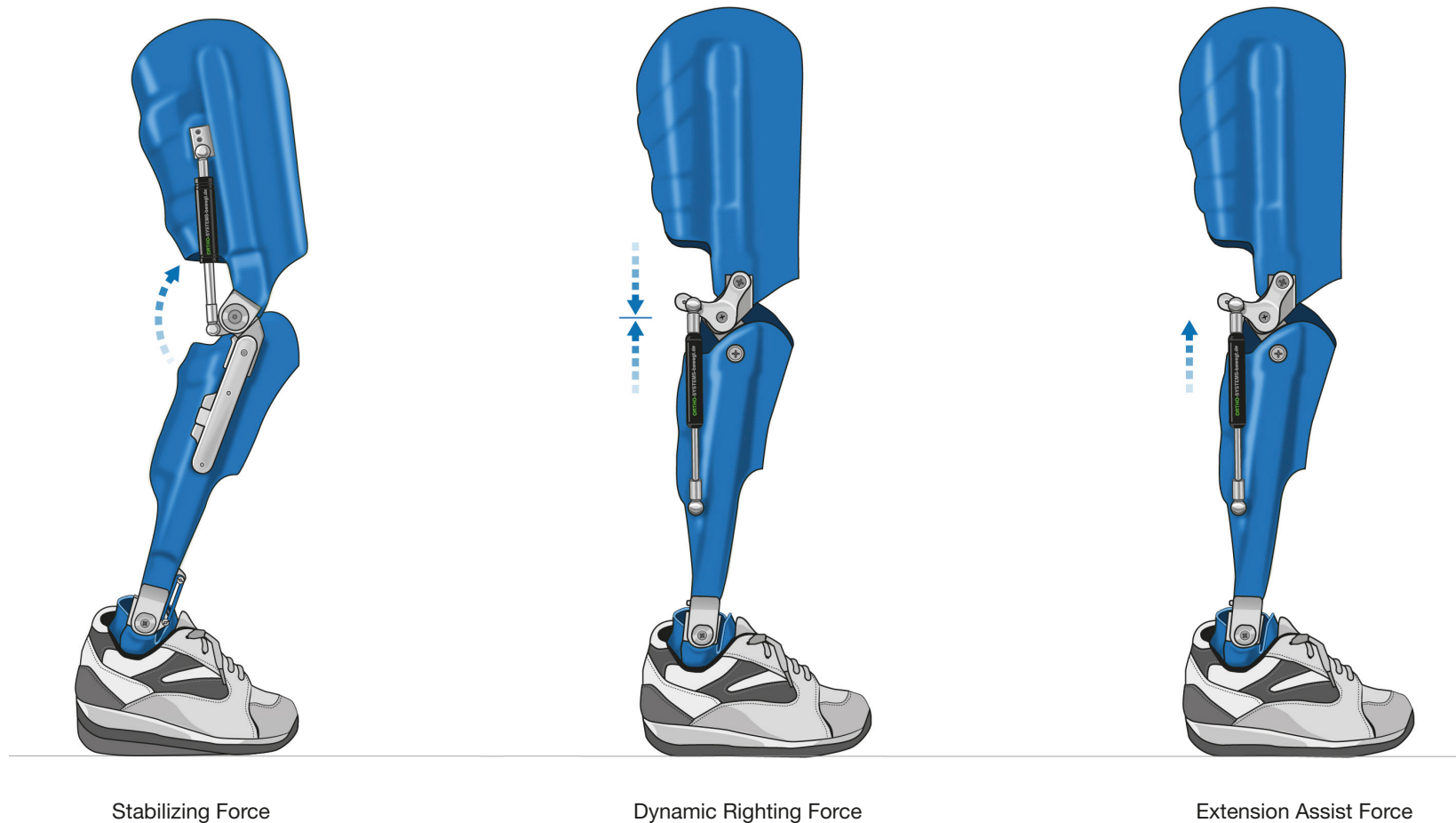
In **RGO systems**, sitting down is particularly challenging due to the lack of hip musculature. Here, the force cylinder allows controlled lowering into a seated position with flexed knee joints, instead of dropping onto a chair with locked joints. It also makes standing up with flexed knees easier and safer.

# Extension Assist in Action

The **stabilizing force** provides joint stability, maintains an upright posture, and reduces muscular effort. It promotes balance during standing and walking, enables more secure steps, and can help increase walking distance.

The **dynamic righting force** responds to movement and actively supports the return to an upright position. For example, in patients with crouch gait, it counteracts excessive flexion at the knee and hip joints and assists extension during both the stance and walking phases. Especially in cases of gait instability, it improves movement control and enables more stable and smooth walking.

The **extension assist force** specifically supports insufficient knee extensor musculature. It stabilizes the knee joint and facilitates stable standing and walking. As a result, gait function is improved, sinking is prevented, and walking distance is increased.





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