

Body Weight Support add-on for M-Gait

Add a Body Weight Support (BWS) to the M-Gait in order to enhance its functionality. The BWS is designed to facilitate functional gait training of patients with gait impairments by enabling dynamic vertical unloading during walking on a treadmill.



BWS Pro

The more advanced BWS Pro system can be fully integrated with the M-Gait and controlled by the D-Flow software. This provides active partial body weight support in real-time, which can be continuously adjusted between 0 and 90kg (200lbs).

In combination with the M-Gait system the amount of weight support can be adjusted precisely through D-Flow, for example using spatio-temporal parameters such as the phase of the gait cycle, assuring optimal gait retraining. The percentage of body weight support can be automatically adjusted based on the therapist treatment goals and individualized to the patients' needs.

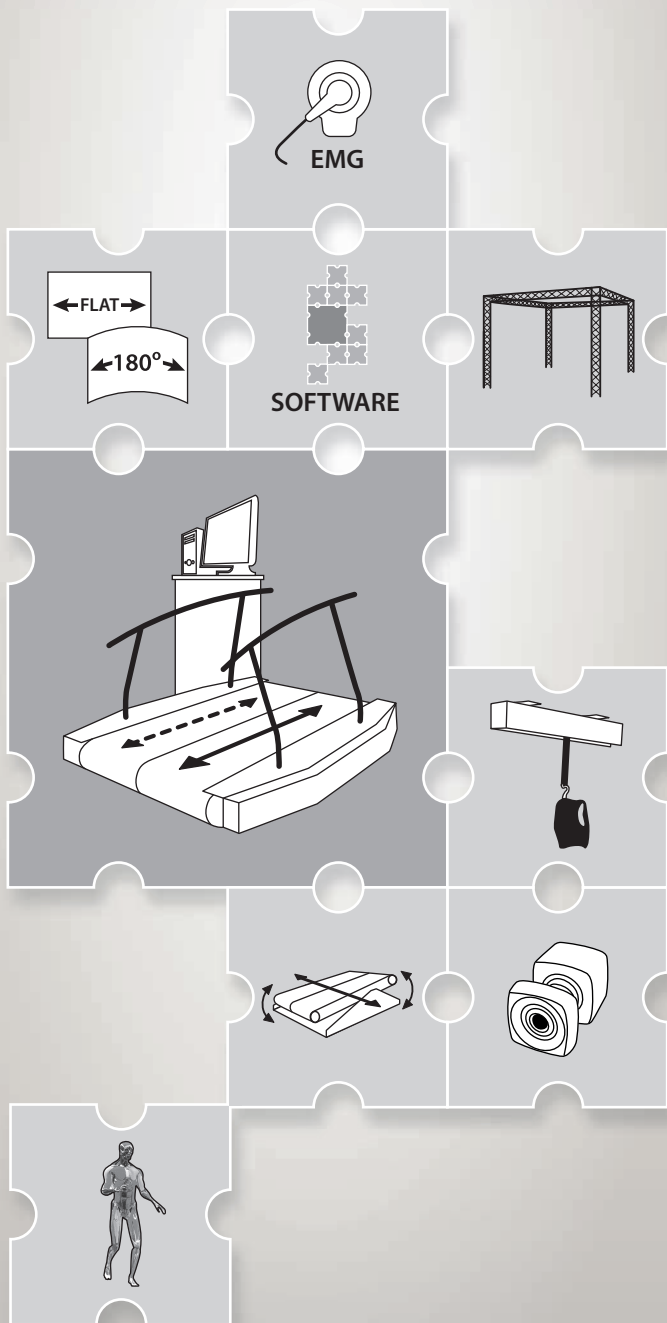
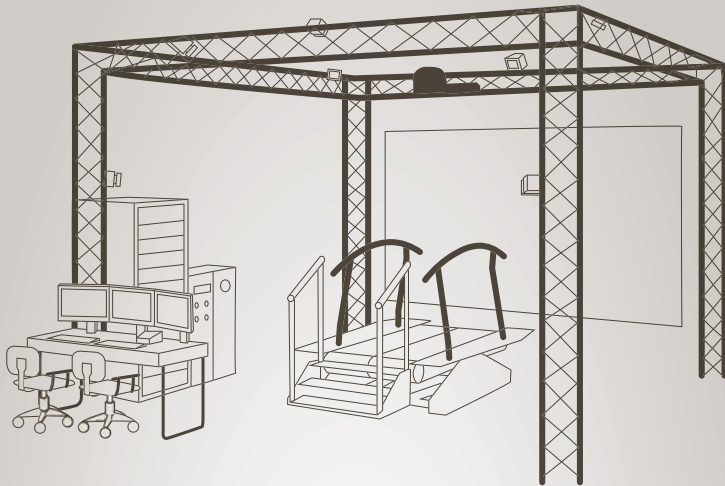
BWS Light

The BWS Light is manually controlled by a up/down remote. This way the operator can easily adjust the partial body weight support continuously between 0 and 90kg (200lbs). The produced unloading force is displayed on a digital read-out and can be recorded to evaluate changes over time.

Key Features

- Dynamic unloading up to 90kg (200lbs) | Maximum patient weight 135kg (300lbs)
- Horizontal track of 2.40m (7'10") or 3.00m (9'10")
- Allows early ambulation, in the acute phase of rehabilitation, to increase brain plasticity and the potential for recovery.
- BWS PRO enables computer guided dynamic unloading force, based on gait parameters, supporting for example only loading above a certain level or during a specific phase of the gait cycle.
- With the BWS only one therapist is required to assist the patient in ascending the treadmill and during the session.

Modular system

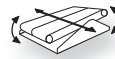


Various system enhancements are possible to increase both the clinical and research possibilities of the M-Gait.



Treadmill

An instrumented dual-belt treadmill with individually controllable belts measuring 3D ground reaction forces of each leg independently.



Pitch and/or sway

A pitch and/or sway unit can be added to the treadmill for walking uphill & downhill or to apply medial-lateral perturbations of the walking surface.



SOFTWARE

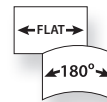
Software

The D-Flow software provides real-time system control and a VR application development environment using visual programming. Add different modules to the D-Flow software to extend the functionality up to full gait analysis and training, including an offline analysis tool for intuitive data analysis.



Motion Capture

Integrate a 3D motion capture system to collect motion data for movement analysis or to control real-time feedback applications for training.



Virtual Reality Environment

Create a high-end Virtual Reality environment with a large flat screen or a truly immersive experience with the 180° projection screen and the surround sound audio system. Enhance even further with a 3D stereoscopic projection.



Truss

A custom build truss facilitates optimal flexibility for motion capture camera mounting and provides a fully integrated solution for the other system components and cabling.



Body Weight Support

The light version provides continuous dynamic support. The pro version allows computer guided active support in response to e.g. the phase of the gait cycle or the level of weight distribution.



EMG

Electromyography

Add low latency wireless electromyography (EMG) to measure muscle activation for movement analysis or use it to control a real-time biofeedback application for training.



Human Body Model

Use the musculoskeletal Human Body Model for advanced real-time biomechanical analysis and to visualize joint rotations, joint moments and muscle forces for training.

Miscellaneous

Various other hardware sensors and systems can be integrated, for example video cameras, accelerometers, electroencephalography (EEG) or functional electro stimulation (FES).