

Technical Data Armeo®Power

Version: 1.2

Device description: The Armeo®Power is a rehabilitative exercise device for upper extremity therapy. The main component of the ArmeoPower is a motorized arm orthosis, which is able to support the weight of a patient's arm and to assist the patient during specific exercises in a large 3D workspace. The ArmeoPower is intended for patients who have lost the function or have restricted function in their upper extremities caused by central nervous or peripheral neurogenic, spinal, muscular or bone-related disorders. The ArmeoPower supports specific exercises for increasing the strength of muscles and the range of motion of joints in order to improve motor function. Furthermore, the ArmeoPower assists clinicians in evaluating these functions. The optional module ManovoPower is a motorized hand module which supports opening and closing of the hand in reach and grasp movements.

Key Features:

- Motorized arm orthosis with 6 actuated degrees of freedom covering an extensive 3D workspace
- Assist-as-needed arm support that adapts to the patient's capabilities
- Augmented Feedback with motivating exercises to train activities of daily living
- Assessment Tools for objective analysis and documentation of the patient's progress
- Optional: motorized hand module for coordinated reach and grasp movements

Mobility:

- System mounted on a mobile platform
- Casters' diameter: 10 cm
- Device's dimensions: 2.7 m (l) x 0.8 m (w) x 1.65 m (h)
- Weight: approx. 205 kg

Room requirements:

- Space: 3.5 x 3.5 x 2 m (l x w x h)
- Temperature: 10 °C - 35 °C
- Humidity: 30 % - 75 % relative air humidity

Mains connection:

- 100-240 V~ / 50/60 Hz

Display:

- 24 inch flat screen monitor with integrated speakers

Adaptability to patient:

- Electric lifting column for comfortable height adjustment (range: 400 mm)
- Continuous adaptation to subject's dimensions
 - forearm lengths (elbow to handgrip): 310 - 420 mm
 - upper arm lengths (shoulder to elbow): 250 - 340 mm
- Continuous adaptation of weight compensation force to subject's needs
- System platform compatible with commonly used wheelchairs
- Patient weight max. 135 kg (297.6 lbs)

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- Degrees of freedom:**
- 6 actuated degrees of freedom, each with a motor and two angular sensors
 - Horizontal shoulder abduction (relative to sagittal plane through shoulder joint): - 169° to + 50°
 - Shoulder flexion/extension (relative to frontal plane): + 40° to + 120°
 - Shoulder internal/external rotation: 0° to 90°
 - Elbow flexion/extension: 0° to 100°
 - Forearm pro-/supination: - 60° to 60°
 - Wrist flexion/extension: - 60° to 60°
 - Hand grip with integrated sensor to measure grip pressure or an optional actuated hand module ManovoPower (7th degree of freedom)

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- Armeocontrol Software:**
- User database with an individual account for every patient (allows for managing individual therapy schedule, storing patient settings, logging activity and results)
 - Parameters individually adjustable to the patient's needs and abilities:
 - Exercise workspace
 - Difficulty level of every exercise
 - Motivating games and exercises
 - Assessment Tools for relevant parameters of the patient's performance
 - Documentation of the patient's performance:
 - Easily understandable summary of the patient's progress
 - Detailed, Excel readable exercise report

All information is subject to change without notice.

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