

Green Team: Optimus Walker

Product Description: Walker that transforms into one handed support and further compacts to fit in small spaces.

Intended Customers: Elderly walker users

Market: Medical devices

Customer Need	Product Attribute(s)	Engineering Specification(s)
Can be easily fit under chair or airline seat	Compact mode dimensions	Less than 18" wide, 9.5" high, and 18" deep
Can be easily carried by user	Total weight	Less than 7 pounds
Can safely support user	Strength	Supports at least 750 pounds vertical load without deforming or transforming to another mode
Can be quickly changed from one mode to another	Time to change modes	Less than 15 seconds to change from any one mode to any adjacent mode
Can be easily locked and unlocked	Force and torque necessary to activate locking mechanisms	Less than 105N (PGS); less than 3 N (any other); less than 1.3 N-m
Can be easily changed from one mode to another	Force necessary to actuate telescopes	Less than 100N for pull force
Can be used in cane mode in tight spaces	Cane mode dimensions	5" wide and 7" long
Can fit most potential users	Height in walker and cane modes	Adjustable to fit range of 27" - 38" from floor to handle
Can be used on many different surfaces	Wheel friction	$0.2 < \mu < 0.8$ for most common surfaces