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Caplex® EXO-010

The EXO-010 is a modular tethered ankle exoskeleton capable of providing either plantarflexion or dorsiflexion assistance. Designed for diverse usability, the EXO-010 is adjustable with interchangeable Humotech sneakers to accommodate a wide range of shoe sizes (US Men's 5-12) as well as a shank height mechanism for users of all heights.



PROPERTY

SPECIFICATION

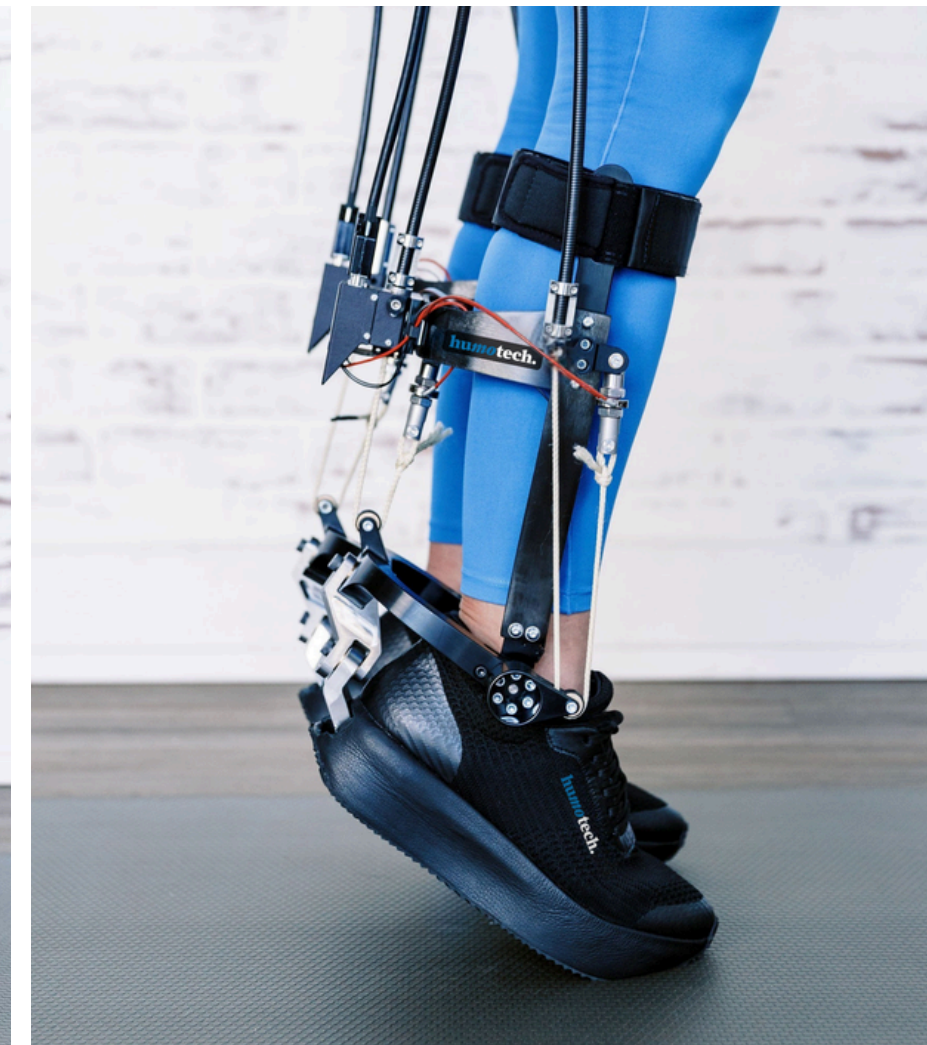
Active degree of freedom	Forefoot actuated by cable
Force sensor	Inline load cell for forefoot torque applied, accurate within +/- 1%
Angle sensor	Quadrature encoder with 4096 cycles per revolution
Maximum torque	Plantarflexion: 100 Nm (cable) Dorsiflexion: 50 Nm (cable) (or elastic bands)
Range of motion	Plantarflexion: 45 degrees max Dorsiflexion: 33 degrees max
Device Weight (without tether)	2.0 kg (4.4 lb) including US Men's size 11 shoe 2.2 kg (4.9 lb) including US Men's size 11 shoe and dorsiflexion actuation components
Shoe size	Usable for US Men's sizes 5-12 Note: To embed attachment hardware shoe midsole thickness is increase by 20 mm compared to typical shoes
Device dimensions	Nominal Width (Calf Interior) 5.8 inches Nominal Width (Calf Exterior) 8.0 inches Nominal Width (Ankle Interior) 3.7 inches Nominal Width (Ankle Exterior) 7.3 inches Ankle to Strap Height 15.5 inches (max)

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Technical Specifications

- ★ High torque density: high peak ankle plantarflexion torque output (100 Nm)
- ★ Highly adjustable design to accommodate users of varying foot length (5-12 US Men's / 6.5-13.5 US Women's) and heights
- ★ Custom shoe design integrates and conceals mounting hardware while providing comfortable interface for user.
- ★ Optional passive degree of freedom in frontal plane. Can also be restricted to purely sagittal motion.
- ★ Optional accessories available for dorsiflexion loading of the ankle.
- ★ Compatible with Full-Sized and Portable Caplex® Systems

Features



1) Electrical Interface

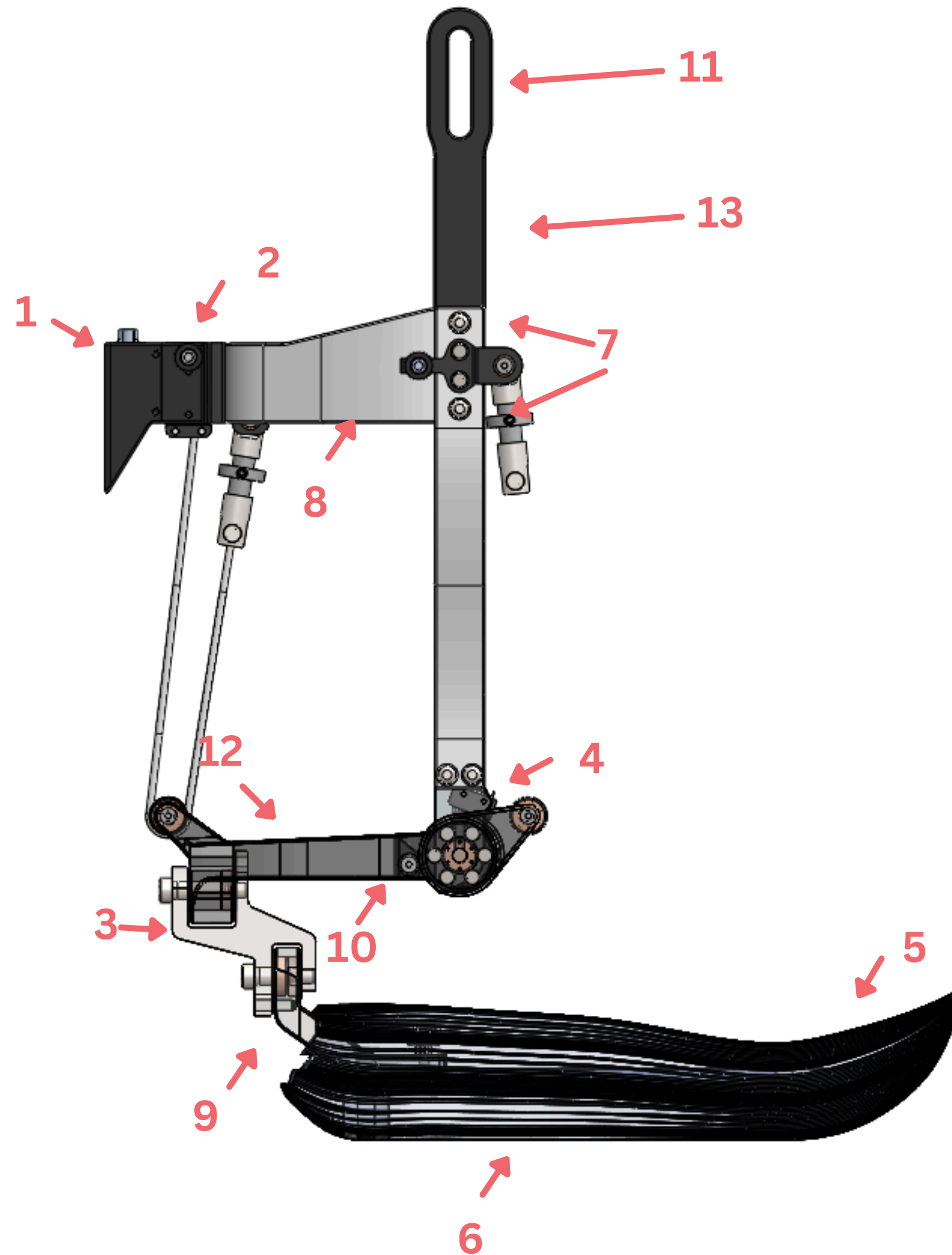
2) Bowden Cable Termination

3) Modular ankle connector

4) Limit Switch

5) Custom Shoe (swappable)

6) Midsole spring (swappable inside of midsole)



7) Modular Shank Mounting Screws

8) Bowden lever

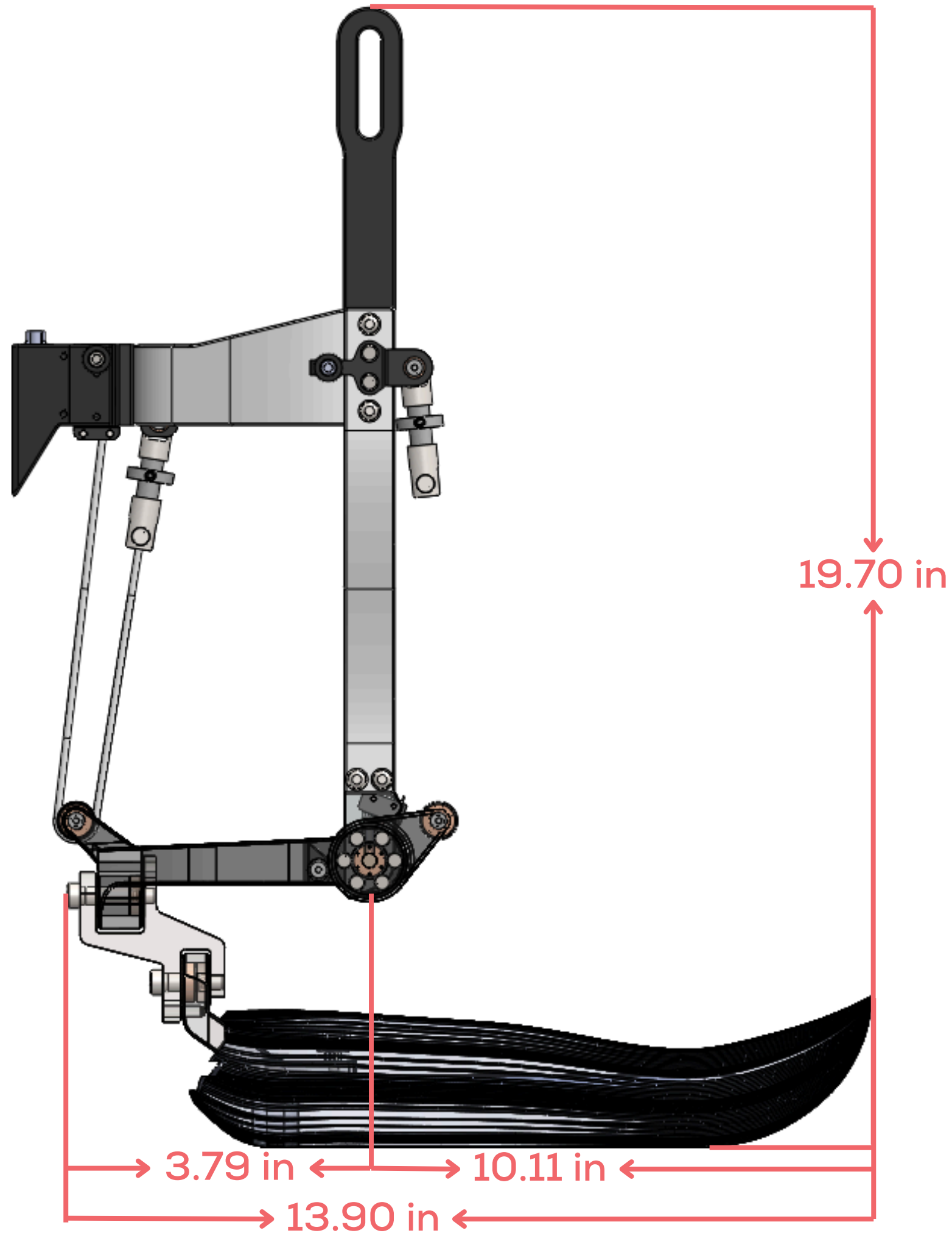
9) Shoe Bracket

10) Modular Hardstop

11) Modular Strap Mounting

12) Rear Ankle Lever

13) Shaft



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