

humotech

# Caplex EXO-001

The EXO-001 is a tethered high-torque ankle exoskeleton with high plantarflexion torque output relative to our EXO-005 device. Designed for diverse usability, the EXO-001 is adjustable with interchangeable shoes and forefoot struts to accommodate a wide range of shoe sizes (US Men's 4-14 / US Women's 5.5-15.5 / EU 35.5-48.5). Other versions include a narrowed variation (EXO001C04) with moderate torque output and a child sized version (EXO001F05) or adapter kit for existing EXO001 devices.

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PROPERTY	SPECIFICATION	
Active degree of freedom	Forefoot actuated by cable	
Force sensor	Inline load cell for forefoot torque applied, accurate within +/- 1%	
Angle sensor	Optical encoder for forefoot angle with 5000 counts per revolution	
Maximum torque	Plantarflexion: 180 Nm (cable) Dorsiflexion: 1.5 Nm (elastic bands)	
Range of motion	Plantarflexion: 45 degrees Dorsiflexion: 30 degrees	
Device weight (without tether)	1.4 kg (3.1 lb) standard, including size 10 M shoe 1.3 kg (2.9 lb) narrowed, including size 10.5 M shoe	
Shoe size	US size 4 M / 5.5 W / 35.5 EU to US size 14 M / 15.5 W/ 48 EU	
Device dimensions (for reference)	Standard length	12.5 to 14 M / 14 to 15.5 W / 46.5 to 48 EU - 36.8 cm (14.5 in)
	(heel rod to toe plate)	10.5 to 12 M / 12 to 13.5 W / 44 to 46 EU - 34.3 cm (13.5 in)
		8.5 to 10 M / 10 to 11.5 W / 41.5 to 43.5 EU - 32.4 cm (12.75 in)
		6.5 to 8 M / 7 to 9.5 W / 39 to 42.5 EU - 31.1 cm (12.25 in)
		4.5 to 6 M / 6 to 7.5 W / 36.5 to 40 EU - 29.8 cm (11.75 in)
		2.5 to 4 M / 4 to 5.5 W / 35 to 36.5 EU - 28.6 cm (11.25 in)
	Standard width	19.4 cm (7.64 in.)
	Narrowed width	18.3 cm (7.20 in.)
	Standard overall height	41.4 cm (16.3 in.)
	Shortened overall height	37.3 cm (14.67 in)

# Caplex EXO-001 (Standard)

## Technical Specifications

PROPERTY	SPECIFICATION	
Active degree of freedom	Forefoot actuated by cable	
Force sensor	Inline load cell for forefoot torque applied, accurate within +/- 1%	
Angle sensor	Optical encoder for forefoot angle with 5000 counts per revolution	
Maximum torque	Plantarflexion: 65 Nm (cable) Dorsiflexion: 1.5 Nm (elastic bands)	
Range of motion	Plantarflexion: 45, 35, 20 degrees Dorsiflexion: 30 degrees	
Device weight (without tether)	0.95 kg (2.1 lb) child, including size kids 2 shoe	
Shoe size	US size 1.5 Kids / 33 EU to US size 4 Kids / 36EU	
Device dimensions (for reference)	Standard length	3.5 to 4.5 US Kids / 35 to 36.5 EU- 23.1 cm (9.08 in)
	(heel rod to toe plate)	2.5 to 3.5 US Kids / 34 to 35.5 EU - 21.5 cm (8.48 in)
		1.5 to 2.5 US Kids / 33 to 34 EU - 20.7 cm (8.15 in)
	Child width	12.0 cm (4.73 in.)
	Child overall height	30.2 cm (11.88 in.)

Caplex  
EXO-001  
(Child)

Technical  
Specifications

# Features

- ★ Best-in-class torque density: very high peak ankle plantarflexion torque output in a lightweight package
- ★ Highly adjustable design to accommodate users of varying foot length
- ★ Carefully designed shoe integration and strapping ensure durability and comfortable user experience even over long testing periods
- ★ Tried-and-true robust design developed over 12+ years of walking and running studies now with brand new capabilities for younger users
- ★ Compatible with Full-Sized and Portable Caplex Systems
- ★ Narrowed, shortened, and child size variations available to accommodate users with shorter shanks and/or narrower step widths

