force dimension

omega.x haptic devices

force feedback interfaces

omega.3

omega.6

omega.7

The **omega.x** family of haptic devices relies on a unique kinematic design that has been optimized for high-end force feedback. Its **high mechanical stiffness**, combined with its embedded **USB 2.0 controller**, enables the rendering of **crisp contact forces**.

The **omega.6** and **omega.7** designs provide **perfect decoupling** of translations and rotations. The combination of **full gravity compensation** and **driftless calibration** contributes to greater user comfort and accuracy.

With its unique **active grasping** extension, the **omega.7** is the most versatile haptic device available. Its end-effector covers the **natural range of motion** of the human hand and is compatible with **bi-manual teleoperation** console design.

The **omega.x** family of devices features a modular architecture that makes it possible to **replace one end-effector with another**. Conceived and manufactured in Switzerland, the **omega.x** range is specifically designed for demanding applications where **performance and reliability** are critical, including:

- medical and space robotics
- micro and nano manipulators
- teleoperation consoles
- virtual simulations
- training systems
- research

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omega.x

workspace	translation	∅ 160 x 110 mm	
	rotation	240 x 140 x 320|180 deg	(omega.6|7)
	grasping	25 mm	(omega.7)
forces	translation	12.0 N	
	grasping	± 8.0 N	(omega.7)
resolution	translation	‹ 0.01 mm	
	rotation	0.09 deg	(omega.6|7)
	grasping	0.006 mm	(omega.7)

electronics

interface	standard	USB 2.0
	refresh rate	up to 4 KHz
power	universal	110V - 240V

software

platforms	Microsoft	Windows
	Linux	all distributions
	Apple	macOS
	Blackberry	QNX
	WindRiver	VxWorks
software	haptic SDK	
	robotic SDK	

features

structure	delta-based parallel kinematics	
	hand-centered rotations	(omega.6|7)
	rotations decoupled from translations	(omega.6|7)
	active gravity compensation	
calibration	automatic	
	driftless	
user input	1 programmable button	
safety	velocity monitoring	
	electromagnetic damping	
option	right- or left-handed	(omega.6|7)

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