

force dimension

omega.7 haptic device

force feedback interface



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 combination of **full gravity compensation** and **driftless calibration** contributes to greater user comfort and accuracy. Conceived and manufactured in Switzerland, the omega.7 is designed for demanding applications where **performance and reliability** are critical.

applications

The **omega.7** provides 3D active force-feedback, rotation sensing and active grasping for a wide range of applications:

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



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omega.7

workspace	translation	∅ 160 x 110 mm
	rotation	240 x 140 x 180 deg
forces	grasping	25 mm
	translation	12.0 N
resolution	grasping	± 8.0 N
	translation	< 0.01 mm
stiffness	rotation	0.09 deg
	grasping	0.006 mm
	closed-loop	14.5 N/mm

electronics

interface	standard	USB 2.0
	refresh rate	up to 8 KHz
power	universal	110V - 240V

software

platforms	Microsoft	Windows XP / Vista / 7 / 8 Windows CE 7
	Linux	kernel 2.6 / 3.x
	Apple	OS X 10.7 / 10.8
	QNX	Neutrino 6.5
	WindRiver	VxWorks 6.3 / 6.9
software	haptic SDK	
	robotic SDK	

features

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

Force Dimension
Route de Saint-Cergue 295
CH - 1260 Nyon
Switzerland

t +41 22 362 6570
f +41 22 362 6571

www.forcedimension.com
info@forcedimension.com