force dimension

sigma.7 haptic device
force feedback interface

With its unique **7 active degrees-of-freedom,** the **sigma.7** is the most advanced master haptic device ever designed by Force Dimension. Its end-effector covers the **natural range of motion** of the human hand and is compatible with **bi-manual teleoperation** console design. Its unique **custom-designed actuators** offer a very high level of forces and torques, making it the most accomplished master device available today. The combination of **full gravity compensation** and **driftless calibration** contributes to greater user comfort and accuracy. Conceived and manufactured in Switzerland, the **sigma.7** is designed for demanding applications where **performance and reliability** are critical.

applications

The **sigma.7** provides active force and torque-feedback, as well as active grasping for a wide range of applications:

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

force dimension

sigma.7

workspace	translation	∅ 190 x 130 mm
	rotation	235 x 140 x 200 deg
	grasping	25 mm
forces	translation	20.0 N
	rotation	400 mNm
	grasping	± 8.0 N
resolution	translation	0.012 mm
	rotation	0.013 deg
	grasping	0.006 mm

electronics

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

software

platforms	Microsoft	Windows XP / Vista / 7
	Linux	kernel 2.6
	Apple	OS X 10.5 / 10.6
	QNX	Neutrino 6.3 / 6.4 / 6.5
	tenAsys	INtime 4.0
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
	4 programmable input channels
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