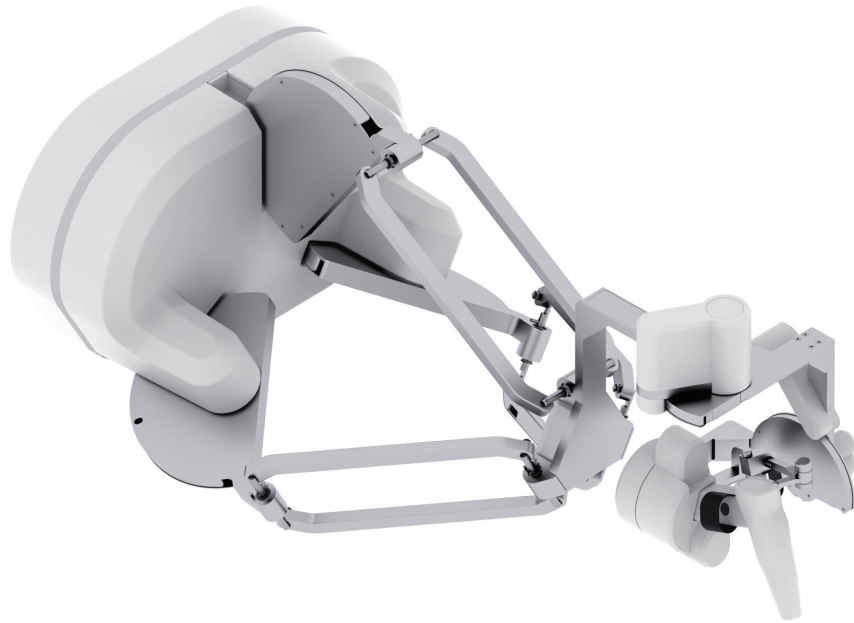# force dimension

lambda.7 haptic device
force feedback interface

With its unique **7 active degrees-of-freedom,** the **lambda.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 **lambda.7** is designed for demanding applications where **performance and reliability** are critical.

applications

The **lambda.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

lambda.7

workspace	translation	∅ 240 x 170 mm
	rotation	180 (yaw) x 140 (pitch) x 290 (roll) deg
	grasping	15 deg
forces	translation	20 N
	rotation	200, 400, 100 mNm
	grasping	8 N
resolution	translation	0.0015 mm
	rotation	0.0067, 0.0067, 0.0135 deg
	grasping	0.02 mm
active locks	translation	parking position

electronics

interface	standard	USB 2.0
	refresh rate	up to 4 KHz
power	universal	100V - 240V

software

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

features

structure	delta-based parallel kinematics
	hand-centered rotations
	rotations decoupled from translations
	active gravity compensation
calibration	automatic
	driftless
safety	velocity monitoring
	electromagnetic damping
ergonomics	available in left- and right-hand configuration