

# force dimension

## omega.6 haptic device

force feedback interface



The **omega.6** is the most advanced pen-shaped force-feedback device available. Building on the omega.3 base, its design provides **perfect decoupling** of translations and rotations. The combination of **full gravity compensation** and **driftless calibration** contributes to greater user comfort and accuracy. Conceived and manufactured in Switzerland, the omega.6 is designed for demanding applications where **performance and reliability** are critical.

### applications

The **omega.6** provides 3D active force feedback and passive rotation sensing 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.6

|                   |             |                     |
|-------------------|-------------|---------------------|
| <b>workspace</b>  | translation | Ø 160 x 110 mm      |
|                   | rotation    | 240 x 140 x 320 deg |
| <b>forces</b>     | translation | 12.0 N              |
| <b>resolution</b> | translation | < 0.01 mm           |
|                   | rotation    | 0.09 deg            |
| <b>stiffness</b>  | closed-loop | 14.5 N/mm           |

## electronics

|                  |              |             |
|------------------|--------------|-------------|
| <b>interface</b> | standard     | USB 2.0     |
|                  | refresh rate | up to 4 KHz |
| <b>power</b>     | universal    | 110V - 240V |

## software

|                  |             |  |
|------------------|-------------|--|
| <b>platforms</b> | Microsoft   | Windows XP / Vista / 7 / 8<br>Windows CE 7 |
|                  | Linux       | kernel 2.6 / 3.x                           |
|                  | Apple       | OS X                                       |
|                  | QNX         | 6.5 / 6.6                                  |
|                  | WindRiver   | VxWorks 6.3 / 6.8 / 6.9                    |
| <b>software</b>  | haptic SDK  |  |
|                  | robotic SDK |  |

## features

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

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