# Desktop 6D™

The Desktop 6D is a compact 6 active degrees-of-freedom haptic device.

Its workspace and small footprint address it to an individual use, in front of a desktop screen, a head-mounted display (HMD) or inside a simulator

**# Research** **# Engineering**

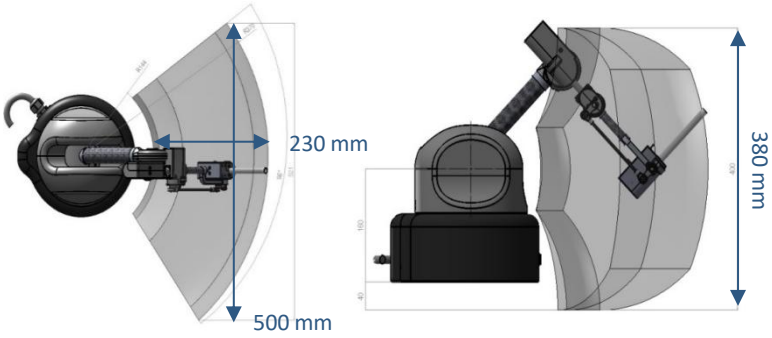
**# Virtual Reality** **# Medical Simulation & Teleoperation**

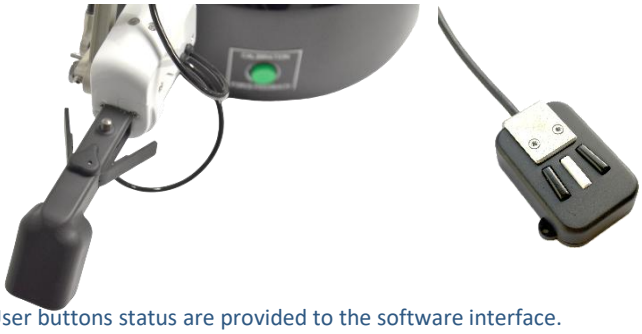
## 6 Active Degrees-of-Freedom with force feedback and high resolution measurements

- ✔ Passive weight balancing
- ✔ Ethernet/UDP communication system
- ✔ Removable end-effector, on request. 10 wires KIT on request for DIY handle interface.
- ✔ Software interface:
  - ✔ Long term native drivers (binary) in C++ and C. Drivers availables for ROS2™, ROS™, CHAID3D™ open source platforms.
  - ✔ Can be used* with open source platforms (Godot™, Bullet™, SOFA™, ...) and with third parties platforms (UnReal™, Unity™, NVIDIA FleX™, LabVIEW™, Matlab™/Simulink™, CORTEX™, XDE™...). (*No drivers/examples are supplied.)
  - ✔ Industrial solutions with third party solutions such as Unity™, UnReal™ by our Partners : LS Group, Tree-C, TOIA Ltd, …

## Modularity

On the end-effector, an analog pinch finger clamp provides a signal 0 – 100%, is acting as a 7th DOF. A user button mounted on the handle, permit to use a shift feature to extend the workspace.
A small independent user button box, connected to the control unit, provides three user push-buttons, and one finger detection surface that can deactivate the force feedback when released.



User buttons status are provided to the software interface.
The end effector orientation can be modified.
The device can also be configured in up-side-down position.

We are available to discuss with you any customized needs you have.


## Technical

| | |
|---|---|
| Translation workspace | 500 x 230 x 380 mm |
| Rotation Workspace | 257° x 87° x 242° |
| Payload (center of the workspace): | 10 N (peak)/ 3 N (continuous) |
| Rotation force: Peak, Continuous | 0.78 Nm, 0.21 Nm |
| Position resolution | 0.0234 mm |
| Rotation resolution | 0.0023 ° |
| Device weight | 4 kg (+ its external controller 2,4kg) |

## Electrical

| | |
|---|---|
| Power supply | 100-240 VAC 50/60Hz single phase |
| Consumption | Less than 350W |

## Software

| | |
|---|---|
| Maximum translation stiffness | 1 000 N/m |
| Maximum rotation stiffness | 4 Nm/rad |
| Update Rate | 1 000 Hz |

*Information in this document is subject to change without notice.*

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