



# HAPTION → Virtose 3D15-25

The Virtuose 6D35-45 is a Haptic device with 3 Degrees-of-freedom

Especially studied to offer a real physical interaction with virtual or distant object.

Its reduced workspace makes it possible to undertake studies on standard screen



## Technicals Characteristics

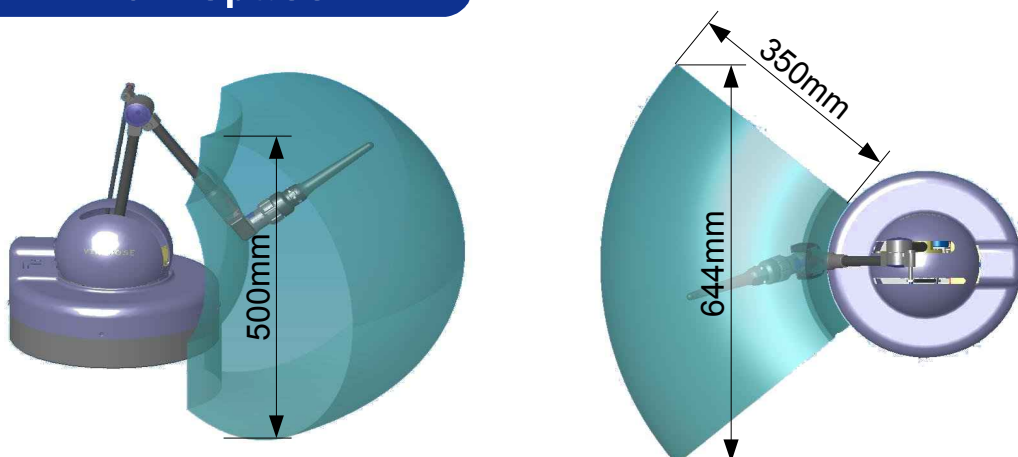
The VIRTUOSE 3D15-25 is the only force-feedback system of the market today, which offers the following characteristics:

- ✓ Force-feedback on 3 degrees-of-freedom
- ✓ Operational workspace corresponding to the movements of a human wrist
- ✓ Length of the segments : 250mm
- ✓ Force : 15N Maximum, 5N continuous
- ✓ Dynamic compensation of the device's own weight
- ✓ Instrumentation of the 6 degrees of freedom
- ✓ Modular end-effector equipped with programmable switches
- ✓ The gripping tool of the VIRTUOSE 3D15-25 is equipped with a proximity sensor, connected to a "dead-man" function. As long as the user does not hold the gripping tool in his hand, and as soon as he releases it, the motors are switched off, and no active movement can occur.
- ✓ Development kit (API) available for the major operating systems
- ✓ Demonstrated compatibility with the major software applications on the market today, using dedicated plug-ins: Vortex™, Havok™, ODE, Virtools™, Catia™ V5, OpenMask, etc.

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# Virtuose 3D15-25

## Workspace



The VIRTUOSE 3D15-25 is composed of two main articulated segments fixed on a rotating base. The second segment ends with an articulated wrist, which can rotate around three concurrent axes. As a consequence, the haptic interface is a 6 degrees-of-freedom device, with force-feedback on the first 3 axes. The workspace of the VIRTUOSE 3D15-25 is large enough to include a cube 25 cm in size. The resolution in position is of  $8.10^{-3}$  mm.

## Articular characteristics

Axis N°	Clearance in °	Joint Torque in continu en N.m
Axe 1	80	2.82
Axe 2	91	1.75
Axe 3	92	1.75
Axe 4	214	0
Axe 5	125	0
Axe 6	336	0

## Modularity



The user takes hold of the haptic device using a gripper or handle placed at the tip (called "end-effector"). The end-effector is easy to remove and replace, so that a frequent change of tool is possible, in order to customize the application and reinforce the sensation of immersion. The gripping tool is equipped with four push-buttons. One of the push-buttons is dedicated to the offset function (see the control system functionalities hereafter). The state of the three other buttons can be accessed using the VIRTUOSE API.

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