



HAPTION → Virtuose 3D15-25

The Virtuose 3D15-25 is a haptic device with force-feedback on 3 degrees of freedom, specifically designed for physical interaction with virtual objects.

Its small volume and workspace dedicate it to individual desktop environments, equipped with a standard computer screen.

Thanks to its high robustness and its safety functions, it is suitable for heavy-duty applications, such as demonstrations open to the general public.

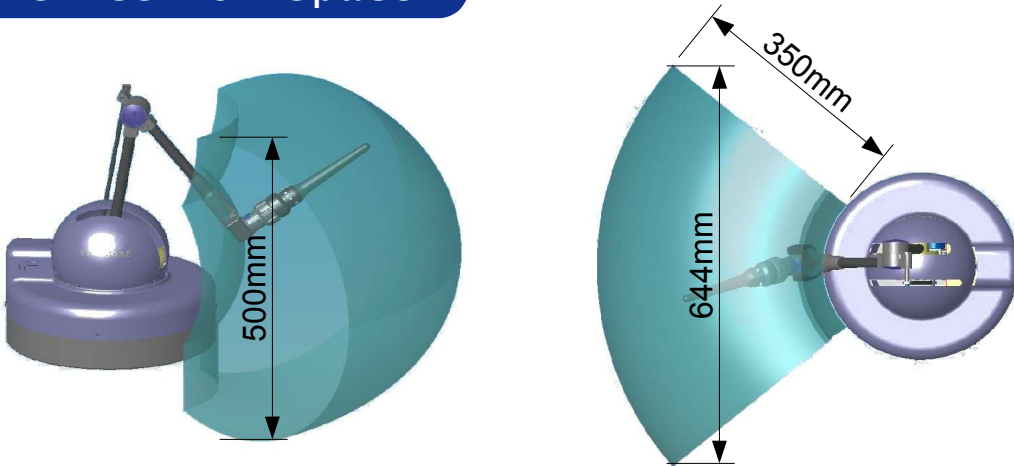


Technical characteristics

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

- ✓ Position feedback on all 6 degrees-of-freedom
- ✓ Force-feedback on 3 degrees-of-freedom (translations)
- ✓ Operational workspace corresponding to the movements of a human wrist
- ✓ Length of the segments: 250mm
- ✓ Force : 15 N peak, 5 N continuous
- ✓ Dynamic compensation of the device's own weight
- ✓ Modular end-effector equipped with programmable switches
- ✓ 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, Virttools™, Catia™ V5, OpenMask, etc.

Device 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 8.10^{-3} mm.

Detailed specification

N° de l'articulation	Débattement en °	Couple articulaire 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 "endeffector"). 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.

HAPTION S.A.

Atelier relais ZA Route de Laval – 53210 SOULGE SUR OUETTE – France
 tel. +33(0)2 43 64 51 20
 fax. +33(0)2 43 64 51 21
 e-mail. contact@haption.com
<http://www.haption.com>