HAPTION

Virtuose 3D Desktop

The Virtuose 3D Desktop is a haptic device specifically designed for bidirectional interactivity with virtual 3D application. It provides 3 degrees-of-freedom (DOF) with force-feedback, and 3 DOF with position feedback.

Its workspace and its small overall dimensions intend it for a use on individual workstations, equipped with a standard monitor.

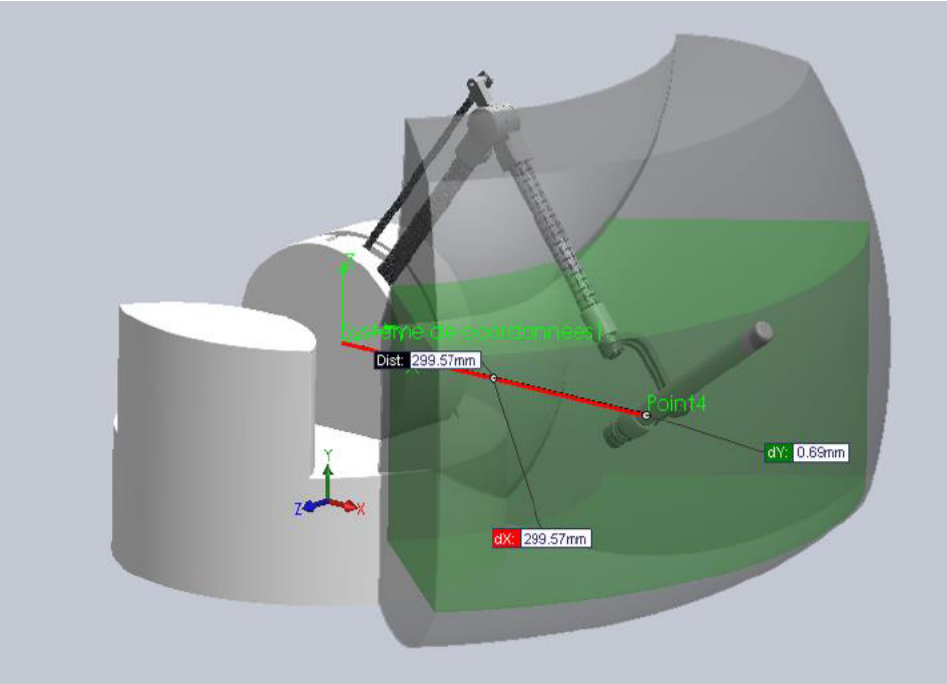
Technicals Characteristics

The main characteristics of the Virtuose 3D Desktop are :

- 6 degrees of freedom position feedback
- 3 degrees of freedom active force-feedback
- Operational workspace corresponding to the movements of the lower arm pivoting around the elbow
- Maximum force of 5 N in translation
- Passive weight balancing with springs
- Tool fixation through a standard Souriau connector for easy customization
- Lightweight, no specific equipment needed for transport
- Support of both impedance (force) and admittance (position) control
- Development kit (API) available for Microsoft Windows and Linux (32 and 64 bits)
- Communication through Ethernet/UDP

Virtuose 3D Desktop

Workspace



The Virtuose 3D Desktop 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 3 first axes. The structure of the Virtuose 3D Desktop can work in a volume corresponding to a torus with a square section of 20 cm. The center of the square is 30 cm from the base of the device.

Characteristics

Number of motors	3
Type of motors	DC
Output power of the motors	60W in 48V
Power supply	100-240 VAC one-phase
Power consumption	Less than 200W
Peak maximum force	15N
Peak continuous force	5N