

NEW: Phantom® Premium™

From physical, to digital, to physical—
3D Systems delivers haptic devices that
allow a realistic touch of the digital world.

The Phantom® Premium™ haptic devices fulfill the requirements of a vast range of research and commercial applications. Designed to fulfill the requirements of manufacturing verification, machine component visualization, medical research and simulation, and an assortment of other haptically-enabled 3D applications. Each Phantom Premium haptic device is constructed for maximum durability and simple PC connection via the USB-HID interface.



Phantom Premium Haptics

Device Specification		Premium 1.5 6DOF	Premium 1.5	Premium 1.5 HF
Work Volume	Translation	~ 28 x 27 x 9 in		
		710 x 687 x 225 mm		
	X	180		
	Y	167		
	Z	103		
	Rotation			
	Yaw	297	Available option	
	Pitch	260		
Roll	335			
Range of motion		Hand movement pivoting at the elbow		
Workspace	Translation	15 W x 10.5 H x 7.5 D in		
		381 W x 267 H x 191 D mm		
Footprint Dimensions		~ 13 W x 10 D in		
		330 W x 254 D mm		
Weight		35 lbs		
Nominal position resolution	Translation	860 dpi / 0.03mm		3784 dpi / 0.007mm
	Rotation			
	Yaw & Pitch	0.0023 degrees		
	Roll	0.0080 degrees		
Maximum exertable force and torque at orthogonal arms	Translation	1.9 lbf / 8.5 N		8.4 lbf / 37.5 N
	Rotation			
	Yaw & Pitch	73 oz-in/515 mNm	N/A	
	Roll	24 oz-in/170 mNm		
Continuous exertable force and torque (24 hrs) at orthogonal arms	Translation	0.3 lbf / 1.4 N		1.4 lbf / 6.2 N
	Rotation			
	Yaw & Pitch	73 oz-in/515 mNm	N/A	
	Roll	24 oz-in/170 mNm		
Backdrive friction		0.15 oz / 0.04 N		0.75 oz / 0.2 N
Inertia (at tip)		~0.17 lbm / ~75g		~0.33 lbm / ~150g
Stiffness		20 lbf in ⁻¹ / 3.5 N mm ⁻¹		
Force feedback		X, Y, Z; Roll, Pitch, Yaw	X, Y, Z	
Position sensing/input		X, Y, Z; Roll, Pitch, Yaw	X, Y, Z (Roll, Pitch, Yaw available)	
Optional end effectors		Customizable; Thumb pad (pinch), scissors	Customizable; available encoder gimbal stylus	
Servoloop rate		up to 8KHz		
Interface		USB 2.0/3.0, or a powered USB 2.0/3.0 hub		
Power		24V DC 9.2A 221W		
Phantom SDK, Unreal, Unity, compatibility		Yes		

