

NEXUS NX1

The Ultimate Human-Machine Experience for VR & Robotics

Key Features

- ✓ Realistic touch
- ✓ Freedom of movement
- ✓ Full-body motion capture
- ✓ Enhanced ergonomics
- ✓ Industrial-grade safety
- ✓ Multi-user collaboration
- ✓ Turn-key deployment

Full Ensemble:

- HaptX Airpack with counterbalance
- HaptX Gloves G1
- 72 DoF body & hand tracking
- Motorized Freeaim Shoes
- Virtuix Omni One

Data capture can include:

- 72 DoF full-body mocap with sub-millimeter precision
- Full user skeletal and soft tissue models
- Precise tactile displacement and pressure data across hundreds of points on the fingers and palms
- Center of mass location
- High-fidelity locomotion heading and speed, foot-to-ground distance, and more



HAPTIX GLOVES G1

PHYSICAL

Weight	1.25 lbs (0.57 kg)
Size	Small, Medium, Large, Extra Large (S, M, L, XL)
Best Fit Range	Length: 6 ⁴ / ₈ in (16.5 cm) – 8 ³ / ₈ in (21.4 cm)
	Width: 2 ⁷ / ₈ in (7.3 cm) – 3 ⁷ / ₈ in (10 cm)
Mobile Tether Length	2.6 ft (0.8 m)
Desktop Tether Length	4.1 ft (1.25 m)
Wrist Mobility	Nearly Full Range of Motion
Glove Life Expectancy	18 months or 540 hours*

MOTION CAPTURE

Number of Sensors	6 per Glove
Positional Resolutions	0.01 in (0.3 mm)
Rotational Precision	0.3 deg
Number of Tracked DoFs	36 per glove
Latency	16 ms
Update Rate	120 Hz

TACTILE FEED BACK

Num. Tactile Actuators	135 per glove
Peak Pressure	9 psi (62 kPa)
Max. Actuation Frequency	125 Hz (250 Hz communication rate)
Inflation Time	35 ms***
Max. Displacement	Palm: 0.06 in (1.5 mm)
	Fingers: 0.04 in (0.9 mm)

FORCE FEEDBACK

Num. Force Actuators	5 per glove
Peak Hold Force	8lbf (35.6 N) per digit
Expected Operating Force	5lbf (22.24 N) per digit
Min. Force (Retract Force)	0.3lbf (1.33 N)
Engagement Time	62 ms***
Disengagement Time	39 ms***



HAPTIX AIRPACK

Weight	19.5 lbs (8.8kg)	Max Sound	55dB	Battery Life	2 Hours (typical)
Weight (Backpack attachment & Battery)	22.2 lbs (10.1kg)	Typ. conversion time from backpack to desktop	<30 sec	Battery Capacity	3350 mAh (84.42 Wh)
Size (No Backpack Accessory)	20.7 x 10.4 x 4.84 in (52.5 x 26.5 x 12.3 cm)	Pressure Resolution	8 bit	Battery Charge Time	3 Hours
Peak Flow Rate	3.5 SLPM	Peak Power	120 W	Input Power Supply	36V, 2.5A max
Max. Pressure	36 psi (250 kPa)	Max WiFi Range	100 ft (30.5 m)	Max Life Expectancy	5 years (or 10,000 Hours***)
				WiFi Protocol	802.11AC

* A user in the system using the same glove pair for 1 hour 20 minutes a day, 5 days a week will hit 540 hours at 18 months. A user in the system using the same glove pair for 8 hours a day, 5 days a week will hit 540 hours at 3 months.

**A user in the system for 8 hours a day, 5 days a week will hit 10,000 hours in 4.8 years.

***Best case scenario with Gloves for Mobile. Gloves for Desktop have longer tubes which affect response time.

FREEAIM SHOES

Weight	2.8 lbs (~1.3 kg)
Foot Sizes	Foot straps and heel position are adjustable (via knob on rear of shoe). 7-13 US male, down to size 4 with supplied heel inserts 8.5-14.5 US female, down to size 6 with heel inserts
User Weight	Recommended user weight is up to 220 lbs (100 kg)
Battery Life	Easily swappable 1.5 Ah LiPo Provides around 2 hours of use Each battery charges in around 15 mins or less



VIRTUIX OMNI ONE

Weight	150 lbs (~68 kg)
Size	48 in W x 60 in D x 48 in H
User Weight	Recommended user weight is up to 250 lbs (~113.4 kg)
User Height	Recommended user height is between 4'4" to 6'4"

BODY TRACKING

Tracking Points	Head, Forearm (L/R), Foot (L/R), Core
Num. of Tracked Degrees of Freedom	36*

*Dependent on selected motion capture solution

