VR HEADSETS TECHNICAL COMPARISON

SPECIFICATION	META QUEST 3	PICO 4 ULTRA	VALVE INDEX	VARJO XR-4
Estimated Price (USD)	$599 (512 GB)	$699 (256 GB)	$999 (Full Kit)	$3,990+ (Enterprise)
Device Type	Standalone VR/MR Headest with PC VR Support	Standalone VR/MR Headset with PC VR Support	PC VR Headset	Professional PC Mixed Reality Headset
Manufacturer	Meta	PICO	Valve	Varjo
Release Year	2023	2024	2019	2023
Processor (SoC)	Qualcomm Snapdragon XR2 Gen 2	Qualcomm Snapdragon XR2 Gen 2	N/A (PC Powered)	N/A (PC Powered)
Memory (RAM)	8 GB LPDDR5	12 GB LPDDR5	PC Dependent	PC Dependent
Internal Storage	128 GB / 512 GB	256 GB	N/A	N/A
Display Type	LCD	LCD	RGB LCD	Mini-LED with Local Dimming
Resolution (per eye)	2064 × 2208	2160 × 2160	1440 × 1600	3840 × 3744
Lens Type	Pancake	Pancake	Dual-Element Fresnel	Custom Aspheric
Refresh Rate	90 Hz / 120 Hz	90 Hz	80 / 90 / 120 / 144 Hz	90 Hz
Field of View (Approx.)	110°	105°	108°	120° × 105°
Interpupillary Distance (IPD)	Continuous Adjustment	Continuous Adjustment	Mechanical Adjustment	Continuous Adjustment
Tracking System	Inside-out (6DoF)	Inside-out (6DoF)	SteamVR Lighthouse Tracking	Inside-out or SteamVR Lighthouse
Controllers Included	Yes (Touch Plus Controllers)	Yes (PICO Motion Controllers)	Yes (Valve Index Controllers)	Optional (Varjo Controllers)
Hand Tracking	Yes	Yes	No	No
Mixed Reality (Color Passthrough)	Yes	Yes	No	Yes (20 MP Passthrough)
Eye Tracking	No	No	No	Yes (200 Hz)
Face Tracking	No	No	No	No
Wireless Operation	Yes	Yes	No	No
PC VR Compatibility	Meta Link, Air Link, Steam Link	PICO Connect, SteamVR Streaming	Native SteamVR	Native SteamVR
Wi-Fi	Wi-Fi 6E	Wi-Fi 7	N/A	N/A
Bluetooth	Bluetooth 5.2	Bluetooth 5.3	Via PC	N/A
USB Interface	USB-C	USB-C	USB 3.0	USB-C
Video Interface	USB-C / Wireless	USB-C / Wireless	DisplayPort 1.2	DisplayPort 1.4
Audio	Integrated Spatial Audio	Integrated Spatial Audio	Off-ear Speakers	DTS 3D Spatial Audio
Microphone	Integrated	Integrated	Integrated	Dual Noise-Cancelling
Battery Life	Approximately 2.2 hours	Approximately 2.5 hours	N/A (PC Powered)	N/A (PC Powered)
Weight	515 g	Approximately 580 g	809 g	Approximately 1,020 g
Operating System	Meta Horizon OS	PICO OS	SteamVR (Windows/Linux)	Varjo Base (Windows)
Development Support	OpenXR, Unity, Unreal Engine	OpenXR, Unity, Unreal Engine	OpenXR, Unity, Unreal Engine	OpenXR, Unity, Unreal Engine, NVIDIA Omniverse
Primary Use Cases	Gaming, Mixed Reality, Training, Education	Gaming, Enterprise, Simulation, Training	High-End PC VR, Simulation, Research	Aerospace, Defense, Automotive, Medical, Industrial Simulation

Prices are approximate street prices in USD as of May 2024 and may vary by region and retailer.