Datasheet

HP Z2 Small Form Factor G8 Workstation



Small size. Endless options.

Get high-end performance in a compact device. Designed to pack more graphics and processing power into less space, you can easily take on 2D and 3D CAD projects. And with near endless configuration options, it's the ideal hardware option for custom solutions.¹



*Product image may differ from actual product

HP recommends Windows 10 Pro for business

Performance that defies space constraints.

Seamlessly render, design and run multiple apps with professional graphics and an Intel[®] Xeon[®] or Core[™] vPro^{®2} processor. With support for PCIe Gen 4 and designed for unthrottled performance, you can render in real-time and visualize projects faster.¹

Highly customizable to fit your needs.

Build a system matched exactly to your needs with over a million possible configurations. And with customizable
I/O ports, you can support new and legacy technologies, dynamic displays and even a second LAN—without
messy dongles or adapters.

Industry-leading security. Durability you can trust.

Backed by 360K hours of rigorous testing, military-standard testing,³ and software certifications, every
component is put to the test. And with hardened security features, your Z2 SFF is protected from the BIOS to the
browser, above and below the OS.

Access your Z2 SFF from anywhere.

- Tap into the power of your Z2 SFF from anywhere and on almost any device with HP ZCentral Remote Boost.⁴ Get fast responsiveness and exceptional image quality on demanding projects. Seamlessly collaborate with dispersed teams, even on 3D models.
- Support your unique user needs with a choice of Windows 10 Pro 64⁵ or Linux[®] operating systems.
- Bring your ideas to life quickly and run multiple apps simultaneously with the latest Intel[®] Core[™] vPro^{®2} processors. For ultimate performance, choose the unlocked K-Series which allows for overclocking.⁶
- Run demanding professional apps with the latest Intel® Xeon® vPro® processors for powerful performance and
 productivity. And, avoid system crashes in the middle of your workflow with Error Correction Code memory.⁷
- Seamlessly render, design, and multitask on your biggest projects with a choice of up to NVIDIA[®] Quadro RTX[™] 3000 or AMD Radeon[™] Pro WX3200 graphics.
- Built with the environment in mind, this product contains recycled plastics, sustainably sourced packaging,⁸ ultra-efficient power consumption, and uses materials that meet GreenScreen[®] for Safer Chemicals' methodology standards.⁹
- Experience fast performance when working on complex design tasks with up to 128 GB DDR4 memory at an increased memory speed of up to 3200MHz. 10
- Store massive amounts of data with up to 20TB¹¹ of storage, 3 hard drive bays and 2 M.2 SSD slots. With
 increased storage bandwidth enabled by PCIe Gen 4 and double the external storage speed, you can download
 and access large files quickly.
- Configure to the needs today and adapt to the future. Options include DP 1.4, VGA, HDMI, Dual USB Type-A, USB Type-C[®] with Alt-DP or 2nd Serial and more.¹²
- Help keep your system clean while sitting on the factory floor or machining environment with the front-access dust filter.¹³
- Evolve your work. Evolve your rig. With tool-less access to the interior, you can customize your Z to fit your needs.
- Multiple PSU options, including the 450W PSU, enable increasing need for GPU, even with the highest power CPUs and rich configurations.¹⁴
- Our engineers have custom tuned your PC to ensure peak performance for your heaviest workloads. Now you're
 ready to take on any task.¹⁵

HP Z2 Small Form Factor G8 Workstation Specifications Table







*Product image may differ from actual product

Available Operating Systems	Windows 10 Pro 64 – HP recommends Windows 10 Pro for business ¹ Windows 10 Pro 64 High End ¹ Windows 10 Pro for Workstations ^{1,2} Windows 10 Home 64 Plus ¹ Windows 10 Home 64 Advanced ¹ Linux [®] Ready ³ Ubuntu 20.04 LTS ²⁷		
Processor family ⁴	11th Generation Intel® Core™ i5 processor; 11th Generation Intel® Core™ i7 processor; 11th Generation Intel® Core™ i9 processor		
Available Processors ^{4,5,6}	Intel® Core™ i9-11900K with Intel® UHD Graphics 750 (3.5 GHz base frequency, up to 5.3 GHz with Intel® Turbo Boost Technology, 16 MB L3 cache, 8 cores), supports Intel® VPro® Technology; Intel® Core™ i9-11900F (2.5 GHz base frequency, up to 5.2 GHz with Intel® Turbo Boost Technology, 16 MB L3 cache, 8 cores), supports Intel® VPro® Technology; Intel® Core™ i7-11700 K with Intel® UHD Graphics 750 (2.5 GHz base frequency, up to 5.2 GHz with Intel® Turbo Boost Technology, 16 MB L3 cache, 8 cores), supports Intel® VPro® Technology; Intel® VPro®		
Chipset	Intel® WS80		
Form factor	Small form factor		
Maximum memory	128 GB DDR4-3200 ECC SDRAM; 128 GB DDR4-3200 non-ECC SDRAM Transfer rates up to 3200 MT/s.		
Memory slots	4 DIMM		
Internal storage	500 GB up to 2 TB 7200 rpm SATA HDD ⁷ 1 TB up to 8 TB 7200 rpm Enterprise SATA HDD ⁷ up to 500 GB 7200 rpm SE HDD ⁷ 256 GB up to 2 TB PCle [®] NVMe [™] TLC M.2 SSD ⁷ 256 GB up to 2 TB HP Z Turbo Drive PCle [®] NVMe [™] TLC M.2 SSD ⁷ 256 GB up to 2 TB HP Z Turbo Drive PCle [®] NVMe [™] SED Opal 2 TLC M.2 SSD ⁷		
Optical drive	HP Slim DVD-R0M; HP Slim DVD-Writer ^{11,12}		
Available Graphics	Integrated: Intel® UHD Graphics 730; Intel® UHD Graphics 750; Intel® UHD Graphics P750 Discrete: AMD Radeon™ Pro WX 3200 (4 GB GDDR5 dedicated); NVIDIA® Quadro® P400 (2 GB GDDR5 dedicated); NVIDIA® Quadro RTX™ 3000 (6 GB GDDR6 dedicated); NVIDIA® T1000 (4 GB GDDR6 dedicated) ³²		
Audio	Realtek ALC3205-VA2-CG, 2.0W internal mono speaker		
Expansion slots	1 PCIe 3 x4 (x16 connector); 1 PCIe 3 x4 (x4 connector); 1 M.2 2230 PCIe 3 x1; 1 PCIe 4 x16; 1 M.2 2280 PCIe 4 x4; 1 M.2 2280 PCIe 3 x4; 1 PCIe 3 x1 (x1 connector) (1 M.2 2230 slot for WLAN and 2 M.2 2280 slots for storage)		
Ports and Connectors	Front: 2 SuperSpeed USB Type-A 10Gbps signaling rate; 1 universal audio jack; 2 SuperSpeed Type-A USB 5Gbps signaling rate (1 charging); 1 Type-C SuperSpeed® USB 20Gbps signaling rate (1 charging) Rear: 1 audio-out; 1 RJ-45; 2 DisplayPort™ 1.4; 2 SuperSpeed USB Type-A 10Gbps signaling rate; 1 SuperSpeed USB Type-A 5Gbps signaling rate; 3 USB Type-A 480Mbps signaling rate Optional Ports: Flex IO – choose one of the following options: 1 DisplayPort™ 1.4, 1 HDMI 2.0b, 1 VGA,1 2nd 1GbE LAN, 1 Dual SuperSpeed USB Type-A 5Gbps signaling rate, 1 SuperSpeed USB Type-C® 10Gbps signaling rate (1SW USB Power Delivery, Alt Mode DisplayPort™) 1 Thunderbolt™ 3 with SuperSpeed USB Type-C® 40Gbps signaling rate (cabled to PCle® AIC); Front – 1 SD card reader: Rear – 1 serial ⁶		
Input devices	HP USB Premium keyboard; HP Premium Wireless keyboard; HP Wireless Business Slim Keyboard and mouse combo; HP Wired Desktop 320MK Mouse and Keyboard; HP Wired Desktop 320MK Mouse and Keyboard; HP Wired Desktop 320K Keyboard ⁹ ; HP USB Premium Mouse; HP Wireless Premium Mouse; HP Wired 320M Mouse ⁹ ;		
Communications	LAN: Intel® 1219-LM GbE; Intel® 1350-T2 dual-port GbE NIC; HP 10 GbE SFP+ SR Transceiver; Intel® X710-DA2 dual-port 10GbE SFP+ NIC; Aquantia AQN-108 1-port 5GbE NIC; Intel® Ethernet Network Adapter 1225-T1; Intel® X550-T2 dual-port 10GbE NIC; WLAN: Intel® Wi-Fi 6 AX201 (2x2) and Bluetooth® 5 combo ^{10,28,29,30} .		
Drive Bays	One 3.5" HDD; One slim ODD; Two M.2 NVME 2280 SSD; One 2.5" HDD; One 3.5" HDD		
Software	HP PC Hardware Diagnostics UEFI; HP Performance Advisor; HP Support Assistant; HP PC Hardware Diagnostics Windows; ZCentral Remote Boost; HP Desktop Support Utilities; HP Image Assistant; HP Notifications; My HP; HP QuickDrop ^{15,16,17}		
Security management	HP Secure Erase; HP Power On Authentication; HP Sure Click; Windows Defender; HP Sure Sense; HP BIOSphere Gen6; HP Client Security Manager Gen7; HP Sure Start Gen7; HP Sure Run Gen4; HP Sure Recover Gen4 ^{19,20,21,22,23,24,25,26}		
Security Software Licenses	HP Pro Security Edition (select models) ⁵⁶		
Management features	HP Driver Packs; HP Management Integration Kit for Microsoft System Center Configuration Management Gen4; HP System Software Manager (download); HP BIOS Configuration Utility (download) ¹⁸		
Power	260 W 92% efficient, wide-ranging, active PFC; 450 W 90% efficient, wide-ranging, active PFC		
Dimensions	33.8 x 30.8 x 10 cm (Standard desktop orientation.)		
Weight	Starting at 5.4 kg (Exact weight depends on configuration.)		
Energy efficiency compliance	ENERGY STAR® certified; EPEAT® Gold registered in US ¹³		
Sustainable impact specifications	Ocean-bound plastic in speaker enclosure; 45% post-consumer recycled plastic; 25% ITE-derived closed loop plastic; Bulk packaging available; 80 Plus® Gold power supplies available; Molded paper pulp cushion inside box is 100% sustainably sourced and recyclable ¹⁴		
Compatible displays	All HP Z Displays and HP DreamColor Displays are supported. For more information see www.hp.com/go/zdisplays		

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Accessories and services (not included)

8GB (1x8GB) 3200 DDR4 ECC UDIMM	11429,0498	Product number: 141J3AA
HP Wireless Premium Mouse		Create a sleek, professional, clutter-free workspace and give yourself room to move around with the HP Wireless Premium Mouse, which integrates seamlessly with your HP notebook. Product number: 1JR31AA
HP DisplayPort to HDMI True 4K Adapter		Make the most of the available ports on your HP Business Desktop or HP Workstation with the HP DisplayPort to HDMI True 4K Adapter, which converts your DisplayPort™ output to HDMI for quick and easy connection to a range of multimedia devices that can support 4K resolution and 60hz refresh. Product number: 2JA63AA
HP 1TB SATA 6Gb/s 7200 Hard Drive		SATA 7200 rpm drives are our standard high bandwidth hard drive storage options; most workstation models are also available with high performance 10K rpm rotation speeds. Storage capabilities range up to a massive 2.0 TB. Product number: LQ037AA
HP Wireless Premium Keyboard		Boost your productivity and work comfortably at your desk or across the room with the elegant, redesigned, anodized aluminum-trimmed HP Wireless Premium Keyboard. Product number: Z9N41AA
HP 5-year Next Business Day Onsite Workstation Only Hardware Support	HP Care Pack	Receive 5 years of next business day onsite repair from an HP-qualified technician for your computing device, if the issue cannot be solved remotely. For more information on Care Pack services, please visit www.hp.com/go/cpc. Product number: U7944E

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Messaging Footnotes

¹ Based on HPs internal analysis of non-gaming small form factor desktop workstations with a minimum 3 ISV certs, configurable professional graphics, and a dedicated workstation brand as of April 2021. Power based on processor, graphics, memory, and powe

¹ Based on HP's internal analysis of non-gaming small torm factor uses to wrond status of the supply.
 ² VPro[®] is available on Intel[®] Core[™] i5-11500 and above processors. vPro[®] is available on all Intel[®] Xeon[®] processors.
 ³ Undergoes MIL-STD testing. MIL-STD testing is not intended to demonstrate fitness for U.S. Department of Defense contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Service.
 ⁴ HP Zentral Remote Boost does not come preinstalled on Z Workstations but can be downloaded and run on all Z desktop and laptops without an additional license purchase. When you purchase a Z device, you get an embedded license. With non-Z sender devices, it is a perpetual or floating license. Zcentral Remote Boost requires a Windows (10 or 7 SP2), RHEL (6, 7 or 8), UBUNTU 18.04 LTS, or HP ThinPro operating system. MacOS (10.13 or newer) operating system is only supported on the receiver side. Requires network access. The software is available for download at h_com/ZcentralRemoteBoost.
 ⁵ Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows 10 is automatically updated, which is always enabled. SP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com.
 ⁶ Attering clock frequency or voltage may damage or reduce the useful life of the processors.
 ⁸ To Correction Code (ECC) memory requires Intel[®] Xeon[®] processors.
 ⁸ 100% outer box packaging made from sustainably sourced certified and recycled fibers. Fiber cushions made from 100% recycled wood fiber and organic material. Any plastic cushions are made from >90% recycled plastic.

Based of TEEE 1680.1-2018 Statuants.
 Memory speed increase is compared gen/gen.
 For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB is reserved for system recovery software.
 Flexible I/O needs to be configured at time of purchase.
 Sold separately or as an optional feature.

¹⁴ Optional feature that must be configured at purchase.
¹⁵ Intel DTT only enabled on Intel[®] Xeon[®] 8-core 80W and Intel[®] Core™ 8-core 65W processors.

Technical Specifications Footnotes

¹ Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com
 ² Some devices for academic use will automatically be updated to Windows 10 Pro Education with the Windows 10 Anniversary Update. Features vary; see https://aka.ms/ProEducation for Windows 10 Pro Education feature information.
 ³ For detailed OS/hardware support information for Linux, see http://www.windows.com
 ⁴ Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering, branding and/or naming is not a measurement of higher performance.
 ⁵ For full linet/ Vero⁴ functionality. Windows 10 Pro 64 bits, a VPro supported processor. VPro enabled clopset, vPro enabled clopset,

Finel Turbo Boost performance varies depending on hardware, software and overall system configuration. See http://www.intel.com/technology/turboboost for more information.

⁹ Intel Jurba Boost performance vanes depending on hardware, software and overall system configuration.
 ⁹ For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. At all formatted capacity is less. Up to 36GB of system disk ffor Windows 10 is reserved for system recovery software.
 ⁸ Flex ID port and one PCle slot will be occupied when Thunderbolt is installed. Thunderbolt will be available in Q3, 2021.
 ⁹ Keyboard and Mouse are optionalor add on fastruses. The HP Antimicrobial Keyboard and HP Antimicrobial Mouse are only available in China.
 ¹⁰ HP 10 GbE SFP+ SR Transceiver - only offered with Intel X710.
 ¹¹ Duplication of copyrighted material is strictly prohibited. Actual speeds may vary. Double Layer media compatibility will widely vary with some home DVD players and DVD-ROM drives. Note that DVD-RAM cannot read or write to 2.6GB Single Sided/5.2 Double Sided-Version 10. Media.
 ¹² With Blu-Ray, certain disc, digital connection, compatibility and/or performance issues may arise, and do not constitute defects in the product. Flawbess playback on all systems is not guaranteed. In order for some Blu-ray titles to play, they may require a DVI or HOM divises. Disented on utiles to may use on the D-DVD movies cannot be alaved on this Desktop PC.

¹⁴ with sub-ray, certain loss, ouglicat commetcion, compacting on point construction and systems is not guaranteed. In order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some stud-ray titles to play, they may require a DV order for some studers to play.
 ¹⁴ External power cords, cales and peripheral are not to Malogen.
 ¹⁵ HP Zcentral Remote Boost does not come preinstalled on Z Workstations but can be downloaded and run on all Z desktop and laptops without license purchases. With non-Z sender devices, purchase of perpetual individual license or perpetual floating license per simultaneously executing vestions and purchase of Zoentral Remote Boost Software Support is required. AGS requires Windows, RHEL (7 or 8), UBUNTU 18.04 LTS, or HP ThinPro Toperating systems. MacOS (10.13 or newer) operating system is only supported on the receiver simulations for the comparison at the comparison and very day after. Learn more or download at https://www8.hp.com/us/en/workstations/performa

advisor.html

¹⁷ HP Support Assistant requires Windows and Internet access

¹⁷ HP Support Assistant requires Windows and Internet access.
 ¹⁸ HP Manageability Integration Kit can be downloaded from http://www8.hp.com/us/en/ads/clientmanagement/overview.html
 ¹⁹ HP Olosphere Gen6 features may vary depending on the platform and configurations.
 ²¹ HP Sure Click requires Windows 10 Pro or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.
 ²² HP Sure Click requires Mindows 10 Pro or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.
 ²³ HP Sure Click requires Mindows 10 Pro or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.
 ²⁴ HP Sure Click requires windows 10 Pro or Enterprise. See https://bit.ly/2PrLT6A_SureClick for complete details.
 ²⁵ HP Sure Click requires windows 10 Pro or Enterprise. See https://bit.ly/2PrLT6A_SureClick for Complete details.
 ²⁶ HP Sure Start Gen7 is available on select HP PCs and workstations. See product specifications for availability.
 ²⁶ HP Sure Recover Gen4 is available on select HP PCs. and requires an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.
 ²⁶ Serure Facea_e. For the methods vultimed in the National Details and exact and Tachonal processors.
 ²⁶ HP Sure Recover Gen4 is available on select HP CS. and requires an open network connection. You must back up important files, data, photos, videos, etc. before using HP Sure Recover to avoid loss of data.
 ²⁶ Serure Facea_e. For the methods vultimed in the National Details and Startion BOAB "Click" canadition method. HP Serue Facea does not support platforms with holde?

²⁵ Secure Erase - For the methods outlined in the National Institute of Standards and Technology Special Publication 800-88 "Clear" sanitation method. HP Secure Erase does not support platforms with Intel® Optane.
²⁶ HP Sure Sense requires Windows 10 Pro or Enterprise and supports Microsoft Internet Explorer, Google Chrome™, and Chromium™. Supported attachments include Microsoft Office (Word, Excel, PowerPoint) and PDF files in read only mode, when Microsoft Office

²⁶ HD Sure Sense requires Windows 10 Pro or Enterprise and supports Microsoft Internet Explorer, Google Chrome¹⁴⁴, and Chromium¹⁴⁴. Supported attachments include Microsoft Office (Word, Excel, PowerPoint) and PDF files in read only mode, when Microsoft O r Adobe Acrobat are installed.
²⁷ A certified preloaded version of Ubuntu⁶ 20.04 LTS is available from HP for this platform.
²⁸ Wire Fig is backwards compatible with prior 802.11 specifications of the 902.11 ax WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the PC to communicate with 802.11 ax WLAN devices. Wire Fi G requires a wireless router, sold separately, that supports 802.11 ax (WI-Fi G). Only available in countries where 802.11 ax is supported.

³⁰ Intel[®] I225 and Intel[®] X710 will be available in Q3, 2021

54 HP Pro Security Edition is available preloaded on select HP PCs and includes HP Sure Click Pro and HP Sure Sense Pro. 3-year license required. The HP Pro Security Edition software is licensed under the license terms of the HP End User License Agreement (EULA) that can be found at https://h30670.www3.hp.com/ecommerce/common/disclaimer.doi#EN_UD3 as modified by the following: 7. Term. Unless otherwise terminated earlier pursuant to the terms contained in this EULA, the lense for the HP Pro Security Edition (HP Sure Sense Pro and HP Sure Click Pro) is effective upon activation and will continue for thirty-six (36) months thereafter ("Initial Term"). At the end of the Initial Term you may either (a) purchase a renewal license for the HP Pro Security Edition for HP.com, HP Sales or an HP Channel Patrner or (b) continue using the standard up wersions of HP Sure Sense at no additional cost with no future software updates or HP Surp Security Edition software dorf the MP Pro Security Edition for HP.com, HP Sales or an HP Channel Patrner or (b) continue using the standard up wer Click and HP Sure Sense at no additional cost with no future software updates or HP Pro Security Edition software dorf the MP Pro Security Edition is pre-configured – manageability is optional. The HP Pro Security Edition software at the software updates or HP Support."

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