# HP Z2 Mini G9 Workstation Desktop PC



Get incredibly high performance packed into an insanely petite PC. It easily fits on your desk or behind your monitor so you can tackle 3D projects without losing valuable office space. And, with a sleek new look, it's the perfect choice for the modern workplace —at home or the office.



\*Картинката може да не отговаря на продукта

HP recommends Windows 11 Pro for business

### Unprecedented Z mini power<sup>2</sup>

 Tackle workflows you never thought possible on such a sleek, tiny PC. Now, get standard low-profile NVIDIA® RTX graphics in a Z2 Mini, combined with Intel<sup>®</sup> Core<sup>™</sup> processors, including K-Series, for seamless design, rendering and simulation.

### Fits anywhere

 Create your ideal workspace whether you're working in an office or your home. With a versatile, contemporary design, proudly set it on your desk, mount it behind your monitor, attach it under your desk or rackmount it in your datacenter<sup>3</sup>—even take it to and from the office.

#### Engineered to evolve

The Z2 Mini is ready to evolve with your workflow. A new slide-out design provides tool-free interior
access to standard-sized components so you can easily swap graphics and memory. Easily connect
to essential peripherals with plenty of built-in I/O.

### Industry leading security. Reliability you can trust

- Get peace of mind with a PC that's built to endure. The Z2 Mini undergoes 360K hours of rigorous testing, military-standard testing<sup>5</sup> and is certified for pro apps. And with HP Wolf Security for Business<sup>4</sup>, it's protected below, in and above the OS.
- Support your unique user needs with a choice of Windows 11 Pro, WSL2 or Linux<sup>®</sup> operating systems.<sup>6</sup>
- Bring your ideas to life quickly and run multiple apps simultaneously with the latest Intel<sup>®</sup> Core<sup>™</sup> vPro<sup>®7</sup> processors. For added performance, choose the K-Series.<sup>8</sup>
- Design, render and simulate seamlessly with up to NVIDIA RTX A2000 graphics with PCIe G5 high speed bandwidth.  $^{9}$
- Experience fast performance when working on complex design tasks with 2 DIMMS for up to 64GB DDR5 memory at an increased memory speed of up to 4800MHz.<sup>10</sup>
- Get up to 8TB with dual M.2 storage slots and RAID data storage capabilities for added performance
  or reliability.<sup>11</sup>
- Configure to the needs of today with flexibility for the future with up to two flexible I/O ports and 13 I/O options to fill them with, including DP 1.4, VGA, HDMI, Dual USB Type-A, USB Type-C<sup>®</sup> with Alt-DP or 2nd Serial and more.<sup>12</sup>
- See all your windows in perfect detail with support for up to 8 displays at 4K resolution<sup>13</sup>
- Experience higher Wi-Fi<sup>®</sup> bandwidth and more reliable connections on congested networks with full
  performance Wi-Fi 6E<sup>14</sup> with the Z2 Mini internal antenna.
- Work with confidence knowing your desktop is certified with leading software applications to ensure peak performance.<sup>15</sup>
- HP Wolf Security for Business<sup>16</sup> creates a hardware-enforced, always-on, resilient defense. From the BIOS to the browser, above, in, and below the OS, these constantly evolving solutions help protect your PC from modern threats.
- Evolve your work. Evolve your rig. With a tool-less sliding access cover, you can easily get into the the interior, and customize your Z to fit your needs.
- Connect and collaborate quickly with 10Gb Ethernet interface.



## HP Z2 Mini G9 Workstation Desktop PC Таблица със спецификации







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Налични операционни системи	Windows 11 Pro <sup>1</sup> Windows 11 Home – HP recommends Windows 11 Pro for business <sup>1</sup> Windows 10 Pro (available through downgrade rights from Windows 11 Pro) <sup>1,3</sup> Linux <sup>®</sup> Ready Ubuntu 20.04 LTS <sup>25</sup>	
Клас на процесора	12th Generation Intel® Core™ i7 processor; 12th Generation Intel® Core™ i9 processor; 12th Generation Intel® Core™ i3 processor; 12th Generation Intel® Core™ i5 processor	
Налични процесори	Intel® Core™ I5-12400 with Intel® UHD Graphics (2.5 GHz P-core base frequency, up to 4.4 GHz P-core Max Turbo frequency, 12 MB L3 cache, 4 P-cores, 12 threads); Intel® Core™ i3-12100 with Intel® UHD Graphics (3.3 GHz P-core base frequency, up to 4.4 GHz P-core Max Turbo frequency, 12 MB L3 cache, 4 P-cores, 3 threads); Intel® Core™ i3-12100 with Intel® UHD Graphics (3.3 GHz P-core base frequency, up to 4.4 GHz P-core Max Turbo frequency, 12 MB L3 cache, 4 P-cores, 3 threads); Intel® Core™ i3-12100 with Intel® UHD Graphics (3.3 GHz P-core base frequency, up to 3.8 GHz P-core Max Turbo frequency, 12 MB L3 cache, 4 P-cores, 3 threads); Intel® Core™ i3-12100 with Intel® UHD Graphics (3.4 GHz P-core base frequency, up to 3.8 GHz E-core base frequency, 12 MB L3 cache, 4 P-cores Max Turbo frequency, up to 5.1 GHz with Intel® Turbo Boost Technology, 30 MB L3 cache, 8 P-cores and 8 E-core, 24 threads); Intel® Core™ i5-12600K with Intel® UHD Graphics (2.5 GHz E-core base frequency, up to 5.2 GHz P-core Max Turbo frequency, up to 4.9 GHz E-core Max Turbo frequency, up to 3.2 GHz P-core Max Turbo frequency, up to 4.4 GHz P-core Max Turbo frequency, up to 4.9 GHz E-core Max Turbo frequency, up to 3.2 GHz P-core Base frequency, up to 3.6 GHz E-core Max Turbo frequency, UP to 4.9 GHz E-core Max Turbo frequency, UP to 4.9 GHz E-core Max Turbo frequency, UP to 4.9 GHz E-core Max Turbo frequency, 20 MB L3 cache, 6 P-cores, 12 threads); Intel® Core™ i5-12500 with Intel® UHD Graphics (3.0 GHz P-core Base frequency, up to 3.6 GHz P-core Max Turbo frequency, UP to 4.9 GHz P-core Max Turbo frequency, UP to 4.9 GHz P-core base frequency, up to 3.6 GHz P-core Max Turbo frequency, up to 5.0 GHz P-core Max T	
Форм-фактор	Mini	
Максимална памет	64 GB DDR5-4800 ECC SDRAM; 64 GB DDR5-4800 non-ECC SDRAM <sup>18</sup> ##memmax_02## ##memspd_02## ##memtype_02## ##memmax_03## ##memspd_03## ##memtype_03## Transfer rates up to 4800 MT/s. Transfer rates up to 4800 MT/s.	
Слотове за памет	2 SODIMM	
Вътрешно съхранение	S12 GB до 4 TB HP Z Turbo Drive PCle® NVMe™ M.2 SSD <sup>8</sup> S12 GB до 4 TB HP Z Turbo Drive PCle® NVMe™ Opal 2 M.2 SSD <sup>8</sup> 2S6 GB до 1 TB PCle® NVMe™ Value M.2 SSD	
Налични графични карти	Discrete: NVIDIA® T400 4 GB; NVIDIA® T1000 8 GB; NVIDIA RTX™ A2000 12GB; NVIDIA® T400 2 GB; NVIDIA® T600 4 GB; NVIDIA® T1000 4 GB <sup>7</sup>	
Аудио	Realtek ALC3205-VA2-CG, 2.0W internal mono speaker	
Разширителни слотове	2 M.2 2280 PCle 4 x4; 1 M.2 2230 for WLAN; 1 PCle <sup>®</sup> 4 x8 (PCle Low Profile connector)	
Портове и съединители	Side: 1 headphone/microphone combo; 1 SuperSpeed USB Type-A 10Gbps signaling rate (1 charging); 2 SuperSpeed USB Type-C <sup>®</sup> 20Gbps signaling rate ; Rear: 1 RI-45; 2 DisplayPort <sup>™</sup> 1.4; 3 SuperSpeed USB Type-A 10Gbps signaling rate <sup>14</sup> ; Допълнителни портове: Flex 10 left side – choose one of the following options: 1 DisplayPort <sup>™</sup> 1.4 HBR3, 1 HDMI 2.0b, 1 VGA, 1 Dual SuperSpeed USB Type-A 5Gbps signaling rate, 1 SuperSpeed USB Type-C <sup>®</sup> 10Gbps signaling rate (USB Power Delivery, Alt Mode DisplayPort <sup>™</sup> 1.4 HBR3, 1 HDMI 2.0b, 1 VGA, 1 Dual SuperSpeed USB Type-A 5Gbps signaling rate, 1 SuperSpeed USB Type-C <sup>®</sup> 10Gbps signaling rate (USB Power Delivery, Alt Mode DisplayPort <sup>™</sup> ), 1 GbE LAN, 1 Thunderbolt <sup>™</sup> 3 (40Gbps signaling rate) with SuperSpeed USB Type-C <sup>®</sup> 10Gbps signaling rate, 2.5 GbE LAN. 10GbE LAN(10GBase-T), USB-based Serial port option, 1GbE Fiber LC NIC; Optional cards with PCIe bracket <sup>24</sup>	
Входни устройства	HP Wired Desktop 320K keyboard; HP Wired Desktop 320MK Mouse and Keyboard; HP 125 Wired Keyboard; HP 655 Wireless Keyboard and mouse combo; HP 975 Wireless Keyboard; HP 475 Wireless Keyboard; HP 475 Wireless Keyboard; HP 475 Wired State Steyboard; HP 475 Wired State Steyboard; HP 475 Wireless Keyboard; HP 475 Wired Steyboard; H	
Комуникации	LAN: Integrated Intel® I219-LM PCIe® GbE; Allied Telesis AT-291117/2-901 dual-port 1GbE NIC ; WLAN: Intel® Wi-Fi 6E AX211 (2x2) and Bluetooth® 5.3 wireless card <sup>26</sup> ,	
Софтуер	HP PC Hardware Diagnostics UEFI; HP Support Assistant; HP PC Hardware Diagnostics Windows; ZCentral Remote Boost; HP Image Assistant; HP Manageability Integration Kit; Performance Advisor 3.0; <sup>11,16,19,27</sup>	
Управление на сигурността	HP Secure Erase; HP Sure Click; HP BIOSphere Gen6; HP Sure Admin; Hood Sensor Optional Kit; HP Client Security Manager Gen6; HP Sure Start Gen7; HP Sure Recover Gen4; HP Sure Sense Gen2; HP Sure Run Gen5; <sup>44,10,12,13,15,20,21,22,23</sup>	
Лицензи за софтуер за сигурност	HP Wolf Pro Security Edition <sup>56</sup>	
Захранване	180 W external power adapter, up to 89% average efficiency, active PFC; 280 W external power adapter, up to 89% average efficiency, active PFC	
Размери	21.1 x 21.8 x 6.9 cm; (Standard desktop orientation.)	
Тегло	Starting at 2.4 kg; (Exact weight depends on configuration.)	
Екомаркировка	IT ECO Declaration; TCO Certified configurations available; EPEAT $^{ m e}$ Gold registered in the U.S. $^{17}$	
Сертифицирано по Energy star (серията е фиксирана)	ENERGY STAR* certified	
Спецификации на устойчивото въздействие	45% post-consumer recycled plastic; 25% ITE-derived closed loop plastic; Bulk packaging available; 80 Plus <sup>®</sup> Gold power supplies available; Molded paper pulp cushion inside box is 100% sustainably sourced and recyclable; Ocean-bound plastic in speaker enclosure and system fan; Contains recycled metal <sup>23</sup>	
Съвместими дисплеи	HP Z34C, Z40C, Z27Q G3, Z27K, and Z27XS G3 4k: All HP Z Displays and HP DreamColor Displays are supported. For more information see http://www.hp.com/go/zdisplays (Supports 8 displays, driving 8 displays requires the use of integrated and discrete graphics ports. Each source can drive a total of 4 displays. At least one of the integrated graphics ports need to drive two displays in a daisy chain configuration.)	

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Аксесоари и услуги (не са включени)

Безжична мишка HP 935 Creator	Насладете се на безпроблемна и непрекъсната креативност с мишка, която е проектирана за творчество. Творете на воля с програмируеми бутони, ергономичен дизайн и живот на батерията до 12 седмици <sup>1</sup> . Подобрете творческия си процес чрез сдвояване на до 3 устройства и се насладете на свободата да работите на всяка една повърхност със сензор за проследяване върху стъкло. Номер на продукт: 1DOK8AA <sup>1</sup> <sup>1</sup> Действителният живот на батерията варира в зависимост от използването и условията на околната среда, и намалява с времето и употребата. <sup>2</sup> Възможно благодарение на софтуера HP Accessory Center. Софтуерът HP Accessory Center е достъпен за изтегляне от Microsoft Store или Apple Store.
HP Z2 Mini Vertical Stand	Maximize your workspace with the HP Z2 Mini Vertical Stand that positions your HP Z2 Workstation Mini in a stable vertical orientation for use in space-constrained environments and standing desks. Номер на продукт: 4N006AA
NVIDIA T1000 8 GB 4mDP Graphics	Номер на продукт: 5Z7D8AA
HP Z2 Mini G9 Rail Rack Kit	Номер на продукт: 6С1U0AA

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#### Бележки под линия за съобщенията

<sup>1</sup> Multi-core 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 is not a measurement of higher performance. <sup>2</sup> Power based on HP 2 mini max processor, graphics, and memory.

<sup>8</sup> Mounting hardware sold seperately.

<sup>4</sup> HP Wolf Security for Business requires Windows 10 or higher, includes various HP security features and is available on HP Pro. Elite, RPOS and Workstation products, See product details for included security features and OS requirement

<sup>1</sup> HP Wolf Security for Business requires Windows 10 or higher, includes various HP security heatures and is available on HP Pro, Elite, RPUS and Workstation products. See product details for included security heatures and US requirement. <sup>5</sup> MLS To 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 Protection Care Pack. <sup>6</sup> Not al 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 11 Pro is automatically updated, which is always enabled. JSP fees may apply and additional requirements may apply over time for updates. See http://www.windows.com. <sup>7</sup> For full Intel<sup>®</sup> vPro<sup>®</sup> functionality, Windows 11 Pro 64 bit, a vPro supported processor, vPro enabled wired LAN and/or WLAN card and TPM 2.0 are required. Some functionality requires additional art party software in order to run. See

http://intel.com/vpro

<sup>8</sup> 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

hardware and software configurations. Intel's numbering, branding and/or naming is not a measurement or ingree performance. <sup>10</sup> Gen over gen. <sup>11</sup> For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 35GB of disk is reserved for system recovery software. <sup>12</sup> Optional features that must be configured at purchase or are sold separately. <sup>13</sup> Support for up to 8 displays requires intel® HD graphics and a discrete graphics card. <sup>14</sup> Wi-Fi GE is an optional feature that must be configured at purchase. Wi-Fi GE requires a Wi-Fi GE router, sold separately, to function in the GGHz band. Availability of public wireless access points limited. Wi-Fi GE is backwards compatible with prior 802.11 specs. And <sup>14</sup> Wi-Fi GE is no puttored Wi-Fi GE is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported. available III counties where were to a support ex. 15 Third party software sold separately. 15 Third party software sold separately. 16 HP Wolf Security for Business requires Windows 10 or higher, includes various HP security features and is available on HP Pro, Elite, RPOS and Workstation products. See product details for included security features and OS requirement.

#### Бележки под линия за технически спецификации

<sup>1</sup> 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 11 is automatically updated.

<sup>1</sup> Not all teatures are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIUS update to take full advantage of Windows functionality. Windows 11 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.
<sup>2</sup> 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.
<sup>3</sup> This system is preinstalled with Windows 10 Pro software and also comes with a license for Windows 11 Pro software and provision for recovery software. You may only use one version of the Windows software at a time. Switching between versions will require you to unistall one version and install the other version. You must back up all data (files, photos, etc.) before uninstalling and installing operating systems to avoid loss of your data.
<sup>4</sup> HP Client Security Manager Gen requires Windows and is available on the select HP PCs.
<sup>5</sup> Sec full late/or Window Window Windows Windows PCs.

5 For full Intel® vPro™ functionality. Windows 11 Pro 64 bit, a vPro supported processor, vPro enabled chipset, vPro enabled wired LAN and/or WLAN card and TPM 2.0 are required. Some functionality requires additional 3rd party software in order to run. See http://intel.com/vpro

http://ntel.com/vpro
 forlet Turb Boost performance varies depending on hardware, software and overall system configuration. See http://www.intel.com/technology/turboboost for more information.
 NVIDIA® T400 (2 GB GDDR6 dedicated) may go End of Life in late 2022.
 For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 36GB of system disk (for Windows 11) is reserved for system recovery software.
 Keyboard and Mouse are optional or add on features.
 IP BIOSphere Gen6 features may vary depending on the platform and configurations.
 HP BIOSphere Gen6 features may vary depending on the platform and configurations.
 HP BIOSphere Gen6 features and Internet access.

<sup>12</sup> HP Sure Click requires Windows 10 Pro or higher or Enterprise. See https://bit.ly/2PrLT6A\_SureClick for complete details.
<sup>13</sup> HP Sure Start Gen 6 is available on select HP PCs and workstations. See product specifications for availability.

<sup>13</sup> HP Sure Start Gen 6 is available on select HP VCs and workstations. See product specifications for availability.
 <sup>14</sup> 3 DisplayPoint 14 in Performance Mode with discrete graphics.
 <sup>15</sup> HP Sure Run Gen3 is available on select Windows 11 based HP Pro, Elite and Workstation PCs with select Intel® or AMD processors.
 <sup>16</sup> HP Performance Advisor Software - HP Performance Advisor is ready to help you get the most out of your HP Workstation from day one—and every day after. Learn more or download at: http://hp.com/PerformanceAdvisor
 <sup>17</sup> Based on US EPEAP<sup>®</sup> registration according to IEEE 1680. - 12018 EPEAP<sup>®</sup>.
 <sup>18</sup> Non-ECC memory is supported on all processors. ECC is only enabled on the following: Intel® Core<sup>™</sup> I9-12900 Intel® Core<sup>™</sup> I7-12700 Intel® Core<sup>™</sup> I5-12600 Intel® Core<sup>™</sup>

<sup>18</sup> Non-ECC memory is supported on all processors. ECC is only enabled on the following: Intel<sup>®</sup> Core<sup>™</sup> i9–12900 Kintel<sup>®</sup> Core<sup>™</sup> i9–12900 Kinte<sup>®</sup> Core<sup>®</sup> i9–12900 Kinte<sup>®</sup> i9–12900 Kinte<sup>®</sup> i9–12900 Kinte<sup>®</sup> i9–12900 Kinte<sup></sup>

or Adobe Acrobat are installed. <sup>23</sup> HP Sure Admin requires Windows 11, HP BIOS, HP Manageability Integration Kit from http://www.hp.com/go/clientmanagement and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store

<sup>21</sup> HP Sure Admin requires Windows 11, HP BIOS, HP Manageability Integration Kit from http://www.hp.com/go/clientmanagement and HP Sure Admin Local Access Authenticator smartphone app from the Android or Apple store.
 <sup>24</sup> Actual flex I/O choice depends on configuration selected.
 <sup>25</sup> Not all features are available in all editions or versions of Ubuntu. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS to take full advantage of Ubuntu functionality. Ubuntu may be automatically updated. ISP fees may apply and additional requirements may apply over time for updates.
 <sup>26</sup> Wr-Fi EF crouter, sold separately, to function in the 66Hz band. Availability of public wireless access points limited. Wi-Fi EE is backwards compatible with prior 802.11 specs. And available in countries where Wi-Fi 6E is supported.
 <sup>27</sup> HP Manageability Integration Kit can be downloaded from http://www8.hp.com/us/en/ads/clientmanagement/overview.html
 <sup>38</sup> External power supplies, power cords, cables and peripherals are not Low Halogen. Service parts obtained after purchase may not be Low Halogen.
 <sup>64</sup> HP Wolf Pro Security Edition including HP Sure Click Pon and HP Sure Click Pro and HP Sure Click Pois available preloaded on select SKUs and, depending on the HP product purchased, includes a paid 1-year or 3-year license. The HP Wolf Pro Security Edition software is licensed under the license terms of the HP Wolf Security Software - End-User license Agreement (EULA) that can be found at: https://support.hp.com/us-en/document/ish.3875769-3873014-16 as that EULA is modified by the following: "7. Term. Niless otherwise term/(Initial Term'). At the end of the Initial Term you may either (a) purchase a renewal license for the HP Wolf Pro Security Edition from HP.com, HP Sales or an HP Channel Partner, or (b) continue using the standa

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