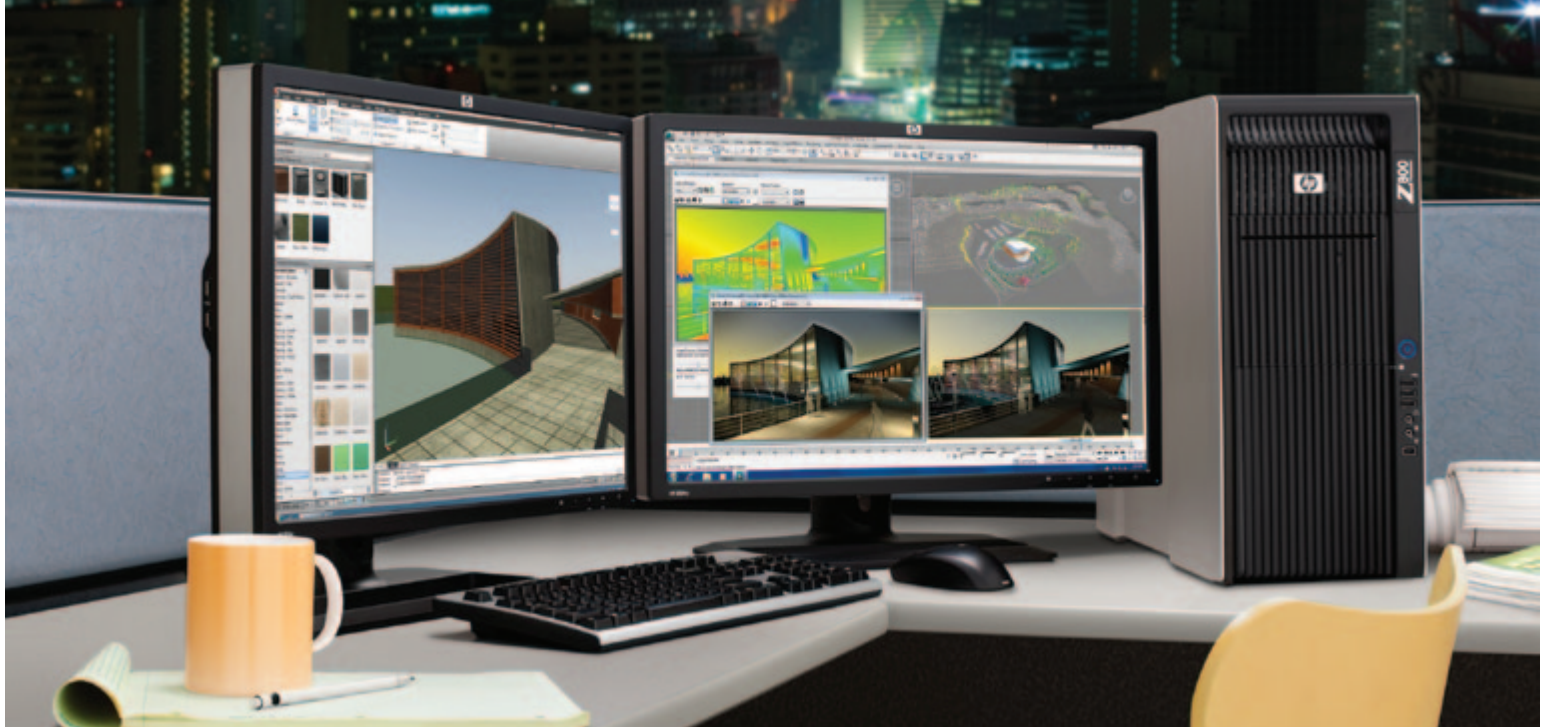# HP AND AUTODESK

Your built-in engineering edge

The HP commitment to innovation and solutions excellence, along with Autodesk® design software and the HP/Autodesk relationship, provides you with a significant engineering edge. It starts with the family of revolutionary, next-generation HP Z Workstations, designed to make complex design and rendering easier and faster than ever before.

The HP Difference

HP Z Workstations are engineered to optimize the way hardware and software components work together, delivering massive, whole-system computational power that helps maximize your productivity and make 3D design and visualization even faster and more efficient. This gives you an edge in five key areas:

- **Innovation:** Enjoy next-generation technology, including the award winning HP Z Workstation design, to help you create and visualize the most complex designs. This revolutionary design brings a tool-less chassis, advanced cooling, and choice of power with up to 90% efficient power supplies.

- **Performance**: Advanced compute and visualization power help speed your work, beat deadlines, and meet expectations. At the heart of HP Z Workstations are the new Intel® processors with advanced processor performance technologies, such as Intel® QuickPath, Intel® Hyper-Threading[1] and Intel® Turbo Boost[2]. Intel® Turbo Boost is designed to enhance the base operating frequency of processor cores, providing more processing speed for single and multi-threaded applications. The HP Z Workstation cooling design enhances this performance.

- **Reliability**: HP product testing includes application performance, graphics, and comprehensive ISV certification for maximum productivity. You can be confident in your HP and Autodesk solution.

- **Relationships**: HP resources and our relationships with Autodesk, graphics vendors, chip suppliers, and Microsoft provide a consistent application, operating system, hardware, and graphics technical direction. This results in broader, more dependable 3D application-oriented technology choices.

- **Personal productivity**: Only HP provides unique tools to improve workstation user productivity, including: HP Performance Advisor, a workstation software wizard with helpful advice on recommended settings and performance; and HP Remote Graphics Software, a high-performance real-time 3D screen sharing and remote access application.

HP and Autodesk

HP has a unique relationship with Autodesk, Inc., a world leader in 2D and 3D design software for the manufacturing, building and construction, and media and entertainment industries. More than nine million users rely on Autodesk tools to help them design, visualize, and simulate real-world performance early in the design process, save time and money, enhance quality, and foster innovation.

"Autodesk and HP have partnered to provide unparalleled design solutions to our customers in the building, manufacturing, and media and entertainment industries. In the increasingly global economy, design innovation has become even more critical—and together we are uniquely positioned to give our customers the solutions they need to compete."

Chris Bradshaw,
Chief Marketing Officer,
Autodesk

workstations.tv

Watch the video Amy Fietkau on Building Information Modeling

Watch the video Daryl Corelli on Digital Prototyping

Autodesk Architecture, Engineering and Construction Solutions

Autodesk helps AEC professionals deliver building and infrastructure projects faster and more economically, while minimizing environmental impact. With powerful tools for design, analysis, visualization, documentation, and construction, Autodesk Building Information Modeling (BIM) solutions support an intelligent model–based process that provides greater insight across the project lifecycle.

The Autodesk® Building Design Suite Premium, which includes the Autodesk® Revit® family of products, AutoCAD® building applications, and Autodesk® 3ds Max® Design, is the best way to access Autodesk's leading design and visualization tools for building projects in a single economical and convenient purchase. The Autodesk® Infrastructure Design Suite Premium, which includes AutoCAD, AutoCAD® Civil 3D®, AutoCAD® Map 3D, Autodesk® Navisworks® Simulate, and 3ds Max Design software, is the most comprehensive and sophisticated set of tools for transportation, land, water, and energy infrastructure projects. Learn more at: **www.autodesk.com/buildingdesignsuite** and **www.autodesk.com/infrastructuredesignsuite**.

Autodesk Manufacturing Solutions

From conceptual design to visualization and simulation, the Autodesk solution for Digital Prototyping provides the interoperable tools that allow manufacturing companies to connect their entire product development process through a single digital model, reducing the reliance on costly physical prototypes. Manufacturers can experience a complete product before it is built. The Autodesk® Product Design Suite provides tools for the product design workflow process including Autodesk® Inventor®, AutoCAD® Mechanical, Autodesk® Alias® Design, 3ds Max Design, Autodesk® Vault, Autodesk® SketchBook® Designer, Autodesk® Showcase®, and Autodesk® Mudbox™ software products. Learn more at: **www.autodesk.com/digitalprototyping**

Autodesk Design Visualization Solutions

Autodesk® 3ds Max® Design software provides powerful, integrated 3D modeling, animation, rendering, and compositing tools that enable artists and designers to more quickly ramp up for production. Using this specialized toolset for designers and engineers, you can demonstrate the operation of designs in real-world settings, providing seamless aggregation of CAD data and transforming digital prototypes into high-quality visuals. With an extensive material and texture library, "push-button" rendering, and cinematic-quality animation and effects, you have the ability to present your designs using Academy Award–winning technology.

HP provides more to Autodesk customers

- HP thoroughly tests and certifies each HP Workstation model for Autodesk applications.
- HP submits workstations to Autodesk for complete testing.
- Autodesk has standardized on HP Workstations and Mobile Workstations to develop, test, and demonstrate their applications.
- HP Workstation graphics are thoroughly tested to support Autodesk products.
- HP Remote Graphics Software enables users to share 3D screen images with others, as well as remotely access their own workstation.
- HP Performance Advisor offers special features to optimize the performance of Autodesk applications.
- HP technical experts who work with Autodesk are available to support customers and provide recommended configurations for specific Autodesk applications, based upon HP application testing.

Autodesk® Showcase® 3D visualization software helps product designers and engineers transform digital prototypes into highly realistic imagery and immersive, interactive presentations. Tight integration with Autodesk Inventor means you can evaluate material, finish, and model geometry alternatives.

Autodesk Government Solutions

For 25 years, Autodesk has been a key player to federal, state, and local governments in providing industry-leading 2D and 3D design software for transportation, utility, and building projects. The Autodesk portfolio of solutions delivers coordinated design data that is leveraged for more accurate documentation, energy analysis, sustainable design alternatives, and visualization that optimizes designs, improves performance, and provides visibility into projects before they are built.

Autodesk helps agencies be more productive, transparent and sustainable in order to meet mission-critical objectives while addressing challenges such as gaining public buy-in, regulatory changes, and aging infrastructure. Learn more at: **http://usa.autodesk.com/industries/government**.

The HP Z210 Workstation is the ideal solution for AutoCAD users.

"I love the HP EliteBook Mobile Workstation. It's so light and gives me all the performance I need for AutoCAD."

Lynn Allen,
Autodesk Evangelist

workstations.tv

Watch the video Lynn Allen on HP Z Workstations and AutoCAD

Your digital workbench

In addition to leading-edge hardware solutions, HP and Autodesk together offer a combination of applications, workstations, and personal productivity tools that combine to provide a complete digital workbench that saves you time. In addition to the HP Z Workstation, HP's key contributions to the digital workbench are:

- HP Remote Graphics Software
- HP Performance Advisor
- HP SpacePilot Pro
- HP Support Assistant

HP Remote Graphics Software

HP Remote Graphics Software (RGS) is an advanced 3D screen-sharing utility that allows remote access and workstation sharing. Using HP compression technology, HP RGS compresses the screen image and sends it to receiver software for decompression and display. The receiver captures keystrokes and mouse clicks for return to the workstation. HP RGS minimizes network usage and enables remote access without compromising performance or image quality. For engineers and designers looking to speed the design process, HP RGS enables real-time sharing of high-resolution imagery so creative teams from multiple remote sites can collaborate instantly, regardless of remote distances. For more information see the HP Remote Graphics Software Users Guide at **www.hp.com/go/rgs**.

HP Performance Advisor

Put the underlying power of HP Workstations at your fingertips, with powerful features that help maximize your hardware, applications, and productivity. Included with each HP Workstation, HP Performance Advisor makes it easy to keep your professional applications running smoothly by:

- Providing a detailed configuration report so you can easily see what's on your system.
- Organizing graphics driver certification information to help you make informed decisions when loading the latest drivers.
- Tracking memory use and graphically displaying how applications and processes use physical and virtual memory.
- Monitoring system resource usage over time to identify bottlenecks.
- Measure relative performance of key hardware components using Windows Experience Index.

If problems arise, Autodesk support staff can review your HP Performance Advisor configuration report. This report can be generated easily by clicking on the configuration tab and saving the file. For more information see **www.hp.com/go/performanceadvisor**.

HP SpacePilot Pro

Working in 3D is easier and more efficient with the HP SpacePilot Pro Intelligent Controller, which enables two-handed CAD by combining refined sensing technology, extendable speed keys, and a comfortable design so you can minimize repetitive stress. Studies show significant improvements in user productivity when inputting with an HP SpacePilot Pro. Easily change the center of rotation and quickly pan, zoom, and animate assemblies. With HP SpacePilot Pro, you can intuitively push, tilt, or twist the control cap for an immediate response; Speed keys increase your efficiency and make working in 3D more productive and enjoyable than working with just a mouse and keyboard.

HP Support Assistant

HP Support Assistant makes it easier than ever to own and use an HP Workstation. It comes pre-installed on every workstation with the latest version of Windows Vista® or Windows® 7. HP Support Assistant provides you with the following support features:

- **Maintain:** Automated software updates and reminders, maintenance routines, and other preventative measures help you keep your HP Workstation in peak condition.
- **Troubleshoot:** Diagnostic utilities help you investigate problems on your own and find solutions for common issues.
- **Learn:** An extensive library, including specification and warranty information and online resources, helps you make the most of your HP Workstation.
- **Get assistance:** Friendly and efficient experts are available to assist you with problems you can't solve on your own. Remote access capabilities allow an HP agent to investigate the problem directly, adjust your system settings, and even install software patches and upgrades.

HP Support Assistant, part of HP Total Care Service and Support, saves you valuable time and allows you to get the most out of your HP Workstation.

HP Z210 provides up to 50 percent more AutoCAD Performance

AutoCAD 2010 — Cadalyst 5.3
HP xw4600 vs. HP Z200 vs. HP Z210

1.00	1.20	1.34	1.50
HP xw4600 E8600 FX1800	HP Z200 i3-540 FX1800	HP Z200 i5-670 FX1800	HP Z210 E3-1240 Quadro 2000
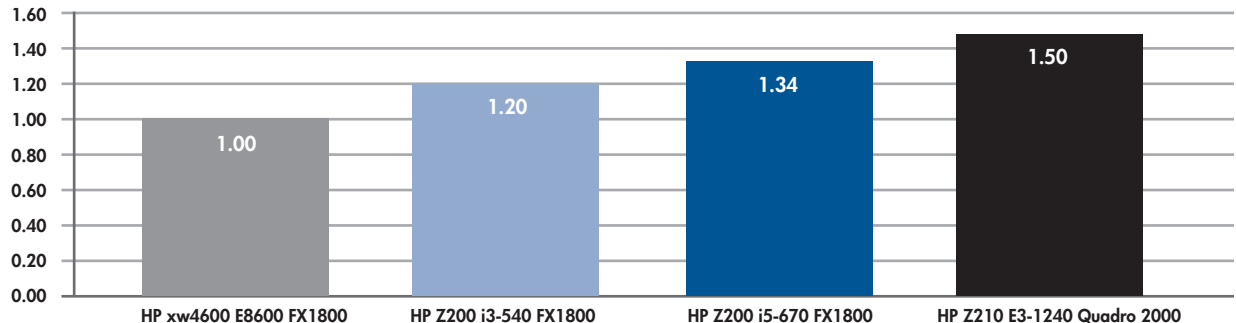
This chart compares a HP Z210 Workstation running an Intel® Xeon® E3-1240 (3.3 GHz) processor[3,4,5] to a HP xw4600, which is approximately two-year old technology, running an Intel® Core™ 2 Duo E8600 (3.33 GHz) processor[3,4,5], so users can get an idea of the performance increase they might see by upgrading. Testing is based up Cadalyst 5.3 Benchmark. Also shown is the HP Z200 running an Intel Core i3-540 (3.06 GHz) processor[3,4,5] and an HP Z200 running an Intel Core i5-670 (3.46 GHz) processor. All systems are running Genuine Microsoft® Windows 7 64-bit operating system and Autodesk AutoCAD 2010.

All HP Workstations are thoroughly tested and certified for AutoCAD and other Autodesk applications.* Autodesk has approved HP Z Workstations and authorized HP to carry the official AutoCAD certification label.

Meet the HP Workstation family

Combining bold design, world-class engineering, robust tools, and visual collaboration solutions, the HP Workstation family takes innovation, performance, and reliability to the next level—to give you and your business a competitive edge. All HP Workstations are tested and certified for Autodesk applications. HP tests a comprehensive range of Autodesk applications on our workstations, helping ensure reliable, dependable performance. HP Z Workstations deliver enhanced workstation performance with the latest Intel processors which includes Intel Turbo Boost[2] and Hyper-Threading[1] technologies, in a very affordable package to transform the way engineering and design professionals work. The next-generation system architecture enables fast and efficient performance while HP personal productivity tools and built-in HP reliability help you work more productively and get the job done faster.

HP Z210 Small Form Factor Workstation

The HP Z210 Small Form Factor Workstation delivers workstation power in a 65% smaller package[6], provides the same processor and memory functionality as the HP Z210 CMT, has entry level 3D professional graphics and is ideal for AutoCAD and AutoCAD LT users, especially those who work in constrained spaces.

HP Z210 CMT Workstation

The HP Z210 CMT Workstation delivers excellent performance and was designed with AutoCAD software as its main focus, providing the workstation power for 2D and 3D users to design and edit. It provides ECC memory for users with larger files and is expandable up to mid-range graphics for even more 3D performance capability. Many other applications are suitable for this product, including Autodesk Navisworks software products.

HP Z400 Workstation

The HP Z400 Workstation is ideal for engineers, designers, and architects who need the maximum in single-socket processor power. Users of Autodesk Inventor, Revit, AutoCAD vertical, such as Autodesk Civil 3D, and AutoCAD Map 3D, will find this becoming their mainstream workstation. It combines ECC memory to handle large files, as well as the full range of 3D professional graphics, and Intel's latest processors.

HP Z600 Workstation

The HP Z600 Workstation packs compute and visualization power to help you work faster and beat deadlines—delivering maximum performance in our smallest, quietest dual-socket design with Intel® Xeon® processors. This workstation is ideal for 3D users who want to take advantage of the multiple cores needed for applications that use rendering, animation, and simulation such as Autodesk 3ds Max, Autodesk Alias Design, Autodesk Simulation products, including the Autodesk Moldflow product line, Autodesk Showcase, application and design suites that combine AutoCAD and Inventor, or AutoCAD and Revit products. This system's dual-processor[4] capability is also well-suited for users of single-threaded applications who occasionally need support for multi-threaded applications, or for multi-threaded processes within largely single-threaded applications that consume users time such as data loading.

The HP Z800 Workstation

The HP Z800 Workstation delivers the latest performance in a revolutionary next-generation design that combines extreme speed, massive expandability, and maximum productivity to accelerate even the biggest, most complex engineering and design projects. This high-end workstation provides the expandability, performance, and data storage required by power users of Autodesk 3ds Max, Autodesk Alias Design, Autodesk Showcase, Autodesk Simulation products including the Autodesk Moldflow product line and other visualization, simulation, design, or multi-threaded applications, and represents the maximum in dual socket performance and expandability in the HP Z Workstations lines. This is the ideal box for complex Autodesk Suites.

HP Mobile Workstations

HP EliteBook 8760w Mobile Workstation

The HP EliteBook 8760w Mobile Workstation redefines power on the move, combining the best in visualization and computational power with a 17.3-inch diagonal display for HP's highest performing mobile workstation. The HP EliteBook w-series features a timeless construction, with precision-engineered durability features that are designed for maximum reliability and with the environment in mind. The mobile workstations have passed most Mil-Std-810G testing[7], making it a great tool for professionals on the go. The choice of an HP DreamColor display enables true color visualization in addition to top performance for Autodesk applications.

HP EliteBook 8460w** and 8560w Mobile Workstations

HP EliteBook 8460w and 8560w Mobile Workstations offer workstation power to run Autodesk applications in a smaller and lighter size with either a 14- or 15.6-inch diagonal screen. Ideal for those on the go who want to minimize the weight. The HP DreamColor display is also available as a configurable option on the HP EliteBook 8560w.

** Not available in all regions.

Meet the HP Workstation family

Model	HP Z210 CMT and HP Z210 SFF Workstations	HP Z400 Workstation	HP Z600 Workstation	HP Z800 Workstation	HP EliteBook 8460w/ 8560w/8760w Mobile Workstations
User	Ideal for entry level users where workstation performance is needed	Ideal for those who want to maximize performance with single-threaded applications	Ideal for those who occasionally need multi-core performance	Ideal for those who have the largest files and store large data sets	Ideal for those who want the most power a notebook can provide
Operating system	Genuine Windows® 7 Ultimate 64-bit† Genuine Windows® 7 Professional 32-bit†	Genuine Windows® 7 Ultimate 64-bit† Genuine Windows® 7 Professional 32-bit†	Genuine Windows® 7 Ultimate 64-bit† Genuine Windows® 7 Professional 32-bit†	Genuine Windows® 7 Ultimate 64-bit† Genuine Windows® 7 Professional 32-bit†	Genuine Windows® 7 Professional† Genuine Windows 7 Home Premium†
Autodesk solution	AutoCAD LT (SFF), AutoCAD, AutoCAD vertical apps, and Navisworks products	Autodesk Revit Architecture, Revit MEP, AutoCAD Civil 3D, and Autodesk Inventor	Autodesk 3ds Max, Revit power user, Simulation applications, AutoCAD Map 3D and Autodesk Inventor and Autodesk suites	Autodesk 3ds Max power user, Autodesk Alias Design, Autodesk Showcase, Autodesk Simulation including Moldflow products, Maya and suites	All Autodesk applications
Processors[2,3,4,5]	Dual-core Intel® Core™ i3 or quad-core Intel® Core™ i5 and i7 or quad-core Intel® processor	Dual-, quad-, and six-core Intel® Xeon® processor Intel QuickPath Technology	Quad- and six-core Intel® Xeon® processor Intel QuickPath Technology	Quad- and six-core Intel® Xeon® processor Intel QuickPath Technology	Intel® Core™ i5 and i7 mobile processor family with Intel Turbo Boost Technology
Graphics cards	NVIDIA Quadro 400 NVIDIA Quadro 600 NVIDIA Quadro 2000 Intel HD Graphics P3000 (with Intel® Xeon® Processors only) AMD FirePro V3800 AMD FirePro V4800 AMD FirePro V5800	NVIDIA Quadro 400 NVIDIA Quadro 600 NVIDIA Quadro 2000 NVIDIA Quadro 4000 NVIDIA Quadro 5000 AMD FirePro V3800 AMD FirePro V4800 AMD FirePro V5800	NVIDIA Quadro 400 NVIDIA Quadro 600 NVIDIA Quadro 2000 NVIDIA Quadro 4000 NVIDIA Quadro 5000 AMD FirePro V3800 AMD FirePro V4800 AMD FirePro V5800	NVIDIA Quadro 400 NVIDIA Quadro 600 NVIDIA Quadro 2000 NVIDIA Quadro 4000 NVIDIA Quadro 5000 NVIDIA Quadro 6000 AMD FirePro V3800 AMD FirePro V4800 AMD FirePro V5800 AMD FirePro V8800	AMD FirePro M3900 AMD FirePro M5950 NVIDIA Quadro 1000M NVIDIA Quadro 2000M NVIDIA Quadro 3000M NVIDIA Quadro 4000M NVIDIA Quadro 5010M

Suggested configurations

ALL 3-YEAR LIMITED WARRANTY   www.hp.com/go/workstationfinder

HP recommends for Autodesk architecture, engineering, and construction

AutoCAD LT

Autodesk Design Suite, AutoCAD, AutoCAD Architecture, and other AutoCAD based applications

Autodesk Revit Architecture, Building Design Suite, Revit Structure, Revit MEP

HP Z210 Small Form Factor Workstation
Genuine Windows® 7 Professional 64-bit[†]
Intel® Xeon® processor E3-1240, 3.30 GHz, 8 MB cache, 1333 MHz memory, Quad-Core, HT[1,3,4,5]
4 GB DDR3-1333 MHz ECC Memory[8,9]
NVIDIA Quadro 600 or HD Graphics P3000 or AMD FirePro V3800
300 GB SATA 10K SFF HDD[10]
HP ZR24w 24-inch Widescreen LCD Monitor
HP Remote Graphics Software
HP Performance Advisor
HP Scroll Mouse
Application certified

HP Z210 CMT Workstation
Genuine Windows® 7 Professional 64-bit[†]
Intel® Xeon® processor E3-1240, 3.30 GHz, 8 MB cache, 1333 MHz memory, Quad-Core, HT[1,3,4,5]
8 GB DDR3-1333 MHz ECC Memory[8,9]
NVIDIA Quadro 2000 or AMD FirePro V4800
1000 GB SATA 7200 HDD[10]
AutoCAD certification label
HP ZR24w 24-inch Widescreen LCD Monitor
HP Remote Graphics Software
HP Performance Advisor
HP Scroll Mouse
Application certified

HP Z400 Workstation
Genuine Windows® 7 Professional 64-bit[†]
Intel® Xeon® processor W3670, 3.20 GHz, 12 MB cache, 1066 MHz memory, Six-Core, HT, Turbo[1,2,3,4,5]
6 GB DDR3-1333 MHz ECC memory[8,9]
NVIDIA Quadro 4000 or AMD FirePro V5800
1.5 TB SATA 7200 HDD[10]
HP ZR24w 24-inch Widescreen LCD Monitor
HP Remote Graphics Software
HP Performance Advisor
HP Scroll Mouse
Application certified

HP recommends for Autodesk manufacturing solutions

AutoCAD and AutoCAD Mechanical

Autodesk Inventor

Autodesk Product Design Suite

HP Z210 CMT Workstation
Genuine Windows® 7 Professional 64-bit[†]
Intel® Xeon® processor E3-1240, 3.30 GHz, 8 MB cache, 1333 MHz memory, Quad-Core, HT[1,3,4,5]
8 GB DDR3-1333 MHz ECC memory[8,9]
NVIDIA Quadro 2000 or AMD FirePro V4800
1000 GB SATA 7200 HDD[10]
AutoCAD certification label
HP ZR24w 24-inch Widescreen LCD Monitor
HP Remote Graphics Software
HP Performance Advisor
HP Scroll Mouse
Application certified

HP Z400 Workstation
Genuine Windows® 7 Professional 64-bit[†]
Intel® Xeon® W3690, 3.46 GHz, 12 MB cache, 1333 MHz, Six-Core[3,4,5]
Intel X58 Express chipset
6 GB DDR3-1333 MHz ECC memory[8,9]
NVIDIA Quadro 2000 or AMD FirePro V5800
1000 GB SATA 7200 HDD[10]
HP ZR24w 24-inch Widescreen LCD Monitor
HP Remote Graphics Software
HP Performance Advisor
HP Scroll Mouse
Application certified
HP SpacePilot Pro

HP Z800 Workstation
Genuine Windows® 7 Professional 64-bit[†]
Two Intel® Xeon® processor X5690, 3.46 GHz, 12 MB cache, 1333 MHz, Six-Core[3,4,5]
12 GB DDR3-1333 MHz ECC memory[8,9]
NVIDIA Quadro 5000 or AMD FirePro V8800
Two 600 GB SATA 10K SFF HDD[10]
HP ZR24w 24-inch Widescreen LCD Monitor
HP Remote Graphics Software
HP Performance Advisor
HP Scroll Mouse
Application certified

Suggested configurations (continued)

ALL 3-YEAR LIMITED WARRANTY   www.hp.com/go/workstationfinder

HP recommends for all Autodesk applications

Mobility (for all Autodesk applications)

Autodesk Infrastructure Design Suite, AutoCAD Civil 3D/AutoCAD Map 3D

Autodesk Alias, Autodesk Showcase, Autodesk 3ds Max, Autodesk Simulation including Autodesk Moldflow products, Autodesk Maya

HP EliteBook 8760w Mobile Workstation	HP Z210 CMT Workstation	HP Z800 Workstation
Genuine Windows® 7 Professional 64-bit[†]	Genuine Windows® 7 Professional 64-bit[†]	Genuine Windows® 7 Professional 64-bit[†]
Intel® Core™ i7-2820QM processor, 2.30 GHz, 8 MB L3 cache, with Intel Turbo Boost Technology[2] up to 3.40 GHz[2,3,4,5]	Intel® Xeon® processor E3-1240, 3.30 GHz, 8 MB cache, 1333 MHz, Quad-Core[3,4,5]	Two Intel® Xeon® processors X5690, 3.46 GHz, 12 MB cache, 1333 MHz, Six-Core[3,4,5]
NVIDIA Quadro 4000M or AMD FirePro M5950	8 GB DDR3-1333 MHz ECC memory[8,9]	12 GB DDR3-1333 MHz ECC memory[8,9]
16 GB DDR3-1333 MHz SDRAM 4-DIMM memory[8,9]	NVIDIA Quadro 4000 or AMD FirePro V5800	NVIDIA Quadro 5000 or AMD FirePro V8800
750 GB SATA 7200 HDD[10]	1.5 TB SATA 7200 HDD[10]	Two 600 GB SATA 10K SFF HDD[10]
HP recommends 17.3-inch diagonal LED-backlit WVA anti-glare, FHD (1920x1080) display	HP ZR24ww 24-inch Widescreen LCD Monitor	HP ZR24w 24-inch Widescreen LCD Monitor
Starting at 7.55 lb without optical drive[11]	HP Remote Graphics Software	HP Remote Graphics Software
Business rugged design	HP Performance Advisor	HP Performance Advisor
HP Remote Graphics Software	HP Scroll Mouse	HP Scroll Mouse
HP Performance Advisor	Application certified	Application certified
Application certified		

For more information about HP and Autodesk solutions,
please visit www.hp.com/go/autodesk and www.hp.com/go/hpautodesk

Autodesk®   **hp**