

The AutoCAD solution for mechanical,
electrical and plumbing engineering.

AutoCAD[®]

MEP 2009

Autodesk[®]

More Productivity, Same Skills

Michigan-based Peter Basso Associates uses AutoCAD MEP software to enhance design processes and drawing productivity by

- Designing all ductwork, piping, plumbing, lighting and power systems, together with numerous medical gas systems
- Reducing design time while achieving a well-documented solution
- Significantly improving coordination
- Creating higher-quality construction documents

AutoCAD® MEP software is the version of AutoCAD® software for mechanical, electrical and plumbing (MEP) engineers, designers and draughters. Intuitive system drawing and design tools help to make creating and sharing construction documents easier and more efficient.

Create and produce more precise construction documents faster with AutoCAD MEP. Single-line and double-line system design and productivity tools help automate production and minimise coordination errors between MEP design teams, architects and structural engineers.

AutoCAD MEP can reduce draughting time, while a flexible, customisable workflow fits easily into existing AutoCAD-based workflows. Working in the familiar AutoCAD-based environment enables you to implement new design tools easily at your own pace, enhancing creative design and reducing time-consuming draughting.

The familiar environment offers users almost immediate productivity gains, with the flexibility to learn additional features at their own pace. The industry-leading DWG™ format makes it easy to share and communicate with architects and structural design professionals.



Image courtesy of Peter Basso Associates Inc.

AutoCAD MEP enables engineers at Peter Basso Associates Inc. to quickly and accurately create construction documents that are much more valuable than traditional 2D drawings.

—Dustin Tiemeyer
Design Technology Manager
Peter Basso Associates Inc.

Increase Productivity with the Right Tools

Reduce confusion and keep team members focused on the task at hand. AutoCAD MEP software provides discipline-specific tools and functionality for mechanical, electrical and plumbing engineers, designers and draughters in a single, consistent environment across projects and disciplines.

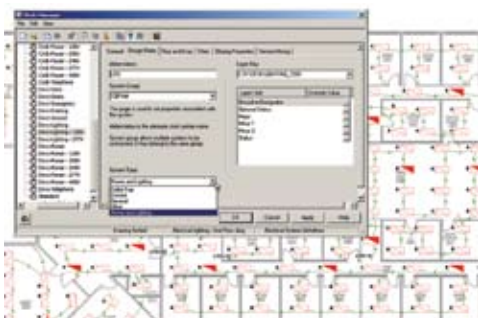
Schematic Design

Create riser diagrams and schematic plans easily with enhanced schematic tool palettes that logically group commonly used tools. In addition, the Properties palette provides easier schematic object configurations. Convert existing AutoCAD blocks to schematic symbols for rapid use in schematic design.



Working with Systems

In AutoCAD MEP, a system is a network of connected parts representing a real-world building system, maintaining the same layers, colours and relationships. New parts inherit the current system's property defaults, such as size and shape, providing a fast and consistent method of laying out a design. Systems also make it easier to modify connected parts by simultaneously applying changes to the entire network of parts.



Properties Palette

The Properties palette provides a central location for viewing and modifying the properties of an object. Review information or change styles, dimensions, locations, property-set data and other important characteristics. Change basic properties or the object itself. Easy access to equipment parts and the ability to modify available equipment and devices easily help to enhance accuracy and improve productivity.



Templates

Templates are drawings with defined settings used to create new drawings. AutoCAD MEP includes metric and imperial unit templates containing specified drawing units, drawing scales, layout tabs and typical plotting setups. The templates also contain a set of display configurations specific to working with mechanical, electrical and plumbing objects. The templates help you get up to speed and use AutoCAD MEP to increase productivity quickly.



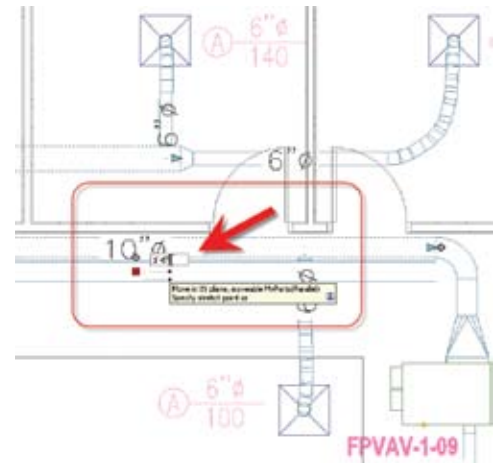
Discipline-Specific Tool Palettes

Tool palettes are logical tool groups used to add objects to drawings. AutoCAD MEP offers a large inventory of both common and discipline-specific tool palettes, including annotation and call-out tools for system documentation as well as mechanical, electrical, plumbing and schematic design tools.



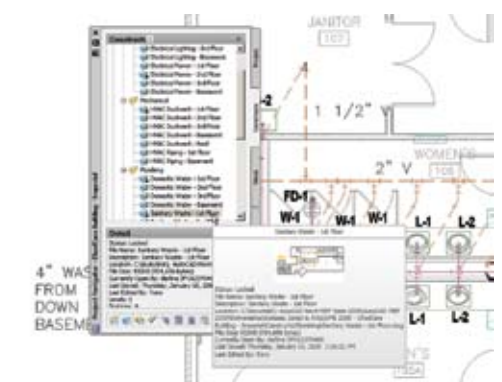
Designing with Dynamic Input and Grips

Make precise and accurate modifications to your mechanical, electrical and plumbing designs directly in the drawing area with dynamic input and grips. Add commands at the cursor instead of the command prompt. "Heads-up display" helps you focus on the screen instead of the keyboard to increase productivity.



Project Navigator—Drawing Management

Manage project drawings, easily creating coordinated views based on design parameters. Create and manage project drawing sheet sets for all mechanical, electrical and plumbing construction documents. All design team members access the most current documents from a centralised project directory, from project templates to sections and elevations.



Edit-in-View

Streamline design productivity and modify mechanical, electrical and plumbing system design with multiple views. Choose to work in elevation or another view of the design, not only in plan view.

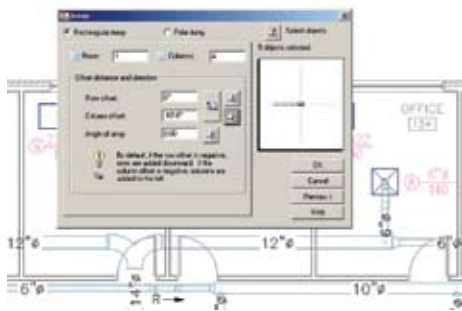


Transform Traditional Draughting

Use the power of AutoCAD MEP software and your existing AutoCAD knowledge to automate tedious draughting processes and rejuvenate your construction documentation.

Work with AutoCAD Commands

All the familiar AutoCAD commands are also available in AutoCAD MEP software. Copy, move and array your duct, pipe, conduit or cable tray, and then automatically snap in the desired orientation and view. Enhanced AutoCAD MEP commands enable you to copy, move and align all, in one easy step.



Construction Annotation

Annotate once for all scales. Annotative text enables the setting of paper text height and changes for each view based on its scale. Annotative symbols automatically adjust based on the scale of the view. Hidden lines and hatch-on objects make it easier to interpret design intent. Display the schematic view, rather than the model-generated view of an object.

Work with Catalogue-Based Content

The AutoCAD MEP parts catalogues provide an extensive collection of parts for use during design. Query the parts catalogues to assist with part selection and retrieve parts for integration into your designs. Store parts you create in a catalogue for future use. Choose parts from multiple catalogues to increase design selection.

Convert AutoCAD Blocks and Symbols to AutoCAD MEP Content

Individually convert single, or batch-convert multiple AutoCAD blocks, MvBlocks or MvParts to a device or schematic symbol. Extrude standard 2D blocks to create a 3D solid, and then add connectors to create AutoCAD MEP content to be used with your mechanical, electrical and plumbing designs.

AutoCAD and AutoCAD Architecture Support

Work on flat 2D AutoCAD floor plans or AutoCAD® Architecture geometric model floor plans. Reference architectural floor-base plans developed in any AutoCAD-based software application for better design and documentation coordination.

Export to AutoCAD

Designers can quickly and easily generate DWG files compatible with past versions of AutoCAD software. Complete graphic representations of devices and symbols are maintained exactly as shown on construction documents, enabling easy collaboration with extended design teams.

Design-to-Fabrication

With the seamless integration of fabrication partner tools into AutoCAD MEP software, re-drawing models for fabrication is no longer necessary, enabling design-to-fabrication in just a few clicks. Using design models in the fabrication of sheet metal, plumbing and piping makes it easier to create shop drawings in the fabrication partner application. For more information on fabrication partner solutions, see www.autodesk.co.uk/partnerproducts.

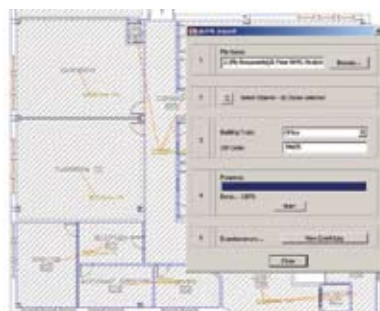


Create Manufacturer-Specific Content

Using content templates, create manufacturer-specific content for ducts, fittings, pipe and pipe fittings. Content can then be brought back into AutoCAD MEP and added to the catalogue. Devise piping and HVAC designs according to manufacturer specifications, resulting in more accurate design of mechanical and piping systems.

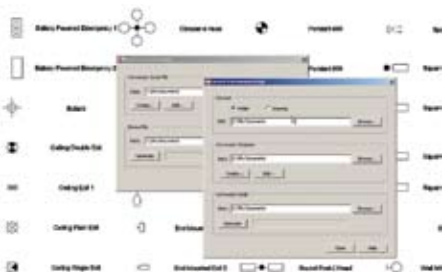
Import/Export to gbXML

Import to and from AutoCAD MEP using the industry-standard green building extensible markup language (gbXML) file format.



Using AutoCAD MEP with its powerful visual design coordination capabilities, we were able to lay out these extremely complex mechanical rooms—easily—knowing ahead of time whether there was an interference. It was also a lot easier for us to coordinate the plant and mechanical rooms.

—Jean Abi Aad
Corporate Engineering Manager
Kharafi National

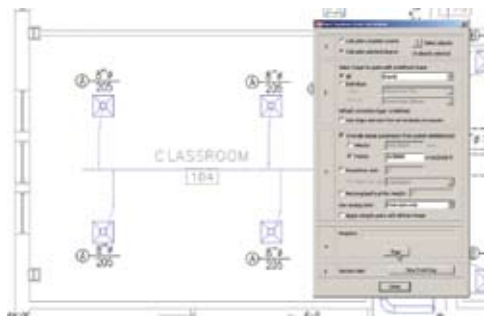


Smart, Accurate Construction Documents

AutoCAD MEP software reduces requests for information by enabling more accurate, consistent construction documents, together with seamless collaboration across project teams.

Single/Double-Line Duct Design

Create construction documents efficiently with single line for design development and convert to double line for construction documents. Lay out mechanical systems in single line with unsized parts early in the design process, and then use duct-sizing tools and convert the layout to double line. Enhanced sizing tools help to increase draughting productivity when going from design development to construction documentation.



Seamless Sections and Elevations

No longer wait until the end of your design process to create sections and elevations: create sections and elevations quickly at any time. When your design changes, all sections and elevations update automatically, virtually eliminating manual updates. Sections help to ensure that the design is accurate and add clarity to construction documents.



Circuit Manager

Use a single location to manage and edit circuit information. Automatic prompts notify users of potential overloads based on conductor size, reducing errors and minimising the need for rework. In addition, the Circuit Manager reads the circuits from multiple fixtures and devices across multiple floor plans. View linked panels and loads together in the Circuit Manager, which uses the space-tag information to enter descriptions for all circuits.

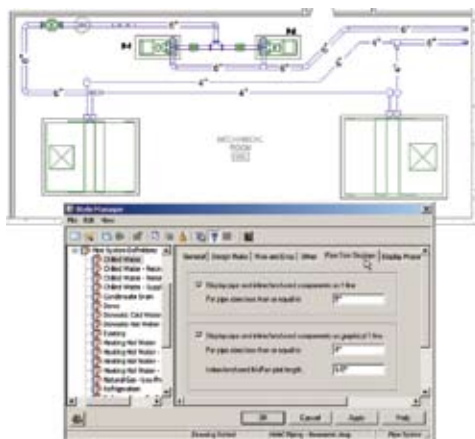
Faster Scheduling

Create schedules faster than traditional CAD drawing processes allow. Engineers, designers and draughters can schedule engineering system data, calculate values and use new table styles to lay out room and analysis schedules. Schedules are automatically updated as the design changes, reducing errors. Create schedules as you lay out your design, and see the schedule populate automatically, saving time.



Single/Double-Line Piping

Draw pipe systems that include multiple levels of size and complexity, and accurately represent physical systems. Use both single-line and double-line piping within the same design, with small pipe shown as single line and larger pipe as double line for clarity. Custom fittings mean you can design unique layouts on the fly. New water/wastewater content eases creation of relevant facilities. All piping is based on current piping standards and specifications. With easy-to-use routing solutions, you can lay out your piping design with ease.



Spaces and Zones

Assign engineering spaces from existing 2D architectural floor plans or design drawings. Room measurements are automatically calculated, including square footage, metres and volumes per area. Use AutoCAD MEP together with industry-leading analysis applications to automatically calculate load capacity and airflow rate requirements per area. Spaces and zone information is used when exporting to gbXML for import into third-party analysis programmes. The analysis can then be used to design the heating, ventilation and air conditioning (HVAC), lighting and power properly for each space and zone.

Electrical Layout

Lay out electrical design based on your workflow. Circuit the devices as you lay them out, or later in the design process. Automatically generate wiring to increase productivity and create accurate construction documents.

Plumbing Design

AutoCAD MEP accurately calculates the slope of plumbing lines. Add invert elevations anywhere along a plumbing run. Size the sanitary system plumbing lines based on fixture units that are read directly from the plumbing fixtures themselves. Easily modify the plumbing fixture unit table based on local standards.

Engineering Display Themes

Use display themes to graphically present and analyse design intent. Check your HVAC design calculations based on friction loss or velocity to validate performance for a particular area or room. Also use the display theme *By Pressure Class* to show the high, medium and low pressure per piping class visually, to identify potential design flaws with ease. Display themes are depicted as colour-filled displays complete with legends.



Autodesk software helps us provide a more comprehensive, integrated solution to our clients and meet our long-term strategic goals.

—Mark Butler
Senior Systems Analyst
HDR

Autodesk Ltd.

1 Meadow Gate Avenue
Farnborough Business Park
Farnborough
Hampshire GU14 6FG
United Kingdom

United Kingdom

Phone 0800 917 7766
gb-info@autodesk.com
www.autodesk.co.uk

Ireland

Phone 1850 930 165
gb-info@autodesk.com

Autodesk BV

Postbus 8651
3009 AR Rotterdam
The Netherlands
www.autodesk.nl

Autodesk AB

Box 14261
SE-400 20 Gothenburg
Sweden

Sweden

Phone 020 35 11 00
info@autodesk.se
www.autodesk.se

Norway

Phone 800 102 24
info@autodesk.no
www.autodesk.no

Denmark

Phone 80 88 12 20
info@autodesk.dk
www.autodesk.dk

Finland

Phone 08001 14680
info@autodesk.fi
www.autodesk.fi

Other countries

Phone +46(0)31 726 00 00
Fax +46(0)31 726 00 26
infonordic@autodesk.com
www.autodesk.co.uk

www.bsa.org



Learn More or Purchase

Access specialists worldwide who can provide product expertise, a deep understanding of your industry and value that extends beyond your software purchase. To purchase AutoCAD MEP, contact an Autodesk Premier Solutions Provider or Autodesk Authorised Reseller. To locate the reseller nearest you, visit www.autodesk.co.uk/reseller. For more information about AutoCAD MEP software, visit www.autodesk.co.uk/autocadmep. To learn more about Autodesk solutions for mechanical, electrical and plumbing engineering, visit www.autodesk.co.uk/building.

Autodesk Design Review

Directly publish to DWF™ format from AutoCAD MEP for an easy and secure way to distribute and share designs or construction documentation. The free* Autodesk® Design Review application gives your project team an easy way to view, print, mark up and measure changes to drawings, without the original design creation software. To learn more, visit www.autodesk.co.uk/designreview.

Autodesk Services and Support

Accelerate return on investment and optimise productivity with innovative purchase methods, companion products, consulting services, support and training from Autodesk and Autodesk authorised partners. Designed to get you up to speed and keep you ahead of the competition, these tools help you make the most of your software purchase—no matter what industry you are in. To learn more, visit www.autodesk.co.uk/support

Autodesk Subscription

Get the benefits of increased productivity, predictable budgeting and simplified licence management with Autodesk® Subscription. You get any new upgrades of your Autodesk software and any incremental product enhancements, if these are released during your subscription term, and you get exclusive licence terms available only to subscription members. A range of community resources, including web support direct from Autodesk technical experts, self-paced training and e-Learning, help extend your skills and make Autodesk Subscription the best way to optimise your investment. To learn more, visit www.autodesk.co.uk/subscription.

*Free products are subject to the terms and conditions of the end-user licence agreement that accompanies download of the software.

Autodesk, AutoCAD, DWF and DWG are registered trademarks or trademarks of Autodesk, Inc., in the USA and/or other countries. All other brand names, product names or trademarks belong to their respective holders. Autodesk reserves the right to alter product offerings and specifications at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document. © 2008 Autodesk, Inc. All rights reserved. 0000000000018238