

Experience modern plant design

Build on the power and familiarity of AutoCAD with multidiscipline plant design solutions



A more comprehensive plant design workflow

Autodesk® Plant Design Suite provides comprehensive plant design, modeling, and review software in an economical package that helps customers to design more efficiently, innovate ahead of the competition, and communicate with greater clarity. Use it to help keep projects on schedule and within budget. Building on the power of Autodesk® AutoCAD® software and Autodesk® 360 cloud services, the suite adds plant-specific content and functionality to help drive greater productivity and better project coordination.

Project management

Set up projects more easily by entering pertinent information such as project standards and specs that will be used to help drive creation of piping and components. Identify and add a variety of stock or custom components and specifications, which will populate the tool palette when design begins.

Autodesk 360 cloud services

Extend your workflow on the desktop to the more secure and virtually infinite computing power in the cloud, helping you to more rapidly design, visualize, simulate, and share your ideas almost anywhere, anytime. More securely store files in the cloud, access your data from your desktop and mobile devices, and support better collaboration with extended teams.

3D modeling & documentation

Autodesk® AutoCAD® Plant 3D
Autodesk® AutoCAD® MEP

Design, model, and document process plants with easier isometric and orthographic creation.

P&ID design & drafting

Autodesk® AutoCAD® P&ID

Create, modify, and manage P&IDs, and then reconcile underlying data with the 3D model.

Structural design & analysis

Autodesk® Revit® Structure

Design and model 3D structural components.

General design & drafting

Autodesk® AutoCAD®

Design and draft with the powerful and flexible features of one of the world's leading CAD tools.

Equipment & skid design

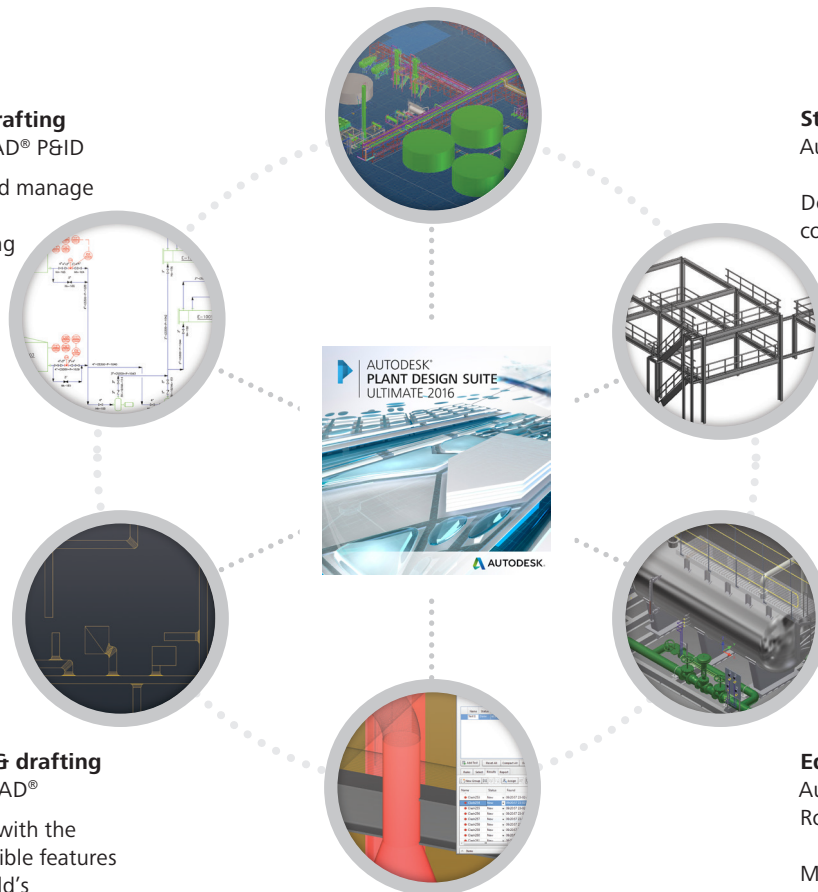
Autodesk® Inventor® with Routed Systems

Model plant equipment and skids and import to the 3D process plant model.

Project visualization & review

Autodesk® Navisworks® Manage and Autodesk® 3ds Max®

Aggregate models from multiple design packages, create near-photorealistic project visuals, and identify clashes.



Streamline P&ID design and 2D drafting

AutoCAD P&ID software is included in all editions of Autodesk Plant Design Suite and features simple reporting, editing, sharing, validation, and exchange of design information. Routine piping and instrumentation diagram (P&ID) work tasks are more streamlined or automated to help boost productivity, while component and line information is more easily accessed and shared as you work.

Symbol libraries

Place industry-standard symbols (PIP, ISA, JIS, and ISO/DIN) and customized symbols directly into drawings.

Validation tool

Perform error checking to help identify, highlight, and navigate drawing inconsistencies. Promote greater accuracy and minimize the time required to identify potential inconsistencies in P&IDs.

Dynamic lines and components

Help reduce manual breaking and mending of lines with intuitive grip editing and manipulation. Create, move, and snap lines into place. Lines automatically break, maintain flow direction, and attach to components inserted on the line. When a component is removed, lines mend automatically.

Start easier

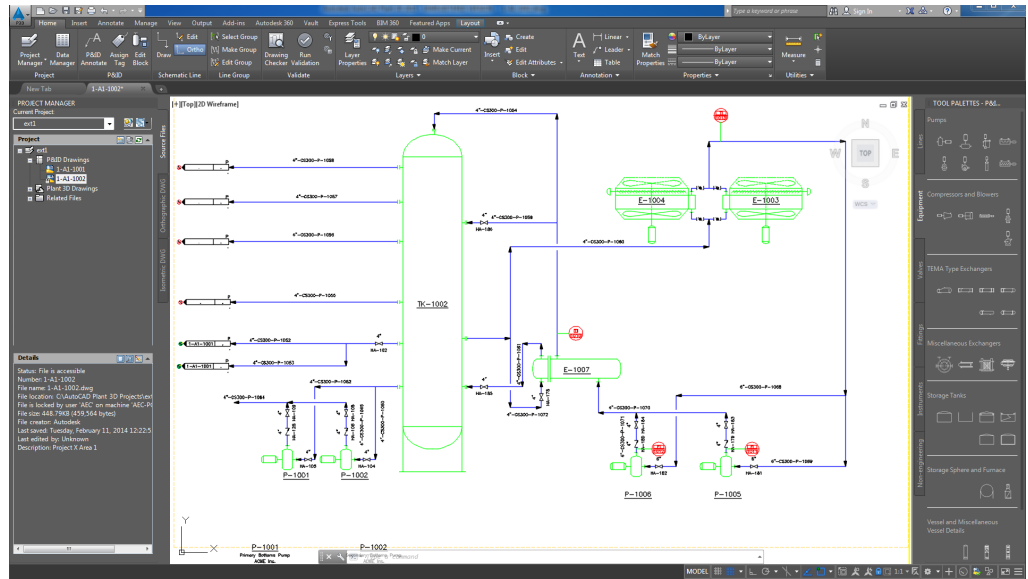
Using the standard AutoCAD-based functionality, AutoCAD-trained professionals can start using AutoCAD P&ID with minimal training.

Save time

Developed specifically for P&ID designers, AutoCAD P&ID includes a collection of tools to help automate and simplify many detailed everyday design and editing tasks.

Support data integrity

Whether you need to generate in-drawing reports or export information to other project team members, AutoCAD P&ID includes many features to help boost data integrity in the face of ongoing design changes and modifications analysis.



Tagging and annotations

More easily create, edit, and customize tags and annotations based on industry-standard formats. Simply drag data properties from the Data Manager into the P&ID drawing as annotations that automatically update.

Data management and reporting

More easily report, edit, exchange, and share project information, and understand the impact of external data updates for change management. Export data into drawing data tables and various file formats such as Microsoft® Excel®. More quickly sort and organize information for easier referencing. Enhanced change management, viewing, and editing functionality help promote the integrity of design information.

The results are compelling—the “headline” productivity gain was found to be in the region of 40 percent—and this was based on a rigorous and wide-ranging test of AutoCAD P&ID capability.

—Tony Christian
Cambashi Limited
AutoCAD P&ID Productivity Study

Efficiently create more accurate 3D piping

AutoCAD Plant 3D software is included in the Premium and Ultimate editions of Autodesk Plant Design Suite. Developed to address the challenges of 3D plant design and engineering work, AutoCAD Plant 3D software helps simplify design and editing of 3D plant models.

Enhance design productivity

Training and startup time can be minimal because AutoCAD Plant 3D is built on the widely used AutoCAD platform. Costly server-based systems and database administration are not required. AutoCAD Plant 3D software's specification-driven technology and modern interface help simplify modeling and editing.

Promote accuracy and consistency

Within AutoCAD Plant 3D, underlying data is directly exchanged between the 3D model, P&IDs, isometrics, and orthographics to help information stay consistent and up to date. Search and query for information, and then more easily review and edit the data in the drawings.

Improve project team coordination

Materials lists and reports are easy to generate and share with project teams. Portable AutoCAD Plant 3D files can be opened by other engineering disciplines with AutoCAD-based software. The data also can be exported to a variety of file formats for integration into other applications.

Piping

From the initial spec through the final design, AutoCAD Plant 3D software optimizes the creation and editing of spec-driven pipelines. Route pipe, edit pipeline and its component elements, and manage a system of connections. You can route pipe semi-automatically or manually. As you insert fittings, required connection components such as gaskets or flanges are added automatically. After routing pipe, export the information as piping component format (PCF) files for integration into other applications such as stress analysis.

Equipment elements

Create, modify, manage, and use equipment in your plant model. A comprehensive library of standard equipment is available from the tool palette. Add custom content to your library and import Autodesk Inventor equipment models.

Structural elements

You can also externally reference structural drawings created in Autodesk Revit Structure software, AutoCAD Structural Detailing software, and other applications.

Electrical raceways and ductwork

AutoCAD MEP is included in the Premium and Ultimate editions of Autodesk Plant Design Suite. By taking advantage of the AutoCAD-based design tools, plant designers can more quickly and easily model the electrical raceway and ductwork components of process plant to provide complete plant models and documentation

Specifications and catalogs

AutoCAD Plant 3D helps streamline the placement of piping, equipment, support structures, and other plant components through spec-driven technology and standard parts catalogs such as ANSI/ASME (B16) and DIN/ISO. When you need to create a spec, you can work directly with included content-rich catalogs, or you can modify the catalogs to better meet your project requirements.

Spec converter

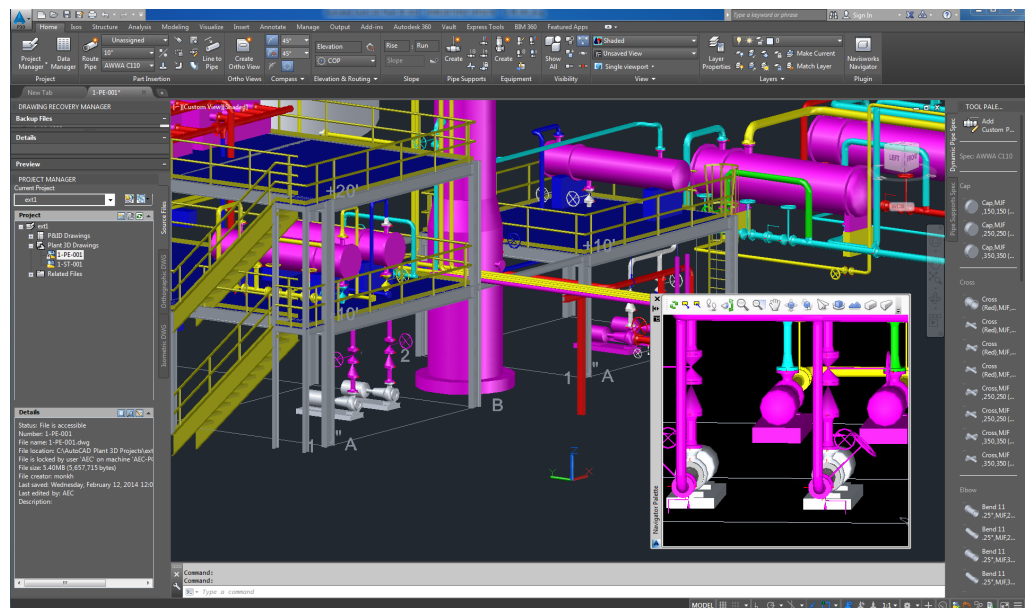
Import specs from third-party plant design applications such as Bentley® AutoPLANT® and Intergraph® CADWorx® software.

Construction document generation

From the 3D model, you can more easily generate and share isometrics, orthographics, and other construction documents. Information is directly exchanged with the 3D model, so your construction documents are more accurate, consistent, and up to date.

Reality capture

Bring 3D processing plant scans to life. AutoCAD software includes reality capture tools to help you more quickly visualize scanned objects directly within the modeling workspace and create 3D data.

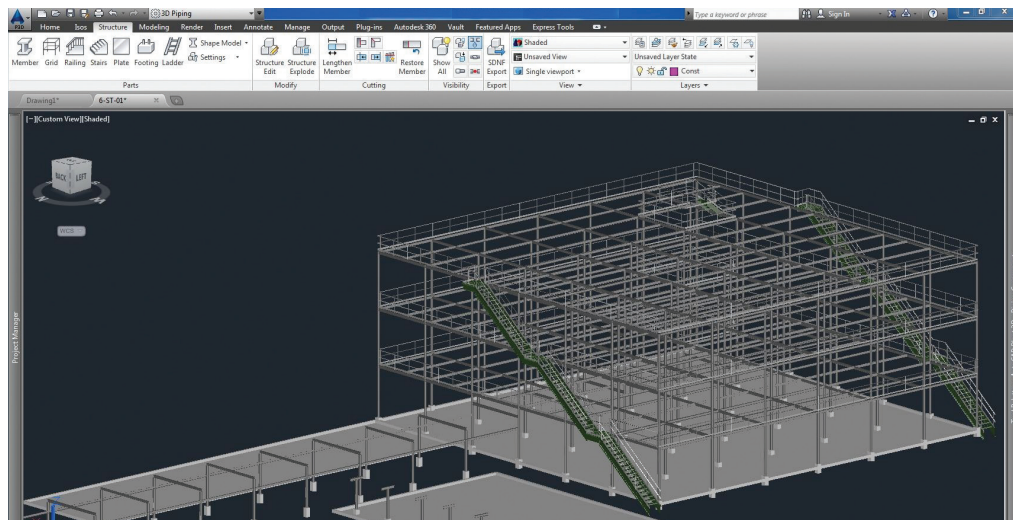


Speed design of plant structures

Better coordinate piping and structures

With the structural design capabilities of Autodesk Plant Design Suite Premium and Ultimate editions, you can import preliminary structural models from AutoCAD Plant 3D into Autodesk Revit Structure for detailed structural design and analysis. You can then bring back the detailed structural design into AutoCAD Plant 3D to visualize the complete structure together with the piping.

Autodesk Revit Structure software is an intelligent 3D modeling solution developed for structural engineers. Included in the Premium and Ultimate editions of Autodesk Plant Design Suite, Revit Structure provides tools for structural design, analysis, and documentation, helping teams to drive more efficient designs, improve multidiscipline coordination, minimize errors, and enhance cross-team collaboration.

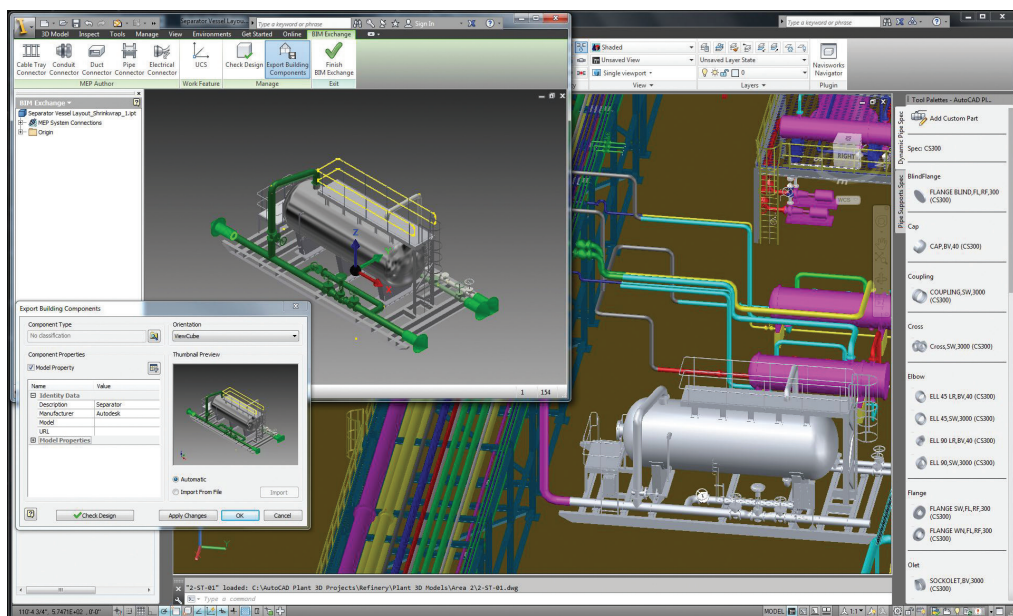


Coordinate design of plant equipment and skids

Align equipment and skids with piping design

With the equipment and skid design features of Autodesk Plant Design Suite, you can import 3D models from Autodesk Inventor into AutoCAD Plant 3D and intelligently connect to the piping. There is no need to remodel the equipment and skids.

Included in the Ultimate edition of Autodesk Plant Design Suite, Autodesk Inventor with Routed Systems software provides a comprehensive and flexible set of 3D modeling and mechanical design tools, including functionality for designing routed systems, such as tubing, piping, cabling, and electrical harnesses. Produce and document complete 3D digital prototypes that help you validate the form, fit, and function of every assembly you design. This helps minimize the need for physical prototype tests, decrease the number of change requests, and reduce cycle times.



Combine whole-project design information

Autodesk Navisworks products enable smoother design review and model aggregation. Autodesk Navisworks Simulate software is available in Plant Design Suite Premium.

Model and file aggregation

Multidisciplinary projectwide design data created in a variety of design and engineering applications can be combined into a single integrated project model for efficient whole-project review.

Increase efficiency

Advanced tools can be used for collaboration and analysis of project information. Minimize project delays and rework with tools to help coordinate more effectively, plan more accurately, and identify problems earlier in the project cycle.

4D scheduling

Simulate construction schedules and logistics in 4D to help visually communicate, analyze, and validate project activities and reduce sequencing problems.

Clash detection

Included in Autodesk Plant Design Suite Ultimate, Navisworks Manage software includes all the features of Navisworks Simulate, plus clash detection and problem tracking.

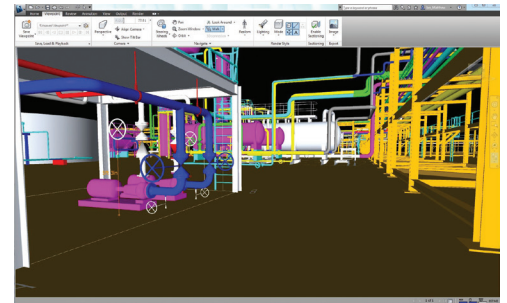
Help avoid potential problems before construction to minimize expensive delays and rework. View clashes in context of the model and in relation to other clashes. Manage and track clashes from identification to resolution.

Real-time navigation

Explore a whole-project model using advanced navigation tools, including Walk, Look Around, Zoom, Zoom Box, Pan, Orbit, Examine, Fly, and Turntable.

Project visuals

Create 3D animations and imagery for presentations. Customize and configure every render aspect, including materials, lights, backgrounds, and styles.



More clearly communicate design intent



Rendered in Autodesk® 3ds Max® software.

Create near-photorealistic visuals

Use the 3D modeling, animation, and rendering tools in Autodesk 3ds Max software to help create near-photorealistic project visuals and 3D construction animations of process plants, as well as perform rigging studies for erection and lifting of complex equipment. 3ds Max is available in Plant Design Suite Premium and Ultimate editions.

Create 3D presentations from CAD data

With Autodesk Showcase software, you can more quickly and easily transform plant and equipment designs into compelling imagery, movies, and real-time presentations. Explore design variations dynamically with colleagues and clients in an immersive 3D environment.

Build on AutoCAD expertise and resources

Autodesk Plant Design Suite Ultimate 2016

For multidisciplinary plant design, the Ultimate edition builds on the capabilities of the Premium edition with the addition of specialized software to support 3D plant equipment and skid design, as well as tools to help identify clashes early in the process.

Autodesk Plant Design Suite Premium 2016

The Premium edition builds on the capabilities of the Standard edition with additional software for modern 3D modeling, including piping design, structural design, isometric/orthographic generation, and projectwide model aggregation, as well as advanced tools for visualization and construction simulation.

Autodesk Plant Design Suite Standard 2016

The Standard edition supports foundational drafting and P&ID plant design workflows, enabling users to utilize available AutoCAD expertise and resources to streamline layout, drafting, and P&ID work.

Products	ULTIMATE	PREMIUM	STANDARD
Autodesk® AutoCAD® 2016	✓	✓	✓
Autodesk® ReCap™ 2016	✓	✓	✓
Autodesk® AutoCAD® P&ID 2016	✓	✓	✓
Autodesk® AutoCAD® Raster Design 2016	✓	✓	✓
Autodesk® Showcase® 2016	✓	✓	✓
Autodesk® AutoCAD® Plant 3D 2016	✓	✓	
Autodesk® AutoCAD® MEP 2016	✓	✓	
Autodesk® Revit® Structure 2016	✓	✓	
Autodesk® 3ds Max® 2016	✓	✓	
Autodesk® Navisworks® Simulate 2016		✓	
Autodesk® Navisworks® Manage 2016	✓		
Autodesk® Inventor® 2016 with Routed Systems	✓		
Products and services available with Autodesk® Subscription			
Optimization for Autodesk Inventor	✓		
Structural Analysis for Revit	✓	✓	
Rendering	✓	✓	✓

One of the more challenging aspects of undertaking a plant retrofit, revamp, or expansion is finding the right mix of tools to manage the complexities and nuances of individual projects. We see real value in Autodesk offering a compatible set of tools in one economical and convenient purchase. Autodesk Plant Design Suite helps reduce training time and minimizes support headaches for multiple tools and vendors, and also gives us access to more technology to help us innovate and differentiate ourselves from our competitors.

—Armando Valdez Cárdenas
Central Region Unit Manager
COMIMSA

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Autodesk 360

The Autodesk® 360 cloud-based framework provides tools and services to extend design beyond the desktop. Streamline your workflows, effectively collaborate, and quickly access and share your work anytime, from anywhere. Learn more at www.autodesk.com/autodesk360.

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