

Autodesk Product Design Suite 2012:

Autodesk® Product Design Suite 2012 software is a comprehensive set of design, visualization, and simulation software. It provides the designers and engineers who are responsible for creating remarkable products the flexibility to innovate and ability to more easily respond to changing business requirements. With greater access to compatible tools for sketching, surfacing, modelling, drawing, simulating, tooling, rendering, animating, and data management, users are empowered to create spectacular products. From early design concepts to detailed engineering and simulation the Autodesk Product Design Suite is an ideal Digital Prototyping solution for your entire product design workflow.

Autodesk Product Design Suite Standard:

| | |
|---|------------------------------|
| Sketch, Paint & Illustration | Autodesk SketchBook Designer |
| 3D Concept & Shape Exploration | Autodesk Mudbox |
| Intelligent 2D Mechanical Engineering | AutoCAD Mechanical |
| Real-time Design Review & Visualisation | Autodesk Showcase |
| Work in Progress Design Data Management | Autodesk Vault |

Autodesk Product Design Suite Premium:

| | |
|---|------------------------------|
| Sketch, Paint & Illustration | Autodesk SketchBook Designer |
| 3D Concept & Shape Exploration | Autodesk Mudbox |
| Intelligent 2D Mechanical Engineering | AutoCAD Mechanical |
| Real-time Design Review & Visualisation | Autodesk Showcase |
| Work in Progress Design Data Management | Autodesk Vault |
| 3D Digital Prototyping | Autodesk Inventor |
| Creative Visualisation & Animation | Autodesk 3ds Max Design |

Autodesk Product Design Suite Ultimate:

| | |
|---|--------------------------------|
| Sketch, Paint & Illustration | Autodesk SketchBook Designer |
| 3D Concept & Shape Exploration | Autodesk Mudbox |
| Intelligent 2D Mechanical Engineering | AutoCAD Mechanical |
| Real-time Design Review & Visualisation | Autodesk Showcase |
| Work in Progress Design Data Management | Autodesk Vault |
| 3D Digital Prototyping incl specialised tools | Autodesk Inventor Professional |
| Creative Visualisation & Animation | Autodesk 3ds Max Design |
| Surface Based Design | Autodesk Alias Design |

Autodesk Factory Design Suite 2012:

Autodesk® Factory Design Suite 2012 extends Digital Prototyping to the factory floor. Autodesk Factory Design Suite is a 2D & 3D factory layout and optimization solution that can help you make better layout decisions by creating a digital model of your factory. It offers unique factory-specific functionality in AutoCAD® and Autodesk® Inventor® software and combines them with powerful visualization and analysis tools that help manufacturers and system integrators be more innovative, flexible, and collaborative when responding to changing business requirements

Autodesk Factory Design Suite Standard:

| | |
|---|-----------------------------------|
| Architectural Design & Layout | AutoCAD Architecture |
| Intelligent 2D Mechanical Engineering | AutoCAD Mechanical |
| Real-time Design Review & Visualisation | Autodesk Showcase |
| Work in Progress Design Data Management | Autodesk Vault |
| Factory Design Specific Tools | Autodesk Factory Design Utilities |

Autodesk Factory Design Suite Premium:

| | |
|---|-----------------------------------|
| Architectural Design & Layout | AutoCAD Architecture |
| Intelligent 2D Mechanical Engineering | AutoCAD Mechanical |
| Real-time Design Review & Visualisation | Autodesk Showcase |
| Work in Progress Design Data Management | Autodesk Vault |
| Factory Design Specific Tools | Autodesk Factory Design Utilities |
| 3D Digital Prototyping | Autodesk Inventor |
| Creative Visualisation & Animation | Autodesk 3ds Max Design |
| Data Aggregation & Analysis | Autodesk Navisworks Simulate |

Autodesk Factory Design Suite Ultimate:

| | |
|---|-----------------------------------|
| Architectural Design & Layout | AutoCAD Architecture |
| Intelligent 2D Mechanical Engineering | AutoCAD Mechanical |
| Real-time Design Review & Visualisation | Autodesk Showcase |
| Work in Progress Design Data Management | Autodesk Vault |
| Factory Design Specific Tools | Autodesk Factory Design Utilities |
| 3D Digital Prototyping incl specialised tools | Autodesk Inventor Professional |
| Creative Visualisation & Animation | Autodesk 3ds Max Design |
| Data Aggregation, Analysis & 4D Simulation | Autodesk Navisworks Manage |

Autodesk Inventor Functionality Matrix:

Autodesk® Inventor® software takes engineers beyond 3D to Digital Prototyping by giving them a comprehensive set of tools for 3D mechanical design that enables them to design, visualize, and simulate products before they are ever built. Digital Prototyping with Inventor helps companies design better products, reduce development costs, and get to market faster.

| | Autodesk Inventor | Autodesk Inventor Professional |
|---------------------------------|-------------------|--------------------------------|
| Real-time Visualisation | ✓ | ✓ |
| 3D Design Engineering | ✓ | ✓ |
| Associative 2D Drawings | ✓ | ✓ |
| DWG Open & Save As... | ✓ | ✓ |
| DWG TrueConnect | ✓ | ✓ |
| Design Accelerators | ✓ | ✓ |
| Engineering Calculations | ✓ | ✓ |
| Multi Body Solids | ✓ | ✓ |
| Large Assembly Management | ✓ | ✓ |
| Marking Menu & Heads up Display | ✓ | ✓ |
| Assembly Configurations | ✓ | ✓ |
| Assembly Kinematics | ✓ | ✓ |
| Interference & Clash Analysis | ✓ | ✓ |
| Bill of Materials & Parts List | ✓ | ✓ |
| Eco Materials Advisor | ✓ | ✓ |
| Tolerance Modeller | ✓ | ✓ |
| Plastic Part Design | ✓ | ✓ |
| Sheet Metal Design | ✓ | ✓ |
| Structural Frame Design | ✓ | ✓ |
| Weldment Design | ✓ | ✓ |
| AEC Exchange | ✓ | ✓ |
| 2D to 3D Tool | ✓ | ✓ |
| Feature Recognition | ✓ | ✓ |
| Presentations (Exploded Views) | ✓ | ✓ |
| Photo-Real Rendering | ✓ | ✓ |
| Standard Parts Library | ✓ | ✓ |
| On-line Supplier Content Access | ✓ | ✓ |
| Rules Based Automation (iLogic) | ✓ | ✓ |
| Red-line\Mark-up Overlay | ✓ | ✓ |
| Single Part FEA | | ✓ |
| Assembly FEA | | ✓ |
| Modal Analysis | | ✓ |
| Parametric Design Optimisation | | ✓ |
| Frame Analysis | | ✓ |
| Tube, Pipe & Hose Routing | | ✓ |
| Cable & Wire Harness Routing | | ✓ |
| AutoCAD Electrical Integration | | ✓ |
| Ribbon Cable | | ✓ |
| PCB Import | | ✓ |
| Core & Cavity | | ✓ |
| Intelligent Mould Base Design | | ✓ |
| Moldflow Analysis | | ✓ |

File Formats:

Reduce time to market by working directly with 'non-native' part, assembly and drawing data. Easily import 2D and 3D data created using other CAD software allowing you to review and incorporate data quickly and easily without the need spend time recreating.

| | Open | Save As... |
|-----------------------|------|------------|
| AutoCAD DWG | ✓ | ✓ |
| Alias | ✓ | |
| Catia v5 | ✓ | ✓ |
| Catia v4 | ✓ | ✓ |
| Pro\Engineer | ✓ | ✓ |
| SolidWorks | ✓ | |
| UGNX | ✓ | |
| JT | ✓ | ✓ |
| IGES | ✓ | ✓ |
| STEP | ✓ | ✓ |
| DXF | ✓ | ✓ |
| Parasolid Binary | ✓ | ✓ |
| Parasolid ASCII | ✓ | ✓ |
| SAT | ✓ | ✓ |
| DWF Mark-up Files | ✓ | |
| Rhino | ✓ | |
| IDF Board Files | ✓ | |
| Stereolithography STL | | ✓ |
| XGL\ZGL | | ✓ |

Engineering Design Standards:

The Content Centre provides fast and easy access to frequently used content, simplifying creation, reuse, and management of all standard company content. The Content Centre is a centralised library for engineering content that provides an easy-to-use content browser with Search and Filter tools to help you quickly find the right parts families. It includes more than 1 million components—such as nuts, bolts, and screws—and enables companies to add in-house parts and standard features to user-defined libraries.

| | Content Centre | 2D Styles & Standards |
|--------|----------------|-----------------------|
| ANSI | ✓ | ✓ |
| ASME | ✓ | |
| ASTM | ✓ | |
| BSI | ✓ | ✓ |
| DIN | ✓ | ✓ |
| ISO | ✓ | ✓ |
| JIS | ✓ | ✓ |
| GB | ✓ | ✓ |
| GOST | ✓ | ✓ |
| Parker | ✓ | |

Intelligent Design Engineering & Calculations:

Rapidly design, analyse, and create commonly used machine components based on functional requirements and specifications. Move beyond 2D drafting and 3D modelling. You can accelerate design by working with parts that are based on mechanical relationships rather than on geometric descriptions (lines, arcs, and circles) and constraints. Design accelerators create parts and assemblies based on user input of real-world attributes and conditions.

| | Component Generator | Engineering Calculation |
|------------------------|---------------------|-------------------------|
| Shafts | ✓ | ✓ |
| Keys | ✓ | ✓ |
| Splines | ✓ | ✓ |
| Chains | ✓ | ✓ |
| Fasteners | ✓ | ✓ |
| Pins | ✓ | ✓ |
| Structural Frame | ✓ | ✓ |
| Spur Gear | ✓ | ✓ |
| Worm Gear | ✓ | ✓ |
| Bevel Gear | ✓ | ✓ |
| Synchronous Belt | ✓ | ✓ |
| Pulleys | ✓ | ✓ |
| V-Belt | ✓ | ✓ |
| Roller Chain | ✓ | ✓ |
| Sprockets | ✓ | ✓ |
| Disc Cam | ✓ | ✓ |
| Linear Cam | ✓ | ✓ |
| Cylindrical Cam | ✓ | ✓ |
| Parallel Spline | ✓ | ✓ |
| Involute Spline | ✓ | ✓ |
| O-Ring | ✓ | |
| Compression Spring | ✓ | ✓ |
| Belville Spring | ✓ | ✓ |
| Torsion Spring | ✓ | ✓ |
| Extension Spring | ✓ | ✓ |
| Bearing | ✓ | ✓ |
| Drum Brake | | ✓ |
| Disc Brake | | ✓ |
| Band Brake | | ✓ |
| Cone Brake | | ✓ |
| Separated Hub | | ✓ |
| Slotted Hub | | ✓ |
| Cone Joint | | ✓ |
| Power Screw | | ✓ |
| Tolerance, Limits/Fits | | ✓ |
| Press Fit | | ✓ |

On-Line Supplier Content:

Reduce the time and effort to incorporate standard components into designs. The Supplier Content Centre provides web-based access to component models from more than 100 leading manufacturers. The simple-to-use browser provides quick and easy access to models in native Inventor format. And it's fully integrated with the Autodesk Inventor Content Centre.

| | | |
|--------------------|-----------------------|---------------------|
| ABB | Gemotec | PHD |
| AFAG | Genustech | PMA |
| Agathon | Grip | Ramseier |
| Agru | Groschopp | Ringfeder |
| AHP-Merkle | Gutekunst | RITTAL |
| Albion | Gysin | RK Rose |
| Alfatec | Halder | Robotunits |
| AMF | Heinz-Meyer | Rockwell Automation |
| Balluff | Heiss | Rodobal |
| Bell-Hermetic | Hoerbiger Origa | Rodoflex |
| BENE INOX | HUA NING | Rodogrip |
| Berger Lahr | Hydropneu | Rodoset |
| Bilsing Automation | IEF-Werner | Rodriguez |
| Bosch Rexroth | Ifm electronic | Rossi |
| Brauer | IGUS | Rud |
| Burger Brown | Incoe | Scmalz |
| Busak Shambon | INKOMA Group | Schneeberger |
| Camozzi | IPR | Schunk |
| Centrycon | Jakob Antriebstechnik | Serto |
| Chick | KabelschleppKaller | SFC |
| CUMSA | KIPP | Shenda |
| CutTOOLity | KIPP USA | Shinelink |
| Dadco | Komax | Sibos |
| DE_STA_CO | Leser | Smalley |
| Dirak | Liner-Mech | SMC |
| DME | LIXN | Sommer Automatic |
| Eaton | Mader | Special Springs |
| Eberhard | Maedler | Tecsis |
| Elesa | Main-Metall | Tvmp |
| Elodrive | Maschinenbau | Univer |
| EMB | MayTec | VEP Automation |
| Emile Maurin | Michaud Chailly | Voest Alpine Linz |
| EPS | Misumi | Vollmer |
| Eriks | Montech | Vuototecnica |
| ERO | Moxmec | W M Berg |
| EWIKON | Neff | Wago |
| FAG | Neugart | Walterscheid |
| Fath | NOR-CAL | WD Bearings |
| Febrotec | Norelem | Weidmuller |
| Festo | NovoNox | Welkerbearing |
| Fibro | NSK | Winkel |
| First | Numatics | Witte |
| Flexlink | Ognibene | Yantai |
| Foehrenbach | PCS | Zimmer |
| Franke | Pedrotti | Zipatec |
| Gantner | PFLITSCH | |

Document and Data Management:

The Autodesk Vault product family helps engineering workgroups manage design, simulation, and documentation data and processes. Save time organizing models, files and drawings. Control and manage change processes to avoid costly mistakes in order to efficiently release and revise designs. Vault data management software can be deployed as a standard configuration or tailored to unique requirements, enabling users to become productive more quickly, providing a faster return on investment.

| | Vault | Vault Workgroup | Vault Collaboration | Vault Professional |
|---------------------------------|-------|-----------------|---------------------|--------------------|
| Secure Central File Management | ✓ | ✓ | ✓ | ✓ |
| Single Workgroup | ✓ | ✓ | ✓ | ✓ |
| Fast Search & Copy Design | ✓ | ✓ | ✓ | ✓ |
| Autodesk CAD Integrations | ✓ | ✓ | ✓ | ✓ |
| Document Preview | ✓ | ✓ | ✓ | ✓ |
| Version Control | ✓ | ✓ | | |
| Visual Data Mapping | | ✓ | ✓ | ✓ |
| Data Cards | | ✓ | ✓ | ✓ |
| Revision Management | | ✓ | ✓ | ✓ |
| Document Lifecycles | | ✓ | ✓ | ✓ |
| Automatic File Naming | | ✓ | ✓ | ✓ |
| File & Folder Security | | ✓ | ✓ | ✓ |
| Multi-Site Replication | | | ✓ | ✓ |
| Web View & Print Client | | | ✓ | ✓ |
| Reporting | | | ✓ | ✓ |
| Server Based DWF Publishing | | | ✓ | ✓ |
| BOM Management | | | | ✓ |
| ERP Integration | | | | ✓ |
| Engineering Change Orders (ECO) | | | | ✓ |
| Multi-CAD Integrations | | | | ✓ |

In-CAD Integration:

In-CAD integration gives users access to data management tools and functionality directly within the design, simulation and/or visualisation application.

| | Vault | Vault Workgroup | Vault Collaboration | Vault Professional |
|-----------------------------|-------|-----------------|---------------------|--------------------|
| AutoCAD | ✓ | ✓ | ✓ | ✓ |
| AutoCAD Mechanical | ✓ | ✓ | ✓ | ✓ |
| AutoCAD Electrical | ✓ | ✓ | ✓ | ✓ |
| Autodesk Inventor | ✓ | ✓ | ✓ | ✓ |
| Autodesk 3ds Max Design | ✓ | ✓ | ✓ | ✓ |
| Autodesk Inventor Publisher | ✓ | ✓ | ✓ | ✓ |
| Autodesk Simulation | ✓ | ✓ | ✓ | ✓ |
| Autodesk Revit | | | ✓ | ✓ |
| Autodesk Navisworks | ✓ | ✓ | ✓ | ✓ |





