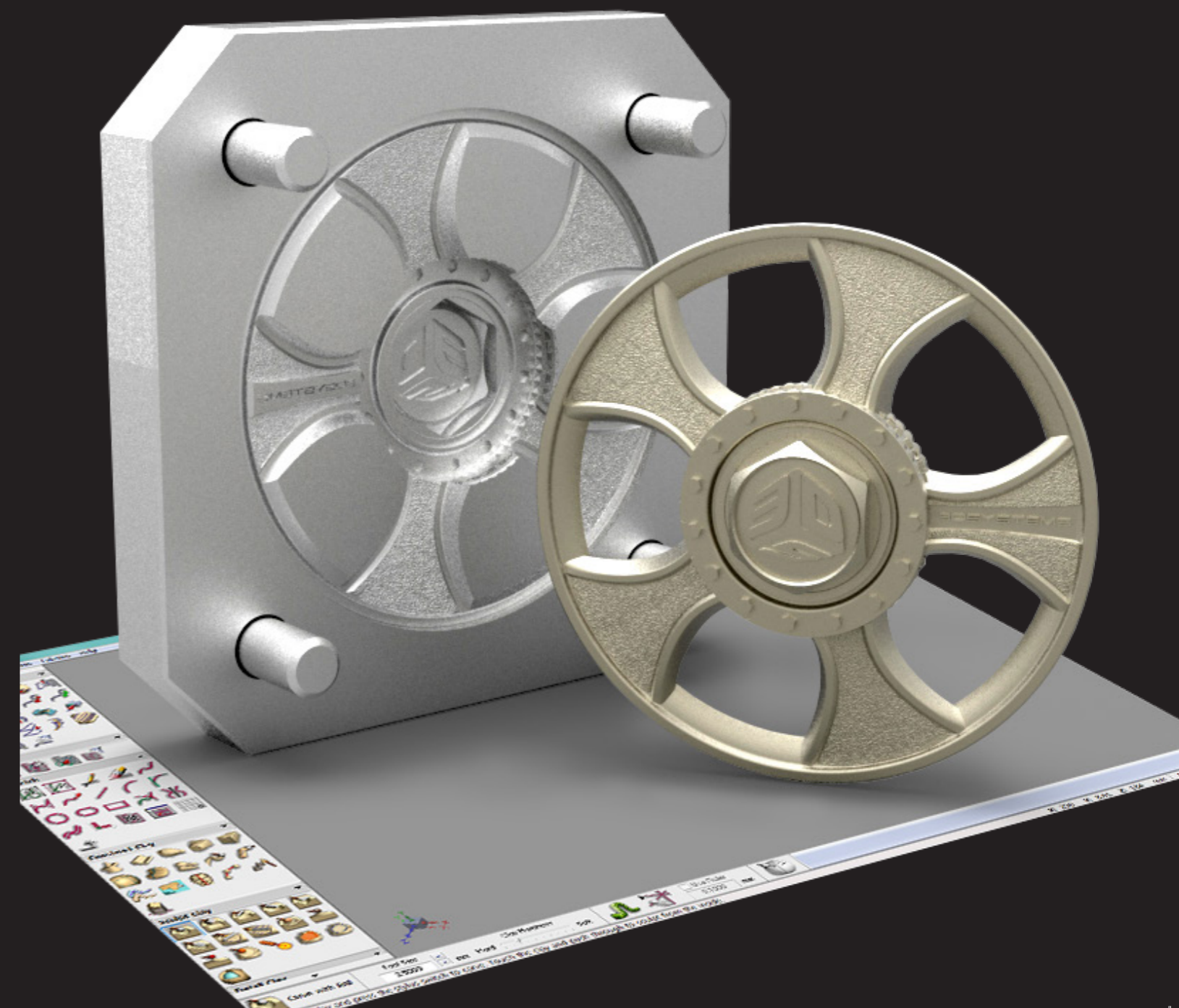


Geomagic Freeform Feature Comparison

Functionality	Sculpt™	Freeform®	Freeform® PLUS
Voxel Based Modeling	•	•	•
Mesh modeling toolset	•	•	•
Sub D surfacing, modeling and texturing	•	•	•
Full HD color rendering with KeyShot for 3D Systems	•	•	•
Manual/pattern piece	•	•	•
Conversion of Sub D to NURBS			•
Automated conversion of clay or polygon models to NURBS surfaces	•	•	•
Pattern/emboss a bitmap along curves	•	•	•
CAD Solids & Surface tools			•
Object list functionality	•	•	•
Complex draft analysis and correction			•
Automated mold parting line function			•
Manual parting surface generation			•
3D Import of NURBS formats			•
3D Import of Polygon formats	•	•	•
2D import of graphics formats	•	•	•
3D Export of polygon and 3D print formats	•	•	•
3D Printability analysis	•	•	•

Geomagic® Freeform® Geomagic® Freeform® PLUS

Design Without Limits. Manufacture With Success



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About 3D Systems

3D Systems is a leading provider of 3D content-to-print solutions including 3D printers, print materials and on-demand custom parts services for professionals and consumers alike. The company also provides CAD, reverse engineering and inspection software tools and consumer 3D printers, apps and services. Its expertly integrated solutions replace and complement traditional methods and reduce the time and cost of designing new products by printing real parts directly from digital input. These solutions are used to rapidly design, create, communicate, prototype or produce real parts, empowering customers to create and make with confidence.

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Geomagic® Freeform® Geomagic® Freeform® PLUS

Geomagic Freeform is a multi-purpose design platform that lets you create complex, sculptural, production-ready 3D models and quickly prepare them for 3D printing, or mold and die manufacturing.

Manufacture Directly From Your Designs

Freeform models transition directly into your 3D printing or mold-and-die manufacturing workflow. Geomagic Freeform Plus allows you to identify and remedy potential manufacturing issues early in the design process so you can retain artistic control while avoiding production surprises and costly oversights. Freeform models transition directly into your 3D printing or mold and die manufacturing workflow.

Freeform Plus accelerates design times, improves accuracy and virtually guarantees moldability with its wide range of tools for analyzing and creating mold cavities and cores, inserts and slides, and complex parting geometries directly from your 3D model. Tools include no-fail shelling, draft analysis and correction tools, thickness analysis, real-time parting line visualization and extraction, mold cavity and core extraction functions, and complex parting surface development.

You can also use Freeform data to quickly 3D print casting patterns for fast, accurate creation of investment casts. Design in the morning and cast in the afternoon with Geomagic Freeform.

Design the Impossible

Geomagic Freeform picks up where your traditional CAD system stops. Now you can design like never before, combining beautiful sculpted forms with established production workflows. Go as far as your imagination will take you with Freeform.

Enjoy Instant 3D Printability

With Freeform's 3D Printability checking tools, you can also catch potential design flaws early on, streamlining your design to production process. You can harness Freeform's patented voxel technology to assure that designs are topologically error free, and cut the need for expensive geometry analysis and repair software.

A Different Approach

Geomagic Freeform is unique in its ability to handle voxels, polygons, subdivision and NURBS solids and surfaces in one consistent design environment. This allows you to use the right representation for the right job, giving you more choices and enabling incredibly fast, flexible workflows. Freeform's robust file import and export formats allow you to easily integrate sculpted designs with traditional CAD models.

Industries

Patient Specific Surgical Planning for Medical Implants, Orthotics and Prosthetics

Surgical Planning

Medical Implants

Orthotics

Prosthetics

Craniofacial

Used by the World's Leading Companies in Toys, Consumer Products, Jewelry, Home Decor and More.

Consumer Product

Coins

Home Deco

Jewelry

Toys

Collectibles

Figurines

Unleash your Creativity with the Sense of Touch

Combine Organic and Engineered Forms

Freeform leverages today's best geometric representations to help you surpass the limitations of traditional CAD and bring your visions to reality. Use voxel modeling to sculpt, detail and deform virtual clay models into any form you desire. Elevate the quality and finish of your design with our suite of geometric texture embossing tools. Use the power of Sub D surfaces where you need both highly continuous smooth surfaces, and razor sharp edges. You can also create or import traditional CAD solids or NURBS surfaces, then combine them with your organic shapes in one software application.

Design at Your Fingertips, Literally

For the ultimate in expressive freedom and faster modeling Freeform with integrates the Geomagic Touch family of haptic devices. Geomagic Touch provides force feedback and six-degree-of-freedom input to give you the physical sensation of sculpting in 3D. This more intuitive way of interacting with your 3D models gives you a dramatically reduced learning curve. Freeform gives you all the speed and sensation of hand sculpting with the benefits of a digital workflow.

Design within a 3D Workflow

Geomagic Freeform is purpose-built to get your design into production, including its robust interoperability tools to handle import and export of neutral 3D file formats (STL, OBJ, PLY, VRML); IGES curves; and Parasolid, IGES and STEP solids. Freeform's voxel technology and other modeling representations use common CAD software components giving you the ability to create accurate organic solids that are either defined by explicit dimensions. Or alternatively by dynamic on-screen modifications which are enhanced by the integration of touch and feel. With this kind of freedom you can seamlessly exchange and integrate 3D design data from various sources.

Perfectly Realistic Renderings with KeyShot for 3D Systems

Amaze and delight your clients or colleagues with the new high definition KeyShot for 3D Systems which enables fast and beautiful renderings of your designs. A wide range of preset materials, lights and cameras let you create stunning renderings faster. For highly customized renderings, KeyShot includes tools to create high-resolution images, custom materials and sophisticated lighting.

Workflows

Sample Concept Model Workflow

Import Design Sketches

- Free hand drawing
- Vector artwork

Build

- Start from a blank screen or build on imported reference models
- Reference imported design sketches

Detail

- Add real geometry textures
- Add complex features and details

Presentation

- Photo-realistic renderings for digital reviews and brochures
- Send to 3D print for physical reviews

Create Production Ready Models

Initial Sculpt

- Start with the initial sculpt made in Freeform
- Or start with an imported file

Engineer the Assembly

- Define simple and complex cutting surfaces
- Add assembly geometry
- Shelling that never fails

Dynamic Draft Analysis

- Tools to assess best mold directions
- Real time analyses as you model
- Tools to automatically fix undercuts

Mold Insert Design

- Define complex split lines
- Develop complex parting surfaces
- Pass fully surfaced, mixed-mode or fully polygonal data to machining

Manufactured Part

- Create physical parts from digital models with unbelievable detail and complexity