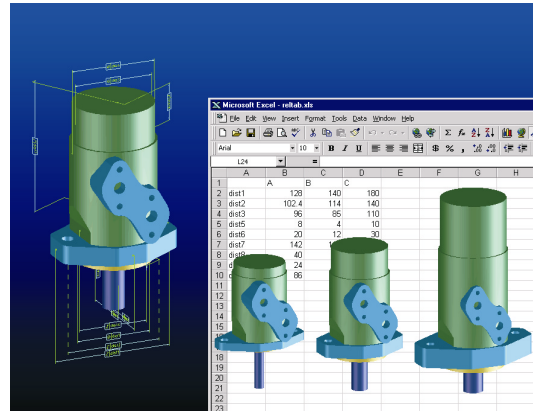


Parametrics

The Parametrics module enables designers to rapidly develop new products using parameterized parts. It supports parametric and logical relations between faces and features of solid models, allowing the easy exploration of design alternatives by changing variables within a table, or directly on the model.



Parameterization of a 3D Model

Parametrics enables designers to set up parametric and logical relations between faces and features within a 3D solid model. This can be done at any time in the design process, regardless of whether the model is native or imported. Therefore users have the flexibility to create parameters and relations only when they are needed to drive fast model changes. These changes are made by altering values in parameter tables. The model retains the information in order to preserve design intent in the face of subsequent changes.

Parametrics substantially increases the designer's efficiency when evaluating concepts, exploring design alternatives, or creating families of parts. The quality of parts is significantly improved because Parametrics keeps track of predefined design criteria such as critical dimensions, and advises the designer of any risk of violation. For interactive modification, Parametrics ensures continued design integrity throughout the model.

Key Features

Parametrics enables designers to specify relationships between faces and features within a solid model. The relationships can be grouped into one or more relation sets and stored with the model. The designer is able to create and modify relations at any time in the design process, with imported solid models from other legacy computer-aided design (CAD) systems being open to parameterization in the same way as OneSpace models.

By applying predefined tables of parameter values to the model, the designer can easily create variants and families of parts.

When interactive changes are being made to the model, the designer receives a notification if a modification threatens to break the specified design intent.

Parametrics allows designers to set up relations of several different types:

- Value relations such as distance, angle, radius and diameter.
- Logical relations such as parallel, perpendicular, coincident, tangent, fixed in space or rigid (treated as a single unit).
- Independent variables such as distance, angle or value.
- Measure values such as distance, angle, length or radius.

The reference elements for the relations can be points, curves, or surfaces of any analytical type. Value relations can be expressed as discrete values or by mathematical or conditional expressions. Independent variables allow the user to enter values or expressions without any direct reference to the model. Like measure values, they can be used as reference values within expressions involving distance and angle relations. Rules for range checking can be specified to verify user-defined parameter values or to ensure that measured values fall within a given range.

Parameter values in a table can easily be changed. Alternatively, predefined parameter tables, loaded from an external file, can be used to specify different configurations.

OneSpace Designer Modeling

Parametrics

Specific Product Features

- Add-on module to OneSpace Designer Modeling
- Fully integrated within OneSpace Designer Modeling user interface
- Relations can be set, modified or removed at any time in the design process
- Ability to apply relations to imported models
- Definition of one or more relation sets
- Logical and value relations possible
- Formula for value relations possible
- Under-constrained and over-constrained models supported
- Fast and easy handling
- Activation/deactivation of single or sets of relations
- Range check capability
- Easy parameter change in a table or by predefined parameter value tables

System Requirements

OneSpace 2002 and later.

Runs on same platforms as OneSpace Designer Modeling:

- HP-UX® 11.0/11i (ACE 1199)
- Windows NT™ 4.0
- Windows 2000™
- Windows XP™ professional

See also OneSpace Designer Assembly, which provides complementary capabilities for specifying design intent at the assembly level. The Assembly module significantly enhances the productivity of teams engaged in collaborative modeling of assemblies.

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Ordering Information	
Parametrics	C230
Parametrics Support	C230A
Prerequisites	C200
Modeling	
Electronic manuals are available on the OneSpace media.	

CoCreate

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