AVEVA™ Model Simplification
AVEVA™ Native Model Simplification

AVEVA Model Simplification and AVEVA Native Model Simplification are add on products that enable users to import into AVEVA E3D Design, complex 3D CAD models of equipment items that have been created in external Mechanical CAD (MCAD) systems.

During the import process into AVEVA E3D Design the equipment items can be simplified before being inserted into the typical design database to vastly improve on software performance. The imported equipment items behave in exactly the same way as other AVEVA E3D Design objects to ensure you can work on projects more efficiently with ease and accuracy.

The Challenge

Plant layouts incorporate a significant number of machines and large equipment installations. CAD models of these equipment installations contain a great deal more detail than what is needed in the plant layout model. Importing unnecessary information and data can have a negative impact on performance in the layout tool. By quickly removing unwanted parts/details and simplifying the model the tool allows seamless incorporation of equipment models into the plant model.

Field users often receive data over cellular connections, where large files are costly and slow resulting in large data transfer costs and valuable lost time. Mechanical equipment vendors often want to protect their intellectual property and don't always extract the data sent to layout engineers in the best possible format for integration.

Solution overview

AVEVA Model simplification allows users to quickly and automatically remove unwanted small parts such as nuts, bolts, washers and small brackets based on size. They can also remove small CAD features such as holes, protrusions, fillets, logos, lettering and ribs.

It is also possible to remove internal parts and to simplify complex parts to basic shapes which help to improve performance.

The simplification tools, powered by ITI's CADfix PPS automatic simplification solution, comprise of an advanced model simplification Wizard which has three levels of simplification, with user options to control specific simplification operations.
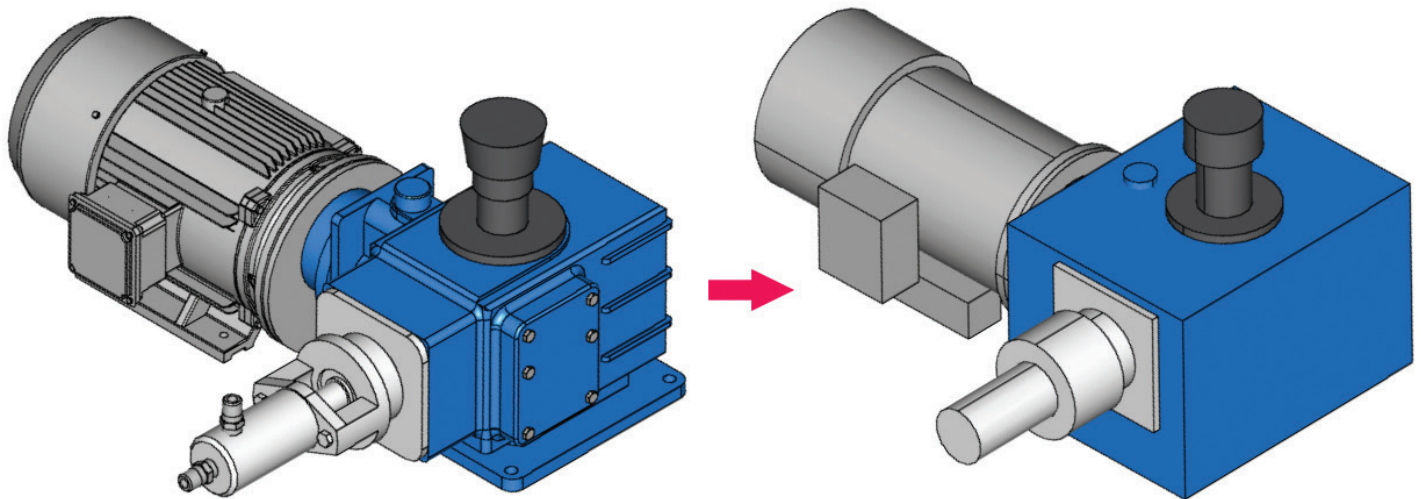
Key benefits

Improved performance

- Orders of magnitude file size reduction can be achieved ahead of integration of CAD models into AVEVA E3D Design
- Save days of non-productive geometry handling
- Increase efficiency, decrease time-to-market and get to commissioning faster
- Greater stability and usability of plant design systems containing large equipment models
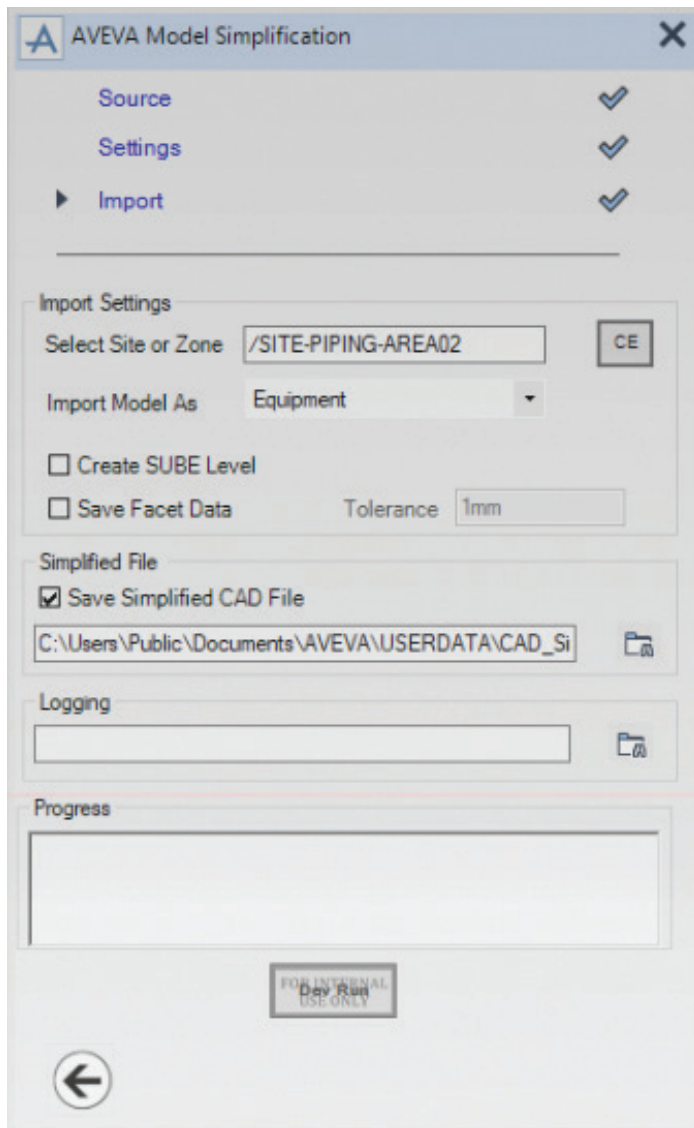
Workflow savings

- Significantly reduce file sizes
- Eliminate import failures
- Produce legible models
- Avoid CAD rework
- Eliminate system hangs
- Reduced lead times and faster response

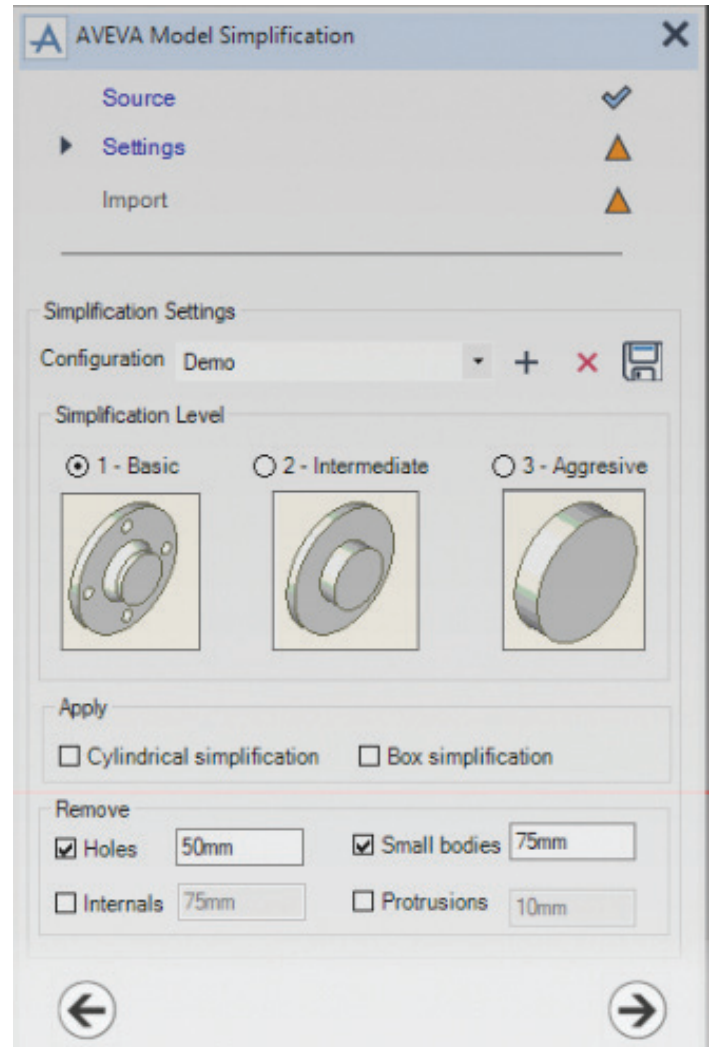Left: The original model, Right: The simplified import to AVEVA E3D Design

Business value

- Get to commissioning and production faster by eliminating non-value added time associated with CAD simplification

- Drive increased profit margins across projects by eliminating non-value-added labor

- Opportunity cost savings as staff are able to spend more time focused on value-added activity

- Time-to-market advantages with a faster response to field engineers

- Avoid potential program delay penalties

Supported file formats

The AVEVA Model Simplification tool will allow users to read STEP files and apply simplification to them. The AVEVA Native Model Simplification add-on tool will allow common native MCAD system file formats to be imported, these formats are:

- Catia V5
- Creo
- Inventor
- NX
- Solid Edge
- Solidworks

For more information about AVEVA Model Simplification and AVEVA Native Model Simplification please contact your local AVEVA representative or submit a contact request via the AVEVA E3D Design page on our website.

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