



## TD Direct and TD Mesher

**TD Mesher** is a tool for generating finite element meshes that is included in Thermal Desktop. It is a quick solution for simple geometry. However, when geometry is more complex, changes through the design process, or needs to be altered by the thermal engineer, then **TD Direct** is also needed.

**TD Direct** is our advanced thermal mesher. It operates within SpaceClaim, a powerful CAD program that is easy to learn. **TD Direct** adds far more capability for creating and updating geometry.

| <i>Assemblies</i>  | <b>TD Mesher</b> | <b>TD Direct</b> |
|--|------------------|------------------|
| Part meshing   | ✓                | ✓                |
| Assembly meshing   | -                | ✓                |
| Automatic merged or matched interfaces                   | -                | ✓                |
| <b>Domains for persistent model creation and updates</b> | -                | ✓                |
| <i>Element and Mesh Controls</i>                         |                  |                  |
| Relative mesh seed size                                  | ✓                | ✓                |
| Absolute mesh seed size                                  | ✓                | ✓                |
| <b>Local mesh controls</b>                               | -                | ✓                |
| Element quality controls                                 | -                | ✓                |
| <b>Curved elements</b>                                   | -                | ✓                |
| Ignore small features option                             | -                | ✓                |
| Suppression of selected faces for surface-only mesh      | -                | ✓                |
| <i>Element shapes</i>                                    |                  |                  |
| Triangles  | ✓                | ✓                |
| Quadrilaterals   | -                | ✓                |
| Tetrahedrons   | ✓                | ✓                |
| Prisms   | ✓                | ✓                |
| Hexahedrons  | -                | ✓                |
| <i>Structured mesh types</i>                             |                  |                  |
| Revolved Mesh (constant cross section only)              | ✓                | -                |
| Extruded Mesh (constant cross section only)              | ✓                | -                |
| Swept Mesh (variable cross section, curved path)         | -                | ✓                |
| <i>Geometry</i>  |                  |                  |
| <b>Single-click updates</b>                              | -                | ✓                |
| Easy solid model generation                              | -                | ✓                |
| Import and modify most existing solid file formats       | -                | ✓                |
| Simplify imported geometry                               | -                | ✓                |
| Heal imported geometry                                   | -                | ✓                |