



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.

| | TD Mesher | TD Direct |
|--|------------------|------------------|
| <i>Assemblies</i> | | |
| Part meshing | ✓ | ✓ |
| Assembly meshing | - | ✓ |
| Automatic merged or matched interfaces | - | ✓ |
| Domains for persistent model creation and updates | - | ✓ |
| <i>Element and Mesh Controls</i> | | |
| Relative mesh seed size | ✓ | ✓ |
| Absolute mesh seed size | ✓ | ✓ |
| Local mesh controls | - | ✓ |
| Element quality controls | - | ✓ |
| Curved elements | - | ✓ |
| 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> | | |
| Single-click updates | - | ✓ |
| Easy solid model generation | - | ✓ |
| Import and modify most existing solid file formats | - | ✓ |
| Simplify imported geometry | - | ✓ |
| Heal imported geometry | - | ✓ |