Autodesk® CFD vs.
Autodesk® CFD Advanced and **Autodesk® CFD Motion**

Comparison matrix

LEGEND: ✓ Feature supported	Autodesk® CFD	Autodesk® CFD Advanced	Autodesk® CFD Motion
DESIGN STUDY ENVIRONMENT (Software sold separately)			
MultiCAD data exchange	✓	✓	✓
Design study automation	✓	✓	✓
Multi-scenario design review center	✓	✓	✓
Model-centric interface	✓	✓	✓
Customizable material databases	✓	✓	✓
Heat sink, compact thermal, LED, and TEC models	✓	✓	✓
Fan, porous media, HX, TIM, and PCB models	✓	✓	✓
Non-Newtonian fluid materials	✓	✓	✓
Point, wall, and bulk-flow data extraction	✓	✓	✓
Pre- and post-processing API	✓	✓	✓
Customizable report generator	✓	✓	✓
Web and mobile storage, sharing, and viewing	✓	✓	✓
FSI with Simulation Mechanical	✓	✓	✓
Simulation Data Management with Vault	✓	✓	✓
Export results to Showcase, 3DS max, VRED, Maya	✓	✓	✓
FLUID FLOW			
2D and 3D Cartesian	✓	✓	✓
2D axisymmetric	✓	✓	✓
Laminar flow	✓	✓	✓
Turbulent flow	✓	✓	✓
Incompressible flow	✓	✓	✓
Subsonic flow	✓	✓	✓
Compressible flow		✓	✓
Steady state (time-independent)	✓	✓	✓
Transient (time-varying)		✓	✓
Lagrangian particle tracking	✓	✓	✓
Two-fluid scalar mixing		✓	✓
Two-phase flows (humidity and steam)		✓	✓
Nucleate Boiling		✓	✓
Height of fluid		✓	✓

AUTODESK.

	Autodesk® CFD	Autodesk® CFD Advanced	Autodesk® CFD Motion
Free surface (Volume Of Fluid)		✓	✓
Compressible liquid (water hammer)		✓	✓
Cavitation		✓	✓
HEAT TRANSFER			
Conduction and conjugate heat transfer	✓	✓	✓
Forced, natural, mixed convection	✓	✓	✓
Thermal comfort calculation	✓	✓	✓
Temperature-dependent heat source	✓	✓	✓
Radiation heat transfer		✓	✓
Radiation through transparent media		✓	✓
Solar loading		✓	✓
Temperature-dependent emissivity		✓	✓
Joule heating (temperature-dependent resistivity)		✓	✓
INTELLIGENT MESHING			
Geometry mesh diagnostics	✓	✓	✓
Automatic mesh sizing	✓	✓	✓
Solution adaptive mesh	✓	✓	✓
Global and local size adjustment	✓	✓	✓
Boundary-layer mesh enhancement	✓	✓	✓
Interactive mesh-refinement regions	✓	✓	✓
Extrusion meshing	✓	✓	✓
Mesh growth-rate control	✓	✓	✓
Fluid gap and thin solid refinement	✓	✓	✓

	Autodesk® CFD	Autodesk® CFD Advanced	Autodesk® CFD Motion
TURBULENCE MODELS			
K-epsilon	✔	✔	✔
K-epsilon with intelligent wall formulation	✔	✔	✔
Low Reynolds number K-epsilon	✔	✔	✔
SST k-omega	✔	✔	✔
SST k-omega SAS (Scale Adaptive Simulation)	✔	✔	✔
SST k-omega DES (Detached Eddy Simulation)	✔	✔	✔
RNG	✔	✔	✔
Eddy viscosity	✔	✔	✔
Mixing length	✔	✔	✔
Automatic turbulence startup	✔	✔	✔
Laminar	✔	✔	✔
SOLID BODY MOTION			
User prescribed or fluid driven motion			✔
Multiple rotating frame of reference (turbomachinery)			✔
Linear			✔
Angular			✔
Combined linear and angular			✔
Combined orbital and angular			✔
Nutating			✔
Sliding vane			✔
Unconstrained (6 DOF) motion			✔
HIGH-PERFORMANCE SOLVING (INCLUDED)			
Multicore single machine	✔	✔	✔
Microsoft HPC cluster	✔	✔	✔
Remote solving	✔	✔	✔
Parallel solving on multiple machines*	✔	✔	✔

* Requires multiple solver licenses.

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