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		 Image: A set of the set of the	×
Heat sink, compact thermal, LED, and TEC models	 Image: A start of the start of	 Image: A set of the set of the	¥
Fan, porous media, HX, TIM, and PCB models		 Image: A start of the start of	×
Non-Newtonian fluid materials	×	 Image: A set of the set of the	×
Point, wall, and bulk-flow data extraction	×	×	×
Pre- and post-processing API	×	×	×
Customizable report generator	×	×	×
Web and mobile storage, sharing, and viewing	 Image: A set of the set of the	 Image: A set of the set of the	×
FSI with Simulation Mechanical	×	 Image: A set of the set of the	
Simulation Data Management with Vault	 Image: A set of the set of the	 Image: A set of the set of the	×
Export results to Showcase, 3DS max, VRED, Maya	~	~	 Image: A start of the start of
FLUID FLOW			
2D and 3D Cartesian		 Image: A set of the set of the	¥
2D axisymmetric		 Image: A set of the set of the	×
Laminar flow	 Image: A start of the start of	 Image: A start of the start of	×
Turbulent flow	×	 Image: A set of the set of the	×
Incompressible flow	×	×	×
Subsonic flow	×	 Image: A set of the set of the	×
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 [®] CFD	Autodesk [®] CFD Advanced	Autodesk [®] CFD Motion
Free surface (Volume Of Fluid)		×	
Compressible liquid (water hammer)		¥	 Image: A set of the set of the
Cavitation		V	×
HEAT TRANSFER			
Conduction and conjugate heat transfer	×	×	
Forced, natural, mixed convection	×	×	×
Thermal comfort calculation	×	V	×
Temperature-dependent heat source	×	V	
Radiation heat transfer		V	
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	×	V	×
Mesh growth-rate control	×	V	×
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)	V	×	×
RNG	×	 ✓ 	 ✓
Eddy viscosity	×	 Image: A set of the set of the	 ✓
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	V	×	×
Remote solving	V	¥	V
Parallel solving on multiple machines*	×	×	×

* Requires multiple solver licenses.

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