



HELYX[®]

FEATURE MATRIX

Naval and Marine Industry



CALM WATER RESISTANCE

Volume of Fluid (VOF) solver with support for 6 Degrees of Freedom (DoF)	●	●
VOF solver with support for 6 DoF, implicit wave relaxation zones and Adaptive Mesh Refinement (AMR)		●
Advanced 6DoF library with added masses and inertias		●
Advanced 6DoF body motion, velocity and acceleration report		●
Linearised free surface flow RANS solver		●
Double body steady state solver	●	●
RANS and DES/LES turbulence models	●	●
Smooth and rough wall functions	●	●
Nominal wake fraction calculation	●	●
Automated templates to setup the model		●

SEAKEEPING

First order Stokes regular waves library		●
Second order Stokes regular waves library		●
Fifth order Stokes regular waves library		●
Stream Function regular waves library		●
Solitary wave library		●
Potential current		●
Irregular waves library (bichromatic, JONSWAP, Pierson-Moskowitz)		●
Implicit relaxation zones		●
Calculation of added resistance in waves		●
Calculation of ship motion response in waves		●
Automated templates to setup the model		●

SELF-PROPULSION

Double body solver	●	●
VOF solver with 6DoF motion support		●
Transient sliding mesh for actual propeller modelling	●	●
Implicit wave relaxation zones and Adaptive Mesh Refinement (AMR)		●
Actual propeller with fixed RPM	●	●
Fixed thrust body force model actuator disk	●	●
Body force actuator disk model with Kt/Kq input curves	●	●
PID RPM controller based on target SFC or cruising speed		●
Automated templates to setup the model		●



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