

# Release Note - HydroD v4.2-04

The programs can be downloaded from our website

<https://projects.dnv.com/sesam/download/windows/programs.html>

## HydroD

Version 4.2-04 now gives the user the option to use Wadam or HydroD to compute the mass matrices. It also includes quadratic roll damping in Wadam (this requires that Wadam version 8.1-08 is installed). In case the user has imported the structural model into HydroD, it is now possible to start the linear structural analysis (Sestra) from inside the HydroD user interface. The meshing of free surface for time domain analysis is significantly improved and allows for more user control of the mesh density. Time domain analysis has been extended to also include Stoke's 5<sup>th</sup> order wave theory for infinite water depth. Finally, when making a sea state it is possible to specify a cut off period for irregular wave conditions.

The installation instructions and description of the new features in HydroD is given in the following.

## HydroD v4.2-04

### How to install HydroD v4.2-04

Before you upgrade, please make sure you have copies of HydroD journal files (js files) to be used when regenerating your models in the new HydroD version. Importing the data to a new version will be more efficient if you have used the feature to export a so-called clean journal file. HydroD can also import old Prewad input files in case you have not used HydroD before. The previous version of Wasim (Wasim Manager) did not have scripting – this means that for those who want to re-run old Wasim models must use the previous Wasim manager to do this or convert manually to the new HydroD user interface.

You can install the program by downloading the installation script from our website <https://projects.dnv.com/sesam/download/windows/programs.html>. The script "setup.exe" is complete and contains necessary program updates for Wadam and Wasim as well. It is recommended that you select the option "Complete" when installing the new version of HydroD. This will also update your installation with the most recent versions of Wasim (v4.2-01), Wadam (v8.1-08), Postresp (v6.2-04) and Xtract (v2.1-00). Optionally, you may select the custom setup option to control which program updates you want to perform.

You should un-install your HydroD version prior to installing HydroD version 4.2-04.

### New features

The new features are described in the updated HydroD user manual – this is part of the installation and you will find it on HydroD's help pages. Alternatively, you may also download it from our website <https://projects.dnv.com/sesam/manuals/manuals.html>.

The new features may be summarized as follows:

- Wadam v8.1-08
  - Quadratic roll damping
- Wasim v4.2-01
  - User controlled free surface meshing
  - 5<sup>th</sup> order Stokes wave (infinite water depth)
  - A faster Airy wave model has been implemented and applied from this version
- Wasim adaption for offshore structures
- Option to use Wadam or HydroD to compute mass matrices
- Quadratic roll damping in Wadam

- Possible to start Sestra from HydroD for Wasim and Wadam activities
- Improved stability reporting
- New tool for interactive meshing of free surface
- Command for executing all activities
- Specification of cut-off period for Irregular Wave Condition

You can also find more details about the new features and error corrections from the status list.