



BROCHURE

AVEVA™ Diagrams

AVEVA Diagrams is a fast, efficient and effective tool for creating and managing your Process Flow Diagrams (PFDs), Piping and Instrumentation Diagrams (P&IDs), Heating, Ventilation and Air Conditioning (HVAC) and similar drawings with the assurance that they remain fully integrated with the project database.

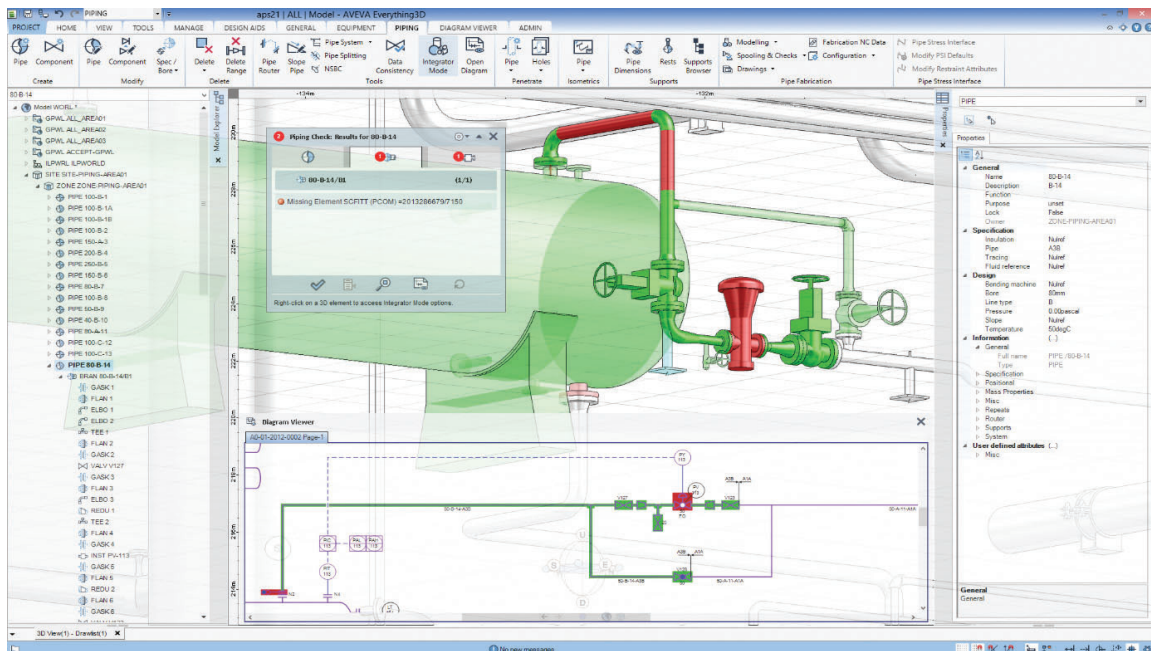
Using AVEVA's proprietary database technology; as the diagram is designed, data is logged and are stored in a schematic model database. This allows design information to be managed effectively and accessed easily within a secure and shared data-centric environment in the cloud through AVEVA Connect or deployed on premises as part of our full IE&D solutions.

AVEVA Diagrams builds P&ID data into the complete project information model, integrating the information with the full range of AVEVA's simulation, design, engineering, collaboration and lifecycle management technologies.

Business benefits

A unique engineering environment:

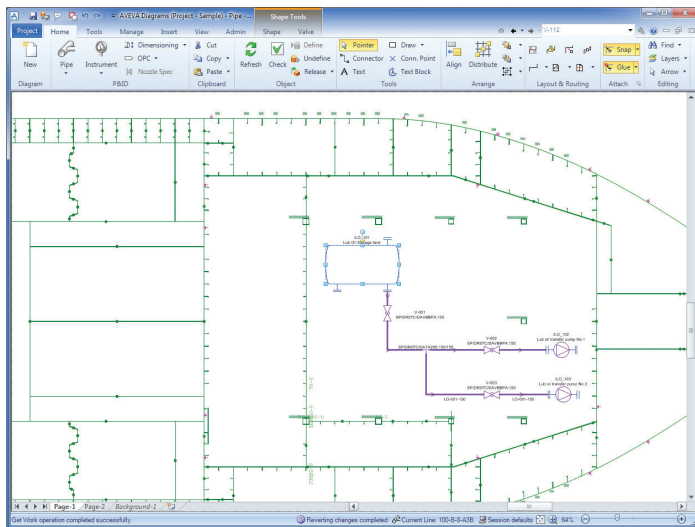
- Integration with the AVEVA™ Unified Engineering suite of products for plant and AVEVA Outfitting for marine projects provides a common technology environment for engineering, schematic and 3D design. Users can share data on a common technology platform across all disciplines. Using the exceptional configuration and customization capabilities of the platform, they can adapt data to fit their specific project's needs. Administration overheads are greatly reduced when accessed in the cloud with AVEVA Connect.
- Multi-discipline and multi-application data sharing further increases efficiency and reduces errors. This seamless integration allows disparate teams to work more effectively.
- The tool promotes unrivaled opportunities for integrated schematics, engineering and 3D working.
- Design in context allows users to access multi-discipline, multi-application data in context, without needing to leave the design application. This promotes greater productivity, streamlines workflows and supports accuracy.
- Design in context reduces project time and cost by enabling engineers to make better decisions based on clear and up-to-date information with less rework.
- Advanced automatic naming and formatting rules reduces the effort needed to produce P&ID variants such as hazop and material selection diagrams. Information is taken automatically from an object while a drag-and-drop control system increases the speed of work. Intelligent 'context sensitivity' enables this time saving automation.
- The full set of diagrams can be checked for completeness and consistency across the entire project, improving quality and reducing rework. This also cuts the need for manual work
- Data access control allows managers to define who can access and manipulate data.
- Diagram information is readily available to engineers and 3D designers, reducing the man-hours spent in detailed design and design modifications.
- Enhanced consistency between schematics, engineering and 3D improves quality and reduces rework throughout the design, construction and commissioning phases.
- Organizations can track the progress of projects more effectively using real-time task completion statistics.



Key features

An intuitive, feature-rich environment for drafting diagrams.

- AVEVA Diagrams is available with a set of the most common diagram symbols used in shipbuilding and the process plant industries. This is complemented by an intuitive import wizard, which provides an easy way for users to create their own intelligent symbols. Symbols can have default values, as well as the ability to prompt the user for values when selected for inclusion in a diagram.
- Diagrams spanning several drawing sheets using off-page connectors are fully supported. This tool can also be used for subdividing drawing sheets.
- Diagrams can be made against background drawings, such as general arrangement drawings.



Integration with AVEVA™ Unified Engineering

- Integration with AVEVA Unified Engineering provides multi-discipline collaboration on conceptual, FEED and detailed design from a single platform
- Items are automatically created and organised according to a system hierarchy or a user-defined plant break structure in the database, even as the diagram is being drafted.
- The application integrates seamlessly with AVEVA Engineering, AVEVA E3D Design and AVEVA Outfitting 3D modeling applications, which give access to all data and functional capabilities within that environment.

- The schematic created by AVEVA Diagrams can be used with AVEVA Schematic 3D Integrator to build a 3D model and to check the consistency between the P&ID data and the 3D model.
- The item list provides a tabular editing view of items on the diagram (including lines, instruments, valves or equipment) that can be further edited within AVEVA Engineering to generate and manage lists and datasheets.
- Instruments created in the diagram are handled as part of the schematic model. It is possible to compare and update instruments with AVEVA Electrical and Instrumentation. This reduces the need for rework and promotes accuracy.

Specification driven, catalogue-based and advanced design capabilities

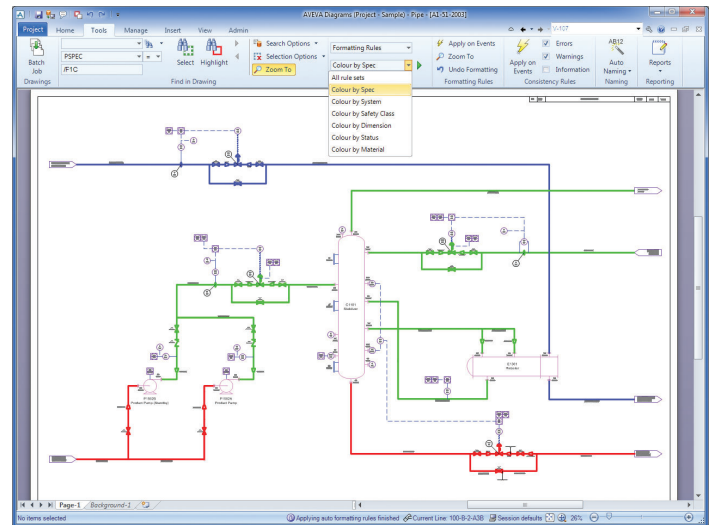
- Diagrams can be used both with and without piping specifications. This capability allows a flexible design process so that it is possible, for instance, to start drawing a diagram without a specification and then apply the specification later in the design process.
- AVEVA Diagrams can work with project specifications and catalogues or created within AVEVA E3D Design or AVEVA Outfitting. This allows the correct components to be automatically selected as the diagram is created with out-of-spec item identification and management.
- Powerful and easy-to-use change specification combined with automatic symbols exchange functionalities are available to make it quick and easy to design or modify initial or pre-existing drawings in line with a rapidly evolving design.
- Efficient copy/paste or assemblies, mean that users can define a group of multiple fittings, and advanced features combined with design and formatting rules provide an efficient drafting environment to speed up your day to day works.

Intelligent, rule-based capabilities

- AVEVA Diagrams builds an intelligent, connected schematic model of the complete design, allowing a wide variety of consistency checks to be applied.
- Off-sheet connectors are fully intelligent, so design consistency can be maintained and checked across sheet boundaries.
- Powerful, rule-based auto-formatting functions support effective reuse of existing diagrams in new projects, and allow project- and client-specific requirements to be applied. These rule-based functions can be triggered through events, so that they are automatically applied to the diagram.
- Flexible, rule-driven, automatic annotation and attribute presentation are provided for automatic display in the diagram.
- Design consistency checks can be carried out, for example, to check that bores are fully consistent along a line, or that flow directions are consistently applied.
- Checks can be applied across one or more diagrams, allowing designers to ensure consistency across a complete system before issuing the drawings.
- Graphical and data changes between two revisions of a diagram can be easily viewed, both graphically and in the grid view, using a powerful change-highlighting function. Additionally, any changes made by engineers and designers from other disciplines on the project can be easily imported and accepted through the Compare and Update functionality.
- Modification tracking between revisions

Easy administration and document management

- Due to its common technology, administration tasks can be simplified and efficiently shared across applications such as AVEVA 3D modelling, Unified Engineering or AVEVA™ Global.



- An extensive set of options and settings makes the system highly configurable, making it possible to adapt the solution to your specific project requirements.
- Import and export of common drawing formats is provided, together with database import and export of line and/or equipment lists using Excel files to allow integration with third party systems.
- Easy and powerful report and drawing document generation capabilities, with multi format supported such as Excel, CSV, DWG, DNG, combined with an efficient & configurable revision mechanism will provide the perfect set of tools to efficiently produce and manage all requested documents (line, equipment ... lists) and drawings (PFD, P&ID, ...) throughout your entire project lifecycle.

For more information, visit:

sw.aveva.com/engineer-procure-construct/engineering-and-design/diagrams