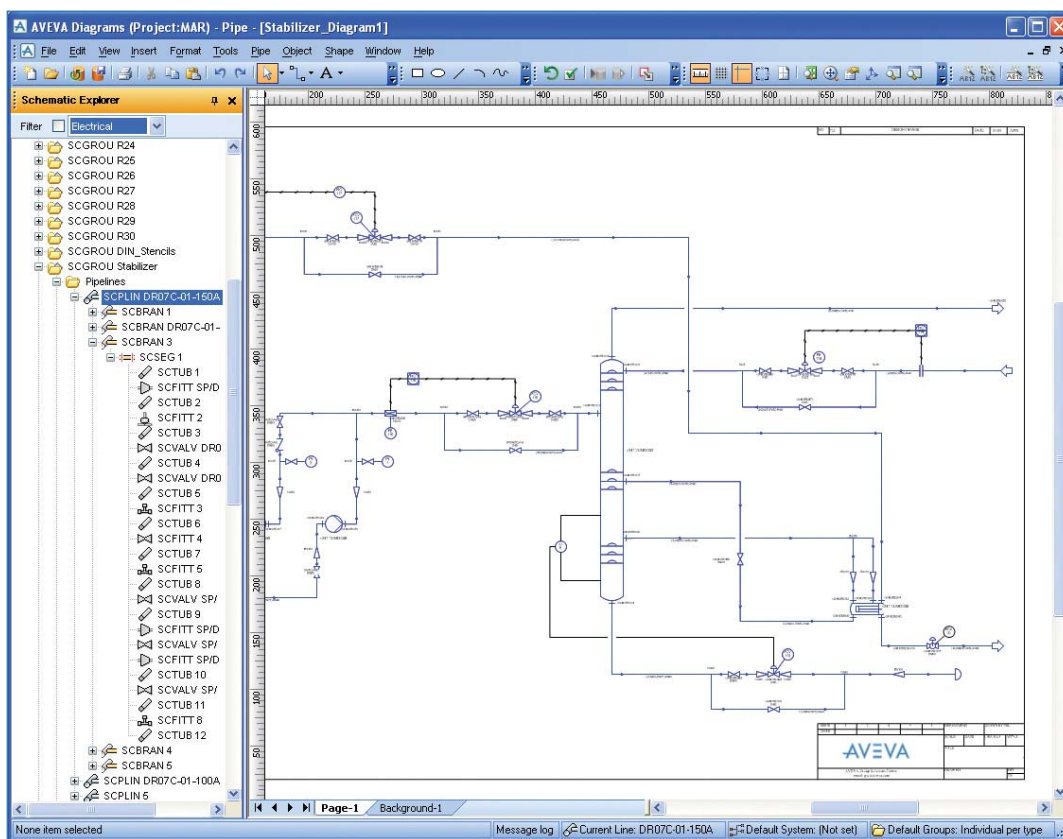


AVEVA Diagrams 12.0

Easy creation of P&ID and HVAC diagrams that fully integrate with the model database

P&IDs and HVAC diagrams are key documents that define the functional design of any plant, ship or offshore vessel. They are a key part of the design activity and continue to be referenced and developed during the operation and maintenance phases.

AVEVA Diagrams provides a fast, efficient and effective solution for creating P&IDs and HVAC diagrams. It has the added value that, as the diagram is constructed, data is created in a schematic model database. The design information can therefore be effectively managed, and easily accessed, by any engineer who requires the information and has the appropriate access rights.



Piping and instrumentation diagram

Business Benefits

- The use of Microsoft Visio technology, coupled with efficient dedicated diagramming functions, means that the product is exceptionally quick to learn and easy to use, reducing design man-hours and project lead times. An initial diagram can be quickly and easily sketched up with little effort, and the diagram can gradually become more intelligent as more information is added.
- The complete set of diagrams can be checked for completeness and consistency across the entire project, improving quality and reducing rework.
- Integration with AVEVA PDMS and AVEVA Outfitting delivers all the features and functions of that environment, including proven, world-class data management and revision control. Customers can standardise on a single technology platform for schematic and 3D design, and use existing system administration skills to manage their Diagrams installation.
- Diagram information is readily available to 3D designers, reducing the man-hours spent in detailed design and in later design modifications.
- Enhanced consistency in design between schematic data and the 3D model improves quality and reduces rework in design, construction and commissioning.

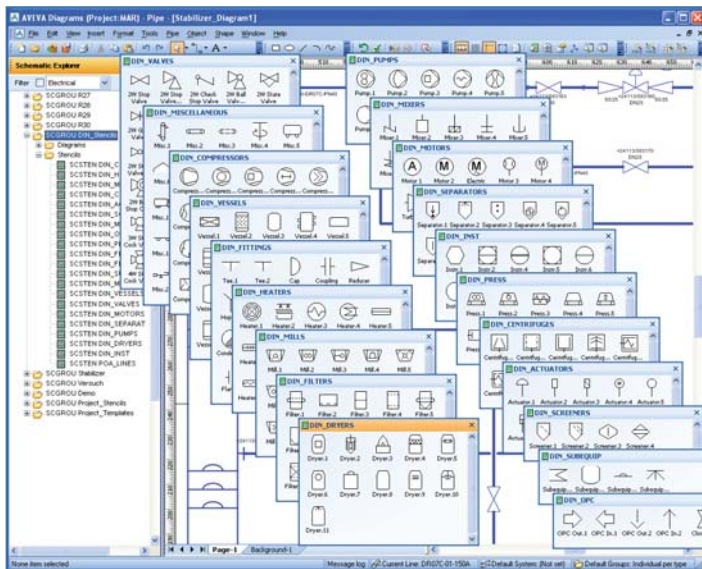
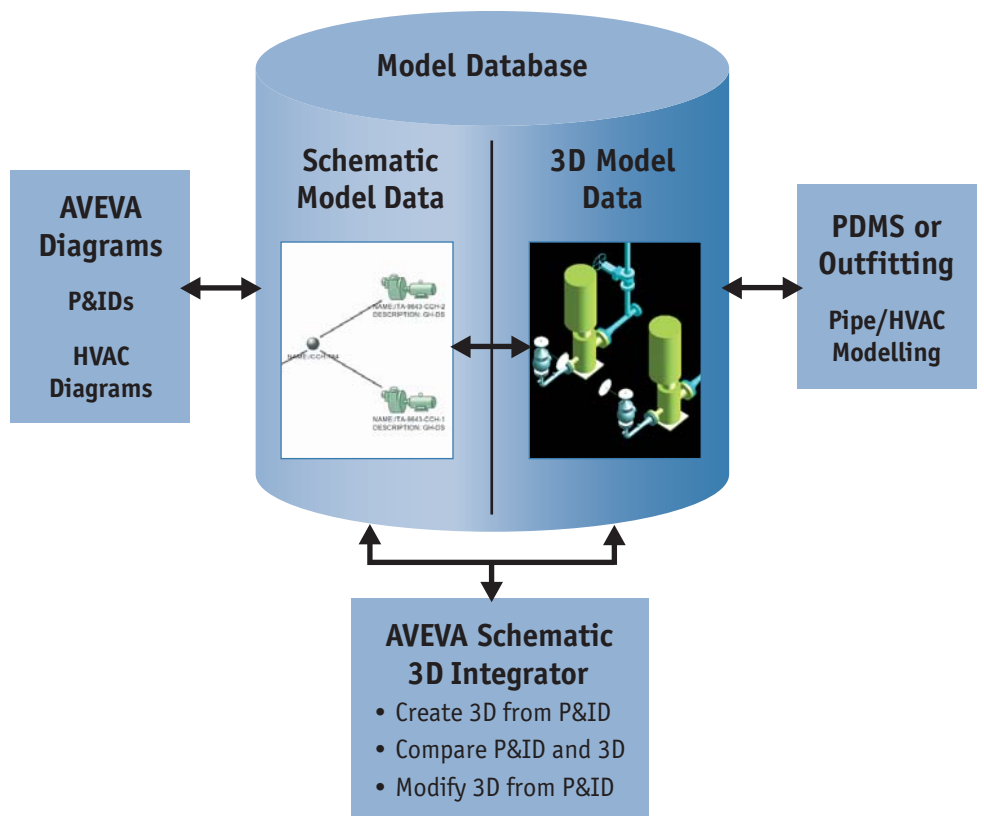
PLANT

MARINE

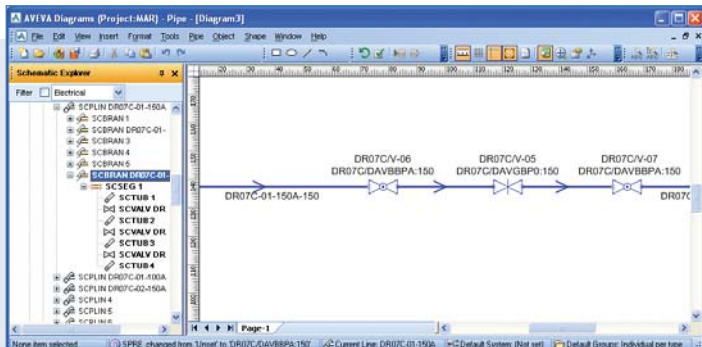
Key Features

Easy to use, Visio-based diagramming

- Integrated Microsoft Visio drafting canvas offers an easy-to-use, feature-rich environment for drafting P&IDs and HVAC diagrams.
- Diagrams is available with a set of shapes called 'stencils', which represent some 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 to create your own intelligent stencil shapes. Shapes in stencils 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 mechanism can also be used for subdividing drawing sheets.
- Diagrams can be made against backdrop drawings such as general arrangement drawings.



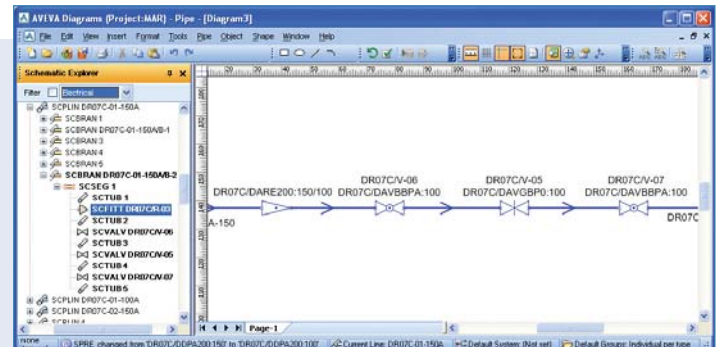
Different stencil shapes



Inserting a reducer triggers the dimensioning and automatic re-selection of components

Integrated with AVEVA PDMS and AVEVA Outfitting

- Items are automatically and instantly created in the model database as the diagram is being drafted. These items are automatically organised according to a system hierarchy and a user-defined folder structure.
- The application runs in the same technology environment as the AVEVA PDMS and AVEVA Outfitting 3D modelling applications, so it has access to all the database and functional capabilities of that environment.
- The database can store schematic data for all P&IDs in a project. This means that a complete schematic model of the whole project can be developed.
- The schematic model created by Diagrams can be used with AVEVA Schematic 3D Integrator to build the 3D model and to check the consistency between the P&ID data and the 3D model.
- The item list provides a tabular view of items on the diagram (including line list, instrument list, valve list and equipment list) which is also editable in a spreadsheet-style manner.



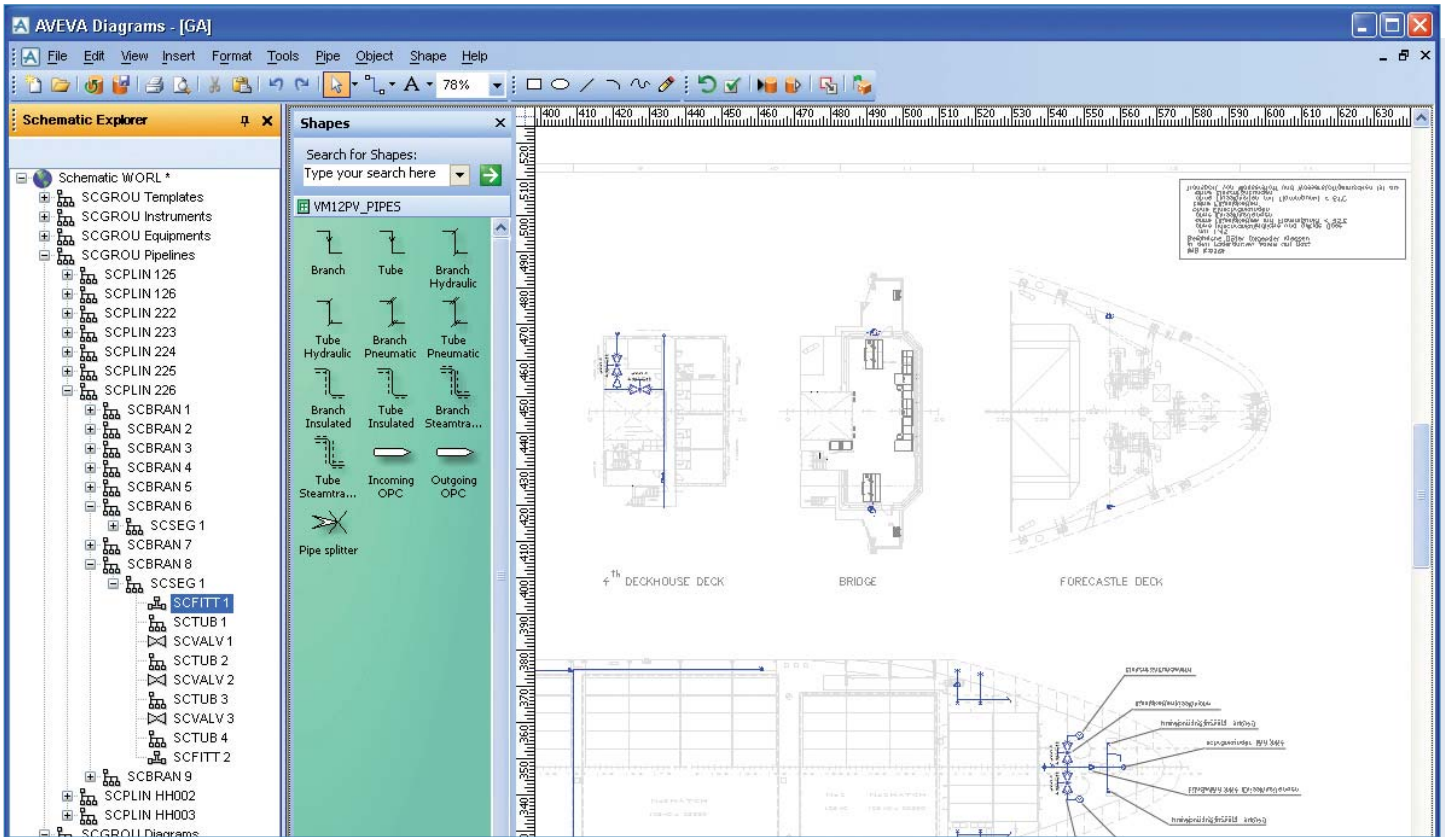
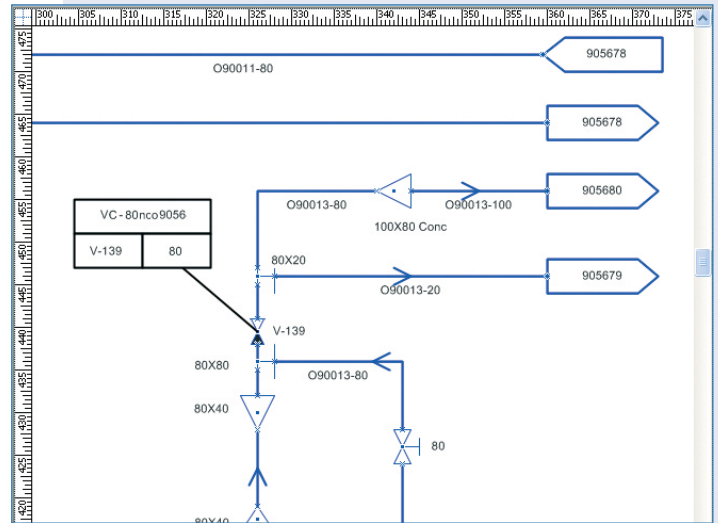


Diagram on a general arrangement backdrop

- Instruments created in the diagram are handled as part of the schematic model and can be managed and reported as other elements in the database. They can be in line or off line.
- Unique 'Schematic Model Viewer' provides automatically generated, multi-system, navigable presentation of database data.

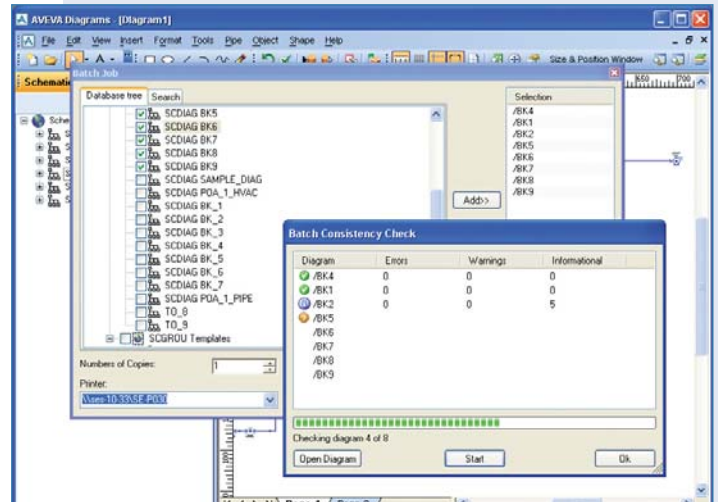
Specification driven, catalogue-based design capabilities

- 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.
- Diagrams can work with specifications and catalogues created using AVEVA PDMS or AVEVA Outfitting.
- In specification-driven mode, the correct components can be automatically selected as the diagram is created, and existing out-of-spec items can be rapidly identified and corrected.

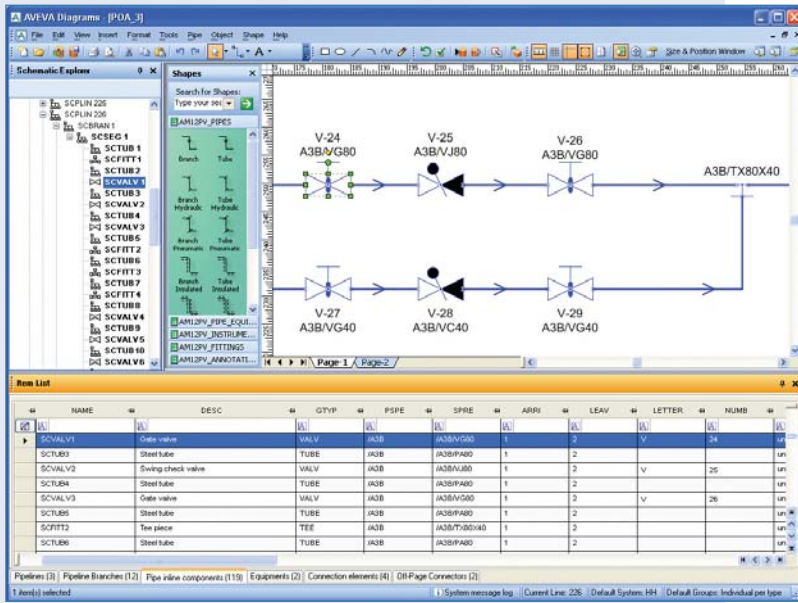


Off page connectors and annotation

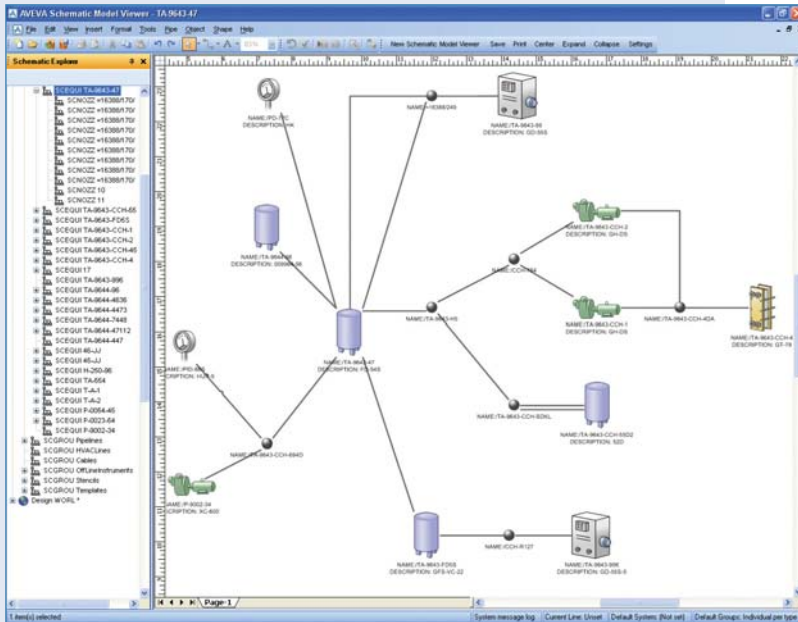
- Options for user-controlled selection of components are also available.
- Powerful and easy-to-use resize and respecify functions are available. These make it quick and easy to modify initial or pre-existing drawings in line with a rapidly evolving design or a late design change. New components are automatically associated with the relevant lines and fittings.
- Automatic exchange of symbols through catalogue definition allows an initial, 'generic' symbol to be replaced by a specific one when the catalogue reference is set or changed. Existing symbols can also be manually exchanged, while retaining connections and attributes.
- 'Fitting assemblies', provide the ability to define a group of multiple fittings that can be integrated into the diagram with a single drag-and-drop operation.



Consistency check for a series of diagrams



Item list for a diagram



Schematic Model Viewer provides a navigable view of database items and their connectivity

Intelligent, rule-based capabilities

- 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.
- Engineering 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.
- Drawing to database consistency checks is also available.
- Checks can be applied across one or more diagrams so that it is also possible, for example, to ensure consistency across a complete system before issuing.
- Flexible, rule-driven, automatic annotation and attribute presentation for automatic display in the diagram.

Configurable and compatible

- An extensive set of options and settings gives a high degree of configurability.
- Import and export of common drawing formats is provided, together with database import/export of line lists and equipment lists using a spreadsheet file.
- Fully compatible with AVEVA PDMS, AVEVA Outfitting, AVEVA Schematic 3D Integrator and AVEVA NET.
- Compatibility with AVEVA Global allows schematic data, as well as documents, to be globally distributed in multi-location projects.

AVEVA believes the information in this publication is correct as of its publication date. As part of continued product development, such information is subject to change without prior notice and is related to the current software release. AVEVA is not responsible for any inadvertent errors. All product names mentioned are the trademarks of their respective holders.

© Copyright 2009 AVEVA Group plc. All rights reserved. AD/DS/09

PLANT

MARINE

AVEVA
CONTINUAL PROGRESSION

AVEVA Group plc
High Cross Maddingley Road Cambridge CB3 0HB UK
Tel +44 (0)1223 556655 Fax +44 (0)1223 556666
www.aveva.com