



Bentley AXSYS.Process

Automated Front-End Engineering Design for Process Engineering

In any major process plant project, 80 percent of the capital expenditure is committed during the conceptual design phase. Bentley AXSYS.Process helps you minimize this expenditure and achieve better Front-End Engineering Design (FEED) by allowing increased evaluation of conceptual design cases and managing data and workflow to reduce project time.



Integrates conceptual process design and functional project engineering



Provides a central repository for process engineering design cases



Automatically generates Process Flow Diagrams (PFDs) and Piping and Instrument Diagrams (P&IDs)

Optimized Evaluation of Design Concepts

Optimizing Front-End Engineering Design generally entails spending time evaluating alternative designs and then selecting the best case from these alternatives. Bentley AXSYS.Process allows users to perform more designs in less time and evaluate these designs more thoroughly in order to find the most cost-effective case.

AXSYS.Process provides a common database and environment to allow the sharing of process simulation and project evaluation data across the enterprise. This optimizes the engineering workflow and eliminates data re-entry and duplication. A comprehensive change management system tracks all changes made to data during the FEED project and can manage multiple revisions allowing for parallel design cases.

Interfaces with Major Process Simulators and Heat Exchanger Applications

Since AXSYS.Process manages the process data, it dramatically reduces design effort by linking directly to other engineering programs. AXSYS.Process interfaces with major process simulators including Aspen Plus, HYSYS, PRO/II and UniSim Design. Information from a simulation can be loaded into AXSYS.Process, including stream properties and detailed unit operation data, along with the associated connectivity. Once this information has been loaded, it can be manipulated or combined with other simulations to generate a complete plant simulation model.

For detailed heat exchanger calculations, AXSYS.Process supports the major design programs from HTRI and HTFS. These applications can be run in both design or rating modes.

Automatic Drawing Generation

AXSYS.Process uses a powerful rule base to automatically generate Process Flow Diagrams (PFDs) and Piping and Instrument Diagrams (P&IDs). These drawings are easily configured and extended to include your specific graphical symbols and associated data. Drawings can be output to multiple drawing formats.

Datasheets and Reports

The use of Microsoft Excel and a comprehensive set of customizable datasheet and report formats provide easy access to and manipulation of any of your information in a familiar environment.

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Multiple Workflow

AXSYS.Process has been designed with maximum flexibility and does not impose fixed or rigid processes. Information can be integrated, analyzed and edited in both a graphical and a non-graphical environment, or it can be directly accessed via any OLE-compliant application. You also have control over your work process by utilizing the extensive change management features that are included. The software tracks changes during the project, allowing users to revert to previous designs. Datasheets can be published to Bentley's ProjectWise® for storage, markup and revisioning.

Other Tools and Facilities

AXSYS.Process provides an extensive set of tools and utilities to configure the interface as well as write your own automation procedures through a comprehensive macro language. This comprehensive environment extends beyond the scope of any single discipline and into the enterprise. There is support for VBA, ODBC, XML and export and exchange capabilities to a number of design software systems including Bentley AutoPLANT and Bentley® PlantSpace®.

System Requirements

Processor:

400 MHz Intel or AMD processor
(1 GHz or higher recommended)

Memory:

512MB (2GB recommended)

Additional memory over the minimum requirements shown above, will result in improved performance

Hard Disk:

400 MB hard disk space for installation including sample project databases. The actual space required will vary with each machine (up to an additional 500 MB is required if you do not have Microsoft .NET Framework 3.5 SP1 installed).

Operating System:

Microsoft Windows XP Professional (SP2 or later) or Microsoft Windows Vista (SP1 or later)

Find out about Bentley at: www.bentley.com

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AXSYS.Process At-A-Glance

Simulation Interfaces

- Unlimited simulation cases and topologies
- Load multiple simulation topologies into one project
- Supports HYSYS version 2.4.2 and upwards to V7.0
- Supports Aspen Plus versions 12.1 to V7.0
- Supports UniSim Design version R 350.1 and upwards to R380.1
- Supports Pro/II versions 5.11 through 8.2
- Import other data from other simulators through our Generic Excel import mechanism

Process Flow Diagrams (PFDs)

- Automatic generation of PFDs based on information from the simulation and user rules
- Tracking of what simulation was used
- Manual overwriting of rules after PFD has been created
- Full CAD editing functionality
- Export PFDs to DXF or DGN formats

Piping & Instrumentation Diagrams (P&IDs)

- Automatic generation of P&IDs based on PFD diagram and user rules
- Tracking of what PFD was used to create the P&ID.

- Intelligent connectors automatically adjust when objects are moved
- Comprehensive symbol library
- Automatic concept of pipe flow and order of components in a pipe line
- Export P&IDs to DXF or DGN formats
- Export intelligent P&IDs to Bentley AutoPLANT® P&ID, Bentley PlantSpace P&ID

Microsoft Excel Datasheets and Reports

- Full read/write capabilities into the AXSYS database
- Fully configurable data sheet definition and report definition
- Your existing formats can become templates in the database
- Comparison and synchronization between off-line edits and the AXSYS database
- Interactive database mapping tool to help create or modify templates

Thermal Flash Support

- Perform relief or other flash calculations directly in AXSYS.
- Modify Pressure, Temperature or Vapor Fraction of your stream and send back to the simulation for flashing.

Heat Exchanger Interfaces

- Create input file for heat exchanger design program
- Define basic mechanical configuration information

- Track what files have been created for each program, by user and date
- Supports design and rating modes in XIST from HTRI
- Supports design, simulation, rating and thermosyphon modes in TASC from HTFS

Equipment Sizing

- Create unlimited number of sizing cases
- Different number of sizing cases per object
- Size pipes based on PFD or based on P&ID

Project Control

- Restrict database access
- Define object level access
- Control access to properties.
- Track who makes modifications
- System adds a revision number to each object when modified
- Compare utility for objects and workspace changes

Revision Management

- Ability to define and store multiple revisions within the project

Configuration

- Almost all aspects of AXSYS can be configured to suit your corporate and project standards without programming. Most configurable components are defined within the AXSYS database itself.



Access information via any OLE-compliant application



Comprehensive change management system tracks all changes made to data during the FEED project