Atmos SIM Offline

ATM⬤S
INTERNATIONAL

For all your pipeline design needs – and much more. Hydraulic simulation of both liquid and gas pipelines under steady state and transient conditions.

The challenge

Pipeline engineers are often under pressure to design new pipelines or increase the capacity of existing pipelines within the shortest time possible. Atmos SIM Offline has been developed to reduce the workload of the users while providing class-leading functionality and output.

Atmos SIM Offline has the following main benefits:

- Multiple functionality in one tool
- Intuitive design for easy configuration of pipeline networks
- Multiple scenarios in the same configuration. No need for additional models, saving time for the user
- Multiple users can modify a model as the system tracks changes and automatically compares them
- Can easily be upgraded to an online model if required

Main features

- Can be used for oil, gas, water, multi-product, ethylene and chemical pipelines
- Extensive equipment libraries within the software
- Drag and drop onto the canvas to build your pipelines
- Set-points and boundary conditions for each device/object are saved for each scenario
- Multiple control modes
- Configurable alarms where safe operating conditions are breached
- Tuning assistant automates model tuning

- Import from or export to CSV files
- Easy to use wizard for customized reports
- Efficient network building with GIS data imports

What is Atmos SIM Offline?

Atmos SIM is field proven to be the most accurate pipeline simulation software on the market. High accuracy means pipeline operators can have confidence in the results of the system. Atmos SIM Offline is the perfect tool for pipeline operators due to its wide range of functionality. It can be used for:

- Pipeline design
- Equipment sizing and locating
- Operational design and tuning
- Training
- Capacity planning
- Steady state analysis
- Transient analysis
- Analysis of "what if" scenarios

Building a model is simple due to the intuitive drag and drop capabilities of the user interface. Pipelines are added by dragging between model elements. The properties of model elements can be edited by clicking on the object itself and selecting properties from the drop-down menu. The same menu allows the user to control the element (open/close, start/stop, etc.) while the simulation is running.

New physical characteristics can easily be added to a model, such as pipeline extensions, inlets/outlets and pump stations.

Model accuracy

The accuracy of the model is in some part credited to the tuning assistant. The tuning assistant is a single step, steady state automation tool used to tune a single pipeline property or combination of pipeline properties, such as pipe roughness and pipe diameter. It minimizes deviations from what is considered to be the correct hydraulic behavior. This ensures the model's accuracy without the need for intensive tuning performed by the user. The configured model could also be upgraded to online if required.

Innovative and modern

Atmos SIM Offline is written and maintained in modern software languages and the authors of the software are continuing with the development of additional features at Atmos.

System Outputs

Reporting is provided using on-canvas data grids or via the powerful trending application - Atmos Trend. Customizable data grids can be added to the canvas to display values of interest next to the instrument or pipeline section on the pipeline configuration.
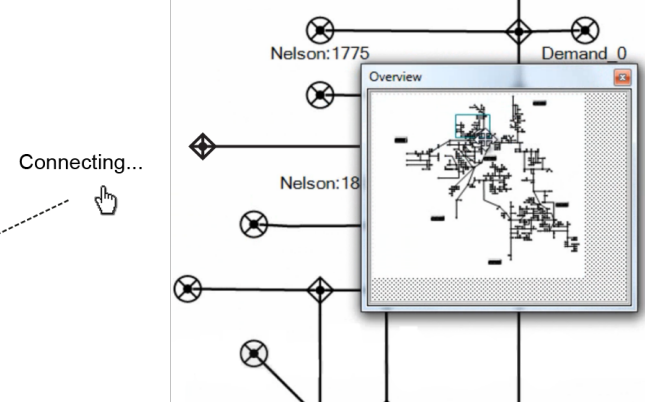
Data is also available graphically. Atmos Trend allows for measurement and model-calculated data to be displayed. Data may be displayed within time or distance plots. Multiple axes can be added to the same graph and multiple graphs within the same window. The display can be customized for ease of use.

Data can be viewed in time against distance using the available time slider. Data may also be exported to CSV files.

Tuning assistant
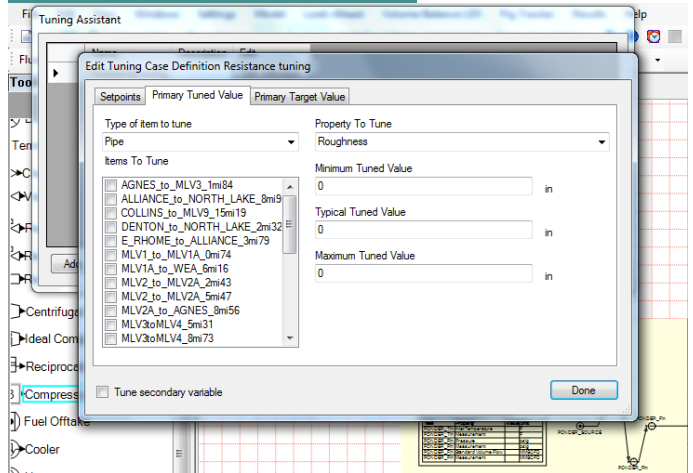
Easy drag and drop model building