



Completely Integrated Solutions
for the Water Industry

SIWA^{CIS} PLAN SIM

Dynamic Simulation of
Pipework Systems:
Reduced Costs, Reduced Risks

Your Success is Our Goal

SIEMENS

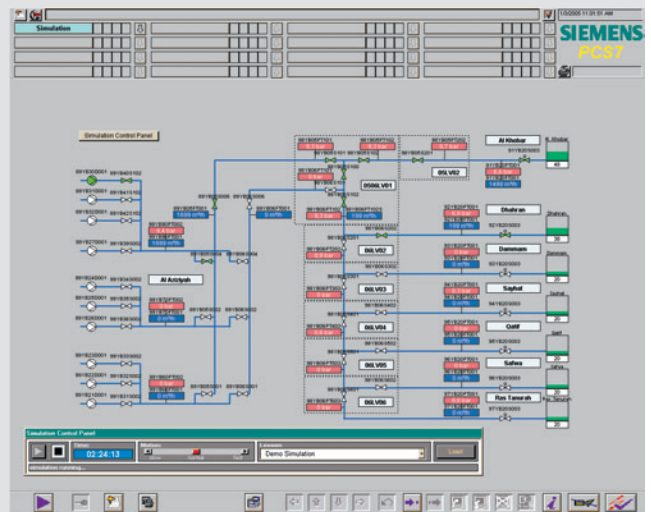
Industrial Solutions and Services

SIWA^{CIS} PLAN SIM simulates both pipelines as well as widely branched water networks and, within the scope of this simulation, accounts for all parameters important for the simulation objective. The possibilities and advantages facilitated by the dynamic simulation of pipework systems are manifold. For example, simulation is already an important aid tool for optimization as early as in the planning stage. It allows for a riskless simulation of the most varying test scenarios and is a valuable help for the qualification and training of specialized personnel.

The challenge

Fault scenarios, varying operating states or the interplay of hydraulic and automation technology are best simulated in advance in order to assure a perfect layout of the water network as well as a fault-free, safe operating performance – even in extreme situations.

The more realistic the simulation is, the more sure is success in actual operation and the more suitable to the task requirements is the water network or the pipeline. This is exactly what our SIWA^{CIS} PLAN simulation solution offers. In an accurate simulation of the planned reality, even structural changes within the plant can be thoroughly checked before their actual realization.



Five good reasons for SIWA^{CIS} PLAN SIM

- Operating process optimization support during the planning phase and plant operation
- Simulation of operating modes, fault states and structural alternatives regarding the plant operation's optimization
- Riskless test of automation functions and interplay of plant components
- Clarification of complex correlations and procedures for qualification and training purposes
- Easy and modular extension options with further SIWA^{CIS} products

SIWA^{CIS}
Completely Integrated Solutions
for the Water Industry

Industrial Sector Services	Industrial Sector Applications	IT-Applications	Energy, Drives, Automation
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Water Quality	Supply and Transportation	Mechanical Treatment	Biological Waste Treatment	Chemical/Physical Treatment	Filtration	Disinfection	Treatment of Sewage Waste
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Our solution

SIWA^{CIS} PLAN SIM simulates the hydraulic behavior of water supply networks and pipelines. The SIWA^{CIS} PLAN module is the perfect supplement to an existing automation model, through which all required control and regulation functions can be simulated.

SIWA^{CIS} PLAN SIM offers a quasi-stationary model, which is based on the pressure and flowrate relations of all important pipework segments and furthermore dynamically simulates the tank filling levels. Beside pipe works and tanks, the system also accounts for pumps and pump stations, valves, feeders and consumers.

With SIWA^{CIS} PLAN SIM, the operating mode and functionality of a planned pipeline can be demonstrated to the customer already before actual commissioning. In addition, the plant's efficiency and capacity can be descriptively represented based on the simulation. This facilitates a very early adaptation of a plant's requirement specifications to the requests of the individual customers.

Riskless testing

With SIWA^{CIS} PLAN SIM, a plant's functionality proof can be provided by means of riskless tests. Possible faults can be detected and rectified early. In the simulation model, technical innovations and innovative ideas can be verified for practicability without any risks. As such, the operator is provided with a considerable competitive advantage, as, within the scope of testing, the model demonstrates the same behavior as the actual plant.

SIWA^{CIS} – Completely Integrated Solutions for the Water Industry

As a comprehensive industry-specific solution for the water industry, our SIWA^{CIS} product family integrates all the products and services you need for sustained maximization of your plant's performance.

For each particular task, a solution has been defined that

- **horizontally** improves all production processes – from the preparation of drinking water to environment-friendly wastewater disposal
- **vertically** integrates the company's information flows end-to-end, helping corporate management to make better-founded decisions
- and **chronologically** lowers operating costs and provides lasting security and economic efficiency – for example with the SIWA^{CIS} PLAN water management solutions and our life cycle services.

Due to this unique combination of horizontal, vertical and life cycle dimensions, our solutions all carry the genes of an exhaustive and sustained plant productivity in their very core.

**For More Productivity. More Performance. More Power.
Completely Integrated Solutions from Siemens.**

Well prepared at all times

By combining SIWA^{CIS} PLAN SIM and the SIWA^{CIS} PLAN OPTIM optimization module, the calculation of optimum operating schedules and the subsequent testing of a virtual plant for its efficiency, stability and operator friendliness is facilitated.

SIWA^{CIS} PLAN – the modular water management system

SIWA^{CIS} PLAN is a water management system with modules for the optimization and simulation of drinking and waste water plants. Thanks to its modular design, SIWA^{CIS} PLAN offers individual solutions for drinking and waste water plants.

For example: SIWA^{CIS} PLAN OPTIM calculates the optimum operating plan for all pumps and tanks of a supply system and is perfectly integrated in the SIWA^{CIS} PLAN modular water management system.

It supports operators of water supply systems in sustainably reducing the operating costs of their plants and increasing operational reliability. At the same time, the plant's availability and supply reliability can be considerably increased by helping to plan an efficient maintenance program.

Particularly convenient: Thanks to its modular structure, SIWA^{CIS} PLAN offers the unique possibility of realizing the most varying combinations of comprehensive total solution approaches completely independent of the control and automation technology in use. The system can thus conveniently be adapted to the specific requirements of the respective plant operator at any time.

It is this in particular which makes SIWA^{CIS} PLAN especially efficient and broadly applicable. As existing technologies are integrated into the overall solutions, SIWA^{CIS} PLAN is a profitable investment which safeguards the value of installed technology. With its industry-specific modules, for example for operating personnel training or circuit diagram optimization for schedule administration, SIWA^{CIS} PLAN perfectly covers all important areas of the water industry.

www.siemens.com/water

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CIS = Completely Integrated Solutions

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