

SIWA^{CIS} PLAN BEP (Best Efficiency Point) assures an efficient utilization of the energy used for the operation of pumps and pump stations in pipelines. Mathematical optimization methods help to constantly operate pumps at their best efficiency point – for pumps with fixed speeds by choosing the best pump combination, and for variable-speed pumps by choosing both the best pump combination as well as the best speed. Within this context, the pumps' arrangement within the pump stations is irrelevant. The plant operator can determine a specific flowrate through the pipeline. In accordance with this determination, SIWA^{CIS} PLAN provides the operator with suggestions for operating parameter settings for all pumps.

The challenge

When transporting water, impeccable quality and secured supply are of top priority. Within this context, several factors have a decisive influence on economy. One of these factors is the degree of efficiency at a specific flowrate of the pumps in use.

The calculation of the operating parameters for this "best efficiency point" is crucial for an optimal operating performance.

Coupled with the SIWA^{CIS} PLAN OPTIM management system, SIWA^{CIS} PLAN BEP can additionally optimize tank management. When used in combination, these two modules can thus simultaneously assure a high degree of cost-efficiency as well as a reliable water supply.



Good reasons for SIWA^{CIS} PLAN BEP

- **High operating and supply reliability** thanks to automated calculation of the optimum operating conditions
- **Reduction of power consumption** and operating costs thanks to power-optimized pump operation
- **Minimized investment and maintenance costs** thanks to pump operation under optimum conditions
- **Pump set selection support**
- **Easy and modular extension option** with further SIWA^{CIS} PLAN products

SIWA^{CIS} PLAN BEP

Minimum operating costs thanks to optimized pump control

Water Technologies

SIEMENS

Our solution

SIWA^{CIS} PLAN BEP assures that the pumps work within the range of their optimum efficiency degree at a predetermined flowrate. For this, first the individual pump stations must be optimized: SIWA^{CIS} PLAN BEP calculates the respectively optimum distribution of the conveyance volume to the individual pumps for a given pressure altitude. In a second step, SIWA^{CIS} PLAN BEP then determines which pump station generates which pressure altitude. Pump and plant characteristic curves are parameterized and graphically edited for an improved control. The results are represented in a table by SIWA^{CIS} PLAN BEP.

A perfect team: BEP and OPTIM

SIWA^{CIS} PLAN BEP can both be used as an independent module as well as in combination with SIWA^{CIS} PLAN OPTIM. The latter is especially recommendable for pipelines with branches and complex water supply networks. Here, efficiency is once more considerably increased thanks to the tank management's integration into the calculations. Moreover, the system describes the permissible pump combinations, flowrates and accruing costs in various operating modes.

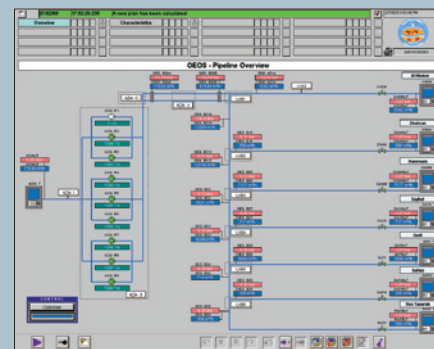
The coupling of SIWA^{CIS} PLAN BEP with SIWA^{CIS} PLAN OPTIM can either be realized directly or via parameterization. In the first case, the pumps are parameterized via the SIWA^{CIS} PLAN BEP module and the optimum pump combinations are forwarded to SIWA^{CIS} PLAN OPTIM. In the second case, SIWA^{CIS} PLAN BEP calculates the optimum pump configurations for all relevant flowrates. With the plant parameterization, these are then manually used by SIWA^{CIS} PLAN BEP as pipeline conditions.

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.

Completely Integrated Solutions

Completely Integrated Solutions bundle our entire range of products and services for your plant.

In particular, they help you by

- **Optimizing** the entire process chain – with plant solutions including technology, automation, electrical engineering and environmental technologies
- **Connecting** all IT levels of your company – with IT and management solutions from production to the planning level
- **Supporting** you throughout the life cycle – from consulting through commissioning and training onward to modernization.

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