

The SIEMENS logo is displayed in a bold, teal, sans-serif font.

Ingenuity for life

SIWA OptimDynamics

Minimize energy consumption in your drinking water distribution systems

The challenge

Pumping water during transport, for filling storage tanks, or during treatment requires many powerful pumps. Energy is also used to pump water from the storage tanks to consumers. This operation must respond dynamically to changes in water consumption so that a constant pressure is maintained in the pipelines.

Optimizing the operation of these pumps can not only significantly reduce energy consumption but also reduce equipment stress and increase the availability and service life of the pumps and other components. To ensure a high level of supply security in the water network, operation schedules for pumps and valves must be optimized.

The challenge is to find the right combination of pumps that can transport the water in the most energy-efficient manner while ensuring security of supply. This can apply to a single pump station but also to multiple pump stations with different parameters that operate together.

Siemens Industry Suite – smart apps for the water and waste water industry

The applications and digital services for the water industry from the Siemens Industry Suite provide greater transparency and thus identify the potential for greater efficiency and savings to ensure a high level of supply security.

Using the Siemens Water (SIWA) applications specially developed for the water and waste water industry, you as an operator can, among other things, optimize energy efficiency, avoid water losses, prevent flooding and take preventive maintenance measures.

SIWA OptimDynamics

SIWA OptimDynamics uses hydraulic modeling of the pump station to calculate the most efficient solution for transporting the drinking water, based on the specific load curves and efficiency factors of the available pumps.

SIWA OptimDynamics provides continuous information on current filling levels and enables fast and targeted action in case of deviations from the predicted consumption.

SIWA OptimDynamics also monitors pump condition through a specific algorithm that analyzes process data and derives trends and recommendations for maintenance and operation.

Your benefits



Efficient energy consumption

SIWA OptimDynamics enables the distribution of drinking water to consumers with minimized energy consumption, based on predefined key performance indicators, without impairing supply security.



Longer pump service life

SIWA OptimDynamics monitors pump condition through a specific algorithm that analyzes process data and derives trends and recommendations for maintenance and operation.



Automatic generation of pump combinations

SIWA OptimDynamics uses an intelligent algorithm to automatically generate the optimum pump combination to minimize energy consumption based on current plant data.



Short reaction times for unplanned events

The optimization routine refreshes every 15 minutes. This provides operators with continuously updated information on filling levels and enables fast and targeted action in case of deviations from the predicted consumption – for example, in the event of a pipe leak or a pump failure.



Proactive operation and maintenance scheduling

When a pump is taken offline for service, the application calculates which pumps, operating at what capacity, are best suited to ensure security of supply. This allows the timing, scope, and type of maintenance procedures to be planned efficiently.

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