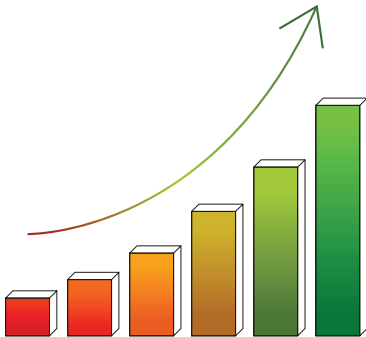


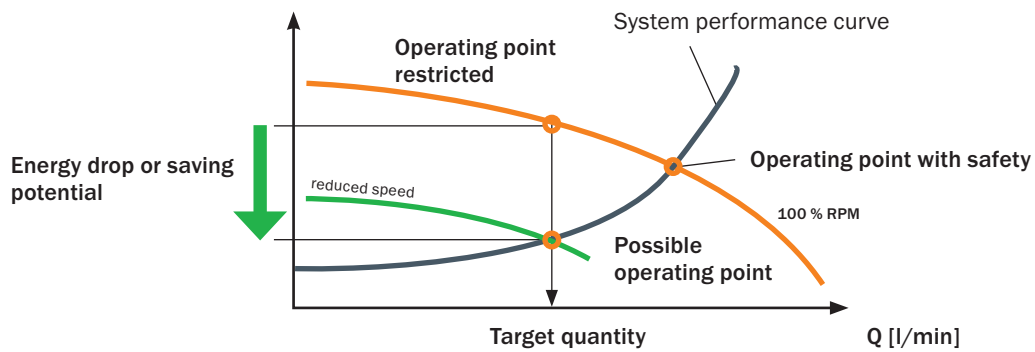
Quality and performance features
PEM Pump Efficiency Module
 Lower energy costs through intelligent control system



With energy consumption display



Pump characteristic curve in comparison:



Why accelerating and braking at the same time?

Many processes are very dynamic due to the increasing application of control valves on consuming devices or pumps are designed too large.

In many cases, the quantity provided by the supply unit or its pump is then reduced without the pump's speed being adjusted.

The inevitable consequence is unnecessarily high energy consumption because even if the quantity is reduced, the energy used by centrifugal pumps is only slightly reduced. If using peripheral impeller pumps, the energy consumption even increases.

In order to reduce costs, gwk has been offering appropriate frequency converters to reduce the speed of its pumps for many years.

Based on this experience gwk has developed a standardised pump efficiency module.

Innovative intelligent control systems made by gwk save costs:

The innovative Pump Efficiency Module (PEM) gwk is a speed control, monitoring, and analysis concept specially designed for heating and cooling processes.

Depending on the device variant*, the gwk-PEM consists of:

- Sensors and speed controllers for the pump
- Indicator for pump energy consumption
- Innovative control and analysis algorithms, e.g. with control according to ΔT , ΔP , fixed value in %, flow rate or supply pressure available

* Applicable unit series and PEM versions on request.

For a CO₂-neutral production -
 The gwk pump efficiency module significantly reduces the energy consumption.

