

Smart approach to Non-Revenue Water reduction



A common challenge for water utilities, NRW (Non-Revenue Water) represents the volume of water that is lost before it reaches the customers, and can therefore not be billed by the utility company. As well as causing financial loss, there are also environmental implications of wasting this precious, scarce resource.

Aquestia's customized solutions for dynamic pressure regulation offer two approaches for addressing this costly issue: NRW Classic and NRW Maximal Efficiency. Both work to enhance the efficiency of the water system by managing pressure, thereby minimizing the leakage that results in NRW. At the same time, energy consumption is reduced - less energy is required to pump water through the network at lower pressure - and the service delivered to customers is improved.

NRW Classic Solution

An hours-based approach to pressure reduction

During off-peak hours, such as at night, on weekends or during holidays, significantly less water is used than during peak hours. The reduced demand at such times creates an opportunity to reduce pressure in the network, minimizing the risk of leaks and bursts.

Providing the utility company with real-time data and analytics from pressure sensors in the water system, **Aquestia's NRW Classic solution** enables them to automatically reduce pressure during off-peak hours, according to pre-set values.

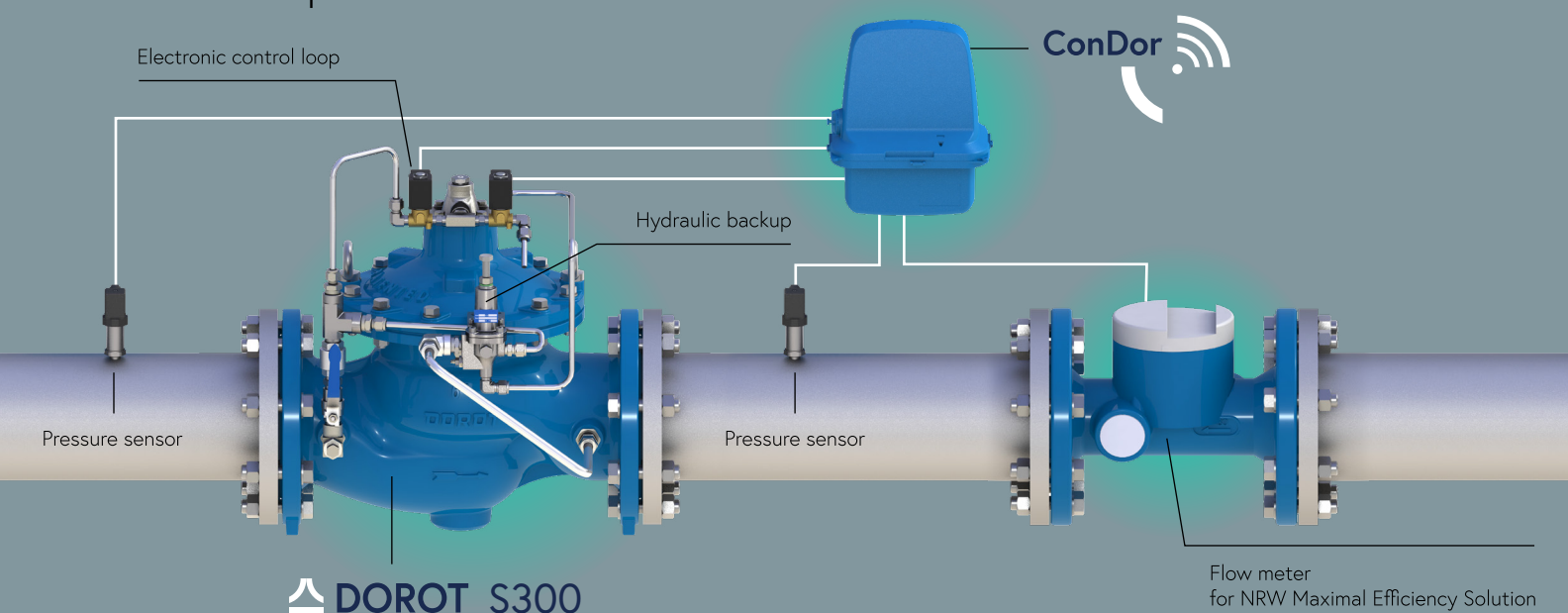
NRW Maximal Efficiency Solution

A flow-based approach to pressure reduction

The input flow into a District Metered Area (DMA) is dynamic, affected by factors such as customer demand, losses across the pipeline, water theft and more.

To ensure water system efficiency and reduce water loss in the face of changing demand, **Aquestia's NRW Maximal Efficiency solution** enables utility companies to adjust the pressure in a given DMA in response to changing conditions, ensuring that there is sufficient pressure to meet consumer demand for water, while minimizing any excess pressure that could lead to leaks and bursts that could result in NRW.

Solution Components



Aquestia's Solution Advantages

DOROT S300 HCV

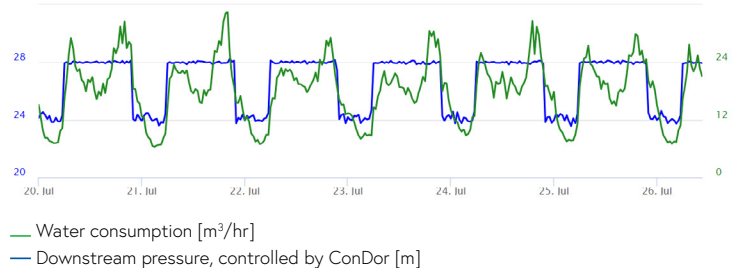
- Easy to install, operate and maintain.
- The electronic system of the HCV has a fully-hydraulic backup.

ConDor controller

- Up to 25 different downstream set points throughout the day (Time based for Classic, flow based for Maximal Efficiency).
- Able to apply all hydraulic control functions.

SkyPlatform

- See and download sensor data.
- Configure automatic alerts and responses.
- Push notifications for real-time alerts.
- Remotely open/ close the valve.
- Remotely adjust any set point or time slot in the ConDor, as needed.



The above graph has been extracted from the SkyPlatform used by the Water Board of Nicosia, one of Aquestia's NRW Maximal Efficiency customers. The green line shows the water meter reading, reflecting consumption in the DMA at any given moment. The blue line shows the downstream pressure, controlled by the ConDor to ensure that water demand is met.

[Read the full case study](#)

 **Aquestia**

Directing the Flow