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Case Study
Water technologies for pools

Advanced filtration technology transforms Gronau (Leine) outdoor pool in Germany

Conserving resources and ensuring reliable pool operations with the space-saving Defender® precoat filter

The town of Gronau (Leine) in Northern Germany operates the Gronau outdoor swimming pool, a major public facility for leisure, sport and recreation. With a non-swimmers' pool, a sports pool and diving facilities, the outdoor pool complex o□ers a wide range of activities for the local community. To ensure the long-term operation of the pool, whilst using water and energy responsibly, operators decided to modernise its outdated water treatment plant.



> „The savings we have made in rinse water are enormous. This has also made it possible to decommission the entire rinse water treatment system."
>
> Meik Riemann | Swimming Pool Manager, Stadt Gronau (Leine)

Challenge

The pool's sand filters, which had been in operation since 1971, had clearly exceeded their service life. The outdated plant technology increased the risk of costly unplanned downtime and repairs, which could significantly disrupt swimming pool operations. Furthermore, around 60 m³ of water was required every two to three days for the regular backwashing of the filters – a considerable strain on the plant's water balance and energy consumption.

Replacing the existing sand filtration technology was not a viable option. The filter house lacked sufficient space to accommodate a larger, DIN-compliant sand filter system, which would also have generated significantly more backwash effluent. Even the existing system required a 100 m³ above-ground rinse water storage tank.

Challange
Replacement of the old, now defunct sand filter system dating from 1971

Client
Town of Gronau (Leine) - Freibad Gronau (Leine)

Solution
1x Defender® SP-55-48-2076
Circulation capacity: 560 m³/h
Diameter: 140 cm

Project results

- Perfect water quality with significant savings in backwash water consumption
- Elimination of the need forflocculant
- Reliable operation
- Significant space saved for additional storage capacity

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Replacing the filters would therefore also have created the need for a new storage tank and modernisation of the rinse water treatment system. Given these challenges, the city sought a sustainable, cost-effective alternative that would ensure safe and reliable swimming pool operations for the long term.

Solution

To meet its requirements, operators chose the Defender® precoat filter from Neptune Benson, a Xylem brand specialising in high-performance water treatment technology. The choice drew on Xylem's decades of experience working with local authorities and swimming pool operators.

Compared with conventional sand and multi-bed filtration systems, the Defender® offers a more efficient approach to water treatment. Elimination of backwash water requirements helps lower water and energy consumption, while its compact design makes it ideal for sites where space is limited. The technology can also reduce chemical use by eliminating the need for flocculants.

Result

The new filtration system has delivered reliable swimming pool operations while improving energy and resource efficiency. Its successful implementation was made possible through close collaboration between the town of Gronau (Leine), the operator; IWT, the engineering firm from Hanover responsible for the design; and Blume Schwimmbad-Anlagenbau from Osterwieck. Importantly, the installed system meets the project's requirements for performance, operational safety and cost-effectiveness.



Decommissioned sand filter system



New Defender® SP-55-48-2076



Space-saving plant room with new pre-coating filter

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