

# WEDECO UV Disinfection Systems at German River Dam

The treatment plant of the Wahnbach-Reservoir with a capacity of 4.800 m<sup>3</sup>/hr serves the region and city of Bonn. The complete plant is in operation since 2002. The treatment process is based on flocculation and direct filtration but achieves outstanding performance. Main goal is outstanding water quality with minimized treatment additives and residuals.

The treatment process include

- » Destabilisation of stable enclosures and particles (plankton, clay, pathogens, bacteria), permanganate and powder carbon
- » Change of adsorptive bindings of algae-borne and humic matter into ferric or aluminium hydroxides
- » Dual filter insures minimized residues of organic matter that may cause aftergrowth during distribution
- » Safe and reliable disinfection by certified UV-systems pH adjustment.

The designers and operators demonstrate that optimized conventional surface water treatment can achieve equal or better quality water compared to membranes, at lower cost and longer service times.

## Main UV disinfection of the treated surface water with WEDECO K series

Three UV-reactors with a nominal capacity of 2.500 m<sup>3</sup>/h giving a 3 times 50 % redundancy at full operation takes care of the main disinfection. Lamp rows can be added or switched off to comply with the disinfection requirement depending on the flow through the system. The Wahnachtalsperreverband have long positive experience with distribution of water without a disinfection residual.



The WEDECO K reactors installed at Wahnachtalsperre (river dam) are certified by the DVGW according to technical standard W294: Biosimetric dose of 400 Joules/m<sup>2</sup>.

Scope of supply:

- » 4.800 m<sup>3</sup>/h plant capacity; with 50% redundancy.
- » 3 pieces Wedeco K3000 with a nominal capacity of 2.500 m<sup>3</sup>/hr each. 400 Joule/m<sup>2</sup> biosimetric
- » In operation since 2001

Total installed with WTV (Wahnachtalsperreverband):

1. Siegburg Siegelknippen 2:  
2 pieces K2000, K65 9-6, each 1.600 m<sup>3</sup>/h
2. Siegburg Siegelknippen 1:  
3 pieces K3000, K90 9-8, each 2.500 m<sup>3</sup>/h
3. Sankt Augustin - Meindorf:  
2 pieces K3500, K90 9-8, each 2.500 m<sup>3</sup>/h