

"ONE TANK REACTOR"-PLANT **SCHÖNFELD** near Dresden (Germany-Saxonia)



• Start-up date: July 1996

• Connection Load: Designed for 2,400 population equivalents (p.e.)
BOD₅-load: 150 kg/d
Daily sewage: 600 m³

• Plant concept: Extended aeration (sequenced batch technology) Simultaneous sludge stabilization, nitrification, denitrification, Organic sludge age > 20 days

• Sewer concept: Combined system (rainwater and sewage)

• Effluent results: BSB₅ = < 5.0 mg/l
CSB = < 15.0 mg/l
NH₄-N = < 0.5 mg/l
P_{total} = < 3.0 mg/l

• Technical Features:

Two parallel operating SBR-systems (computer-controlled) including a sludge storage tank for the excess waste sludge (storage capacity for 180 days).

Alternating fill-up of the two reactors (automatically operated).

• Technical Features:

Pretreatment of the incoming sewage by a compact station including fine screen and sand trap. Discharge of the pretreated sewage by a pumping station (2 pumps).

Fine-bubble aeration by compressed air (system "MBR") with membrane plates (deep installation) and rotary piston blowers, operating according to the oxygen concentration.

Mixing of the reactor content by a dry mounted propeller-stirrer, installed at the centre of each reactor.

Decanting of the purified wastewater by free flow systems resulting in low operation costs (in contrary to decanting pumps).

Realization of the reactors and the sludge storage tank by circular waterproof concrete tanks (B 35). All tanks with a height of 5.0 m. Reactor-diameter: 12.0 m. Diameter sludge tank: 11.0

Operation building includes the control room, the laboratory, the sanitary equipment, the blower room and the installation hall for the pretreatment station.

Equalization of the effluent by use of a buffer-lagoon with a flow- control equipment in the effluent chamber.

