



“One Tank Reactor”-Plant of Village **SCHÖNFELD** near Dresden (Germany)



- Start-up date: July 1996
- Connection load: designed for 2,400 p.e. resulting from domestic waste
- Process target: BOD₅: 150 kg/d
daily sewage: 600 m³/d
- Sewer concept: combined system (rainwater and sewage)
- Effluent results: BOD₅: < 5 mg/l
COD: < 15 mg/l
NH₄-N: < 0.5 mg/l
P_{total}: < 3 mg/l
- Plant concept: extended aeration (sequenced batch technology), simultaneous sludge stabilization, nitrification, denitrification, organic sludge age > 20 days
- Technical features:
 - two parallel operating SBR-systems (computer-controlled) including sludge storage tank for the excess waste sludge (storage capacity for 180 days)
 - 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)
 - alternating fill-up of the two reactors (automatically operated)
 - 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 in 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)
 - 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

