



## **RUHLBEN SEWAGE TREATMENT PLANT**

### **CHRONICLE**

**1963**

Commissioning of the sewage treatment plant

**1983**

Commissioning of a second expansion stage

**1985**

Commissioning of the sludge dewatering and combustion. Start of the introduction of biological phosphate elimination in combination with nitrification and denitrification.

**1993**

Commissioning of the third expansion stage.

**1996/97**

Modernisation of the flue gas scrubbers to comply with the 17th Immissions Protection Ordinance.

### **PROCESS ENGINEERING**

Mechanical and biological sewage treatment, biological phosphate elimination in combination with nitrification and denitrification. The sewage sludge is dewatered with centrifuges and burned in fluidised bed furnaces with downline waste heat recovery and flue gas scrubbing.

### **TECHNICAL DATA**

**Treatment capacity:**

247,500 m<sup>3</sup>/day in dry weather

**Mechanical treatment:**

Six automatically cleaned fine screen systems, six grit chambers and 16 tanks with a total useful volume of 18,480 m<sup>3</sup> for the primary sedimentation.

**Biological treatment:**

16 aeration tanks with a total useful volume of 198,500 m<sup>3</sup> and fine-bubble surface aeration via ceramic aeration pipes. The compressed air is provided by steam-power turbo-compressors and electric compressors. 54 tanks with a total useful volume of 146,500 m<sup>3</sup> for the secondary sedimentation.

**Sludge treatment:**

Six centrifuges and three fluidised bed furnaces with a fluidised bed temperature of 750° C and a minimum combustion temperature of 850° C.

The thermal energy contained in the flue gas is used predominantly for steam generation and for preheating of the combustion air and the boiler feedwater. Excess steam is converted into electrical energy in a turbogenerator unit.



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