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Major order: 12 HUBER Multi-Rake Bar Screens RakeMax® for Vienna

Extensive modernisation of the Vienna wastewater screening plant: six HUBER Multi-Rake Bar Screen RakeMax® units with 8 mm and 3 mm bar spacing, six HUBER Wash Press WAP® 8 HD units and screenings conveying system.



One of the broad HUBER Multi-Rake Bar Screen RakeMax® units with 8 mm bar spacing used as coarse screens



State-of-the-art machine technology by HUBER at Vienna's main sewage treatment plant

The Danube metropolis Vienna is world-famous for its New Year's Day concert that is performed by the Vienna Philharmonic Orchestra and broadcast worldwide every year and as native city of the "Waltz King" Johann Strauss and world musician Falco. But it was not so long ago that the heavy bomb damage to the sewer system during World War I and II was rehabilitated in 1950 so that the city of Vienna could start with planning the treatment of the city's wastewaters.

At first, two small plants were built in the southern part of Vienna, the first of them went into service in 1951.

In the sixties, when the planning phase for the Vienna main sewage treatment plant started, there had been plans to build an own plant for the districts Floridsdorf and Donaustadt on the other side of the Danube but these plans were abandoned. It was decided that the wastewater from "Transdanubia" should flow to the main sewage treatment plant through a 567 m long structure under the Danube. Simmering, the topographically deepest point of Vienna, was selected as location for the Vienna main sewage treatment plant.

As one of the largest sewage treatment plants in Europe at that time, the plant was put into operation by Vienna's mayor Leopold Gratz in 1980. In 2005, the second biological treatment stage was put into operation to ensure the state-of-the-art treatment of the city's wastewaters and prevent that the Danube water quality is impaired.

The Vienna main sewage treatment plant is presently laid out for 4.0 million PE60 and the maximum flow rate of 18 m³/s during storm conditions.

In 2013, in the run-up to the widely noticed EOS project, ebswien hauptkläranlage Ges.m.b.H. and the engineering office commissioned by ebswien thought about how to significantly increase and optimize the screenings separation rate.

In a number of meetings HUBER supported the planning office with advice and recommendations. Several technical proposals were developed but finally the HUBER RakeMax® variant turned out to become the most probable solution. Moreover, IFAT 2014 gave us the chance to convince the decision makers of ebswien by showing them our RakeMax® screen on our exhibition stand. There, they got to know HUBER as a competent future partner and supplier.

The project could then be finalized at the beginning of 2015 and the order was placed with HUBER. Now, ebswien hauptkläranlage Ges.m.b.H. intends to modernize the existing sewage screening plant and add a fine screening plant in the eastern part of the grit trap building.

The project comprises in detail:



HUBER Wash Press WAP® HD 8 unit for screenings treatment



HUBER Multi-Rake Bar Screen RakeMax® (3 mm) and the grit trap

In the screening building:

- Replacement of the existing screens by HUBER Multi-Rake Bar Screen RakeMax® units:
 - Channel width: 3.0 m
 - Channel depth: 3.1 m
 - Maximum flow rate: 3.7 m³/s
 - Bar spacing: 8 mm
- The HUBER screens will be installed at an angle of 60° as this improves hydraulics, enlarges the screen surface area and reduces the flow velocity between the screen bars.
- The existing screenings wash presses will be replaced by HUBER Wash Press WAP® HD 8 units and the HUBER wash presses integrated into the existing screenings transport system:
 - maximum throughput capacity per machine: 12 m³/h raw screenings
 - dewatering performance > 35% DS
- The complete measurement & control technology and wiring

In the grit trap building:

- Installation of six HUBER Multi-Rake Bar Screen RakeMax® units, 3 mm bar spacing, in the outlet from the grit trap
This type of machine is a new innovative HUBER fine screen. Technical novelties are the bar rack which is made of stable tear-drop shaped bars and the rake which has been further developed. The rake we have developed especially for the Vienna sewage treatment plant consists of individual scraping elements which are arranged at 90° to the scraping direction. The elements are made of new high-strength and low-wear material and are stable, of high quality and reliable.
Also the fine screens will be installed at an angle of 60° as this improves hydraulics, enlarges the screen surface area and reduces the flow velocity between the screen bars.
 - Channel width: 3.2 m
 - Channel depth: 3.6 m
 - Maximum flow rate: 3.7 m³/s
 - Bar spacing: 3 mm
- Installation of six HUBER Wash Press WAP® HD 8 units including integration into the screenings transport system:
 - maximum throughput capacity per machine: 12 m³/h raw screenings

- dewatering performance > 35% DS
- Installation of two longitudinal conveyors / collection conveyors – including distribution shaft with changeover switch conveyor 1 / conveyor 2
 - Spiral diameter: 600 mm
 - Conveying length: 33.9 m each
- Installation of two horizontal screw conveyors for redundant feeding of the screenings loading presses
- The complete measurement & control technology and wiring

The fine screening plant offers high-quality technology on a small footprint – possibly unique in Europe in this form. After all, one can read on every Vienna city limits sign: "Vienna is different" – why should this not also apply to the Vienna's main sewage treatment plant?

Test operation of the first tow coarse and fine screen lines was successfully finished meanwhile. Presently, the third line is being installed and will soon be put into operation.

It is planned to complete the six new screen lines and hand them over to ebswien Hauptkläranlage Ges. m. b. H. by the end of 2016.

You are welcome to get an impression of the large screens of this impressive project with your own eyes!

Visit us at **IFAT Munich** which takes place **from May 30 to June 2016**. In **hall A2, stand 351** we will be presenting a comprehensive range of products and solutions for the several fields: wastewater treatment, sludge treatment and drinking water supply. Among other, we will be showing in full size one of the HUBER Multi-Rake Bar Screen RakeMax® we have manufactured for STW Vienna.

Related Products:

- [HUBER Multi-Rake Bar Screen RakeMax®](#)
- [HUBER Screenings Wash Press WAP®](#)
- [HUBER Screw Conveyor Ro8 / Ro8 T](#)

Related Solutions:

- [HUBER Solutions for Mechanical Pre-Treatment](#)

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