The HUBER ROTAMAT® family – proven technology for large projects

The HUBER ROTAMAT® family is the foundation on which HUBER SE started its development in wastewater technology. On this basis, the company has been able to grow and develop continuously. With over 30 different machine types in mechanical pre-treatment alone, HUBER SE has developed into a globally operating company. Nevertheless, the ROTAMAT® machines remain an important cornerstone of HUBER SE and now demonstrate that this system is still outstanding, especially in large projects with screen basket diameters of over 2 metres. The efficiency and reliability of the ROTAMAT® technology is even evident in demanding applications and the technology continues to prove its worth in wastewater treatment.

HUBER Rotary Drum Fine Screen ROTAMAT® Ro2 impresses in Austria and Colombia

With a dry weather inflow of 103,600 m³ per day, the Salzburg-Siggenwiesen municipal wastewater treatment plant is the largest in the province of Salzburg. The plant has been in operation since 1986 and in 2023 they installed the fourth generation of intake screens. After detailed considerations, the management of the wastewater treatment plant finally decided in favour of two HUBER Rotary Drum Fine Screen ROTAMAT® Ro2 units with a screen basket diameter of 2.6 m and a bar spacing of 3 mm. In spring 2023, the perforated plate screens from 2009 were removed and replaced by the new screens. These fit exactly into the two existing channels and have now been convincing for over a year with low maintenance and high separation performance.

Especially the use of the air knife in combination with a permanently installed high-pressure cleaning system offers several advantages. The air knife cleans the screen basket of the Ro2 with a certain air pressure and thus saves the use of the spray nozzle bar installed as standard. Only the high-pressure cleaning system uses water at a pressure of 120 bar every three operating hours to intensively clean the screen basket. The use of these two components therefore saves both water and the maintenance time and costs for manual
The HUBER Rotary Drum Fine Screen ROTAMAT® Ro2 is also used in the Barranquilla wastewater treatment plant in Colombia. HUBER sold the first Ro2 unit with a diameter of 2.6 m and a bar spacing of 2 mm back in 2017. It treats a wastewater flow of 934 l/s and convinced the customer. This is demonstrated above all by the fact that this year the extension of the plant was also awarded to HUBER SE after the competition was not convincing. Two more Ro2s of the same size will therefore be delivered next year and will thus continue to ensure wastewater treatment there.

Not only the HUBER Rotary Drum Fine Screen ROTAMAT® Ro2 units are convincing. The ROTAMAT® STAR and ROTAMAT® RPPS screens show how flexible the ROTAMAT® concept is and how it can be utilised in other fields of application.

Pre-screening of wastewater upstream of membrane systems in the USA

Pre-screening the wastewater before it goes through a membrane system plays a crucial role in water treatment and is becoming increasingly important in the USA. Its main aim is to protect downstream membrane systems and improve the efficiency of water treatment. At the same time, it relieves the downstream treatment stages and reduces maintenance costs.

Various HUBER technologies are used for pre-screening, including the ROTAMAT® STAR and RPPS screens. Similar to the ROTAMAT® Ro2 screen, these machines combine the functions of screening, washing, discharging, compacting and dewatering in one compact and robust unit. In contrast to the ROTAMAT® Ro2, however, the ROTAMAT® STAR and RPPS are equipped with a perforated plate screen. This enables two-dimensional screening, which ensures a higher separation efficiency. The screen basket of the ROTAMAT® RPPS has an aperture width of at least 1.5 mm, which already makes it suitable for membrane pre-screening. If even finer screening is required, the folded screen basket of the ROTAMAT® STAR can be used. This can be designed with a hole diameter of 1 mm and thus enables even finer separation. In addition, the screening surface is increased, which leads to a higher flow rate due to the star-shaped folding of the screen basket.

In the USA, these two machine types have proven their worth in membrane pre-screening over the last two years. As in Salzburg-Siggenwiesen, the large machines are now also being used there. Both the ROTAMAT® RPPS with a hole diameter of 2 mm and four
Ro2: screen basket made from wedge wire ≥ 0.5 mm.
machines are being used in one project, as well as the ROTAMAT® STAR with two machines and a hole diameter of 1 mm. Two further orders were landed in the USA last year. ROTAMAT® STAR with a basket diameter of 2.0 m and ROTAMAT® RPPS with a diameter of 2.2 m are being used to protect the membranes. Another special feature of the two orders is that these machines are manufactured entirely at the HUBER Technology, Inc. production site in Denver, North Carolina and therefore directly in the USA.

From West to East: major projects are in Asia

HUBER ROTAMAT® machines have proven themselves not only in America, but also in South Korea and India, leading to major projects. In South Korea, a total of 30 ROTAMAT® STAR units with a screen basket diameter of 3 metres and a hole width of 1 mm for fine screening of wastewater will be supplied. Customers in India are also impressed. A project for a sewage treatment plant is in the pipeline there, which will be equipped with ten of the largest ROTAMAT® STAR screens. These have a screen basket diameter of 3 metres and a hole width of 2 mm.

It is gratifying to see how this technology, with which HUBER started its entry into the wastewater technology business, is now contributing to efficient wastewater treatment worldwide.