



Solutions for your water intake projects

- ▶ Making projects viable with proven technologies and in harmony with nature
- ▶ Comprehensive one-stop solutions from local experts with global expertise
- ▶ Customer support throughout the entire project life cycle

No safe water intake without mechanical water treatment with high-quality screening machines

Water is an indispensable basis of life for humans and nature. Without water there is no life and no economic progress. Rising population figures in conurbations as well as current development trends in industry, commerce and agriculture present us with increasingly demanding challenges in the safe supply of water. Sea and river water are increasingly being extracted and claimed as a resource to meet growing demands.

Saltwater accounts for 97% of the Earth's total water reserves. Seawater has already become an essential source of water consumption in some regions of the world. Around one percent of the world's population covers its daily needs with desalinated seawater. Especially in the Middle East, North Africa, Australia and South America, seawater desalination plants provide vital drinking and irrigation water in addition to process water for industry. This share will increase significantly in the coming decades as a result of a growing world population and increasing water shortages.

As water is increasingly being recovered from rivers and seas and as pollution levels in these are increasing at the same time, the removal of pollutants by means of mechanical cleaning using screens and coarse and fine

screening machines is more and more coming into focus. The choice of the mechanical water treatment stages determines the load on subsequent process steps and thus the economic efficiency and safety of the entire plant.

The application-specific selection of the right machines and number of treatment stages is decisive for the quality of the end product and the cost-effective operation of the plant, be it for

- ▶ use as cooling water in thermal power plants
- ▶ the operation of hydroelectric power plants
- ▶ use as process water in industrial plants, chemical plants and refineries
- ▶ use as raw water for drinking water supply and sea-water desalination
- ▶ use for irrigation in agriculture and parks.



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|------------------------------|-----------------------------|-------------------------|
| 1 Thermal power plants | 4 Oil and gas industry | 7 Pulp/paper production |
| 2 Hydroelectric power plants | 5 Chemical plants | 8 Irrigation |
| 3 Seawater desalination | 6 Drinking water production | 9 Other industries |

River and sea water intake applications.

HUBER offers comprehensive solutions for safe, cost-effective and sustainable water intake

Plant operators need durable equipment for water intake. HUBER supplies the appropriate screening machines, designed for a long service life and a continuous, low-maintenance operation.

Our integrated development approach as well as the perfect matching of mechanical and electrical components on the one hand and the optimal integration into the overall structure on the other hand enable us to optimise the purification of the extracted water and the life cycle of your plant.

Depending on the requirements, we manufacture the machines in different stainless steel grades. For installations that come into contact with seawater, we supply cathodic corrosion protection. Likewise, our water intake solutions incorporate relevant fish protection concepts. This includes specially shaped filter elements for belt screens with integrated fish recirculation as well as fish monitoring approaches and fish scaring systems. In addition to mechanical screens, we supply project-specific shut-off devices for mechanical-hydraulic control and for maintenance work. This is supplemented by technical equipment for handling the separated screenings.



In addition to design, manufacture, installation and commissioning, our service portfolio includes the complete after-sales service, including the supply of spare parts and system maintenance. If site conditions change, we also adapt the existing plant equipment.

In the foreground of our actions are:

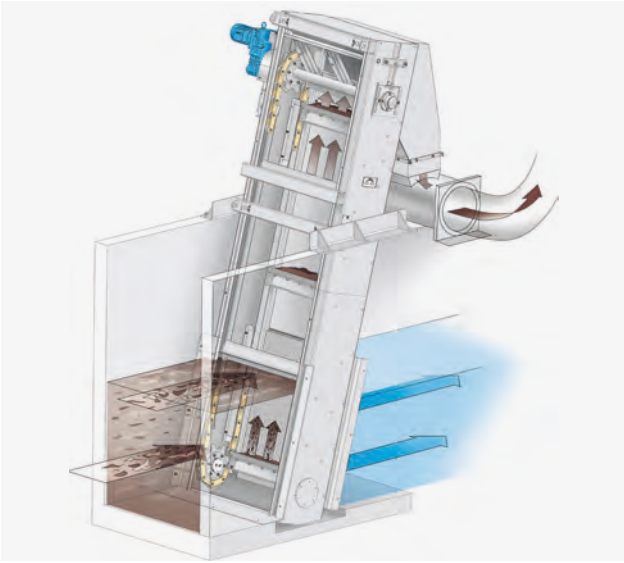
- ▶ Economic efficiency through standardised solutions as well as innovative, compact and modular designs
- ▶ Reliability through the use of proven technologies tested and manufactured according to HUBER's high standards
- ▶ Environmental friendliness through oil-free and fish-friendly system concepts and resource-saving production with a long service life.
- ▶ Depending on the application and installation situation, various coarse and fine screening systems are available.

HUBER Grab Screen TrashLift

- ▶ Used as first stage in water intake for bulky coarse screenings
- ▶ Rope-driven grab screen
- ▶ Prevents sedimentation in the channel as the screen design provides for removal of debris from close to the bottom of the channel
- ▶ Bar spacings: ≥ 20 mm
- ▶ Installation angle: 70 – 90 °
- ▶ Channel widths up to 4 m
- ▶ Channel depths up to 30 m

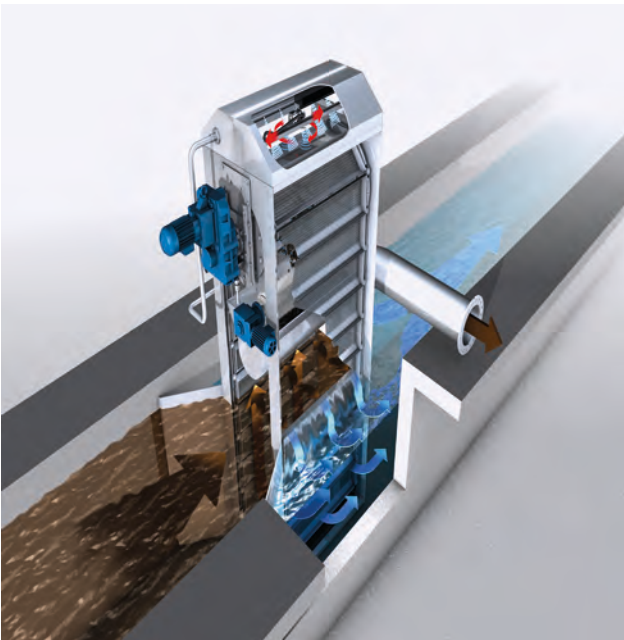
HUBER Coarse Screen TrashMax®

- ▶ Used as the first treatment stage of water intakes for the removal of bulky materials such as flotsam, debris and rubble
- ▶ Innovative combination of a front-cleaned and back-cleaned screen in one unit
- ▶ High operational reliability combined with high intake and discharge capacity of the screen rakes
- ▶ Compact design allows space-saving installation
- ▶ Bar spacings: ≥ 20 mm
- ▶ Installation angle: 80°
- ▶ Channel widths up to 4 m
- ▶ Channel depths up to 20 m



HUBER Multi-Rake Bar Screen RakeMax® V

- ▶ Used as first treatment stage in water intakes with high demands on solids discharge capacity
- ▶ Low-wear construction
- ▶ Bar spacings: ≥ 10 mm
- ▶ Installation angle: 50 – 90 °
- ▶ Channel widths up to 4 m
- ▶ Channel depths up to 18 m



HUBER Band Screen CenterMax® HF

- ▶ Used as second treatment stage in water intakes with high throughput rates
- ▶ No carry-over of screenings to the clean water side
- ▶ Highly robust for low-maintenance operation
- ▶ Perforated plate/mesh size: 1 – 10 mm
- ▶ Installation angle: 90°
- ▶ Channel widths up to 4 m
- ▶ Channel depths up to 18 m



HUBER Band Screen DiscMax®

- ▶ Used as second treatment stage in water intakes with high fish protection requirements
- ▶ No carry-over of screenings to the clean water side
- ▶ Compact design allows space-saving installation even in existing plants and shorter channels
- ▶ Quick and easy installation due to self-supporting frame
- ▶ Perforated plate/mesh size: 1 – 10 mm
- ▶ Installation angle: up to 90°
- ▶ Channel widths up to 3.5 m
- ▶ Channel depths up to 25 m

Success stories

HUBER has supplied numerous machines for new plants and the modernisation of existing plants worldwide. On six continents, high-quality screening machines ensure

smooth water intake and reliably protect downstream plants from damage caused by dirt and other impurities.



Project in Brazil

- ▶ Complete solution from HUBER (mechanical and electrical equipment)
- ▶ Compact plant concept with low maintenance requirements
- ▶ Efficient removal of algae and coarse material
- ▶ Fast project implementation in close coordination with the customer
- ▶ Field of application: drinking water production
- ▶ 2 x HUBER Multi-Rake Bar Screen RakeMax®
- ▶ Commissioning in 2019



Project in South Africa

- ▶ Timely installation in cooperation with local partners
- ▶ Robust low-maintenance machines that efficiently protect the pumps for the irrigation canal system from contamination
- ▶ High reliability over many years of operation
- ▶ Field of application: irrigation canal for agriculture
- ▶ 3 x HUBER Multi-Rake Bar Screen RakeMax®
- ▶ Commissioning in 2007



Project in Indonesia

- ▶ Complete solution from HUBER (mechanical and electrical equipment)
- ▶ Robust, low-maintenance machines that reliably remove various pollutants including coarse debris from the water
- ▶ Improved flood protection by avoiding blockages of water channels due to increased waste generation in the rainy season are avoided
- ▶ Rapid installation due to the use of pre-assembled machines
- ▶ Field of application: water supply for households, commerce and industry
- ▶ Several HUBER Coarse Screen TrashMax® units
- ▶ Commissioning of the first machines in 2016



Project in Germany

- ▶ Modernisation of a coarse screening plant with custom-fit integration into the existing plant system
- ▶ Small, compact, low-maintenance screening machine
- ▶ Supply of Nabaltec AG and Waste Recovery Association Schwandorf with process and cooling water
- ▶ Field of application: process and cooling water recovery for chemical plants
- ▶ Screens: 2 x RakeMax®
- ▶ Commissioning in 2012



Project in Germany

- ▶ Complete solution from HUBER (mechanical and electrical equipment)
- ▶ Combination of coarse and fine screening
- ▶ Optimised plant concept with perfect integration into the construction of the overall structure
- ▶ Field of application: cooling and process water recovery for the power plant at the paper mill site
- ▶ Screen: 1 x RakeMax®; 1 x EscaMax®
- ▶ Commissioning in 2014



Projects in China

- ▶ Easy installation due to pre-assembly; machines were lifted directly into the channel
- ▶ Project-specific design that takes into account the customer's specific requirements
- ▶ Low maintenance operation with high throughput
- ▶ Field of application: drinking water production
- ▶ Screens: 2 x CenterMax®
- ▶ Commissioning in 2020



Project in Australia

- ▶ Retrofit into an existing channel with high sediment and sand input
- ▶ Robust machine that runs reliably even under high sediment loads
- ▶ Perfect integration into an already existing overall plant that is operated remotely monitored in the rain-forest
- ▶ Field of application: drinking water production
- ▶ Screen: 1 x EscaMax®
- ▶ Commissioning in 2020

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HUBER Water Intake Solutions

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