



BILFINGER WATER TECHNOLOGIES

PASSAVANT® Bar Screen with Grab Cleaner SGR

TASK

Removal of bulky screenings and sediments such as sand, grit and debris in pumping stations or in the inlet area of wastewater treatment plants to protect downstream installations.

SOLUTION

The PASSAVANT® Bar Screen with Grab Cleaner SGR, supplied by Bilfinger Water Technologies, is employed as a coarse or fine screen for the mechanical pre-treatment of wastewater. It is particularly efficient due to its high level of cleaning performance and its intelligent PLC control system. These enable the machine to repeat the cleaning cycle from any position, as often as necessary, and to efficiently remove extremely bulky screenings, sand deposited in front of the screen, or screenings trapped between the screen bars, which impede the downward flow.

FUNCTION

As soon as the drive is activated, the cleaning starts in order to adjust a difference in water levels which has resulted from a build-up of screenings in the bar rack. The grab cleaner is lowered to the screen bars in an open position. When it reaches the channel bottom it swings into the screen bars.

During the cleaning cycle the screenings are collected, transported to the discharge position and then pushed by the scraper device into the container, conveyor belt, etc.

This screenings cleaning cycle is repeated until the difference in water levels has been adjusted. The grab cleaner then returns to the parking position above operation floor.

PRODUCT VARIANTS

The PASSAVANT® Bar Screen with Grab Cleaner SGR is available in the following designs:

- Installation angle vertical or inclined (75°–90°)
- Apron made of concrete (to be provided on site)
- Apron made of steel
- As a stationary or a traversing bar screen

BENEFITS

- The robust design and intelligent cleaning technique ensure a high level of operational reliability and cleaning performance for even difficult screenings
- Low operational costs and low maintenance
- High loading capacity and reliable grabbing of bulky screenings by means of a grab cleaner with rake bucket
- Cleaning cycle can be started from every grab cleaner position
- Forced closing of the grab bucket during the cleaning cycle
- Different speeds of the cleaner carriage during descent and cleaning cycle
- Numerous references worldwide and over 50 years of operating experience
- Exact limitation of lifting movement



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Design Features

The PASSAVANT® Bar Screen with Grab Cleaner SGR is equipped with two independent drive units for lifting and pivoting gears. The cleaner carriage runs in guideways and is actuated by means of pivoting and lifting ropes. These components are designed as a unit in such a way that, during the cleaning cycle, the lifting force acts as a lever on the grab cleaner and forces it to close. The resulting strong closing force of the grab cleaner enables it to transport bulky screenings and very heavy loads. The descent and the cleaning cycle are controlled by the lifting gear. The meshing of the grab rake into the bar rack is controlled by the pivoting gear.

The slack rope monitoring system detects a possible blocking of the grab cleaner due to floating refuse, debris, etc. and interrupts the descent to the lower meshing point so that the cleaning cycle is started.

An intelligent cleaning technique allows the cleaning of the bar rack to be started from every position of the grab cleaner. Deposits on the invert or bulky screenings are removed layer by layer. In the case of blockage or overload, the installation is switched off by means of a special electro-mechanical safety control system. This automation system ensures unusually high operational reliability and, therefore, a high throughput rate.

DESIGN SIZES

The standard supply programme includes the following dimensions:

- Channel width: 0.9–6.0 m
- Channel depth: 2–20 m
- Bar spacing: 10–150 mm
- Discharge height above operation floor: 0–2,0 m
- Construction height above operation floor: 3.7–6.2 m
- Inclination of bar rack: 75–90°

Further models and dimensions are available on request to meet your individual requirements.

MATERIALS

All components of the PASSAVANT® Bar Screen with Grab Cleaner SGR are manufactured with top quality materials:

- Steel with high quality surface coating
- Stainless steel

FIELDS OF OPERATION

The PASSAVANT® Bar Screen with Grab Cleaner SGR is not only employed in new structures, but can also be easily integrated into existing plants:

- Pumping stations
- Industrial wastewater
- Wastewater treatment plants of all sizes
- Rainwater overflows and storage sewers



Water Technologies

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