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**QUILTON**

# **SCREW SCREEN**



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**SCREENS, FILTERS AND BAR SCREENS**

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This equipment's operation begins with wastewater flowing to the QUILTON screw screen. Lateral watertight seals guarantee a close fit with the trough, ensuring the water passes through the screen. Any solids larger than the spacing are retained, while the water flows through the holes on the screen's perforated section and filtering area.

Solids are retained in the screen's filter area and removed by a brush mounted on the spiral, which at the same time conveys the retained solids upwards and compacts them in the end zone.

As the wastes are being raised, they are dehydrated and compacted before being discharged into a skip. The liquid from the pressing process (drainage) is collected and returned to the screening basket through a flexible hose.

# FEATURES AND STRUCTURE

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The QUILTON screw screen has the following structural and mechanical features:

- ✓ 30-45° angle of positioning.
- ✓ Type of materials: stainless steels AISI-304, AISI-316, duplex 2205, super duplex 2507, etc.
- ✓ **Fully automatic** operation.
- ✓ Totally enclosed discharge trough.
- ✓ Bagging unit (optional) that avoids the emission of odours from compacted wastes.
- ✓ Completely hermetic from the screening area through to the discharge trough.
- ✓ Brush on the spiral for the self-cleaning of the screening area.

The water passes through the basket, which is fixed in place, and when the water level reaches a pre-set value the gear motor begins operating and the auger begins extracting the waste. The equipment's design ensures that **no solids larger than the spacing are drawn through it.**

The compacting area basically consists of a section without a spiral where the product is moved slowly. At the outlet, the tubular body has a reverse spiral and a blade for removing roughed solids. Depending on their nature, the volume of incoming wastes is reduced by between 30 and 50% once compacted, provided the degree of filling is 20-30%.

# COMPONENTS OF THE SCREW SCREEN

The QUILTON screw screen is basically made up of four parts:

- ✓ **Filtering area:** this is the part of the screw screen that is connected to the inlet channel through which the wastewaters flow. It consists of a steel screening basket with perforations (3-10 mm in diameter) and a spiral with a brush on its lower end to provide continuous cleaning of the screening area.
- ✓ **Waste transport or lifting area:** this is the middle part between the filtering and discharge areas. It involves a tubular trough and a conveyor auger.
- ✓ **Pre-compacting and compacting area:** this is the last and highest part of the screw, and as its name indicates, it is the area where the screened solids are moved, washed and compacted by the extraction screw. It leads to the discharge trough.
- ✓ **Operation:** this involves a low-rev gear motor mounted on the top of the unit.

## **ADVANTAGES OF THE SCREW SCREEN**

- ✓ Simple and robust design.
- ✓ Straightforward to install.
- ✓ Suitable for small spaces.
- ✓ Minimal operating and maintenance costs.
- ✓ Low energy consumption.
- ✓ Readily adaptable to variable operating conditions.
- ✓ No additional cleaning systems.
- ✓ Suitable for outdoor operation.



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