

**ESMIL**  
EQUIPMENT

EQUIPMENT AND TECHNOLOGIES  
for wastewater treatment

[www.esmil.eu](http://www.esmil.eu)

# ESMIL catenary screen

## for tough conditions

A reliable solution for mechanical cleaning at sewage treatment plants, pumping stations and water-intake facilities.

The screens protect the equipment in the many different stages of wastewater treatment by removing large objects and other items that can cause deterioration of the equipment or cause accidents.

It even handles large debris in large waste streams.



The special design of the chain allows the screen to work without jamming even when removing large debris from the channel.



Powerful chains of the screen are maintenance-free and designed for many years of operation without replacement.



The screen casing is designed with an increased margin of safety based on testing under conditions of high hydraulic loads.



Reliability, simplicity  
and efficiency

## WHAT FEATURES OF CATENARY SCREENS ARE ATTRACTIVE TO CONSUMERS?



### SCOPE OF APPLICATION:

- » Catenary screens are optimally suited for wastewater treatment in open channels where a wide range of contaminants enter: capturing organic and inorganic materials and bulky waste – where other types of screens face serious problems.
- » They are suitable for pumping stations, for mechanical treatment of wastewater where the customer selects equipment with maximum reliability and minimum maintenance.

### EFFECTIVE TECHNICAL SOLUTIONS:

- » A feature of the catenary screen is its special design, i.e. the “support chain”. This innovative solution allows the chain with only one fixed axis of rotation to work both as a loadbearing and supporting structure for the rakes.
- » The “support chain” design lets avoiding jamming of the entire mechanism, which can adapt to the dimensions of the large waste that shall be removed.
- » The catenary screen chain significantly exceeds other chains traditionally used in rake screens in terms of reliability and safety margin.
- » The web is made from a drop-shaped profile or reinforced profile of square cross-section from stainless steel.
- » The use of a drop-shaped profile is due to its high hydrodynamic characteristics: this ensures a high throughput of the screen even with small spacing.
- » The control system of the catenary screen is automated by time or by the level of drains in the channel.
- » Screen drive: high-reliability worm gear motor from one of the world leaders, NORD Drive Systems.

### SIMPLICITY OF OPERATION:

- » Engineering solutions used in the design of the screen do not require complex operations for its maintenance or replacement of operational elements.
- » The screen does not stop when large amounts of debris enter into it.

## WHY DO OUR SCREENS WORK LONGER?

- » **high corrosion resistance:** the material of the blades consist of stainless steel, the chains have the option of stainless steel or cast iron.
- » **only corrosion-resistant components are in contact with water.**
- » **the screen does not have a lower sprocket nor bearings submerged under water, which can often wear out and fail.**

Work gets easier than before

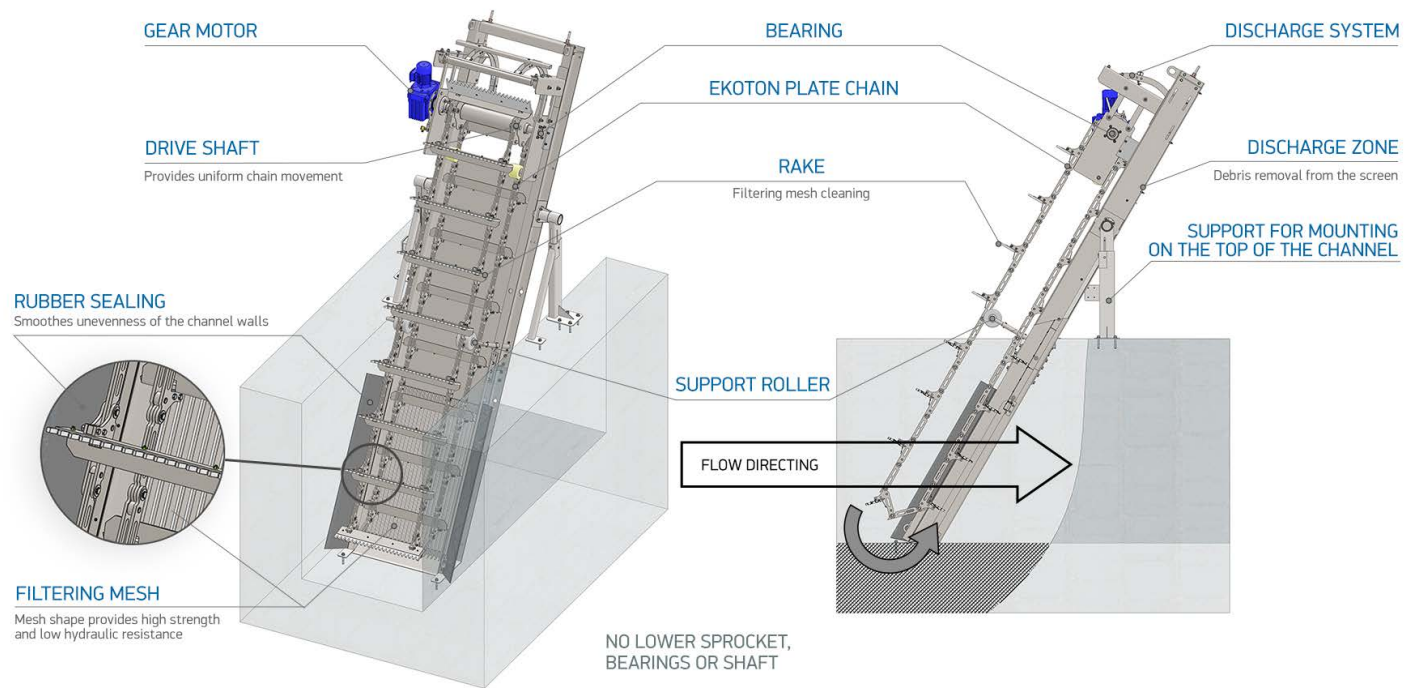
# DO CATENARY SCREENS REALLY MAKE WORK EASIER?

## MAINTENANCE

Daily	not required
Monthly	not required
Once every six months	not required
Every two years	replacement of guide rollers, covers on a rake, signal LEDs

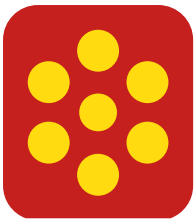
## CONVENIENCE OF OPERATION AND MAINTENANCE:

- » the screens are easy to maintain due to the accessibility of the main components in operation. .
- » simplicity of the design helps to assemble and install the equipment without trouble.
- » the filtering web is designed to be easily removable.
- » screens do not require constant maintenance.
- » maintenance of the parts underwater are excluded.
- » the scrapers have an increased tooth height, which allows for better cleaning of each lamella.



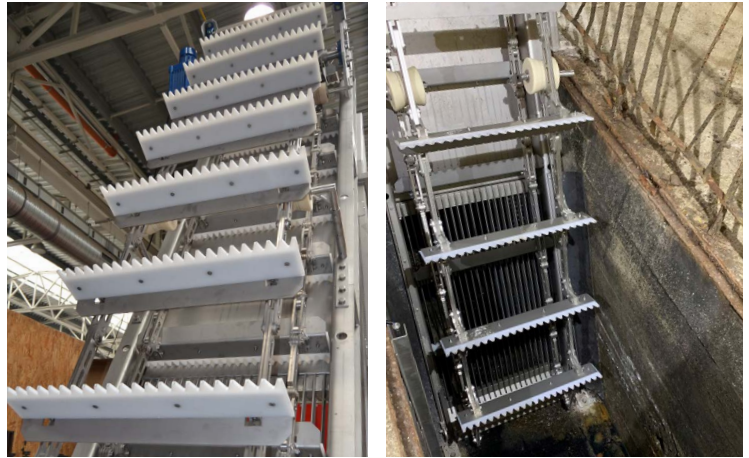
### IMPORTANT INFORMATION!

Channel width	from 500 to 3 000 mm
Channel depth	from 600 to 6 000 mm
Installation angle	75–45°, 60° in a standard trim
<b>Rakes</b>	
Tooth length	25–40 mm
the distance between rake rods	500 / 1 000 mm
Standard spacings	6, 8, 12, 16, 20... mm
Applicable web profiles	teardrop / trapezoid / rectangular
Overload protection	- mechanical - thermal



## SMART AUTOMATION IN AID OF PERSONNEL

- » ESMIL catenary screens are equipped with a control system that operate in various modes. Due to the possibility of adjustment by level or by time, the rakes can clean the web more intensively.
- » The catenary screen is equipped with a mechanical overload protection device. Thermal protection of the drive is provided as the second stage of protection.



**International Sales Department**

+48 87 620 06 02  
[prodeko@esmil.eu](mailto:prodeko@esmil.eu)