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CABLE OPERATED GRAB SCREENS

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CABLE OPERATED GRAB SCREENS

General Description and Intended Use

Cable operated grab screens are mechanical equipment designed to remove undesired solids from the water received with wastewater from the free flowing channels. Thus, the cases such as blockage and malfunction in the pumps, valves and pipes are minimized and the pollution load of the wastewater is reduced and the treatment is performed with lower costs.

It removes the solid materials of which particle sizes are larger than grab screen gap (10-100 mm in general).

Cable operated grab screens can be used in even very deep channels. Since they can grab coarser wastes and assembled more vertical angles compared to other grab screen types, they are mostly preferred in the entry units and elevation centers of large scaled treatment plants.

Working Principle Of Equipment

The solid materials coming to the plant with the wastewater are accumulated in front of the grab screen bars. The grab rake is lowered open to the bottom of the channel to rake vertical bars mounted with an inclination of 75°– 90° at the bottom of the channel and the grab rake is closed and carries the wastes grabbed in front of the screen bars up. The wastes carried up are scraped with the scraper system and transferred to the waste collection container. In general, it consists of a main frame, screen bars, a driver group, steel cable and a scraper grab rake.

When the screen completes an operation tour, the grab rake is left open at the top and it does not prevent water flow.

TECHNICAL SPECIFICATIONS

- It is manufactured in any capacity and size.
- The screening efficiency is extremely high.
- In wastewater treatment plants, it is generally used as coarse screen.
- It is automatically operated depending on the water level in the grid channel or time without needing an operator.
- It has a double drive system as cable winding and grab rake opening - closing. The ascending - descending movements of the grab rake are performed by the cable winding reducer and the opening - closing movements are performed by the grab rake opening - closing reducer.
- There are necessary OHS protection sheets in drum frame group in order to prevent interfering in the movable parts manually.
- There are no movable parts requiring underwater intervention and maintenance.
- There is a torque switch and an emergency button available for the safety of the employees and the equipment. In case of excessive loading or compulsion in the equipment, the torque switch is activated and stops the system.
- All parts to be lubricated are designed to be lubricated from a single point on the machine. The machine is manufactured as equipped with lubricating hoses.

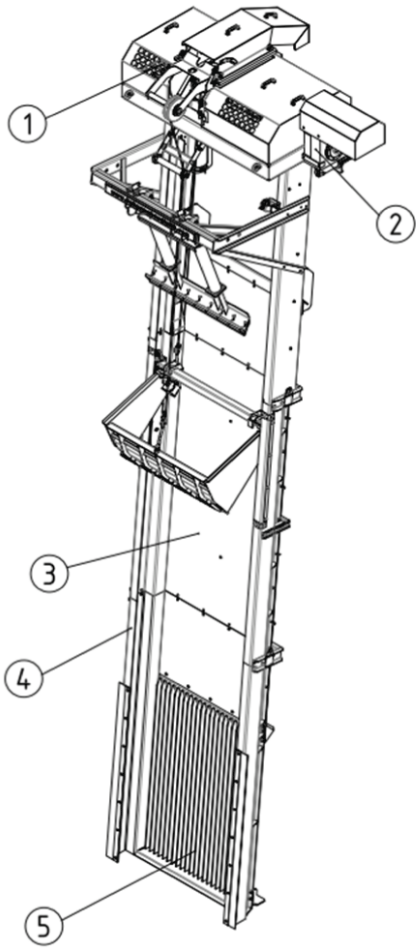
ADVANTAGES

- High Screening Efficiency in Large Diameter Wastes,
- Design in Desired Capacity and Size,
- Operation at High Flows,
- Low Operation and Maintenance Costs,
- Easy Operation Thanks to Central Lubrication Systems,
- Possibility to Control and Follow the System Operation Over SCADA,
- Manufactured From Corrosion Resistant Material,
- Resistant Design,
- Long Operation Life,
- Lower Space Requirement Thanks to Mounting Angle,
- Suitable to be Used in Deep and Wide Channels,
- Accessory Diversity.

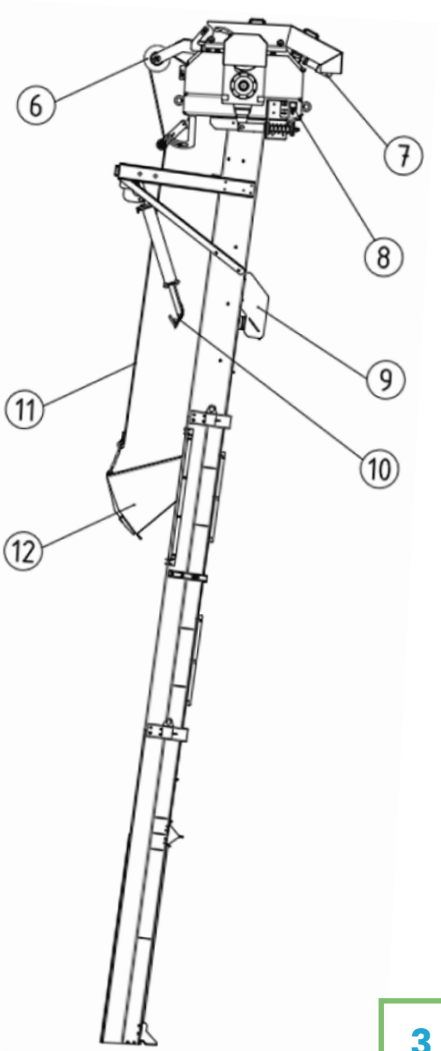
Material Details

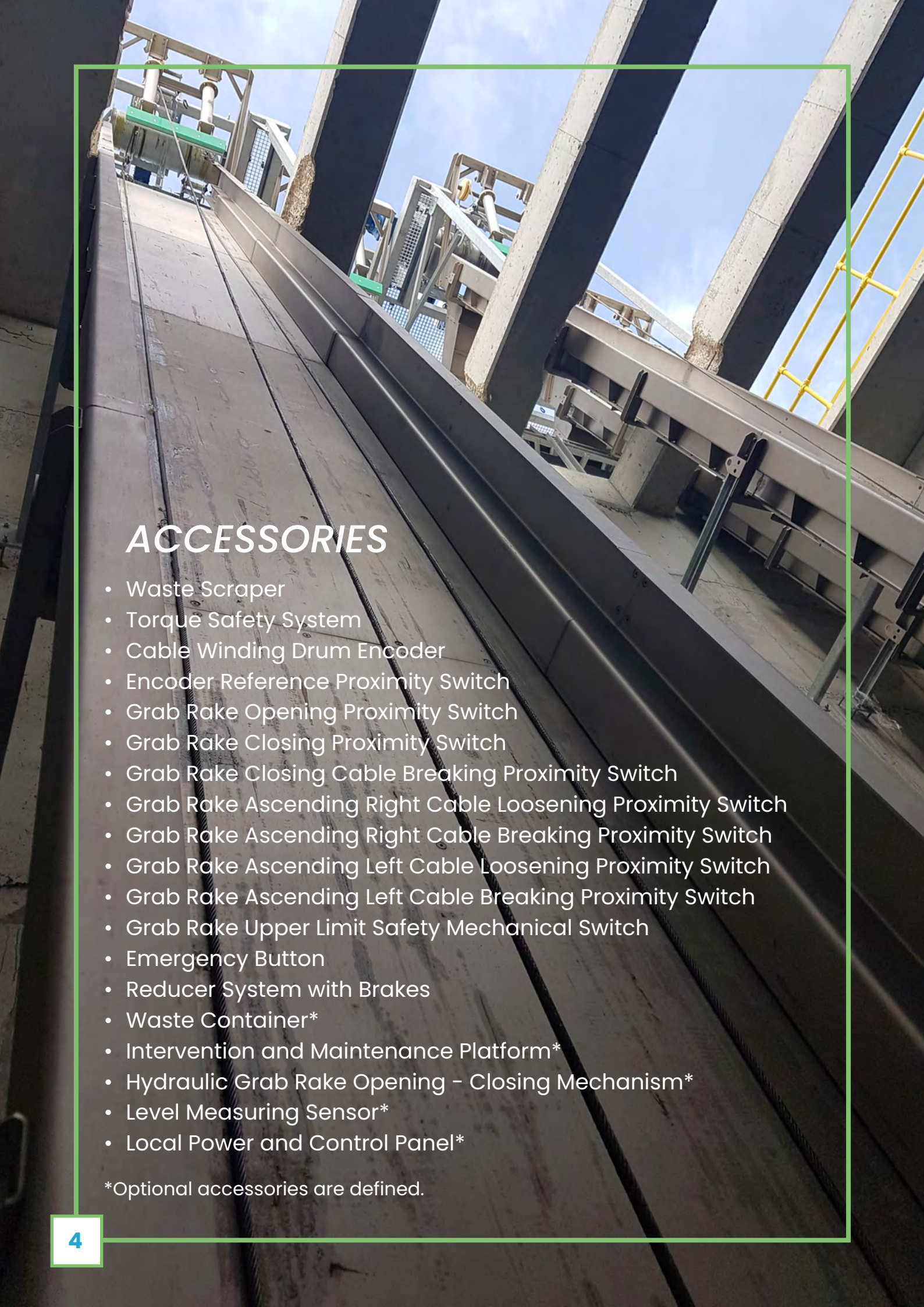
- Frame: They can be manufactured as DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).
- Rear Sheet: They can be manufactured as DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).
- Grab Rake: They can be manufactured as DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).
- Sheet bars: They can be manufactured as DIN 1.4301 (AISI 304) or DIN 1.4401 (AISI 316).
- Drum: It is manufactured as S235JR + hot dipping galvanized coating.
- Drum Assembly Table: It is manufactured as S235JR + hot dipping galvanized coating.
- Waste Scraper: It is manufactured from High Density Polyethylene (UPE 1000).

"Different materials can be preferred in accordance with the request of the customer."



No	Part Name
1	Cable Winding Drum
2	Cable Winding Reducer
3	Rear Sheet
4	Frame
5	Sheet bars
6	Grab Rake Opening / Closing Cable Coil
7	Grab Rake Opening / Closing Reducer
8	Various Switches
9	Waste Discharge Chute
10	Waste Scraper
11	Cable
12	Grab Rake





ACCESSORIES

- Waste Scraper
- Torque Safety System
- Cable Winding Drum Encoder
- Encoder Reference Proximity Switch
- Grab Rake Opening Proximity Switch
- Grab Rake Closing Proximity Switch
- Grab Rake Closing Cable Breaking Proximity Switch
- Grab Rake Ascending Right Cable Loosening Proximity Switch
- Grab Rake Ascending Right Cable Breaking Proximity Switch
- Grab Rake Ascending Left Cable Loosening Proximity Switch
- Grab Rake Ascending Left Cable Breaking Proximity Switch
- Grab Rake Upper Limit Safety Mechanical Switch
- Emergency Button
- Reducer System with Brakes
- Waste Container*
- Intervention and Maintenance Platform*
- Hydraulic Grab Rake Opening - Closing Mechanism*
- Level Measuring Sensor*
- Local Power and Control Panel*

*Optional accessories are defined.

Marmaracık Mah. 1982. Sok. No: 13/1
Ergene / Tekirdağ / TÜRKİYE
+90 0282 686 63 33 pbx +90 0282 686 63 34

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