



HUBER Drum Screen RoMesh®

- ▶ Removal of fibres and hair
- ▶ Service water and wash water treatment
- ▶ Defined separation size
- ▶ COD and BOD removal in river or sea outfall applications
- ▶ Protection of membrane filtration plants

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The situation

Separation of hair, fibres and fine suspended material from municipal and industrial wastewaters is in many applications essential for trouble-free and low-maintenance operation of subsequent treatment stages. Fine mesh screens are required to remove such materials.

Wastewater treatment at source is necessary for many industrial installations to meet the requirements for wastewater discharge into sewer systems. Since waste-water fees depend on the freight discharged it is eco-nomically beneficial to minimise the freight by using a fine mesh screen for wastewater treatment at source.

Our solution

The HUBER Drum Screen RoMesh® consists of a horizontal screen basket equipped with a fine square mesh (0.2 to 1 mm mesh size) or a perforated plate (2 to 3 mm perforation). Due to the two-dimensional effect of the mesh or perforated plate the screen removes very fine particulate material.

Design and function

The wastewater flows from inside to outside the basket through the screen surface. Filtrate is discharged vertically from the bottom of the drum and the screenings are transported horizontally by the rotation of the screen. Filtrate is discharged vertically from the bottom of the drum and the screenings are transported horizontally by the rotation of the screen towards the discharge point. The discharged screenings are usually dewatered in a down-stream screenings press. A spray bar with alternately operating spray nozzles cleans the screen surface while the drum rotates. The screened wastewater can be reused as wash water if a sufficiently fine mesh is used.

square mesh [mm]

0.2	0.5	0.75	1
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perforated plate [mm]

2	3
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Schematic drawing of the HUBER Drum Screen RoMesh®.

Applications

The HUBER Drum Screen RoMesh® Screen is used to remove ultra-fine solids from municipal and industrial wastewater.

The machine is completely made of stainless steel and pickled in an acid bath for optimal corrosion protection and minimised maintenance requirements. The compact units are supplied in a container.

Separation of hair and fibres to protect downstream treatment stages

Preliminary separation of fine material is very important for Membrane Bioreactors, amongst other technologies, to ensure their trouble-free and low-maintenance operation. Separation of all fibres and hair is particularly important prior to hollow fibre membrane plants as fibres may lead to tressing or blocking of the membrane.

- ▶ 1.0 mm square mesh to protect hollow fibre membranes
- ▶ 3.0 mm perforated plate to protect plate membranes

COD and BOD reduction prior to river or sea outfalls

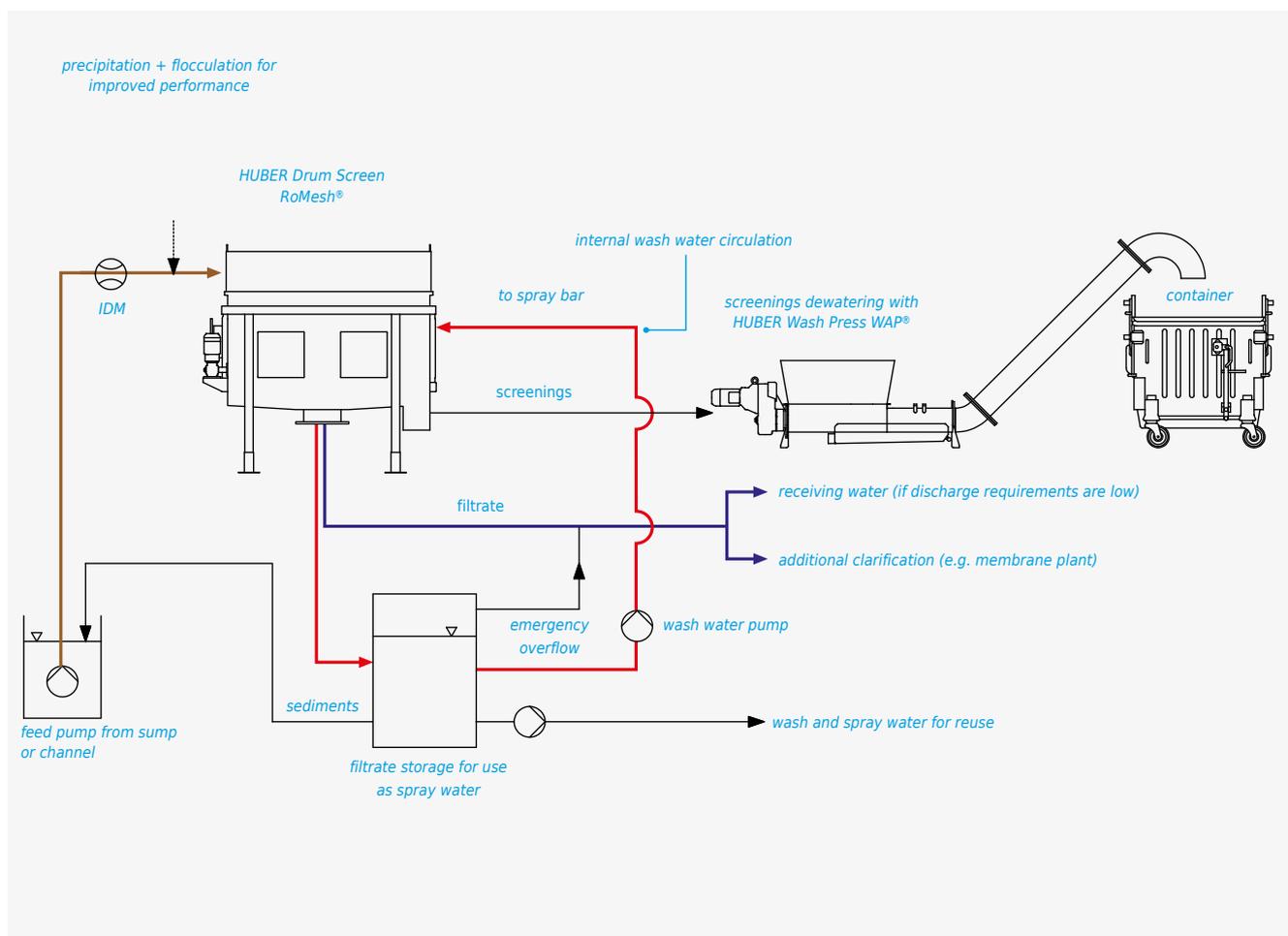
Raw wastewater is frequently only passed through a mechanical coarse screen prior to being discharged directly to a river or the sea. Ultra-fine screens are ideal for river or sea outfall applications as they reduce the discharged COD and BOD load significantly, quickly and at low costs.

Due to their fine mesh they separate not only waste but also fine particulate material of organic origin and with a considerable COD and BOD content. The screen is able to reduce BOD by 20% and filterable solids (AFS) by 50% and thus can reliably meet the discharge standards required for the North Sea bordering states.

Even better performance can be achieved with prior precipitation and flocculation.

Recovery of wash water and service water free of hair and fibres

Separation of hairs and fibres is essential if you want to reuse wastewater as wash water. The HUBER Drum Screen RoMesh® with its two-dimensional square mesh retains virtually all hair and fibres.



Flow diagram of mechanical wastewater treatment with a HUBER Drum Screen RoMesh®.

Treatment of industrial process water

Mechanical wastewater pre-treatment is necessary to meet the requirements for wastewater to be discharged to sewer systems. Since wastewater fees depend on the freight discharged it is economically beneficial to minimise the freight at source. The HUBER Drum Screen RoMesh® with its square mesh for high capture rates is designed specifically for this application.

A selection of the variety of applications in industries:

- ▶ Paper and pulp industry: separation of fine fibres
- ▶ Meat processing industry: separation of scraps
- ▶ Agricultural industry: separation of fruit and peel residues
- ▶ Breweries: mechanical preliminary treatment of all process waters
- ▶ Laundries: separation of fibres from wash waters

The benefits of the HUBER Drum Screen RoMesh®

- ▶ Excellent separation efficiency due to the defined separation size provided by the square mesh
- ▶ Significant reduction of COD and BOD in river or sea outfall applications
- ▶ Protection of downstream treatment stages , e.g. MBR plants, through removal of hair and fibres
- ▶ High-pressure washing at 120 bar eliminates blocking of the square mesh
- ▶ Small footprint requirements due to the enclosed, compact design
- ▶ Reduced wastewater discharge fees through freight reduction



HUBER Drum Screen RoMesh® for optimal separation of very fine particles.



Installation of a HUBER Drum Screen RoMesh® for industrial wastewater treatment.

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