ROTAMAT® Membrane Screen RoMem

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Installation example of the RoMem

This microscreen was exhibited for the first time at IFAT 2002. The possibility of screening large amounts of wastewater with 0.75 and 1.0 mm mesh was received with great interest by visitors to the exhibition. The main field of application for this screen is considered to be preliminary screening prior to membrane-activated sludge plants.

Membrane-activated sludge plants that have recently become available require very fine preliminary screening in order to operate

without problems and with minimum maintenance. For traditional biological treatment systems (trickling filter and activated sludge plants) 3 and 6 mm bar spacing is sufficient.

For membrane-activated sludge plants, however, the efficiency of screens with the larger bar spacings is insufficient in this application. The newly developed HUBER Membrane Screen uses a square mesh that provides, contrary to conventional slot screens, a defined separation size and ensures reliable separation of fibres and hairs. Slot screens are not able to achieve the same efficiency due to their undefined separation size. Mesh screens not only provide the advantage of a higher separation efficiency, but their hydraulic capacity is also superior. The large free surface of a mesh allows for an economical and affordable design.

The selection of the mesh size depends on the applied membrane system. Membrane modules are divided into hollow fibre and plate modules. In particular hairs and fibres entwine themselves around the free to move hollow fibre modules and therefore impair the permeability and hydraulic capacity. Cleaning of the modules involves high operating and operational costs. As a result, the finest possible screening is required and as such mesh sizes between 0.75 and 1.0 mm are used. Plate modules are less sensitive to the cross flow generated by the pressure air applied for module cleaning and due to its open top design. To increase the functional reliability of this technology, a bigger mesh size, finer bar spacing or even smaller perforated plate of up to 3 mm perforation can be used.

When using such fine bar spacings it unavoidably also removes the organics. To wash out these organics from the screenings the IRGA unit (integrated screenings washing system) can be used and the organic carbon is then returned for denitrification. At the same time, the screenings are dewatered and compacted in the integrated screenings press.

Related Solutions:

- HUBER Solutions for Mechanical Pre-Treatment

Related Products:

- HUBER Membrane Screen ROTAMAT® RoMem
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