

NEW SURFACE-SCUM REMOVAL SYSTEM

Reduced water consumption and no energy-consuming devices

Nowadays de-nitrification brings an increasing amount of surface scum to wastewater treatment processes. In rectangular sedimentation tanks that use traditional surface scum skimming with a scum pipe, the amount of water needed to carry the scum in the pipes is approximately five times greater than that required by the new surface scum removal system introduced by **Finnchain Oy** of Rauma, Finland.

80% less water required

With this patented surface-scum removal system from **Finnchain**, surface scum is removed by constant water flow and there is no need for any external energy source (see **Fig. 1**). It has been calculated that the water consumption needed to remove the surface sludge is ca. 2 m³/day. In the best cases, this is 80% less water than that required when using a traditional system.

With the new Finnchain system, treated water is lead to the overflow channel and surface scum is directed to the secondary tank from where it is pumped away (see **Fig. 2**).

No energy-consuming devices

The most significant benefit of Finnchain's new surface-scum removal system is that it does not employ motors or other energy-consuming devices. The amount of surface sludge removed is adjusted by the water flow. Water flow can be adjusted by changing the height of the level adjuster.

Water flow at the surface from the clarifier tank to the primary tank is adjusted by means of a level adjuster. Normal changes (± 10 cm) of the water surface level in the tank do not present a problem, because there are floats to maintain the level adjuster at the selected height. Floats change the height of the level adjuster when the water surface in the tank rises or sinks. The amount of water needed to carry surface scum in the secondary pipe can be adjusted by using the adjuster in the overflow channel (see **Fig. 3**).

Orders from Finland and other countries

The system has already been fully field-test and is currently is in use at the Hämeenlinna wastewater treatment plant in Finland, where results show that the Finnchain system is working efficiently and that water consumption has been reduced significantly compared to traditional surface scum skimming systems.

The new system can also be used in potable water treatment plants and for oil separation. Customers in Finland and other European countries have already placed a number of orders for the new Finnchain system.

Further information from:

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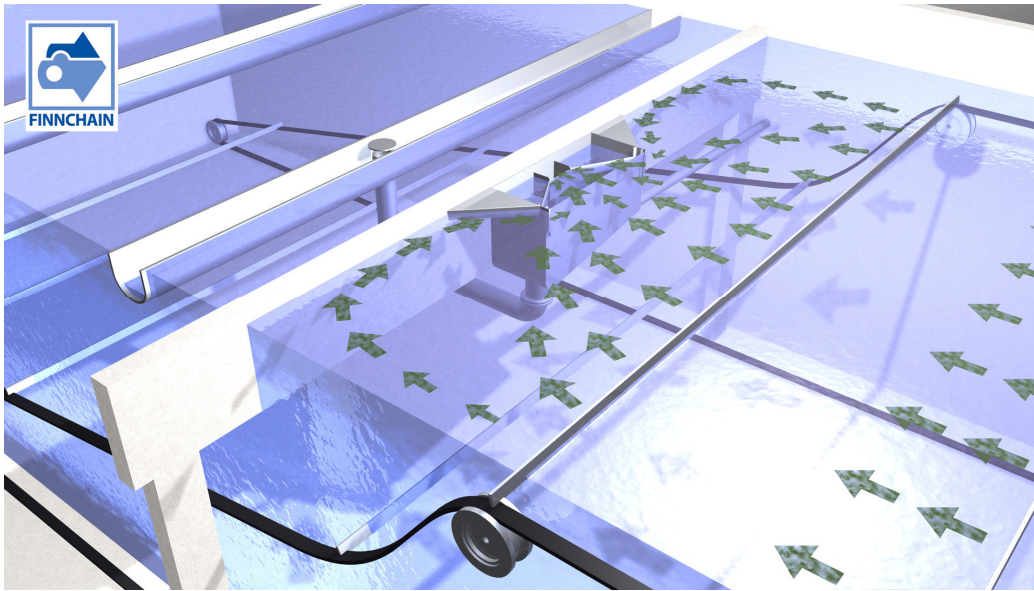


Fig. 1 The Finnchain system uses constant water flow to remove surface scum in a water treatment tank

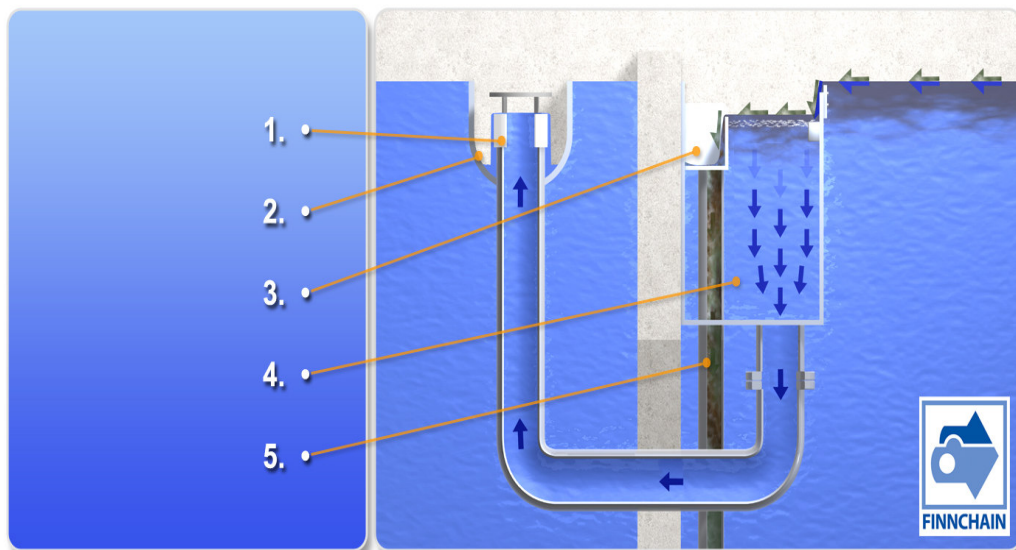


Fig. 2 Water flow in Finnchain's surface scum removal device. Device parts:
1. Adjusting unit 2. Overflow channel 3. Scum box 4. Overflow box 5. Scum pipe

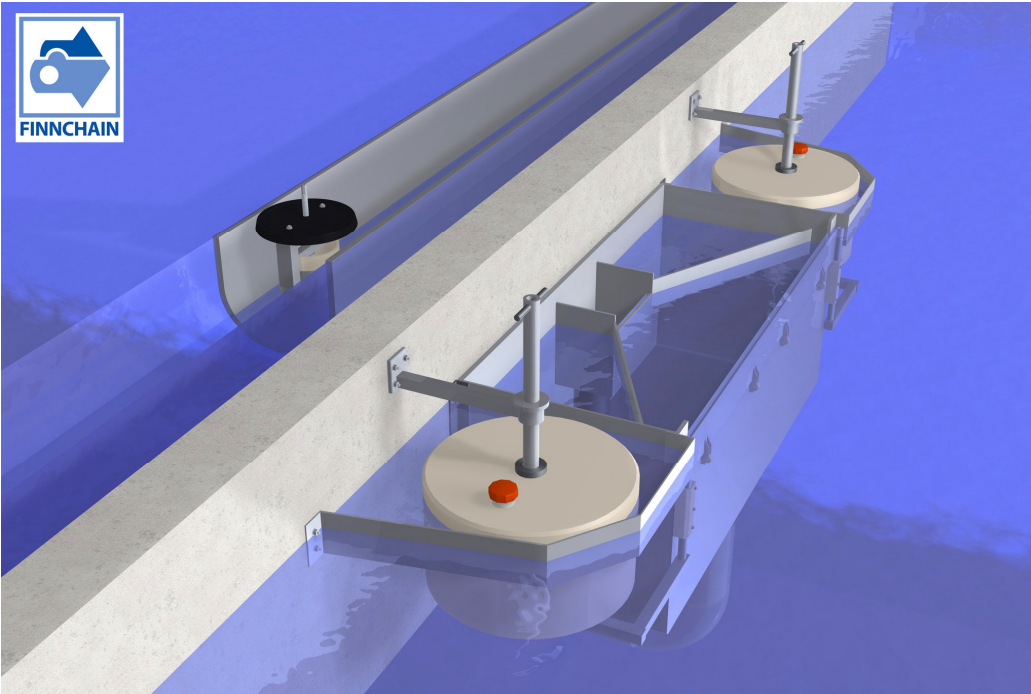


Fig. 3 The level adjuster of surface scum removal system is adjusted with floats.