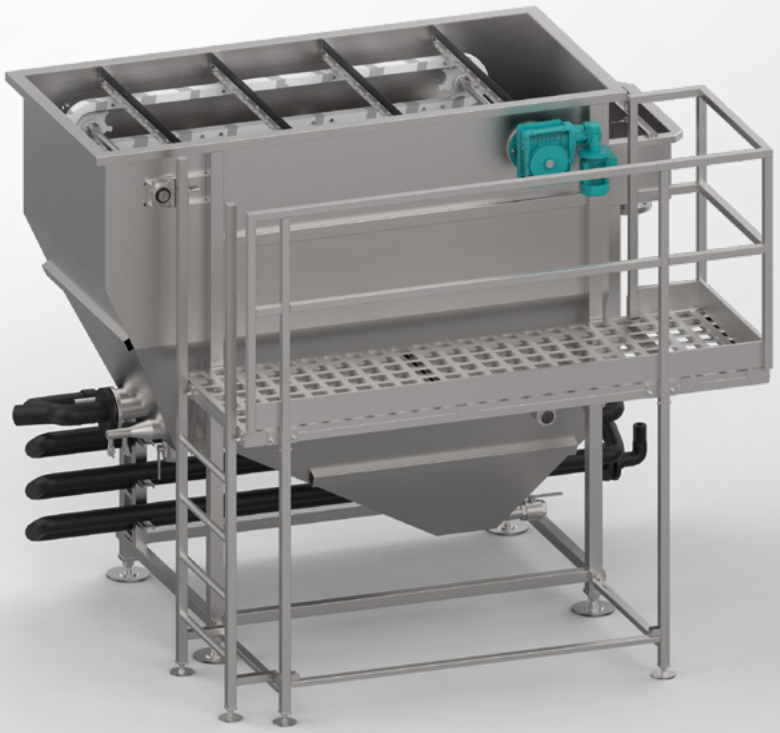
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DISSOLVED AIR FLOTATION

THE BEST SOLUTION, IF YOU THINK ABOUT CLEAN WATER

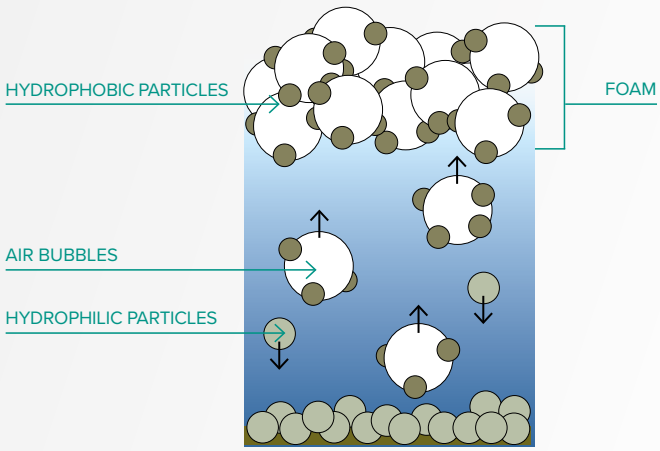


ALL FOR WATER

IN-EKO® TEAM

FH – a reliable and cost-effective solution for coarse and fine wastewater treatment

IN-EKO TEAM s.r.o. has specialized in the manufacture of wastewater treatment units since 1995. We used all our knowledge and experience in coarse and fine wastewater pre-treatment when developing the flotation unit. The flotation unit is designed to remove suspended solids and fats & oils that cannot be separated by conventional methods. The flotator is also suitable for thickening sludge. The device can be used in municipal wastewater treatment plants as well as in industry, especially in the paper, textile, food and petrochemical industries.



Flotation unit series

Type	Hydraulic capacity [m^3/h]	Surface [m^2]	Volume [m^3]
FH_5	5	1.9	1.8
FH_10	10	2.9	3.7
FH_20	20	5.7	7.3
FH_40	40	7.8	14.7
FH_60	60	10.1	22.0
FH_80	80	11.9	29.3
FH_100	100	14	36.7

Design and properties of the flotation unit

- Removal of TSS, fats & oils and difficult to remove by filtration processes
- Small footprint
- Unique sophisticated system for air bubble formation and transport to the active process
- High efficiency mixing pipeline (chemical modification)
- Height adjustable tapping device
- Made of stainless steel AISI 304 / AISI 316 / Duplex (salt water resistant)
- Sediment removal using a pneumatic knife gate valve or spindle pump
- Equipped with its own switchboard for controlling air and water pressures entering the process
- Fully automatic operation system

Expected reduction

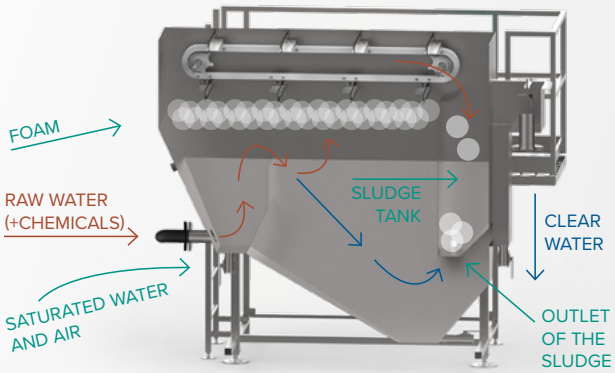
Parameter	Chemical-physical flotation
COD	65–75%
BOD*	65–75%
TSS	80–95%
Fats, oils	80–95%

COD = chemical oxygen demand,
BOD = biological oxygen demand,
TSS = total suspended solids

* Reduction of BOD parameter depends on the type of wastewater

How does it work?

A flotation unit is a separation device. Raw water containing suspended solids is mixed with any chemicals (flocculant, coagulant) in the mixing line and then flows into the flotation tank where air bubbles from the saturation line bind the impurities and together they float to the surface to form a flotation froth. Water is gradually squeezed out of the foam downwards. Above the surface, a skimming device is placed, continuously removing the top layer of foam and moving it to the sludge trough, from where it is drained by gravity or by a sludge pump. A level probe is located in the drain trough to monitor the minimum level in the flotation unit.





Application sample – Tannery plant, Waitoa, New Zealand, FH_100

Technical advantages

- High reduction of pollution – high quality of treated water and separated sludge
- Separation of hardly sedimentable particles
- **High efficient saturation system with nozzles for even distribution of microbubbles over the entire surface**
- Fully automatic operation

Applications

- WWTP
- Slaughterhouses
- Food & beverage
- Dairies
- Fish farms
- Glass fiber manufacturing
- Pharmaceutical
- Textile & Leather production
- Petrochemical
- Sludge thickening

The use certified and high quality materials guarantee long and reliable lifespan

Options of stainless steel quality: AISI304, AISI316L, AISI316Ti, Duplex alloys

✓ The right choice

When choosing the optimum flotation unit size, the most important parameters are the input and required output water expectation parameters (maximum flow rate). Another parameter to consider is the “flotability“ of the raw water (nature of the flotation water – COD, BOD, pH, water temperature).

Optimal flotation unit operation can be managed using a PLC or other computerized system. The flotation unit can be supplemented with a chemical management and remote monitoring. For easier service and maintenance, the device can be equipped with a operating platform. The flotation unit can be equipped with covers to protect the electrical parts from weather conditions (leaves, rain, snow).

The device must be installed in an environment with a minimum ambient temperature of 0 °C (the risk of freezing has to be excluded).

+ Benefits for customers

- A reliable and saving operation
- Highly efficient pollution reduction
- Low operating cost
- Remote monitoring for online support and service
- Fully automatic operation
- Small footprint
- Flotation unit can be customized to customer needs
- The unit can be put into operation immediately after its installation

More information about our flotation unit and other devices in our complete product line of wastewater pre-treatment and microfiltration can be found at www.in-eko.com.

You can contact us by phone, email or in person.

IN-EKO TEAM s.r.o. has specialized in the production of filtration and wastewater treatment units since 1995.

IN-EKO TEAM s.r.o.
Trnec 1734 | 666 03 Tišnov | Czech Republic
+420 517 070 601 | info@in-eko.cz
www.in-eko.com

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