

Drinking Water Technology

engineering for a better world

GEA Heat Exchangers



Kim Lien potable water plant in the centre of Hanoi: Lamella clarifier equipped with GEA 2H TUBEdek®.

Worldwide Safe Drinking Water
Design support

We all need water to survive. Industry needs water for the production of food and industrial products. Yet there are many pollutants reducing the quality of the available resources.

GEA 2H Water Technologies products are an indispensable part of many processes applied for the removal of those pollutants from the water. The high quality standard of GEA 2H products, their world wide availability and their high process efficiency have been the reasons why engineers around the world rely on GEA 2H products.

The specific know-how of our specialists obtained through decades of experience in the water business gives our customers invaluable support.



Treatment plant: groundwater treatment by flocculation and GEA 2H TUBEdek® sedimentation at open mine, Garzweiler (Germany). The treated water is fed into Düsseldorf´s potable water scheme.



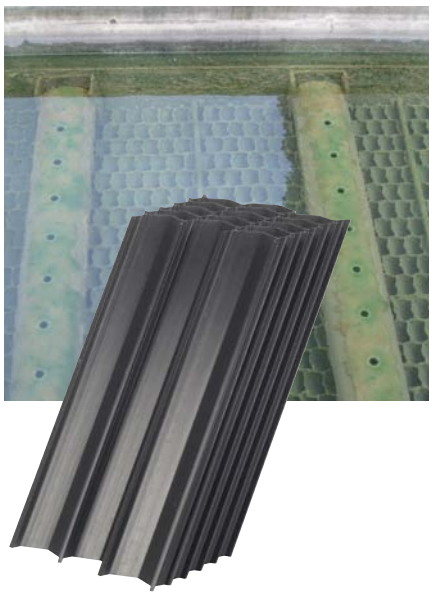
Sheik Zayed City Plant: Potable water plant for satellite city of Cairo. Water source: River Nile. Treatment Capacity: 3 Mio Habitants.

GEA 2H Products and Solutions

Solids Removal:

The content of sludge, sand and silts in surface water can reach several thousand milligrams per litre. Chemical precipitation and flocculation produce important amounts of solids. The most economic process to remove this pollution is parallel plate sedimentation. Multiple sedimentation planes within one tank reduce the size and cost of the tanks.

The 2H TUBEdek® FS41 type tube settler is the ideal product for this application. It can be adapted to process design requirements by variation of inclination, length of tubes and module sizes. The lamella sedimentation process can be most efficiently applied based on the unique features of 2H TUBEdek®.



Your GEA 2H-Benefits:

- High Quality Materials
- On Site Assembly
- Efficient Lamella Design

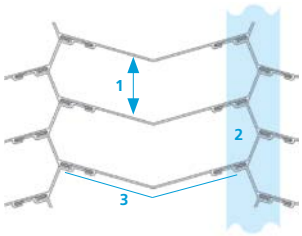
GEA 2H's tank design is based on CFD (Computational Fluid Dynamics) and long experience.

GEA 2H's on site assembly technology enables the construction of efficient plants in all parts of the world. The technology is easy to apply and reliable. Reference plants producing several hundred thousand cubic metres of treated water per day are operating in Uganda, Vietnam and San Salvador.



GEA 2H TUBEdek® FS 41.50 Advantages:

- Mechanical strength simplifies installation, cleaning and maintenance
- Advantageous hydraulic parameters achieve efficiency (low Reynolds number)
- Equidistant Channels for full sedimentation
- Special support systems avoid impact on the process
- Up to 15 sedimentation planes above one m² of base
- V-shaped tubes improve the discharge of solids
- 2H TUBEdek® in steel frames available for fast and easy installation



2H TUBEdek® FS 41.50

1 Equidistant Channels
2 Support Beam at a position with little impact on the process
3 V-Shape improves the discharge of sludge

Nitrogen Removal:

Surface water can be polluted by agricultural, industrial or municipal discharges of nitrogen (ammonia or nitrate). For the removal of these components biological processes are a valuable option – also for potable water. Nitrification and denitrification are biological processes that need carriers with surfaces to establish and maintain the biomass. GEA 2H supplies a large variety of such carrier materials – either BCN-range for moving bed or 2H BIOdek® for structured media reactors. Reference plants with capacities treating up to 500 kg/d of Ammonia in potable water are operating.



Your GEA 2H-Benefits:

- High Specific Surface – Small Reactors
- Reliable Biofilm Process

Carbon Dioxide Stripping:

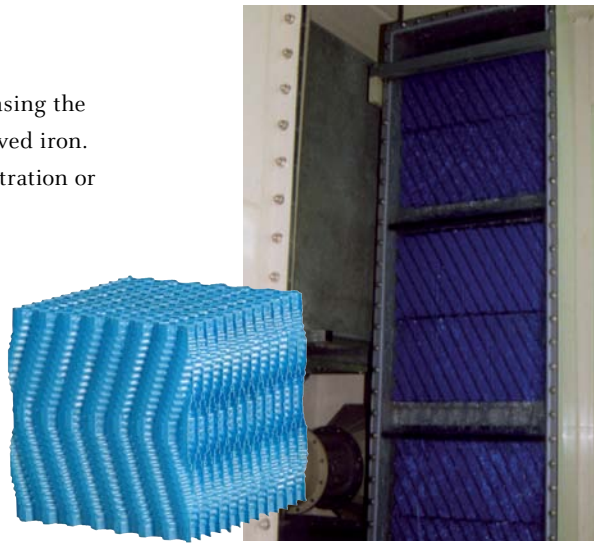
High contents of carbon dioxide create corrosion and do not comply with potable water requirements. Carbon dioxide is removed by stripping in columns, into which GEA 2H supplies highly efficient packing (KFP and FB10.19 or FB10.27).

Your GEA 2H-Benefits:

- Erosion Resistant Packings

Oxygenation and Removal of Iron:

GEA 2H packings achieve intensive mixing of the water with air: increasing the oxygen content up to saturation, thus allowing the oxidization of dissolved iron. The iron precipitates in or below the packing and can be removed by filtration or sedimentation.



Your GEA 2H-Benefits:

- No Rust

Excellence Passion Integrity Responsibility GEA-versity

GEA Group is a global mechanical engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX Europe 600 Index.



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