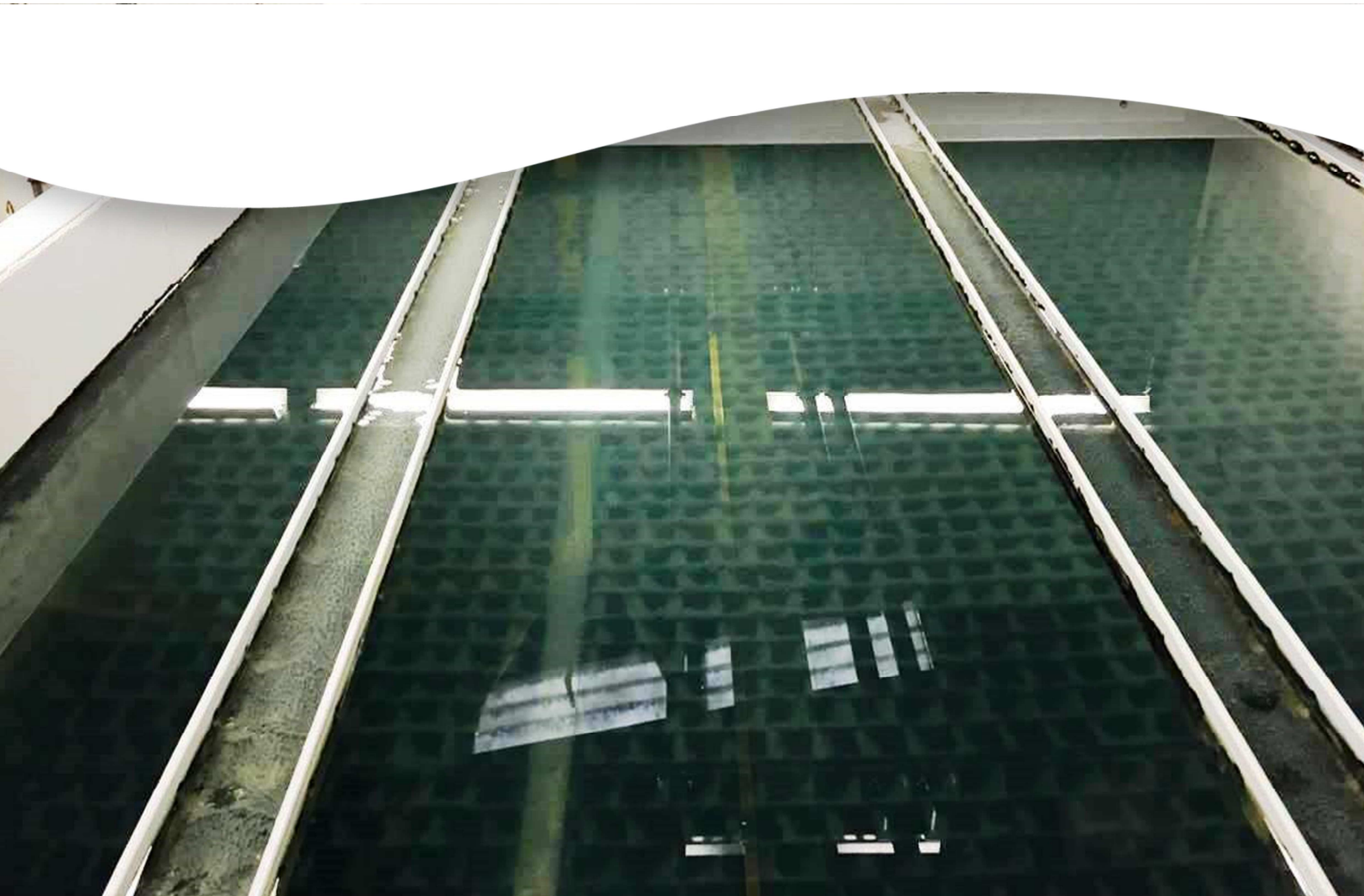


APPLICATIONS

WATER TREATMENT
WASTEWATER TREATMENT
INDUSTRIAL
MUNICIPAL



Lamella Tube Modules



Increase the efficiency of solids removal from your water or wastewater with a smaller settlement system, using lamella tube modules, proven over more than 40 years.

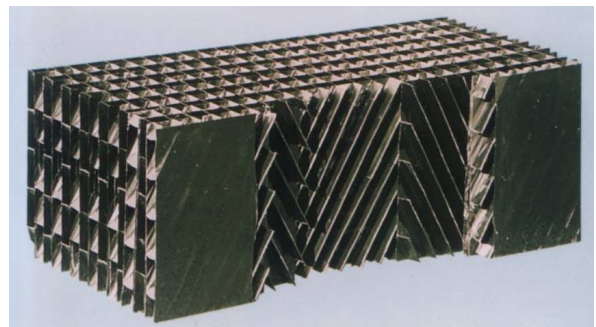
H+E Tube Modules are used in settlement tanks to provide highly efficient settlement of flocculated solids in industrial and municipal applications. They reduce the physical size of the tank required compared to a conventional settlement tank.

Tube Settlement Modules



The separation of suspended solids from liquids in water and wastewater treatment is commonly done using one of a variety of different designs to settle those solids. Settlement (sometimes referred to as sedimentation) means the separation of suspended solid matter out of a fluid by gravity. The efficiency of a settlement system depends on the hydraulic conditions inside. **The most important criteria are:**

- Incoming solids concentration
- Retention time
- Flow velocity
- Laminar flow (no turbulence)



Perhaps the most common problem with conventionally-design settlement systems is that the velocity of the flow is not constant across the whole tank area and local high-flow spots prevent efficient settlement of the solids which, in turn, leads to overall settlement quality that is not as good as it might be. Commonly one answer to this problem was to just make the surface area of the settlement tank bigger, to reduce the liquor velocity but ever-stricter quality requirements necessitate larger buildings and more efficient sedimentation basins, which in turn led to the need to develop more efficient solutions.

H+E's lamella tube modules comprise rows of tubes, inclined at 60°. This not only dramatically increases the effective settlement surface area, but also helps to avoid local high-flow spots. This means that you can achieve a better quality discharge from the settlement tank whilst at the same time saving floor area used.

Tube modules have been used for more than 40 years in many hundreds of plants so you will be using the tried and tested!

Tube Modules: The basic facts

Tube modules are:

- manufactured in ABS plastic and are therefore light and easy to handle.
- approximately 2950mm long x 760mm wide x 535mm high. This means a plan area of 2.2m², but a projected settlement area of 18.6m². In other words, the difference between the nominal settlement area (floor space used) and the actual (“projected”) settlement area is more than 8:1!
- only about 50kg each, so are easy to handle.
- strong. As you can see from the picture above, each row of tubes is inclined in the opposite direction to the previous one. This means that, not only is good flow distribution ensured, but the modules are strong.
- Resistant to the effects of sunlight and biological influence

Tube Modules: What are the benefits to you?

System advantages:

- Minimise the size of a new clarifier
- Improve hydraulic efficiency
- Improve final effluent quality
- Minimise investment cost
- Retrofit in existing settlement system
- Quick and easy to install



● Highly efficient removal of suspended solids

When you want to remove suspended solids from water, even when a pre-flocculation stage is included, there are inevitably some particles that are smaller and lighter than others, and which therefore do not settle easily. The lamella tube modules provide an area where additional flocculation of such small particles takes place (which does not occur in a conventional design clarifier), thereby allowing their removal and therefore producing a better quality treated water stream than you can get from a conventional clarifier.

● **Retro-fitting in an existing settlement system**

How common is it to find that an existing settlement system is either too small for an existing duty because your production increased, or perhaps it is not now giving the high quality output that you need?

If this rings a bell, you can potentially retro-fit Tube Modules to improve the performance of your existing plant. Just think of the saving in capital cost that would give you, not to mention the possible minimising of down-time!

Actually, this sort of problem is relatively common.



● **Applications for Tube Modules**

Tube modules are used in a wide range of applications across many business sectors and for a huge range of flow rates

Just a few of these applications are listed below:

- Surface water treatment
- Potable water treatment
- Treatment of filter backwash water (for example from membrane systems)
- Municipal and Industrial wastewater treatment
- Metal production and finishing industries
- Aerospace & Transport sectors
- Chemicals manufacture
- Textile industry
- Paper and cellulose production
- Food, dairy and beverage sectors
- Electronics and Semiconductor manufacture



H+E Scope of Supply

We are happy to supply just the Tube Modules if that is what you need, but we can also supply more of the ancillary equipment needed if you wish. For example, Sludge Tanks, chemical treatment, sludge dewatering, control system, chemical storage and dosing systems and so on that typically make up a complete plant.

Equally, if you need a complete new Water or Wastewater Treatment plant we would be happy to design and supply that to you. Whatever you need, please talk to us!

On-going support

Since H+E started its business in 1932, we have made the supply of on-going support for our clients a central part of our offering. Whatever you need, to ensure that your plant continues to operate and benefit your business, our team of engineers is always available to provide support, troubleshooting and the occasional spare part throughout its life. We can also provide maintenance and service packages for your complete water or wastewater treatment plant if you wish, and on a basis that suits you.

**We would be happy to discuss your needs;
please do contact us!**



TS 01 Tube Settler with integral sludge tank

H+E ranks among the world's leading suppliers in the fields of: water & wastewater treatment, and energy efficiency. Based on its global presence, the **H+E GROUP** has completed projects in over 50 countries.



HAGER+ELSÄSSER

An aquarion Group Company

Tel: +44 1403 272772

sales@he-water.co.uk

www.he-water.co.uk