ADVANCED WATER AND WASTEWATER TREATMENT SYSTEM

# TK Plate® Settler System

## Theory

In 1904, Sanitary engineering pioneer Allen Hazen of the Lawrence (Massachusetts) Experiment Station proposed that sedimentation is a function of basin surface area and is independent of detention time. The fundamentals of Hazen theory are the basis for Stoke's Law, which is a mainstay of sedimentation design to this day

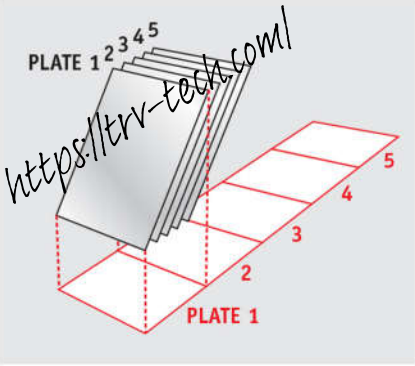
## Design

The plate settler was born when early engineers add diagonal steel plates into an open sedimentation basin, significantly increasing the "effective projected horizontal surface area of the basin (right).

With the TK Plate® Settler, the required area for a conventional sedimentation basin can be reduced as much as 90%, and significantly increase the treatment capacity and improve effluent quality of existing basin.

The advanced, TK Plate® settler (below) can be designed for any sedimentation basin geometry to apply for new basins and rehabilitation basins, and suitable to any sludge collection system.

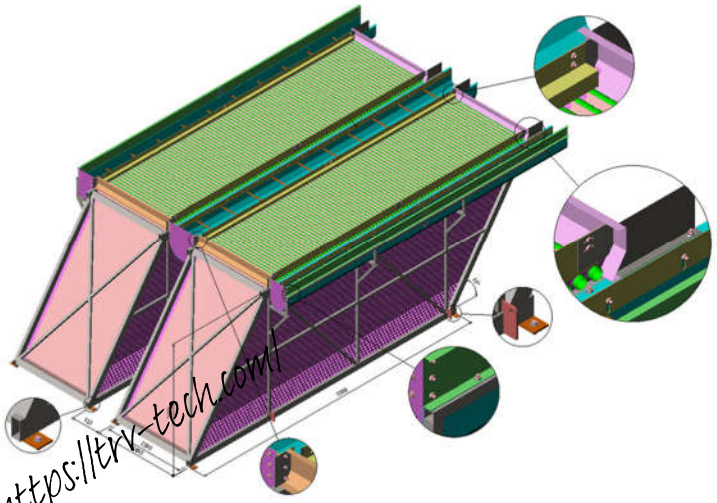
*Effective Projected Horizontal Surface Area*






## TK Plate® Settler Specification

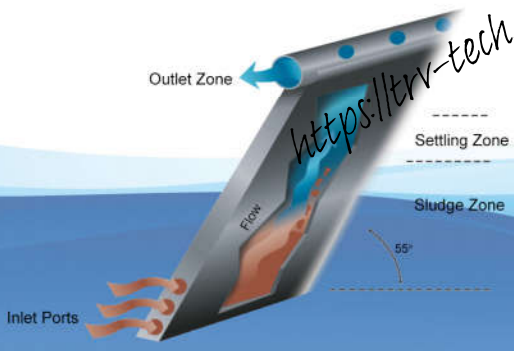
| | |
|---|---|
| Frame : | SS304 |
| End Plates: | SS304 |
| Inner Plates: | FRP |
| | (SS304/SS316 upon request) |
| Top Tube Collector: | SS304 |
| Launder: | SS304 |
| Fixings: | SS316 |
| Support Beam: | To be advised upon site condition |





## Ultimate Clarifler Performance

TK Plate® Settler dramatically shorten the distance have to moving of particles in the sedimentation basin, and greatly increasing the capacity of sedimentation basin. Particles just move a short distance through the settling plates and fall to the bottom of the tank rather than moving a long distance like conventional sedimentation tanks.

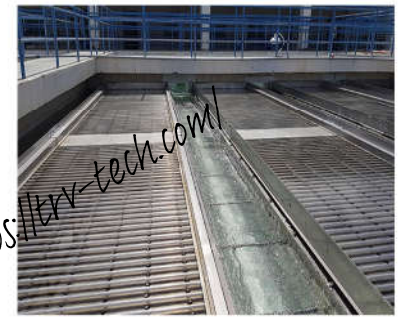
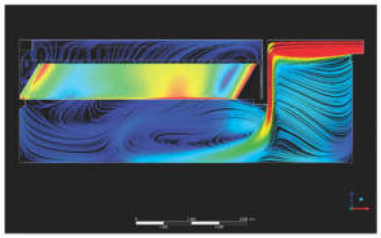
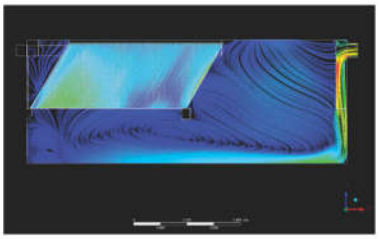
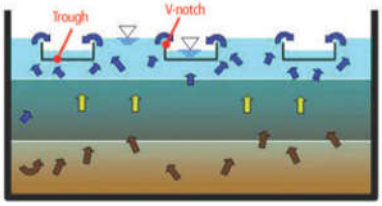
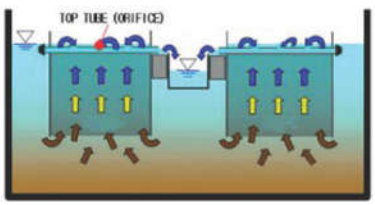





## Outstanding features of TK Plate® Settler

- Maximal settling performance with least area
- Precise flow distribution by overflow orifice tube
- Stable clarified water quality
- Material - selective plate application
- Quickly installation to help time work saving.
- Easy to apply in improving the capacity without affecting the production of existing works

# Hydraulic Movement Comparison

| Features | Tube Settler | TK Plate® Settler |
|---|---|---|
| TK Plate® Settler can be operated at extremly high capacity that do not carry over small particles up on the surface that affect the quality of the water after sendimentation. |  |  |
| Hydraulic Control |  |  |
| Hydraulic Advanced |  |  |



# Applications

- Clarification and Sedimentation process in water treatment facilities
- Primary and secondary sedimentation in wastewater treatment
- Retrofit of existing facilities for upgrate and rehabilitation

# Standard Product Design

| Model | Capacity ($m^3$/module.day) | Length (mm) | Width (mm) | Height (mm) |
|---|---|---|---|---|
| Type 4000 | 4000 | 5300 | 1450 | 2300 |

**Important Notice**

- Treatment capacities and dimensions of Module can be taloired to fit with particular site conditions
- Product specifications may be changed for improvement without prior notice

# MAJOR REFERENCES

## Phu Ninh BOO Water Treament Plant

| | |
|---|---|
| Flow Rate: | 50.000 $m^3$/day |
| No. of Modules: | 12 Modules |
| Process: | Sedimentation with TK Plate® Settler System |
| Coagulants: | PACL (Poly Aluminium Chloride) |
| Effluent Quality: | Less than 2 NTU |
| Completion Data: | 2017 |



## Phan Rang – Thap Cham Water Treament Plant

| | |
|---|---|
| Flow Rate: | 90.000 $m^3$/day |
| No. of Modules: | 32 Modules |
| Process: | Sedimentation with TK Plate® Settler System |
| Coagulants: | PACL (Poly Aluminium Chloride) |
| Effluent Quality: | Less than 2 NTU |
| Completion Data: | 2015 |

## Saigon – An Khe Water Treament Plant

| | |
|---|---|
| Flow Rate: | 9.500 $m^3$/day |
| No. of Modules: | 4 Modules |
| Process: | Sedimentation with TK Plate® Settler System |
| Coagulants: | PACL (Poly Aluminium Chloride) |
| Effluent Quality: | Less than 2 NTU |
| Completion Data: | 2017 |



## Hoang Mai Water Treament Plant

| | |
|---|---|
| Flow Rate: | 56.000 $m^3$/day |
| No. of Modules: | 16 Modules |
| Process: | Sedimentation with TK Plate® Settler System |
| Coagulants: | PACL (Poly Aluminium Chloride) |
| Effluent Quality: | Less than 2 NTU |
| Completion Data: | 2018 |



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