Corrugated Plate Separator (CPS) For Oil/Solids Removal

www.sctwater.com

Corrugated Plate Separators (CPS) provide economical and effective removal of oil and solids from wastewater by gravity, in a smooth, efficient automatic flow.

With more than 3,000 installations in operation, this proven design has no moving parts and provides consistent operating results for simple and better separation.

Corrugated Plate Interceptor

At the heart of the CPS is the Corrugated Plate Interceptor (CPI) plate pack.

The plate pack design minimizes the distance a free oil droplet must rise before coming into contact with other oil droplets.

This design ensures that the oil droplets coalesce on the undersides of the corrugated plates, facilitating the free oil removal process.

Compact, Efficient Design

The configuration and number of plates of the CPS units provide enough effective area for free oil removal down to 15 ppm with greater than 60 micron removal. Since the plates are arranged parallel to each other with a 3/4-inch (2 cm) spacing, the separator is able to tolerate up to 100*ppm total suspended solids without affecting the efluent quality. Typically, these units are one-fifth the size of an in-ground API separator, and produce a finer efluent quality.

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Features and Benefits

- Better efluent quality - removes free oil droplets 60 microns or larger
- Superior solids handling - tolerates 100* ppm total suspended solids
- Low maintenance design - no moving parts
- Quality construction - design meets API standards

Operating Process

Oily water enters the CPS unit to the influent receiving compartment. Here, the velocity is slowed and the flow is directed into the quiescent zone above the CPI pack(s). Gross, free oil droplets rise, and the flow containing residual small free droplets and solids particles enters the CPI in a laminar flow condition.

The CPI pack is uniquely designed to increase the separation surface area by using a series of parallel plates, arranged to allow small, free oil droplets to coalesce and separate from

the carrier fluid. Separation is based on the differences in the specific gravities of the fluids and the liquid temperature.

Specifications

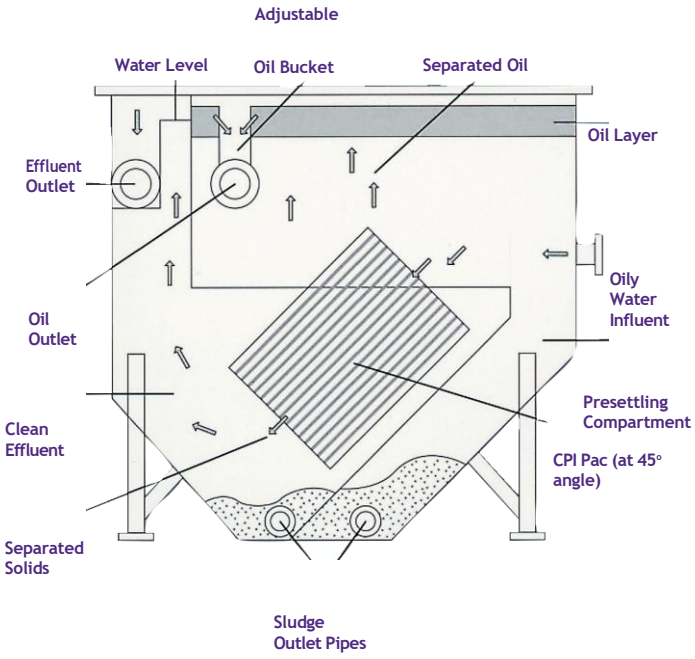
	Approx. Flow Rate	
Model	GPM	BPD
800.10	10	343
800.25	60	2,057
800.50	125	4,286
801	250	8,571
802	500	17,143
803	750	25,714
824	1,000	34,286
826	1,500	51,429
8210.00	2,500	85,714

Separated oil rises to the peaks of the corrugations in the parallel plates, then moves upward along these peaks to the top of the pack. As the separated oil is diverted to the top of the separator, it is protected from the flow entering the CPI by a gutter.

At the top of the unit, the separated oil forms a layer and is skimmed by an adjustable trough or weir. The clean efluent flows upward through the clear efluent compartment, then over the adjustable efluent weir and out of the separation unit.

Separated solids in the CPI pack flow down the valleys of the corrugations to the bottom of the CPI pack. Another gutter shields them from the flow leaving the plate pack compartment. The use of a down-flow pack configuration ensures the entire water phase passes through the plate pack.

Because the pack is positioned at a 45º incline, separation is enhanced and the risk of plugging the media is minimized. Test units are available for on-site use.



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Sparkle Clean Tech Pvt Ltd

India - Project Office

66a concorde premises co-op society ltd #401-403,4th floor, sector 11, cbd belapur, navi mumbai -400614 tel: +91-22-4061-9000

India - manufacturing

#co subhash silk mills ltd, khopoli pen highway, sajgaon - 410203 tel: +91-7400187665

India – corporate

89 gautam complex, sector - 11, c.b.d belapur, navi mumbai - 400614 tel: +91-22-4061-9000

For more information, please contact:

info@sctwater.com www.sctwater.com

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