

Enhanced Corrugated Plate Interceptor™ Coalescer (ECPI)

Features

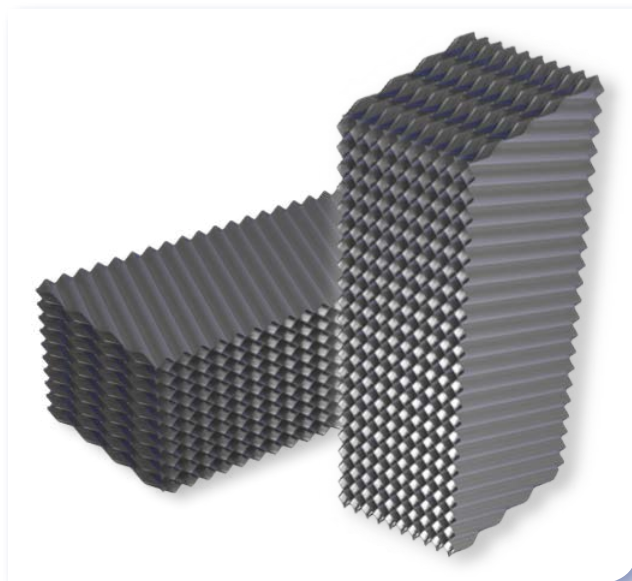
- High separation efficiency
- Low pressure drop
- Easy to install
- Fits all process equipment

What are Enhanced Corrugated Plate Interceptor Coalescer packings?

Enhanced CPI coalescers are structured elements of corrugated plates that provide economical and effective removal of dispersed droplets in a continuous phase process system with clean to light solids present.

How do Enhanced Corrugated Plate Interceptor™ Coalescer Packings work?

In a horizontal laminar flow condition, the continuous phase enters the unique diagonal high surface area plate pack, designed to minimize the distance a free dispersed droplet has to either rise or fall before coming into contact with other dispersed droplets (see Figure 1). As larger drop-



lets coalesce into much larger ones they leave the plate pack rapidly countercurrent against the continuous liquid flow. This design ensures that the dispersed droplets coalesce on the undersides or topside of the corrugated plates, depending on their density relative to continuous phase, facilitating the free removal process.

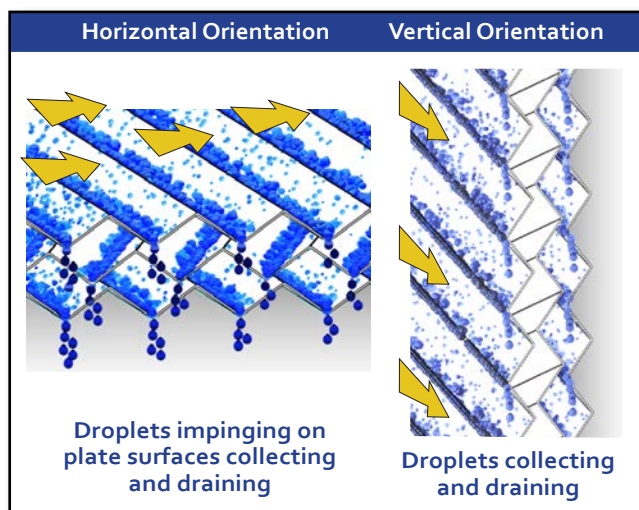


Figure 1

In this equipment, differences in densities of the two liquids cause droplets to rise or fall by their buoyancy. The greater the difference in densities, the easier the separation.

Whether vertical or horizontal orientation, these compact efficient configurations with their various numbers of plates, in a wide range of applications can provide enough effective area for removal efficiency to down to 15 ppm with greater than >60 micron removal. Since the plates are arranged parallel to each other with various spacing, the separator is able to tolerate up to 100ppm total suspended solids without affecting the effluent quality. Typically, vessels with these units are one-third size of standard gravity separator, and produce a finer product or effluent quality. In the vertical configuration, where the ECPI is positioned at a 45° incline, separation flow is enhanced and the risk of plugging the media is minimized. The separated solids in the ECPI pack flow down the valleys of the corrugations to the bottom of the ECPI pack to open area below. The use of a down-flow pack configuration ensures the entire continuous phase passes through the plate pack.

Where are Enhanced Corrugated Plate Interceptor™ Coalescers used?

ECPI Coalescer Packings are predominantly used in two, three, and four phase separators (high or low pressure), Liquid/Liquid extraction columns, effluent gravity settling tanks. They are found in:

- CPI industries
- Potable & Process water treatment
- HPI industries
- Pharmaceuticals & specialty chemicals
- Textiles industries
- Food and beverage
- Automotive, iron & steel

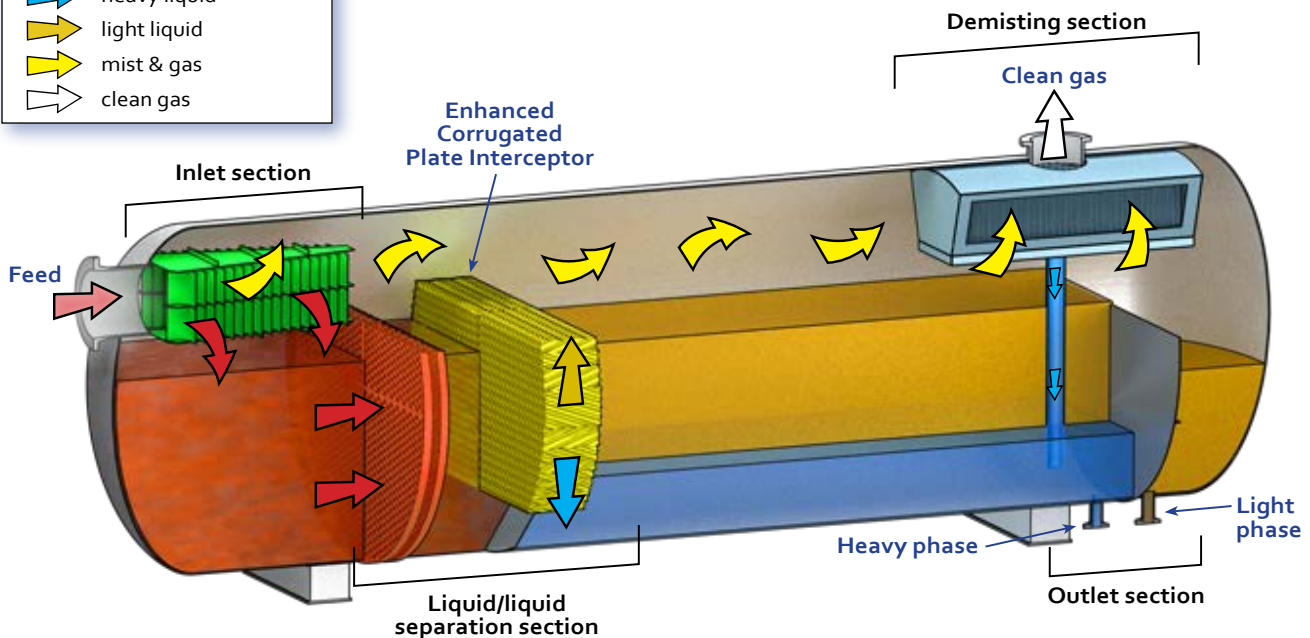
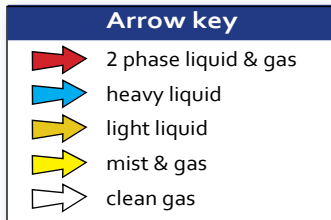


Figure 2
Successful operation of all coalescer elements depend primarily on vessel geometry such as, properly designed inlet, liquid/liquid separation and outlet sections. Various schemes are used with horizontal vessels depending on whether there is a significant amount of gas present as with Three-Phase Separators.

Specifications		
Style No.	Droplet size cutoff	Pressure drop
Horizontal orientation		
HBS-Pack 375	>40μ	1-10 mbar
HBS-Pack 500	>100μ	0.7-8 mbar
HBS-Pack 100	>200μ	0.5-4 mbar
Vertical orientation		
VBS-Pack 375	>100μ	1-8 mbar
VBS-Pack 500	>150μ	0.7-6 mbar
VBS-Pack 100	>200μ	0.5-2 mbar

NOTE: Typical values for aqueous and organic applications.

Experienced EIT process engineers can provide complete process modeling and design whether existing or new vessel to ensure expected efficiencies and flow rate along with trouble-free installation and startup.