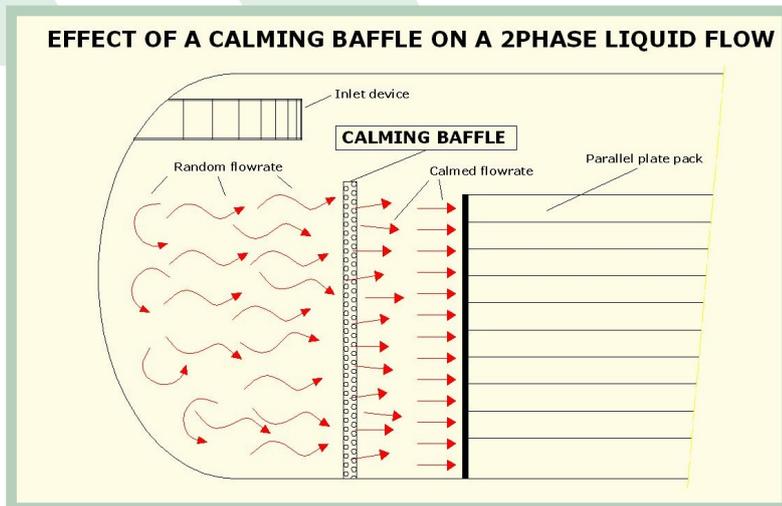


CALMING BAFFLE



A calming baffle is a particular kind of perforated plate commonly used to prevent and eliminate flow turbulences in the treatment plants and to introduce the two-phase liquid flow in the settling compartment with a laminar flow regime, as in the picture below.

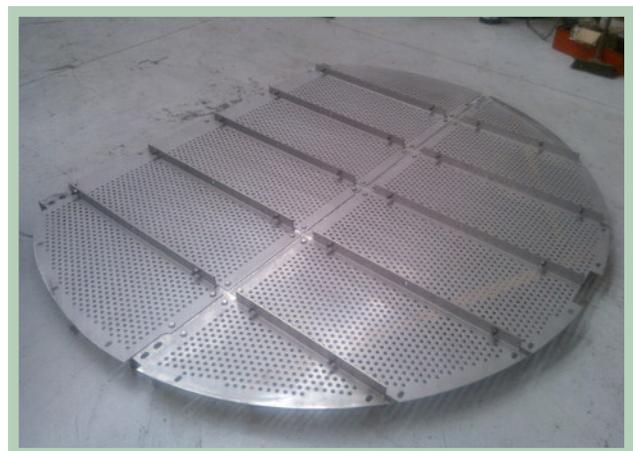
The calming process of the flow rate is very useful because it provides the best performances from the parallel plate pack located after the calming baffle: when the liquid flow enters with regular distribution and speed, the separation process can immediately start.

Without a calming baffle, the liquid distribution can be very chaotic and the performance of the plate pack decreases consistently.

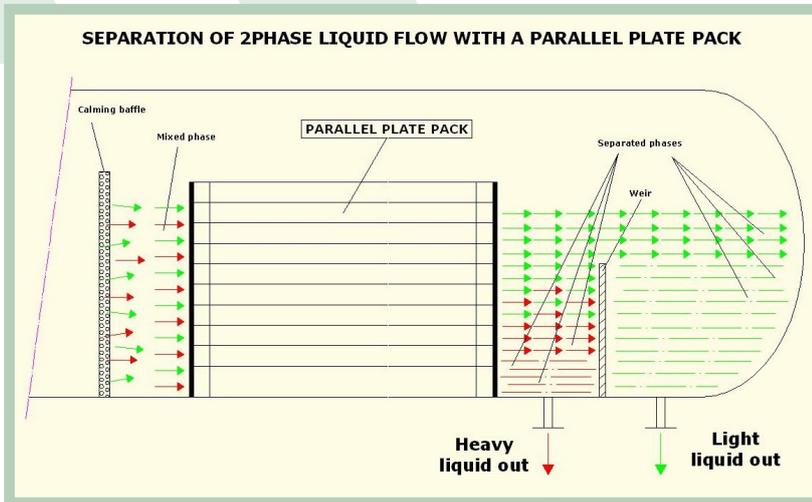
DOUBLE CALMING BAFFLE

In some particular cases, it is possible to use a Double Calming Baffle usually made by two different calming baffles in series.

This configuration significantly increases the calming effect on the flow but, on the other hand, requires more space and is more expensive.



PARALLEL PLATE PACK



This kind of internal is commonly implemented to separate a liquid-liquid mix using the different densities of the two liquids. They are often used in many three-phase separators where the flow is composed of gaseous phase, heavy liquid phase (ex. water) and light liquid phase (ex.: oil).

The plate pack coalescer is composed of canals between long parallel plates at a fixed angle. Passing through these canals with an adequate speed, the separation of the light phase (for ex. oil) and the heavy phase (for example water) can be achieved. At the exit of the pack the light liquid is placed above the heavy phase and can be separated with a weir (see the scheme).

The plate pack coalescer is composed of canals between long parallel plates at a fixed angle.

ADVANTAGIES

Comparing with a common gravity separator the main advantagies are:

- > Smaller separated droplets with higher efficiency of separation process.
- > Reduction of the dimensions of the vessel because this coalescer allows the same separation in a shorter space.
- > Decreasing of residence time in the vessel with a significant production increase.

