



- $\Delta P$  0.05 in water / th. stage
- HETP 3 in for 1 th. stage

## Improved Distillation of Flavors, Fragrances and Heat Sensitive Products

The Flavor and Fragrances Industry is reliant on innovative distillation techniques to provide high-quality products. In 1964 Sulzer launched the BX packing for distillation of heat sensitive fragrances. Through extensive research and industrial experience, Sulzer Chemtech's technologies have been developed to execute these distillation techniques for a wide variety of products including citrus oils, fragrance compounds, vitamins, and fish oils.

Special care must be given in the purification of these large organic molecules due to their thermally sensitive nature. Exposure to sustained high temperatures can lead to decomposition and cracking of these components – which can alter their smell and color.

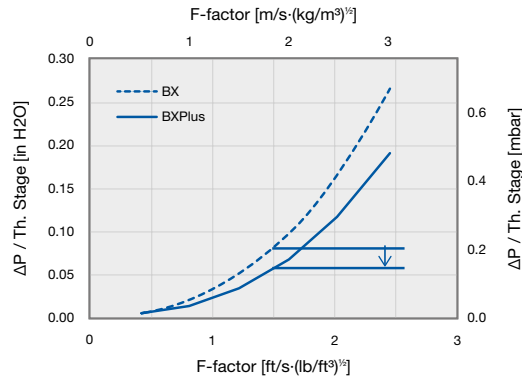
In order to keep temperatures low during their processing, many distillation columns are operated under vacuum conditions ranging from 0.7 – 400 mmHg. There are several challenges associated with the rectification of these components to high purities under these conditions:

- Low system pressure drop per theoretical stage
- Provide high number of theoretical stages and at short column heights
- Short residence times for heat sensitive products
- Ensure good wetting for liquid with high surface tension (aqueous)
- Proper distribution of low liquid load usual in vacuum operation
- Distillation columns are generally used for different lots/products and the liquid distributors must be robust enough to cover large liquid load ranges

## BXPlus™

### FEATURES AND BENEFITS

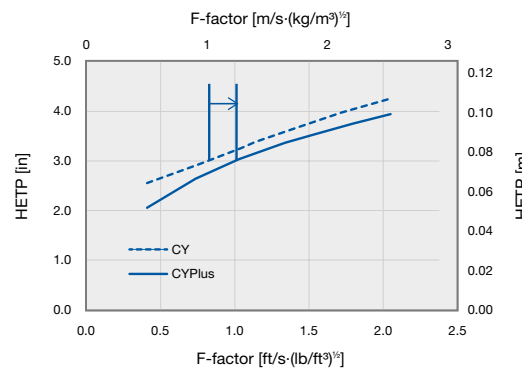
- Lowest pressure drop per theoretical stage on the market.
- Revamping BX with BXPlus gives 25% less pressure drop at the same efficiency.
- Low liquid holdup.



## CYPlus™

### FEATURES AND BENEFITS

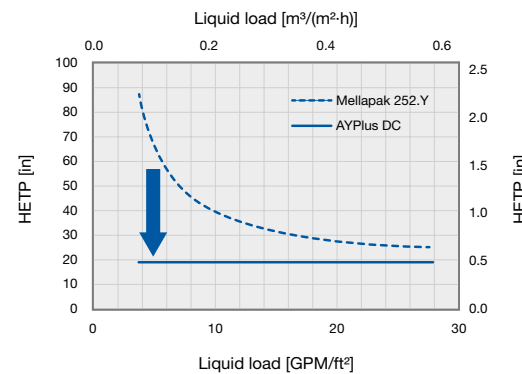
- Highest number of theoretical stages per meter for industrial towers.
- Revamping CY with CYPlus allows 15-20% more capacity with same efficiency.
- Low liquid holdup.



## AYPlus DC™

### FEATURES AND BENEFITS

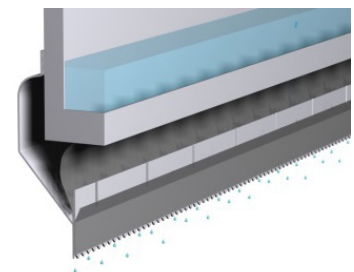
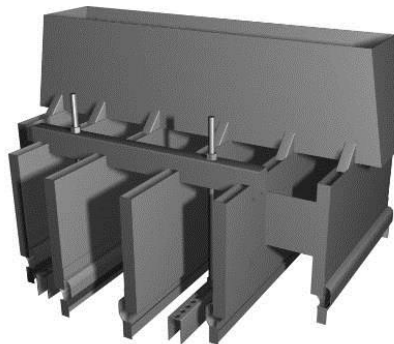
- Dual component to maximize wetting by liquid showing high surface tension (aqueous) and in low liquid load.
- Less liquid load necessary for to maintain HETP, operation closer to minimum reflux.



## DISTRIBUTOR VEPK

### FEATURES AND BENEFITS

- Highest performance of packing can only be reached with excellent liquid distribution. Under vacuum the perfect distribution of very low liquid rates is a challenge that is solved with new plate distribution technology.
- Splash plate technology with larger holes to prevent clogging.
- Broader operating range for additional flexibility in multipurpose plants.



Sulzer Chemtech AME, Phone +1 918 447 7679, vacuumdistillationUSA@sulzer.com