Distillation Tower Working Demonstrator - Acrylic, with Reboiler, Chimney Trays

Model: 132-DTT6

What Is a Distillation Tower?

A distillation tower (also known as a distillation column) is an essential piece of industrial equipment used to distill liquid mixtures into their component parts (also known as fractions) based upon the differences in their relative boiling points (also known as volatilities).

For example, at atmospheric pressure, water boils at 212°F and ethanol boils at approximately 176°F. If a mixture of water and ethanol is heated to 195°F, the ethanol will boil and change into vapor, which can then be collected and condensed. The water that has been separated out remains a liquid.

Distillation towers typically consist of an enclosed cylindrical structure with several major components, including: trays, plates, and/or packings that aid in component separation; a reboiler to heat the mixture; a condenser to cool and condense vapor; and a reflux drum to hold condensed vapor so liquid can be recycled back to the tower.

How Does a Distillation Tower Work?

The liquid mixture to be distilled (also known as the feed) usually enters the middle of the distillation tower via tray called the feed tray. The area above the feed tray is called the enriching or rectification section, and the area below the feed tray is called the stripping section.

The feed flows down the tower and collects at the bottom in the reboiler, where heat generates vapor. The vapor rises up the tower and is cooled by a condenser when it reaches the top. The condensed liquid (also known as distillate or top product) is stored in the reflux drum.

Bayport Technical's Distillation Tower Working Demonstrator - Acrylic, with Reboiler, Chimney Trays (132-DTT6) is similar to the Distillation Tower Working Demonstrator - Acrylic, with Reboiler, Rotameters (132-DTT5), except this unit has two distributors, super frac and chimney trays, only random packing (no structured packing), panel mount valves instead of rotameters, and relocation of the mock reboiler.

The 132-DTT6 includes the following: base with reservoir, two distributors, two super frac trays, two sieve trays with downcomers, chimney tray, valve tray with downcomer, bubble cap tray with downcomer, random packing, centrifugal pump, three panel mount valves, reboiler, and an air compressor.

SPECIFICATIONS

- 3-section acrylic tower (8 1/2” diameter X 60” tall)
- Distributors (2)
- Super frac trays (2)
- Sieve trays (2) with downcomers
- Chimney tray
- Valve tray with downcomer

- Bubble cap tray with downcomer
- Random packing
- Base with reservoir
- Centrifugal pump
- Air compressor
- Panel mount valves (3)
- Reboiler

UTILITIES

- Requires 120V/60Hz/1ph electrical.

PRODUCT DIMENSIONS

- Approximately 36”L X 18”W X 72”H.

Address

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