



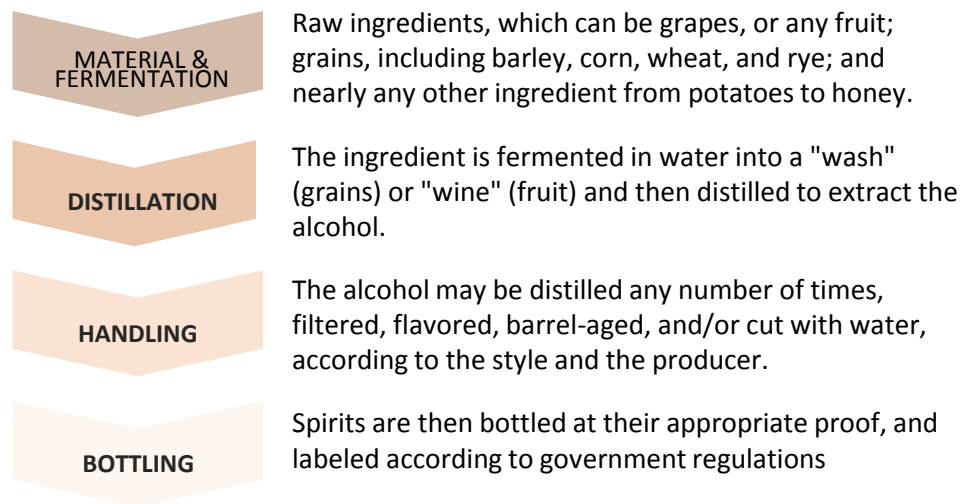
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MIXOLOGY LEADERSHIP SPIRIT BASICS: OVERVIEW

Modern distillation is the evolutionary descendant of Persian scientists' work with alembic stills, circa 800. The technology spread from medieval Persia throughout Europe and gradually began to be used to produce drinkable alcohol by the 1100s. From there, production grew and became more refined. What began as a scientific pursuit, moved gradually into the production of beverages for enjoyment.

As we learned in beer and wine, fermentation produces alcohol. Distillation concentrates alcohol, by separating it from the nonalcoholic components. Alcohol is both lighter than water and has a lower evaporation point. For these reasons, when a mixture of alcohol and water is slowly heated, the alcohol will rise first, and rise highest. Inside a still, those alcohol vapors will collect at the top of the still and be siphoned off and collected.

Spirits are all produced via distillation, and what distinguishes them are their ingredients, distillation, and handling after distillation. In many cases, spirits are distinguished by their place of origin as well (Cognac for example, or Scotch whisky.)



Why do producers cut their product with water?

Spirits which are distilled twice or more can reach very high proofs. A double-distilled spirit, uncut, can easily be 120 proof or more. This is unpleasant and unsafe to drink in much quantity, and so producers will bring the spirit "down to proof", i.e., to a comfortable drinking level, typically between 80 and 100 proof.

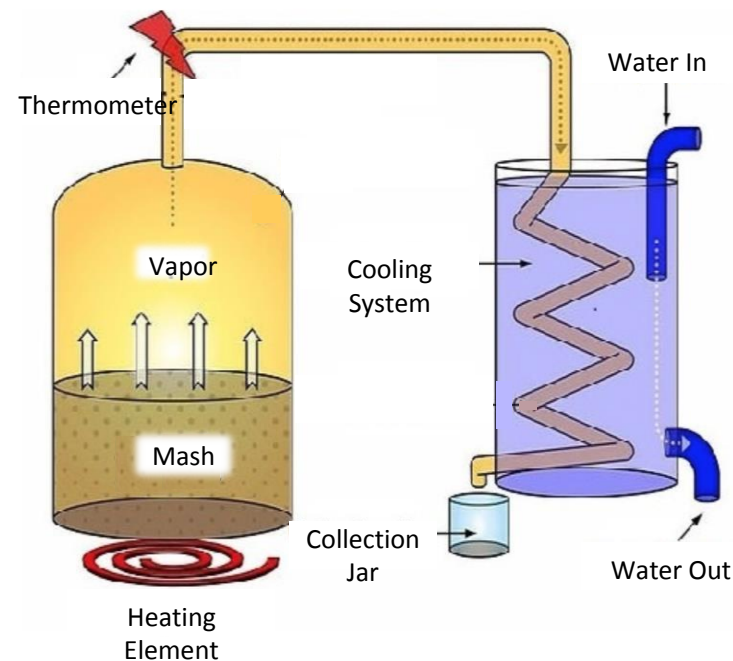


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MIXOLOGY LEADERSHIP SPIRITS BASICS: DISTILLATION, POT STILL

There are two essential types of stills used to produce spirits: Pot Stills and Column Stills. Pot Stills are an older style of still, more closely related to ancient alembic stills. They produce spirits which are heavier, richer, and lower proof. Cognac, some whiskeys, and some rums are made on Pot Stills, as well as by producers who want some of the richer characteristics of pot-distilled spirits.

The fermented liquid (“wash” if it is made from grains, “wine” if it is made from fruit) is heated in the pot at the base of the still. Alcohol is both lighter than water and has a lower evaporation point. For these reasons, when a mixture of alcohol and water is slowly heated, the alcohol will rise first, and rise highest. As the steam rises in the Pot Still, the alcohol eventually rises up to the head, a cap on the top of the pot, where the steam will collect. The steam is drawn off into a tube called the Arm. From the Arm, the vapors travel to a coil, or worm, immersed in a tub of cold water, called a Condenser. The water cools and condenses the vapors back into liquid. The alcohol is then drained through a spout attached to the bottom of the coil. The alcohol can then either be returned to the still for a second distillation, be directed into a second for re-distillation, or be taken to the next step of processing (bottling, infusing, aging, etc.)



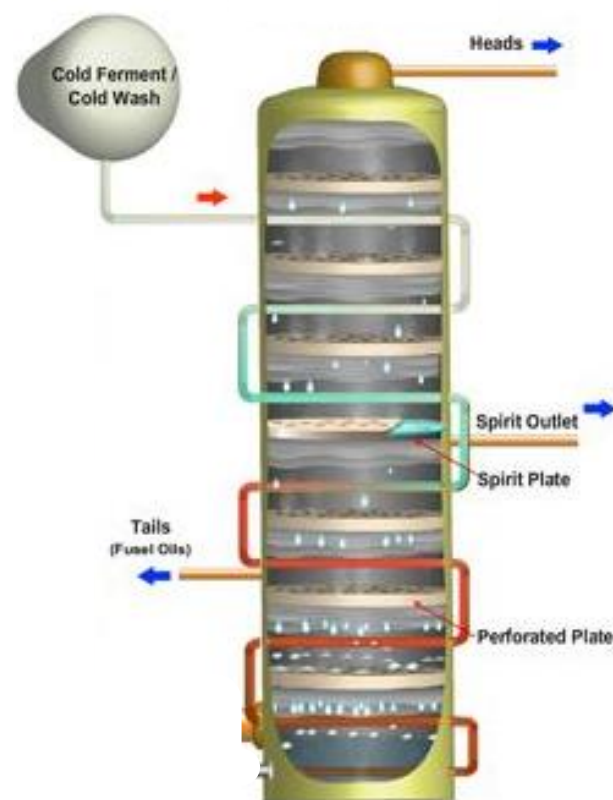


MIXOLOGY LEADERSHIP SPIRIT BASICS: DISTILLATION, COLUMN STILL

A Column Still is also called a Coffey Still, for Aeneas Coffey's patent in 1830 in Dublin, Ireland. Unlike in a Pot Still, multiple distillations can run continuously through a Column Still. A Column Still can produce lighter, cleaner, and higher proof spirits faster and more efficiently than Pot Stills. Most vodkas and gins and nearly all bourbons are produced in Column Stills, as well as many rums and any time when producers desire a lighter or more neutral product.

The Column Still has three parts: the top, where the wash or wine enters. The bottom, where steam rises and heats the alcohol. The middle, which is where several plates are stacked and the distillation process occurs. There are correspondingly three output lines: the top, where the "heads" (extremely light, volatile, and unsafe vapors) escape; the bottom, where the wash runs off when it reaches the bottom; and the middle, which is where the distilled, condensed spirit is drawn off.

Inside steam rises from the bottom and heats the alcohol into vapor. The vaporous alcohol then rises-- each time it hits a plate it condenses against the plate. This "rising + condensing" is similar to the "rising + condensing" that happens in a pot still distillation, but a column still can be very tall and have many plates, which is why Column Distillation is also called Continuous Distillation. This graphic has three plates below the spirit outlet, which would be similar to running the alcohol through a Pot Still three times.





MIXOLOGY LEADERSHIP SPIRIT BASICS: TYPES

Types: Distinguishing factors.

Vodka

Ingredient: Any, common: barley, wheat, corn, potato

Distillation: Column, 2x or more, plus rectification and filtration

Handling: Brought down to 80 proof, occasionally higher; can be flavored **Notes:** Neutral, clean spirit

Gin

Ingredient: Any, usually barley

Distillation: Column, 2x

Handling: Botanical infusion, some styles can be sweetened or barrel-aged **Notes:** Juniper is distinguishing botanical, citrus, floral & spice notes are common. Nearly all Gin drank today is in the London Dry style.

Aquavit

Ingredient: Any, usually barley

Distillation: Column, 2x

Handling: Botanical infusion, some styles can be sweetened or barrel-aged **Notes:** Caraway is distinguishing botanical, citrus, floral & spice notes are common

Rum

Ingredient: Molasses or sugarcane

Distillation: Column or pot, 2x

Handling: Can be flavored or barrel-aged **Notes:** Industrial Rum (most rums) are made from molasses. Agricultural Rum is made from sugarcane juice: Rhum Agricole, Rhum, Cachaça, and Arrack are examples.

Mezcal

Ingredient: Agave (several species)

Distillation: Pot, 2x

Handling: Can be barrel-aged **Notes:** Agave is occasionally exposed to slow roasting during production giving some a smoky flavor. Most made in Oaxaca although other states also produce mezcal.

Tequila

Ingredient: Blue Agave

Distillation: Pot or column, 2x

Handling: Can be barrel-aged **Notes:** Tequila is a type of Mezcal. Production is regulated and limited to Jalisco and small parts of other states.

Brandy

Ingredient: Grapes or fruit

Distillation: Typically pot, 2x

Handling: Barrel-aged **Notes:** Brandy almost always refers to grape brandy. Fruit brandy will be specified (e.g. apple brandy). Unaged brandy is usually referred to as eau de vie. Pisco is a brandy from Peru and Chile. It is single distilled and rested, but not barrel-aged.

Cognac

Ingredient: Grapes

Distillation: Pot, 2x

Handling: Barrel-aged **Notes:** AOC Brandy from Cognac. There are many rules on its production from grapes to ferment and distill, to the type of oak, to the length of age.



MIXOLOGY LEADERSHIP SPIRIT BASICS: TYPES

Types: Distinguishing factors.

Whisky: Scotch

Ingredient: Barley, malted or unmalted

Distillation: Column or pot, 2x

Handling: Barrel-aged **Notes:** Single malt Scotches are made from all malted barley on pot stills. Blended Scotches blend in lighter whisky from unmalted barley on column stills.

Whiskey: Irish

Ingredient: Barley, malted or unmalted, corn

Distillation: Usually column 3x, sometimes pot 2x

Handling: Barrel-aged **Notes:** Most is lighter style, unmalted barley and corn on a column still. Some historic styles are pot distilled from malted or unmalted barley.

Whisky: World

Ingredient: Barley, malted or unmalted

Distillation: Column or pot, 2x

Handling: Barrel-aged **Notes:** Whisky made in Scottish style is made in several countries, most notably Japan where it has gained a high level of quality.

American Whiskey: Bourbon

Ingredient: Corn, plus barley, wheat or rye

Distillation: Column, 2x

Handling: Barrel-aged in new charred American oak **Notes:** Minimum required 51% corn but usually 75-80% corn.

American Whiskey: Rye

Ingredient: Rye, plus barley, wheat or corn

Distillation: Column, 2x

Handling: Barrel-aged in new charred American oak **Notes:** Minimum required 51% rye but usually 75-80% corn.

American Whiskey: Other

Ingredient: Any grain

Distillation: Column or pot, 2x

Handling: Unaged or aged **Notes:** Any whiskey made in America is American whiskey, whether regional style such as Kansas City or internationally influenced style such as a single malt.



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MIXOLOGY LEADERSHIP SPIRIT BASICS: COCKTAILS (MIXED DRINKS)

Cocktails as a distinct category developed in America in the very early 19th century. The first published definition of cocktail as an alcoholic beverage appeared in a New York paper, the Balance and Columbian Repository in 1806: “Cock-tail is a stimulating liquor, composed of spirits of any kind, sugar, water and bitters.” Over the next 100 years cocktails evolved with the times incorporating ever more ingredients and styles. American prohibition (1920-1933) stymied bartending in the United States, but by then, the cocktail arts were well established in many parts of the world. Bartenders in England, Italy, Cuba, Japan, Argentina, south and southeast Asia, and beyond continued to preserve and advance the craft. Post-Prohibition America returned to cocktails tepidly in the 1940s-1960s, consuming conservative drinks such as Whiskey Sours and Vodka Martinis. The 1970s-1990s saw a rise in cocktail culture, mostly through extravagant drinks with loud colors and attention-grabbing names. Mid-to-late 1990s Americans began to think more about the origins of their cuisine, including cocktails. By the 2000s the cocktail renaissance was in full swing, with classic and modern cocktails being discovered, re-discovered, developed and perfected.

Old Fashioned

Ingredient: A pour of any spirit with sugar, bitters, water (ice)

Notes: The Old Fashioned is the original cocktail – a mix of any spirit, sugar, bitters and water **Examples:** Old Fashioned, Sazerac

Martini Family

Ingredient: A pour of any spirit split with vermouth

Notes: There are many early cocktails that mix high-proof spirits with lower-proof vermouth. In Italy it has long been common to mix vermouth with a bittering aperitivo liqueur. The Boulevardier is a take on a Negroni. **Examples:** Martini, Manhattan, Vieux Carre, Negroni

Highball

Ingredient: A pour of any spirit topped with carbonated mixer

Notes: Highballs are one of the most common mixed drinks, encompassing such standbys as rum and cola and whiskey soda, even vodka Red Bull **Examples:** Americano, Gin & Tonic

Collins

Ingredient: A pour of any spirit shaken with citrus and sugar, topped with soda **Notes:** Collins are related to highballs, but add citrus and sweetener. Usually, they are shaken and strained into an ice-filled high ball before being topped with a carbonated mixer.

Examples: Tom Collins, Mojito

Spritz

Ingredient: A pour of any aperitivo, amaro, or cordial topped with sparkling wine **Notes:** Champagne cocktails made with any sparkling wine and some liqueur are also called Spritz. The French 75 is a slightly more complicated take on the style. The name refers to a large gun used in WWI. **Examples:** Aperol Spritz, French 75

Sour

Ingredient: A pour of any spirit shaken with citrus and sugar

Notes: Many sour drinks developed based on the locally available spirit and the most commonly available citrus at the time – Daiquiris (rum and lime) in Cuba, Margaritas (tequila and lime) in Mexico, Pegu Club (gin and lime) in a British Officers Club **Examples:** Daiquiri, Whiskey Sour