BREWERY LAB FLAVOR TESTING

Distillation to ensure quality and consistency of a product

Application

Diacetyl is a chemical commonly used to give a buttery flavor to food products including craft beers. Diacetyl is produced by the fermentation of yeast during the brewing process and is the flavor commonly found in Dry Stouts, Scotch Ales, certain types of Pilsners, and many other styles of beers. Brewery laboratories such as Columbus Brewing Company in Columbus, OH require a simple distillation set up to test the level of Diacetyl in their special craft beers to ensure the flavor is consistent from batch to batch. If they are not able to test this, the result could be inferior batches that result in negative customer experiences and significant loss of revenue.

Solution

BriskHeat HM-HS Cloth Heating Mantles for round-bottom flasks are used to fulfill this requirement. The beer is placed in a round-bottom flask and set into the heating mantle. The temperature, controlled by a PID digital temperature controller such as BriskHeat's SDX controller, is set at a boiling level to ultimately collect the distillate at the end of the process. At that point it can be effectively tested. To prevent the overheating or scorching at a specific point of the process, BriskHeat's HL101 High-Limit Cutoff Controller is used. If a programmed setpoint temperature is reached or exceeded, the HL101 will audibly alarm and cut power to the application.

SDX

The LYNX® Temperature Control Module is a small Plug & Play alternative for low wattage heating applications. With the footprint being a fraction of a standard benchtop controller, it fits almost anywhere.

An alternative heater is one of BriskHeat's metal-housed heating mantles. They feature plug-and-play designs with built-in magnetic stirrers.

HM Lower Hemispherical Heating Mantle

HL101

Additional Uses

Heating mantles and high-limit controllers are commonly used in laboratory and R&D facilities for applications such as:

Distillation – Separating a component or substance from a liquid mixture by selective evaporation and condensation.

Chemical Reaction – A process during which one or more substances (the reactants) are converted to one or more substances (the products).

Refluxing – Used to supply energy to heated reactions over long periods of time, refluxing involves the condensation of vapors and the return of this condensate back into the system where it originated.

Industries	
Analytical Instrumentation/ Laboratory	Food & Beverage Processing
Chemical Processing/ Extractions	

HM Metal Housed Heating Mantle

LYNX®