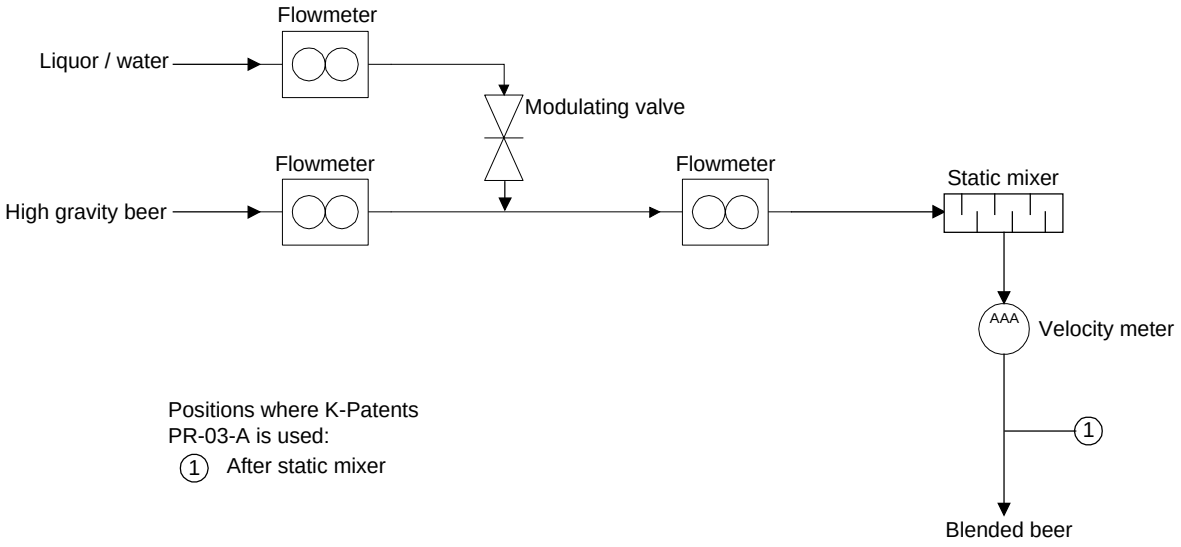
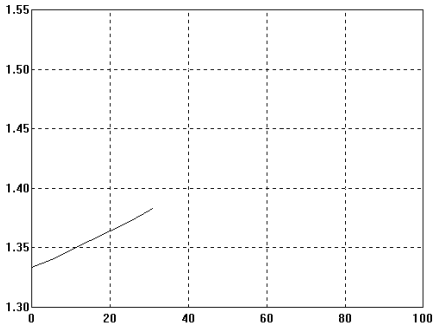
Beer Blending Process



Beer

Chemical curve: R.I. per Conc% b.w.



R.I. Reference Temp. 20°C

See also

Beer Brewing: Wort measurement 2.03.02

Introduction

Brewers need a blending system to cut or dilute high gravity beer because by brewing at higher than sales strength and adding water at a later stage, the actual volume of beer being processed is reduced.

Considerable energy savings can be achieved by boiling the wort and chilling the beer, and the brewery capacity can be increased without adding more fermentation and storage tanks.

Breweries give away a lot of money each year to customers when they have to mark the strength of beer on the can, e.g. 4% when the actual alcohol content is 4.5 or 5%. The dilemma is that if the brewery is going to brew beer to a higher gravity for reasons of economy, they must have an accurate blending system.

Application

The final beer strength cannot be controlled just by introducing a few flowmeters into the system. Beer is a complex product and other factors such as the initial sample of beer, variation of the batch, strength changes during the run etc. are very important to ascertain.

This is the reason why a system has been developed that not only measures the beer strength accurately, but in addition develops a method for the dilution of the high gravity beer to the desired strength.

Beer is an aqueous solution of ethanol and a carbohydrate (sugar). Using the ultrasound system alone on one component i.e. sugar or alcohol, produces what are claimed to be accurate results. However problems arise when you mix sugar and alcohol to get a complex solution.

This is the reason for using K-Patents Sanitary Refractometer, PR-03-A as the secondary measuring system to increase the total system accuracy. K-Patents PR-03-A is used because it needs no sampling whereas density meters require sample extracting bypass lines and pumps. K-Patents PR-03-A is also preferred because it has no moving parts and it's construction is very stable in this tough environment.

Conclusion

K-Patents Sanitary Refractometer, PR-03-A is used in the high accuracy systems which can save breweries money. The pay-back time is about six months, depending on the brewery. The typi-

cal measurement range is 0-15 Brix.