AFLOS JET

MASH HEATING BY LIVE STEAM DIFFUSION

The mash conversion process is one of the most important steps during wort production. The traditional mash tuns are equipped with double heating jackets and an agitator. During mashing, sufficient agitation is crucial to assure the homogeneity of the mash as well as to increase the heat transfer. However, this technology has several wellknown disadvantages:

- The strong agitation required to ensure a good heat transfer causes particle attrition (shear sensitive material is broken up into smaller particles) and mash oxidation, leading to the formation of a gel, causing filtration problems. Furthermore, mash oxidation also leads to a reduced flavour stability of the final beer.
- The fouling of the double jackets progressively reduces the heat transfer. A regular (sometimes after 15 brews) C.I.P. of the mash conversion vessel is required. The brewhouse productivity is therefore significantly affected.

To overcome these problems, Meura has developed the AFLOSJet system, an Anti-Fouling LOw Shear forces mash heating system.

MAIN ASSETS

The **AFLOSJET** system uses direct steam diffusion that gently heats the mash, providing numerous advantages compared to a conventional system using double jackets:

- Rapid and constant rise in temperature independent from CIP cycles (reproducible mash vessel occupation time all week long).
- Reduction of mash oxidation and shear forces.
- Reduced heat load on the mash and thus a reduction of Strecker aldehydes.
- Excellent mash filterability.
- Only a weekly CIP required thus lower amount of chemicals for cleaning.
- Ideal solution for a brewhouse revamping.

TECHNICAL DESCRIPTION

The patented **AFLOSJET** diffusers work at a low steam pressure and avoid damaging the enzymes and proteins of the mash. The mash conversion vessels are equipped with clean steam diffusion heads. Their number depends on the mash volume and the required heating speed. Steam is then injected at low pressure (<1bar).

The function of the agitator with the **AFLOSJET** system is no longer to assure a heat transfer as it is the case with a double jacket, but to make sure the brew is homogeneous. For this reason, the **AFLOSJET** system requires a type of agitator different from the double jacket system.

Mash Tun

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Steam