

AlloySius – From pre-masher to total mashing solution

A PERFECT MIX | Thorough mixing while mashing-in with a clear view of the grist and brewing water in a transparent chamber were the demands placed on the new pre-mashing system by BrauKon GmbH, Truchtlaching. The BrauKon AlloySius pre-masher was developed in cooperation with Banke process solutions which is based in Inning am Holz.

AT THE CORE OF THE ALLOYSIUS is a dual cone for evenly distributing the grist and a precision ring nozzle for directing the flow of the mash water. The grist enters the pre-masher around the centrally mounted upper cone, which spreads the grist into a

circular stream. This creates a defined mixing zone where the mash water is sprayed into the grist from the outside. This facilitates homogeneous blending of the grist and water, which can be accomplished even at larger grist volumes milled at a high rate

level of turbulence. This causes the grist to be pulled rapidly inwards, completely mixing it with the mash water and resulting in a uniform mash. The precision ring nozzle is machined rather than welded, which enables the mash water to be injected in a much more precise manner. This method of mixing makes it possible to thickly yet homogeneously mash-in with a grist to water ratio of up to 1:2, guaranteed dust-free and without clumps.

The BrauKon AlloySius pre-masher is also able to mash-in grist entering at varying speeds, making a regulated grist flow rate, e. g. by means of a grist auger, unnecessary. The defined amount of water penetration into the grist stream also eliminates the need



AlloySius 150



Detailed view of the dual cone construction



AlloySius at the Brauerei Unertl, Haag

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of speed. The grist in the middle does not remain dry, as with other pre-mashers.

The mash water is injected from the periphery through the precision ring nozzle in a conical stream and into the grist as it flows past. The position of the lower cone produces a Venturi effect resulting in a high

level of turbulence. This causes the grist to be pulled rapidly inwards, completely mixing it with the mash water and resulting in a uniform mash.

Cleaning the AlloySius takes place through CIP access ports integrated into the housing, eliminating the disruptive effects of a spray head mounted in the middle of the grist stream.

IMPROVEMENTS AT THE PAULANER BREWERY

Parameter	Improvements / Measurements
Photometric iodine value (using the same mash program)	0.2 units on average
Available residual extract in the spent grains	Reduced from 0.7% to 0.4%
Thick mashes	Up to 1 : 2.2 (dust-free and no clumping)
Reduction in net lautering time (depending on beer style)	5 - 10 min

Table 1



BrauKon AlloySius at the Paulaner Brewery, Munich

■ Homogenous mashing

Homogenous mashing was the impetus behind developing the AlloySius. However, it not only optimizes the entire mashing process but brings with it the added benefit of improving lautering efficiency as well. Experience gathered with the AlloySius pre-mashing systems already in operation has shown that higher yields have been attained, even while shortening the lautering process by 5 to 15 minutes. Over the past twelve months, BrauKon and Banke process solutions have sold and installed ten AlloySius pre-mashers to breweries with grist loads ranging

from 600 kg at the Brauerei zum Schwert, Ehingen, to 12 000 kg at Paulaner Brauerei GmbH & Co. KG, Munich (see Table 1). The improvements in the brewhouse are obvious to *Christian Dahncke*, production manager at the Paulaner Brewery, who commented: "The pre-masher AlloySius has convinced us by delivering what it promises." The AlloySius pre-mashing system from BrauKon not only fulfills the requirements of a pre-masher by perfectly mixing grist with mash water but far exceeds expectations by improving the entire mashing process, providing a total mashing solution. ■