

do already. The control options are very good. Due to the required power, electric heating is limited to small breweries, is relatively expensive, and has a shorter life expectancy than

other equipment.

More on Mashing

In addition to these four systems, two alternatives exist for mash processing only: scalding

the mash with hot water and direct steam injection into the mash.

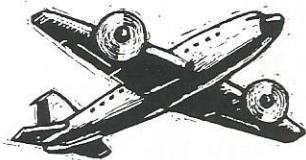
Hot water additions are a proven and traditional way to raise the temperature to the next step of the mash program. Energy savings can amount to nine pounds of steam per barrel. And for some beers this method even delivers better analytic results. But its lack of control and mixing ability is obvious. A very thick mash-in can also stress and break the mixer drive if the drive is not designed for that.

Scalding is insufficient to heat a mash and should only be used with another heating system. Scalding can be helpful if a lauter tun without a heating device must be used as a second mash vessel.

The injection of live steam into the mash is a desperate approach. This creates temperatures that are too high, which will destroy all enzymes on contact. In addition there is no control mechanism, making this a process to avoid.

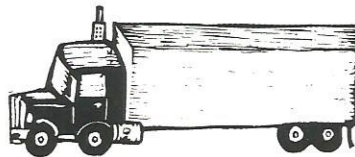
No matter which heating system you choose, it will always be a compromise between the available surface, determined by the vessel size and batch size, and your specific process parameters. The heating system is just one of many decisions affecting your equipment and should work well with other aspects of your system. Never underestimate the impact of one part of the machinery on another. ■

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Joe had his chemicals shipped from Florida.

Joe had his malt trucked from California.



Joe bought 14 other items from 14 other states.



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