

STEINECKER ShakesBeer

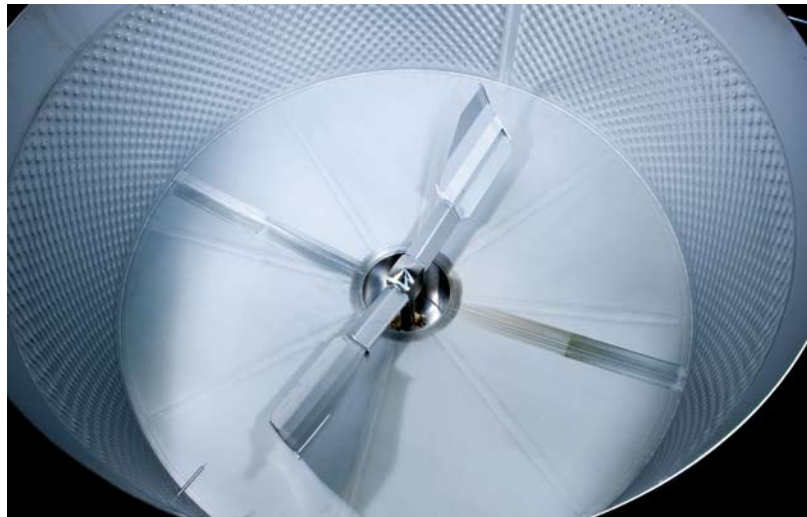
The optimised mashing system



New integral vibration units

With the ShakesBeer mashing system, we have broken new grounds for gaining better extra yield at shorter mashing times. The system is well-proven in field and through the integration of vibration units it is experiencing another improvement for the brewing process.

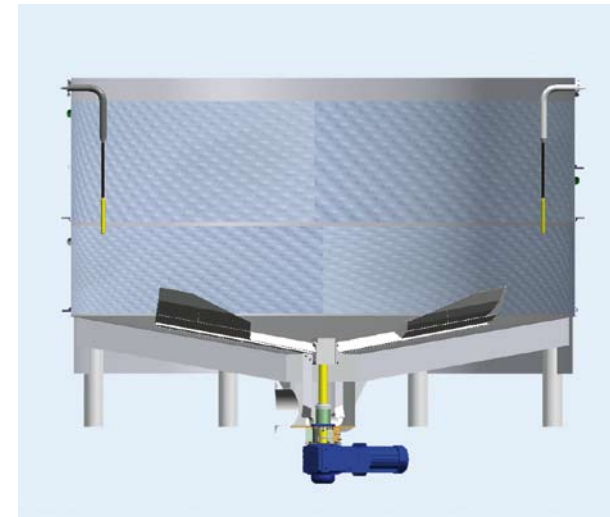
The vibration units are installed in the tank and function as vibration cylinder. It is an electric vibration motor surrounded by a metal cylinder. The motor is connected to the PLC and can be automatically started or switched off during the phases of the mashing process. The vibrator can generate different frequencies.



The blend is the key

Your requirements for the brewing process are efficiency, optimal leeway for process technology and realisation of highest performances during mashing as well as during each additional process step. Up to now, the fast sequence of brews was limited because of the time demanded during mashing.

The STEINECKER mashing technology ShakesBeer offers excellent possibilities right at the beginning of the brewing method. This system creates ideal conditions especially for applications in the high-gravity field with increased mash concentrations.

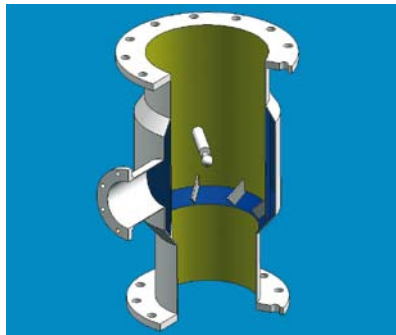


*ShakesBeer,
vibration unit*

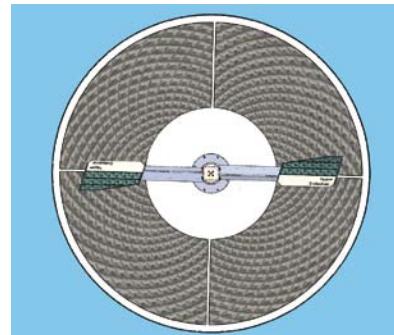


Method of operation

With the pre-masher design, it is possible to realise a fast, dust-free, and homogenous combination of grist and water at a relation of 1:2. Thanks to the separation of the grist and water mixture, the turbulence during feeding the raw material has been increased and a water admission is no longer necessary. This concept is also effective during cereals processing, because a homogenous and lump-free mash can be created. Thus losses in yield can be minimised and high mashing outputs can be achieved.



The mash flows along the inside manifold domed heating surface of the mash tun. Thanks to this special design, a micro-turbulent mash flow is achieved. This prevents overheating of the boundary layer. Thus, the heat is taken in evenly (by the medium) and a temperature increase of max. 2.0°K/min. is achieved during heating. In addition, steam pressures of only 1 – 2 bar are required. Fouling is thus decreased even more and mash quality is increased. In addition, the



low degree of fouling of the heating surface has the advantage of being able to perform effective and quick rinsing with water and that there are no interruptions of the brew rhythm thanks to comprehensive cleaning cycles.



Detail view of the pre-masher (left picture)

Top view of a cereals boiler (centre picture)

Agitator blade (right picture)

Your flexibility is very important to us – sidewall heaters with agitators which can be freely adjusted enable efficient processing of even small quantities. An effective enzyme activity is only possible with a homogenous mash with optimum temperature. The agitator's design enables a low-gravity and gentle agitation with constant temperature compensation both in vertical and horizontal direction.

Output range

Action time of mash tun

Before conversion	144 min.
After the conversion to ShakesBeer	104 min.

Settling time of ShakesBeer without intermediate cleaning 60 brews

Excerpt of the acceptance report Heating rates for mashing *

		Average value K/min	Steam pressure bar
Heating	63 → 71 °C	2.00	1.7 – 2.2
Heating	72 → 73 °C	2.00	1.7 – 2.3

**The heating rates have been checked during different temperatures. Compared with conventional mashing systems, these rates are very high.*



Your benefits

■ Increased yield

The STEINECKER mashing system ShakesBeer enables the production of homogenous, lump-free mashes. Thus losses in yield can be minimised and high mashing outputs can be achieved.

■ Improved lautering capability of wort

The advantage of vibrations during the mashing process become apparent already during lautering. The lautering capability of worts improves significantly and lautering is performed with at least one deep cut less, which has a positive effect on the total lautering time. Thus, the set-point values for the flow with a smaller opening of the lautering control valve can be achieved also over a long period. During the second wort, the flow of the lautering wort increases much faster and it can be kept at maximum level for a longer time.

■ Improved filterability of the beer

The beer brewed with the ShakesBeer system has a significantly better filterability. The pressure increase at the diatomaceous earth candle filter is much lower between 0.1 and 0.15 bar/h than without vibration. This results in an average increased filtration time of 4 hours. These positive results are the foundation for additional optimisations in the course of beer filtration such as reduction of the diatomaceous earth consumption and increased filter throughput.

■ Reduced oxygen content of the mash

In average, the colour of the wort which has been mashed with the ShakesBeer system is less by approximately 0.3 EBC. The cause for this is the reduced oxygen intake of the mash and the reduction of early oxidation processes.

