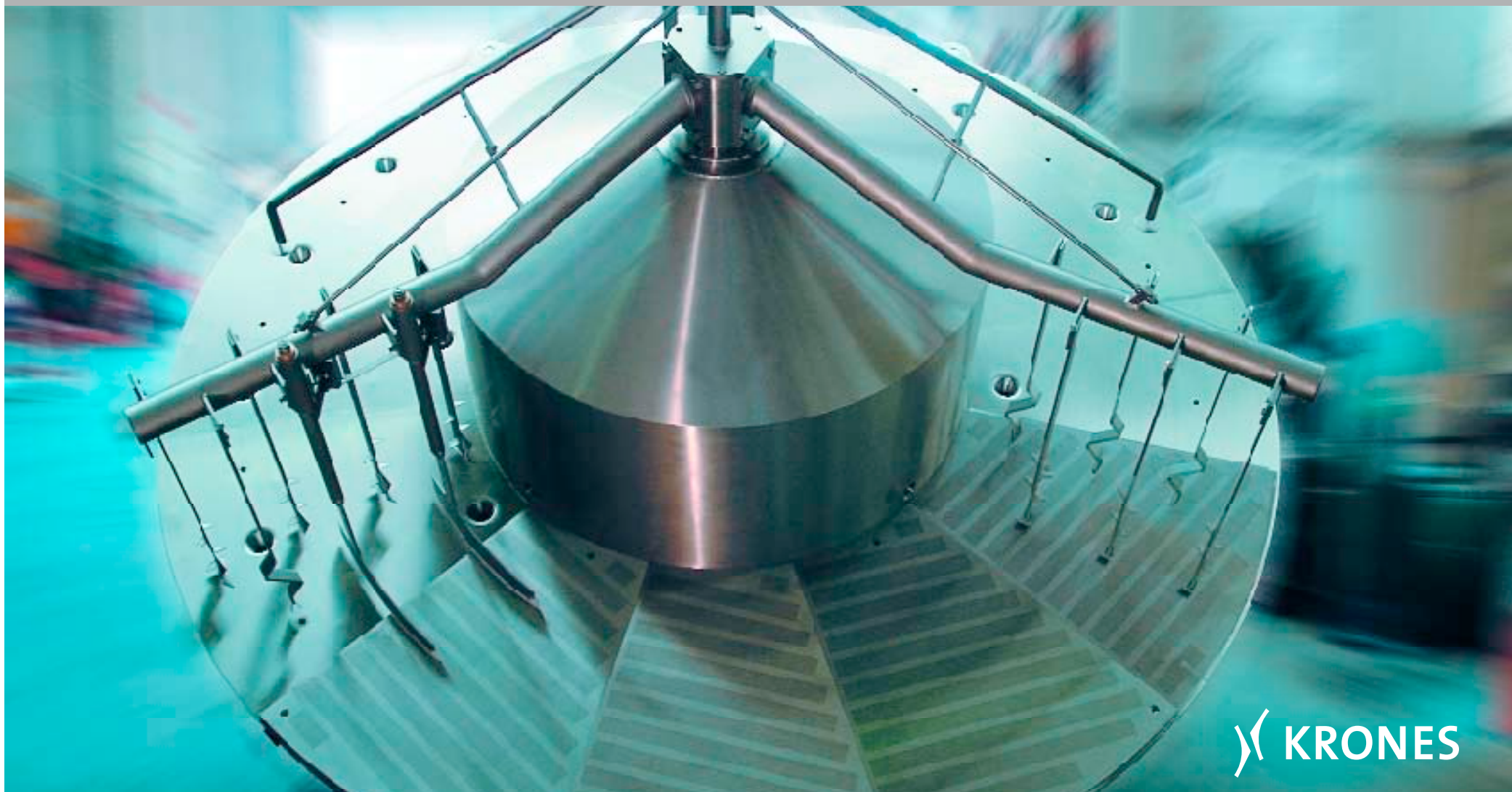


STEINECKER Pegasus

High-performance lautering system



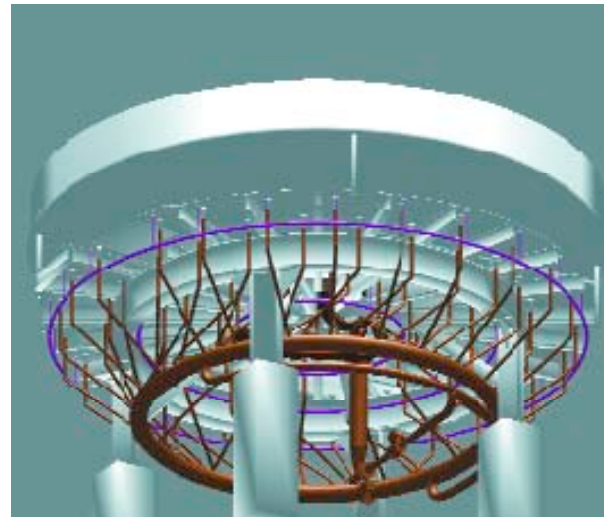
 **KRONES**

Top quality extraction results are a decisive aspect of the brewing process. Modern and efficient lauter technology must aim therefore at achieving an optimum washout of the spent grains and maximum brightness of the extract within the shortest possible time.

The STEINECKER Pegasus is characterised by an annular design of the lauter tun and special knife geometries which ensure uniform raking and continuous clarification. At the same time the wort run-off is designed throughout to provide optimum flow conditions so that constant yields are obtained over the entire lauter tun surface. Pegasus thus provides the ideal basis for fast and economical extraction and for exceptionally bright worts.

STEINECKER lauter technology at a glance

- The annular design of the lauter tun and the steady radial speed of the knives ensures efficient raking.
- The mash is fed through inlets which are positioned for optimum flow results so that the lauter tun is filled quickly and evenly.
- Optimum washout of the filter bed is enabled by the lautering system design featuring lauter tubes of identical length, extra run-off sources and flow-optimised run-off cones. The results are high extract yields and little residual extract in the spent grains.
- Fast extract breakdown allows the process to be performed with little fresh water for the washout. As a result it is possible to work with low evaporation rates during the subsequent boiling process.



Flow-optimised run-off sources



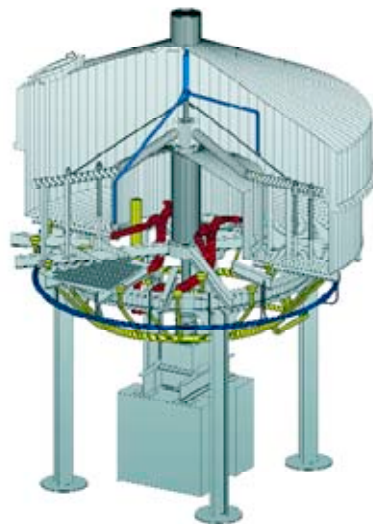
The service-proven run-off port

Figures, data, facts Pegasus lauter tun

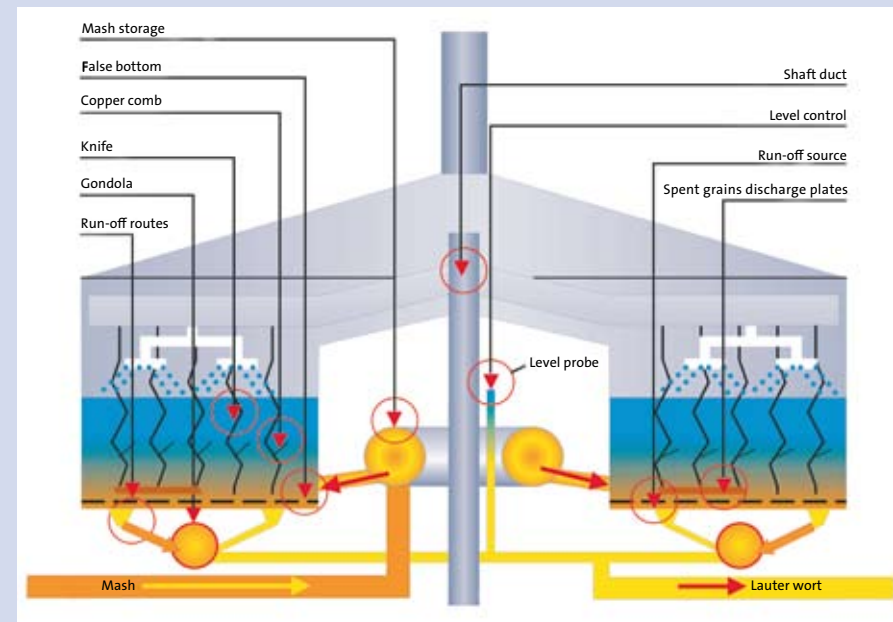
STEINECKER Pegasus

Principle of operation

The lauter tun is based on an annular standard design with space at its centre for accommodating the technical equipment. A central distribution system directs the mash to the different inlets. The annular design means that the shaft bearing and the raking machine shaft have no contact with the wort. The raking machine comes with four different types of knives designed for high-performance lautering with zero wear: Straight and toothed knives, patented turn-over knives, copper combs and bars, and pivoting discharge plates for the spent grains. This keeps the spent grains cake evenly permeable throughout the entire process. The false bottom does not need a supporting substructure but stands on stainless steel legs of flow-efficient design. It can be cleaned residue-free using a minimum of water. Integrated in the outlet is a level probe which is used mainly for controlling the lautering process and protects the lauter tun against vacuum.



Design of the Pegasus



The mash is pumped gently and with little oxygen uptake into the Pegasus lauter tun via symmetrically arranged inlets. The principles of fluidics are strictly observed to produce a uniform and suction-free flow over the entire tun surface, which enables a significantly higher false bottom load than with conventional lauter tuns.

The optimally coordinated interaction of the different types of knives keeps the spent grains cake permeable and allows for a continuous wort run-off. With this lautering method only a very small amount of water is required likewise for the second washes.

The flow-optimised piping and the extra run-off sources result in constant extraction over the entire filtration surface. This in turn means exceptionally low oxygen uptake values, very bright worts, and high yields even with fast brewing sequences.

Figures, data, facts Super Trend

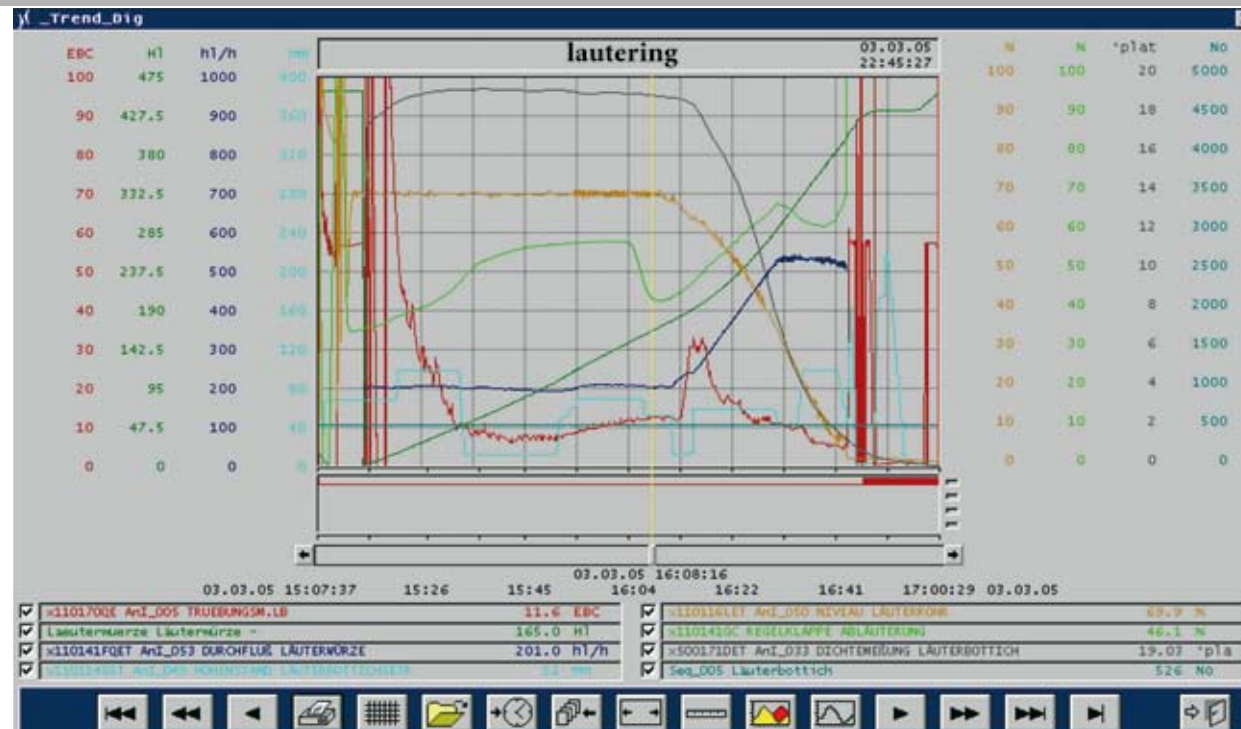
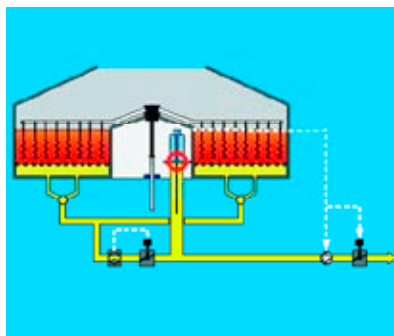
Principle of operation

Super Trend is an essential tool for high-performance lautering. The lautering speed is entered in the program steps "Lautering" and "Trending" and is monitored online by the software.

If the actual value deviates from the setpoint value, the run-off gate automatically regulates the flow and the raking machine reacts within predefined limits.

As the texture of the spent grains cake can vary depending on the malt quality, the flow value is continuously corrected by the "Trending" function in order to maintain or increase the run-off speed.

As the result the wort flow is optimally adapted to the texture of the filter cake and the related raw material quality. This highly advanced system unites maximum speed with best wort quality.



Flow-dependent
lautering

Performance range

The average of 113 minutes total busy time with a specific false bottom load of 199.5 kg/m² is very good.

Breakdown of lauter tun dwell times (12 brews)

		Mean value
Set-up time	Underlet	00:00:47
	Filling	00:01:56
	Rest	00:00:30
	Ejection	00:01:00
	Pumping cloudy wort	00:04:00
Lauter time	First wort	00:50:04
	Sparging	00:38:55
Set-up time	Last wort	00:04:12
	Discharge	00:02:00
	Stroke height	00:00:38
	Spent grains removal	00:05:37
	Rinsing bottom	00:03:36
	Residual draining	00:00:05
	Total busy time	01:53:20



Official acceptance results

Your benefits

Saving of energy and resources

STEINECKER Pegasus

■ Fresh water requirement

Good permeability of the spent grains cake enables fast break-down of the extract; little water is required therefore for the lautering process. At the same time the lauter tun is designed to ensure that fresh water is used sparingly for cleaning purposes.

■ Volume of waste water

In the interest of high lautering speeds it was customary for the sparging process to remain active until lautering was completed. Any surplus water had to be disposed of. With Pegasus, the spent grains cake is permeable enough even for dry drawing; here, too, the water requirement can be kept very low.

■ Heating energy

The low water consumption goes hand in hand with savings in energy for heating the sparge water. High-energy evaporation of surplus water during the subsequent wort boiling process is a thing of the past.

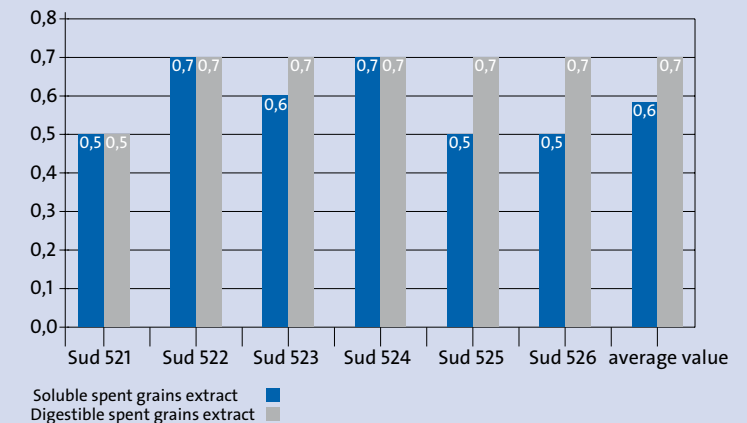
■ Use of cleaning agents

The stainless steel construction is cleaned quickly and fully automatically without using any cleaning boosters. The lauter tun can be connected to the brewhouse CIP system.



Acceptance of a 12 brew Pegasus. Soluble spent grains extract and digestible spent grains extract of brews 521 to 526.

Soluble spent gains extract in % (related to moist spent grains)



Your benefits

Performance and flexibility

■ Performance

Rapid wort fermentation and better filtering of the beer are visible benefits of the selective collection of positive malt extractives in the lauter tun. The homogeneous spent grains cake produced by the raking knives provides the basis for lautering at an unprecedented level of performance.

■ Effectiveness

Up to 14 brews a day are possible – even with the high-gravity brewing method. High lautering yields are possible thanks to the annular design and the large number of run-off sources.

■ Flexibility

The flexible concept is also suitable for greatly varying bulk densities.

■ Quick and easy integration

Practice-related solutions for minimum setup times are integrated in the sophisticated, robust design.

