WE TAKE CARE OF THE MALT

Concentrated competence in malt production and malt handling





EXPERIENCE IS THE BEST ASSET

And you can take that quite literally when it comes to malt production and malt handling. With Zeppelin Systems, you not only get a partner on board with more than 70 years of experience in handling high-quality bulk materials; for more than a decade, we have been implementing turnkey malting plants, supplying high-performance individual components for malt handling, and closely supporting companies in optimizing their processes.

You too can benefit from the value-creating combination of technological expertise, innovative ideas, and comprehensive process knowledge — which our experts have acquired in countless projects they have successfully implemented. Let us work together to perfectly balance quantity, quality, efficiency, and sustainability in your malt production or malt handling! We are ready.



All from a single source? Of course!

You want an efficient new plant, but do not want to deal with site analyses, official regulations, commissioning, and the rest. Then just rely on our comprehensive turnkey concept. As a general contractor, we take care of all the necessary service modules: from A for asset planning such

as your plants, through I for installation to Z for Zeppelin Systems supplier coordination. In this way, we realize your turnkey plant with maximum efficiency — and you have a central contact person throughout the entire project.

WE CAN DO A LOT BUT NEVER BY CHANCE

Phrases like "Let's wing it," "close enough" have no place in your business and neither in ours. Instead, we focus — as has been our tradition for over a century — on uncompromising perfection, in this case in all areas that are essential for successful malt production and malt handling.

Development & Manufacturing

Whether it's just a single machine, a malt silo or a turnkey malting plant — we provide you with the key to sustainable success: by intelligently transferring technologies from other industries, thinking through every process down to the smallest detail and even developing completely new processes together with you.

Service

Your malt processing plant should do two things above all: operate and produce — trouble-free! That is why we are at your side worldwide and comprehensively. This includes not only our all-round service concept with all necessary services from inspection to maintenance to repair; we also take care of optimizing or modernizing existing plants and training your employees.

FEED Engineering

Even at this early stage of the project, our experts work with you to lay the foundation for optimal end results. All relevant data is prepared right from the start so that you can use it as a basis for making important (and solid) decisions for the subsequent project phases.

Automation & digital solutions

Malt and beer production are traditional old crafts — which we can now future-proof with the help of automation and digitization. Zeppelin Systems has bundled the necessary competencies for this under the NAMiQ brand. Among other things, state-of-the-art solutions in formula and recipe management, data-based analysis processes and intelligent technologies for resource-saving manufacturing processes are created under this umbrella.





Task

Beer consumption in Brazil has been gradually increasing for years, as has demand for beer varieties with one hundred percent malt content. Against this background, several local cooperatives had joined forces to build Maltaria Campos Gerais, one of the world's largest malting plants. Their output should be 660 tons of malt per day.



Solution

Based on the positive experience with the previous malting project in 2009, Zeppelin Systems was also brought on board for the new malting plant at Campos Gerais. Our company installed on site a two-storey steep house with 24 conical steep tanks and equipped two concrete towers, each 54 meter high, with a total of 10 circular germination units at a batch size of 400 t barley as greenmalt. Adjacent to the towers are two circular kilns with diameter of 40 m each, operating as double deck kilns as well as the peripheral utilities for heat, kiln air supply and heat recovery.

Benefits

Zeppelin Systems solutions enable plant operators to achieve maximum throughputs while keeping consistently high product quality: from raw material intake to deculming. For example, the bucket elevator ensures that the barley is conveyed vertically into the flow-through scale in a way that is gentle on the product. Automatically controlled, the latter feeds the production process with the exact amount of raw material currently required — while the employees keep an eye on all relevant parameters. During germination, in turn, the enormous capacity of the germination units benefits the clients. At the same time, the plant has been trimmed for maximum (energy) efficiency for kilning: by means of various automation solutions, heat recovery systems for up to 20 percent energy savings, and state-ofthe-art technologies for reducing water consumption.



Visualization of the world's largest turnkey green field malting plant.



"The reliable technology and the customer-oriented approach were the main arguments for choosing Zeppelin as a partner for the construction of our new malting plant"

Adam Stemmer, Managing Director, Agraria Brasil

Your benefits – point by point:

- You entrust your project to one of the world's leading plant manufacturers.
- Zeppelin Systems has over ten years of experience in the development and realization of malt processing and malt handling plants.
- Thanks to our global network, we also oversee largescale projects absolutely reliably and turnkey.
- We continuously develop new, innovative solutions that provide you with tangible benefits in all relevant process steps.
- Our broad positioning in the field of bulk materials handling allows you to benefit comprehensively from knowledge and process solutions from other industries.
- As a general contractor, we coordinate all third-party suppliers, which ensures maximum project efficiency.



Welcome to the process professionals from Zeppelin Systems GmbH

Wherever bulk materials handling is concerned, we rise to meet the challenge for you – throughout the entire process chain: We have thought through every solution for every processing step down to the last detail to give you a perfect result in every respect. A result which optimally combines efficiency and quality. To achieve this, we supply

you not only with robust plant technology, but also with advanced traceability concepts and automation solutions including recipe management. You can measure us by this promise of quality. Project for project – today, tomorrow and the day after.

Small grain, big potential

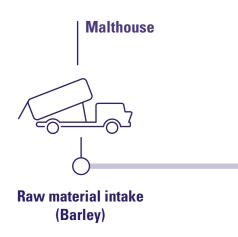
Process barley means turning a valuable raw material into high-quality products – which means the highest demands are righlty placed on each individual process step. At Zeppelin Systems GmbH, you will find every piece of equipment you need: whether silo or conveyor system, weighing system or

steeping plant, individual components or turnkey malting plants. We reliably accompany your process from raw material intake to deculming. Benefit from our many years of expertise and create the conditions for sustainable success.

Specialized in your specialties

As is well known, taste is subjective – but not the most efficient way to get there. Take this path together with Zeppelin Systems GmbH and rely on our high-performance components in malt processing as well. For brewery products, we are rated "first class".

This is where we stop. The rest of the process is in good hands: YOURS.



Better from the start Thanks to our modern

receiving solutions, the barley enters your conveying systems free of contamination and

Cleaning & sorting

A clean deal

The purer the raw material. the higher the quality of the end product. This is where our high-performance cleaning solutions shine, reliably screening out stones, for example.

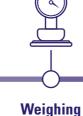
With vision

Put your trust in our expertise in silo technology – for storage that is as economical as it is gentle and reliable. For example, you can equip your storage facility with a wide range of value-added features, including load cells, systems for automatic fill level monitoring, or precise metering valves. If required we can also integrate special heat protection devices into the silo outer walls for you.

Storage

But a perfect fit

horizontal or vertical increase the efficiency of your malt production by selecting the right conveying method.



Conveying

Whether dry or wet,

Precision meets transparency

Precise weighing is good keeping an eye on all parameters is even better. Our automatic flow scales make both possible. In addition, many other weighing systems are available to you.

Steeping

Output up, costs down

Our steeping plants reduce energy use with increased output and higher quality.

Germination

Constant, automated, efficient

No matter how you look at it: Our high-performance germination systems are your quarantee for measurably greater process efficiency.

Kilning

Withering and Curing with system

Our innovations also open up new potential for you in this process step: for example, through innovative heating systems, recovery and automation Different flavours and appearances can also be achieved through targeted heat treatment during kilning.



Deculming

Care to the end Deculming and malt

storage is the end point in a successful malting process - and our plant components carry it out with the utmost reliability.



Brewery

Competence that gets there

Even the best brewers product starts here: With our technologies acceptance of the finished malt is as fast as it is gentle on the product. The valuable raw material is unloaded from the trucks automatically, safely, and dust-free.



Cleaning &

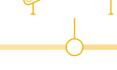
sorting

Precision work Foreign matters and dust don't stand a chance here: Our screening machines remove unwanted substances in the malt with the utmost care and

That lasts Resting easy – don't forget

Storage

that the correct storage of malt is also an important influencing factor for quality. This is where our robust silo systems come into their own reliability – for dust-free and we can also supply them with integrated load cells on request.



And our solutions are

convincing: Adapt the

application requirements

with Zeppelin Systems

conveying process

precisely to your

Conveying

Your needs are key

Not too much, not too little We take it very seriously -

and help your brewing process achieve maximun efficiency and process reliability with a variety of the most precise weighing and dosing

Weighing &



