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## **DRIVE SOLUTIONS FOR INTELLIGENT BREWING PROCESSES**

CASE STUDY: LANDGANG BRAUEREI



**Recipe-controlled  
craft beer brewing**

**Continuous operation**

**Intelligent NORD drives  
with integrated PLC**

**Reliable and low-maintenance**

**NORD geared motors with  
individually configured  
frequency inverters**

### **NORD DRIVESYSTEMS Group**

- Family business from Bargteheide near Hamburg with 4,000 employees
- Drive solutions for more than 100 branches of industry
- 7 production locations worldwide
- Present in 98 countries on 5 continents
- More information: [www.nord.com](http://www.nord.com)

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Creative craft beers are the hallmark of the Landgang Brewery headquartered at Hamburg. To control their recipe-based production, the brewers from Northern Germany rely on intelligent drive systems by NORD DRIVESYSTEMS.

“NORD control units constantly adjust the system performance according to recipe specifications regarding consistency and weight of the ingredients. Absolute process control is guaranteed at any time.”  
Gabriel Rabek, Proprietor of Rabek Engineering GmbH

### PROJECT CHALLENGE

Like most craft beer producers, Landgang started out as a brewery without their own production background, a so-called gypsy brewery. As Landgang's products were well received and as sales volume increased rapidly the decision to establish a dedicated brewery was made. Rabek Engineering, a specialist company for high-quality fully functional breweries, was responsible for the design and construction of the facility.

**Traditional art of brewing and cutting-edge technology.** Each recipe requires different specifications on the brewing system and thus on the drives. In the mash tun, for instance, the agitator has to adapt to the different combinations of ingredients with their specific densities and volume changes. Even before the actual brewing, the process depends on the drive unit.

It carefully controls the malt grinder so that husks are preserved during crushing, and can later perform their filtering function. A tube chain conveyor driven by a powerful NORD geared motor gently transports the crushed grains into the brewhouse.

**Individually configured inverter.** In order to prevent the mixture from settling on the bottom, it is stirred continuously and carefully. Given the large weight, a drive designed for high loads with variably controllable speed is required. Additionally, the built-in individual frequency inverter makes sure that the different types of movement of blade and agitator, such as lifting, lowering and rotating, can be decoupled. For this purpose, the drive unit was equipped with a hollow shaft. This special version facilitates the flexible combination of movements according to the recipe.

### APPLICATION SOLUTION

Dependable, low-maintenance brewery technology is the alpha and omega for consistently high beer quality and delivery reliability. Intelligent NORD drives significantly support the automation of the brewing process and manage the recipe diversity at the Landgang Brewery. During continuous operation, they ensure the products exceptional flavour and consistent quality all year-long.

**Recipe-based production with NORD drive technology.** All ingredients are fully prepared and processed automatically. The brewhouse has been equipped with decentralised, intelligent NORD drives so it can be operated precisely. They are located in exactly the spots, where specific functions are required. The PLC implemented in the frequency inverter controls each drive unit

individually. Each drive retrieves the applicable motion sequences for the respective recipes and adjusts them to the current weight and volume of the ingredients.

**Reliable for the entire life of the brewery.** NORD DRIVESYSTEMS has been providing drives for the beverage industry for many years. The NORD modular product range offers scalable electronics, motors and drive units which can be combined to form customised drive modules for every application. Thus, they are always reliable during their long service life.



**Because every beer recipe is different.** The intelligent NORD drive systems autonomously manage the recipe-based production.



**FOOD INDUSTRY**  
Malt grinder, malt transport, mash tun, lauter tun



**GEARED MOTORS**  
Worm gear motors, bevel gear motors, parallel shaft gear, helical gear



**FREQUENCY INVERTERS**  
with integrated PLC

### FOCUS ON THE CUSTOMER

The Landgang Brewery headquartered at Hamburg specialises in brewing craft beer. The wide variety of craft beers comprises top and bottom fermented varieties, from pilsner, ale, porter, stout to non-alcoholic beer. Added to this are the occasionally developed beers for customers. All beers – “Helle Aufregung”, “Weizheit”, “Dunkle Macht”, “Prollbock” or “Tutti Frutti” – are brewed, bottled, served fresh on draught and sold on site at the Landgang brewery.



### FOCUS ON THE PROJECT

Intelligent NORD drives reliably support the brewhouse management and assist in saving time and obtaining a perfect brewing result:

- Malt transport from the storage to the brewhouse: angled gear units (worm gear and bevel gear units) and parallel shaft gear units,
- Mash tun: primarily parallel shaft gear units, some bevel gear units,
- Lauter tun: parallel shaft and helical gear units, also in combination with bevel gear units.

