

The logo for LB Foster, with 'LB' in red and 'Foster' in black, followed by a registered trademark symbol.

CUSTOMER

Distillery

SECTOR

Food & beverage

A large wooden barrel is being processed on a conveyor system in a distillery. The conveyor consists of multiple parallel rollers supported by a blue metal frame. The barrel is positioned on the rollers, and the background shows industrial machinery and a window.

**Conveyors**  
ATEX rated  
conveyor  
solutions



“ATEX compliance has to be designed in to materials handling solutions for the luxury drinks market.”

**The ATEX Directive consists of two EU directives describing what equipment and working conditions are allowed in an environment with an explosive atmosphere.**

Brewers and distillers handle flammable (explosible) materials so are subject to national law in Europe in the form of ATEX 1999/92/EC Directive or in the UK DSEAR 2002 Regulations. These ensure workplaces are safe from fire and explosion risk.

**L.B. Foster Automation & Materials Handling** is expert in the design, installation and commissioning of materials handling and automated manufacturing solutions for the luxury beverage markets. Our solutions conform with ATEX 2014/34/EU (previously 94/9/EC) for industries that supply equipment into hazardous areas.

## Requirement

The production of spirits produces ethanol, which is a highly flammable liquid. Raw materials for fermentation and mashing processes involve the handling, storage, and milling of wheat and barley, which generate flammable dust.

Grain roasting and drying require huge quantities of fuel, which is usually natural gas. So all types of flammable materials (vapour, dust and gas) necessary for an explosion are present in spirits manufacturing facilities.

L.B. Foster Automation & Materials Handling specialises in the design, manufacture, installation and commissioning of ATEX rated materials handling solutions for use in distilleries.

“When filling or disgorging spirits from casks, operatives are directly in contact with the spirit, which is potentially highly flammable. It’s therefore imperative that all equipment installed in this part of a distillery is ATEX directive compliant.”

## Scope

### ATEX Zone 1 High risk gas/vapour

A Zone 1 area is classified as a place in which an explosive atmosphere consisting of a mixture with air or flammable substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.

### ATEX Zone 2 Medium risk gas/vapour

A Zone 2 area is classified as an atmosphere where a mixture of air and flammable substances in the form of gas, vapour or mist is not likely to occur in normal operation, but if it does occur, will persist for a short period only. These are typically storage areas but can also be process areas.

Equipment for operation in hazardous areas must comply with the requirements of ATEX 2014/34/EU Directive and be suitably protected.

Equipment is built to a level of protection known as a category which matches the risk:

- > Category 2G/Zone
- > Category 3G/Zone 2.



## Challenges

- > Any piece of equipment that forms part of the system in an ATEX area must be assessed and rated against its ability to generate a spark, heat, or static charge
- > Specialist “bought out” equipment is required when constructing the ATEX compliant system, often with limited availability, long lead times, and increased cost compared with non-ATEX products, resulting in 3-5 times the cost for devices such as pneumatic actuators or photoelectric sensors
- > Specialist materials and manufacturing techniques must be used to eliminate risks of spark, heat, or static charge, even in simple mechanical conveyor designs
- > During installation and commissioning of upgrades to an existing ATEX system, specialist working practices must be adopted, for example the use of ATEX compliant tools and machinery, in addition to safe working practices
- > Additional documentation must be supplied with all of ATEX rated turnkey materials handling solutions, and the proper procedures must be followed to ensure this is done correctly

## Benefits

- > Our customers benefit from full legal compliance with an ATEX rated materials handling solution supplied and installed by L.B. Foster Automation & Materials Handling.
- > A safe working environment for all employees when working in and around the ATEX areas. Our customers benefit from our years of experience in the design, supply, installation and commissioning of ATEX materials handling solutions with project values in the multi-millions of pounds
- > Customers also benefit from our extensive network of ATEX approved suppliers, who add to our offer and help our customers to learn more about ATEX compliant systems

## ATEX

The UK brewing and distilling industry contributes significantly to the Food and Drink sector, which is estimated to be worth some £80 billion annually and representing around 7% of UK GDP.

Since the introduction of the EU ATEX 1999/92EC Directive(2) (incorporated in the UK under DSEAR 2002 (Dangerous Substances Explosive Atmospheres Regulations(3)), a systematic hazard and risk assessment has to be undertaken to ensure personnel and the public are not at risk from fire and explosion.

Our innovative ATEX engineering solutions are suitable for use in a range of markets impacted by ATEX Directives, including oil and gas, construction and food and drink.

“Our ATEX solutions are mission critical.”