Sustainability on Tap

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Freekeg – A Sustainable and User-Friendly Solution for Beverages

"Easy to connect, even easier to disconnect - and best of all, designed for reuse."

1. Connection

Freekeg is designed with a focus on simplicity and efficient connection, making it quick and easy to integrate into the beer supply line. Follow these steps to ensure a proper connection:

- 1. Place the Freekeg under the beer coupler in the supply line.
- 2. Turn the coupler clockwise to securely lock it onto the Freekeg.
- 3. Push the coupler handle downward to create a tight and reliable seal.

It is important to perform a visual inspection to ensure the connection is completely secure and that there are no leaks when the system is under pressure. Once the Freekeg is properly connected, it is ready for use, and beer dispensing can begin without issues.



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2. Disconnection

Disconnecting the Freekeg is just as simple and intuitive as connecting it. For a safe disconnection from the beer supply line, follow these steps:

- 1. Gently lift the coupler handle upward to unlock the connection.
- 2. Turn the beer coupler counterclockwise to loosen it from the Freekeg.
- 3. Once the coupler is loosened, lift the Freekeg away from the beer supply line.

It is important to perform the disconnection carefully to avoid beer spillage and to protect the Freekeg from potential damage.

2.1	2.2	2.3	
Pressure is released by lifting the handle upward.	Disconnect by turning counterclockwise.	Lift away from the keg.	

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3. Pressure Neutralization

The Freekeg functions as a pressure vessel, using compressed air to maintain stable pressure around the bag, ensuring the liquid is effectively pushed up through the central connection hose of the coupler.

When a bag is emptied, it is essential to neutralize the pressure in the keg before replacing the bag.

- 1. Use a coupler without attached hoses to release the excess pressure.
- 2. Attach the coupler to the bag head on the Freekeg keg.
- 3. The pressure will be released from the keg when the coupler handle is activated.

Once the pressure is neutralized, the bag can be replaced quickly and safely.



When the pressure is released from the keg, you will clearly feel the airflow and hear a faint hissing sound. Please wait for five minutes to ensure all pressure is fully neutralized before proceeding with the bag replacement.

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Bag Replacement

Reduce the pressure first: Before loosening the bag, the pressure in the keg must be equalized to atmospheric level (approximately 1 bar). This is done by connecting a coupler without hoses to slowly release the pressure.

Please refer to Section 3 on Pressure Neutralization for details.

Once the pressure is neutralized, follow these steps to replace the bag:

- 1. **Loosen the bag:** Use a specialized tool to gently loosen the bag by turning it counterclockwise.
- 2. Remove the used bag: Dispose of the used bag as recyclable plastic waste.
- 3. **Insert the new bag:** Attach the new bag and securely tighten it by turning it clockwise with the specialized tool.



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Functionality and Pressure Test

To ensure the reliability and safety of the Freekegs, the following checks must be performed:

- 1. Thoroughly inspect the keg for any physical damage.
- 2. Verify that the keg can maintain a stable pressure of 1.5 bar for 24 hours.

If the keg passes the pressure test and can maintain 1.5 bar for 24 hours, it is considered safely tested for functionality and pressure.

If the keg cannot maintain this pressure, it is defective and unsuitable for use. A defective keg must not be used under any circumstances and should be discarded immediately.

Failure to maintain pressure will prevent the liquid from being pushed out of the keg effectively.





Pressure Filling

A counterpressure of 1.5 bar ensures that liquids containing CO₂ do not foam during filling, as the stable counterpressure in the keg helps regulate the liquid flow.

Follow these steps to fill the keg with compressed air:

- 1. Connect the compressed air to an air gun with a pressure gauge, and attach it to the nozzle labeled "CO2" (see Figure 5.1).
- 2. Mount the coupler onto the Freekeg.
- 3. Use the air gun to fill the keg with compressed air until the pressure reaches 1.5 bar.



After filling the keg with air pressure also known as counterpressure around the bag the keg must undergo a pressure and functionality check before the liquid is filled.

Filling ("Kegging")

Filling can be done directly from a tank by following these steps:



- 1. Connect the filling coupler to the tank.
- 2. Attach the coupler to the Freekeg and open the valve (see Figure 6.2). Wait approximately 20 seconds.
- 3. Open the air vent (see Figure 6.3) to 50% and leave it for 2-5 minutes. Then open the vent to 100%.

The filling is complete when either the Freekeg is full or the desired amount of liquid, measured in kilograms, has been filled.

Once the desired amount is reached, close the liquid valve (see Figure 6.2).



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Key Facts About Freekegs

- **Reusability:** Only the inner bag is discarded, while the keg itself is reused, significantly reducing waste and minimizing environmental impact.
- **Economic Savings:** Reusing the keg provides significant cost savings for breweries and reduces packaging expenses.
- **Easy Handling and Storage:** Freekegs are lightweight, stackable, and easy to handle, making them ideal for both transportation and storage. Their robust design ensures durability, even under demanding conditions.
- **Sustainability:** By reusing the keg and simply replacing the inner bag, Freekegs contribute to a more sustainable future by reducing resource waste and lowering energy consumption.
- **High Quality and Safety:** Freekegs are made from materials that comply with EU and FDA food contact regulations, ensuring that liquids remain fresh and flavor-neutral.
- Flexibility and Customization: Freekegs are available in various sizes, allowing them to accommodate different types of beverages and volume requirements, making them suitable for everything from small craft beers to larger brewery products.
- **Pressure Safety:** Freekegs are equipped with an integrated overpressure valve that activates at high pressure, preventing accidental leaks or pressure-related issues.
- Environmentally Friendly Disposal: The materials in Freekegs are fully recyclable and comply with strict EU directives, ensuring responsible and environmentally friendly disposal at the end of their lifecycle.

By using Freekegs and adhering to our sustainable disposal methods, you not only reduce environmental impact but also support economically sustainable production. Contact our team for more information or assistance with Freekegs.



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SAFETY RISK ANALYSIS

The Freekeg is designed as a liquid pressure keg, based on well-known and thoroughly tested principles, with specific enhancements to increase safety.

- The keg is made of an HDPE plastic balloon, encased in a strong fiberglass layer.
- The fiberglass layer ensures that the Freekeg cannot explode under high pressure; instead, it will fracture in a controlled manner, resulting in only minor leakage.
- The Freekeg's bag technology includes built-in overpressure safety. At 8 bar, the overpressure valve automatically activates to prevent further pressure buildup.
- The threads on the Freekeg are made of durable fiber-reinforced plastic, designed to resist wear. Any leakage in the threads, for example, due to wear, will prevent pressure buildup in the keg. Without proper pressure, the keg cannot be used and will automatically be excluded from the users' inventory.



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Technical Specifications

Specifications for Different Models:



CE Certification: 97/129/CE

Durability

Filled keg lifespan depends on the beverage, up to 12 months.

Mechanical/Physical Properties

Operating temperature: 0°C to 35°C Maximum dispensing pressure: 3.5 bar Maximum pressure: 8 bar, explosion-free Maximum load on spear: 300 kg

Disposal

The Freekeg is designed to have minimal environmental impact. The empty keg is 100% recyclable and complies fully with EU Directive 94/62/EC.

Keg Coupler Types

S Type (European Sankey) D Type (US Sankey) A Type (German Slider) F Type (KeyKeg)

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7. Food Contact

• EU Approval for Food Contact:

All materials and additives used in components intended for contact with food comply with EU Regulation 10/2011.

• FDA Compliance:

All materials and additives used in components intended for contact with food comply with FDA CFR 175.300.

• **UK Compliance** The product complies with The Materials and Articles in Contact with Food (Amendment) (EU Exit) **Regulations 2019 No. 704**

• Flavor/Stability:

All materials intended for contact with beverages are free from small molecule migration and chemical reactions with beverage contents, ensuring flavor stability of the beverages.

Inner Bags





Built-in Overpressure Valve (PVR)

All inner bags are designed with a built-in overpressure valve that activates at pressures exceeding 8 bar.



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Guidelines for Handling Defective Overpressure Valves

To ensure the safe use of Freekeg under all conditions, the following guidelines should be followed if there is any suspicion of a defective overpressure valve:

Inspection Before Use:

- Users should visually inspect the overpressure valve to ensure it is intact, undamaged, and not blocked.
- There must be no signs of damage or deformation, as these could indicate a compromised safety function.

Handling Defective Valves:

• If the overpressure valve shows signs of defects or blockage, the Freekeg bag must not be used, as a defective valve could lead to uncontrolled pressure buildup, making the product unsafe.

Replacement and Disposal:

- An Freekeg bag with a defective overpressure valve must be immediately removed from use and disposed of properly.
- Defective bags can be returned to the manufacturer or an authorized service partner for proper disposal or replacement.

Procedures for Suspected Leakage:

- If hissing sounds are heard or visible signs of leakage are detected in the valve, the pressure must be immediately neutralized using a coupler without hoses.
- After pressure relief, both the valve and the entire Freekeg should be thoroughly inspected. If the bag's valve remains defective, the product must be discarded.

Safety Recommendations:

- Overpressure valves should be checked as part of routine maintenance, especially before refilling.
- Users should be informed that defective bags without a functioning overpressure valve pose a risk and must not be used.

These guidelines ensure that Freekeg users can properly identify and handle a defective overpressure valve, minimizing potential safety risks during use.

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Approved and Non-Approved Liquids

Approved Liquids

Freekeg bags are carefully tested and certified for the safe storage of food products and carbonated beverages, such as beer, wine, and cider. The materials used in the bags comply with the strict requirements of **EU Regulation 10/2011** and **FDA regulations (CFR 175.300)**. This ensures that liquids stored in the bags are not affected by chemical reactions or flavor degradation.

Non-Approved Liquids

To protect the materials of Freekegs and ensure a long lifespan, the following types of liquids should not be used:

- **Highly Alkaline Liquids:** Liquids with a pH value over 9 can damage the materials in the bag.
- **Corrosive Liquids:** Corrosive and solvent-based liquids can degrade both the seals and the materials in the bag.
- **Cleaning Agents with High pH Values:** Cleaning agents, especially those based on hydroxides or aggressive chemicals, can compromise the structure of Freekegs and should therefore be avoided.

Additional Guidelines

- Freekegs are approved for liquids containing **under 20% alcohol** in accordance with the **EU Plastics Regulation**.
- A new logo will be added to the website to clarify compliance and highlight certifications.
- Reference the **Danish Veterinary and Food Administration (Fødevarestyrelsen)** for additional guidelines and compliance information.

Recall Process

All users must be familiar with the **recall process** to ensure the safe and efficient handling of any issues that may arise. Detailed processes will be outlined and shared to ensure all stakeholders are informed and prepared.

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Lifespan and Durability of Freekeg

The Freekeg system is designed to be sustainable and cost-effective by using disposable inner bags, while the keg itself can be reused up to 12 times annually, depending on usage conditions. The expected lifespan of the keg is up to 5 years under normal usage conditions. However, the lifespan may vary depending on the number of pressurizations and the maintenance of the keg, both of which are critical for ensuring long-term functionality and safety.

Pressure Limits and Overpressure Valve

- The keg is designed to withstand dispensing pressures of up to 3.5 bar and has been tested for a maximum pressure of 8 bar to protect against leaks and cracks.
- Each bag has a built-in overpressure valve that activates at 8 bar to prevent damage from overpressure.
- It is essential to adhere to the recommended pressure limits to maintain the keg's durability and functionality.

Proper Maintenance and Inspection

- Regular inspection of the bags' overpressure valves and other safety components is crucial for maintaining safety throughout the keg's lifespan.
- The keg should be stored clean, dry, and away from direct sunlight and high temperatures, as these conditions can degrade the materials.
- Before each use, it is recommended to check the valve and keg for signs of wear or damage.

Cleaning and pH Requirements

- To ensure the keg's durability and food safety, cleaning should be performed with approved cleaning agents with a pH value below 9.
- Highly alkaline or acidic cleaning agents should be avoided, as they can damage the food-grade seals and reduce the product's lifespan.

Usage Limitations

- The expected lifespan of up to 5 years depends on proper use and maintenance, including adherence to the recommended reuse frequency of up to 12 times per year.
- Users are encouraged to follow the specified guidelines for use and storage to avoid material overloading, as the keg's durability depends more on wear and tear than its actual age.

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Declaration of conformity

Consistent with:

- **Regulation (EC) No 1935/2004** of the European Parliament and of the Council of 27 October 2004 on materials and articles intended to come into contact with foodstuffs and repealing Directives 80/590/EEC and 89/109/EEC

- **Regulation (EU) No 10/2011** of the Commission of 14 January 2011 concerning: plastic materials and articles intended to come into contact with foodstuffs;

- **Resolution CM/Res (2013) 9** of the Council of September 2013 concerning: metals and alloys intended to come into contact with foodstuffs

- Regulation (EC) No 2023/2006 of the Commission of 22 December 2006 concerning: good

manufacturing methods for materials and articles intended to come into contact with foodstuffs;

- **Regulation (EC) No 852/2004** of the European Parliament and of the Council of 29 April 2004 on food hygiene

-UK Compliance The product complies with The Materials and Articles in Contact with Food (Amendment) (EU Exit) Regulations 2019 No. 704



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Handling, Transport, & Storage

General Instructions

Please read these instructions carefully before use to ensure the proper and safe handling of the Freekeg:

- Pressurized Keg: Handle with care.
- Professional Use Only: The Freekeg is intended for professional use.
- Single-Use Bag: The inner bag is disposable and must not be reused.
- Storage Temperature: Store at a temperature below 35°C.

These guidelines are designed to ensure optimal product performance and user safety.

		(007	35°C
Always Empty Freekegs: Empty the kegs as soon as they are empty using the coupler's drainage valve. Do not empty Freekegs in any other way.	Pour Beverages with High CO ₂ Content Slowly	Avoid emptying Freekegs in enclosed spaces if the dispensing gas is CO ₂ .	Always Store Freekegs Below 35°C: Ensure storage conditions remain within the recommended temperature limits.
		L.C.M.	et la
Never Reuse an Empty Bag: Only the Freekeg keg itself should be reused.	Store Freekegs in Dark, Shaded Areas: Avoid exposure to direct sunlight.	Do Not Puncture or Cut Freekegs: Keep Freekegs away from sharp objects.	Use an Appropriate Coupler and Tap: Especially for beverages with higher acidity, such as wine or cider.

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Note:

• Do not shake filled kegs.



Handling Carbonated Beverages

When using Freekegs for beer or other carbonated beverages, extra caution is required. Any impact or shaking can cause high pressure inside the keg, increasing the risk of leakage or damage.

Rough handling and forceful loading or unloading are not permitted. The keg should always be handled as gently as possible.

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Palletizing

30L Freekeg



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Palletizing

20L Freekeg

