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## **Draft beer serving concept for exported ERDINGER Weissbier**

(Criteria for approval, handling and serving)

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### **Requirements:**

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- Draft ERDINGER wheat beer can only be incorporated into a program and served following the prior agreement with and approval from ERDINGER Weissbräu.
- Draft ERDINGER wheat beer can only be incorporated into a program if there are at least five draft beer locations (economic use must be guaranteed).
- Draft beer know-how: experience in handling keg beer and proof of keg beer customers.
- Check whether 20L, 30L or 50L kegs can be emptied within a period of three days (minimum quantity).
- Compliance with statutory national hygiene regulations concerning draft beer equipment.
- Refrigerated storage room: approx. + 6°C

#### **Other duties of the importer:**

- Observance of sell-by date.
- Keg must be stood on its head when delivered to customer (better distribution of yeast). The importer can distribute a corresponding sticker with this instruction.
- ERDINGER Weissbräu must always be informed as to when and why deliveries to keg beer customers are terminated.

- **Attachment: beer return form**
- **Sticker on correct keg storage**

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### Materials:

- **Tube material** 7 mm diameter (10 mm diameter for lengths of 12 m and over): Cornelius "hard polyethylene beer tubing".
- **Keg head** with ERDINGER Weissbräu basket fitting.
- **Compensator faucet** Cornelius "BT 100" or CMB "V10"
- **Python** with tight-fitting and sufficiently thick insulation (H13 or H19 strengths)
- **Cooling unit** and/or **cooling coils** with temperature and water level display (operating temperature + 3°C)
- When using **cooling coils**, they must be designed for external temperatures of approx. +27° C. ERDINGER Weissbräu recommends cooling coils with icebank.

### Selection of correct beer line:

Beer line	Bar tapping		Cellar tapping	
	cooled	uncooled	cooled	uncooled
Cooling unit	no	no	yes	no
Cooling coils	no	yes	no	no
Cooling coils with cooling unit	no	no	no	yes
Line length <b>up to 12 m</b>	7 mm	7 mm	7 mm	7 mm
Line length <b>over 12 m</b>	-	-	10 mm	10 mm

### Cleaning:

**Keg head and faucet:** Clean daily with water and if possible disinfect (keg head) with disinfectant spray with a minimum content of 60% vol. alc.

**Beer line:** Chemical-mechanical cleaning every 14 days!  
  
Every quarter/half-year the cleaning should be done with an acid detergent in order to release the yeast from the beer line. We also recommend a change of the alkaline detergent half-yearly in order to avoid resistance of bacteria.

**It should be carried out by a specialized company.**

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### Example refers to one keg in refrigerated storage room at +6°C:

Condition:	cellar tapping	
Beer temperature:	+6°C	(1.70 bar at +6°C)
Tube diameter:	7 mm	
Line length:	6 m	(0.05 bar per 1m length)
Height difference:	3 m	(0.10 bar per 1m height)

- The Erdinger Weissbier keg has a **carbonation pressure** of **1.70 bar** at + 6°C. The CO<sub>2</sub> content is 6.5 g per liter (see CO<sub>2</sub> diagram).
- A **friction loss** of 0.30 bar is calculated for a line length of 6 m (**0.05 bar per 1m length**).
- An additional **pressure loss** of 0.30 bar is calculated for the height difference of 3 m (**0.10 bar per 1m height**).
- **Safety factor** 0.20 bar.

This results in the following manometer setting:

$$\begin{array}{ccccccc} \mathbf{1,70\ bar} & + & \mathbf{0,30\ bar} & + & \mathbf{0,30\ bar} & + & \mathbf{0,20\ bar} & = & \mathbf{2,50\ bar} \\ \text{Carbonation} & & \text{Friction loss} & & \text{Pressure loss} & & \text{Safety factor} & & \end{array}$$

### Example refers to equipment with cooling coils:

Condition:	cellar tapping	
Beer temperature:	+20°C	(3.25 bar at +20°C)
Tube diameter:	10 mm	
Line length:	15 m	(0.01 bar per 1m length)
Height difference:	3 m	(0.10 bar per 1m height)

- An Erdinger Weissbier keg has a **carbonation pressure** of **3.25 bar** at + 20°C. The CO<sub>2</sub> content is some 6.5 g per liter (see CO<sub>2</sub> diagram).
- A **friction loss** of 0.15 bar is calculated for a line length of 15 m (**0.01 bar per 1m length**).
- An additional **pressure loss** of 0.30 bar is calculated for the height difference of 3 m (**0.10 bar per 1m height**).
- **Safety factor** 0.20 bar.

This results in the following manometer setting:

$$\begin{array}{ccccccc} \mathbf{3,25\ bar} & + & \mathbf{0,15\ bar} & + & \mathbf{0,30\ bar} & + & \mathbf{0,20\ bar} & = & \mathbf{3,90\ bar} \\ \text{Carbonation} & & \text{Friction loss} & & \text{Pressure loss} & & \text{Safety factor} & & \end{array}$$

### Attachments:

- Carbonation level in relation to temperature for Erdinger Weissbier
- Data for CO<sub>2</sub> bottles
- Cleaning certificate

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### Dispensing:

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#### Requirement:

- Compliance with statutory national hygiene regulations concerning draft beer equipment.
- Beer cooling unit with automatic temperature regulation of + 6°C (maximum beer temperature of +20°C when using cooling coils)
- Equip pressurized gas bottles (CO<sub>2</sub>) with safety mountings and gas warning system.
- Water supply and drain near keg tapping area.
- Beer should be served within sight of customer.

#### Procedure:

- Keep cleaning log (enter all cleaning work here)
- Chemical-mechanical cleaning of beer line every 14 days. Every quarter/half-year the cleaning should be done with an acid detergent in order to release the yeast from the beer line. We also recommend a change of the alkaline detergent half-yearly in order to avoid resistance of bacteria. It should be carried out by a specialized company.
- After longer period of inactivity (e.g. holiday), always conduct chemical-mechanical cleaning of lines before starting operation again. All faucets and tapping equipment must also be cleaned regularly!
- Use extra-long brushes in the washbasins (wheat beer glasses).
- In order to improve head stability, use special cleaning agents e.g. Becharein by Dr. Becher. (Under no circumstances use standard washing-up liquid. The same applies to glass-washing machines).
- Always rinse glasses in cold water before pouring.
- Set compensator faucet to desired flow speed.
- Hold glass at an angle and near to faucet while pouring. Quickly fill glass completely (the more often the glass has to be topped up, the more carbon dioxide the beer loses).

Should you require further information, please feel free to contact us:

Privatbrauerei ERDINGER Weißbräu, Werner Brombach GmbH

Email: [info.export@erdinger.de](mailto:info.export@erdinger.de)

Phone: +49 8122 409 - 0

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### Troubleshooting

### What to do if...?

PROBLEM	SOLUTION
Beer not flowing No dispense	<ul style="list-style-type: none"> <li>✓ Check the gas bottle is full and switched on</li> <li>✓ Check the gas valves to the keg line and pump are switched on</li> <li>✓ Ensure keg coupler handle is firmly down on to the keg</li> <li>✓ Ensure fob detector (if used) is in dispense mode and float is at the top and keg is full</li> <li>✓ Are the cooler coils frozen due to not being switched off prior to line cleaning?</li> <li>✓ Check the beer line from the keg is not kinked or damaged</li> </ul>
Beer is fobbing	<ul style="list-style-type: none"> <li>✓ Ensure the keg has been stored upside down</li> <li>✓ Is there yeast build up in the lines?</li> <li>✓ Check the seals are not worn on the keg connector</li> <li>✓ Check the fob detector (if used) has been set in the correct mode</li> </ul>
Beer fobbing and beer too warm	<ul style="list-style-type: none"> <li>✓ Pressure too low; set higher pressure, according to diagram or the example provided</li> </ul>
Beer temperature OK (+6°C), but only thick, fine froth	<ul style="list-style-type: none"> <li>✓ Beer over-carbonated from being in keg too long (CO<sup>2</sup> absorption). Please connect new keg. Over-carbonation cannot be reversed.</li> </ul>
Warm beer	<ul style="list-style-type: none"> <li>✓ Check temperature of cooling coils – may be defective. Check water level. Important that cooling coils switched on two hours before starting to serve</li> <li>✓ Check the python recirculation pump is working</li> <li>✓ Ensure there are no obstructions to the air flow and the condenser grill is clean</li> <li>✓ Check the cooler level is correct and the overflow is not blocked</li> </ul>
Cooling coils running but no cooling effect	<ul style="list-style-type: none"> <li>✓ Check if ventilator is running or if cooling unit is losing refrigerant.</li> </ul>
Cooling coils not running	<ul style="list-style-type: none"> <li>✓ Check power supply (fuse?)</li> </ul>
Taste problems	<p><b>Dirty lines</b></p> <ul style="list-style-type: none"> <li>✓ Is the frequency of line cleaning adequate?</li> <li>✓ Check the quality of the cleaning agent used</li> <li>✓ Has the correct line cleaning practice been adhered to?</li> <li>✓ Has the keg coupler been sanitized during cleaning process?</li> </ul> <p><b>Dirty glassware</b></p> <ul style="list-style-type: none"> <li>✓ Have correct cleaning processes been adhered to?</li> <li>✓ Check if the glass wash machine requires descaling</li> <li>✓ Check the quality of detergent and rinse aid used</li> <li>✓ Ensure correct drying and storage of glassware</li> </ul>