

# Zapfenduster Kundmüller

- Gravity **21.6 BLG**
- ABV **9.7 %**
- IBU **44**
- SRM **37.1**
- Style **Russian Imperial Stout**

## Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **90 min**
- Evaporation rate **10 %/h**
- Boil size **26.4 liter(s)**

## Mash information

- Mash efficiency **80 %**
- Liquor-to-grist ratio **2.4 liter(s) / kg**
- Mash size **20.4 liter(s)**
- Total mash volume **28.9 liter(s)**

## Steps

- Temp **55 C**, Time **5 min**
- Temp **63 C**, Time **45 min**
- Temp **72 C**, Time **30 min**
- Temp **76 C**, Time **5 min**

## Mash step by step

- Heat up **20.4 liter(s)** of strike water to **62.3C**
- Add grains
- Keep mash **5 min** at **55C**
- Keep mash **45 min** at **63C**
- Keep mash **30 min** at **72C**
- Keep mash **5 min** at **76C**
- Sparge using **14.5 liter(s)** of **76C** water or to achieve **26.4 liter(s)** of wort

## Fermentables

Type	Name	Amount	Yield	EBC
Grain	Pale Ale Best	5 kg (58.8%)	80 %	6
Grain	Münchner Malz Best	2 kg (23.5%)	78 %	20
Grain	Carabelge	0.5 kg (5.9%)	80 %	30
Grain	Special W	0.5 kg (5.9%)	75 %	300
Grain	Carafa II Best	0.5 kg (5.9%)	65 %	1100

## Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Fuggles	40 g	60 min	4.5 %
Boil	East Kent Goldings	40 g	60 min	5.7 %
Boil	East Kent Goldings	40 g	15 min	5.7 %
Aroma (end of boil)	East Kent Goldings	40 g	5 min	5.7 %

## Yeasts

Name	Type	Form	Amount	Laboratory
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Wyeast - 1728 Scottish Ale	Ale	Slant	300 ml	Wyeast Labs
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