

Munich Helles

- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **18**
- SRM **3.8**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **21 liter(s)**
- Boil time **60 min**
- Evaporation rate **13 %/h**
- Boil size **26.7 liter(s)**

Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **4.5 liter(s) / kg**
- Mash size **24.3 liter(s)**
- Total mash volume **29.7 liter(s)**

Steps

- Temp **64 C**, Time **45 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **24.3 liter(s)** of strike water to **68.9C**
- Add grains
- Keep mash **45 min** at **64C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **7.8 liter(s)** of **76C** water or to achieve **26.7 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	5.4 kg (100%)	82 %	4

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Pałacowy	20 g	60 min	8.5 %
Aroma (end of boil)	Hallertau Mittelfruh	60 g	0 min	3 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	34.5 g	Fermentis