

Monachijskie Jasne Munich Helles

- Gravity **11.9 BLG**
- ABV **4.8 %**
- IBU **18**
- SRM **4.2**
- Style **Munich Helles**

Batch size

- Expected quantity of finished beer **13 liter(s)**
- Trub loss **5 %**
- Size with trub loss **13.7 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **16.4 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **9.1 liter(s)**
- Total mash volume **12.2 liter(s)**

Steps

- Temp **38 C**, Time **20 min**
- Temp **50 C**, Time **15 min**
- Temp **63 C**, Time **50 min**
- Temp **72 C**, Time **20 min**
- Temp **78 C**, Time **5 min**

Mash step by step

- Heat up **9.1 liter(s)** of strike water to **41C**
- Add grains
- Keep mash **20 min** at **38C**
- Keep mash **15 min** at **50C**
- Keep mash **50 min** at **63C**
- Keep mash **20 min** at **72C**
- Keep mash **5 min** at **78C**
- Sparge using **10.4 liter(s)** of **76C** water or to achieve **16.4 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	2.5 kg (82%)	82 %	4
Grain	Weyermann - Carapils	0.3 kg (9.8%)	78 %	4
Grain	Viking Munich Malt	0.2 kg (6.6%)	78 %	18
Grain	Melanoiden Malt	0.05 kg (1.6%)	80 %	39

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Hersbrucker	30 g	60 min	3 %
Aroma (end of boil)	Hersbrucker	20 g	5 min	3 %

Yeasts

Name	Type	Form	Amount	Laboratory
Saflager W 34/70	Lager	Dry	11.5 g	Fermentis

Notes

Recipe has been printed via **BREWNES.com** - a complex online solution for homebrewers to track brewing process easily.

- woda:
miękką wodą z dodatkiem kilku gram CaCl_2
woda średnio zmineralizowana:
Wapń - 50-70ppm
Dwuwęglany - niskie, ok. 50 ppm lub mniej
Chlorki powinny dominować nad siarczanami
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