

Alt

- Gravity **12.4 BLG**
- ABV **5 %**
- IBU **36**
- SRM **12.4**
- Style **Düsseldorf Altbier**

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 **10 %/h**
- Boil size **25.3 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **14.9 liter(s)**
- Total mash volume **19.8 liter(s)**

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Viking Pilsner malt	3 kg (60.6%)	82 %	4
Grain	Viking Munich Malt Type 1	1.5 kg (30.3%)	78 %	14
Grain	Viking Malt Carmel 150	0.4 kg (8.1%)	75 %	140
Grain	Viking Black Malt	0.05 kg (1%)	65 %	1300

Hops

Use for	Name	Amount	Time	Alpha acid
Boil	Tradition	50 g	60 min	5.5 %
Boil	Tradition	20 g	15 min	5.5 %
Aroma (end of boil)	Tradition	1.5 g	0 min	5.5 %

Yeasts

Name	Type	Form	Amount	Laboratory
Danstar - Nottingham	Ale	Dry	11 g	Danstar