

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 |