

## Full Aroma Hops

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- Gravity **12.6 BLG**
- ABV **5.1 %**
- IBU **65**
- SRM **4.1**

### Batch size

- Expected quantity of finished beer **28 liter(s)**
- Trub loss **5 %**
- Size with trub loss **29.4 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **35.4 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **21 liter(s)**
- Total mash volume **28 liter(s)**

### Steps

- Temp **40 C**, Time **0 min**
- Temp **61 C**, Time **10 min**
- Temp **71 C**, Time **45 min**
- Temp **76 C**, Time **10 min**

### Mash step by step

- Heat up **21 liter(s)** of strike water to **43.3C**
- Add grains
- Keep mash **0 min** at **40C**
- Keep mash **10 min** at **61C**
- Keep mash **45 min** at **71C**
- Keep mash **10 min** at **76C**
- Sparge using **21.4 liter(s)** of **76C** water or to achieve **35.4 liter(s)** of wort

### Fermentables

| Type  | Name                 | Amount      | Yield | EBC |
|-------|----------------------|-------------|-------|-----|
| Grain | Viking Pale Ale malt | 7 kg (100%) | 80 %  | 5   |

### Hops

| Use for             | Name              | Amount | Time      | Alpha acid |
|---------------------|-------------------|--------|-----------|------------|
| Boil                | Magnum            | 40 g   | 90 min    | 13.5 %     |
| Boil                | Lublin (Lubelski) | 60 g   | 45 min    | 4 %        |
| Aroma (end of boil) | Lublin (Lubelski) | 20 g   | 10 min    | 4 %        |
| Dry Hop             | Lublin (Lubelski) | 20 g   | 10 day(s) | 4 %        |

### Yeasts

| Name        | Type | Form | Amount | Laboratory |
|-------------|------|------|--------|------------|
| Safale S-04 | Ale  | Dry  | 11.5 g | Safale     |