

## QAPA pl #2

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- Gravity **9.5 BLG**
- ABV **3.7 %**
- IBU **58**
- SRM **6.4**
- Style **American Pale Ale**

### Batch size

- Expected quantity of finished beer **12 liter(s)**
- Trub loss **1 %**
- Size with trub loss **12.5 liter(s)**
- Boil time **45 min**
- Evaporation rate **12 %/h**
- Boil size **15.6 liter(s)**

### Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **3 liter(s) / kg**
- Mash size **7.2 liter(s)**
- Total mash volume **9.6 liter(s)**

### Steps

- Temp **66 C**, Time **75 min**
- Temp **75 C**, Time **10 min**

### Mash step by step

- Heat up **7.2 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **75 min** at **66C**
- Keep mash **10 min** at **75C**
- Sparge using **10.8 liter(s)** of **76C** water or to achieve **15.6 liter(s)** of wort

### Fermentables

| Type  | Name                   | Amount         | Yield  | EBC |
|-------|------------------------|----------------|--------|-----|
| Grain | Viking Pale Ale Malt   | 2.2 kg (91.7%) | 80 %   | 15  |
| Grain | Acidulated (Weyermann) | 0.2 kg (8.3%)  | 65.2 % | 8   |

### Hops

| Use for | Name                  | Amount | Time   | Alpha acid |
|---------|-----------------------|--------|--------|------------|
| Boil    | Pulawski              | 15 g   | 30 min | 7.5 %      |
| Boil    | Zula                  | 15 g   | 30 min | 7 %        |
| Boil    | Hallertauer Tradition | 10 g   | 15 min | 3.8 %      |
| Boil    | Pulawski              | 10 g   | 15 min | 7.5 %      |
| Boil    | Zula                  | 10 g   | 15 min | 7 %        |
| Boil    | Hallertauer Tradition | 10 g   | 5 min  | 3.8 %      |
| Boil    | Pulawski              | 10 g   | 5 min  | 7.5 %      |
| Boil    | Zula                  | 10 g   | 5 min  | 7 %        |
| Boil    | Hallertauer Tradition | 10 g   | 0 min  | 3.8 %      |
| Boil    | Pulawski              | 10 g   | 0 min  | 7.5 %      |
| Boil    | Zula                  | 10 g   | 0 min  | 7 %        |

### Yeasts

| Name            | Type | Form   | Amount | Laboratory       |
|-----------------|------|--------|--------|------------------|
| FM53 Voss Kveik | Ale  | Liquid | 50 ml  | Fermentum Mobile |

### Extras

| Type        | Name                     | Amount | Use for | Time   |
|-------------|--------------------------|--------|---------|--------|
| Water Agent | Gips (Calcium Sulfate)   | 4 g    | Mash    | 60 min |
| Water Agent | Siarczan Magnezu (MgSO4) | 4 g    | Mash    | 60 min |
| Water Agent | Chlorek Wapnia           | 2.87 g | Mash    | 60 min |
| Water Agent | Phosphoric Acid 85%      | 1.27 g | Mash    | 60 min |
| Water Agent | Sól                      | 1.24 g | Mash    | 60 min |