

# Whirlpool

- Gravity **13.1 BLG**
- ABV ---
- IBU **24**
- SRM **5.6**
- Style **American Pale Ale**

## 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 **15.9 liter(s)**
- Total mash volume **21.2 liter(s)**

## Steps

- Temp **66 C**, Time **60 min**

## Mash step by step

- Heat up **15.9 liter(s)** of strike water to **73.7C**
- Add grains
- Keep mash **60 min** at **66C**
- Sparge using **14.7 liter(s)** of **76C** water or to achieve **25.3 liter(s)** of wort

## Fermentables

| Type  | Name                 | Amount        | Yield | EBC |
|-------|----------------------|---------------|-------|-----|
| Grain | Viking Pale Ale malt | 5 kg (94.3%)  | 80 %  | 5   |
| Grain | Karmelowy Czerwony   | 0.3 kg (5.7%) | 75 %  | 59  |

## Hops

| Use for   | Name       | Amount | Time   | Alpha acid |
|-----------|------------|--------|--------|------------|
| Boil      | Mosaic     | 15 g   | 60 min | 10 %       |
| Boil      | Centennial | 10 g   | 10 min | 10.5 %     |
| Boil      | Amarillo   | 10 g   | 10 min | 9.5 %      |
| Whirlpool | Citra      | 20 g   | 0 min  | 12 %       |
| Whirlpool | Amarillo   | 20 g   | 0 min  | 9.5 %      |
| Whirlpool | Centennial | 20 g   | 0 min  | 10.5 %     |

## Yeasts

| Name                              | Type | Form | Amount | Laboratory      |
|-----------------------------------|------|------|--------|-----------------|
| Mangrove Jack's M44 US West Coast | Ale  | Dry  | 10 g   | Mangrove Jack's |