



May all your fermentations be Great Fermentations!

Physical Amber Ale – Our clone of BrewDog's The Physics Amber!

An amber ale with a pronounced grapefruit citrus hop character! Physical Amber Ale is our clone of BrewDog's The Physics amber. This is a beer with a beautiful color and wonderful toasted sweetness that is balanced by a healthy dose of Amarillo hops. Some might call this an ESB, we call it delicious!

BEER SPECS

Original Gravity: 1.051–1.053

Final Gravity: 1.011–1.013

IBU: 47-52

ABV%: 5.0% - 5.5%

Yield: 5 Gallons

NOT INCLUDED IN KIT

Irish Moss (*for clarity, optional*)

Yeast

Bottle Caps (*53 caps needed*)

Priming Sugar (*5oz or 3/4 cup*)

USEFUL INFORMATION

Wort = unfermented beer

First wort hops = hops added before bringing wort to a boil

Rack = to transfer from one vessel to another

Pitch = to add yeast to the fermenter

OG = Original Gravity: Specific Gravity Before Fermentation

FG = Final Gravity: Specific Gravity After Fermentation

ABV = Alcohol by Volume

ABW = Alcohol by Weight

IBU = International Bittering Units

Alcohol by Volume Equation:

$$\%ABW = (OG-FG) \times 105$$

$$\%ABV = ABW \times 1.25$$

RECIPE DETAILS

6.0 lbs. Light dried malt extract

FERMENTABLES

0.7 lb. Crystal 10L Malt

0.5 lbs. Crystal 120L Malt

0.3 lb. Simpson's Dark Crystal Malt

SPECIALTY GRAINS

1.0 oz. Amarillo hops, added at the beginning of the 60 minute boil

0.5 oz. Amarillo hops, added 30 min from the end of the boil

1.0 tsp. Irish moss (*optional*), added 20 min from the end of the boil

2.0 oz. Amarillo hops, added 5 min from the end of the boil

0.5 oz. East Kent Golding hops, added 5 min from the end of the boil

BOIL SCHEDULE

YEAST SUGGESTIONS: Wyeast #1056 American Ale, White Labs WLP001 California Ale, Imperial Organic Yeast A07 Flagship, or Safale S-05 Dry Yeast.

EQUIPMENT

REQUIRED EQUIPMENT

- 3 gal or larger Brew Pot
- 6.5 gal Primary Fermenter
- Siphon Hose/Racking Cane
- Large Spoon or Paddle
- Air Lock
- Hydrometer
- Thermometer
- Cleanser
- Sanitizer
- Bottles or Kegging System

RECOMMENDED EQUIPMENT

- 7.5 gal Brew Pot
- Wort Chiller
- 5 gal Secondary Fermenter
- Thief
- Oxygen Cylinder
- Aeration Stone
- Auto Siphon



Brewing Instructions: Physical Amber

PRIOR TO BREWING

1. **Clean and Sanitize** all equipment, tubing, etc.
2. If using White Labs liquid yeast, remove package(s) from fridge and let warm for 4-8 hours at room temperature. If using a Wyeast Activator pack, remove package(s) from fridge, 'smack' the pack to release the nutrients and allow the pack to swell for 4-8 hours at room temperature. If making a starter, prepare it 1 to 3 days before pitching.

BREWING DAY

1. Fill kettle with water and heat to 160F.
 - Partial boil method: fill kettle with as much water as possible while leaving room for grains, malt extract, and boil volume.
 - Full boil method: fill kettle to approximately 6.5 gal water for a volume of 5 gal post-boil.
2. Rehydrate Irish moss in 1/2 cup warm water. Set aside (*optional, for clarity*).
3. Turn off burner (remove kettle from heating element if using an electric stove). Place crushed specialty grains in a muslin bag and soak in **150-155F water for 30 minutes**. Remove bag, and allow remaining water in grains to drain into kettle. Do not squeeze the grains.
4. While stirring, add malt extracts until fully dissolved.
5. Turn the heat on and bring wort to a boil. **WATCH OUT!** Just before the boil, the wort rapidly rises.
6. Follow **Boil Schedule** on opposite page under 'Recipe Details'
7. At end of boil, chill wort as quickly as possible to **60-70F** with a wort chiller or an ice bath. Place lid on kettle while chilling.
8. Siphon or pour cooled wort into fermenter leaving as much sediment behind as possible:
 - Partial Boil: Add sterile water (packaged drinking water) to fermenter to reach 5.25 gal
 - Full Boil: Siphon entire volume of wort into fermenter.
9. **Aerate wort** well by stirring, shaking or oxygenating.
10. Sanitize yeast package and use sanitized scissors to open package. Pitch yeast and attach airlock. If using a yeast starter, pitch entire contents of yeast starter into wort.
11. Move fermenter to a dark place with a steady temperature of **64-72F**.

FERMENTATION

1. Primary Fermentation: Allow beer to ferment for 7-14 days, then proceed to STEP 2 or 3.
2. Secondary Fermentation (*optional*): Transfer beer to a 5 gal carboy, leaving behind the sediment and allow it to remain in secondary for one week, then proceed to STEP 3.
3. Check gravity prior to proceeding with bottling to ensure fermentation is complete. (Reference *Final Gravity* under 'Recipe Details')

BOTTLING

1. Ensure there is no bubbling in the airlock, and that your beer has reached final gravity.
2. **Clean and sanitize** all bottles, caps, bottling equipment and bottling bucket.
3. Dissolve **3/4 cup (5 oz) priming sugar** in 2 cups boiling water. Boil for 5 min then chill to 70-80F and add to bottling bucket.
4. Siphon beer from fermenter into bottling bucket, being careful not to rouse up sediment on bottom of fermenter.
5. Stir thoroughly but gently to avoid introducing oxygen.
6. Using the bottle filler, fill bottles and cap them.
7. Store bottles at room temperature for **2 weeks** or until carbonated

TIPS FOR SUCCESS

1. Clean AND Sanitize!
2. Avoid using softened water or Reverse Osmosis water.
3. Make sure the specialty grains are loose inside the muslin bag to ensure water reaches the grain in the middle of the bag.
4. Tie muslin bag to handle of kettle to prevent potential scorching on bottom of kettle.
5. Be sure not to exceed 155F while steeping grains to avoid unwanted flavors.
6. Turn off heat source and stir well while adding malt extract to avoid scorching on the bottom of the kettle.
7. Keep a spray bottle of water at hand to spray top of wort if it nears a boil over.
8. While racking, be sure not to introduce oxygen into your beer by splashing or shaking.
9. Maintain a constant temperature during fermentation.
10. Elevate carboy a few days before racking to allow sediment to settle.
11. Visit www.greatfermentations.com for more brewing tips and tricks.

