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Human Robot - Polotmavy 12° - 5.3%

Czech Amber Lager
Author: Andrew Foss / Craft Beer & Brewing

Type: All Grain

IBU	: 29 (Tinseth)
BU/GU	: 0.59
Colour	: 32 EBC
Carbonation	: 2.4 CO2-vol
Pre-Boil Gravity	: 1.035
Original Gravity	: 1.049
Final Gravity	: 1.009

Fermentables (1.3 kg)
975 g - Floor-Malted Bohemian Dark Malt 16 EB...
296 g - Munich Malt 17.7 EBC (22.8%)
25 g - Carafa Special III 1400 EBC (1.9%)
^ Brouwmaatje (NL) 051.220.2

Hops (18.1 g)
First Wort 75 - 2.4 g - Saaz - 3.6% (5 IBU)
^ Lot # T9020044SAA
^ Brouwmaatje (NL) BM-HUM.420000 Humlegarden...
60 min - 2.4 g - Magnum - 10.7% (13 IBU)
^ The Malt Miller (UK) HOP-06-009
15 min - 13.3 g - Saaz - 3.6% (11 IBU)
^ Lot # T9020044SAA
^ Brouwmaatje (NL) BM-HUM.420000 Humlegarden...

Miscellaneous
Mash - 2.43 g - Calcium Chloride (CaCl2) 33 %...
^ Lot # 115038
^ Brouwstore (NL) 055.035.0
Mash - 0.77 g - Gypsum (CaSO4)
^ The Malt Miller (UK) CHE-03-004

Yeast
0.7 pkg - Fermentis Saflager Lager W-34/70
^ The Malt Miller (UK) YEA-02-032

01 Brouwpunt 5L (75min) (rev 4)

Batch Size	: 5.6 L
Boil Size	: 8.21 L
Post-Boil Vol	: 5.96 L
Mash Water	: 3.89 L
Sparge Water	: 5.68 L
Boil Time	: 75 min
Total Water	: 9.57 L


32 EBC

Brewhouse Efficiency: 71.8%
Mash Efficiency: 73.3%

Mash Profile
01 One Step Mash (60 min)
65.3 °C - Strike Temp
60 °C - 20 min - Temperature
70 °C - 15 min - Decoction
72 °C - 15 min - Decoction

Fermentation Profile
20 Lager (Standard)
10.5 °C - 7 days - Primary
5 °C - 21 days - Primary
0 °C - 3 days - Primary

Water Profile
02 NL Spa Reine Flat Mineral Water (www.ah.nl...
Ca 54 Mg 2 Na 3 Cl 59 SO 49 HCO 17

SO/Cl ratio: 0.8
Mash pH: 5.32
Sparge pH: 6

Measurements

Mash pH:

Boil Volume:

Pre-Boil Gravity:

Post-Boil Kettle Volume:

Original Gravity:

Fermenter Top-Up:

Fermenter Volume:

Final Gravity:

Bottling Volume:

Recipe Notes

Target: ABV = 5 %, IBU = 25, OG = 1.051, FG = 1.012.

DIRECTIONS FROM THE ORIGINAL RECIPE
Alternative yeast: Imperial L13 Global, or similar.

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Recipe Notes

Mill the grains and mash at 140°F (60°C) for 20 minutes.
Pull half the mash volume to a preheated kettle for a decoction: Raise to 158°F (70°C), hold there 15 minutes, then bring it to a boil for 20 minutes.
Fold one-quarter to one-half of the decocted portion back into the main mash, targeting a mash temperature of 154–162°F (68–72°C); avoid stirring vigorously.
Meanwhile, continue boiling the rest of the decocted portion for another 20 minutes, then fold that portion back into the main mash, targeting a temperature of 169–172°F (76–78°C).
(If you reach that temperature before all the mash is combined, don’t worry—just allow the rest of the decoction to cool a few minutes, then add it to the top, trying not to disturb the mash below.)
Recirculate until the runnings are clear, then run off into the kettle with the first-wort hops.
Sparge and top up as necessary to get about 6 gallons (23 liters) of wort, depending on your evaporation rate.
Boil for 75 minutes, adding the remaining hops according to the schedule.
After the boil, chill to about 43°F (6°C), aerate the wort, and pitch the yeast.
Ferment at 43°F (6°C), allowing a rise to 48–51°F (9–10.5°C) as fermentation peaks.
If you have a spunding valve, attach it and set to 12–13 psi, conditioning at 39–41°F (4–5°C) for about 3 weeks—by that point, the beer should be fully carbonated and free of diacetyl.
Crash to 32°F (0°C) for a few days and transfer to a purged keg for serving.

BREWER’S NOTES
Base malt: We typically use Raven Pilsen, but we’ve also had great results with Weyermann and Sekado. In place of the Munich, we’ve also used Weyermann Floor-Malted Bohemian Dark.

Roast malt: In lieu of the Carafa III, you could use any dark, roasted grain to dial in your color. Note that milling dramatically affects the color; it’s a good idea to have a little extra on hand. If the beer seems too pale at vorlauf, add a few more ounces to darken.

Decoction: A 3:1 water-grain ratio is a good place to start.
Target a mash pH of 5.2–5.4; we use lactic acid to adjust.
If you need to use American or German pils malt instead of floor-malted, shorten the first mash rest to 10 minutes.
If the beer comes out too dry, play with the mash schedule before resorting to caramel/crystal malts. Modern malt—even floor-malted—is very well modified, and your tools to control attenuation are time and temperature.