Black Hole (American FES)

- Gravity **16.4 BLG**
- ABV **6.9 %**
- IBU **---**
- SRM **39.1**
- Style **American Stout**

Batch size

- Expected quantity of finished beer **20 liter(s)**
- Trub loss **5 %**
- Size with trub loss **23 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **27.5 liter(s)**

Mash information

- Mash efficiency **75 %**
- Liquor-to-grist ratio **2.5 liter(s) / kg**
- Mash size **18 liter(s)**
- Total mash volume **25.2 liter(s)**

Steps

- Temp **65 C**, Time **70 min**
- Temp **78 C**, Time **0 min**

Mash step by step

- Heat up **18 liter(s)** of strike water to **74C**
- Add grains
- Keep mash **70 min** at **65C**
- Keep mash **0 min** at **78C**
- Sparge using **16.7 liter(s)** of **76C** water or to achieve **27.5 liter(s)** of wort

Fermentables

Type	Name	Amount	Yield	EBC
Grain	Słód pilzneński	3 kg *(41.7%)*	80 %	4
Grain	Maris Otter - Pale Ale Low Colour	1 kg *(13.9%)*	85 %	6
Grain	Płatki owsiane	1 kg *(13.9%)*	85 %	3
Grain	Słód Caraaorma	0.3 kg *(4.2%)*	80 %	350
Grain	Castle Malting - Jęczmień palony	0.35 kg *(4.9%)*	55 %	985
Grain	Słód Carahell	0.2 kg *(2.8%)*	75 %	25
Grain	Słod czekoladowy	0.32 kg *(4.4%)*	78 %	1000
Grain	Słód kawowy	0.31 kg *(4.3%)*	80 %	250
Grain	Słód żytni	0.3 kg *(4.2%)*	80 %	7
Grain	Słód Caramel Pils	0.12 kg *(1.7%)*	80 %	5
Grain	Słód pszeniczny Crystal	0.3 kg *(4.2%)*	80 %	160

Recipe has been printed via **BREWNESS.com** - a complex online solution for homebrewers to track brewing process easily.