

# Sizing A Microbrewery – How Big to Start?



When sizing a microbrewery, you need to account for future expansion. Many breweries start out with single size fermenters. Then as they expand opt for double size Fermenters. Double size fermenters mean you can put two brews in one fermenter.

However, when expanding you can add triple and even quadruple brew capacity fermenters. Expansion plans are usually tied to labour and available space. If you have an appropriately sized brewery you should be able to get 5-10 years out of the kit.

## Sizing a Microbrewery Example

Let's Start with a brewery making 4500 HL of beer a year (1 HL is 100 litres).

4500 HL	75% Ales (3,375 HL) and 25% Lagers (1,125 HL)
We brew 50 weeks a year	14 days ale / 28 days lagers with full fermentation in fermenters
Ales	25 cycles/fermenter/year (50 brewing weeks/2-week fermentation)
Lagers	12.5 cycles/fermenter/year (50 brewing weeks/4-week ferment)

**Please note:** in this example the brewery is making 4 types of beer.

## How to Calculate the Size and Number of Fermenters Needed

25 HL System	$5000 \text{ HL/year} / 25\text{HL system} / 50 \text{ brewing weeks year} = 3.6 \text{ brews a week}$
30 HL System	$5000 \text{ HL/year} / 30\text{HL system} / 50 \text{ brewing weeks year} = 3 \text{ brews a week}$
40 HL System	$5000 \text{ HL/year} / 40\text{HL system} / 50 \text{ brewing weeks year} = 2.25 \text{ brews a week}$
45HL System	$5000 \text{ HL/year} / 45\text{HL system} / 50 \text{ brewing weeks year} = 2 \text{ brews a week}$
50 HL System	$5000 \text{ HL/year} / 50\text{HL system} / 50 \text{ brewing weeks year} = 1.8 \text{ brews a week}$
60 HL System	$5000 \text{ HL/year} / 60\text{HL system} / 50 \text{ brewing weeks year} = 1.5 \text{ brews a week}$

**Please note:** you need to look at the amount of labour when sizing a brewery. A good sizing for your initial brewery would mean brewing 2-3 times a week. If you're brewing more than 3 times a week then the brewery is undersized.

If you are brewing less then once a week then the brewery is oversized for the beginning. Looking at the example above the 40, 45HL or 50HL system would be ideal with the 50HL system being preferred if future sales are anticipated to be over 5000HL.

## Calculating How Many Fermenters You Need

Projected	3,375HL for lager and 1,125HL for ales
Ales	3,375 HL/year / 25 cycles/year = 135HL fermentation capacity
Lagers	1,125 HL/year / 12.5 cycles/year = 90HL fermentation capacity
<b>Total</b>	<b>225 HL FV capacity needed</b>

For a 30HL system 8 x 30HL fermenters are required

For a 40HL system 6 x 40HL fermenters are required

For a 45HL 5 x 45HL fermenters required

For a 50HL system 5 x 50HL fermenters are required

For a 60HL system 4 x 60HL fermenters are required

**Please note:** The use of double or triple sized fermenters and conditioning/lagering tanks would reduce the numbers of fermenters needed to meet annual production.

### System Recommendation:

**A 45HL system with 5 x 45HL Fermenters and 1 x 45HL Bright Tank** would comfortably allow for future expansion.

Factors that influence selecting size of system are:

- Good utilization of man power
- Utilization of floor space
- Better priced/ more economical (e.g. fewer fermenters) allowing expansion capabilities

## Wrap-up

I hope this guide was helpful example in assisting you size your own brewery. If you need more advice or assistance with your brewery set-up then please feel free to contact me at:

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Have a great day!

