

Calculation of Annual Production

System Size (Brewhouse Size) x Number of brews per week x 50 weeks per year = Annual Production

Example :10 Barrels (bbls) x 3 brews/week x 50 weeks/year = 1500 bbls/year

Calculation of No. of Fermenters Required

Desired Annual Production = No. of Fermenters (to meet desired annual production)
(Brewhouse Size x Vessel Cycles/year)

Sizing for a Brewpub – Example

Parameters:

“1000 barrels per year; 75% Ales, 25% Lagers”

50 brewing weeks / year

14 Day Ales / 28 Day 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 fermentation)

6 beers on tap

Calculate system size and number of fermenters

For example

3.5 barrel system 1000 barrels / year / 3.5 barrel system / 50 brewing weeks/year = 5.8 brews per week

7 barrel system 1000 barrels / year / 7 barrel system / 50 brewing weeks/year = 2.9 brews per week

10 barrel system 1000 barrels / year / 10 barrel system / 50 brewing weeks/year = 2 brews per week

15 barrel system 1000 barrels / year / 15 barrel system / 50 brewing weeks/year = 1.3 brews per week

Comment – One must look at the labor component in selecting a system size.

Most properly sized brewpubs brew 2 – 3 times per week in their first couple of years of operation.

“Brewing less than twice a week, the system may have been oversized to start with.”

“Brewing more than 3 times a week, the system may have been initially undersized.”

“For this example, either the 7 or 10 barrel system is recommended.”

Number of fermenters required

Projected: 750 bbls Ales (75%) & 250 bbls Lagers (25%)

For 7 barrel system

Ales —> 750 bbls / year / (7 bbls x 25 cycles/year) = 4.2 = 5 Fermenters

Lagers —> 250 bbls / year / (7 bbls x 12.5 cycles/year) = 2.8 = 3 Fermenters

Total —> 7 – 8 Fermenters to produce 750 bbls Ales and 250 bbls Lagers

For 10 barrel system

Ales —> 750 bbls / year / (10 bbls x 25 cycles/year) = 3 Fermenters

Lagers —> 250 bbls / year / (10 bbls x 12.5 cycles/year) = 2 Fermenters

Total —> 5 Fermenters to produce 750 bbls Ales and 250 bbls Lagers

Number of Serving Vessels ; Equals number of desired beer styles one wishes to serve via tank to tap.

Note number of beer styles may increase through kegging and/or bottling.

System Recommendation : 10 barrel system with 5 x 10 barrel fermenters and 6 x 10 barrel serving tanks.

Selecting the 10 barrel system over the 7 barrel system has the following benefits:

- good utilization of manpower (2 brews per week)
- reduced floor space (5 fermenters vs. 8 fermenter)
- better priced / more economical (fewer fermenters)

- better expansion capabilities
- meets all system requirements

****Note:** Double sized fermenters (and conditioning tanks) may half the number of vessels required to meet annual production.

****Note:** All calculations assume 50 brewing weeks per year**