

# Brewing Sculptures



A technical drawing of a brewing sculpture layout. The drawing shows a grid of components with dimensions. At the top, horizontal dimensions are 500, 600, and 700. On the left, vertical dimensions are 450, 600, 750, and 75. On the right, a vertical dimension of 560 is shown. Labels include 'MARCH PUMP' in a box on the left, '30 PLATE CHILLER' in the center, and 'FERMENTER' in a box on the right. At the bottom, labels are 'MLT', 'HLT - HERMS', 'KETTLE', and 'FERMENTER'. The drawing also features several cylindrical vessels and a dashed line on the left side.

You can build it yourself!

# Commercial Systems

Multi Tier

Tippies

Single Tier





# Version 1.0



# Version 2.0





# Version 2.1



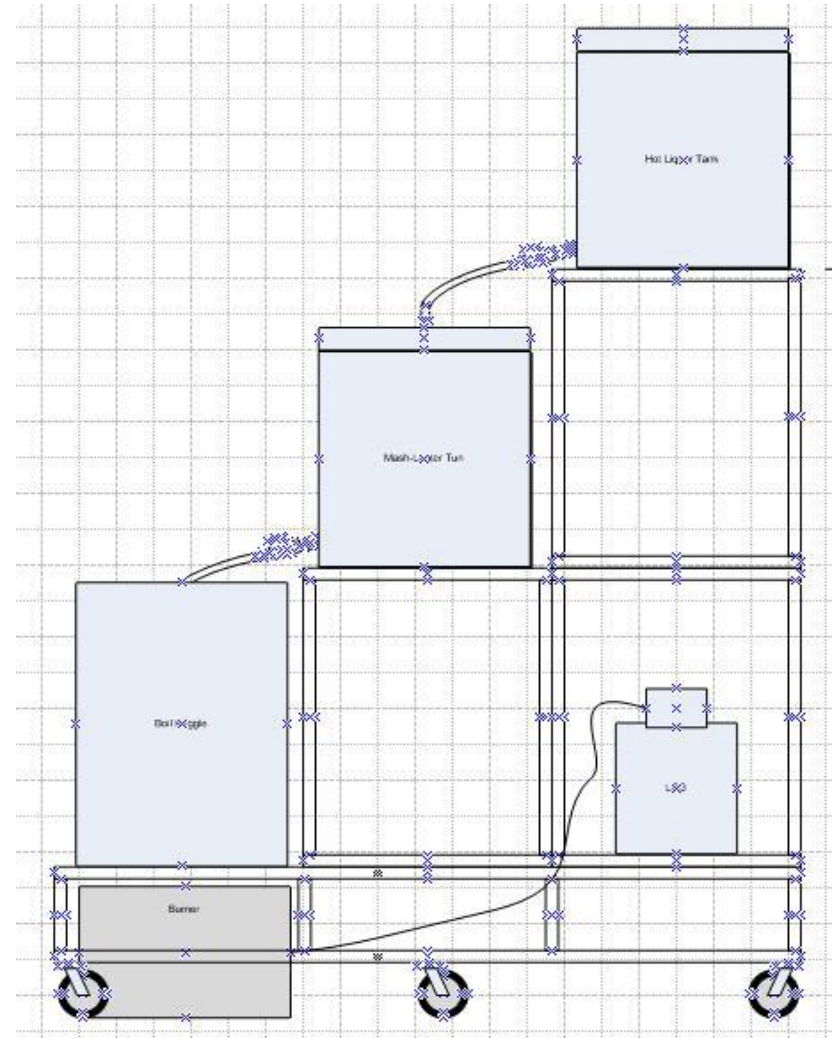
# Version 3.0





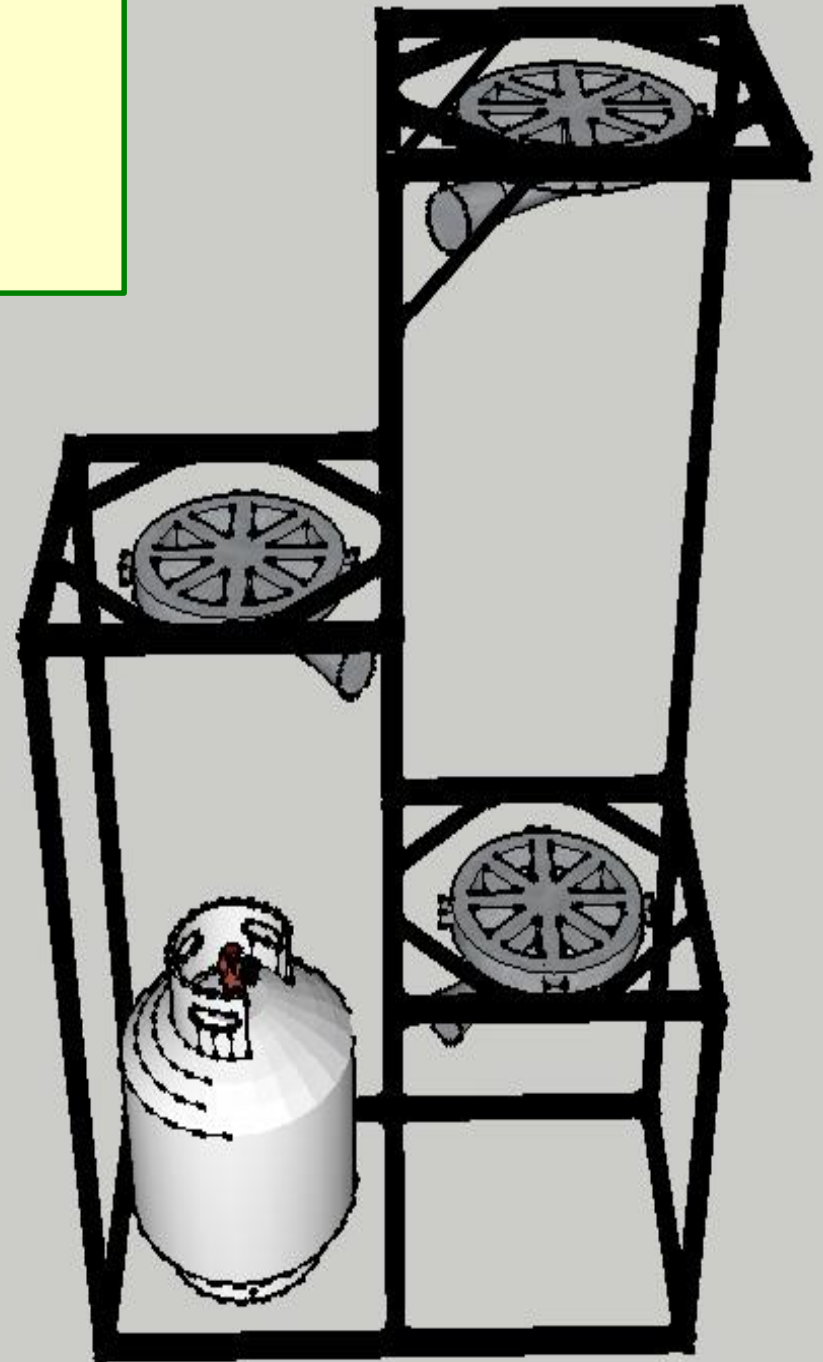
# Planning Stage

- Batch size
- Storage Space
- Mobility
- Versatility
- Growth/Expansion
- Complexity
- Cost



# Five Steps to Your Design

- Research
- Measure
- Sketch
- Review
- Repeat



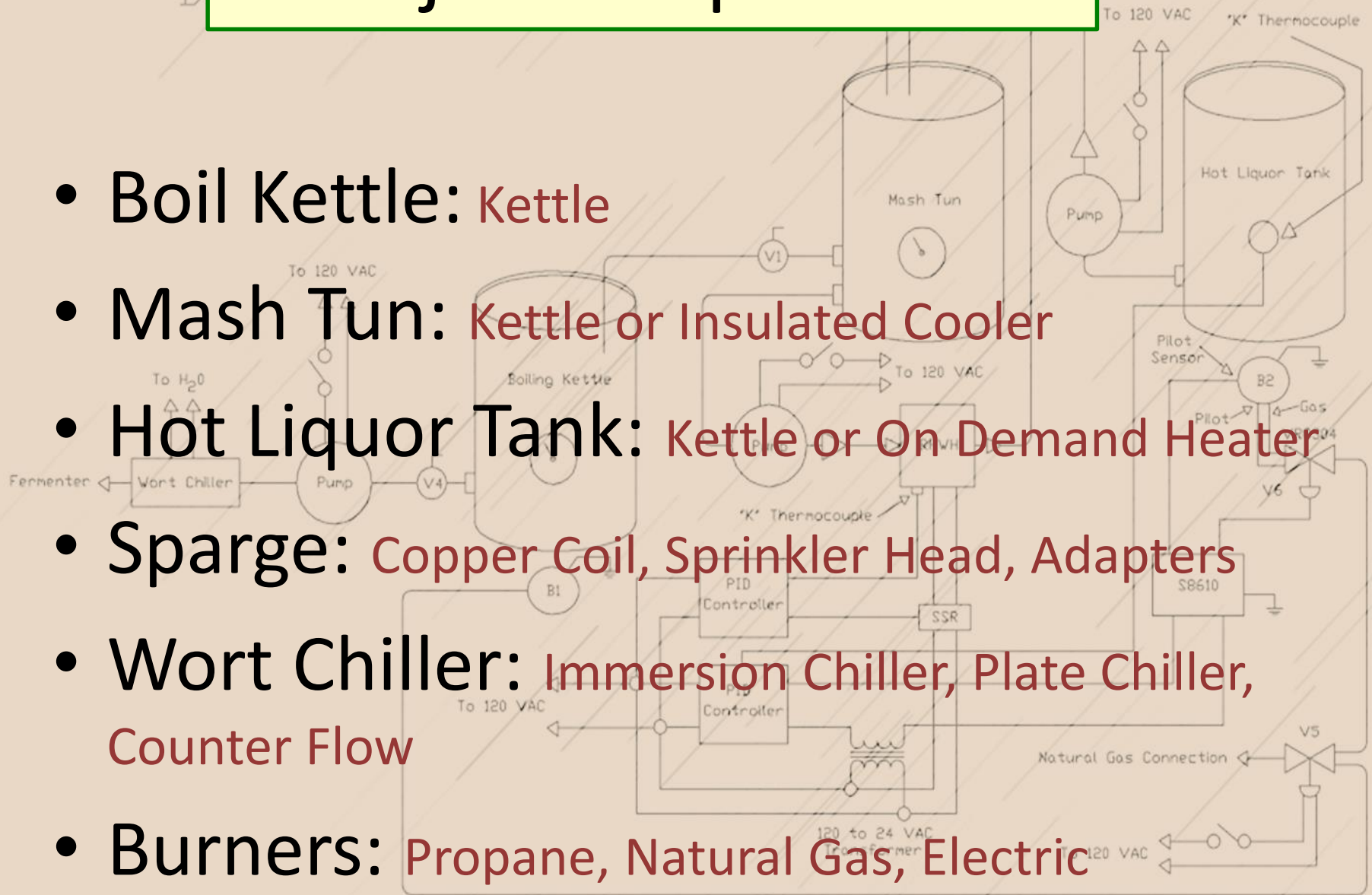


# Construction Materials

|                               | Wood                                      | Steel                                                            | Aluminum                                                      | Stainless Steel                                                              |
|-------------------------------|-------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------|
| WEIGHT/<br>STRENGTH           | MEDIUM/<br>LOW                            | MEDIUM/<br>MEDIUM                                                | LOW/HIGH                                                      | HIGH/HIGH                                                                    |
| DURABILITY                    | LOW                                       | MEDIUM                                                           | HIGH                                                          | HIGH                                                                         |
| CLEANLINESS                   | LOW                                       | MEDIUM                                                           | MEDIUM                                                        | HIGH                                                                         |
| SKILLS &<br>TOOLS<br>REQUIRED | Basic<br>Carpentry<br>Skills and<br>Tools | Basic Welding Skills<br>(MIG), welder,<br>grinder, cutting tools | Advanced Welding<br>Skills (TIG), or<br>bolted, cutting tools | Advanced Welding<br>Skills (TIG), Argon<br>welder, grinder,<br>cutting tools |
| EASE OF<br>BUILD              | SIMPLE                                    | MEDIUM                                                           | MEDIUM                                                        | DIFFICULT                                                                    |
| COST                          | \$                                        | \$\$                                                             | \$\$\$                                                        | \$\$\$\$                                                                     |
| NOTES                         | Can catch<br>fire, Rots<br>over time      | Adaptable, can be<br>painted or powder<br>coated                 | Adaptable, can be<br>painted, polished or<br>anodized         | Difficult to “Modify”                                                        |
| MOBILITY                      | LOW                                       | HIGH                                                             | HIGH                                                          | MEDIUM                                                                       |

# Major Components

- Boil Kettle: Kettle
- Mash Tun: Kettle or Insulated Cooler
- Hot Liquor Tank: Kettle or On Demand Heater
- Sparge: Copper Coil, Sprinkler Head, Adapters
- Wort Chiller: Immersion Chiller, Plate Chiller, Counter Flow
- Burners: Propane, Natural Gas, Electric





# Additional Components

## Adapters and Fittings

- Tri-clover
- Barbed fittings
- Blichmann
- Camlock

## Electronic Controls

- AC/DC
- Timers
- PLCs
- Switches
- Displays
- Powered Control Valves

## Tubing(Gas)

- Flexible Metal
- Flexible Rubber
- Rigid Stainless

## Tubing (Liquid)

- Heat resistant
- Correct Size

## Ball Valves (liquid)

- Standard Port
- Full Port
- Reduced Port

## Needle Valves (gas)

- Manual
- Electronic Controlled
- Shut off Solenoid

# Boil Kettles (BK)



Commercial



Keggle

## Whirlpool Options



Tangential Inlet



Top Return



# Mash Lautering Tun (MLT)



Insulated Coolers  
or Kettles



# Hot Liquor Tank (HLT)



On Demand Heater



Keggle



Commercial



# Sparge Arm

Commercial or Homemade



# Burners

BG-10



4"  
20 PSI

50,000 BTU  
Bottom Mount

BG-12



6"  
15 PSI

50,000 BTU  
Bottom Mount

BG-14



10"  
30 PSI

155,000 BTU  
Side Mount

Jet Burners



8.5-10.5"     ½" Pipe Mount  
92,000-160,000 BTU

Acme Tank Connectors



Black  
100,000



Green  
200,000  
MAXIMUM BTU



Red  
500,000



# Common Beer Pumps



## Chugger

Cost: ~\$150

Max Flow: 7GPM

Max Temp: 250° F

Pump Head: Stainless Steel



## March

Cost: ~\$150

Max Flow: 7GPM

Max Temp: 250° F

Pump Head: Plastic

SS Head option + \$50

Other models go up to 17GPM and \$ >\$300-  
\$500



# Wort Chillers



**Immersion Chillers**  
Cost: \$50-150  
Effectiveness: Low  
Water Use: High  
(Copper >effective Stainless)



**Plate Chillers**  
Cost: \$100-200  
Effectiveness: Med-High  
Water Use: Medium



**Counterflow Chillers**  
Cost: \$100-\$250  
Effectiveness: High  
Water Use: Low-Med



# RIMS & HERMS



Electric RIMS Module

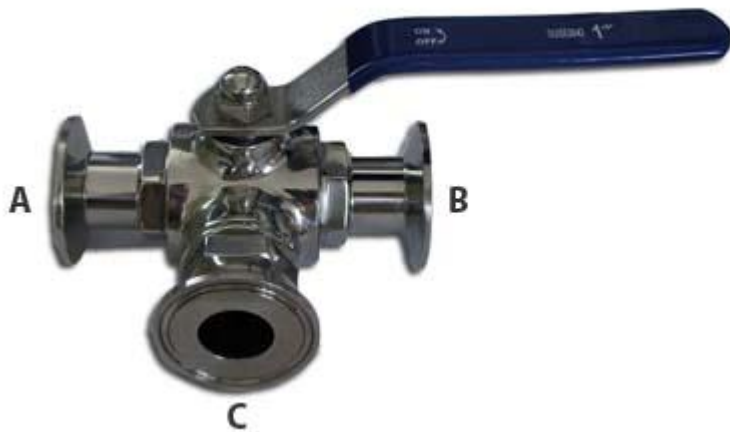
Custom  
HERMS



Dual Purpose HERMS & Chiller



# Valves



# Fittings

Welded



Weldless

BH050-P  
BH050-P-1 1/2"



BH050-CP



BH050-Plain +  
SE050-HB-304



BH050-VL



BH050-EL



BH050-Plain



# Tubing

Vinyl



Norprene



Reinforced Vinyl



Silicone





# Hose Connections

Blichmann Quick Connects



Tri-Clamps



Camlocks

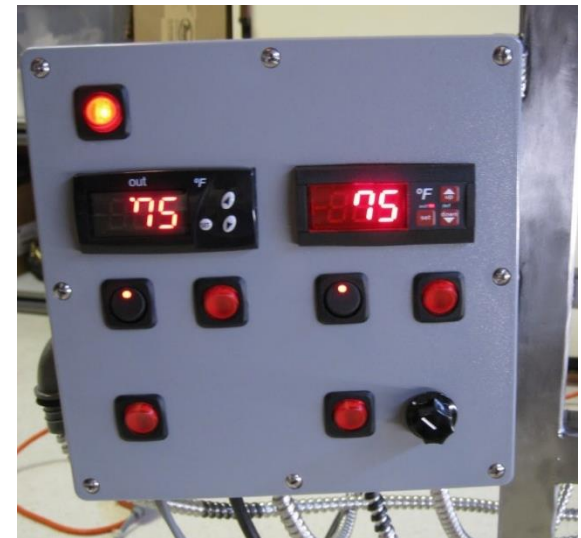
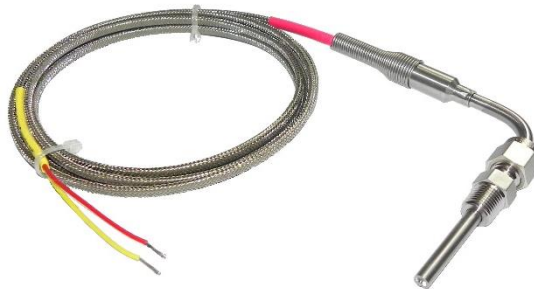


Hose Clamps

Stainless Disconnects



# The Geek Factor





This may  
take awhile!









Brian Haslip

OBC Vice President 2016 & 2017

OBC Member of the Year 2014

Merle Gilmore Award Winner  
(commitment to club)

2013 & 2015



**Oregon's Oldest  
Homebrew Club**  
*Established 1979*

