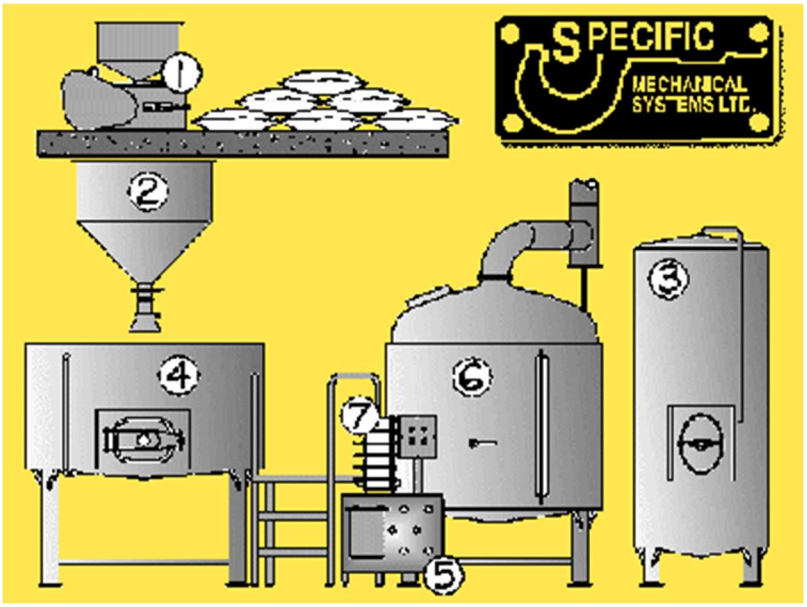
Brewing Process

Brewhouse Process Flow



1. Malt Mill

- The two roller mill crushes the malted barley to the desired coarseness.

2. Hopper

- The hopper is used to hold the entire brew strength of grist (malt after milling)

3. Hot Liquor Tank

- Used to recover energy and heat the water (liquor) needed for recirculation and sparging water onto the grain bed to convert starches to sugar.

4. Mash / Lauter Tun

- Used to combine the grist and hot water. A false screen is then used to extract the clear wort from the malted barley. The spent grains left over can be used for animal feed.

5. Diverter Panel and Transfer Pumps

- Is used to transfer liquid flow from the mash / lauter tun to the kettle and then onto the fermenters. Designed with one person ease of use and cleaning in mind.

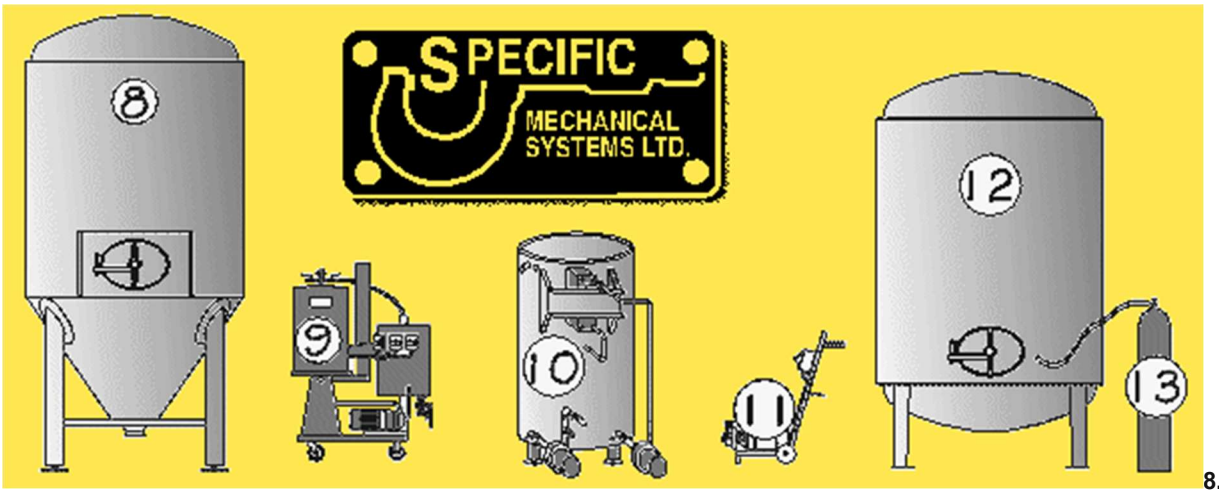
6. Brewkettle / Whirlpool

- The wort is boiled to a desired specific gravity and hops are added for flavor and bitterness. After boiling the wort is whirlpooled to collect soluble proteins (trub) in the center of the kettle. The clear wort is then pumped through the heat exchanger and into the fermenter.

7. Heat Exchanger

- using city water and/or cold propylene glycol as cooling mediums the wort is cooled to an acceptable fermentation temperature, from 10 deg C(50 deg F) to 17 deg C(62.5 deg F), before it goes to the fermenter.

Fermentation/Aging Process Flow



8. Fermentation / Aging Vessel (open, closed or Unitank style)

- The wort is pumped into this vessel and added to the previously pitched yeast and allowed to ferment (typically 3 to 7 days). The fermentation tank can be used as an aging tank or the beer can be transfered to a separate vessel for the aging period (typically 10 to 20 days).

9. Filter (DE or Plate & Frame)

- Used to filter all of the left over yeast and sediment from the beer on its way to the serving / bright beer vessel. This extends shelf life and provides a clearer product. Beer does not always have to be filtered.

10. Glycol Reservoir / Cooler

- Cold glycol is pumped from here to each cooled vessel to maintain and control beer temperatures. The glycol can also be used to cool the wort in the heat exchanger.

11. Transfer Pump

- Is used to pump the beer from the fermenter to the serving / bright beer vessels. And also for pumping of cleaning solution (caustic soda).

12. Serving / Bright Beer Vessel

- CO2 is added to the beer through a carbonating stone to adjust the CO2 levels to the style of beer in the vessel. From this vessel the beer can be kegged, bottled or served via draft lines.

13. CO2 Tank

- This adds head to the beer and also maintains head pressure on the tank while kegging, bottling or serving to a draft line.