

Connect a cold water line to the bottom of the condenser. Connect the top of the condenser (the outlet) to the inlet of vacuum line on the still. Connect a drain tube to the outlet of the vacuum line and place the other end of the tube in the sink.

#### Degas the distilled water

- Open the inlet valve to the *outer* chamber and fill  $\frac{3}{4}$  with distilled water – **BE SURE THE HEATING COIL IS SUBMERGED**
- Place a 150mL Erlenmeyer flask under the end of the condenser
- Plug the heater into the Variac (variable power supply) and set to 85V and switch on the Variac
- Heat the water for 5 minutes to boil off CO<sub>2</sub> in the water
- Switch off the Variac
- Empty the contents of the Erlenmeyer flask

#### Distilling the Wine – Red or White

- Open the inlet valve to the *inner* chamber
- Turn on the water to the vacuum and rinse the inner chamber with distilled water
- Turn off the water to the vacuum and close the vacuum valve
- Pipette 10mL of wine into the inner chamber
- Using a 10 mL graduated, add 5ml of 3% H<sub>2</sub>O<sub>2</sub> to the inner chamber
- Close the inlet valve to the *inner and outer* chambers
- Place a 150mL Erlenmeyer flask under the end of the condenser
- Turn on the variable power supply and to 85V
- Distill the wine until 100ml of solution is collected in the Erlenmeyer flask at the end of the condenser
- After the 100mL has been collected, turn OFF the variable power supply
- Turn on the water to the vacuum and rinse the inner chamber with distilled water
- Turn off the water to the vacuum and close the vacuum valve
- There **should be enough** distilled water to distill one more sample

**\*\*\*DO NOT ALLOW THE WATER LEVEL in the STILL to get at or BELOW the HEATING COIL\*\*\***

#### Quantifying the VA with 0.01M NaOH

- Place two drops of phenolphthalein in the flask that contains the distillate
- Titrate the contents of the flask with 0.01M NaOH solution and record the initial and final volumes of NaOH used
- Use the following equation to calculate the amount of VA in the wine:

$$\text{VA(g/100mL)} = \text{mL NaOH} \times 0.06$$

Name \_\_\_\_\_

VA by Cash Still

Trial	Initial V	Final V	Total mL	VA
1 <sub>white</sub>				
2 <sub>white</sub>				
1 <sub>red</sub>				
2 <sub>red</sub>				

Each student – Using Google Docs to create and share with me a spreadsheet titled, CHM130VV-VA your FULL NAME. Use the spreadsheet to carry out all calculations. Do not simply type the numbers into the cells.