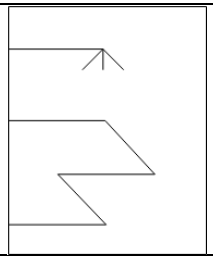
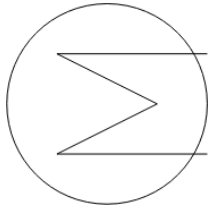
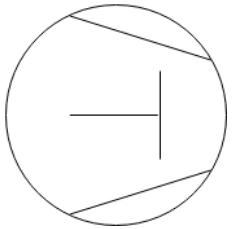
BLUE TASK - Student Instructions: Process Drawing.

1	**Using a sheet of A3 or larger paper (pg12) - Sketch a Pipework and instrument Drawing (P&ID) of an Ammonia plant or grouping as instructed by your trainer.**	
2	**The drawing should include all major components of a refrigeration system.**	This includes but not limited to at least one of each. a) Compressor. b) Condenser. c) Control Valves. d) LP Vessel. e) IP Vessel (May not be applicable for single stage plants) f) Receiver. g) Liquid pump. g) Evaporator.
3	**Instrumentation and controls are not required for this assessment however feel free to add if you please.**	
4	**You may use your own symbols, provided you include a key for reference within your drawing otherwise use the symbols provided to you on page 13**	
5	**All components must be labelled correctly.**	
6	**All phases of the refrigerant cycle must be marked on the drawing (Gas | Liquid)**	
7	**Include all the operational pressures and temperatures on you drawing in metric (SI)**	
8	**Include at least one Discharge and one Suction superheat calculation embedded in your drawing.**	
9	**Include the liquid subcooling calculation after the receiver outlet or "king" valve.**	
10	**Label your Drawing in the bottom left corner with your initials, PID, the date, and the first three letters of your site**	

File name example: PCD-PID-140319-GRM.

If this task is not completed during the course, send as a picture or scan PDF of your drawing to info@ammonia.co.nz label the subject with the above naming convention.

Evaporative Condensor	Vessel	Heat Exchanger	Reciprocating Compressor	Screw Compressor
				

KEY OF SYMBOLS

- ISOLATION VALVE
- REGULATING VALVE
- NON-RETURN VALVE
- STOP / CHECK VALVE
- FILTER
- STRAINER
- FAN
- RELIEF VALVE
- ZE RELIEF VALVE
- SPRING VALVE
- 3-WAY VALVE
- PI PRESSURE INDICATOR
- PT PRESSURE TRANSMITTER
- TT TEMPERATURE TRANSMITTER
- TI TEMPERATURE INDICATOR
- DP DIFFERENTIAL PRESSURE
- PUMP
- TC TEMPERATURE CONTROLLED VALVE
- TX VALVE
- SOLENOID VALVE
- LIQUID INDICATOR
- ORIFICE PLATE
- PRESSURE REGULATOR
- HEATER ELEMENT
- BUTTERFLY VALVE
- BALL VALVE
- FLEXIBLE CONNECTION
- NEEDLE / CHECK VALVE
- FS FLOW SWITCH
- AV AIR VENT
- LT LEVEL TRANSMITTER
- LS LEVEL SWITCH
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- FLANGE PAIR
- FLOAT VALVE
- CONTROL SIGNAL
- 3 PORT GAUGE VALVE

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