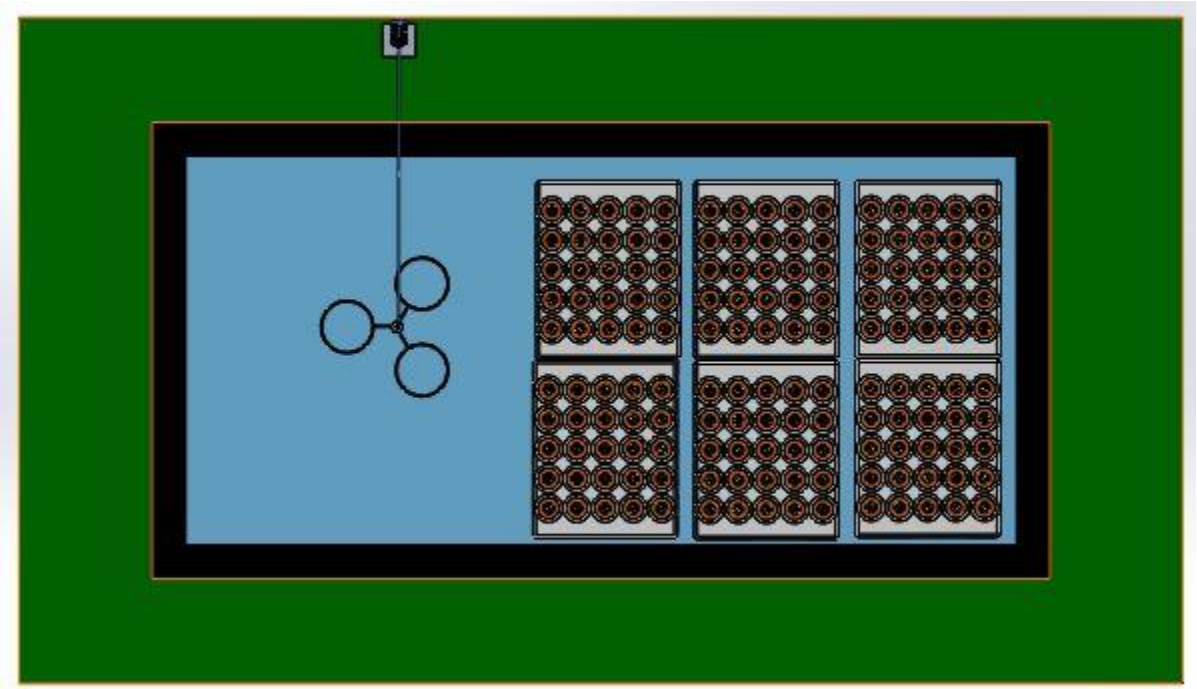
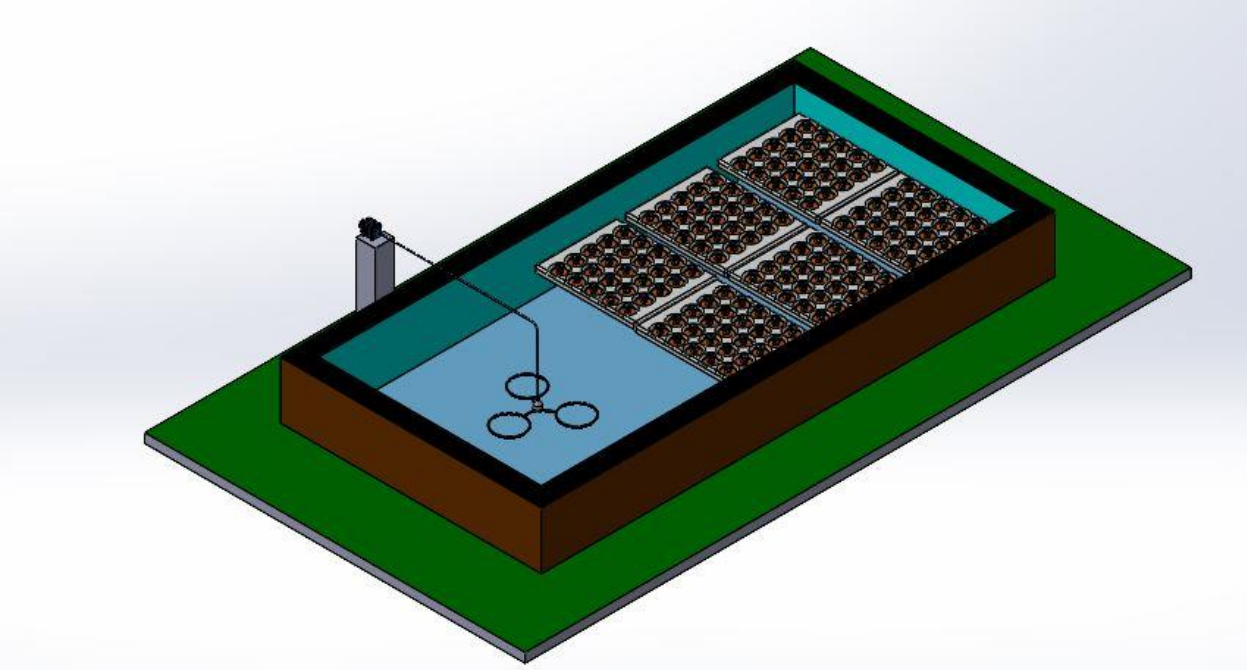
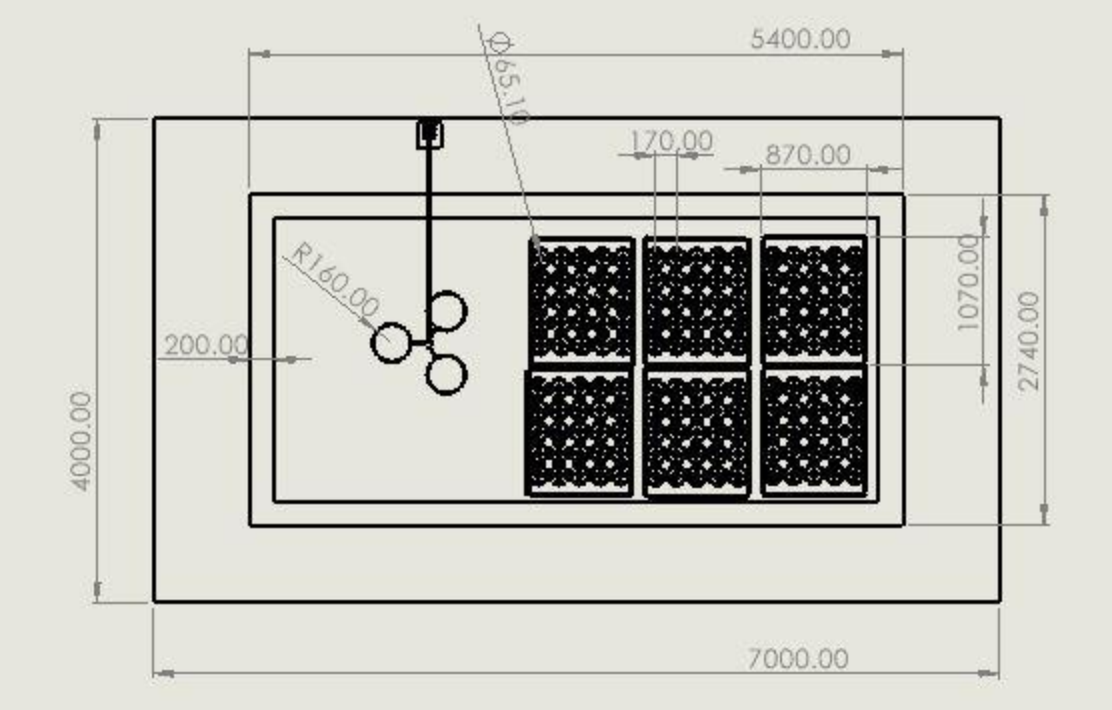
Deep water culture Hydroponics.

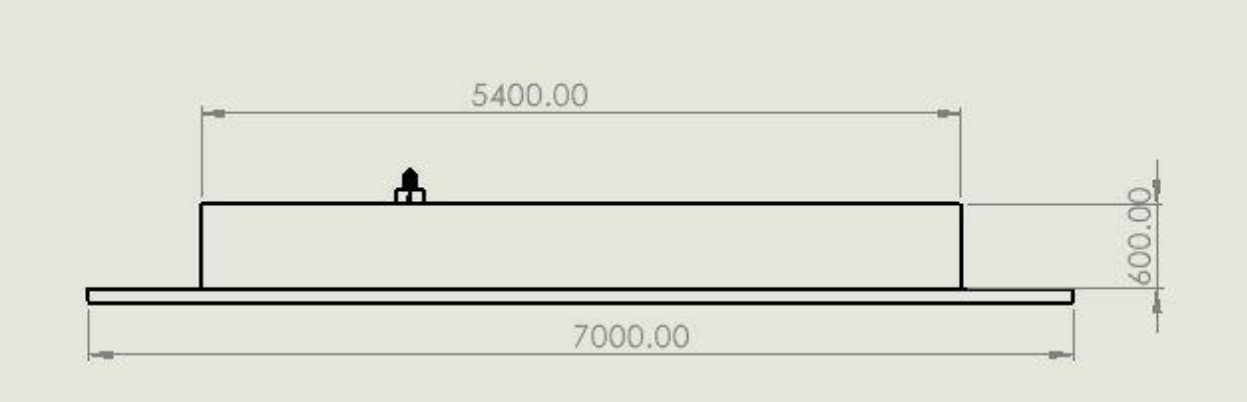
Drawing/Sketch:-





Drawing /Measurements:-





Bill of Materials:-

SR. NO	Materials	Unit	Qty	Cost
1	Bricks	NOS	1263	1,200
2	Cement	NOS	5	500
3	Sand	BRASS	1	750
4	Thermocol sheet	NOS	8	150
5	Net pot	NOS	200	75
6	Aero-tube	NOS	3M	120
7	End cap	NOS	1	1,000
8	Drip pipe	M	1	850
9	Plastic T	NOS	3	50

10	Blower	NOS	1	350
11	Tarpaulin	M	1	
12	Reducer	NOS	1	60
13	Teflon tape	NOS	1	20

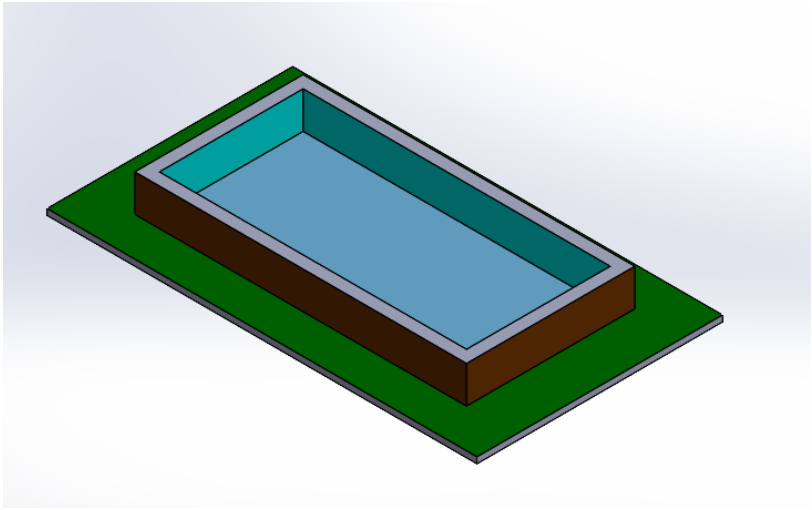
Description of Materials:-

Bricks:-

Length	0.8 ft (with mortar)
Width	0.3 ft
Thickness	0.3ft (with mortar)
1 Bricks Valumn (with mortar)	L x W x T =0.072 qu ft/1728=0.0812 QU. FT.
Wall Valumn	1) L x W x T =18 x 2 x 0.75=27 qu. ft. x 2 = 54 qu. ft. 2) L x W x T =9 x 2 x 0.75 =13.5 x 2=27 qu. ft. TOTAL= 81 QU FT.
Number of Bricks	WV/1BV= 81 /0.072=1125 BRICKS
	Total bricks = 1125 (with mortar)

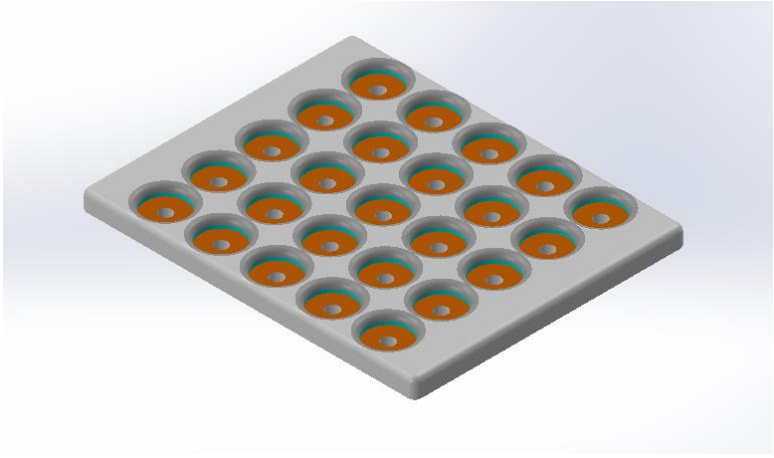
- Ground Base:-
  - Assembly: Clear the surface below and make it flat. The water level at the ends of the boundary should be 0.
  - Dimensions: W= 20 ft x10 ft

- Bed:-
    - Make a bed using the combination of bricks and cement.
    - Dimensions: 17.72 ft x 8.99 ft x 1.97 ft

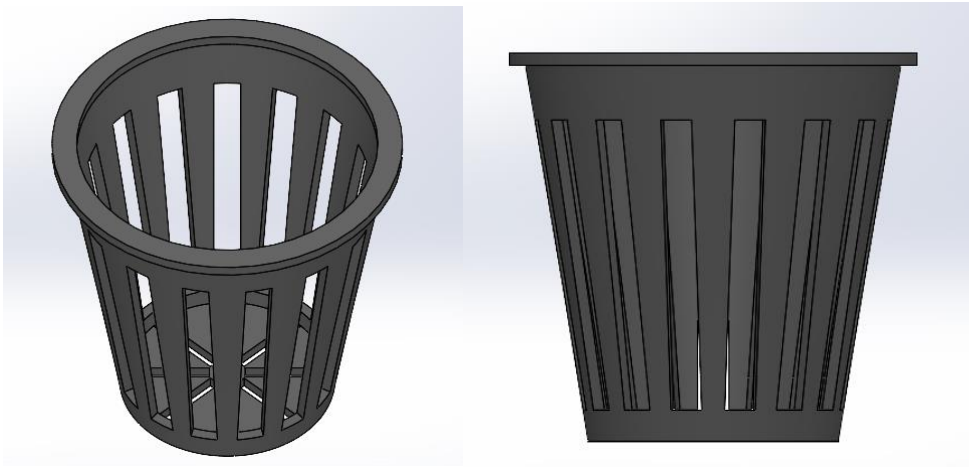


- Tarpaulin:-
    - Spread the tarpaulin in the bed and fill the water up to more than half of its capacity.

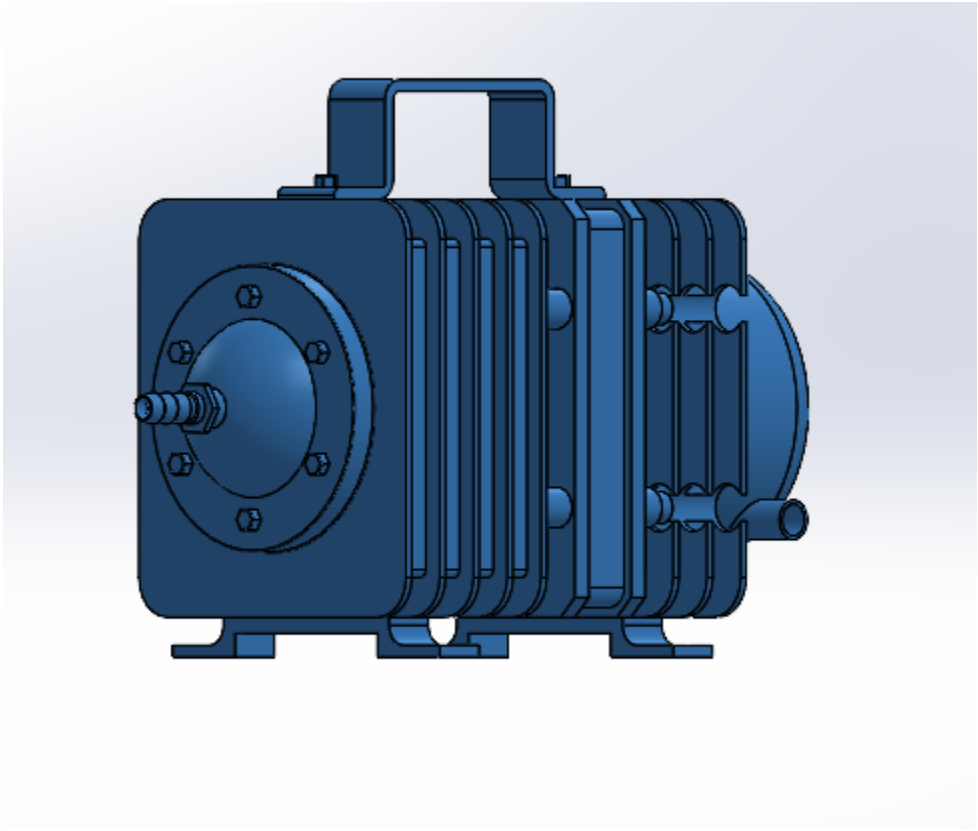
- Thermocol:-
  - Purchase the four thermocol sheets of dimension 870 mm x 1070 mm x 60 mm
  - Make 50 mm holes at a distance of 170 mm from each other in all the sheets



- Net pot:-
  - To hold the plant in place and allow its root to get nutrients through water, a net pot of 50mm is used.
  - These pots are inserted into the holes in the theromcol sheet.



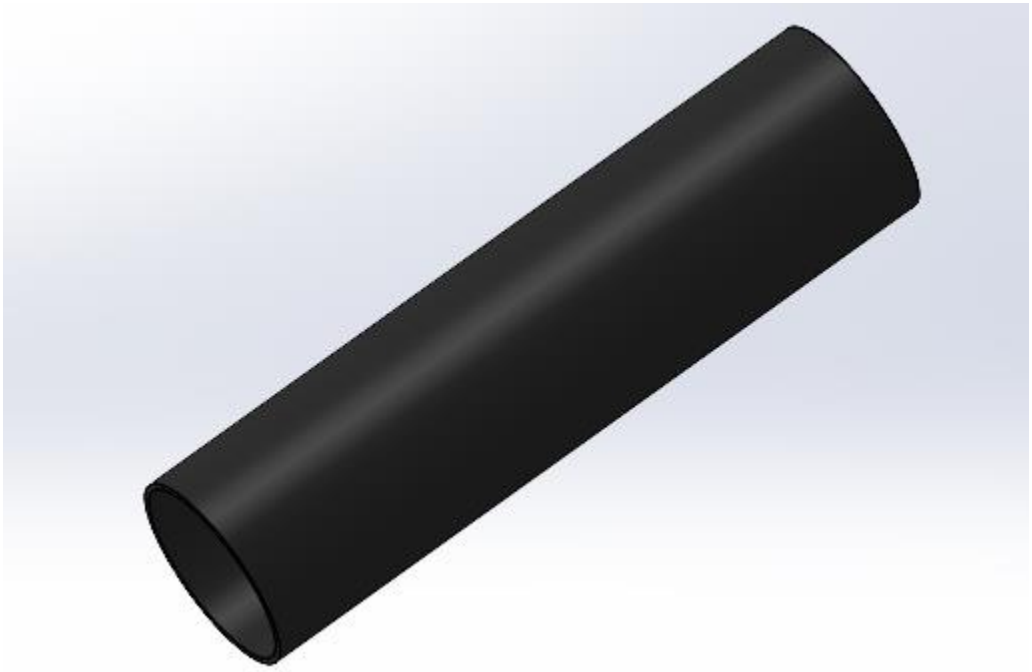
- Blower fitting:-
    - A blower is installed at the side of the bed.
    - Specification: 230V, 45 Watt



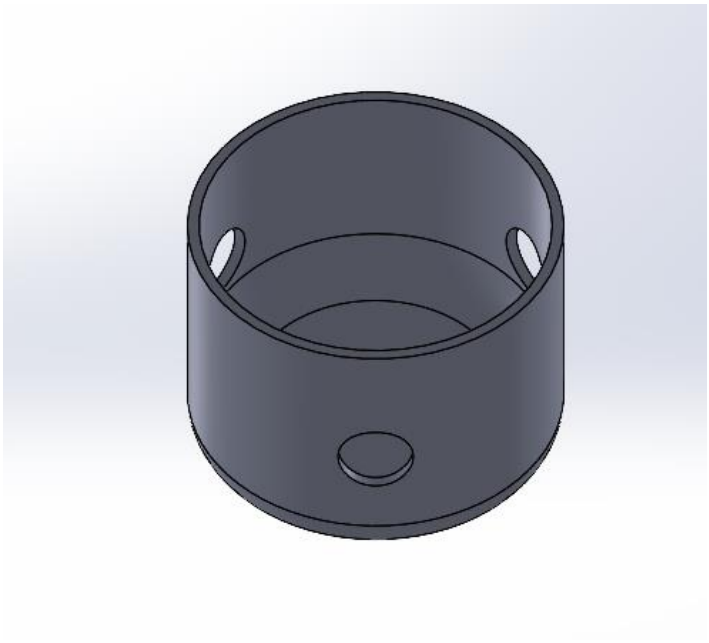
- Aero-tube:-
    - To supply the bubbles properly to the water in the bed the air needs to be supplied through three aero-tube.

- Make a circle of the tubes using a 16 mm “T”

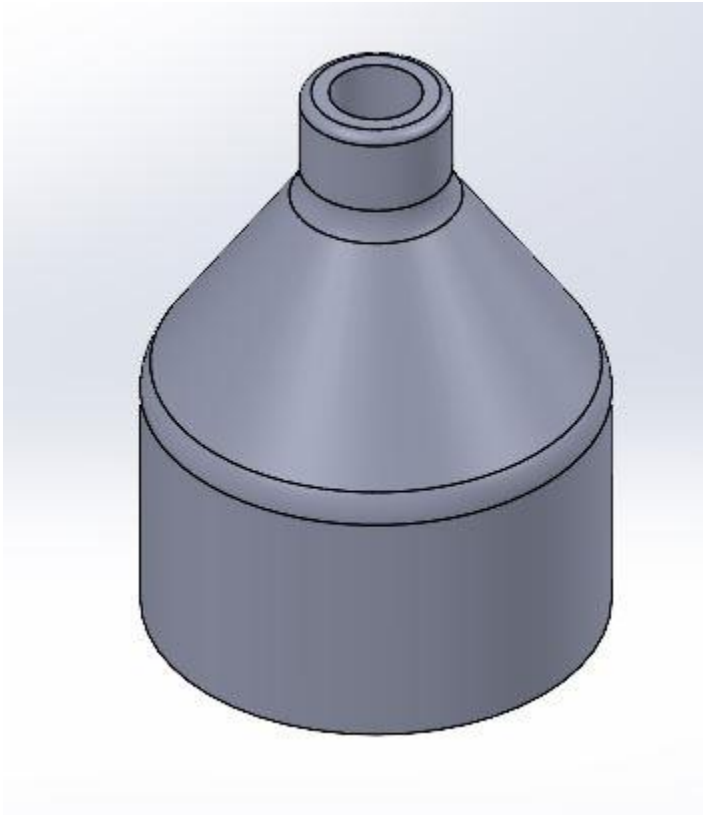
- Drip pipe:-
  - Connect 16mm x 5 ft dripper pipes to the blower and the T connecting aero tubes.



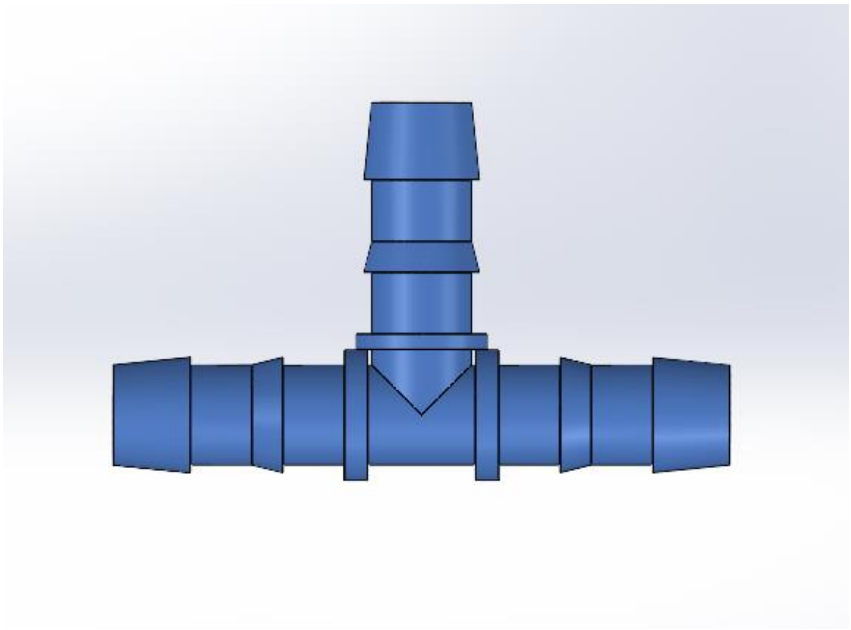
- End cap:-
  - Make 3 holes to the end cap and attach the three aero-tubes using a dripper pipe.



- Reducer:-
    - Use a reducer of 50 mm to 16 mm to connect the end cap and the blower.



- Plastic T:-
    - To make a closed loop of the aero-tube a “T” connector is used.



- Black Drip Rubber:-
    - To prevent leakage of air from the endcap, attach black drip rubber to the hole and insert the pipe into it.

- Dripper pipe connector:-
    - Connect this to the end of the end cap holes and the pipes leading to the aero-tube.

Fabrication:-

- Material processing
- Construction
- Plumbing
- Electrical supply

Installation:-