The following factors shall be considered while designing the condensate drainage system:

Drain pans of air conditioning systems should not allow standing water and must quickly and completely drain off the water, thereby preventing creation of unhealthy pool of contaminants. The size of the drain pan must be such that it spans the entire width of cooling coil and shall be insulated to prevent condensation of moisture on the outside of the unit casing.

It is recommended that drain pans are sloped at least 1/100 to ensure that water drains freely from pan as shown in fig. 601.02(1).

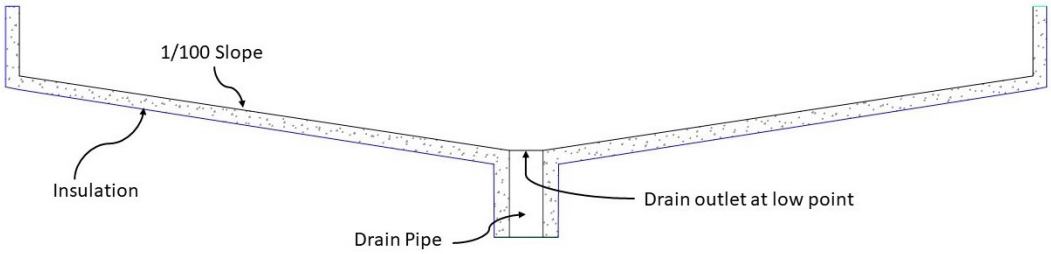

Fig. 601.02(1): Condensate Drain Pan

Condensate drain piping should be insulated and an adequate horizontal slope of not less than 1/100 should be maintained, to ensure free flow of water without any obstruction. A minimum separation distance of 25 mm must be maintained between the condensate piping and the wastewater pipe to avoid any cross contamination.

All condensate drains must have a water trap or other sealing devices to maintain a seal to prevent untreated air from moving in, during operation of air handling devices. It shall allow for complete drainage of the drain pan under all operating conditions, regardless whether the fan is on or off.

The optimum selection of water trap is very important. If trap seal is too shallow, water in it can be sucked or blown dry at each cooling cycle start up and if seal is too deep, it can cause condensate to be held in the pan, which results in clogging. Hence selection of drain seal (fig. 601.02(2)) should consider the minimum height of trap such that it is enough to hold water in order to resist the fan static pressure.

In cases where condensate is discharged into the wastewater system, the water trap helps to prevent foul smell or any contaminated air to enter in either direction, protecting the indoor air quality.

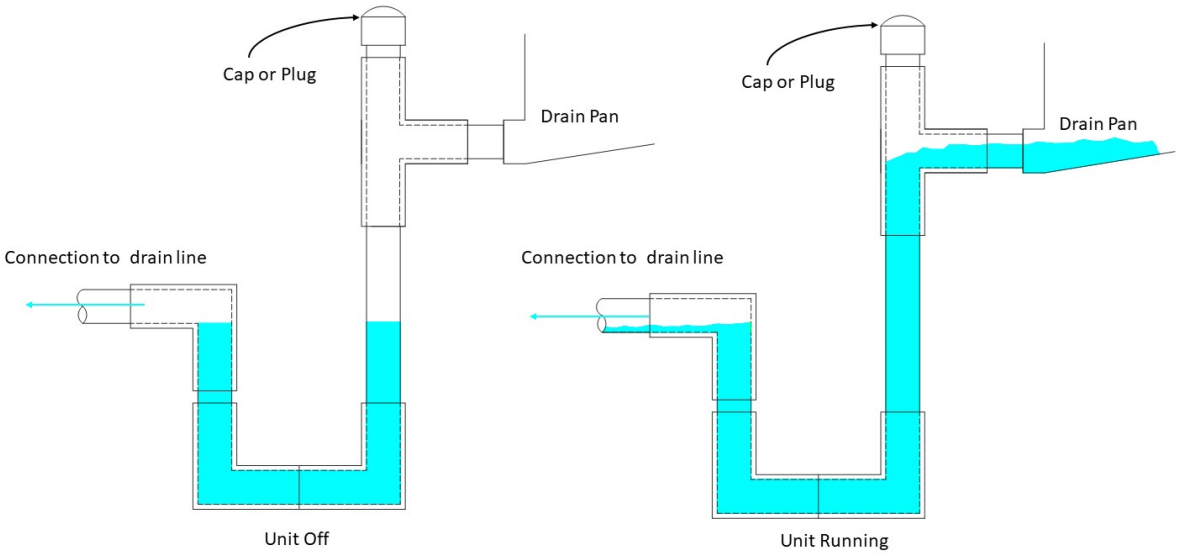

Fig. 601.02(2): Water Trap