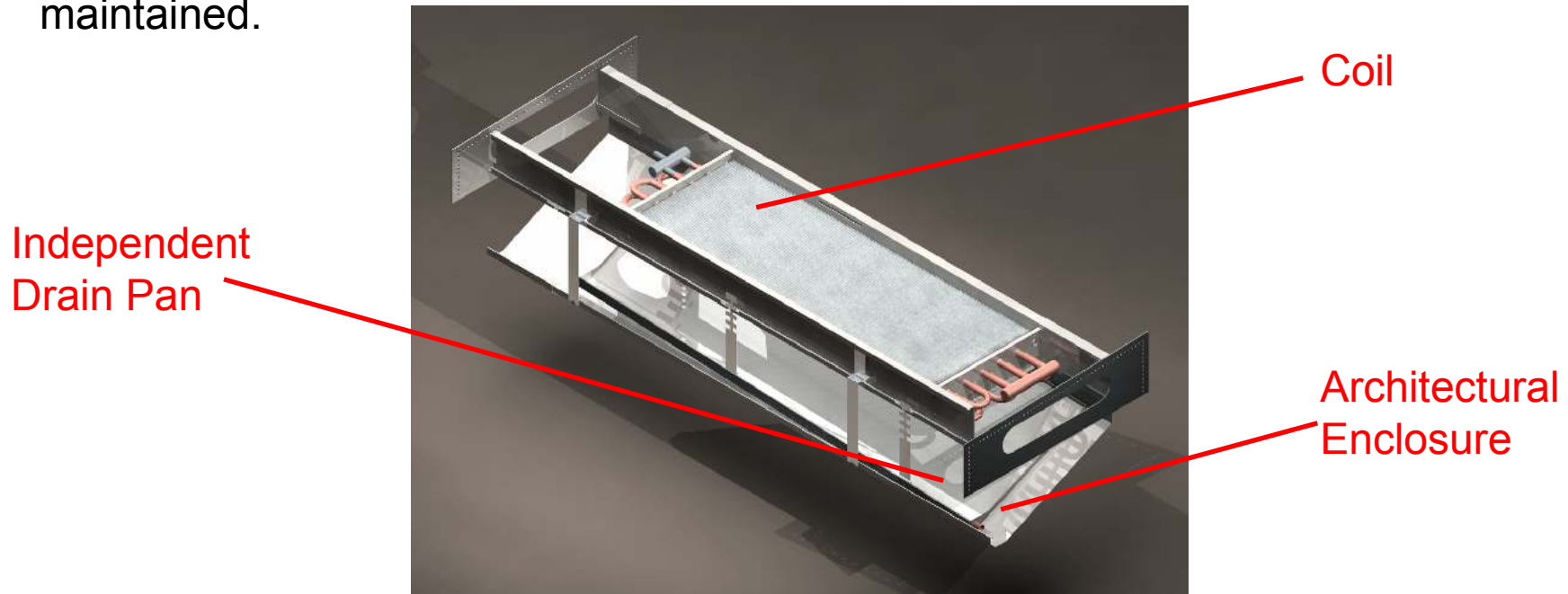


### WHAT IS A VALANCE UNIT?

Valance heating and cooling units utilize hydronic coils mounted in an architectural enclosure. The units are mounted near the ceiling usually along an outside wall. The coils operate without fans or blowers to provide heating and cooling into the spaces. Water is provided to the coils through the system pumps. The hot (or cold) water coils induce air to flow through valance units producing hot or cold air. Thermostats control the flow of water to ensure room comfort is maintained.





## Valance Advantages

### WHY USE A VALANCE SYSTEM?

Valance units offer many advantages over other systems:

- Quiet – There is no fan noise with this system. This eliminates the majority (if not all) of the noise produced by air systems. These units are virtually silent
- Efficient – The units do not use fan energy to re-circulate air. The coils operate at a very efficient point since the air velocity is low across the coil
- No draft – With no fans or blowers, the valance system provides consistent operation with gentle air circulation
- Easy maintenance – With no moving parts or filters, the only maintenance is cleaning of the surfaces on occasion
- Easy install – These units do not require motor hook-ups. They are easy to add in retrofit applications. Just hook into heating and cooling piping in an existing building

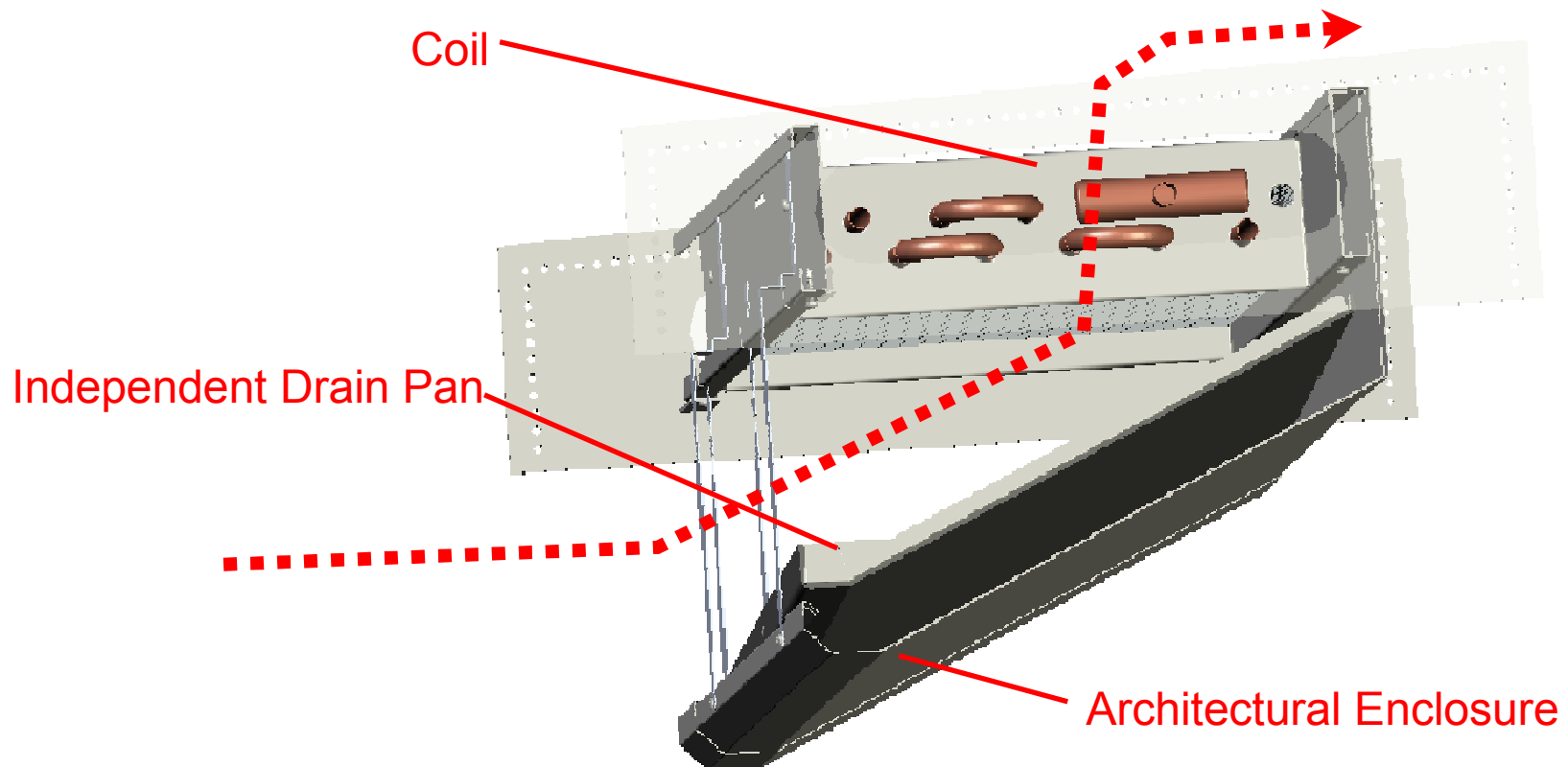
### HOW DOES A VALANCE UNIT WORK?

A valance unit works as either a two pipe or four pipe system. Water is supplied by either the system boilers or chillers to send hot or cold water to the valance units.

In both the heating and cooling mode, air is moved slowly through the coil. The volume of air in motion is large however the velocity of the air is slow. This results in a draft free environment.

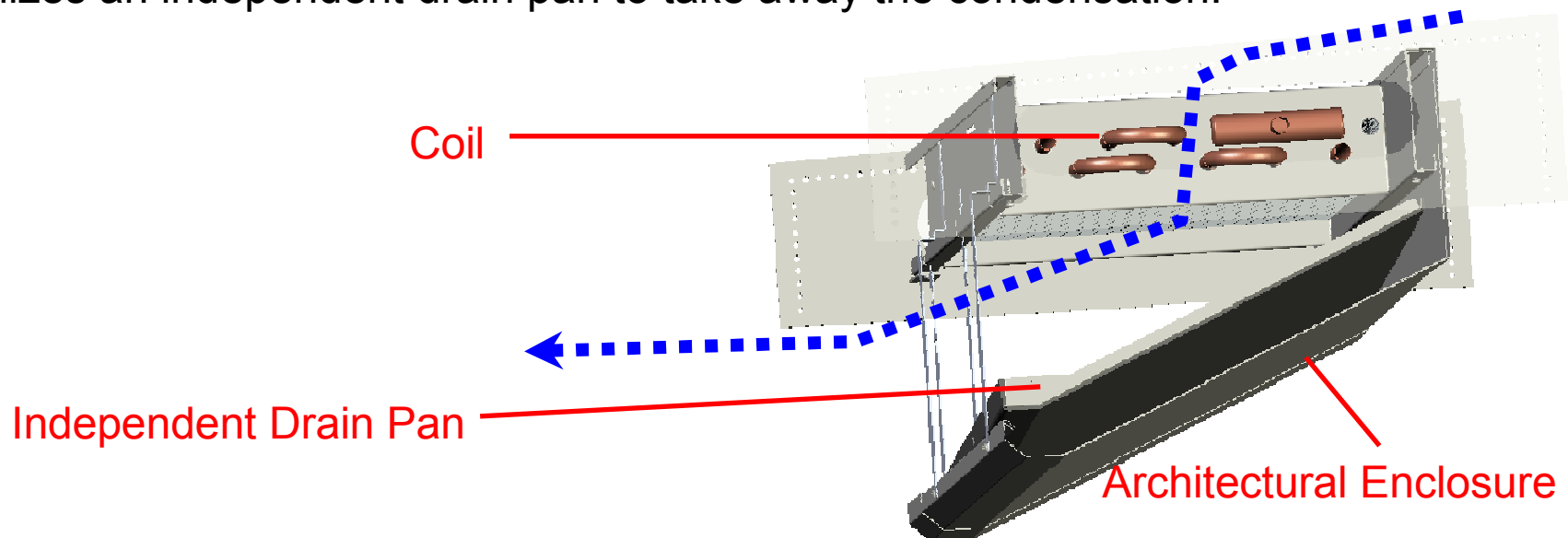
## IN HEATING MODE

During the heating cycle, hot water circulates through the coil. Air within the valance units is heated. This causes the air to rise through natural convection. As the air rises, it heats up both the ceiling and the outer aluminium enclosure of the valance unit. This in turn radiates heat down into the room.



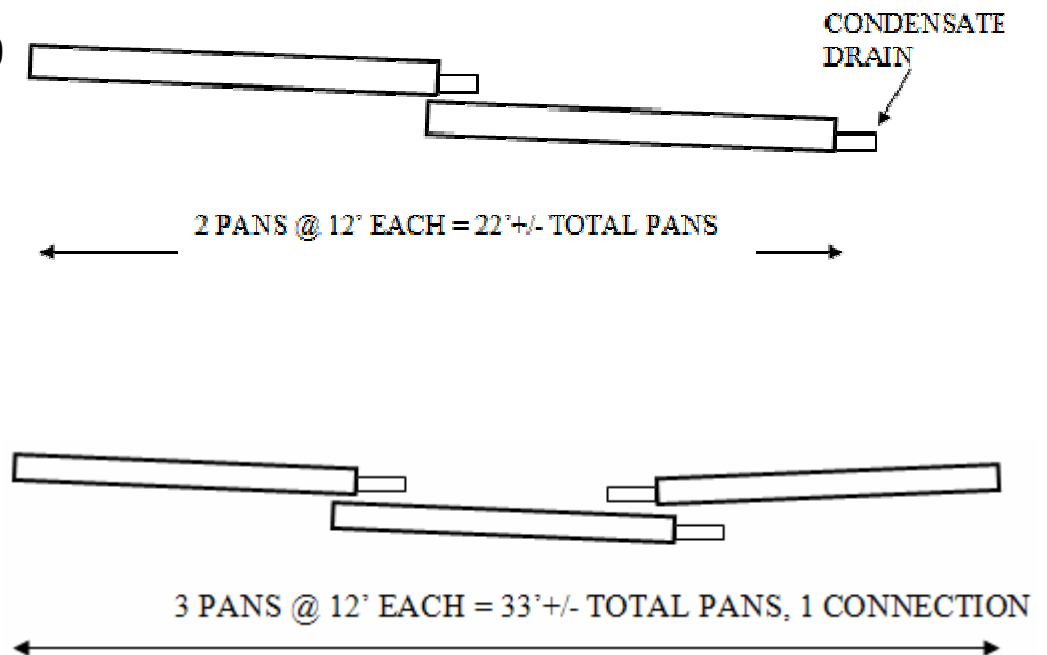
## IN COOLING MODE

- During the cooling cycle, cold water circulates through the coil. Air within the valance units is cooled. The cool air moves towards the floor of the room by way of natural convection. As the air drops, warm air from the room circulates towards the ceiling again to be induced into the valance coil. This air flow pattern re-circulates and repeats the cycle.
- As air moves across the coil, the moisture in the air condenses on the fins of the coil. Condensation collects on the coils and is then drained away. Sigma utilizes an independent drain pan to take away the condensation.



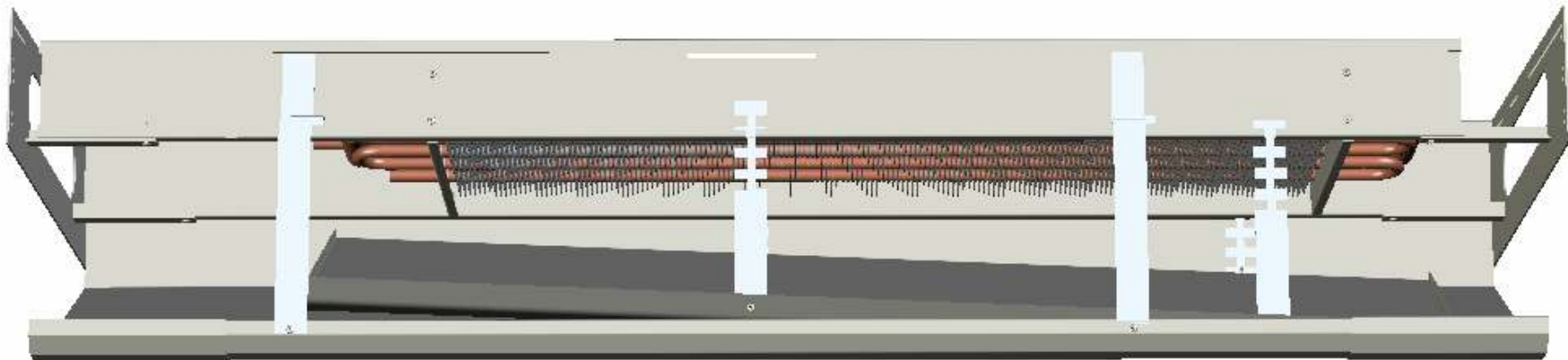
## INDEPENDENT DRAIN PANS

Sigma utilizes independent drain pans. The purpose is to supply a double sloping drain pan in accordance with ASHRAE 62-89 and revisions. The drain pan is fully cleanable and is insulated on the exterior of the drain pan. No water comes in contact with insulation. Condensate drains are sloped at 1" per 10 feet and are set by the manufacturer to ensure proper drainage and a dry drain pan. When drain pans extend greater than 20 feet. Multiple drain pans can be utilized to ensure drainage is effective.



## ARCHITECTURAL OPTIONS

One advantage of offering an independent drain pan is that the exterior enclosure is not required to be sloped. This means that the enclosure will fit better and options such as recessed reveals and complicated shapes can be considered for esthetics purposes.



**Valance – Rendering**

