Application

Type 1 kitchen hood applications have specific grease duct installation requirements in order to drain off moisture, liquid, grease and particulate. International Mechanical Code (IMC) requires the horizontal grease duct to have a ¼ inch per linear foot slope when the run is 75 feet or less, and 1 inch per linear foot when greater than 75 feet. For example, a 96 foot horizontal duct run would require an 8 foot vertical pitch. Since space is very limited, the use of a duct sump can be used to greatly reduce the space requirements.

The duct sump is also recommended for applications where the horizontal ductwork is pitched away from the fan. Grease and particulate matter that escape the fan will settle at the lowest point in the duct. Placement of a duct sump at this location will provide a means for extracting, cleaning and disposing of the accumulated grease and particulate.

When duct sump(s) are used, code authorities will require them to be installed at the low point(s) of long horizontal duct runs extending from Type 1 kitchen hoods in order to capture such particulate and ward off the potential fire hazard.

As shown in the illustration below, the installation of one or more duct sumps allows for a ¼ inch per linear foot slope on duct runs exceeding 75 feet by zig-zagging the duct up and down. This dramatically reduces the space required for installation of the ductwork.
Duct Sump Description

The duct sump is 24 inches long and is fabricated from stainless steel. The duct sump is configured to fit one's specific duct size and is equipped with a spray manifold and a drain with pre-flush and overflow. Access panel(s) are provided and designed per NFPA 96. One-inch flanges are provided at the inlet and outlet collars for welding to the duct system.

Typically, the duct sump is provided in conjunction with an Auto Scrubber Control Panel. The wash manifold of the duct sump is to be connected to the hot water line coming from the Auto Scrubber Control Panel and should be washed daily after the fans are shut down. The control panel will inject detergent into the hot water and wash each duct sump. Default wash time is 60 seconds for each sump.

Duct Sump Detail

Duct Sump Features and Benefits

- Allows for long grease duct runs
- Ease of cleaning grease from duct
- Reduces fire hazard