



The DENLAR Designer Series

A Fully Integrated, Pre-Engineered Fire Suppression Range Hood System
White Paper Submittal for Code Official Review and Approval

Introduction

The Designer Series fulfills all the theory and intent behind a Type I commercial hood with fire suppression (NFPA 96, 17A & UL/ETL 300) in a system designed for use over a residential grade appliance. Systems in this product category are listed to UL/ETL 300A. The term residential fire suppression is a bit of a contradiction – these types of systems are intended to be used within a commercial space, when a residential-grade appliance is used in a “not for profit” cooking application.

Technology

The Designer is a more budgetary option to our flagship model the D1000. With a scaled down approach, it maintains a fully integrated, pre-engineered system. The suppressant canister is located within the hood and ships from the factory pre-charged. There is no interaction with the fire suppression system at installation other than removing the pin, because of this it is often installed by a mechanical equipment contractor. Listed below are the commercial guidelines and how the Designer meets these areas:

Fusible link actuation

The Designer utilizes glass JOB links to trigger the suppression system.

Wet Chemical fire suppression agent

The Designer uses AMEREX 660, a low PH version of the commercial suppressant. AMEREX 660 has the same knockdown and saponification capabilities as the commercial agent, but can be cleaned up with soap and water, and will not harm appliance or countertop finishes.

Alarm System Communication

The Designer comes equipped with the ability to tie into a fire alarm panel utilizing a hard wire connection.

Cooking Element Disconnect

All DFP systems feature hard wired power disconnect options for gas, electric and dual element devices. These are hardwired modules and cannot be bypassed.

Demonstration

DENLAR fire suppression range hoods are the only 300A systems that can be demonstrated similarly to a commercial system. They can be functionally demonstrated, or puff tested by replacing the tank with a nitrogen filled cylinder.

Code Based Applications

The Designer is engineered to offer a commercial level of protection for a residential-grade cooking appliance used in a commercial space. DFP maintains that the system should not be used in a production cooking environment. However, when a 30" range is used with a light to medium duty "not for profit" commercial application, like a church kitchen, managed care facility, fire house, etc. the nature of the space will still require a high level of protection. Here the Designer4 is suitable for the use of the appliance and the lower risk level associated with the equipment in these applications.

Listings, Certifications & Code Acceptance

300 vs 300A – The testing standards used in evaluating and listing a 300A system are the same as those used for a commercial 300 system, only a residential-grade appliance is substituted as the head source. Bear in mind, a residential-grade appliance produces a significantly lower BTU output when compared to a similarly sized commercial-grade unit. Both UL & ETL list products to the 300A standard.

Ducting, Proximity and Combustibles, Etc.

It is important to recognize the marked differences between a residential-grade appliance and a similarly sized commercial unit. With a lower BTU output and greatly reduced airflow requirements; grease will not nebulize into as fine of a mist, nor will it be drawn as far into the duct run. When considering the other downstream requirements attached to a commercial hood system, the lower risk factors should denote acceptance of a more residentially styled space.

Service & Recertification

DENLAR recommends an annual recertification schedule. This process will involve verifying the condition of the pressurized suppressant cylinder and replacing the fusible links if needed. While the process could be completed by an end-user, often a licensed fire suppression professional will perform the function.

Warranty

DENLAR warranties all products to be free of operation and construction defects for two (2) years from the date of the shipment.

Synopsis

The Designer is designed to fulfill all the theory and intent behind an otherwise required commercial hood system. The Designer will automatically suppress a cooking fire event. Engineers, designers, facilities managers and code officials should be confident in recommending and approving the Designer in all applications where a residential-grade appliance is used in a "not for profit" capacity within a commercial space.

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