

The Truflow System

Commercial Kitchen Enviro and Supply Demand Ventilation Hood Controller

RPD-KD11-TF

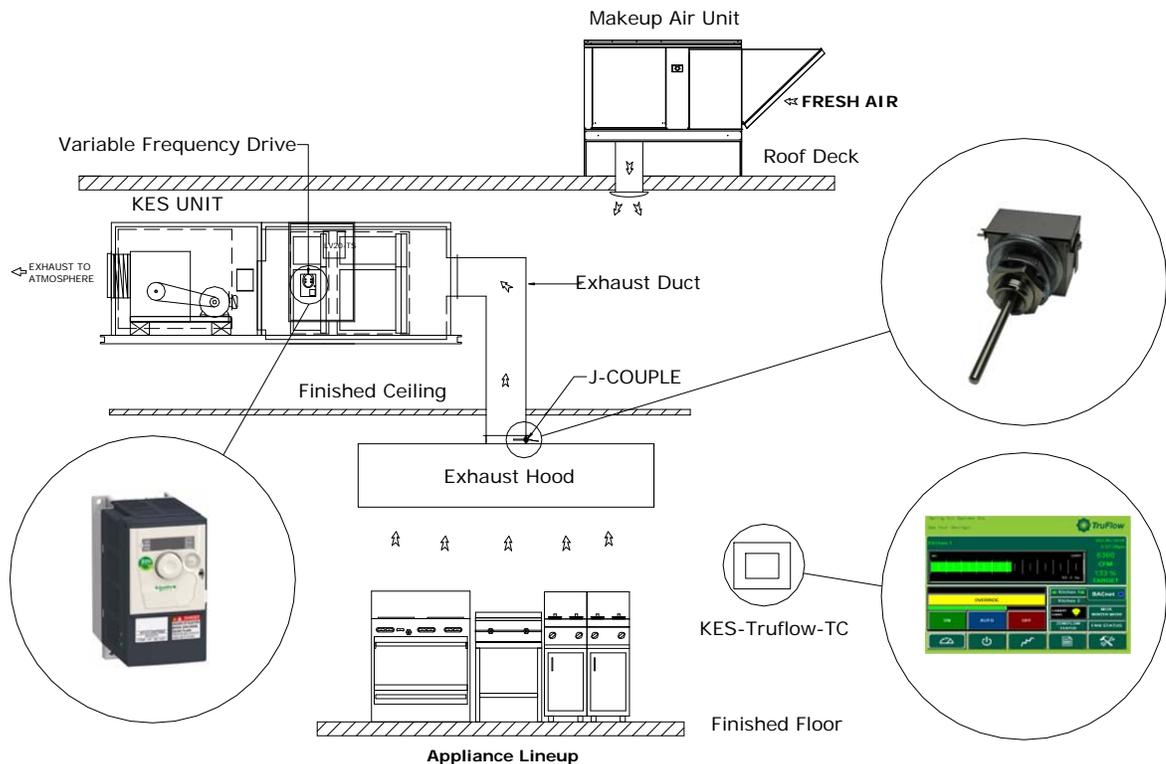
General

KES Enviro: The unit is installed in a commercial kitchen exhaust duct to clean the exhaust air of grease and odor. The UL/ULC listing allows the exhaust to be discharged at low levels.

In other words the exhaust ductwork may be discharged through side exterior walls below the roof level. These exceptions to the standard NFPA-96 code are possible with a combination high efficiency filtration system and a unique electrical and mechanical safety circuit. Combining a KES Enviro Unit with a state of the art demand ventilation system, KES-Truflow-TF, will provide substantial yearly energy savings and filter consumption savings. The average commercial kitchen exhaust system operates at 100% capacity for 12 to 18 hours per day, blowing thousands of wasted energy dollars out the roof! Truflow measures heat from the appliances and

automatically adjusts fan speeds throughout the day, giving you the precise amount of exhaust at all times. Truflow monitors ventilation system efficiency relative to your utility costs, in real-time, so that you can manage your kitchen to take advantage of off peak times by turning down appliances. Setting an energy reduction goal reduces your utility costs even more! Truflow not only saves you money on energy expenses it can also help extend the life of your equipment by demanding exhaust only when it is really required. Truflow monitors filters with higher accuracy, includes the KES Maxflow control and displays how much you are saving now. So if you decide to use a KES Enviro unit for your new restaurant, adding a Truflow demand ventilation system will help offset the annual cost of operating a KES unit.

The KES Truflow-TF System



How Does It Work?

The KES-Truflow-TF Demand Ventilation controller has been designed to change kitchen exhaust forever. Truflow will automatically reduce the KES and supply air into the kitchen whenever appliances are not used at full capacity. When the appliances are not used and the heat is turned down or off KES-Truflow-TF automatically senses the reduction and decreases the amount of KES and supply to match exactly what is happening under the exhaust hood. The Truflow duct mounted J-Couple monitors the exhaust temperature, which fluctuates based on the amount of appliances operating under the exhaust hood.

Specification

The commercial kitchen demand ventilation controller shall be a Spring Air Systems Truflow model RPD-KD-TF. The Truflow shall provide automatic variable speed operation 24 hour/day for the commercial kitchen KES demand ventilation system. The touchscreen panel shall be CSA certified and supplied in an 18GA stainless steel enclosure with No. 4 finish for hood, surface wall, or recessed wall mounting. The NEMA4x Touchscreen operates in conjunction with an integral PLC to provide daily reduction of the commercial kitchen exhaust and supply, and real-time temperature based control of energy target goal management. The Touchscreen controller shall be complete with Dashboard, System Control, Alarm Status, and Reports and Setup & Diagnostic screens.

The Dashboard screen shall graph energy usage throughout the day measuring energy consumption against user set goals. The Dashboard screen also displays exhaust volume, outdoor temperature, hood lights, and % of goal reduction that is achieved each minute of the day.

The System Control screen displays all components of the KES Enviro system: Hood lights, fan on/off, summer/winter switch, filter clogged, filter out, hi temp, and overrides. The Truflow is capable of providing two KES units with two supply variable speed drives and/or a 4-20 milliamp output for each KES.

The Alarm Status Screen indicates and logs all alarm events which include; high temperature operation, electrical faults, J-couple faults, and supply drive communication error/failure and exhaust/supply drive communication error/failure.

The Report screen provides fingertip selection of reports for Year to Date cost of gas, Year to Date cost of electricity, Daily cost of Utilities, % time exceeding goal and % time in override.



The System Setup screen is accessible by the administrator with a secure password to customize the screen to the user, enter reduction goal, operating times, utility costs and provide system diagnostics.

The KES-Truflow-TF modulates the KES and supply volume through variable speed KES and supply motor drives and/or a 4-20 milliamp output. The kitchen demand ventilation system modulates from 30 to 100%. Pressing the screen override button will automatically increase the exhaust volume to 100%. This override time is adjustable in the screen setup.

The HUB panel is wall mounted and connected to an outdoor temperature transducer supplied by Spring Air to data log the actual real time energy savings during the winter and summer.

Remote Wiring Connections:

- High voltage power supply from breaker panel to KES disconnect
- High voltage power supply to supply fan drive
- High voltage power from supply drive to supply fan disconnect.
- Power supply to the HUB panel at 15 amps 120V/1/60
- Interlock each VFD with CAT5 connection in series.
- Two CAT5 cables from HUB to KES filter box.
- CAT5 cable to Outdoor temperature transducer located in a fresh air stream
- Interlock from Building Automation System with BACnet, CAT5 cable.
- Interlock to shunt trip 120V/1/60 2 amps maximum
- Interlock to fire suppression system 120V/1/60 2 amps maximum
- Interlock two (2) wires 4-20 milliamp signal to supply fan variable speed drive required.