

The Truflow System

Commercial Kitchen Exhaust and Supply Demand Ventilation Hood Controller

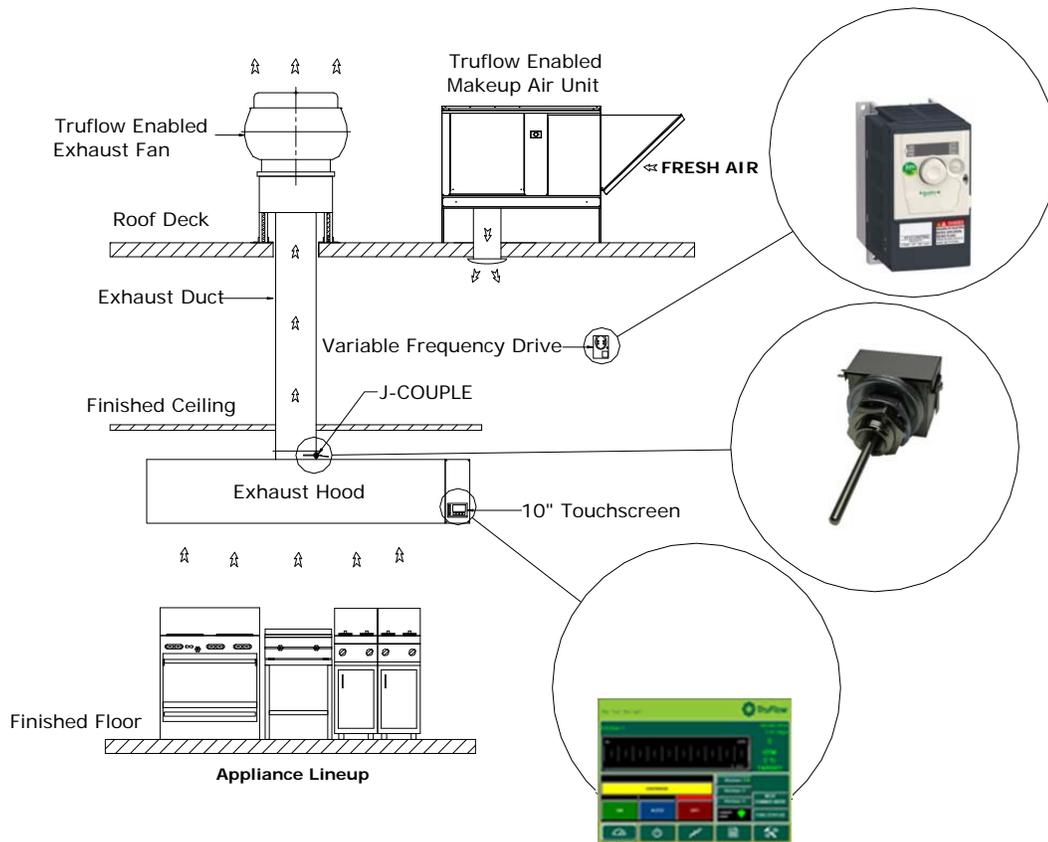
RPD-P-TF

General

Truflow is the most economical and efficient kitchen ventilation energy management system available. 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 can be specified on new hoods or can be retrofitted on your existing hoods. Since the panel can be hood mounted or wall mounted, it allows you many convenient options of where to locate the panel and wireless remote unit. Truflow is available with optional Internet accessibility, so it is ideal for multi-unit management. The Truflow system reduces the amount of air exhausted from the kitchen to match the amount of cooking. As more appliances are used, the exhaust and supply volume increase, as less appliances are used the exhaust and supply volume decreases.

The Truflow System



How Does It Work?

The Truflow Energy Demand Controller has been designed to change kitchen exhaust forever. Truflow will automatically reduce the exhaust 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 Truflow automatically senses the reduction and decreases the amount of exhaust 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. As the amount of cooking increases the exhaust duct temperature rises and reaches an equilibrium temperature during each hour of the day. Truflow automatically modulates the

Specification

The commercial kitchen demand ventilation controller shall be a Spring Air Systems Truflow model RPD-P-TF. The Truflow shall provide automatic variable speed operation 24 hour/day for the commercial kitchen 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 Truflow 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 kitchen ventilation system: Hood lights, fan on/off, summer/winter switch, and overrides. The Truflow is capable of providing four independent kitchens with a maximum of four exhaust variable speed drives and one supply variable speed drive and/or a 4-20 milliamp output for each system.

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.



exhaust and supply to suit the actual cooking operation at any given time during the cooking day.

The Truflow modulates the exhaust and supply volume through variable speed exhaust 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 input side of each drive
- High voltage power wiring from output side of each drive to fan mounted motor disconnect switch.
- Power supply to the HUB panel at 15 amps 120V/1/60
- Power supply from the variable speed supply fan drive to the supply fan disconnect switch if equipped with VFD
- Interlock each VFD with CAT5 connection in series.
- 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 when SC Truflow panel.

Options:

- Touch Screen is Hood or Wall mounted.
- Up to 4 exhaust fans and 12 hoods.
- Supply control is VFD or control signal.