

## Enviro Unit Controller For Kitchen Exhaust and Supply With Active Touchscreen panel

# RPD-KD11-TS

### General

The RPD-KD11-TS KES Enviro controller is used in to operate and monitor a *Spring Air Systems* KES Enviro unit, a kitchen makeup air, surface fire suppression and optional building management system...

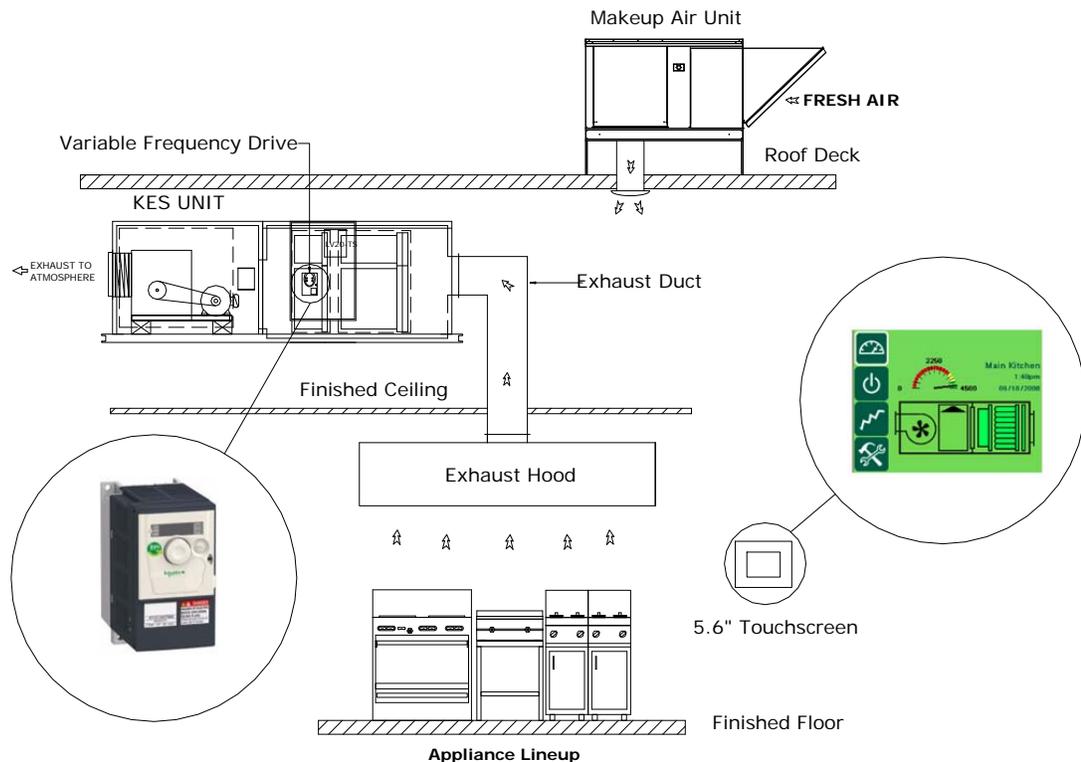
The RPD-KD11-TS is CSA certified, UL listed, and housed in a stainless steel enclosure with a No. 4 finish. The standard controller includes an HMI touchscreen, PLC, process controllers to monitor, exhaust fan drive, exhaust fan air volume, Prefilter, bag filter and box filter dirty condition based on the static pressure across each filter, inlet static pressure of the KES unit, 24hr, 7day internal clock, status messages and maintenance required.

### Operation

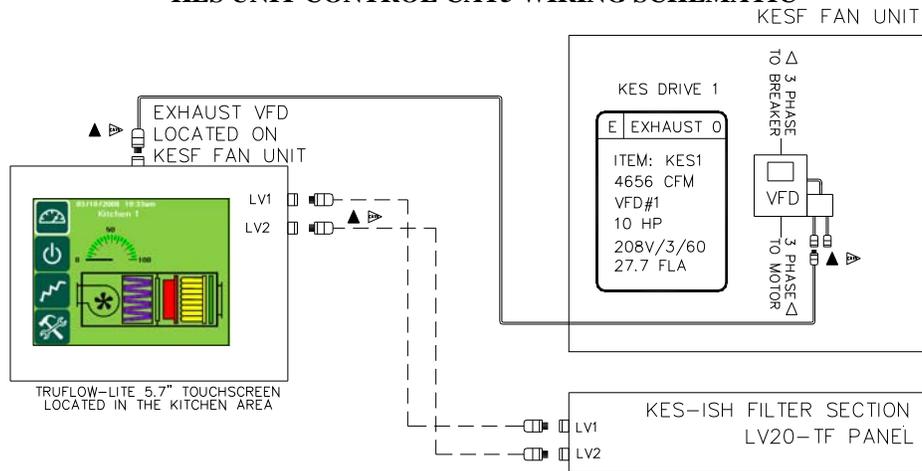
At the start of the cooking day, rotate the *ON/OFF* selector switch to the *ON* position. The kitchen Enviro Unit energizes and the fresh air supply unit activates.

Some supply unit have motorized fresh air damper that must open before the supply unit starts. The panel monitors the operation of the KES Enviro unit. Pressure transducers in the KES filter unit activate to annunciate filter clogged or filter removed. If the filters are not maintained regularly and a filter clogs the KES will shut down and the corresponding filter light will energized. At the same time the warning light flashes. Rotate the Override switch and the unit will start again and operate for another 4 hours until the filters can be changed. In the event of a fire, the surface fire suppression microswitch closes to shut off the supply systems controlled by the panel. Text readout indicates status of system at all times. Inside the panel the PLC displays the filter clogged and filter removed set points and the actual current static pressure across each filter.

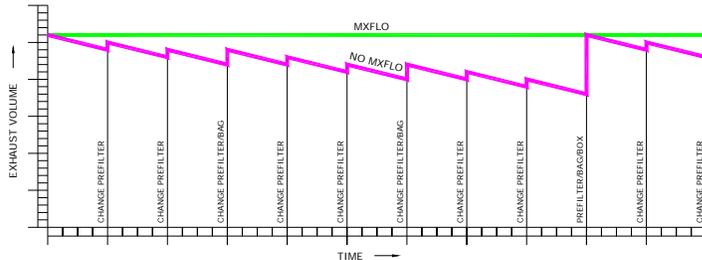
### KES UNIT WITH TOUCHSCREEN VENTILATION SYSTEM



## KES UNIT CONTROL CAT5 WIRING SCHEMATIC



**Control wiring:** RPD-KD11-TS control wiring is 3 CAT5 cables to the KES filter LV20-TS and 1 CAT5 cable to the KESF fan section drive. The LV20-TS panel contains the 4 transducer to monitor static pressure across each filter and the KES inlet.



**Maxflow:** The RPD-KD11-TS provide Maxflow for the KES filters. Maxflow extends the life of each filter by monitoring the inlet pressure. When the filters collect grease the pressure drop increases, the exhaust volume decreases and the inlet static decreases. Maxflow increases the drive speed to hold the inlet static pressure and the exhaust volume constant

### Specification

The commercial kitchen Enviro unit controller shall be a Spring Air Systems model RPD-KD11-TS. The KES shall provide operation 24 hour/day for the commercial kitchen ventilation system. The panel shall be CSA certified and supplied in a stainless steel enclosure with No. 4 finish for surface wall mounting. The KES NEMA4x Touch screen (HMI) operates in conjunction with an integral PLC to provide daily operation of the commercial kitchen exhaust and supply. KES has optional LON, BACnet or MODbus interfaces to the building automation system (BAS). The Touch screen controller shall be complete with Dashboard, System Control, Alarm Status, and Reports and Setup & Diagnostic screens.

The Dashboard screen shall displays actual exhaust volume and % of exhaust volume and Prefilter, Bag Filter and Box Filter and option odor pellet or odor spray. The dashboard displays the state of each of the Prefilter, Bag Filter and Box Filter. Green filter indicates good filter condition, yellow filter indicates the filter is reaching the end of the filter life, and a red filter indicates the filter must be replaced at the end of the cooking day. By touching the filter area colored bar graph appears for each filter indicating the actually static

pressure differential across each filter bank and the proportional filter usage left.

The System Control screen displays selection for fan on/off, summer/winter, hand/auto and filter reporting. The filter reporting tracks the number of weeks of operation and the number of each filters changed in total.

The Alarm Status Screen indicates and logs all alarm events which include; high temperature operation, electrical faults, and drive communication error/failure, exhaust drive communication error/failure, high temperature in KES filter unit, Prefilter Clogged, Bag Filter Clogged, Box Filter Clogged, Prefilter Out, Bag Filter out and Box Filter out. In the event of a filter clogged announcement the unit will shut-down. An override button displays to allow time for the operator to change the clogged filter without disrupting the cooking operation. The KES-ISH filter box pressure transducers provide the pressure signals to the Touchscreen are +/-0.01W.C.

The Setup screen provides all function to setup the operation of the KES unit including time, day, month and year, time to dashboard, remote start/stop, auto operation, security additional passwords, name of kitchen, water wash option, odor spray option and pellet option.