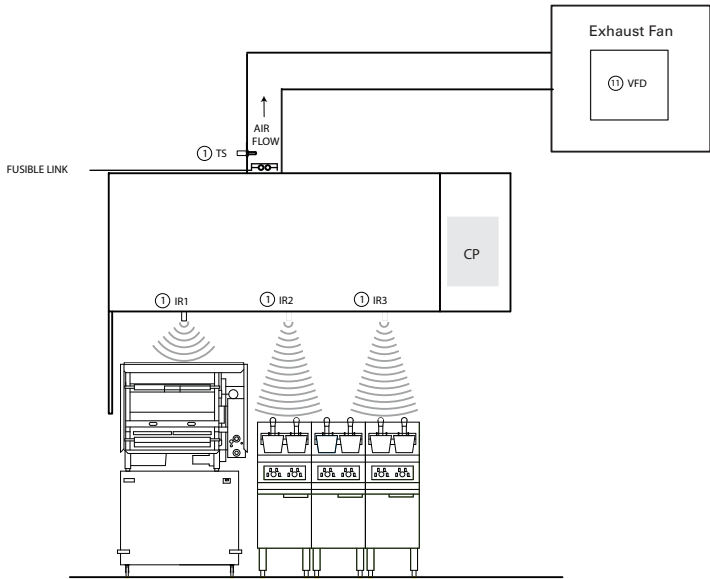


## Model M.A.R.V.E.L.

Model based Automated Regulation of Ventilation Exhaust Levels

### SINGLE HOOD SYSTEM



### Features:

- Minimizes use of outside air when heating or cooling is required.
- Adjusts hood exhaust airflow depending on appliance status.
- Kitchen exhaust fans will automatically start when appliances are switched on and stop as soon as cooking appliances cool down. Manual or on schedule start/stop are also available.
- System automatically detects and sends warning signal if exhaust hood is operated without a filter or filters are clogged and need to be cleaned.

### Specification

Halton M.A.R.V.E.L. system to come equipped with hood mounted infrared cooking activity sensors capable of measuring appliance surface temperatures. Infrared sensor will read appliance surface temperature which will be translated by the specific calculation algorithm for that appliance and will respond proactively to any change in cooking status. Infrared sensor and exhaust collar mounted temperature sensor work in concert on differential temperature reading back to the controller.

System to also come equipped with utility cabinet and VFD(s) to control fan speeds. The M.A.R.V.E.L. system shall automatically control the speed of the exhaust fan (and supply fan if applicable) based on appliances status, cooking activities and exhaust air temperatures.

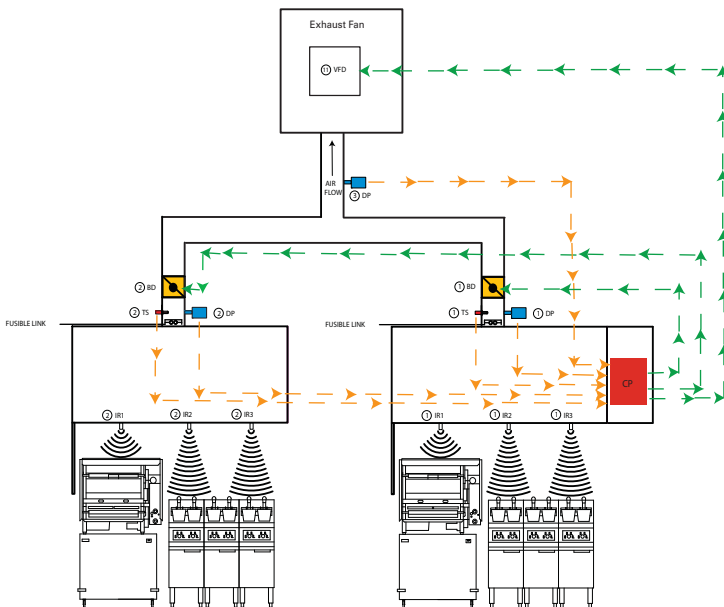
The system can be controlled with either manual On/Off switch, a 24hrs automated schedule with a manual override function, or the hoods can be automatically regulated based on the appliance status. The integrated PLC will analyze signals from the cooking activity sensors, temperature sensors and pressure transducers mounted in the hood and then send a signal to the VFD to adjust the exhaust fan (and supply fan if applicable) speed to satisfy current cooking load conditions. The system can be monitored and controlled with an internet connected PC from either a local or remote location. .

Division 16 will be responsible for wiring between the supplied Halton M.A.R.V.E.L. control panel and the hood mounted sensors. Division 16 will also be responsible for wiring between the Halton M.A.R.V.E.L. control panel and the VFD's and then from the VFD's to the exhaust/supply fan motors. Halton to provide inter-connectivity cables between the hoods and associated control panels. Halton to provide room temperature sensor. Electrician to provide labor to run cables and required control power per submittal drawings.

Field start-up to be performed by Halton Authorized Service Agency

A duct mounted temperature sensor only system will not be permitted. A duct mounted temperature sensor in conjunction with a smoke detector will not be permitted.

### MULTIPLE HOOD SYSTEM



Continuous improvement is a Halton policy, therefore specifications and designs are subject to change without notice.