Claims

What is claimed is:

1. A method for containing effluent from one or more ovens, comprising:

positioning one or more ovens in a cabinet and surrounding the one or more ovens with a cabinet suction zone generated by a continuous space therein that opens, at oven face inlets, toward a forward face of the cabinets coinciding with a forward face of the one or more ovens;

positioning a forward overhanging hood portion and creating a perimeter suction zone along a perimeter of the forward overhanging hood portion;

the forward overhanging hood portion having a depth of at least 12 inches and the suction zone having forward and side aspects;

the forward overhanging hood portion being contiguous and connected to the cabinet and the perimeter and cabinet suction zones being created by a negative pressure in the continuous space in communication between the hood portion and the cabinet;

the continuous space being in communication with an exhaust connection connected to an exhaust fan to generate the negative pressure;

the oven face inlets defining at least one side inlet and a top inlet immediately adjacent to each of the one or more ovens on a non-hinge side of the one or more ovens;

collecting fumes emitted by opening the door of the one or more ovens through the oven face inlets and the perimeter suction zone and exhausting them through the exhaust connection.

2. The method of claim 1, wherein the collecting includes controlling the flow of exhaust by means of a fan controller or a damper responsively to a state of one or more of the one or more ovens.

3. The method of claim 1, wherein the cabinet has a generally constant cross-section and the hood portion is larger than the cabinet on three sides defining two opposing lateral overhanging portions and the one forward overhanging portion.

4. The method of claim 3, wherein the forward overhanging portion is deeper than either of the lateral overhanging portions.

5. The method of claims 1 – 4 wherein the hood portion has at least one curtain jet directed downwardly.

6. The method of claim 5, wherein fumes are directed by a baffle plate along a lower surface of the hood portion toward a vertical inlet register and into the continuous space.

7. The method of claim 6, wherein the baffle plate is lower toward a forward side of the hood portion and higher toward a rearward side of the hood portion.

8. The method of claims 1 – 5, wherein the oven face inlets have adjustable widths.

9. The method of claims 1 – 5, wherein the oven face inlets each form an L-shape and include a horizontal portion and a vertical portion.

10. The method of claim 9, wherein the one or more ovens are two ovens.

11. An exhaust device, comprising:

a cabinet defining a cabinet plenum that opens to front facing inlet registers on a forward face of the cabinet;

the cabinet having support bays that open at the forward face of the cabinet at respective support bay openings;

a hood portion at a top of the cabinet having a hood plenum in communication with the cabinet plenum;

the cabinet and hood plenums being in communication with an exhaust outlet having a filter;

the hood portion having a front overhang that is at least 20 percent of the depth of the cabinet and overhanging the forward face of the cabinet;

the front overhang defining a recess that overlies the front of the cabinet and is in fluid communication with the hood plenum;

the front facing inlet registers including a horizontal register and a first vertical register immediately adjacent each of the support bay openings;

12. The device of claim 11, wherein the front overhang has a depth of at least 12 inches.

13. The device of claims 11-12 wherein the recess has a baffle plate at a blind end thereof that is pitched to guide fumes toward a top of the cabinet and into an inlet open to the hood plenum.

14. The device of claims 13, wherein the front facing registers form an L-shaped opening.

15. The device of claim 14, further comprising a second vertical register adjacent each of the support bay openings and opposite the first vertical register.

16. The device of claim 15, wherein the first vertical register is larger than the second vertical register.

17. The device of claim 15 or 16 wherein the support bays are two support bays including lower and upper support bays, the horizontal register adjacent the bottom lower support bay being larger in area than the horizontal register adjacent the upper support bay.

18. The device of claim 17, wherein the vertical and horizontal registers have adjustable widths.

19. An exhaust device, comprising:

an exhaust hood portion with recess and an interior surface of the recess;

a baffle plate supported below a blind end of the recess to define a gap between the edge of the baffle plate and a descending inner surface of the recess;

an exhaust inlet opening to a plenum space between the blind end and the baffle plate;

the baffle plate being movable to provide access to the inlet;

the gap circumnavigating at least three sides of the hood portion.

20. The device of claim 19, wherein the gap circumnavigates four sides of the hood portion to form a full perimeter inlet.

21. A method of controlling exhaust flow, comprising

receiving at a digital controller at least one signal pertaining to a state of an oven;

controlling an exhaust flow to increase responsively to the at least one signal at a first time;

controlling the exhaust flow to decrease at a later time responsively to at least another signal indicating that a door of the oven has been closed.

22. The method of claim 21, wherein the at least one signal includes an image signal.

23. The method of claim 21 or 22 wherein the at least one signal includes a data signal from the oven.

24. The method of claim 21-23, wherein the at least one signal includes a signal from a proximity sensor.

25. The method of claim 21-24, wherein the at least another signal includes an image signal.

26. The method of claim 21-25 wherein the at least another signal includes a data signal from the oven.

27. The method of claim 21-26, wherein the at least another signal includes a signal from a proximity sensor.

28. The method of claim 21-27 wherein the controlling includes regulating both a fan speed and a damper in coordination.

29. The method of claim 21-28 wherein either controlling includes making a probabilistic estimation of a door opening or closing event.

Claims

What is claimed is:

1. A method for containing effluent from one or more ovens, comprising:

positioning one or more ovens in a cabinet and surrounding the one or more ovens with a cabinet suction zone generated by a continuous space therein that opens, at oven face inlets, toward a forward face of the cabinets coinciding with a forward face of the one or more ovens;

positioning a forward overhanging hood portion and creating a perimeter suction zone along a perimeter of the forward overhanging hood portion;

the forward overhanging hood portion having a depth of at least 12 inches and the suction zone having forward and side aspects;

the forward overhanging hood portion being contiguous and connected to the cabinet and the perimeter and cabinet suction zones being created by a negative pressure in the continuous space in communication between the hood portion and the cabinet;

the continuous space being in communication with an exhaust connection connected to an exhaust fan to generate the negative pressure;

the oven face inlets defining at least one side inlet and a top inlet immediately adjacent to each of the one or more ovens on a non-hinge side of the one or more ovens;

collecting fumes emitted by opening the door of the one or more ovens through the oven face inlets and the perimeter suction zone and exhausting them through the exhaust connection;

wherein the hood portion has at least one curtain jet directed downwardly.

2. The method of claim 1, wherein the oven face inlets each form an L-shape and include a horizontal portion and a vertical portion, and wherein the one or more ovens are two ovens.