

KITCHEN VENTILATION SYSTEMS HVAC fact sheet



DAYTON VENTILATION

Dayton has a complete line of affordable, quality kitchen ventilation equipment for Restaurants, Schools, Office Buildings, Hospitals, Malls, Amusement Parks, and more.

SHOP DAYTON VENTILATION

Quick one stop shopping – Complete integrated kitchen ventilation systems including:

- Kitchen Exhaust Hoods — Capture and contain heat, moisture, or grease laden air
- Centrifugal Upblast Exhaust Fans — Exhausts air from kitchen hoods
- Tempered or Untempered Make Up Air — Provides fresh replacement air to the kitchen
- Temperature Interlock — To comply with International Mechanical Code (IMC) 501.2.1.1

2-STEP HOOD VENTILATION DECISION GUIDE

1. Will you be exhausting grease-laden air or non-grease laden air?

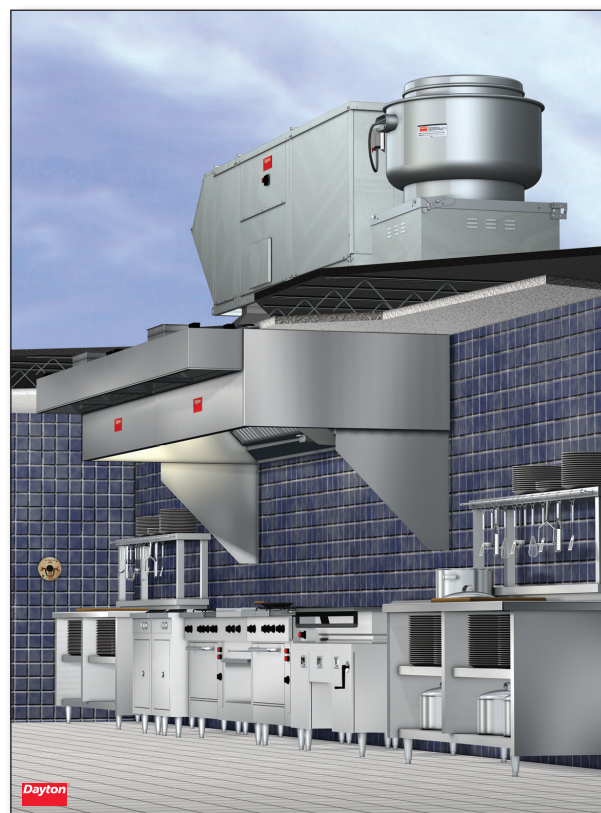
- Type I Hoods — Used if you are exhausting grease-laden air
- Type II Hoods — Used if you are exhausting non-grease laden air (heat/condensate)

2. Type I Hoods: Is your cooking equipment against the wall?






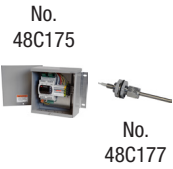

- Wall canopy hoods — Most common when the cooking battery is against a wall








Type II Hoods: What hood style do I need?

- Heat and fume — Heat-only hoods are typically used for oven applications
- Condensate — Condensate hoods are typically used above dishwashers



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CATEGORY	APPLICATIONS	PRODUCT FEATURES AND BENEFITS
Condensation Exhaust Hoods	 No. 20UD10	Type II wall canopy hoods are used above moisture producing appliances, such as dishwashers. <ul style="list-style-type: none"> • 430 stainless steel construction • NSF Standard 2 Certified • Include condensate baffles, gutter, 1/2" drain connection, hanger brackets and exhaust collars • Available in 4, 5 and 6 foot lengths
Heat Exhaust Hoods	 No. 20UD07	Type II wall canopy hoods are used above heat producing appliances (without grease) such as ovens. <ul style="list-style-type: none"> • 430 stainless steel construction • NSF Standard 2 Certified • Includes hanger brackets and exhaust collars • Available in 4, 5 and 6 foot lengths
Grease Exhaust Hoods	 No. 6KWK8	Type I wall canopy hoods are used for commercial grease cooking operations. Designed for use over cooking equipment producing heat and grease laden air. Intended to be used where cooking equipment is placed against a wall. <ul style="list-style-type: none"> • 430 stainless steel construction • Performance Enhancing Lip (PEL) technology redirects airflow improving capture and performance, reducing exhaust and supply air flow by up to 31% • Standing Seam Construction – Provides superior strength and reduces weight for easy installation • Sloped Integral 3 inch Airspace - for clearance to limited combustibles and lower exhaust rates • UL and C-UL 710 Listed (600 deg) and NSF Standard 2 Certified • Available in 4, 5, 6, 8, 10 and 12 foot lengths
High Efficiency Filters	 No. 35PA91	The ideal filter for medium grease loading applications. Air travels in a helical or corkscrew like path through the filter chambers, subjecting the grease particulate to centrifugal force. Grease collects on the interior walls of the filter, where it drains into the hood grease trough and grease cup. <ul style="list-style-type: none"> • Constructed of aluminum • Filter consists of individual vortex chambers having air inlets at the top and bottom front of the filter • Removes 69% of grease particles at 8 microns • UL 1046 Classified and NSF Certified • Includes handle • Available in sizes 20"x16" and 20"x20" • For use with Type I kitchen exhaust hoods
Air Supply Plenums	 No. 6KWL2	Air Supply Plenums effectively introduce make-up air to the space near the hood to minimize mixing with air in the space. <ul style="list-style-type: none"> • Constructed of 430 stainless steel • Perforated panels evenly distribute air at lower discharge velocities which benefit hood capture and containment • Easy and flexible installation • Available in 4, 5, 6, 8, 10 and 12 foot lengths
Temperature Interlocks and Sensor	 No. 48C175 No. 48C177	The digital temperature interlock is designed to automatically start the kitchen hood exhaust fans and keep them operating while heat is being generated from the cooking appliances. <ul style="list-style-type: none"> • Automatic initiation of exhaust fans – The interlock will override the switch and start the fans once heat is detected in the event an operator fails to turn on the fans manually – ensuring safety • Easily adjustable temperature set point through an accessible digital thermostat with an LED display • Enhanced fan control prevents fan cycling near setpoints • Turns off exhaust fans automatically once the temperature has dropped below the set point • Complies with International Mechanical Code (IMC 2012) section 507.2.1.1 • Temperature Interlocks available from Dayton with 1 or 2 sensors, or sensor only • Kit includes steel gray control box, digital controller, sensor(s), quick seal for hood penetration, labeled terminal strip for quick and intuitive installation and wiring diagram
End Skirts	 No. 6KWL6	Effectively reduces/prevents cross drafts increasing hood performance and energy efficiency. <ul style="list-style-type: none"> • Constructed of 430 stainless steel • End Skirts lower required exhaust rates as they improve capture • Set of 2, left and right side

CATEGORY	APPLICATIONS	PRODUCT FEATURES AND BENEFITS
Power Roof Ventilators  No. 4YY17 No. 6KWH9	Effectively exhausts grease laden air from the kitchen system.	<ul style="list-style-type: none"> • One piece wind band, continuously welded to the curb cap, ensures leak-proof construction for life of the fan • Aluminum, backward-inclined, nonoverloading centrifugal wheel design • NEMA 1 junction box located in motor enclosure • Max. inlet air temperature: 300°F • Double-studded isolators for true vibration isolation • Capacities range from 70 to 30,000 CFM • UL 762 Listed Restaurant Exhaust Equipment • Available in Belt-Drive, Direct-Drive and Direct-Drive EC Motor
Make Up Air Units  No. 2TE33	Designed to supply tempered and filtered makeup air to commercial kitchens. Compact and economical direct fired tempered make-up air units provide fresh replacement air to commercial kitchens.	<ul style="list-style-type: none"> • 92% efficient natural gas burners • Cast aluminum burners are capable of 25:1 turndown ratio • Sturdy 18-ga galvanized steel construction with lifting lugs for easy installation • Direct spark ignition system with dual safety shut-off valves and Maxitrol electronic modulation system • Airflow volumes range from 1300 to 8700 CFM • ETL Listed for US and Canada • Heating capacities of up to 800,000 BtuH
Filtered Supply Ventilators  No. 4YC82	Designed to supply untempered filtered makeup air to commercial kitchens.	<ul style="list-style-type: none"> • Belt-driven, double-width, forward-curved, galvanized blower for low sound and high performance applications • Heavy gauged galvanized steel construction • Neoprene isolators minimize vibration and noise • UL 705 Listed for Power Ventilators • Capacities range from 750 to 14,500 CFM
Ventilated Roof Curbs  No. 4HX54 No. 4HX61	Ventilate hot exhaust ducts in commercial kitchen applications, protecting buildings and roof members.	<ul style="list-style-type: none"> • Available in adjustable and fixed sizes • Constructed of galvanized steel • Allow for quick ventilator installation
Grease Collector Box  No. 48C174	Divert and collect heavy grease residue protecting roof surfaces.	<ul style="list-style-type: none"> • 48C174 complies with NFPA 96 standards • Fasten directly to curb underneath roof-mount ventilator
Hinge Kit  No. 4HX79	Hinged kits enable ventilators to swing open exposing fan for safe and easy fan cleaning and inspection.	<ul style="list-style-type: none"> • Complies with NFPA 96 standards • Includes retaining cable and hardware kit
Clean Out Port Kit  No. 3ATV9	Retrofits ventilator with cleanout port for access to the ventilator wheel through the wind band.	<ul style="list-style-type: none"> • Required for NFPA 96 • Includes removable plug and hardware

ADD EFFICIENCY TO YOUR KITCHEN VENTILATION SYSTEM

- Save up to 60% on energy consumption with an energy efficient, direct-drive electronically commutated power roof ventilator.
- Automatically start-up and shut-down your ventilation system by using a digital temperature interlock. This will add safety by ensuring the exhaust fan is running when kitchen appliances are producing heat and also increases efficiency by shutting down during times these appliances are not in use.
- Increase efficiency and safety of your kitchen hood with High Efficiency Filters. Remove 69% of grease particles at 8 microns opposed to 28% with standard baffle filters.

COMMERCIAL KITCHEN

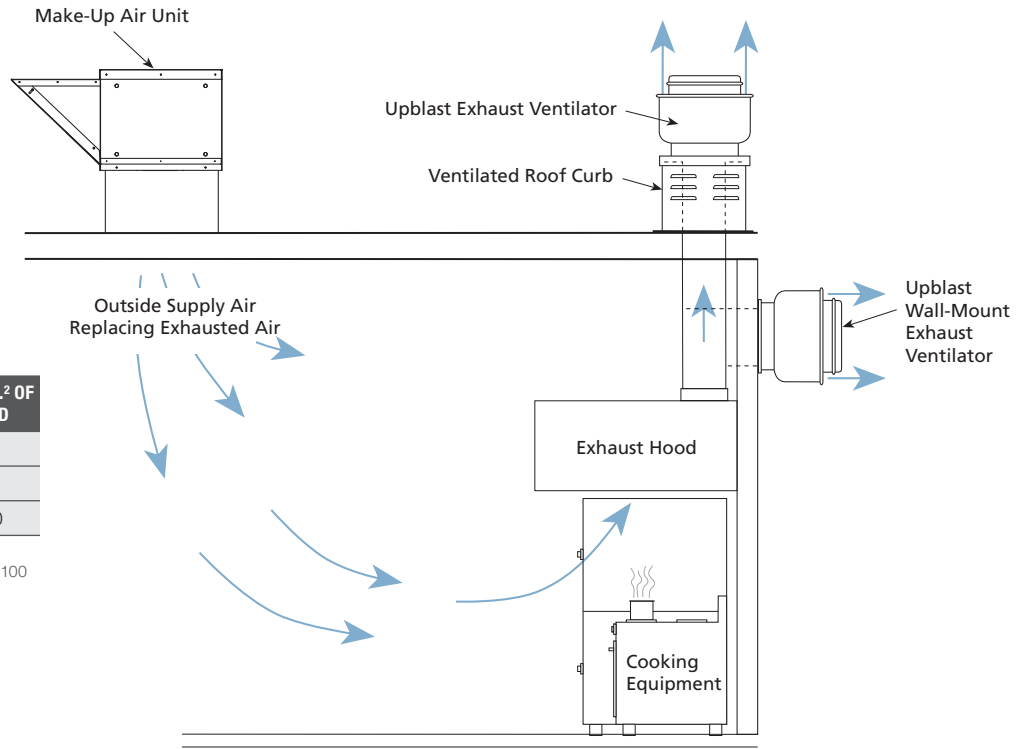
The illustration shows a typical commercial kitchen application utilizing a roof mount upblast exhaust fan or wall-mount upblast exhaust fan in conjunction with a supply fan. Note that not both exhaust fans are required for hood exhaust.

For commercial kitchen applications, when not specified by code, the following guidelines may be used to determine the minimum kitchen hood exhaust CFM:

DUTY	TYPE OF COOKING EQUIPMENT	CFM/FT. ² OF HOOD
Light	Oven, Range, Kettle	50
Medium	Fryer, Griddle	75
Heavy	Charbroiler, Electric Broiler	100

Static pressure usually ranges from .625" to 1.0" for 1-story buildings. Note that some local codes require 100 CFM/Ft.² of hood area for wall style hoods.

Supply air is recommended to be 90% of your determined exhaust CFM. The remaining 10% will be drawn from adjacent areas to the kitchen, which helps prevent undesirable odors from drifting into areas such as the dining room.



AIRFLOW		APPLICATIONS						LOCATION		MOUNTING		ACCESSORIES			
EXHAUST	SUPPLY	GENERAL/CLEAN AIR	CONTAMINATED AIR	MOISTURE/CONDENSATION	HEAT/FUMES	GREASE-LADEN AIR (UL762)	OUTDOOR	INDOOR	HANGING	WALL	AIR SUPPLY PLENUM	END SKIRTS	TEMPERATURE INTERLOCK	HIGH EFFICIENCY FILTER	

CHOOSING AN EXHAUST HOOD

Condensation Exhaust Hoods		X		X	X	X			X		X		X		
Heat/Fumes Exhaust Hoods		X		X	X				X		X		X		
Grease Exhaust Hoods		X		X	X				X		X		X	X	X



Call or visit your local branch or go to grainger.com/dayton for complete product line information.

